

Thursday, December 24, 2009

Page 1 of 3
REQUEST NUMBER: 10-1102

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: 10-1102
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00


Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/28/2009
TURNAROUND/REPORT DUE: 1/27/2010
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	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	

Thursday, December 24, 2009

REQUEST NUMBER: 10-1102

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
1	EPA:901.1	1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
1	HASL-300:AM-241	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
1	HASL-300:ISOU	1	RE12-10-7675	R	12/22/2009	
		1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
1	HASL-300:ISOPU	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
1	HASL-300:ISOU	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	

Thursday, December 24, 2009

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOU	1	1	RE12-10-7667	R	12/22/2009	
			RE12-10-7668	R	12/22/2009	
			RE12-10-7669	R	12/22/2009	
			RE12-10-7670	R	12/22/2009	
			RE12-10-7671	R	12/22/2009	
SW-846:8082	1	1	RE12-10-7672	R	12/22/2009	
			RE12-10-7675	R	12/22/2009	
			RE12-10-7663	R	12/22/2009	
			RE12-10-7664	R	12/22/2009	
			RE12-10-7663	R	12/22/2009	
SW-846:8321A_MOD	1	1	RE12-10-7664	R	12/22/2009	
			RE12-10-7665	R	12/22/2009	
			RE12-10-7666	R	12/22/2009	
			RE12-10-7667	R	12/22/2009	
			RE12-10-7668	R	12/22/2009	
			RE12-10-7669	R	12/22/2009	
			RE12-10-7670	R	12/22/2009	
			RE12-10-7671	R	12/22/2009	
			RE12-10-7672	R	12/22/2009	
			RE12-10-7675	R	12/22/2009	

Thursday, December 24, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1102C

LOS ALAMOS

REQUEST NUMBER: 10-1102

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/27/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7675	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7663	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7663	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7664	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7664	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7672	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7672	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7667	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7667	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7666	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7666	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7665	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7665	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7670	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7670	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7668	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7668	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7671	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7671	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7669	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7669	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7675	1	AMBER GLASS	NMED Explosives list	Ice	R

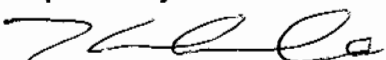
Relinquished By:

Date Time

Received By:

Date

Time


 12/24/09 3:00

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7671

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/22/2009		MEDIA:	OBT3		All h
TIME COLLECTED (HH:MM)		1038		SUB-MEDIA:	TUFF 1		NA
PRS ID:	C-12-005	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	12-610660	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.6		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 12/22/2009	None	y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1L	Ice	y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC:

Brown clayey sand, some silt, few rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

1a-31, center of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 27$ dpm
 $\text{BY} \leq 1769$ dpmPID $\frac{\text{ambient reading}}{0.0}$ ppm
HE negative

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Zelt	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature) [Signature]	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7670

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	12/22/2009	MEDIA:	QBT3
TIME COLLECTED (HH:MM)	1035	SUB-MEDIA:	TUFF 1
PRS ID: C-12-005	OK	SAMPLE TECH CODE: HA	OK
LOCATION ID: 12-610659	↓	FIELD QC TYPE: NA	↓
LOCATION TYPE: GENERIC	↓	FIELD PREP: NA	↓
TOP DEPTH: 0	2.0	SAMPLE USAGE: INV	↓
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+ISO PU+ISOU	1 LITER POLY	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L 40% 12/22/09	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

medium brown dirt, little rock, no root
FR RE12-10-7677

SAMPLE COMMENTS:

N/A

LOCATION DESC:

1a-30 west side AOC

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 99$ DPM
 $\text{BY} \leq 144$
 $\text{PID} \frac{\text{ambient}}{\text{reading}} \frac{0.0}{1.9}$ PPM

COLLECTED BY (PRINT)

Kelly Henderson

REVIEWED BY (PRINT)

Larry A. Lopez

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Zet	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7665

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/22/09	12/22/09	MEDIA:	QBT3		Allt
TIME COLLECTED (HH:MM)		0926		SUB-MEDIA:	TUFF 1		N/A
PRS ID:	C-12-005	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	12-610657			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:	N/A		
FIELD MATRIX:	B	S		EXCAVATED: YES (NO) NA			
COMPOSITE TYPE:	N/A			COMPOSITE TIME INTERVAL:	N/A		
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	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 L 12/22/09	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown, numerous roots and rocks
Silty
sand

SAMPLE COMMENTS:

N/A

LOCATION DESC:

1a-29
South of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 60 DPM
β ≤ 1949
HE Negative

PID ambient 0.0
reading 0.0 PPM

COLLECTED BY (PRINT)

Kelly Henderson

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) TLMcFarland	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7666

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/22/09	12/22/09	MEDIA:	QBT3		
TIME COLLECTED (HH:MM)		0945		SUB-MEDIA:	TUFF 1		
PRS ID:	C-12-005	OK		SAMPLE TECH CODE:	HA		
LOCATION ID:	12-610657			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	3.6		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+ISO PU+ISOU	1 LITER POLY	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 L 12/22/09	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

light Brown sandy silt, few
FD RE12-10-7675
wood, few rock
12/22/09

SAMPLE COMMENTS:

N/A

LOCATION DESC:

1A-29 south side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 49
β ≤ 2050 DPM
PID ambient 0.0
reading 0.0 PPM

HE negative

COLLECTED BY (PRINT)

Kelly Henderson

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy M	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature) [Signature]	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7664

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/22/2009	MEDIA:	OBT3	All h
TIME COLLECTED (HH:MM)		0940	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-005	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610656	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	2.9	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA			BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY 73m 12/22/09	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1 L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

brown silty sand, slightly moist

SAMPLE COMMENTS: NA

LOCATION DESC: 1a-27

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 11$ dpm
 $\beta \leq 2280$ dpm

 PID ambient reading $\frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

TLMcfarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcfarland (Signature) Tracy Zmt	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7668

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/22/2009	MEDIA:	QBT3	A11h
TIME COLLECTED (HH:MM)		1010	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-005	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610658	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.5	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	2.9	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	
			WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA			BOREHOLE DECLINATION:	NA	
			BOREHOLE DIRECTION:	NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 13m 12/22/09	None	y	
1	↓	Met+U+CLO4+C N	1 LITER POLY 1L	Ice	y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC:

Light brown sandy silt, slightly moist

SAMPLE COMMENTS: NA

LOCATION DESC: 1a-28

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \approx 44$ dpm $\beta \approx 2260$ dpmPID ambient reading 0.0
2.0 ppm

COLLECTED BY (PRINT)

THMcFarland

REVIEWED BY (PRINT)

12/22/2009

RELINQUISHED BY (Printed Name) THMcFarland (Signature) Tracy Zarf	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) Jaylynn (Signature) Jaylynn	Date/Time 12/22/09 1602
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7672

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/22/2009	MEDIA:	QBT3	
TIME COLLECTED (HH:MM)		1050	SUB-MEDIA:	TUFF 1	
PRS ID:	C-12-005	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610660	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	2.5	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES (NO) / NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	
			WATER FLOWING: YES / (NO) / NA		
BOREHOLE: YES / (NO) / NA			BOREHOLE DECLINATION:	NA	
			BOREHOLE DIRECTION:	NA	

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

SAMPLE DESC:

Brown sandy silt, few rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

1a-31, center of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 38$ dpm
 $\beta \leq 2190$ dpmPID $\frac{\text{ambient}}{\text{reading}}$ $\frac{0.0}{0.2}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Ruiz	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) Jay Wiley (Signature) Jay Wiley	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7669

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/22/2009		MEDIA:	QBT3		A11 H
TIME COLLECTED (HH:MM)		10 17		SUB-MEDIA:	TUFF 1		N/A
PRS ID:	C-12-005		OK	SAMPLE TECH CODE:	HA		OK
LOCATION ID:	12-610659		↓	FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0		0.0	SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0		0.4	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	None	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY 1L 12/22/09	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown clumpy, clay, few rocks, minimal root

SAMPLE COMMENTS:

N/A

LOCATION DESC:

1a-30 west side AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 49$ $\beta \leq 1872$ DPMPID ambient 0.0
leading 0.0 ppm

HE Negative

COLLECTED BY (PRINT)

REVIEWED BY (PRINT) TLMcFarland

Kelly Henderson

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) TLMcFarland	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature) TLMcFarland	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7667

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/22/2009		MEDIA:	OBT3		Allh
TIME COLLECTED (HH:MM)		0958		SUB-MEDIA:	TUFF 1		NA
PRS ID:	C-12-005		0/c	SAMPLE TECH CODE:	HA		OK
LOCATION ID:	12-610658			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC		↓	FIELD PREP:	NA		↓
TOP DEPTH:	0		0.0	SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0		0.5	SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R		S	EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 73m 12/22/09	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1L	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, some clay, moist, few rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

1a-28, east side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 16 dpm

Bx4 2040 dpm

PID ambient reading 0.0 / 1.6 ppm

HE negative

COLLECTED BY (PRINT)

ThMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) ThMcFarland (Signature) Tracy Zait	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature) Jeffrey W. [Signature]	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7663

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/22/2009		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		0920		SUB-MEDIA:		TUFF 1	
PRS ID:	C-12-005	ok		SAMPLE TECH CODE:		HA	
LOCATION ID:	12-610656	↓		FIELD QC TYPE:		NA	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:		NA	
TOP DEPTH:	0	0.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY 73m 12/22/09	None	Y	
1	↓	Met+U+CLO4+CN	1 L POLY 1L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown, silty sand, moist, numerous rocks, few roots and grass

SAMPLE COMMENTS: NA

LOCATION DESC: 1a-27, north side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 11$ dpm
 $\beta \leq 1935$ dpm
 PID ambient reading 0.0 ppm
 HE negative

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy 2-7	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature)	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7675

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/22/2009	MEDIA: OBT3		Alh
TIME COLLECTED (HH:MM)		0945	SUB-MEDIA: TUFF 1		NA
PRS ID:	C-12-005	ok	SAMPLE TECH CODE: HA		ok
LOCATION ID:	UNK	12-610657	FIELD QC TYPE: FD		
LOCATION TYPE:	GENERIC	ok	FIELD PREP: NA		
TOP DEPTH:	0	2.0	SAMPLE USAGE: QC		
BOTTOM DEPTH:	0	3.6	SCREEN/PORT DESC: NA		
FIELD MATRIX:	R	S	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA	BOREHOLE DIRECTION: NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	gsm 12/22/09 0082+NMED-HEXP	250 ML AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		Met+U+CLO4+C N	1 GAL POLY	Ice	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC: QC Sample of RE12-10-7666

light brown sandy silt, few roots and rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

1a-29 south side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \pm 49$ dpm PID ambient reading $\frac{0.0}{0.0}$ PPM
 $\beta \pm 2050$ dpm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Dante Byers

RELINQUISHED BY (Printed Name) TL McFarland (Signature) <i>TL McFarland</i>	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature) <i>Jeffery</i>	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2491

EVENT NAME: 4th Qtr. FY09 - AOC C-12-005 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-7677

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	12/22/2009	MEDIA:	NA
TIME COLLECTED (HH:MM)	1041	SUB-MEDIA:	OTHER
PRS ID: C-12-005	OK	SAMPLE TECH CODE:	DC
LOCATION ID: UNK	12-610659	FIELD QC TYPE:	FR
LOCATION TYPE: GENERIC	OK	FIELD PREP:	UF
TOP DEPTH: 0		SAMPLE USAGE:	QC
BOTTOM DEPTH: 0		SCREEN/PORT DESC:	N/A
FIELD MATRIX: W		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	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1	↓	SW-846:6850	250 ML POLY	Ice	Y	
1	↓	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of
RE12-10-7670

SAMPLE COMMENTS:

Rinsate

LOCATION DESC:

1a-30 west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

N/A

COLLECTED BY (PRINT)

Kelly Henderson

REVIEWED BY (PRINT)

Lacey A. Lopez

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Katz	Date/Time 12/22/09 1607	RECEIVED BY (Printed Name) (Signature) [Signature]	Date/Time 12/22/09 1607
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

RE 12-10-7663

7664

7665

7667

7668

7669

7670

7671

7672

7675

7838

7839

7840

RE 12-10-7841

7842

7843

7844

7845

7846

7847

7858

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

The following samples do not require rad screening data for the reasons stated (list sample numbers):

RE 12-10-7677

7566

7610

7860

Reason: Rinsate

Print Last Name McFarland

Signature Tracy R.

Date 12/22/09



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7663

ARS Sample ID: ARS2-09-00172-001

Sample Collection Date: 12/22/09 09:20

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

Analysis Description	Analysis Result	Analysis Error +/- 2σ	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	8.48	15.24	27.29	15.28		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	17.67	10.95	13.42	10.60		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	24.04	7.93	2.03	7.97		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	-0.01	26.56	0.10	26.56		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.29	0.22	0.07	0.22		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	-0.02	34.73	0.06	34.73		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.62	0.62	0.12	0.62		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.66	0.51	0.16	0.52		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-226	2.01	0.84	0.30	0.84		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	0.59	0.58	0.34	0.58		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	0.38	2.18	1.35	2.18		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.17	0.36	0.15	0.36		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 3.25

Matthew J. Elder
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



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7664

ARS Sample ID: ARS2-09-00172-002

Sample Collection Date: 12/22/09 09:40

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Unit	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chan Recovery
GROSS ALPHA	10.36	14.07	23.52	14.13		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	19.29	9.29	13.22	9.58		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.16	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	28.90	11.22	2.49	11.25		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	0.00	16.27	0.17	16.27		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.17	0.20	0.12	0.20		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.01	0.05	0.10	0.05		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.23	0.26	0.19	0.26		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-211	1.39	0.65	0.22	0.65		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-226	2.37	1.11	0.43	1.12		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	1.06	0.58	0.65	0.88		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	4.52	2.75	1.53	3.89		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.53	0.38	0.11	0.38		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.18

Matthew J. Eden
Quality Assurance Review

Notice: 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



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7665

ARS Sample ID: ARS2-09-00172-003

Sample Collection Date: 12/22/09 09:26

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:21

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MHC	TPH	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	9.54	13.69	23.69	13.93		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	19.03	9.83	14.19	10.10		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	-1.73	1193.70	2.67	1193.70		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	0.00	12.62	0.13	12.62		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.10	0.14	0.09	0.14		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.52	0.52	0.08	0.52		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.00	13.13	0.15	13.13		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.71	0.56	0.13	0.57		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	2.38	0.95	0.34	0.95		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	1.43	1.19	0.35	1.19		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	4.37	4.11	1.55	4.36		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.18	0.23	0.09	0.23		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.09

Matthew J. Edger
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 # 3065B

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7666

ARS Sample ID: ARS2-09-00172-004

Sample Collection Date: 12/22/09 09:45

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:23

Analysis Description	Analysis Results	Analysis Error +/- 2σ	MDC	YPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	3.31	12.61	25.32	12.61		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	29.20	10.01	13.13	10.04		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.16	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	16.66	8.93	2.55	8.95		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	-0.01	16.72	0.17	16.72		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.39	0.23	0.12	0.25		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.01	0.09	0.11	0.09		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.00	17.38	0.19	17.38		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PM-212	1.65	0.78	0.31	0.79		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	2.58	1.10	0.45	1.11		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	-0.10	93.96	0.26	93.96		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	3.07	3.69	1.67	3.80		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.09	0.26	0.13	0.26		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.17

Matthew J. Edger
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



133 State Road 4, White Rock, NM 87544

505-872-2770 FAX 505-872-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7667

ARS Sample ID: ARS2-09-00172-005

Sample Collection Date: 12/22/09 09:58

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

Analysis Description	Analysis Results	Analysis Error: 1 / 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	15.90	17.41	27.29	17.52		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	30.96	10.40	13.92	11.07		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.14	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	14.64	7.85	2.25	7.86		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	0.00	14.70	0.13	14.70		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.27	0.25	0.09	0.25		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.00	15.28	0.17	15.28		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.14	0.68	0.30	0.68		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	-0.17	147.52	0.39	147.52		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	1.59	1.17	0.42	1.17		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	-1.42	565.23	1.27	565.23		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.00	0.05	0.10	0.05		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.89

Matt J. Edm
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



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7668

ARS Sample ID: ARS2-09-00172-006

Sample Collection Date: 12/22/09 10:10

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Oval	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	14.97	15.46	23.32	15.57		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	28.37	10.12	13.22	10.70		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.15	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	-0.17	-10.32	5.07	-10.32		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	0.00	18.33	0.16	15.33		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.05	0.13	0.10	0.12		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.56	0.56	0.18	0.56		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.05	0.88	0.23	0.59		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	2.61	1.13	0.41	1.14		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	2.13	1.28	0.39	1.28		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	-1.17	-12.45	1.41	-12.45		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.01	0.13	0.12	0.13		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 0.81

Mathew J. Eddy
Quality Assurance Review

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LELAP Certificate # 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

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ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7869

ARS Sample ID: ARS2-09-00172-007

Sample Collection Date: 12/22/09 10:17

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	IPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	14.37	15.41	23.69	15.51		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	25.54	10.49	14.19	10.94		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-23	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	18.31	8.19	2.66	8.21		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	-0.01	34.78	0.12	34.78		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.11	0.32	0.18	0.32		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.42	0.44	0.14	0.44		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.18	0.61	0.27	0.61		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	2.32	1.23	0.39	1.24		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	2.32	1.64	0.54	1.64		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	2.72	2.89	1.52	2.96		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.70	0.48	0.16	0.49		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 2.66

Matthew J. Edm
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 # F87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7670

ARS Sample ID: ARS2-09-00172-008

Sample Collection Date: 12/22/09 10:35

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/29/09 11:22

Analysis Description	Analysis Result	Analysis Error +/- 2 S	MDC	YPM	Q-Val	Analysis Units	Analysis Test Method	Analysis Date/Time	Analyst Technician	Tracer/Chem Recovery
GROSS ALPHA	19.39	17.34	25.32	17.51		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	24.32	9.60	13.13	10.24		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	17.20	7.51	2.39	7.53		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	0.13	0.19	0.11	0.19		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.39	0.22	0.08	0.22		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.28	0.22	0.07	0.23		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.71	0.59	0.18	0.59		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.49	0.61	0.25	0.61		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	3.11	0.98	0.35	0.99		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	1.84	1.19	0.48	1.19		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	3.30	3.27	1.47	3.48		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.00	0.09	0.09	0.09		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.25

M. J. Eden
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



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505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7671

ARS Sample ID: ARS2-09-00172-009

Sample Collection Date: 12/22/09 10:38

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

Analysis Description	Analysis Results	Analysis Error +/- 1 s	MDC	Yield	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	35.70	22.17	27.29	22.60		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
UNUSU BEIA	36.10	10.88	13.42	11.66		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.06	0.13	0.11	0.13		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	27.52	9.21	2.38	9.24		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	-0.01	31.17	0.11	31.17		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.30	0.24	0.08	0.24		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.02	0.15	0.00	0.15		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	1.08	0.59	0.13	0.59		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.91	0.59	0.18	0.59		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	2.53	1.29	0.35	1.29		pCi/g	EPA 901.1M	12/30/2009	MP	N/A
U-235	3.49	1.58	0.50	1.59		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	4.28	3.99	1.80	4.11		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.18	0.26	0.12	0.26		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.82

Matthew J. Elder
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

NE LAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00172

Request or PO Number:

Client Sample ID: RE12-10-7672

ARS Sample ID: ARS2-09-00172-010

Sample Collection Date: 12/22/09 10:55

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:22

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	35.73	20.87	23.52	21.03		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	40.00	11.28	13.22	12.30		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	12.31	8.46	2.42	8.49		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	-0.01	31.67	0.11	31.67		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.45	0.37	0.08	0.37		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-137	0.00	-0.09	0.07	-0.05		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RU-152	0.70	0.47	0.13	0.47		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.35	0.54	0.20	0.54		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-226	2.64	1.45	0.36	1.45		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	0.30	0.58	0.37	0.58		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	3.67	5.64	2.41	5.70		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.23	0.33	0.14	0.33		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 0.98

Matthew A. Eden
Quality Assurance Review

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LELAP Certificate # 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00174

Request or PO Number:

Client Sample ID: RE12-10-7675

ARS Sample ID: ARS2-09-00172-011

Sample Collection Date: 12/22/09 09:45

Date Received: 12/29/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/30/09 11:23

Analysis Description	Analysis Results	Analysis Error 1 / 3 s	MDC	TPU	Qval	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	24.02	18.09	23.69	18.33		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
GROSS BETA	44.60	12.14	14.19	13.31		pCi/g	EPA 900.0M	12/30/2009	ME	N/A
NA-22	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
K-40	18.47	7.00	2.00	7.03		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CO-60	-0.01	26.22	0.09	26.22		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS-134	0.10	0.15	0.07	0.15		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
CS 137	0.02	34.30	0.06	34.30		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
EU-152	0.85	0.80	0.16	0.80		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
PB-212	1.25	0.53	0.22	0.53		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
RA-228	2.39	0.95	0.30	0.96		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-235	2.19	1.05	0.30	1.05		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
U-238	3.61	3.70	1.86	3.79		pCi/g	EPA 901.1M	12/30/2009	ME	N/A
AM-241	0.17	0.20	0.09	0.20		pCi/g	EPA 901.1M	12/30/2009	ME	N/A

NOTES: % Moisture: 1.17

Matthew A. Edger
Quality Assurance Review

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NELAP Certificate # 30658

NELAP Certificate # E87558

DATA VALIDATION COVER SHEET

5122-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1102 VALIDATION DATE: 2/5/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> TPH-GRO | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS | <input type="checkbox"/> LCMSMS PERCHLORATES |
| <input type="checkbox"/> TPH-DRO | <input type="checkbox"/> METALS | <input type="checkbox"/> PCB CONGENERS | <input type="checkbox"/> ORGANOCHLORINE |
| <input type="checkbox"/> GENERAL CHEMISTRY | <input type="checkbox"/> RADIOCHEMISTRY | <input checked="" type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS |
| <input type="checkbox"/> OTHER (DESCRIBE): _____ | | | |

Section II. Completeness Check

- | YES | NO | N/A | (CHECK ONE) | YES | NO | N/A | (CHECK ONE) |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. RAW/BSS DATA |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. CASE NARRATIVE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. SAMPLE RESULT FORMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. QUANTITATION REPORTS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 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 ICV %D for p-nitrotoluene and the CCV %D for RDX associated with samples RE12-10-7675, -7663, -7672, -7667 and -7666 were >20% with positive bias. All associated sample results were NDs and, thus, were not qualified. The CCV %D for 2,4-diamino-6-nitrotoluene associated with samples -7675, -7663, -7664, -7672, -7667 and -7666 was >20% but ≤40% with negative bias. All associated sample results were NDs and, thus, were qualified UJ,HE7c.
2. The LCS %R for TATB was > the laboratory UAL. All associated sample results were NDs and, thus, were not qualified.
3. The MS and MDS %Rs for tetryl were < the laboratory LAL but ≥10%. All associated sample results were NDs and, thus, were qualified UJ,HE12e.

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


VALIDATOR'S SIGNATURE: _____

A handwritten signature in cursive script that reads "Eyda Hergenreder". Below the signature, the name "Eyda Hergenreder" is printed in a small, sans-serif font.


DATE: 2/5/10

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

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The IS retention time has shifted by more than 30 seconds.	R, UJ, HE0	J, HE0
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The surrogate is <10%R. Follow the external laboratory limits.	R, HE3	J-, HE3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The surrogate is < the Lower Acceptance Limit but ≥10% recovery. Follow the external laboratory limits.	UJ, HE3a	J-, HE3a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The surrogate %R value is > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE3b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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 

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. The sample result is ≤ 5 times the concentration of the related analyte in the method blank.	U, HE4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. The absence of sample carry-over must be determined and verified.	N/A	R, N, HE4f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The affected analytes were analyzed with a RRF of < 0.05 in the initial calibration and/or CCV.	UJ, R, HE7b	J, HE7b
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. The ICV and/or CCV were recovered outside the method limits.	UJ, R, HE7c	J, HE7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, HE7d	J, HE7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, HE9	J-, HE9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The holding time was >2 times the applicable holding time requirement.	R, HE9a	J-, HE9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, HE12	J-, HE12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, HE12a	J-, HE12a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The MS/MSD percent recovery was <10%.	R, HE12d	R, HE12d
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31. The MS/MSD percent recovery was >10% but <70%.	UJ, HE12e	J, HE12e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	32. The MS/MSD percent recover was >70%.	N/A	J+, HE12f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	33. The MS/MSD relative percent difference was >30%.	UJ, HE12g	J, HE12g
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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



Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	36. The Contract Required Detection Limit Check Standard (CRI) sample did not pass method acceptance criteria.	UJ, R, HE16	J, HE16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	37. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, HE16c	R, HE16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	39. Duplicate, dilution, or reanalysis.	UJ, HE88	J, HE88

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630001

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118045a

Date Analyzed: 19-JAN-10 11:41

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630001

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100027.wiff

Date Analyzed: 11-JAN-10 18:05

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 UJ,HE7c	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument
Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution
Factor

EH
2/5/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7663

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630002

Sample Amount 2

Moisture: 25.0

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118048a

Date Analyzed: 19-JAN-10 13:10

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7663

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630002

Sample Amount 2

Moisture: 25.0

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100030.wiff

Date Analyzed: 11-JAN-10 18:52

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 UJ,HE7c	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7664

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630003

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118062a

Date Analyzed: 19-JAN-10 20:03

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7664

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630003

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100031.wiff

Date Analyzed: 11-JAN-10 19:08

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 UJ,HE7c	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7672

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630004

Sample Amount 2

Moisture: 11.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118050a

Date Analyzed: 19-JAN-10 14:08

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7672

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630004

Sample Amount 2

Moisture: 11.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100032.wiff

Date Analyzed: 11-JAN-10 19:23

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 UJ,HE7c	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7667

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630005

Sample Amount 2

Moisture: 17.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118051a

Date Analyzed: 19-JAN-10 14:38

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7667

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630005

Sample Amount 2

Moisture: 17.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100033.wiff

Date Analyzed: 11-JAN-10 19:39

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 UJ,HE7c	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7666

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630006

Sample Amount 2

Moisture: 10.6

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118052a

Date Analyzed: 19-JAN-10 15:08

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7666

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630006

Sample Amount 2

Moisture: 10.6

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100034.wiff

Date Analyzed: 11-JAN-10 19:55

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 UJ,HE7c	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7665

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630007

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118056a

Date Analyzed: 19-JAN-10 17:06

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 UJ, HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10 665

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630007

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 29-DEC-

Extraction Type Sonication

Extraction Batch ID: 93756

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100038.wiff

Date Analyzed: 11-JAN-10 20:12

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7670

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630008

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118057a

Date Analyzed: 19-JAN-10 17:35

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7670

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630008

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100039.wiff

Date Analyzed: 11-JAN-10 21:13

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7668

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630009

Sample Amount 2

Moisture: 9.1

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118058a

Date Analyzed: 19-JAN-10 18:05

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 UJ,HE12e	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 =

Instrument Value X Concentrated Extract Volume X Dilution Factor
Sample Amount

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7668

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630009

Sample Amount 2

Moisture: 9.1

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100040.wiff

Date Analyzed: 11-JAN-10 21:29

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7671

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630010

Sample Amount 2

Moisture: 19.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118059a

Date Analyzed: 19-JAN-10 18:34

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7671

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630010

Sample Amount 2

Moisture: 19.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100041.wiff

Date Analyzed: 11-JAN-10 21:45

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7669

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630011

Sample Amount 2

Moisture: 24.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118060a

Date Analyzed: 19-JAN-10 19:04

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 UJ,HE12e	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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7669

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630011

Sample Amount 2

Moisture: 24.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100042.wiff

Date Analyzed: 11-JAN-10 22:00

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

EH
2/5/10

DATA VALIDATION COVER SHEET

5116-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1102 VALIDATION DATE: 2/5/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> TPH-GRO | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS | <input type="checkbox"/> LCMSMS PERCHLORATES |
| <input type="checkbox"/> TPH-DRO | <input type="checkbox"/> METALS | <input type="checkbox"/> PCB CONGENERS | <input checked="" type="checkbox"/> ORGANOCHLORINE |
| <input type="checkbox"/> GENERAL CHEMISTRY | <input type="checkbox"/> RADIOCHEMISTRY | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS |
| <input type="checkbox"/> OTHER (DESCRIBE): <u>PCBs</u> | | | |

Section II. Completeness Check

- | YES | NO | N/A | (CHECK ONE) | YES | NO | N/A | (CHECK ONE) |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. RAW/BSS DATA |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. CASE NARRATIVE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. SAMPLE RESULT FORMS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. QUANTITATION REPORTS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 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 4cmx and decachlorobiphenyl surrogate %Rs on the secondary column for sample RE12-10-7663 were < the laboratory LAL but $\geq 10\%$. The sample was analyzed at a dilution and, thus, data were not qualified.

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

VALIDATOR'S SIGNATURE: _____

 A handwritten signature of Eyda Hergenreder.

 Eyda Hergenreder
DATE: 2/5/10

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 _____ 

Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, P9	J-, P9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, P9	J-, P9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, P9b	R, P9b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. The Initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, P7c	J, P7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, P7d	J, P7d
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8. The multicomponent standard was not analyzed within 72 hours of the initial analysis.	R, P7e	J, P7e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The sample result is $\leq 5X$ the concentration of the related analyte in the method blank.	U, P4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. The sample result is $\leq 5X$ the concentration of the related analyte in the instrument blank and continuing calibration blank.	UJ, P4b	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	UJ, P4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The analyte RT shifted by more than 0.05 minutes from the mid-level standard of the initial calibration.	R, P0	J, P0
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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

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

Records Use only



Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21. The surrogate is < the Lower Acceptance Level (LAL) but $\geq 10\%R$. Follow the external laboratory limits located within the associated data package.	UJ, P3a	J-, P3a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The surrogate %R value is > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, P3b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, P12	J-, P12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, P12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	29. The analyte was not confirmed on a second dissimilar column.	N/A	R, P8
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 _____



Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The affected analytes have elevated detection limits and may not meet project DQOs 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, P15	R, P15
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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: 10-1102
Lab Sample ID: 243630002

Date Collected: 12/22/2009 12:00
Date Received: 12/29/2009 08:40
Client: LANL010
Method: SW846 8082
Inst: ECD2A.I
Analyst: JAOC
Aliquot: 30.07 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 25
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 10
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualfier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	44.3	ug/kg	14.8	44.3	1
11104-28-2	Aroclor-1221	U	44.3	ug/kg	14.8	44.3	1
11141-16-5	Aroclor-1232	U	44.3	ug/kg	14.8	44.3	1
53469-21-9	Aroclor-1242	U	44.3	ug/kg	14.8	44.3	1
12672-29-6	Aroclor-1248	U	44.3	ug/kg	14.8	44.3	1
11097-69-1	Aroclor-1254	U	44.3	ug/kg	14.8	44.3	1
11096-82-5	Aroclor-1260	U	44.3	ug/kg	14.8	44.3	1

EH
2/5/10

PCB
Certificate of Analysis
Sample Summary

SDG Number: 10-1102
Lab Sample ID: 243630003

Date Collected: 12/22/2009 12:00
Date Received: 12/29/2009 08:40
Client: LANL010
Method: SW846 8082
Inst: ECD2A.I
Analyst: JAOC
Aliquot: 30.05 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 10.8
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE12-10-7664
Batch ID: 937679
Run Date: 12/31/2009 12:47
Prep Date: 12/30/2009 20:12
Data File: 029f2901.d
029b2901.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.73	ug/kg	1.24	3.73	1
11104-28-2	Aroclor-1221	U	3.73	ug/kg	1.24	3.73	1
11141-16-5	Aroclor-1232	U	3.73	ug/kg	1.24	3.73	1
53469-21-9	Aroclor-1242	U	3.73	ug/kg	1.24	3.73	1
12672-29-6	Aroclor-1248	U	3.73	ug/kg	1.24	3.73	1
11097-69-1	Aroclor-1254	U	3.73	ug/kg	1.24	3.73	1
11096-82-5	Aroclor-1260	U	3.73	ug/kg	1.24	3.73	1

EH
2/5/10

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1102 VALIDATION DATE: 2/5/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Eyda Hergenreder 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
☐ GENERAL CHEMISTRY ☒ RADIOCHEMISTRY ☐ LCMSMS HIGH EXPLOSIVES PESTICIDES/POLYCHLORINATED BIPHENYLS
☐ OTHER (DESCRIBE): _____

Section II. Completeness Check

- | YES | NO | N/A | (CHECK ONE) | YES | NO | N/A | (CHECK ONE) |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. RAW/BSS DATA |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. CASE NARRATIVE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. SAMPLE RESULT FORMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. QUANTITATION REPORTS |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 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):


- The gamma-spec results that were rejected by the laboratory due to interference, low abundance or no -valid peaks were qualified R,R5a. In the duplicate sample several results were also rejected by the laboratory. No data were qualified as a result.
- The Am-243 tracer %Rs for samples RE12-10-7666 and -7665 were < the laboratory LAL. The associated Am-241 sample results were NDs, and, thus, were not qualified. In addition the Am-243 tracer %R for the LCS was > the laboratory UAL but ≤125%. Since the sample was a QC sample, no sample data were qualified as a result.

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


VALIDATOR'S SIGNATURE:

A handwritten signature of Eyda Hergenreder in black ink.


DATE: 2/5/10

RAD ANALYTICAL DATA VALIDATION CHECKLIST	
5119-2 Rad Analytical Data Validation Checklist	Records Use only 

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, R9	J-, R9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, R9a	J-, R9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. The analyte should be regarded as rejected because spectral interferences prevent positive identification of the analytes.	R, R5a	R, R5a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, R4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. The tracer is < the Lower Acceptance Level (LAL) but $\geq 10\%R$. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	UJ, R3a	J-, R3a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, R12	R, R12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, R12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Associated duplicate sample has DER or RER > the analytical laboratory's acceptance limits.	R, R10	J, J10
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 

Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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

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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 15, 2010

Client Sample ID: RE12-10-7675
Sample ID: 243630001
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 10.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00319	0.0233	+/-0.00722	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0013	0.0215	+/-0.0013	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.0013	0.0246	+/-0.00226	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.03	0.133	+/-0.100	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0265	0.0825	+/-0.0142	0.100	pCi/g						
Uranium-238		1.04	0.0771	+/-0.101	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0626	0.118	+/-0.0378	0.200	pCi/g		MXR1	01/07/10	1309	937702	5
Bismuth-211	UI	4.34	R,R5a	0.382	+/-0.316	pCi/g						
Bismuth-214		1.22		0.154	+/-0.113	pCi/g						
Cadmium-109	UI	2.30	R,R5a	1.23	+/-0.381	pCi/g						
Cerium-139	U	-0.012	0.0549	+/-0.0169	0.050	pCi/g						
Cesium-134	UI	0.129	R,R5a	0.0999	+/-0.0339	0.100	pCi/g					
Cesium-137	U	-0.00699	0.0809	+/-0.0253	0.100	pCi/g						
Cobalt-60	U	0.0174	0.070	+/-0.0204	0.100	pCi/g						
Europium-152	U	0.0343	0.202	+/-0.0718	0.200	pCi/g						
Lanthanum-140	U	0.0545	0.188	+/-0.053		pCi/g						
Lead-212		1.86	0.106	+/-0.118	0.100	pCi/g						
Lead-214		1.51	0.133	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.0611	0.0862	+/-0.0272	0.100	pCi/g						
Potassium-40		21.2	0.611	+/-1.09	1.00	pCi/g						
Radium-223	U	-0.651	1.27	+/-0.398		pCi/g						
Radium-224	UI	4.82	R,R5a	1.21	+/-0.734	pCi/g						
Radium-226		1.22	0.154	+/-0.113		pCi/g						
Radium-228		1.89	0.278	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	-0.069	0.609	+/-0.190	0.800	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7675
Sample ID: 243630001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Sodium-22	U	0.00756	0.0839	+/-0.0255	0.080	pCi/g						
Strontium-85	UI	0.112	R,R5a	0.0954	+/-0.0293	pCi/g						
Thallium-208		0.562		0.0753	+/-0.0478	pCi/g						
Thorium-227	U	0.266		0.757	+/-0.217	pCi/g						
Thorium-231	U	-0.651		1.27	+/-0.398	pCi/g						
Thorium-234		1.32		1.19	+/-0.444	pCi/g						
Tin-113	U	-0.0281		0.0847	+/-0.0262	pCi/g						
Uranium-235	U	0.287		0.409	+/-0.124	pCi/g						
Yttrium-88	U	0.0233		0.0708	+/-0.0193	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"	87.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.9	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7663
Sample ID: 243630002
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 25%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0032	0.0234	+/-0.0051	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00385	0.0212	+/-0.00426	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00385	0.0242	+/-0.00642	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.26	0.117	+/-0.113	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236		0.0795	0.0728	+/-0.0211	0.100	pCi/g						
Uranium-238		1.27	0.068	+/-0.114	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.181	0.328	+/-0.0986	0.200	pCi/g		MXR1	01/07/10	1310	937702	5
Bismuth-211	UI	3.52	R,R5a	0.337	+/-0.263	pCi/g						
Bismuth-214		0.961	0.139	+/-0.0945	0.200	pCi/g						
Cadmium-109	UI	2.05	R,R5a	1.28	+/-0.685	pCi/g						
Cerium-139	U	0.00478	0.060	+/-0.0179	0.050	pCi/g						
Cesium-134	U	0.0551	0.0993	+/-0.0273	0.100	pCi/g						
Cesium-137		0.213	0.074	+/-0.0452	0.100	pCi/g						
Cobalt-60	U	0.0347	0.0812	+/-0.0227	0.100	pCi/g						
Europium-152	U	0.0994	0.178	+/-0.0626	0.200	pCi/g						
Lanthanum-140	U	0.063	0.190	+/-0.0522		pCi/g						
Lead-212		1.34	0.109	+/-0.0773	0.100	pCi/g						
Lead-214		1.22	0.118	+/-0.0967	0.100	pCi/g						
Mercury-203	U	0.0373	0.0859	+/-0.0242	0.100	pCi/g						
Potassium-40		20.9	0.730	+/-1.09	1.00	pCi/g						
Radium-223	U	-0.0968	1.34	+/-0.397		pCi/g						
Radium-224	UI	4.06	R,R5a	1.24	+/-0.656	pCi/g						
Radium-226		0.961	0.139	+/-0.0945		pCi/g						
Radium-228		1.16	0.243	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	0.212	0.611	+/-0.177	0.800	pCi/g						
Sodium-22	U	-0.0216	0.0761	+/-0.0248	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:			RE12-10-7663		Project:		LANL01004					
Sample ID:			243630002		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	0.0539	0.0775	+/-0.0243		pCi/g						
Thallium-208		0.461	0.0614	+/-0.0523	0.080	pCi/g						
Thorium-227	U	-0.0116	0.765	+/-0.236		pCi/g						
Thorium-231	U	-0.0968	1.34	+/-0.397		pCi/g						
Thorium-234	U	1.36	2.86	+/-0.823	2.00	pCi/g						
Tin-113	U	-0.0327	0.0836	+/-0.026	0.100	pCi/g						
Uranium-235	U	0.174	0.406	+/-0.118	0.500	pCi/g						
Yttrium-88	U	-0.0131	0.0625	+/-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"	90.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.6	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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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 15, 2010

Client Sample ID: RE12-10-7664
Sample ID: 243630003
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 10.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00758	0.020	+/-0.00507	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	2.99E-10	0.0207	+/-0.00354	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.0125	0.0237	+/-0.00473	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.09	0.110	+/-0.0989	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0528	0.0685	+/-0.0157	0.100	pCi/g						
Uranium-238		1.15	0.064	+/-0.104	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0152	0.175	+/-0.0557	0.200	pCi/g		MXR1	01/07/10	1310	937702	5
Bismuth-211	UI	4.03	R,R5a	0.328	+/-0.293	pCi/g						
Bismuth-214		1.10		0.116	+/-0.0899	0.200	pCi/g					
Cadmium-109	UI	3.48	R,R5a	1.01	+/-0.445	pCi/g						
Cerium-139	U	0.00893	0.0467	+/-0.014	0.050	pCi/g						
Cesium-134	U	0.0617	0.0908	+/-0.0381	0.100	pCi/g						
Cesium-137	U	0.0377	0.0759	+/-0.0215	0.100	pCi/g						
Cobalt-60	U	0.0294	0.0658	+/-0.0182	0.100	pCi/g						
Europium-152	U	-0.013	0.153	+/-0.0525	0.200	pCi/g						
Lanthanum-140	U	-0.0831	0.120	+/-0.0445		pCi/g						
Lead-212		1.64	0.0919	+/-0.0977	0.100	pCi/g						
Lead-214		1.40	0.114	+/-0.108	0.100	pCi/g						
Mercury-203	U	0.0464	0.0701	+/-0.0218	0.100	pCi/g						
Potassium-40		21.5	0.516	+/-1.19	1.00	pCi/g						
Radium-223	U	0.0603	1.05	+/-0.352		pCi/g						
Radium-224	UI	4.23	R,R5a	1.05	+/-0.548	pCi/g						
Radium-226		1.10	0.116	+/-0.0899		pCi/g						
Radium-228		1.62	0.196	+/-0.176	0.500	pCi/g						
Ruthenium-106	U	0.0051	0.515	+/-0.152	0.800	pCi/g						
Sodium-22	U	0.0175	0.0646	+/-0.0185	0.080	pCi/g						

EH
2/5/10

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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 15, 2010

Client Sample ID: RE12-10-7664
Sample ID: 243630003

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	UI	0.070	R,R5a	0.0657	+/-0.0189	pCi/g						
Thallium-208		0.520		0.0574	+/-0.0452	pCi/g						
Thorium-227	U	-0.255		0.585	+/-0.179	pCi/g						
Thorium-231	U	0.0603		1.05	+/-0.352	pCi/g						
Thorium-234		1.57		1.49	+/-0.659	pCi/g						
Tin-113	U	0.00247		0.0705	+/-0.0211	pCi/g						
Uranium-235	U	-0.0494		0.328	+/-0.102	pCi/g						
Yttrium-88	U	0.00986		0.0548	+/-0.0155	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"	91.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.0	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7672
Sample ID: 243630004
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 11.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0147	0.0216	+/-0.00764	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00111	0.0183	+/-0.00596	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00332	0.0209	+/-0.00368	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.115	+/-0.0964	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0457	0.0712	+/-0.0148	0.100	pCi/g						
Uranium-238		1.17	0.0665	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00351	0.205	+/-0.067	0.200	pCi/g		MXR1	01/07/10	1312	937702	5
Bismuth-211	UI	3.67	R,R5a	0.296	+/-0.229	pCi/g						
Bismuth-214		1.30		0.105	+/-0.0906	pCi/g						
Cadmium-109	UI	2.91	R,R5a	1.14	+/-0.407	pCi/g						
Cerium-139	U	0.00954	0.0477	+/-0.014	0.050	pCi/g						
Cesium-134	U	0.0707	0.0872	+/-0.0274	0.100	pCi/g						
Cesium-137	U	0.0054	0.0576	+/-0.0172	0.100	pCi/g						
Cobalt-60	U	0.0108	0.0621	+/-0.0182	0.100	pCi/g						
Europium-152	U	-0.028	0.136	+/-0.0539	0.200	pCi/g						
Lanthanum-140	U	-0.0448	0.135	+/-0.0446		pCi/g						
Lead-212		1.55	0.0846	+/-0.0751	0.100	pCi/g						
Lead-214		1.28	0.103	+/-0.0863	0.100	pCi/g						
Mercury-203	U	0.0103	0.0647	+/-0.0184	0.100	pCi/g						
Potassium-40		20.8	0.545	+/-1.06	1.00	pCi/g						
Radium-223	U	-0.0166	0.989	+/-0.332		pCi/g						
Radium-224	UI	4.70	R,R5a	0.962	+/-0.637	pCi/g						
Radium-226		1.30	0.105	+/-0.0906		pCi/g						
Radium-228		1.55	0.237	+/-0.160	0.500	pCi/g						
Ruthenium-106	U	0.0358	0.454	+/-0.135	0.800	pCi/g						
Sodium-22	U	-0.00397	0.0654	+/-0.0199	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7672
Sample ID: 243630004
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Strontium-85	UI	0.0653	R,R5a	0.0616	+/-0.0184	pCi/g					
Thallium-208		0.530		0.0529	+/-0.0393	pCi/g	0.080				
Thorium-227	U	-0.0614		0.571	+/-0.166	pCi/g					
Thorium-231	U	-0.0166		0.989	+/-0.332	pCi/g					
Thorium-234	U	1.12		1.75	+/-0.688	pCi/g	2.00				
Tin-113	U	0.00926		0.0689	+/-0.020	pCi/g	0.100				
Uranium-235	U	0.135		0.346	+/-0.102	pCi/g	0.500				
Yttrium-88	U	0.00536		0.0553	+/-0.0167	pCi/g	0.100				

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"	92.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.3	(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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- 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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7667
Sample ID: 243630005
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 17.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00139	0.0273	+/-0.00949	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0115	0.019	+/-0.00368	0.050	pCi/g		KXM4	01/12/10	1440	938238	3
Plutonium-239/240		0.031	0.0217	+/-0.00617	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.62	0.110	+/-0.137	0.100	pCi/g		KXM4	01/09/10	1100	938239	5
Uranium-235/236		0.0833	0.0682	+/-0.020	0.100	pCi/g						
Uranium-238		1.68	0.0638	+/-0.141	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0607	0.206	+/-0.0645	0.200	pCi/g		MXR1	01/07/10	1313	937702	6
Bismuth-211	UI	3.90	R,R5a 0.284	+/-0.296		pCi/g						
Bismuth-214		1.21	0.0963	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	2.57	R,R5a 1.16	+/-0.453		pCi/g						
Cerium-139	U	0.0207	0.0503	+/-0.0143	0.050	pCi/g						
Cesium-134	UI	0.113	R,R5a 0.0781	+/-0.0314	0.100	pCi/g						
Cesium-137		0.273	0.0545	+/-0.0348	0.100	pCi/g						
Cobalt-60	U	0.00724	0.0521	+/-0.0155	0.100	pCi/g						
Europium-152	U	0.0636	0.155	+/-0.0507	0.200	pCi/g						
Lanthanum-140	U	0.106	0.137	+/-0.0405		pCi/g						
Lead-212		1.59	0.0807	+/-0.116	0.100	pCi/g						
Lead-214		1.36	0.0996	+/-0.109	0.100	pCi/g						
Mercury-203	U	-0.0133	0.065	+/-0.0201	0.100	pCi/g						
Potassium-40		21.5	0.424	+/-1.17	1.00	pCi/g						
Radium-223	U	-1.02	0.997	+/-0.329		pCi/g						
Radium-224	UI	4.54	R,R5a 0.917	+/-0.533		pCi/g						
Radium-226		1.21	0.0963	+/-0.102		pCi/g						
Radium-228		1.47	0.185	+/-0.164	0.500	pCi/g						
Ruthenium-106	U	0.184	0.484	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.0213	0.0562	+/-0.0178	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7667
Sample ID: 243630005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	UI	0.129	R,R5a	0.0672	+/-0.0205	pCi/g						
Thallium-208		0.500		0.0516	+/-0.0433	pCi/g	0.080					
Thorium-227	U	0.101		0.615	+/-0.184	pCi/g						
Thorium-231	U	-1.02		0.997	+/-0.329	pCi/g						
Thorium-234		2.75		1.71	+/-0.943	pCi/g	2.00					
Tin-113	U	-0.0109		0.0689	+/-0.0208	pCi/g	0.100					
Uranium-235	U	-0.00364		0.341	+/-0.100	pCi/g	0.500					
Yttrium-88	U	-0.00189		0.0474	+/-0.0146	pCi/g	0.100					

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, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	71.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.1	(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
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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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7666
Sample ID: 243630006
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 10.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0122	0.0444	+/-0.0115	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00869	0.0179	+/-0.00596	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00326	0.0205	+/-0.00288	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.906	0.122	+/-0.0879	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0533	0.0755	+/-0.0192	0.100	pCi/g						
Uranium-238		0.993	0.0705	+/-0.0943	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00365	0.370	+/-0.105	0.200	pCi/g		MXR1	01/07/10	1323	937702	5
Bismuth-211	UI	3.30	R,R5a 0.287	+/-0.222		pCi/g						
Bismuth-214		1.04	0.102	+/-0.0825	0.200	pCi/g						
Cadmium-109	UI	2.80	R,R5a 1.31	+/-0.559		pCi/g						
Cerium-139	U	0.0173	0.0469	+/-0.0137	0.050	pCi/g						
Cesium-134	U	0.0498	0.0825	+/-0.0228	0.100	pCi/g						
Cesium-137	U	-0.00232	0.0545	+/-0.0161	0.100	pCi/g						
Cobalt-60	U	-0.000826	0.0554	+/-0.0167	0.100	pCi/g						
Europium-152	U	0.0181	0.143	+/-0.0447	0.200	pCi/g						
Lanthanum-140	U	-0.0185	0.136	+/-0.0431		pCi/g						
Lead-212		1.51	0.0865	+/-0.0773	0.100	pCi/g						
Lead-214		1.15	0.107	+/-0.0827	0.100	pCi/g						
Mercury-203	U	0.0277	0.0611	+/-0.0258	0.100	pCi/g						
Potassium-40		21.1	0.491	+/-1.18	1.00	pCi/g						
Radium-223	U	0.077	1.07	+/-0.313		pCi/g						
Radium-224	UI	3.53	R,R5a 0.984	+/-0.474		pCi/g						
Radium-226		1.04	0.102	+/-0.0825		pCi/g						
Radium-228		1.53	0.199	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	-0.116	0.462	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.0479	0.0616	+/-0.0211	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7666
Sample ID: 243630006
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	U	0.0421	0.0588	+/-0.0184		pCi/g						
Thallium-208		0.478	0.0536	+/-0.0402	0.080	pCi/g						
Thorium-227	U	-0.0474	0.587	+/-0.171		pCi/g						
Thorium-231	U	0.077	1.07	+/-0.313		pCi/g						
Thorium-234	U	0.615	2.96	+/-0.837	2.00	pCi/g						
Tin-113	U	-0.0108	0.0647	+/-0.0196	0.100	pCi/g						
Uranium-235	U	-0.00887	0.328	+/-0.0985	0.500	pCi/g						
Yttrium-88	U	0.0233	0.0556	+/-0.0147	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"	41.6 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- > Result is greater than value reported
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- D Results are reported from a diluted aliquot of the sample
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- II Analytical holding time was exceeded

EH
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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7665
Sample ID: 243630007
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 11.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00134	0.0374	+/-0.00414	0.050	pCi/g		KXM4	01/13/10	1953	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00249	0.0205	+/-0.00176	0.050	pCi/g		KXM4	01/08/10	1236	938238	4
Plutonium-239/240	U	0.00621	0.0235	+/-0.00449	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.39	0.124	+/-0.124	0.100	pCi/g		KXM4	01/09/10	1100	938239	5
Uranium-235/236	U	0.0691	0.0768	+/-0.0191	0.100	pCi/g						
Uranium-238		1.41	0.0717	+/-0.125	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00449	0.180	+/-0.0591	0.200	pCi/g		MXR1	01/07/10	1323	937702	6
Bismuth-211	UI	4.52	R,R5a	0.301	+/-0.374	pCi/g						
Bismuth-214		1.40		0.0986	+/-0.120	pCi/g						
Cadmium-109	UI	4.34	R,R5a	0.943	+/-0.493	pCi/g						
Cerium-139	U	-0.00327	0.0439	+/-0.0129	0.050	pCi/g						
Cesium-134	U	0.0652	0.082	+/-0.031	0.100	pCi/g						
Cesium-137		0.277	0.063	+/-0.0309	0.100	pCi/g						
Cobalt-60	U	-0.0457	0.0467	+/-0.0179	0.100	pCi/g						
Europium-152	U	0.00793	0.152	+/-0.0466	0.200	pCi/g						
Lanthanum-140	U	-0.081	0.124	+/-0.0438		pCi/g						
Lead-212		1.79	0.0825	+/-0.137	0.100	pCi/g						
Lead-214		1.57	0.105	+/-0.137	0.100	pCi/g						
Mercury-203	U	0.003	0.0599	+/-0.0203	0.100	pCi/g						
Potassium-40		20.5	0.516	+/-1.15	1.00	pCi/g						
Radium-223	U	-0.239	0.965	+/-0.346		pCi/g						
Radium-224	UI	2.62	R,R5a	0.940	+/-0.529	pCi/g						
Radium-226		1.40	0.0986	+/-0.120		pCi/g						
Radium-228		1.70	0.196	+/-0.190	0.500	pCi/g						
Ruthenium-106	U	0.0733	0.488	+/-0.145	0.800	pCi/g						
Sodium-22	U	-0.00904	0.0568	+/-0.0181	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7665
Sample ID: 243630007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	U	0.0114	0.0551	+/-0.0181		pCi/g						
Thallium-208		0.485	0.0536	+/-0.047	0.080	pCi/g						
Thorium-227	U	-0.205	0.570	+/-0.179		pCi/g						
Thorium-231	U	-0.239	0.965	+/-0.346		pCi/g						
Thorium-234		1.82	1.62	+/-0.640	2.00	pCi/g						
Tin-113	U	-0.0321	0.0653	+/-0.0202	0.100	pCi/g						
Uranium-235	U	0.0391	0.314	+/-0.0916	0.500	pCi/g						
Yttrium-88	U	0.00627	0.0528	+/-0.0155	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, Am-05-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	33.8 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	87.9	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7670
Sample ID: 243630008
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 11.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0174	0.0298	+/-0.0106	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00224	0.0185	+/-0.00318	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00224	0.0212	+/-0.00225	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.938	0.113	+/-0.0887	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0542	0.0702	+/-0.0161	0.100	pCi/g						
Uranium-238		1.10	0.0656	+/-0.0999	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0592	0.254	+/-0.0784	0.200	pCi/g		MXR1	01/07/10	1324	937702	5
Bismuth-211	UI	4.19	R,R5a	+/-0.268		pCi/g						
Bismuth-214		1.36		+/-0.104	0.200	pCi/g						
Cadmium-109	UI	4.24	R,R5a	+/-0.613		pCi/g						
Cerium-139	U	-0.00401	0.0472	+/-0.0144	0.050	pCi/g						
Cesium-134	U	0.0718	0.0889	+/-0.0242	0.100	pCi/g						
Cesium-137	U	-0.0202	0.0629	+/-0.0196	0.100	pCi/g						
Cobalt-60	U	0.0111	0.059	+/-0.0172	0.100	pCi/g						
Europium-152	U	0.0123	0.158	+/-0.0503	0.200	pCi/g						
Lanthanum-140	U	-0.0852	0.126	+/-0.0447		pCi/g						
Lead-212		1.75	0.089	+/-0.0845	0.100	pCi/g						
Lead-214		1.46	0.114	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.0115	0.067	+/-0.0193	0.100	pCi/g						
Potassium-40		19.8	0.414	+/-1.03	1.00	pCi/g						
Radium-223	U	0.647	1.14	+/-0.362		pCi/g						
Radium-224	UI	3.78	R,R5a	+/-0.539		pCi/g						
Radium-226		1.36	0.119	+/-0.104		pCi/g						
Radium-228		1.55	0.193	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	0.105	0.541	+/-0.156	0.800	pCi/g						
Sodium-22	U	-0.0567	0.0635	+/-0.0227	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7670
Sample ID: 243630008
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.0751	R,R5a	0.070	+/-0.0211	pCi/g						
Thallium-208		0.556		0.0616	+/-0.049	pCi/g	0.080					
Thorium-227	U	-0.0436		0.665	+/-0.195	pCi/g						
Thorium-231	U	0.647		1.14	+/-0.362	pCi/g						
Thorium-234		2.44		2.13	+/-1.06	pCi/g	2.00					
Tin-113	U	-0.00392		0.0713	+/-0.0216	pCi/g	0.100					
Uranium-235	U	0.190		0.362	+/-0.106	pCi/g	0.500					
Yttrium-88	U	-0.0116		0.0527	+/-0.0172	pCi/g	0.100					

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"	63.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	98.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.5	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7668
Sample ID: 243630009
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 9.06%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00065	0.0196	+/-0.00214	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00445	0.0184	+/-0.00272	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00889	0.021	+/-0.00354	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.938	0.111	+/-0.0882	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0397	0.0687	+/-0.0135	0.100	pCi/g						
Uranium-238		0.996	0.0642	+/-0.0923	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0636	0.216	+/-0.0687	0.200	pCi/g		MXR1	01/07/10	1324	937702	5
Bismuth-211	UI	3.91	R,R5a	0.274	+/-0.284	pCi/g						
Bismuth-214		1.13		0.0858	+/-0.0938	pCi/g						
Cadmium-109	UI	2.97	R,R5a	1.01	+/-0.421	pCi/g						
Cerium-139	U	0.0106	0.0426	+/-0.0121	0.050	pCi/g						
Cesium-134	UI	0.085	R,R5a	0.0829	+/-0.0259	pCi/g						
Cesium-137	U	0.0174	0.0593	+/-0.0173	0.100	pCi/g						
Cobalt-60	U	0.037	0.0565	+/-0.0149	0.100	pCi/g						
Europium-152	U	0.0597	0.142	+/-0.0403	0.200	pCi/g						
Lanthanum-140	U	-0.013	0.126	+/-0.0389		pCi/g						
Lead-212		1.63	0.0777	+/-0.109	0.100	pCi/g						
Lead-214		1.36	0.0917	+/-0.105	0.100	pCi/g						
Mercury-203	U	-0.0236	0.0562	+/-0.0178	0.100	pCi/g						
Potassium-40		20.6	0.376	+/-1.13	1.00	pCi/g						
Radium-223	U	0.162	0.894	+/-0.301		pCi/g						
Radium-224	UI	4.26	R,R5a	0.885	+/-0.551	pCi/g						
Radium-226		1.13	0.0858	+/-0.0938		pCi/g						
Radium-228		1.63	0.180	+/-0.154	0.500	pCi/g						
Ruthenium-106	U	-0.00592	0.424	+/-0.128	0.800	pCi/g						
Sodium-22	U	0.0214	0.0647	+/-0.0187	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:			RE12-10-7668		Project:		LANL01004					
Sample ID:			243630009		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	0.0336	0.0522	+/-0.0159		pCi/g						
Thallium-208		0.481	0.0471	+/-0.0437	0.080	pCi/g						
Thorium-227	U	-0.207	0.508	+/-0.160		pCi/g						
Thorium-231	U	0.162	0.894	+/-0.301		pCi/g						
Thorium-234	U	1.18	1.74	+/-0.808	2.00	pCi/g						
Tin-113	U	-0.0283	0.060	+/-0.0184	0.100	pCi/g						
Uranium-235	U	0.0118	0.304	+/-0.089	0.500	pCi/g						
Yttrium-88	U	-0.00513	0.0485	+/-0.0153	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"	97.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	95.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.0	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7671
 Sample ID: 243630010
 Matrix: R
 Collect Date: 22-DEC-09
 Receive Date: 29-DEC-09
 Collector: Client
 Moisture: 19.2%

Project: LANL01004
 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00215	0.0224	+/-0.00252	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00422	0.0174	+/-0.00259	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00528	0.0199	+/-0.00381	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.75	0.120	+/-0.149	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236		0.115	0.0744	+/-0.0248	0.100	pCi/g						
Uranium-238		1.96	0.0695	+/-0.164	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0434	0.303	+/-0.0967	0.200	pCi/g		MXR1	01/07/10	1328	937702	5
Bismuth-211	UI	4.02	R,R5a 0.299	+/-0.237		pCi/g						
Bismuth-214		1.13	0.0994	+/-0.0845	0.200	pCi/g						
Cadmium-109	UI	2.75	R,R5a 1.25	+/-0.520		pCi/g						
Cerium-139	U	0.0108	0.0449	+/-0.0128	0.050	pCi/g						
Cesium-134	U	0.0742	0.0759	+/-0.021	0.100	pCi/g						
Cesium-137		0.206	0.053	+/-0.0236	0.100	pCi/g						
Cobalt-60	U	-0.00193	0.045	+/-0.0139	0.100	pCi/g						
Europium-152	U	-0.0372	0.134	+/-0.0441	0.200	pCi/g						
Lanthanum-140	U	-0.0828	0.114	+/-0.0395		pCi/g						
Lead-212		1.47	0.0833	+/-0.0804	0.100	pCi/g						
Lead-214		1.40	0.0964	+/-0.0901	0.100	pCi/g						
Mercury-203	U	0.0342	0.0592	+/-0.0171	0.100	pCi/g						
Potassium-40		21.6	0.405	+/-1.04	1.00	pCi/g						
Radium-223	U	-0.104	0.926	+/-0.287		pCi/g						
Radium-224	UI	2.62	R,R5a 1.23	+/-0.388		pCi/g						
Radium-226		1.13	0.0994	+/-0.0845		pCi/g						
Radium-228		1.57	0.173	+/-0.160	0.500	pCi/g						
Ruthenium-106	U	-0.34	0.414	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.0167	0.0564	+/-0.018	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7671
Sample ID: 243630010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.114	R,R5a	0.067	+/-0.0198							pCi/g
Thallium-208		0.488		0.0475	+/-0.0386	0.080						pCi/g
Thorium-227	U	0.0243		0.550	+/-0.165							pCi/g
Thorium-231	U	-0.104		0.926	+/-0.287							pCi/g
Thorium-234		3.20		2.30	+/-1.08	2.00						pCi/g
Tin-113	U	-0.00071		0.0621	+/-0.0184	0.100						pCi/g
Uranium-235	UI	0.356	R,R5a	0.310	+/-0.120	0.500						pCi/g
Yttrium-88	U	-0.0238		0.0386	+/-0.0139	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"	81.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.1	(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
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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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7669
Sample ID: 243630011
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 24.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Gravimetric Solids											
<i>"As Received"</i>											
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	-0.00303	0.0209	+/-0.00419	0.050	pCi/g		KXM4	01/08/10	1236 938229	2
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00204	0.0168	+/-0.00144	0.050	pCi/g		KXM4	01/08/10	1236 938238	3
Plutonium-239/240	U	0.0143	0.0193	+/-0.00414	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.28	0.124	+/-0.116	0.100	pCi/g		KXM4	01/09/10	1100 938239	4
Uranium-235/236	U	0.0595	0.0771	+/-0.0177	0.100	pCi/g					
Uranium-238		1.50	0.0721	+/-0.132	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.117	0.202	+/-0.0643	0.200	pCi/g		MXR1	01/07/10	1328 937702	5
Bismuth-211	UI	4.86	R,R5a 0.341	+/-0.342		pCi/g					
Bismuth-214		1.39	0.0991	+/-0.112	0.200	pCi/g					
Cadmium-109	UI	4.62	R,R5a 1.07	+/-0.561		pCi/g					
Cerium-139	U	-0.00268	0.0494	+/-0.0155	0.050	pCi/g					
Cesium-134	UI	0.108	R,R5a 0.0987	+/-0.0393	0.100	pCi/g					
Cesium-137		0.260	0.0661	+/-0.0356	0.100	pCi/g					
Cobalt-60	U	0.0103	0.0704	+/-0.0214	0.100	pCi/g					
Europium-152	U	-0.00786	0.164	+/-0.0536	0.200	pCi/g					
Lanthanum-140	U	0.121	0.162	+/-0.0428		pCi/g					
Lead-212		1.90	0.0863	+/-0.118	0.100	pCi/g					
Lead-214		1.69	0.112	+/-0.127	0.100	pCi/g					
Mercury-203	U	0.0427	0.0737	+/-0.0234	0.100	pCi/g					
Potassium-40		20.9	0.411	+/-1.24	1.00	pCi/g					
Radium-223	U	0.522	1.11	+/-0.358		pCi/g					
Radium-224	UI	4.80	R,R5a 0.982	+/-0.625		pCi/g					
Radium-226		1.39	0.0991	+/-0.112		pCi/g					
Radium-228		1.85	0.197	+/-0.202	0.500	pCi/g					
Ruthenium-106	U	0.123	0.555	+/-0.168	0.800	pCi/g					
Sodium-22	U	-0.014	0.068	+/-0.0221	0.080	pCi/g					

EH
2/5/10

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 15, 2010

Client Sample ID: RE12-10-7669
Sample ID: 243630011
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	UI	0.0853	R,R5a	0.0744	+/-0.0225	pCi/g						
Thallium-208		0.552		0.060	+/-0.0479	pCi/g						
Thorium-227	U	-0.0393		0.657	+/-0.196	pCi/g						
Thorium-231	U	0.522		1.11	+/-0.358	pCi/g						
Thorium-234	U	1.21		1.74	+/-0.752	pCi/g	2.00					
Tin-113	U	0.0282		0.075	+/-0.0218	pCi/g	0.100					
Uranium-235	U	0.0536		0.359	+/-0.111	pCi/g	0.500					
Yttrium-88	U	0.0101		0.0487	+/-0.0137	pCi/g	0.100					

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"	94.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	84.7	(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 Organics-Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

EH
2/5/10

Thursday, December 24, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1102C

LOS ALAMOS

REQUEST NUMBER: 10-1102

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/27/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243630%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7675	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7663	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7663	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7664	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7664	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7672	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7672	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7667	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7667	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7666	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7666	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7665	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7665	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7670	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7670	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7668	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7668	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7671	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7671	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7669	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7669	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7675	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:

Date Time

Received By:

Date Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

REQUEST NUMBER: 10-1102

Thursday, December 24, 2009

**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: 10-1102

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/28/2009

TURNAROUND/REPORT DUE: 1/27/2010

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	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	

Thursday, December 24, 2009

REQUEST NUMBER: 10-1102

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	HASL-300-AM-241	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	HASL-300-ISOPU	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	HASL-300-ISOU	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	

REQUEST NUMBER: 10-1102

Thursday, December 24, 2009

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	SW-846:8082	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
	SW-846:8321A_MOD	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	

Final Page of REQUEST NUMBER 10-1102



January 06, 2010

www.gel.com

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: 243630
SDG: 10-1102

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on December 29, 2009, and analyzed for Explosives by LCMSMS, GC Semivolatile PCB 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,

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1102
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 243630
SDG: 10-1102

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 243630
SDG # : 10-1102**

January 06, 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 December 29, 2009 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 9/12C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669

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 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 06 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, December 24, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1102C

LOS ALAMOS

REQUEST NUMBER: 10-1102

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/27/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243630%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7675	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7663	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7663	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7664	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7664	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7672	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7672	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7667	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7667	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7666	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7666	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7665	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7665	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7670	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7670	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7668	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7668	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7671	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7671	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7669	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7669	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7675	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:

Date 12/24/09 Time 3:00

Received By:

Date 12/29/09 Time 0840

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Thursday, December 24, 2009

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: 10-1102

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/28/2009

TURNAROUND/REPORT DUE: 1/27/2010

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	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	

Thursday, December 24, 2009

Page 2 of 3

REQUEST NUMBER: 10-1102

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	HASL-300:AM-241	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	HASL-300:ISOPU	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	HASL-300:ISOU	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	

Thursday, December 24, 2009

Page 3 of 3

REQUEST NUMBER: 10-1102

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	
	SW-846:8082	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
	SW-846:8321A_MOD	1	RE12-10-7663	R	12/22/2009	
		1	RE12-10-7664	R	12/22/2009	
		1	RE12-10-7665	R	12/22/2009	
		1	RE12-10-7666	R	12/22/2009	
		1	RE12-10-7667	R	12/22/2009	
		1	RE12-10-7668	R	12/22/2009	
		1	RE12-10-7669	R	12/22/2009	
		1	RE12-10-7670	R	12/22/2009	
		1	RE12-10-7671	R	12/22/2009	
		1	RE12-10-7672	R	12/22/2009	
		1	RE12-10-7675	R	12/22/2009	

Final Page of REQUEST NUMBER 10-1102



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCO/Work Order: 10-1102		
Received By: Greg Tyler			Date Received: 12/29/09		
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*: 60cpm	
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 2,3,5,6 C 9,12C
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 3994 2C 7209 7849 3961 12C
 7209 7849 3950 2C 7209 7849 3983 12C
 7209 7849 3972 2C
 7209 7849 3906 3C
 7209 7849 3940 5C
 7209 7849 3891 5C
 7209 7849 3939 6C
 7209 7849 3917 9C

ORIGIN ID: SAFA (506)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 28DEC89
ACTWGT: 54.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

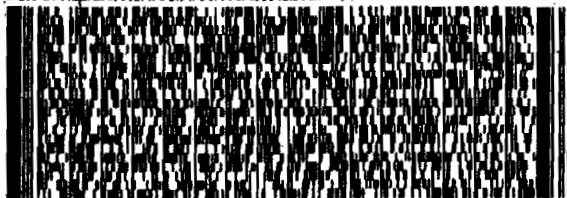
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171

REF: 6B010AMR3A056AB800

120



FedEx
Express



C8912098031224

2 of 2
MPS# 7209 7849 3961
0263

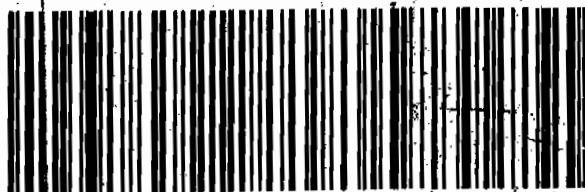
Matr# 7209 7849 3950 0201

TUE - 29DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

Cart # 156148-434 NRIT V3 09-09



JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

ACTWGT: 54.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

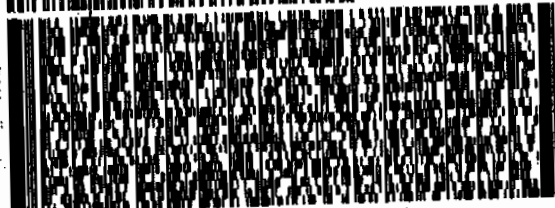
CHARLESTON SC 29407

(843)556-8171

REF: 6B010AMR3A05529E00

120

120



FedEx
Express



C8912098031224

2 of 2
MPS# 7209 7849 3983
0263

Matr# 7209 7849 3972 0201

TUE - 29DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

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.

LC/MS/MS EXPLOSIVES ANALYSIS

LC/MS/MS Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1102

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: 937567

Prep Batch Number: 937566

Sample Analysis

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

Sample ID	Client ID
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669
1202006244	Method Blank (MB)
1202006245	Laboratory Control Sample (LCS)
1202006246	243630001(RE12-10-7675) Matrix Spike (MS)
1202006247	243630001(RE12-10-7675) Matrix Spike Duplicate (MSD)

10-1102-EXPLCMS

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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 243630001 (RE12-10-7675) was chosen for matrix spike and matrix spike duplicate analysis.

Matrix Spike (MS) Recovery Statement

The MS recovered Tetryl at 33.2%. The recovery limits are 47-138%. Since similar recoveries were obtained in the MS and MSD, the noted exceptions are attributed to sample matrix interference. The LCS met acceptance criteria. The data are reported. Please see data exception report 781683.

Matrix Spike Duplicate (MSD) Recovery Statement

The MSD recovered Tetryl at 31.6%. The recovery limits are 47-138%. Since similar recoveries were obtained between matrix spikes, the noted exceptions are attributed to sample matrix interference. The LCS met acceptance criteria. The data are reported. Please see data exception report 781683.

MS/MSD Relative Percent Difference (RPD) Statement

The RPD(s) between the MS and MSD met the acceptance limits.

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Internal Standard (ISTD) Acceptance

The internal standard responses were within the required acceptance criteria for all samples and QC.

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

Samples 243630003 (RE12-10-7664) and 1202006247 (RE12-10-7675MSD) failed ISTD acceptance criteria. They were re-analyzed and passed acceptance criteria. The re-analysis data are 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 recovered TATB at 183%. The recovery limits are 47-166%. While TATB exhibited a high bias, it was not detected in the associated samples. The MS and MSD both met recovery limits for TATB. The data are reported. Please see data exception report 781683.

QC Sample Designation

Sample 243630001 (RE12-10-7675) 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 report 781683 was generated for this SDG.

The MS recovered Tetraol at 33.2%. The MSD recovered Tetraol at 31.6%. The recovery limits are 47-138%. Since similar recoveries were obtained in the MS and MSD, the noted exceptions are attributed to sample matrix interference. The LCS met acceptance criteria. The data are reported.

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.

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: Heber J. K. Mauer Date: 01/22/10

10-1102-EXPLCMS

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SAMPLE DATA SUMMARY

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630001

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118045a

Date Analyzed: 19-JAN-10 11:41

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630001

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100027.wiff

Date Analyzed: 11-JAN-10 18:05

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7663

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630002

Sample Amount 2

Moisture: 25.0

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118048a

Date Analyzed: 19-JAN-10 13:10

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7663

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630002

Sample Amount 2

Moisture: 25.0

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100030.wiff

Date Analyzed: 11-JAN-10 18:52

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 =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7664

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630003

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118062a

Date Analyzed: 19-JAN-10 20:03

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7664

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630003

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100031.wiff

Date Analyzed: 11-JAN-10 19:08

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7672

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630004

Sample Amount 2

Moisture: 11.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118050a

Date Analyzed: 19-JAN-10 14:08

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7672

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630004

Sample Amount 2

Moisture: 11.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100032.wiff

Date Analyzed: 11-JAN-10 19:23

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7667

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630005

Sample Amount 2

Moisture: 17.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118051a

Date Analyzed: 19-JAN-10 14:38

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7667

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630005

Sample Amount 2

Moisture: 17.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100033.wiff

Date Analyzed: 11-JAN-10 19:39

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7666

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630006

Sample Amount 2

Moisture: 10.6

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118052a

Date Analyzed: 19-JAN-10 15:08

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 =

Instrument Value	X	Concentrated Extract Volume	X	Dilution Factor
		Sample Amount		

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7666

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630006

Sample Amount 2

Moisture: 10.6

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100034.wiff

Date Analyzed: 11-JAN-10 19:55

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7665

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630007

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118056a

Date Analyzed: 19-JAN-10 17:06

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7665

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630007

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100038.wiff

Date Analyzed: 11-JAN-10 20:57

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7670

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630008

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118057a

Date Analyzed: 19-JAN-10 17:35

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7670

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630008

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100039.wiff

Date Analyzed: 11-JAN-10 21:13

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7668

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630009

Sample Amount 2

Moisture: 9.1

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118058a

Date Analyzed: 19-JAN-10 18:05

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7668

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630009

Sample Amount 2

Moisture: 9.1

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100040.wiff

Date Analyzed: 11-JAN-10 21:29

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7671

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630010

Sample Amount 2

Moisture: 19.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118059a

Date Analyzed: 19-JAN-10 18:34

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7671

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630010

Sample Amount 2

Moisture: 19.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100041.wiff

Date Analyzed: 11-JAN-10 21:45

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7669

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630011

Sample Amount 2

Moisture: 24.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118060a

Date Analyzed: 19-JAN-10 19:04

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7669

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630011

Sample Amount 2

Moisture: 24.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100042.wiff

Date Analyzed: 11-JAN-10 22:00

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

QUALITY CONTROL SUMMARY

High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
243630001	RE12-10-7675	99.8	73.7 - 133.3	
243630001	RE12-10-7675	97.2	73.7 - 133.3	
243630002	RE12-10-7663	101	73.7 - 133.3	
243630002	RE12-10-7663	101	73.7 - 133.3	
243630003	RE12-10-7664	94.6	73.7 - 133.3	
243630003	RE12-10-7664	96	73.7 - 133.3	
243630004	RE12-10-7672	98.9	73.7 - 133.3	
243630004	RE12-10-7672	91.6	73.7 - 133.3	
243630005	RE12-10-7667	96.2	73.7 - 133.3	
243630005	RE12-10-7667	93.2	73.7 - 133.3	
243630006	RE12-10-7666	95.2	73.7 - 133.3	
243630006	RE12-10-7666	94.4	73.7 - 133.3	
243630007	RE12-10-7665	100	73.7 - 133.3	
243630007	RE12-10-7665	96.4	73.7 - 133.3	
243630008	RE12-10-7670	98.7	73.7 - 133.3	
243630008	RE12-10-7670	92.4	73.7 - 133.3	
243630009	RE12-10-7668	101	73.7 - 133.3	
243630009	RE12-10-7668	95.6	73.7 - 133.3	
243630010	RE12-10-7671	104	73.7 - 133.3	
243630010	RE12-10-7671	91.2	73.7 - 133.3	
243630011	RE12-10-7669	85.6	73.7 - 133.3	
243630011	RE12-10-7669	88	73.7 - 133.3	
1202006244	MB for batch 937566	99.9	73.7 - 133.3	
1202006244	MB for batch 937566	100	73.7 - 133.3	
1202006245	LCS for batch 937566	103	73.7 - 133.3	
1202006245	LCS for batch 937566	95.2	73.7 - 133.3	
1202006246	RE12-10-7675(243630001MS)	96.9	73.7 - 133.3	
1202006246	RE12-10-7675(243630001MS)	91.2	73.7 - 133.3	
1202006247	RE12-10-7675(243630001MSD)	107	73.7 - 133.3	
1202006247	RE12-10-7675(243630001MSD)	92	73.7 - 133.3	

DNT = 3,4-Dinitrotoluene

3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1102

Extract Batch Code: 937566

Date Extracted: 05-JAN-10

GEL LCS ID: 1202006245

GEL LCSDUP ID:

Analysis Date/Time: 19-JAN-10 11:12

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
1,3,5-Trinitrobenzene	5000	4600	92.1					62.1 – 124
2,4,6-Trinitrotoluene	5000	5170	103					78.3 – 132
2,4-Dinitrotoluene	5000	4940	98.9					82.7 – 132
2,6-Dinitrotoluene	5000	4850	97.1					86.9 – 122
2-Amino-4,6-dinitrotoluene	5000	4930	98.6					84.2 – 149
4-Amino-2,6-dinitrotoluene	5000	5320	106					85.6 – 133
HMX	5000	5040	101					66.5 – 142
Nitrobenzene	5000	4680	93.5					71.8 – 126
PETN	5000	5010	100					64.6 – 147
RDX	5000	5430	109					78.7 – 144
Tetryl	5000	3440	68.8					31.2 – 119
m-Dinitrobenzene	5000	4900	98					80.9 – 127
m-Nitrotoluene	5000	4620	92.4					71.9 – 126
o-Nitrotoluene	5000	4780	95.5					75 – 123
p-Nitrotoluene	5000	5130	103					73.7 – 124

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

* Values outside of QC limits

3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1102

Extract Batch Code: 937566

Date Extracted: 05-JAN-10

GEL LCS ID: 1202006245

GEL LCSDUP ID:

Analysis Date/Time: 11-JAN-10 17:49

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	3340	66.8					64.8 - 128
2,6-Diamino-4-nitrotoluene	5000	4280	85.6					69.6 - 133
3,5-Dinitroaniline	5000	4820	96.4					77.3 - 123
tris(o-cresyl) phosphate	5000	4820	96.4					84.3 - 120
TATB	5000	9140	183 *					46.8 - 166

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

* Values outside of QC limits

3
High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Extract Batch Code: 937566

Date Extracted: 05-JAN-10

GEL Spike ID: 1202006246

GEL SpikeDup ID: 1202006247

Analysis Date/Time: 19-JAN-10 12:11

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
HMX	5000	0	4840	96.7	4810	96.1	.613	30	66.7 - 144
Nitrobenzene	5000	0	4630	92.6	4600	92.1	.53	30	70.4 - 129
PETN	5000	0	4650	93.1	4720	94.3	1.3	30	61.9 - 153
2,4,6-Trinitrotoluene	5000	0	4720	94.3	4650	92.9	1.5	30	83.4 - 138
4-Amino-2,6-dinitrotoluene	5000	0	5320	106	5160	103	3.05	30	77.3 - 140
2-Amino-4,6-dinitrotoluene	5000	0	5200	104	5450	109	4.69	30	77.4 - 154
2,6-Dinitrotoluene	5000	0	4780	95.6	4940	98.8	3.3	30	85.4 - 125
2,4-Dinitrotoluene	5000	0	4500	90	4870	97.3	7.83	30	79.1 - 137
1,3,5-Trinitrobenzene	5000	0	4550	91	4320	86.4	5.19	30	70.7 - 130
RDX	5000	0	4880	97.7	4850	97	.644	30	73 - 140
Tetryl	5000	0	1660	33.2 *	1580	31.6 *	4.98	30	46.8 - 138
m-Dinitrobenzene	5000	0	4900	98	4890	97.9	.152	30	83.5 - 126
m-Nitrotoluene	5000	0	4160	83.2	4650	92.9	11	30	68.6 - 135
o-Nitrotoluene	5000	0	4120	82.4	4810	96.1	15.4	30	71.2 - 131
p-Nitrotoluene	5000	0	4440	88.7	4800	95.9	7.81	30	69.3 - 133

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

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Extract Batch Code: 937566

Date Extracted: 05-JAN-10

GEL Spike ID: 1202006246

GEL SpikeDup ID: 1202006247

Analysis Date/Time: 11-JAN-10 18:20

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	4130	82.6	4250	85	2.86	30	51.6 - 127
2,6-Diamino-4-nitrotoluene	5000	0	4770	95.4	4220	84.4	12.2	30	58.9 - 135
TATB	5000	0	6600	132	5220	104	23.4	30	43.9 - 166
3,5-Dinitroaniline	5000	0	4790	95.8	4850	97	1.25	30	72.8 - 125
tris(o-cresyl) phosphate	5000	0	4920	98.4	4950	99	.608	30	79.1 - 124

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

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 18-JAN-10 14:03

GEL Data File: EXP0118001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
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
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	533.831
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	572.959
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011810expa.mdb, Time: Tue Jan 19 09:10:36 2010

Calibration: Untitled, Time: Tue Jan 19 10:56:45 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP01180001a

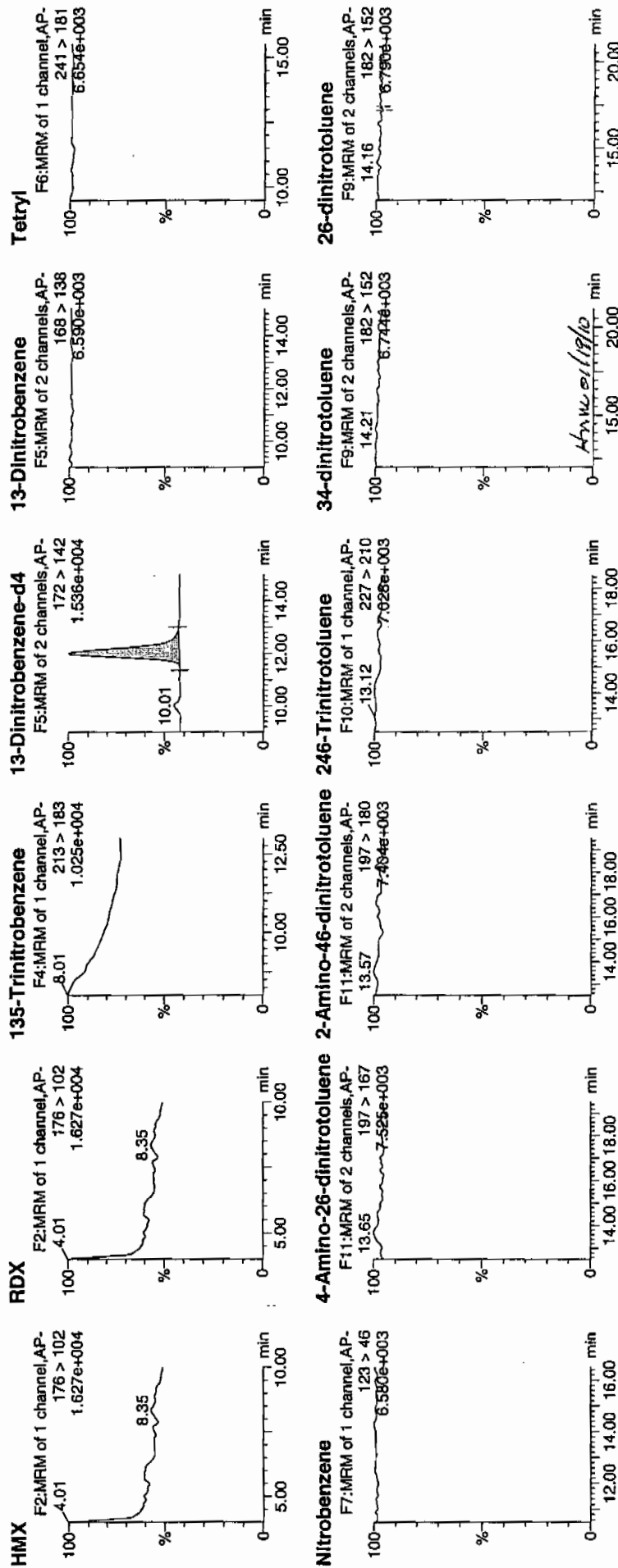
Date: 18-Jan-2010

Time: 14:03:34

ID: XIBLK01

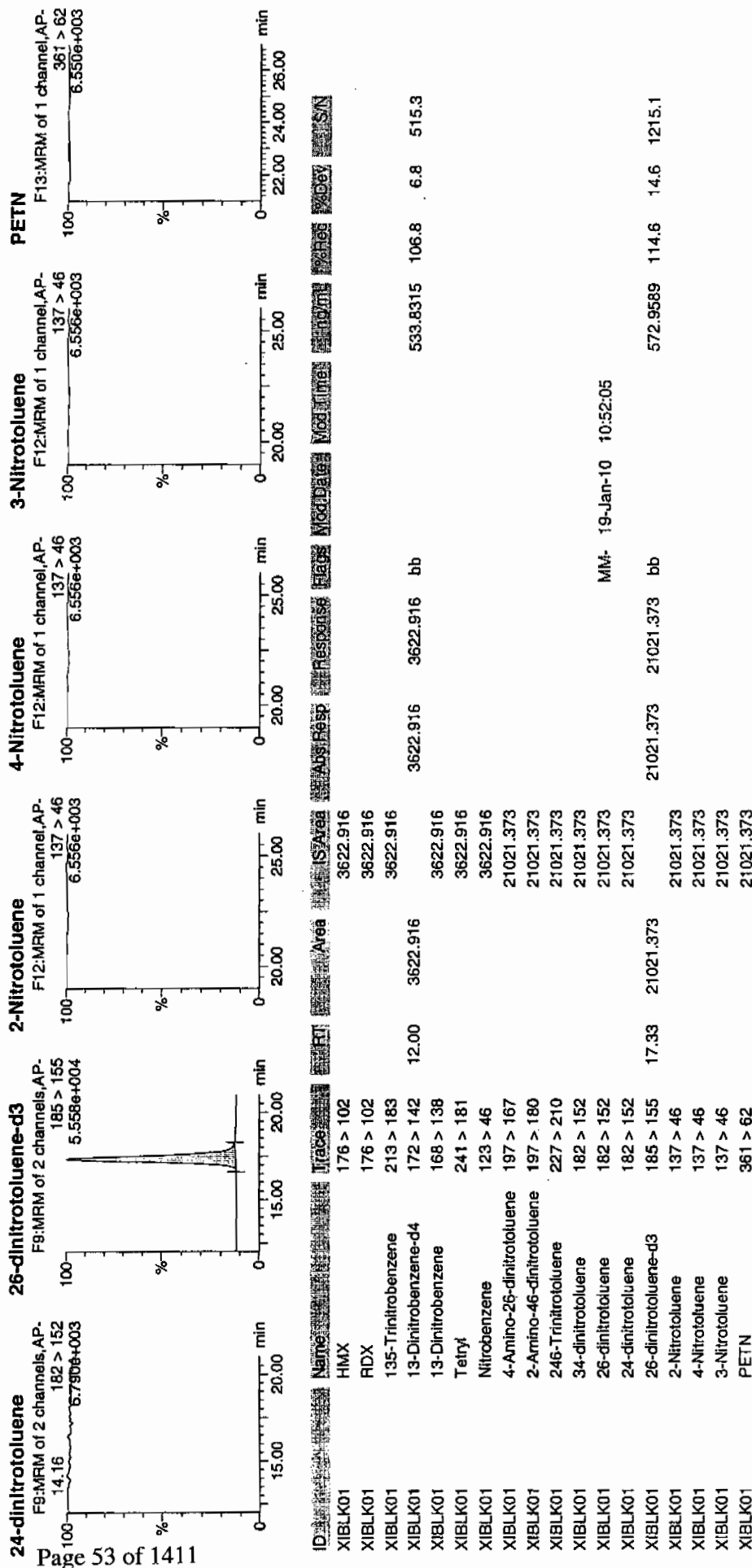
Vial: 1:1,A

1/19/10



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

Dataset: C:\MASSLYNX\New_Exp\PRO011810expA.qtd, Time: Tue Jan 19 10:59:58 2010



Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 18-JAN-10 14:33

GEL Data File: EXP0118002a

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	548.487
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	599.618
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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYN\NEW_EXP.PRO\PRO\Data\EXP0118002a

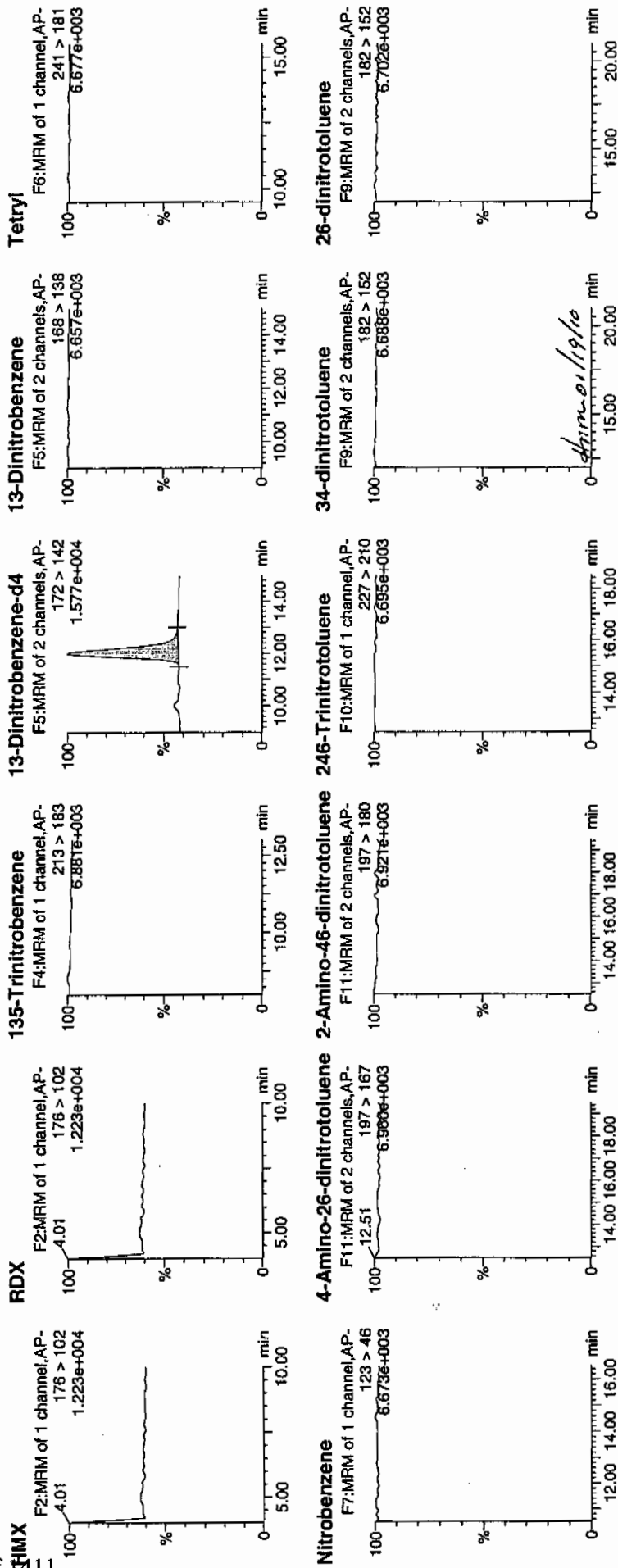
Date: 18-Jan-2010

Time: 14:33:05

ID: XIBLK01

Vial: 1:1,A

10/10



Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

24-dinitrotoluene

Pa F9:MRM of 2 channels, AP-182-152

F9:MRM of 2 channels
105

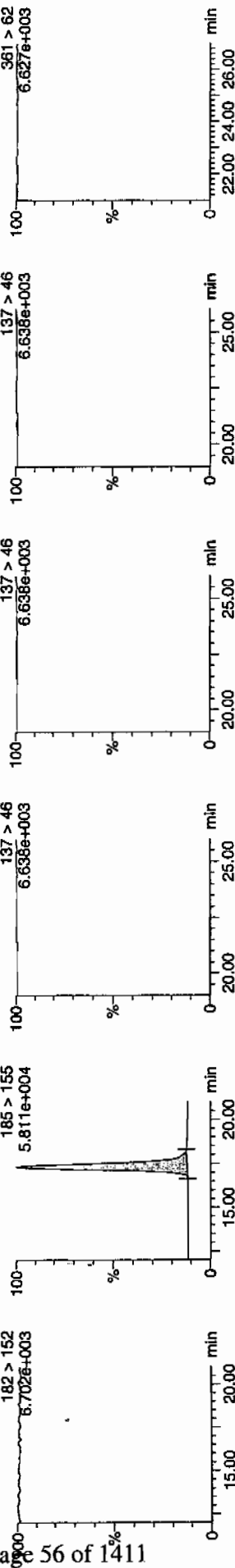
AP-155

channel, AP-137-16

channel, AP-1975-16

channel, AP-127-16

13:MRM of 1 channel, AP-



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Norm	%Rec	%Dev	MSK
XIBLK01	HMX	176 > 102			3722.375									
XIBLK01	RDX	176 > 102			3722.375									
XIBLK01	135-Trinitrobenzene	213 > 183			3722.375									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.00	3722.375		3722.375	3722.375	bb			548.4866	109.7	9.7	375.6
XIBLK01	13-Dinitrobenzene	168 > 138			3722.375									
XIBLK01	Tetryl	241 > 181			3722.375									
XIBLK01	Nitrobenzene	123 > 46			3722.375									
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			21999.465									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			21999.465									
XIBLK01	246-Trinitrotoluene	227 > 210			21999.465									
XIBLK01	34-dinitrotoluene	182 > 152			21999.465									
XIBLK01	26-dinitrotoluene	182 > 152			21999.465									
XIBLK01	24-dinitrotoluene	182 > 152			21999.465									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.33	21999.465		21999.465	21999.465	bb			599.6178	119.9	19.9	2732.8
XIBLK01	2-Nitrotoluene	137 > 46			21999.465									
XIBLK01	4-Nitrotoluene	137 > 46			21999.465									
XIBLK01	3-Nitrotoluene	137 > 46			21999.465									
XIBLK01	PETN	361 > 62			21999.465									

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 11-JAN-10 11:16

GEL Data File: EXS01100001.wiff

Instrument ID: LCMSMS

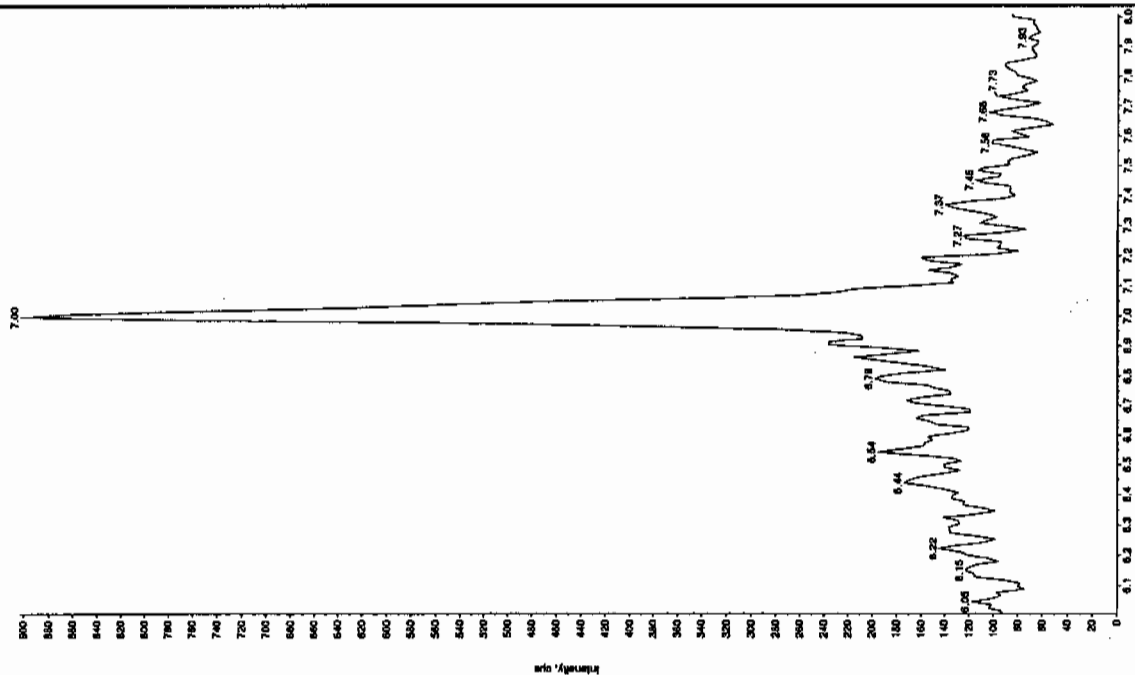
Column: Phenomenex Ultracarb 5u ODS(20)

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

11/12/10
802

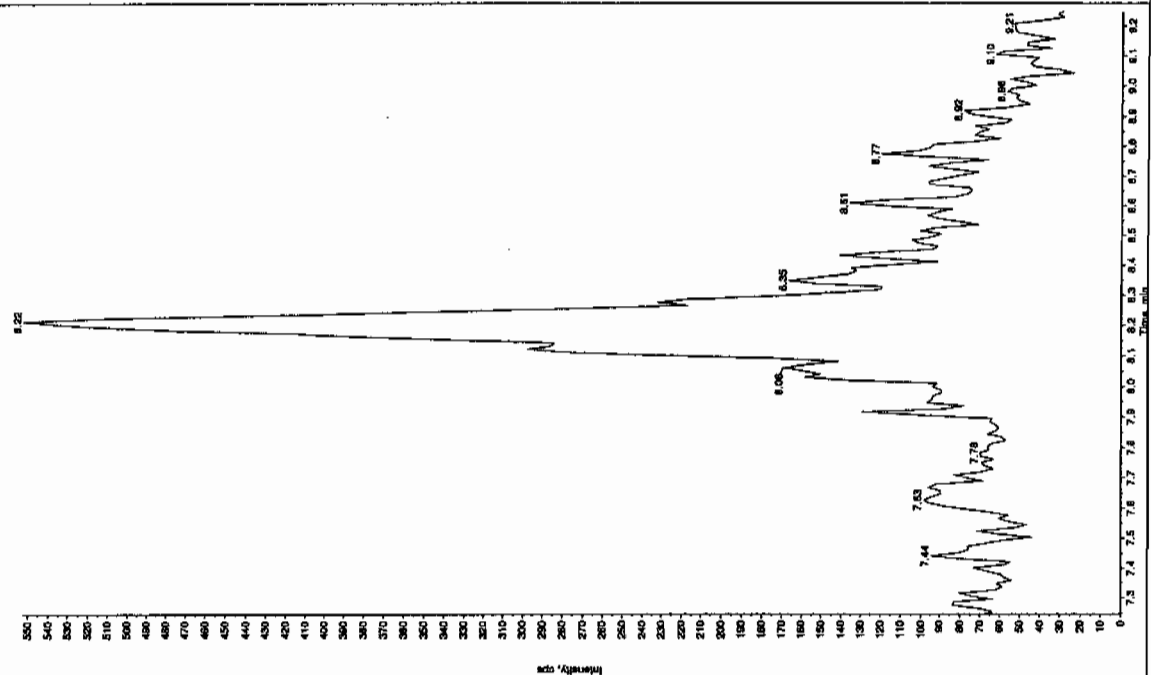
Sample Name: "YBELK01" Sample ID: "11111" File: "EX501100001.wif"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMS-EXP_B" Acquisition: "1"

Sample Index: 1
Sample Type: Unknown
Concentration: 0.00 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 11:16:57 AM
Modified: No

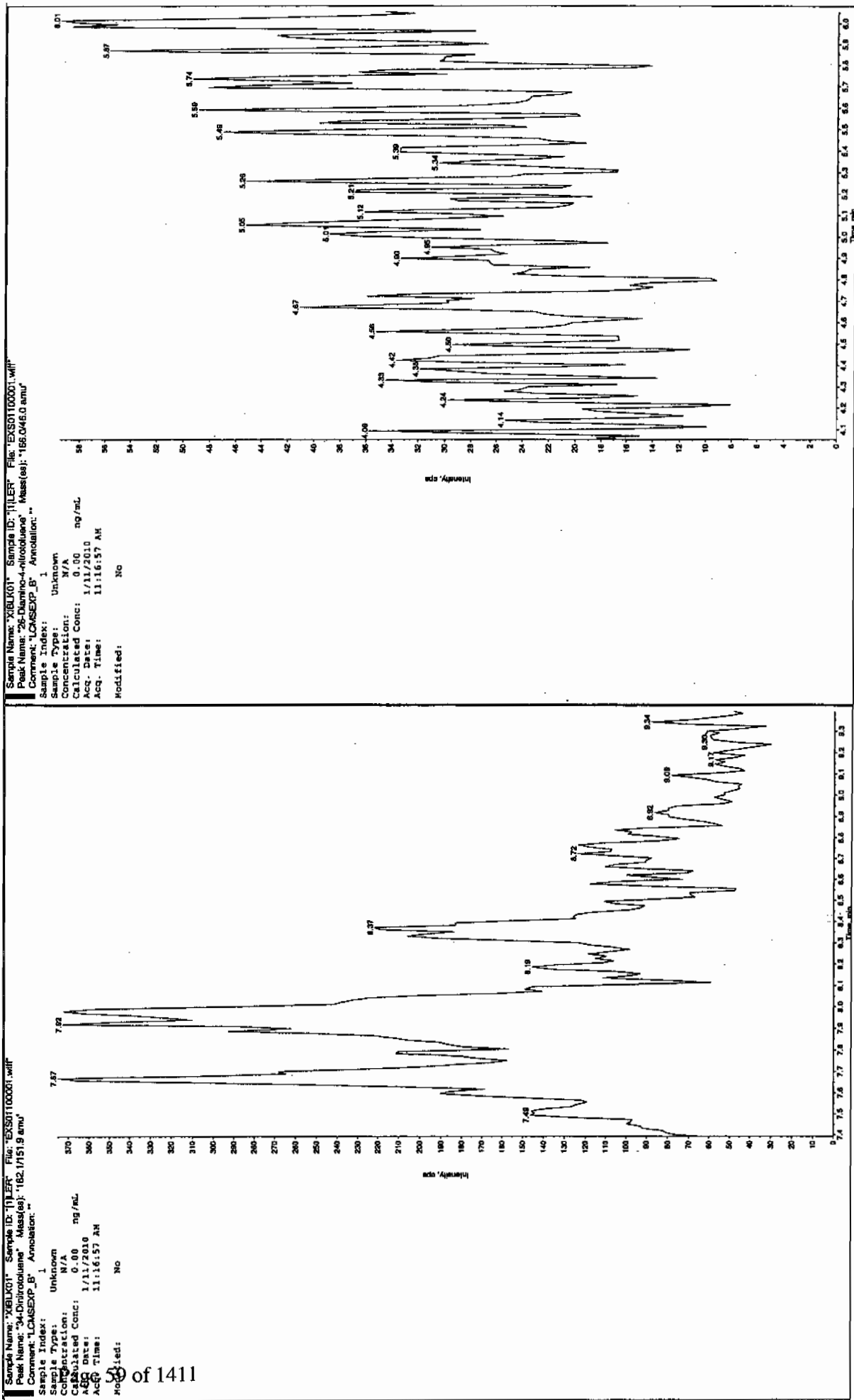


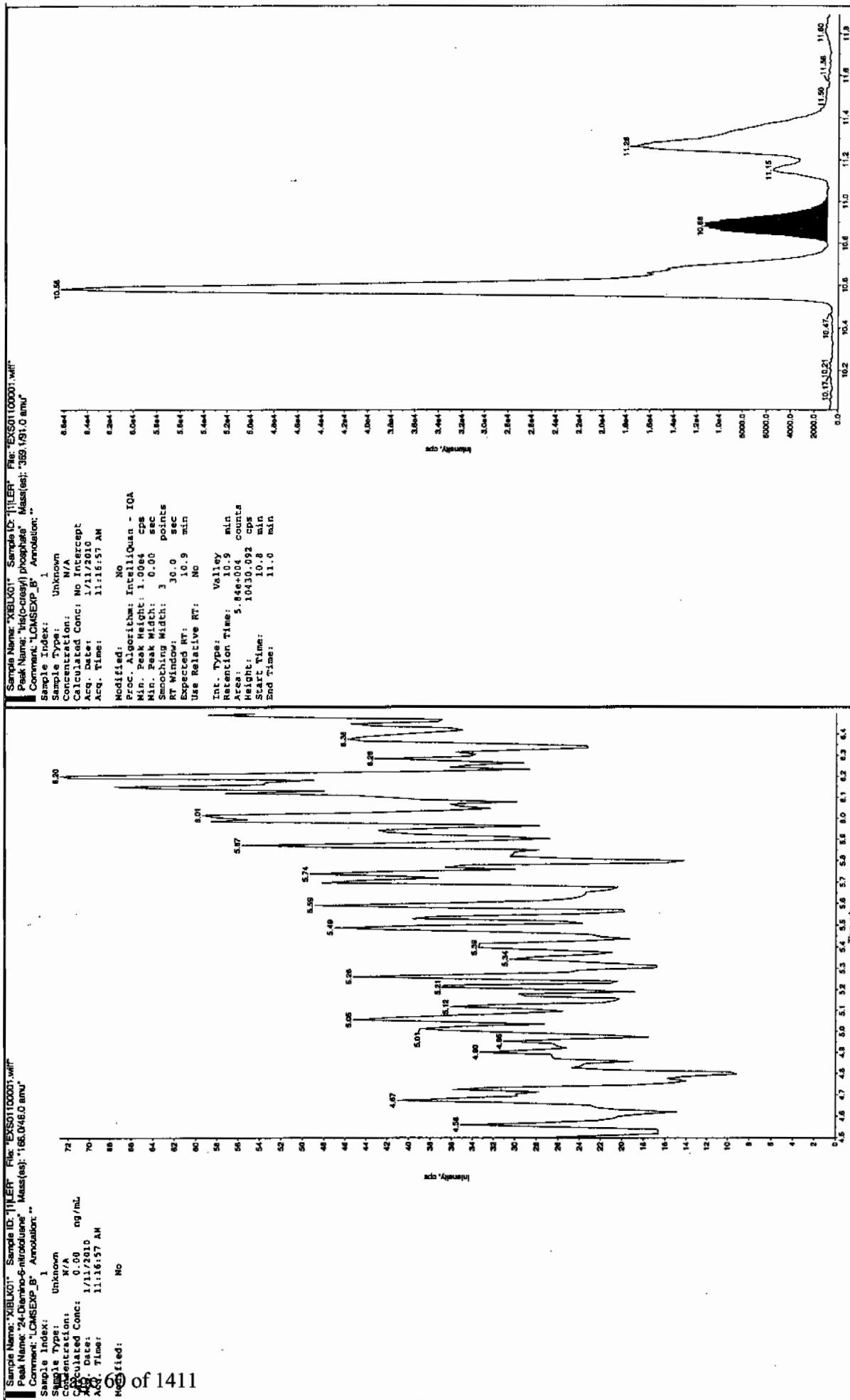
Sample Name: "YBELK01" Sample ID: "11111" File: "EX501100001.wif"
Peak Name: "TATB" Mass(es): "162.0/46.0 amu"
Comment: "LCMS-EXP_B" Acquisition: "1"

Sample Index: 1
Sample Type: Unknown
Concentration: 0.00 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 11:16:57 AM
Modified: No



11/12/10
802





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

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 11-JAN-10 11:32

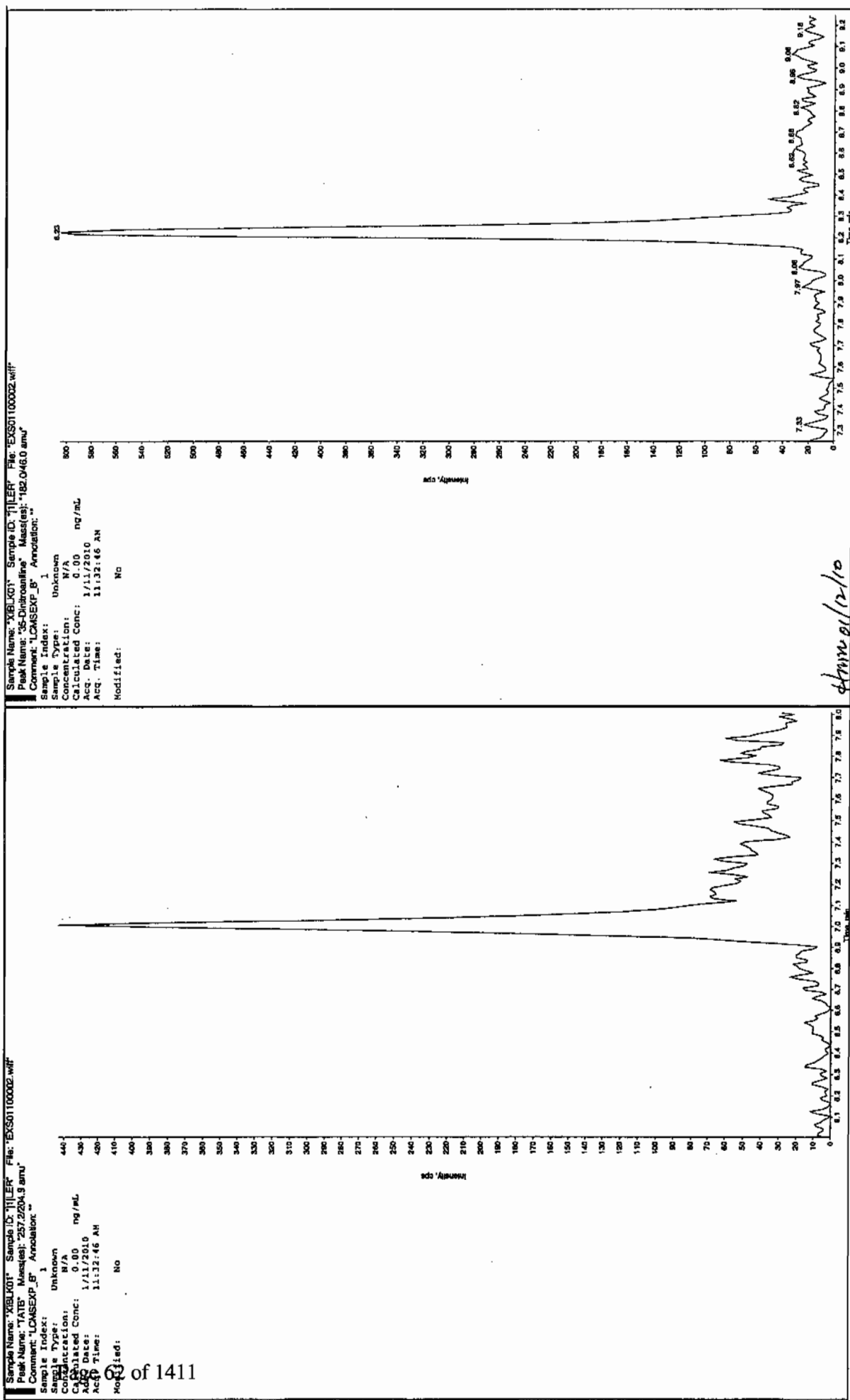
GEL Data File: EXS01100002.wiff

Instrument ID: LCMSMS

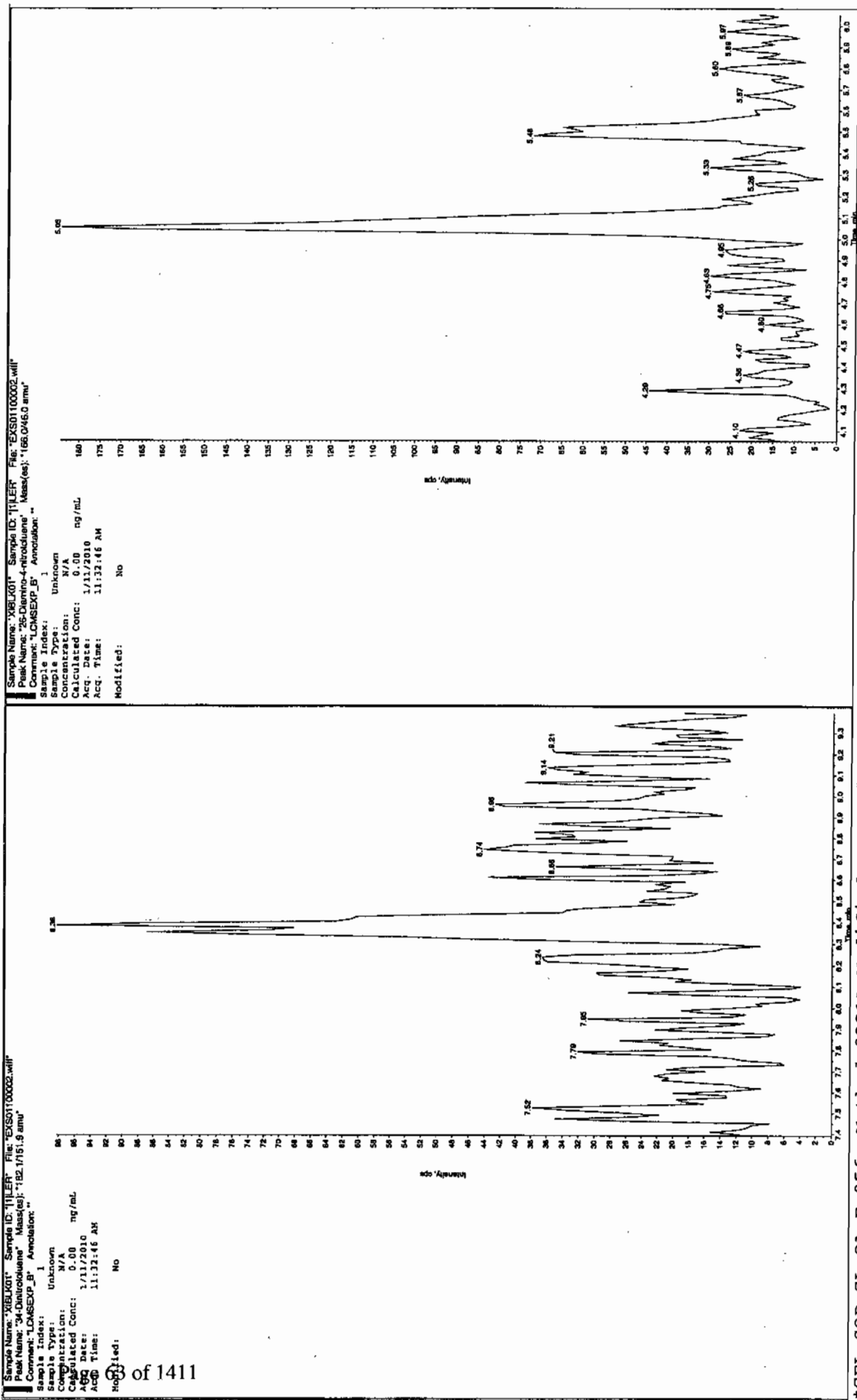
Column: Phenomenex Ultracarb 5u ODS(20)

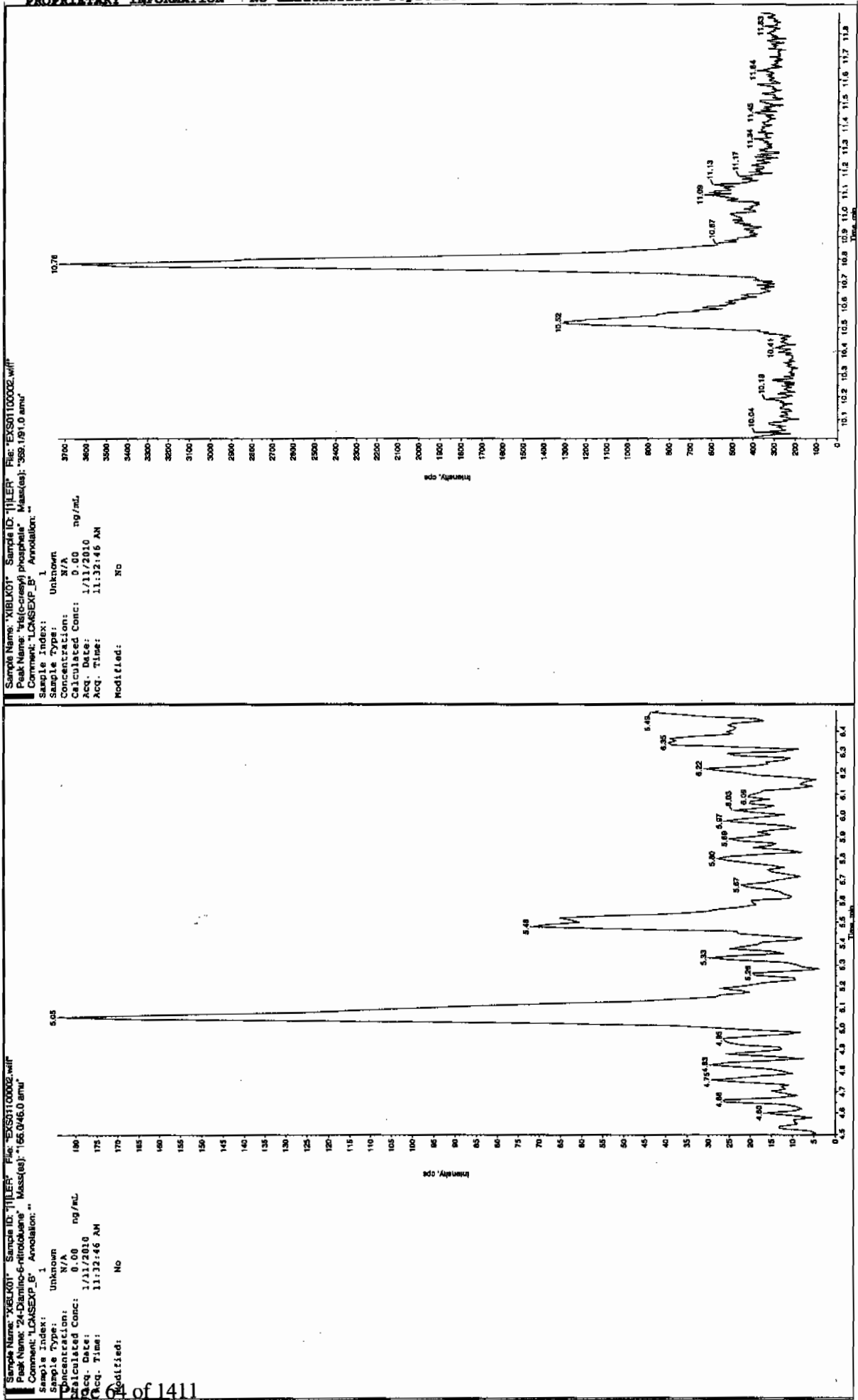
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

01/12/11



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





4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 18-JAN-10 17:59

GEL Data File: EXP0118009a

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	469.445
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	491.076
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

Printed: Tue Jan 19 11:02:03 2010, Page 17 of 85

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118009a

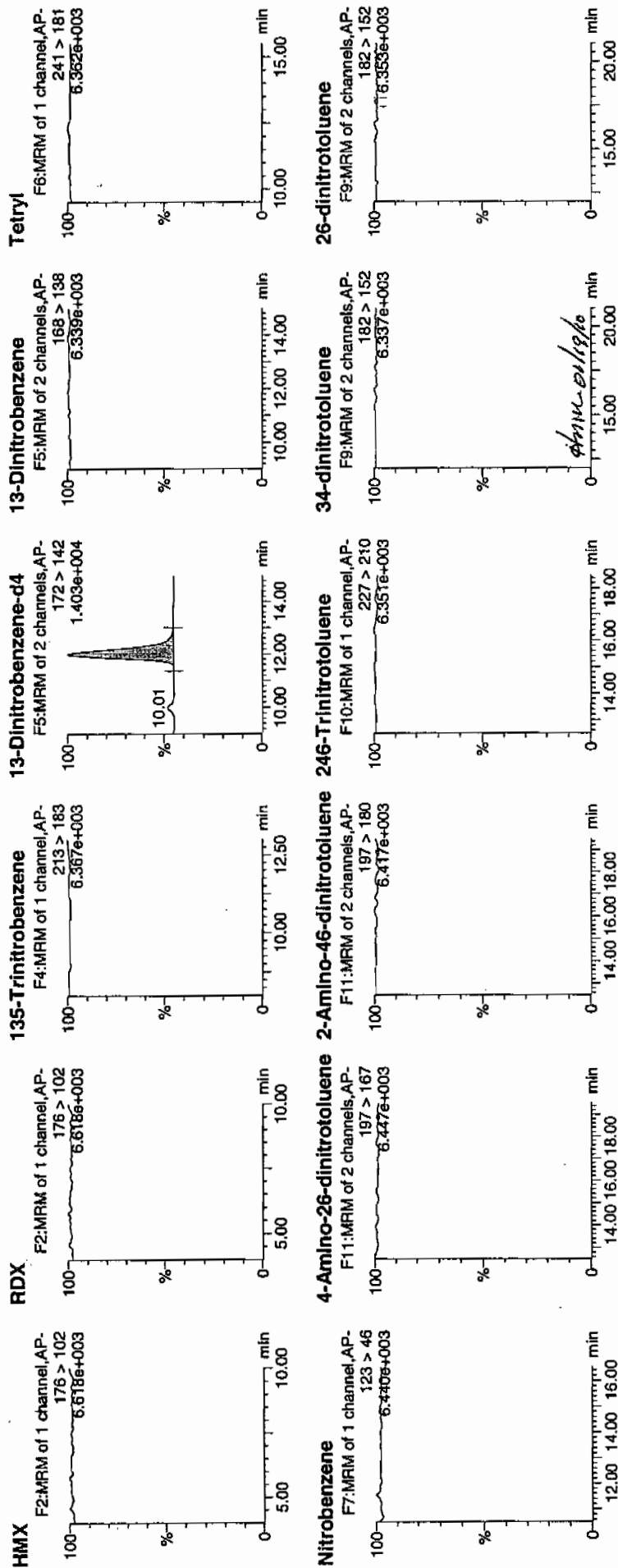
Date: 18-Jan-2010

Time: 17:59:22

ID: XIBLK02

Vial: 1:1,A

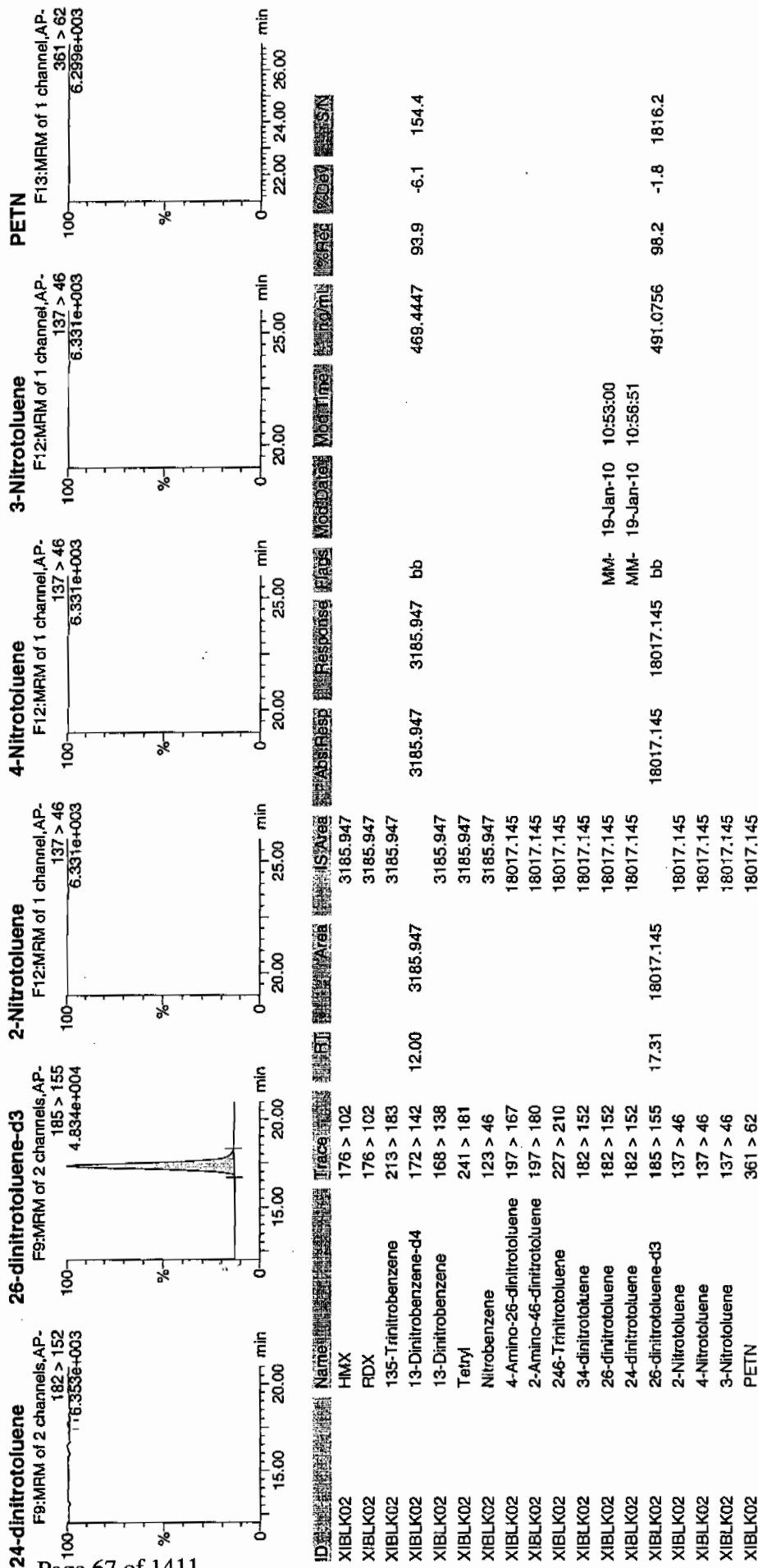
1/19/10



Printed: Tue Jan 19 11:02:03 2010, Page 18 of 85

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 18-JAN-10 18:58

GEL Data File: EXP0118011a

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	464.129
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	483.307
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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118011a

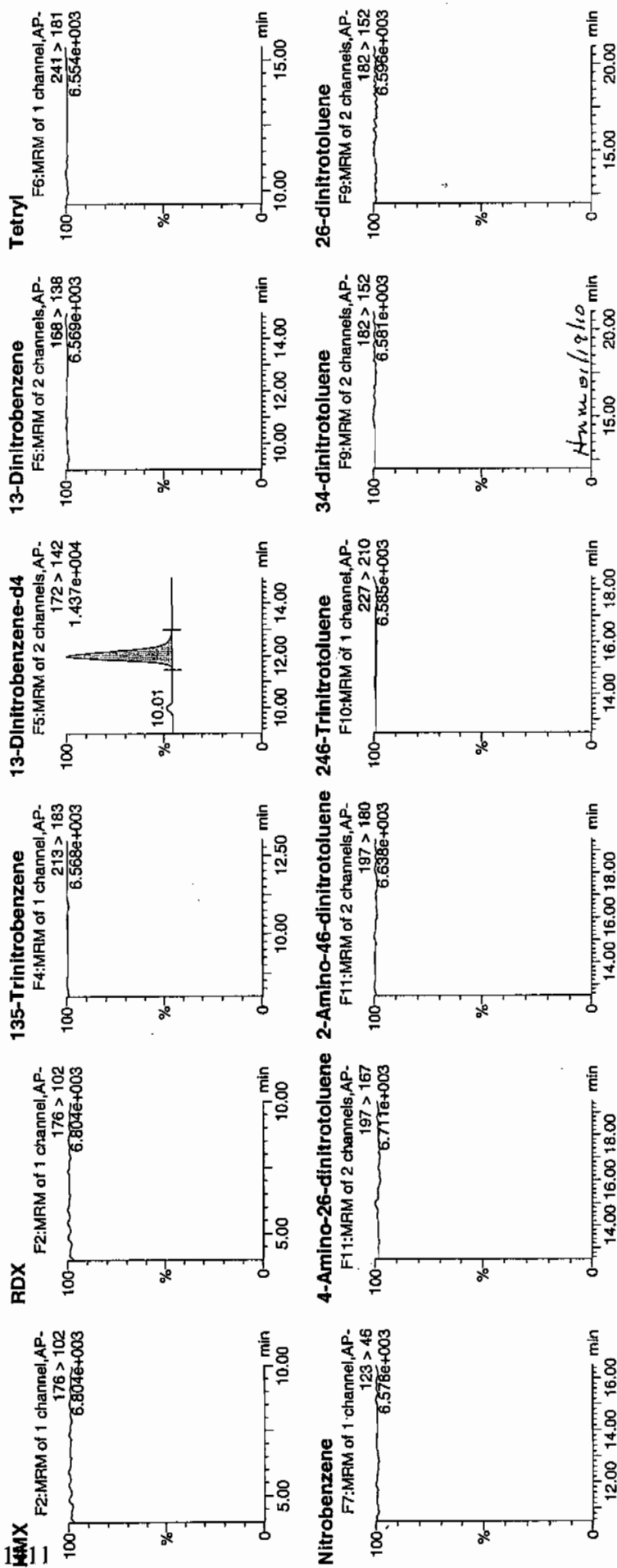
Date: 18-Jan-2010

Time: 18:58:20

ID: XIBLK03

Val: 1:1,A

MP
1/19/10

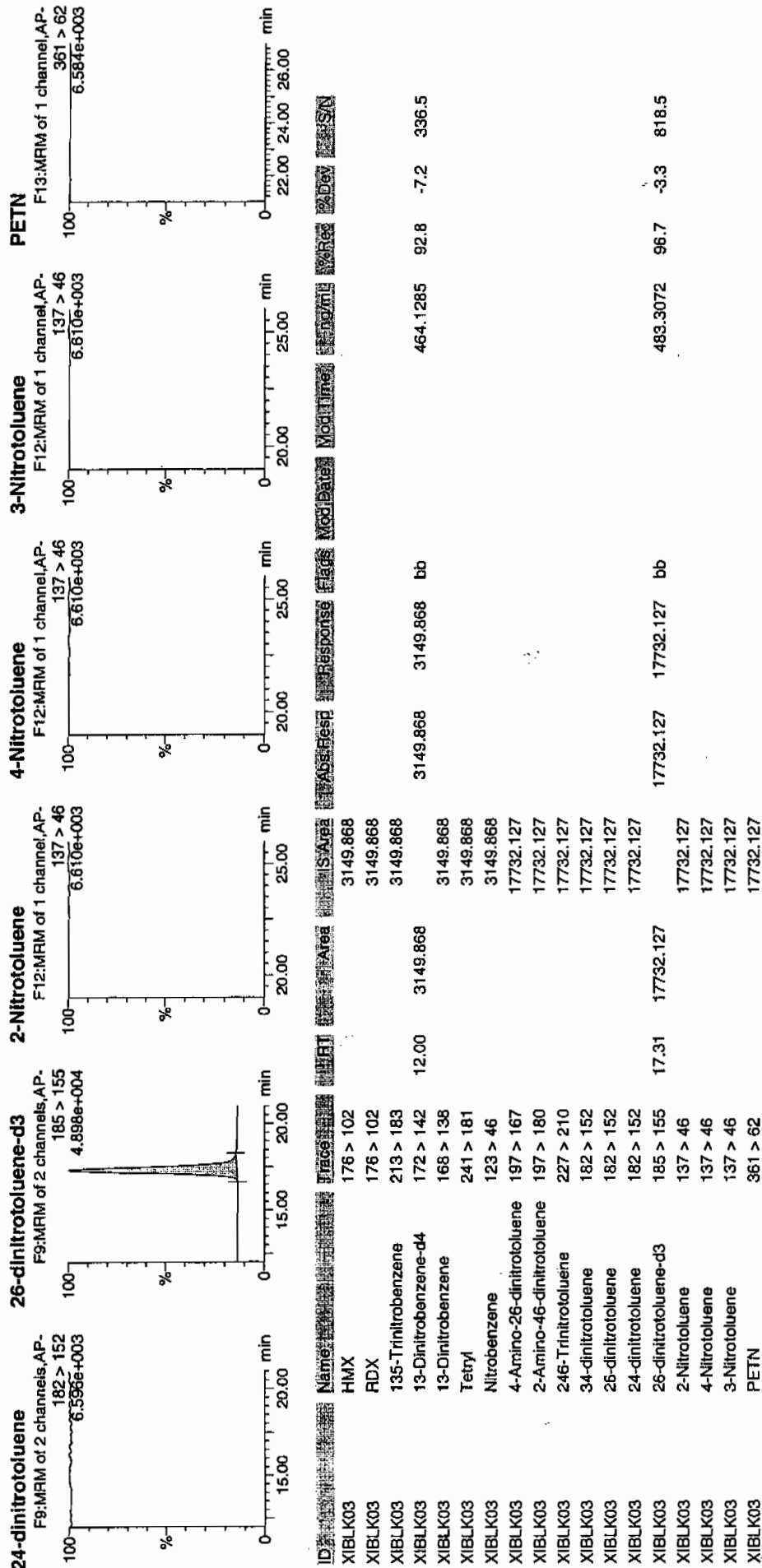


Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Tue Jan 19 11:02:03 2010, Page 22 of 85

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 18-JAN-10 23:23

GEL Data File: EXP0118020a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	472.082
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	530.135
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

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118020a

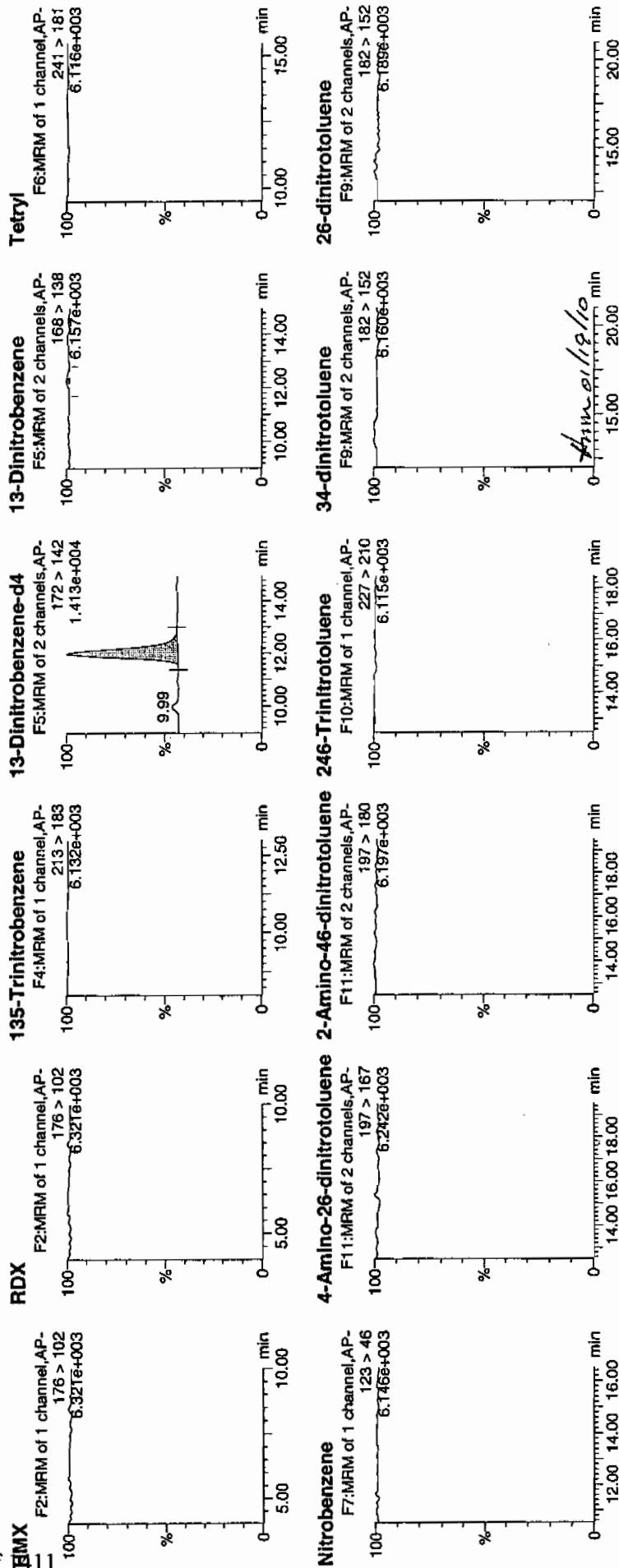
Date: 18-Jan-2010

Time: 23:23:38

ID: XIBLK04

Vial: 1:1,A

WAP
1/19/10

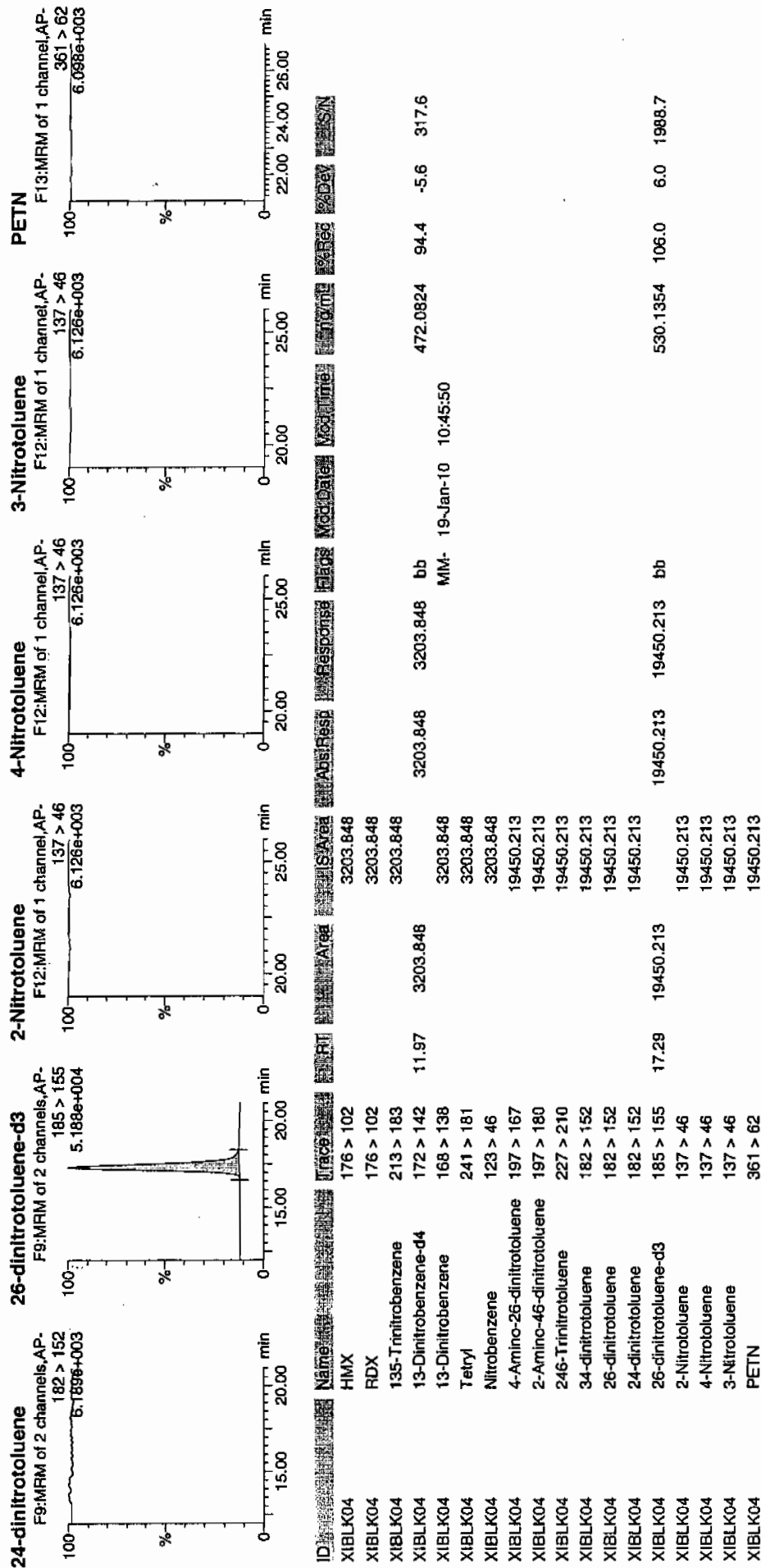


Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Tue Jan 19 11:02:03 2010, Page 40 of 85

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 19-JAN-10 05:47

GEL Data File: EXP0118033a

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	455.774
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	496.57
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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118033a

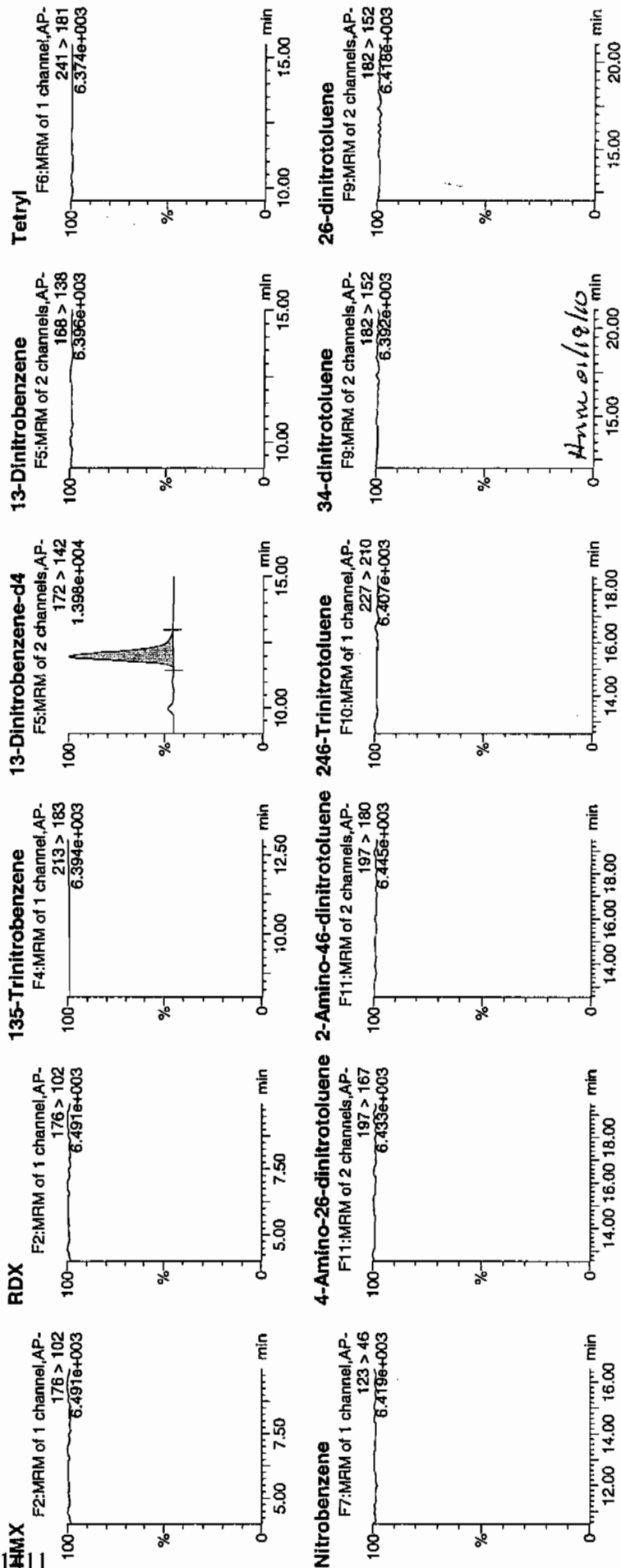
Date: 19-Jan-2010

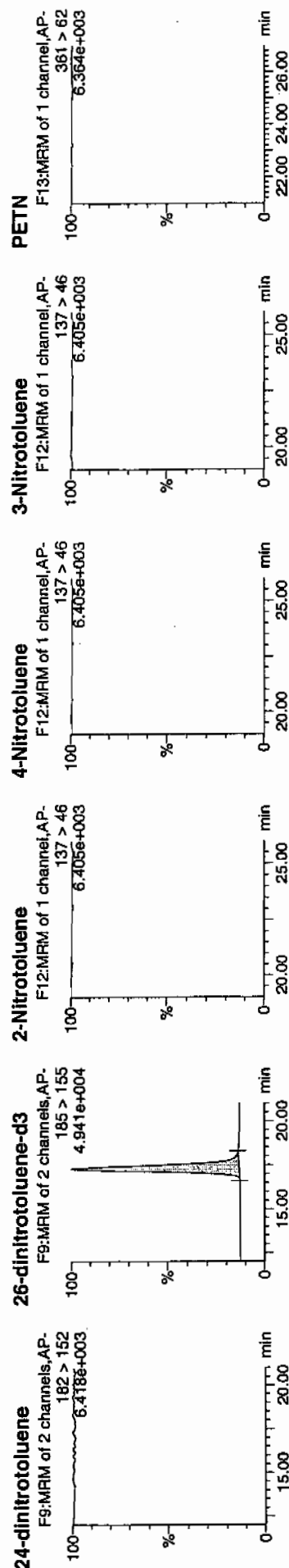
Time: 05:47:12

ID: XIBLK05

Vial: 1:1,A

NOT
1/19/10



[illegible]

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 19-JAN-10 09:43

GEL Data File: EXP0118041a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	454.25
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	439.42
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

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118041a

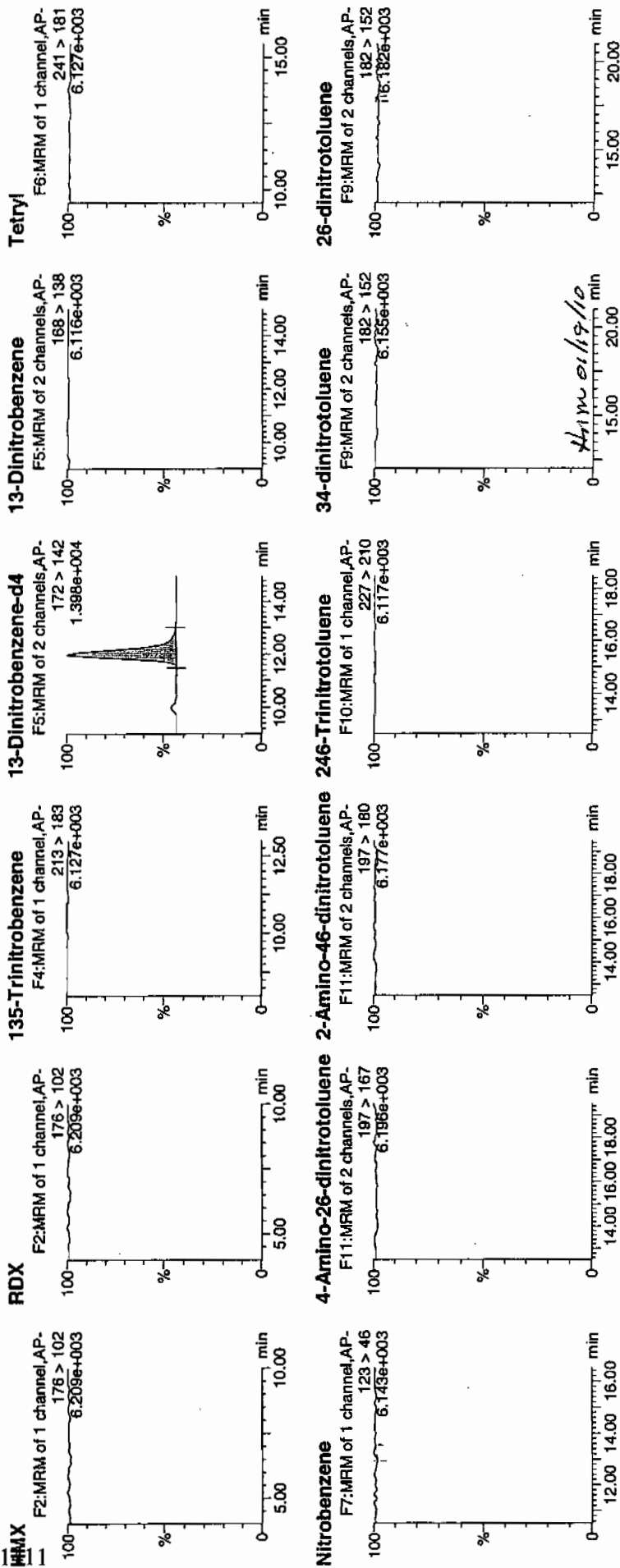
Date: 19-Jan-2010

Time: 09:43:25

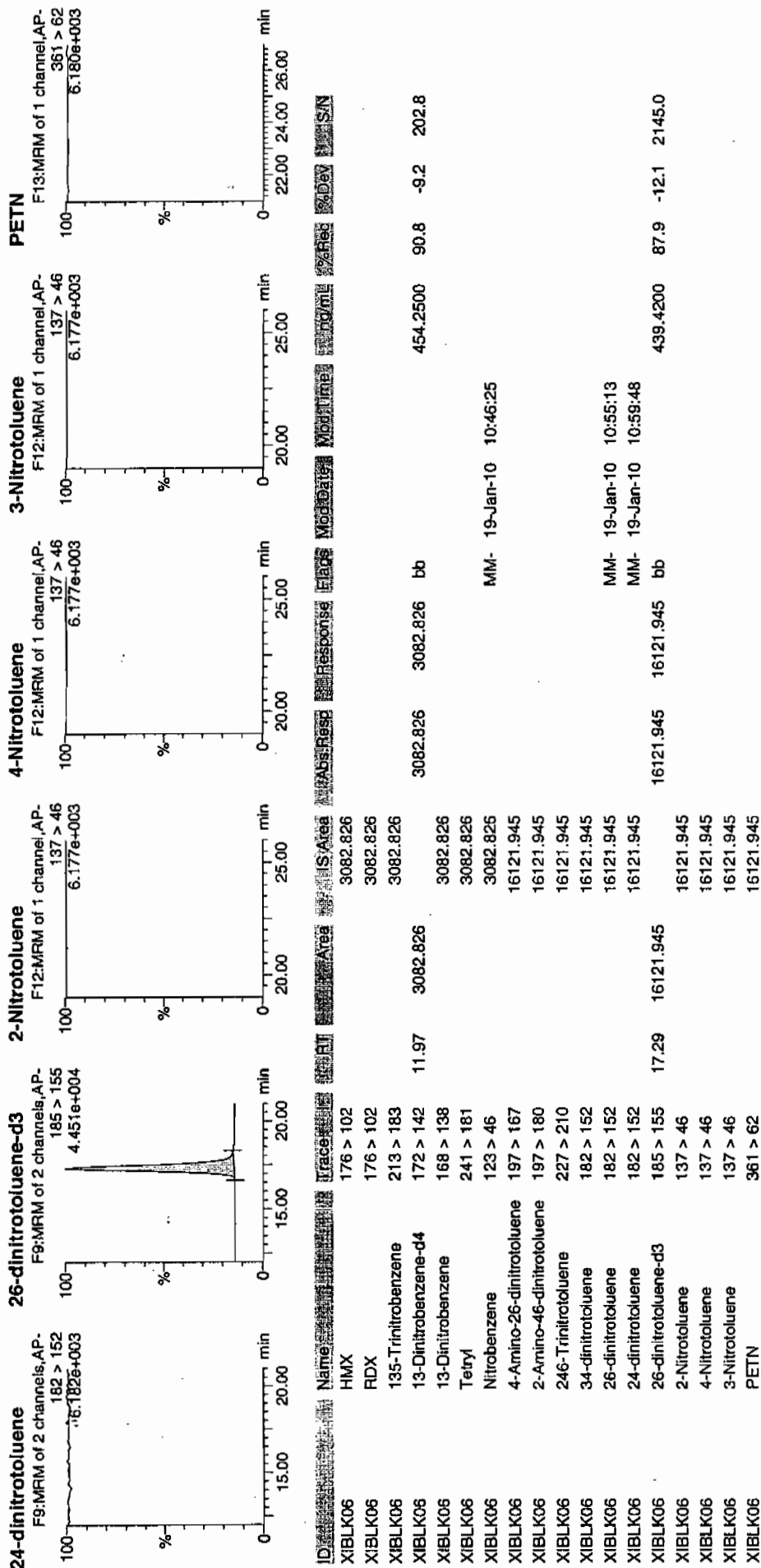
ID: XIBLK06

Vial: 1:1,A

1/19/10



Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 19-JAN-10 16:07

GEL Data File: EXP0118054a

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	264.495
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	292.749
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\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118054a

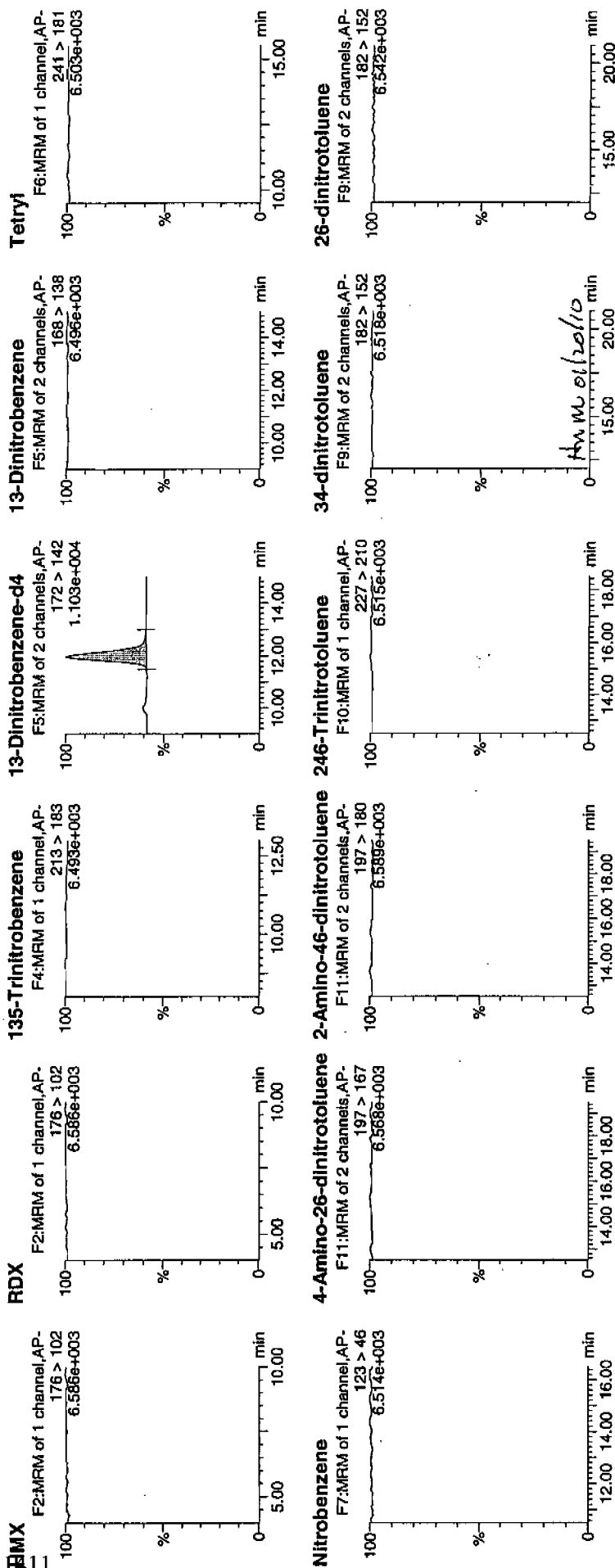
Date: 19-Jan-2010

Time: 16:07:15

ID: XIBLK07

Vial: 1:1,A

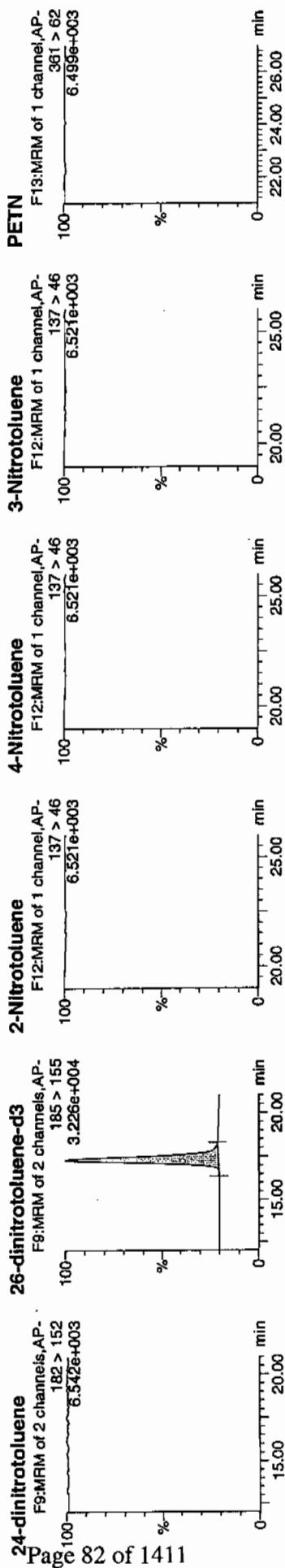
1/20/10



Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

[illegible]

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 19-JAN-10 21:02

GEL Data File: EXP0118064a

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	331.358
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	339.75
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\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118064a

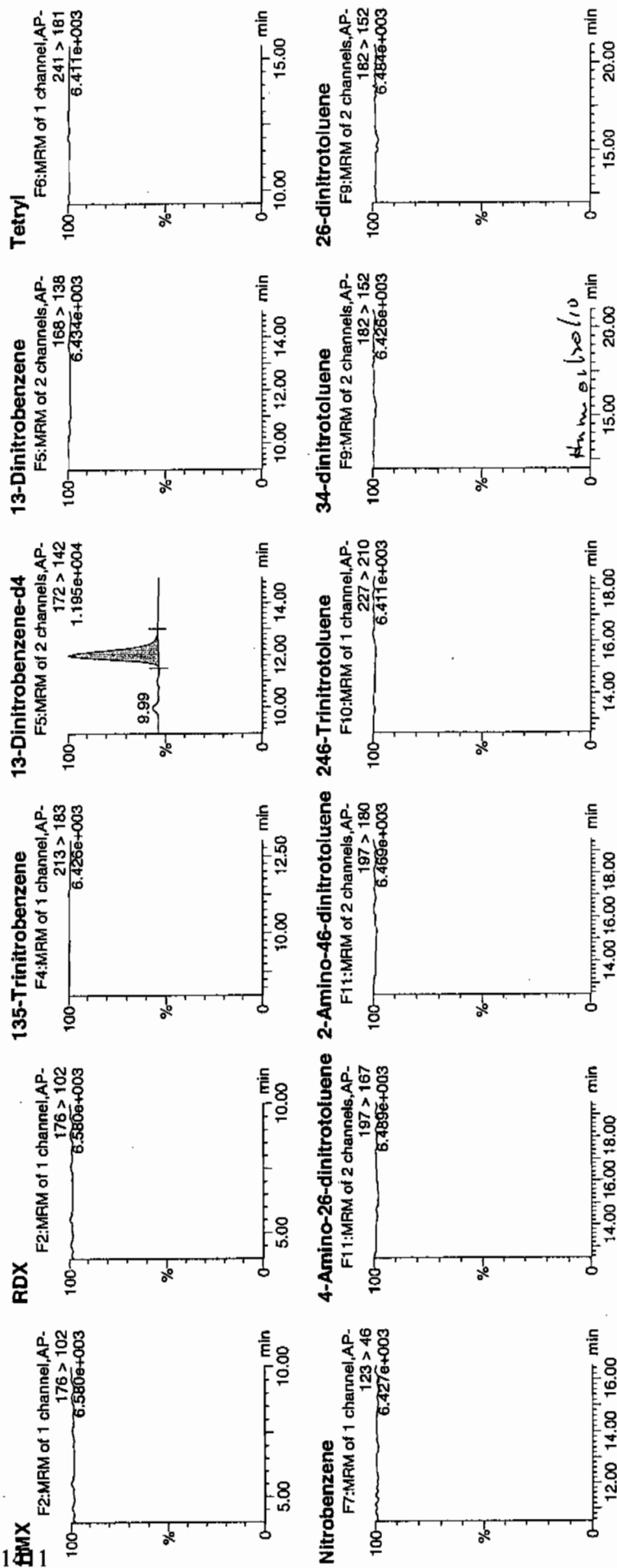
Date: 19-Jan-2010

Time: 21:02:17

ID: XIBLK08

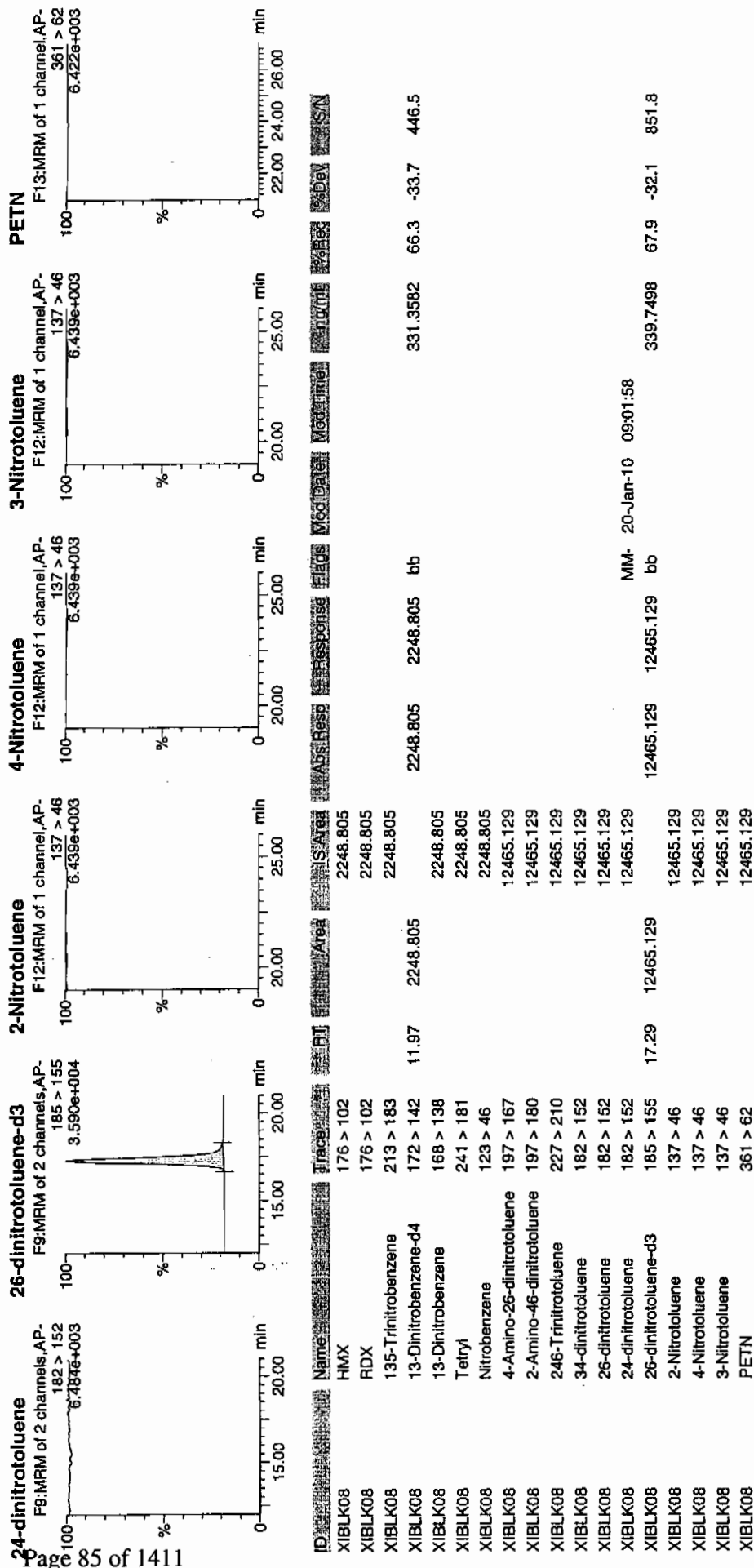
Vial: 1:1,A

1/20/10



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

Dataset: C:\MASSLYNX\New_Exp\PRO011810expA1.qid, Time: Wed Jan 20 09:06:02 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 11-JAN-10 13:38

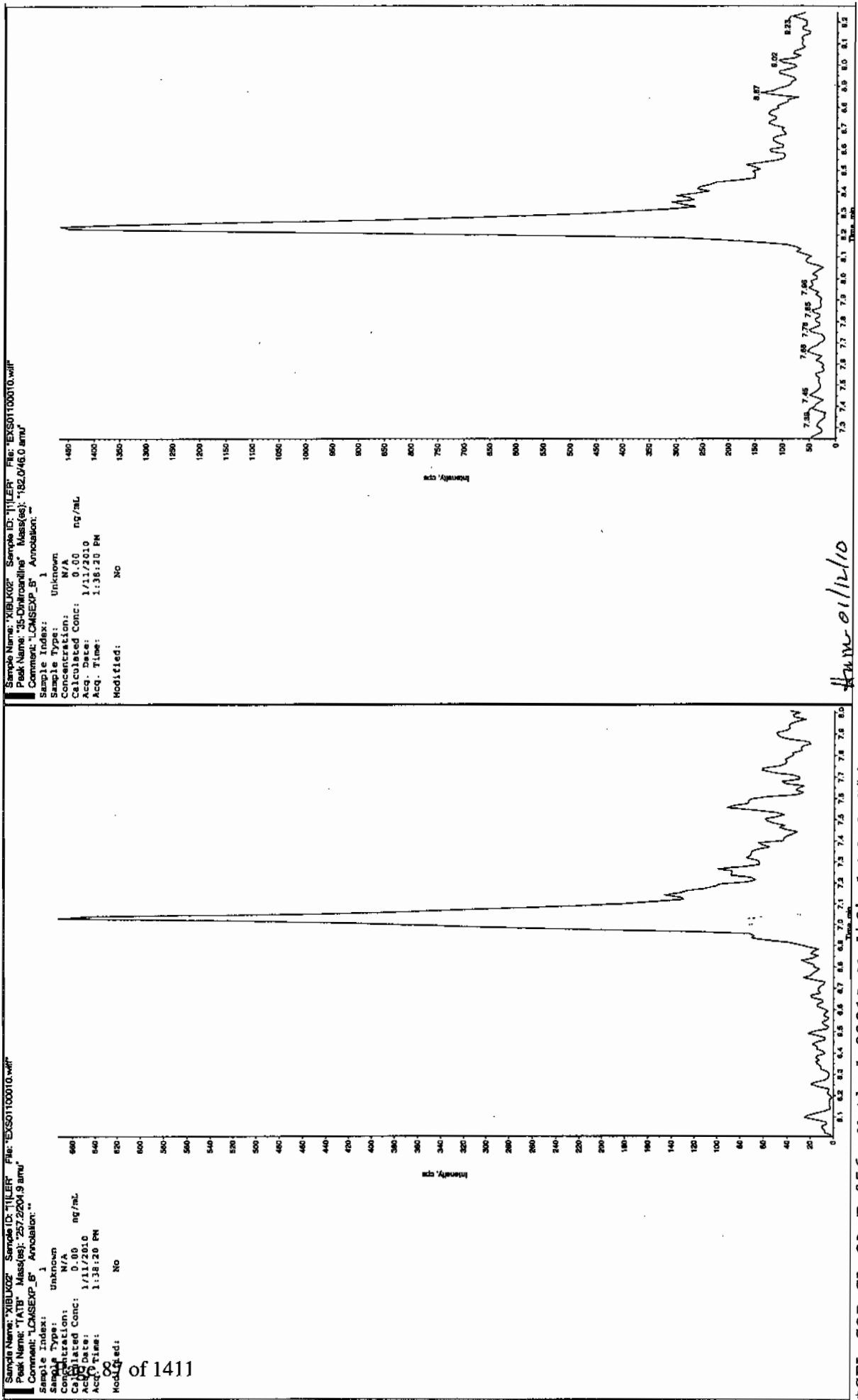
GEL Data File: EXS01100010.wiff

Instrument ID: LCMSMS

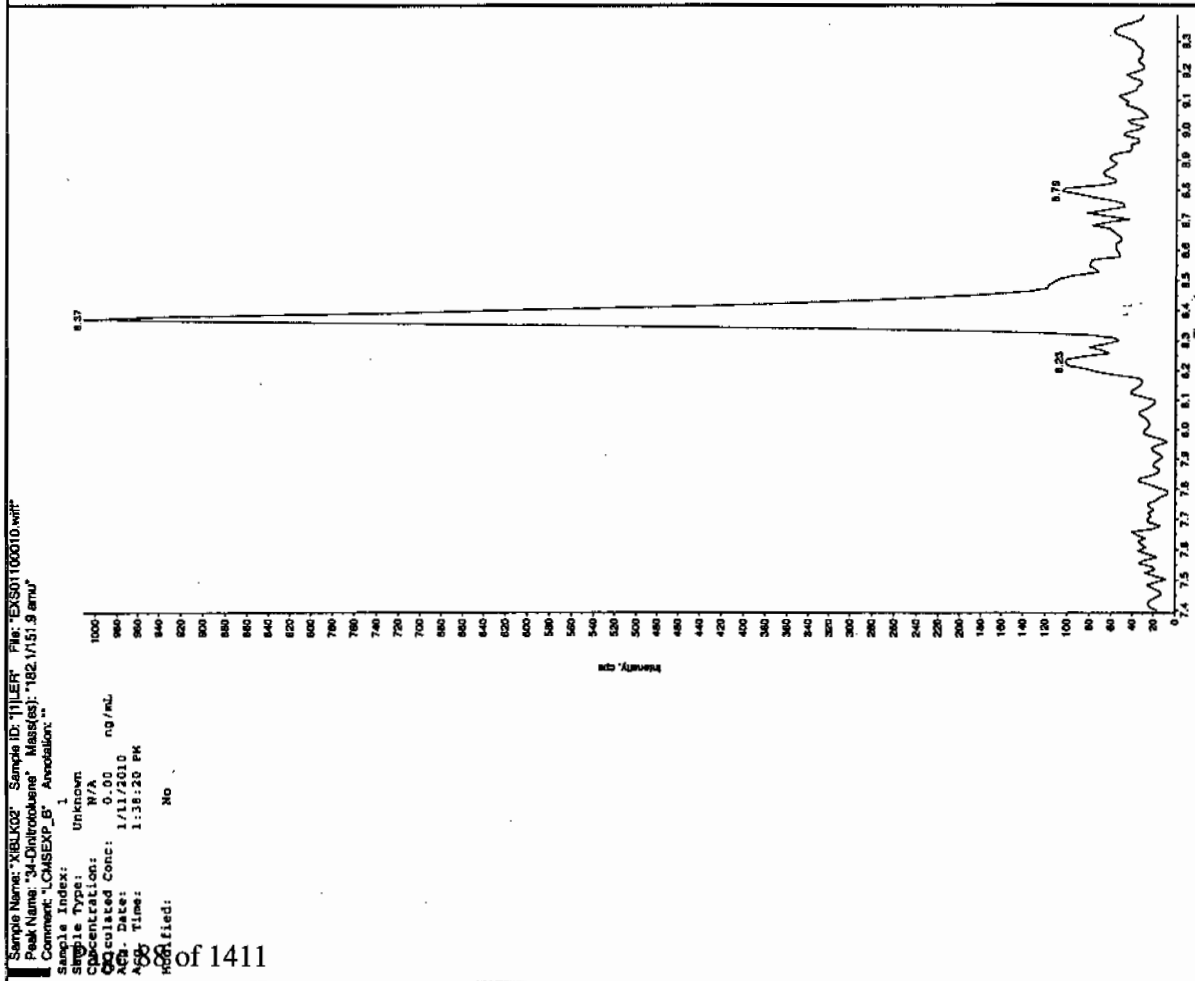
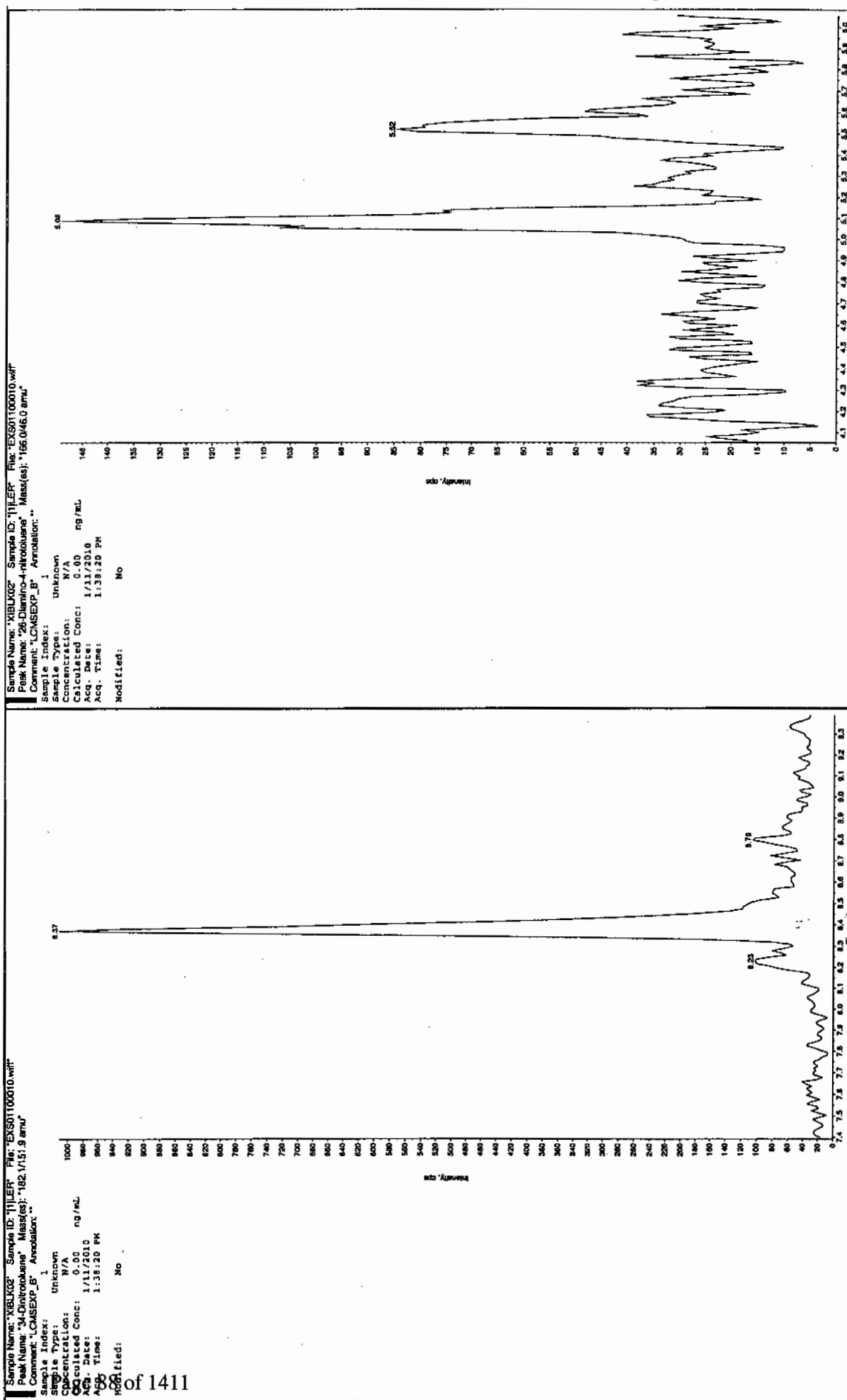
Column: Phenomenex Ultracarb 5u ODS(20)

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

2008 11/12/10



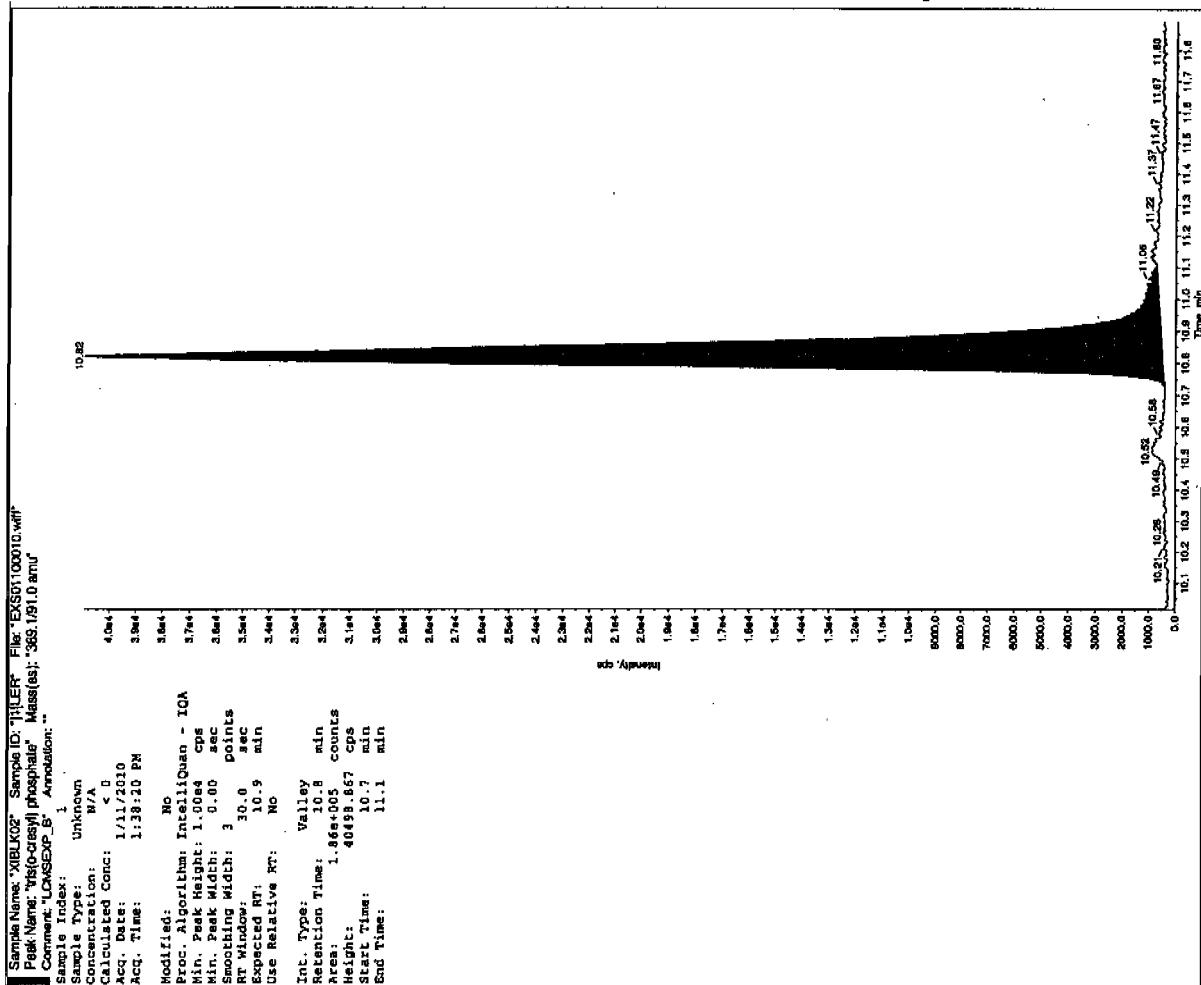
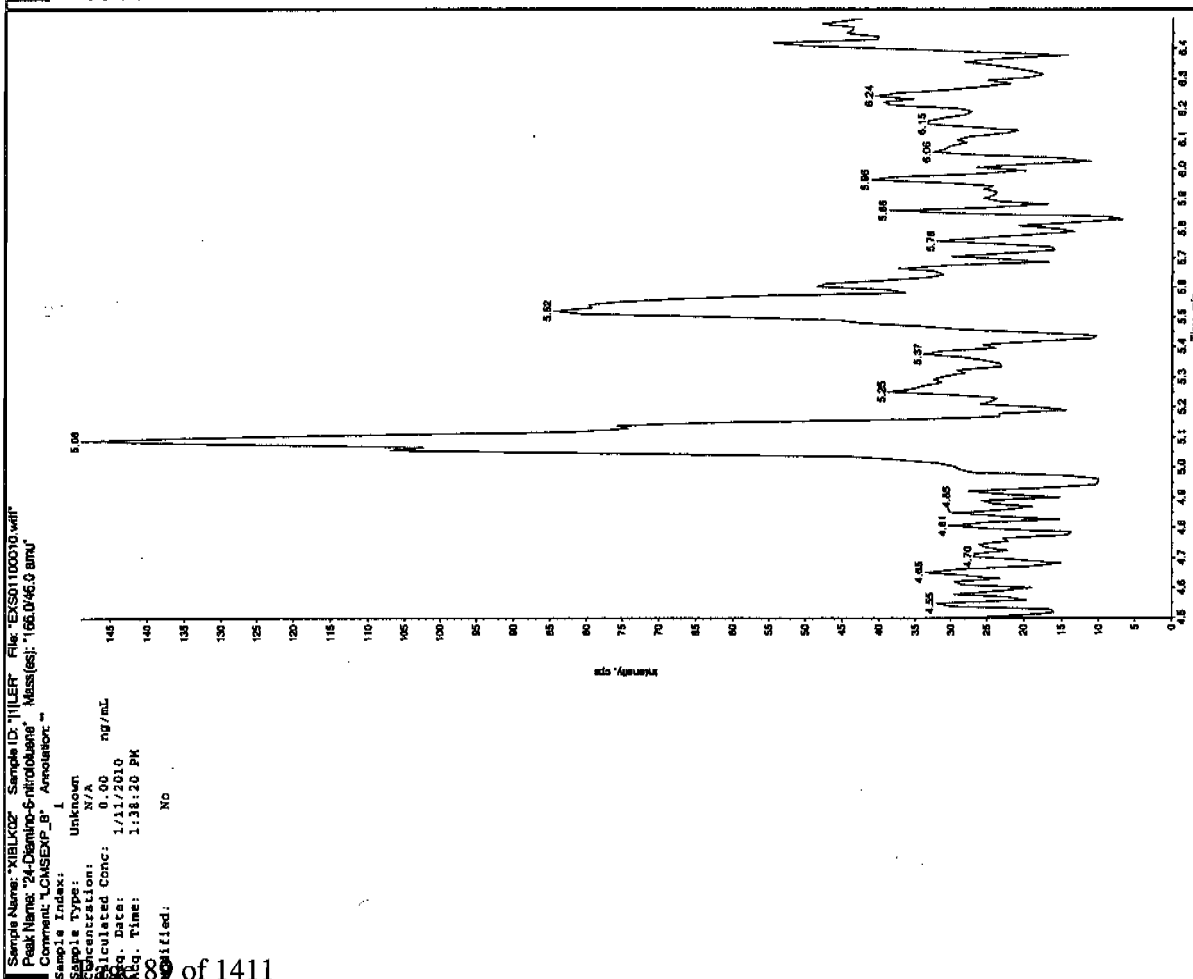
Hum 01/12/10



Sample Name: "XIBLK02" Sample ID: "JILER" File: "EXS01100010.wif"
 Peak Name: "24-Dinitro-5-nitrobenzene" Mass(es): "162.0463 amu"
 Comment: "CONSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 1:38:20 PM
 Modified: No

Proc. Algorithm: IntelliQuan - IGA
 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: 10.8 min
 Area: 1.36e+003 counts
 Height: 40499.857 cps
 Start Time: 10.7 min
 End Time: 11.1 min



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 11-JAN-10 14:09

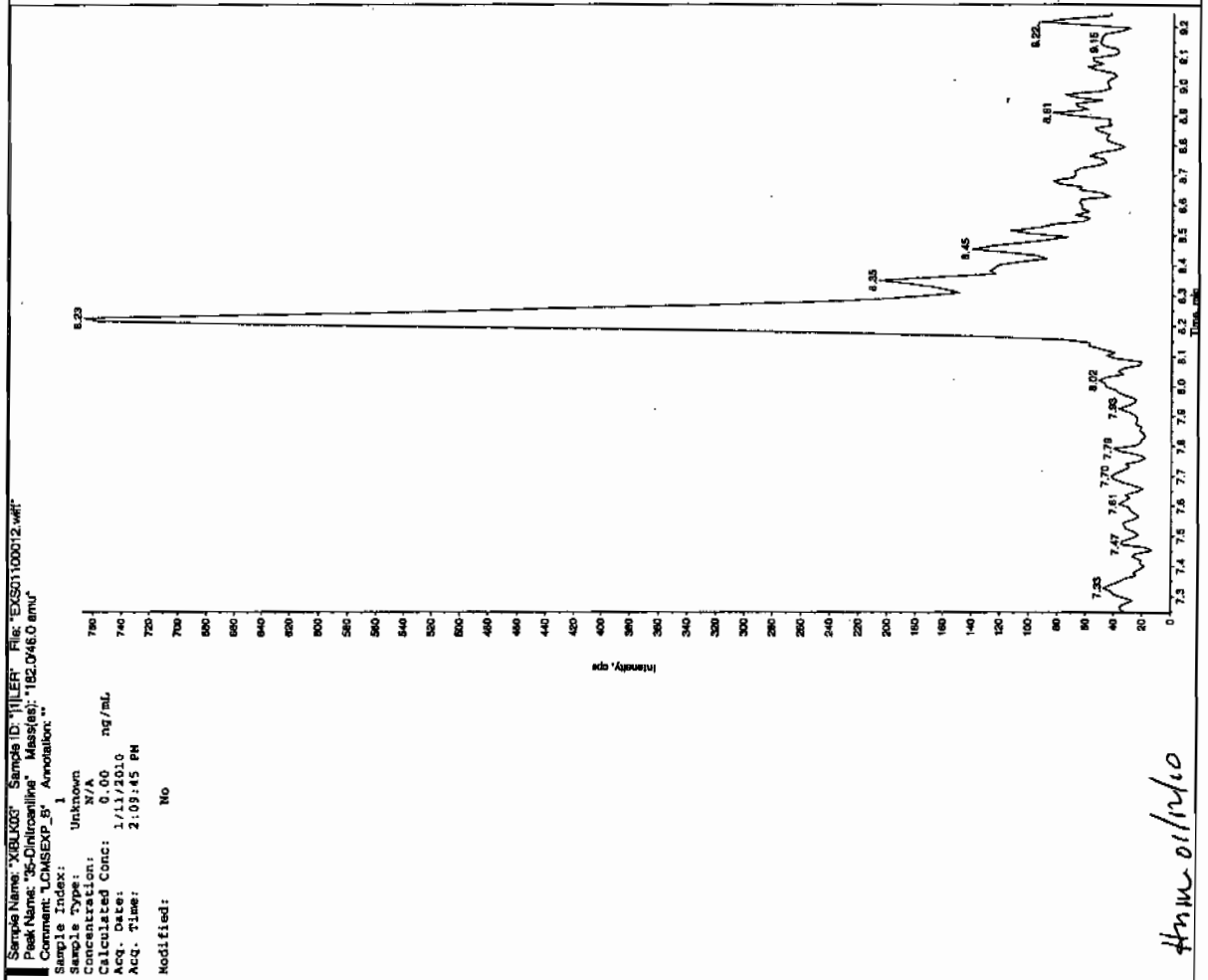
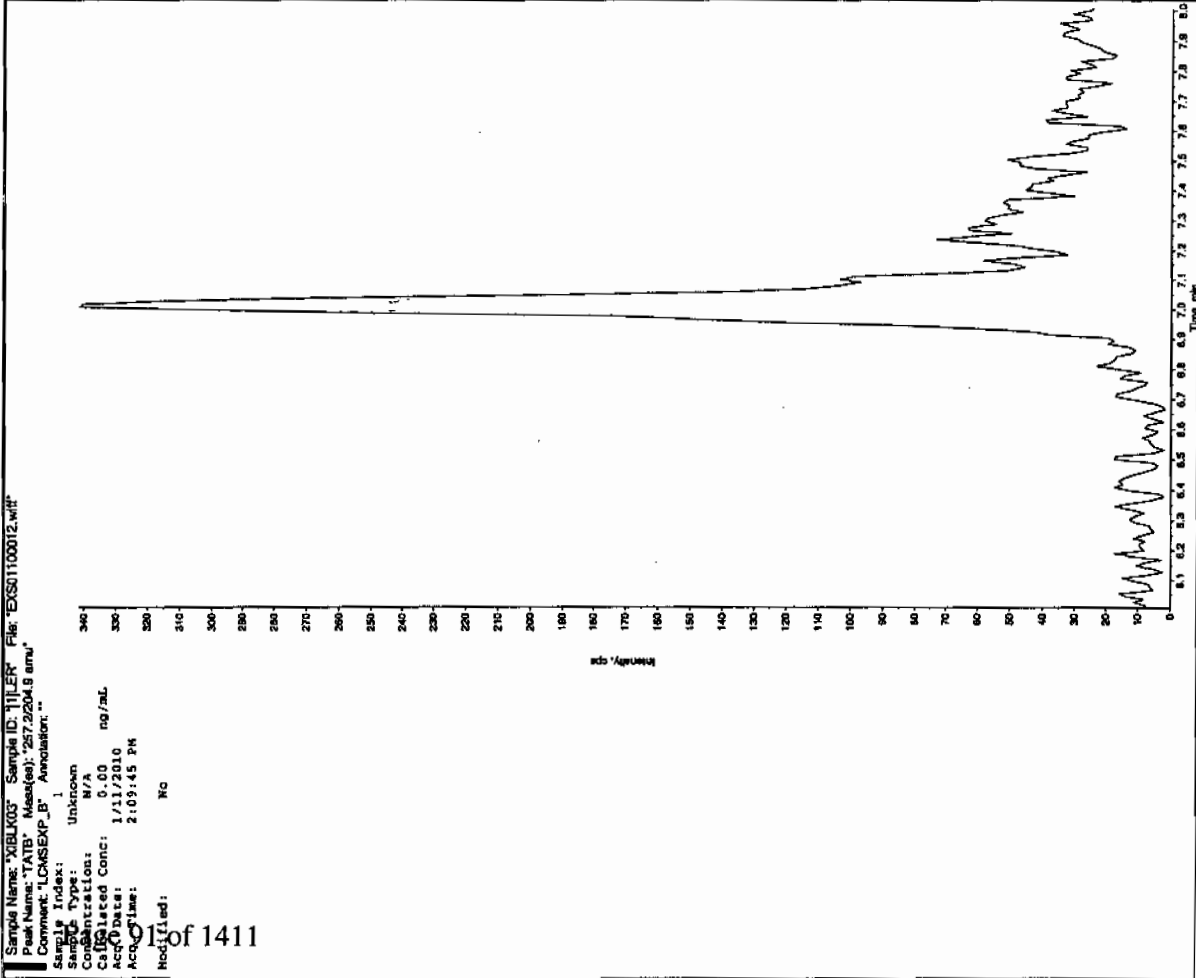
GEL Data File: EXS01100012.wiff

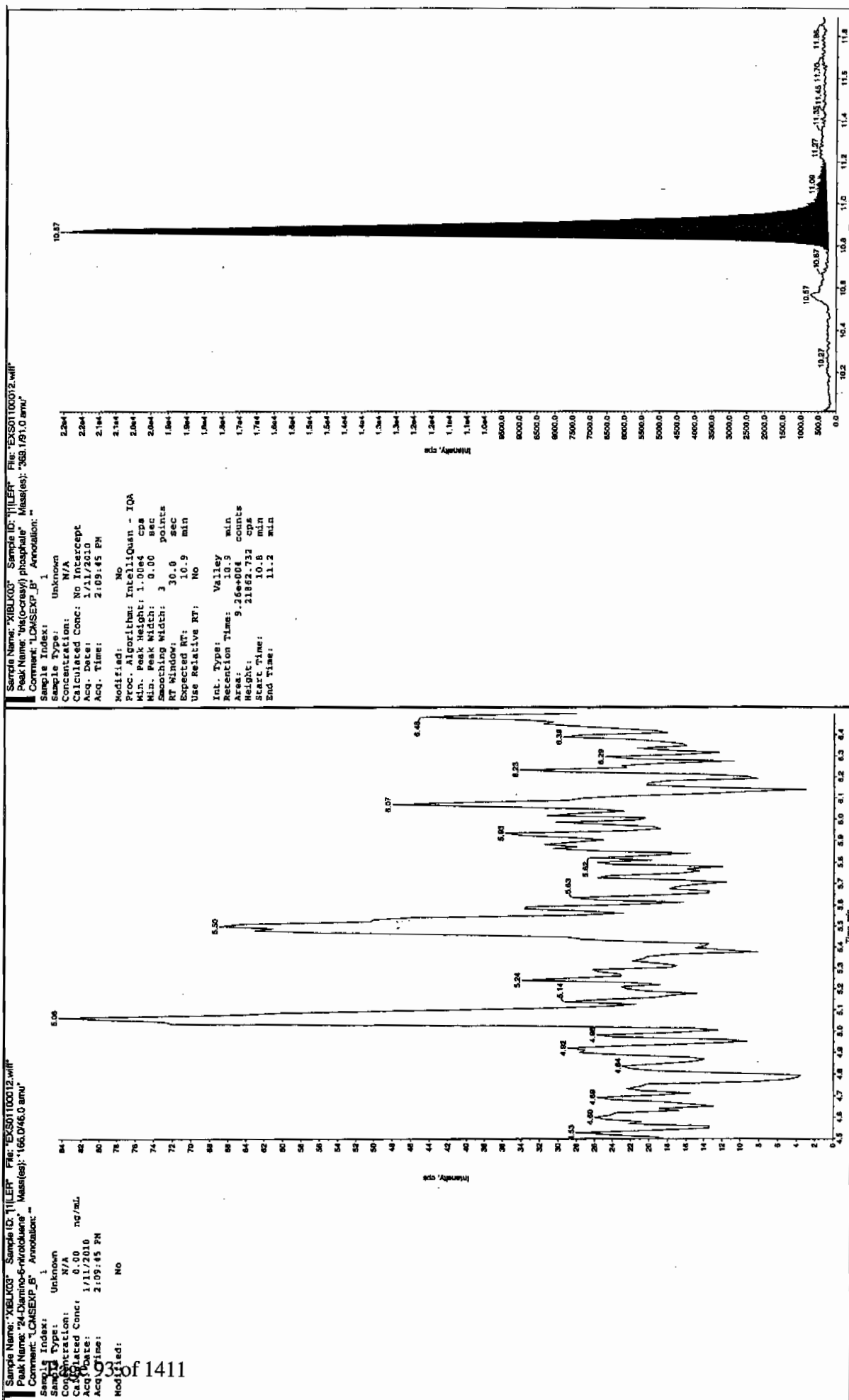
Instrument ID: LCMSMS

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

01/12/10





4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 11-JAN-10 14:56

GEL Data File: EXS01100015.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

01/11/10

Sample Name: "XIBUX04" Sample ID: "T11ER" File: "EX501100015.wif"

Peak Name: "35-Dinitrobenzyl" Mass(es): "182.0460 amu"

Comment: "LCMSXP_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

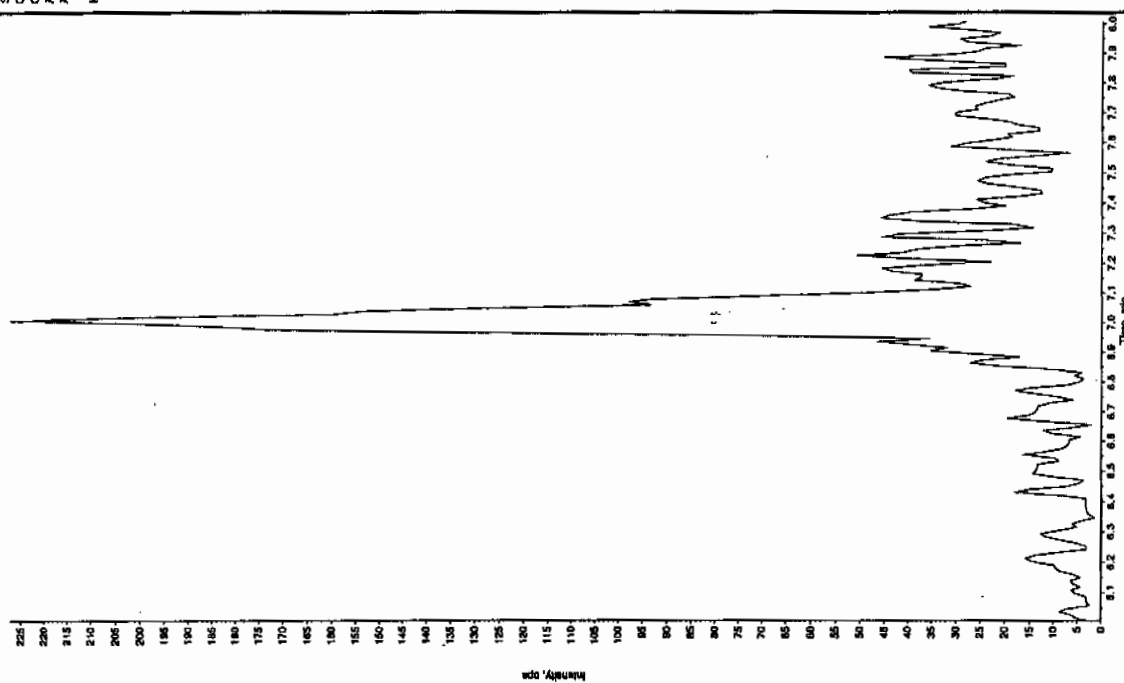
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/11/2010

Acq. Time: 2:56:50 PM

Modified: No



Sample Name: "XIBUX04" Sample ID: "T11ER" File: "EX501100015.wif"

Peak Name: "TATB" Mass(es): "257.22049 amu"

Comment: "LCMSXP_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

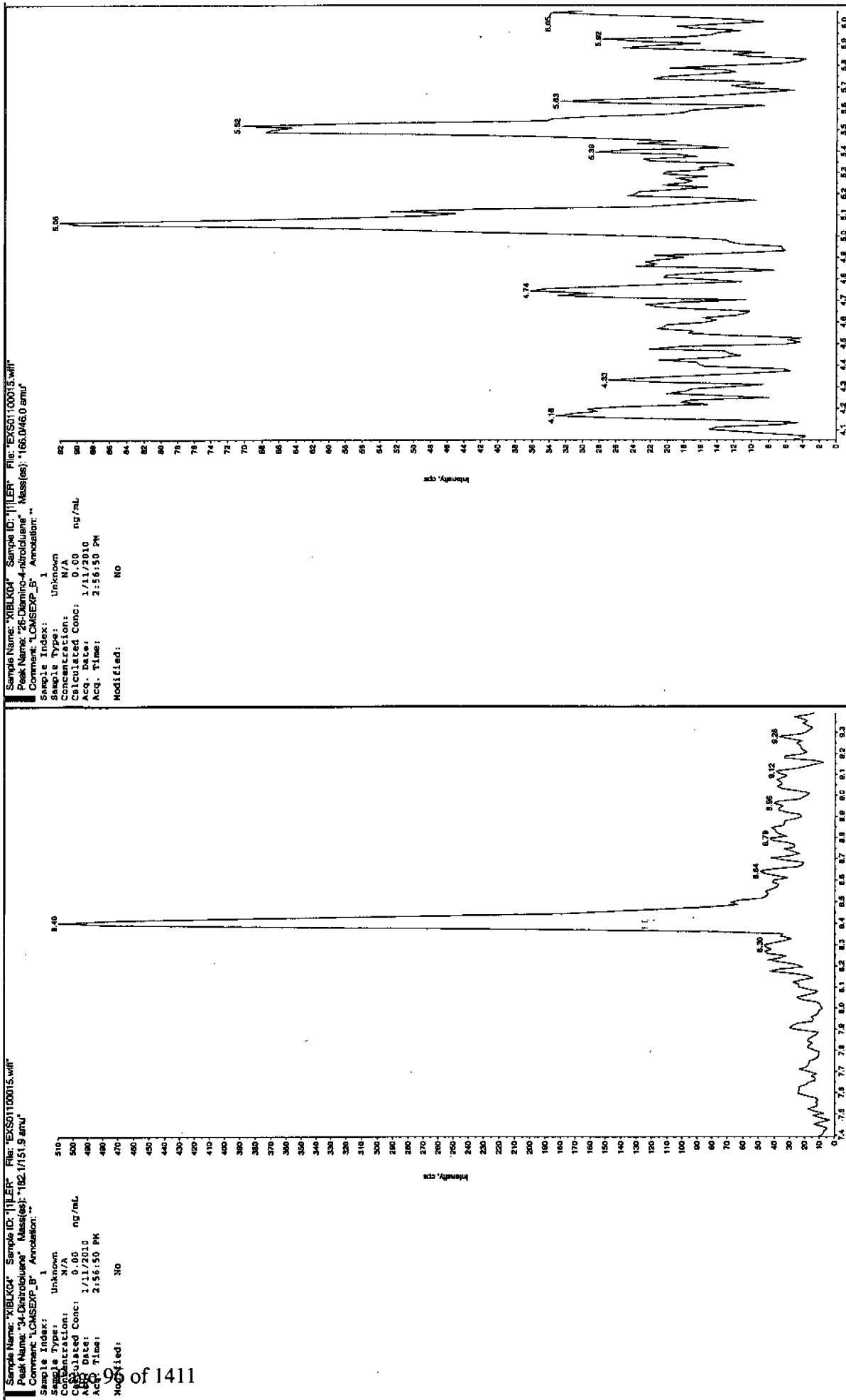
Acq. Date: 1/11/2010

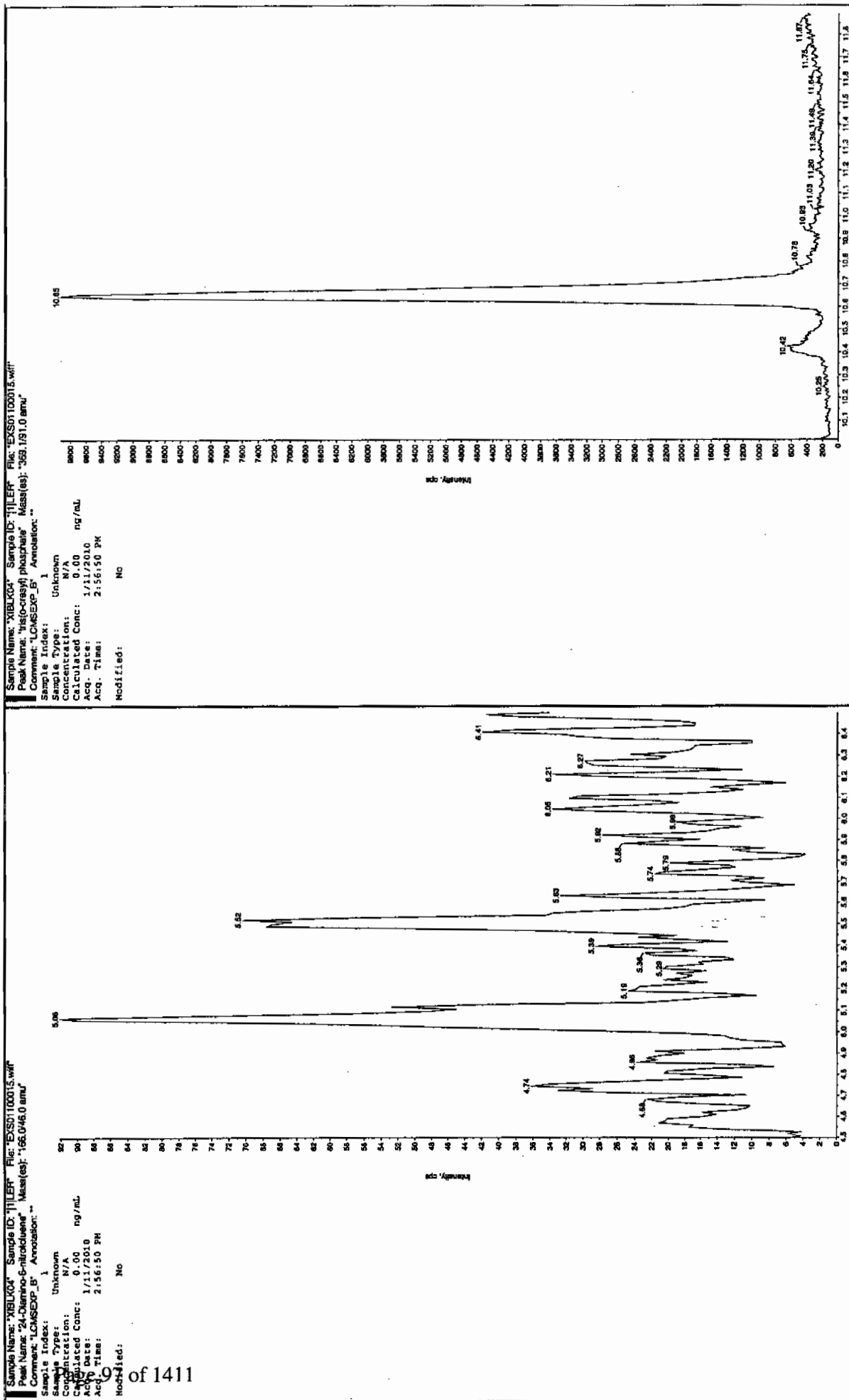
Acq. Time: 2:56:50 PM

Modified: No



01/11/10





4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 11-JAN-10 17:02

GEL Data File: EXS01100023.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

Sample Name: "XIBLK05" Sample ID: "JULER" File: "EX501100023.wif"

Peak Name: "35-Chloroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/11/2010

Acq. Time: 5:02:23 PM

Modified: No

Sample Name: "XIBLK05" Sample ID: "JULER" File: "EX501100023.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

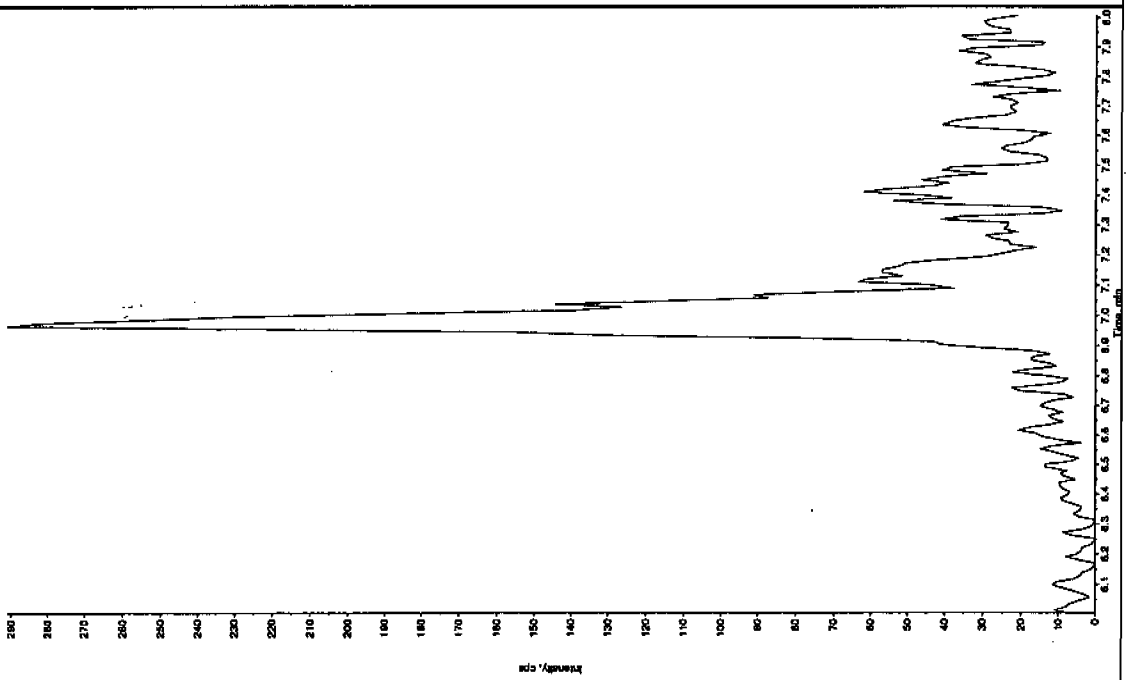
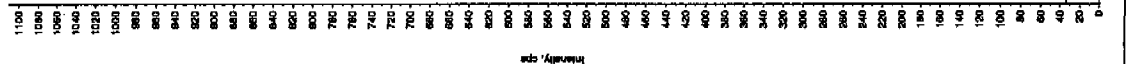
Concentration: N/A

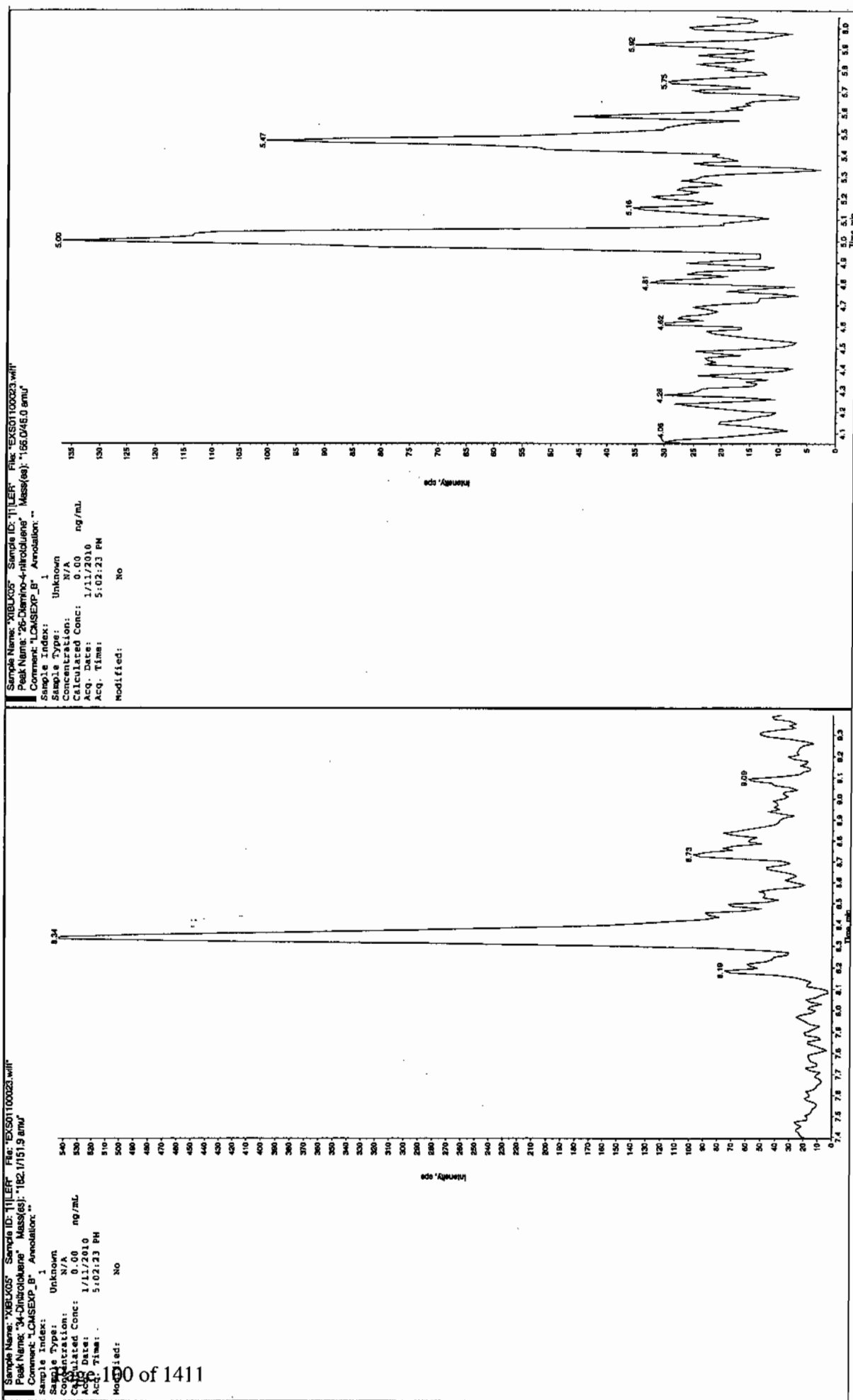
Calculated Conc: 0.00 ng/mL

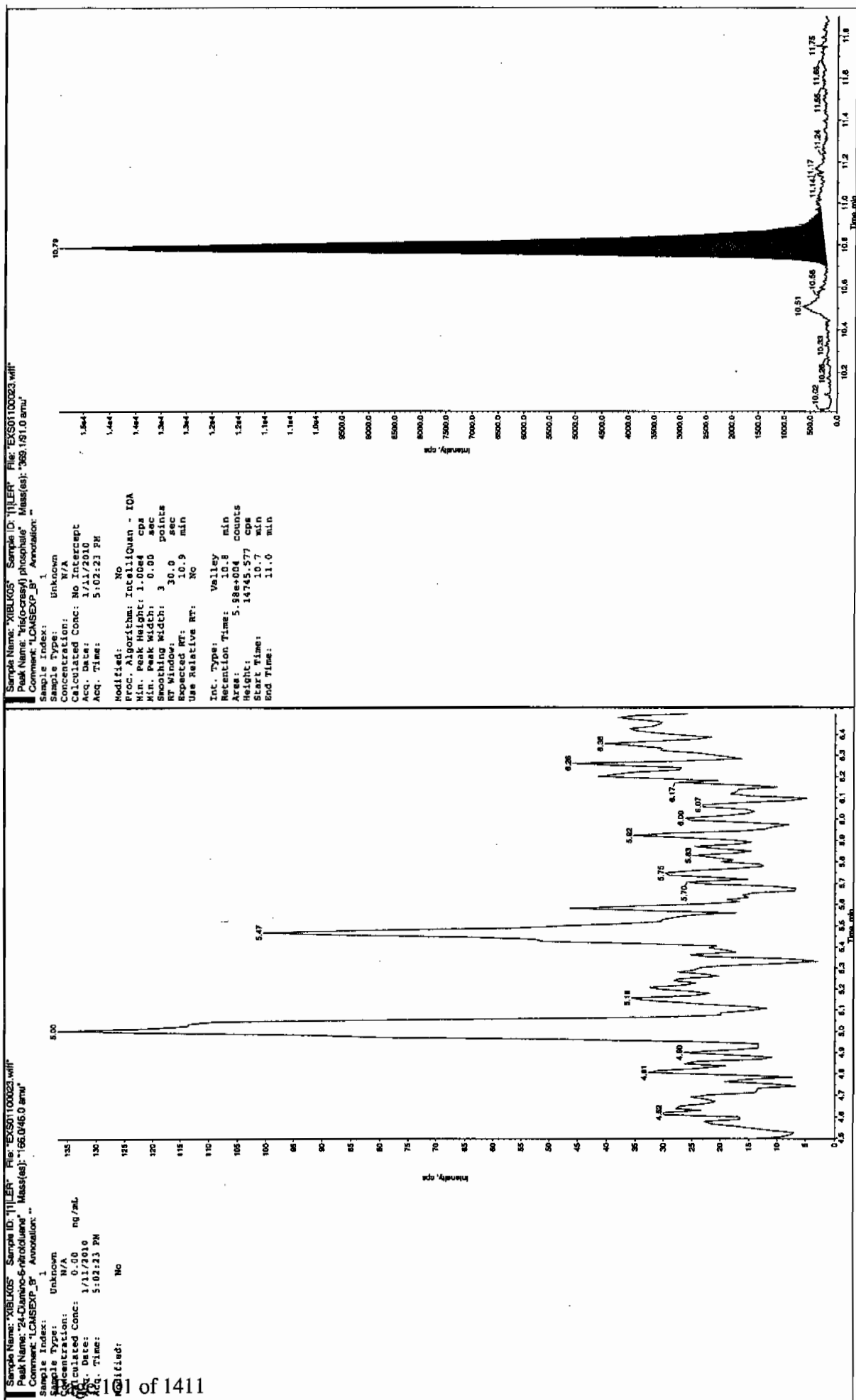
Acq. Date: 1/11/2010

Acq. Time: 5:02:23 PM

Modified: No







4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 11-JAN-10 20:26

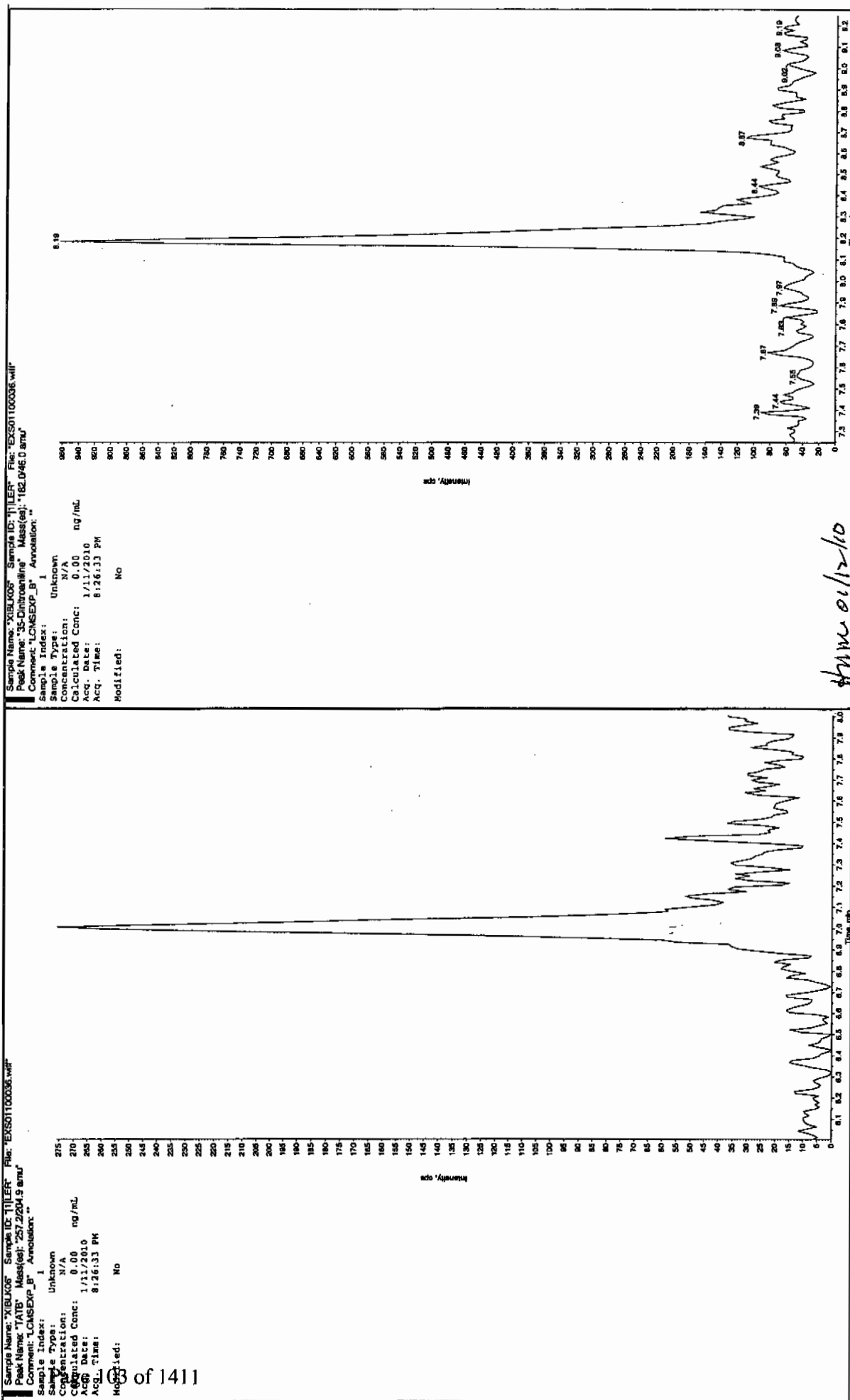
GEL Data File: EXS01100036.wiff

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

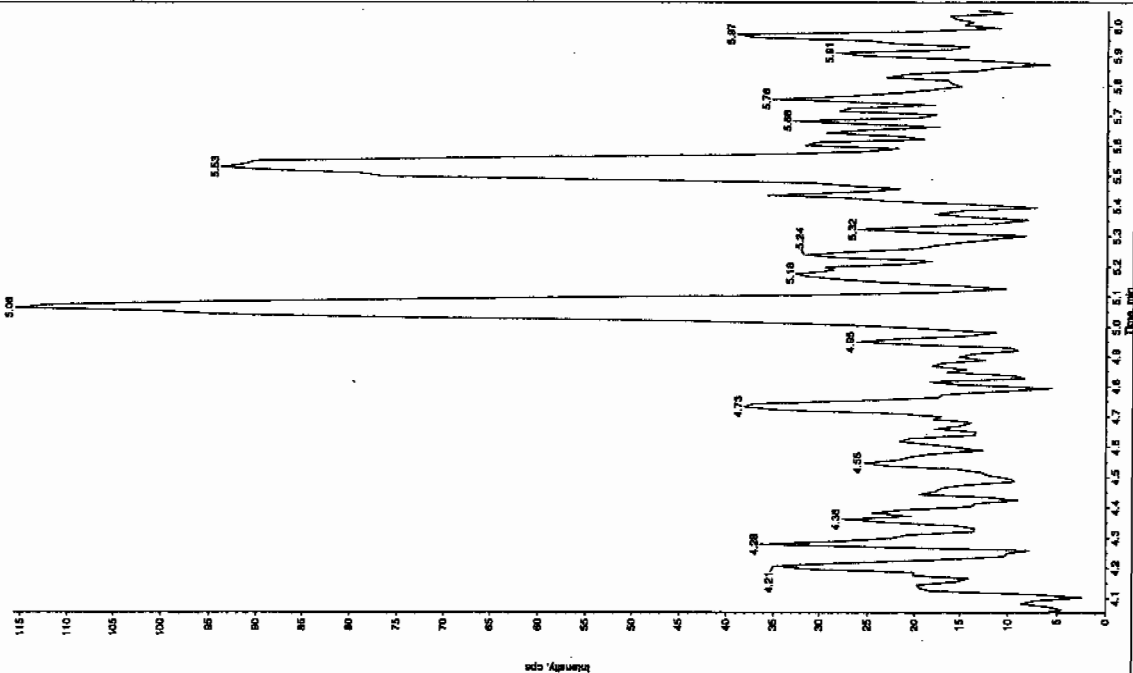
01/12/10



01/12/10

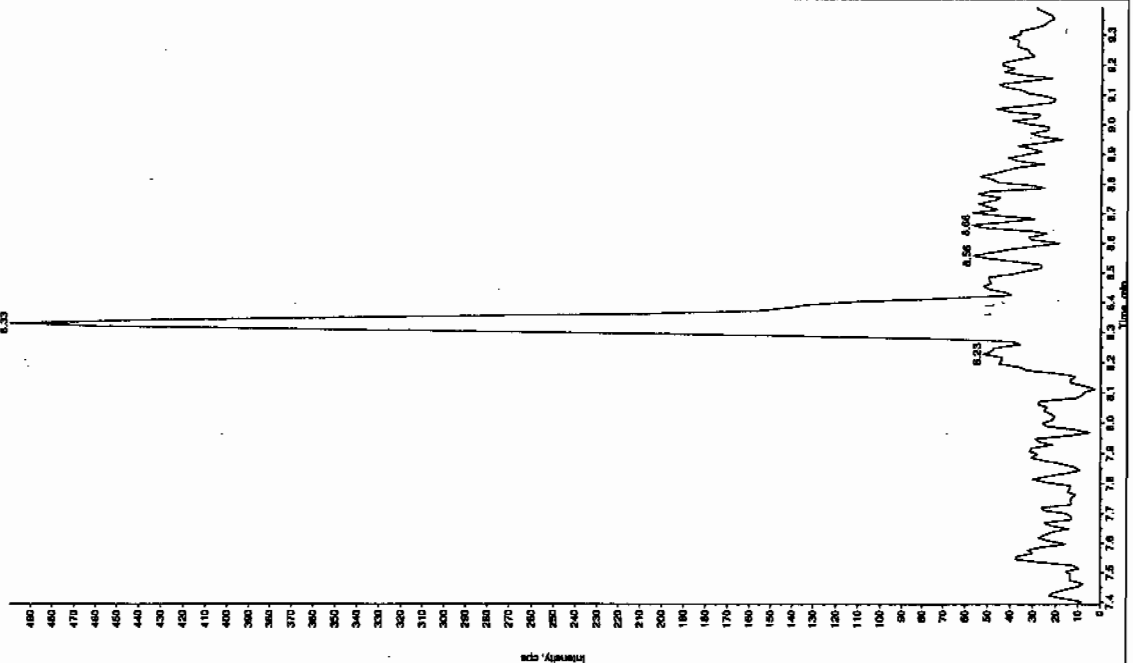
Sample Name: "XIBLK06" Sample ID: "JILR" File: "EXS01100306.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 8:26:33 PM
 Modified: No

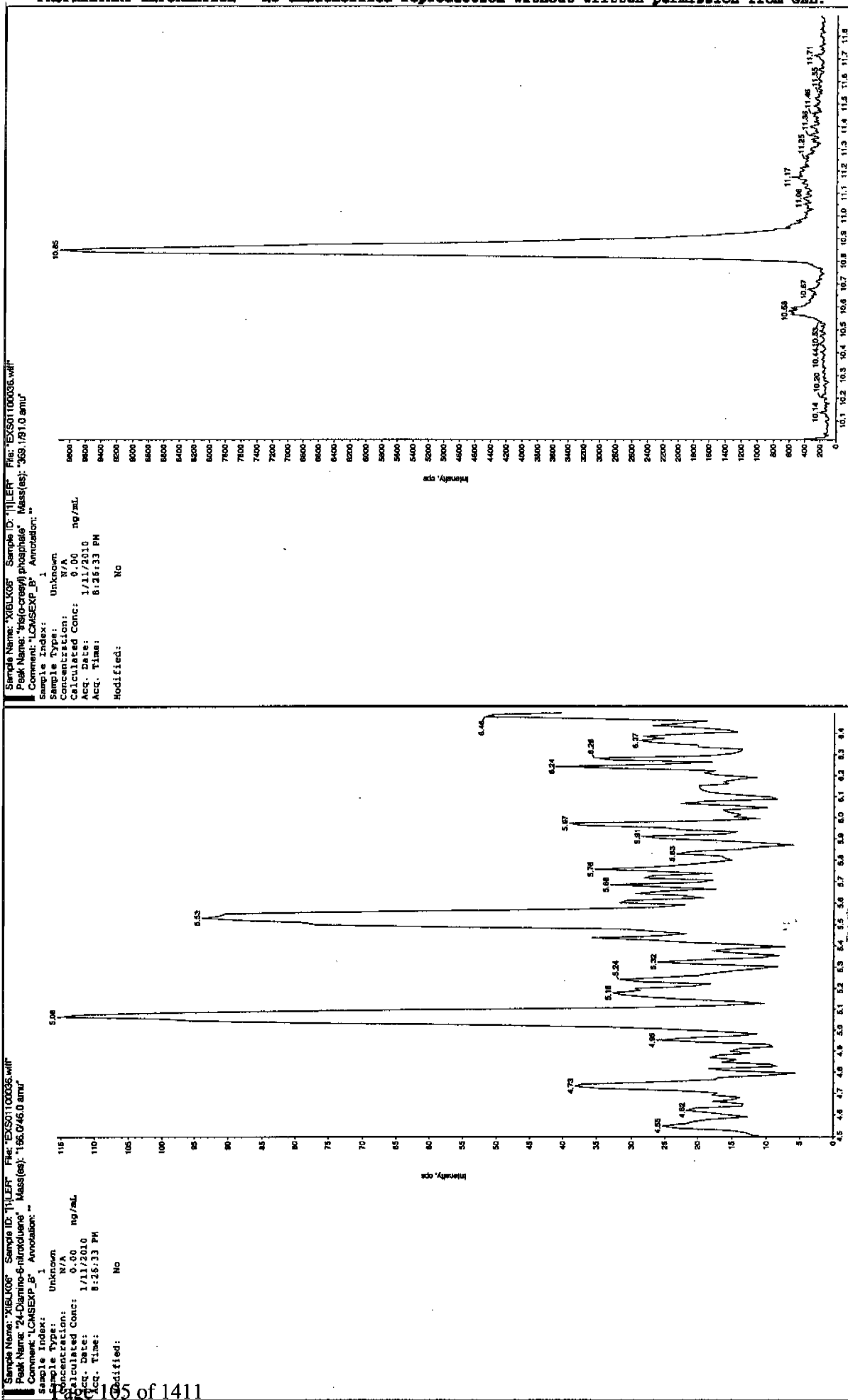


Sample Name: "XIBLK06" Sample ID: "JILR" File: "EXS01100306.wif"
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 8:26:33 PM
 Modified: No



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



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1102

Lab Code: GEL

Lab Sample ID: XIBLK07

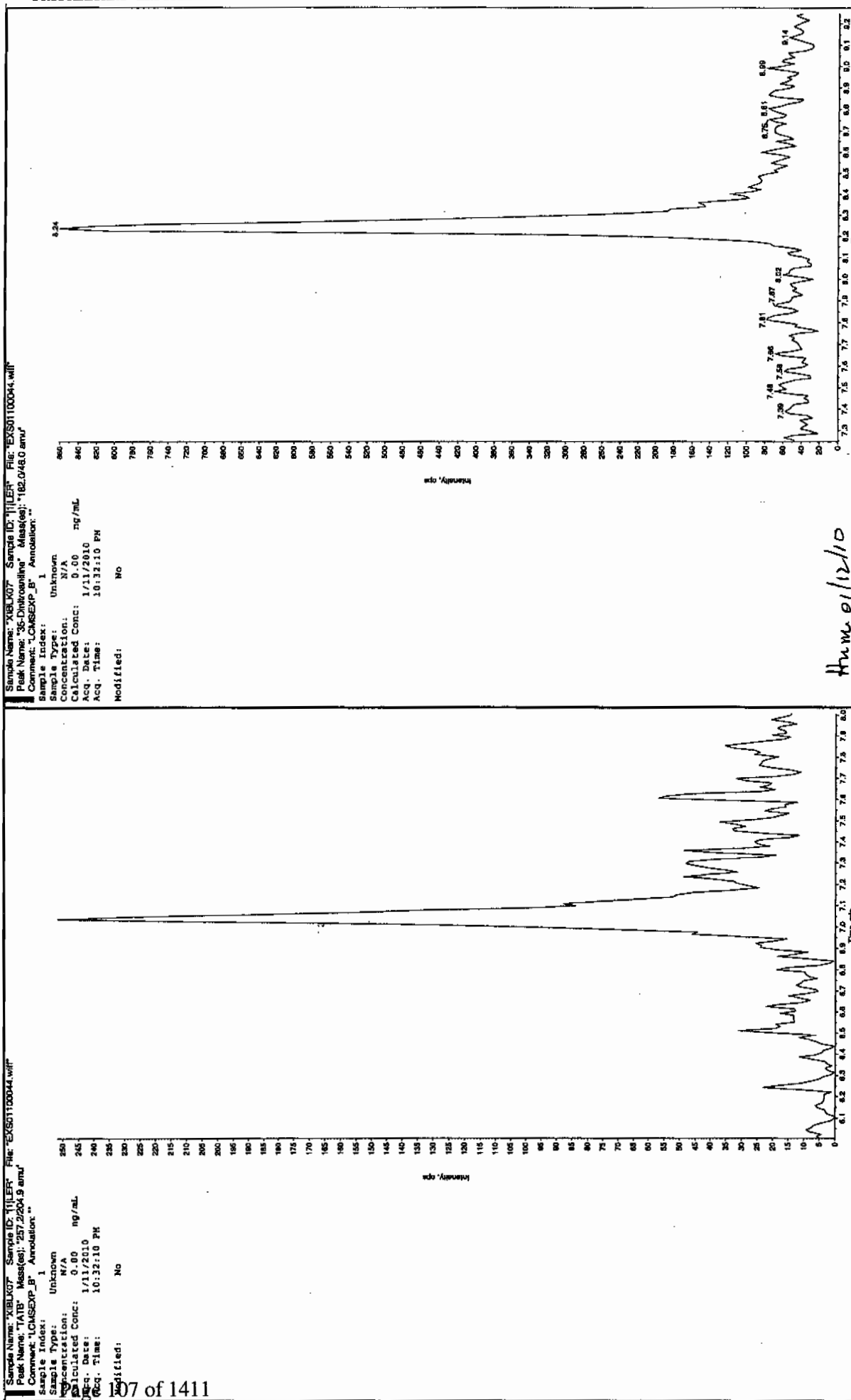
Analysis Date: 11-JAN-10 22:32

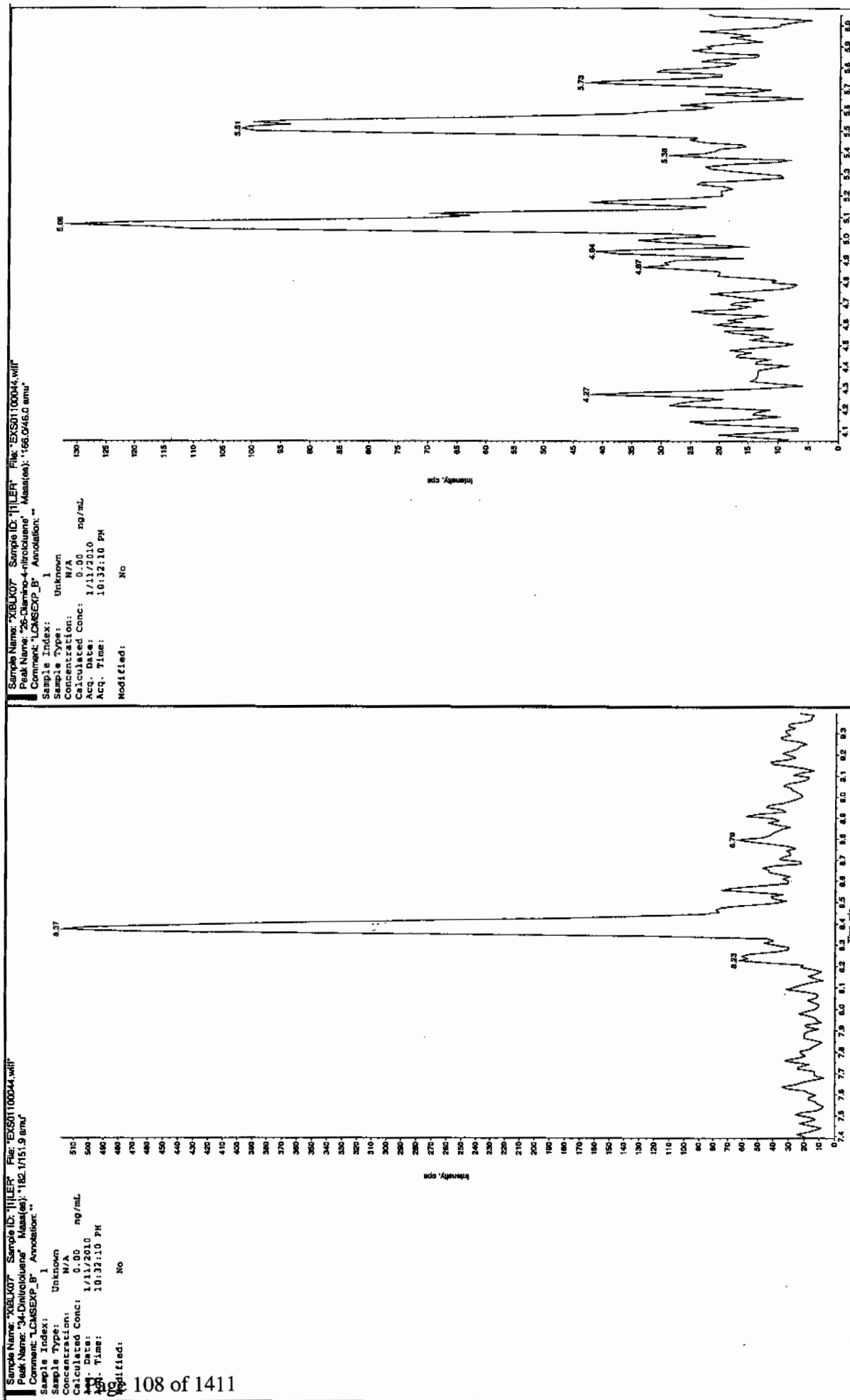
GEL Data File: EXS01100044.wiff

Instrument ID: LCMSMS

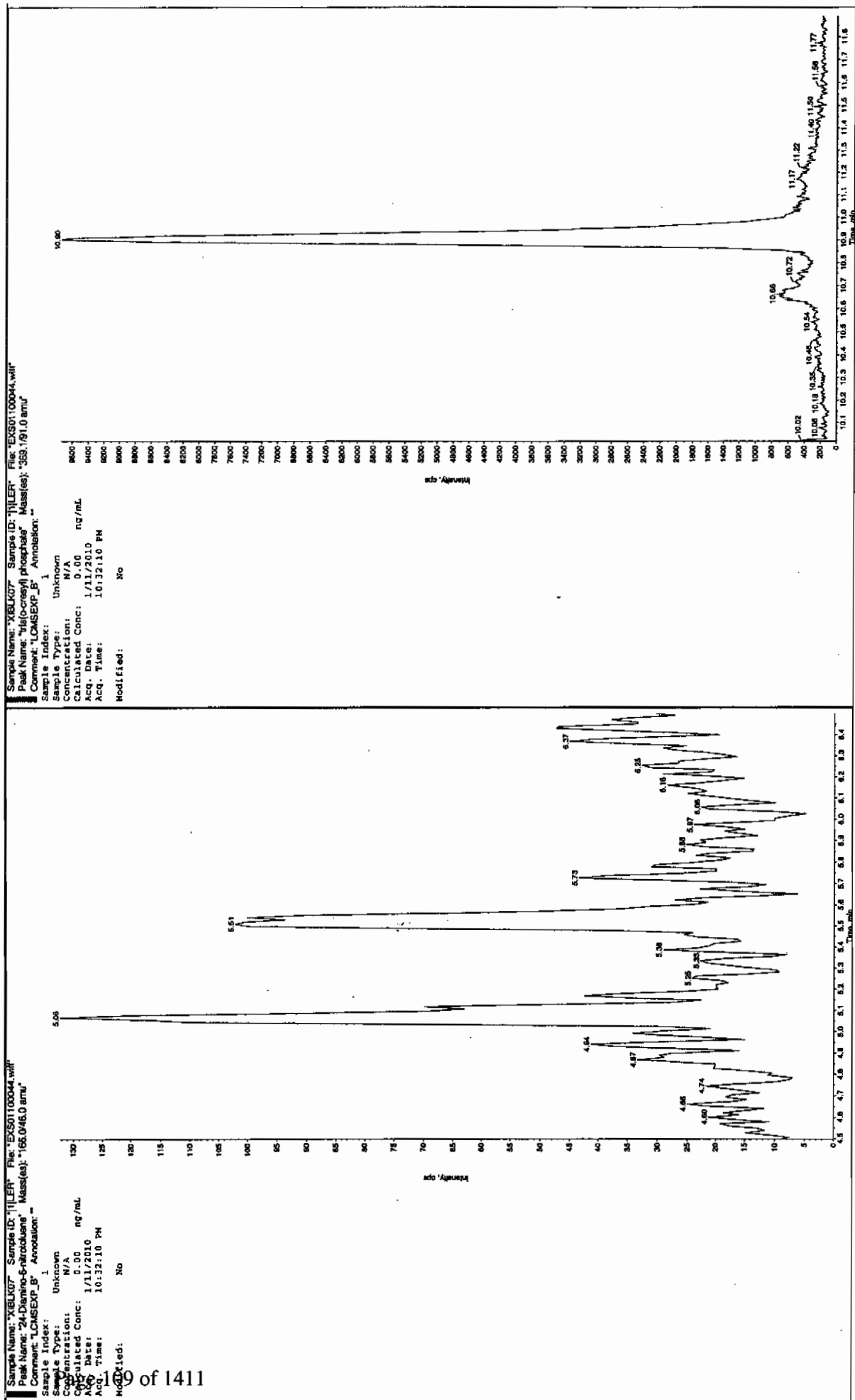
Column: Phenomenex Ultracarb 5u ODS(20)

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





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



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

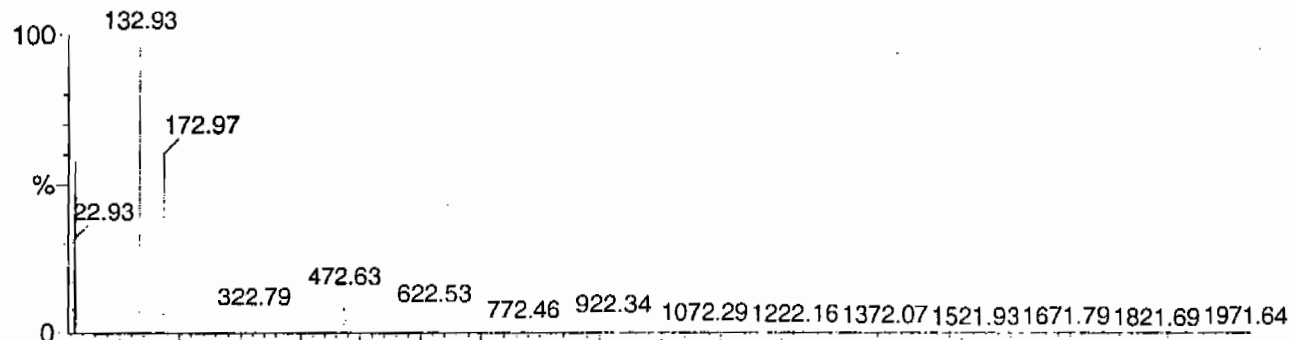
Calibration Report - MS1 Static

Page 1 of 1

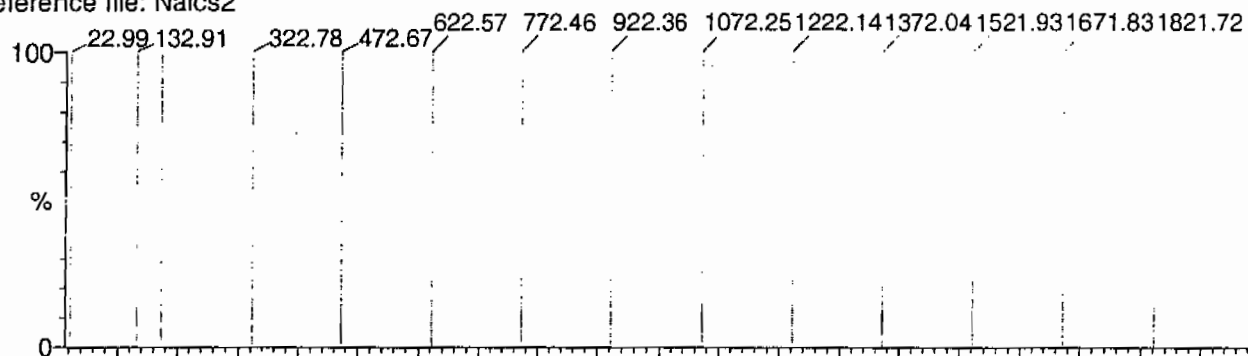
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

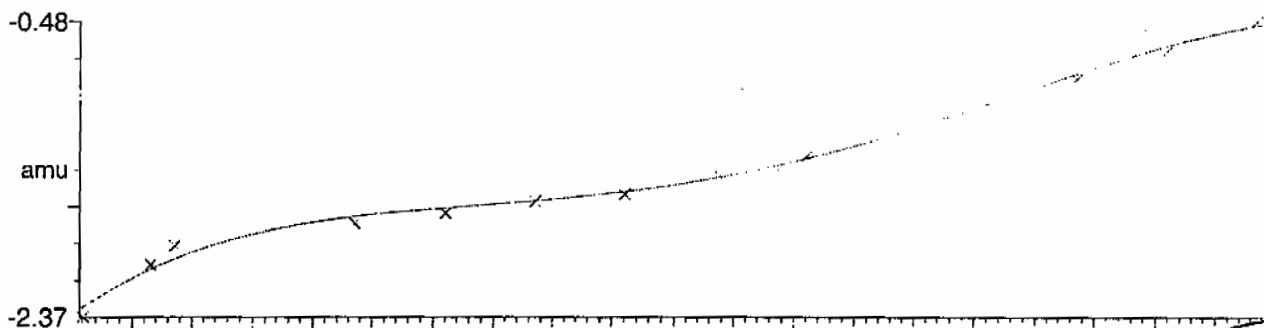
15 matches of 15 tested references



Reference file: Naics2

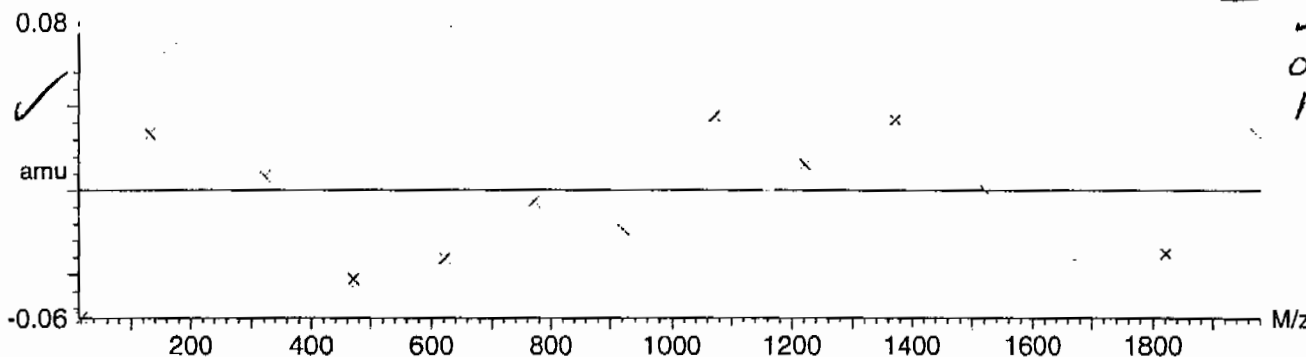


Mass difference (Raw - Ref mass)



Residuals

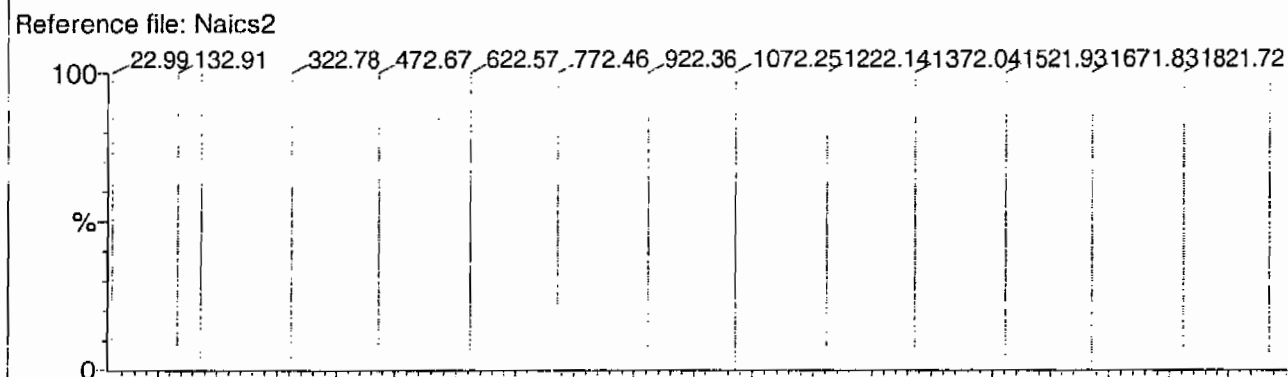
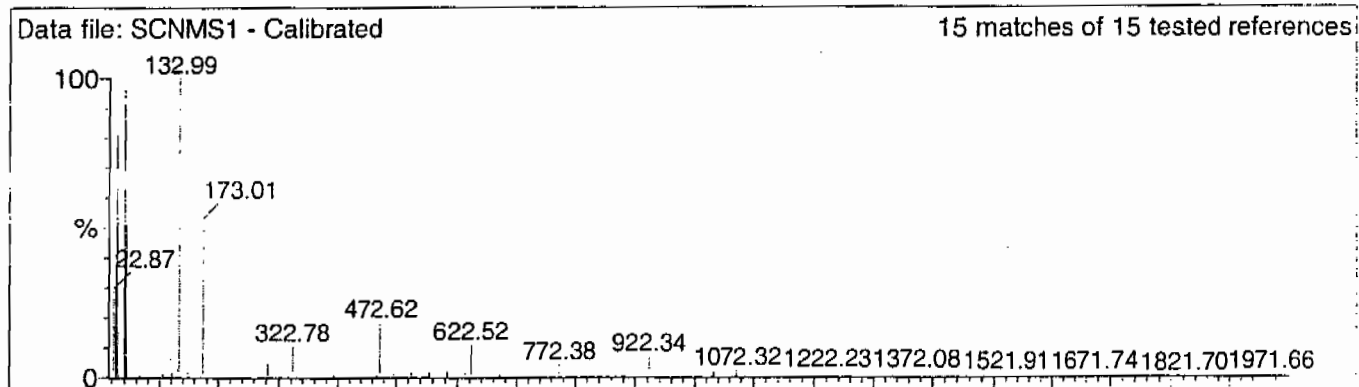
Mean residual = $-1.673470 \times 10^{-9} \pm 0.036953$



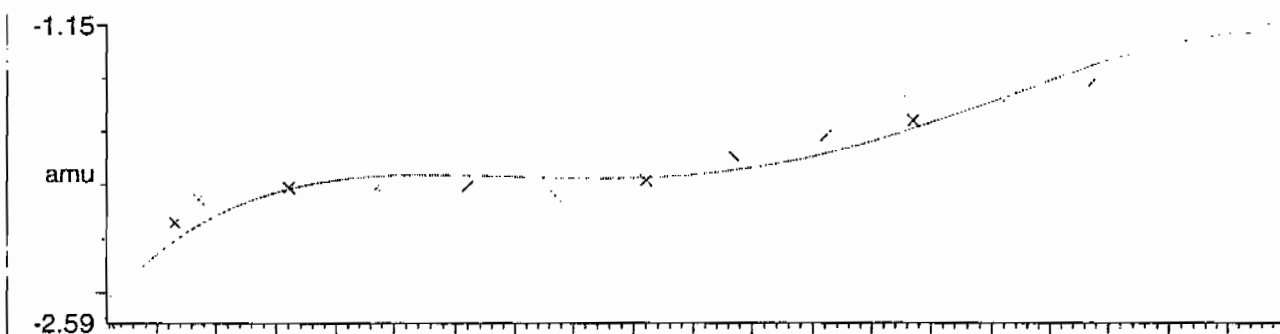
Calibration Report - MS1 Scanning

Page 1 of 1

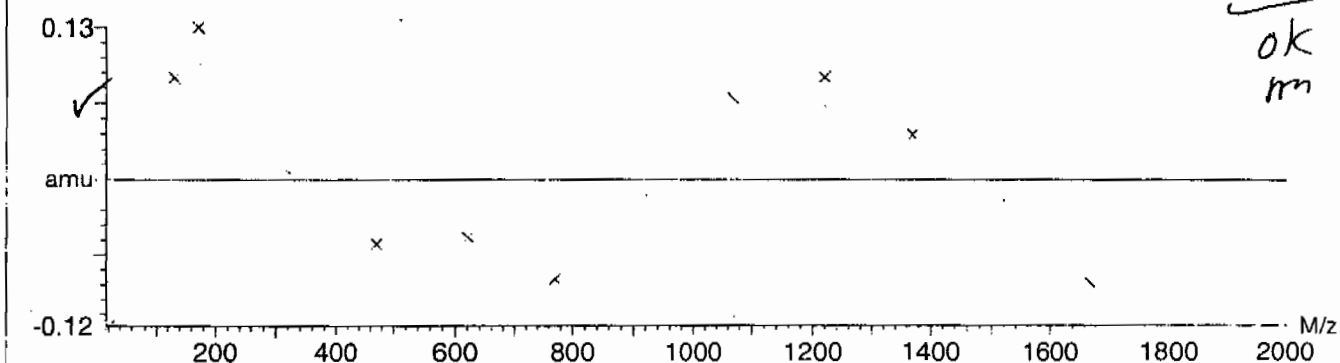
Printed: Fri Aug 25 10:51:06 2006



Mass difference (Raw - Ref mass)



Residuals



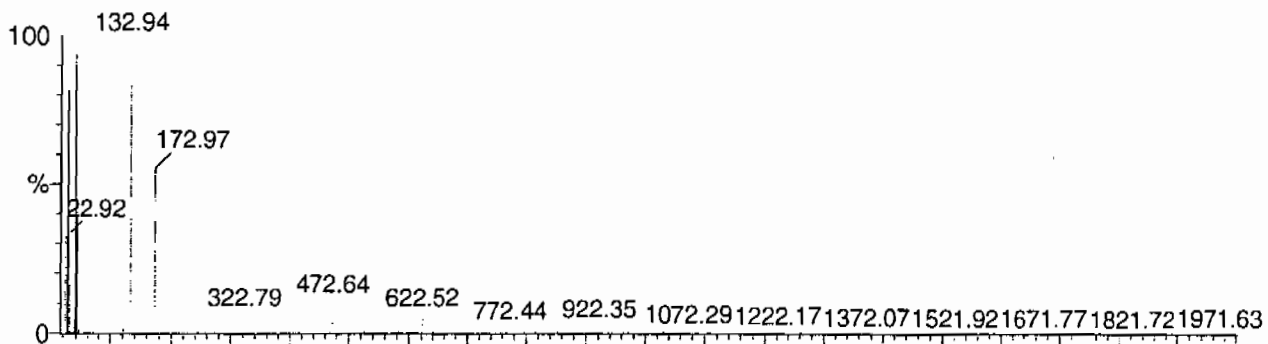
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

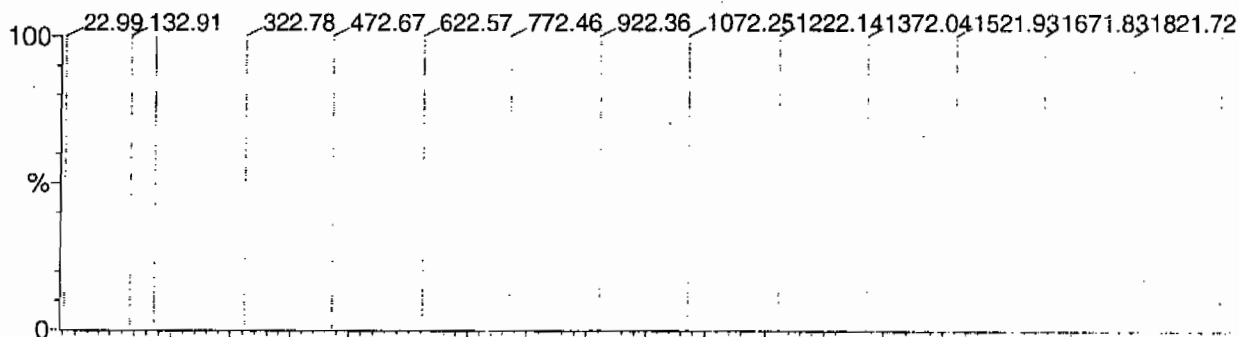
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

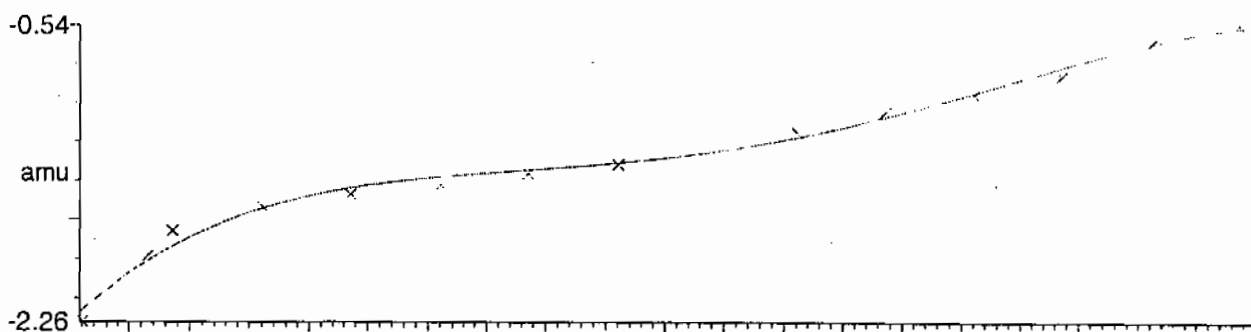
15 matches of 15 tested references



Reference file: Naics2

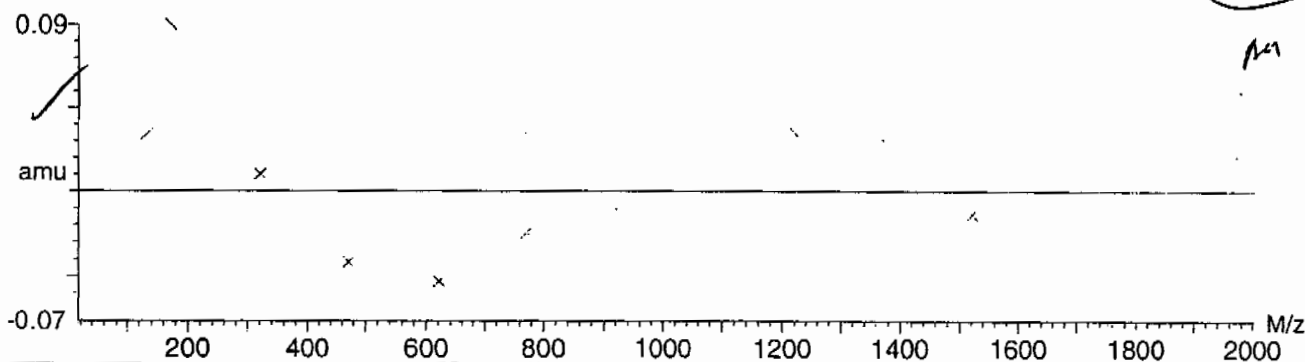


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $3.486639 \times 10^{-9} \pm 0.040487$



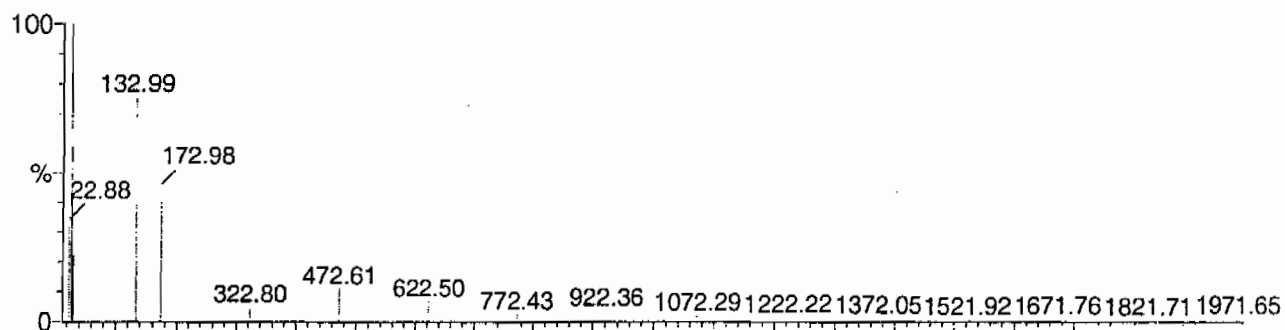
Calibration Report - MS2 Static

Page 1 of 1

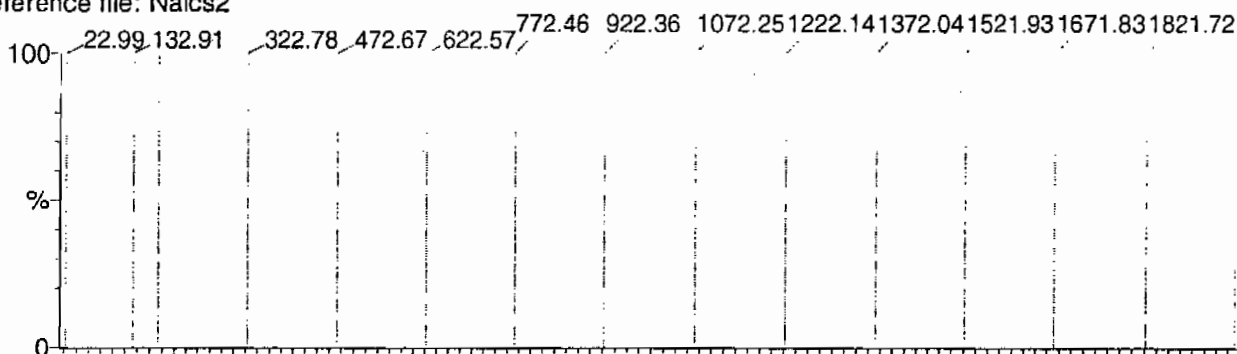
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

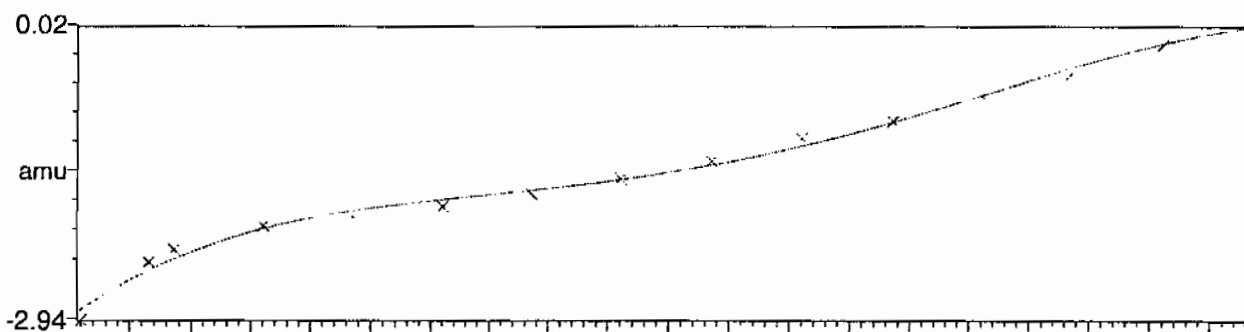
15 matches of 15 tested references



Reference file: Naics2

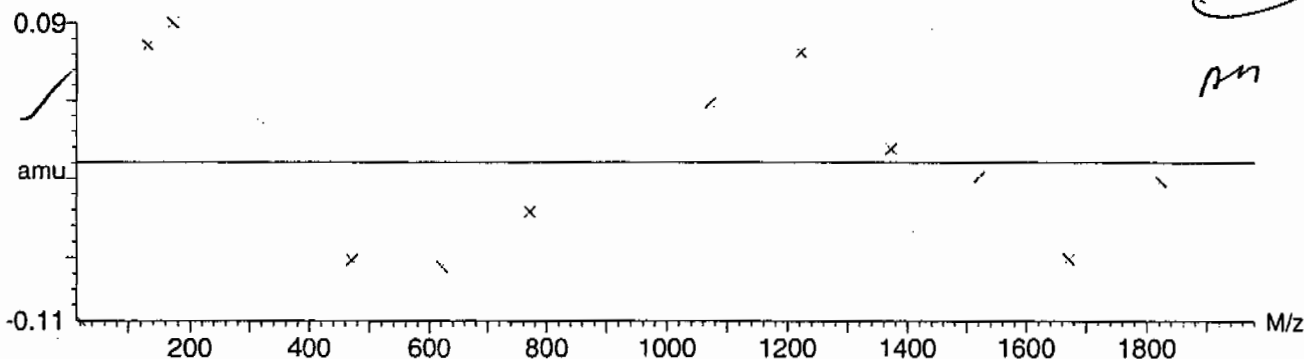


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $2.048910 \times 10^{-9} \pm 0.057803$



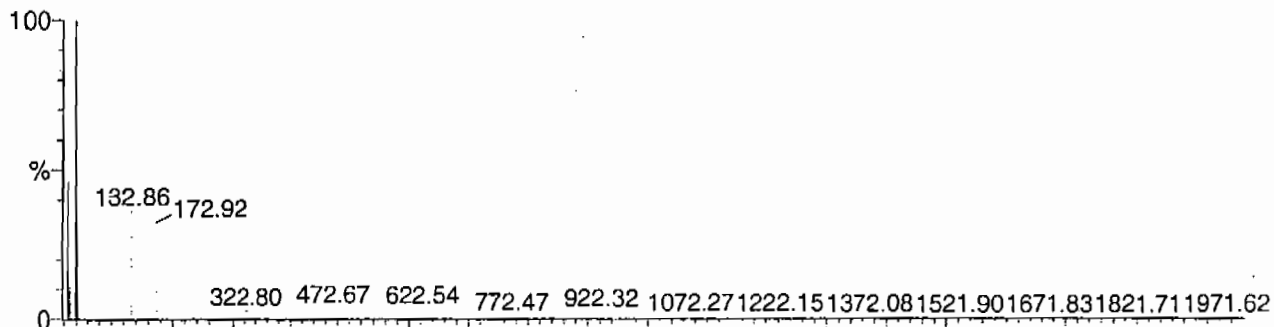
Calibration Report - MS2 Scanning

Page 1 of 1

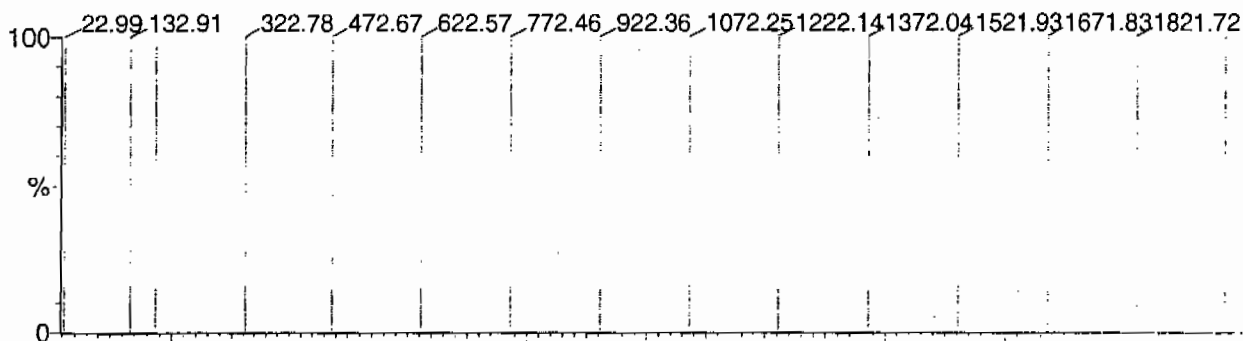
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

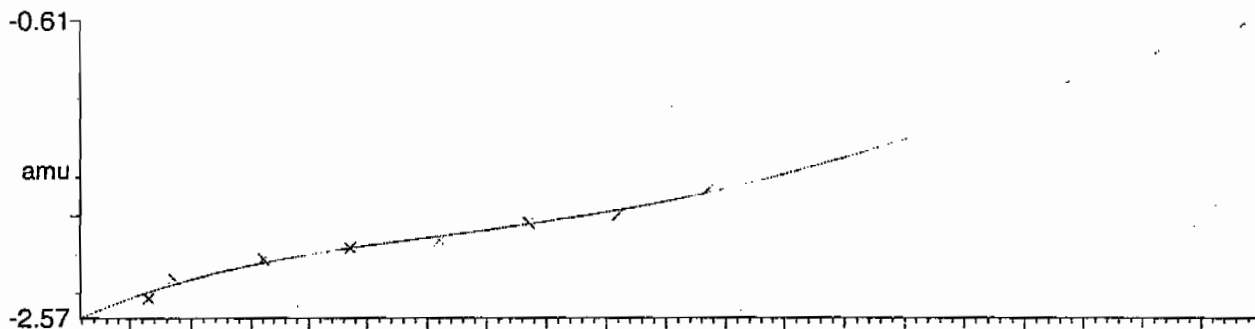
14 matches of 15 tested references



Reference file: Naics2

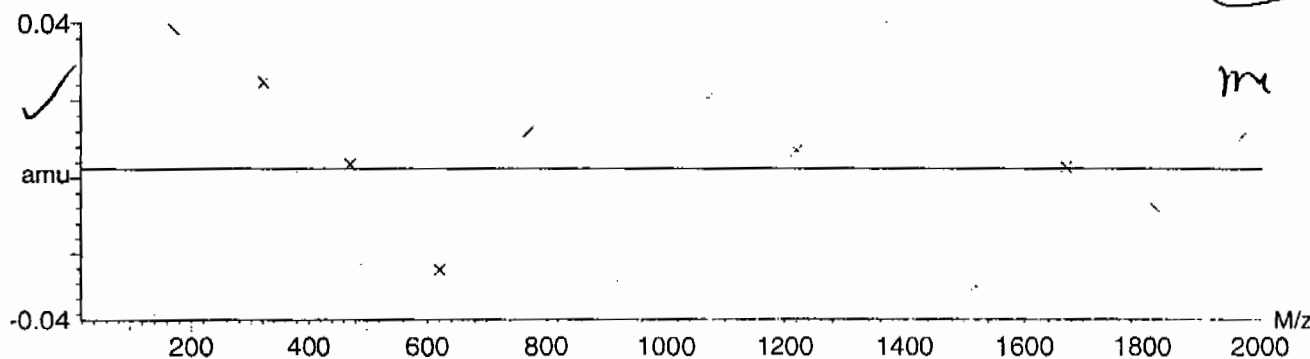


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $-2.623502 \times 10^{-9} \pm 0.025622$



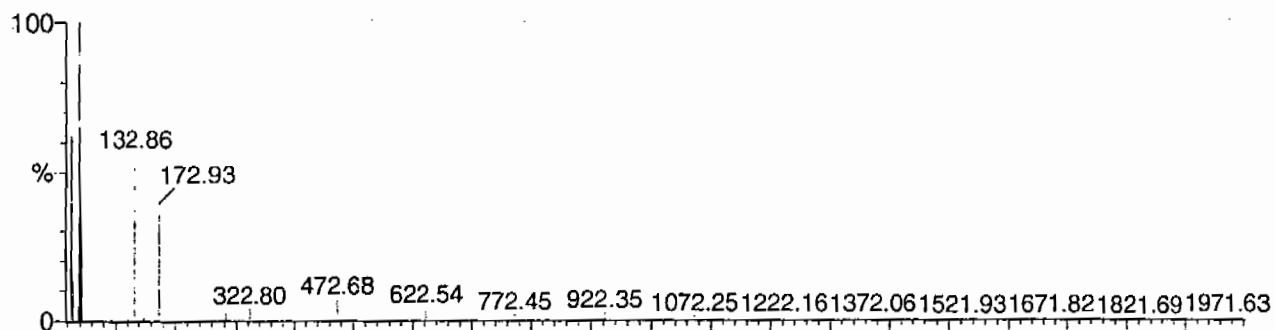
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

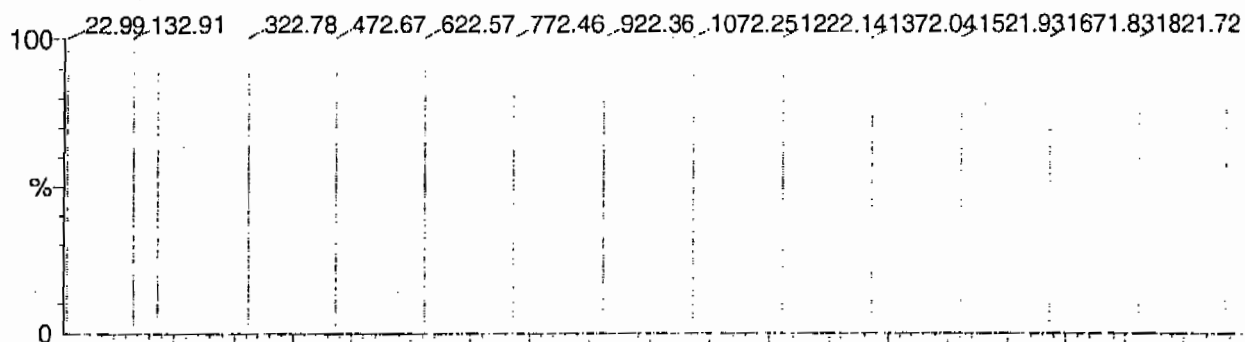
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

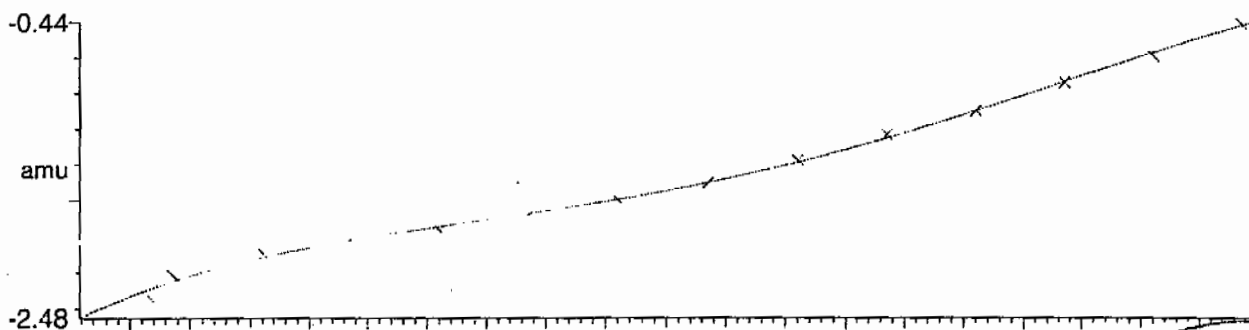
14 matches of 15 tested references



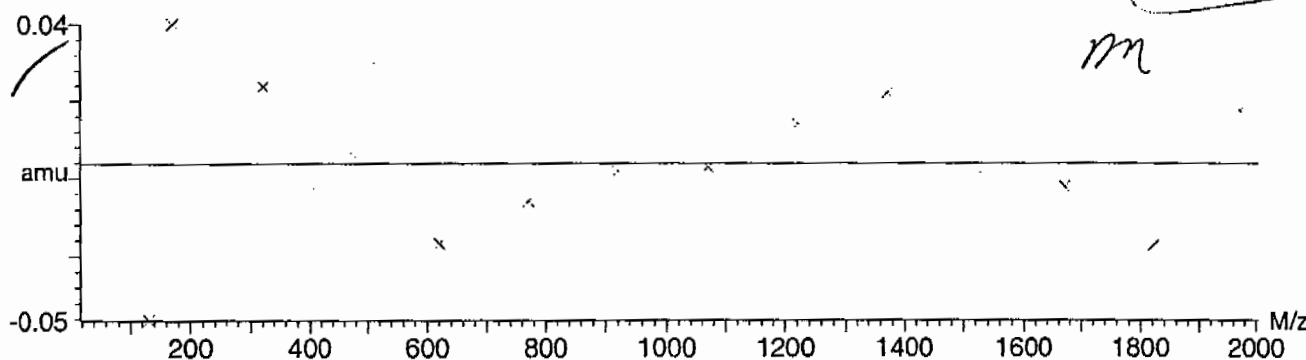
Reference file: Naics2



Mass difference (Raw - Ref mass)



Residuals



Mean residual = $-6.785350 \times 10^{-9} \pm 0.023134$

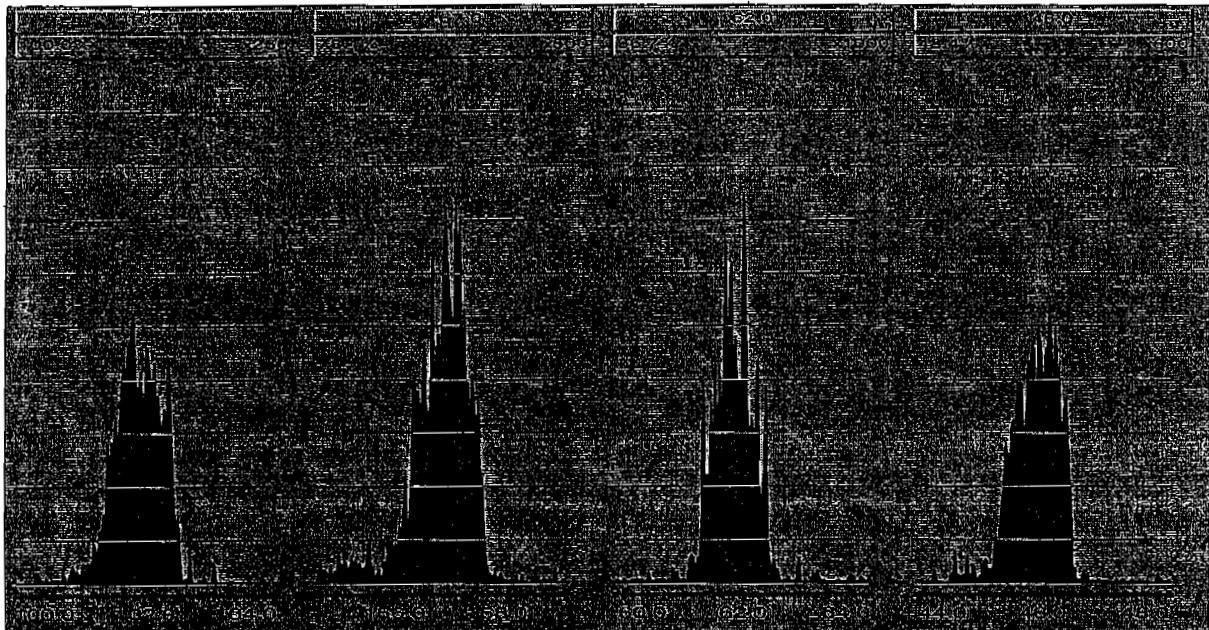
mn

Quattro Micro Tune Parameters

Page 1

Parameter File: C:\MASSLYNXNEW_EXP.PROVACQUDB\explosives04.ipr

Printed : Mon Jan 18 14:02:19 2010



High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

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) #
			3393.317	11.997	18344.583	17.32
Upper Limit			4411.3121	12.497	23847.9579	17.82
Lower Limit			2375.3219	11.497	12841.2081	16.82
MB for batch 937566	19-jan-10 10:42	EXP0118043a	3581.75	11.998	22579.5	17.313
LCS for batch 937566	19-jan-10 11:12	EXP0118044a	3562.73	11.972	19525.9	17.313
RE12-10-7675	19-jan-10 11:41	EXP0118045a	3313.45	11.998	18484.4	17.313
RE12-10-7675(243630001MS)	19-jan-10 12:11	EXP0118046a	3460.93	11.972	21393.9	17.291
RE12-10-7663	19-jan-10 13:10	EXP0118048a	4174.95	11.972	22141	17.291
RE12-10-7672	19-jan-10 14:08	EXP0118050a	4176.25	11.972	21579.7	17.291
RE12-10-7667	19-jan-10 14:38	EXP0118051a	3687.32	11.998	21352.6	17.335
RE12-10-7666	19-jan-10 15:08	EXP0118052a	3348.91	11.972	19396.8	17.291
RE12-10-7665	19-jan-10 17:06	EXP0118056a	3398.68	11.97	19112.3	17.302
RE12-10-7670	19-jan-10 17:35	EXP0118057a	3317.15	11.972	18537.4	17.291
RE12-10-7668	19-jan-10 18:05	EXP0118058a	3673.29	11.972	18987.9	17.291
RE12-10-7671	19-jan-10 18:34	EXP0118059a	3227.53	11.972	17657.4	17.291
RE12-10-7669	19-jan-10 19:04	EXP0118060a	3294.92	11.97	20543.7	17.302
RE12-10-7675(243630001MSD)	19-jan-10 19:33	EXP0118061a	3686.97	11.972	21748.6	17.29
RE12-10-7664	19-jan-10 20:03	EXP0118062a	3604.64	11.972	21033.5	17.291

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

SAMPLE DATA

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630001

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118045a

Date Analyzed: 19-JAN-10 11:41

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Printed: Wed Jan 20 11:57:39 2010, Page 1 of 3

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011810expa.mdb, Time: Tue Jan 19 09:10:36 2010
Calibration: C:\MASSLYNX\New_Exp.PRO\CurveDB\011810expa.cdb, Time: Tue Jan 19 10:56:46 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118045a

Date: 19-Jan-2010

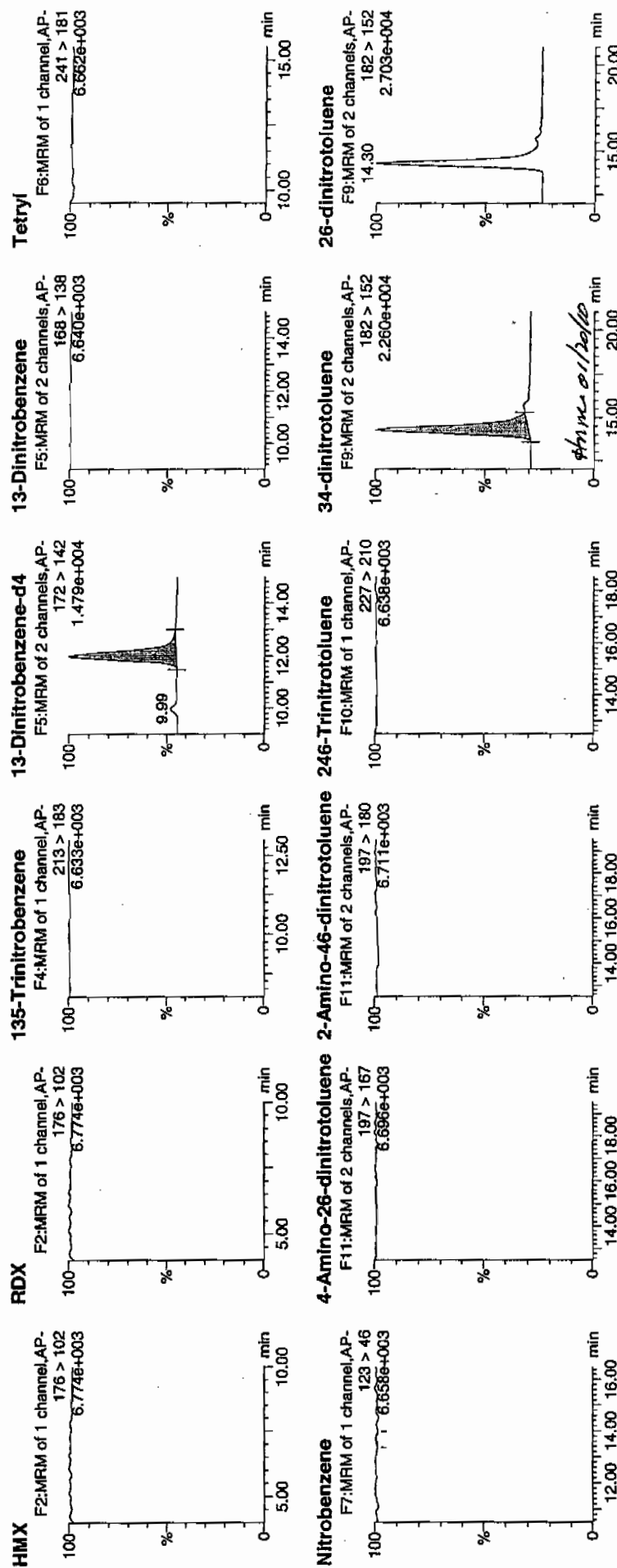
Time: 11:41:35

ID: 243630001

Vial: 2:4,C

100%
1/24/10

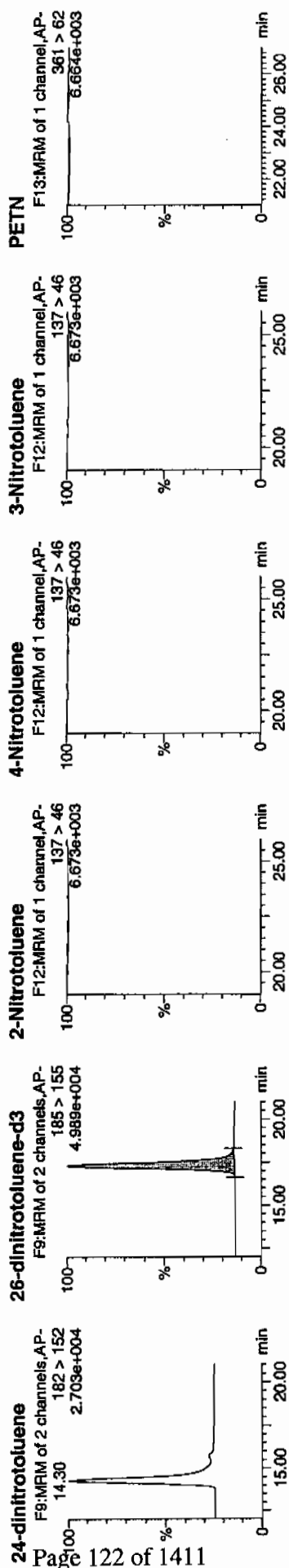
100%
1/24/10



Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Trace	RT	Area	Area	Area	Resp	Response	Flags	ModDate	ModTime	ModName	ModSec	%Dev	SN
243630001	HMx	176 > 102				3313.446									
243630001	RDX	176 > 102				3313.446									
243630001	135-Trinitrobenzene	213 > 183				3313.446									
243630001	13-Dinitrobenzene-d4	172 > 142	12.00	3313.446			3313.446	3313.446	bb	MM-	20-Jan-10	08:52:21	488.2315	97.6	230.4
243630001	13-Dinitrobenzene	168 > 138				3313.446									
243630001	Tetryl	241 > 181				3313.446									
243630001	Nitrobenzene	123 > 46				3313.446									
243630001	4-Amino-26-dinitrotoluene	197 > 167				18484.357									
243630001	2-Amino-46-dinitrotoluene	197 > 180				18484.357									
243630001	246-Trinitrotoluene	227 > 210				18484.357									
243630001	34-dinitrotoluene	182 > 152	14.30	8598.042		18484.357	8598.042	232.576	bb				249.4804	99.8	892.6
243630001	26-dinitrotoluene	182 > 152				18484.357									
243630001	24-dinitrotoluene	182 > 152				18484.357									
243630001	26-dinitrotoluene-d3	185 > 155	17.31	18484.357			18484.357	18484.357	bb				503.8100	100.8	1122.7
243630001	2-Nitrotoluene	137 > 46				18484.357									
243630001	4-Nitrotoluene	137 > 46				18484.357									
243630001	3-Nitrotoluene	137 > 46				18484.357									
243630001	PETN	361 > 62				18484.357									

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630001

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100027.wiff

Date Analyzed: 11-JAN-10 18:05

Units: ug/kg

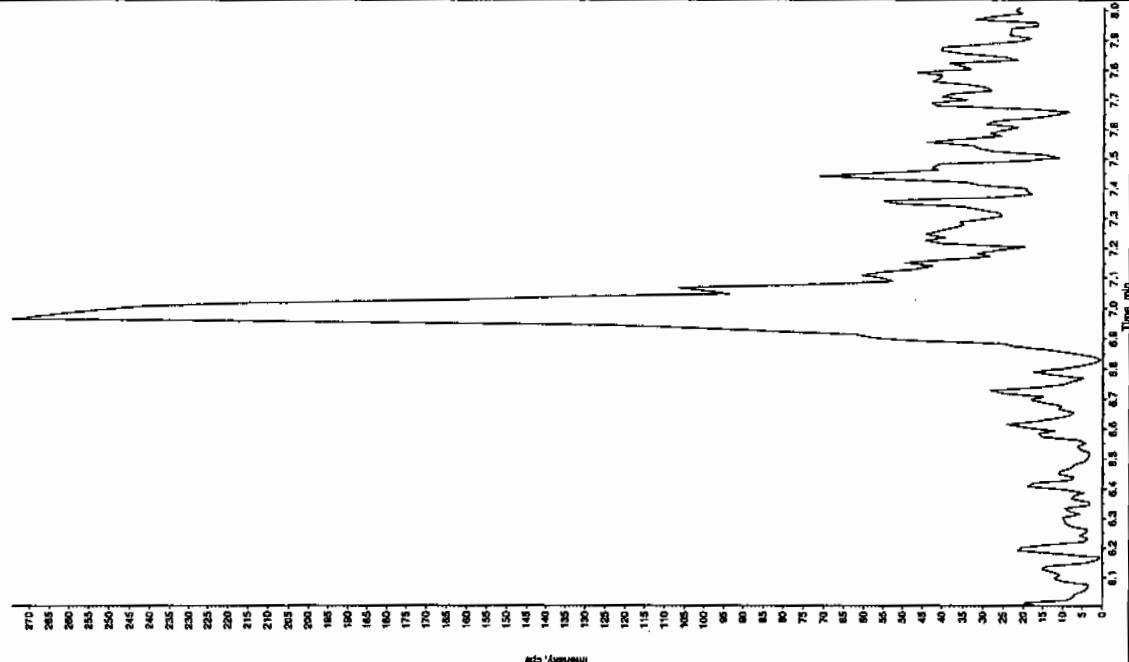
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Sample Name: "243630001" Sample ID: "937567121ER" File: "EX501100027.wif"
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 ACQ. Date: 1/11/2010
 ACQ. Time: 6:05:09 PM
 Modified: Yes



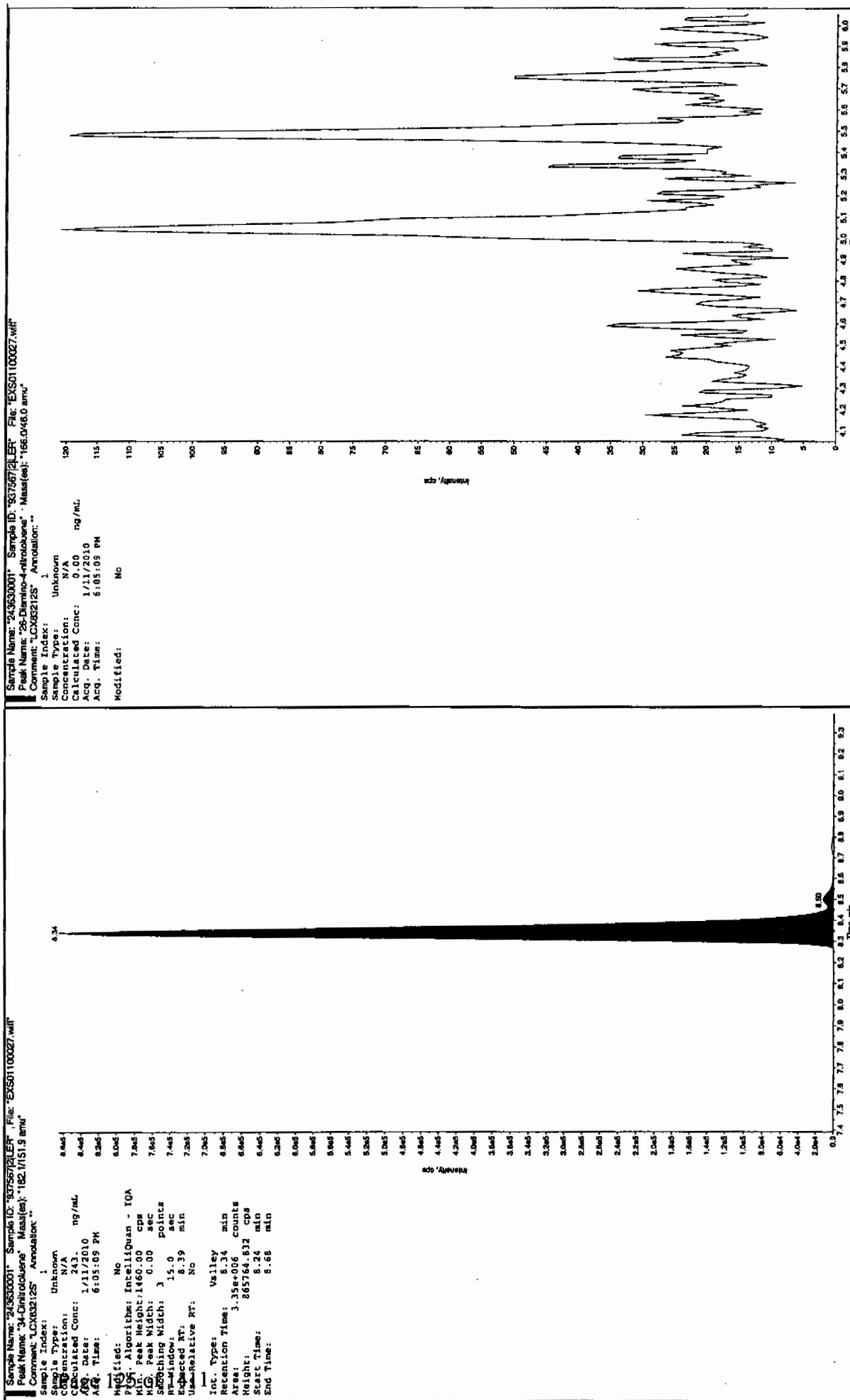
Sample Name: "243630001" Sample ID: "937567121ER" File: "EX501100027.wif"
 Peak Name: "1ATB" Mass(es): "257.2204.9 amu"
 Comment: "LCX832125" Annotation: "

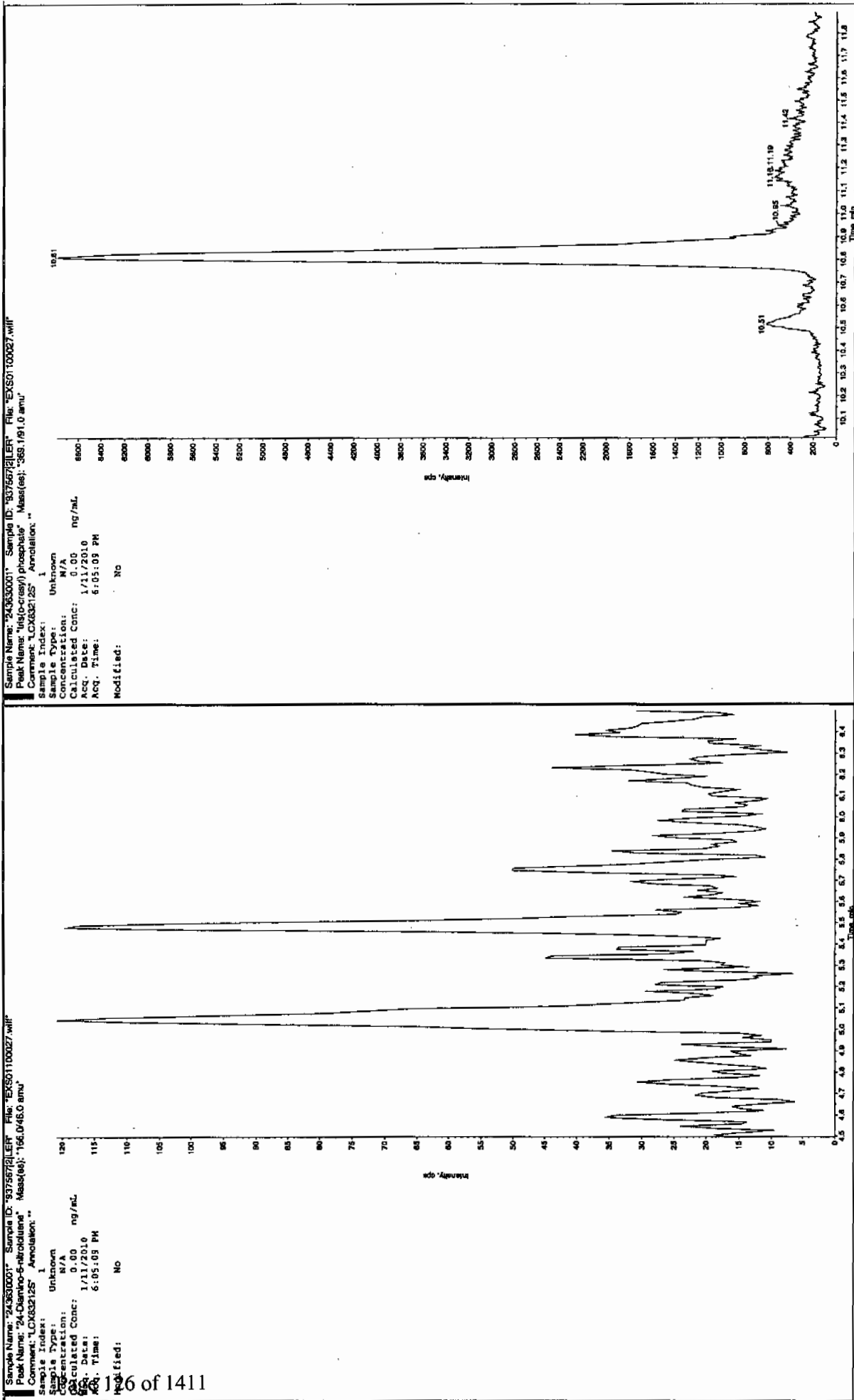
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 ACQ. Date: 1/11/2010
 ACQ. Time: 6:05:09 PM
 Modified: No



2024
 1/11/10

2024
 1/11/10





1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7663

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630002

Sample Amount 2

Moisture: 25.0

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118048a

Date Analyzed: 19-JAN-10 13:10

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

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

Dataset: C:\MASSLYNX\New_Exp\PRO1011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP\PRO1011810expA1.qld\EXP0118048a

Date: 19-Jan-2010

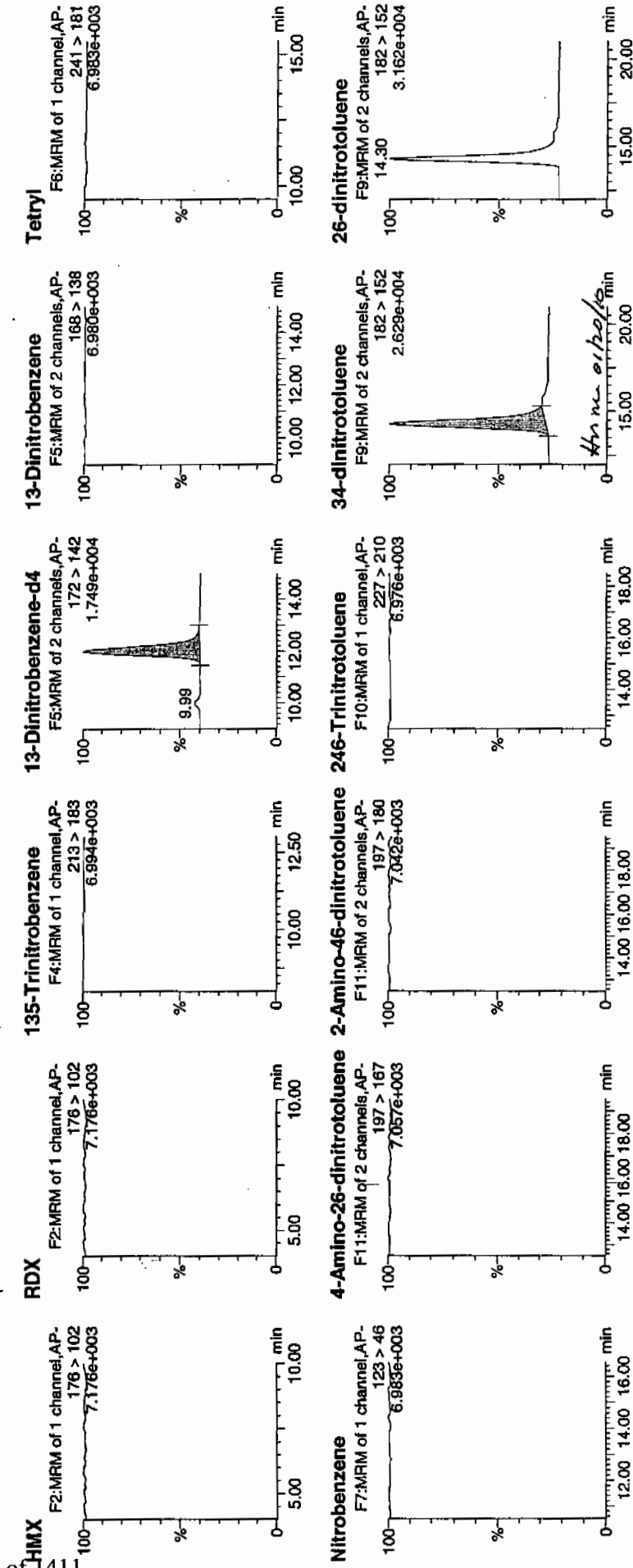
Time: 13:10:01

ID: 243630002

Vial: 2:4,F

100%
1/20/10

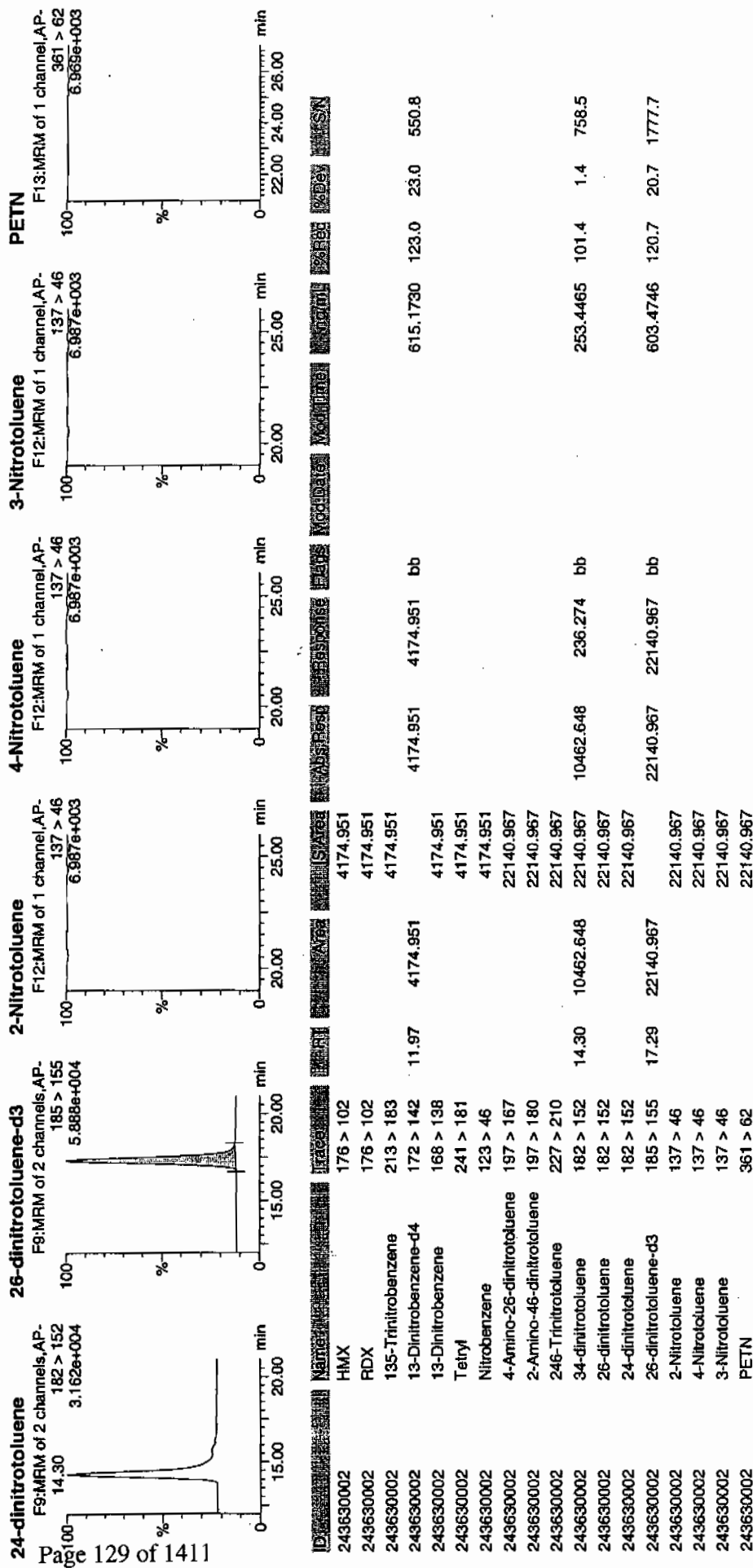
LANU 937567 / 21



Printed: Wed Jan 20 09:07:58 2010, Page 12 of 91

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

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7663

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630002

Sample Amount 2

Moisture: 25.0

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100030.wiff

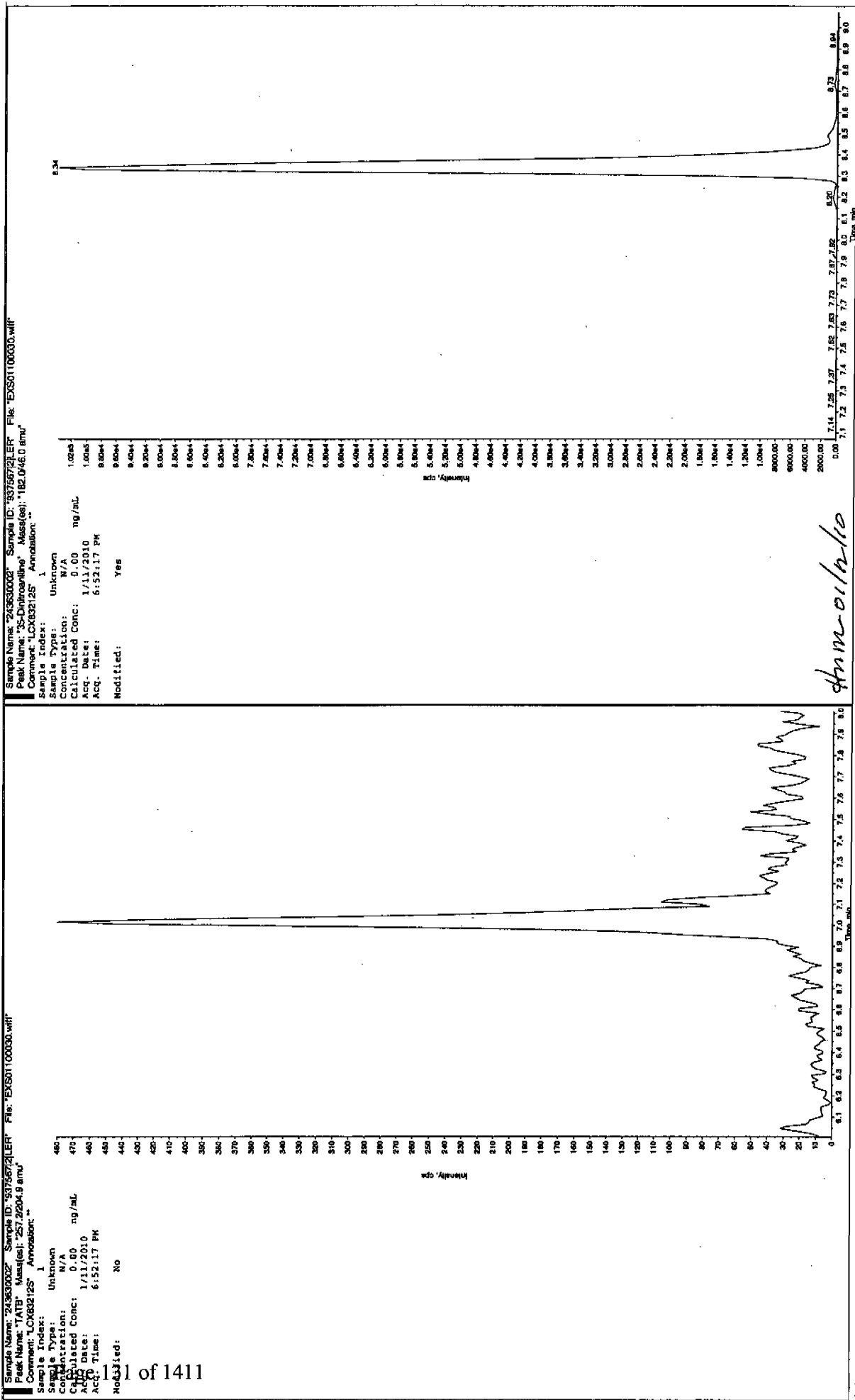
Date Analyzed: 11-JAN-10 18:52

Units: ug/kg

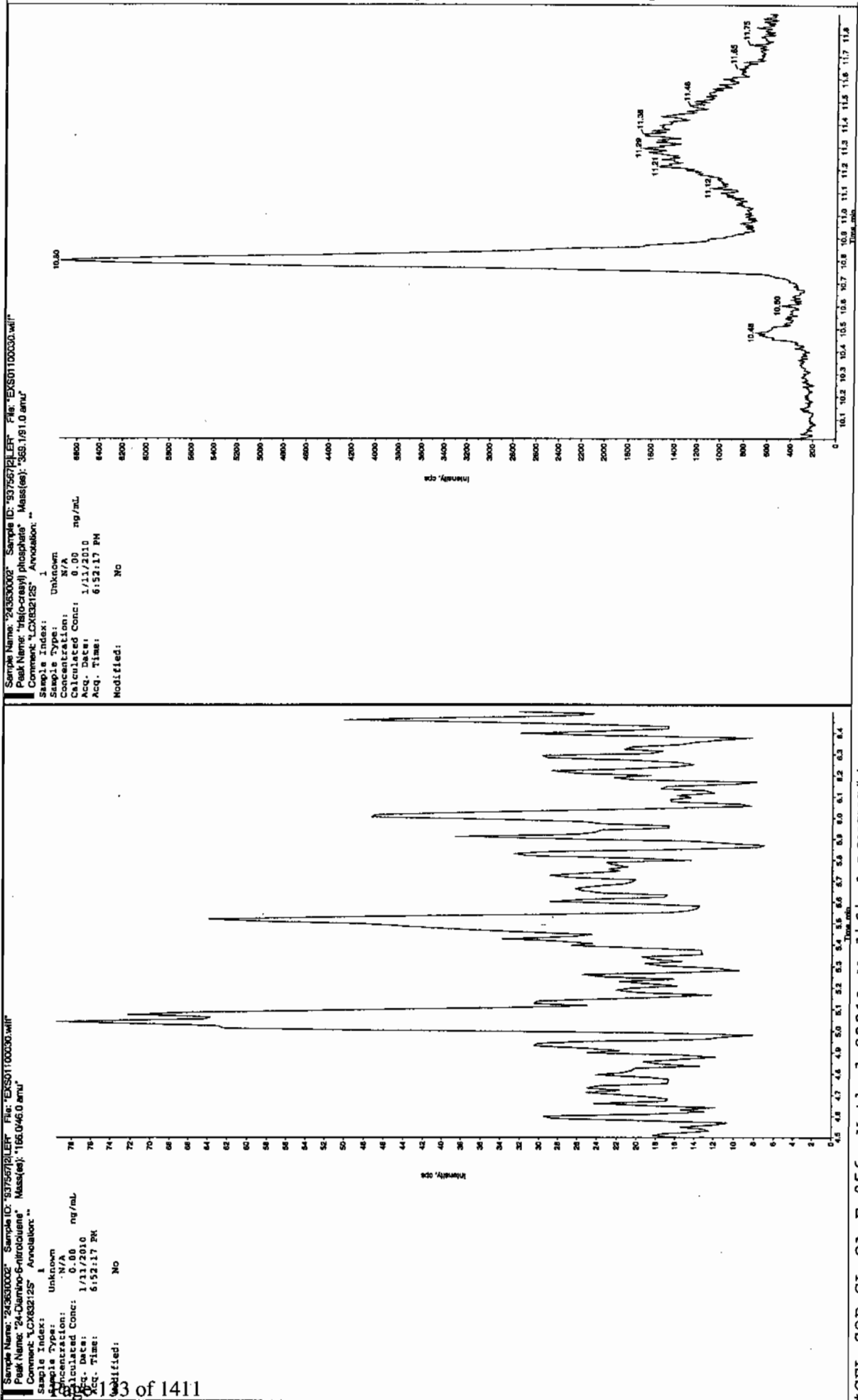
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor



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



1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7664

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630003

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118062a

Date Analyzed: 19-JAN-10 20:03

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 =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

Printed: Wed Jan 20 09:07:58 2010, Page 39 of 91

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118062a

Date: 19-Jan-2010

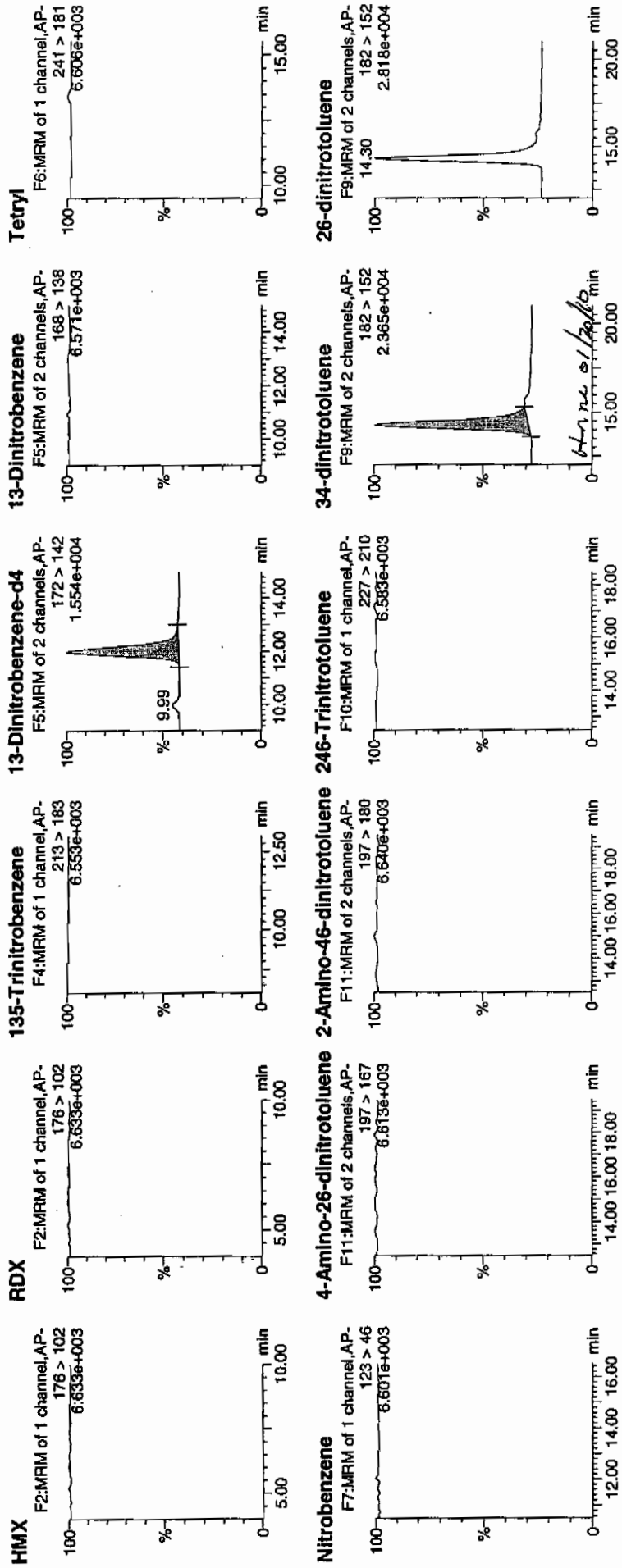
Time: 20:03:12

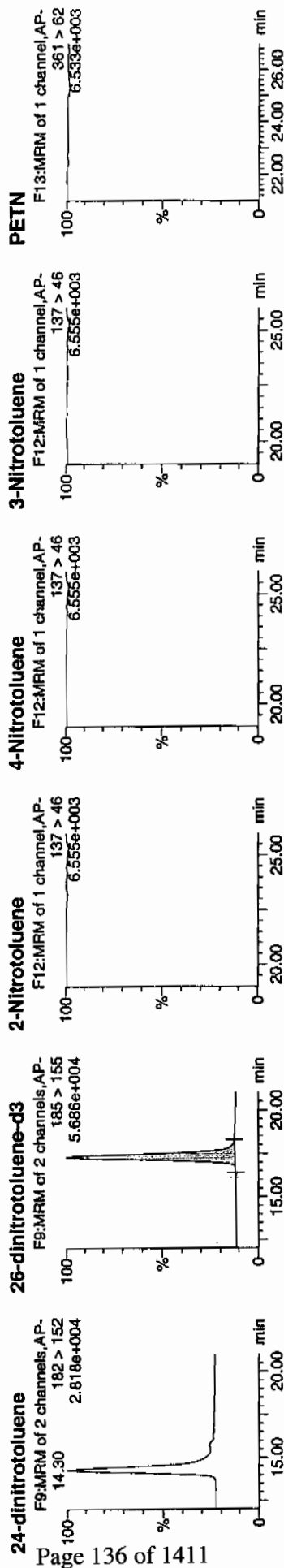
ID: 243630003

Vial: 2:5A

Handwritten: 1937567180222 / 21

Handwritten: 1/20/10





ID	Name	Trace	Area	Save	Resp	Flags	Mod Date	Mod Time	Inj Vol	% Rec	% Dev	MSN
243630003	HMx	176 > 102		3604.644								
243630003	RDX	176 > 102		3604.644								
243630003	135-Trinitrobenzene	213 > 183		3604.644								
243630003	13-Dinitrobenzene-d4	172 > 142	11.97	3604.644	bb				531.1391	106.2	6.2	200.5
243630003	13-Dinitrobenzene	168 > 138		3604.644								
243630003	Tetryl	241 > 181		3604.644								
243630003	Nitrobenzene	123 > 46		3604.644								
243630003	4-Amino-26-dinitrotoluene	197 > 167		21033.492								
243630003	2-Amino-46-dinitrotoluene	197 > 180		21033.492								
243630003	246-Trinitrotoluene	227 > 210		21033.492								
243630003	34-dinitrotoluene	182 > 152	14.30	9275.516	bb				236.5200	94.6	-5.4	401.4
243630003	26-dinitrotoluene	182 > 152		21033.492								
243630003	24-dinitrotoluene	182 > 152		21033.492								
243630003	26-dinitrotoluene-d3	185 > 155	17.29	21033.492	bb				573.2892	114.7	14.7	1201.7
243630003	2-Nitrotoluene	137 > 46		21033.492								
243630003	4-Nitrotoluene	137 > 46		21033.492								
243630003	3-Nitrotoluene	137 > 46		21033.492								
243630003	PETN	361 > 62		21033.492								

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7664

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630003

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100031.wiff

Date Analyzed: 11-JAN-10 19:08

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

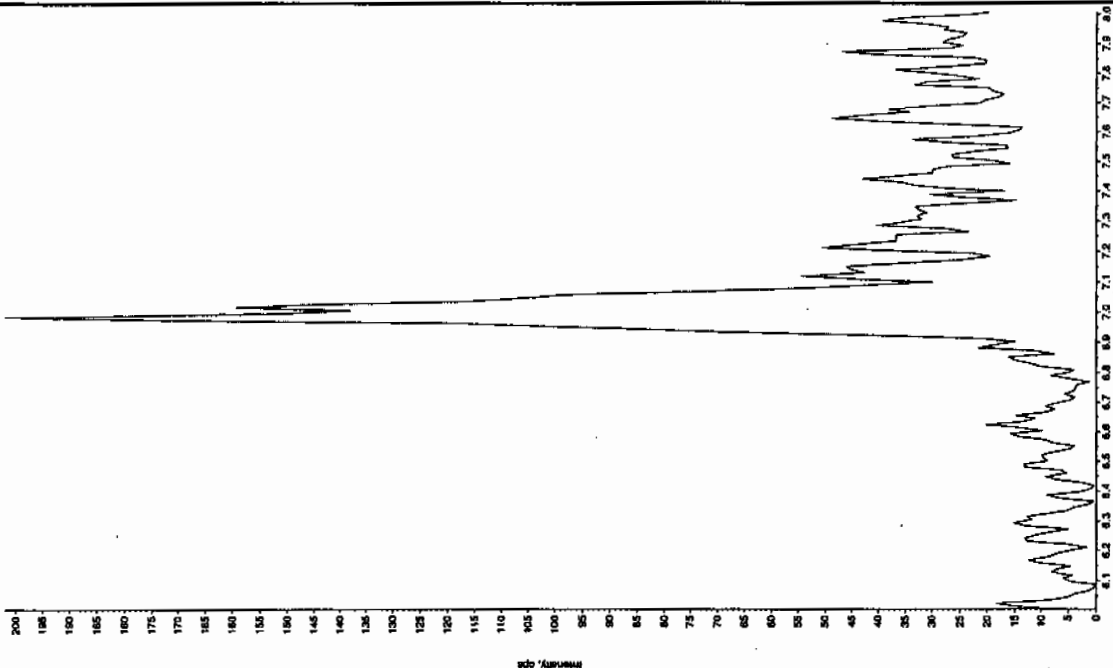
*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Sample Name: "4353003" Sample ID: "8375672" ER File: "EX50100031.wif"
 Peak Name: "35-Dichloro" Mass(es): "182.046.0 and"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:08:00 PM
 Modified: Yes

1.02e4
 1.00e4
 9.80e3
 9.60e3
 9.40e3
 9.20e3
 9.00e3
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 3.20e3
 3.00e3
 2.80e3
 2.60e3
 2.40e3
 2.20e3
 2.00e3
 1.80e3
 1.60e3
 1.40e3
 1.20e3
 1.00e3
 800.00
 600.00
 400.00
 200.00



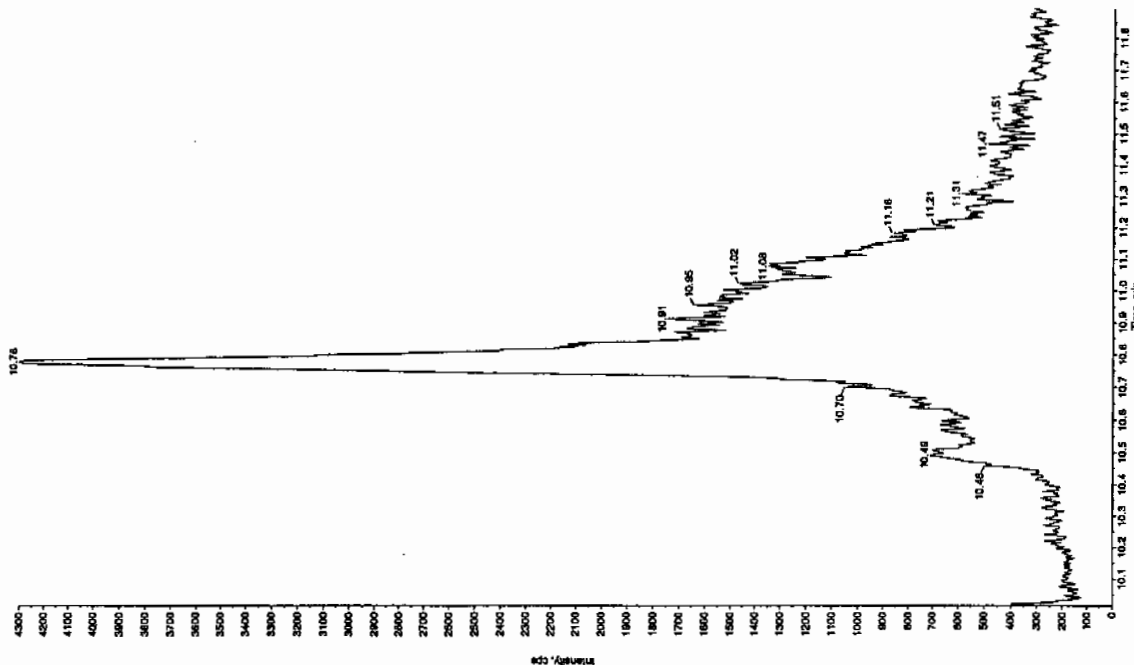
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:08:00 PM
 Modified: No

Handwritten: 4353003



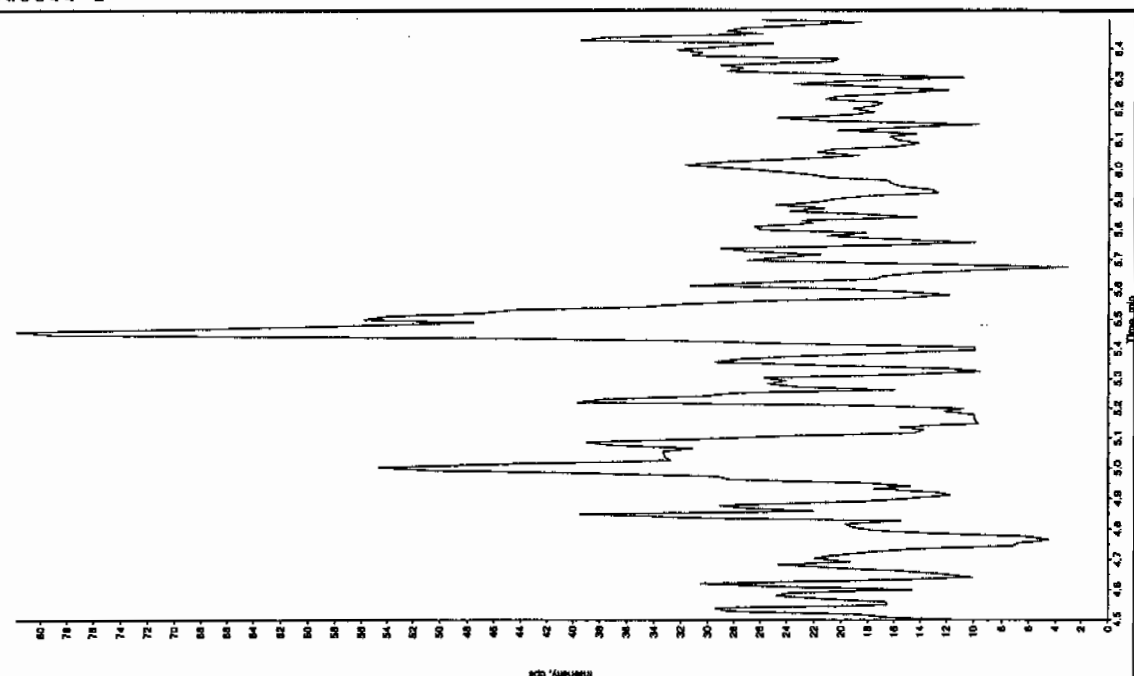
Sample Name: "24530003" Sample ID: "93756721ER" File: "EXS01100031.wif"
 Peak Name: "Mid-(cross) phosphate" Mass(es): "369.191.0 amu"
 Comment: "LCX83212S" Acquisition: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:08:00 PM
 Modified: No



Sample Name: "24530003" Sample ID: "93756721ER" File: "EXS01100031.wif"
 Peak Name: "24-Diamino-5-nitrothiophene" Mass(es): "166.046.0 amu"
 Comment: "LCX83212S" Acquisition: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:08:00 PM
 Modified: No



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7672

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630004

Sample Amount 2

Moisture: 11.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118050a

Date Analyzed: 19-JAN-10 14:08

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Printed: Wed Jan 20 09:07:58 2010, Page 15 of 91

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

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118050a

Date: 19-Jan-2010

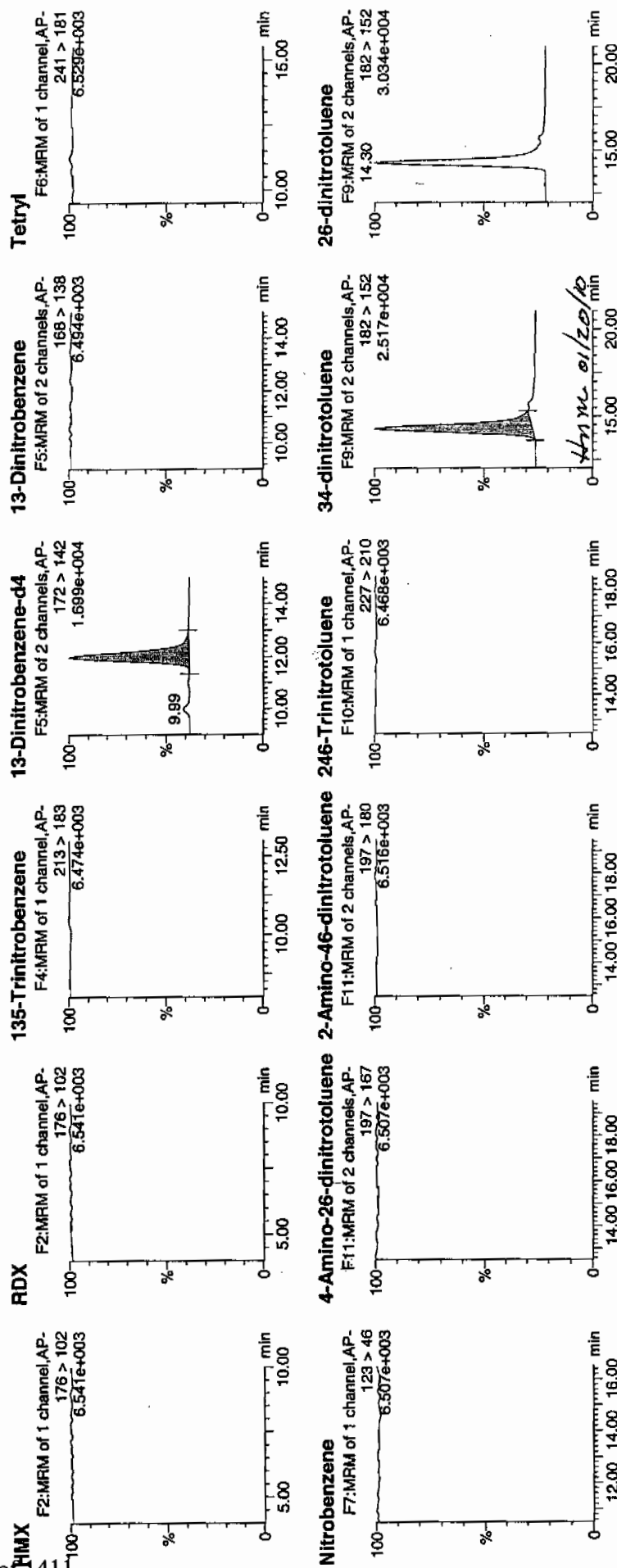
Time: 14:08:59

ID: 243630004

Vial: 2:5,B

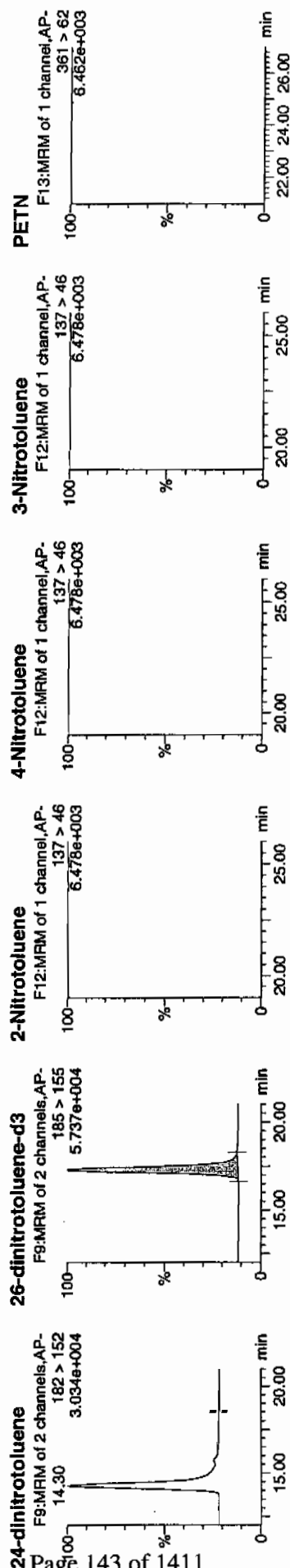
not
1/20/10

LANV 937527 / 8033 / 21



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

Dataset: C:\MASSLYNX\New_Exp\PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Area	Height	Width	Retention Time (min)	Mass Ratio	Label
243630004	HMX	176	102		4176.247		
243630004	RDX	176	102		4176.247		
243630004	135-Trinitrobenzene	213	183		4176.247		
243630004	13-Dinitrobenzene-d4	172	142		4176.247		
243630004	13-Dinitrobenzene	168	138		4176.247		
243630004	Tetryl	241	181		4176.247		
243630004	Nitrobenzene	123	46		4176.247		
243630004	4-Amino-26-dinitrotoluene	197	167		21579.689		
243630004	2-Amino-46-dinitrotoluene	197	180		21579.689		
243630004	246-Trinitrotoluene	227	210		21579.689		
243630004	34-dinitrotoluene	182	152		21579.689		
243630004	26-dinitrotoluene	182	152		21579.689		
243630004	24-dinitrotoluene	182	152		21579.689		
243630004	26-dinitrotoluene-d3	185	155		21579.689		
243630004	2-Nitrotoluene	137	46		21579.689		
243630004	4-Nitrotoluene	137	46		21579.689		
243630004	3-Nitrotoluene	137	46		21579.689		
243630004	PETN	361	62		21579.689		

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7672

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630004

Sample Amount 2

Moisture: 11.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100032.wiff

Date Analyzed: 11-JAN-10 19:23

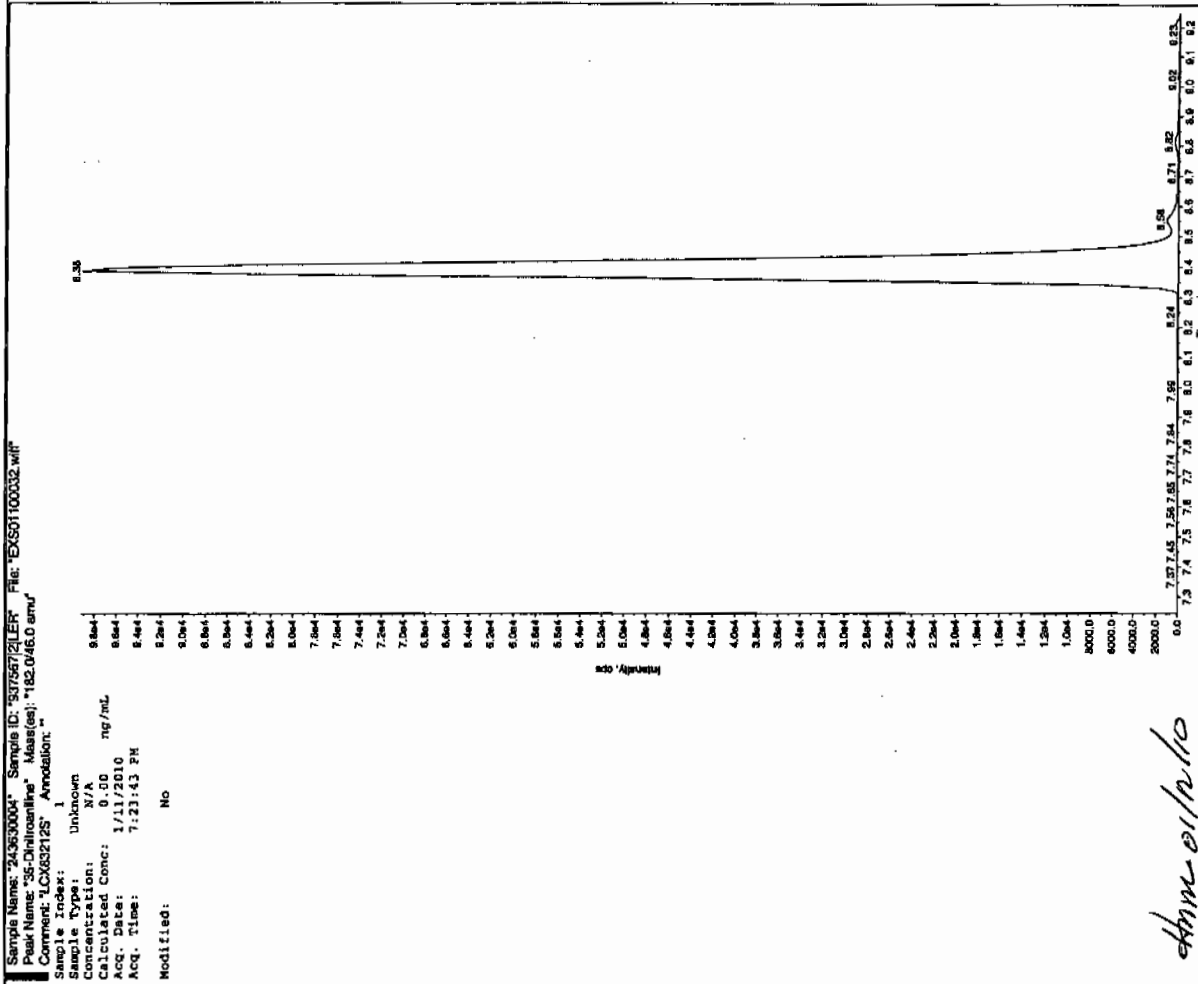
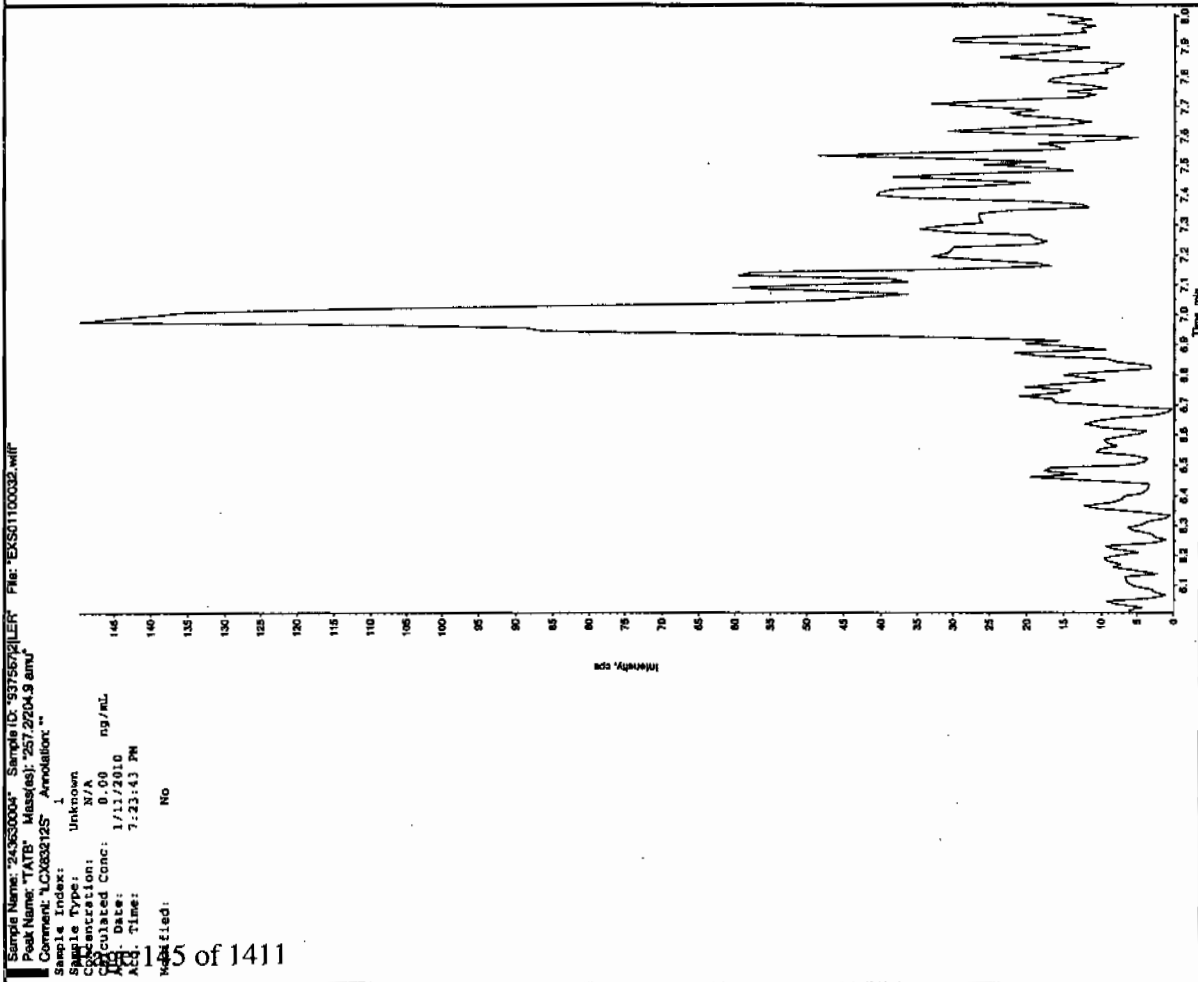
Units: ug/kg

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

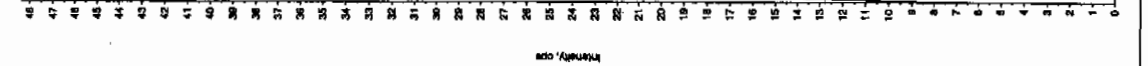
01/11/10
202



01/11/10
202

Sample Name: "243630004" Sample ID: "93756721ER" File: "EXS01100032.wif"
 Peak Name: "26-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: ""

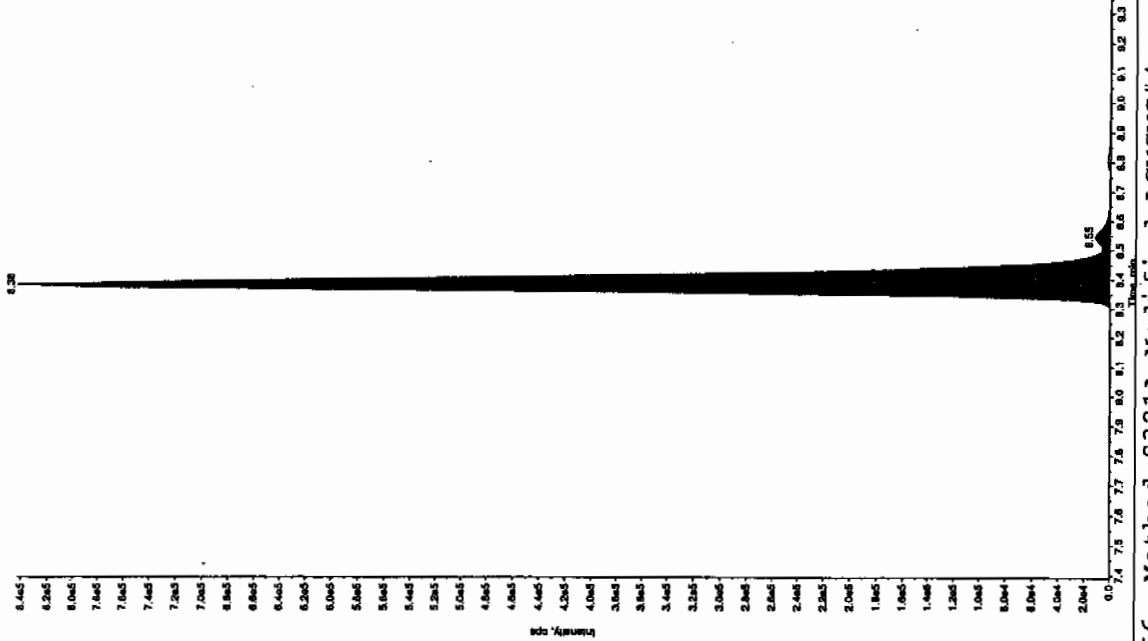
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:23:43 PM
 Modified: No

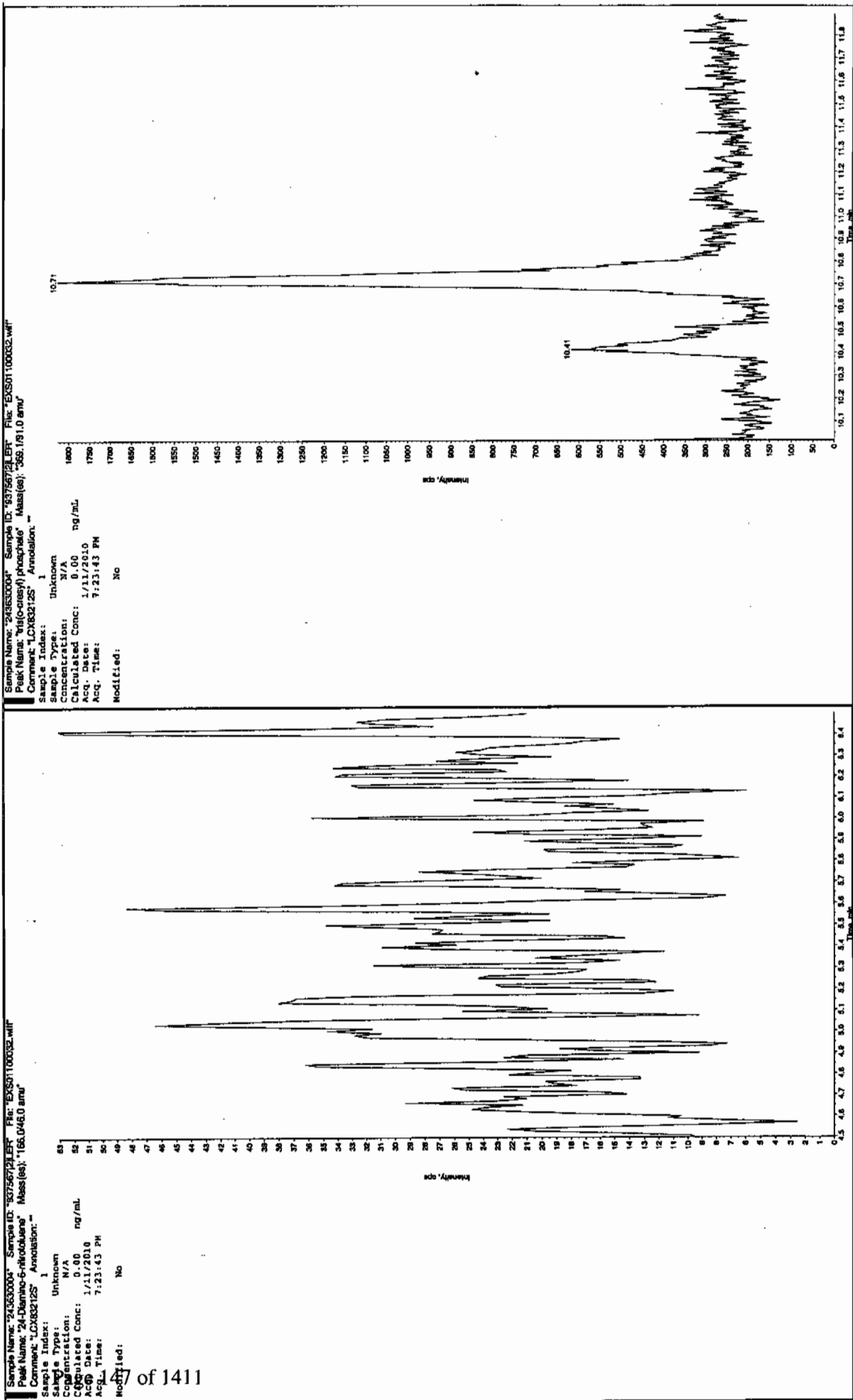


Sample Name: "243630004" Sample ID: "93756721ER" File: "EXS01100032.wif"
 Peak Name: "34-Ontofluorene" Mass(es): "182.1715.9 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 229. ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:23:43 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: 8.39 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 8.38 min
 Area: 3.17e+006 counts
 Height: 842936.232 cps
 Start Time: 8.27 min
 End Time: 8.68 min





1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7667

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630005

Sample Amount 2

Moisture: 17.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118051a

Date Analyzed: 19-JAN-10 14:38

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Printed: Wed Jan 20 09:07:58 2010, Page 17 of 91

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

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118051a

Date: 19-Jan-2010

Time: 14:38:33

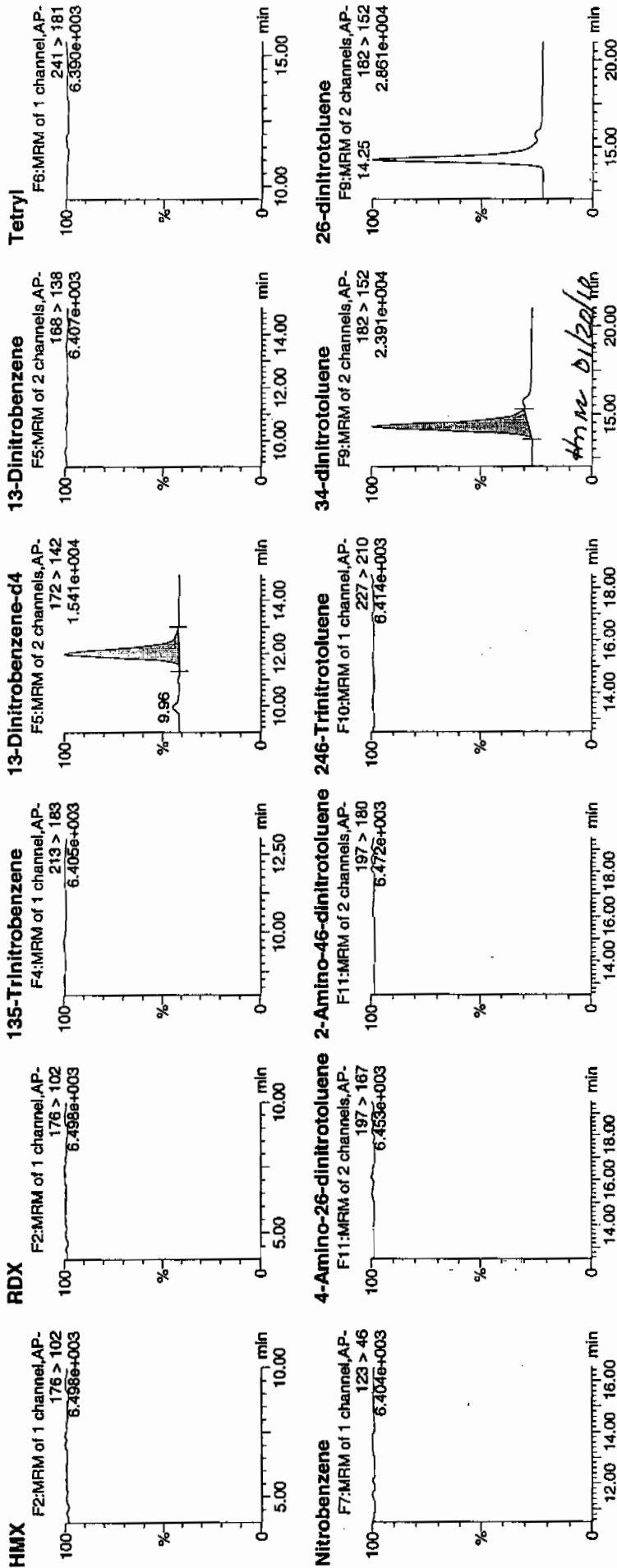
ID: 243630005

Vial: 2:5,C

1/23/10

WAV 937567 / 8022 / 21

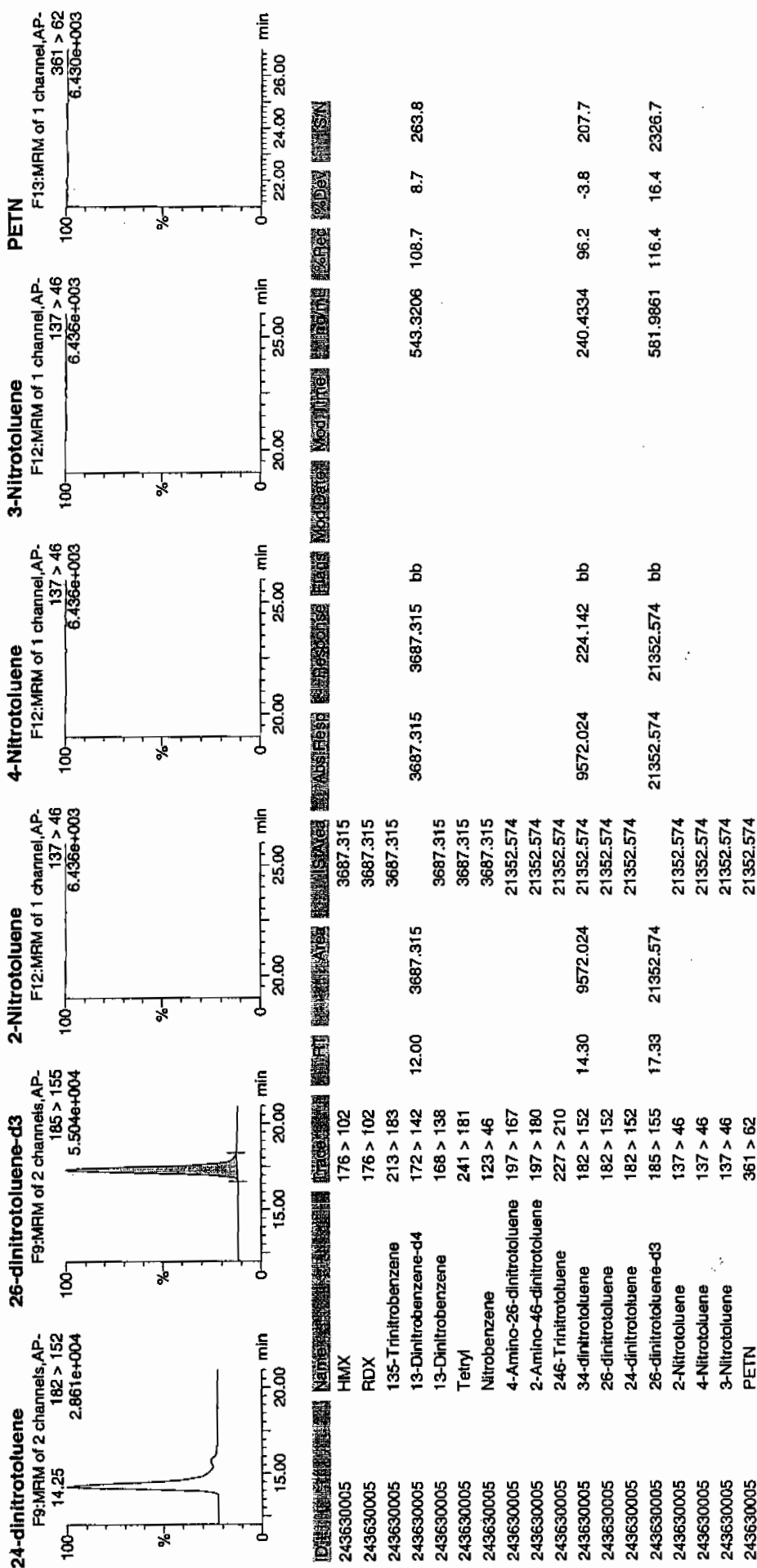
Page 149 of 1411



Printed: Wed Jan 20 09:07:58 2010, Page 18 of 91

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7667

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630005

Sample Amount 2

Moisture: 17.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100033.wiff

Date Analyzed: 11-JAN-10 19:39

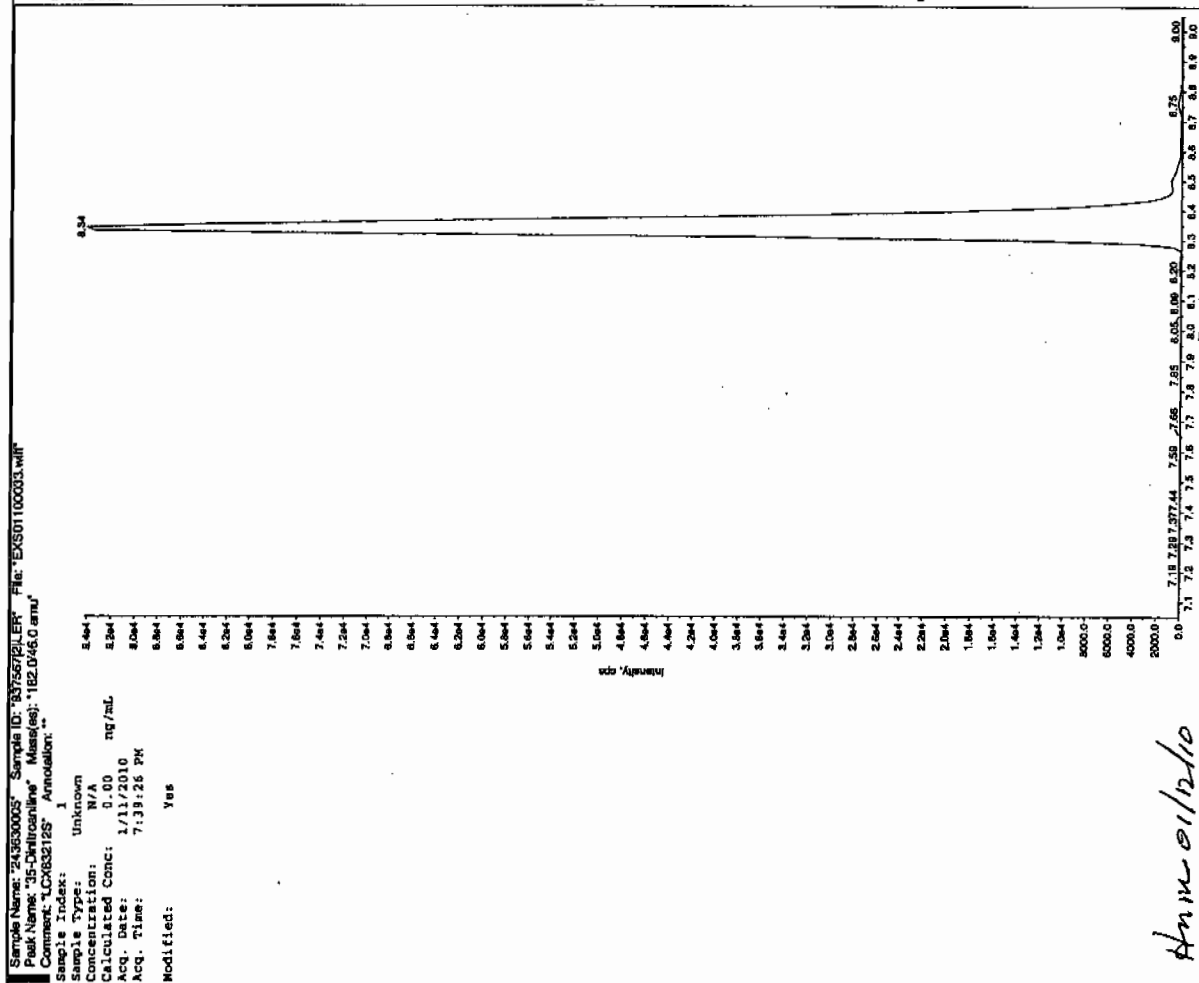
Units: ug/kg

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

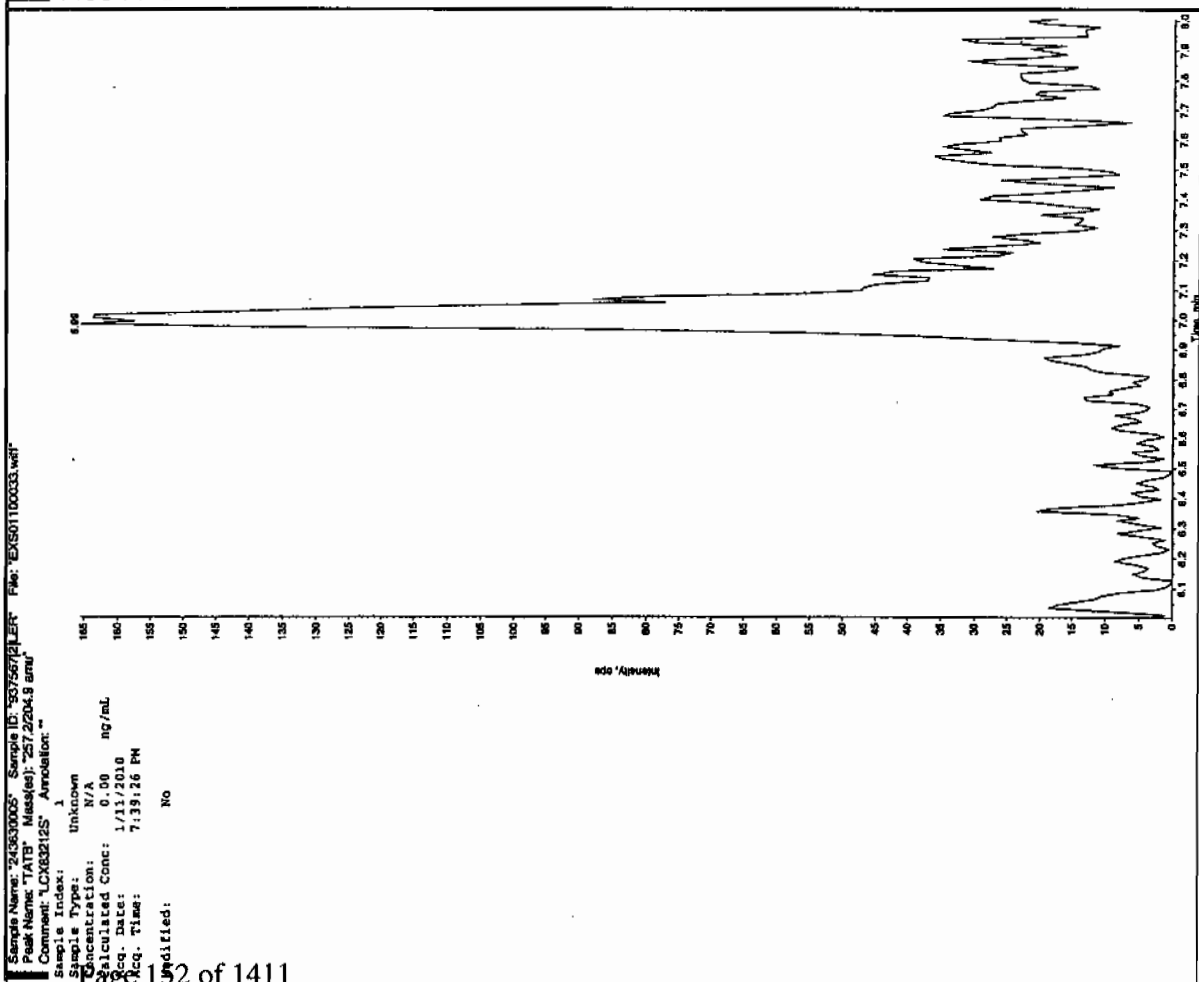
*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

01/12/10
JCH

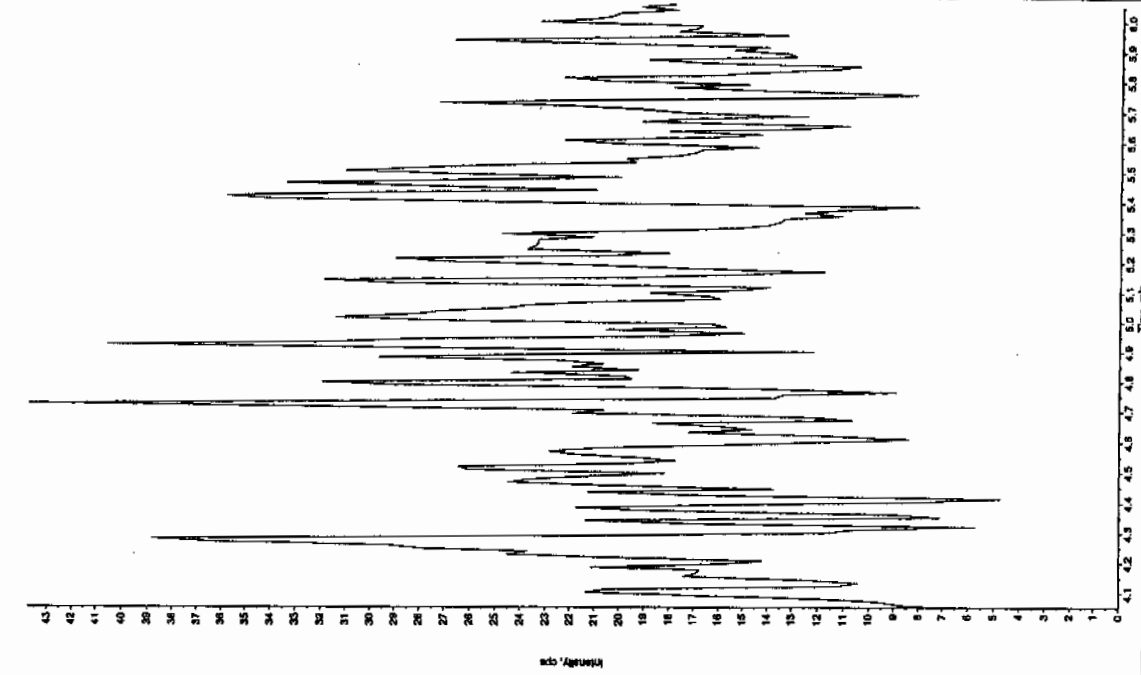


Ann 01/12/10



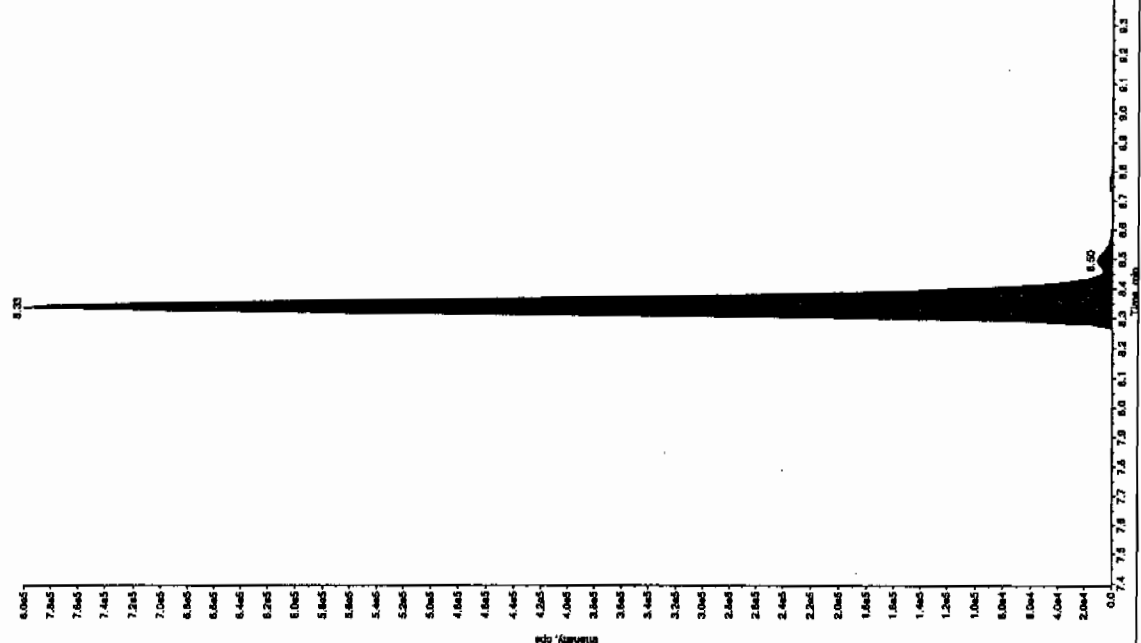
Sample Name: 243530005 Sample ID: 93756721LRF File: EX501100033.wif
Peak Name: 26-Dimino-4-nitrobenzene Mass(es): 166.0460 amu
Comment: LCX832125 Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 7:39:26 PM
Modified: No



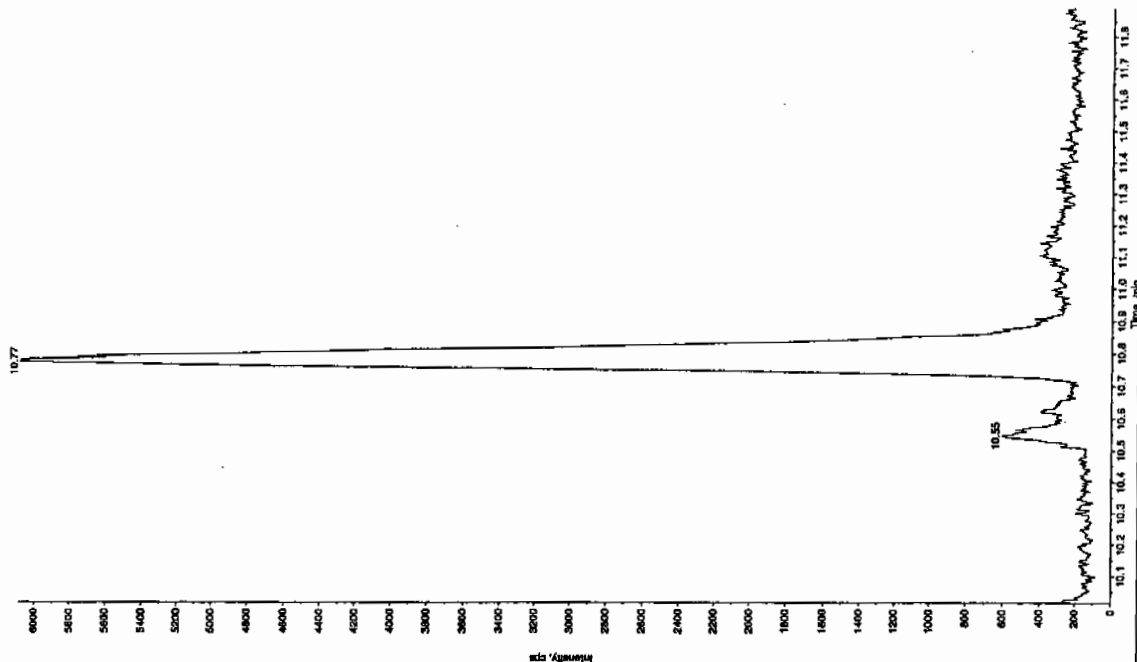
Sample Name: 243530005 Sample ID: 93756721LRF File: EX501100033.wif
Peak Name: 34-Dinitrobenzene Mass(es): 182.11519 amu
Comment: LCX832125 Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 233. ng/mL
Acq. Date: 1/11/2010
Acq. Time: 7:39:26 PM
Modified: No
Proc. Algorithm: IntelliQuan - IOA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3.00 points
RT Window: 15.0 sec
Expected RT: 8.39 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 8.13 min
Area: 3.22e+006 counts
Height: 801093.445 cps
Start Time: 8.23 min
End Time: 8.68 min



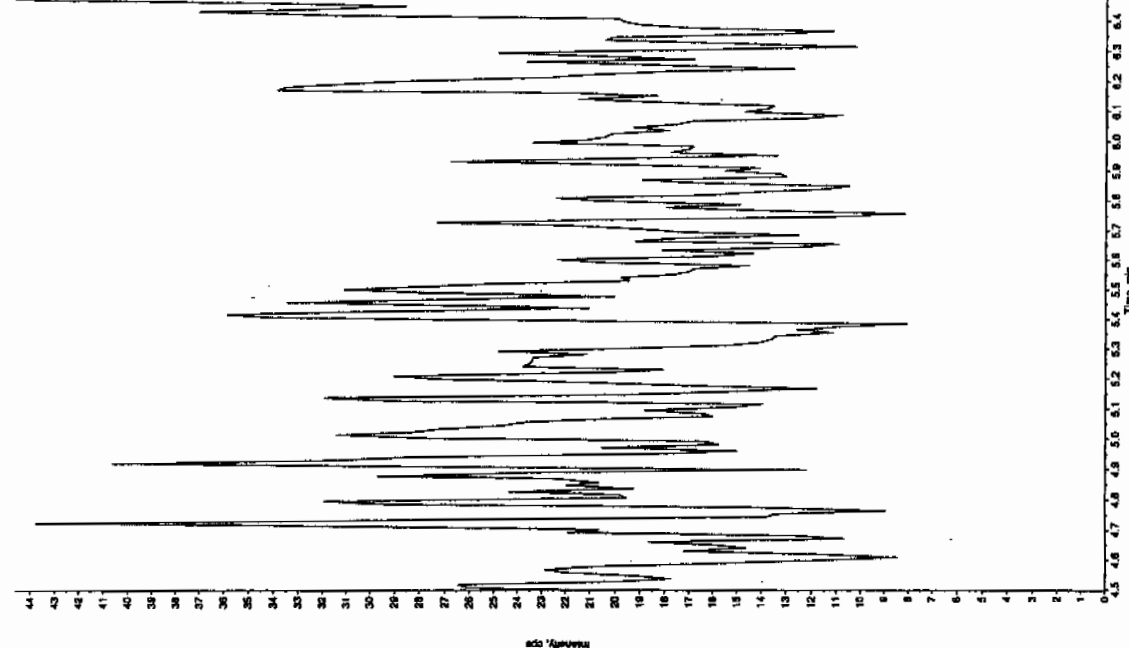
Sample Name: "243630005" Sample ID: "33756721" File: "EXS01100033.wif"
 Peak Name: "bis(o-cresyl) phosphite" Mass(es): "359.151.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:39:26 PM
 Modified: No



Sample Name: "243630005" Sample ID: "33756721" File: "EXS01100033.wif"
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:39:26 PM
 Modified: No



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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7666

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630006

Sample Amount 2

Moisture: 10.6

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118052a

Date Analyzed: 19-JAN-10 15:08

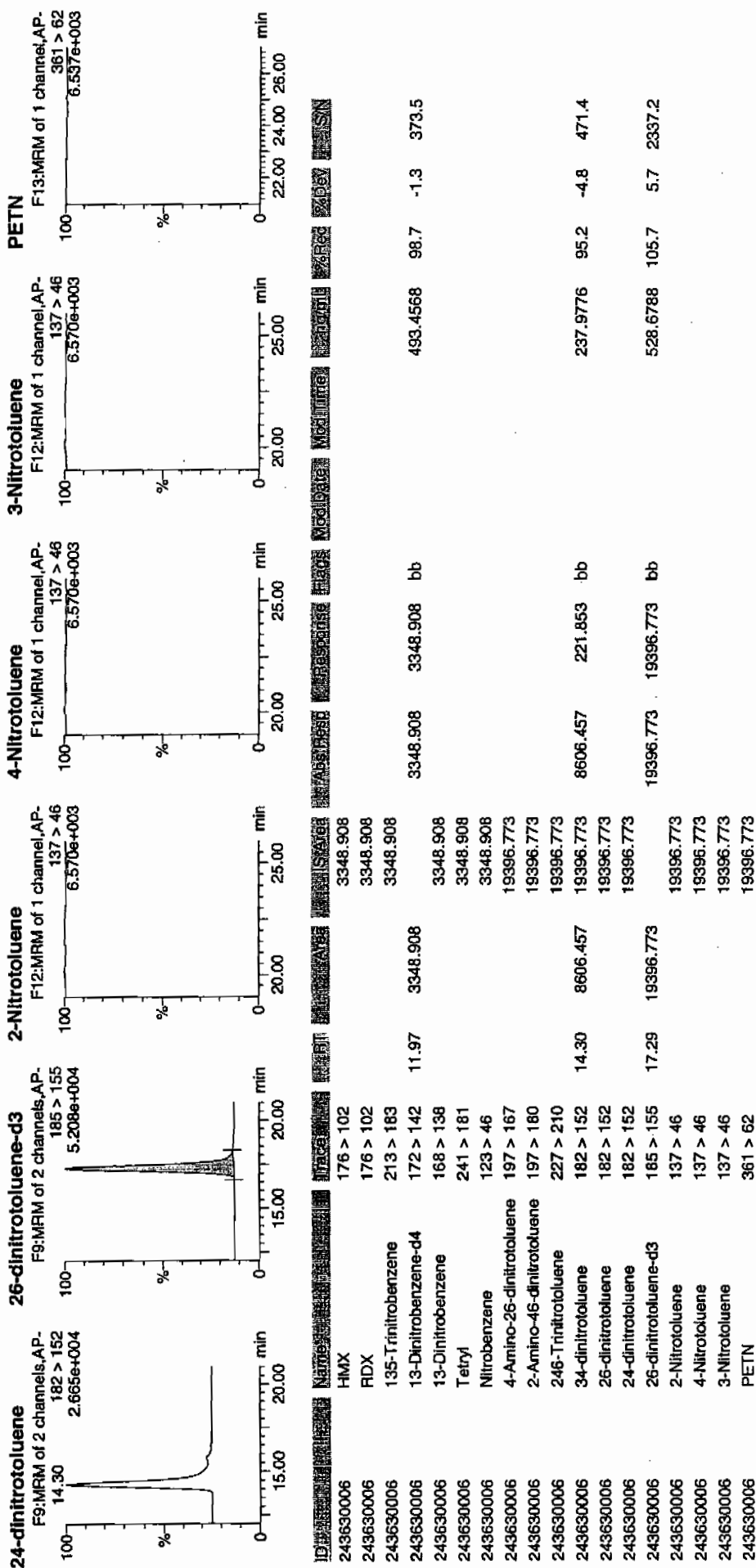
Units: ug/kg

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Dataset: C:\MASSLYN\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7666

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630006

Sample Amount 2

Moisture: 10.6

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100034.wiff

Date Analyzed: 11-JAN-10 19:55

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

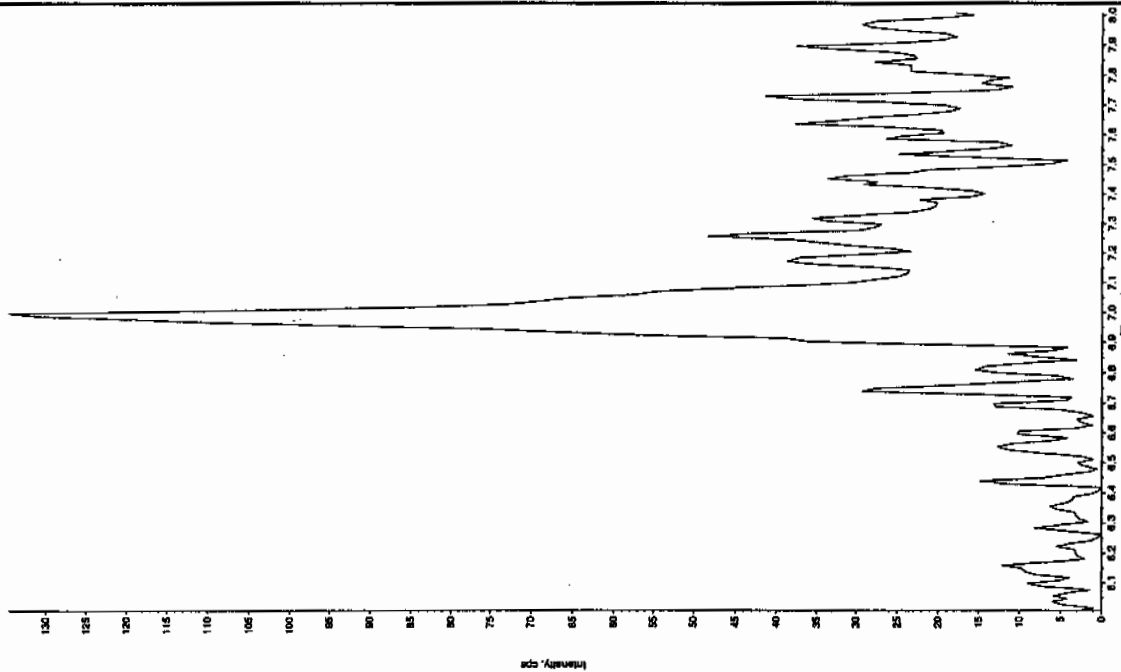
*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

0.00
0.00
0.00

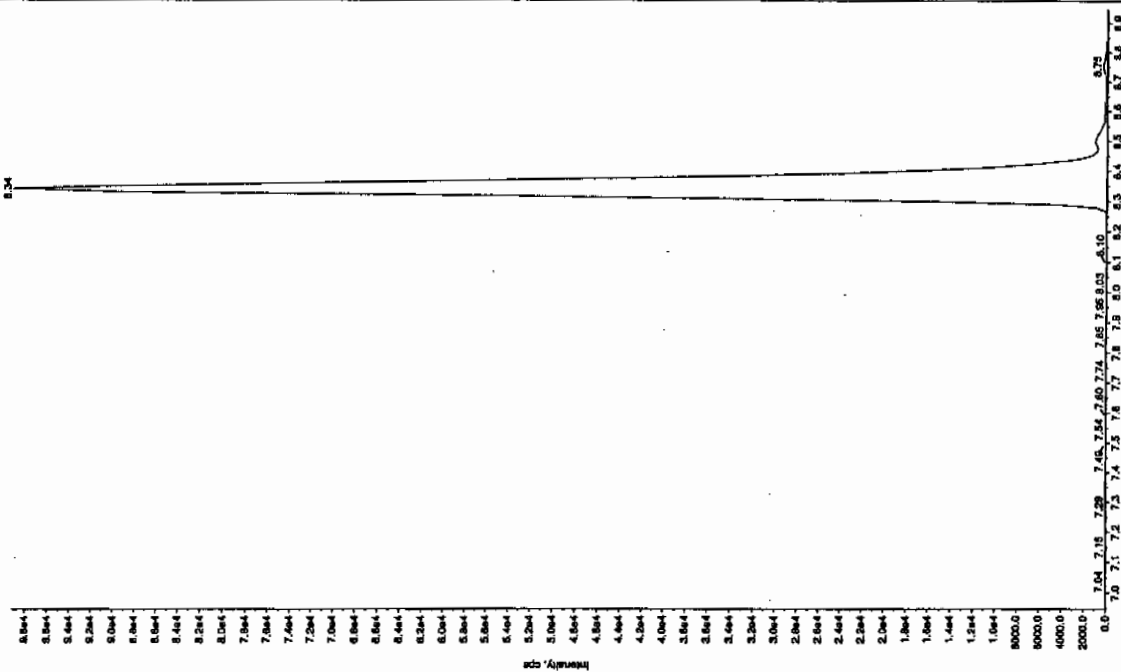
Sample Name: "243630006" Sample ID: "93766721" File: "EXS01100004.wif"
Peak Name: "ATB" Mass(es): 237.2204.9 and
Comment: "LC/MS2125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: 0.00 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 7:55:09 PM
Modified: No



Sample Name: "243630006" Sample ID: "93766721" File: "EXS01100004.wif"
Peak Name: "35-Chlorotrimine" Mass(es): 182.0460.0 and
Comment: "LC/MS2125" Annotation: ""

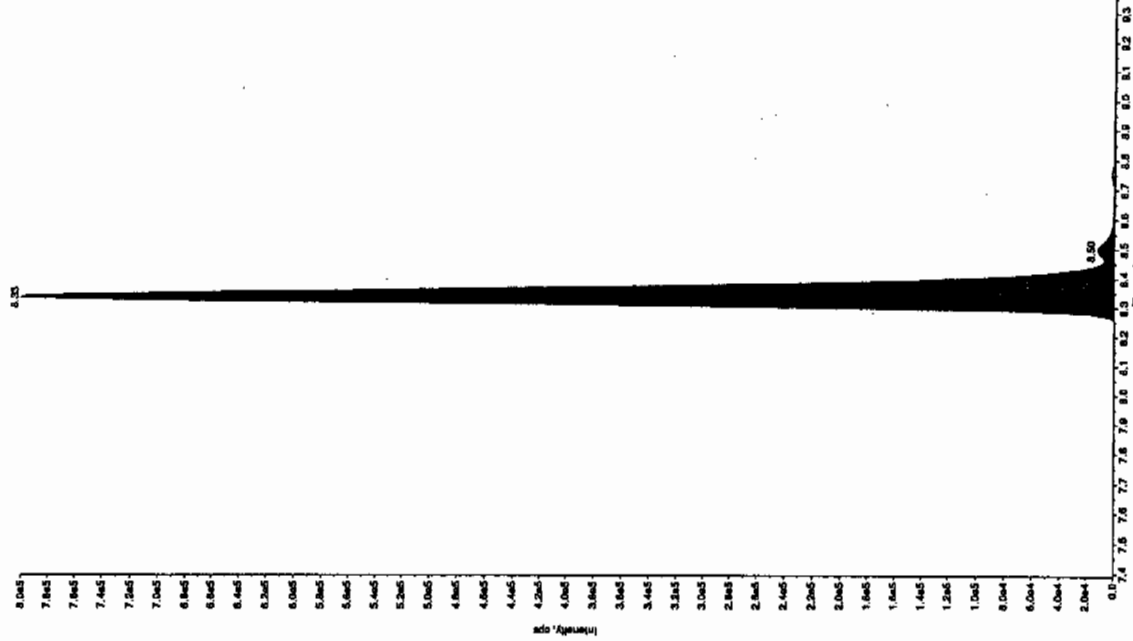
Sample Index: 1
Sample Type: Unknown
Concentration: 0.00 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 7:55:09 PM
Modified: Yes



Time 6.1/6.10

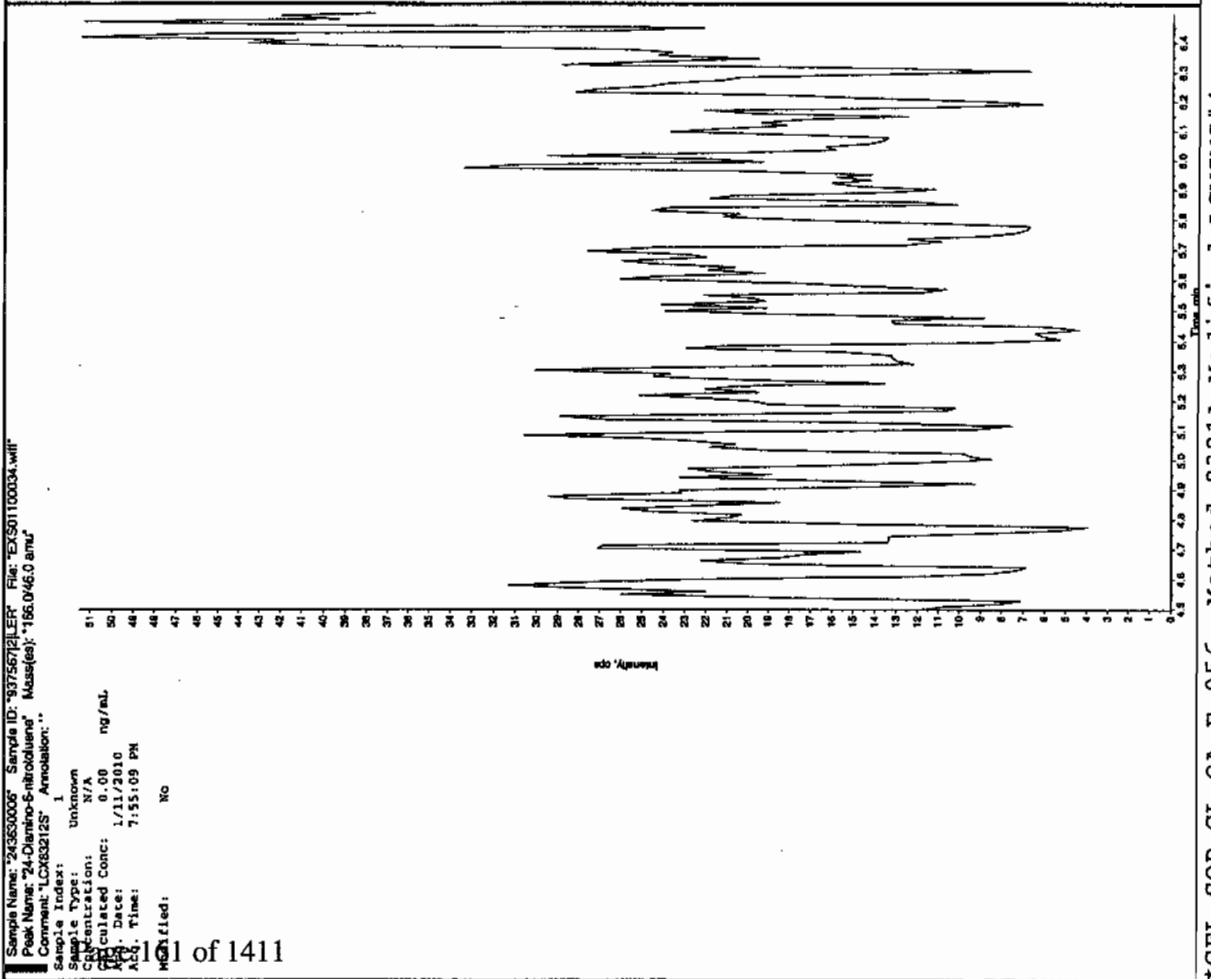
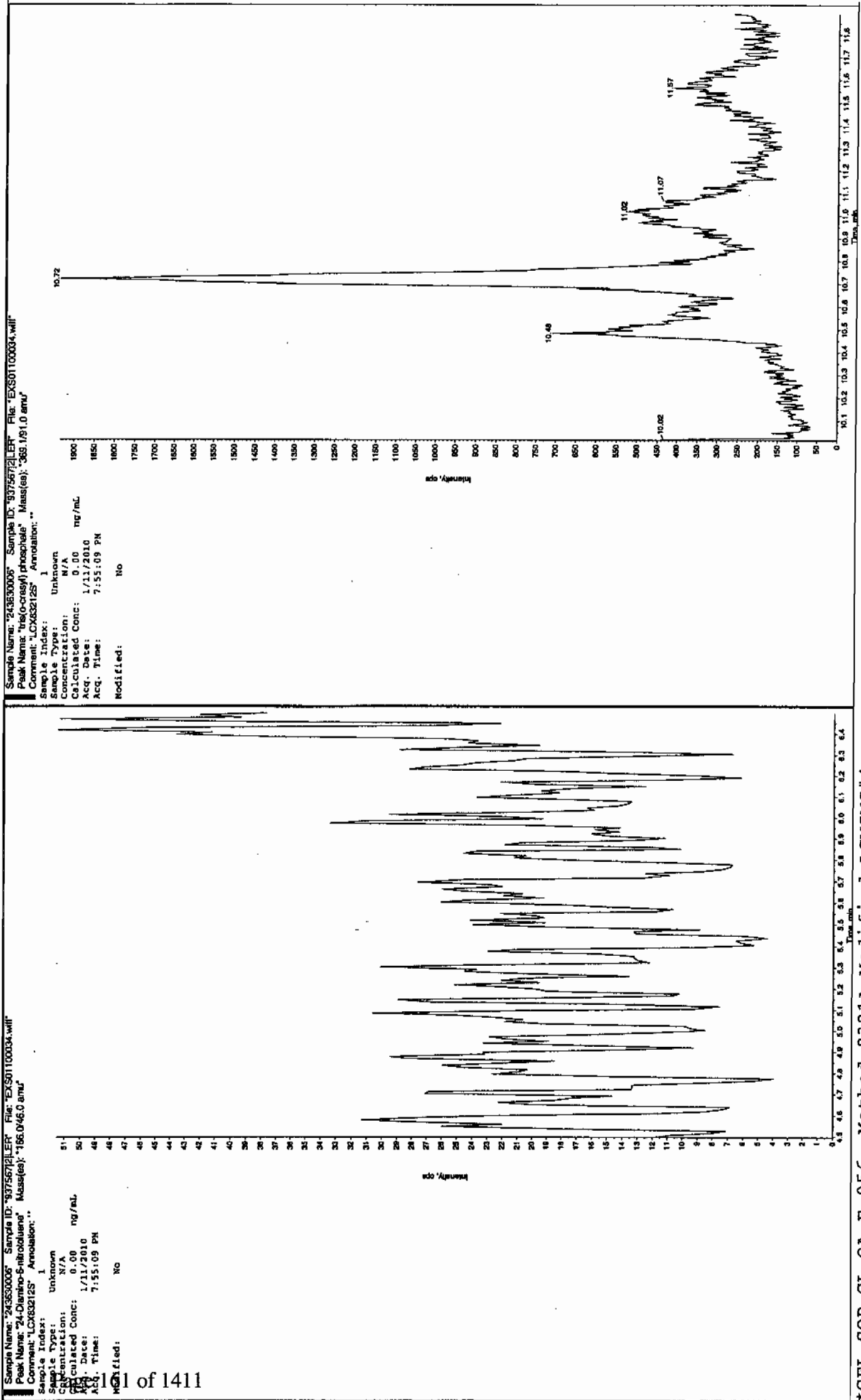
Sample Name: "243630005" Sample ID: "93756721ER" File: "EXS01100034.wif"
 Peak Name: "25-Diamino-4-ribitolamine" Mass(es): "166.046.0 amu"
 Comment: "LCMS8212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:55:09 PM
 Modified: No



Sample Name: "243630005" Sample ID: "93756721ER" File: "EXS01100034.wif"
 Peak Name: "34-Diaminobutane" Mass(es): "182.151.9 amu"
 Comment: "LCMS8212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 236. ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 7:55:09 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOL
 Min. Peak Width: 160.00 cps
 Max. Peak Width: 8.00 sec
 Sample Width: 3 points
 RT Window: 15.0 sec
 Expected RT: 8.39 min
 Gas Relative RT: No
 Int. Type: Valley
 Retention Time: 8.33 min
 Area: 3.27e+006 counts
 Height: 800556.519 cps
 Start Time: 8.24 min
 End Time: 8.67 min



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

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7665

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630007

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118056a

Date Analyzed: 19-JAN-10 17:06

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Printed: Wed Jan 20 09:07:58 2010, Page 27 of 91

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

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118056a

Date: 19-Jan-2010

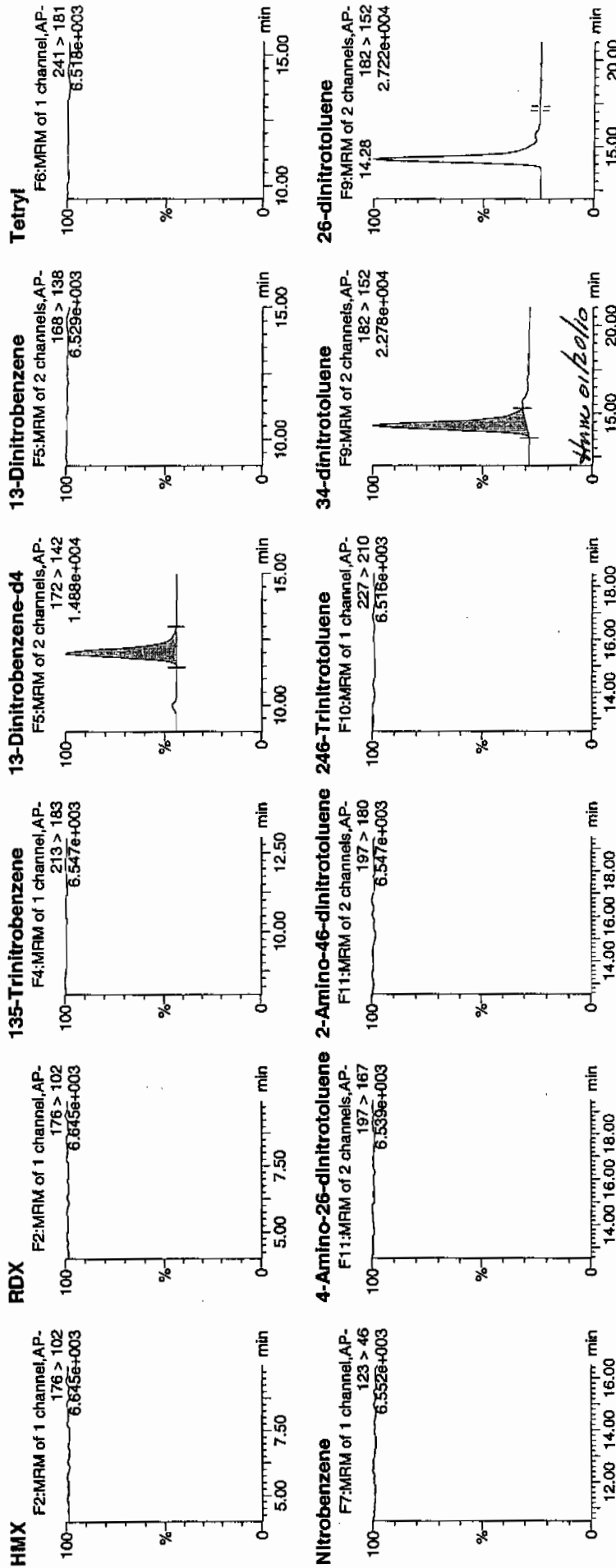
Time: 17:06:12

ID: 243630007

Vial: 2:5,E

1/25/10

1937567/8025/121

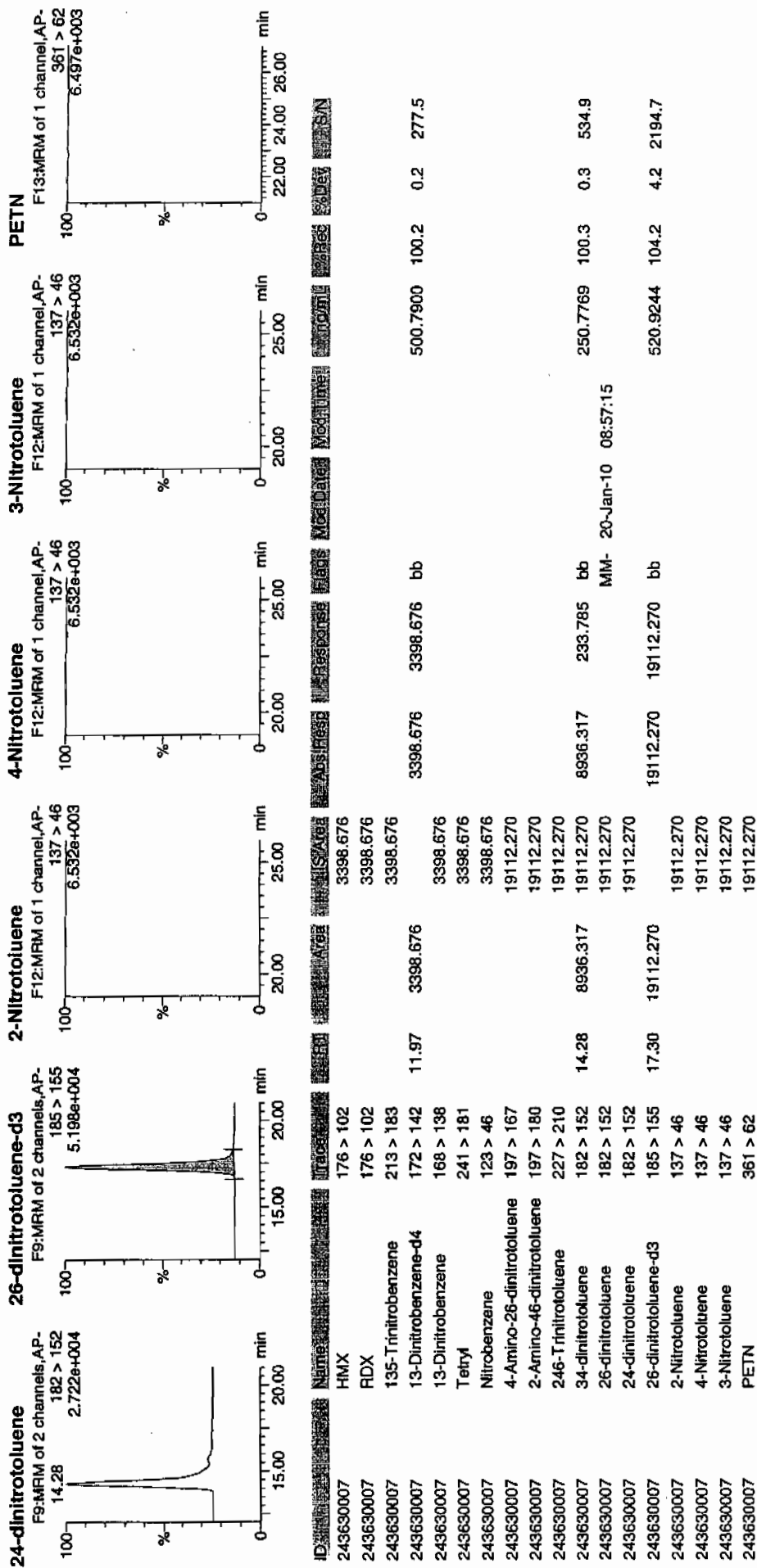


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Wed Jan 20 09:07:58 2010, Page 28 of 91

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7665

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630007

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100038.wiff

Date Analyzed: 11-JAN-10 20:57

Units: ug/kg

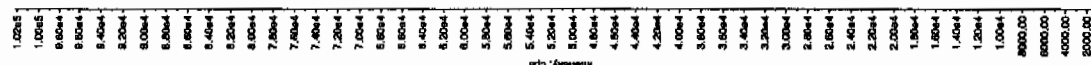
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

Sample Name: 24350007 Sample ID: 93756721.ER File: EXS01100038.wif
 Peak Name: 35-Dinitroanisole Mass(es): 182.046.0 amu
 Comment: LCX832125 Annotation: 1

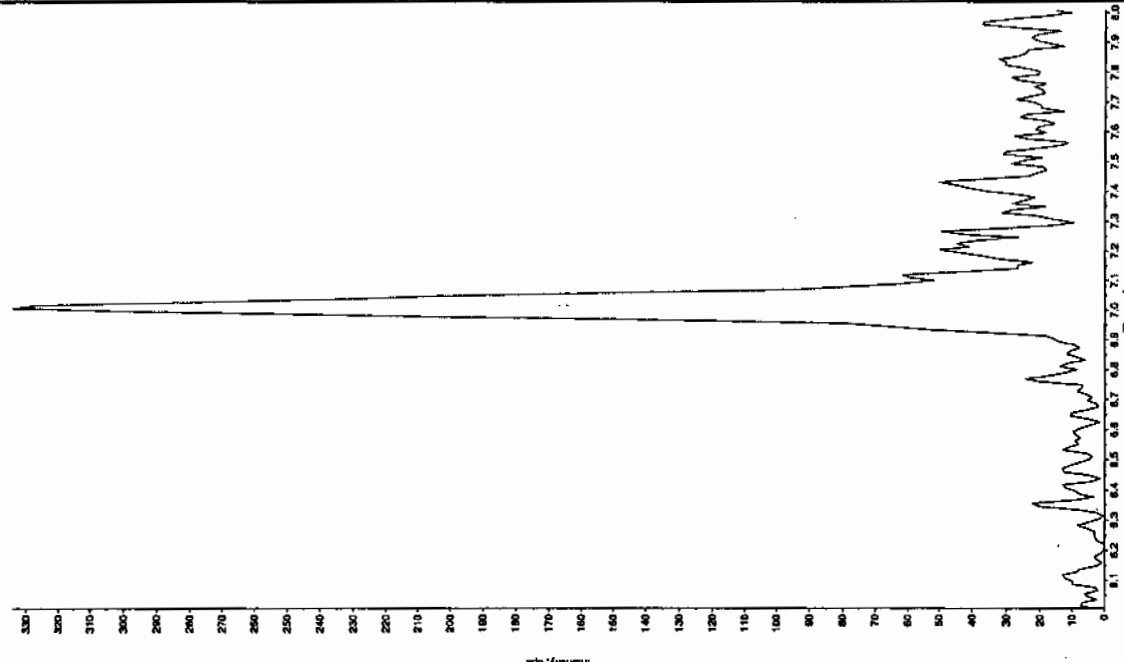
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 1.0 ng/mL
 Acq. Date: 1/13/2010
 Acq. Time: 8:57:56 PM
 Modified: Yes



Hum 01/12/10

Sample Name: 24350007 Sample ID: 93756721.ER File: EXS01100038.wif
 Peak Name: TATB Mass(es): 237.2020.9 amu
 Comment: LCX832125 Annotation: 1

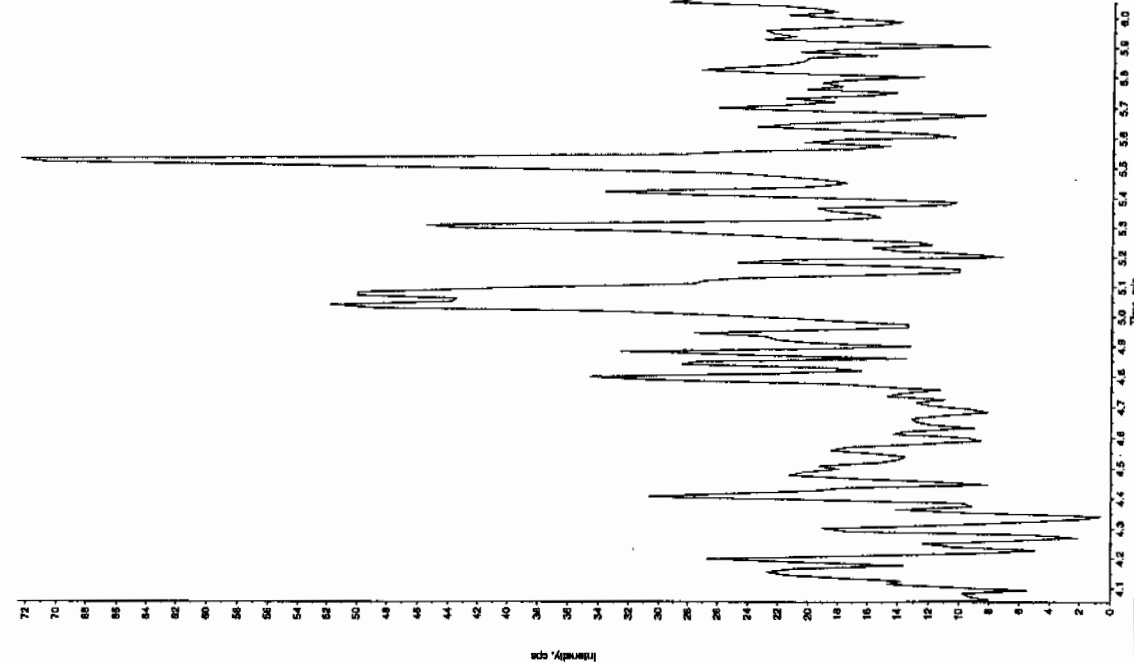
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/13/2010
 Acq. Time: 8:57:56 PM
 Modified: No



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

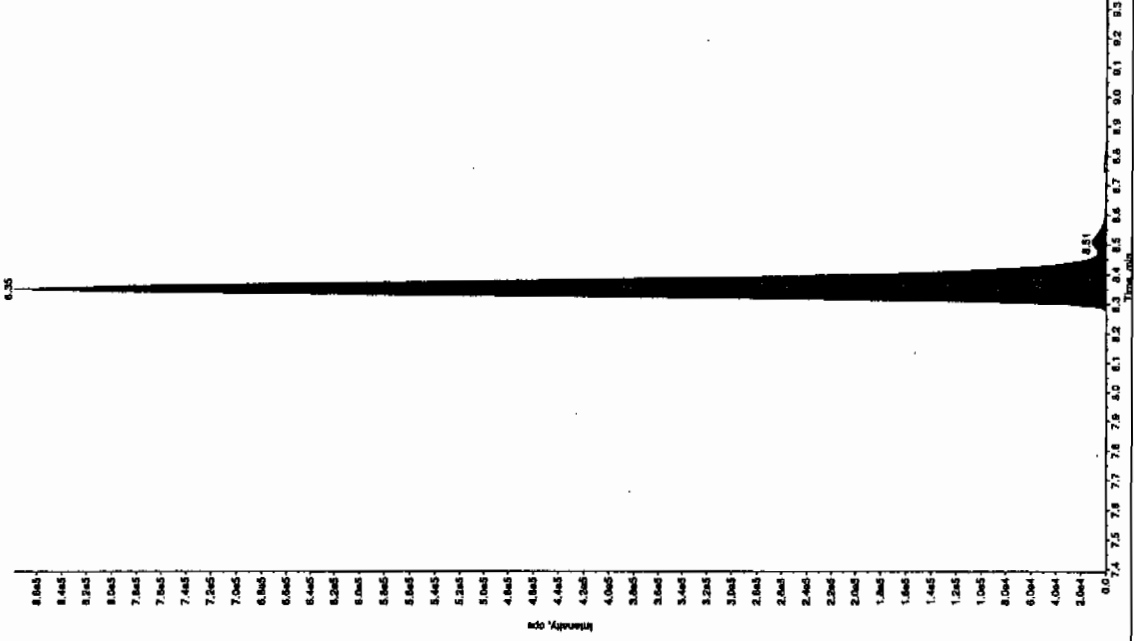
Sample Name: "24353007" Sample ID: "537567" File: "EX501100038.wif"
 Peak Name: "24-Dinitrotoluene" Mass(es): "168.0460 amu"
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 8:57:56 PM
 Modified: No



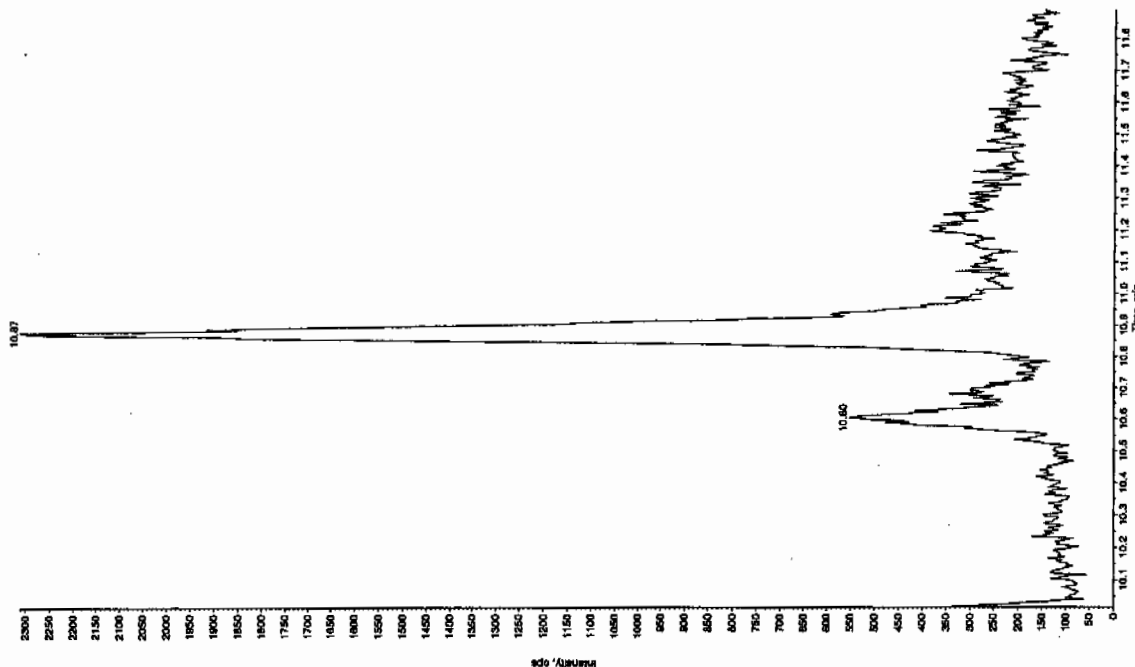
Sample Name: "24353007" Sample ID: "537567" File: "EX501100038.wif"
 Peak Name: "24-Dinitrotoluene" Mass(es): "182.1519 amu"
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 241. ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 8:57:56 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 1460.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 15.0 sec
 Expected RT: 8.39 min
 Use Relative RT: No
 Int. Type: Valley
 Retention time: 6.35 min
 Peak Height: 3.32e+006 counts
 Peak Width: 8.77e-014 sec
 Start Time: 8.26 min
 End Time: 8.70 min



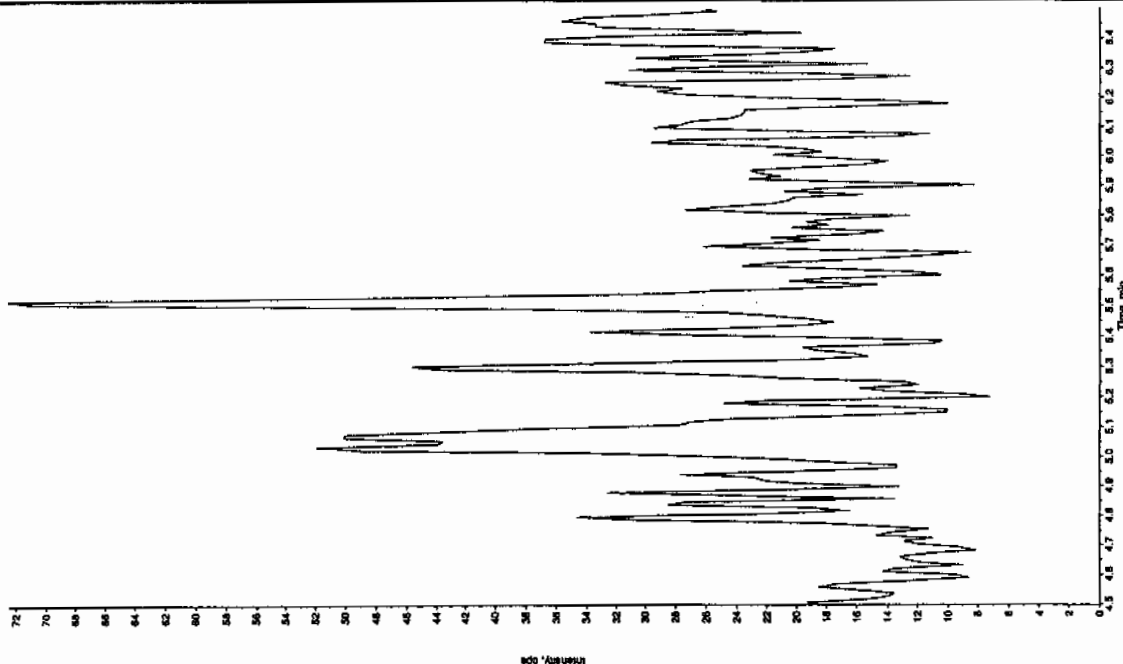
Sample Name: "240850007" Sample ID: "93756721LPR" File: "EX501100038.wif"
 Peak Name: "166.046.0 amu" Mass(es): "359.191.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/11/2010
 Acq. Date: 8:57:55 PM
 Acq. Time: 8:57:55 PM
 Modified: No



Sample Name: "240850007" Sample ID: "93756721LPR" File: "EX501100038.wif"
 Peak Name: "24-Diamino-6-nitroindole" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/11/2010
 Acq. Date: 8:57:55 PM
 Acq. Time: 8:57:55 PM
 Modified: No



1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7670

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630008

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118057a

Date Analyzed: 19-JAN-10 17:35

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 =

Instrument Value	X	Concentrated Extract Volume	X	Dilution Factor
		Sample Amount		

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118057a

Date: 19-Jan-2010

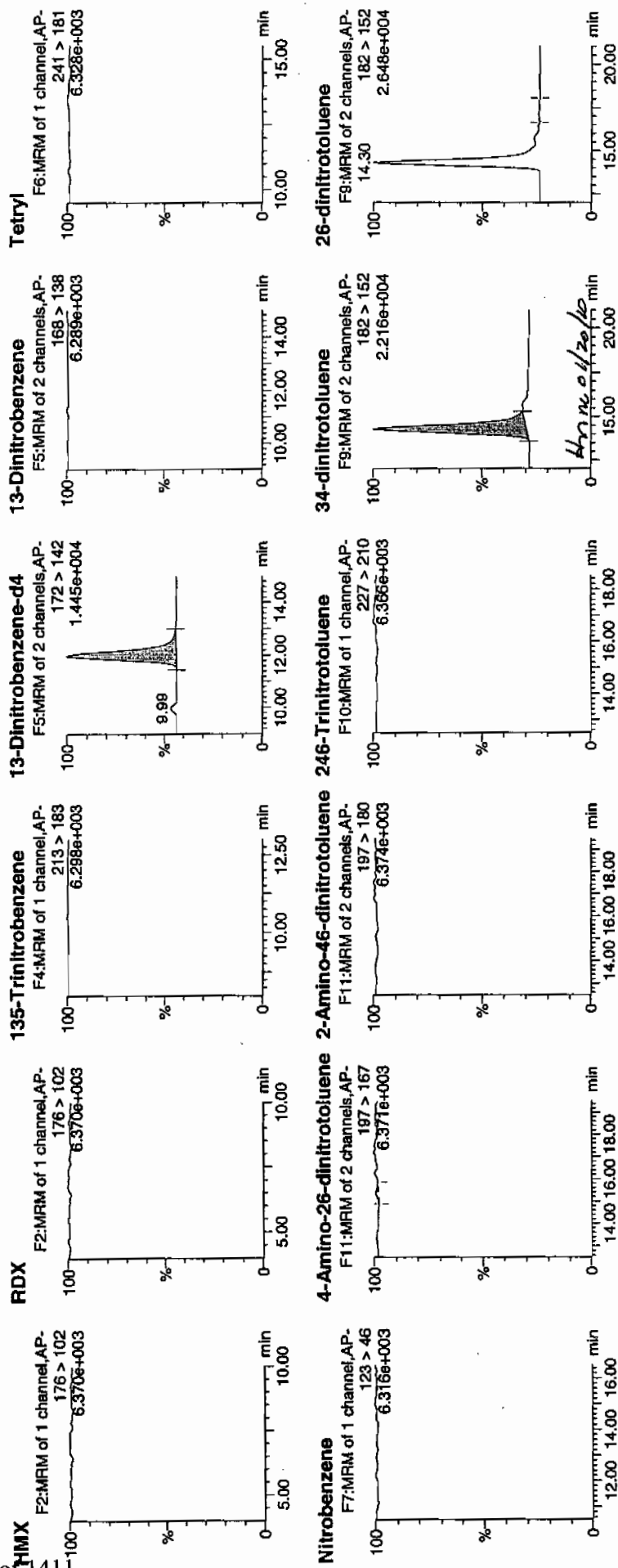
Time: 17:35:44

ID: 243630008

Vial: 2:5,F

1/20/10

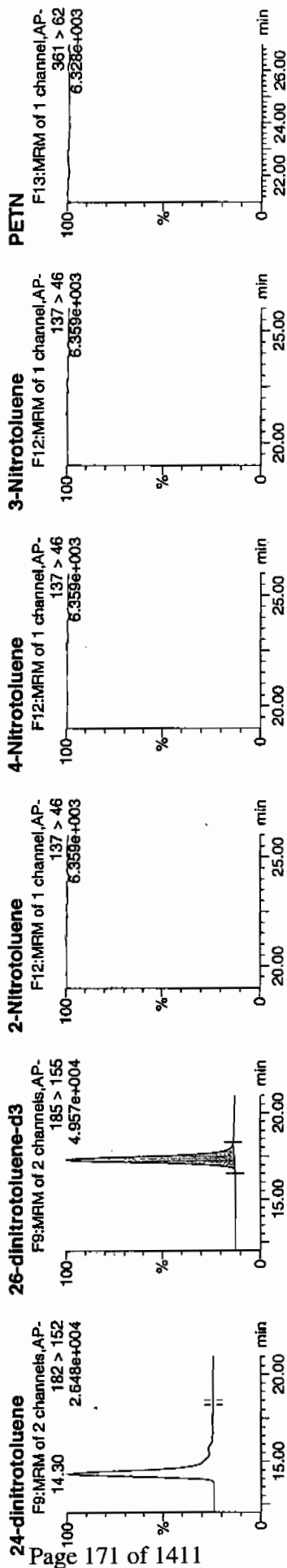
ANU 937527 / 21



Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

[illegible]

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7670

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630008

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100039.wiff

Date Analyzed: 11-JAN-10 21:13

Units: ug/kg

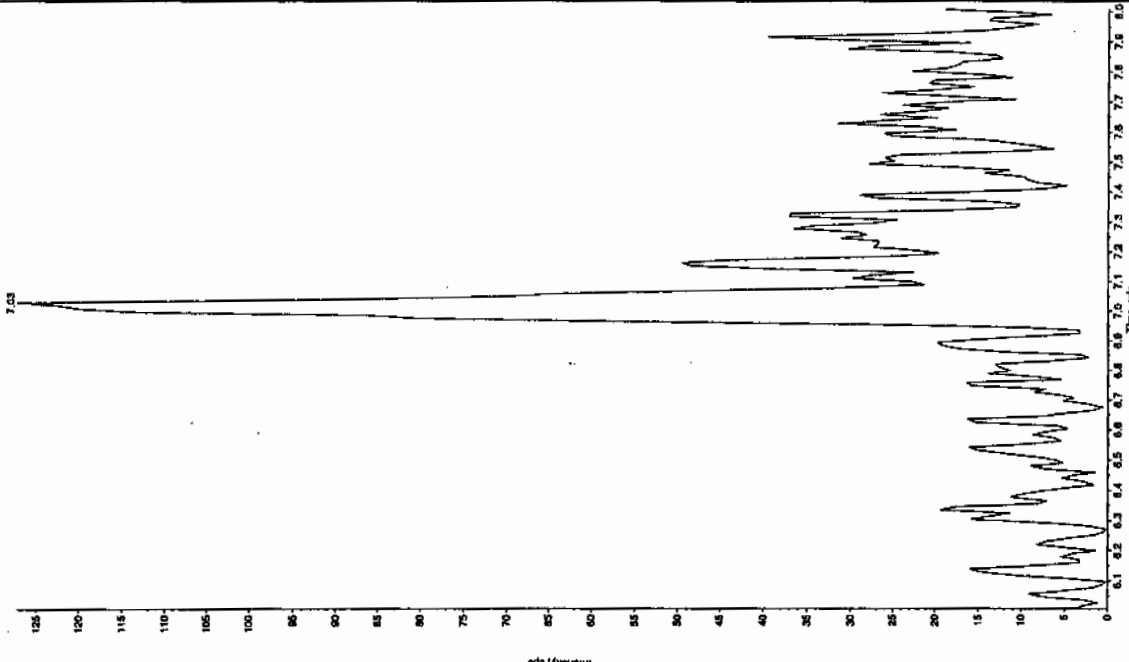
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

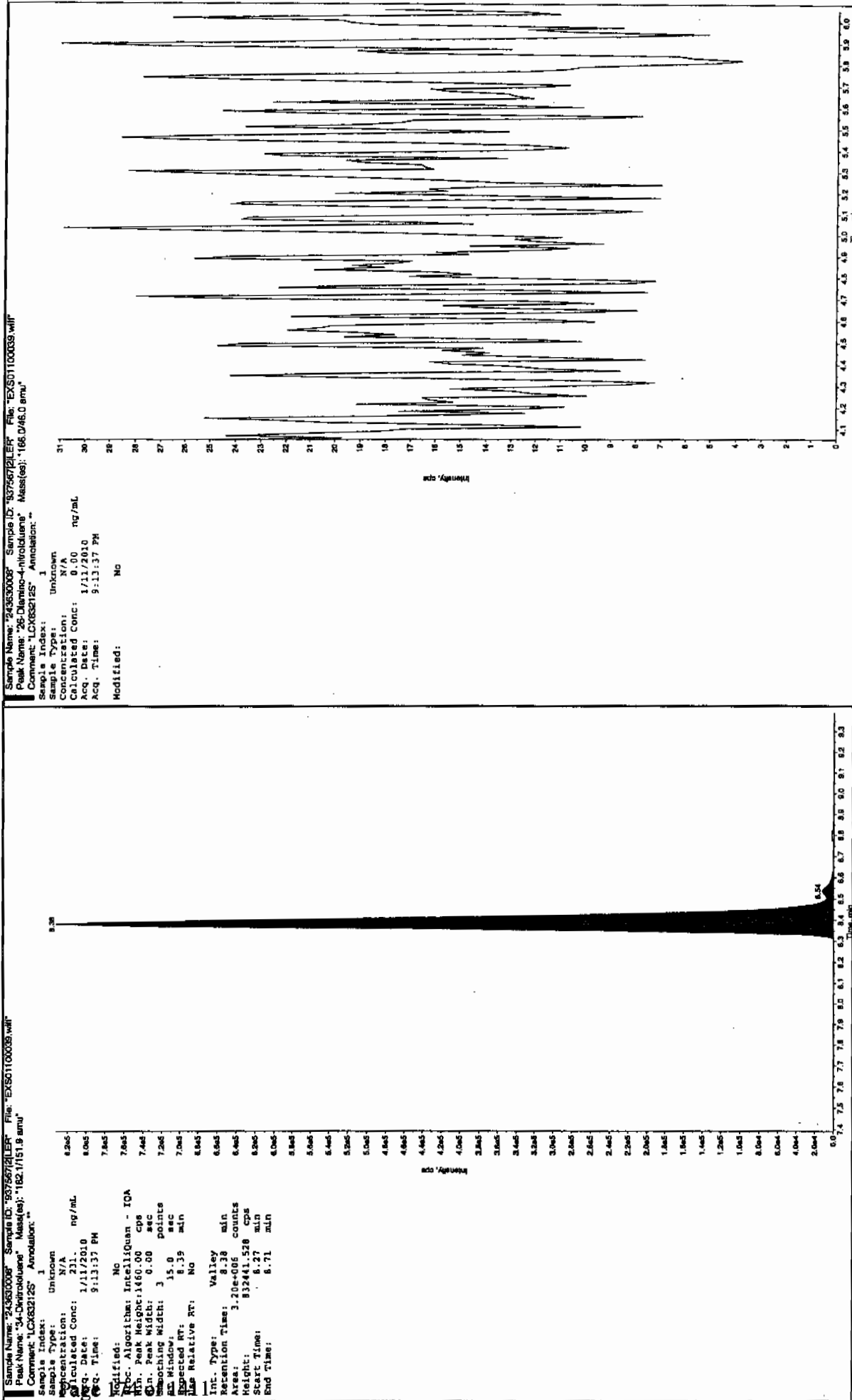
Sample Name: "243530006" Sample ID: "85756721ER" File: "EXSD1100039.wif"
 Peak Name: "3S-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/11/2010
 Acq. Date: 9:13:37 PM
 Acq. Time: 9:13:37 PM
 Modified: No



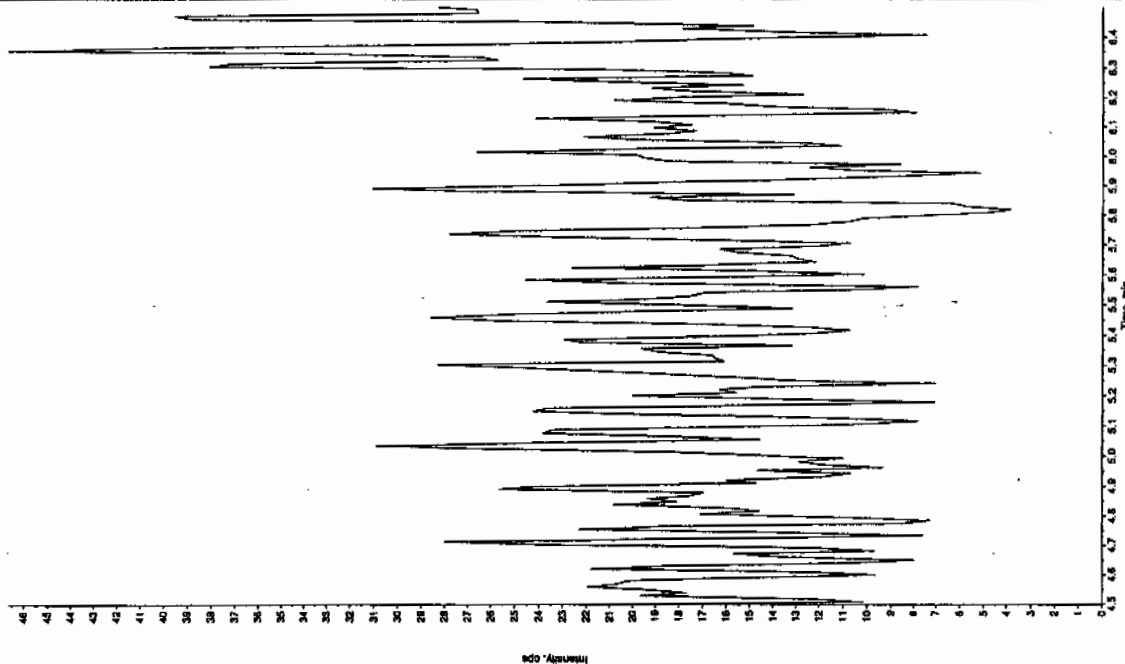
Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/11/2010
 Acq. Date: 9:13:37 PM
 Acq. Time: 9:13:37 PM
 Modified: No

Sample 01/12/10



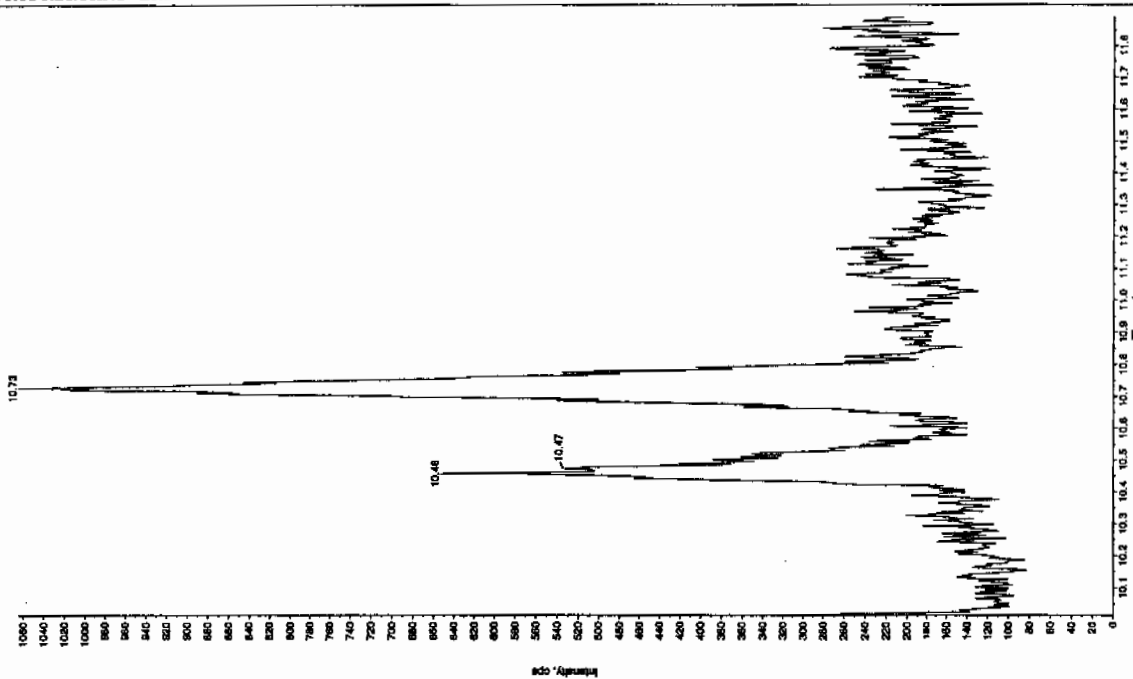
Sample Name: "243530008" Sample ID: "83756721ER" File: "EXS01100008.wif"
 Peak Name: "bis(2-ethoxyethyl) phosphate" Mass(es): 166.0460 amu
 Comment: "LCMS32125" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1.11/2010
 Acq. Date: 1/11/2010
 Acq. Time: 9:13:37 PM
 Modified: No



Sample Name: "243530008" Sample ID: "83756721ER" File: "EXS01100008.wif"
 Peak Name: "bis(2-ethoxyethyl) phosphate" Mass(es): 389.1910 amu
 Comment: "LCMS32125" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1.11/2010
 Acq. Date: 1/11/2010
 Acq. Time: 9:13:37 PM
 Modified: No



1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7668

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630009

Sample Amount 2

Moisture: 9.1

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118058a

Date Analyzed: 19-JAN-10 18:05

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 =

Instrument	X	<u>Concentrated Extract Volume</u>	X	Dilution
Value		<u>Sample Amount</u>		Factor

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118058a

Date: 19-Jan-2010

Time: 18:05:13

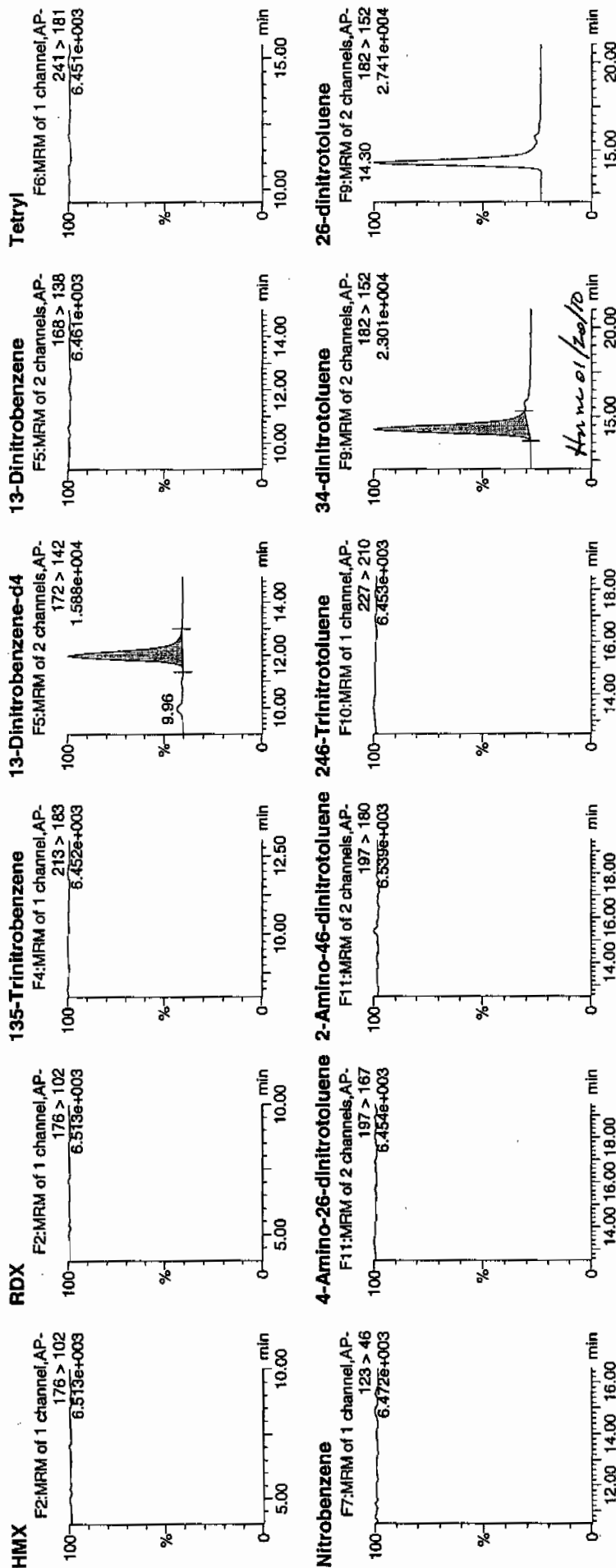
ID: 243630009

Vial: 2:6,A

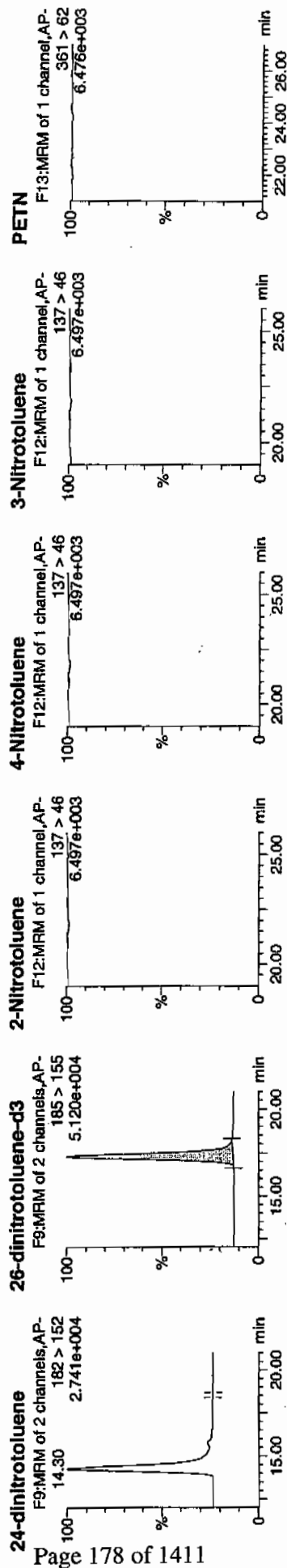
1/20/10

LAU 937527 / 21

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Dataset: C:\MASSLYNX\New_Exp\PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Trace	Area	Height	Width	Retention Time (min)	Mass (m/z)
243630009	HMx		176 > 102			3673.293	
243630009	RDX		176 > 102			3673.293	
243630009	135-Trinitrobenzene		213 > 183			3673.293	
243630009	13-Dinitrobenzene-d4		172 > 142	11.97		3673.293	
243630009	13-Dinitrobenzene		168 > 138			3673.293	
243630009	Tetryl		241 > 181			3673.293	
243630009	Nitrobenzene		123 > 46			3673.293	
243630009	4-Amino-26-dinitrotoluene		197 > 167			18987.859	
243630009	2-Amino-46-dinitrotoluene		197 > 180			18987.859	
243630009	246-Trinitrotoluene		227 > 210			18987.859	
243630009	34-dinitrotoluene		182 > 152	14.30		18987.859	
243630009	26-dinitrotoluene		182 > 152			18987.859	
243630009	24-dinitrotoluene		182 > 152			18987.859	
243630009	26-dinitrotoluene-d3		185 > 155	17.29		18987.859	
243630009	2-Nitrotoluene		137 > 46			18987.859	
243630009	4-Nitrotoluene		137 > 46			18987.859	
243630009	3-Nitrotoluene		137 > 46			18987.859	
243630009	PETN		361 > 62			18987.859	

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7668

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630009

Sample Amount 2

Moisture: 9.1

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100040.wiff

Date Analyzed: 11-JAN-10 21:29

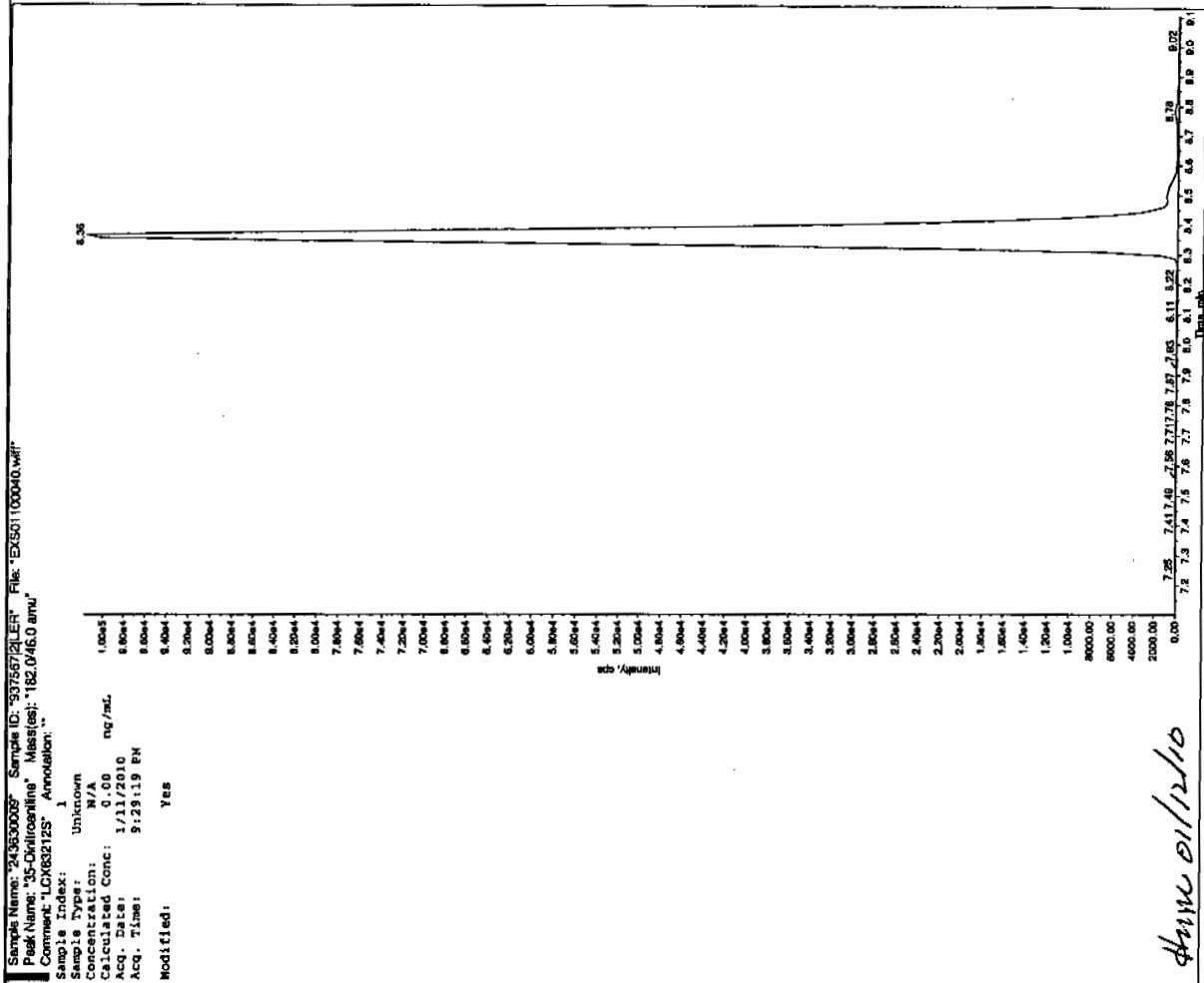
Units: ug/kg

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

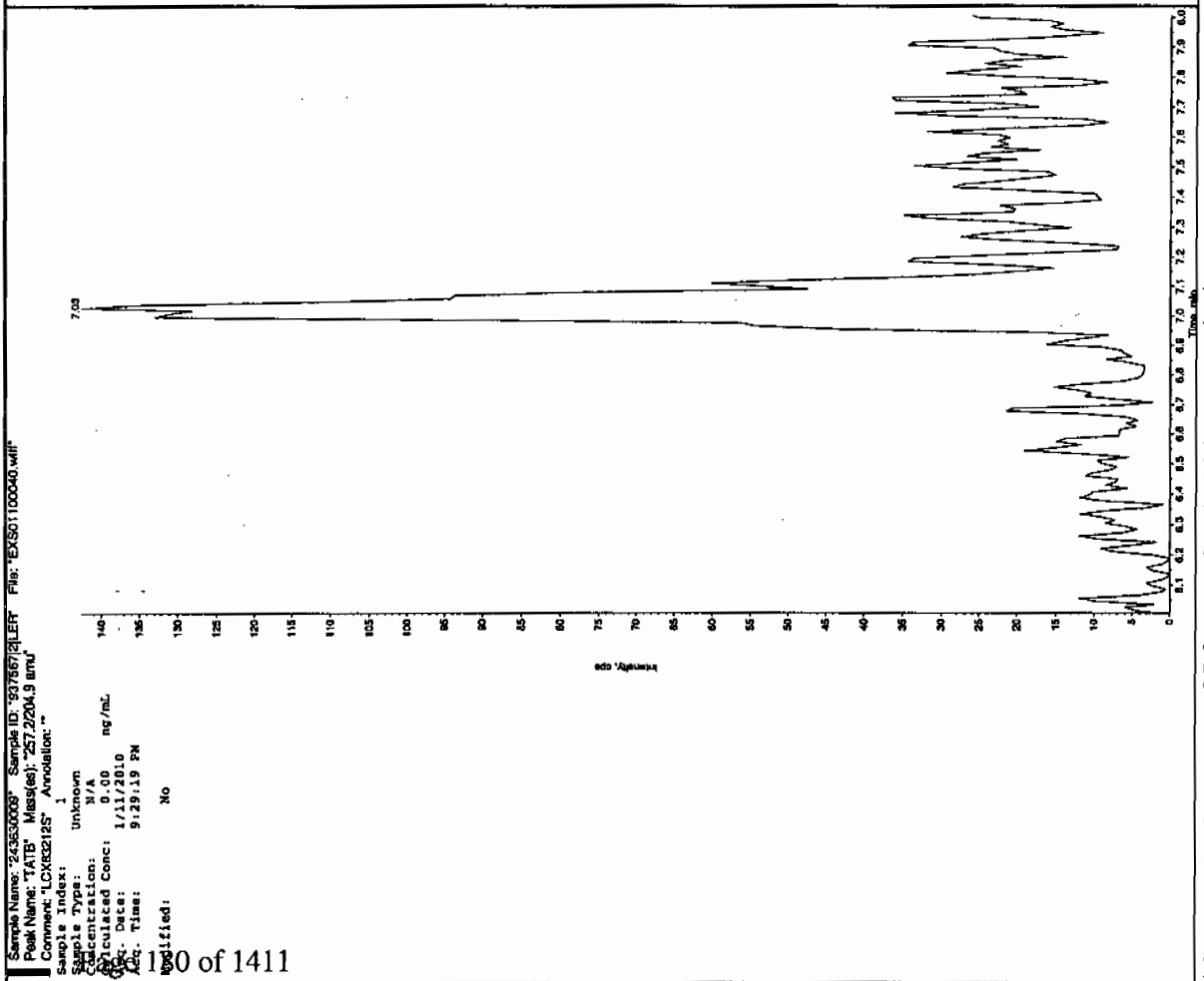
*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

01/11/10
2000

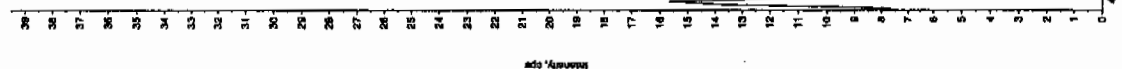


Time 01/11/10



Sample Name: "243630009" Sample ID: "93756721ER" File: "EX501100040.wif"
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCX83212S" Annotation: "

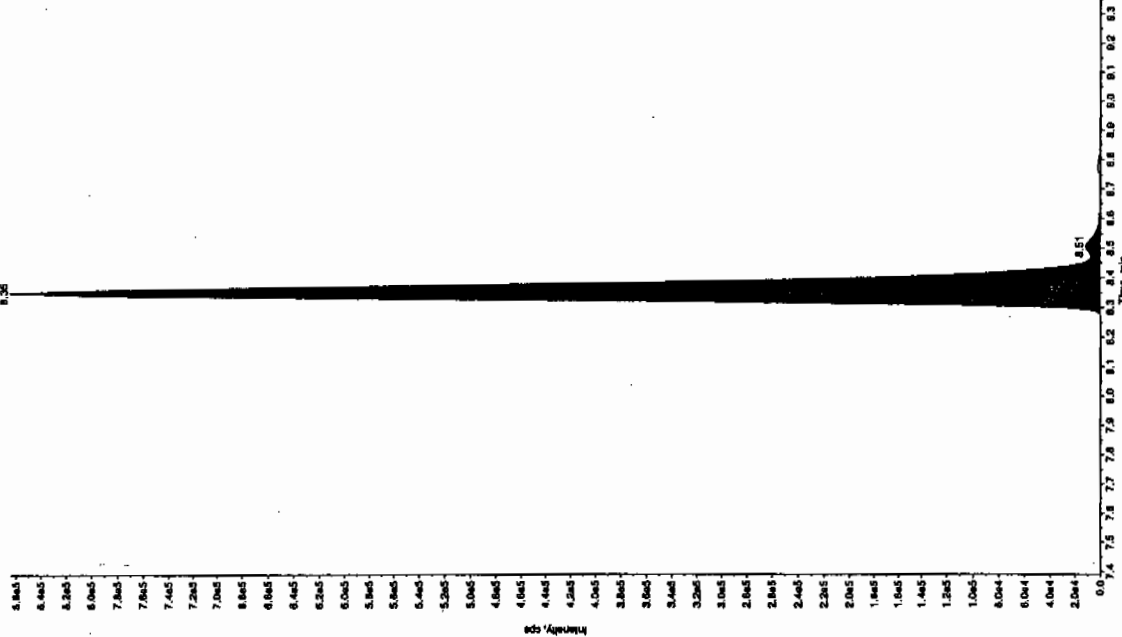
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 9:29:19 PM
 Modified: No

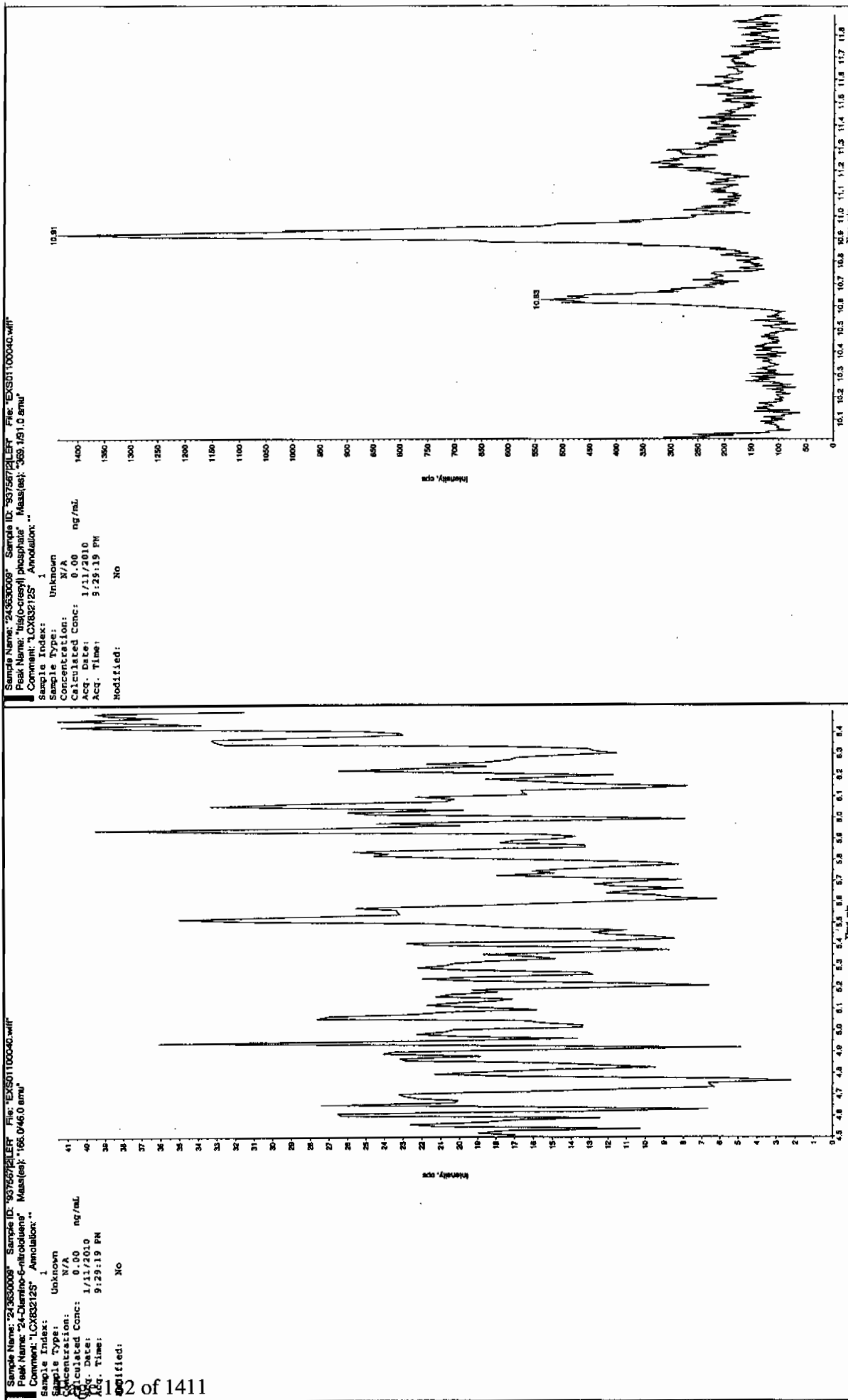


Sample Name: "243630009" Sample ID: "93756721ER" File: "EX501100040.wif"
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.1451.9 amu"
 Comment: "LCX83212S" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 239. ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 9:29:19 PM
 Modified: No

Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 1460.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 Net Window: 15.0 sec
 Expected RT: 8.39 min
 Base Relative RT: No
 Int. Type: Valley
 Retention Time: 8.35 min
 Area: 3.30e+005 counts
 Height: 864659.556 cps
 Start Time: 8.20 min
 End Time: 8.70 min





1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7671

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630010

Sample Amount 2

Moisture: 19.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118059a

Date Analyzed: 19-JAN-10 18:34

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 =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$	X	Dilution Factor
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Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118059a

Date: 19-Jan-2010

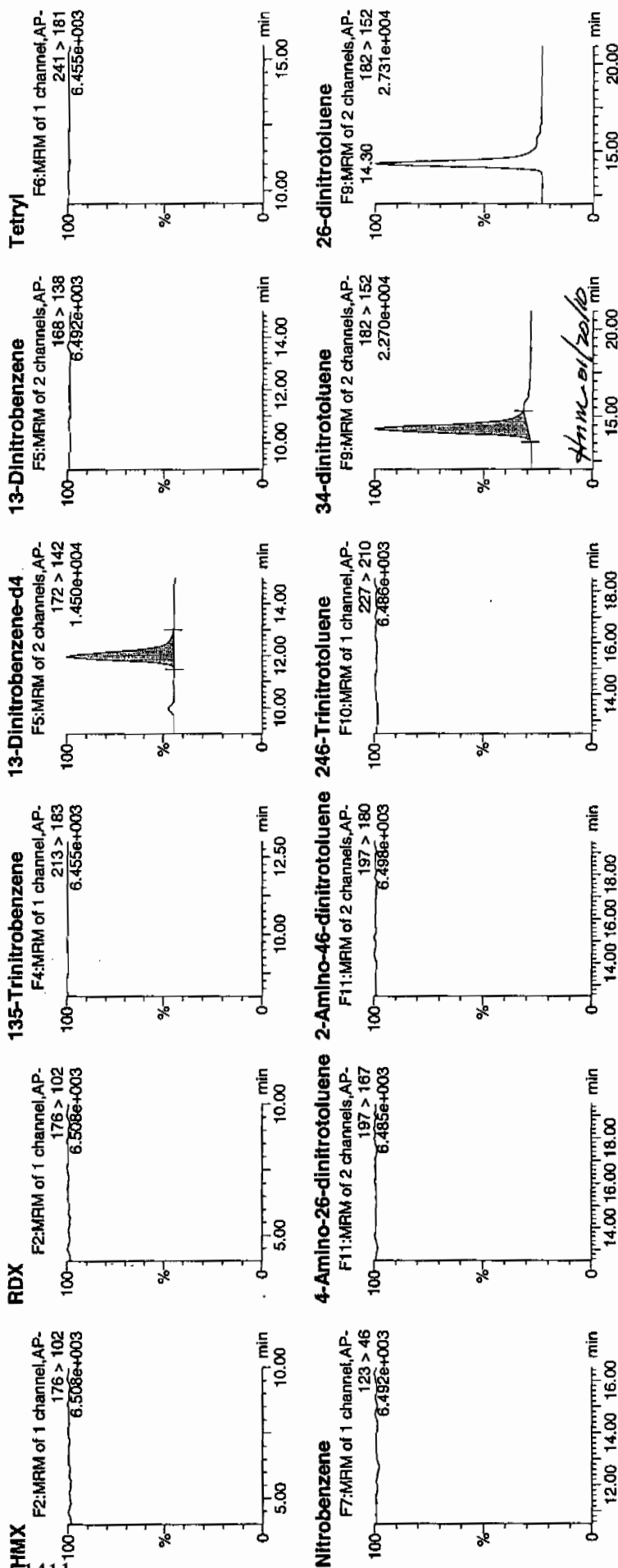
Time: 18:34:44

ID: 243630010

Cal: 2:6,B

not
1/20/10

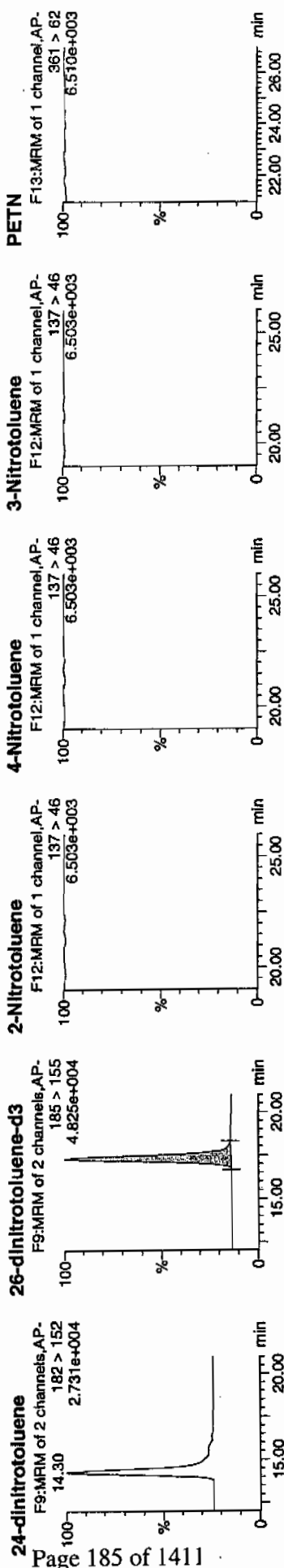
WAV 937567 / 8025 / 21



Printed: Wed Jan 20 09:07:58 2010, Page 34 of 91

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Trace	Retention Time (min)	Mass (m/z)
243630010	HMX		176 > 102	3227.526
243630010	RDX		176 > 102	3227.526
243630010	135-Trinitrobenzene		213 > 183	3227.526
243630010	13-Dinitrobenzene-d4		172 > 142	3227.526
243630010	13-Dinitrobenzene		168 > 138	3227.526
243630010	Tetryl		241 > 181	3227.526
243630010	Nitrobenzene		123 > 46	17657.412
243630010	4-Amino-26-dinitrotoluene		197 > 167	17657.412
243630010	2-Amino-46-dinitrotoluene		197 > 180	17657.412
243630010	246-Trinitrotoluene		227 > 210	17657.412
243630010	34-dinitrotoluene		182 > 152	8576.952
243630010	26-dinitrotoluene		182 > 152	17657.412
243630010	24-dinitrotoluene		182 > 152	17657.412
243630010	26-dinitrotoluene-d3		185 > 155	17657.412
243630010	2-Nitrotoluene		137 > 46	17657.412
243630010	4-Nitrotoluene		137 > 46	17657.412
243630010	3-Nitrotoluene		137 > 46	17657.412
243630010	PETN		361 > 62	17657.412

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7671

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630010

Sample Amount 2

Moisture: 19.2

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100041.wiff

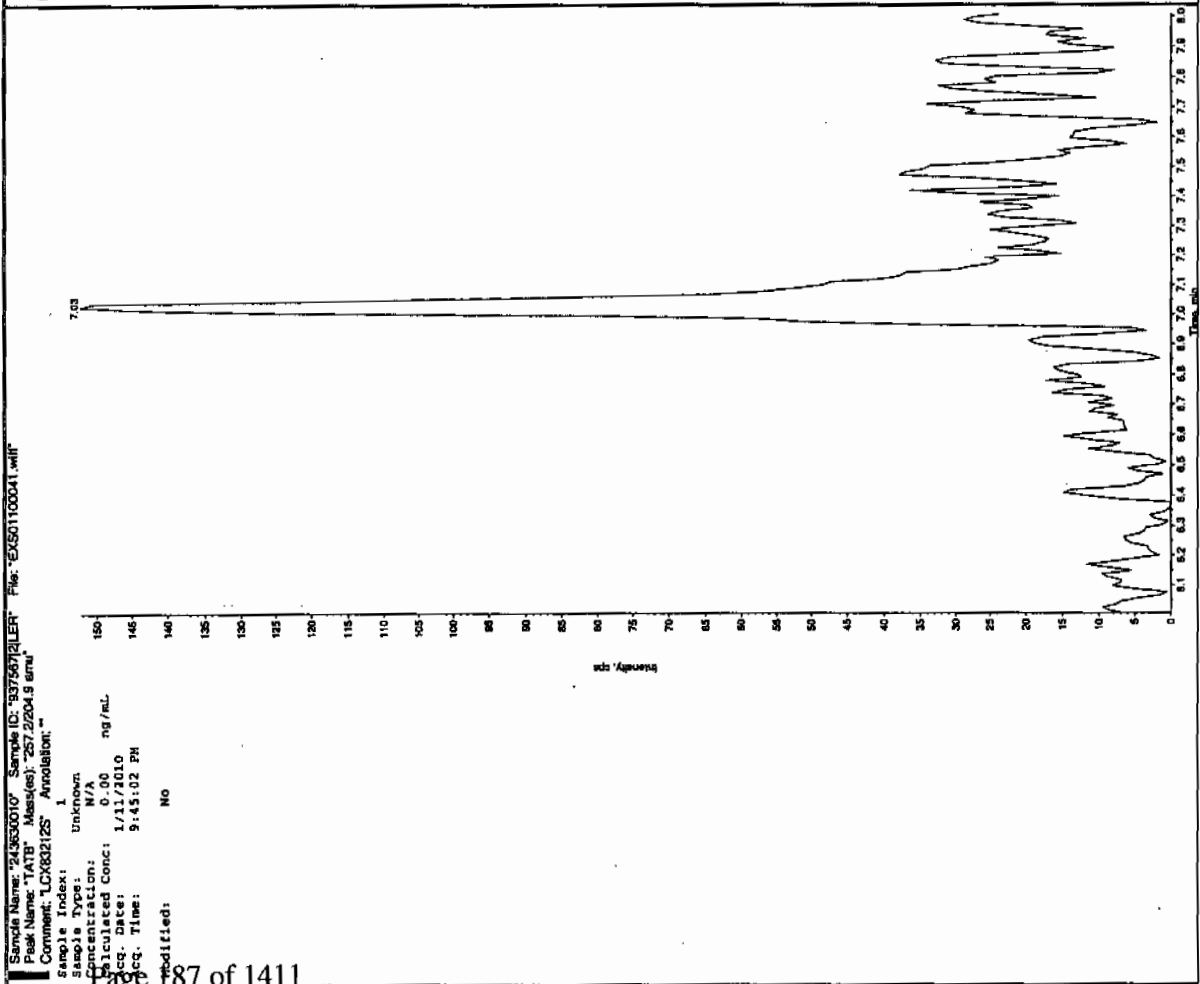
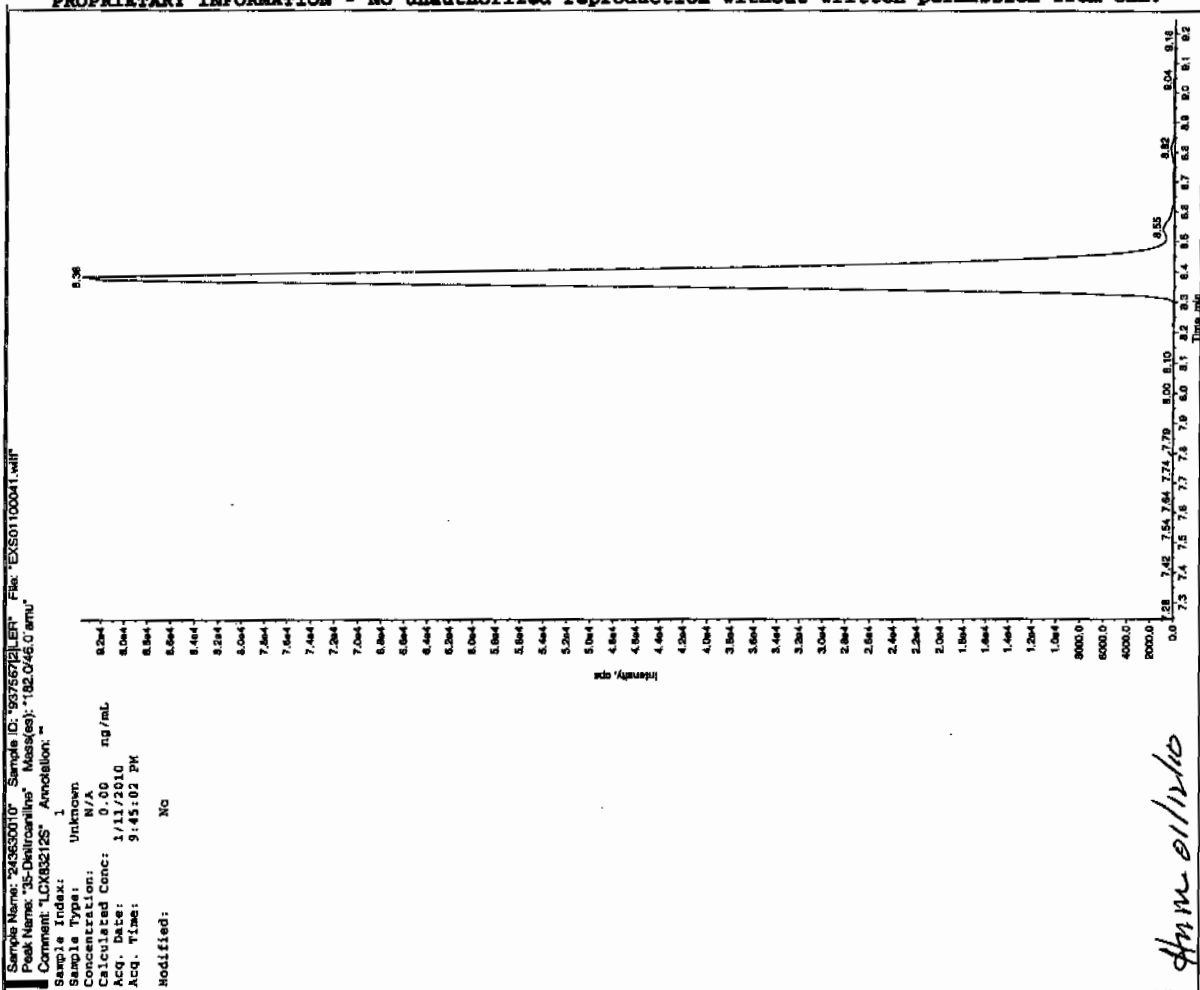
Date Analyzed: 11-JAN-10 21:45

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 =

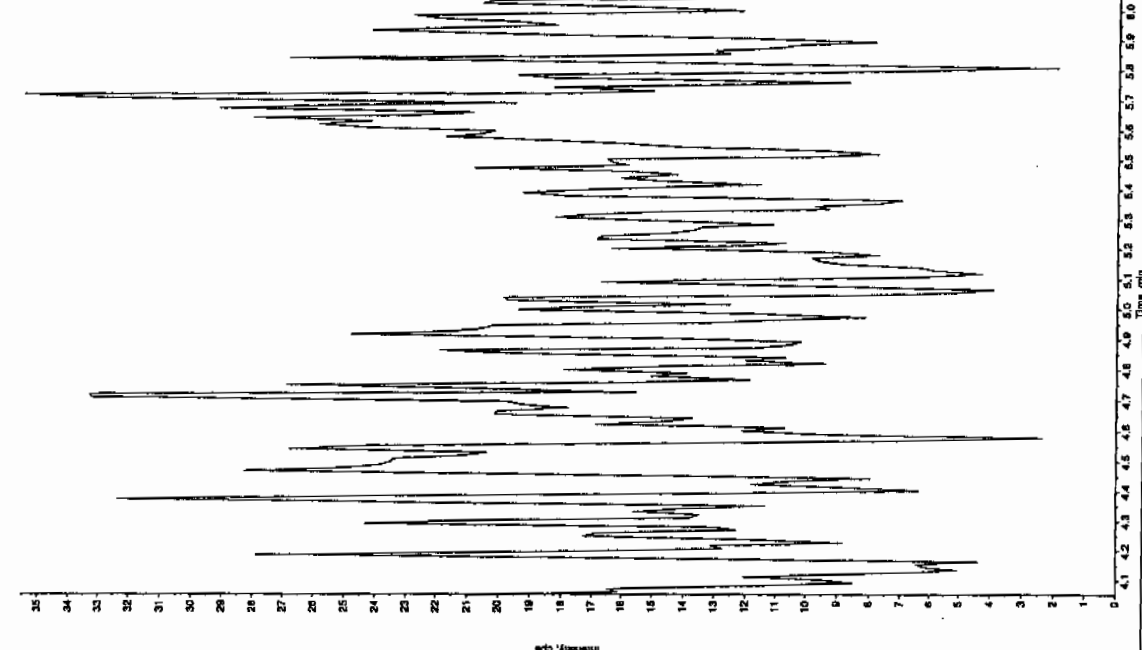
Instrument X Concentrated Extract Volume X Dilution
Value Sample Amount Factor



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

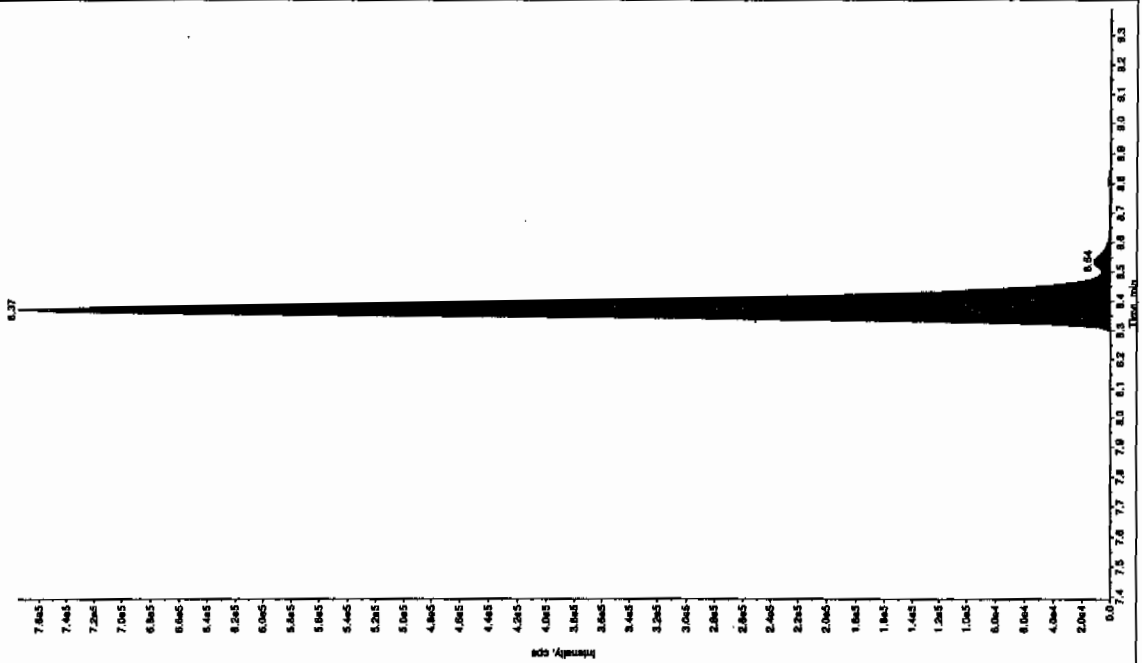
Sample Name: "243630010" Sample ID: "53756721ER" File: "EXS01100041.wif"
 Peak Name: "26-Dienino-4-nitrobenzene" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 9:43:02 PM
 Modified: No

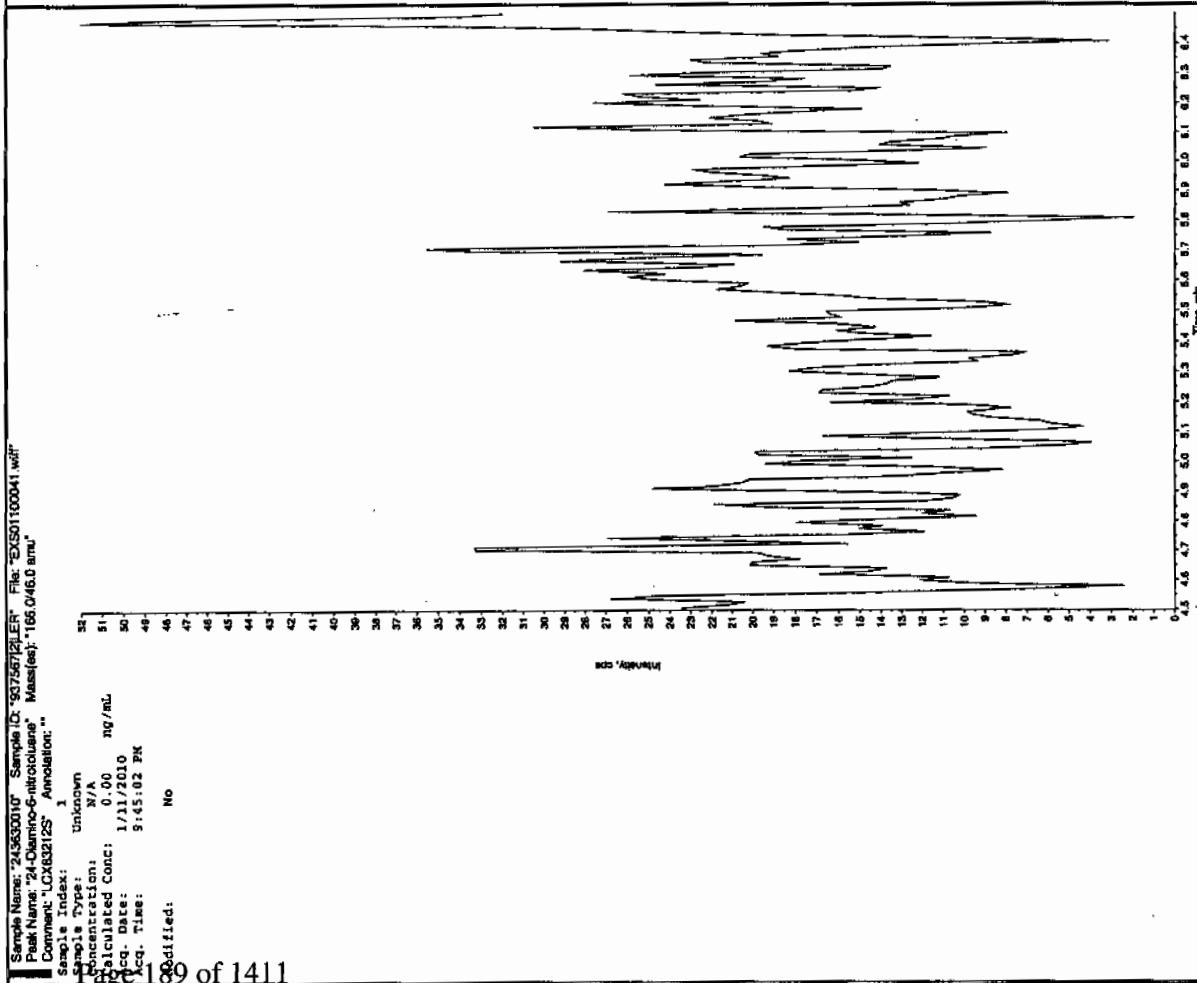
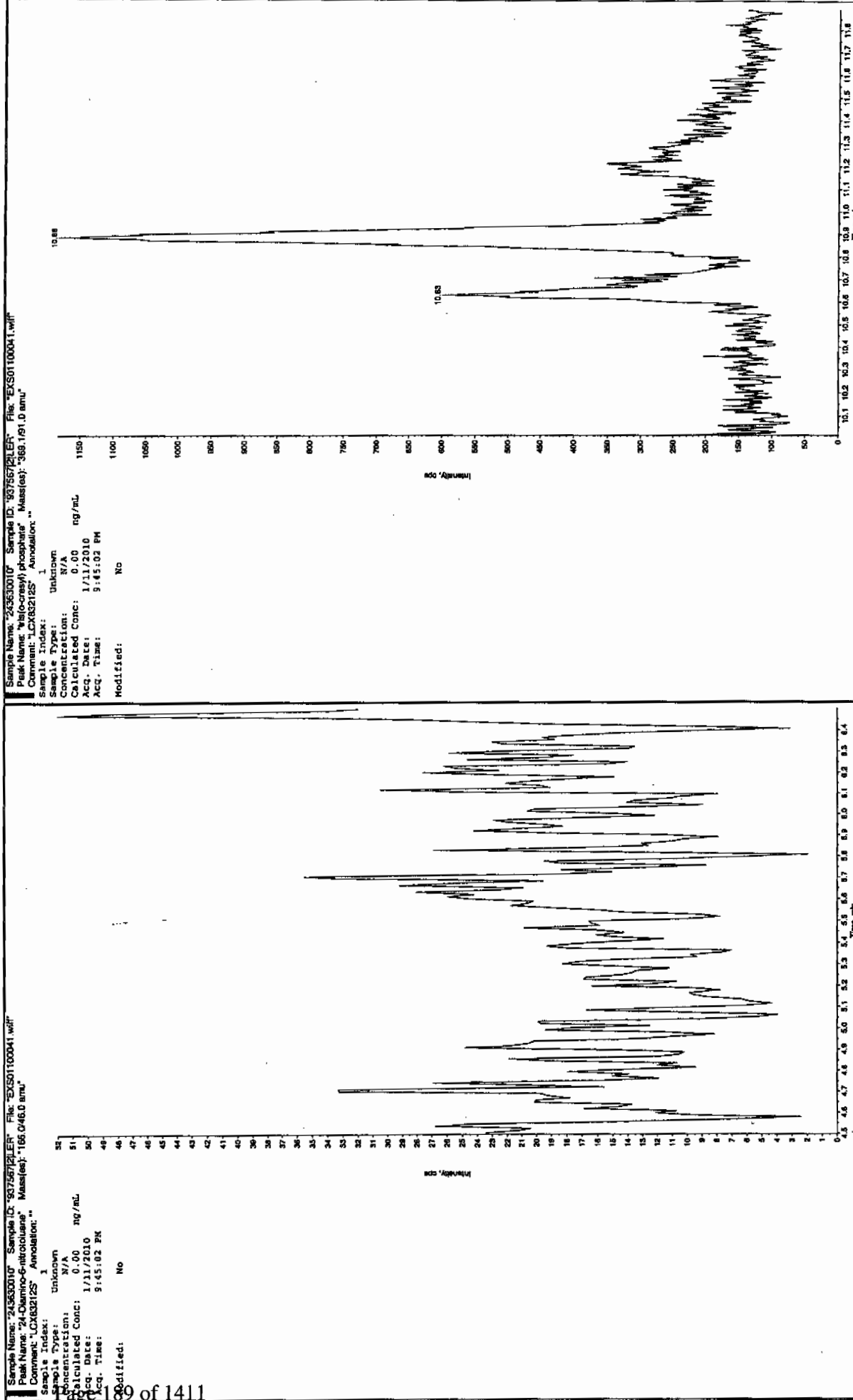


Sample Name: "243630010" Sample ID: "53756721ER" File: "EXS01100041.wif"
 Peak Name: "34-Dienino-4-nitrobenzene" Mass(es): "182.17151.9 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 228 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 9:43:02 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - ICA
 Min. Peak Height: 1460.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 15.0 sec
 Expected RT: 8.39 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.37 min
 Area: 3.16e+006 counts
 Height: 774994.019 cps
 Start Time: 8.25 min
 End Time: 8.71 min



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



1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7669

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630011

Sample Amount 2

Moisture: 24.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118060a

Date Analyzed: 19-JAN-10 19:04

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 =

Instrument Value	X	<u>Concentrated Extract Volume</u>	X	Dilution Factor
		<u>Sample Amount</u>		

Printed: Wed Jan 20 09:07:58 2010, Page 35 of 91

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

Dataset: C:\MASSLYNX\New_Exp\PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0118060a

Date: 19-Jan-2010

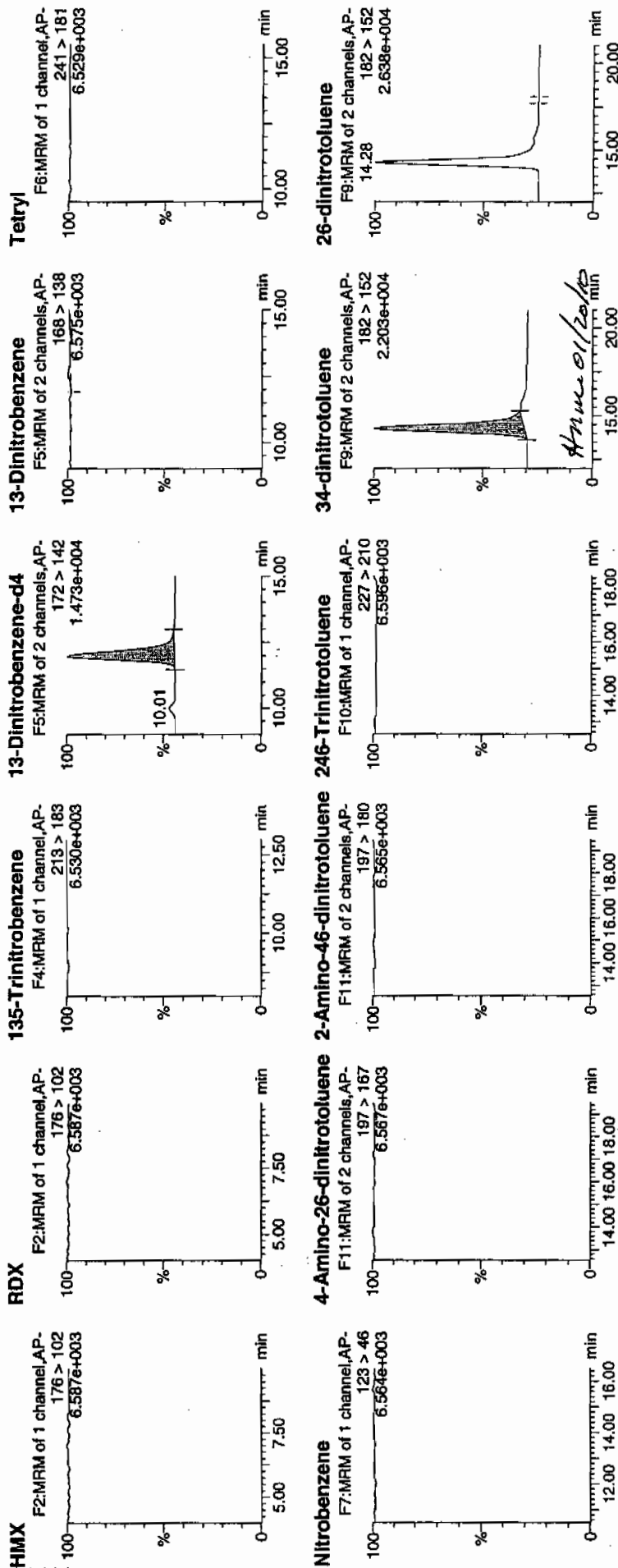
Time: 19:04:14

ID: 243630011

Vial: 2-6,C

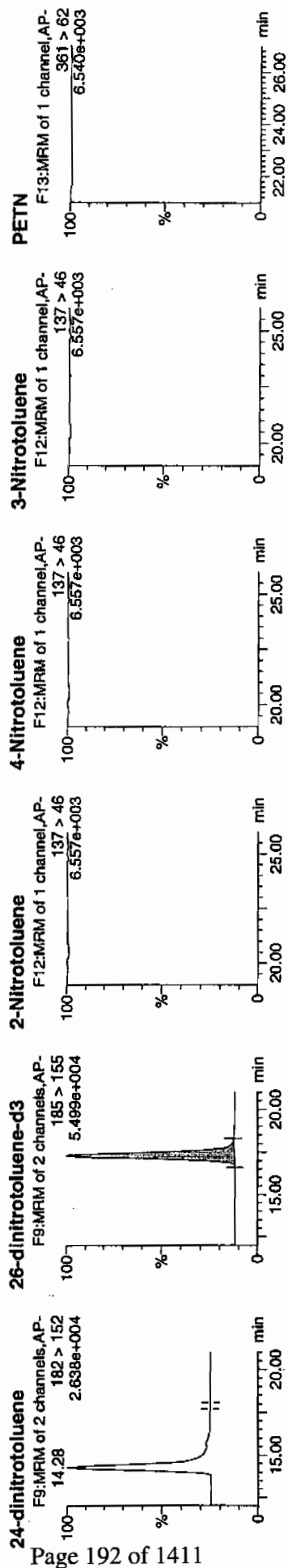
11/20/10

937567 / 121



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

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Area	Height	Area%	Height%	Response	Mass	Mod Date	Mod Time	Mod User	Mod Sec	Mod Day	Mod Min	Mod Sec	Mod Day	Mod Min	Mod Sec
243630011	HM/X	176 > 102	3294.918														
243630011	FDX	176 > 102	3294.918														
243630011	135-Trinitrobenzene	213 > 183	3294.918														
243630011	13-Dinitrobenzene-d4	172 > 142	11.97	3294.918													
243630011	13-Dinitrobenzene	168 > 138	3294.918														
243630011	Tetryl	241 > 181	3294.918														
243630011	Nitrobenzene	123 > 46	3294.918														
243630011	4-Amino-26-dinitrotoluene	197 > 167	20543.729														
243630011	2-Amino-46-dinitrotoluene	197 > 180	20543.729														
243630011	246-Trinitrotoluene	227 > 210	20543.729														
243630011	34-dinitrotoluene	182 > 152	8195.539	20543.729													
243630011	26-dinitrotoluene	182 > 152	20543.729														
243630011	24-dinitrotoluene	182 > 152	20543.729														
243630011	26-dinitrotoluene-d3	185 > 155	17.30	20543.729													
243630011	2-Nitrotoluene	137 > 46	20543.729														
243630011	4-Nitrotoluene	137 > 46	20543.729														
243630011	3-Nitrotoluene	137 > 46	20543.729														
243630011	PETN	361 > 62	20543.729														

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7669

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 243630011

Sample Amount 2

Moisture: 24.8

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100042.wiff

Date Analyzed: 11-JAN-10 22:00

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

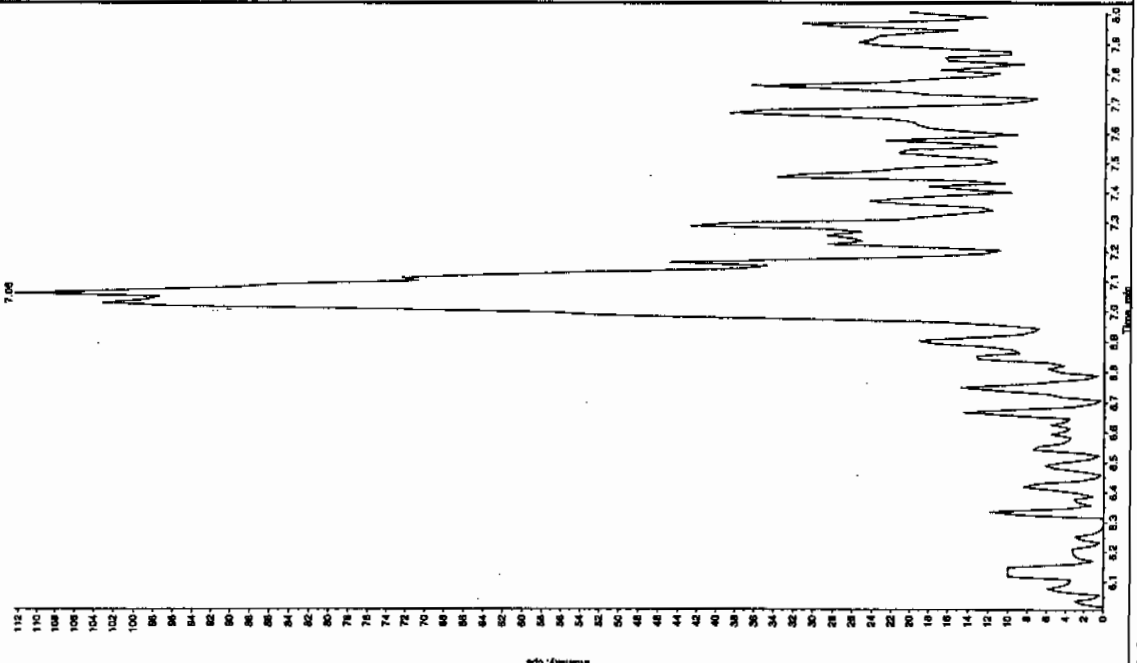
Sample Name: "243630011" Sample ID: "8376572121.ER" File: "EXS01100042.wif"
 Peak Name: "35-Dibenzofuran" Mass(es): "182.046.0 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 10:00:45 PM
 Modified: No



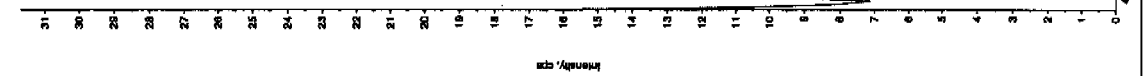
Sample Name: "243630011" Sample ID: "5376572121.ER" File: "EXS01100042.wif"
 Peak Name: "1ATB" Mass(es): "257.2204.9 amu"
 Comment: "LCX832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 10:00:45 PM
 Modified: No



Sample Name: "243530011" Sample ID: "93755721LER" File: "EXS01100042.wif"
 Peak Name: "25-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: ""

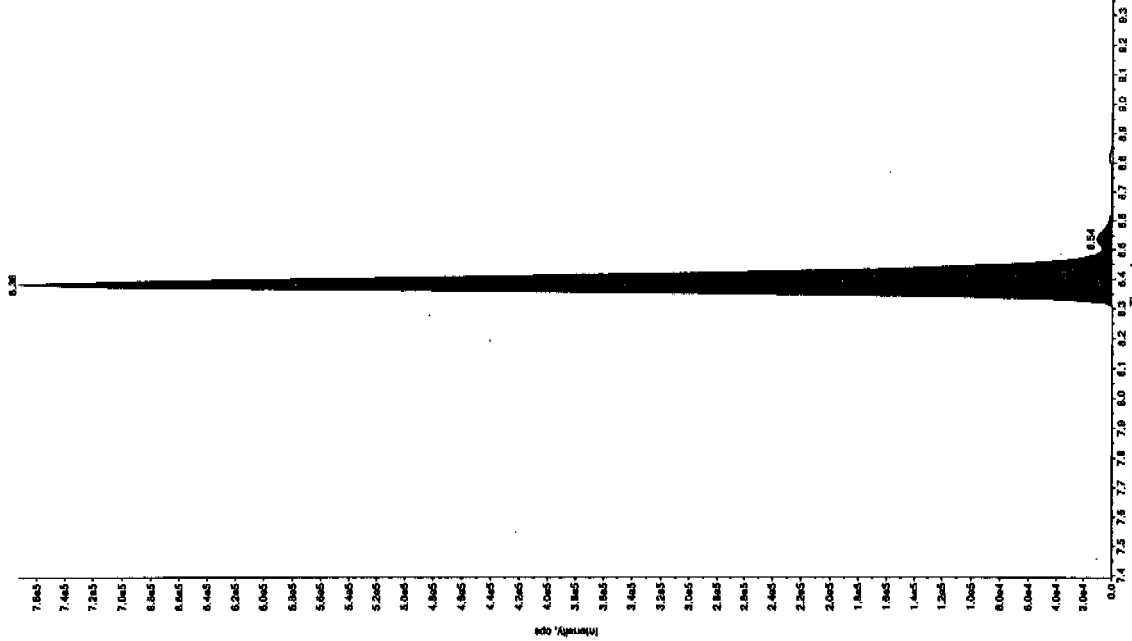
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 10:00:45 PM
 Modified: No



Sample Name: "243530011" Sample ID: "93755721LER" File: "EXS01100042.wif"
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"
 Comment: "LCX832125" Annotation: ""

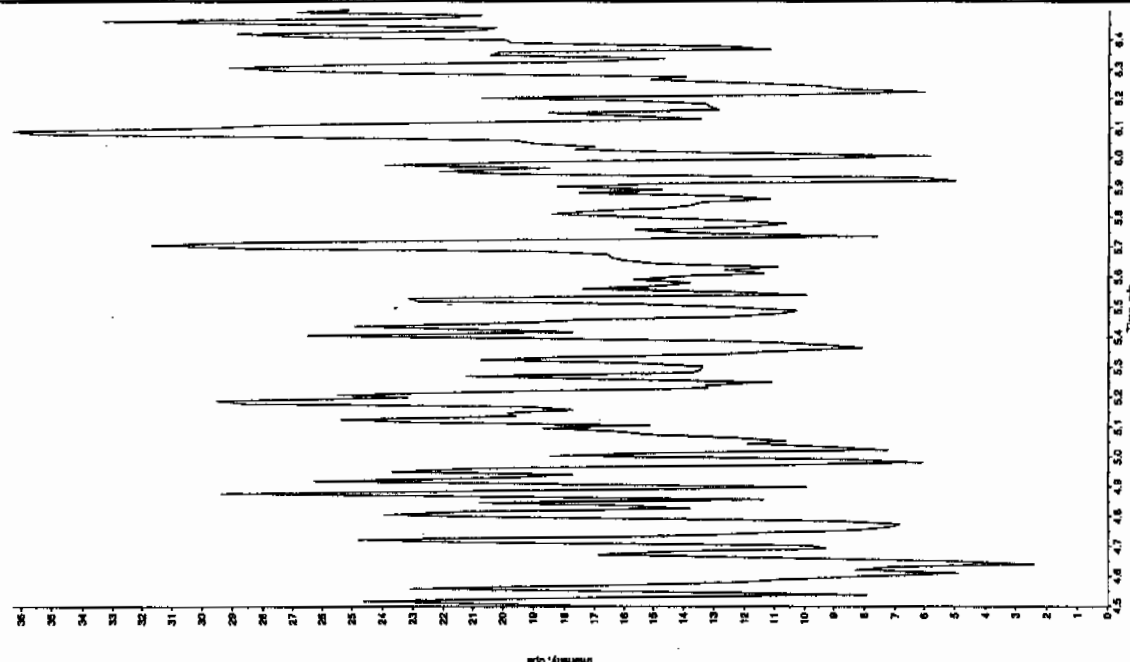
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 220.0 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 10:00:45 PM

Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 1450.00 cps
 Peak Width: 0.00 points
 Scan Rate: 15.0 sec
 Expected RT: 8.39 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.38 min
 Area: 3.05e+006 counts
 Height: 773257.813 cps
 Start Time: 8.29 min
 End Time: 8.72 min



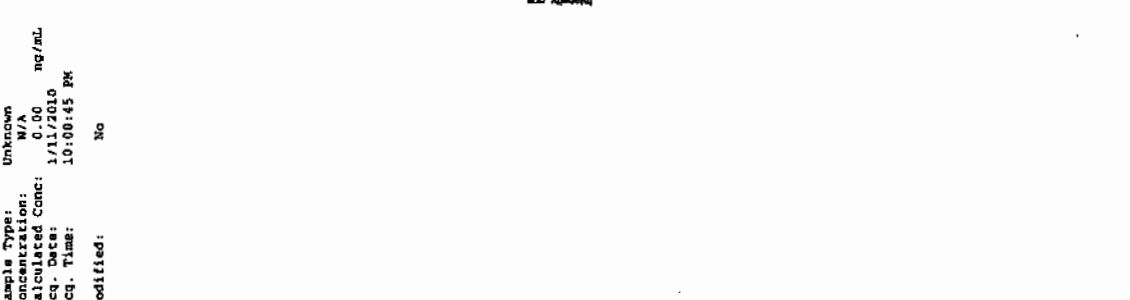
Sample Name: "243630011" Sample ID: "3375672LER" File: "EXS01100042.wif"
 Peak Name: "1,6-Diamino-6-nitrochlorine" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 10:00:45 PM
 Modified: No



Sample Name: "243630011" Sample ID: "3375672LER" File: "EXS01100042.wif"
 Peak Name: "1,6-Diamino-6-nitrochlorine" Mass(es): "166.046.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/11/2010
 Acq. Time: 10:00:45 PM
 Modified: No



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
MXN	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
PEIN	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)

Calibration Levels 8321A-Modified-EXPL.xls

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1102

Lab Code: GEL

Run Date: 11-JAN-10 18-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Parname	1	2	3	4	5	6	Ave RF	RSD	Q
Data File:	EXP0118003a	EXP0118004a	EXP0118005a	EXP0118006a	EXP0118007a	EXP0118008a			
1,3,5-Trinitrobenzene	3.484	3.337	3.183	3.346	3.389	3.251	3.332	3.151	
1,3-Dinitrobenzene-d4	8.417	7.127	6.57	7.116	5.921	5.569	6.787	14.975	
2,4,6-Trinitrotoluene	.377	.396	.322	.334	.345	.339	0.352	7.994	
2,4-Dinitrotoluene	.243	.259	.246	.253	.265	.251	0.253	3.203	
2,6-Dinitrotoluene	1.153	1.028	1.057	1.111	1.097	1.108	1.092	4.045	
2,6-Dinitrotoluene-d3	39.096	38.049	37.926	39.55	34.278	31.235	36.689	8.867	
2-Amino-4,6-dinitrotoluene	.384	.362	.364	.408	.425	.393	0.389	6.304	
3,4-Dinitrotoluene	1.094	.866	.869	.913	.9	.951	0.932	9.132	
4-Amino-2,6-dinitrotoluene	.207	.279	.263	.272	.282	.281	0.264	10.877	
HMX	2.748	3.079	2.841	3.009	4.254	3.437	3.228	17.23	
Nitrobenzene	.948	.786	.819	.79	.837	.843	0.837	7.056	
PETN	1.934	1.886	1.782	1.556	1.494	1.373	1.671	13.671	
RDX	1.703	2.055	2.131	2.096	3.008	2.349	2.224	19.659	
Tetryl	1.014	1.261	1.006	.872	.832	.875	0.977	16.224	
m-Dinitrobenzene	1.102	1.271	1.177	1.173	1.202	1.167	1.182	4.639	
m-Nitrotoluene	.074	.088	.086	.096	.085	.083	0.085	8.24	
o-Nitrotoluene	.142	.174	.141	.15	.148	.145	0.150	8.071	
p-Nitrotoluene	.072	.076	.065	.075	.072	.069	0.072	5.54	

Q column used to flag RSD values outside of Limit (>20%)

* Values outside of QC Limit

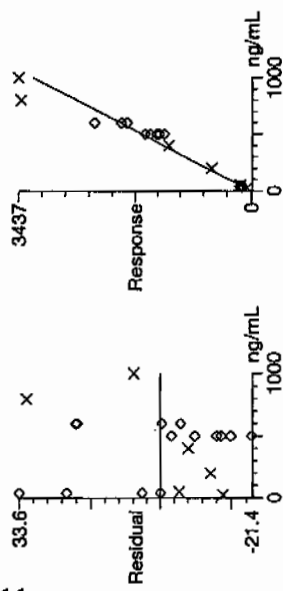
Quantify Calibration Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

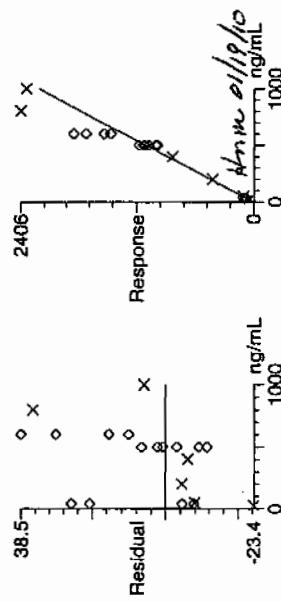
Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011810expa.mdb, Time: Tue Jan 19 09:10:36 2010

Calibration: Untitled, Time: Tue Jan 19 10:56:45 2010

Compound name: HMX
Response Factor: 3.22807
RRF SD: 0.556189, % Relative SD: 17.2298
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



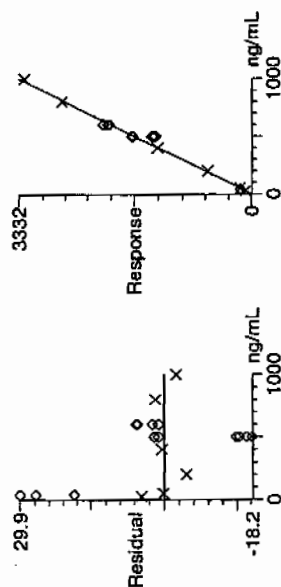
Compound name: RDX
Response Factor: 2.22353
RRF SD: 0.437117, % Relative SD: 19.6587
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



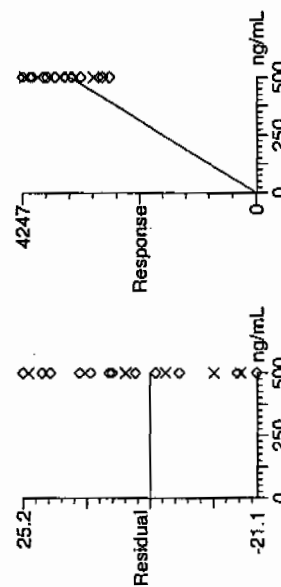
Quantity Calibration Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Compound name: 135-Trinitrobenzene
 Response Factor: 3.33183
 RRF SD: 0.104974, % Relative SD: 3.15064
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: RF



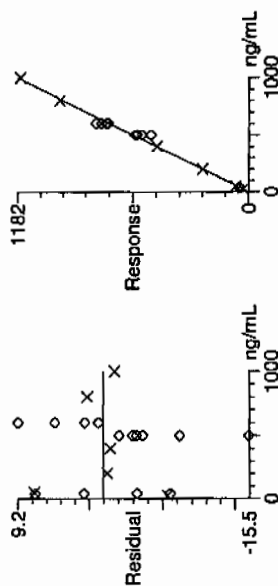
Compound name: 13-Dinitrobenzene-d4
 Response Factor: 6.78663
 RRF SD: 1.01627, % Relative SD: 14.9747
 Response type: External Std, Area
 Curve type: RF



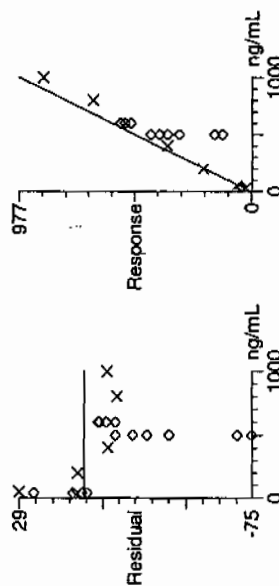
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Compound name: 13-Dinitrobenzene
Response Factor: 1.18172
RRF SD: 0.0548147, % Relative SD: 4.63857
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RIF



Compound name: Tetraol
Response Factor: 0.976612
RRF SD: 0.158443, % Relative SD: 16.2237
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RIF

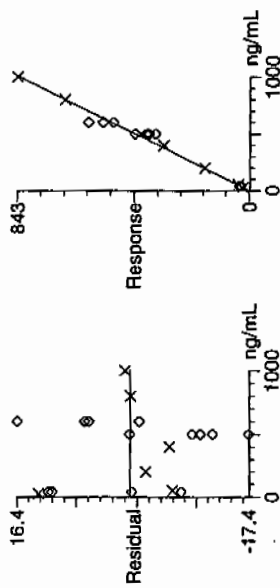


Printed: Tue Jan 19 11:02:03 2010, Page 4 of 9

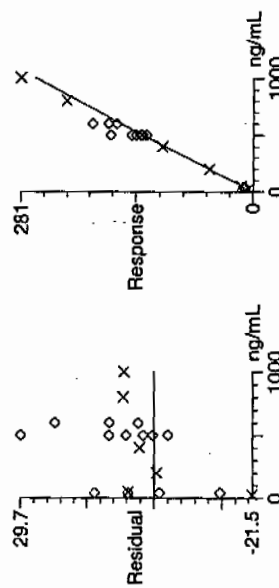
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Compound name: Nitrobenzene
Response Factor: 0.837186
RRF SD: 0.0590728, % Relative SD: 7.05612
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: Rf



Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.263992
RRF SD: 0.0287134, % Relative SD: 10.8766
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Rf



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

Dataset: C:\MASSLYNX\New_Exp\PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

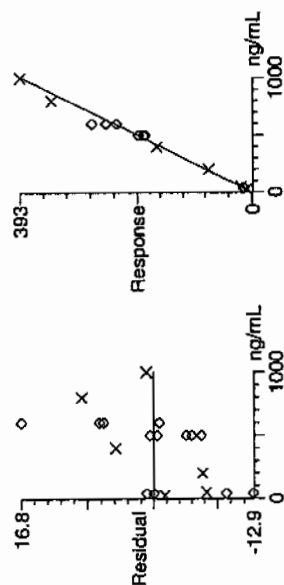
Compound name: 2-Amino-46-dinitrotoluene

Response Factor: 0.389564

RRF SD: 0.0245563, % Relative SD: 6.30354

Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)

Curve type: RF



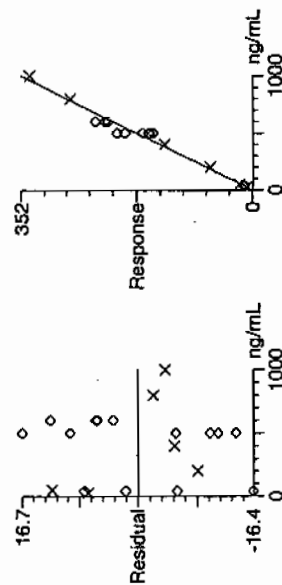
Compound name: 246-Trinitrotoluene

Response Factor: 0.352125

RRF SD: 0.0281482, % Relative SD: 7.99381

Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)

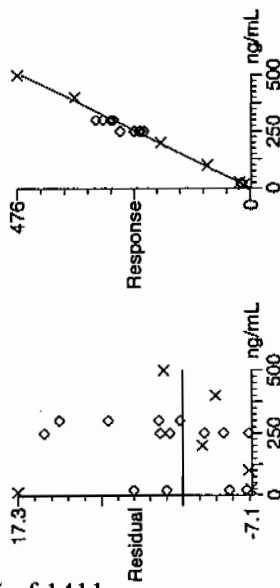
Curve type: RF



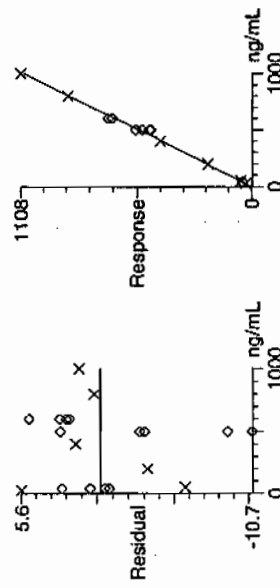
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Compound name: 34-dinitrotoluene
Response Factor: 0.932242
RRF SD: 0.0851351, % Relative SD: 9.1323
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



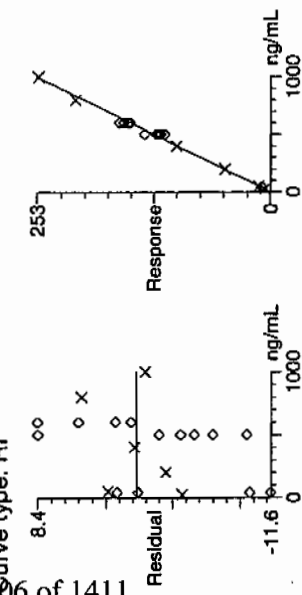
Compound name: 26-dinitrotoluene
Response Factor: 1.09228
RRF SD: 0.0441813, % Relative SD: 4.04489
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



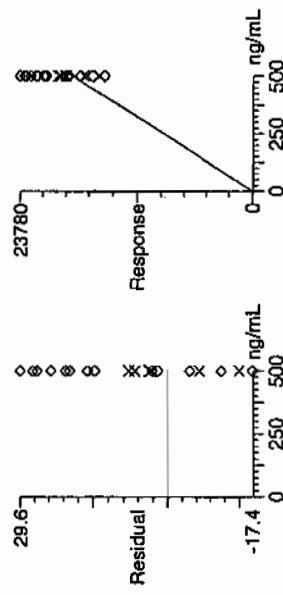
Quantify Calibration Report GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Compound name: 24-dinitrotoluene
Response Factor: 0.252831
RRF SD: 0.00809816, % Relative SD: 3.20299
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 26-dinitrotoluene-d3
Response Factor: 36.6891
RRF SD: 3.25316, % Relative SD: 8.86682
Response type: External Std, Area
Curve type: RF



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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

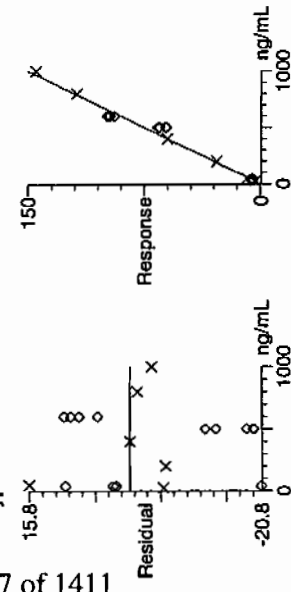
Compound name: 2-Nitrotoluene

Response Factor: 0.150077

RRF SD: 0.0121131, % Relative SD: 8.07131

Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)

Curve type: RF



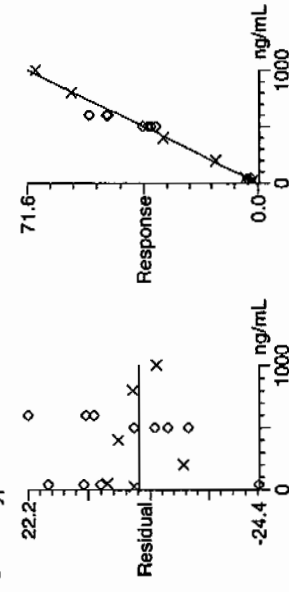
Compound name: 4-Nitrotoluene

Response Factor: 0.0715991

RRF SD: 0.00396681, % Relative SD: 5.5403

Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)

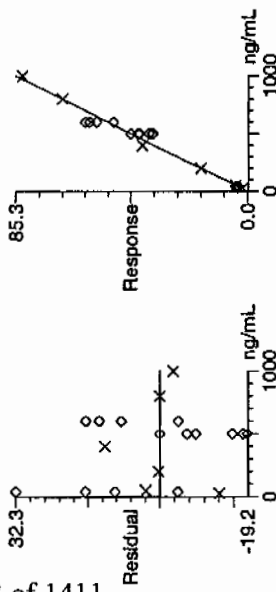
Curve type: RF



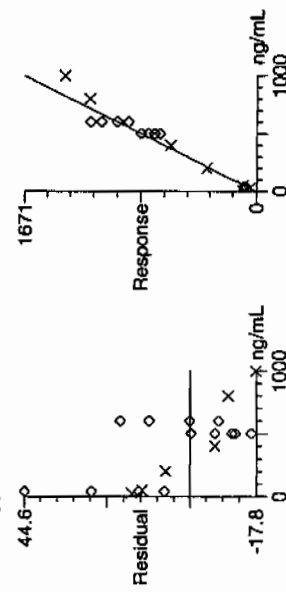
Quantify Calibration Report GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Compound name: 3-Nitrotoluene
Response Factor: 0.0852801
RRF SD: 0.00702733, % Relative SD: 8.24029
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: PETN
Response Factor: 1.67101
RRF SD: 0.228436, % Relative SD: 13.6705
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0118010a

Analysis Date: 18-JAN-10 18:28

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Tetryl	600	515.579	86	
m-Dinitrobenzene	600	611.69	102	
m-Nitrotoluene	600	682.223	114	
o-Nitrotoluene	600	662.222	110	
p-Nitrotoluene	600	732.953	122	*
1,3,5-Trinitrobenzene	600	606.572	101	
1,3-Dinitrobenzene-d4	500	470.52	94	
2,4,6-Trinitrotoluene	600	621.487	104	
2,4-Dinitrotoluene	600	602.873	100	
2,6-Dinitrotoluene	600	630.14	105	
2,6-Dinitrotoluene-d3	500	515.861	103	
2-Amino-4,6-dinitrotoluene	600	595.43	99	
3,4-Dinitrotoluene	300	300.86	100	
4-Amino-2,6-dinitrotoluene	600	621.304	104	
HMX	600	570.4	95	
Nitrobenzene	600	639.033	107	
PETN	600	552.42	92	
RDX	600	658.602	110	

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%

Other Target 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\011810expA.qtd, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118010a

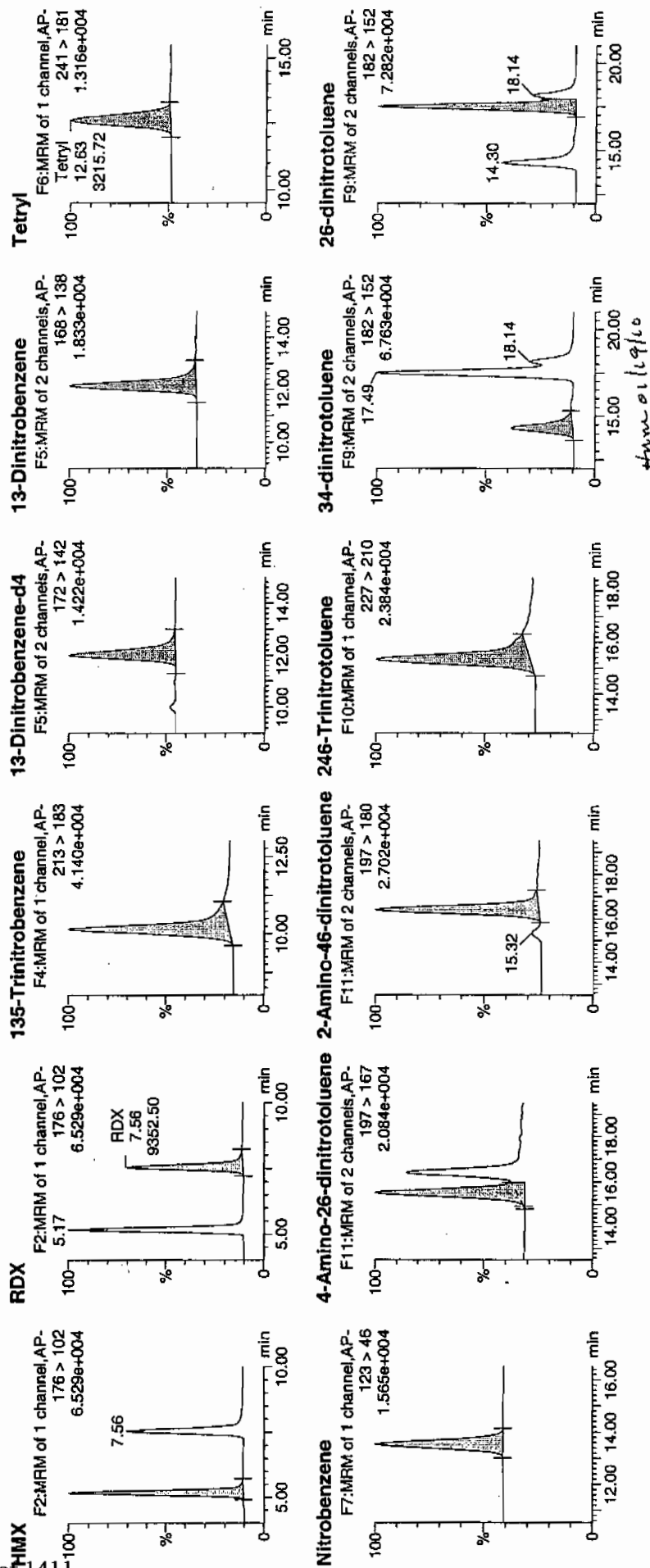
Date: 18-Jan-2010

Time: 18:28:52

ID: WXX100118-07ICV

Y/al: 1:1,B

1/19/10

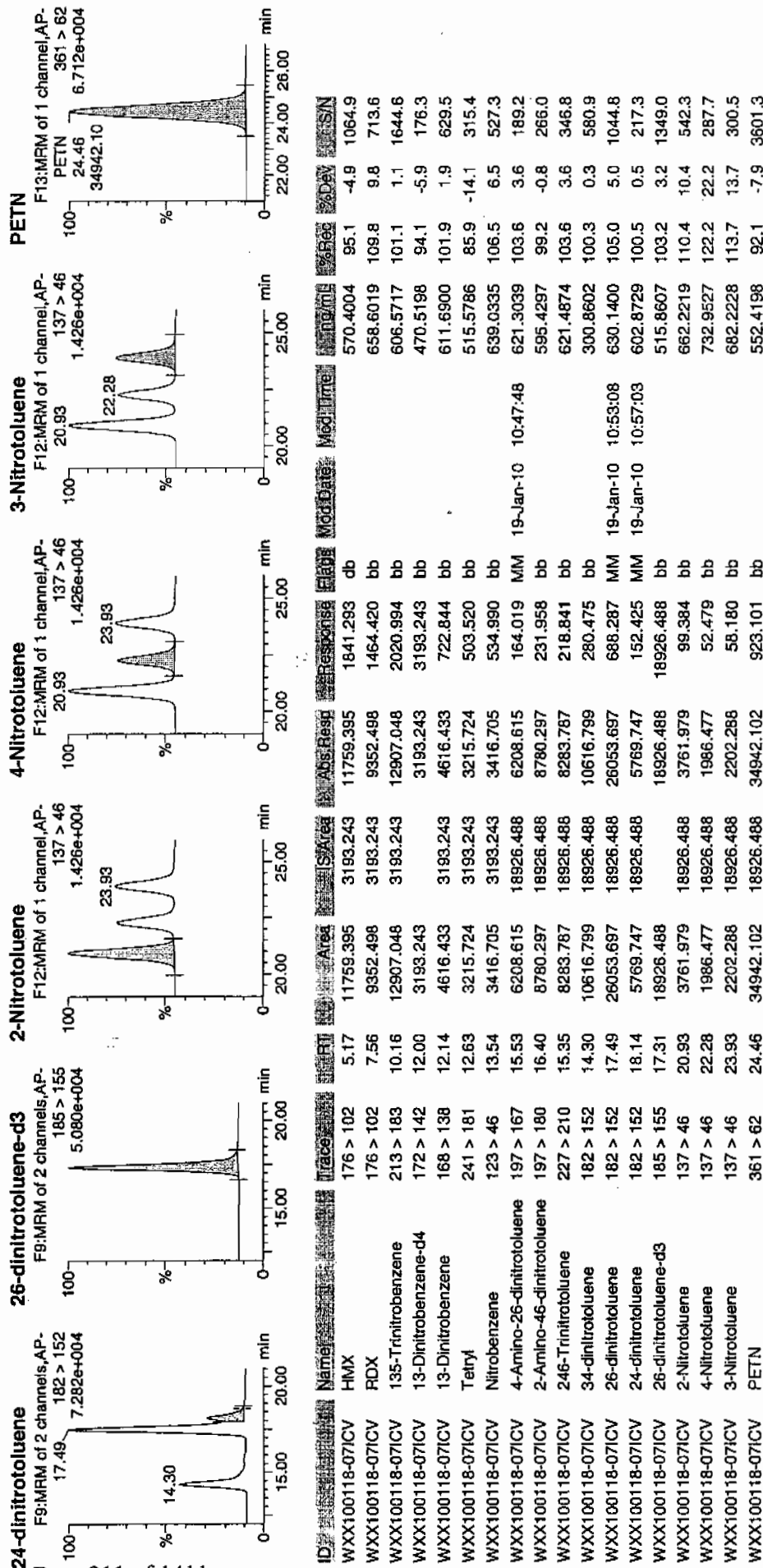


Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Tue Jan 19 11:02:03 2010, Page 20 of 85

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/18/10
 Time of Injection: 1828
 Standard Number: WXX100118-07ICV
 Data File: EXP0118010a

HMX	95.1
RDX	109.8
135-TNB	101.1
13-DNB	101.9
Tetryl	85.9
Nitrobenzene	106.5
4A-26-DNT	103.6
2A-46-DNT	99.2
246-TNT	103.6
34-DNT(surr)	100.3
26-DNT	105.0
24-DNT	100.5
2-NT	110.4
4-NT	122.2
3-NT	113.7
PETN	92.1

Handwritten: 11/19/10

Total 1650.9

Average 103.2

Handwritten: 01/19/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

Form 6

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1102

Lab Code: GEL

Run Date: 11-JAN-10 18-JAN-10

LCMSMS Instrument ID: LCMSMS4

Method: 8321A Modified

HPLC Column: YMC J-Sphere ODS-H8Q

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01100003.wiff	EXS01100004.wiff	EXS01100005.wiff	EXS01100006.wiff	EXS01100007.wiff	EXS01100008.wiff	EXS01100009.wiff					
Parname:												
2,4-Diamino-6-nitrotoluene	136000	270000	647000	1230000	1710000	2100000	4130000	66300	2230	-1.01	.9992	
2,6-Diamino-4-nitrotoluene	185000	385000	935000	1720000	2420000	2910000	5530000	90100	3210	-2.51	.999	
3,4-Dinitrotoluene	369000	753000	1820000	3420000	4860000	6090000	11700000	105000	13900	-2.33	.9979	
3,5-Dinitroaniline	632000	1230000	2820000	5120000	7050000	9120000	15900000	250000	10000	-1.12	.9998	
TATB	86900	170000	408000	762000	1150000	1500000	2970000	20100	1500	-0.13	1	
tris(o-cresyl) phosphate	1480000	2820000	6430000	11800000	17400000	20800000	31100000	204000	26300	-5.44	.9997	

Quadratic 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

011110ICAL

Peak Name: TATB
No Internal Standard
Q1/Q3 Masses: 257.20/204.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	2.01e+004			
a1	1.5e+003			
a2	-0.0128			
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	2.5e+005			
a1	1e+004			
a2	-1.12			
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	1.05e+005			
a1	1.39e+004			
a2	-2.33			
Correlation coefficient 0.9979				
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	9.01e+004			
a1	3.21e+003			
a2	-0.251			
Correlation coefficient 0.9990				
Use Area				

Peak Name: 24-Diamino-6-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

for 11/21/10

for 11/21/10

011110ICAL

Iterate No

None

weighting

Fit Quadratic
a0 6.63e+004
a1 2.23e+003
a2 -0.101

Correlation coefficient 0.9992
Use Area

Peak Name: tris(o-cresyl) phosphate
No Internal Standard
Q1/Q3 Masses: 369.15/91.00 amu

Iterate No

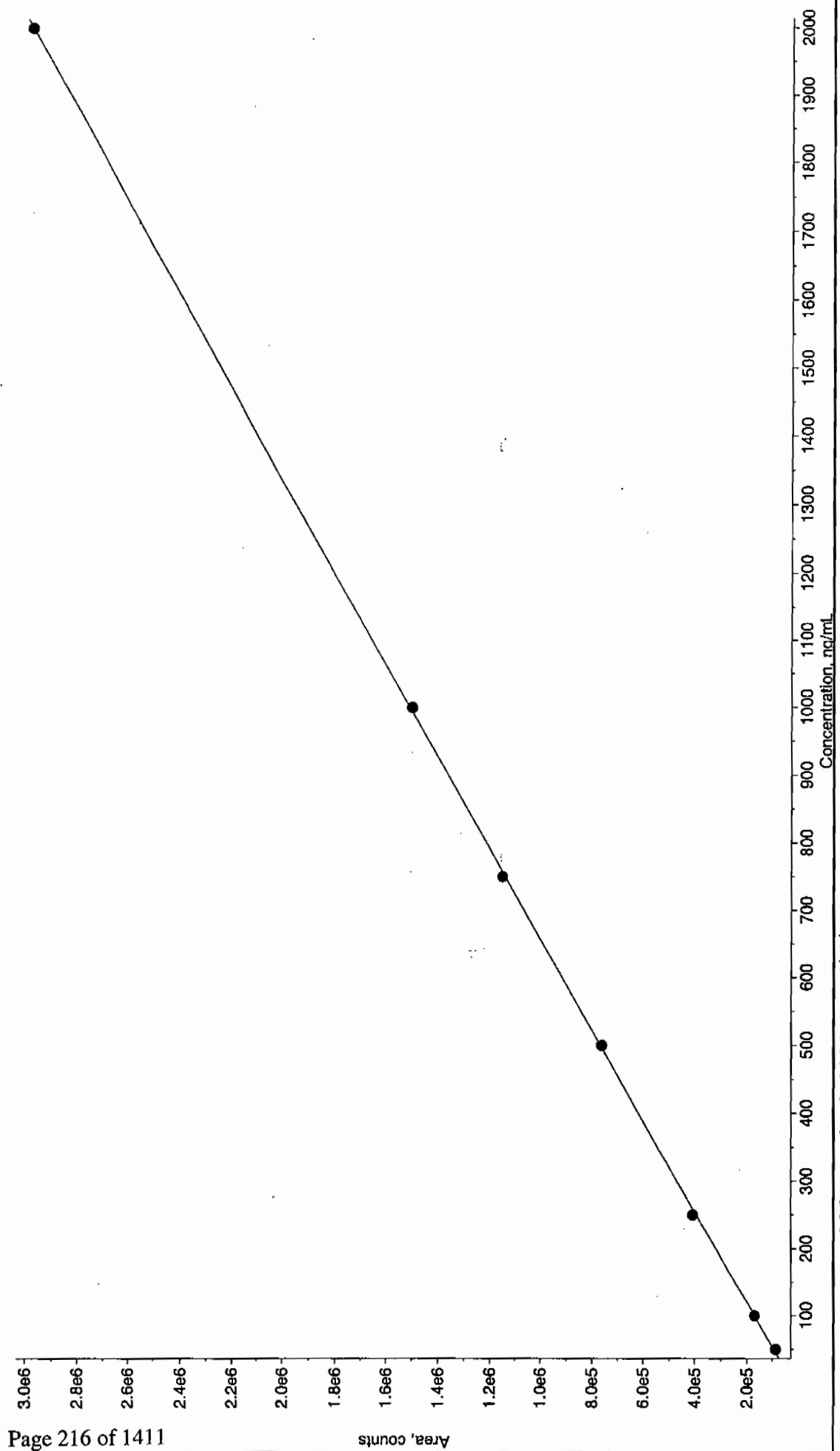
None

weighting

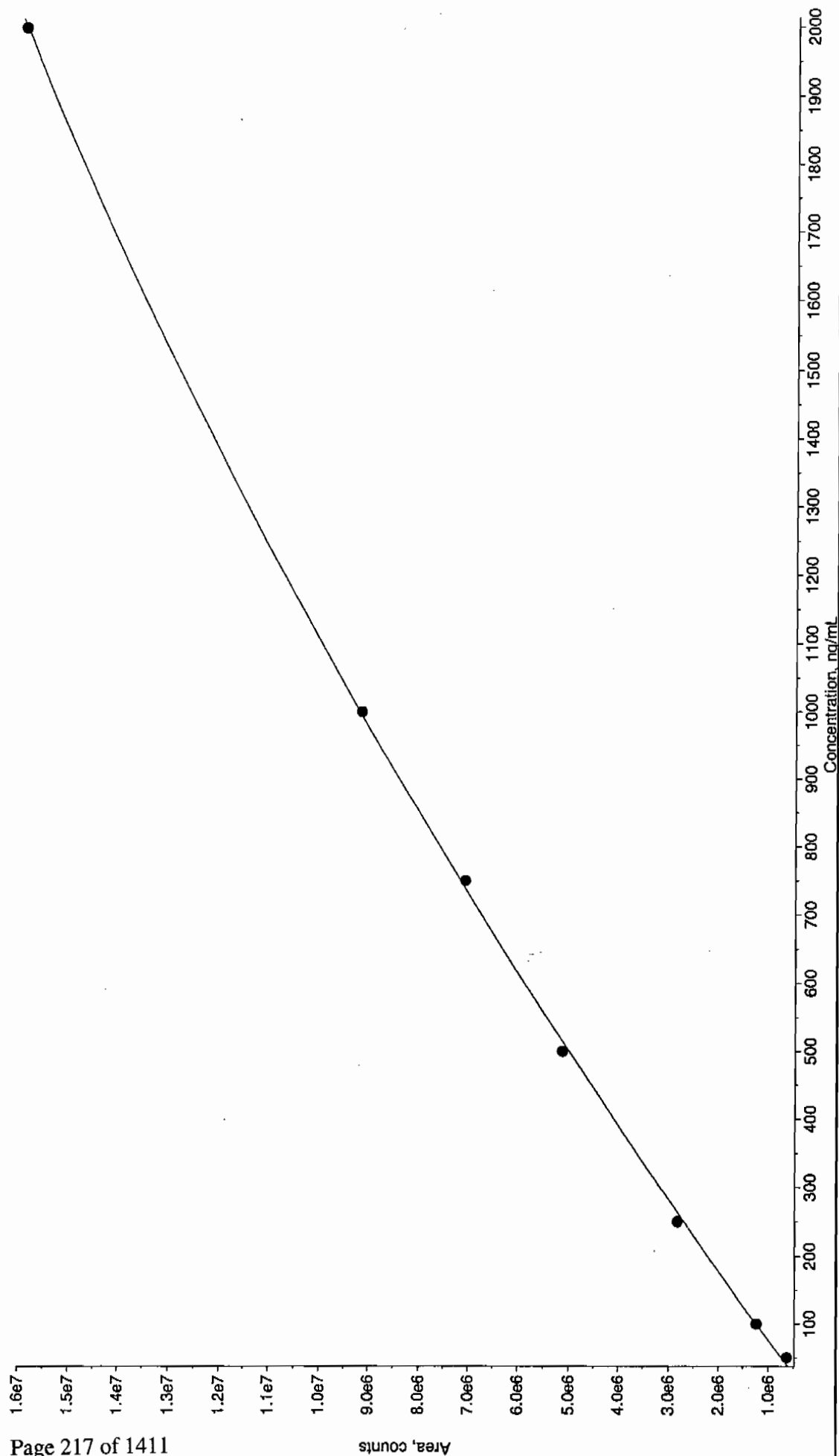
Fit Quadratic
a0 2.04e+005
a1 2.63e+004
a2 -5.44

Correlation coefficient 0.9997
Use Area

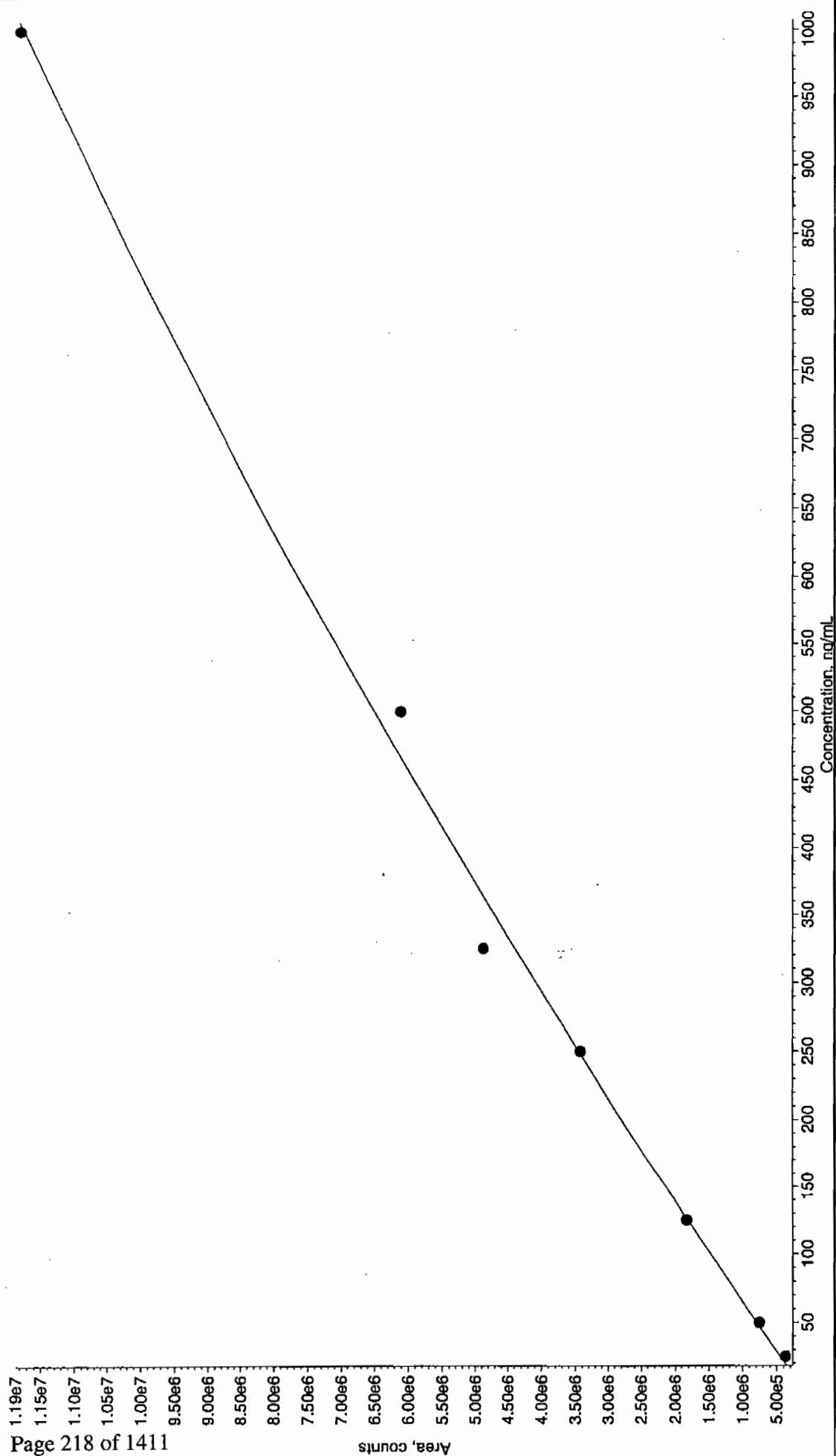
■ 011110.rdb (TATB): "Quadratic" Regression ("No" weighting): $y = -0.0128 x^2 + 1.5e+003 x + 2.01e+004$ ($r = 1.0000$)



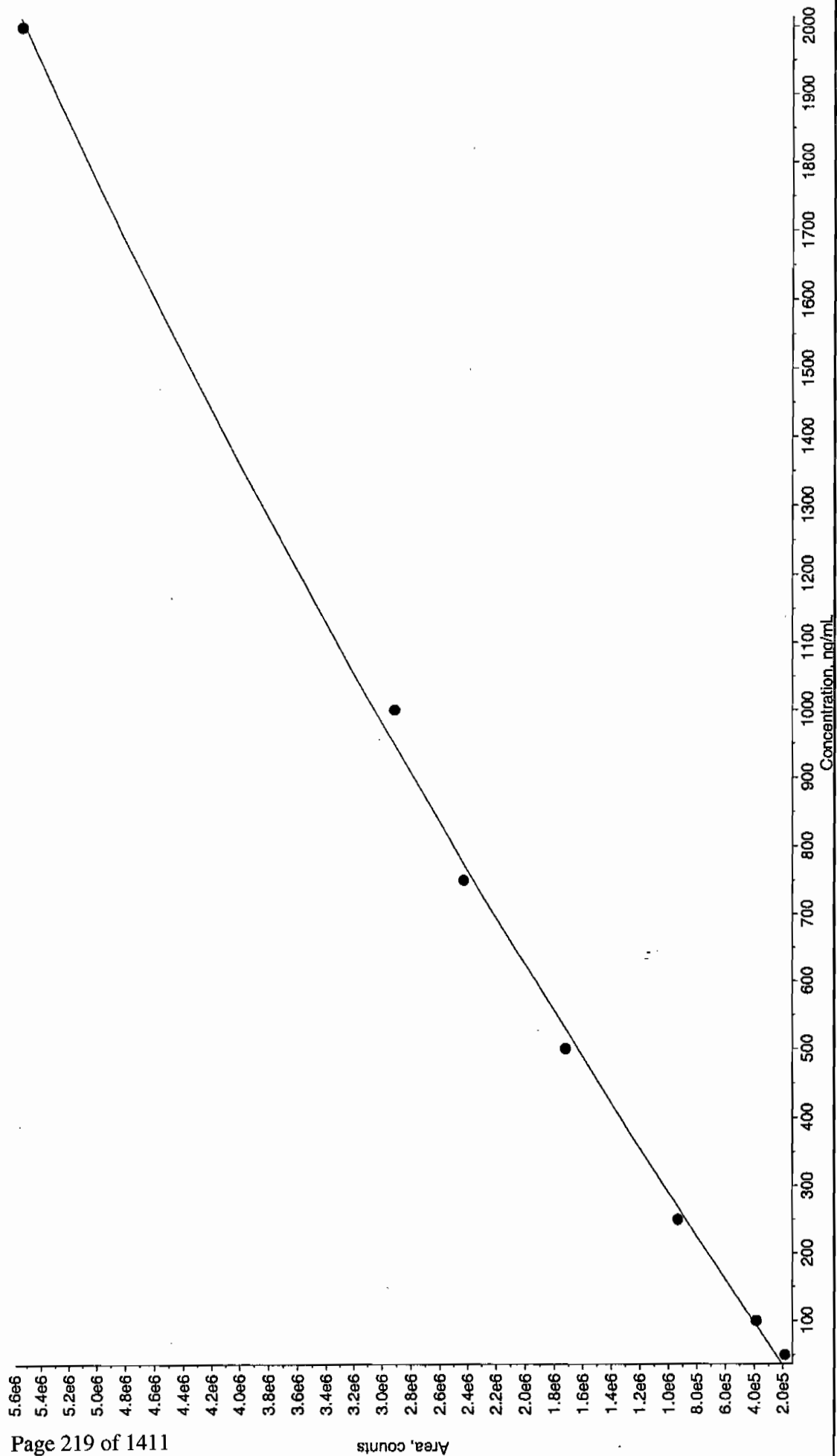
011110.rdb (35-Dinitroaniline): "Quadratic" Regression ("No" weighting): $y = -1.12 \times 10^{-5} x^2 + 1.0004 \times 10^{-4} x + 2.5 \times 10^5$ ($r = 0.9998$)



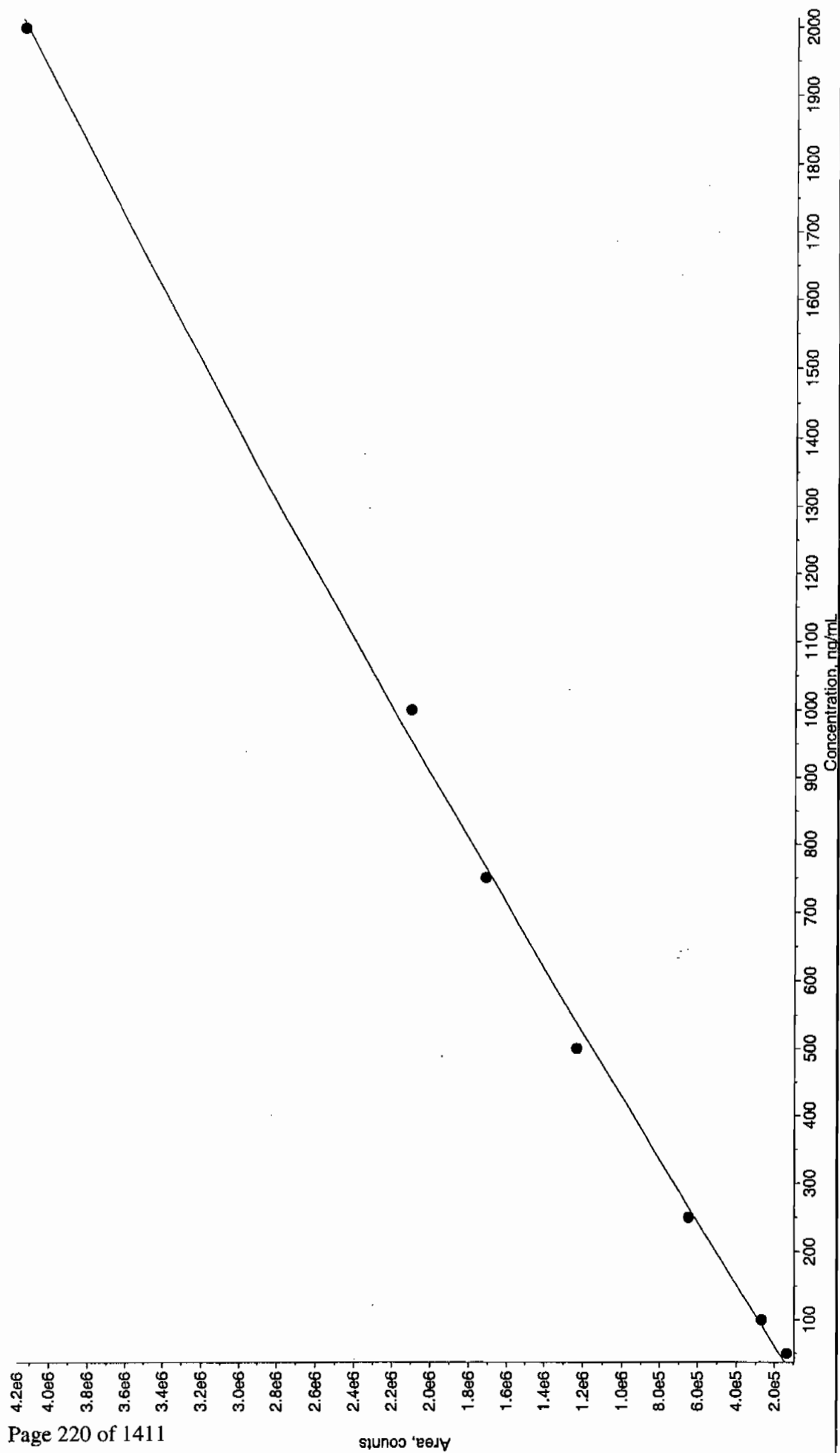
011110.rdb (34-Dinitrotoluene): "Quadratic" Regression ("No" weighting): $y = -2.33 x^2 + 1.39e+004 x + 1.05e+005$ ($r = 0.9979$)



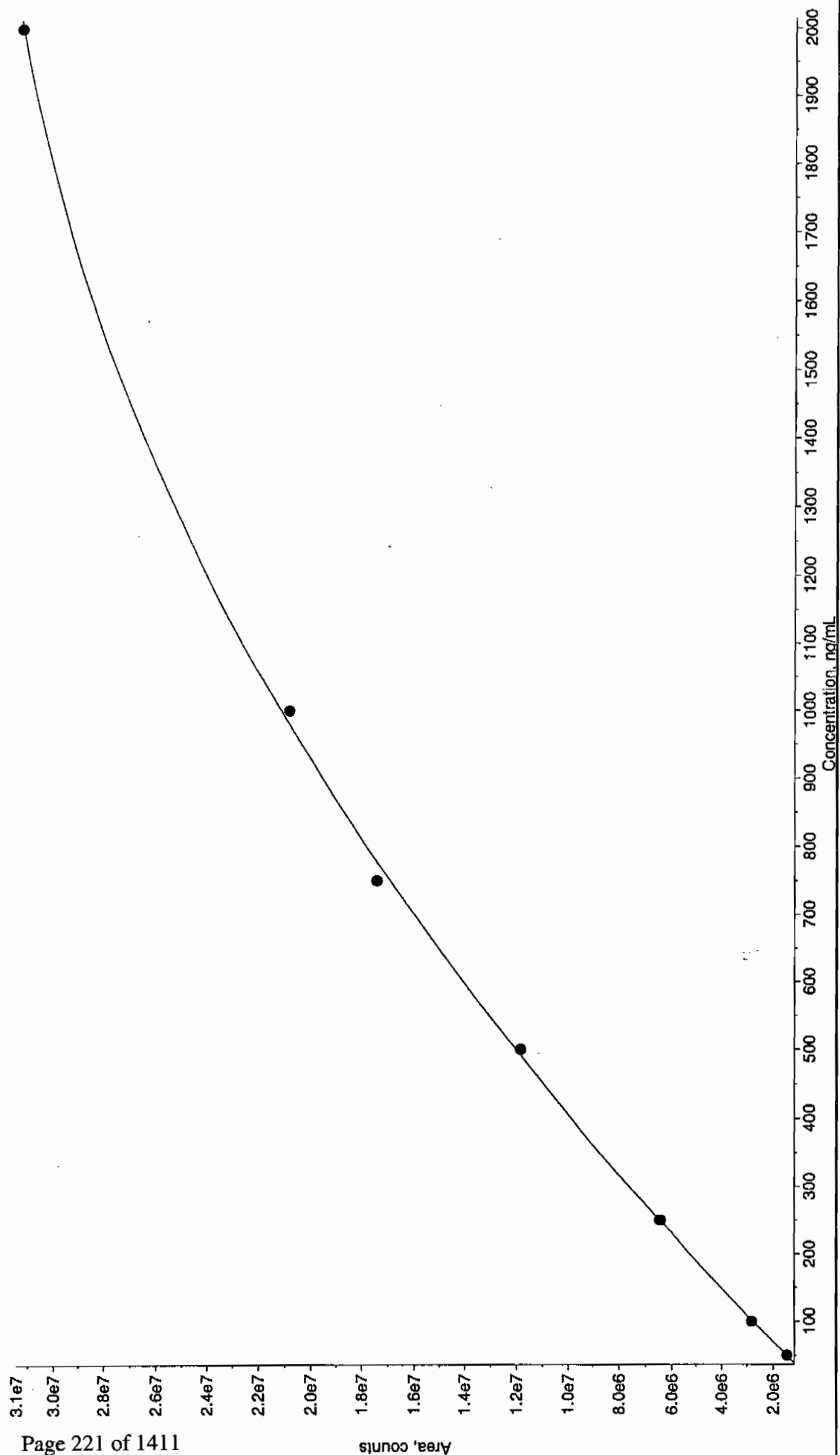
011110.rdb (26-Diamino-4-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.251 x^2 + 3.21e+003 x + 9.01e+004$ ($r = 0.9990$)



011110.rdb (24-Diamino-6-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.101 x^2 + 2.23e+003 x + 6.63e+004$ ($r = 0.9992$)



011110.rdb (tris(o-cresyl) phosphate): "Quadratic" Regression ("No" weighting): $y = -5.44 x^2 + 2.63e+004 x + 2.04e+005$ ($r = 0.9997$)



Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01100011.wiff

Analysis Date: 11-JAN-10 13:54

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	482	96	
2,6-Diamino-4-nitrotoluene	500	459	92	
3,4-Dinitrotoluene	250	225	90	
3,5-Dinitroaniline	500	469	94	
TATB	500	494	99	
tris(o-cresyl) phosphate	500	475	95	

Recovery Limits:

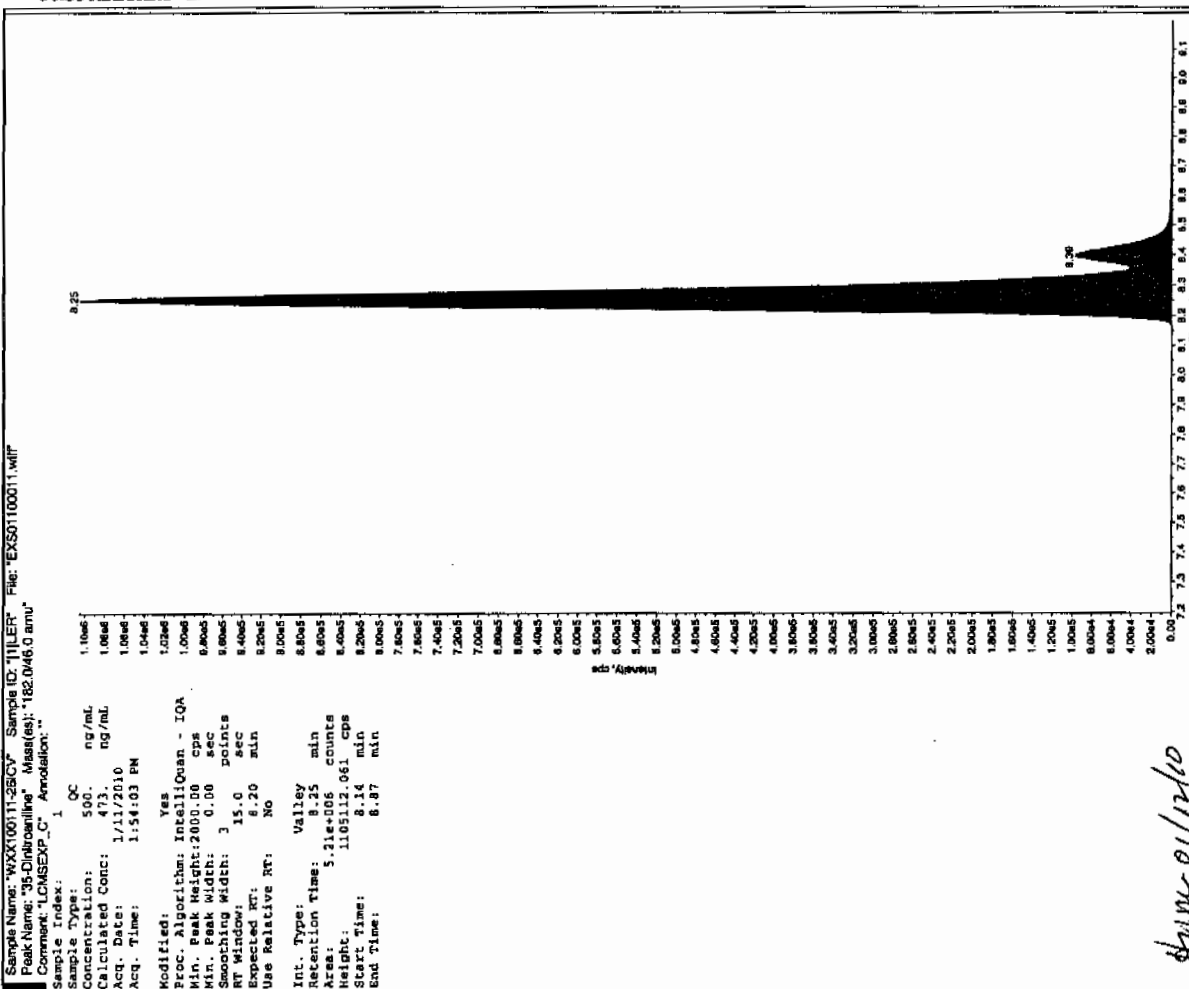
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

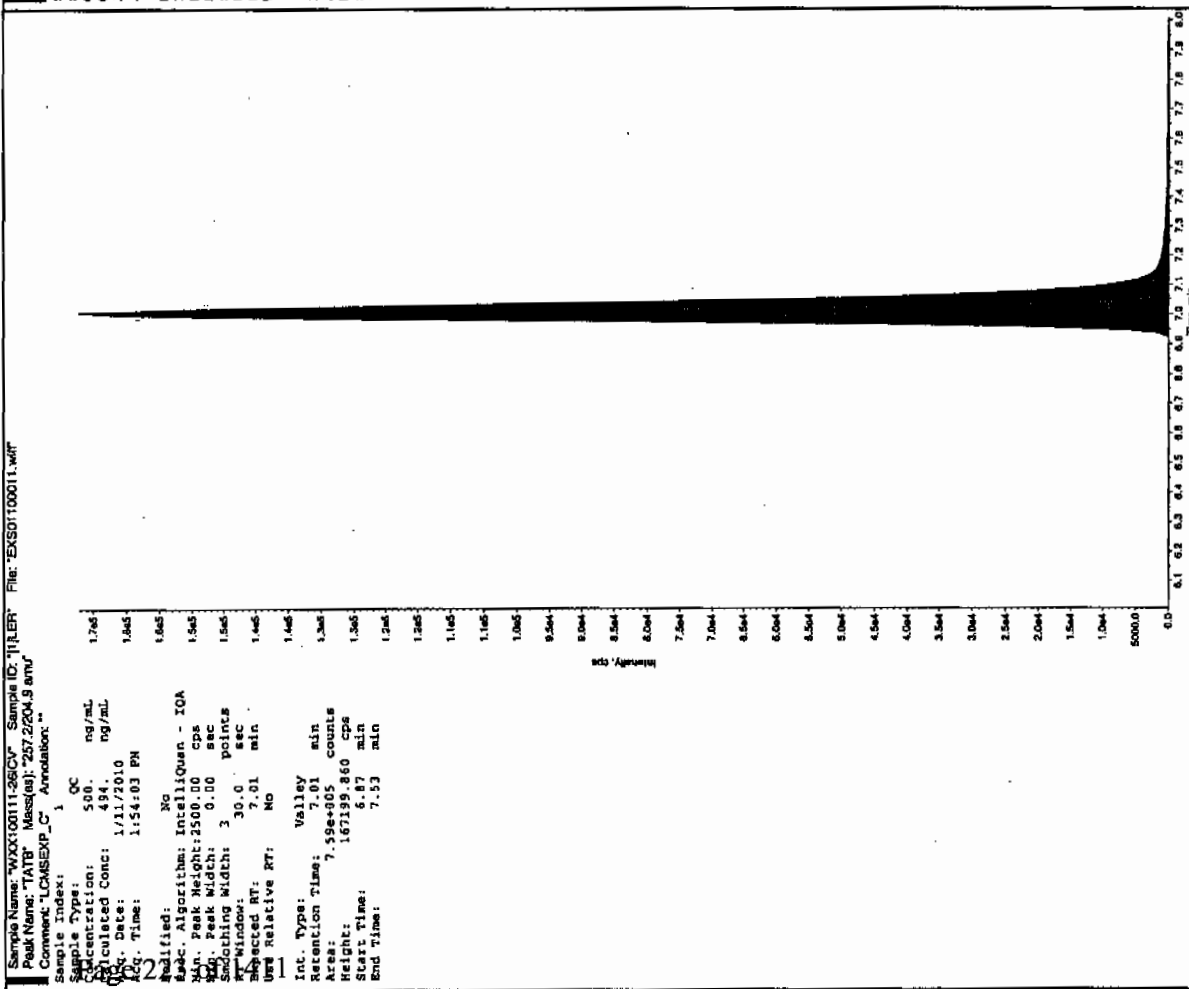
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

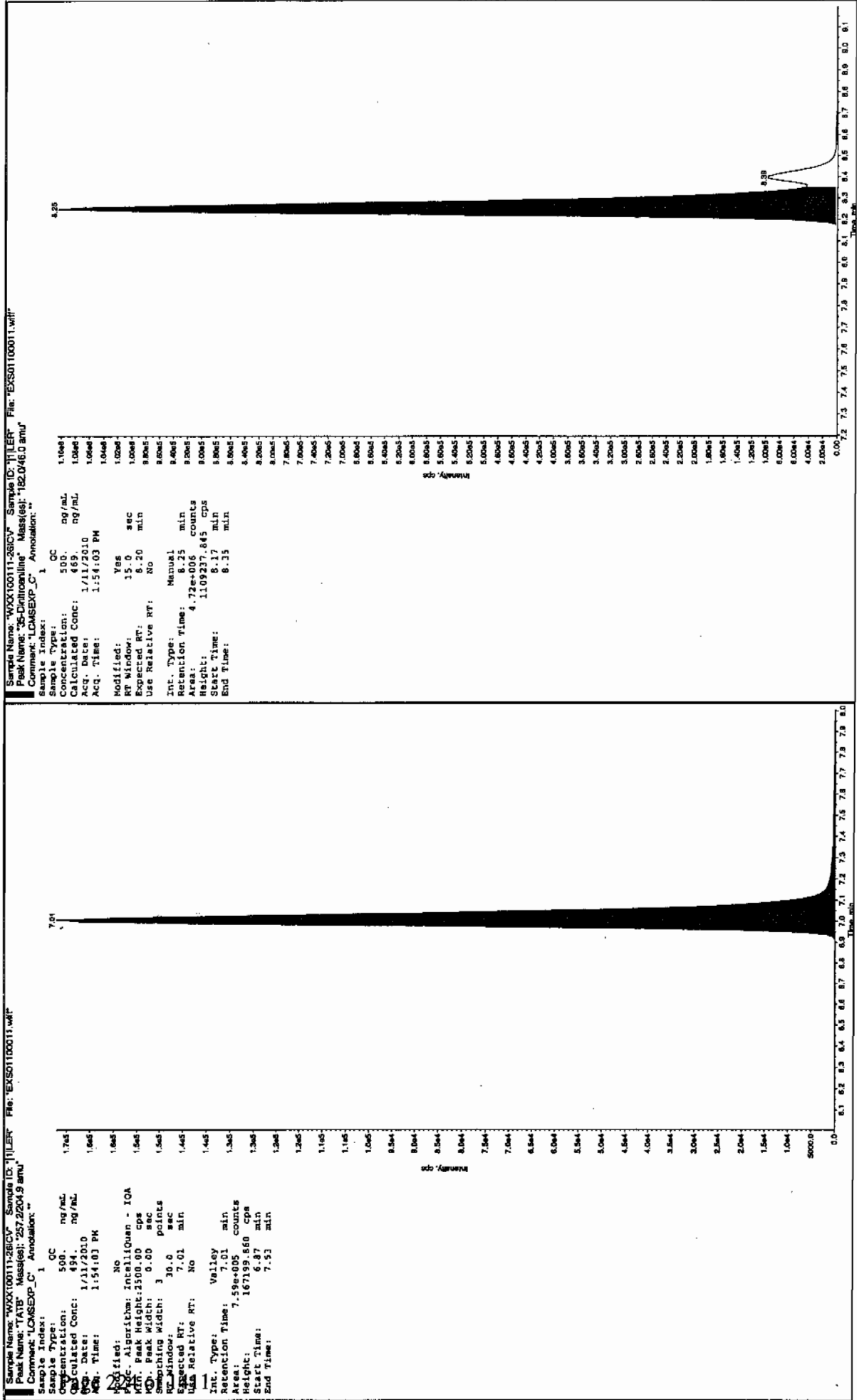
Before 01/11/10

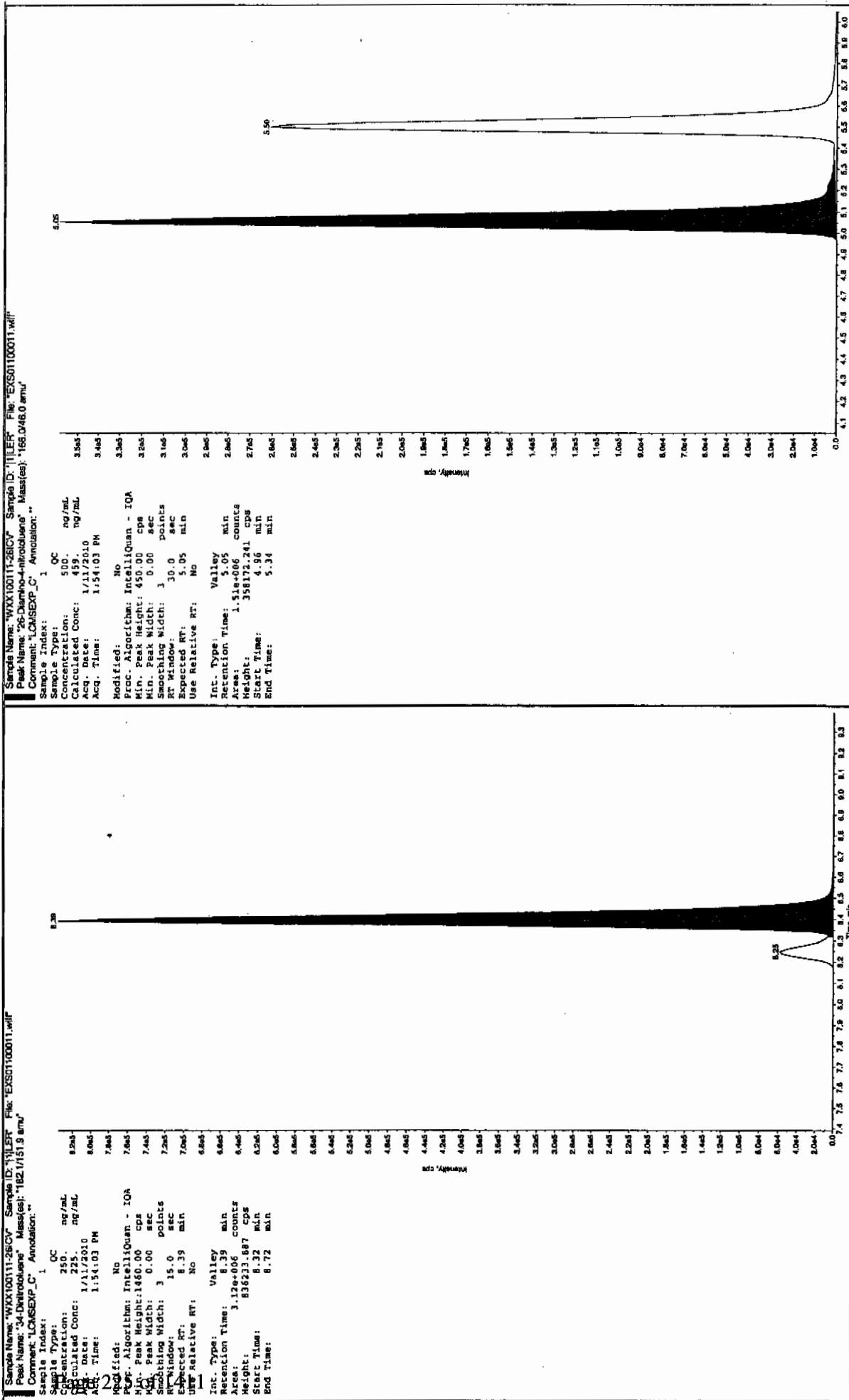


After 01/11/10



01/11/10
J. J. J.





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



7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0118012a

Analysis Date: 18-JAN-10 19:27

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
RDX	40	37.064	93	
Tetryl	40	49.073	123	
m-Dinitrobenzene	40	40.812	102	
m-Nitrotoluene	40	46.72	117	
o-Nitrotoluene	40	41.066	103	
p-Nitrotoluene	40	43.026	108	
1,3,5-Trinitrobenzene	40	50.691	127	
1,3-Dinitrobenzene-d4	500	537.934	108	
2,4,6-Trinitrotoluene	40	43.056	108	
2,4-Dinitrotoluene	40	39.965	100	
2,6-Dinitrotoluene	40	39.88	100	
2,6-Dinitrotoluene-d3	500	597.351	119	
2-Amino-4,6-dinitrotoluene	40	39.987	100	
3,4-Dinitrotoluene	20	18.681	93	
4-Amino-2,6-dinitrotoluene	40	42.288	106	
HMX	40	39.982	100	
Nitrobenzene	40	44.51	111	
PETN	40	45.548	114	

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%

Other Target 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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118012a

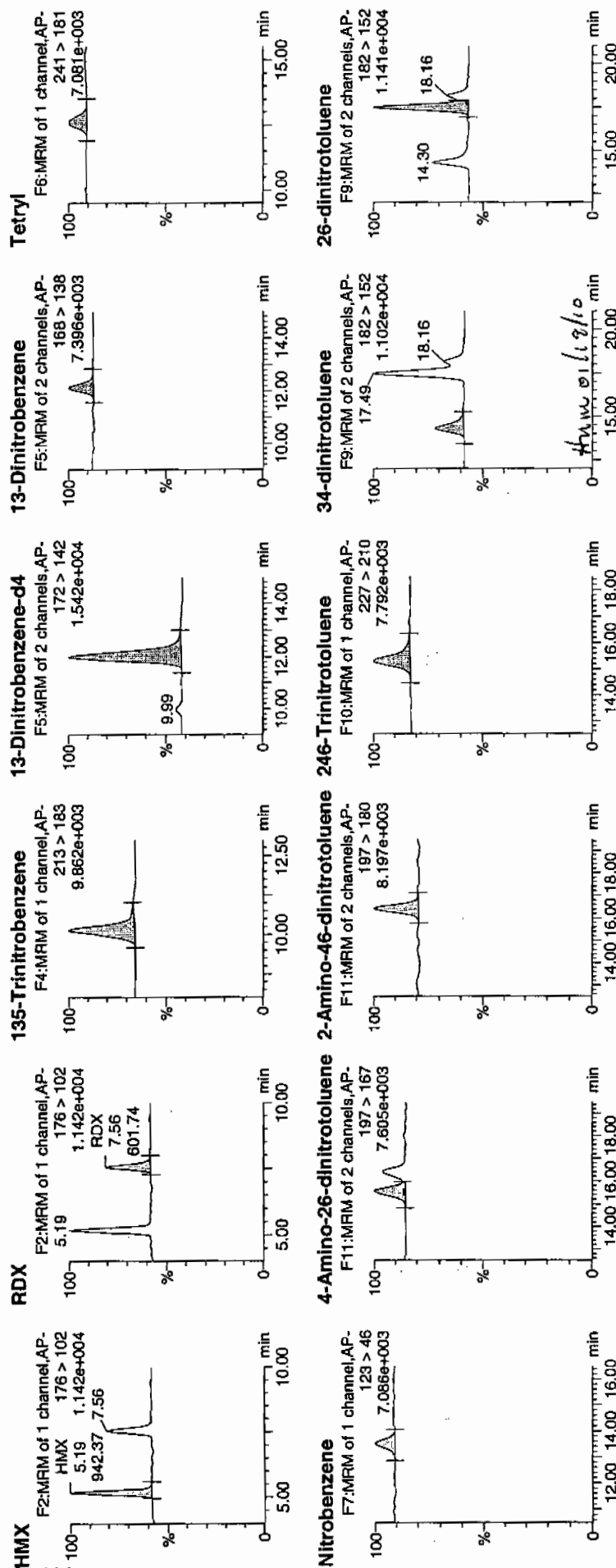
Date: 18-Jan-2010

Time: 19:27:49

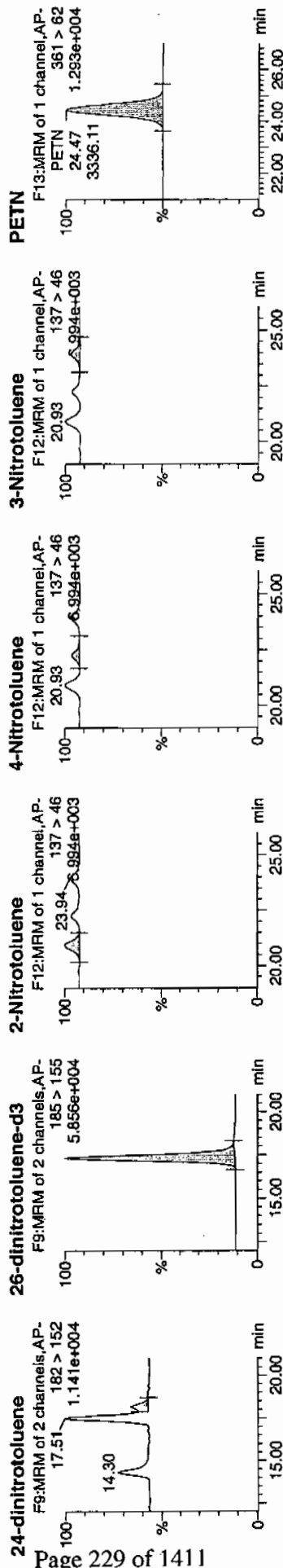
ID: WXX100118-08CRI

Vial: 1:1,C

1/19/10
11:11



Dataset: C:\MASSLYNX\New Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



ID	Name	Infrared	IR	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Int/Std	% Rec	% Dev	SN
WXX100118-08CRI	HMx	176 > 102	5.19	942.368	3650.761	942.368	129.065	bb	19-Jan-10	10:47:55	39.9819	100.0	-0.0	82.8
WXX100118-08CRI	RDX	176 > 102	7.56	601.741	3650.761	601.741	82.413	bb			37.0641	92.7	-7.3	45.2
WXX100118-08CRI	135-Trinitrobenzene	213 > 183	10.14	1233.176	3650.761	1233.176	168.893	bb			50.6908	126.7	26.7	172.6
WXX100118-08CRI	13-Dinitrobenzene-d4	172 > 142	12.00	3650.761		3650.761	3650.761	bb			537.9344	107.6	7.6	517.0
WXX100118-08CRI	13-Dinitrobenzene	168 > 138	12.14	352.143	3650.761	352.143	48.229	bb			40.8124	102.0	2.0	45.8
WXX100118-08CRI	Tetryl	241 > 181	12.63	349.926	3650.761	349.926	47.925	bb			49.0728	122.7	22.7	30.8
WXX100118-08CRI	Nitrobenzene	123 > 46	13.54	272.080	3650.761	272.080	37.263	bb			44.5104	111.3	11.3	20.2
WXX100118-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.56	489.338	21916.291	489.338	11.164	MM	19-Jan-10	10:47:55	42.2884	105.7	5.7	22.6
WXX100118-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.43	682.797	21916.291	682.797	15.577	bb			39.9857	100.0	-0.0	33.0
WXX100118-08CRI	246-Trinitrotoluene	227 > 210	15.31	664.546	21916.291	664.546	15.161	bb			43.0558	107.6	7.6	61.0
WXX100118-08CRI	34-dinitrotoluene	182 > 152	14.30	783.362	21916.291	783.362	17.415	bb			18.6812	93.4	-6.6	26.5
WXX100118-08CRI	26-dinitrotoluene	182 > 152	17.51	1909.356	21916.291	1909.356	43.560	MM	19-Jan-10	10:53:17	39.8802	99.7	-0.3	71.1
WXX100118-08CRI	24-dinitrotoluene	182 > 152	18.16	442.897	21916.291	442.897	10.104	MM	19-Jan-10	10:57:10	39.9645	99.9	-0.1	15.2
WXX100118-08CRI	26-dinitrotoluene-d3	185 > 155	17.31	21916.291		21916.291	21916.291	bb			597.3508	119.5	19.5	1503.2
WXX100118-08CRI	2-Nitrotoluene	137 > 46	20.93	270.144	21916.291	270.144	6.163	bb			41.0663	102.7	2.7	68.3
WXX100118-08CRI	4-Nitrotoluene	137 > 46	22.25	135.030	21916.291	135.030	3.081	bb			43.0255	107.6	7.6	35.9
WXX100118-08CRI	3-Nitratoluene	137 > 46	23.94	174.640	21916.291	174.640	3.984	bb			46.7196	116.8	16.8	41.7
WXX100118-08CRI	PETN	361 > 62	24.47	3336.115	21916.291	3336.115	76.110	bb			45.5475	113.9	13.9	655.3

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/18/10
 Time of Injection 1927
 Standard Number WXX100118-08CRI
 Data File EXP0118012a

HMX	100.0
RDX	92.7
135-TNB	126.7
13-DNB	102.0
Tetryl	122.7
Nitrobenzene	111.3
4A-26-DNT	105.7
2A-46-DNT	100.0
246-TNT	107.6
34-DNT(surr)	93.4
26-DNT	99.7
24-DNT	99.9
2-NT	102.7
4-NT	107.6
3-NT	116.8
PETN	113.9
Total	1702.7

*not
1/19/10*

Average

106.4

ham 01/18/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEI

GEL Sample ID: WXXCCV

GEL Data File EXP0118019a

Analysis Date: 18-JAN-10 22:54

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	614.058	102	
1,3-Dinitrobenzene-d4	500	494.251	99	
2,4,6-Trinitrotoluene	600	636.232	106	
2,4-Dinitrotoluene	600	629.771	105	
2,6-Dinitrotoluene	600	614.102	102	
2,6-Dinitrotoluene-d3	500	477.476	95	
2-Amino-4,6-dinitrotoluene	600	641.375	107	
3,4-Dinitrotoluene	300	323.805	108	
4-Amino-2,6-dinitrotoluene	600	659.577	110	
HMX	600	597.765	100	
Nitrobenzene	600	592.53	99	
PETN	600	600.489	100	
RDX	600	688.562	115	
Tetryl	600	559.14	93	
m-Dinitrobenzene	600	603.025	101	
m-Nitrotoluene	600	651.691	109	
o-Nitrotoluene	600	630.709	105	
p-Nitrotoluene	600	662.108	110	

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%

Other Target 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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118019a

Date: 18-Jan-2010

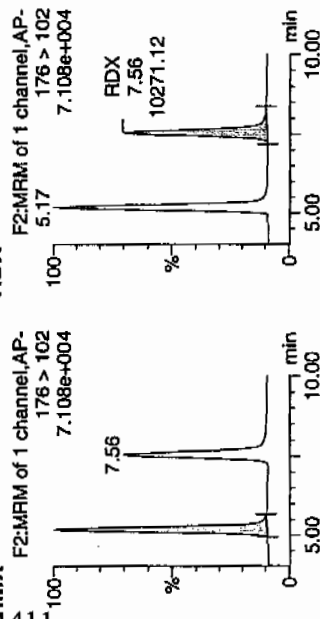
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ID: WXX100118-07CCV

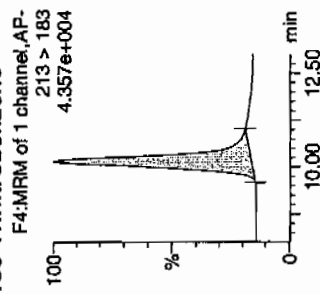
Vial: 1:1,B

of 411

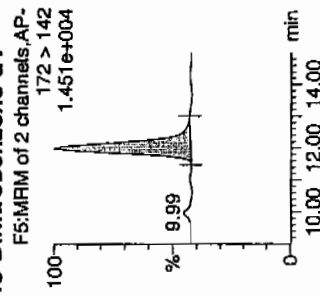
RDX



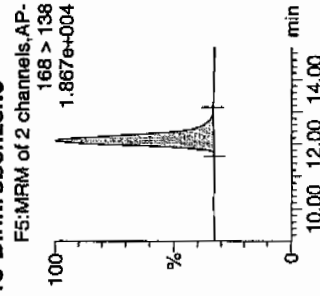
135-Trinitrobenzene



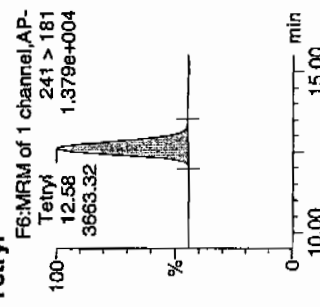
13-Dinitrobenzene-d4



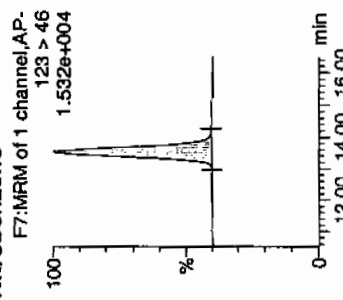
13-Dinitrobenzene



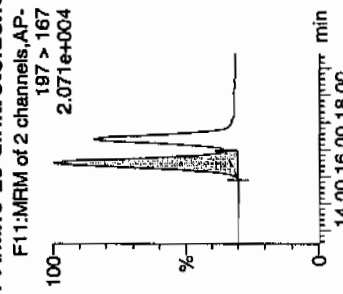
Tetryl



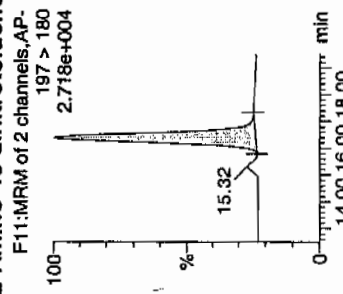
Nitrobenzene



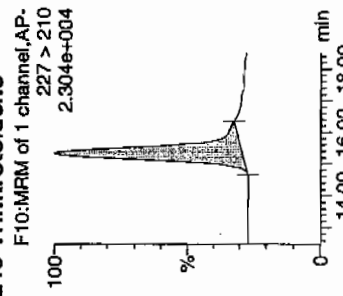
4-Amino-26-dinitrotoluene



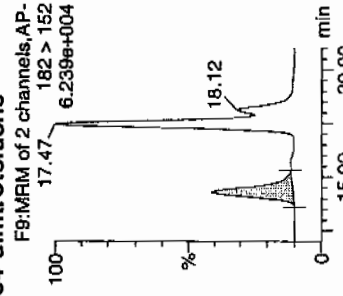
2-Amino-46-dinitrotoluene



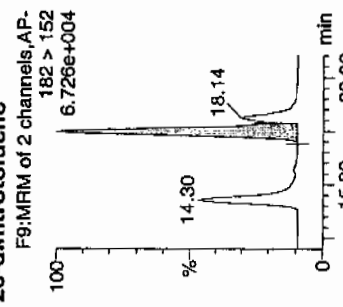
246-Trinitrotoluene



34-dinitrotoluene



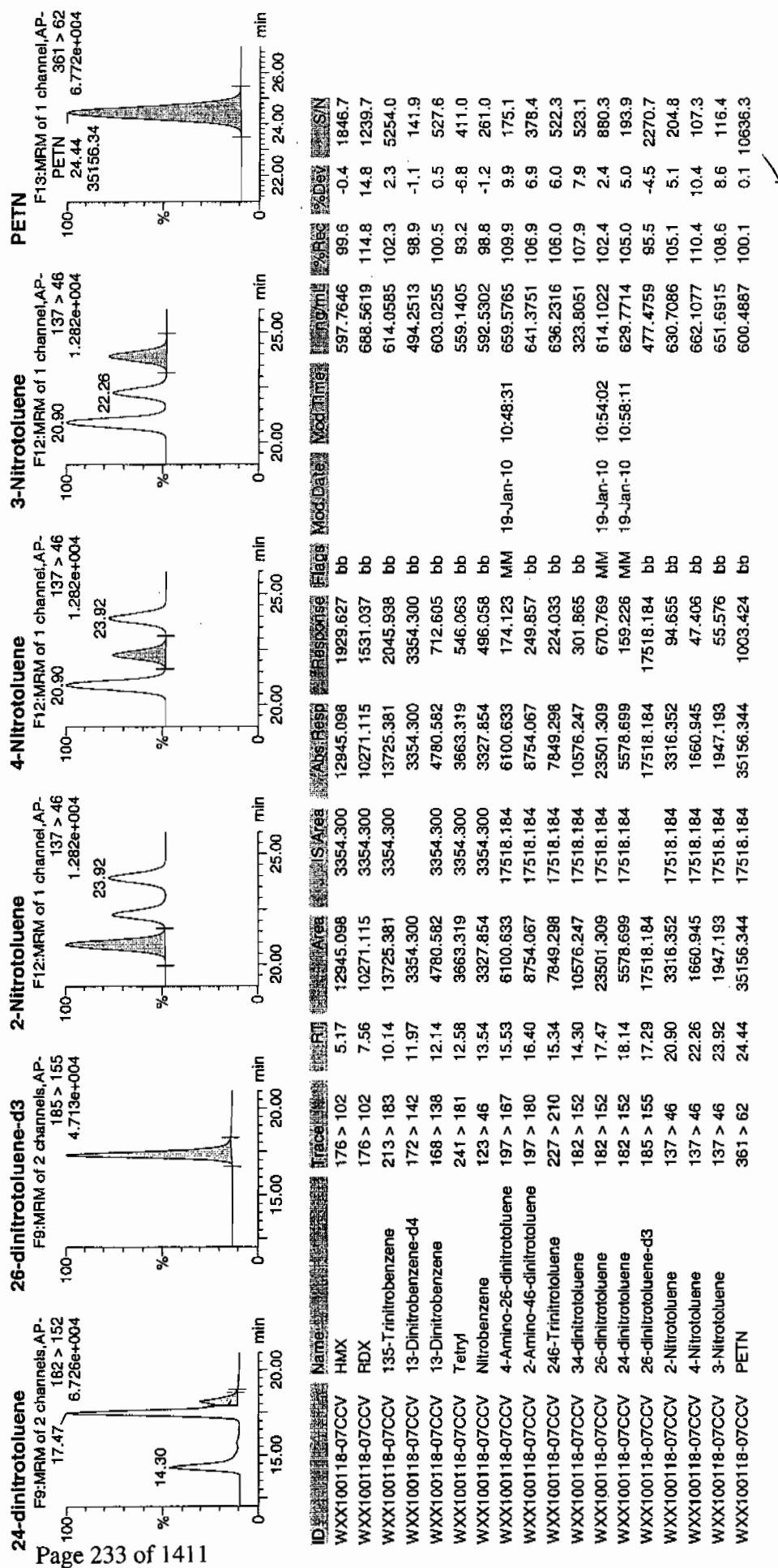
26-dinitrotoluene



Handwritten signature

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

Dataset: C:\MASSLYN\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/18/10
 Time of Injection: 2254
 Standard Number: WXX100118-07CCV
 Data File: EXP0118019a

HMX	99.6
RDX	114.8
135-TNB	102.3
13-DNB	100.5
Tetryl	93.2
Nitrobenzene	98.8
4A-26-DNT	109.9
2A-46-DNT	106.9
246-TNT	106.0
34-DNT(surr)	107.9
26-DNT	102.4
24-DNT	105.0
2-NT	105.1
4-NT	110.4
3-NT	108.6
PETN	100.1

*WTF
1/19/10*

Total 1671.5

Average 104.5

Amc 01/19/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0118021a

Analysis Date: 18-JAN-10 23:53

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	51.962	130	
1,3-Dinitrobenzene-d4	500	514.616	103	
2,4,6-Trinitrotoluene	40	33.453	84	
2,4-Dinitrotoluene	40	40.668	102	
2,6-Dinitrotoluene	40	41.074	103	
2,6-Dinitrotoluene-d3	500	616.151	123	
2-Amino-4,6-dinitrotoluene	40	34.84	87	
3,4-Dinitrotoluene	20	20.351	102	
4-Amino-2,6-dinitrotoluene	40	34.262	86	
HMX	40	41.795	104	
Nitrobenzene	40	37.04	93	
PETN	40	42.807	107	
RDX	40	38.304	96	
Tetryl	40	40.399	101	
m-Dinitrobenzene	40	37.182	93	
m-Nitrotoluene	40	38.459	96	
o-Nitrotoluene	40	31.698	79	
p-Nitrotoluene	40	30.243	76	

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%

Other Target 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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118021a

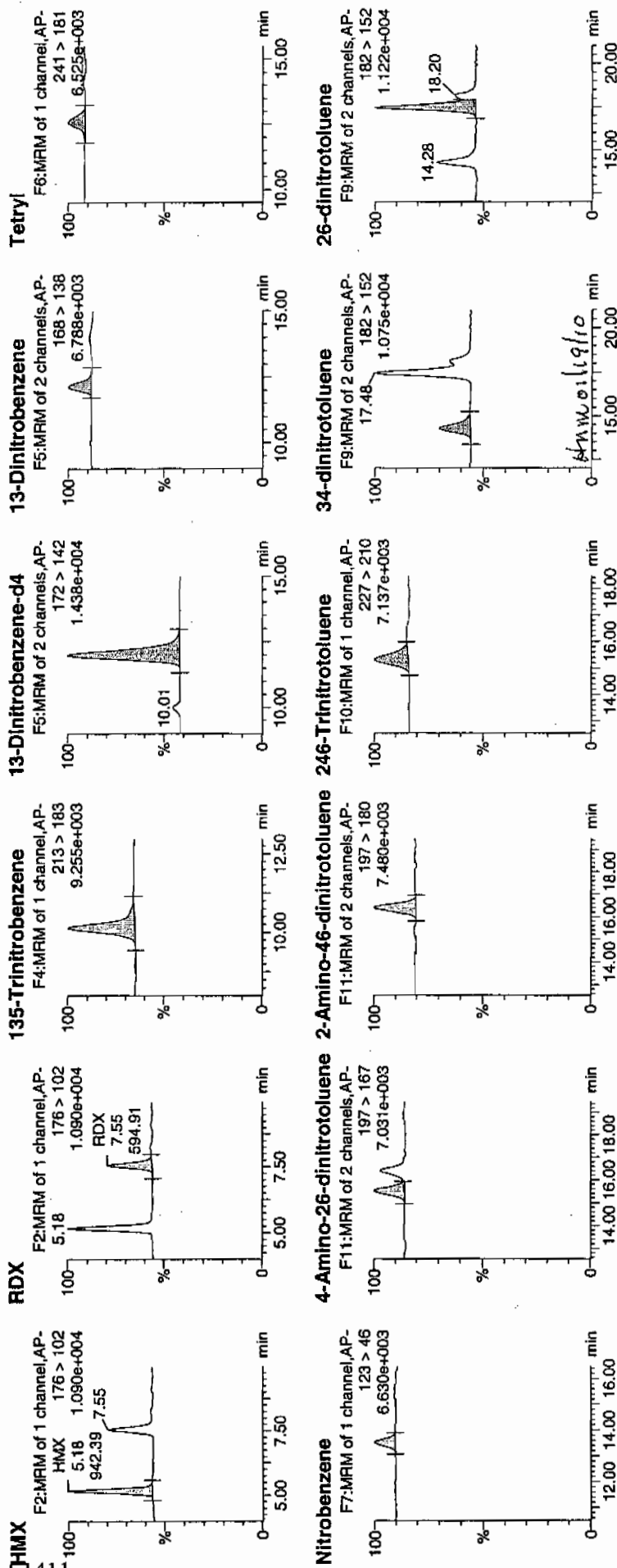
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Time: 23:53:08

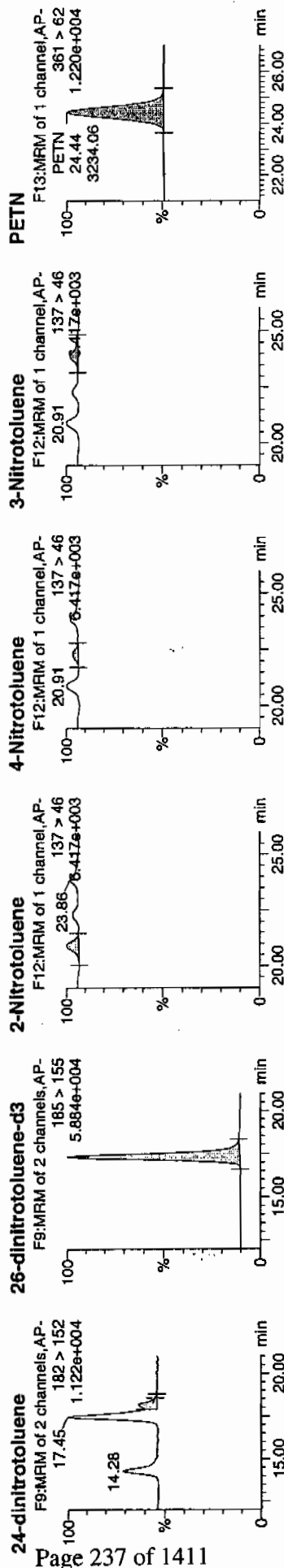
ID: WXX100118-08CRI

Vial: 1:1,C

WXX
1/19/10



Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Conc	% Rec	% Dev	SN
WXX100118-08CRI	HMX	176 > 102	5.18	942.393	3492.511	942.393	134.916	bb			41.7947	104.5	4.5	254.1
WXX100118-08CRI	RDX	176 > 102	7.55	594.913	3492.511	594.913	85.170	bb			38.3039	95.8	-4.2	134.6
WXX100118-08CRI	135-Trinitrobenzene	213 > 183	10.14	1209.311	3492.511	1209.311	173.129	bb			51.9622	129.9	29.9	190.4
WXX100118-08CRI	13-Dinitrobenzene-d4	172 > 142	12.00	3492.511	3492.511	3492.511	3492.511	bb			514.6165	102.9	2.9	318.5
WXX100118-08CRI	13-Dinitrobenzene	168 > 138	12.17	306.910	3492.511	306.910	43.938	bb			37.1818	93.0	-7.0	57.9
WXX100118-08CRI	Tetryl	241 > 181	12.61	275.585	3492.511	275.585	39.454	bb			40.3986	101.0	1.0	35.5
WXX100118-08CRI	Nitrobenzene	123 > 46	13.52	216.600	3492.511	216.600	31.009	bb			37.0398	92.6	-7.4	24.7
WXX100118-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.52	408.943	22606.063	408.943	9.045	MM	19-Jan-10	10:48:39	34.2624	85.7	-14.3	28.5
WXX100118-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.42	613.641	22606.063	613.641	13.572	bb			34.8402	87.1	-12.9	33.4
WXX100118-08CRI	246-Trinitrotoluene	227 > 210	15.33	532.583	22606.063	532.583	11.780	bb			33.4531	83.6	-16.4	68.4
WXX100118-08CRI	34-dinitrotoluene	182 > 152	14.28	857.752	22606.063	857.752	18.972	bb			20.3506	101.8	1.8	19.8
WXX100118-08CRI	26-dinitrotoluene	182 > 152	17.45	2028.394	22606.063	2028.394	44.864	MM	19-Jan-10	10:54:11	41.0738	102.7	2.7	55.3
WXX100118-08CRI	24-dinitrotoluene	182 > 152	18.20	464.880	22606.063	464.880	10.282	MM	19-Jan-10	10:58:21	40.6682	101.7	1.7	11.2
WXX100118-08CRI	26-dinitrotoluene-d3	185 > 155	17.30	22606.063	22606.063	22606.063	22606.063	bb			616.1513	123.2	23.2	1991.2
WXX100118-08CRI	2-Nitrotoluene	137 > 46	20.91	215.080	22606.063	215.080	4.757	bb			31.6980	79.2	-20.8	40.2
WXX100118-08CRI	4-Nitrotoluene	137 > 46	22.31	97.900	22606.063	97.900	2.165	bb			30.2427	75.6	-24.4	17.8
WXX100118-08CRI	3-Nitrotoluene	137 > 46	23.86	148.285	22606.063	148.285	3.280	bb			38.4587	96.1	-3.9	25.0
WXX100118-08CRI	PETN	361 > 62	24.44	3234.064	22606.063	3234.064	71.531	bb			42.8069	107.0	7.0	1225.9

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/18/10
 Time of Injection 2353
 Standard Number WXX100118-08CRI
 Data File EXP0118021a

HMX	104.5
RDX	95.8
135-TNB	129.9
13-DNB	93.0
Tetryl	101.0
Nitrobenzene	92.6
4A-26-DNT	85.7
2A-46-DNT	87.1
246-TNT	83.6
34-DNT(surr)	101.8
26-DNT	102.7
24-DNT	101.7
2-NT	79.2
4-NT	75.6
3-NT	96.1
PETN	107.0
Total	1537.3

*mutp
1/19/10*

Average

96.1

CHIK 01/19/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0118032a

Analysis Date: 19-JAN-10 05:17

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Nitrobenzene	600	698.366	116	
PETN	600	712.727	119	
RDX	600	831.01	139	*
Tetryl	600	541.216	90	
m-Dinitrobenzene	600	655.489	109	
m-Nitrotoluene	600	699.981	117	
o-Nitrotoluene	600	655.642	109	
p-Nitrotoluene	600	732.167	122	*
1,3,5-Trinitrobenzene	600	634.051	106	
1,3-Dinitrobenzene-d4	500	394.416	79	*
2,4,6-Trinitrotoluene	600	675.704	113	
2,4-Dinitrotoluene	600	650.536	108	
2,6-Dinitrotoluene	600	616.93	103	
2,6-Dinitrotoluene-d3	500	412.842	83	
2-Amino-4,6-dinitrotoluene	600	700.536	117	
3,4-Dinitrotoluene	300	339.167	113	
4-Amino-2,6-dinitrotoluene	600	733.212	122	*
HMX	600	718.941	120	

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%

Other Target 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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

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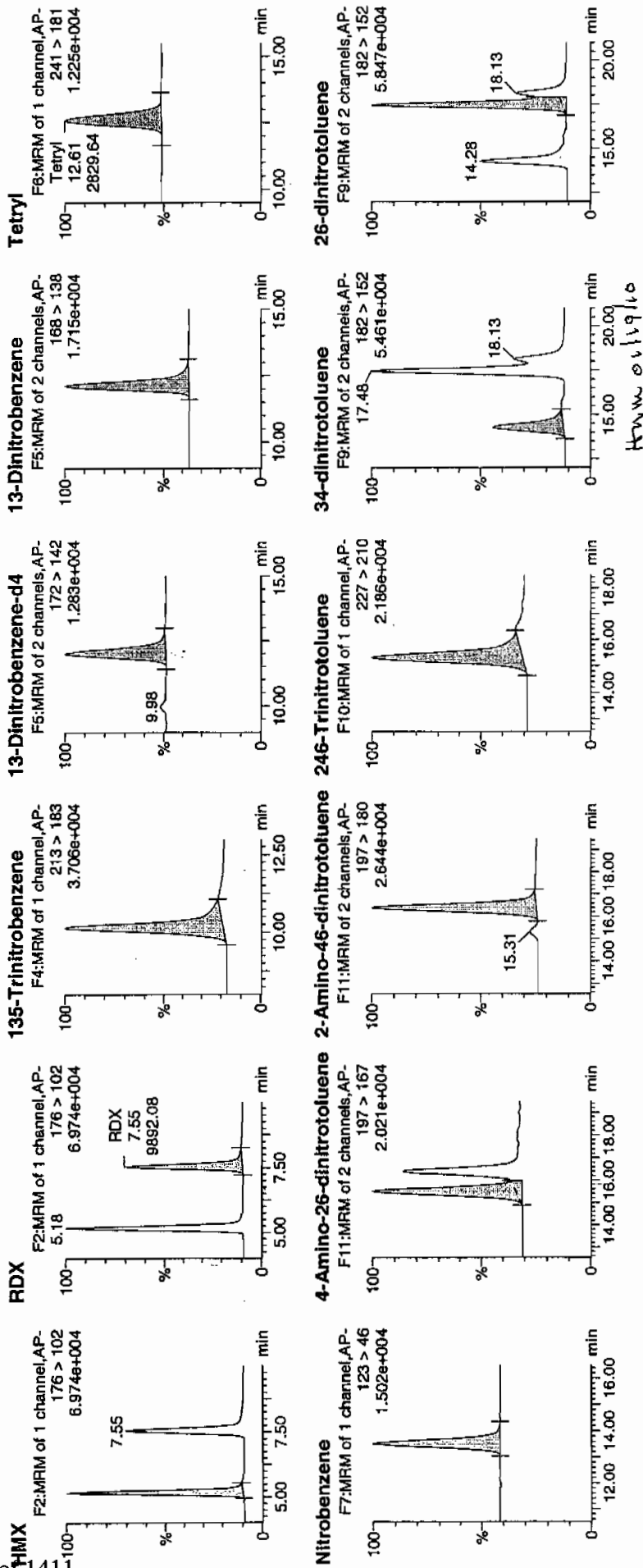
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Time: 05:17:22

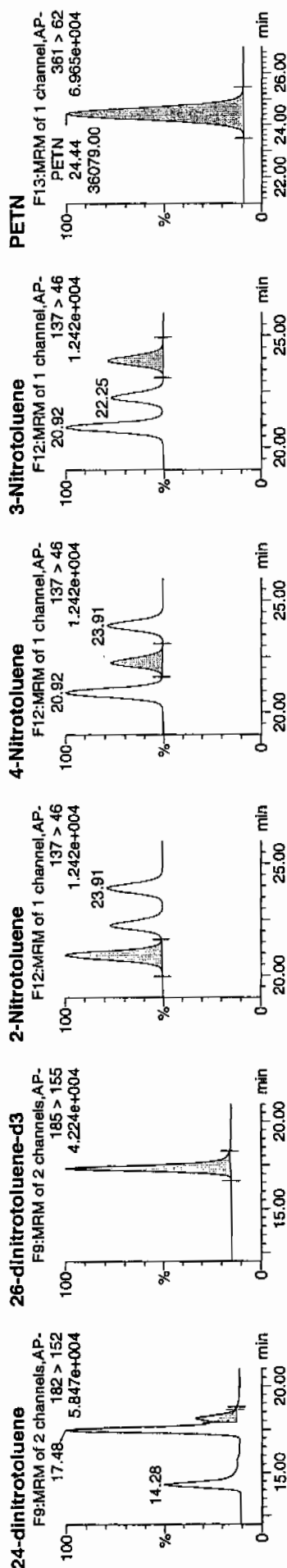
ID: WXX100118-07CCV

Vial: 1:1,B

1/19/10



Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



ID	Name	Trace	RT	Area	ISA	Abs Resp	Response	Flags	Mod Date	Mod Time	Intm	%Rec	%Dev	SN
WXX100118-07CCV	HMx	176 > 102	5.18	12424.388	2676.754	12424.388	2320.794	bb			718.9411	119.8	19.8	638.9
WXX100118-07CCV	RDX	176 > 102	7.55	9892.078	2676.754	9892.078	1847.775	bb			831.0103	138.5	38.5	430.0
WXX100118-07CCV	135-Trinitrobenzene	213 > 183	10.14	11309.556	2676.754	11309.556	2112.550	bb			634.0512	105.7	5.7	423.0
WXX100118-07CCV	13-Dinitrobenzene-d4	172 > 142	12.00	2676.754		2676.754	2676.754	bb			394.4159	78.9	-21.1	150.6
WXX100118-07CCV	13-Dinitrobenzene	168 > 138	12.13	4146.839	2676.754	4146.839	774.602	bb			655.4891	109.2	9.2	349.3
WXX100118-07CCV	Tetryl	241 > 181	12.61	2829.641	2676.754	2829.641	528.558	bb			541.2164	90.2	-9.8	432.4
WXX100118-07CCV	Nitrobenzene	123 > 46	13.52	3128.994	2676.754	3129.994	584.662	bb			698.3661	116.4	16.4	143.2
WXX100118-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.52	5863.693	15146.812	5863.693	193.562	MM	19-Jan-10	10:49:33	733.2117	122.2	22.2	220.4
WXX100118-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.39	8267.241	15146.812	8267.241	272.904	bb			700.5364	116.8	16.8	214.7
WXX100118-07CCV	246-Trinitrotoluene	182 > 210	15.33	7207.828	15146.812	7207.828	237.932	bb			675.7042	112.6	12.6	160.8
WXX100118-07CCV	34-dinitrotoluene	182 > 152	14.28	9578.402	15146.812	9578.402	316.185	bb			339.1666	113.1	13.1	248.2
WXX100118-07CCV	26-dinitrotoluene	182 > 152	17.48	20413.605	15146.812	20413.605	673.858	MM	19-Jan-10	10:54:48	616.9304	102.8	2.8	582.2
WXX100118-07CCV	24-dinitrotoluene	182 > 152	18.13	4982.572	15146.812	4982.572	164.476	MM	19-Jan-10	10:59:24	650.5361	108.4	8.4	137.5
WXX100118-07CCV	26-dinitrotoluene-d3	185 > 155	17.30	15146.812		15146.812	15146.812	bb			412.8418	82.6	-17.4	1951.6
WXX100118-07CCV	2-Nitrotoluene	137 > 46	20.92	2980.786	15146.812	2980.786	98.396	bb			655.6420	109.3	9.3	144.7
WXX100118-07CCV	4-Nitrotoluene	137 > 46	22.25	1588.068	15146.812	1588.068	52.423	bb			732.1673	122.0	22.0	77.5
WXX100118-07CCV	3-Nitrotoluene	137 > 46	23.91	1808.363	15146.812	1808.363	59.695	bb			699.9814	116.7	16.7	83.3
WXX100118-07CCV	PETN	361 > 62	24.44	36078.000	15146.812	36079.000	1190.977	bb			712.7275	118.8	18.8	7840.5

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/19/10
 Time of Injection: 0517
 Standard Number: WXX100118-07CCV
 Data File: EXP0118032a

HMX	119.8
RDX	138.5
135-TNB	105.7
13-DNB	109.2
Tetryl	90.2
Nitrobenzene	116.4
4A-26-DNT	122.2
2A-46-DNT	116.8
246-TNT	112.6
34-DNT(surr)	113.1
26-DNT	102.8
24-DNT	108.4
2-NT	109.3
4-NT	122.0
3-NT	116.7
PETN	118.8

sum 1/19/10

Total 1822.5

Average 113.9

sum 01/19/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%

No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0118034a

Analysis Date: 19-JAN-10 06:16

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,6-Dinitrotoluene-d3	500	509.827	102	
2-Amino-4,6-dinitrotoluene	40	40.36	101	
3,4-Dinitrotoluene	20	21.051	105	
4-Amino-2,6-dinitrotoluene	40	45.261	113	
HMX	40	48.959	122	
Nitrobenzene	40	39.915	100	
PETN	40	57.829	145	*
RDX	40	47.995	120	
Tetryl	40	42.081	105	
m-Dinitrobenzene	40	38.582	96	
m-Nitrotoluene	40	52.934	132	*
o-Nitrotoluene	40	40.872	102	
p-Nitrotoluene	40	44.36	111	
1,3,5-Trinitrobenzene	40	47.44	119	
1,3-Dinitrobenzene-d4	500	540.81	108	
2,4,6-Trinitrotoluene	40	40.724	102	
2,4-Dinitrotoluene	40	36.114	90	
2,6-Dinitrotoluene	40	40.276	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 50-150%

Other Target 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\PROV011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP\PROV011810expA\EXP0118034a

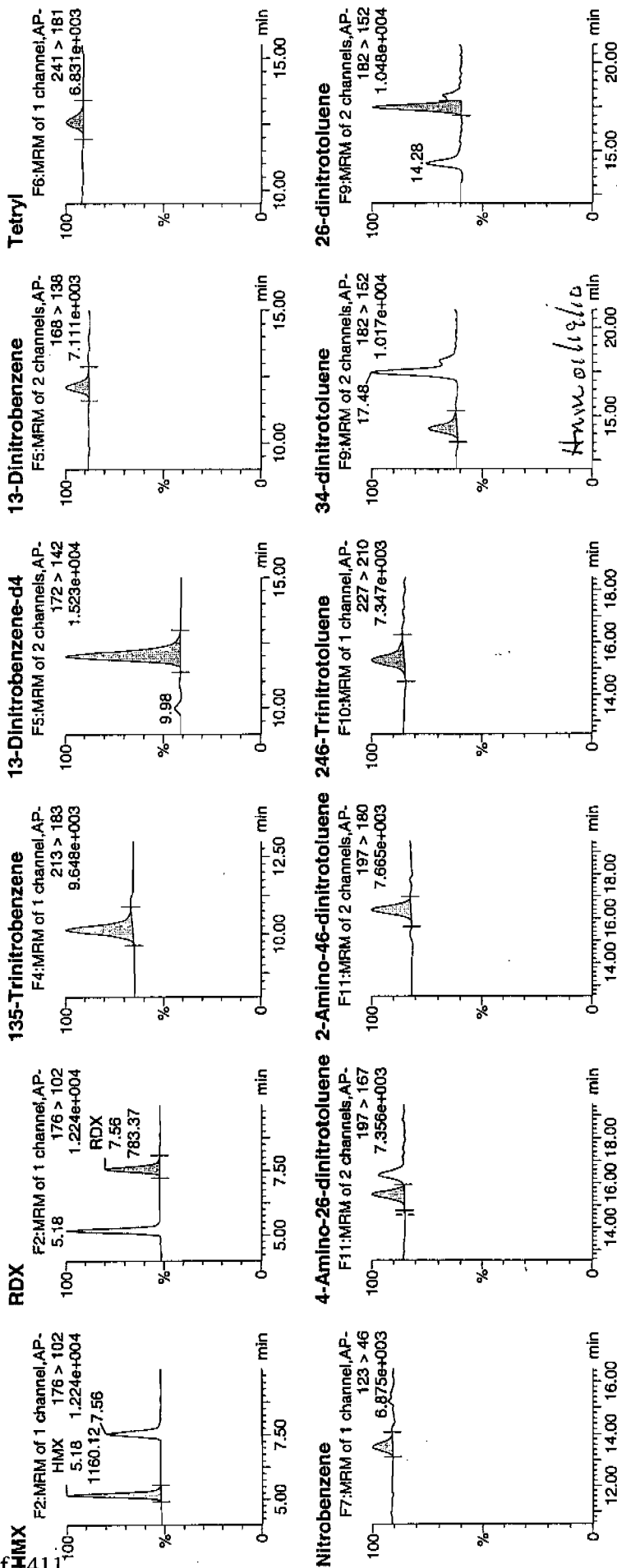
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Time: 06:16:41

ID: WXX100118-08CRI

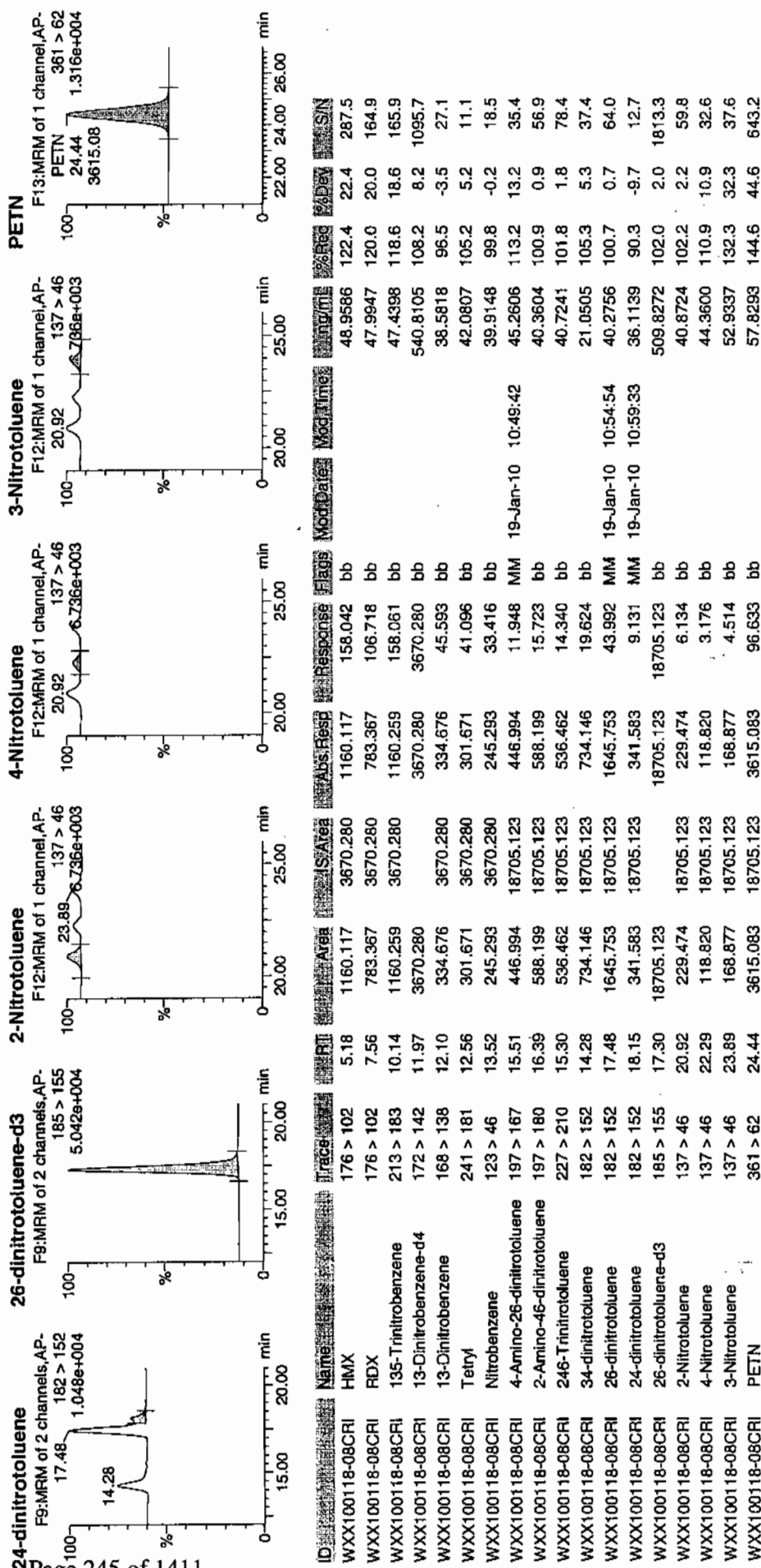
Dial: 1:1,C

1/19/10
MMP



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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/19/10
 Time of Injection 0616
 Standard Number WXX100118-08CRI
 Data File EXP0118034a

HMX	122.4
RDX	120.0
135-TNB	118.6
13-DNB	96.5
Tetryl	105.2
Nitrobenzene	99.8
4A-26-DNT	113.2
2A-46-DNT	100.9
246-TNT	101.8
34-DNT(surr)	105.3
26-DNT	100.7
24-DNT	90.3
2-NT	102.2
4-NT	110.9
3-NT	132.3
PETN	144.6

Total 1764.7

Average 110.3

Handwritten: 01/19/10

ICV Limits 85-115%
 CRI Limits 70-130%
 CCV Limits 85-115%

No single analyte > +/- 60%

7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0118040a

Analysis Date: 19-JAN-10 09:13

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	631.181	105	
1,3-Dinitrobenzene-d4	500	413.146	83	
2,4,6-Trinitrotoluene	600	634.514	106	
2,4-Dinitrotoluene	600	610.908	102	
2,6-Dinitrotoluene	600	612.692	102	
2,6-Dinitrotoluene-d3	500	444.446	89	
2-Amino-4,6-dinitrotoluene	600	638.318	106	
3,4-Dinitrotoluene	300	307.641	103	
4-Amino-2,6-dinitrotoluene	600	658.172	110	
HMX	600	722.023	120	*
Nitrobenzene	600	635.366	106	
PETN	600	666.241	111	
RDX	600	774.185	129	*
Tetryl	600	563.562	94	
m-Dinitrobenzene	600	631.38	105	
m-Nitrotoluene	600	576.242	96	
o-Nitrotoluene	600	648.077	108	
p-Nitrotoluene	600	653.047	109	

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%

Other Target 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\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118040a

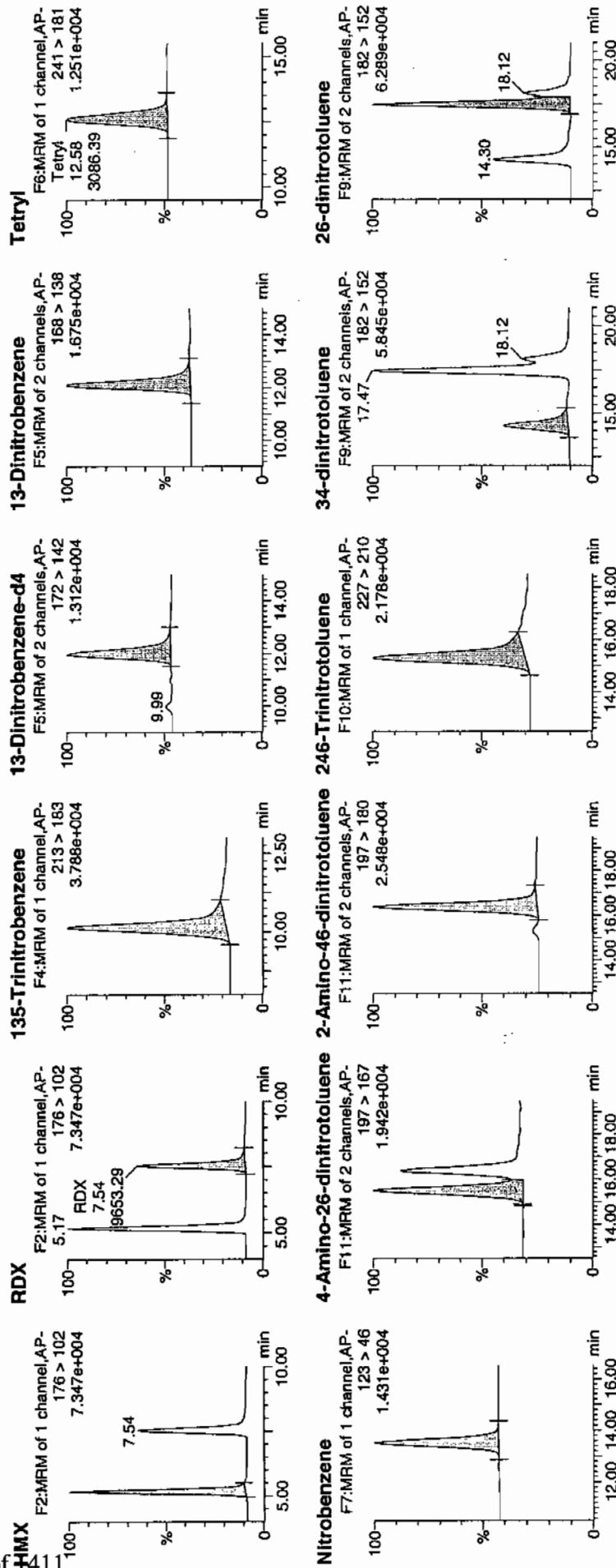
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Time: 09:13:50

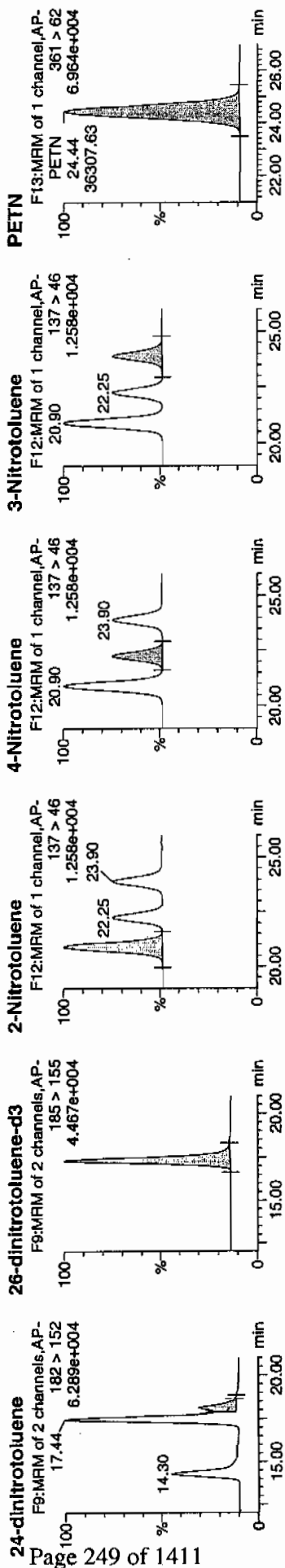
ID: WXX100118-07CCV

Serial: 1:1,B

WXX
1/19/10



Dataset: C:\MASSLYNX\New_Exp\PRO1011810expA.qld, Time: Tue Jan 19 10:59:58 2010



ID	Name	Trace	RT	Area	Abs. Resp	Response	Flags	Mod Date	Mod Time	%Reg	%Dev	ISN
WXX100118-07CCV	HMX	176 > 102	5.17	13070.210	2803.871	13070.210	2330.744	bb	722.0235	120.3	20.3	1315.1
WXX100118-07CCV	RDX	176 > 102	7.54	9653.289	2803.871	9653.289	1721.422	bb	774.1847	129.0	29.0	808.7
WXX100118-07CCV	135-Trinitrobenzene	213 > 183	10.14	11793.014	2803.871	11793.014	2102.988	bb	631.1811	105.2	5.2	1546.3
WXX100118-07CCV	13-Dinitrobenzene-d4	172 > 142	11.97	2803.871	2803.871	2803.871	746.112	bb	413.1464	82.6	-17.4	176.8
WXX100118-07CCV	13-Dinitrobenzene	168 > 138	12.14	4184.004	2803.871	4184.004	550.381	bb	631.3800	105.2	5.2	358.8
WXX100118-07CCV	Tetryl	241 > 181	12.58	3086.394	2803.871	3086.394	531.920	bb	563.5616	93.9	-6.1	229.8
WXX100118-07CCV	Nitrobenzene	123 > 46	13.54	2982.869	2803.871	2982.869	173.752	MM	635.3664	105.9	5.9	400.4
WXX100118-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.53	5666.526	16306.342	5666.526	248.666	bb	658.1725	109.7	9.7	273.8
WXX100118-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.40	8109.655	16306.342	8109.655	223.428	bb	638.3181	106.4	6.4	635.6
WXX100118-07CCV	246-Trinitrotoluene	227 > 210	15.31	7286.585	16306.342	7286.585	286.796	bb	634.5136	105.8	5.8	332.8
WXX100118-07CCV	34-dinitrotoluene	182 > 152	14.30	9353.200	16306.342	9353.200	669.229	MM	307.6415	102.5	2.5	304.7
WXX100118-07CCV	26-dinitrotoluene	182 > 152	17.44	21825.346	16306.342	21825.346	154.457	MM	612.6921	102.1	2.1	825.3
WXX100118-07CCV	24-dinitrotoluene	182 > 152	18.12	5037.244	16306.342	5037.244	16306.342	bb	610.9076	101.8	1.8	178.5
WXX100118-07CCV	26-dinitrotoluene-d3	185 > 155	17.29	16306.342	16306.342	16306.342	97.261	bb	444.4460	88.9	-11.1	1394.6
WXX100118-07CCV	2-Nitrotoluene	137 > 46	20.90	3171.949	16306.342	3171.949	46.758	bb	648.0774	108.0	8.0	511.5
WXX100118-07CCV	4-Nitrotoluene	137 > 46	22.25	1524.889	16306.342	1524.889	49.142	bb	653.0465	108.8	8.8	260.1
WXX100118-07CCV	3-Nitrotoluene	137 > 46	23.90	1602.653	16306.342	1602.653	1113.298	bb	576.2422	96.0	-4.0	257.5
WXX100118-07CCV	PETN	361 > 82	24.44	36307.629	16306.342	36307.629		bb	666.2413	111.0	11.0	5934.4

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/19/10
 Time of Injection: 0913
 Standard Number: WXX100118-07CCV
 Data File: EXP0118040a

HMX	120.3
RDX	129.0
135-TNB	105.2
13-DNB	105.2
Tetryl	93.9
Nitrobenzene	105.9
4A-26-DNT	109.7
2A-46-DNT	106.4
246-TNT	105.8
34-DNT(surr)	102.5
26-DNT	102.1
24-DNT	101.8
2-NT	108.0
4-NT	108.8
3-NT	96.0
PETN	111.0

sum 1/19/10

Total 1711.6

Average 107.0

sum 01/19/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%

No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0118042a

Analysis Date: 19-JAN-10 10:12

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
o-Nitrotoluene	40	44.062	110	
p-Nitrotoluene	40	47.224	118	
1,3,5-Trinitrobenzene	40	47.396	118	
1,3-Dinitrobenzene-d4	500	569.733	114	
2,4,6-Trinitrotoluene	40	37.811	95	
2,4-Dinitrotoluene	40	35.368	88	
2,6-Dinitrotoluene	40	39.754	99	
2,6-Dinitrotoluene-d3	500	579.167	116	
2-Amino-4,6-dinitrotoluene	40	36.213	91	
3,4-Dinitrotoluene	20	19.032	95	
4-Amino-2,6-dinitrotoluene	40	39.56	99	
HMX	40	53.426	134	*
Nitrobenzene	40	44.713	112	
PETN	40	50.574	126	
RDX	40	49.946	125	
Tetryl	40	39.539	99	
m-Dinitrobenzene	40	42.962	107	
m-Nitrotoluene	40	44.032	110	

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%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Dataset: C:\MASSLYNXNew_Exp.PRO\011810expA.qld, Time: Tue Jan 19 10:59:58 2010

Name: C:\MASSLYNXNEW_EXP.PRO\Data\EXP0118042a

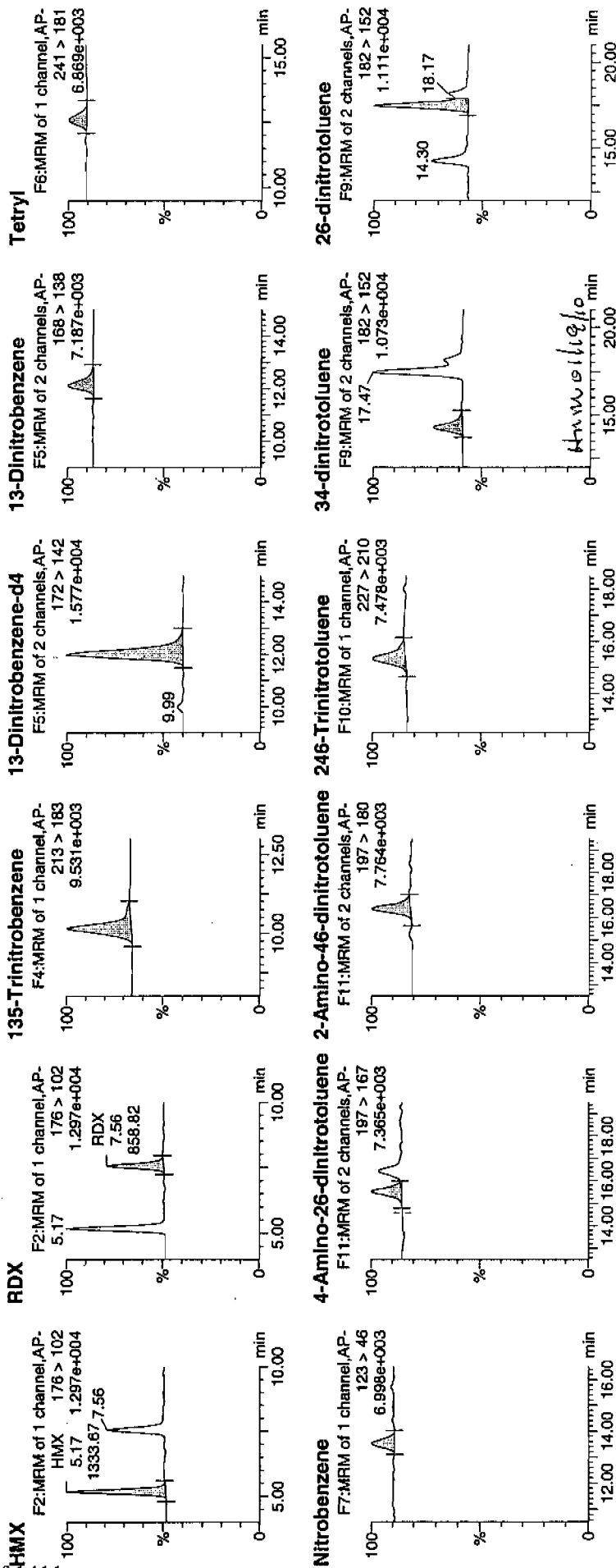
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Time: 10:12:54

ID: WXX100118-08CRI

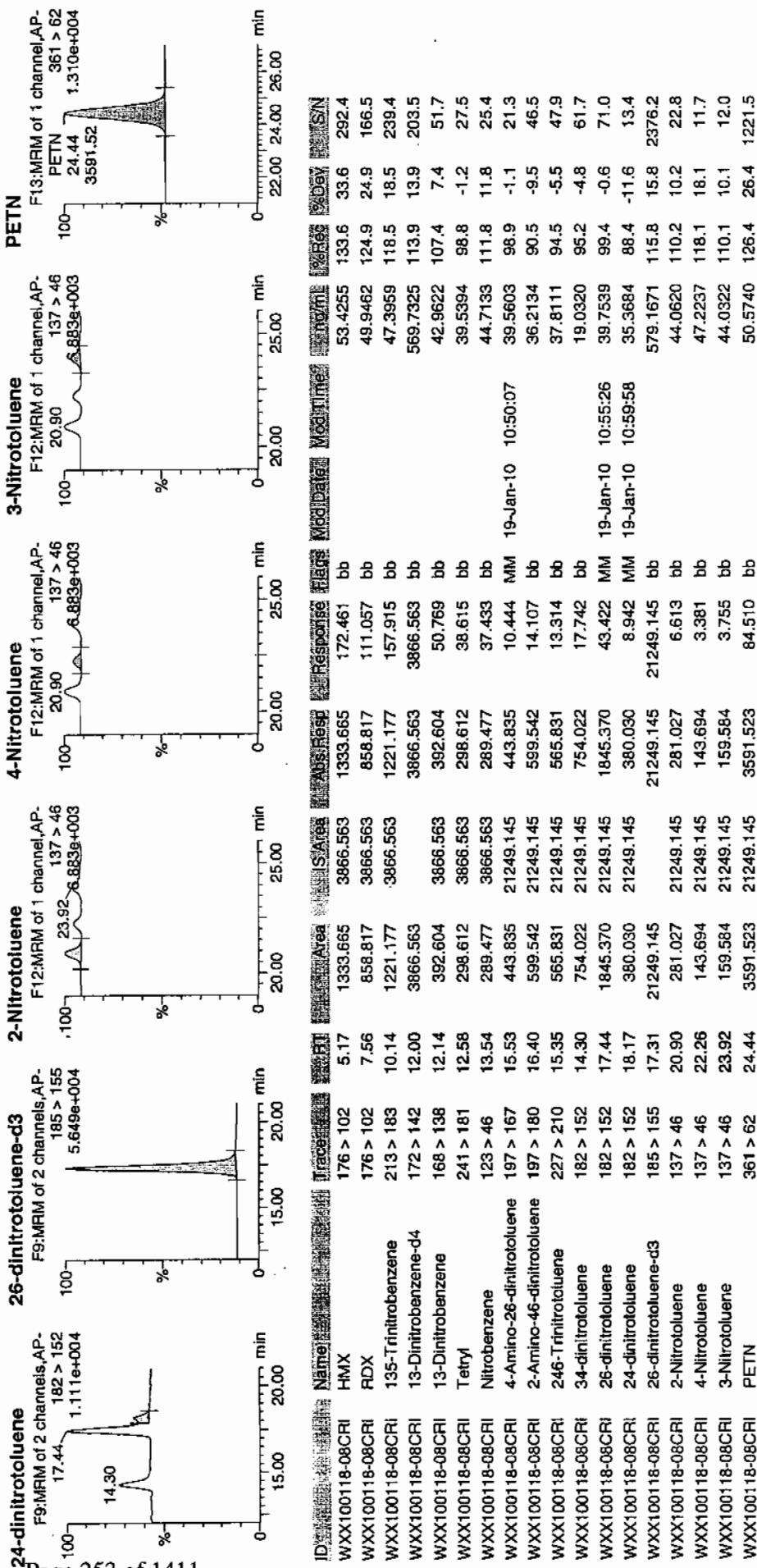
Vial: 1:1,C

1/19/10



GEL Laboratories, LLC / Analyst : Michael A. Penny

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GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/19/10
 Time of Injection 1012
 Standard Number WXX100118-08CRI
 Data File EXP0118042a

HMX	133.6
RDX	124.9
135-TNB	118.5
13-DNB	107.4
Tetryl	98.8
Nitrobenzene	111.8
4A-26-DNT	98.9
2A-46-DNT	90.5
246-TNT	94.5
34-DNT(surr)	95.2
26-DNT	99.4
24-DNT	88.4
2-NT	110.2
4-NT	118.1
3-NT	110.1
PETN	126.4

*mutt
1/19/10*

Total 1726.7

Average 107.9

done 01/19/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0118053a

Analysis Date: 19-JAN-10 15:37

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4,6-Trinitrotoluene	600	684.57	114	
2,4-Dinitrotoluene	600	624.701	104	
2,6-Dinitrotoluene	600	610.092	102	
2,6-Dinitrotoluene-d3	500	486.695	97	
2-Amino-4,6-dinitrotoluene	600	652.06	109	
3,4-Dinitrotoluene	300	339.189	113	
4-Amino-2,6-dinitrotoluene	600	690.543	115	
HMX	600	654.179	109	
Nitrobenzene	600	680.594	113	
PETN	600	613.545	102	
RDX	600	715.015	119	
Tetryl	600	579.396	97	
m-Dinitrobenzene	600	604.233	101	
m-Nitrotoluene	600	609.049	102	
o-Nitrotoluene	600	583.021	97	
p-Nitrotoluene	600	625.888	104	
1,3,5-Trinitrobenzene	600	641.265	107	
1,3-Dinitrobenzene-d4	500	449.958	90	

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%

Other Target 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\011810expA1.qtd, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118053a

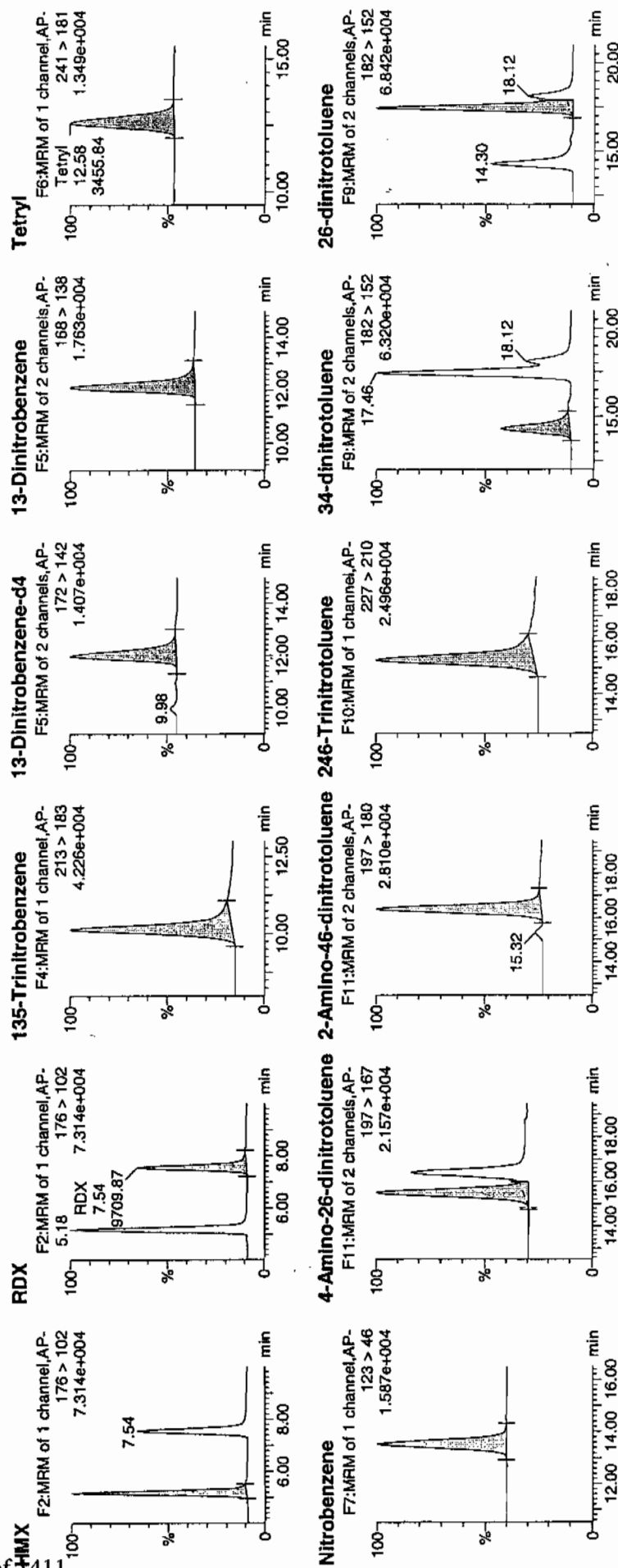
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Time: 15:37:40

ID: WXX100118-07CCV

Vial: 1:1,B

1/20/10

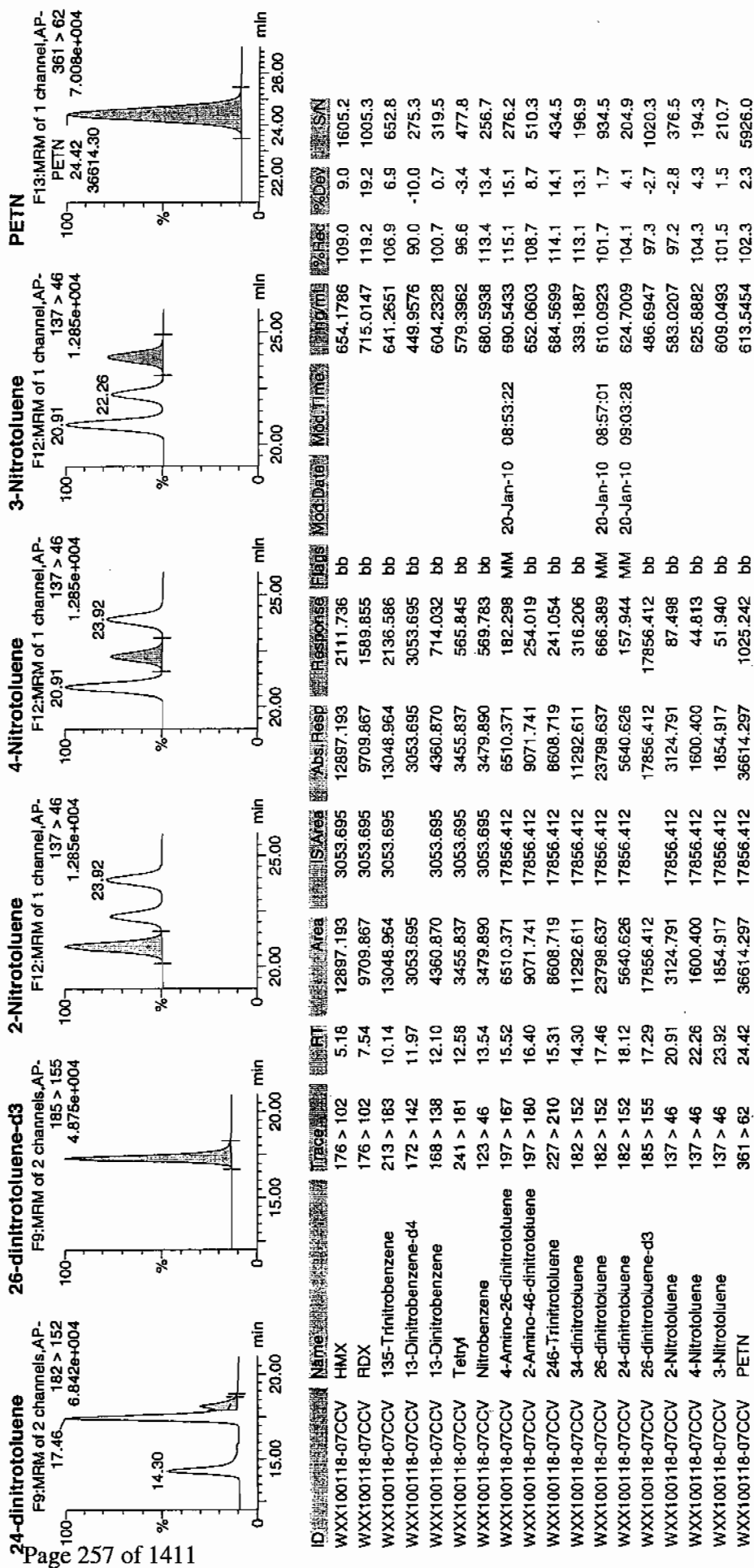


Handwritten note: 1/20/10

Printed: Wed Jan 20 09:07:58 2010, Page 22 of 91

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

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/19/10
 Time of Injection: 1537
 Standard Number: WXX100118-07CCV
 Data File: EXP0118053a

HMX	109.0
RDX	119.2
135-TNB	106.9
13-DNB	100.7
Tetryl	96.6
Nitrobenzene	113.4
4A-26-DNT	115.1
2A-46-DNT	108.7
246-TNT	114.1
34-DNT(surr)	113.1
26-DNT	101.7
24-DNT	104.1
2-NT	97.2
4-NT	104.3
3-NT	101.5
PETN	102.3

MITT
1/20/10

Total 1707.9

Average 106.7

ANN 01/20/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0118055a

Analysis Date: 19-JAN-10 16:36

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.005	130	*
1,3-Dinitrobenzene-d4	500	471.448	94	
2,4,6-Trinitrotoluene	40	53.52	134	*
2,4-Dinitrotoluene	40	40.215	101	
2,6-Dinitrotoluene	40	39.93	100	
2,6-Dinitrotoluene-d3	500	509.225	102	
2-Amino-4,6-dinitrotoluene	40	45.269	113	
3,4-Dinitrotoluene	20	26.069	130	*
4-Amino-2,6-dinitrotoluene	40	61.793	154	*
HMX	40	48.373	121	
Nitrobenzene	40	46.845	117	
PETN	40	58.517	146	*
RDX	40	45.247	113	
Tetryl	40	46.869	117	
m-Dinitrobenzene	40	38.753	97	
m-Nitrotoluene	40	44.424	111	
o-Nitrotoluene	40	41.754	104	
p-Nitrotoluene	40	38.156	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%

Other Target 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\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0118055a

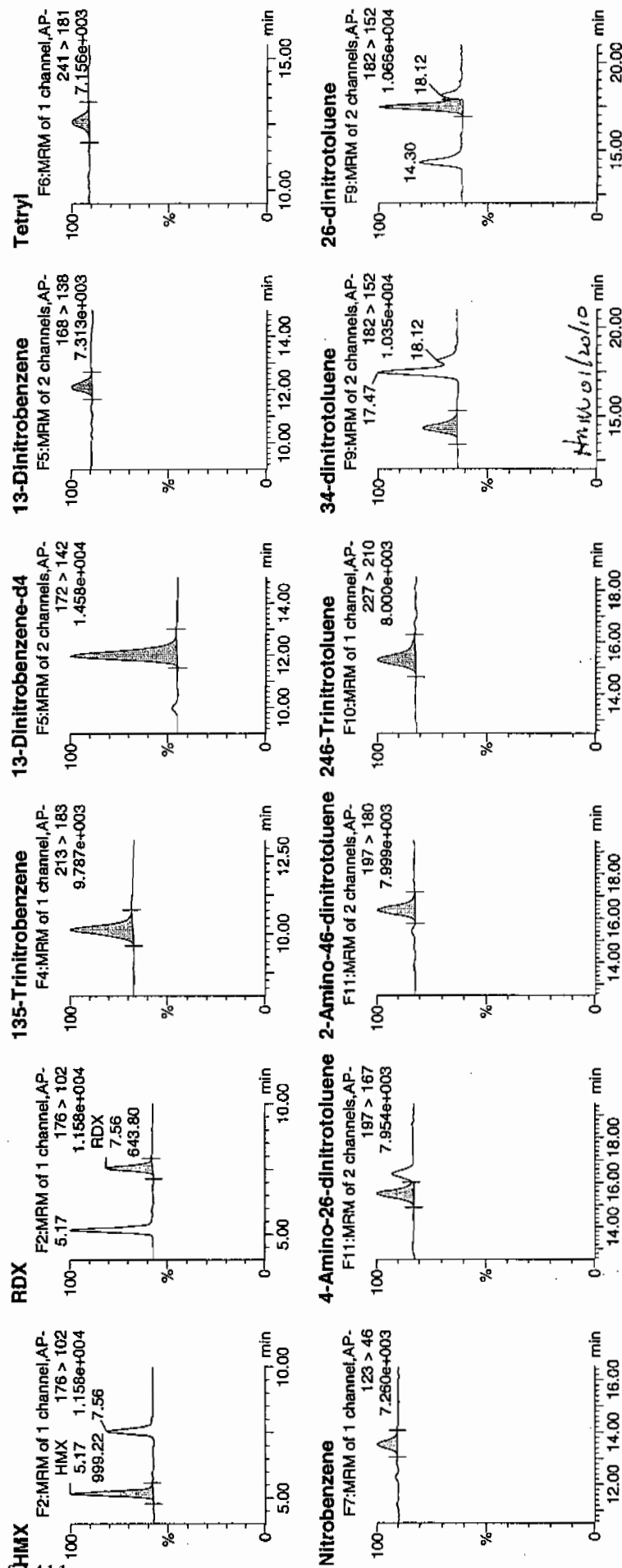
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ID: WXX100118-08CRI

Vial: 1:1,C

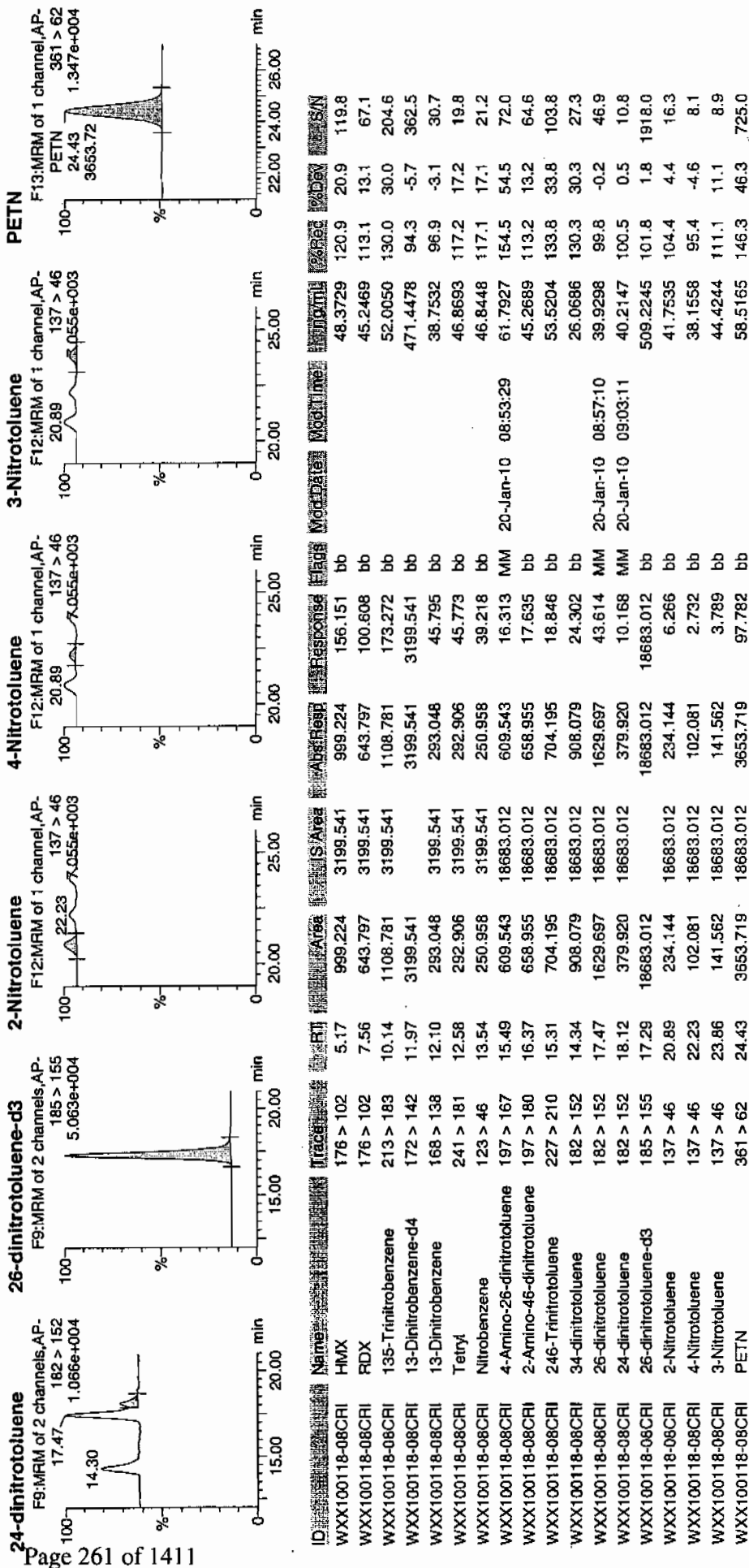
WXX
1/20/10



Printed: Wed Jan 20 09:07:58 2010, Page 26 of 91

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

Dataset: C:\MASSLYNX\New_Exp\PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/19/10
 Time of Injection 1636
 Standard Number WXX100118-08CRI
 Data File EXP0118055a

HMX		120.9
RDX		113.1
135-TNB		130.0
13-DNB		96.9
Tetryl		117.2
Nitrobenzene		117.1
4A-26-DNT		154.5
2A-46-DNT		113.2
246-TNT		133.8
34-DNT(surr)		130.3
26-DNT		99.8
24-DNT		100.5
2-NT		104.4
4-NT		95.4
3-NT		111.1
PETN		146.3

*WXX
1/20/10*

Total 1884.5

Average 117.8

HMM 01/20/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0118063a

Analysis Date: 19-JAN-10 20:32

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
RDX	600	603.348	101	
Tetryl	600	551.593	92	
m-Dinitrobenzene	600	587.865	98	
m-Nitrotoluene	600	623.448	104	
o-Nitrotoluene	600	569.875	95	
p-Nitrotoluene	600	638.952	106	
1,3,5-Trinitrobenzene	600	597.48	100	
1,3-Dinitrobenzene-d4	500	493.748	99	
2,4,6-Trinitrotoluene	600	651.248	109	
2,4-Dinitrotoluene	600	634.193	106	
2,6-Dinitrotoluene	600	609.367	102	
2,6-Dinitrotoluene-d3	500	459.861	92	
2-Amino-4,6-dinitrotoluene	600	665.061	111	
3,4-Dinitrotoluene	300	317.724	106	
4-Amino-2,6-dinitrotoluene	600	675.893	113	
HMX	600	589.035	98	
Nitrobenzene	600	539.341	90	
PETN	600	624.935	104	

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%

Other Target 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\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

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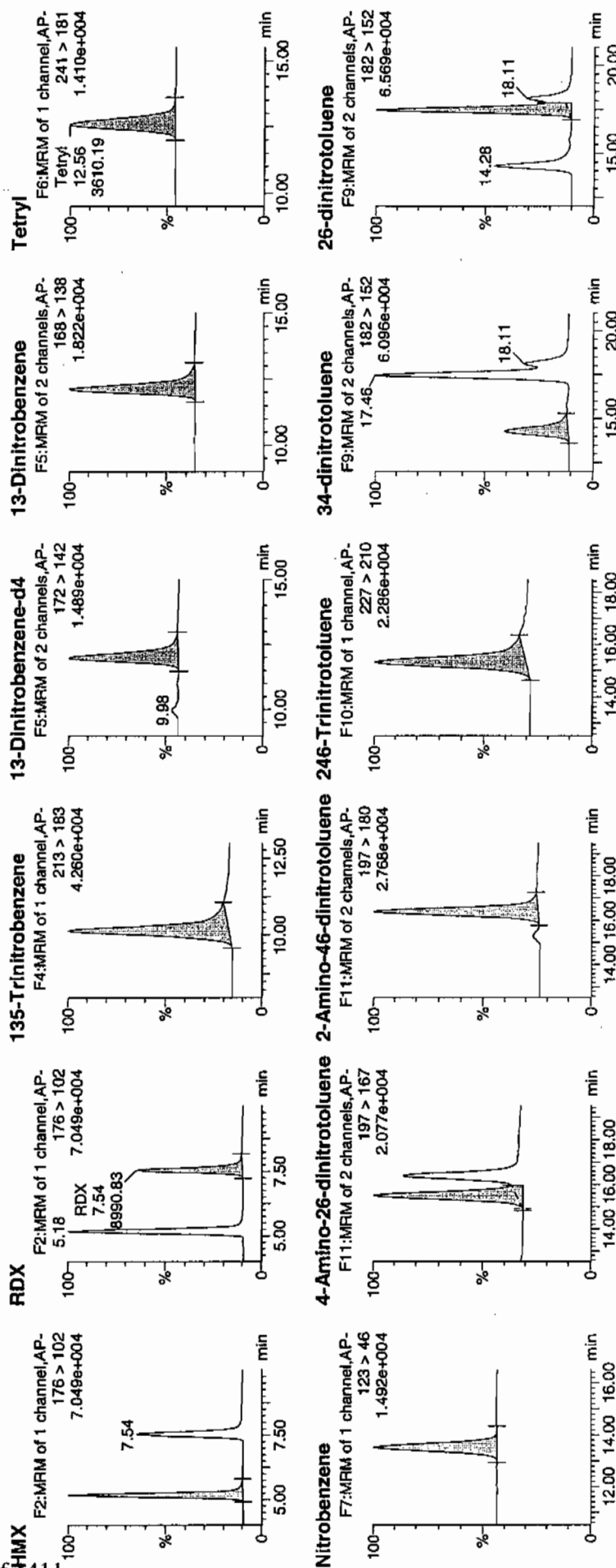
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Time: 20:32:42

ID: WXX100118-07CCV

Vial: 1:1,B

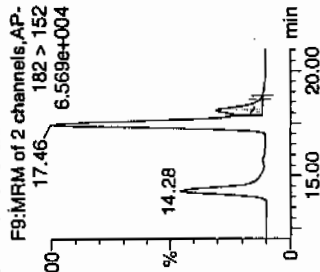
1/20/10



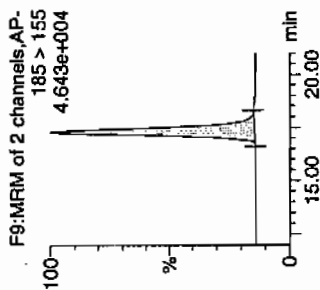
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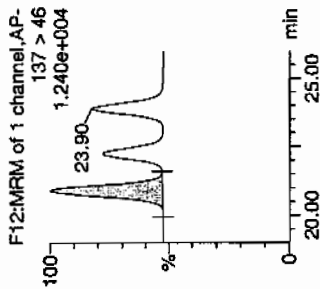
24-dinitrotoluene



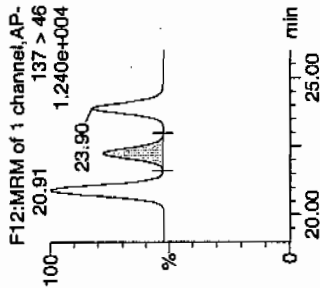
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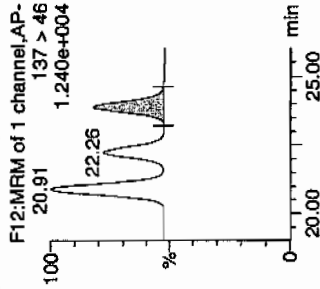
2-Nitrotoluene



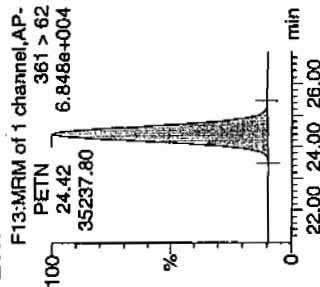
4-Nitrotoluene



3-Nitrotoluene



PETN



Name	Trace	RI	Area	S/A	Abs Resp	Response	Flags	Mod Date	Mod Time	Norm	% Rec	% Dev	S/N
135-Trinitrobenzene	176 > 102	5.18	12743.064	3350.884	12743.064	1901.448	db	20-Jan-10	08:53:53	589.0352	98.2	-1.8	2926.4
13-Dinitrobenzene-d4	176 > 102	7.54	8990.833	3350.884	8990.833	1341.561	bb			603.3480	100.6	0.6	1769.9
13-Dinitrobenzene	213 > 183	10.14	13341.229	3350.884	13341.229	1990.703	bb			597.4804	99.6	-0.4	1645.4
13-Dinitrobenzene	172 > 142	11.97	3350.884		3350.884	3350.884	bb			493.7480	98.7	-1.3	3350.0
13-Dinitrobenzene	168 > 138	12.13	4655.647	3350.884	4655.647	694.689	bb			587.8648	98.0	-2.0	579.2
Teiry	241 > 181	12.56	3610.188	3350.884	3610.188	538.692	bb			551.5927	91.9	-8.1	546.5
Nitrobenzene	123 > 46	13.53	3026.039	3350.884	3026.039	451.528	bb			539.3408	89.9	-10.1	298.3
4-Amino-26-dinitrotoluene	197 > 167	15.52	6020.920	16871.916	6020.920	178.430	MM	20-Jan-10	08:53:53	675.8928	112.6	12.6	342.0
2-Amino-46-dinitrotoluene	197 > 180	16.39	8742.483	16871.916	8742.483	259.084	bb			665.0614	110.8	10.8	292.1
246-Trinitrotoluene	227 > 210	15.33	7738.158	16871.916	7738.158	229.321	bb			651.2484	108.5	8.5	469.3
34-dinitrotoluene	182 > 152	14.28	9994.788	16871.916	9994.788	296.196	bb			317.7243	105.9	5.9	515.6
26-dinitrotoluene	182 > 152	17.46	22459.803	16871.916	22459.803	665.597	MM	20-Jan-10	08:57:52	609.3674	101.6	1.6	866.8
24-dinitrotoluene	182 > 152	18.11	5410.613	16871.916	5410.613	160.344	MM	20-Jan-10	09:02:07	634.1925	105.7	5.7	187.6
26-dinitrotoluene-d3	185 > 155	17.30	16871.916		16871.916	16871.916	bb			459.8612	92.0	-8.0	1513.5
2-Nitrotoluene	137 > 46	20.91	2885.936	16871.916	2885.936	85.525	bb			569.8749	95.0	-5.0	180.8
4-Nitrotoluene	137 > 46	22.26	1543.726	16871.916	1543.726	45.748	bb			638.9520	106.5	6.5	96.7
3-Nitrotoluene	137 > 46	23.90	1794.082	16871.916	1794.082	53.168	bb			623.4477	103.9	3.9	112.9
PETN	361 > 62	24.42	35237.797	16871.916	35237.797	1044.274	bb			624.9346	104.2	4.2	4694.1

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/19/10
 Time of Injection: 2032
 Standard Number: WXX100118-07CCV
 Data File: EXP0118063a

HMX	98.2
RDX	100.6
135-TNB	99.6
13-DNB	98.0
Tetryl	91.9
Nitrobenzene	89.9
4A-26-DNT	112.6
2A-46-DNT	110.8
246-TNT	108.5
34-DNT(surr)	105.9
26-DNT	101.6
24-DNT	105.7
2-NT	95.0
4-NT	106.5
3-NT	103.9
PETN	104.2

*unit
1/20/10*

Total 1632.9

Average 102.1

from 01/20/10

ICV Limits 85-115%
 CRI Limits 70-130%
 CCV Limits 85-115%

No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0118065a

Analysis Date: 19-JAN-10 21:31

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
4-Amino-2,6-dinitrotoluene	40	43.191	108	
HMX	40	46.336	116	
Nitrobenzene	40	40.877	102	
PETN	40	62.952	157	*
RDX	40	43.65	109	
Tetryl	40	41.268	103	
m-Dinitrobenzene	40	42.917	107	
m-Nitrotoluene	40	37.778	94	
o-Nitrotoluene	40	41.925	105	
p-Nitrotoluene	40	38.775	97	
1,3,5-Trinitrobenzene	40	53.768	134	*
1,3-Dinitrobenzene-d4	500	477.108	95	
2,4,6-Trinitrotoluene	40	40.849	102	
2,4-Dinitrotoluene	40	38.415	96	
2,6-Dinitrotoluene	40	40.096	100	
2,6-Dinitrotoluene-d3	500	481.721	96	
2-Amino-4,6-dinitrotoluene	40	40.575	101	
3,4-Dinitrotoluene	20	19.64	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%

Other Target 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

Printed: Wed Jan 20 09:07:58 2010, Page 45 of 91

Dataset: C:\MASSLYNX\New_Exp_PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0118065a

Date: 19-Jan-2010

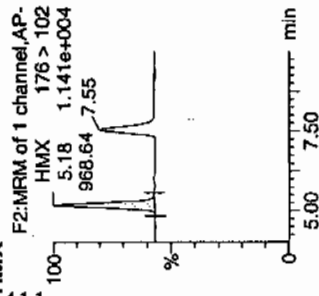
Time: 21:31:46

ID: WXX100118-08CRI

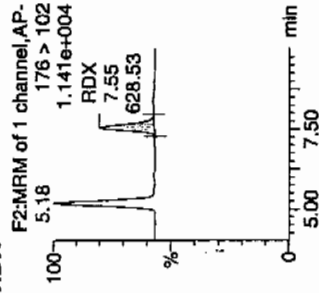
Vial: 1:1,C

1/20/10

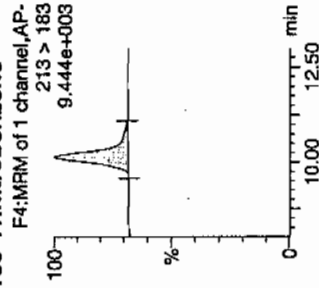
HMZ



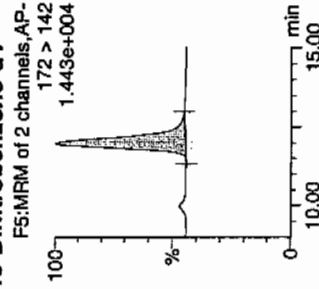
RDX



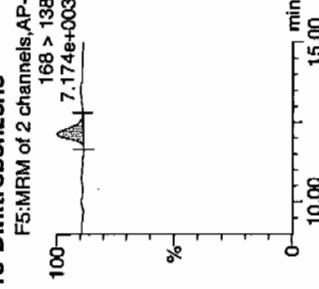
135-Trinitrobenzene



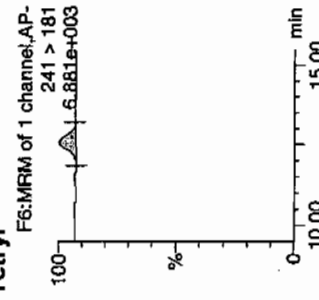
13-Dinitrobenzene-d4



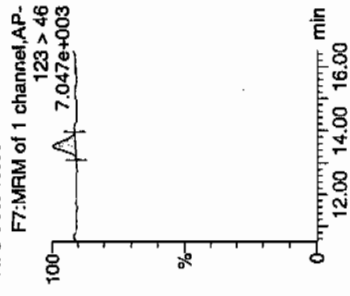
13-Dinitrobenzene



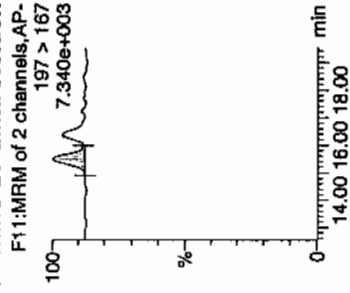
Tetryl



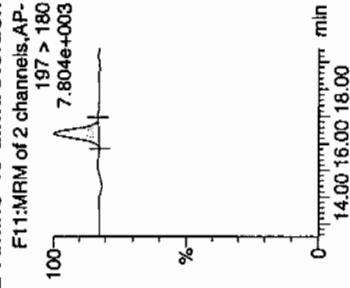
Nitrobenzene



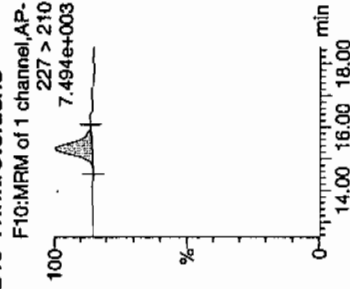
4-Amino-26-dinitrotoluene



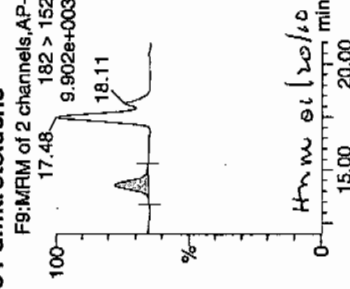
2-Amino-46-dinitrotoluene



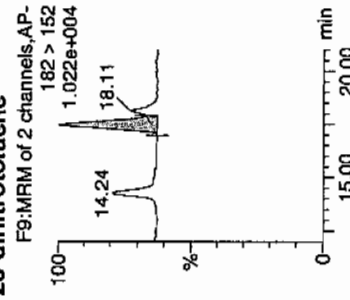
246-Trinitrotoluene



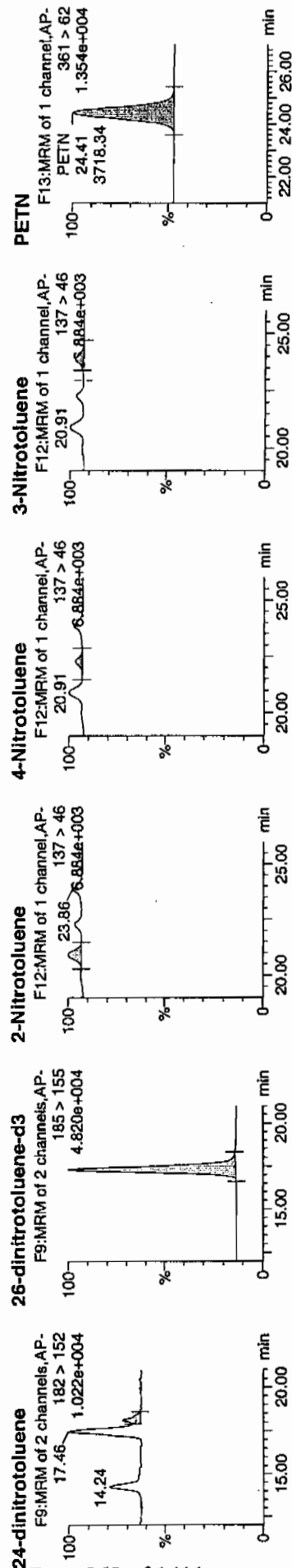
34-dinitrotoluene



26-dinitrotoluene



Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Trace	RT	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Inj Vol	Area	Doi	SN
WXX100118-08CRI	HMX	176 > 102	5.18	988.644	3237.958	968.644	149.576	bb			46.3361	115.8	15.8	155.3
WXX100118-08CRI	RDX	176 > 102	7.55	628.535	3237.958	628.535	97.057	bb			43.6501	109.1	9.1	83.4
WXX100118-08CRI	135-Trinitrobenzene	213 > 183	10.14	1160.131	3237.958	1160.131	179.145	bb			53.7679	134.4	34.4	140.2
WXX100118-08CRI	13-Dinitrobenzene-d4	172 > 142	11.97	3237.958		3237.958	3237.958	bb			477.1085	95.4	-4.6	294.7
WXX100118-08CRI	13-Dinitrobenzene	168 > 138	12.13	328.432	3237.958	328.432	50.716	bb			42.9172	107.3	7.3	26.0
WXX100118-08CRI	Tetryl	241 > 181	12.56	260.997	3237.958	260.997	40.303	bb			41.2679	103.2	3.2	9.8
WXX100118-08CRI	Nitrobenzene	123 > 46	13.52	221.614	3237.958	221.614	34.221	bb			40.8765	102.2	2.2	24.6
WXX100118-08CRI	4-Amino-2,6-dinitrotoluene	197 > 167	15.48	403.042	17673.938	403.042	11.402	MM	20-Jan-10	08:54:00	43.1913	108.0	8.0	19.8
WXX100118-08CRI	2-Amino-4,6-dinitrotoluene	197 > 180	16.36	558.733	17673.938	558.733	15.807	bb			40.5754	101.4	1.4	80.6
WXX100118-08CRI	246-Trinitrotoluene	227 > 210	15.30	508.441	17673.938	508.441	14.384	bb			40.8489	102.1	2.1	32.3
WXX100118-08CRI	34-dinitrotoluene	182 > 152	14.28	647.194	17673.938	647.194	18.309	bb			19.6400	98.2	-1.8	34.6
WXX100118-08CRI	26-dinitrotoluene	182 > 152	17.46	1548.096	17673.938	1548.096	43.796	MM	20-Jan-10	08:58:04	40.0961	100.2	0.2	73.9
WXX100118-08CRI	24-dinitrotoluene	182 > 152	18.11	343.313	17673.938	343.313	9.712	MM	20-Jan-10	09:01:54	38.4146	96.0	-4.0	18.5
WXX100118-08CRI	26-dinitrotoluene-d3	185 > 155	17.30	17673.938		17673.938	17673.938	bb			481.7212	96.3	-3.7	1787.2
WXX100118-08CRI	2-Nitrotoluene	137 > 46	20.91	222.409	17673.938	222.409	6.292	bb			41.9253	104.8	4.8	111.7
WXX100118-08CRI	4-Nitrotoluene	137 > 46	22.29	98.134	17673.938	98.134	2.776	bb			38.7747	96.9	-3.1	58.0
WXX100118-08CRI	3-Nitrotoluene	137 > 46	23.86	113.880	17673.938	113.880	3.222	MM	20-Jan-10	09:05:44	37.7778	94.4	-5.6	66.0
WXX100118-08CRI	PETN	361 > 62	24.41	3718.344	17673.938	3718.344	105.193	bb			62.9516	157.4	57.4	966.8

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/19/10
 Time of Injection 2131
 Standard Number WXX100118-08CRI
 Data File EXP0118065a

HMX	115.8
RDX	109.1
135-TNB	134.4
13-DNB	107.3
Tetryl	103.2
Nitrobenzene	102.2
4A-26-DNT	108.0
2A-46-DNT	101.4
246-TNT	102.1
34-DNT(surr)	98.2
26-DNT	100.2
24-DNT	96.0
2-NT	104.8
4-NT	96.9
3-NT	94.4
PETN	157.4

*NAF
1/20/10*

Total 1731.4

from 01/20/10

Average 108.2

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01100013.wiff

Analysis Date: 11-JAN-10 14:25

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	65.7	66	
2,6-Diamino-4-nitrotoluene	100	69.7	70	
3,4-Dinitrotoluene	50	39	78	
3,5-Dinitroaniline	100	80.3	80	
TATB	100	95.9	96	
tris(o-cresyl) phosphate	100	98.2	98	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

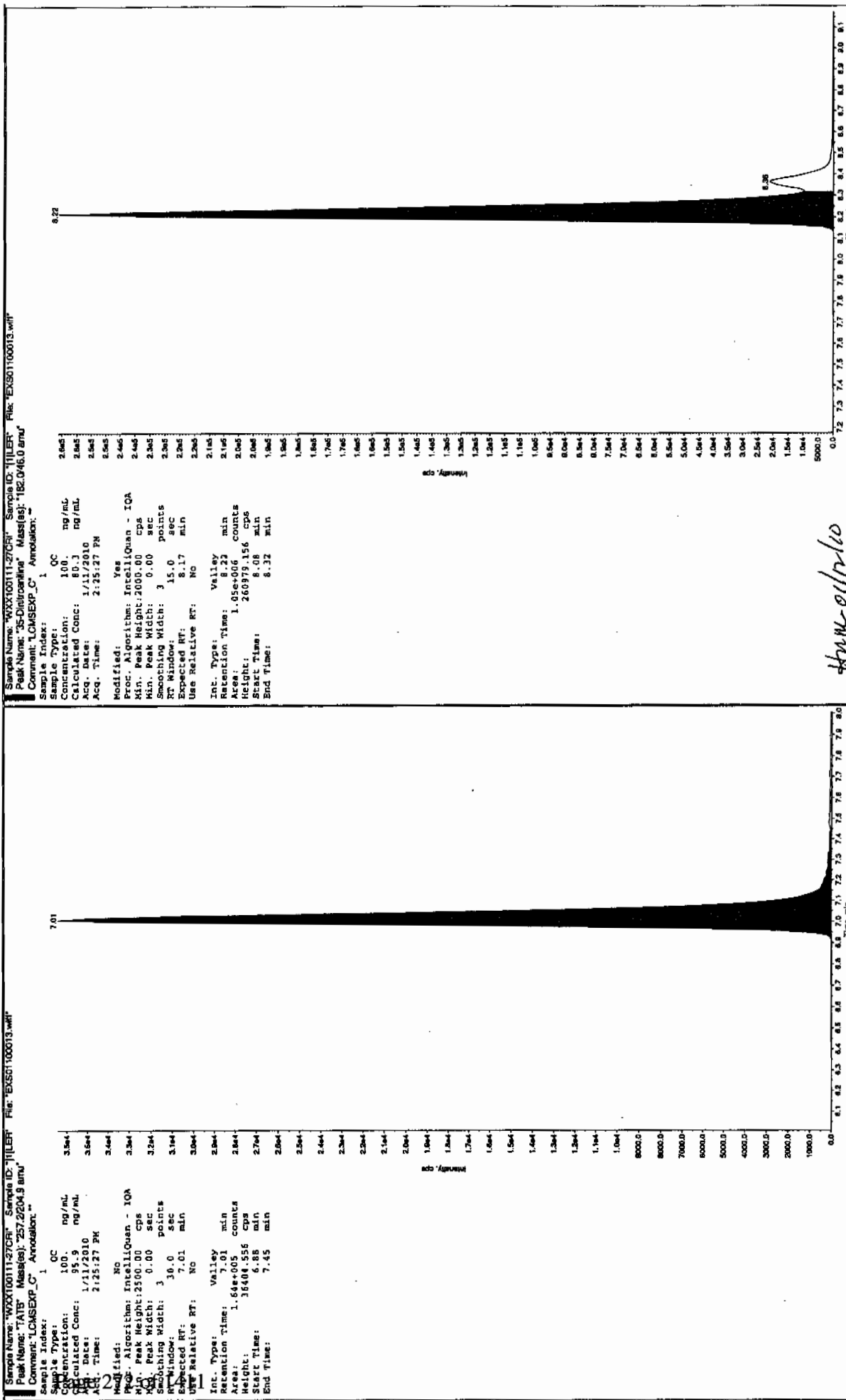
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

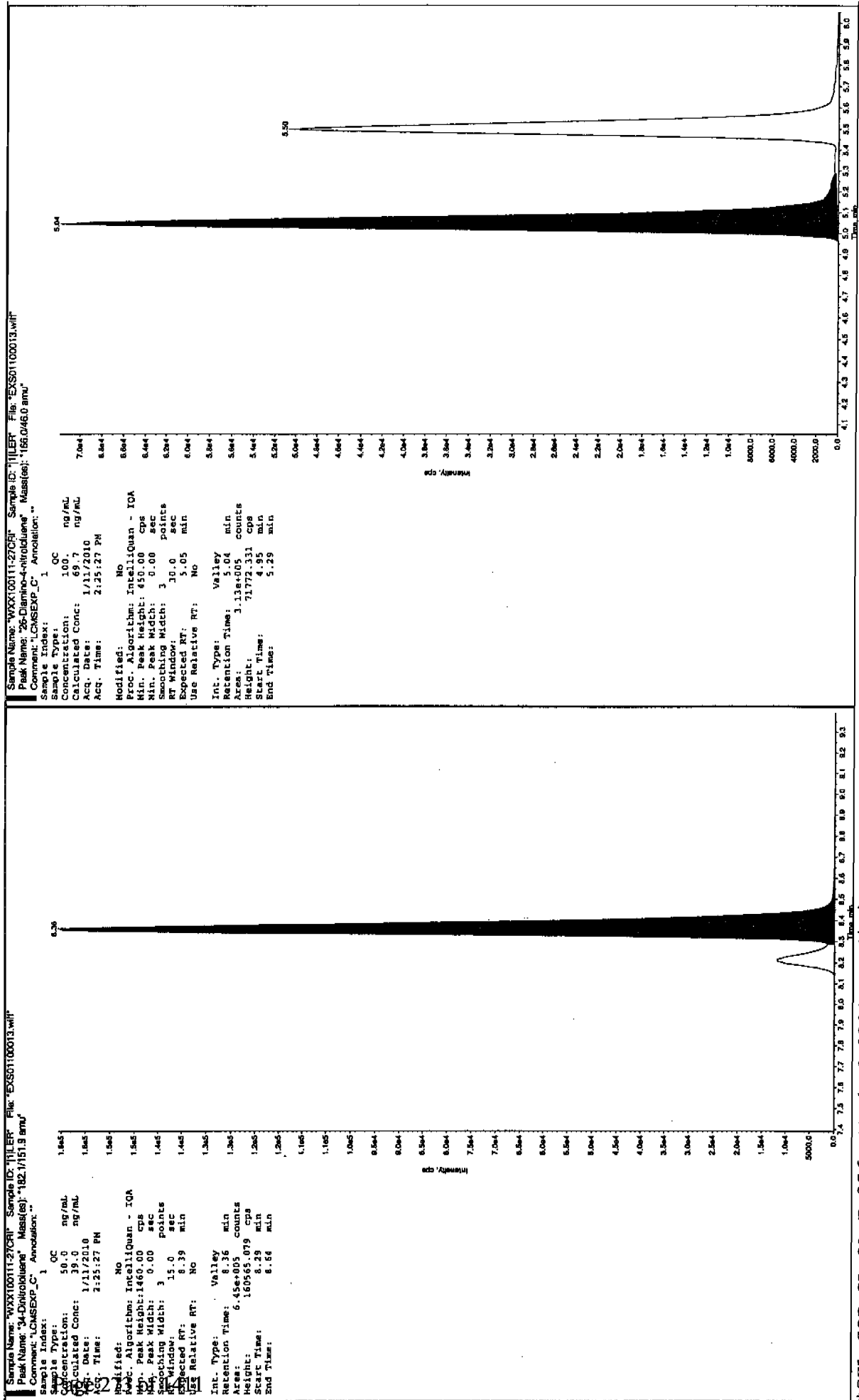
Column used to flag Recovery outside of Limits

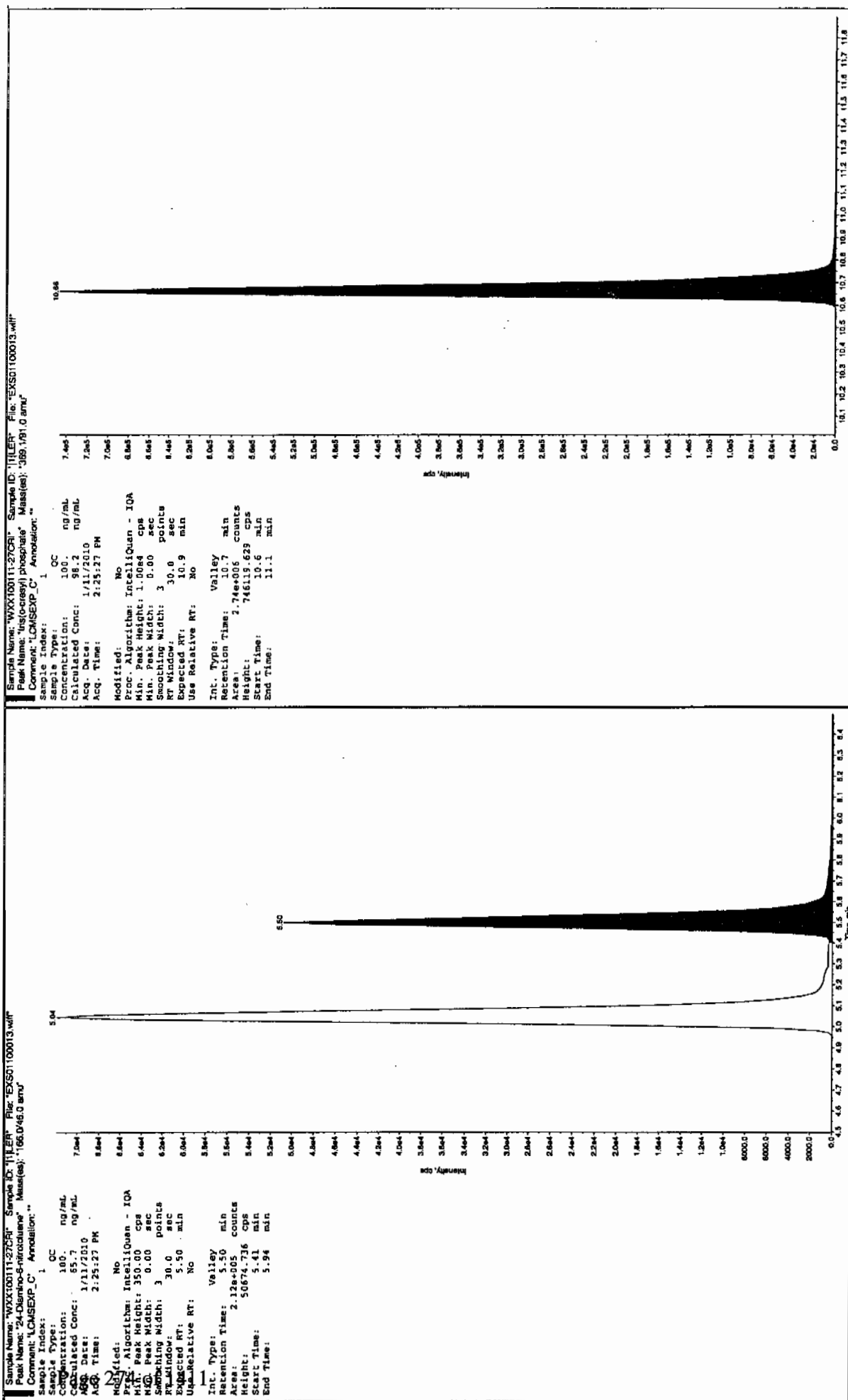
* Value outside of Recovery Limits

11/21/10
JGK



Handwritten signature/initials





7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01100022.wiff

Analysis Date: 11-JAN-10 16:46

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	397	80	
2,6-Diamino-4-nitrotoluene	500	445	89	
3,4-Dinitrotoluene	250	216	87	
3,5-Dinitroaniline	500	460	92	
TATB	500	477	96	
tris(o-cresyl) phosphate	500	460	92	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

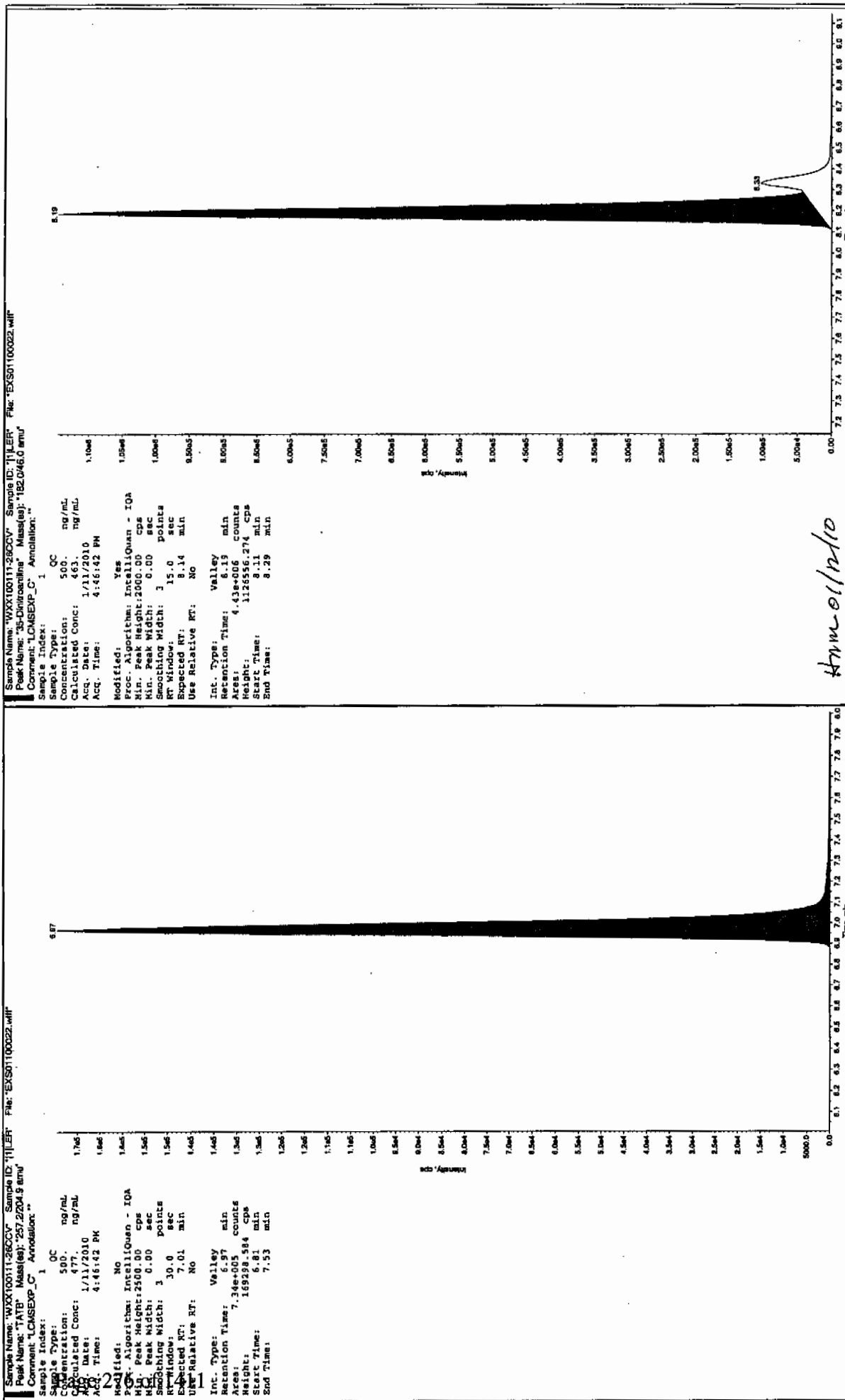
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

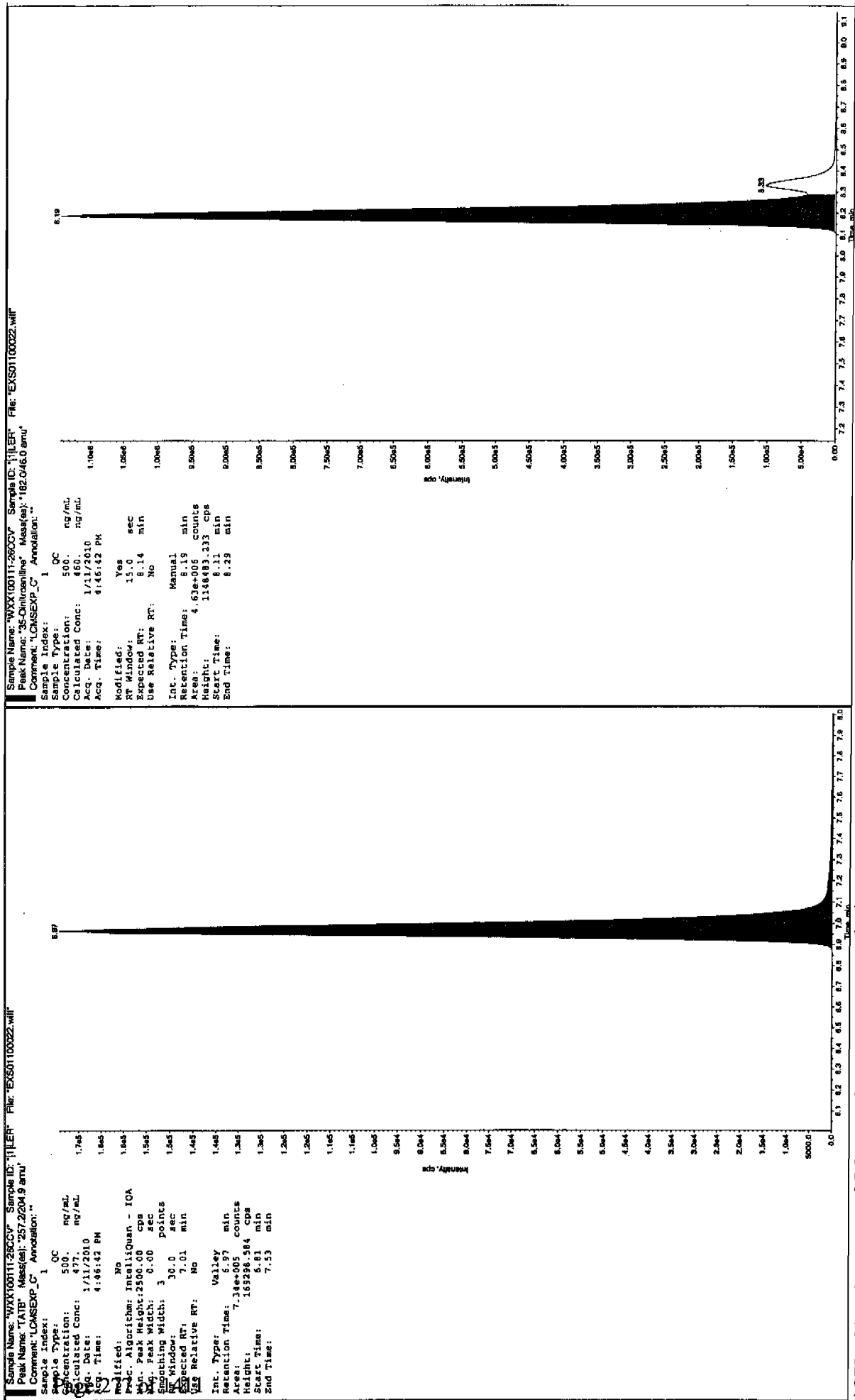
* Value outside of Recovery Limits

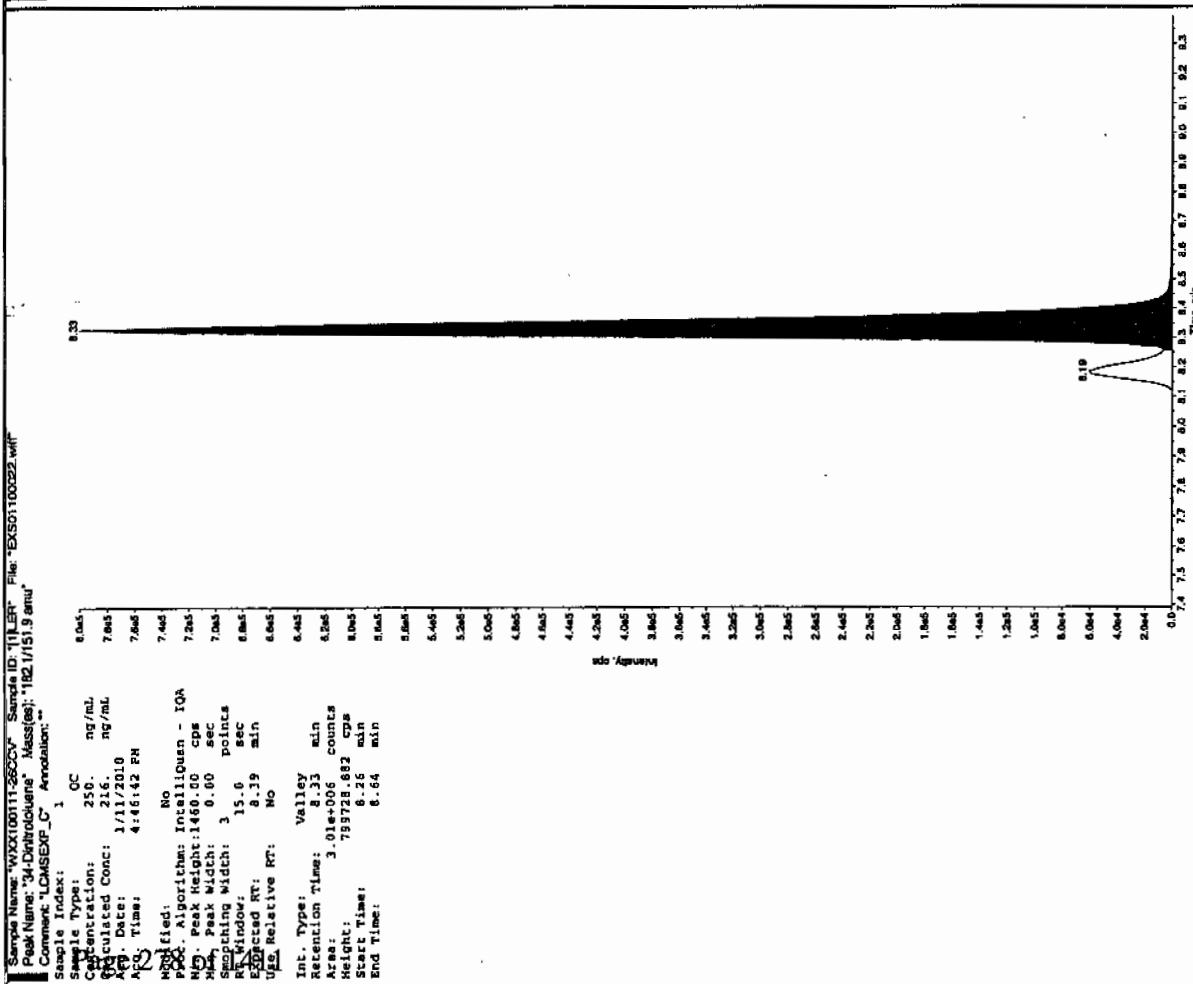
01/11/10
Dipole

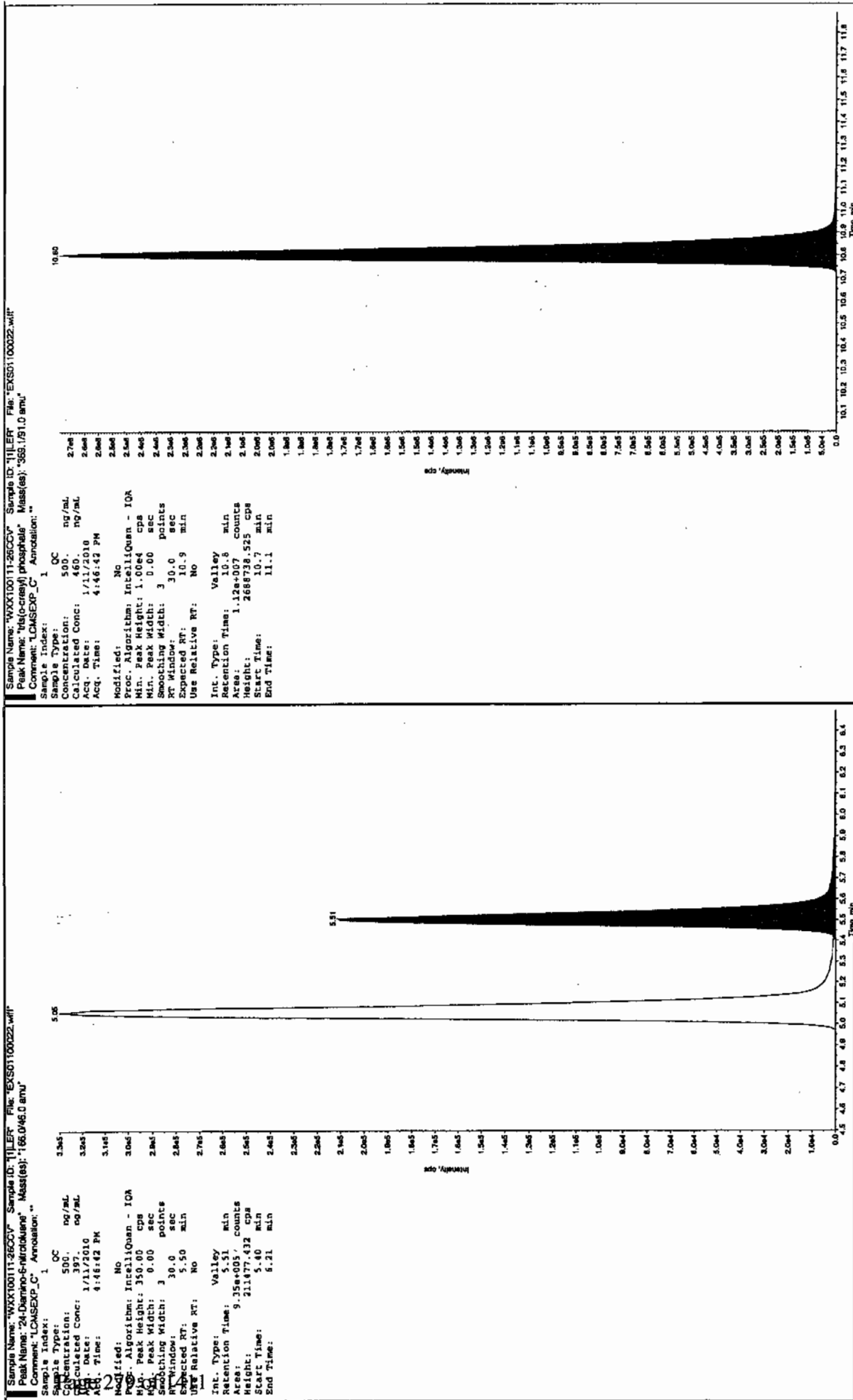


Arm 01/11/10

01/11/10
Oscar
2004







7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01100024.wiff

Analysis Date: 11-JAN-10 17:18

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	57	57	
2,6-Diamino-4-nitrotoluene	100	62.9	63	
3,4-Dinitrotoluene	50	37.7	75	
3,5-Dinitroaniline	100	74.4	74	
TATB	100	87.5	88	
tris(o-cresyl) phosphate	100	87.3	87	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

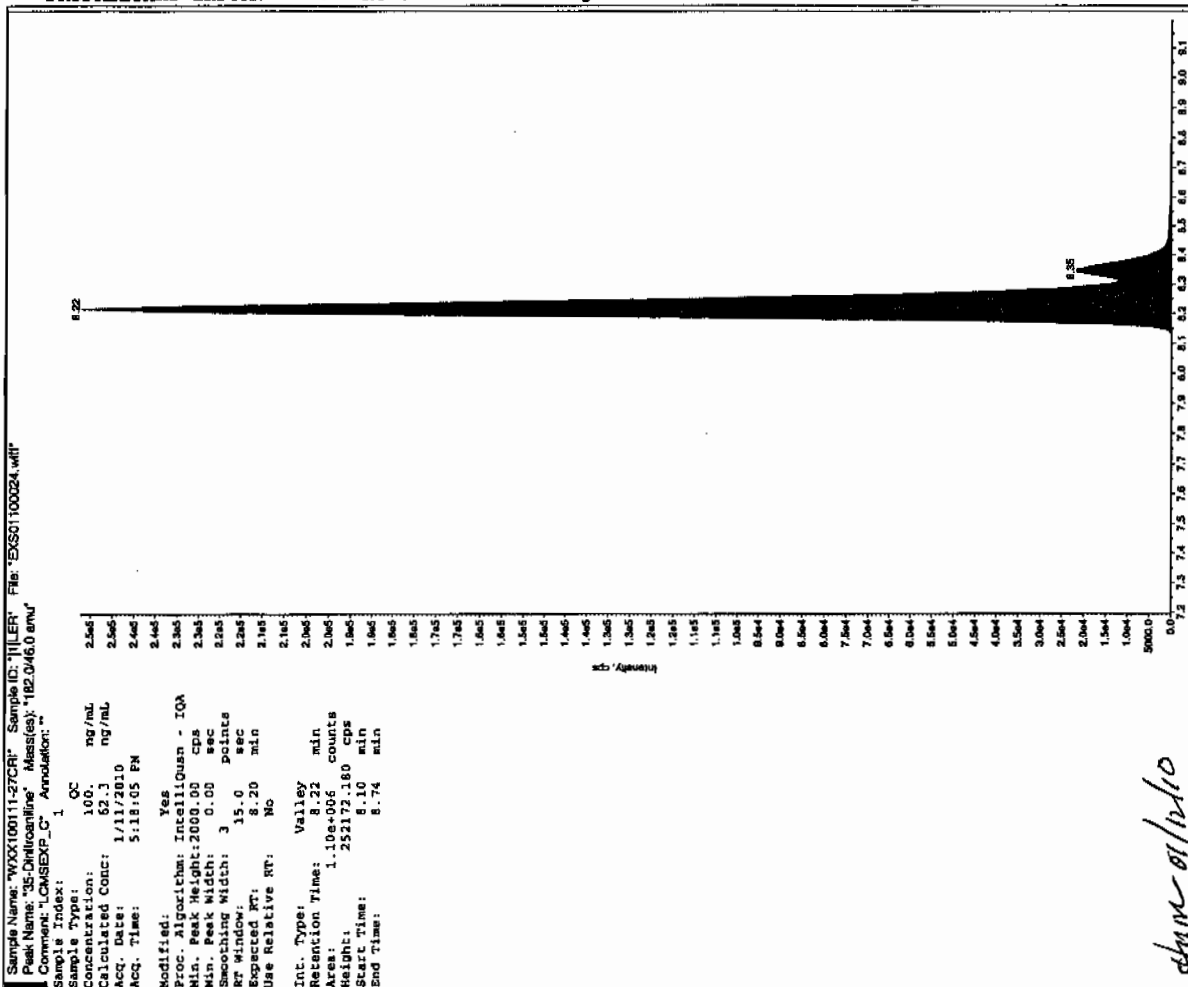
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

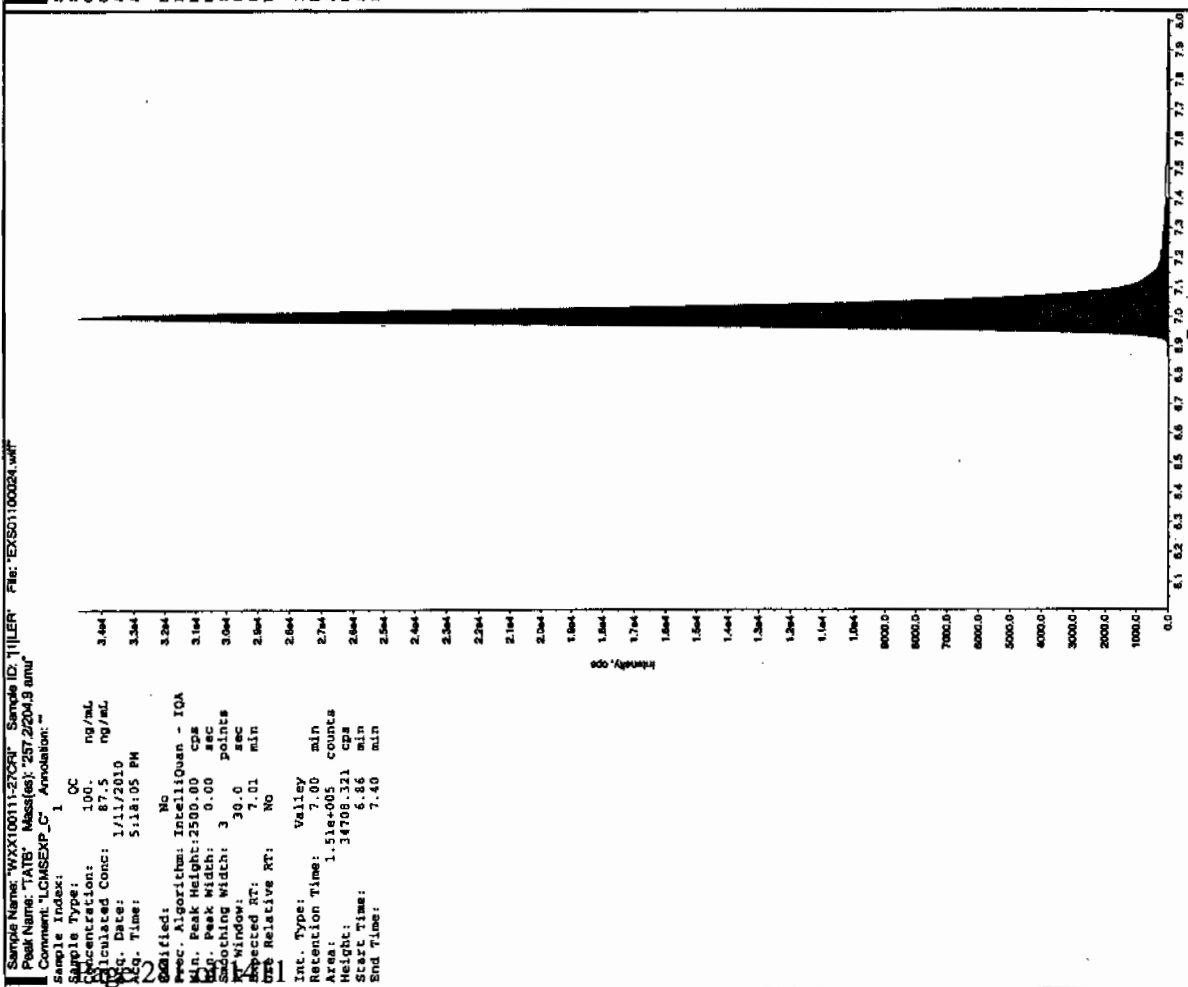
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Before
11/11/10



done 01/11/10



Sample Name: "WXX100111-2709" Sample ID: "111ER" File: "EXS01100024.wif"

Peak Name: "3S-Dimethylamino" Mass(es): "182.046.0 amu"

Comment: "LCMSXP_C" Annotation: "

Sample Index: 1 QC

Sample Type: 100 ng/mL

Concentration: 74.4 ng/mL

Calculated Conc: 1/11/2010

Acq. Date: 5:18:05 PM

Acq. Time: 2.40

Modified: Yes

RT Window: 15.0 sec

Expected RT: 8.20 min

Use Relative RT: No

Int. Type: Manual

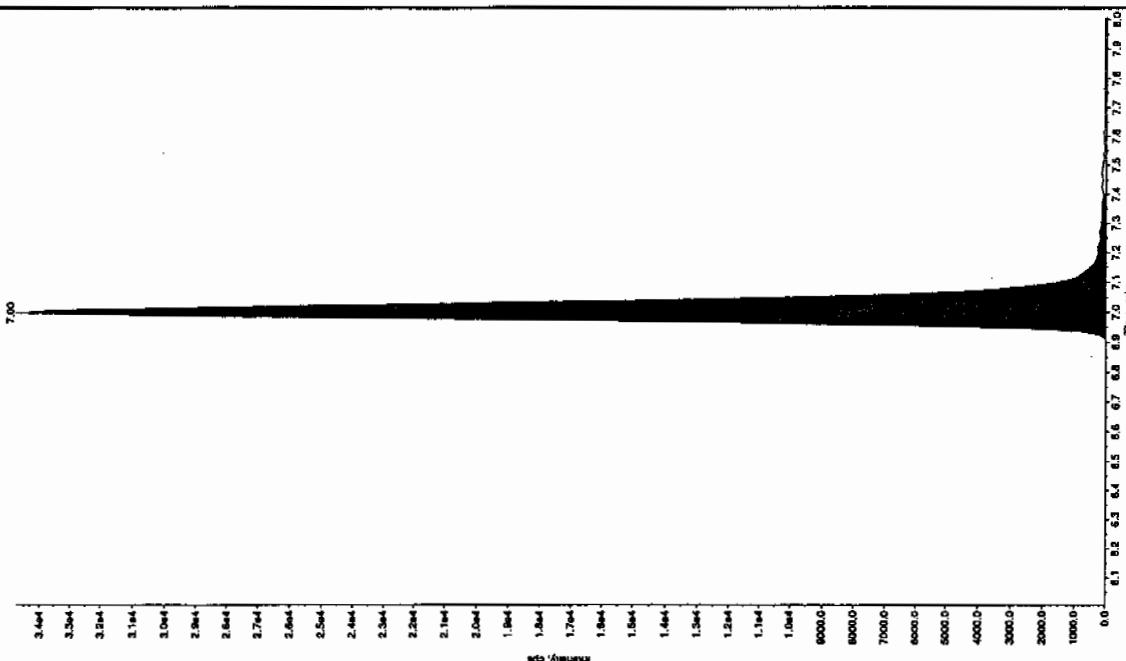
Retention Time: 8.22 min

Area: 9.92e+005 counts

Height: 251701.239 cps

Start Time: 8.13 min

End Time: 8.31 min



Sample Name: "WXX100111-2709" Sample ID: "111ER" File: "EXS01100024.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSXP_C" Annotation: "

Sample Index: 1 QC

Sample Type: 100 ng/mL

Concentration: 87.5 ng/mL

Calculated Conc: 1/11/2010

Acq. Date: 5:18:05 PM

Acq. Time: 2.40

Modified: No

RT Window: 30.0 sec

Expected RT: 7.01 min

Use Relative RT: No

Int. Type: Valley

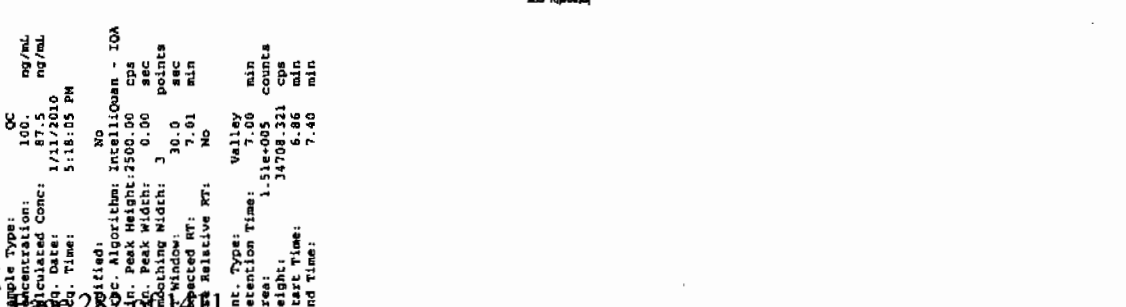
Retention Time: 7.00 min

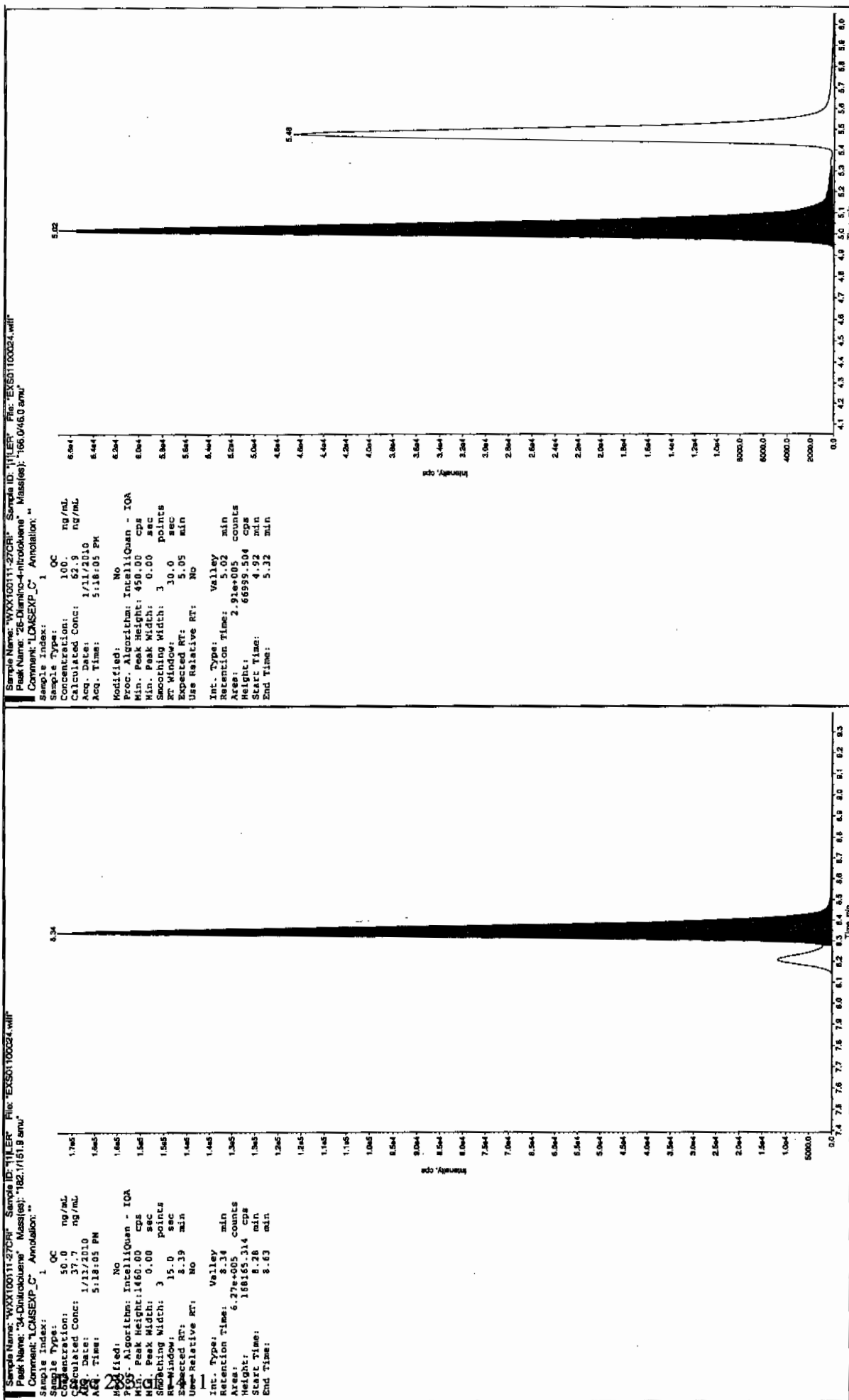
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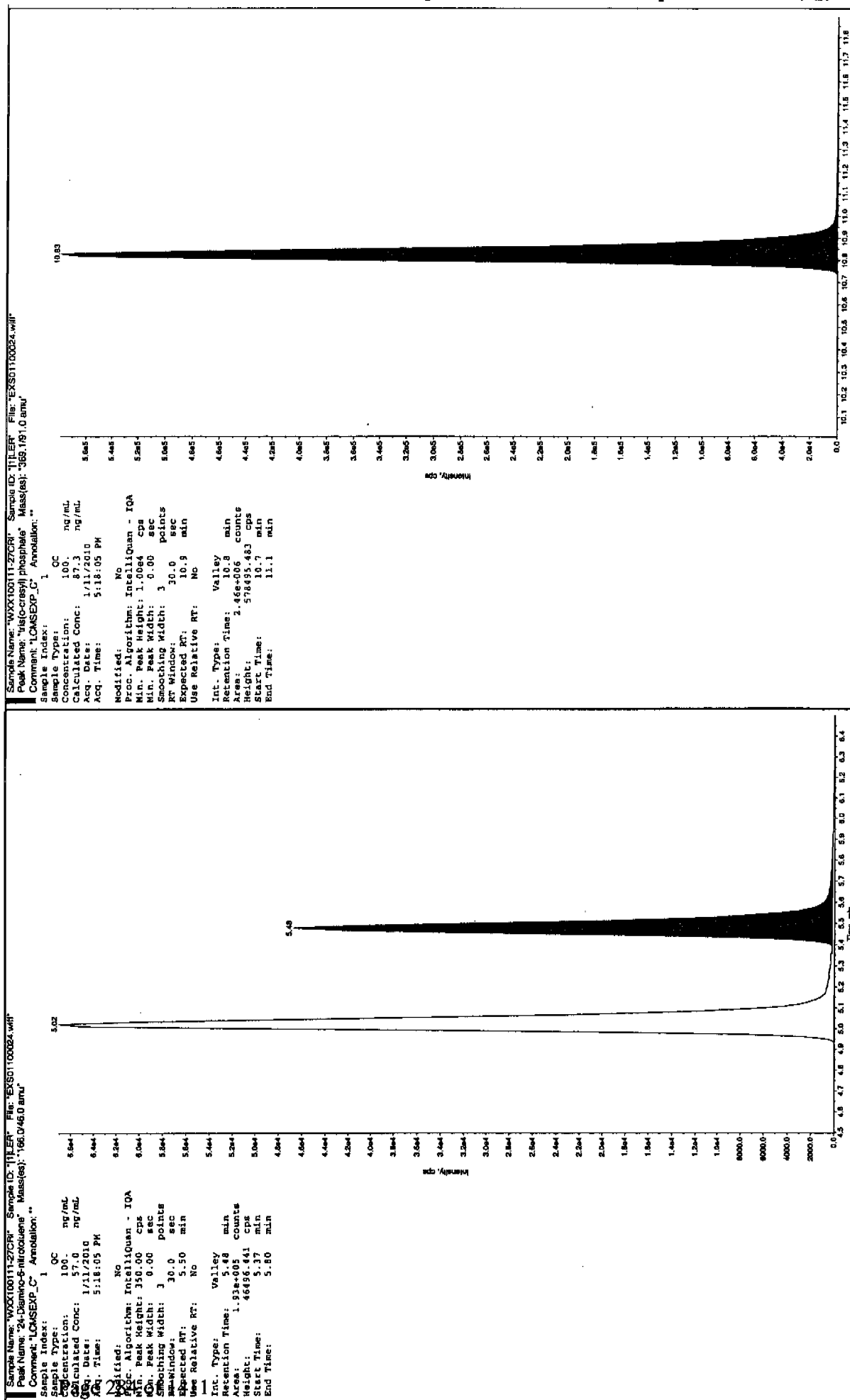
Height: 14708.321 cps

Start Time: 6.96 min

End Time: 7.40 min







7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01100035.wiff

Analysis Date: 11-JAN-10 20:10

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	447	89	
2,6-Diamino-4-nitrotoluene	500	439	88	
3,4-Dinitrotoluene	250	226	90	
3,5-Dinitroaniline	500	514	103	
TATB	500	497	99	
tris(o-cresyl) phosphate	500	454	91	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

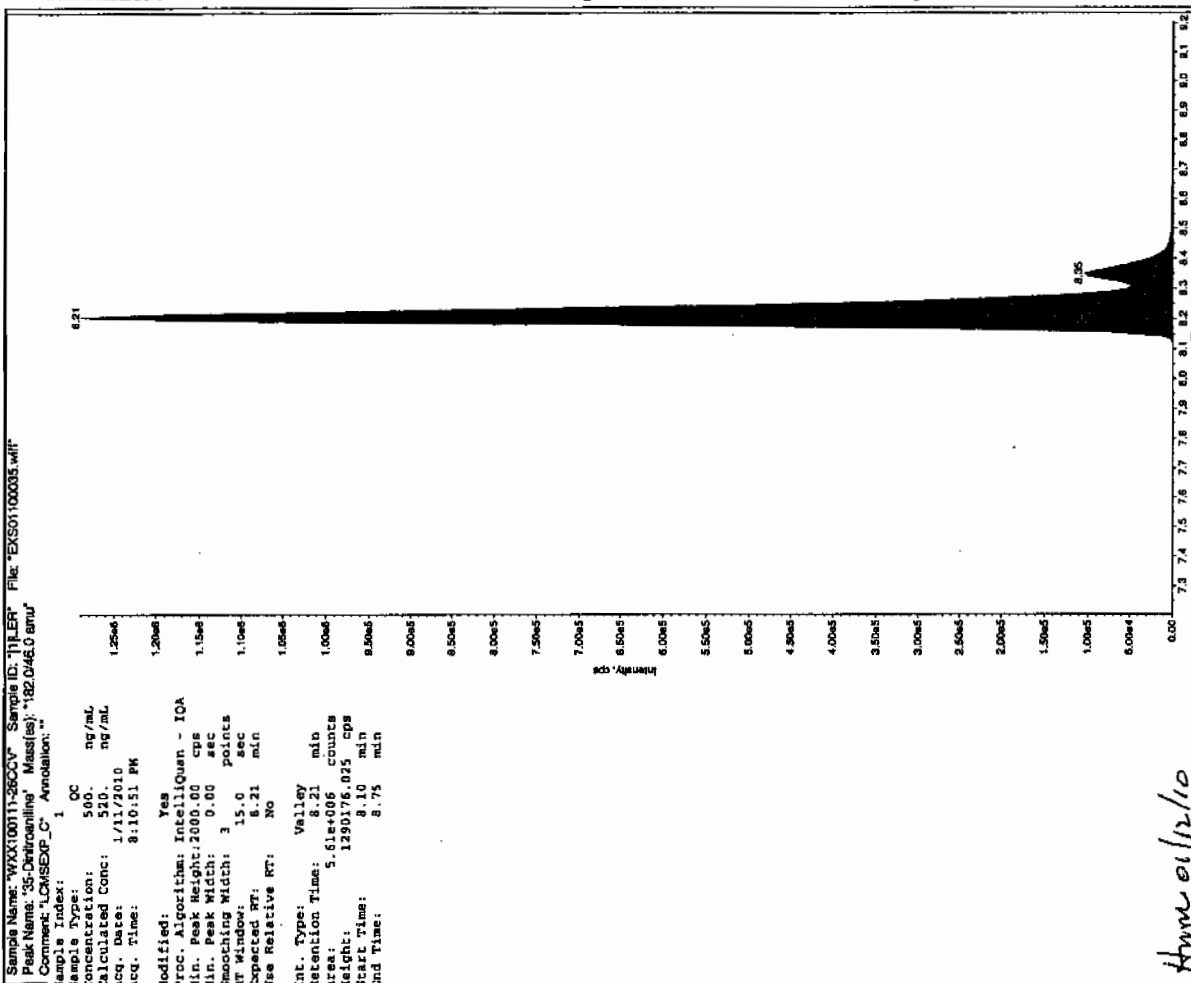
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

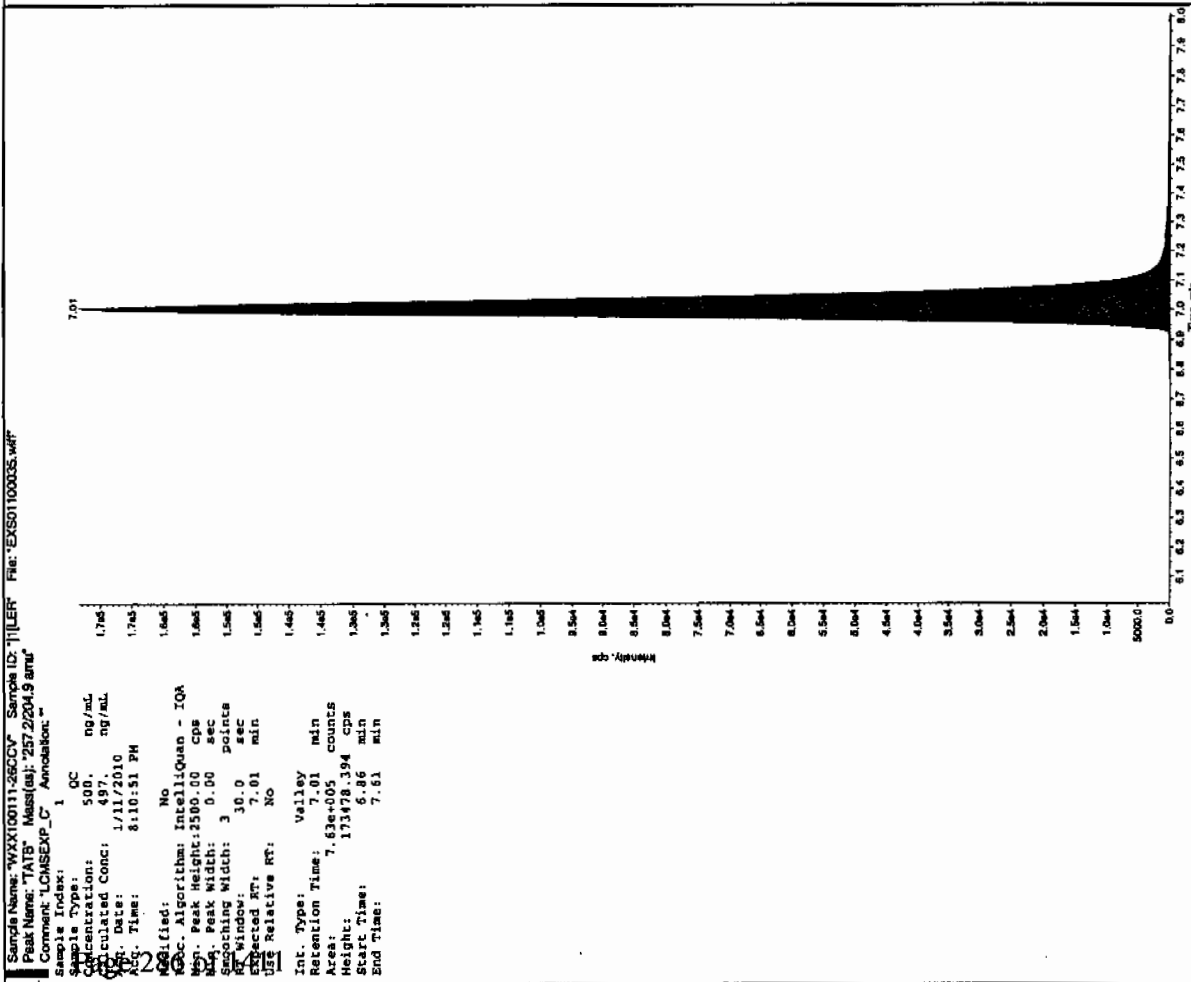
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

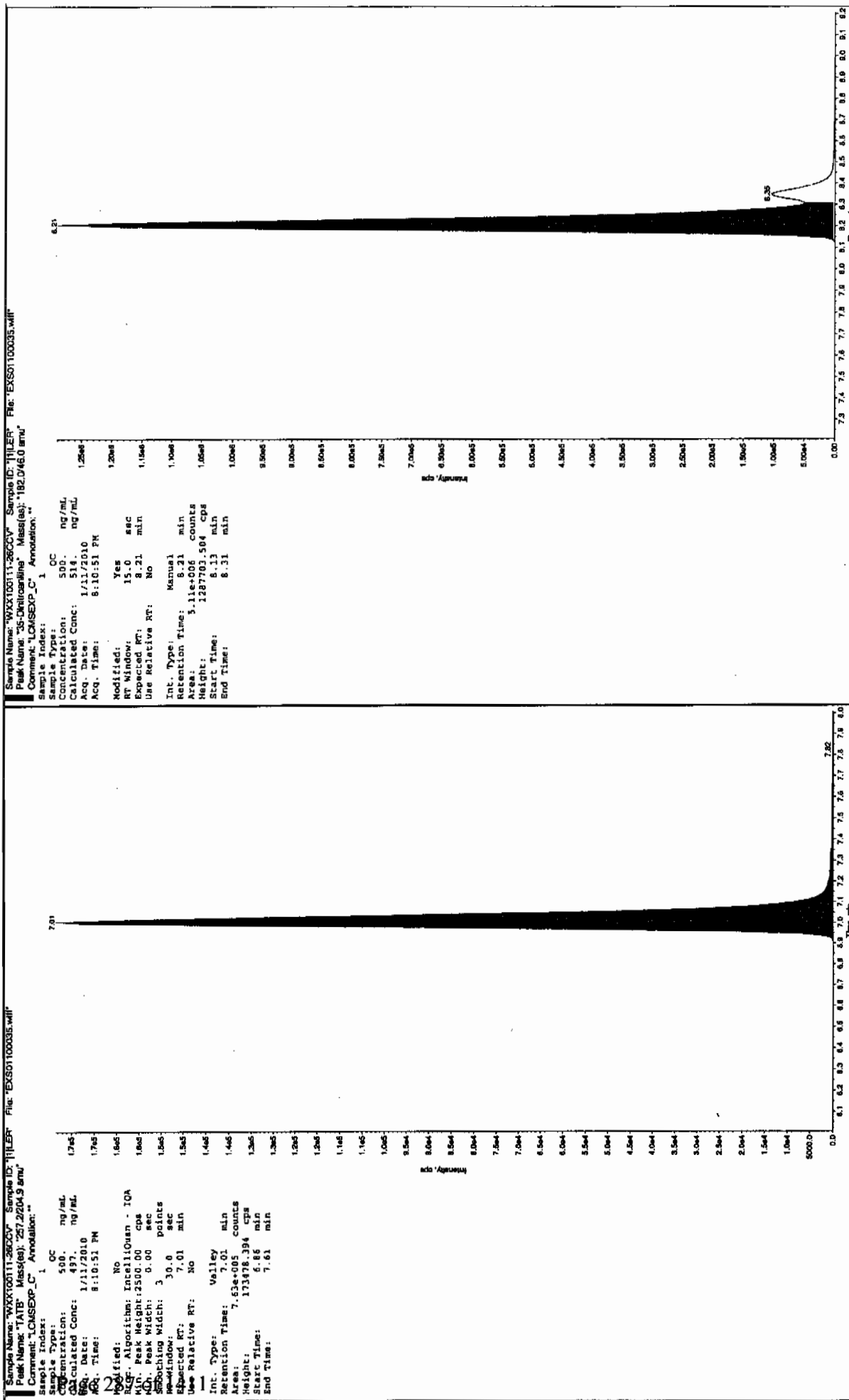
01/11/10
Bayer



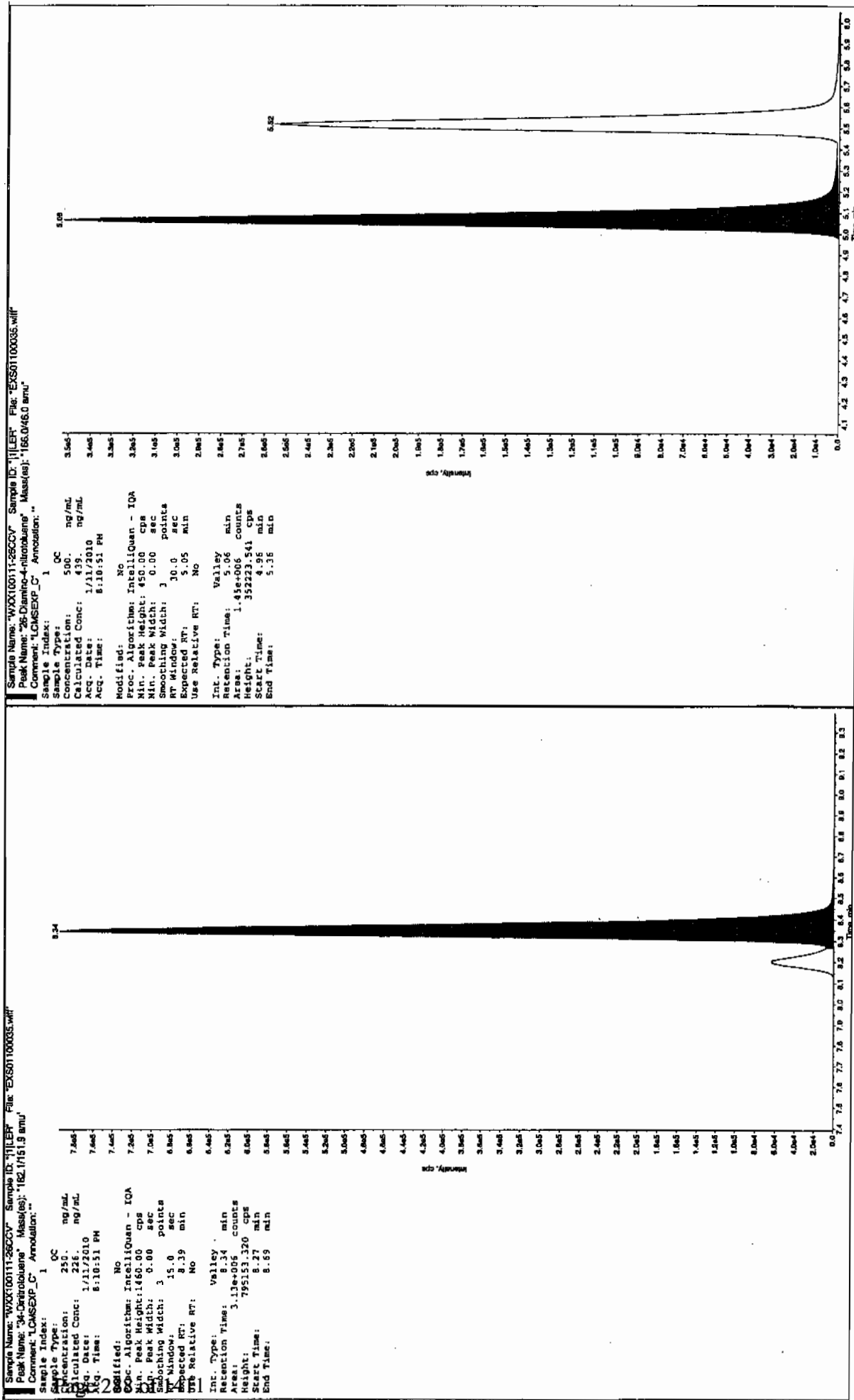
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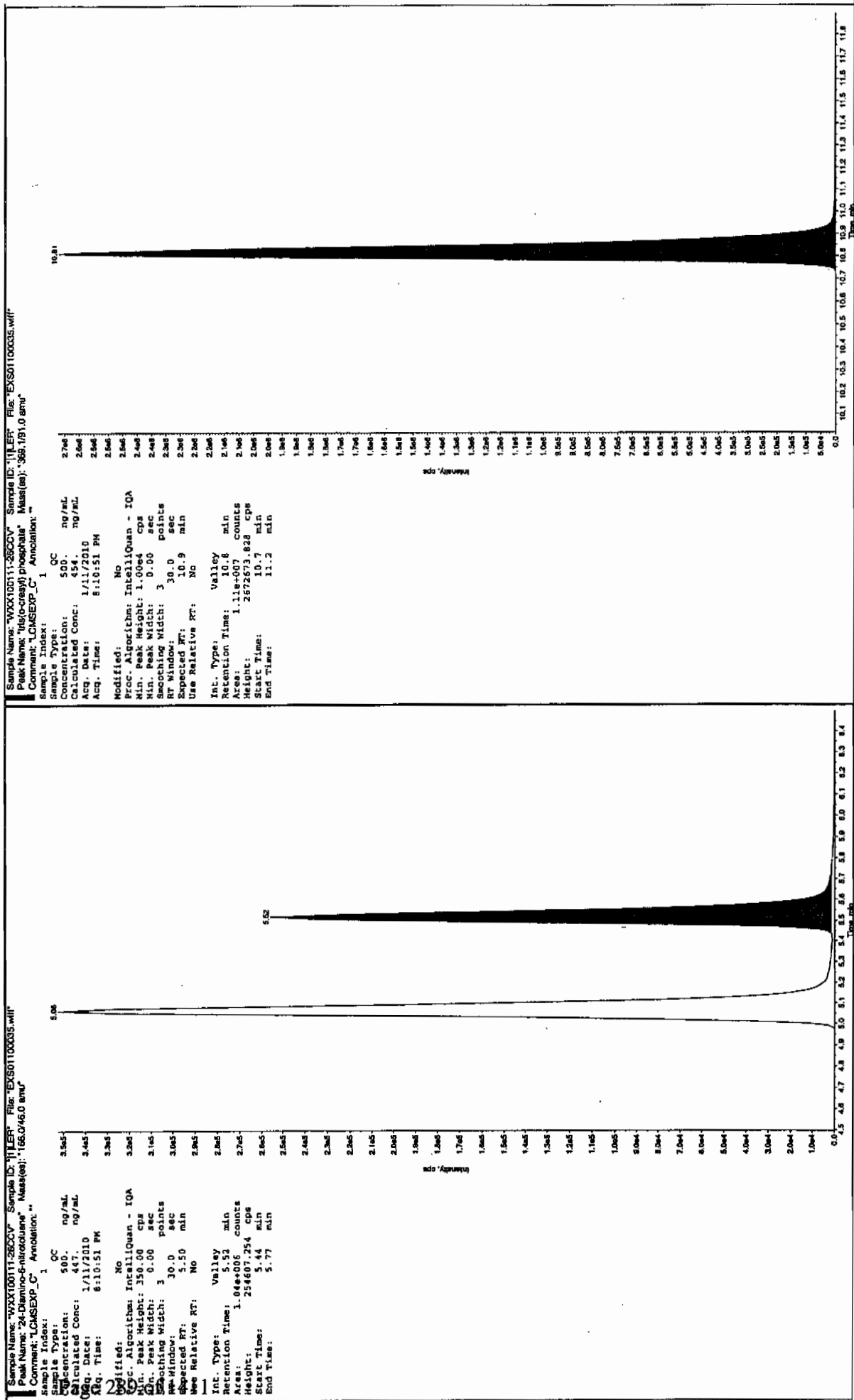


08/02/11/10



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





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01100037.wiff

Analysis Date: 11-JAN-10 20:42

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	71.1	71	
2,6-Diamino-4-nitrotoluene	100	68.9	69	
3,4-Dinitrotoluene	50	35.4	71	
3,5-Dinitroaniline	100	72.8	73	
TATB	100	86	86	
tris(o-cresyl) phosphate	100	90.7	91	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

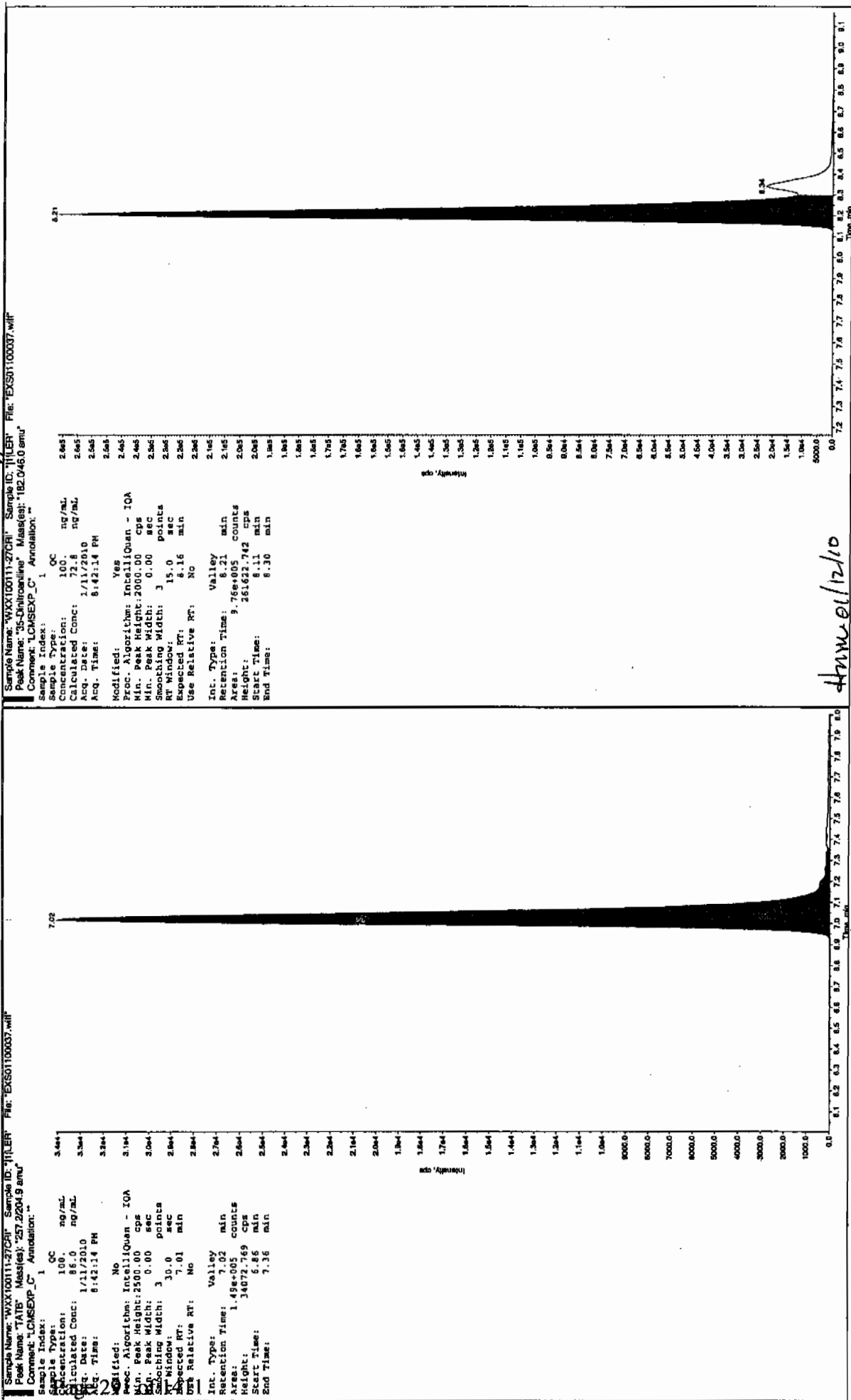
2,4-Diamino-6-nitrotoluene 50-150%

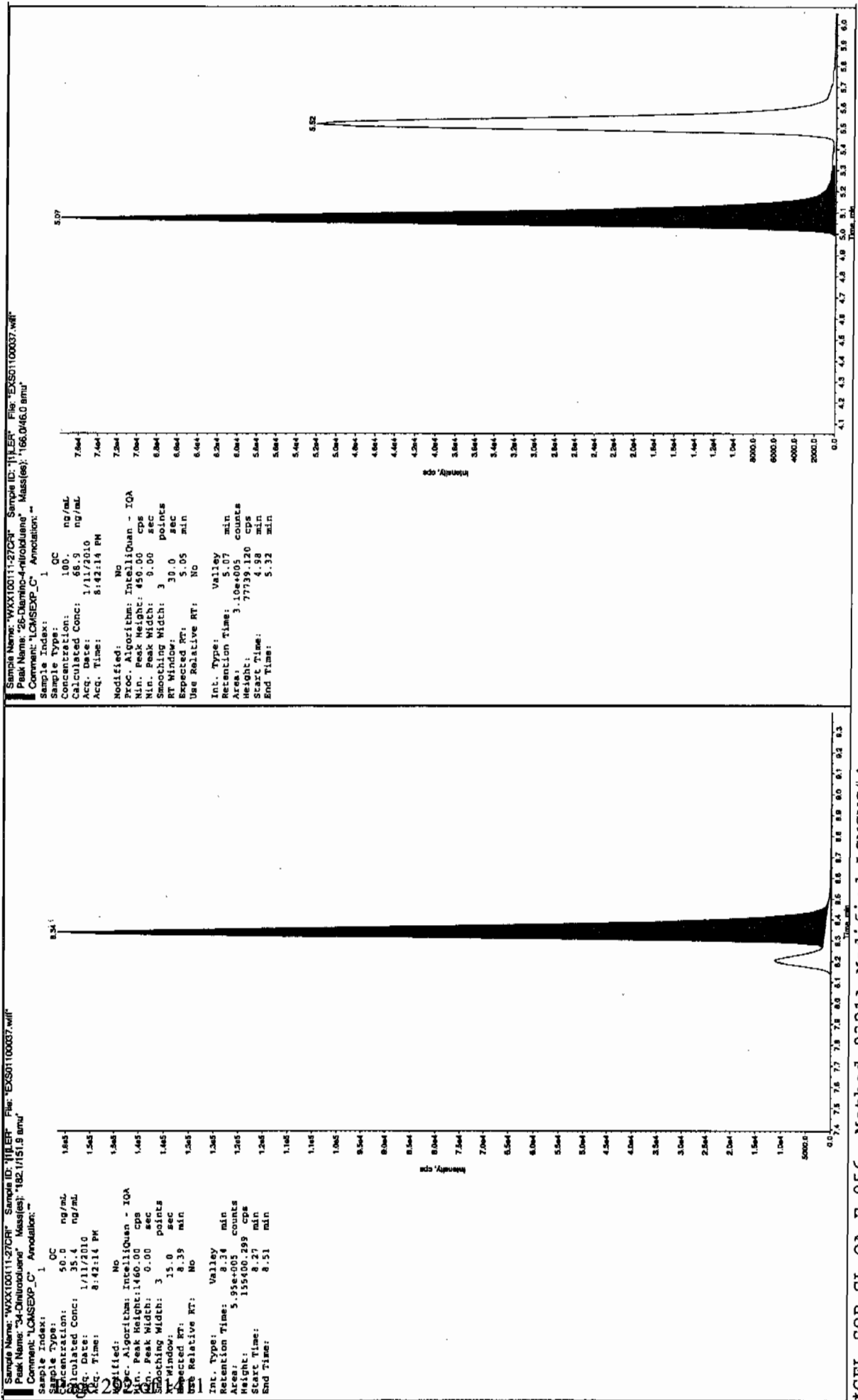
Other Target Analytes 70-130%

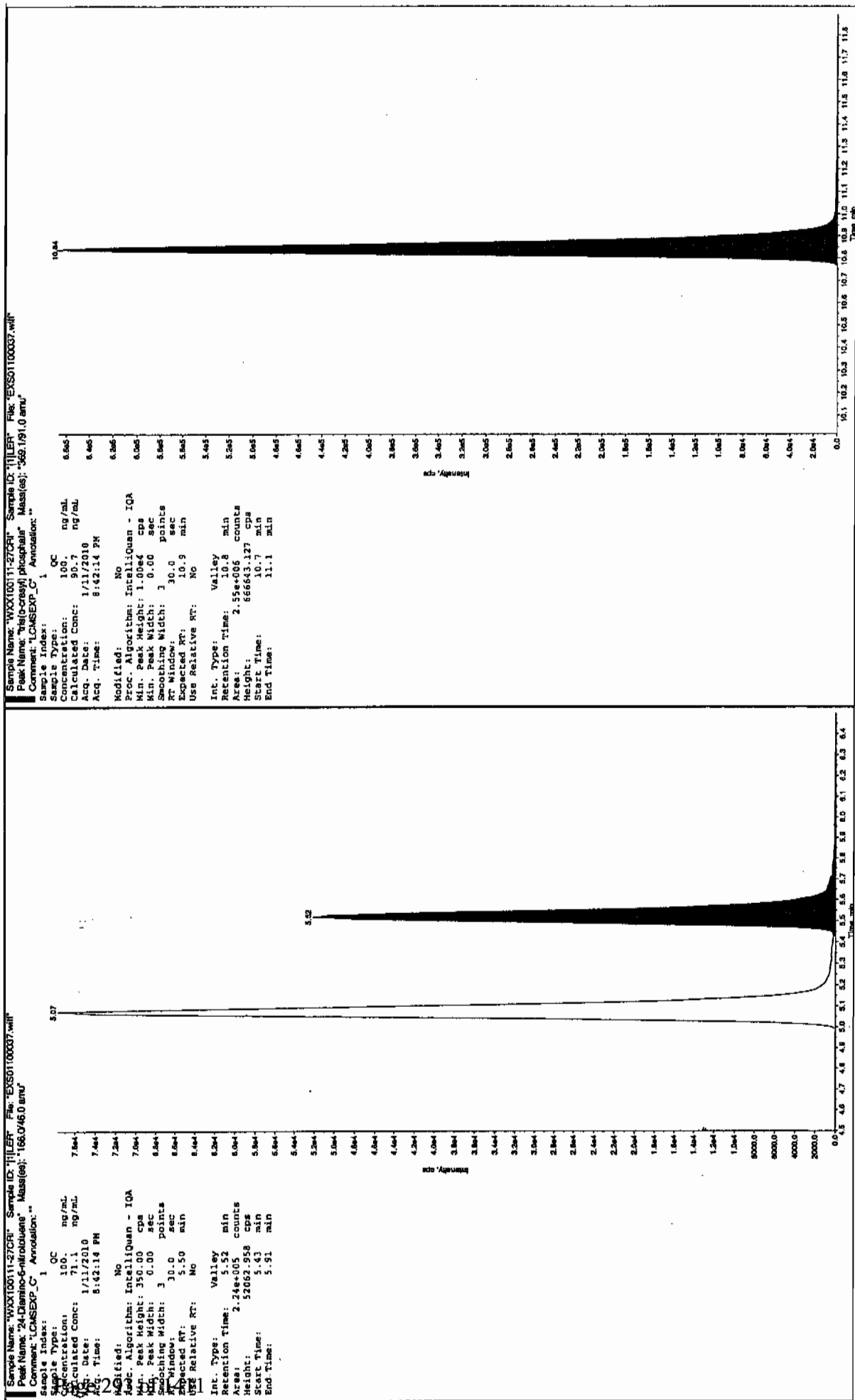
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

01/21/10
POB







7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01100043.wiff

Analysis Date: 11-JAN-10 22:16

LCMSMS ID: 1358

Column ID: Sphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	436	87	
2,6-Diamino-4-nitrotoluene	500	461	92	
3,4-Dinitrotoluene	250	197	79	
3,5-Dinitroaniline	500	436	87	
TATB	500	471	94	
tris(o-cresyl) phosphate	500	457	92	

Recovery Limits:

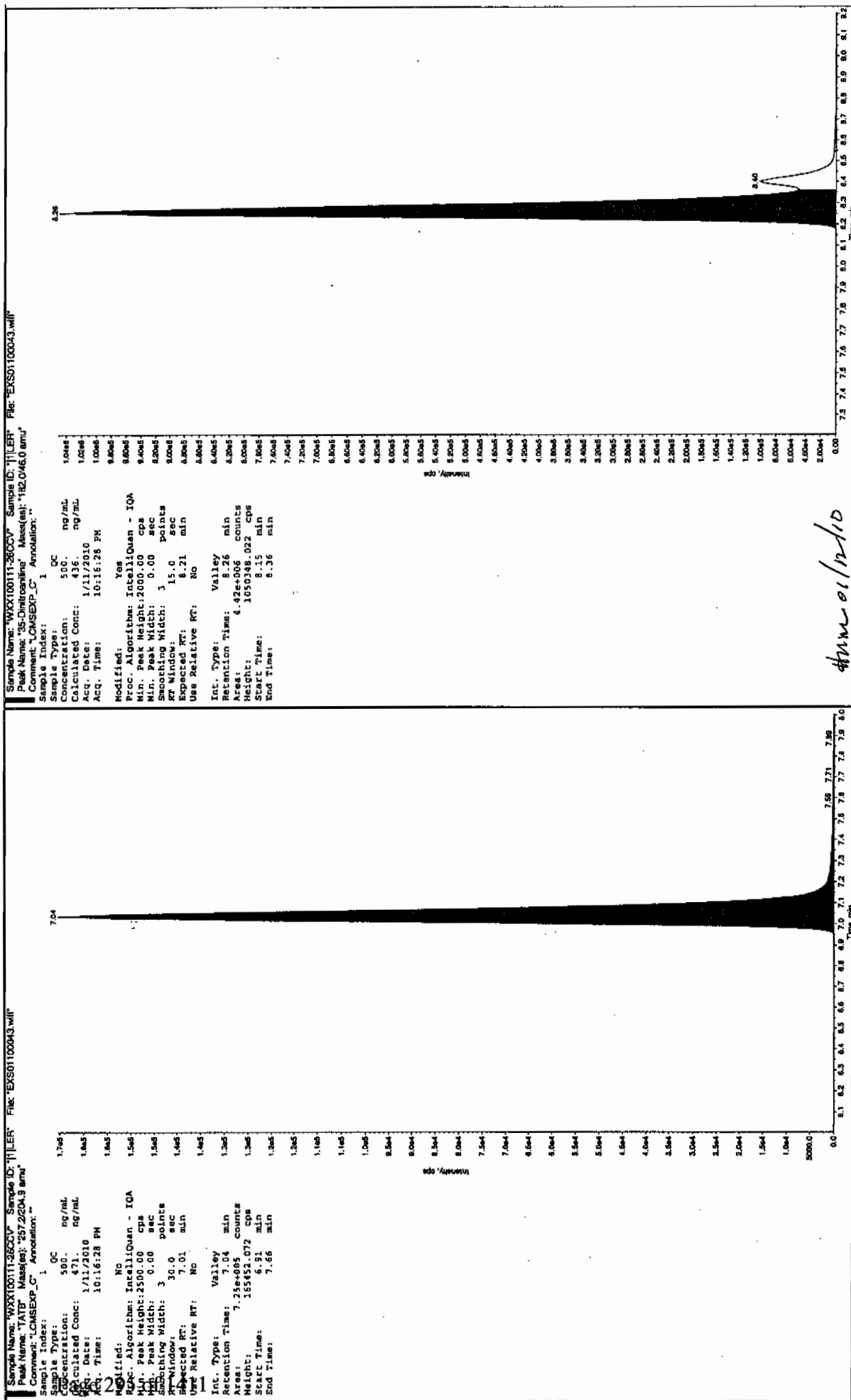
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

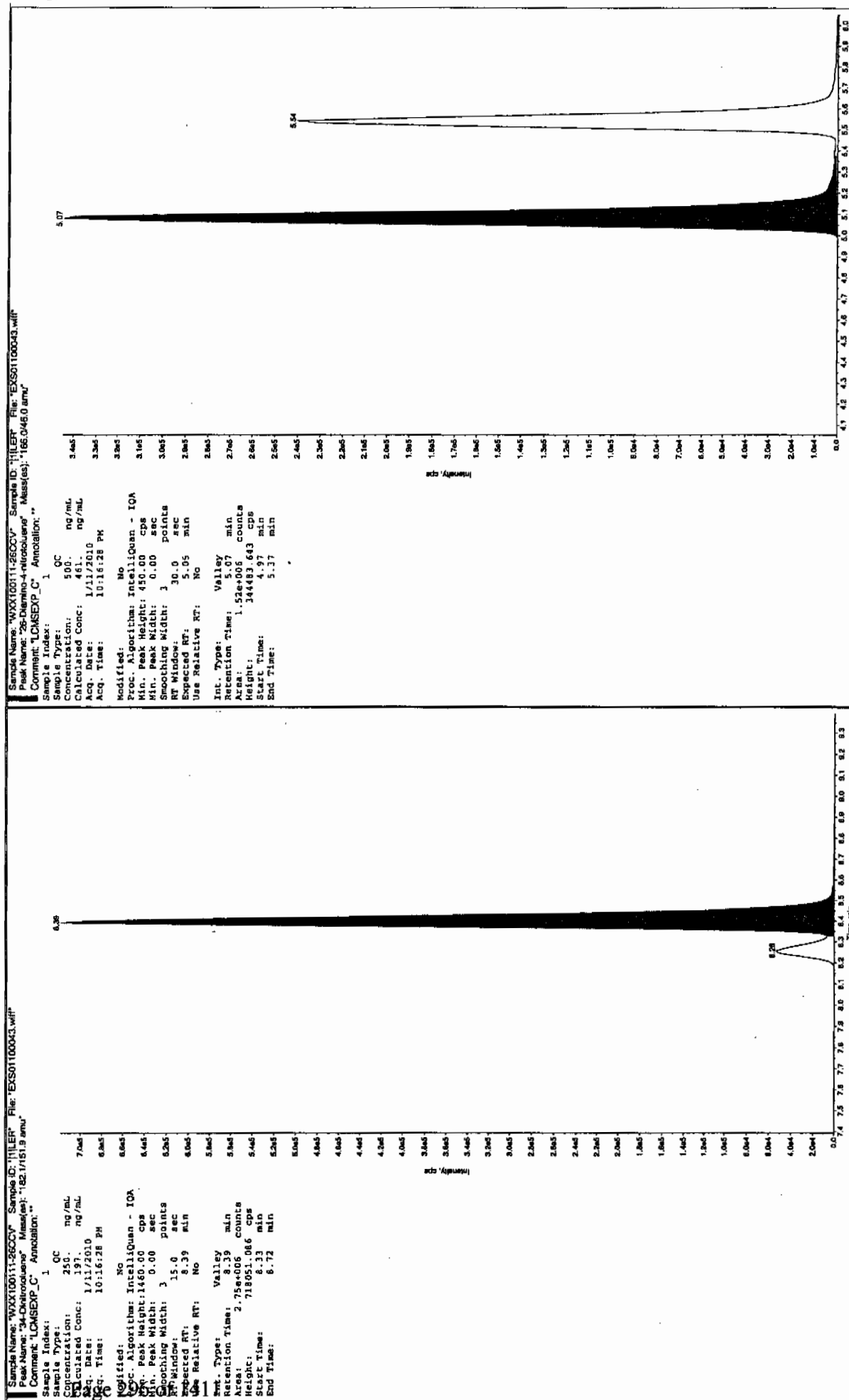
Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

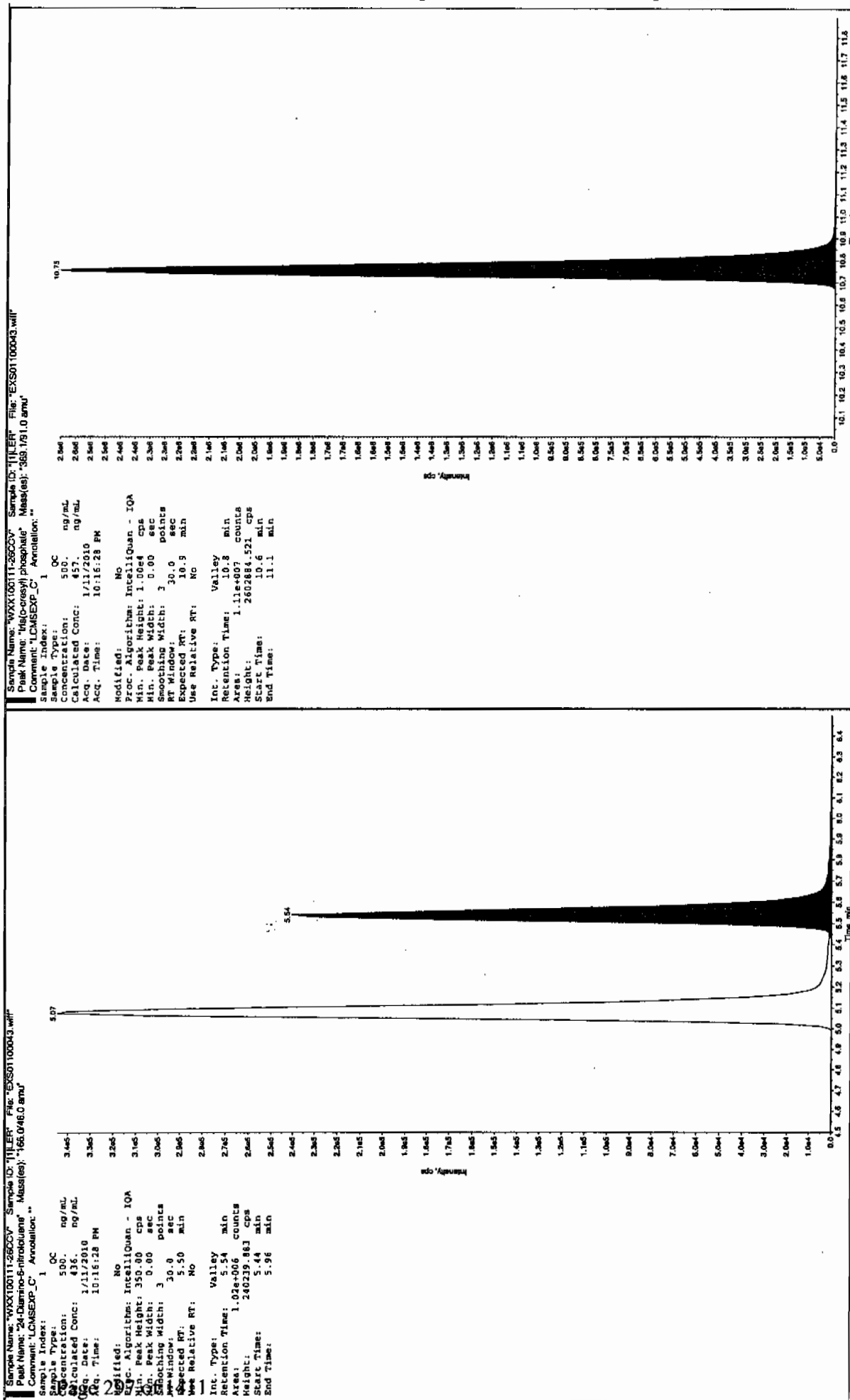
* Value outside of Recovery Limits

01/12/10
JLH





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



7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1102

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01100045.wiff

Analysis Date: 11-JAN-10 22:47

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	62.5	63	
2,6-Diamino-4-nitrotoluene	100	70.9	71	
3,4-Dinitrotoluene	50	35.6	71	
3,5-Dinitroaniline	100	74.3	74	
TATB	100	87.4	87	
tris(o-cresyl) phosphate	100	89.2	89	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

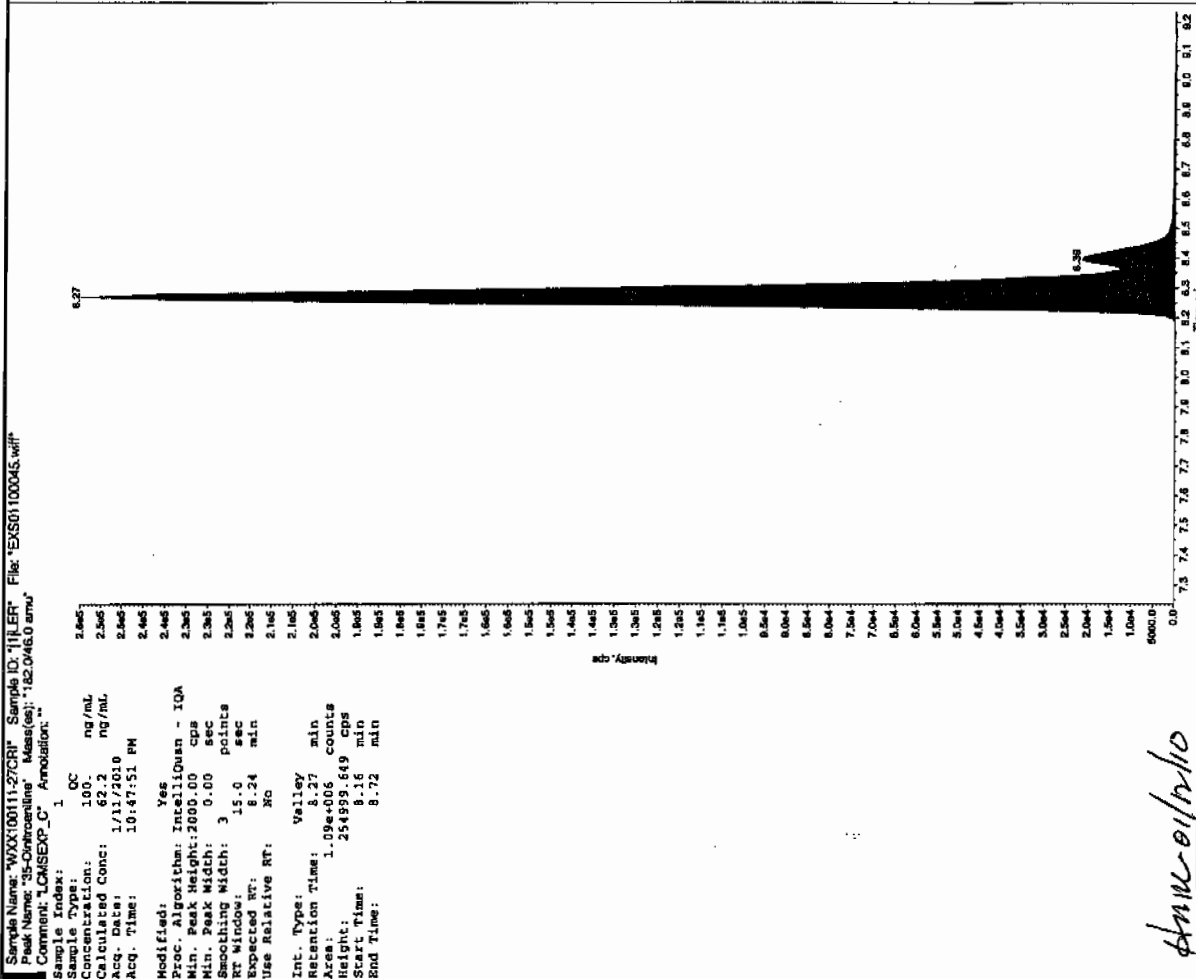
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

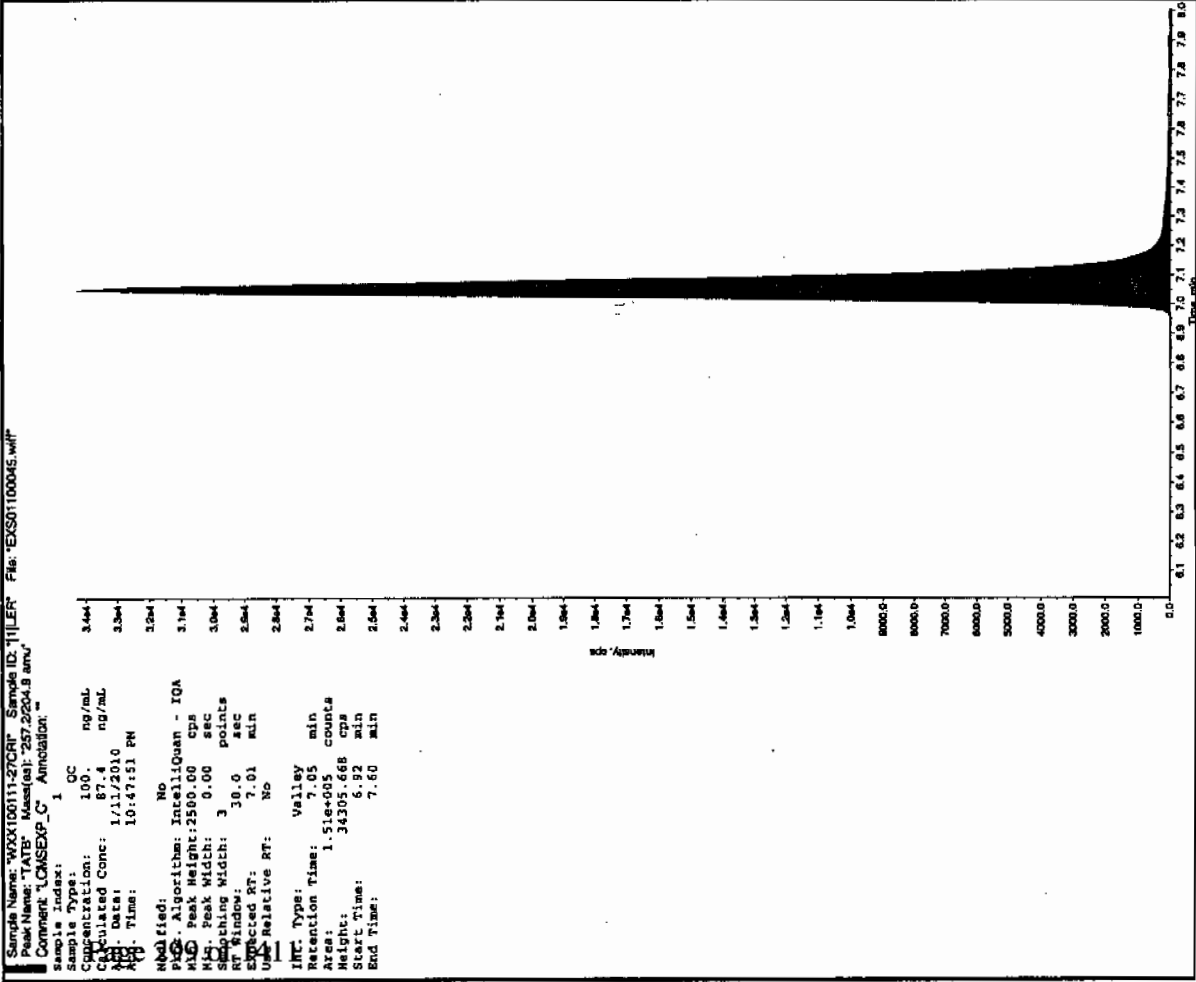
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

01/11/10
Bayer

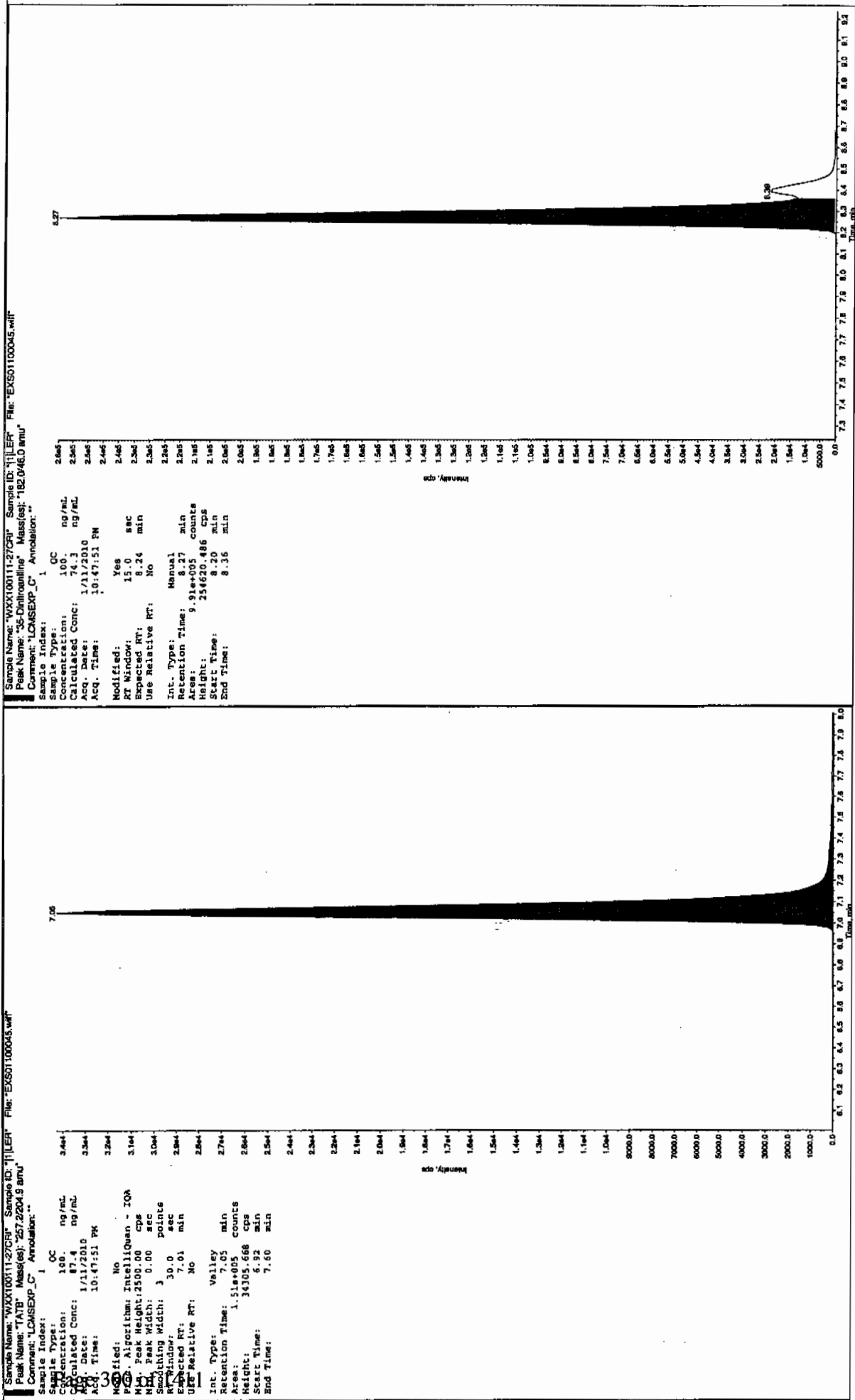


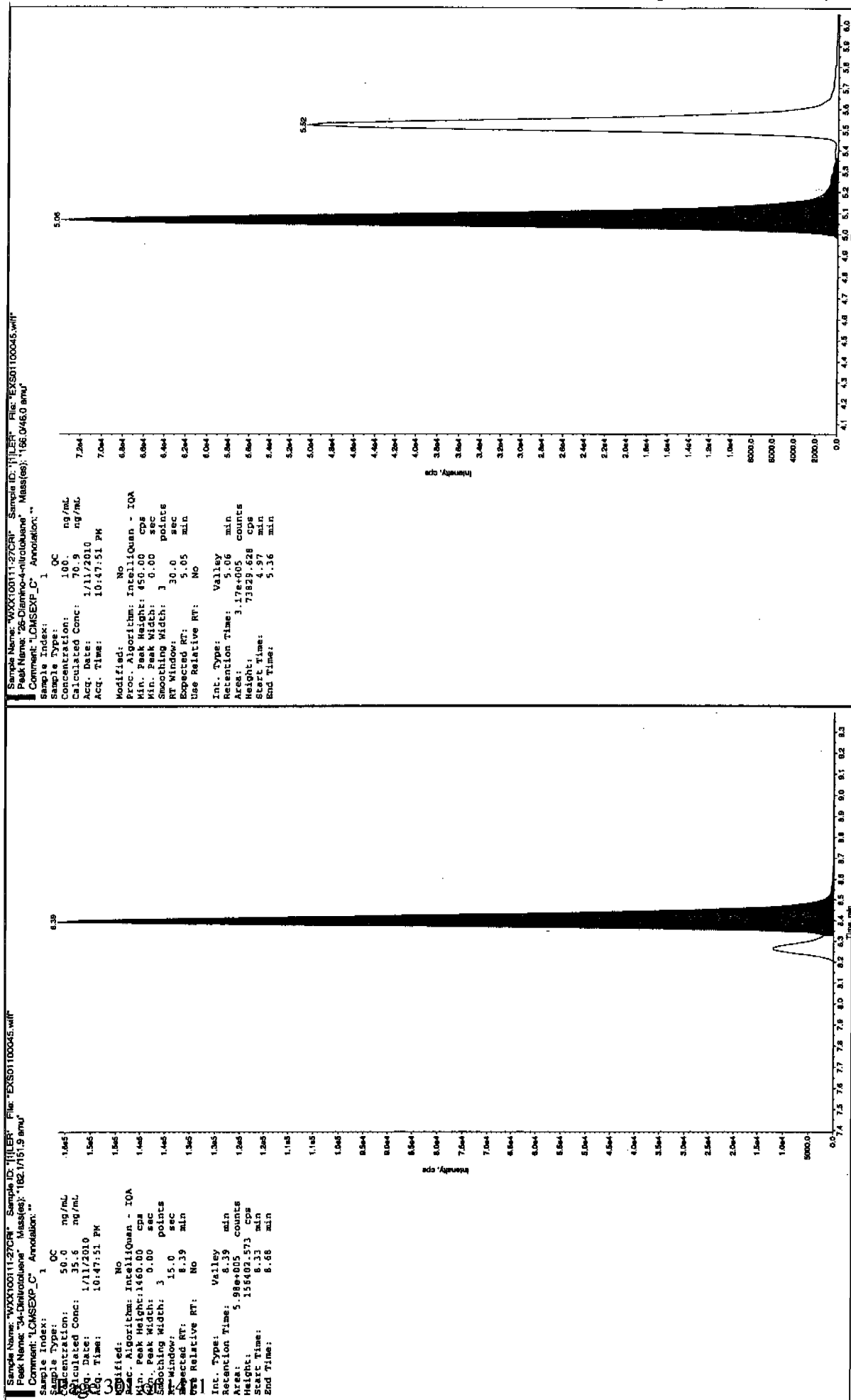
8.27



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

02/28/11

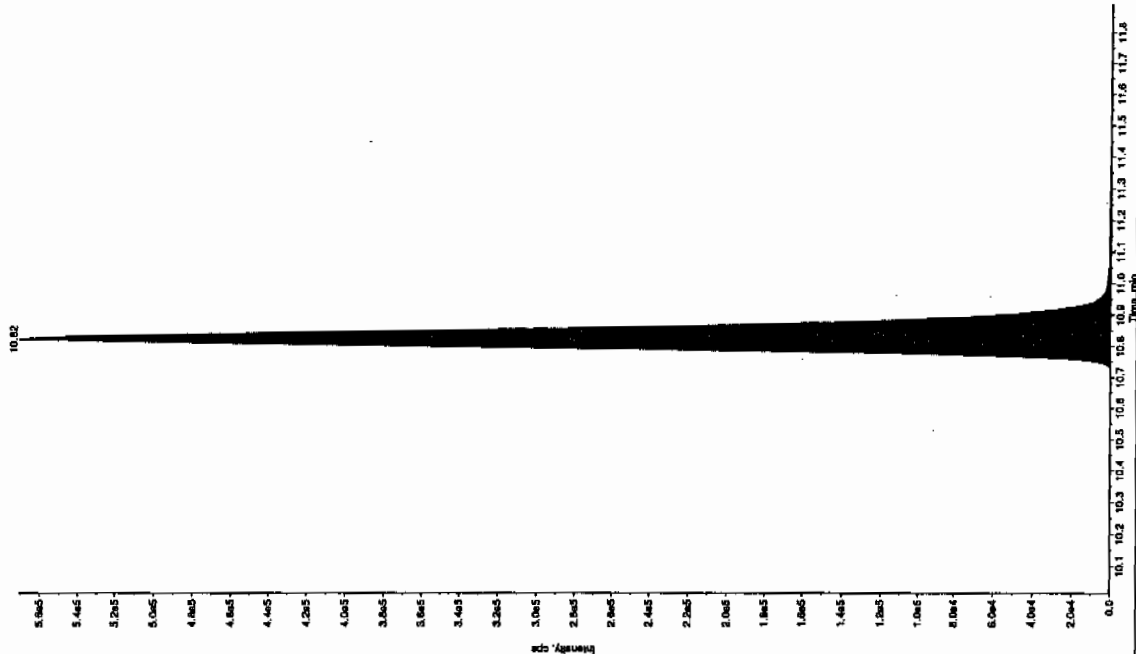




Sample Name: WXX100111-27CPI Sample ID: TILLER File: EXS01100045.wif
Peak Name: 'bis(ocresyl)phosphate' Mass(es): 366.101.0 amu

Comment: 'LCMSEXP_C' Annotation: ''

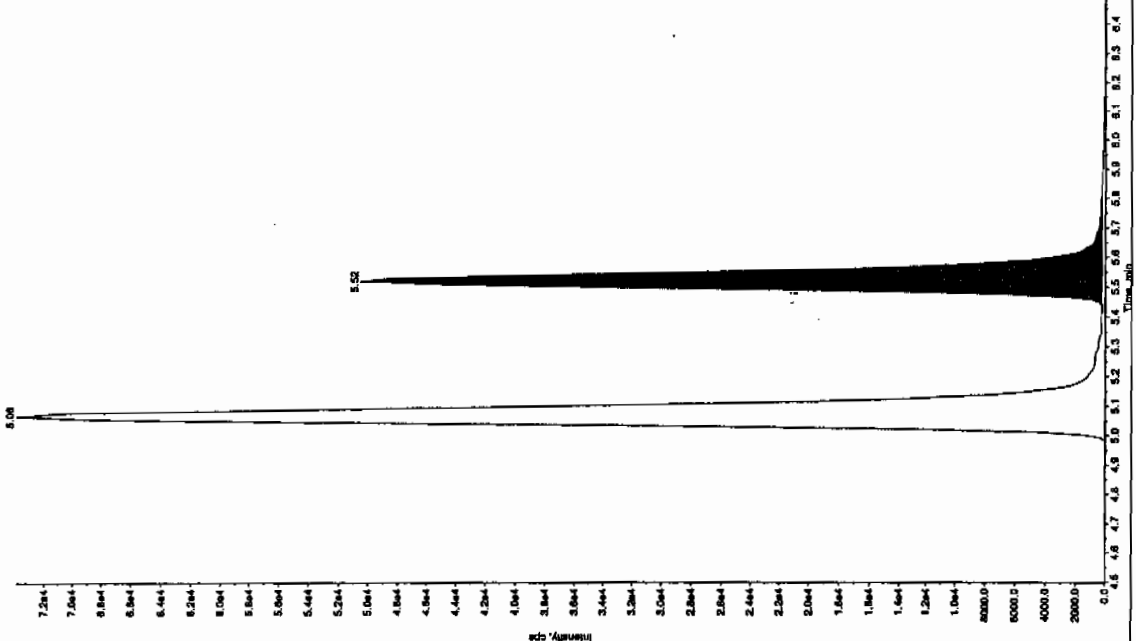
Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 89.2 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 10:47:51 PM
Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.9 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 10.9 min
Area: 2.51e+006 counts
Height: 570733.826 cps
Start Time: 10.7 min
End Time: 11.1 min



Sample Name: WXX100111-27CPI Sample ID: TILLER File: EXS01100045.wif
Peak Name: '24-Diamino-6-methyluracil' Mass(es): 166.046.0 amu

Comment: 'LCMSEXP_C' Annotation: ''

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 62.5 ng/mL
Acq. Date: 1/11/2010
Acq. Time: 10:47:51 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: 5.50 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 5.52 min
Area: 2.05e+005 counts
Height: 50275.158 cps
Start Time: 5.44 min
End Time: 5.63 min



QUALITY CONTROL DATA

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 937566

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006244

Sample Amount 2

Moisture:

Amount Units g

Date Received: 30-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118043a

Date Analyzed: 19-JAN-10 10:42

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 =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011810expa.mdb, Time: Tue Jan 19 09:10:36 2010
Calibration: C:\MASSLYNX\New_Exp.PRO\CurveDB\011810expa.cdb, Time: Tue Jan 19 10:56:46 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118043a

Date: 19-Jan-2010

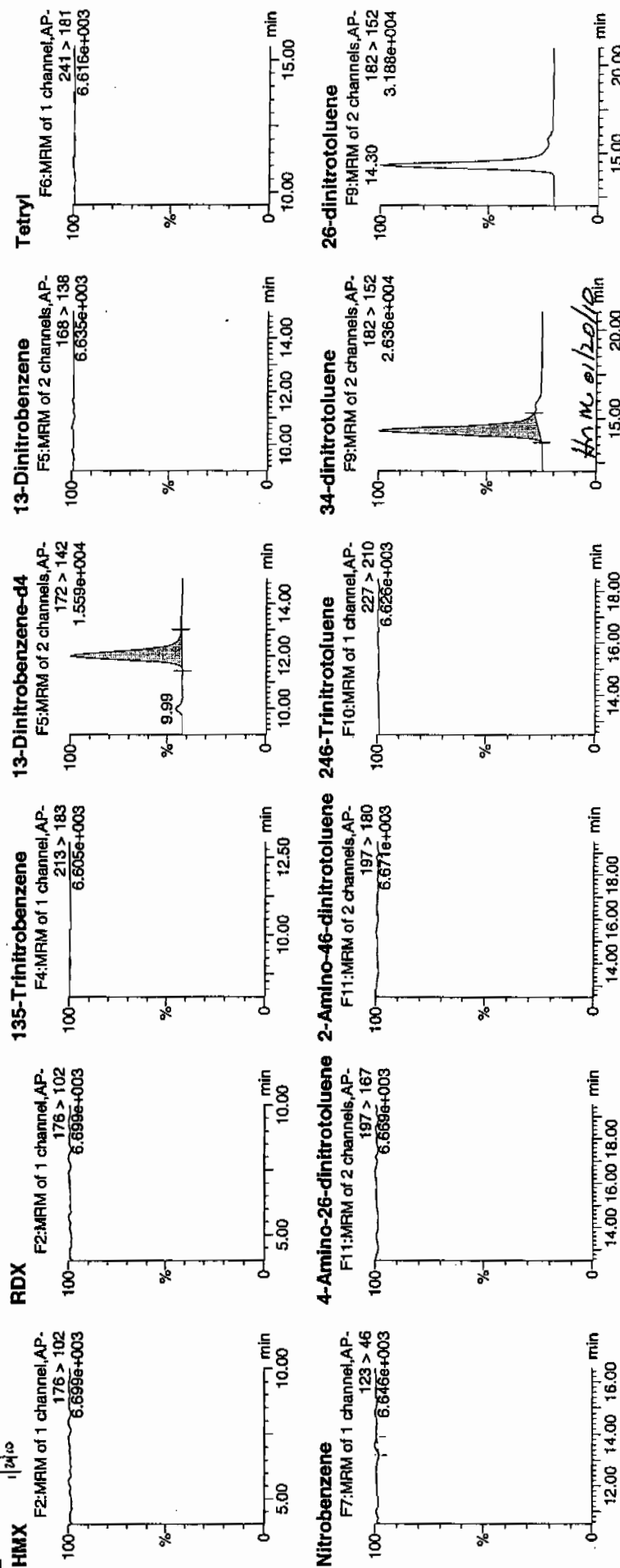
Time: 10:42:23

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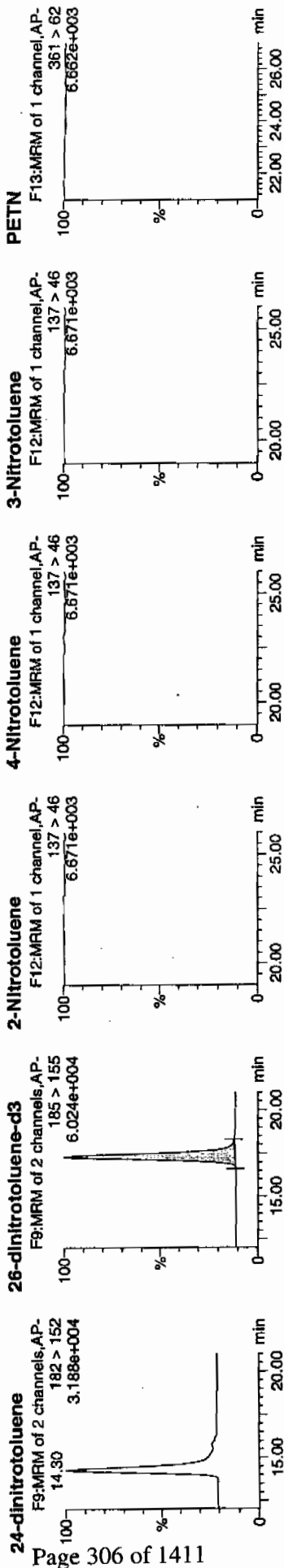
Anal: 2:4,A

1/20/10

1937567 / 80322 / NR / 2 /



Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Trace	Area	IS Area	Response	Flags	Mod	Date	Mod Time	Mod Date	Mod User	Mod Dev	Mod SN
1202006240	HMZ		176 > 102	3581.753									
1202006240	RDX		176 > 102	3581.753									
1202006240	135-Trinitrobenzene		213 > 183	3581.753									
1202006240	13-Dinitrobenzene-d4		172 > 142	12.00	3581.753								
1202006240	13-Dinitrobenzene		168 > 138	3581.753									
1202006240	Tetryl		241 > 181	3581.753									
1202006240	Nitrobenzene		123 > 46	3581.753									
1202006240	4-Amino-26-dinitrotoluene		197 > 167	22579.453									
1202006240	2-Amino-46-dinitrotoluene		197 > 180	22579.453									
1202006240	246-Trinitrotoluene		227 > 210	22579.453									
1202006240	34-dinitrotoluene		182 > 152	10516.479	22579.453								
1202006240	26-dinitrotoluene		182 > 152	22579.453									
1202006240	24-dinitrotoluene		182 > 152	22579.453									
1202006240	26-dinitrotoluene-d3		185 > 155	17.31	22579.453								
1202006240	2-Nitrotoluene		137 > 46	22579.453									
1202006240	4-Nitrotoluene		137 > 46	22579.453									
1202006240	3-Nitrotoluene		137 > 46	22579.453									
1202006240	PETN		361 > 62	22579.453									

MM- 20-Jan-10 08:52:16

1202006244

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 937566

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006244

Sample Amount 2

Moisture:

Amount Units g

Date Received: 30-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100025.wiff

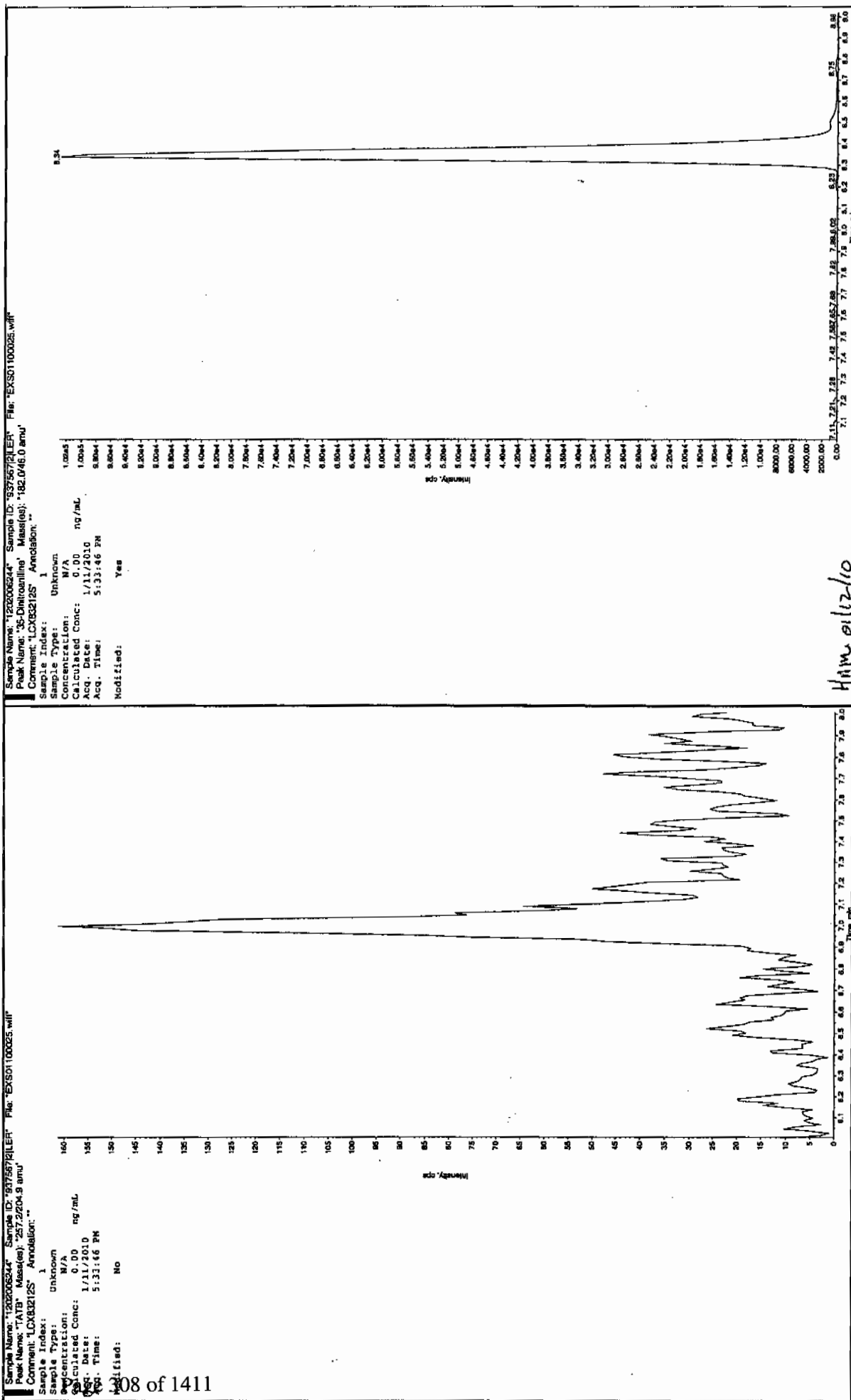
Date Analyzed: 11-JAN-10 17:33

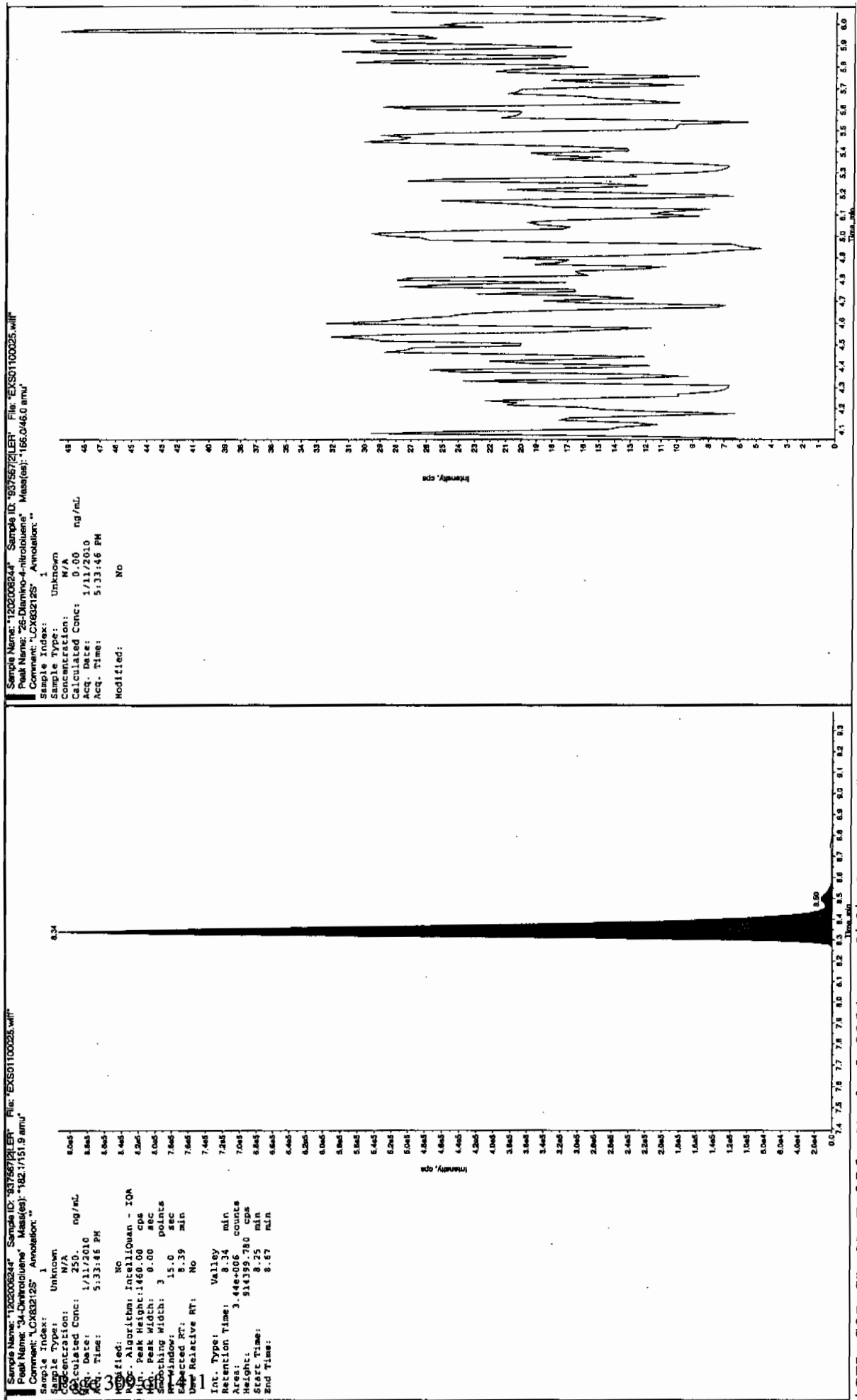
Units: ug/kg

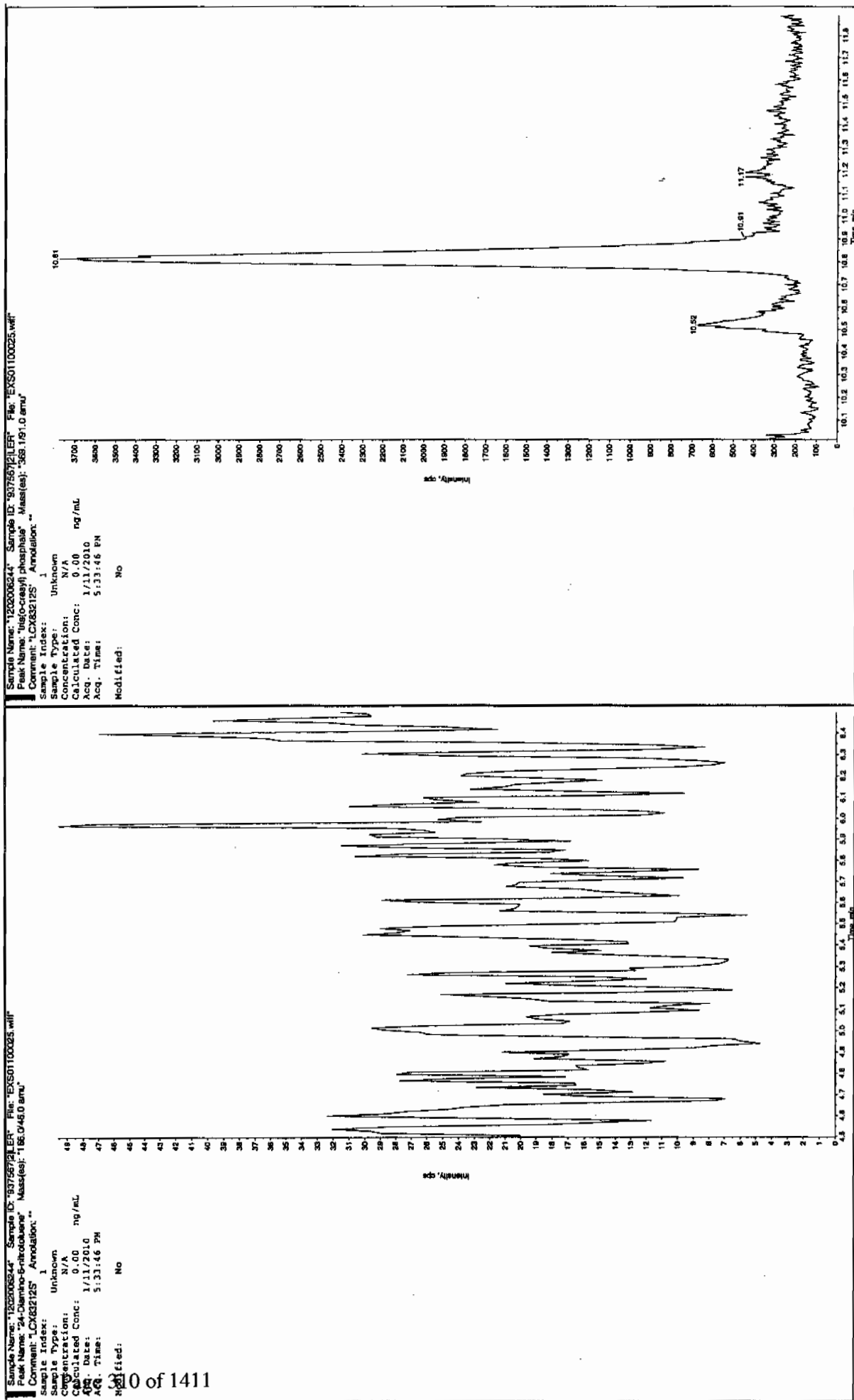
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor







1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 937566

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006245

Sample Amount 2

Moisture:

Amount Units g

Date Received: 30-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118044a

Date Analyzed: 19-JAN-10 11:12

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5170	
121-14-2	2,4-Dinitrotoluene	4940	
121-82-4	RDX	5430	
19406-51-0	4-Amino-2,6-dinitrotoluene	5320	
2691-41-0	HMX	5040	
35572-78-2	2-Amino-4,6-dinitrotoluene	4930	
479-45-8	Tetryl	3440	
606-20-2	2,6-Dinitrotoluene	4850	
78-11-5	PETN	5010	
88-72-2	o-Nitrotoluene	4780	
98-95-3	Nitrobenzene	4680	
99-08-1	m-Nitrotoluene	4620	
99-35-4	1,3,5-Trinitrobenzene	4600	
99-65-0	m-Dinitrobenzene	4900	
99-99-0	p-Nitrotoluene	5130	

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118044a

Date: 19-Jan-2010

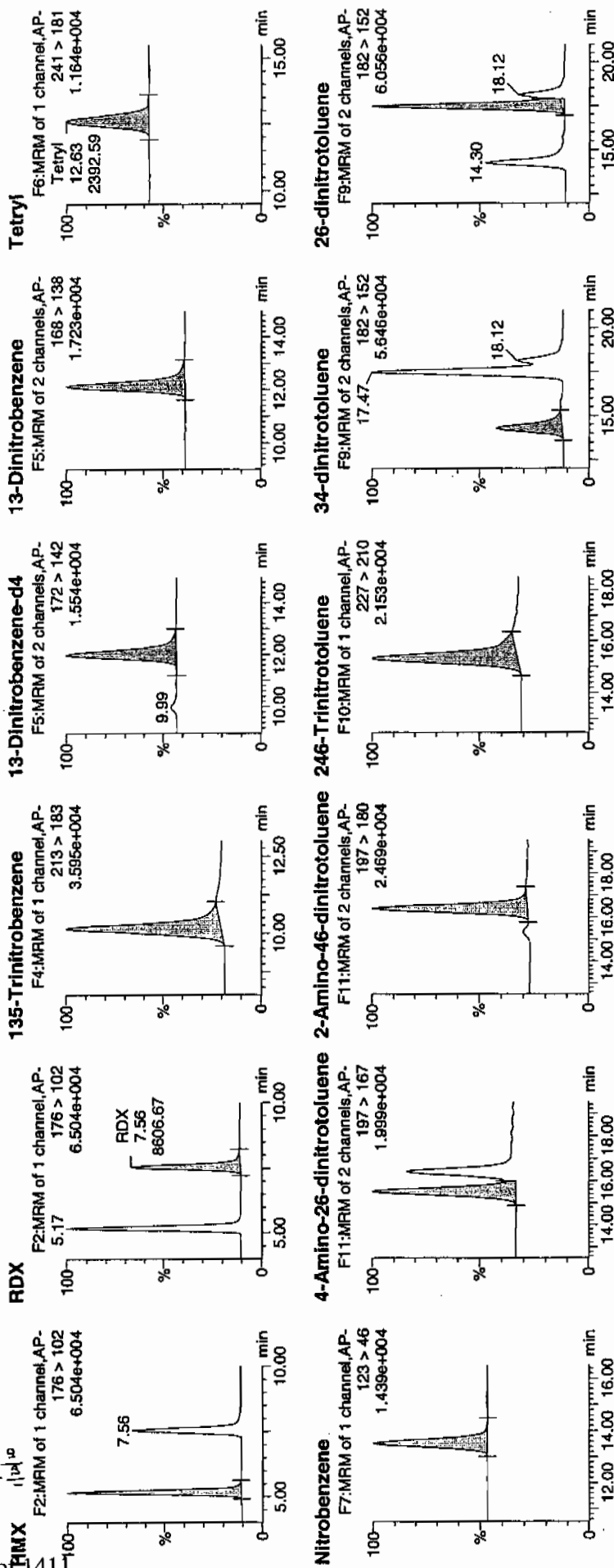
Time: 11:12:00

ID: 120200624/s

Vial: 2:4,B

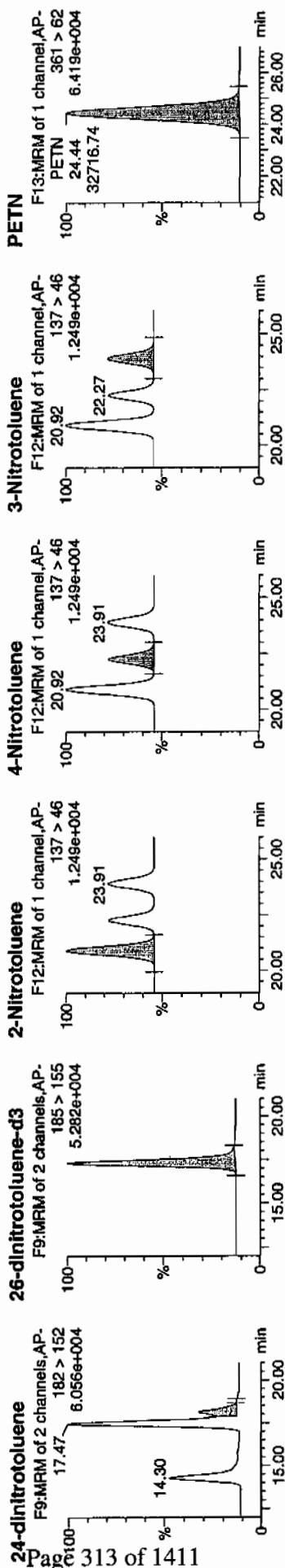
MTT
1/20/10

12/21



MTT 01/20/10

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



Name	Trace	Area	Height	Area%	Area	Response	Flags	Mod Date	Mex Time	Tot Time	%Dev	S/N	
HMX	176 > 102	5.17	11589.047	3562.732	11589.047	1626.427	bb			503.8385	100.8	0.8	1154.7
RDX	176 > 102	7.56	8606.665	3562.732	8606.665	1207.874	bb			543.2242	108.6	8.6	725.8
135-Trinitrobenzene	213 > 183	10.14	10831.488	3562.732	10831.488	1534.144	bb			460.4509	92.1	-7.9	827.8
13-Dinitrobenzene-d4	172 > 142	11.97	3562.732	3562.732	3562.732	3562.732	bb			524.9635	105.0	5.0	296.9
13-Dinitrobenzene	168 > 138	12.14	4127.622	3562.732	4127.622	579.278	bb			490.2003	98.0	-2.0	487.5
Tetryl	241 > 181	12.63	2392.595	3562.732	2392.595	335.781	bb			343.8224	68.8	-31.2	406.3
Nitrobenzene	123 > 46	13.54	2789.566	3562.732	2789.566	391.493	bb			467.6292	93.5	-6.5	131.1
4-Amino-26-dinitrotoluene	197 > 167	15.53	5487.703	19525.914	5487.703	140.524	MM	20-Jan-10	08:52:45	532.3026	106.5	6.5	308.3
2-Amino-46-dinitrotoluene	197 > 180	16.40	7501.775	19525.914	7501.775	192.098	bb			493.1102	98.6	-1.4	342.2
246-Trinitrotoluene	227 > 210	15.34	7108.874	19525.914	7108.874	182.037	bb			516.9671	103.4	3.4	413.8
34-dinitrotoluene	182 > 152	14.30	9333.831	19525.914	9333.831	239.011	bb			256.3833	102.6	2.6	173.4
26-dinitrotoluene	182 > 152	17.47	20700.895	19525.914	20700.895	530.088	MM	20-Jan-10	08:56:19	485.3058	97.1	-2.9	618.3
24-dinitrotoluene	182 > 152	18.12	4882.050	19525.914	4882.050	125.015	MM	20-Jan-10	09:04:03	494.4586	98.9	-1.1	139.0
26-dinitrotoluene-d3	185 > 155	17.31	19525.914	19525.914	19525.914	19525.914	bb			532.1987	106.4	6.4	1500.2
2-Nitrotoluene	137 > 46	20.92	2799.049	19525.914	2799.049	71.675	bb			477.5912	95.5	-4.5	304.7
4-Nitrotoluene	137 > 46	22.27	1433.898	19525.914	1433.898	36.718	bb			512.8252	102.6	2.6	157.5
3-Nitrotoluene	137 > 46	23.91	1539.127	19525.914	1539.127	39.412	bb			462.1524	92.4	-7.6	159.4
PETN	361 > 62	24.44	32716.740	19525.914	32716.740	837.777	bb			501.3591	100.3	0.3	4756.7

1202006245

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 937566

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006245

Sample Amount 2

Moisture:

Amount Units g

Date Received: 30-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100026.wiff

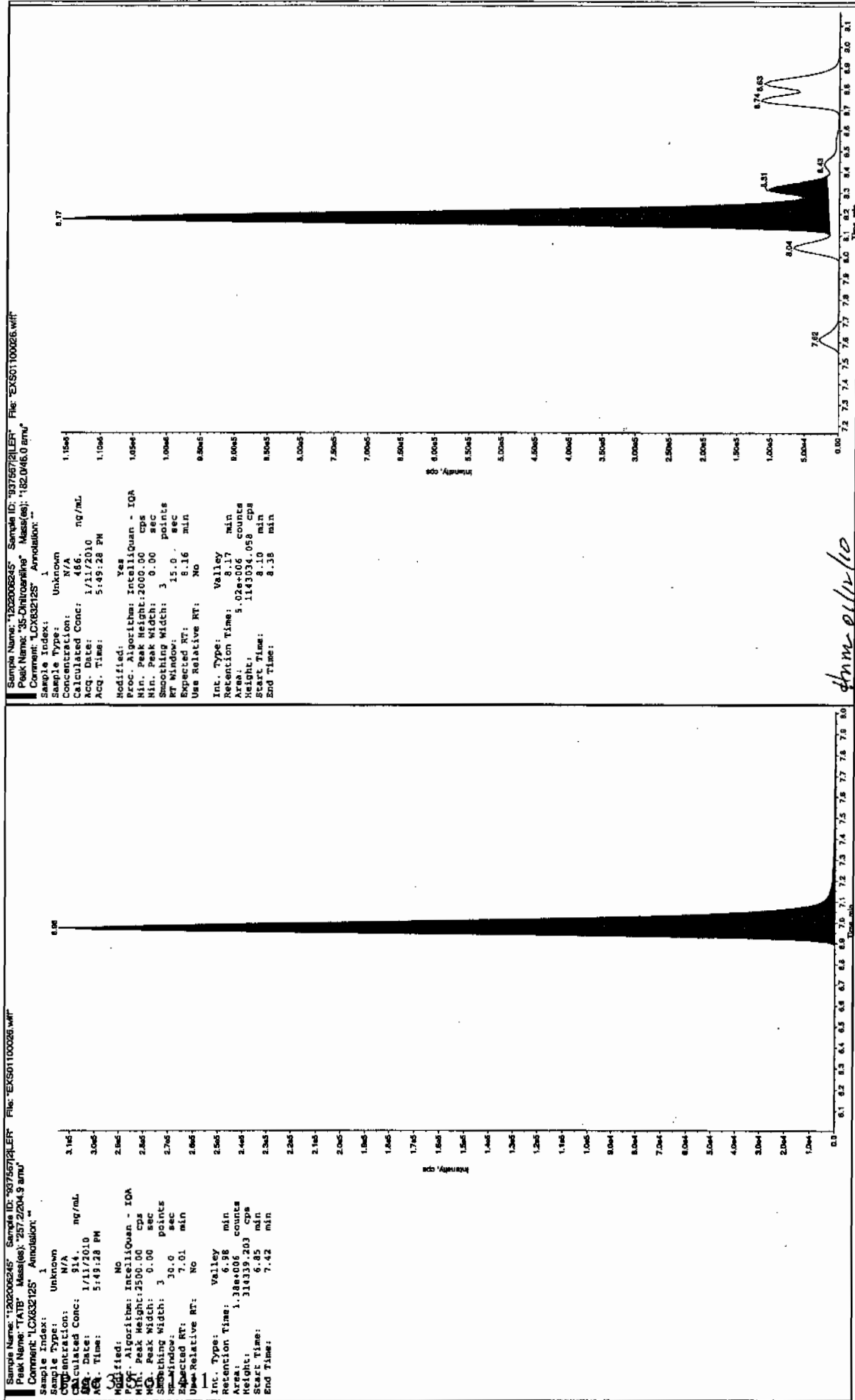
Date Analyzed: 11-JAN-10 17:49

Units: ug/kg

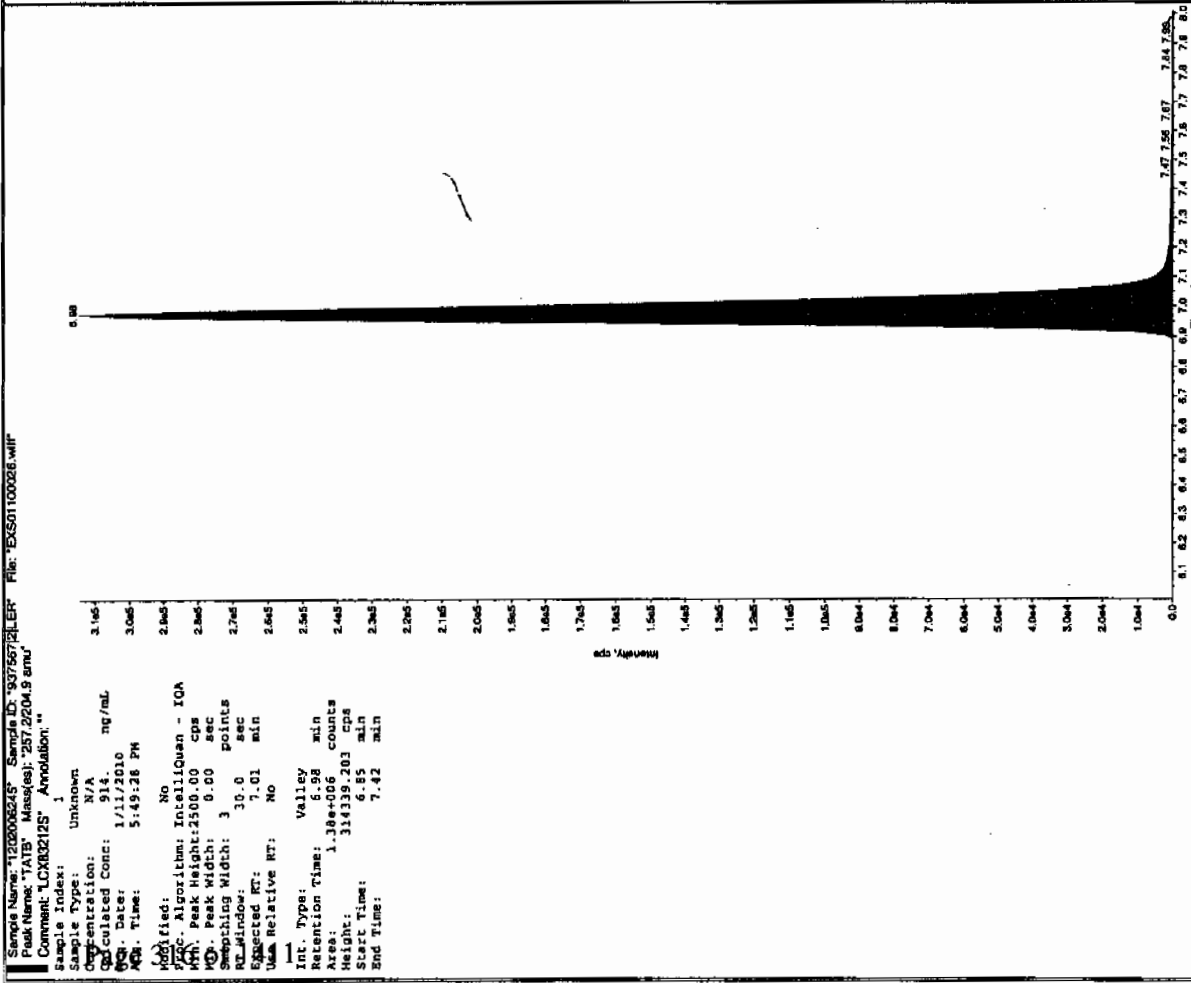
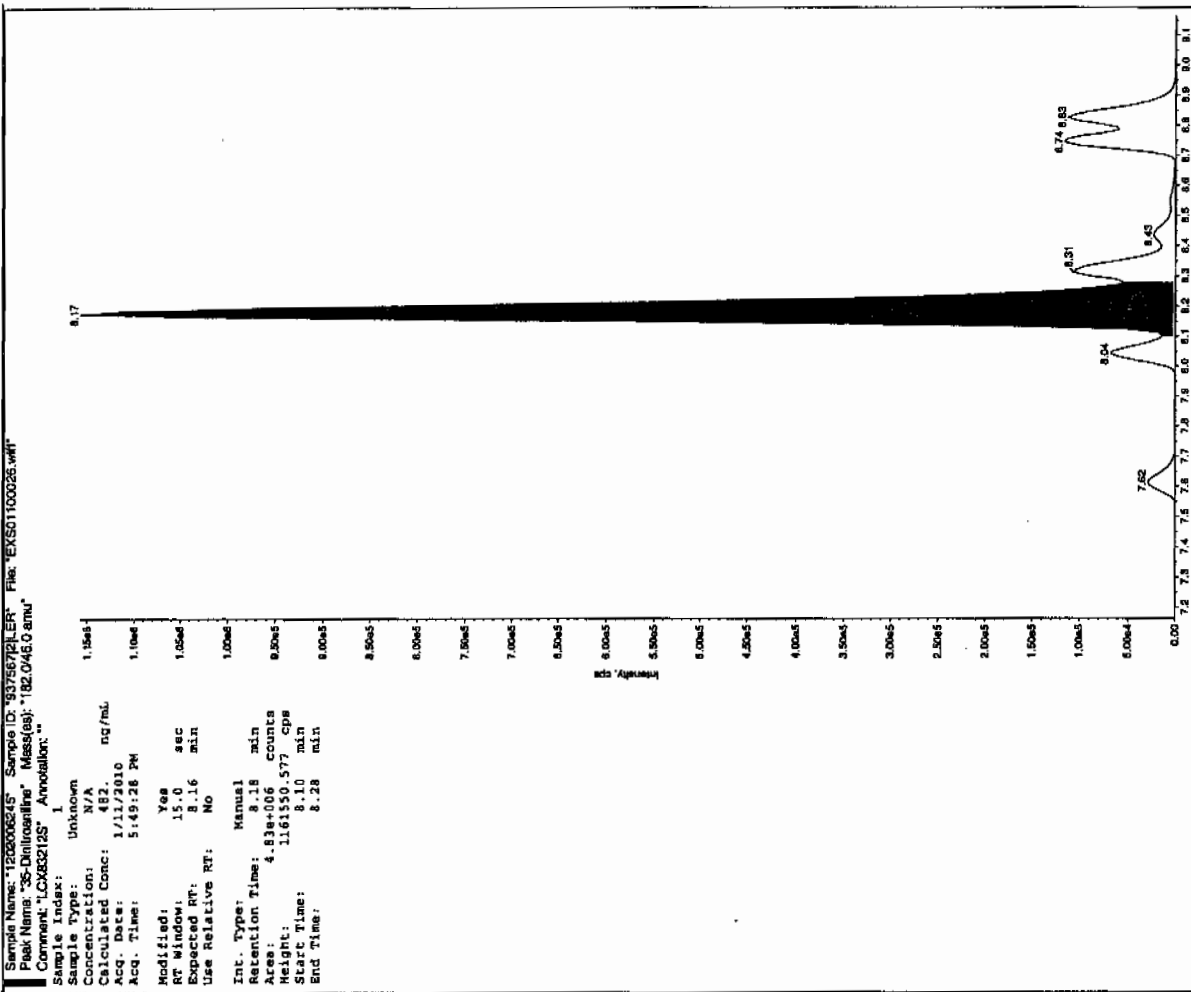
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	9140	
59229-75-3	2,6-Diamino-4-nitrotoluene	4280	
618-87-1	3,5-Dinitroaniline	4820	
6629-29-4	2,4-Diamino-6-nitrotoluene	3340	
78-30-8	tris(o-cresyl) phosphate	4820	

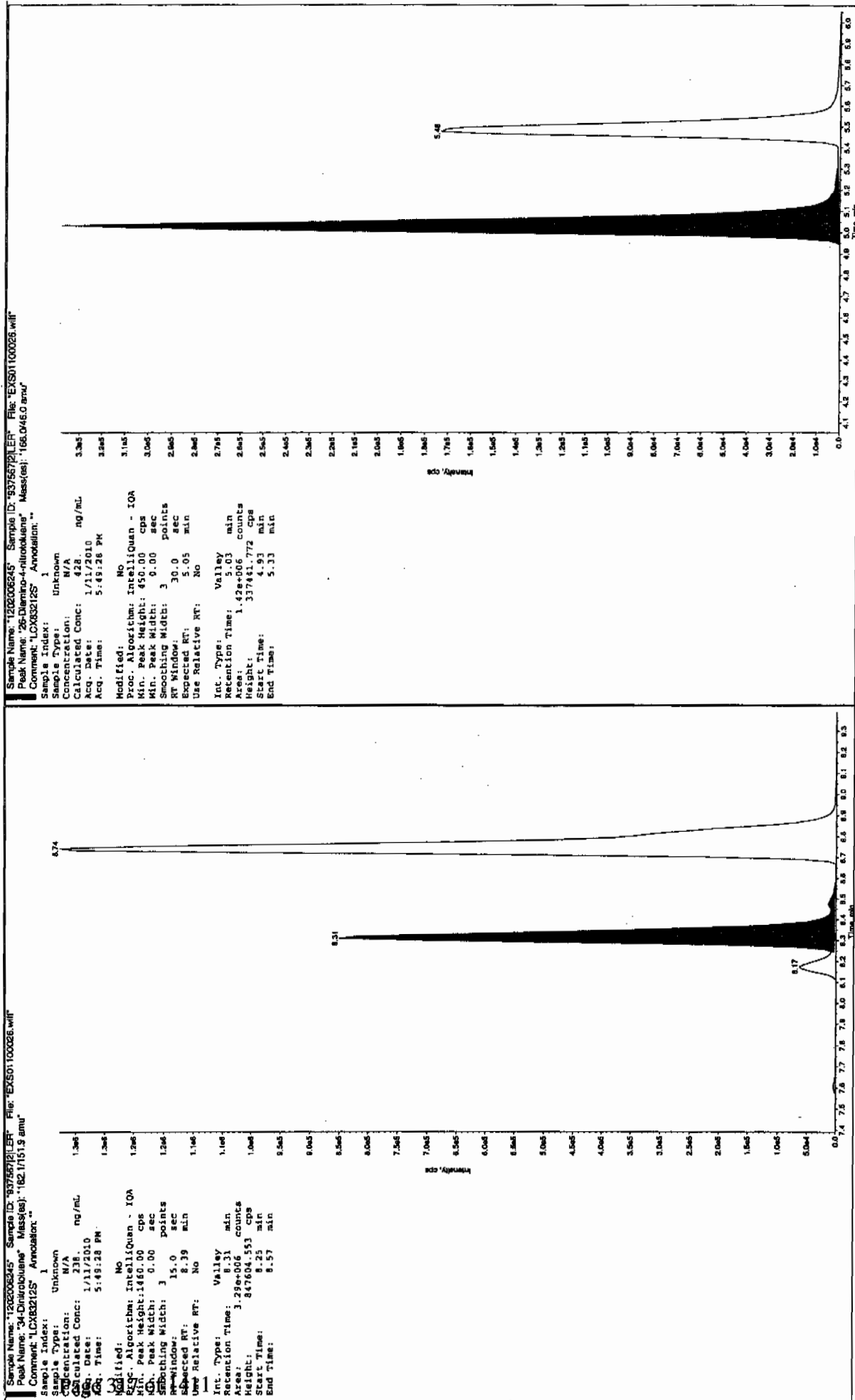
*Concentration =

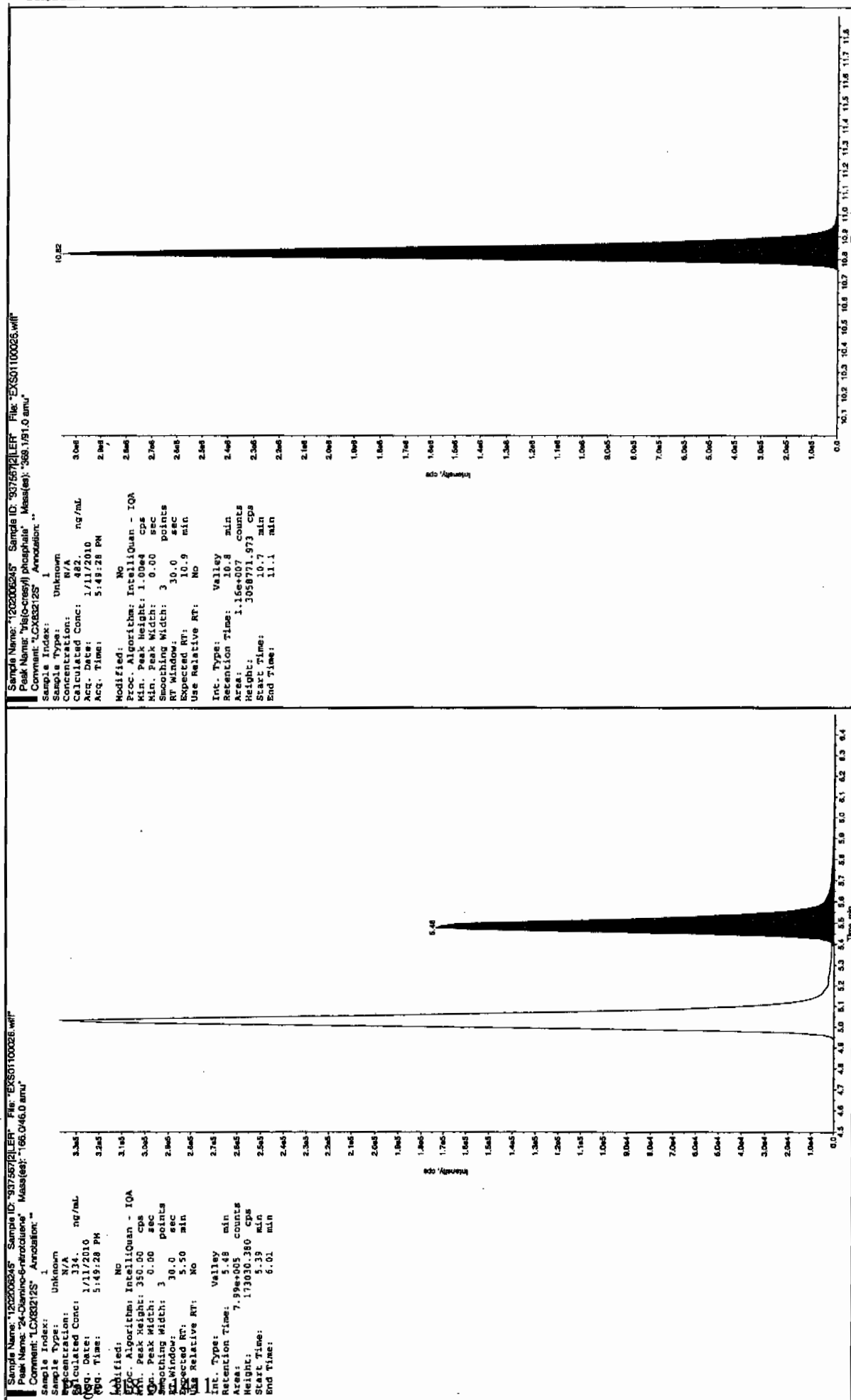
Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor



11/11/10
2002049







1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675(243630001MS)

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006246

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118046a

Date Analyzed: 19-JAN-10 12:11

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	4720	
121-14-2	2,4-Dinitrotoluene	4500	
121-82-4	RDX	4880	
19406-51-0	4-Amino-2,6-dinitrotoluene	5320	
2691-41-0	HMX	4840	
35572-78-2	2-Amino-4,6-dinitrotoluene	5200	
479-45-8	Tetryl	1660	
606-20-2	2,6-Dinitrotoluene	4780	
78-11-5	PETN	4650	
88-72-2	o-Nitrotoluene	4120	
98-95-3	Nitrobenzene	4630	
99-08-1	m-Nitrotoluene	4160	
99-35-4	1,3,5-Trinitrobenzene	4550	
99-65-0	m-Dinitrobenzene	4900	
99-99-0	p-Nitrotoluene	4440	

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

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

Dataset: C:\MASSLYNX\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0118046a

Date: 19-Jan-2010

Time: 12:11:04

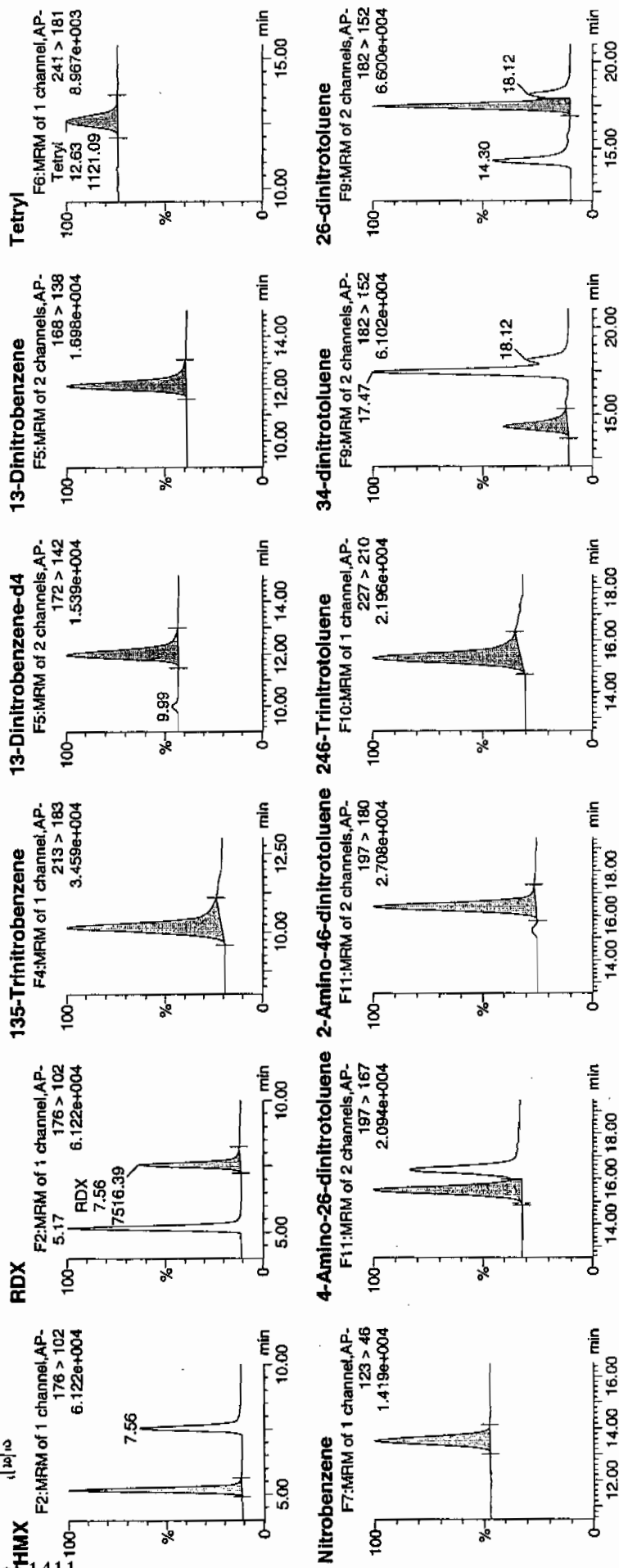
ID: 1202006242

Vial: 2:4,D

1/20/10

1/20/10

24363001MS / 21

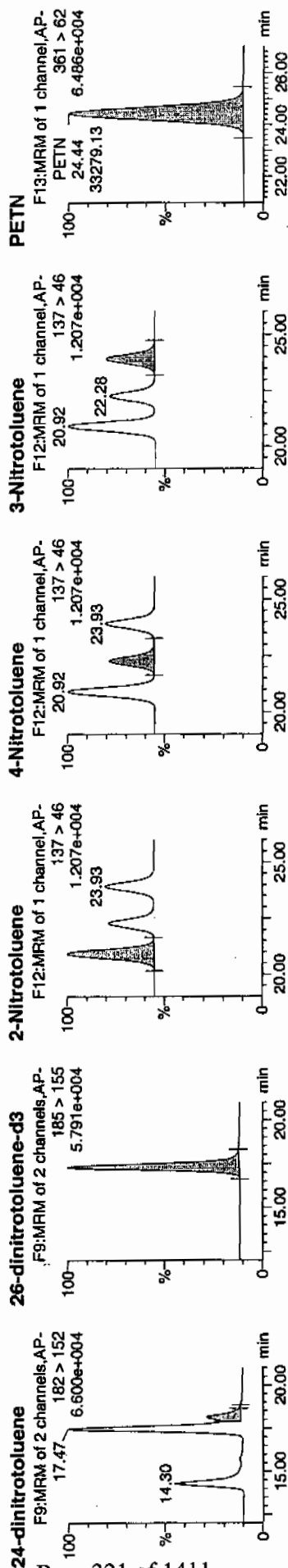


Amn 01/20/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



ID	Name	Trace	RT	Area	Area	Area	Response	Flags	ModDate	ModTime	%Rec	%Dev	SN	
1202006242	HMX	176 > 102	5.17	10806.878	3460.926	10806.878	1561.270	db			483.6539	96.7	-3.3	420.1
1202006242	FOX	176 > 102	7.56	7516.392	3460.926	7516.392	1085.893	bb			488.3649	97.7	-2.3	248.0
1202006242	135-Trinitrobenzene	213 > 183	10.16	10489.046	3460.926	10489.046	1515.353	bb			454.8109	91.0	-9.0	733.9
1202006242	13-Dinitrobenzene-d4	172 > 142	11.97	3460.926	3460.926	3460.926	3460.926	bb			509.9625	102.0	2.0	277.3
1202006242	13-Dinitrobenzene	168 > 138	12.14	4008.205	3460.926	4008.205	579.065	bb			490.0207	98.0	-2.0	573.2
1202006242	Tetryl	241 > 181	12.63	1121.091	3460.926	1121.091	161.964	bb			165.8428	33.2	-66.8	95.4
1202006242	Nitrobenzene	123 > 46	13.54	2681.628	3460.926	2681.628	387.415	bb			462.7584	92.6	-7.4	239.1
1202006242	4-Amino-26-dinitrotoluene	197 > 167	15.53	6007.183	21393.941	6007.183	140.394	MM	20-Jan-10	08:52:58	531.8136	106.4	6.4	267.4
1202006242	2-Amino-46-dinitrotoluene	197 > 180	16.40	8673.396	21393.941	8673.396	202.707	bb			520.3430	104.1	4.1	784.7
1202006242	246-Trinitrotoluene	227 > 210	15.34	7104.151	21393.941	7104.151	166.032	bb			471.5143	94.3	-5.7	248.7
1202006242	34-dinitrotoluene	182 > 152	14.30	9663.201	21393.941	9663.201	225.840	bb			242.2543	96.9	-3.1	621.8
1202006242	26-dinitrotoluene	182 > 152	17.47	22337.803	21393.941	22337.803	522.059	MM	20-Jan-10	08:56:33	477.9554	95.6	-4.4	1363.3
1202006242	24-dinitrotoluene	182 > 152	18.12	4867.658	21393.941	4867.658	113.763	MM	20-Jan-10	09:03:54	449.9542	90.0	-10.0	265.9
1202006242	26-dinitrotoluene-d3	185 > 155	17.29	21393.941	21393.941	21393.941	21393.941	bb			583.1136	116.6	16.6	1969.6
1202006242	2-Nitrotoluene	137 > 46	20.92	2644.669	21393.941	2644.669	61.809	bb			411.8487	82.4	-17.6	374.4
1202006242	4-Nitrotoluene	137 > 46	22.28	1358.748	21393.941	1358.748	31.755	bb			443.5173	88.7	-11.3	194.8
1202006242	3-Nitrotoluene	137 > 46	23.93	1518.467	21393.941	1518.467	35.488	bb			416.1373	83.2	-16.8	210.6
1202006242	PETN	361 > 62	24.44	33279.125	21393.941	33279.125	777.770	bb			465.4482	93.1	-6.9	15841.5

1202006246

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675(243630001MS)

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006246

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100028.wiff

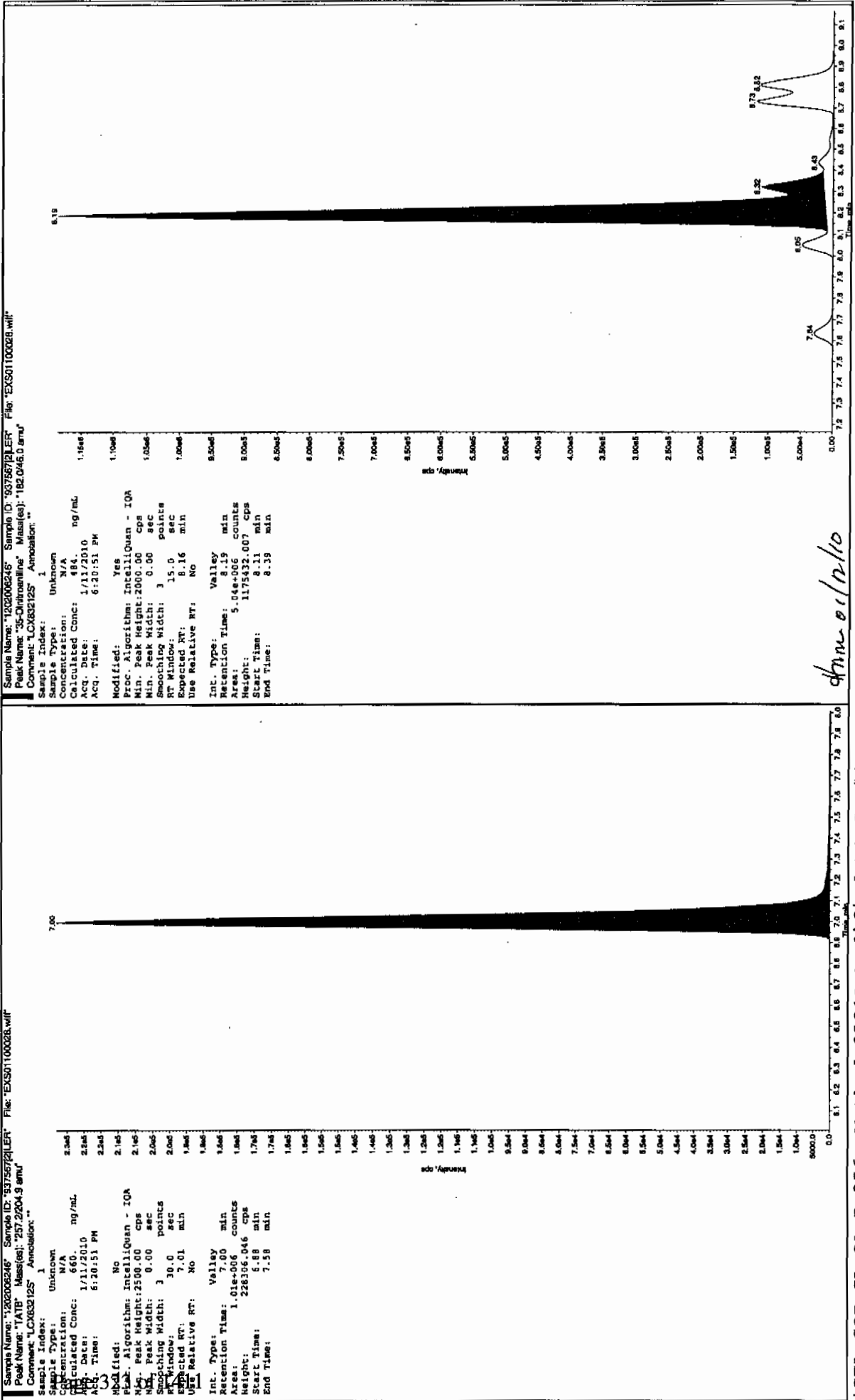
Date Analyzed: 11-JAN-10 18:20

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	6600	
59229-75-3	2,6-Diamino-4-nitrotoluene	4770	
618-87-1	3,5-Dinitroaniline	4790	
6629-29-4	2,4-Diamino-6-nitrotoluene	4130	
78-30-8	tris(o-cresyl) phosphate	4920	

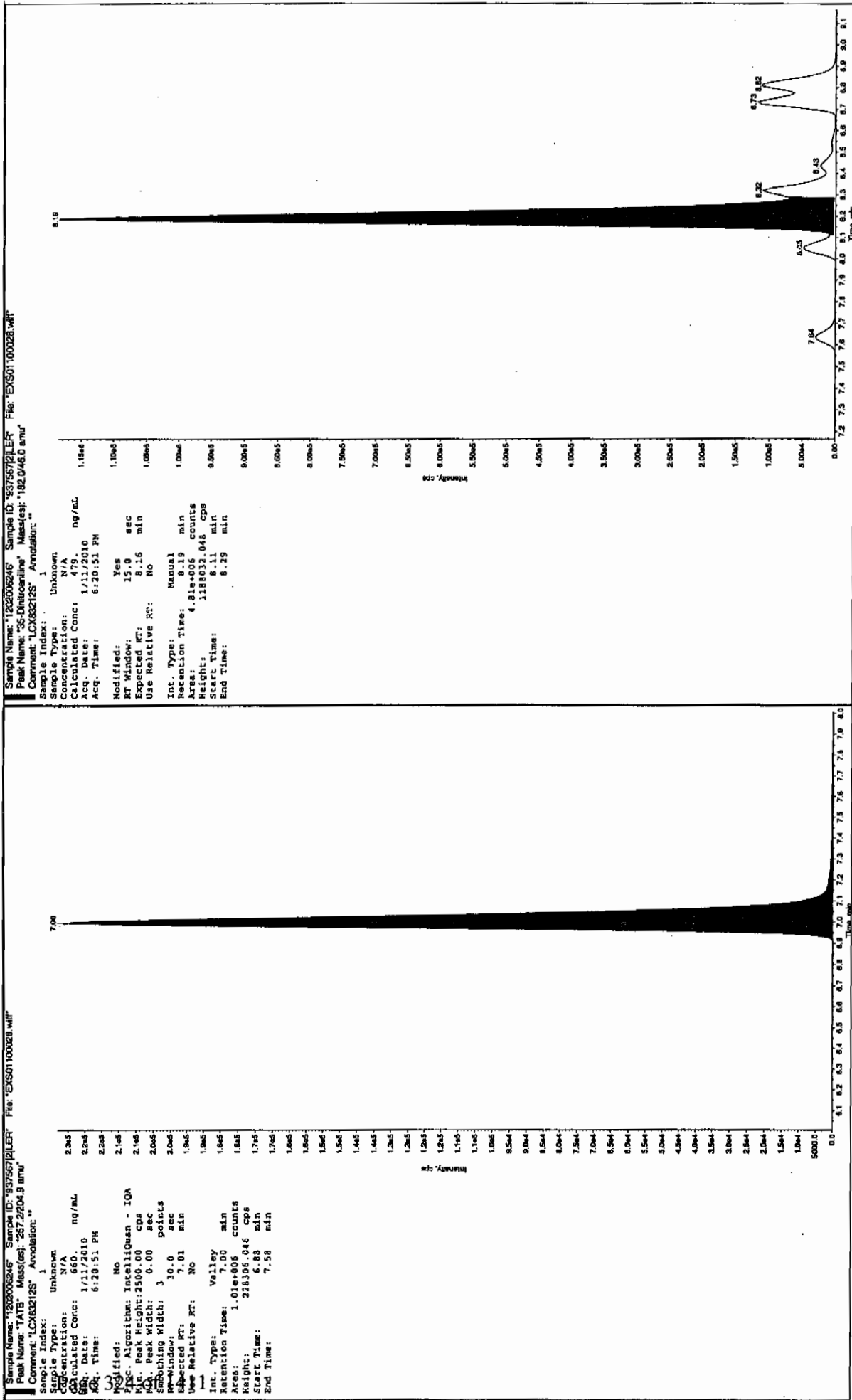
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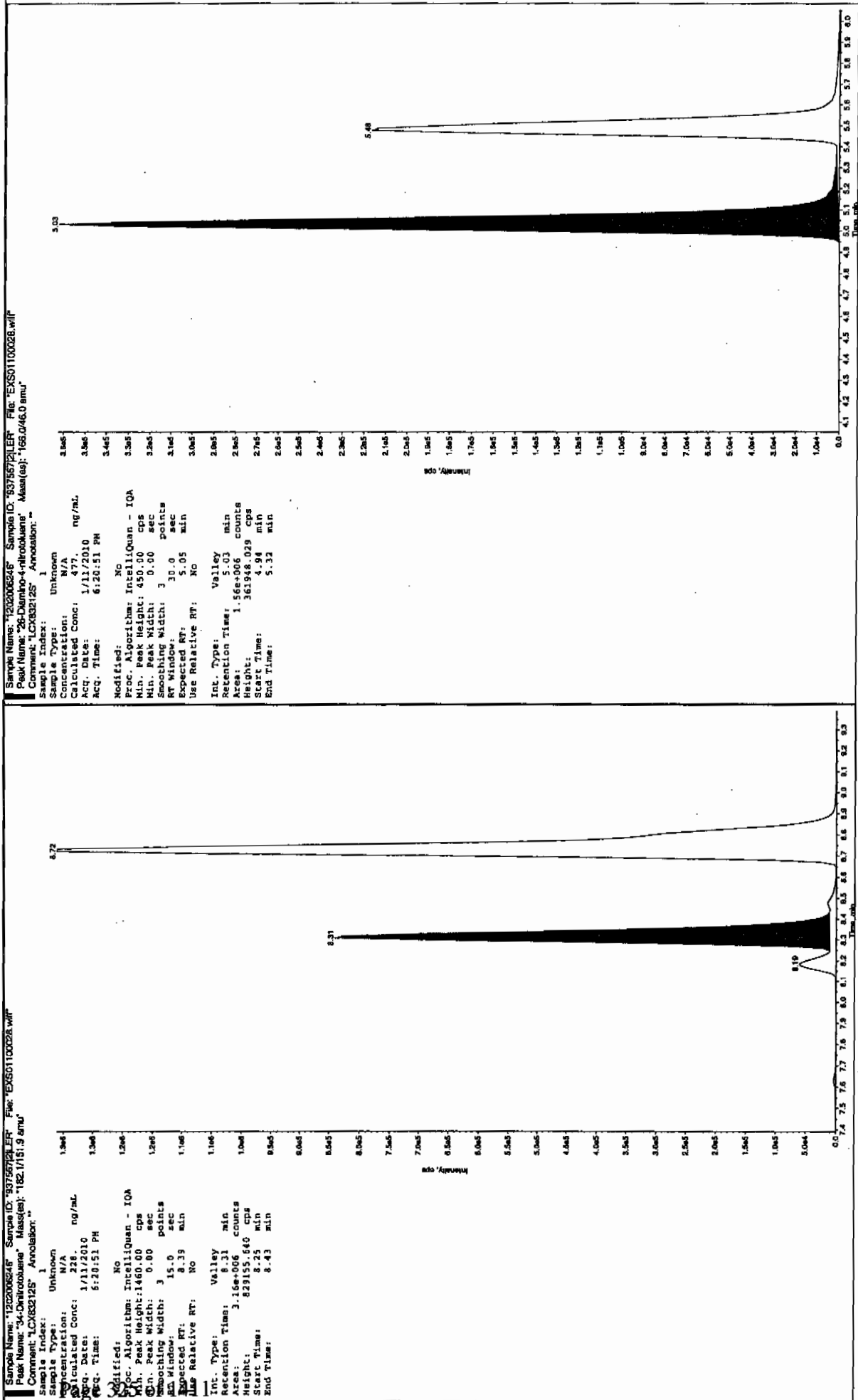
Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

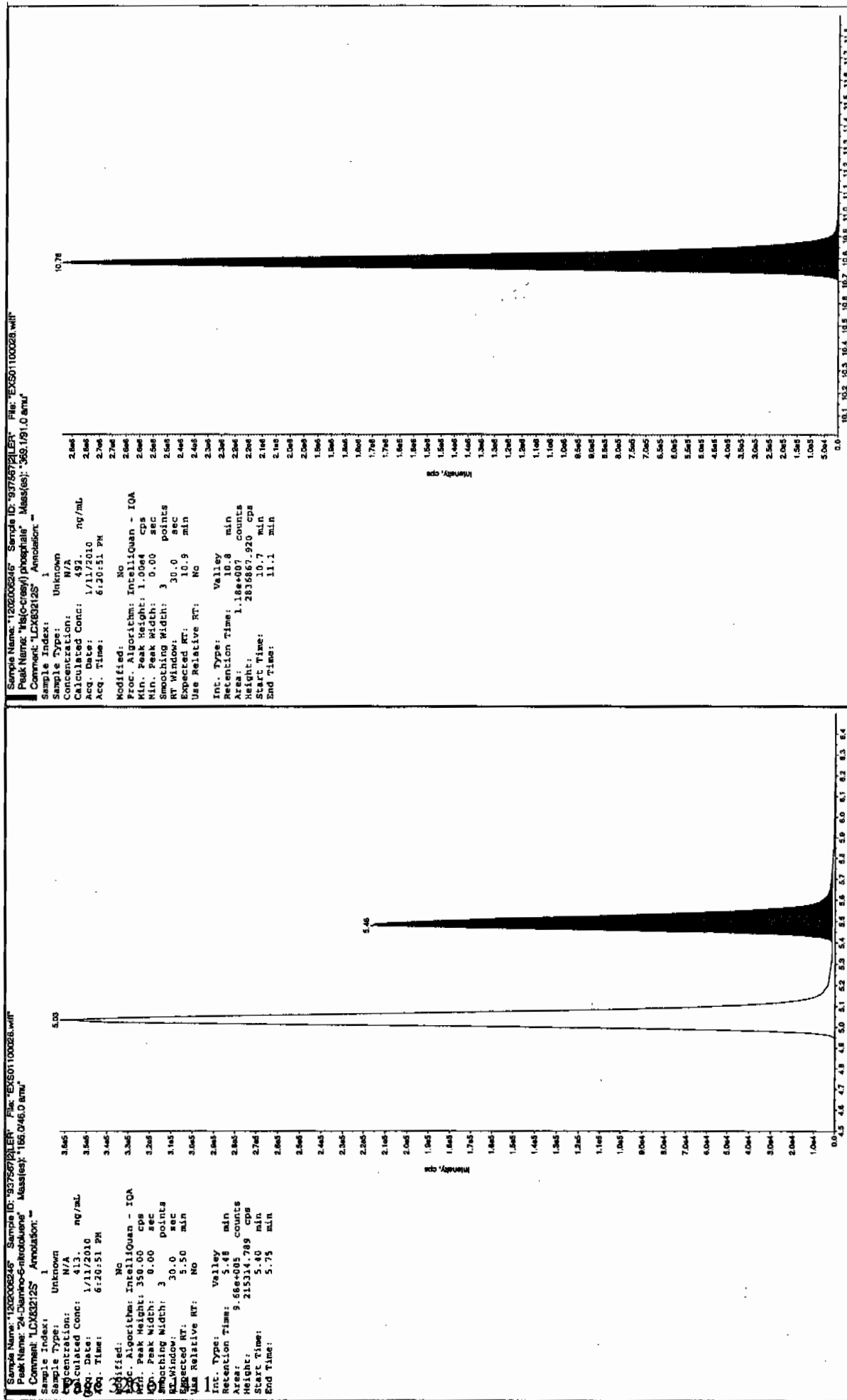


01/21/10
B. J. J.

4/11/10







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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7675(243630001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1102

Matrix: SOIL

GEL Sample ID: 1202006247

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0118061a

Date Analyzed: 19-JAN-10 19:33

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	4650	
121-14-2	2,4-Dinitrotoluene	4870	
121-82-4	RDX	4850	
19406-51-0	4-Amino-2,6-dinitrotoluene	5160	
2691-41-0	HMX	4810	
35572-78-2	2-Amino-4,6-dinitrotoluene	5450	
479-45-8	Tetryl	1580	
606-20-2	2,6-Dinitrotoluene	4940	
78-11-5	PETN	4720	
88-72-2	o-Nitrotoluene	4810	
98-95-3	Nitrobenzene	4600	
99-08-1	m-Nitrotoluene	4650	
99-35-4	1,3,5-Trinitrobenzene	4320	
99-65-0	m-Dinitrobenzene	4890	
99-99-0	p-Nitrotoluene	4800	

*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

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

Dataset: C:\MASSLYNX\New_Exp\PRO1011810expA1.qld, Time: Wed Jan 20 09:06:02 2010

Name: C:\MASSLYNX\NEW_EXP\PROData\EXP0118061a

Date: 19-Jan-2010

Time: 19:33:44

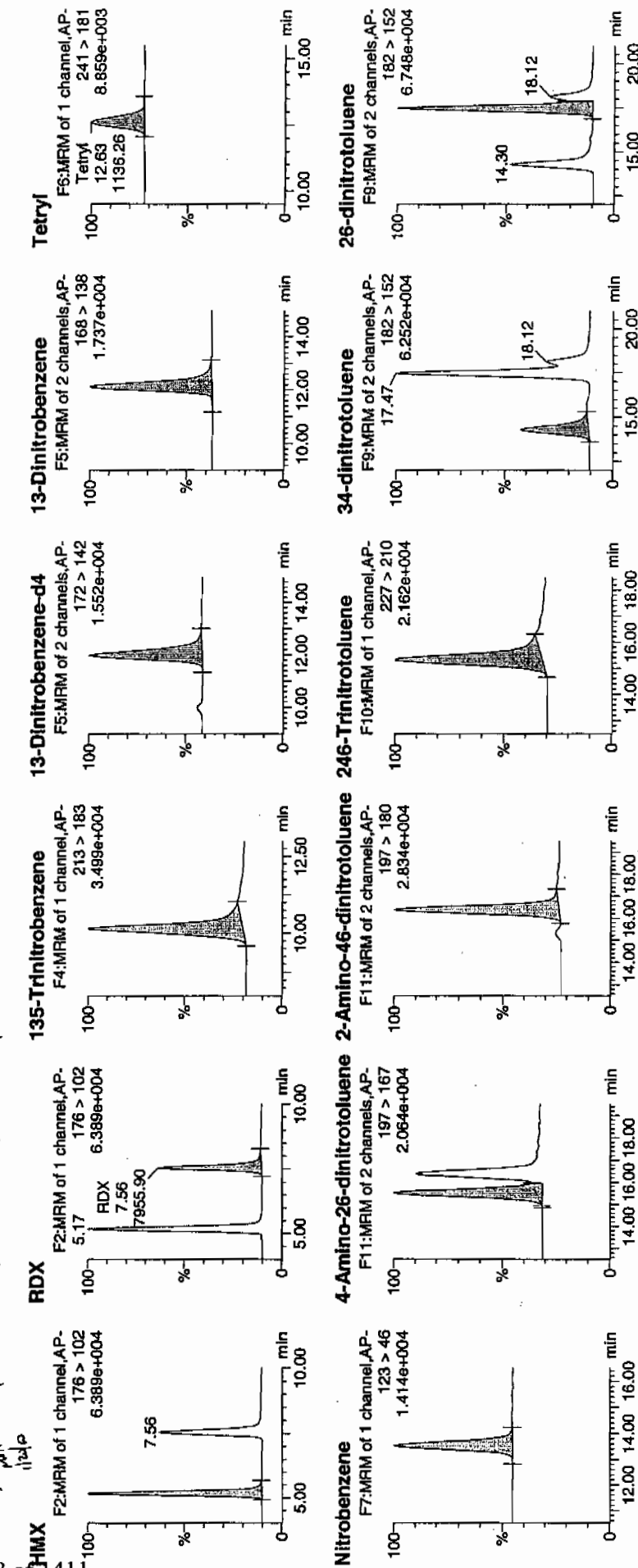
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Vial: 2:4,E

not
1/26/10

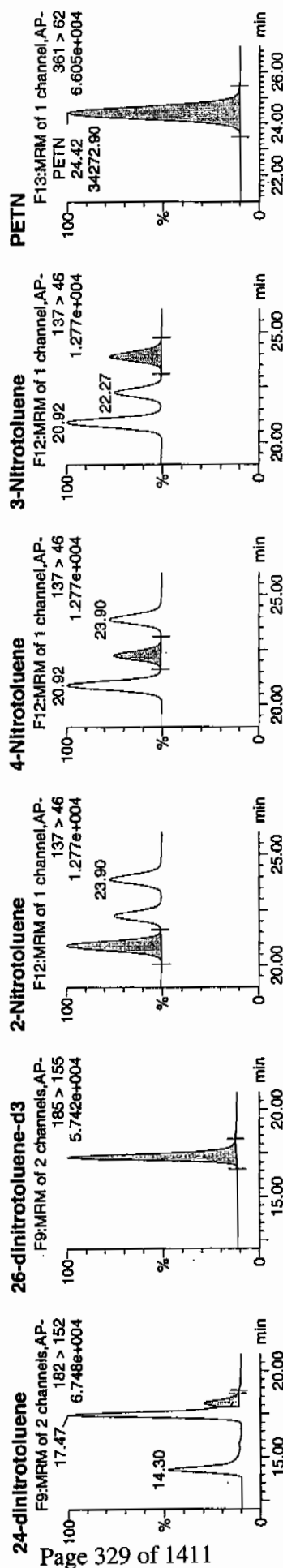
243630001 MSD / 2 /

vanu 937527 / 8025



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Dataset: C:\MASSLYN\New_Exp.PRO\011810expA1.qld, Time: Wed Jan 20 09:06:02 2010



Name	Trace	Area	Height	Area%	Response	Height	ModDate	ModTime	ModUser	Rec	PIDV	SIN
HMX	176 > 102	5.17	11442.310	3686.972	11442.310	1551.722	db		480.6962	96.1	-3.9	1946.1
RDX	176 > 102	7.56	7955.903	3686.972	7955.903	1078.921	bb		485.2292	97.0	-3.0	1140.8
135-Trinitrobenzene	213 > 183	10.14	10609.319	3686.972	10609.319	1438.758	bb		431.8221	86.4	-13.6	1805.6
13-Dinitrobenzene-d4	172 > 142	11.97	3686.972	3686.972	3686.972	3686.972	bb		543.2700	108.7	8.7	271.9
13-Dinitrobenzene	168 > 138	12.14	4263.507	3686.972	4263.507	578.185	bb		489.2760	97.9	-2.1	206.6
Tetryl	241 > 181	12.63	1136.256	3686.972	1136.256	154.091	bb		157.7809	31.6	-88.4	120.0
Nitrobenzene	123 > 46	13.54	2841.658	3686.972	2841.658	385.365	bb		460.3096	92.1	-7.9	197.0
4-Amino-26-dinitrotoluene	197 > 167	15.53	5923.308	21748.586	5923.308	136.177	MM	20-Jan-10 08:53:45	515.8372	103.2	3.2	244.5
2-Amino-46-dinitrotoluene	197 > 180	16.37	9240.902	21748.586	9240.902	212.448	bb		545.3492	109.1	9.1	1052.5
246-Trinitrotoluene	227 > 210	15.31	7114.713	21748.586	7114.713	163.567	bb		464.5151	92.9	-7.1	124.1
34-dinitrotoluene	182 > 152	14.30	10874.106	21748.586	10874.106	249.996	bb		268.1660	107.3	7.3	298.2
26-dinitrotoluene	182 > 152	17.47	23470.678	21748.586	23470.678	539.591	MM	20-Jan-10 08:57:37	494.0061	98.8	-1.2	519.2
24-dinitrotoluene	182 > 152	18.12	5351.566	21748.586	5351.566	123.033	MM	20-Jan-10 09:02:19	486.6188	97.3	-2.7	106.1
26-dinitrotoluene-d3	185 > 155	17.29	21748.586	21748.586	21748.586	21748.586	bb		592.7799	118.6	18.6	976.7
2-Nitrotoluene	137 > 46	20.92	3137.814	21748.586	3137.814	72.138	bb		480.6771	96.1	-3.9	326.5
4-Nitrotoluene	137 > 46	22.27	1493.570	21748.586	1493.570	34.337	bb		479.5755	95.9	-4.1	161.7
3-Nitrotoluene	137 > 46	23.90	1723.051	21748.586	1723.051	39.613	bb		464.5038	92.9	-7.1	178.0
PETN	361 > 62	24.42	34272.902	21748.586	34272.902	787.934	bb		471.5308	94.3	-5.7	3708.7

1202006247

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

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Matrix: SOIL

GEL Sample ID: 1202006247

Sample Amount 2

Moisture: 10.7

Amount Units g

Date Received: 29-DEC-09

Extraction Type Sonication

Extraction Batch ID: 937566

Concentrated Extract Volume (mL) 10

Date Extracted: 05-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01100029.wiff

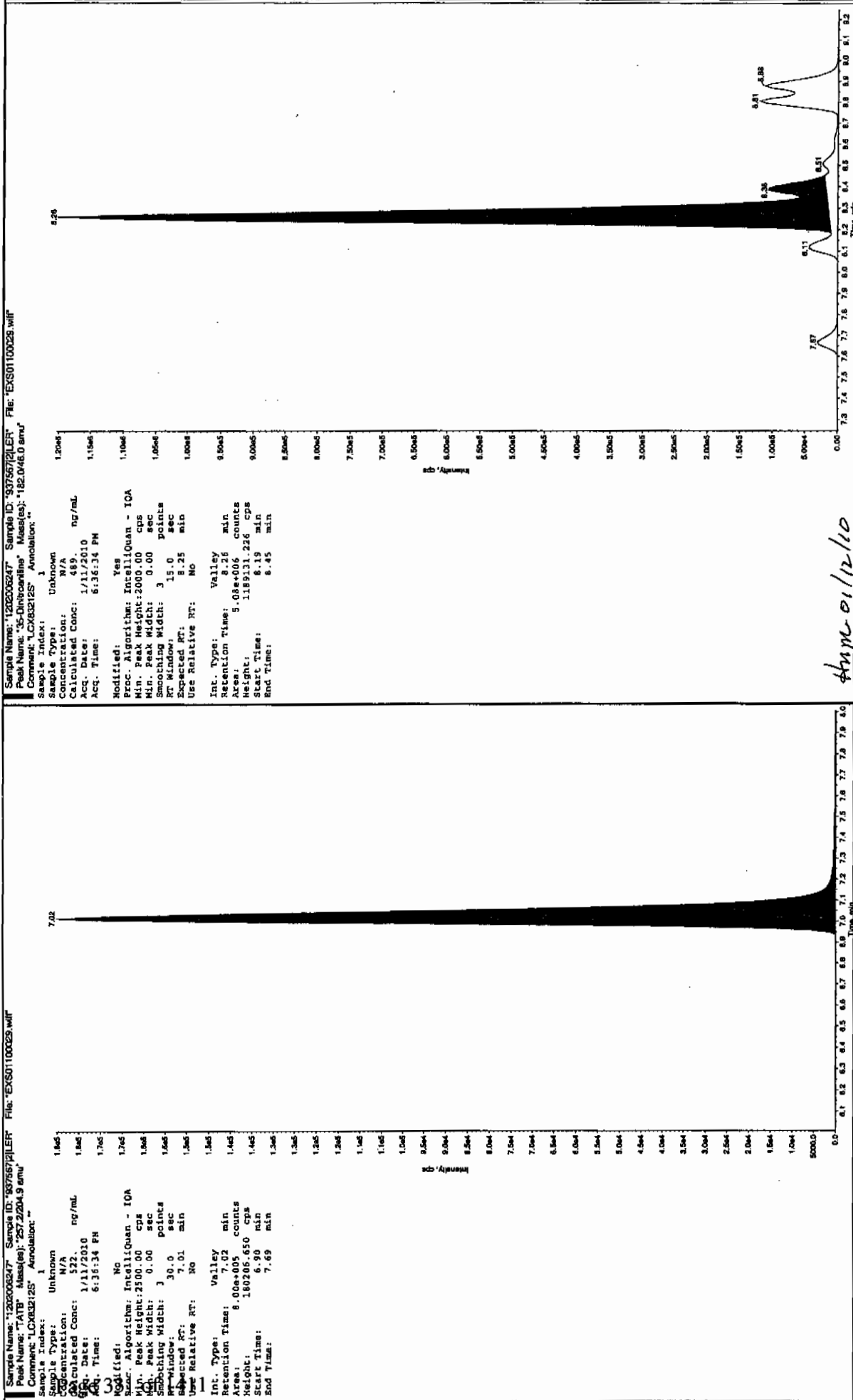
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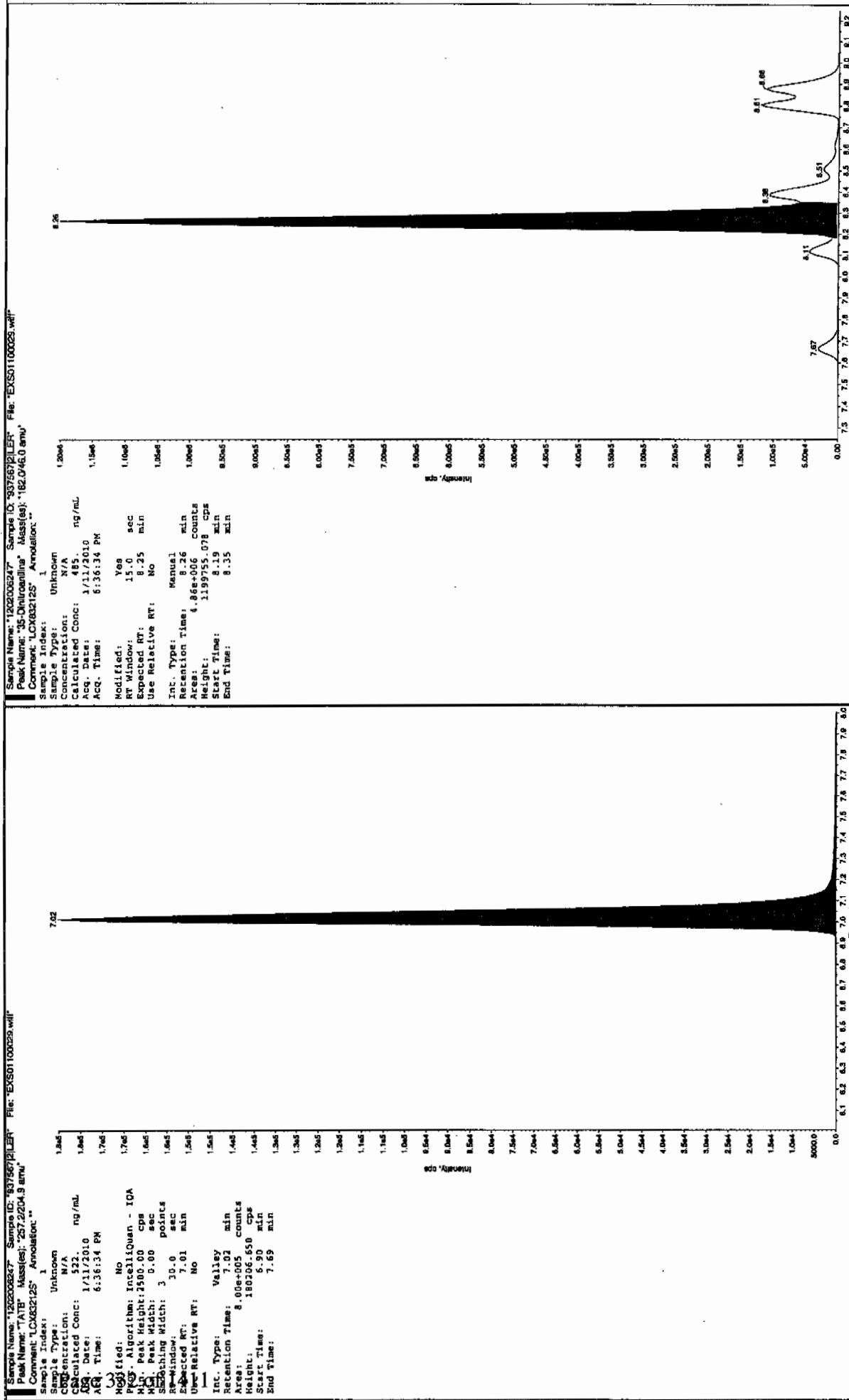
Units: ug/kg

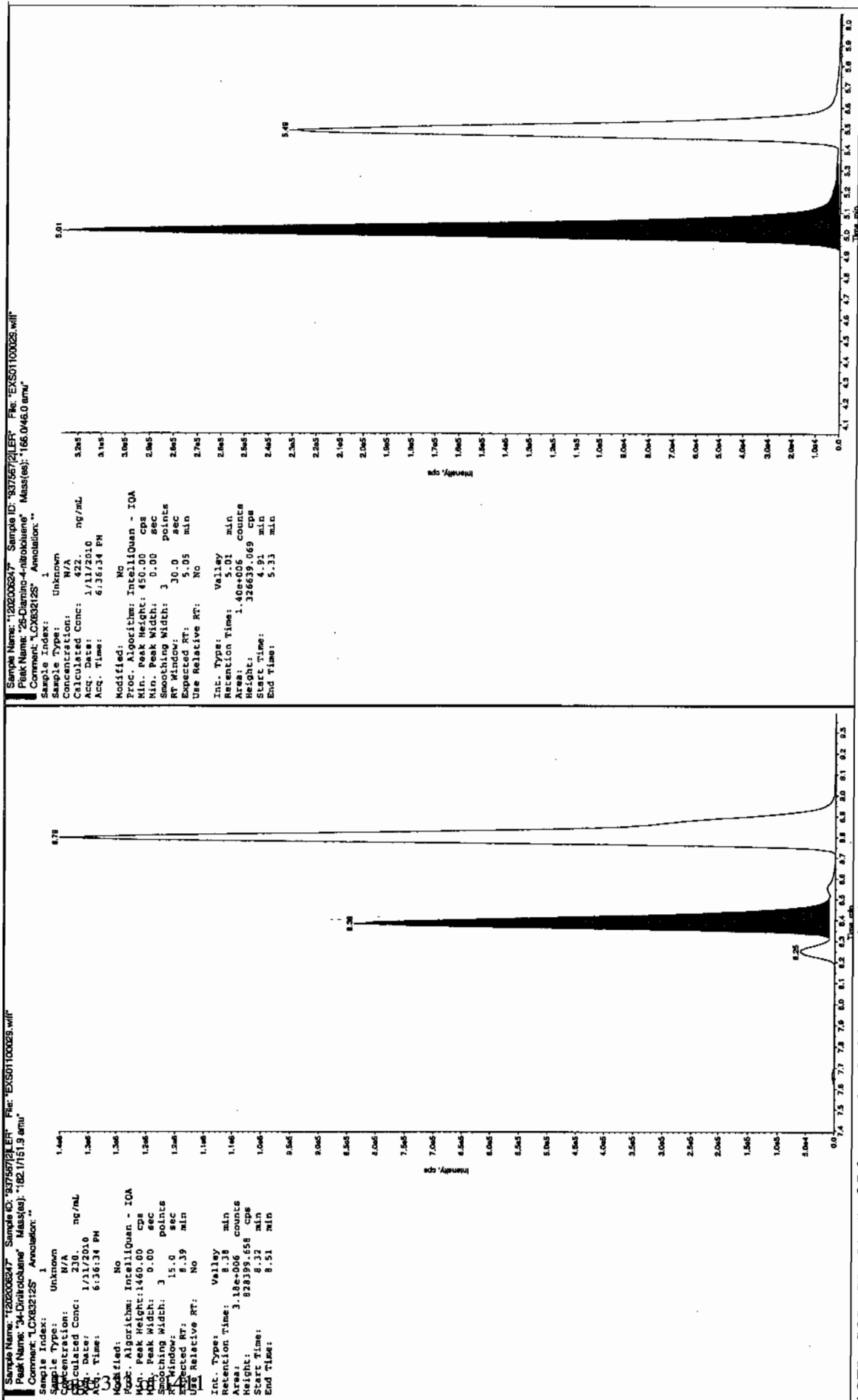
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	5220	
59229-75-3	2,6-Diamino-4-nitrotoluene	4220	
618-87-1	3,5-Dinitroaniline	4850	
6629-29-4	2,4-Diamino-6-nitrotoluene	4250	
78-30-8	tris(o-cresyl) phosphate	4950	

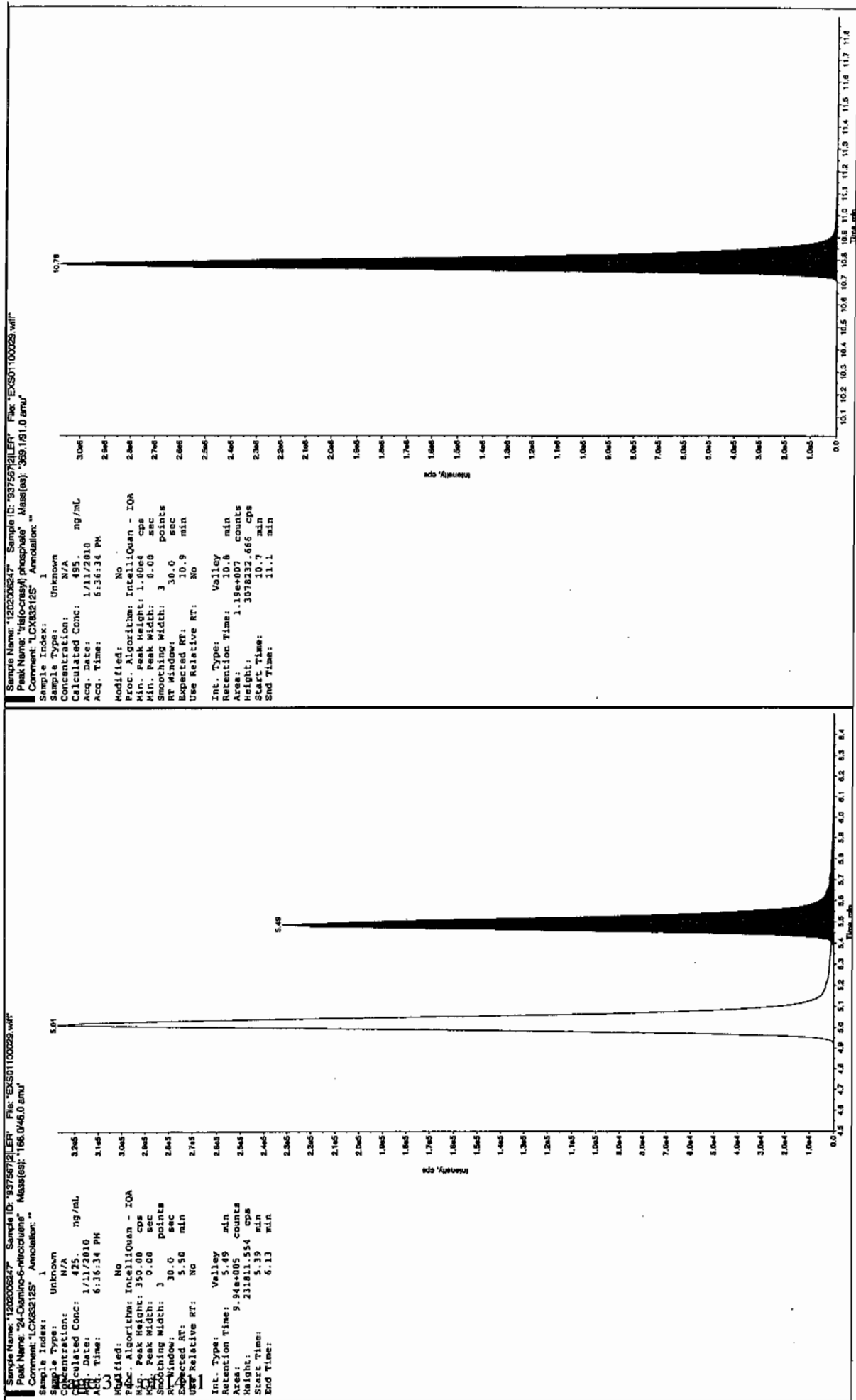
*Concentration =

Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor









MISCELLANEOUS DATA

Prep Logbook

Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)

Batch ID: 937566 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)
1202006244 MB	05-JAN-2010 14:50:00	2	10	5
1202006245 LCS	05-JAN-2010 14:50:00	2	10	5
243630001	05-JAN-2010 14:50:00	2	10	5
1202006246 MS (243630001)	05-JAN-2010 14:50:00	2	10	5
1202006247 MSD (243630001)	05-JAN-2010 14:50:00	2	10	5
243630002	05-JAN-2010 14:50:00	2	10	5
243630003	05-JAN-2010 14:50:00	2	10	5
243630004	05-JAN-2010 14:50:00	2	10	5
243630005	05-JAN-2010 14:50:00	2	10	5
243630006	05-JAN-2010 14:50:00	2	10	5
243630007	05-JAN-2010 14:50:00	2	10	5
243630008	05-JAN-2010 14:50:00	2	10	5
243630009	05-JAN-2010 14:50:00	2	10	5
243630010	05-JAN-2010 14:50:00	2	10	5
243630011	05-JAN-2010 14:50:00	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202006245	8321 Explosives LCS	DXX091230-03	.1	mL	Final Solvent: ACN
LCS	1202006245	8321 LANL Explosives Mix 10mg/L	UXX091229-02.1	1	mL	
MS	1202006246	8321 Explosives LCS	DXX091230-03	.1	mL	
MS	1202006246	8321 LANL Explosives Mix 10mg/L	UXX091229-02.1	1	mL	
MSD	1202006247	8321 Explosives LCS	DXX091230-03	.1	mL	
MSD	1202006247	8321 LANL Explosives Mix 10mg/L	UXX091229-02.1	1	mL	
SURR	AU	3,4-Dinitrotoluene (8330 Sur.) 100ppm	DXP091230-02	.05	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/18/10
 Extr. Injection Volume: 50uL
 Sequence Number: 011810expA
 Initial Calibration Date: 01/18/10
 Method: SW846 8321A-Modified
 Int. Std.: UXX091230-01.2
 Mobile Phase Lot#: 1255172, 1236350
 Standard-Samp Reagent Lot#: 1253092, 1246195
 Reviewed BY: _____
 Date: _____
 SOP: GL-OA-E-056 Rev.12
 Alt Check Std. ID: WXX100118-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0118001a	XIBLK01	MAP	1/18/10 14:03			1		USE	B
EXP0118002a	XIBLK01	MAP	1/18/10 14:33			1		USE	B
EXP0118003a	WXXICAL-01	MAP	1/18/10 15:02			1		USE	I
EXP0118004a	WXXICAL-02	MAP	1/18/10 15:32			1		USE	I
EXP0118005a	WXXICAL-03	MAP	1/18/10 16:01			1		USE	I
EXP0118006a	WXXICAL-04	MAP	1/18/10 16:31			1		USE	I
EXP0118007a	WXXICAL-05	MAP	1/18/10 17:00			1		USE	I
EXP0118008a	WXXICAL-06	MAP	1/18/10 17:29			1		USE	I
EXP0118009a	XIBLK02	MAP	1/18/10 17:59			1		USE	B
EXP0118010a	WXXICV	MAP	1/18/10 18:28			1		USE	C
EXP0118011a	XIBLK03	MAP	1/18/10 18:58			1		USE	B
EXP0118012a	WXXCRI	MAP	1/18/10 19:27			1		USE	C
EXP0118013a	1202003473	MAP	1/18/10 19:57	936340	10-1020	2	LANL	USE	S
EXP0118014a	1202003474	MAP	1/18/10 20:26	936340	10-1020	2	LANL	USE	S
EXP0118015a	243401006	MAP	1/18/10 20:56	936340	10-1020	2	LANL	USE	S
EXP0118016a	1202003475	MAP	1/18/10 21:25	936340	10-1020	2	LANL	USE	S
EXP0118017a	1202003476	MAP	1/18/10 21:55	936340	10-1020	2	LANL	USE	S
EXP0118018a	243401010	MAP	1/18/10 22:24	936340	10-1020	2	LANL	USE	S
EXP0118019a	WXXCCV	MAP	1/18/10 22:54			1		USE	C
EXP0118020a	XIBLK04	MAP	1/18/10 23:23			1		USE	B
EXP0118021a	WXXCRI	MAP	1/18/10 23:53			1		USE	C
EXP0118022a	1202006240	MAP	1/19/10 0:22	937564	10-1100	2	LANL	USE	S
EXP0118023a	1202006241	MAP	1/19/10 0:52	937564	10-1100	2	LANL	USE	S
EXP0118024a	243624001	MAP	1/19/10 1:21	937564	10-1100	2	LANL	USE	S
EXP0118025a	1202006242	MAP	1/19/10 1:51	937564	10-1100	2	LANL	USE	S
EXP0118026a	1202006243	MAP	1/19/10 2:20	937564	10-1100	2	LANL	USE	S
EXP0118027a	243624002	MAP	1/19/10 2:50	937564	10-1100	2	LANL	USE	S
EXP0118028a	243624003	MAP	1/19/10 3:19	937564	10-1100	2	LANL	USE	S
EXP0118029a	243624004	MAP	1/19/10 3:48	937564	10-1100	2	LANL	USE	S

EXP0118030a	243624005	MAP	1/19/10 4:18	937564	10-1100	2	LANL	USE	S
EXP0118031a	243624006	MAP	1/19/10 4:47	937564	10-1100	2	LANL	USE	S
EXP0118032a	WXXCVC	MAP	1/19/10 5:17			1		USE	C
EXP0118033a	XIBLK05	MAP	1/19/10 5:47			1		USE	B
EXP0118034a	WXXCRI	MAP	1/19/10 6:16			1		USE	C
EXP0118035a	243624007	MAP	1/19/10 6:46	937564	10-1100	2	LANL	USE	S
EXP0118036a	243624008	MAP	1/19/10 7:15	937564	10-1100	2	LANL	USE	S
EXP0118037a	243624009	MAP	1/19/10 7:45	937564	10-1100	2	LANL	USE	S
EXP0118038a	243624010	MAP	1/19/10 8:14	937564	10-1100	2	LANL	USE	S
EXP0118039a	243624011	MAP	1/19/10 8:44	937564	10-1100	2	LANL	USE	S
EXP0118040a	WXXCVC	MAP	1/19/10 9:13			1		USE	C
EXP0118041a	XIBLK06	MAP	1/19/10 9:43			1		USE	B
EXP0118042a	WXXCRI	MAP	1/19/10 10:12			1		USE	C
EXP0118043a	1202006244	MAP	1/19/10 10:42	937567	10-1102	2	LANL	USE	S
EXP0118044a	1202006245	MAP	1/19/10 11:12	937567	10-1102	2	LANL	USE	S
EXP0118045a	243630001	MAP	1/19/10 11:41	937567	10-1102	2	LANL	USE	S
EXP0118046a	1202006246	MAP	1/19/10 12:11	937567	10-1102	2	LANL	USE	S
EXP0118047a	1202006247	MAP	1/19/10 12:40	937567	10-1102	2	LANL	USE-RA	S
EXP0118048a	243630002	MAP	1/19/10 13:10	937567	10-1102	2	LANL	USE	S
EXP0118049a	243630003	MAP	1/19/10 13:39	937567	10-1102	2	LANL	USE-RA	S
EXP0118050a	243630004	MAP	1/19/10 14:08	937567	10-1102	2	LANL	USE	S
EXP0118051a	243630005	MAP	1/19/10 14:38	937567	10-1102	2	LANL	USE	S
EXP0118052a	243630006	MAP	1/19/10 15:08	937567	10-1102	2	LANL	USE	S
EXP0118053a	WXXCVC	MAP	1/19/10 15:37			1		USE	C
EXP0118054a	XIBLK07	MAP	1/19/10 16:07			1		USE	B
EXP0118055a	WXXCRI	MAP	1/19/10 16:36			1		USE	C
EXP0118056a	243630007	MAP	1/19/10 17:06	937567	10-1102	2	LANL	USE	S
EXP0118057a	243630008	MAP	1/19/10 17:35	937567	10-1102	2	LANL	USE	S
EXP0118058a	243630009	MAP	1/19/10 18:05	937567	10-1102	2	LANL	USE	S
EXP0118059a	243630010	MAP	1/19/10 18:34	937567	10-1102	2	LANL	USE	S
EXP0118060a	243630011	MAP	1/19/10 19:04	937567	10-1102	2	LANL	USE	S
EXP0118061a	1202006247	MAP	1/19/10 19:33	937567	10-1102	2	LANL	USE	S
EXP0118062a	243630003	MAP	1/19/10 20:03	937567	10-1102	2	LANL	USE	S
EXP0118063a	WXXCVC	MAP	1/19/10 20:32			1		USE	C
EXP0118064a	XIBLK08	MAP	1/19/10 21:02			1		USE	B
EXP0118065a	WXXCRI	MAP	1/19/10 21:31			1		USE	C
EXP0118066a	1202011756	MAP	1/19/10 22:01	940106	Various	2	LANL	USE	S

EXP0118067a	1202011757	MAP	1/19/10 22:30	940106	Various	2	LANL	USE	S
EXP0118068a	244209001	MAP	1/19/10 23:00	940106	10-1160	2	LANL	USE	S
EXP0118069a	1202011758	MAP	1/19/10 23:29	940106	10-1160	2	LANL	USE	S
EXP0118070a	1202011759	MAP	1/19/10 23:59	940106	10-1160	2	LANL	USE	S
EXP0118071a	244209002	MAP	1/20/10 0:28	940106	10-1160	2	LANL	USE	S
EXP0118072a	244209003	MAP	1/20/10 0:58	940106	10-1160	2	LANL	USE	S
EXP0118073a	244209004	MAP	1/20/10 1:27	940106	10-1160	2	LANL	USE	S
EXP0118074a	244209005	MAP	1/20/10 1:57	940106	10-1160	2	LANL	USE	S
EXP0118075a	244209006	MAP	1/20/10 2:26	940106	10-1160	2	LANL	USE	S
EXP0118076a	WXXCCV	MAP	1/20/10 2:56			1		USE	C
EXP0118077a	XIBLK09	MAP	1/20/10 3:25			1		USE	B
EXP0118078a	WXXCRI	MAP	1/20/10 3:55			1		USE	C
EXP0118079a	244211001	MAP	1/20/10 4:24	940106	10-1158	2	LANL	USE	S
EXP0118080a	244211002	MAP	1/20/10 4:54	940106	10-1158	2	LANL	USE	S
EXP0118081a	244211003	MAP	1/20/10 5:23	940106	10-1158	2	LANL	USE	S
EXP0118082a	244211004	MAP	1/20/10 5:53	940106	10-1158	2	LANL	USE	S
EXP0118083a	244211005	MAP	1/20/10 6:22	940106	10-1158	2	LANL	USE	S
EXP0118084a	244211006	MAP	1/20/10 6:52	940106	10-1158	2	LANL	USE	S
EXP0118085a	WXXCCV	MAP	1/20/10 7:21			1		USE	C
EXP0118086a	XIBLK10	MAP	1/20/10 7:51			1		USE	B
EXP0118087a	WXXCRI	MAP	1/20/10 8:20			1		USE	C

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 01/11/10

Extr. Injection Volume: 10uL

Method: 8321A-Modified

Int. Std.: N/A

Sequence Number: 011110exs

Mobile Phase Lot#: 1236350, 1246467

SOP: GL-OA-E-056 Rev.12

Reviewed By: *hnm*

Date: *01/12/10*

Initial Calibration Date: 011110

Standard-Samp Reagent Lot#: 1246195, 1253092

Alt Check Std. ID: WXX100111-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01100001.wiff	XIBLK01	LER	1/11/2010 11:16			1		USE	B
EXS01100002.wiff	XIBLK01	LER	1/11/2010 11:32			1		USE	B
EXS01100003.wiff	WXXICAL-19	LER	1/11/2010 11:48			1		USE	I
EXS01100004.wiff	WXXICAL-20	LER	1/11/2010 12:04			1		USE	I
EXS01100005.wiff	WXXICAL-21	LER	1/11/2010 12:19			1		USE	I
EXS01100006.wiff	WXXICAL-22	LER	1/11/2010 12:35			1		USE	I
EXS01100007.wiff	WXXICAL-23	LER	1/11/2010 12:51			1		USE	I
EXS01100008.wiff	WXXICAL-24	LER	1/11/2010 13:06			1		USE	I
EXS01100009.wiff	WXXICAL-25	LER	1/11/2010 13:22			1		USE	I
EXS01100010.wiff	XIBLK02	LER	1/11/2010 13:38			1		USE	I
EXS01100011.wiff	WXXICV	LER	1/11/2010 13:54			1		USE	B
EXS01100012.wiff	XIBLK03	LER	1/11/2010 14:09			1		USE	C
EXS01100013.wiff	WXXCRI	LER	1/11/2010 14:25			1		USE	B
EXS01100014.wiff	243605007	LER	1/11/2010 14:41			1		USE	C
EXS01100015.wiff	XIBLK04	LER	1/11/2010 14:56	937541	10-1093	2	LANL	USE	S
EXS01100016.wiff	1202003473	LER	1/11/2010 15:12			1		USE	B
EXS01100017.wiff	1202003474	LER	1/11/2010 15:28	936340	10-1020	2	LANL	USE	S
EXS01100018.wiff	243401006	LER	1/11/2010 15:43	936340	10-1020	2	LANL	USE	S
EXS01100019.wiff	1202003475	LER	1/11/2010 15:59	936340	10-1020	2	LANL	USE	S
EXS01100020.wiff	1202003476	LER	1/11/2010 16:15	936340	10-1020	2	LANL	USE	S
EXS01100021.wiff	243401010	LER	1/11/2010 16:31	936340	10-1020	2	LANL	USE	S
EXS01100022.wiff	WXXCCV	LER	1/11/2010 16:46			1		USE	C
EXS01100023.wiff	XIBLK05	LER	1/11/2010 17:02			1		USE	B
EXS01100024.wiff	WXXCRI	LER	1/11/2010 17:18			1		USE	C
EXS01100025.wiff	1202006244	LER	1/11/2010 17:33	937567	10-1102	2	LANL	USE	S
EXS01100026.wiff	1202006245	LER	1/11/2010 17:49	937567	10-1102	2	LANL	USE	S
EXS01100027.wiff	243630001	LER	1/11/2010 18:05	937567	10-1102	2	LANL	USE	S
EXS01100028.wiff	1202006246	LER	1/11/2010 18:20	937567	10-1102	2	LANL	USE	S
EXS01100029.wiff	1202006247	LER	1/11/2010 18:36	937567	10-1102	2	LANL	USE	S

EXS01100030.wiff	LER	1/11/2010 18:52	937567	10-1102	2	LANL	USE	S
EXS01100031.wiff	LER	1/11/2010 19:08	937567	10-1102	2	LANL	USE	S
EXS01100032.wiff	LER	1/11/2010 19:23	937567	10-1102	2	LANL	USE	S
EXS01100033.wiff	LER	1/11/2010 19:39	937567	10-1102	2	LANL	USE	S
EXS01100034.wiff	LER	1/11/2010 19:55	937567	10-1102	2	LANL	USE	S
EXS01100035.wiff	LER	1/11/2010 20:10			1		USE	C
EXS01100036.wiff	LER	1/11/2010 20:26			1		USE	B
EXS01100037.wiff	LER	1/11/2010 20:42			1		USE	C
EXS01100038.wiff	LER	1/11/2010 20:57	937567	10-1102	2	LANL	USE	S
EXS01100039.wiff	LER	1/11/2010 21:13	937567	10-1102	2	LANL	USE	S
EXS01100040.wiff	LER	1/11/2010 21:29	937567	10-1102	2	LANL	USE	S
EXS01100041.wiff	LER	1/11/2010 21:45	937567	10-1102	2	LANL	USE	S
EXS01100042.wiff	LER	1/11/2010 22:00	937567	10-1102	2	LANL	USE	S
EXS01100043.wiff	LER	1/11/2010 22:16			1		USE	C
EXS01100044.wiff	LER	1/11/2010 22:32			1		USE	B
EXS01100045.wiff	LER	1/11/2010 22:47			1		USE	C

GEL Laboratories LLC
Form GEL-DER

DER Report No.: 781683

Revision No.: 1

DATA EXCEPTION REPORT

Mo. Day Yr. 20-JAN-10	Division: Federal	Quality Criteria: Specifications	Type: Process
Instrument Type: LC-MS/MS	Test / Method: SW846 8321A Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 937567	Sample Numbers: 1202006245, 1202006246, 1202006247		
Potentially affected work order(s)(SDG): 243630(10-1102) Application Issues: Failed Recovery for MSD/PSD Failed Recovery for LCS/LCSD Failed Recovery for MS/PS			
Specification and Requirements		DER Disposition:	
Exception Description:			
1. The Laboratory Control Sample (1202006245) did not meet spike recovery limits for TATB at 183%. The recovery limits are 47-166%. 2. The Matrix Spike (1202006246) did not meet spike recovery limits for Tetra at 33.2%. The recovery limits are 47-138%. 3. The Matrix Spike Duplicate (1202006247) did not meet spike recovery limits for Tetra at 31.6%. The recovery limits are 47-138%.		1. While TATB exhibited a high bias, it was not detected in the associated samples. The MS and MSD both met recovery limits for TATB. Therefore, the data are reported with the appropriate DER. The discrepancy is noted in the case narrative. 2. & 3. Since similar recoveries were obtained in the Matrix Spike and Matrix Spike Duplicate, the noted exceptions are attributed to sample matrix interference. The Laboratory Control Sample met acceptance criteria, therefore the data are reported with the appropriate DER. The discrepancies are noted in the case narrative.	

Originator's Name:

Michael Penny 20-JAN-10

Data Validator/Group Leader:

Herbert Maier 20-JAN-10

GC
SEMIVOLATILE
PCB
ANALYSIS

**PCB Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1102**

Method/Analysis Information

Procedure: Analysis of Polychlorinated Biphenyls by ECD

Analytical Method: SW846 8082

Prep Method: SW846 3550B

Analytical Batch Number: 937679

Prep Batch Number: 937678

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8082:

Sample ID	Client ID
243630002	RE12-10-7663
243630003	RE12-10-7664
1202006551	Method Blank (MB)
1202006552	Laboratory Control Sample (LCS)
1202006553	243630003(RE12-10-7664) Matrix Spike (MS)
1202006554	243630003(RE12-10-7664) 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 analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

Sample 243630002 (RE12-10-7663) did not meet the surrogate recovery acceptance criteria due to dilution. See DER #776365 located in the Miscellaneous Data section.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Sample 243630003 (RE12-10-7664) was selected for the matrix spike and matrix spike duplicate analysis.

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 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.

Sample Dilutions

Sample 243630002 (RE12-10-7663) were diluted at 1:10 due to the oily matrix of the extract. QC samples 1202006553 (RE12-10-7664MS) and 1202006554 (RE12-10-7664MSD) were diluted at 1:10 because sample 243630002 (RE12-10-7663) was mislabeled as the parent sample for the MS and MSD originally. QC samples 1202006553 (RE12-10-7664MS) and 1202006554 (RE12-10-7664MSD) were re-analyzed without dilution. The

spike recovery met the acceptance criteria for the MS and MSD in both analyses. The first analysis with dilution was reported in this data package. The raw data for the second analysis without dilution were included in the Miscellaneous Data section.

Sample Re-extraction/Re-analysis

QC samples 1202006553 (RE12-10-7664MS) and 1202006554 (RE12-10-7664MSD) were analyzed with 1:10 dilution and were re-analyzed without dilution.

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 Report (DER) Documentation

Data exception report (DER) is for documentation of any procedural anomalies that may deviate from referenced SOP or contractual document. DER # 776365 was generated for this SDG. A copy is included in the Miscellaneous Data section of this package.

Manual Integration

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 for the MS and MSD are from the same analytical column as the parent sample.

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
ECD2A.I_1	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP I	30m x 0.25mm, 0.25um (Rtx-CLPesticide)
ECD2A.I_2	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP II	30m x 0.25mm, 0.20um (Rtx-CLPesticide II)

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: Jimi Cao

Date: 1/22/10

Roadmap for LANL 10-1102 PCB

This roadmap was analyzed by jcn01212 on 01-04-2010, 09:14.

This roadmap was reviewed by rob01090 on 01-07-2010, 16:11.

This roadmap was packaged by yml on 01-20-2010, 16:12.

This roadmap was reviewed by jen01212 on 01-22-2010, 14:20.

This roadmap was packaged by jim01140 on 01-22-2010, 17:29.

This roadmap was validated by jim01140 on 01-22-2010, 17:33.

Front Sample Column

exclude	manual	datafile	snpid	sampletype	injdte	injtme	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/026f2601.d	243630002	sample	31-DEC-2009	12:14	10-1102.sub	RE12-10-7663	10.00000	937679	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/029f2901.d	243630003	sample	31-DEC-2009	12:47	10-1102.sub	RE12-10-7664	1.00000	937679	UPLOAD BOTH, USE HIGHER

Back Sample Column

exclude	manual	datafile	snpid	sampletype	injdte	injtme	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/026b2601.d	243630002	sample	31-DEC-2009	12:14	10-1102.sub	RE12-10-7663	10.00000	937679	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/029b2901.d	243630003	sample	31-DEC-2009	12:47	10-1102.sub	RE12-10-7664	1.00000	937679	UPLOAD BOTH, USE HIGHER

Front QC Sample Column

exclude	manual	datafile	snpid	sampletype	injdte	injtme	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/013f1301-2.d	1202006551	mb	31-DEC-2009	09:50	10-1102.sub	PBLK01	1.00000	937679	
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/014f1401-2.d	1202006552	lcs	31-DEC-2009	10:01	10-1102.sub	PBLK01LCS	1.00000	937679	
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/027f2701.d	1202006553	ms	31-DEC-2009	12:25	10-1102.sub	RE12-10-7663MS	10.00000	937679	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/028f2801.d	1202006554	msd	31-DEC-2009	12:36	10-1102.sub	RE12-10-7663MSD	10.00000	937679	UPLOAD BOTH, USE HIGHER

Back QC Sample Column

exclude	manual	datafile	snpid	sampletype	injdte	injtme	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/013b1301-2.d	1202006551	mb	31-DEC-2009	09:50	10-1102.sub	PBLK01	1.00000	937679	
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/014b1401-2.d	1202006552	lcs	31-DEC-2009	10:01	10-1102.sub	PBLK01LCS	1.00000	937679	
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/027b2701.d	1202006553	ms	31-DEC-2009	12:25	10-1102.sub	RE12-10-7663MS	10.00000	937679	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/123109.b/028b2801.d	1202006554	msd	31-DEC-2009	12:36	10-1102.sub	RE12-10-7663MSD	10.00000	937679	UPLOAD BOTH, USE HIGHER

SAMPLE DATA SUMMARY

PCB
Certificate of Analysis
Sample Summary

SDG Number: 10-1102
Lab Sample ID: 243630002

Date Collected: 12/22/2009 12:00
Date Received: 12/29/2009 08:40
Client: LANL010
Method: SW846 8082
Inst: ECD2A.I
Analyst: JAOC
Aliquot: 30.07 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 25
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 10
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	44.3	ug/kg	14.8	44.3	1
11104-28-2	Aroclor-1221	U	44.3	ug/kg	14.8	44.3	1
11141-16-5	Aroclor-1232	U	44.3	ug/kg	14.8	44.3	1
53469-21-9	Aroclor-1242	U	44.3	ug/kg	14.8	44.3	1
12672-29-6	Aroclor-1248	U	44.3	ug/kg	14.8	44.3	1
11097-69-1	Aroclor-1254	U	44.3	ug/kg	14.8	44.3	1
11096-82-5	Aroclor-1260	U	44.3	ug/kg	14.8	44.3	1

PCB

Page 1 of 1

Certificate of Analysis
Sample SummarySDG Number: 10-1102
Lab Sample ID: 243630003Date Collected: 12/22/2009 12:00
Date Received: 12/29/2009 08:40
Client: LANL010
Method: SW846 8082
Inst: ECD2A.I
Analyst: JAOC
Aliquot: 30.05 g
Column: 1 CLP1
2 CLP2Matrix: R
%Moisture: 10.8
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.73	ug/kg	1.24	3.73	1
11104-28-2	Aroclor-1221	U	3.73	ug/kg	1.24	3.73	1
11141-16-5	Aroclor-1232	U	3.73	ug/kg	1.24	3.73	1
53469-21-9	Aroclor-1242	U	3.73	ug/kg	1.24	3.73	1
12672-29-6	Aroclor-1248	U	3.73	ug/kg	1.24	3.73	1
11097-69-1	Aroclor-1254	U	3.73	ug/kg	1.24	3.73	1
11096-82-5	Aroclor-1260	U	3.73	ug/kg	1.24	3.73	1

QUALITY CONTROL SUMMARY

PCB
Surrogate Recovery Report

Page 1 of 1

SDG Number: 10-1102

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 #
1202006551	MB for batch 937678	70	74	79	86
1202006552	LCS for batch 937678	67	70	70	80
243630002	RE12-10-7663	37 D	32 * D	39 D	32 * D
1202006553	RE12-10-7664MS	65 D	60 D	77 D	68 D
1202006554	RE12-10-7664MSD	62 D	57 D	75 D	67 D
243630003	RE12-10-7664	64	68	65	74

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

PCB

Page 1 of 1

**Quality Control Summary
Spike Recovery Report**

SDG Number: 10-1102

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 937678

Matrix: SOIL

Lab Sample ID:1202006552

Instrument: ECD2A.I

Analysis Date: 12/31/2009 10:01

Dilution: 1

Analyst: JAOC

Prep Batch II 937678

Inj. Vol: 1 uL

Batch ID: 937679

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	27.0	81	48-110

PCB

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**Quality Control Summary
Spike Recovery Report**

SDG Number: 10-1102

Sample Type: Matrix Spike

Client ID: RE12-10-7664MS

Matrix: R

Lab Sample ID:1202006553

%Moisture: 10.8

Instrument: ECD2A.1

Analysis Date: 12/31/2009 12:25

Dilution: 10

Analyst: JAOC

Prep Batch ID: 937678

Inj. Vol: 1 uL

Batch ID: 937679

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	MS Aroclor-1016	37.3	0.00 U	30.0	80	23-117
11096-82-5	MS Aroclor-1260	37.3	0.00 U	34.6	93	27-116

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1102

Client ID: RE12-10-7664MSD

Lab Sample ID: 1202006554

Instrument: ECD2A.I

Analyst: JAOC

Inj. Vol: 1 uL

Sample Type: Matrix Spike Duplicate

Matrix: R

%Moisture: 10.8

Analysis Date: 12/31/2009 12:36

Dilution: 10

Pren Batch II 937678

Batch ID: 937679

CAS No	Parname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD Aroclor-1016	37.3	0.00 U	29.2	78	23-117	3	0-30
11096-82-5	MSD Aroclor-1260	37.3	0.00 U	33.7	90	27-116	3	0-30

Method Blank Summary

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SDG Number:	10-1102	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 937678	Instrument ID:	ECD2AJ_2	Data File:	013b1301-1.d
Lab Sample ID:	1202006551		ECD2AJ_1		013f1301-1.d
Column:	CLP2	Prep Date:	12/30/2009 20:12	Analyzed:	12/31/09 09:50
	CLP1	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 937678	1202006552	014f1401-1.d 014b1401-1.d	12/31/09	1001
02 RE12-10-7663	243630002	026f2601.d 026b2601.d	12/31/09	1214
03 RE12-10-7664MS	1202006553	027f2701.d 027b2701.d	12/31/09	1225
04 RE12-10-7664MSD	1202006554	028f2801.d 028b2801.d	12/31/09	1236
05 RE12-10-7664	243630003	029f2901.d 029b2901.d	12/31/09	1247

SAMPLE DATA

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Certificate of Analysis
Sample SummarySDG Number: 10-1102
Lab Sample ID: 243630002Date Collected: 12/22/2009 12:00
Date Received: 12/29/2009 08:40
Client: LANL010
Method: SW846 8082
Inst: ECD2A.1
Analyst: JAOC
Aliquot: 30.07 g
Column: 1 CLP1
2 CLP2Matrix: R
%Moisture: 25
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 10
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	44.3	ug/kg	14.8	44.3	1
11104-28-2	Aroclor-1221	U	44.3	ug/kg	14.8	44.3	1
11141-16-5	Aroclor-1232	U	44.3	ug/kg	14.8	44.3	1
53469-21-9	Aroclor-1242	U	44.3	ug/kg	14.8	44.3	1
12672-29-6	Aroclor-1248	U	44.3	ug/kg	14.8	44.3	1
11097-69-1	Aroclor-1254	U	44.3	ug/kg	14.8	44.3	1
11096-82-5	Aroclor-1260	U	44.3	ug/kg	14.8	44.3	1

Data File: /chem/ecd2a.i/123109.b/026f2601.d
Report Date: 04-Jan-2010 08:17

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/026f2601.d

Lab Smp Id: 243630002

Client Smp ID: RE12-10-7663

Inj Date : 31-DEC-2009 12:14

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |243630002|10|

Misc Info : |ECD82P_1S|937679|SVA|LANL|SOIL|RE12-10-7663|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 26

Dil Factor: 10.00000

Integrator: Falcon

Compound Sublist: 10-1102.sub

Target Version: 3.50

Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.07000	Weight of sample extracted (g)
M	24.96940	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx CAS #: 877-09-8						
1.772	1.772	0.000	460617 7.39452	3.3	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
5.608	5.608	0.000	419493 7.75237	3.4	80.00- 120.00	100.00

Data File: /chem/ecod2a.i/123109.b/026f2601.d

Date: 31-DEC-2009 12:14

Client ID: RE12-10-7663

Sample Info: 12436300021101

Volume Injected (uL): 1.0

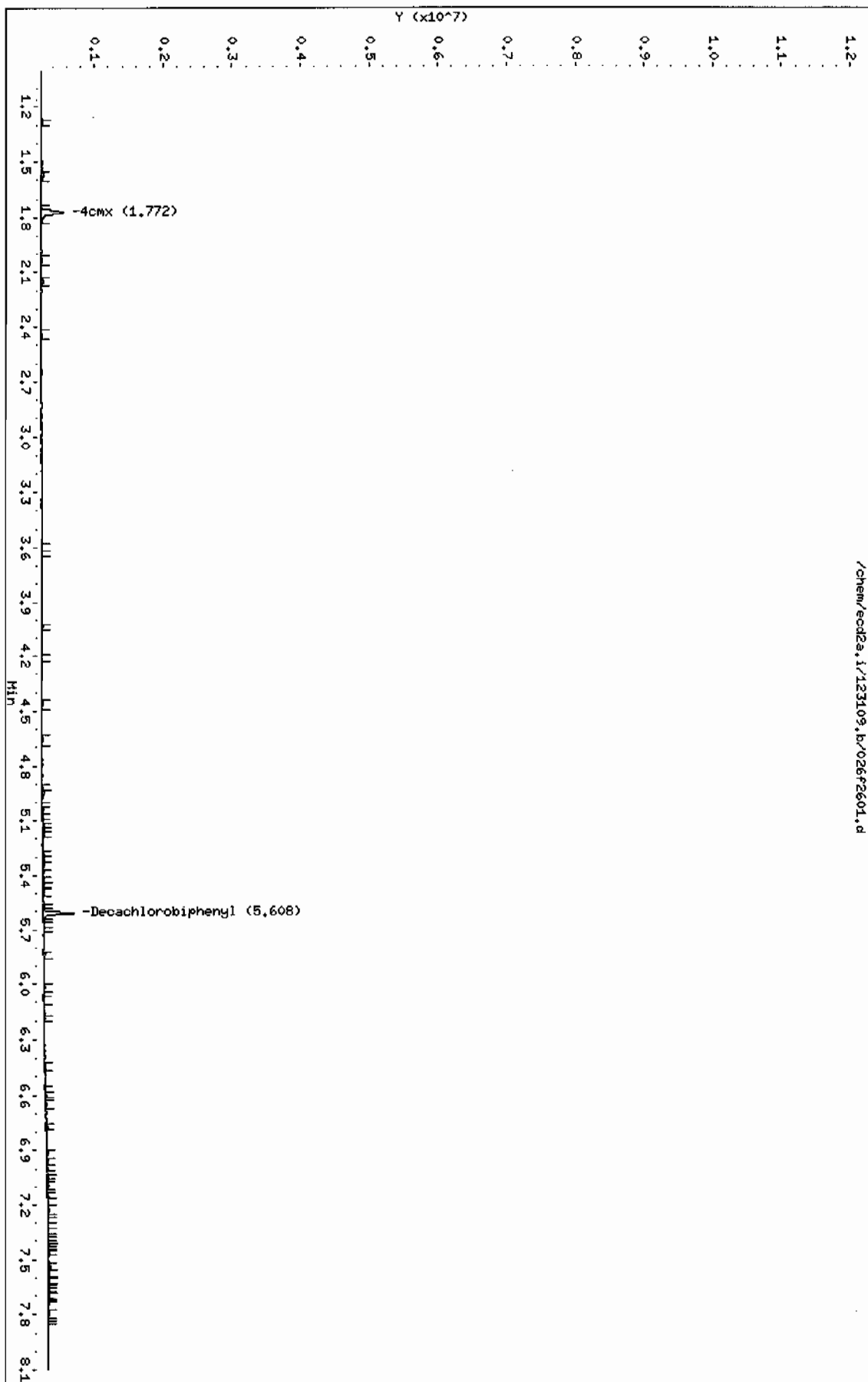
Column phase: CLP1

Instrument: ecod2a.i

Operator: JROC

Column diameter: 0.25

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Data File: /chem/ecd2a.i/123109.b/026b2601.d
Report Date: 04-Jan-2010 08:17

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
Data file : /chem/ecd2a.i/123109.b/026b2601.d
Lab Smp Id: 243630002 Client Smp ID: RE12-10-7663
Inj Date : 31-DEC-2009 12:14
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243630002|10|
Misc Info : |ECD82P_1S|937679|SVA|LANL|SOIL|RE12-10-7663|||
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 26
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt / (Vi * Ws * (100 - M) / 100) * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.07000	Weight of sample extracted (g)
M	24.96940	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
		ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
CAS #: 877-09-8						
\$ 11 4cmx	2.069	2.069	0.000	829135 6.41160	2.8 80.00- 120.00	100.00 (R)

CAS #: 2051-24-3						
\$ 12 Decachlorobiphenyl	6.300	6.300	0.000	716022 6.34867	2.8 80.00- 120.00	100.00 (R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/eod2a.i/123109.b/026b2601.d

Date : 31-DEC-2009 12:14

Client ID: REL2-10-7663

Sample Info: 12436300021101

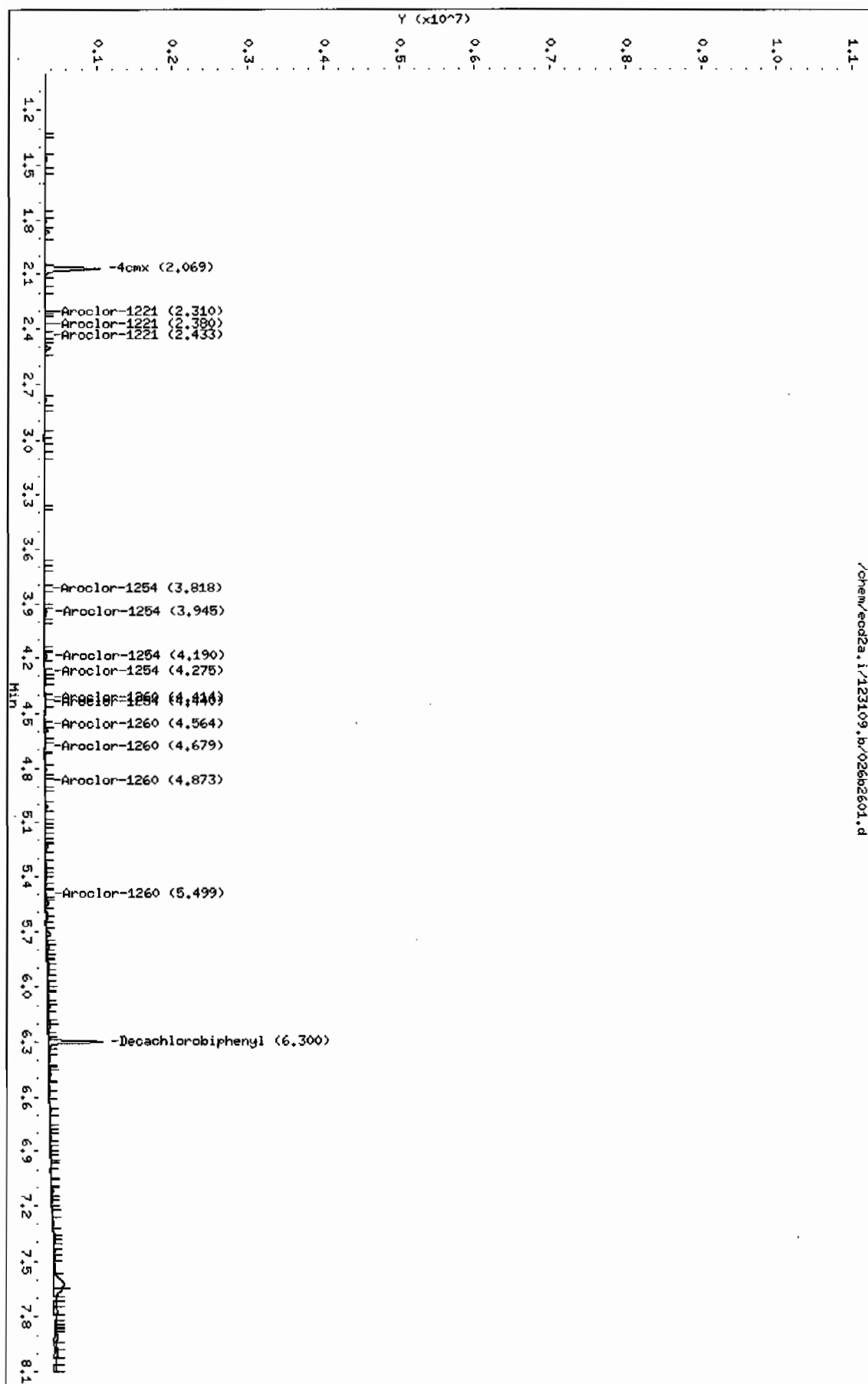
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: eod2a.i

Operator: JACG

Column diameter: 0.25



PCB

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Certificate of Analysis
Sample SummarySDG Number: 10-1102
Lab Sample ID: 243630003

Date Collected: 12/22/2009 12:00

Matrix: R

Date Received: 12/29/2009 08:40

%Moisture: 10.8

Client: LANL010

Project: LANL01004

Method: SW846 8082

SOP Ref: GL-OA-E-040

Inst: ECD2A.I

Dilution: 1

Client ID: RE12-10-7664

Analyst: JAOC

Inj. Vol: 1 uL

Batch ID: 937679

Aliquot: 30.05 g

Final Volume: 1 mL

Run Date: 12/31/2009 12:47

Column: 1 CLP1

Level: LOW

Prep Date: 12/30/2009 20:12

Data File: 029f2901.d

2 CLP2

029b2901.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.73	ug/kg	1.24	3.73	1
11104-28-2	Aroclor-1221	U	3.73	ug/kg	1.24	3.73	1
11141-16-5	Aroclor-1232	U	3.73	ug/kg	1.24	3.73	1
53469-21-9	Aroclor-1242	U	3.73	ug/kg	1.24	3.73	1
12672-29-6	Aroclor-1248	U	3.73	ug/kg	1.24	3.73	1
11097-69-1	Aroclor-1254	U	3.73	ug/kg	1.24	3.73	1
11096-82-5	Aroclor-1260	U	3.73	ug/kg	1.24	3.73	1

Data File: /chem/ecd2a.i/123109.b/029f2901.d
Report Date: 04-Jan-2010 08:17

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/029f2901.d

Lab Smp Id: 243630003

Client Smp ID: RE12-10-7664

Inj Date : 31-DEC-2009 12:47

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |243630003|1|

Misc Info : |ECD82P_1S|937679|SVA|LANL|SOIL|RE12-10-7664|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 29

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1102.sub

Target Version: 3.50

Sample Matrix: Soil

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	10.78660	% Moisture

Cpnd Variable

Local Compound Variable

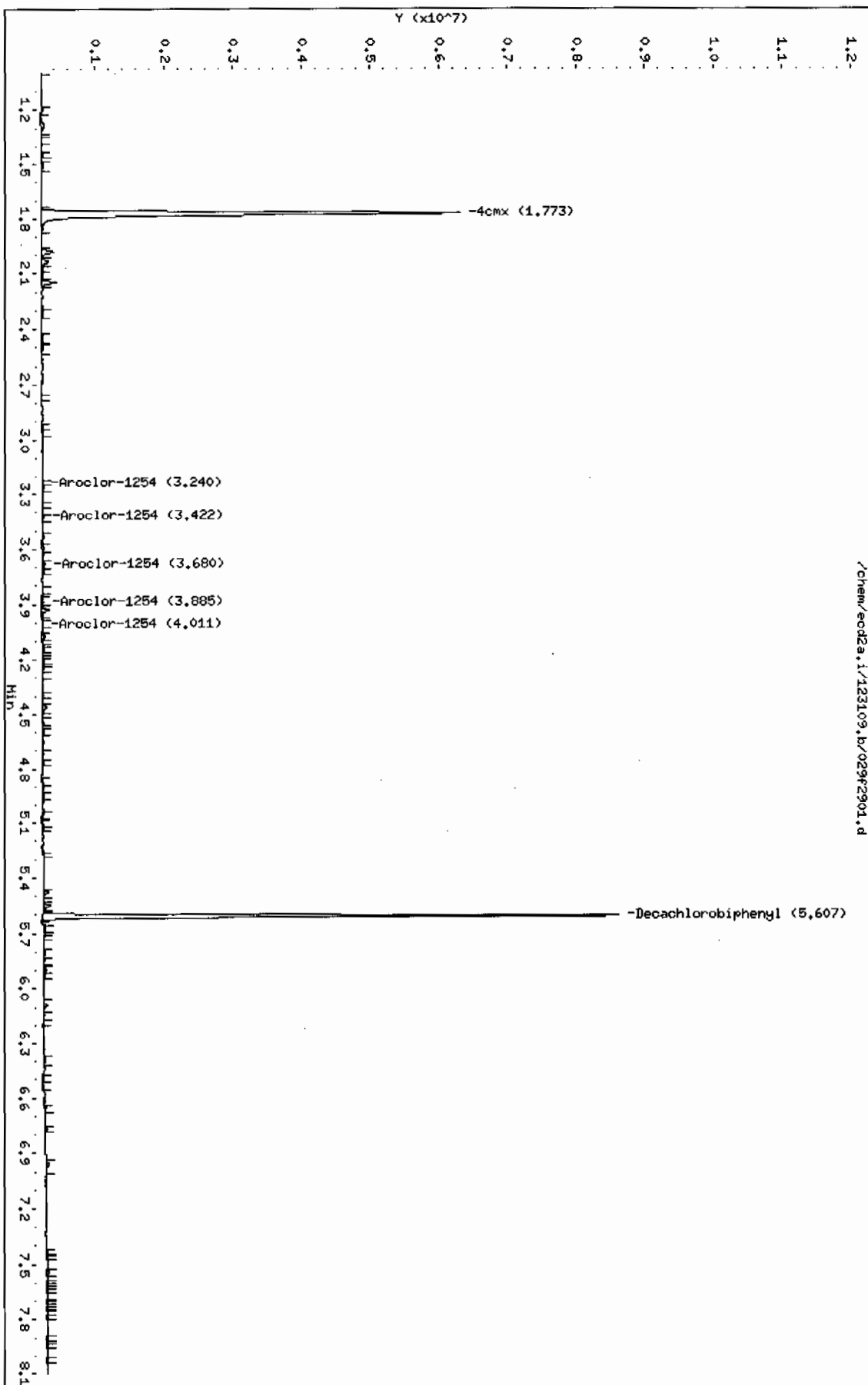
CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE (ug/L)	ON-COL	FINAL	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8		
1.773	1.772	0.001	7916836 127.093	4.7	80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.607	5.608	-0.001	7068070 130.620	4.9	80.00- 120.00	100.00	

Data File: /chem/eod2a.i/123109.b/029f2901.d
Date: 31-DEC-2009 12:47
Client ID: RE12-10-7664
Sample Info: 124363000311
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: eod2a.i
Operator: JHOC
Column diameter: 0.25

/chem/eod2a.i/123109.b/029f2901.d



Data File: /chem/ecd2a.i/123109.b/029b2901.d
Report Date: 04-Jan-2010 08:17

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/029b2901.d
Lab Smp Id: 243630003 Client Smp ID: RE12-10-7664
Inj Date : 31-DEC-2009 12:47
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243630003|1|
Misc Info : |ECD82P_1S|937679|SVA|LANL|SOIL|RE12-10-7664|||
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil

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	10.78660	% Moisture

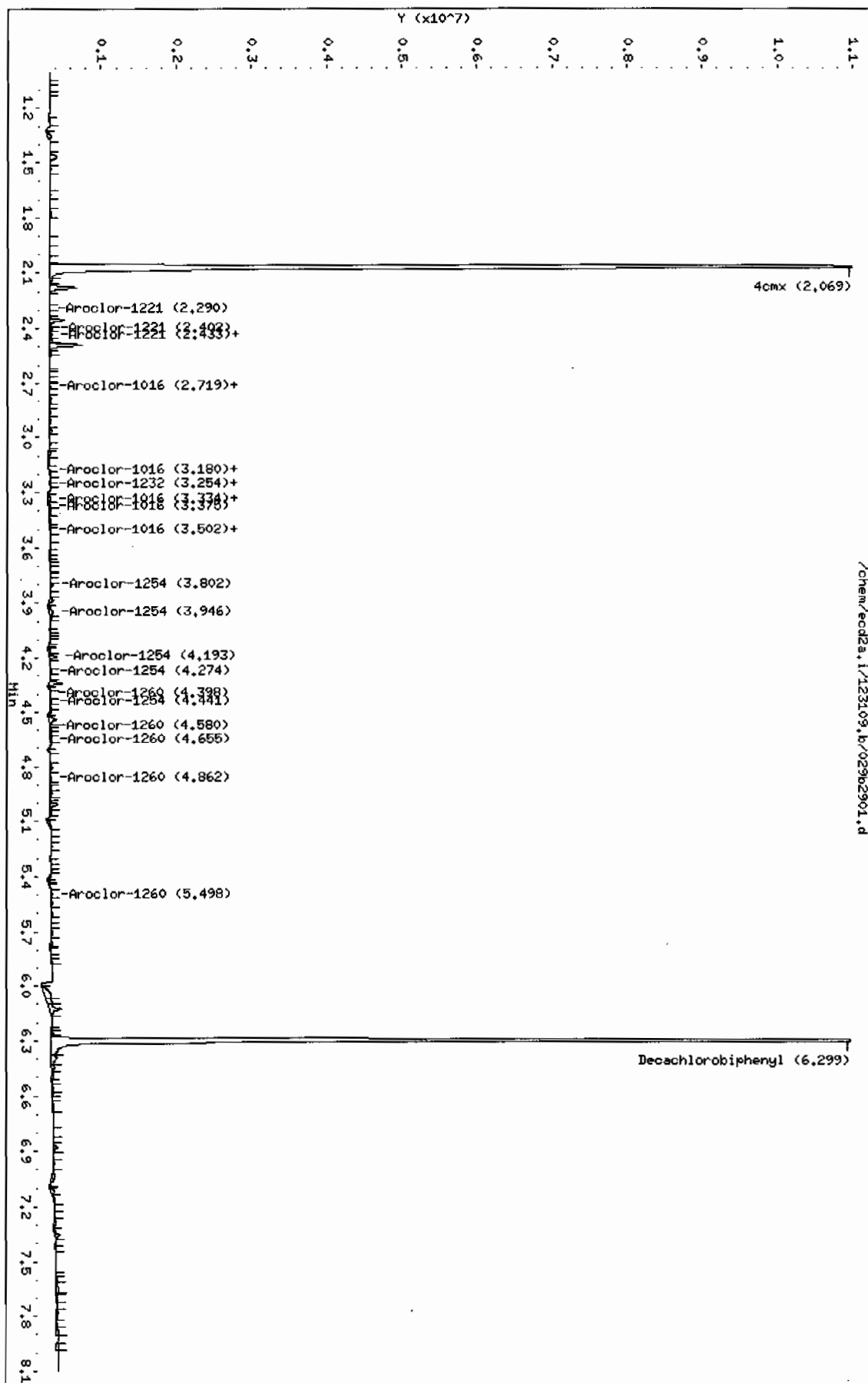
Cpnd Variable Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
----	-----	-----	-----	-----	-----	-----
\$ 11 4cmx CAS #: 877-09-8						
2.069	2.069	0.000	17513223	135.428	5.0 80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
6.299	6.300	-0.001	16625116	147.408	5.5 80.00- 120.00	100.00

Data File: /chem/ecd2a.i/123109.b/029b2901.d
Date : 31-DEC-2009 12:47
Client ID: REL2-10-7664
Sample Info: 1243630003111
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd2a.i
Operator: JACD
Column diameter: 0.25



STANDARDS DATA

Report Date: 04-Jan-2010 08:44

Calibration History

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
Start Cal Date: 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008f0801.d
12-NOV-2009 16:22	AR1268	/chem/ecd2a.i/111209a.b/035f3501.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011f1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023f2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003f0301.d
14-DEC-2009 08:51	AR1660	/chem/ecd2a.i/121409.b/011f1101.d
Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009f0901.d
12-NOV-2009 16:33	AR1268	/chem/ecd2a.i/111209a.b/036f3601.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012f1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024f2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004f0401.d
14-DEC-2009 09:02	AR1660	/chem/ecd2a.i/121409.b/012f1201.d
Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010f1001.d
12-NOV-2009 16:44	AR1268	/chem/ecd2a.i/111209a.b/037f3701.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013f1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025f2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005f0501.d
14-DEC-2009 09:13	AR1660	/chem/ecd2a.i/121409.b/013f1301.d
Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014f1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026f2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006f0601.d
14-DEC-2009 09:24	AR1660	/chem/ecd2a.i/121409.b/014f1401.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010f1001.d
12-NOV-2009 16:55	AR1268	/chem/ecd2a.i/111209a.b/038f3801.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011f1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007f0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006f0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012f1201.d
12-NOV-2009 17:07	AR1268	/chem/ecd2a.i/111209a.b/039f3901.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015f1501.d

12-NOV-2009 14:53 AR1242	/chem/ecd2a.i/111209a.b/027f2701.d
30-NOV-2009 09:27 AR1254	/chem/ecd2a.i/113009a.b/007f0701.d
14-DEC-2009 09:35 AR1660	/chem/ecd2a.i/121409.b/015f1501.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 14:16 AR1660	/chem/ecd2a.i/123109.b/037f3701.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 12:58 AR1660	/chem/ecd2a.i/123109.b/030f3001.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 11:08 AR1660	/chem/ecd2a.i/123109.b/020f2001.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 09:11 AR1268	/chem/ecd2a.i/123109.b/010f1001.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 09:00 AR1262	/chem/ecd2a.i/123109.b/009f0901.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 08:49 AR1221	/chem/ecd2a.i/123109.b/008f0801.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 08:38 AR1232	/chem/ecd2a.i/123109.b/007f0701.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 08:15 AR1248	/chem/ecd2a.i/123109.b/005f0501.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 08:04 AR1242	/chem/ecd2a.i/123109.b/004f0401.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 07:53 AR1254	/chem/ecd2a.i/123109.b/003f0301.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 08:26 AR1660	/chem/ecd2a.i/123109.b/006f0601.d
Ccal Level: 4 , Ccal Amount: 1000	
31-DEC-2009 07:42 AR1660	/chem/ecd2a.i/123109.b/002f0201.d

Report Date: 04-Jan-2010 08:44

Calibration History

Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
Start Cal Date: 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008b0801.d
12-NOV-2009 16:22	AR1268	/chem/ecd2a.i/111209a.b/035b3501.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011b1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023b2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003b0301.d
14-DEC-2009 08:51	AR1660	/chem/ecd2a.i/121409.b/011b1101.d
Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009b0901.d
12-NOV-2009 16:33	AR1268	/chem/ecd2a.i/111209a.b/036b3601.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012b1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024b2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004b0401.d
14-DEC-2009 09:02	AR1660	/chem/ecd2a.i/121409.b/012b1201.d
Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010b1001.d
12-NOV-2009 16:44	AR1268	/chem/ecd2a.i/111209a.b/037b3701.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013b1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025b2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005b0501.d
14-DEC-2009 09:13	AR1660	/chem/ecd2a.i/121409.b/013b1301.d
Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014b1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026b2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006b0601.d
14-DEC-2009 09:24	AR1660	/chem/ecd2a.i/121409.b/014b1401.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010b1001.d
12-NOV-2009 16:55	AR1268	/chem/ecd2a.i/111209a.b/038b3801.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011b1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007b0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006b0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012b1201.d
12-NOV-2009 17:07	AR1268	/chem/ecd2a.i/111209a.b/039b3901.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015b1501.d
12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027b2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007b0701.d
14-DEC-2009 09:35	AR1660	/chem/ecd2a.i/121409.b/015b1501.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 14:16	AR1660	/chem/ecd2a.i/123109.b/037b3701.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 12:58	AR1660	/chem/ecd2a.i/123109.b/030b3001.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 11:08	AR1660	/chem/ecd2a.i/123109.b/020b2001.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 09:11	AR1268	/chem/ecd2a.i/123109.b/010b1001.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 08:49	AR1221	/chem/ecd2a.i/123109.b/008b0801.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 08:38	AR1232	/chem/ecd2a.i/123109.b/007b0701.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 08:15	AR1248	/chem/ecd2a.i/123109.b/005b0501.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 08:04	AR1242	/chem/ecd2a.i/123109.b/004b0401.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 07:53	AR1254	/chem/ecd2a.i/123109.b/003b0301.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 08:26	AR1660	/chem/ecd2a.i/123109.b/006b0601.d
Ccal Level: 4 , Ccal Amount: 1000		
31-DEC-2009 07:42	AR1660	/chem/ecd2a.i/123109.b/002b0201.d

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
 Quant Method : ESTD Target Version : 3.50
 Last Update : 04-Jan-2010 08:01 Number of Cpnds : 15
 Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	500.000000
Initial:End Threshold	250.000000
Initial:Area Threshold	10000.000000
Initial:P-P Resolution	1.000000
Initial:Bunch Factor	2.000000
Initial:Negative Peaks	OFF
Initial:Tension	1.100000
8.500:Bunch Factor	2.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.274	2.244-2.304	2.238e+03
	2.598	2.568-2.628	4.685e+03
	2.689	2.659-2.719	1.901e+03
	2.824	2.794-2.854	9.760e+02
	2.975	2.945-3.005	1.458e+03
2 Aroclor-1221	1.439	1.409-1.469	4.641e+02
	1.900	1.870-1.930	6.570e+02
	1.999	1.969-2.029	3.467e+02
3 Aroclor-1232	2.025	1.995-2.055	1.165e+03
	2.273	2.243-2.303	9.314e+02
	2.688	2.658-2.718	8.004e+02
	2.731	2.701-2.761	5.102e+02
4 Aroclor-1242	2.974	2.944-3.004	5.840e+02
	2.275	2.245-2.305	1.733e+03
	2.689	2.659-2.719	1.484e+03
	2.732	2.702-2.762	9.058e+02
	2.824	2.794-2.854	7.269e+02
5 Aroclor-1248	2.975	2.945-3.005	1.120e+03
	2.824	2.794-2.854	1.527e+03
	2.975	2.945-3.005	2.027e+03
	3.035	3.005-3.065	1.571e+03
	3.269	3.239-3.299	2.218e+03
	3.422	3.392-3.452	1.913e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Compound	RT	RT Window	RF
6 Aroclor-1254	3.241	3.211-3.271	2.080e+03
	3.424	3.394-3.454	2.772e+03
	3.694	3.664-3.724	3.742e+03
	3.885	3.855-3.915	2.783e+03
	4.014	3.984-4.044	2.760e+03
7 Aroclor-1260	4.015	3.985-4.045	4.165e+03
	4.287	4.257-4.317	2.591e+03
	4.452	4.422-4.482	2.631e+03
	4.664	4.634-4.694	6.088e+03
	4.854	4.824-4.884	2.942e+03
8 Aroclor-1262	3.823	3.793-3.853	2.273e+03
	4.015	3.985-4.045	3.072e+03
	4.286	4.256-4.316	4.004e+03
	4.452	4.422-4.482	3.573e+03
	4.854	4.824-4.884	2.501e+03
9 Aroclor-1268	4.884	4.854-4.914	9.392e+03
	4.909	4.879-4.939	9.361e+03
	5.043	5.013-5.073	7.073e+03
	5.281	5.251-5.311	3.056e+03
	5.478	5.448-5.508	2.201e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
\$ 11 4cmx	1.772	1.742-1.802	6.229e+04
\$ 12 Decachlorobiphenyl	5.608	5.578-5.638	5.411e+04
13 4,4'-DDT	4.229	4.209-4.249	5.006e+04
14 4,4'-DDD	4.036	4.016-4.056	7.298e+04
15 4,4'-DDE	3.632	3.612-3.652	7.426e+04

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Quant Method : ESTD Target Version : 3.50
 Last Update : 04-Jan-2010 08:00 Number of Cpnds : 15
 Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events Values

 Initial:Start Threshold 1000.000000
 Initial:End Threshold 500.000000
 Initial:Area Threshold 500.000000
 Initial:P-P Resolution 0.000000
 Initial:Bunch Factor 3.000000
 Initial:Negative Peaks OFF
 Initial:Tension 4.000000
 4.200:Tension 1.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.745	2.715-2.775	4.538e+03
	3.179	3.149-3.209	3.602e+03
	3.331	3.301-3.361	2.053e+03
	3.359	3.329-3.389	2.137e+03
	3.518	3.488-3.548	2.871e+03
2 Aroclor-1221	2.292	2.262-2.322	1.263e+03
	2.397	2.367-2.427	7.739e+02
	2.442	2.412-2.472	3.051e+03
3 Aroclor-1232	2.441	2.411-2.471	2.061e+03
	2.744	2.715-2.775	1.960e+03
	3.180	3.150-3.209	1.498e+03
	3.251	3.221-3.281	9.309e+02
4 Aroclor-1242	3.517	3.487-3.547	1.107e+03
	2.745	2.715-2.775	3.445e+03
	3.180	3.150-3.210	2.681e+03
	3.252	3.222-3.282	1.637e+03
	3.331	3.301-3.361	1.508e+03
5 Aroclor-1248	3.518	3.488-3.548	2.145e+03
	3.330	3.300-3.360	3.282e+03
	3.518	3.488-3.548	4.187e+03
	3.603	3.573-3.633	4.451e+03
	3.793	3.763-3.823	4.697e+03
	3.823	3.793-3.853	5.389e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m

Compound	RT	RT Window	RF
6 Aroclor-1254	3.817	3.787-3.847	4.985e+03
	3.958	3.928-3.988	5.799e+03
	4.195	4.165-4.225	4.023e+03
	4.276	4.246-4.306	7.731e+03
	4.439	4.409-4.469	5.608e+03
7 Aroclor-1260	4.414	4.384-4.444	5.767e+03
	4.565	4.535-4.595	7.124e+03
	4.677	4.647-4.707	4.819e+03
	4.874	4.844-4.904	5.632e+03
	5.500	5.470-5.530	9.038e+03
8 Aroclor-1262	4.415	4.385-4.445	4.703e+03
	4.566	4.536-4.596	5.853e+03
	4.875	4.845-4.905	8.946e+03
	5.075	5.045-5.105	7.772e+03
	5.253	5.223-5.283	1.672e+04
9 Aroclor-1268	5.498	5.468-5.528	2.032e+04
	5.531	5.501-5.561	2.018e+04
	5.702	5.672-5.732	1.496e+04
	5.902	5.872-5.932	6.438e+03
	6.126	6.096-6.156	4.409e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
\$ 11 4cmx	2.069	2.039-2.099	1.293e+05
\$ 12 Decachlorobiphenyl	6.300	6.270-6.330	1.128e+05
13 4,4'-DDT	4.814	4.794-4.834	8.705e+04
14 4,4'-DDD	4.600	4.580-4.620	1.499e+05
15 4,4'-DDE	4.195	4.175-4.215	1.504e+05

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
 End Cal Date : 14-DEC-2009 09:35
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
 Cal Date : 04-Jan-2010 08:01 jen01212
 Curve Type : Average

Calibration File Names:

Level 1: /chem/ecd2a.i/120209.b/008f0801.d
 Level 2: /chem/ecd2a.i/120209.b/009f0901.d
 Level 3: /chem/ecd2a.i/120209.b/010f1001.d
 Level 4: /chem/ecd2a.i/113009a.b/014f1401.d
 Level 5: /chem/ecd2a.i/120209.b/012f1201.d

Compound	100.000	250.000	500.000	1000.000	4000.000	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5			
1 Aroclor-1016(1)	2466	2335	2250	2152	1986	2238	8.133
(2)	4869	4683	4664	4616	4594	4685	2.323
(3)	2072	1962	1892	1818	1764	1901	6.365
(4)	1061	990	984	930	915	976	5.885
(5)	1595	1490	1441	1389	1375	1458	6.121
2 Aroclor-1221(1)	++++	++++	++++	464	++++	464	0.000
(2)	++++	++++	++++	657	++++	657	0.000
(3)	++++	++++	++++	347	++++	347	0.000
3 Aroclor-1232(1)	++++	++++	++++	1165	++++	1165	0.000
(2)	++++	++++	++++	931	++++	931	0.000
(3)	++++	++++	++++	800	++++	800	0.000
(4)	++++	++++	++++	510	++++	510	0.000
(5)	++++	++++	++++	584	++++	584	0.000
4 Aroclor-1242(1)	1990	1799	1692	1619	1566	1733	9.686
(2)	1678	1536	1439	1387	1381	1484	8.410
(3)	1015	931	874	843	866	906	7.639
(4)	817	761	714	669	673	727	8.615
(5)	1272	1143	1059	1036	1087	1120	8.434
5 Aroclor-1248(1)	1738	1529	1527	1515	1325	1527	9.560
(2)	2238	2070	1990	2006	1832	2027	7.247
(3)	1706	1611	1571	1551	1415	1571	6.718
(4)	2322	2198	2161	2230	2178	2218	2.874
(5)	2083	1922	1902	1885	1770	1913	5.861
6 Aroclor-1254(1)	2304	2118	2048	2007	1924	2080	6.888
(2)	2981	2797	2739	2702	2642	2772	4.677
(3)	3870	3712	3711	3744	3675	3742	2.011
(4)	2886	2776	2725	2760	2767	2783	2.186
(5)	2994	2820	2741	2711	2533	2760	6.080

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
 End Cal Date : 14-DEC-2009 09:35
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
 Cal Date : 04-Jan-2010 08:01 jen01212
 Curve Type : Average

Compound	100.000	250.000	500.000	1000.000	4000.000	RRF	% RSD
7 Aroclor-1260(1)	4187	4145	4185	4134	4175	4165	0.584
(2)	2696	2603	2589	2529	2536	2591	2.593
(3)	2699	2626	2625	2591	2614	2631	1.539
(4)	5867	6003	6142	6129	6296	6088	2.650
(5)	2925	2904	2929	2920	3034	2942	1.769
8 Aroclor-1262(1)	2530	2266	2239	2239	2092	2273	6.993
(2)	3295	3066	3031	3051	2917	3072	4.482
(3)	4237	3997	3977	3997	3815	4004	3.763
(4)	3754	3532	3556	3594	3430	3573	3.295
(5)	2578	2453	2481	2538	2454	2501	2.217
9 Aroclor-1268(1)	9077	9136	9272	9373	10103	9392	4.409
(2)	9332	9272	9238	9197	9765	9361	2.470
(3)	6985	6923	6953	6984	7523	7073	3.568
(4)	3112	3015	2984	2964	3207	3056	3.331
(5)	21397	21592	21760	21851	23464	22013	3.767
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	50063	+++++	50063	0.000
14 4,4'-DDD	+++++	+++++	+++++	72978	+++++	72978	0.000
15 4,4'-DDE	+++++	+++++	+++++	74262	+++++	74262	0.000
\$ 11 4cmx	61300	61246	62868	63075	62969	62292	1.498
\$ 12 Decachlorobiphenyl	55102	53352	54400	53360	54345	54112	1.389

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
 End Cal Date : 14-DEC-2009 09:35
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Cal Date : 04-Jan-2010 08:00 jen01212
 Curve Type : Average

Calibration File Names:

Level 1: /chem/ecd2a.i/120209.b/008b0801.d
 Level 2: /chem/ecd2a.i/120209.b/009b0901.d
 Level 3: /chem/ecd2a.i/120209.b/010b1001.d
 Level 4: /chem/ecd2a.i/113009a.b/014b1401.d
 Level 5: /chem/ecd2a.i/120209.b/012b1201.d

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	4662	4582	4609	4551	4285	4538	3.244
(2)	3647	3696	3564	3575	3528	3602	1.886
(3)	2078	2044	2044	2059	2041	2053	0.760
(4)	2149	2125	2133	2140	2136	2137	0.428
(5)	2852	2832	2882	2908	2879	2871	1.025
2 Aroclor-1221(1)	+++++	+++++	+++++	1263	+++++	1263	0.000
(2)	+++++	+++++	+++++	774	+++++	774	0.000
(3)	+++++	+++++	+++++	3051	+++++	3051	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	2061	+++++	2061	0.000
(2)	+++++	+++++	+++++	1960	+++++	1960	0.000
(3)	+++++	+++++	+++++	1498	+++++	1498	0.000
(4)	+++++	+++++	+++++	931	+++++	931	0.000
(5)	+++++	+++++	+++++	1107	+++++	1107	0.000
4 Aroclor-1242(1)	3674	3489	3409	3384	3271	3445	4.346
(2)	2815	2677	2634	2637	2644	2681	2.863
(3)	1696	1624	1594	1606	1663	1637	2.599
(4)	1601	1513	1471	1467	1487	1508	3.655
(5)	2235	2100	2068	2141	2180	2145	3.068
5 Aroclor-1248(1)	3439	3315	3263	3296	3099	3282	3.723
(2)	4291	4205	4192	4250	3996	4187	2.717
(3)	4601	4495	4377	4484	4299	4451	2.609
(4)	4665	4612	4696	4831	4682	4697	1.733
(5)	5471	5399	5390	5477	5208	5389	2.022
6 Aroclor-1254(1)	5121	4955	4998	5025	4828	4985	2.145
(2)	5885	5693	5812	5852	5753	5799	1.330
(3)	4010	3906	3992	4126	4082	4023	2.109
(4)	7559	7611	7766	7925	7797	7731	1.909
(5)	5659	5569	5439	5821	5553	5608	2.538

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
 End Cal Date : 14-DEC-2009 09:35
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Cal Date : 04-Jan-2010 08:00 jen01212
 Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
7 Aroclor-1260(1)	5735	5627	5779	5816	5877	5767	1.626
(2)	6687	7031	7243	7286	7372	7124	3.855
(3)	4572	4701	4890	4942	4988	4819	3.647
(4)	5377	5518	5714	5746	5803	5632	3.163
(5)	8369	8607	9231	9252	9728	9038	6.039
8 Aroclor-1262(1)	4855	4536	4634	4812	4677	4703	2.776
(2)	5760	5648	5834	6083	5942	5853	2.859
(3)	8687	8674	9001	9349	9021	8946	3.121
(4)	7559	7507	7790	8124	7880	7772	3.221
(5)	15890	16154	16824	17584	17141	16719	4.167
9 Aroclor-1268(1)	18829	19584	20101	20533	22559	20321	6.904
(2)	18822	19343	20333	20389	22025	20182	6.077
(3)	13874	14365	14864	15141	16565	14962	6.808
(4)	5734	6115	6404	6840	7097	6438	8.497
(5)	40707	42777	43856	44408	48724	44094	6.689
10 Aroclor-Total	++++	++++	++++	++++	++++	++++	++++
13 4,4'-DDT	++++	++++	++++	87046	++++	87046	0.000
14 4,4'-DDD	++++	++++	++++	149858	++++	149858	0.000
15 4,4'-DDE	++++	++++	++++	150414	++++	150414	0.000
11 4cmx	118604	126358	131414	133891	136323	129318	5.440
12 Decachlorobiphenyl	109662	108705	113295	113170	119083	112783	3.614

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.: 10-1102
 Instrument ID: ECD2A Calibration Date: 12/31/09 Time: 0826
 Lab File ID: 006F0601 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2177.053	0.01	-2.7	15.0
(2)	4685.268	4534.889	0.01	-3.2	15.0
(3)	1901.482	1825.958	0.01	-4.0	15.0
(4)	975.978	927.756	0.01	-4.9	15.0
(5)	1457.866	1379.679	0.01	-5.4	15.0
Aroclor-1260	4165.097	4244.333	0.01	1.9	15.0
(2)	2590.571	2715.866	0.01	4.8	15.0
(3)	2631.205	2774.898	0.01	5.5	15.0
(4)	6087.596	6495.701	0.01	6.7	15.0
(5)	2942.150	3147.238	0.01	7.0	15.0
4cmx	62291.660	62464.280	0.01	0.3	15.0
Decachlorobiphenyl	54111.563	58891.210	0.01	8.8	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.: 10-1102
 Instrument ID: ECD2A Calibration Date: 12/31/09 Time: 0826
 Lab File ID: 006B0601 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4541.640	0.01	0.1	15.0
(2)	3602.166	3527.116	0.01	-2.1	15.0
(3)	2053.230	2038.452	0.01	-0.7	15.0
(4)	2137.091	2126.014	0.01	-0.5	15.0
(5)	2870.516	2863.486	0.01	-0.2	15.0
Aroclor-1260	5766.921	5884.927	0.01	2.0	15.0
(2)	7123.891	7417.007	0.01	4.1	15.0
(3)	4818.707	5102.019	0.01	5.9	15.0
(4)	5631.757	5906.686	0.01	4.9	15.0
(5)	9037.511	9822.315	0.01	8.7	15.0
4cmx	129318.03	134216.47	0.01	3.8	15.0
Decachlorobiphenyl	112782.99	124910.28	0.01	10.8	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.: 10-1102
 Instrument ID: ECD2A Calibration Date: 12/31/09 Time: 1108
 Lab File ID: 020F2001 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2175.451	0.01	-2.8	15.0
(2)	4685.268	4599.112	0.01	-1.8	15.0
(3)	1901.482	1847.342	0.01	-2.8	15.0
(4)	975.978	914.721	0.01	-6.3	15.0
(5)	1457.866	1416.002	0.01	-2.9	15.0
Aroclor-1260	4165.097	4368.887	0.01	4.9	15.0
(2)	2590.571	2760.398	0.01	6.6	15.0
(3)	2631.205	2847.299	0.01	8.2	15.0
(4)	6087.596	6735.182	0.01	10.6	15.0
(5)	2942.150	3254.477	0.01	10.6	15.0
4cmx	62291.660	62627.220	0.01	0.5	15.0
Decachlorobiphenyl	54111.563	59084.990	0.01	9.2	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.: 10-1102
 Instrument ID: ECD2A Calibration Date: 12/31/09 Time: 1108
 Lab File ID: 020B2001 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4581.582	0.01	1.0	15.0
(2)	3602.166	3580.992	0.01	-0.6	15.0
(3)	2053.230	2060.693	0.01	0.4	15.0
(4)	2137.091	2147.150	0.01	0.5	15.0
(5)	2870.516	2908.199	0.01	1.3	15.0
Aroclor-1260	5766.921	6057.192	0.01	5.0	15.0
(2)	7123.891	7683.112	0.01	7.8	15.0
(3)	4818.707	5216.240	0.01	8.2	15.0
(4)	5631.757	6055.012	0.01	7.5	15.0
(5)	9037.511	10141.107	0.01	12.2	15.0
4cmx	129318.03	135329.97	0.01	4.6	15.0
Decachlorobiphenyl	112782.99	124305.71	0.01	10.2	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.: 10-1102
 Instrument ID: ECD2A Calibration Date: 12/31/09 Time: 1258
 Lab File ID: 030F3001 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2167.551	0.01	-3.1	15.0
(2)	4685.268	4604.554	0.01	-1.7	15.0
(3)	1901.482	1844.440	0.01	-3.0	15.0
(4)	975.978	954.673	0.01	-2.2	15.0
(5)	1457.866	1403.800	0.01	-3.7	15.0
Aroclor-1260	4165.097	4346.586	0.01	4.4	15.0
(2)	2590.571	2729.682	0.01	5.4	15.0
(3)	2631.205	2799.018	0.01	6.4	15.0
(4)	6087.596	6645.024	0.01	9.2	15.0
(5)	2942.150	3211.558	0.01	9.2	15.0
4cmx	62291.660	62627.190	0.01	0.5	15.0
Decachlorobiphenyl	54111.563	57715.650	0.01	6.7	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.: 10-1102
 Instrument ID: ECD2A Calibration Date: 12/31/09 Time: 1258
 Lab File ID: 030B3001 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4568.406	0.01	0.7	15.0
(2)	3602.166	3587.799	0.01	-0.4	15.0
(3)	2053.230	2073.127	0.01	1.0	15.0
(4)	2137.091	2160.907	0.01	1.1	15.0
(5)	2870.516	2909.755	0.01	1.4	15.0
Aroclor-1260	5766.921	6041.414	0.01	4.8	15.0
(2)	7123.891	7695.382	0.01	8.0	15.0
(3)	4818.707	5222.809	0.01	8.4	15.0
(4)	5631.757	5973.222	0.01	6.1	15.0
(5)	9037.511	9899.434	0.01	9.5	15.0
4cmx	129318.03	135195.80	0.01	4.5	15.0
Decachlorobiphenyl	112782.99	116751.52	0.01	3.5	15.0

FORM VII PEST

Data File: /chem/ecd2a.i/123109.b/003f0301.d
 Report Date: 04-Jan-2010 08:14

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/003f0301.d

Lab Smp Id: WAR091216-54 Client Smp ID: AR125401

Inj Date : 31-DEC-2009 07:53

Operator : JAOC Inst ID: ecd2a.i

Smp Info : |WAR091216-54

Misc Info : |PCB_CVS|1254||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d

Als bottle: 3 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon Compound Sublist: AR1254.sub

Target Version: 3.50 Sample Matrix: None

AMOUNTS

			CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx				CAS #: 877-09-8			
1.773	1.772	0.001	6854959 100.000	110	80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.607	5.608	-0.001	6470501 100.000	120	80.00- 120.00	100.00	

6 Aroclor-1254				CAS #: 11097-69-1			
3.241	3.241	0.000	1992086 1000.00	958	80.00- 120.00	100.00	
3.424	3.424	0.000	2639738 1000.00	952	112.51- 152.51	132.51	
3.694	3.694	0.000	3653581 1000.00	976	163.40- 203.40	183.40	
3.885	3.885	0.000	2701508 1000.00	971	115.61- 155.61	135.61	
4.014	4.014	0.000	2783549 1000.00	1010	119.73- 159.73	139.73	
Average of Peak Amounts =				973			

Data File: /chem/ecod2a.i/123109.b/003f0301.d

Date: 31-DEC-2009 07:53

Client ID: AR125401

Sample Info: 146R091216-54

Column phase: CLP1

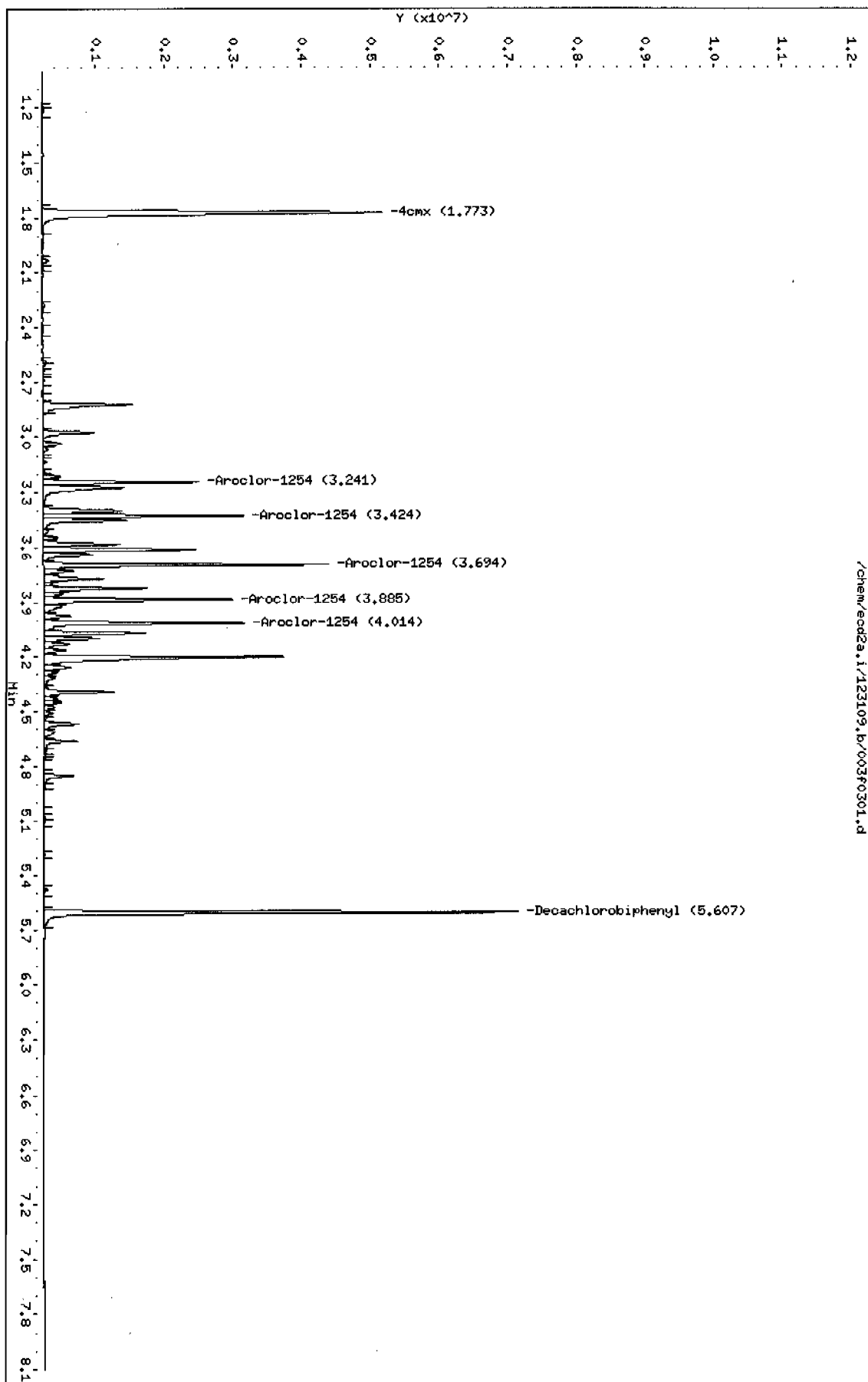
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Instrument: ecod2a.i

Operator: J40C

Column diameter: 0.25

/chem/ecod2a.i/123109.b/003f0301.d



Data File: /chem/ecd2a.i/123109.b/003b0301.d
Report Date: 04-Jan-2010 08:14

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/003b0301.d
Lab Smp Id: WAR091216-54 Client Smp ID: AR125401
Inj Date : 31-DEC-2009 07:53
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091216-54
Misc Info : |PCB_CVS|1254||CVS|
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1254.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS						
			CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx				CAS #: 877-09-8		
2.069	2.069	0.000	14923306 100.000	115	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.300	6.300	0.000	13835961 100.000	123	80.00- 120.00	100.00

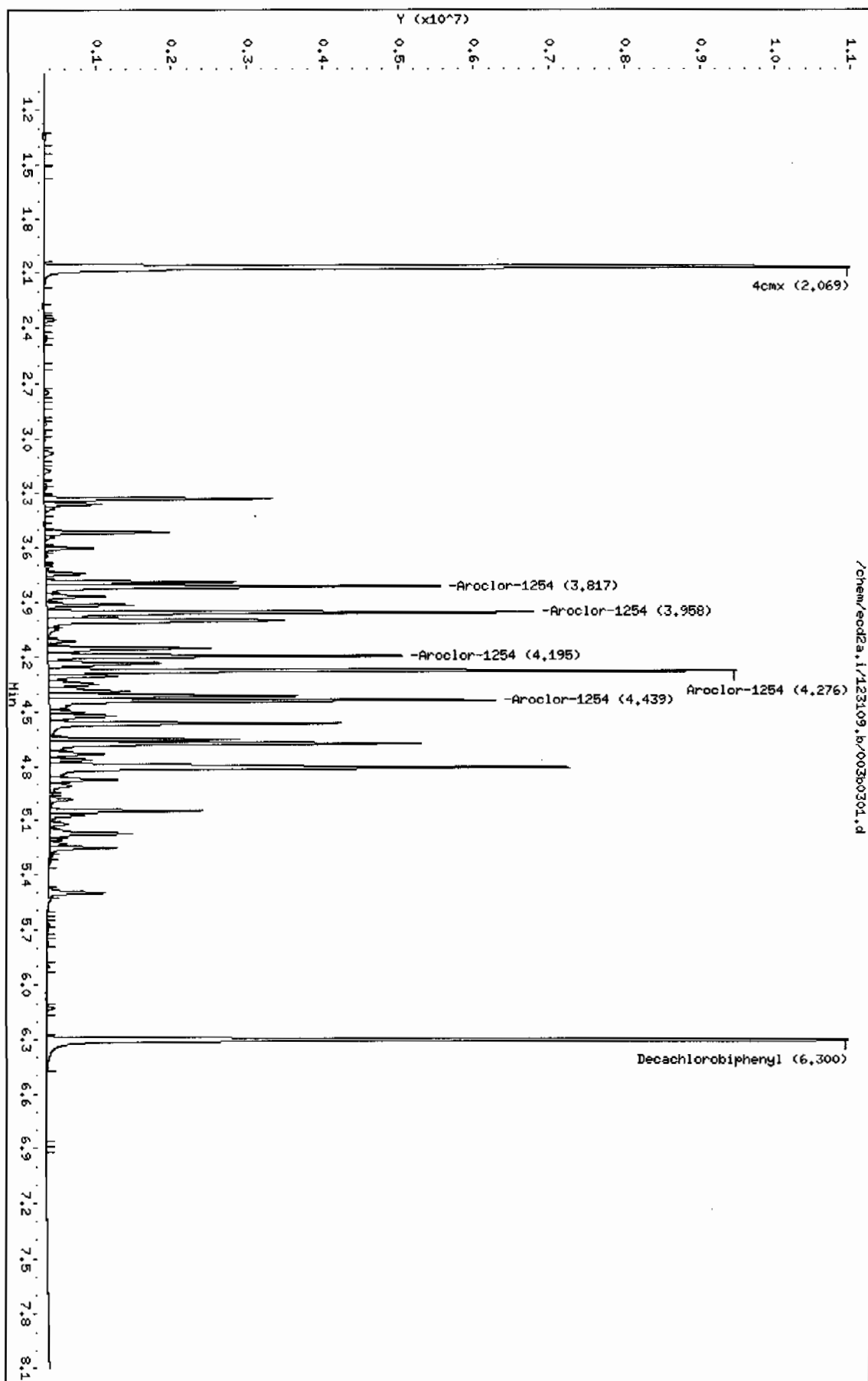
6 Aroclor-1254				CAS #: 11097-69-1		
3.817	3.817	0.000	4938469 1000.00	991	80.00- 120.00	100.00
3.958	3.958	0.000	5626923 1000.00	970	93.94- 133.94	113.94
4.195	4.195	0.000	4024489 1000.00	1000	61.49- 101.49	81.49
4.276	4.276	0.000	7708238 1000.00	997	136.09- 176.09	156.09
4.439	4.439	0.000	5503412 1000.00	981	91.44- 131.44	111.44
Average of Peak Amounts =				988		

Data File: /chem/ecd2a.i/123109.b/00360301.d
Date : 31-DEC-2009 07:53
Client ID: AR125401
Sample Info: 1MAR091216-54

Column phase: CLP2

Instrument: ecd2a.i
Operator: J90C
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/004f0401.d

Lab Smp Id: WAR091217-42

Client Smp ID: AR124201

Inj Date : 31-DEC-2009 08:04

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091217-42

Misc Info : |PCB_CVS|1242||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 4

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1242.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
1.773	1.772	0.001	6933955	100.000	111	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.608	5.608	0.000	6549118	100.000	121	80.00- 120.00	100.00

4 Aroclor-1242					CAS #: 53469-21-9		
2.275	2.275	0.000	1822573	1000.00	1050	80.00- 120.00	100.00
2.689	2.689	0.000	1517681	1000.00	1020	63.27- 103.27	83.27
2.732	2.732	0.000	935418	1000.00	1030	31.32- 71.32	51.32
2.824	2.824	0.000	759872	1000.00	1040	21.69- 61.69	41.69
2.975	2.975	0.000	1158382	1000.00	1030	43.56- 83.56	63.56
Average of Peak Amounts =					1.04e+03		

Data File: /chem/eod2a.i/123109.b/004f0401.d

Date: 31-DEC-2009 08:04

Client ID: AR124201

Sample Info: 1MAR091217-42

Column phase: CLP1

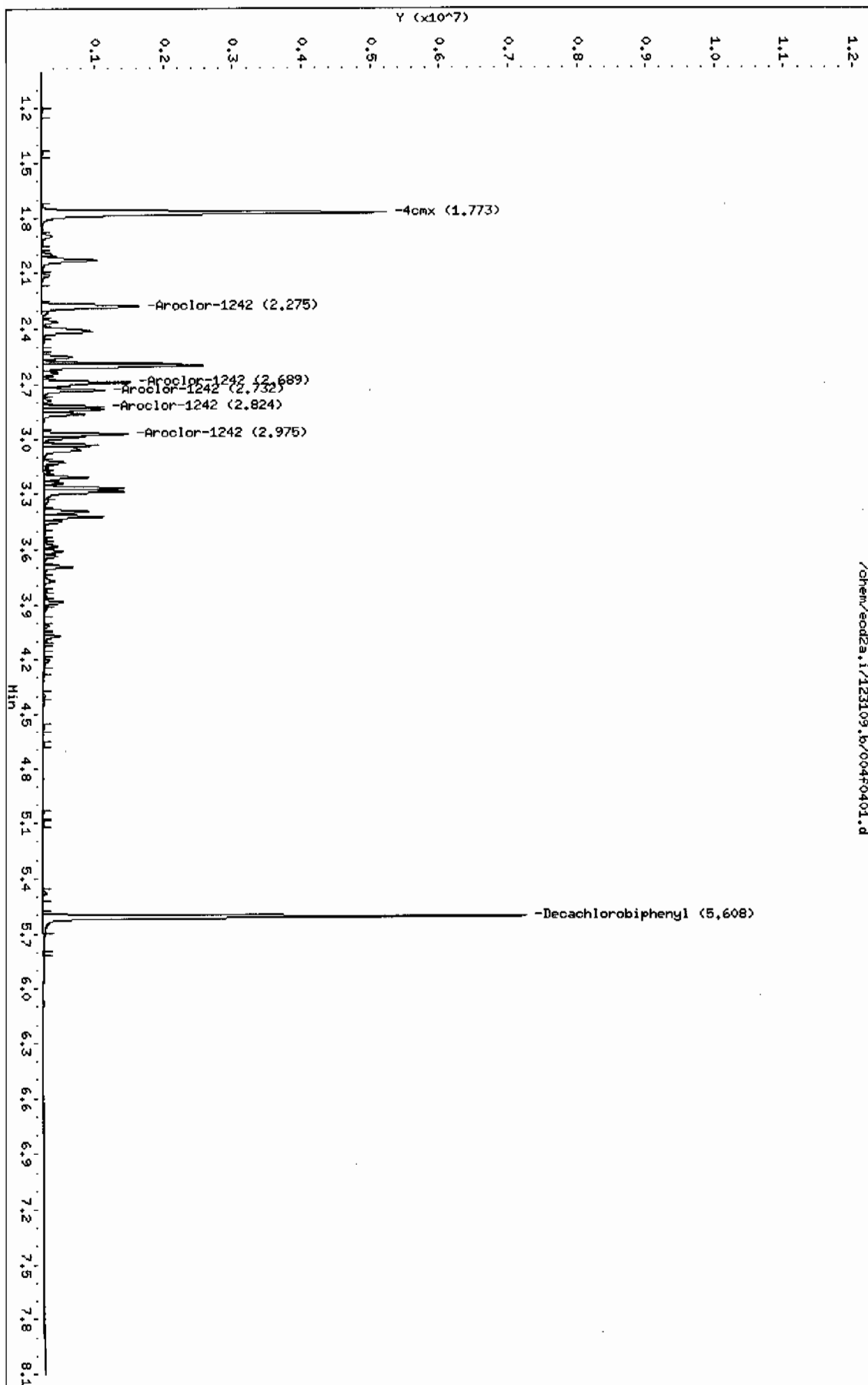
Instrument: eod2a.i

Operator: JADC

Column diameter: 0.25

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/chem/eod2a.i/123109.b/004f0401.d



Data File: /chem/ecd2a.i/123109.b/004b0401.d
Report Date: 04-Jan-2010 08:14

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/004b0401.d
Lab Smp Id: WAR091217-42 Client Smp ID: AR124201
Inj Date : 31-DEC-2009 08:04
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091217-42
Misc Info : |PCB_CVS|1242||CVS|
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 4 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO

\$ 11 4cmx				CAS #: 877-09-8		
2.070	2.069	0.001	15022819 100.000	116	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.300	6.300	0.000	14003896 100.000	124	80.00- 120.00	100.00

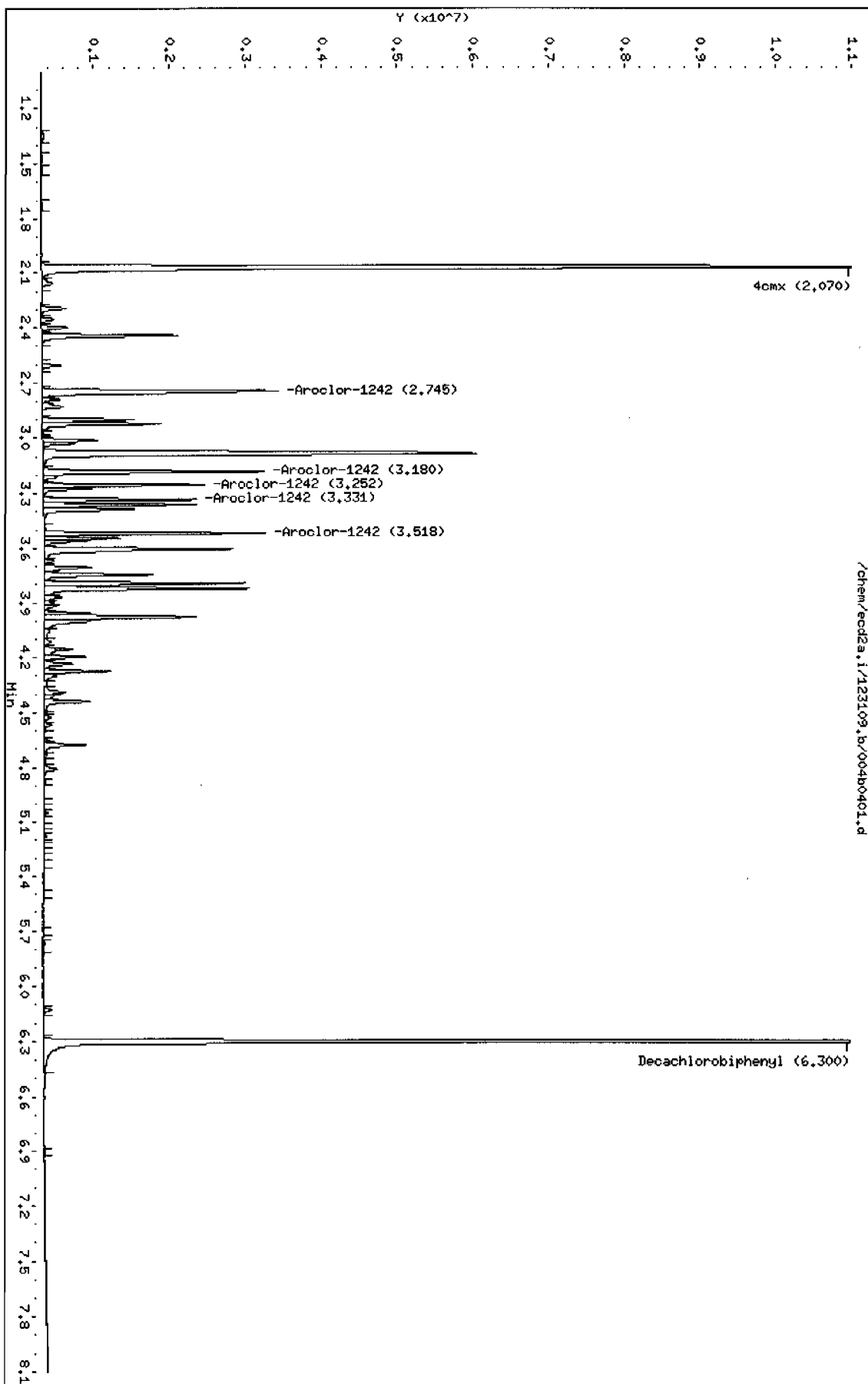
4 Aroclor-1242				CAS #: 53469-21-9		
2.745	2.745	0.000	3823027 1000.00	1110	80.00- 120.00	100.00
3.180	3.180	0.000	2891050 1000.00	1080	55.62- 95.62	75.62
3.252	3.252	0.000	1726613 1000.00	1060	25.16- 65.16	45.16
3.331	3.331	0.000	1630369 1000.00	1080	22.65- 62.65	42.65
3.518	3.518	0.000	2379103 1000.00	1110	42.23- 82.23	62.23
Average of Peak Amounts =			1.09e+03			

Data File: /chem/ecd2a.i/123109.b/004b0401.d
Date : 31-DEC-2009 08:04
Client ID: AR124201
Sample Info: 1MAR091217-42

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Column phase: CLP2

Instrument: ecd2a.i
Operator: J60C
Column diameter: 0.25



Data File: /chem/ecd2a.i/123109.b/005f0501.d
Report Date: 04-Jan-2010 09:26

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/005f0501.d

Lab Smp Id: WAR091217-48 Client Smp ID: AR124801

Inj Date : 31-DEC-2009 08:15

Operator : JAOC Inst ID: ecd2a.i

Smp Info : |WAR091217-48

Misc Info : |PCB_CVS|1248||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 09:25 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d

Als bottle: 5 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon Compound Sublist: AR1248.sub

Target Version: 3.50 Sample Matrix: None

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT	ON-COL	TARGET RANGE	RATIO
==	=====	=====	RESPONSE (ug/L)	(ug/L)	=====	=====
<hr/>						
\$ 11 4cmx				CAS #: 877-09-8		
1.773	1.772	0.001	7658899 100.000	123 80.00- 120.00	100.00	
<hr/>						
\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
5.608	5.608	0.000	7261271 100.000	134 80.00- 120.00	100.00	
<hr/>						
5 Aroclor-1248				CAS #: 12672-29-6		
2.824	2.824	0.000	1574202 1000.00	1030 80.00- 120.00	100.00(M)	
2.975	2.975	0.000	2102325 1000.00	1040 113.55- 153.55	133.55	
3.035	3.035	0.000	1657408 1000.00	1060 85.29- 125.29	105.29	
3.269	3.269	0.000	2306614 1000.00	1040 126.53- 166.53	146.53	
3.422	3.422	0.000	1958216 1000.00	1020 104.39- 144.39	124.39	
Average of Peak Amounts =			1.04e+03			

QC Flag Legend

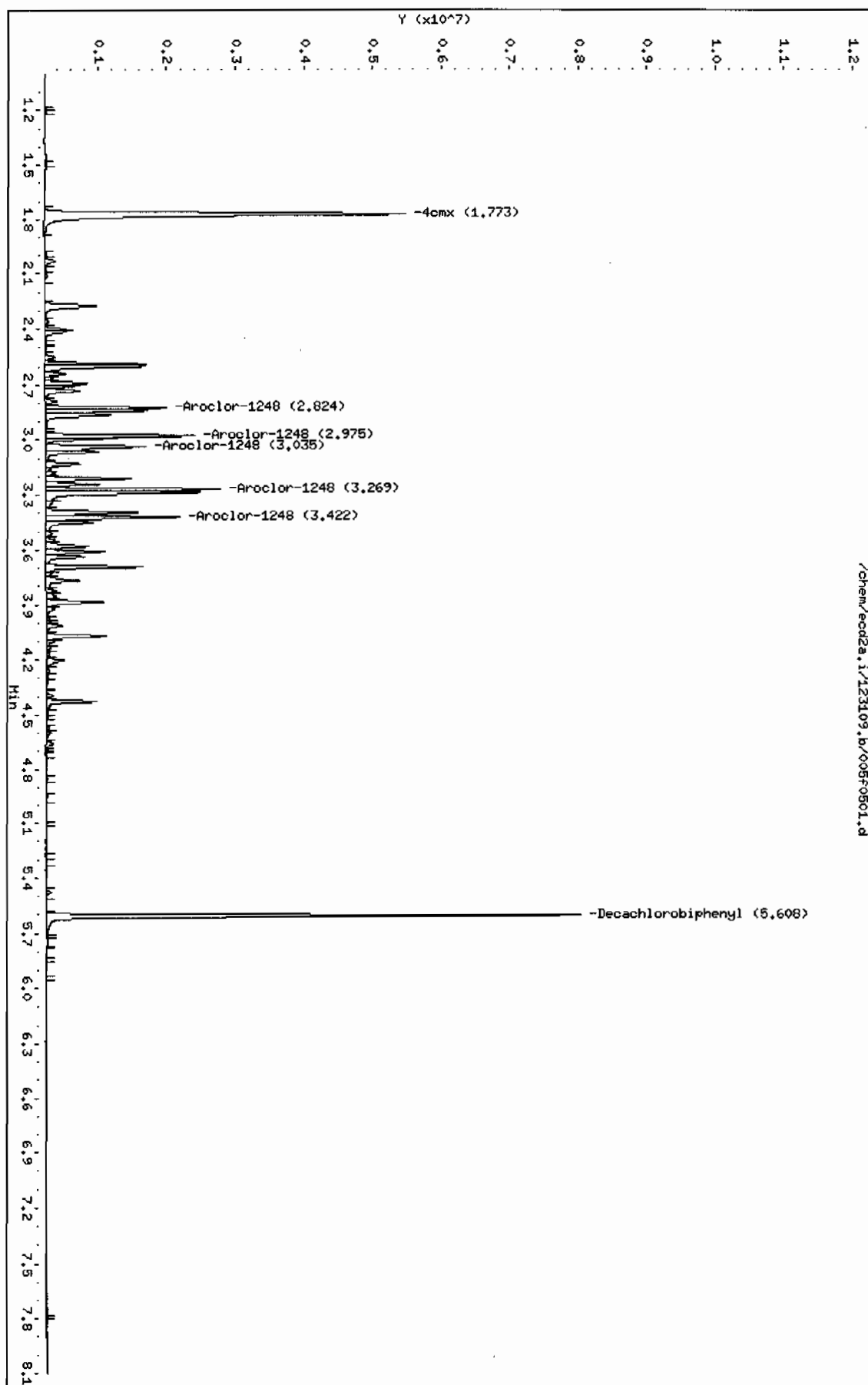
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Data File: /chem/ecod2a.i/123109.b/005f0501.d
Date: 31-DEC-2009 08:15
Client ID: AR124801
Sample Info: 14R091217-48

Column phase: CLP1

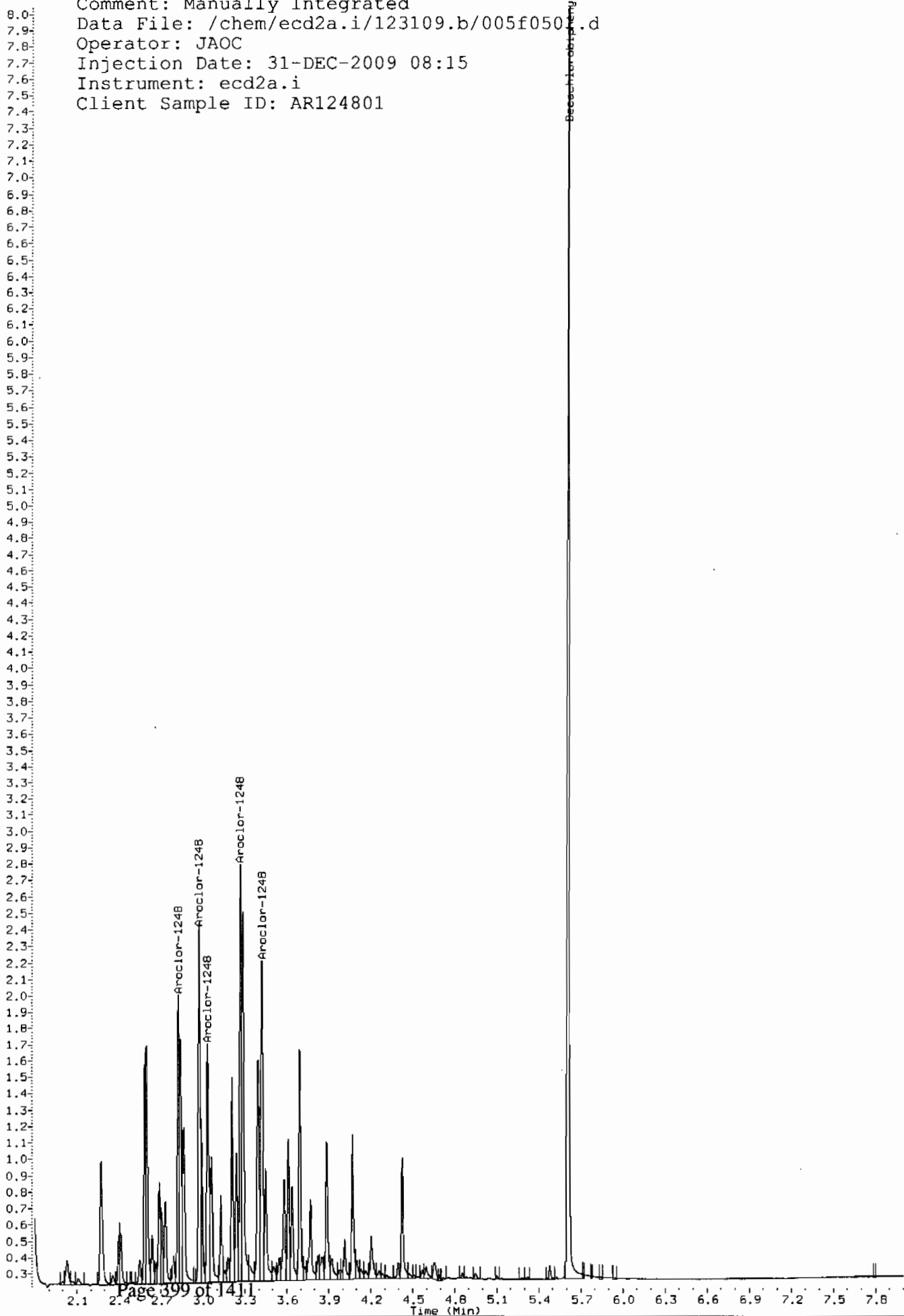
Instrument: ecod2a.i
Operator: JADC
Column diameter: 0.25

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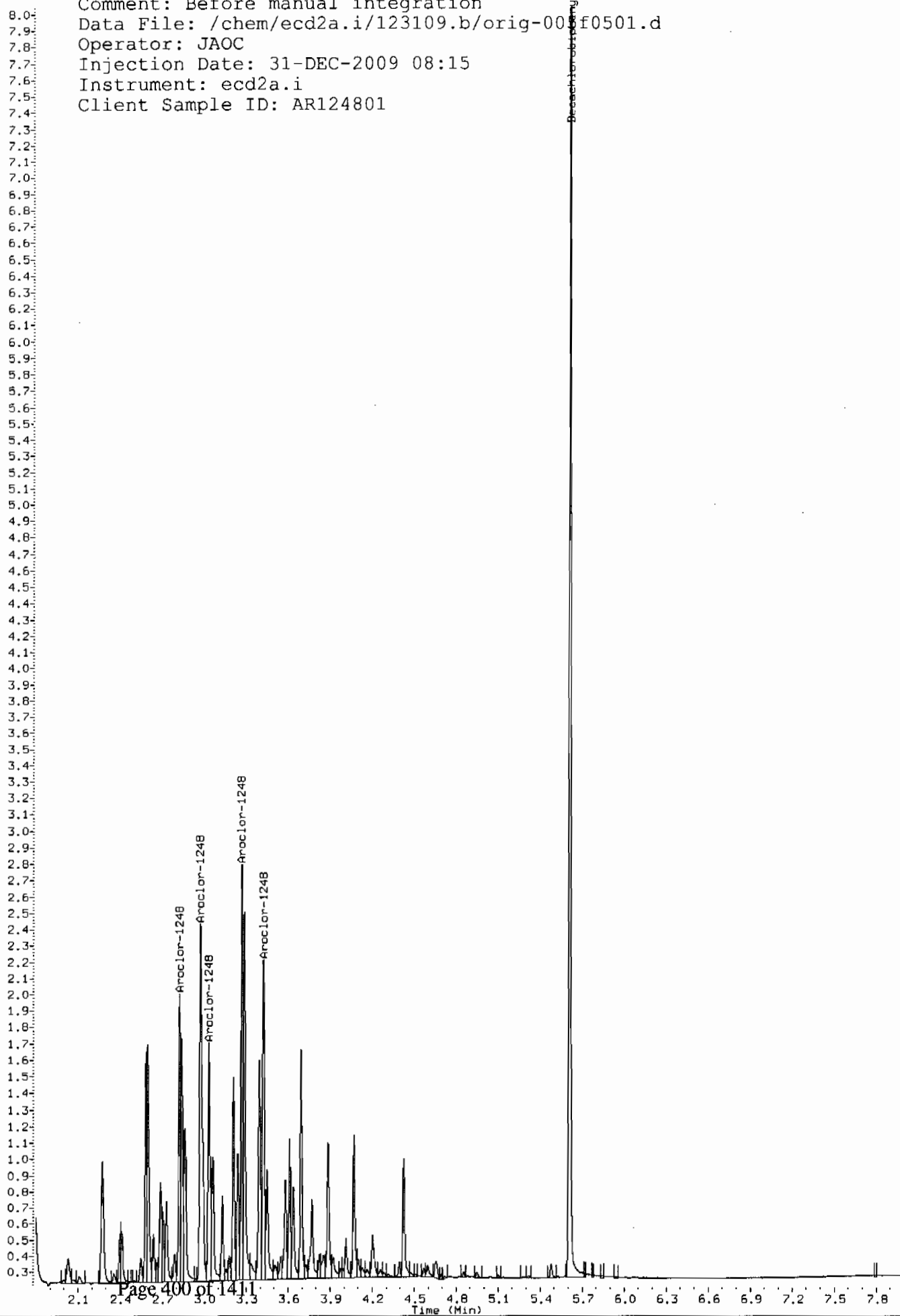
Comment: Manually Integrated
Data File: /chem/ecd2a.i/123109.b/005f050.d
Operator: JAOC
Injection Date: 31-DEC-2009 08:15
Instrument: ecd2a.i
Client Sample ID: AR124801

Y (x10⁻⁶)



Comment: Before manual integration
Data File: /chem/ecd2a.i/123109.b/orig-000f0501.d
Operator: JAOC
Injection Date: 31-DEC-2009 08:15
Instrument: ecd2a.i
Client Sample ID: AR124801

Y (x10⁻⁵)



Data File: /chem/ecd2a.i/123109.b/005b0501.d
Report Date: 04-Jan-2010 08:14

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/005b0501.d

Lab Smp Id: WAR091217-48 Client Smp ID: AR124801

Inj Date : 31-DEC-2009 08:15

Operator : JAOC Inst ID: ecd2a.i

Smp Info : |WAR091217-48

Misc Info : |PCB_CVS|1248||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m

Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d

Als bottle: 5 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon Compound Sublist: AR1248.sub

Target Version: 3.50 Sample Matrix: None

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO

\$ 11 4cmx				CAS #: 877-09-8		
2.069	2.069	0.000	15354811 100.000	119	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.300	6.300	0.000	15414376 100.000	137	80.00- 120.00	100.00

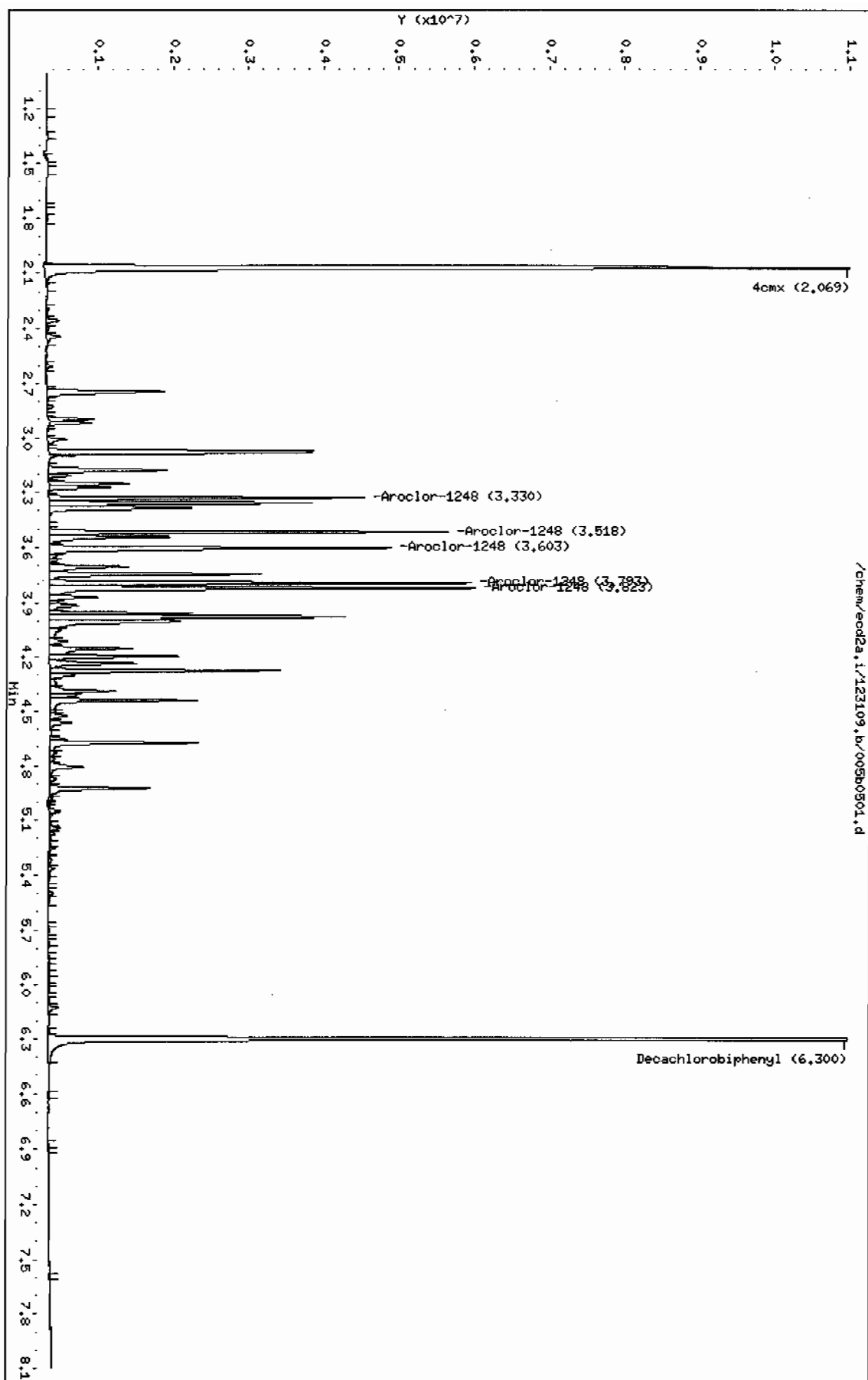
5 Aroclor-1248				CAS #: 12672-29-6		
3.330	3.330	0.000	3396578 1000.00	1030	80.00- 120.00	100.00
3.518	3.518	0.000	4364397 1000.00	1040	108.49- 148.49	128.49
3.603	3.603	0.000	4574852 1000.00	1030	114.69- 154.69	134.69
3.793	3.793	0.000	4810706 1000.00	1020	121.63- 161.63	141.63
3.823	3.823	0.000	5689167 1000.00	1060	147.50- 187.50	167.50
Average of Peak Amounts =			1.04e+03			

Data File: /chem/eod2a.i/123109.b/005b0501.d
Date : 31-DEC-2009 08:15
Client ID: AR124801
Sample Info: 1MR091217-48

Column phase: CLP2

Instrument: eod2a.i
Operator: JHOC
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/006f0601.d

Lab Smp Id: WAR091231-60 01

Client Smp ID: AR166001

Inj Date : 31-DEC-2009 08:26

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091231-60 01

Misc Info : |PCB_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 6

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS						
			CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====

\$ 11 4cmx					CAS #: 877-09-8	
1.772	1.772	0.000	6246428 100.000	100	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
5.608	5.608	0.000	5889121 100.000	109	80.00- 120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2	
2.274	2.274	0.000	2177053 1000.00	973	80.00- 120.00	100.00
2.598	2.598	0.000	4534889 1000.00	968	192.27- 232.27	208.30
2.689	2.689	0.000	1825958 1000.00	960	65.25- 105.25	83.87
2.824	2.824	0.000	927756 1000.00	950	22.83- 62.83	42.62
2.975	2.975	0.000	1379679 1000.00	946	44.32- 84.32	63.37
Average of Peak Amounts =				960		

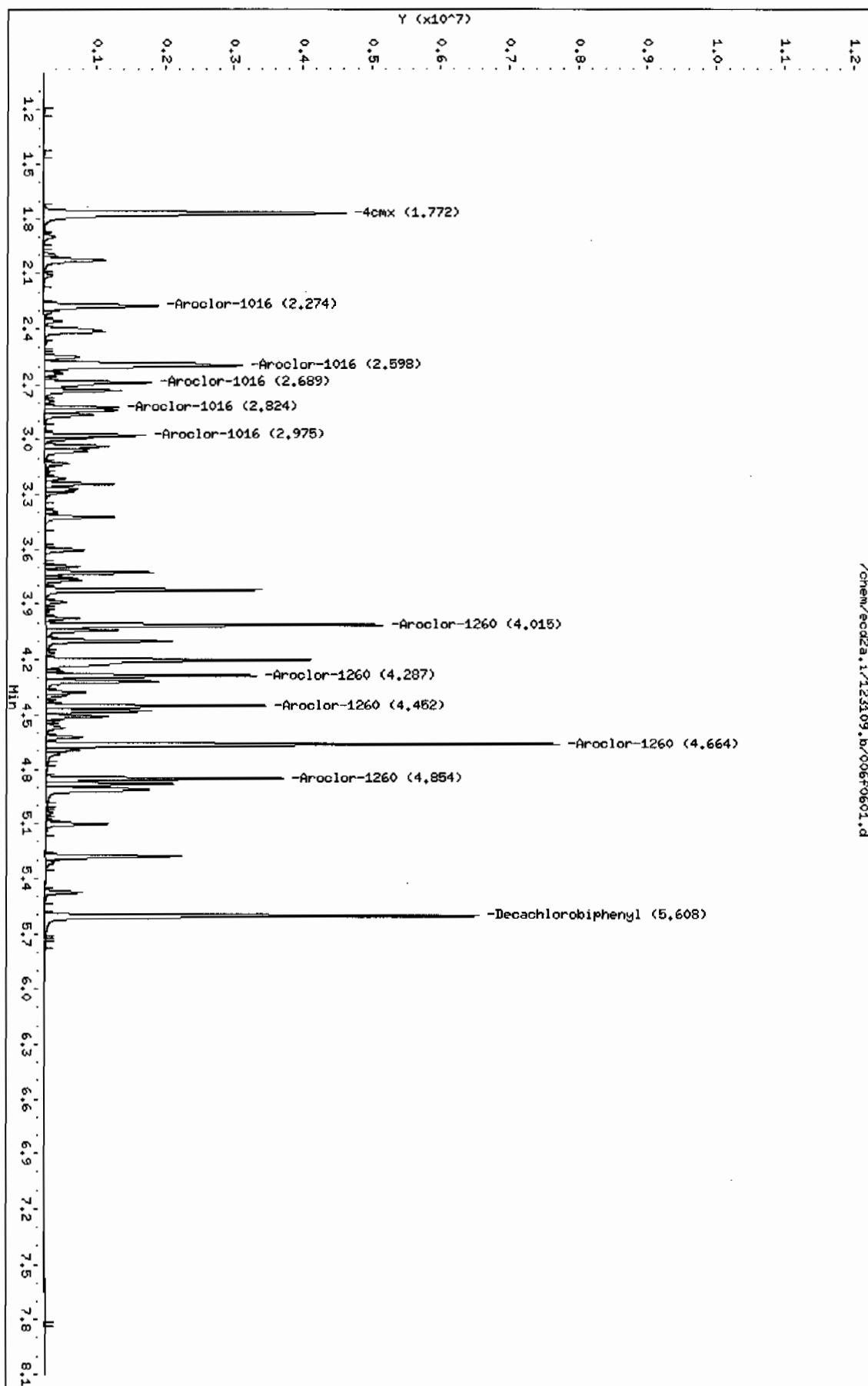
7 Aroclor-1260					CAS #: 11096-82-5	
4.015	4.015	0.000	4244333 1000.00	1020	80.00- 120.00	100.00
4.287	4.287	0.000	2715866 1000.00	1050	42.76- 82.76	63.99
4.452	4.452	0.000	2774898 1000.00	1050	44.99- 84.99	65.38
4.664	4.664	0.000	6495701 1000.00	1070	134.44- 174.44	153.04
4.854	4.854	0.000	3147238 1000.00	1070	55.22- 95.22	74.15
Average of Peak Amounts =				1.05e+03		

Data File: /chem/ecod2a.i/123109.b/006f0601.d
Date: 31-DEC-2009 09:26
Client ID: AR166001
Sample Info: 14AR091231-60 01

Column phase: CLP1

Instrument: ecod2a.i
Operator: JHOC
Column diameter: 0.25

/chem/ecod2a.i/123109.b/006f0601.d



Data File: /chem/ecd2a.i/123109.b/006b0601.d
Report Date: 04-Jan-2010 08:14

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/006b0601.d

Lab Smp Id: WAR091231-60 01

Client Smp ID: AR166001

Inj Date : 31-DEC-2009 08:26

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091231-60 01

Misc Info : |PCB_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m

Meth Date : 04-Jan-2010 08:00 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 6

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
2.069	2.069	0.000	13421647	100.000	104	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.300	6.300	0.000	12491028	100.000	111	80.00- 120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2		
2.745	2.745	0.000	4541640	1000.00	1000	80.00- 120.00	100.00
3.179	3.179	0.000	3527116	1000.00	979	58.40- 98.40	77.66
3.331	3.331	0.000	2038452	1000.00	993	25.06- 65.06	44.88
3.359	3.359	0.000	2126014	1000.00	995	27.01- 67.01	46.81
3.518	3.518	0.000	2863486	1000.00	998	43.68- 83.68	63.05
Average of Peak Amounts =					993		

7 Aroclor-1260					CAS #: 11096-82-5		
4.414	4.414	0.000	5884927	1000.00	1020	80.00- 120.00	100.00
4.565	4.565	0.000	7417007	1000.00	1040	107.43- 147.43	126.03
4.677	4.677	0.000	5102019	1000.00	1060	66.66- 106.66	86.70
4.874	4.874	0.000	5906686	1000.00	1050	79.77- 119.77	100.37
5.500	5.500	0.000	9822315	1000.00	1090	145.98- 185.98	166.91
Average of Peak Amounts =					1.05e+03		

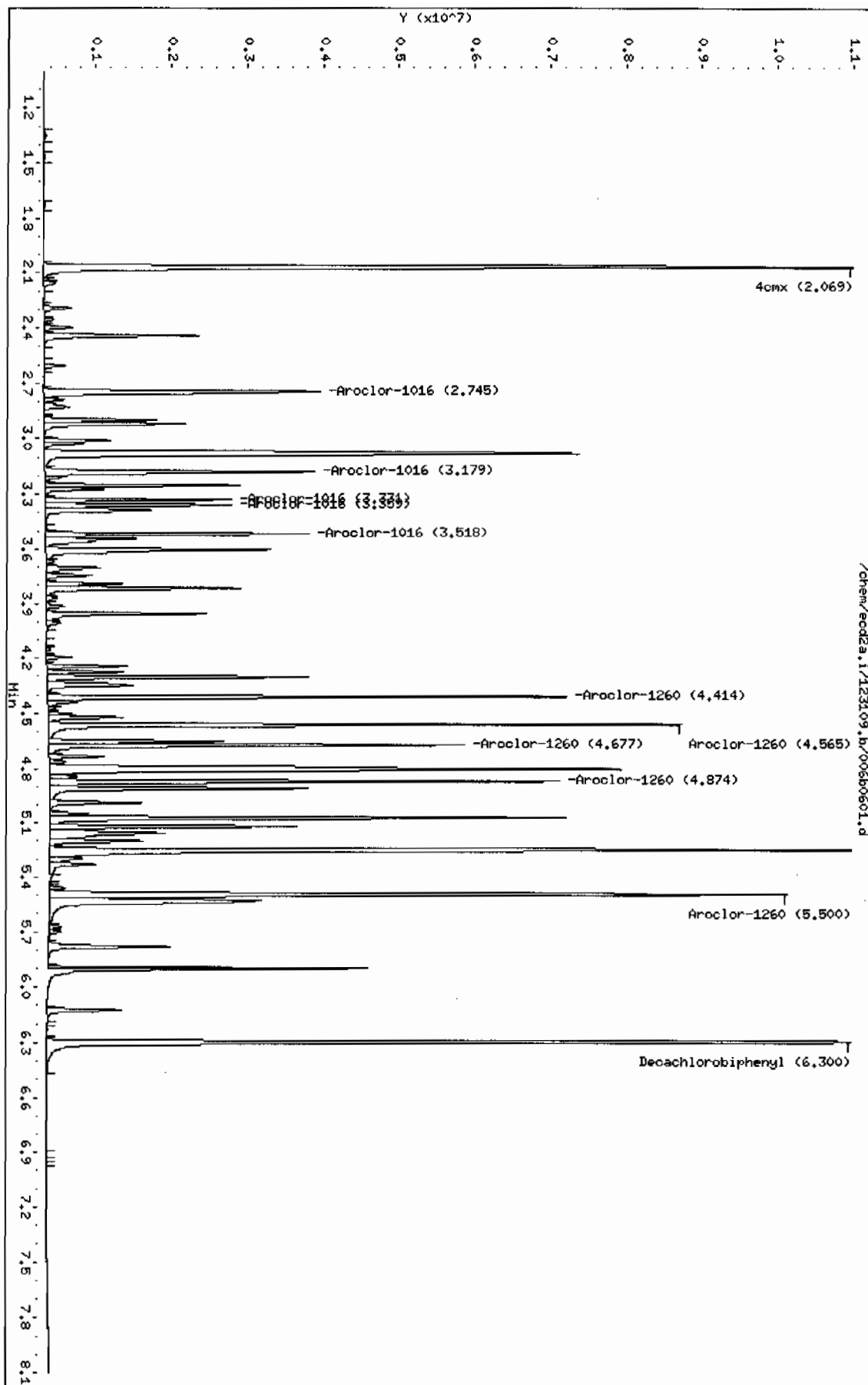
Data File: /chem/eod2a.i/123109.b/006b0601.d
Date: 31-DEC-2009 08:26
Client ID: AR166001
Sample Info: 11MAR091231-60 01

Instrument: eod2a.i

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Column phase: CLP2

Operator: JHCC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/007f0701.d

Lab Smp Id: WAR090930-32

Client Smp ID: AR123201

Inj Date : 31-DEC-2009 08:38

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR090930-32

Misc Info : |PCB_CVS|1232||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 7

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1232.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE		RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8			
1.771	1.772	-0.001	10626702	100.000	170	80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.608	5.608	0.000	10092016	100.000	186	80.00-	120.00	100.00

3 Aroclor-1232					CAS #: 11141-16-5			
2.025	2.025	0.000	1699921	1000.00	1460	80.00-	120.00	100.00
2.273	2.273	0.000	1349696	1000.00	1450	59.40-	99.40	79.40
2.688	2.688	0.000	1120523	1000.00	1400	45.92-	85.92	65.92
2.731	2.731	0.000	713746	1000.00	1400	21.99-	61.99	41.99
2.974	2.974	0.000	820961	1000.00	1400	28.29-	68.29	48.29
Average of Peak Amounts =					1.42e+03			

Data File: /chem/ecod2a.i/123109.b/0070701.d

Date: 31-DEC-2009 08:38

Client ID: AR123201

Sample Info: 1MAR090930-32

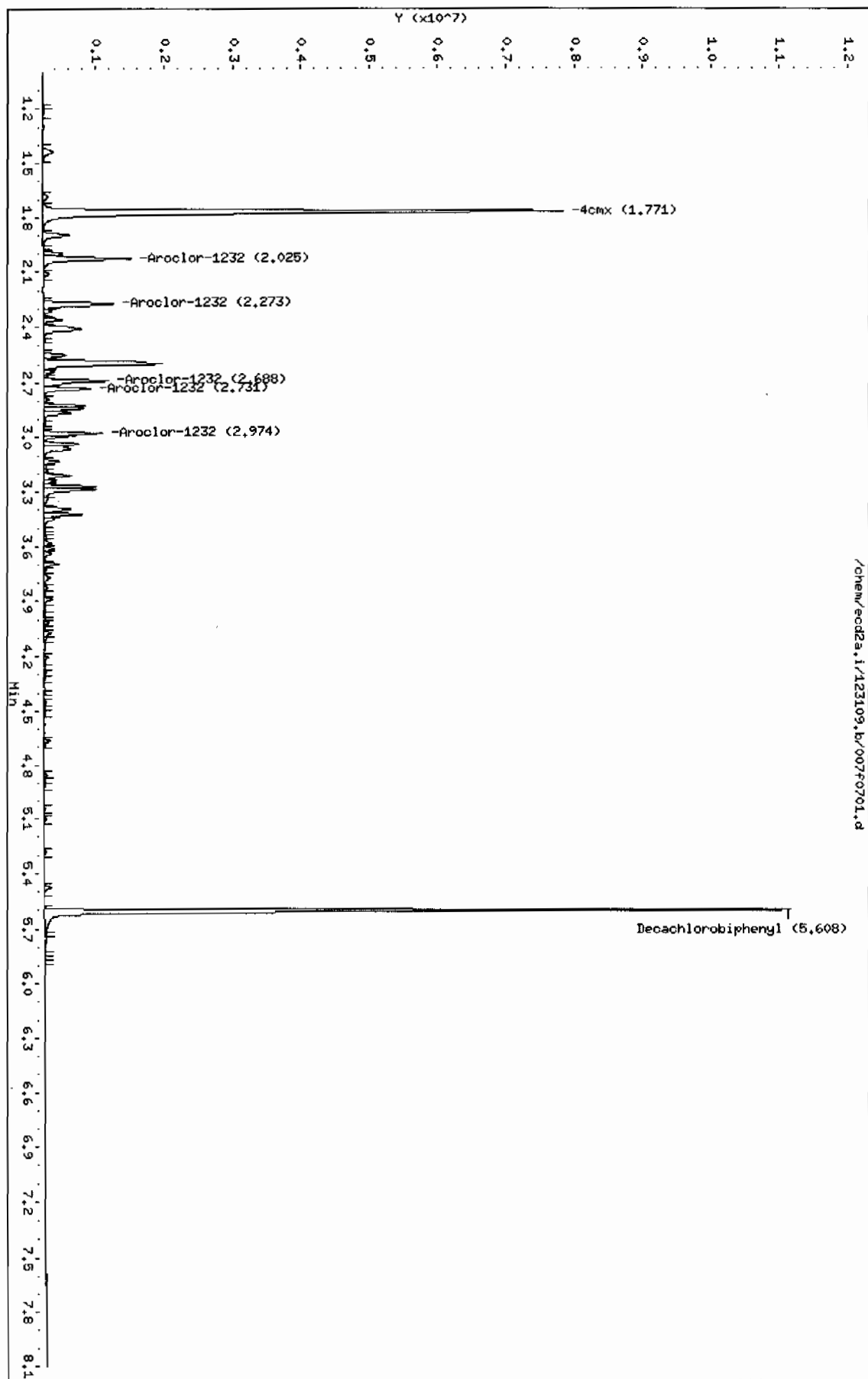
Column phase: CLP1

Instrument: ecod2a.i

Operator: JHOC

Column diameter: 0.25

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Data File: /chem/ecd2a.i/123109.b/007b0701.d
Report Date: 04-Jan-2010 08:15

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/007b0701.d
Lab Smp Id: WAR090930-32 Client Smp ID: AR123201
Inj Date : 31-DEC-2009 08:38
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR090930-32
Misc Info : |PCB_CVS|1232||CVS|
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====

\$ 11 4cmx					CAS #: 877-09-8		
2.068	2.069	-0.001	23386438	100.000	181	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.300	6.300	0.000	21801541	100.000	193	80.00- 120.00	100.00

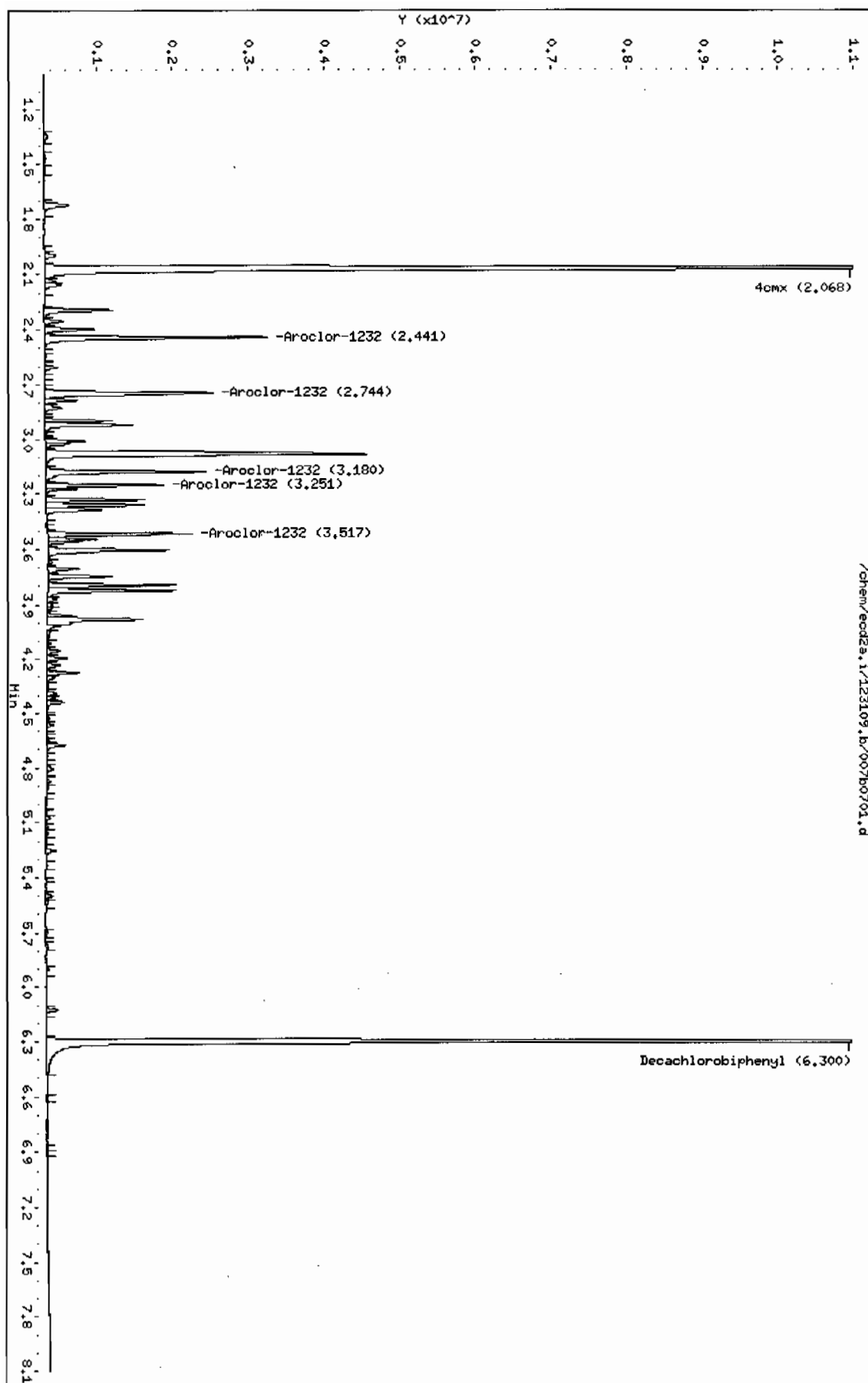
3 Aroclor-1232					CAS #: 11141-16-5		
2.441	2.441	0.000	2997006	1000.00	1450	80.00- 120.00	100.00
2.744	2.744	0.000	2831263	1000.00	1440	74.47- 114.47	94.47
3.180	3.180	0.000	2209020	1000.00	1470	53.71- 93.71	73.71
3.251	3.251	0.000	1284017	1000.00	1380	22.84- 62.84	42.84
3.517	3.517	0.000	1573638	1000.00	1420	32.51- 72.51	52.51
Average of Peak Amounts =					1.43e+03		

Data File: /chem/eod2a.i/123109.b/007b0701.d
Date : 31-DEC-2009 08:38
Client ID: AR123204
Sample Info: 1MAR09030-32

Column phase: CLP2

Instrument: eod2a.i
Operator: JHOC
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/008f0801.d
Lab Smp Id: WAR091111-21 Client Smp ID: AR122101
Inj Date : 31-DEC-2009 08:49
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091111-21|
Misc Info : |PCB_CVS|1221||CVS|
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
Meth Date : 04-Jan-2010 09:26 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 8 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1221.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS								
			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====
<hr/>								
\$ 11 4cmx					CAS #: 877-09-8			
1.773	1.772	0.001	7088080	100.000	114	80.00- 120.00	100.00	
<hr/>								
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.608	5.608	0.000	6832011	100.000	126	80.00- 120.00	100.00	
<hr/>								
2 Aroclor-1221					CAS #: 11104-28-2			
1.439	1.439	0.000	570990	1000.00	1230	80.00- 120.00	100.00	
1.900	1.900	0.000	831234	1000.00	1260	125.58- 165.58	145.58	
1.999	1.999	0.000	452263	1000.00	1300	59.21- 99.21	79.21	
Average of Peak Amounts =					1.27e+03			

Data File: /chem/ecd2a.i/123109.b/008f0801.d
Date: 31-DEC-2009 08:49
Client ID: AR122101
Sample Info: 1MAR091111-21

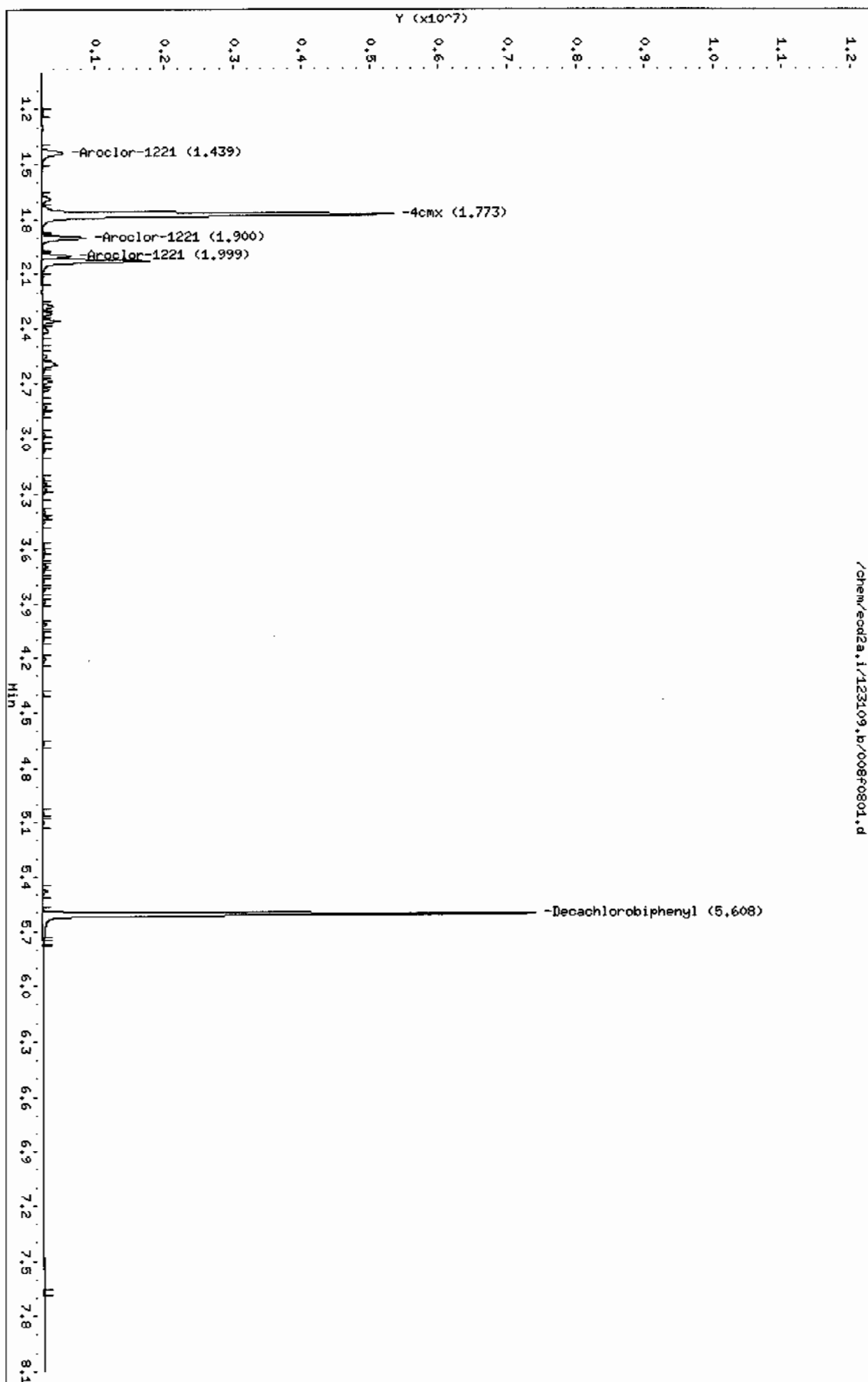
Instrument: ecd2a.i

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Column phase: CLP1

Operator: JHOC
Column diameter: 0.25

/chem/ecd2a.i/123109.b/008f0801.d



Data File: /chem/ecd2a.i/123109.b/008b0801.d
Report Date: 15-Jan-2010 15:44

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/008b0801.d

Lab Smp Id: WAR091111-21 Client Smp ID: AR122101

Inj Date : 31-DEC-2009 08:49

Operator : JAOC Inst ID: ecd2a.i

Smp Info : |WAR091111-21

Misc Info : |PCB_CVS|1221||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m

Meth Date : 04-Jan-2010 09:28 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d

Als bottle: 8 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon Compound Sublist: AR1221.sub

Target Version: 3.50 Sample Matrix: None

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT	ON-COL	TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)		
\$ 11 4cmx				CAS #: 877-09-8		
2.069	2.069	0.000	15167268 100.000	117 80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.300	6.300	0.000	14454788 100.000	128 80.00- 120.00	100.00	

2 Aroclor-1221				CAS #: 11104-28-2		
2.292	2.292	0.000	1502493 1000.00	1190 80.00- 120.00	100.00	
2.397	2.397	0.000	925530 1000.00	1200 41.60- 81.60	61.60	
2.442	2.442	0.000	3628613 1000.00	1190 221.51- 261.51	241.51	
Average of Peak Amounts =			1.19e+03			

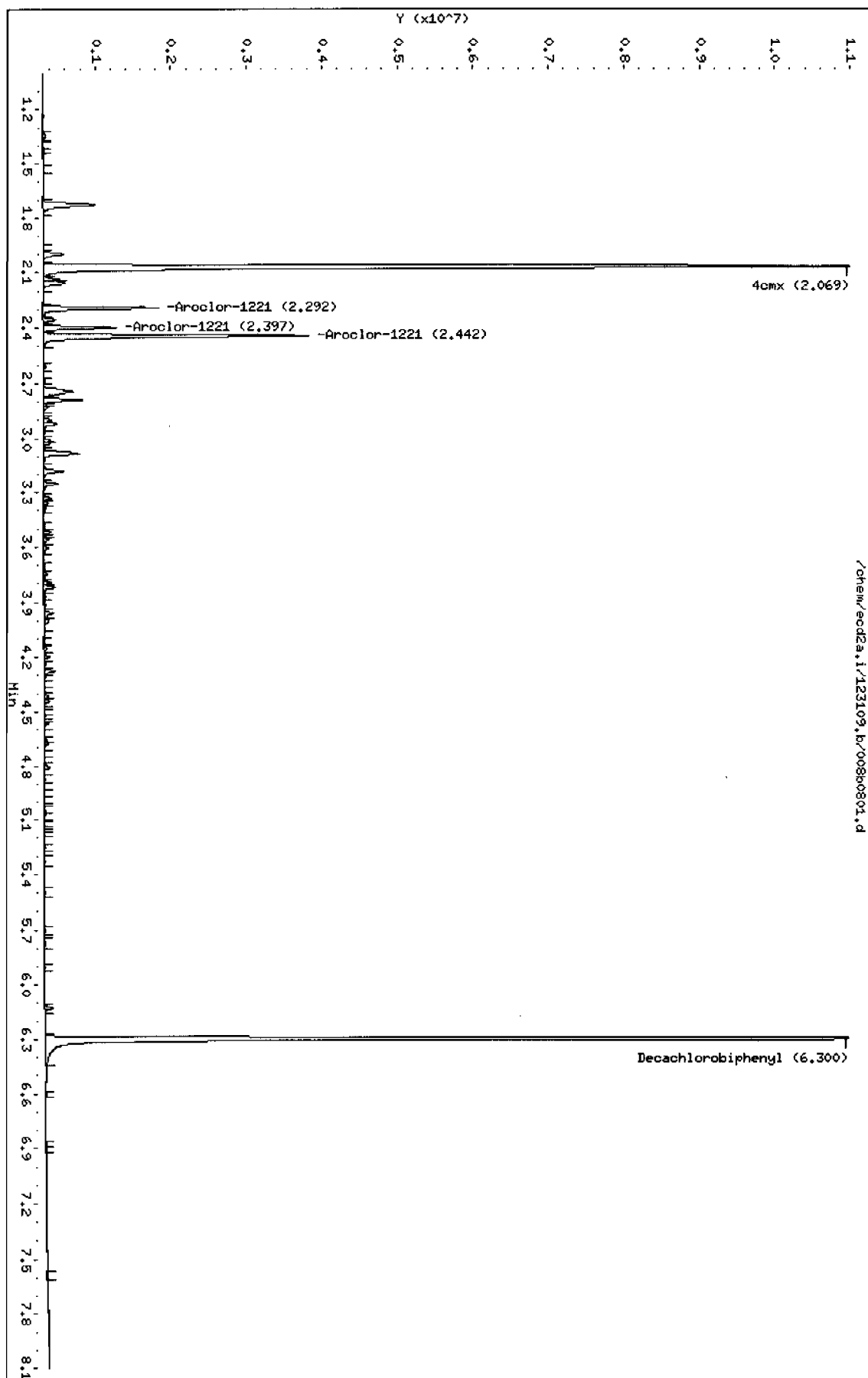
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Date : 31-DEC-2009 08:49
Client ID: AR122104
Sample Info: 14AR091111-21

Instrument: ecod2a.i

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Column phase: CLP2

Operator: JAOC
Column diameter: 0.25



Data File: /chem/ecd2a.i/123109.b/020f2001.d
 Report Date: 04-Jan-2010 08:16

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/020f2001.d

Lab Smp Id: WAR091231-60 02

Client Smp ID: AR166002

Inj Date : 31-DEC-2009 11:08

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091231-60 02

Misc Info : |PCB_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 20

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx				CAS #: 877-09-8			
1.773	1.772	0.001	6262722 100.000	100	80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.609	5.608	0.001	5908499 100.000	109	80.00- 120.00	100.00	

1 Aroclor-1016				CAS #: 12674-11-2			
2.275	2.274	0.001	2175451 1000.00	972	80.00- 120.00	100.00	
2.599	2.598	0.001	4599111 1000.00	982	192.27- 232.27	211.41	
2.689	2.689	0.000	1847341 1000.00	972	65.25- 105.25	84.92	
2.825	2.824	0.001	914720 1000.00	937	22.83- 62.83	42.05	
2.975	2.975	0.000	1416002 1000.00	971	44.32- 84.32	65.09	
Average of Peak Amounts =				967			

7 Aroclor-1260				CAS #: 11096-82-5			
4.015	4.015	0.000	4368886 1000.00	1050	80.00- 120.00	100.00	
4.287	4.287	0.000	2760398 1000.00	1060	42.76- 82.76	63.18	
4.453	4.452	0.001	2847299 1000.00	1080	44.99- 84.99	65.17	
4.665	4.664	0.001	6735181 1000.00	1110	134.44- 174.44	154.16	
4.855	4.854	0.001	3254477 1000.00	1110	55.22- 95.22	74.49	
Average of Peak Amounts =				1.08e+03			

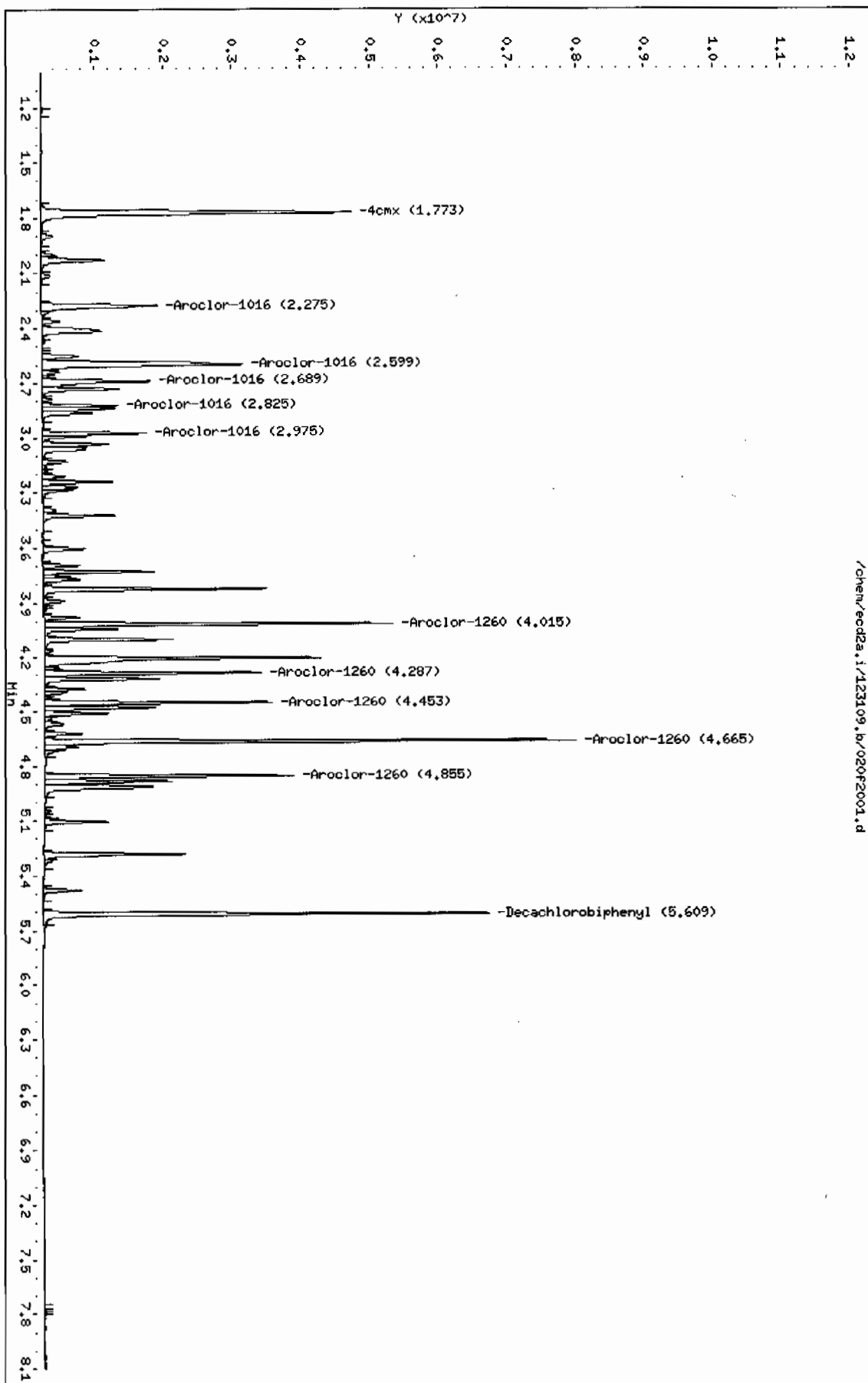
Data File: /chem/ecd2a.i/123109.b/020f2001.d
Date: 31-DEC-2009 11:08
Client ID: AR166002
Sample Info: 1MR091231-60 02

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAC

Column diameter: 0.25



Data File: /chem/ecd2a.i/123109.b/020b2001.d
Report Date: 04-Jan-2010 08:16

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/020b2001.d

Lab Smp Id: WAR091231-60 02

Client Smp ID: AR166002

Inj Date : 31-DEC-2009 11:08

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091231-60 02

Misc Info : |PCB_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m

Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 20

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
2.069	2.069	0.000	13532997	100.000	105	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.300	6.300	0.000	12430571	100.000	110	80.00- 120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2		
2.746	2.745	0.001	4581581	1000.00	1010	80.00- 120.00	100.00
3.180	3.179	0.001	3580992	1000.00	994	58.40- 98.40	78.16
3.331	3.331	0.000	2060692	1000.00	1000	25.06- 65.06	44.98
3.359	3.359	0.000	2147149	1000.00	1000	27.01- 67.01	46.86
3.518	3.518	0.000	2908199	1000.00	1010	43.68- 83.68	63.48
Average of Peak Amounts =					1.01e+03		

7 Aroclor-1260					CAS #: 11096-82-5		
4.413	4.414	-0.001	6057191	1000.00	1050	80.00- 120.00	100.00
4.566	4.565	0.001	7683112	1000.00	1080	107.43- 147.43	126.84
4.677	4.677	0.000	5216240	1000.00	1080	66.66- 106.66	86.12
4.875	4.874	0.001	6055011	1000.00	1080	79.77- 119.77	99.96
5.500	5.500	0.000	10141107	1000.00	1120	145.98- 185.98	167.42
Average of Peak Amounts =					1.08e+03		

Data File: /chem/ecod2a.i/123109.b/02062001.d

Date : 31-DEC-2009 11:08

Client ID: AR166002

Sample Info: 1MAR091231-60 02

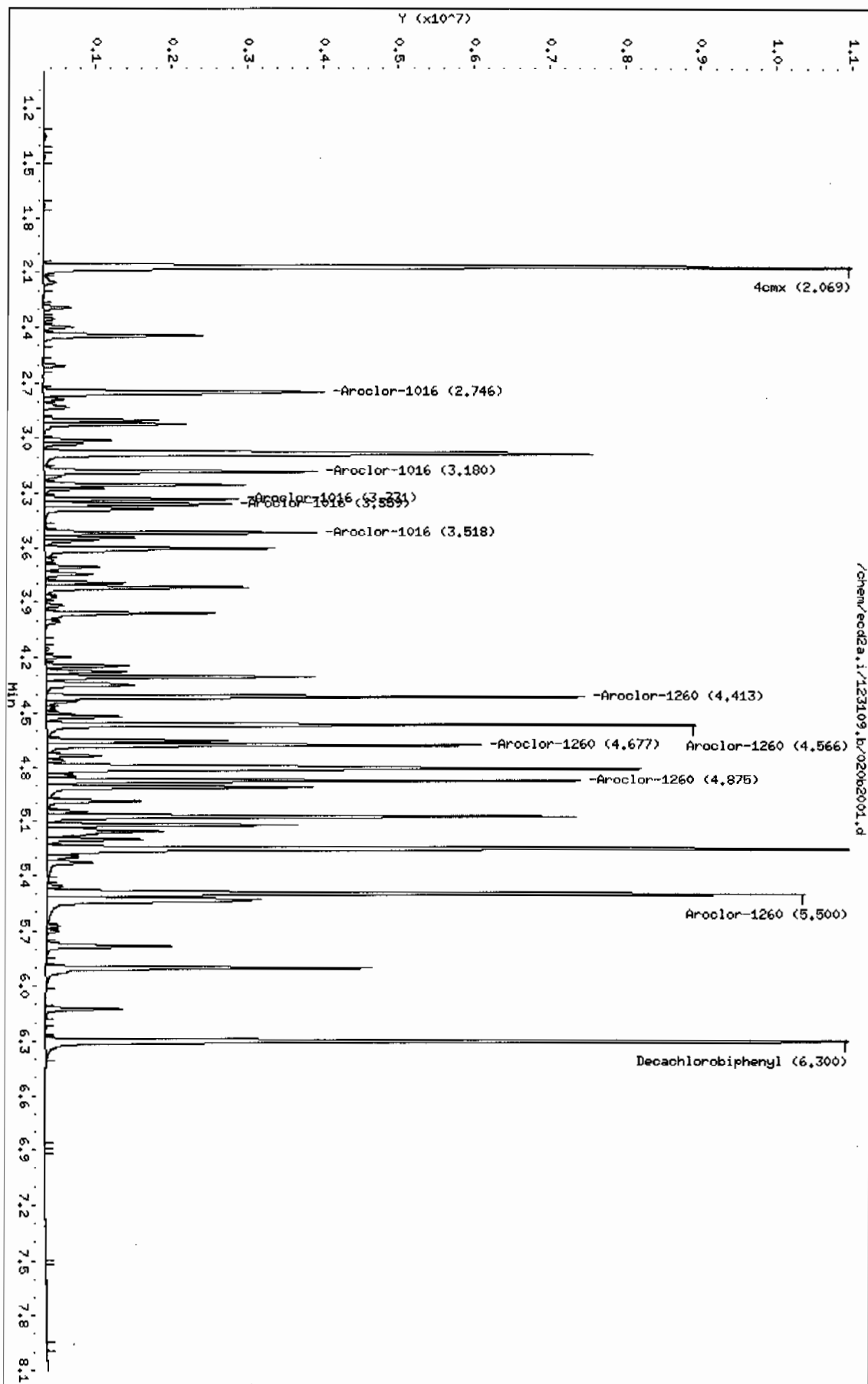
Page 1

Column phase: CLP2

Instrument: ecod2a.i

Operator: J40C

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/030f3001.d

Lab Smp Id: WAR091231-60 03

Client Smp ID: AR166003

Inj Date : 31-DEC-2009 12:58

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091231-60 03

Misc Info : |PCB_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 30

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	
\$ 11 4cmx					CAS #: 877-09-8			
1.771	1.772	-0.001	6262719	100.000	100	80.00~ 120.00	100.00	

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.609	5.608	0.001	5771565	100.000	107	80.00~ 120.00	100.00	

1 Aroclor-1016					CAS #: 12674-11-2			
2.274	2.274	0.000	2167551	1000.00	969	80.00~ 120.00	100.00	
2.597	2.598	-0.001	4604554	1000.00	983	192.27~ 232.27	212.43	
2.688	2.689	-0.001	1844439	1000.00	970	65.25~ 105.25	85.09	
2.823	2.824	-0.001	954672	1000.00	978	22.83~ 62.83	44.04	
2.975	2.975	0.000	1403799	1000.00	963	44.32~ 84.32	64.76	
Average of Peak Amounts =					973			

7 Aroclor-1260					CAS #: 11096-82-5			
4.015	4.015	0.000	4346586	1000.00	1040	80.00~ 120.00	100.00	
4.286	4.287	-0.001	2729681	1000.00	1050	42.76~ 82.76	62.80	
4.453	4.452	0.001	2799018	1000.00	1060	44.99~ 84.99	64.40	
4.665	4.664	0.001	6645024	1000.00	1090	134.44~ 174.44	152.88	
4.855	4.854	0.001	3211558	1000.00	1090	55.22~ 95.22	73.89	
Average of Peak Amounts =					1.07e+03			

Data File: /chem/eod2a.i/123109.b/030f3001.d

Date: 31-DEC-2009 12:58

Client ID: AR166003

Sample Info: 11AR091231-60 03

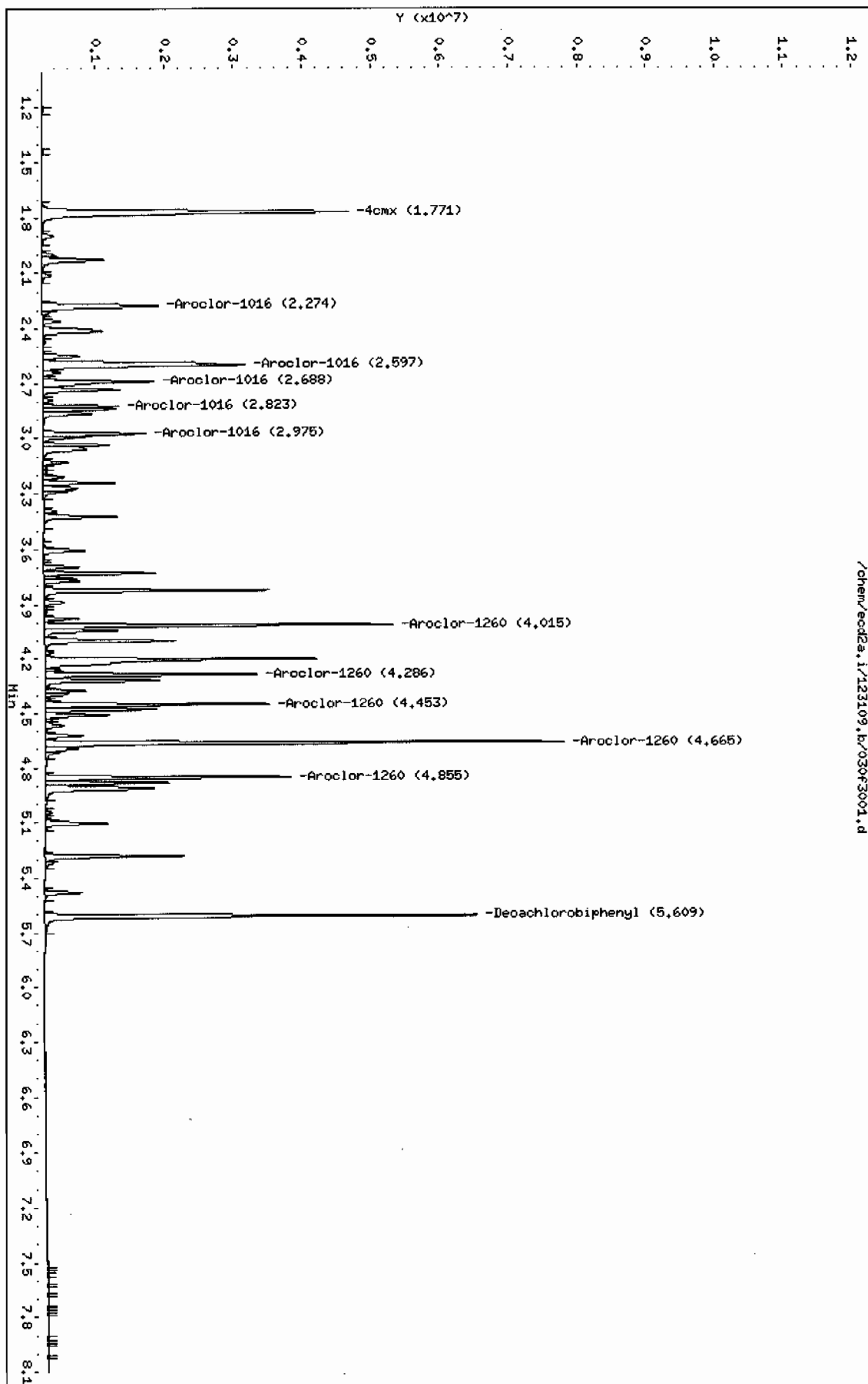
Column phase: CLP1

Instrument: eod2a.i

Operator: JAOC

Column diameter: 0.25

/chem/eod2a.i/123109.b/030f3001.d



Data File: /chem/ecd2a.i/123109.b/030b3001.d
Report Date: 04-Jan-2010 08:17

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/030b3001.d

Lab Smp Id: WAR091231-60 03

Client Smp ID: AR166003

Inj Date : 31-DEC-2009 12:58

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091231-60 03

Misc Info : |PCB_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m

Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 30

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE		RATIO
==	=====	=====	=====	=====	=====	=====		=====
\$ 11 4cmx					CAS #: 877-09-8			
2.068	2.069	-0.001	13519580	100.000	104	80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
6.300	6.300	0.000	11675152	100.000	104	80.00-	120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2			
2.744	2.745	-0.001	4568406	1000.00	1010	80.00-	120.00	100.00
3.179	3.179	0.000	3587798	1000.00	996	58.40-	98.40	78.54
3.330	3.331	-0.001	2073127	1000.00	1010	25.06-	65.06	45.38
3.359	3.359	0.000	2160907	1000.00	1010	27.01-	67.01	47.30
3.517	3.518	-0.001	2909754	1000.00	1010	43.68-	83.68	63.69
Average of Peak Amounts =					1.01e+03			

7 Aroclor-1260					CAS #: 11096-82-5			
4.413	4.414	-0.001	6041413	1000.00	1050	80.00-	120.00	100.00
4.566	4.565	0.001	7695382	1000.00	1080	107.43-	147.43	127.38
4.677	4.677	0.000	5222809	1000.00	1080	66.66-	106.66	86.45
4.875	4.874	0.001	5973222	1000.00	1060	79.77-	119.77	98.87
5.500	5.500	0.000	9899433	1000.00	1100	145.98-	185.98	163.86
Average of Peak Amounts =					1.07e+03			

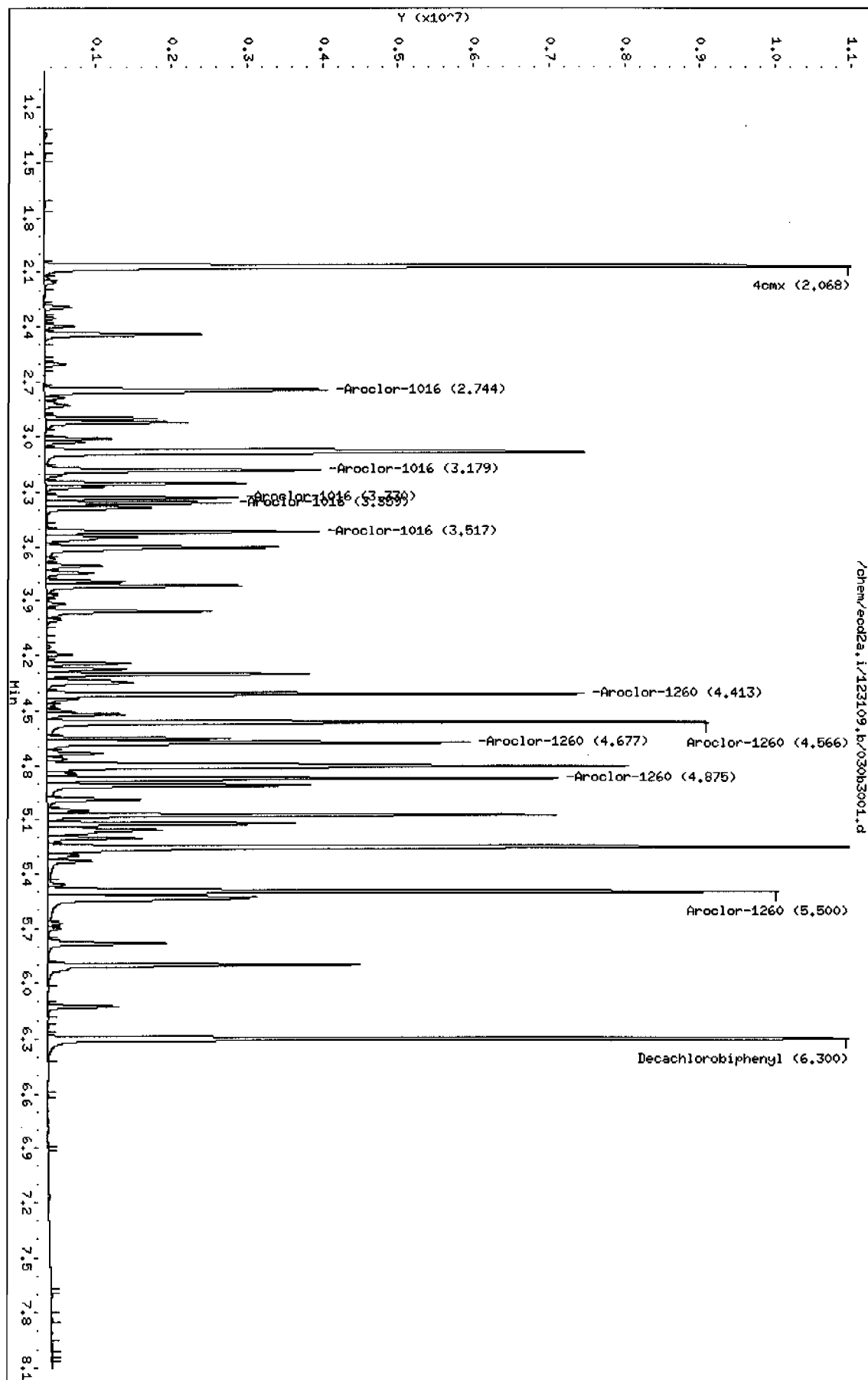
Data File: /chem/eod2a.i/123109.b/030b3001.d
Date: 31-DEC-2009 12:58
Client ID: AR166003
Sample Info: 1MR091231-60 03

Instrument: eod2a.i

Page 1

Column phase: CLP2

Operator: JAOC
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.: 10-1102

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 1.77			DCB: 5.61		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/14/09	0700	1.77 5.61
02	ZZZZZ	ZZZZZ	12/14/09	0711	1.77 5.61
03	AR125401	WAR091102-54	12/14/09	0722	1.77 5.61
04	AR124201	WAR091102-42	12/14/09	0733	1.77 5.61
05	AR124801	WAR091027-48	12/14/09	0744	1.77 5.61
06	AR123201	WAR090930-32	12/14/09	0755	1.77 5.61
07	AR122101	WAR091111-21	12/14/09	0807	1.77 5.61
08	ZZZZZ	ZZZZZ	12/14/09	0818	1.77 5.61
09	AR126201	WAR091111-62	12/14/09	0829	1.77 5.61
10	AR126801	WAR091106-68	12/14/09	0840	1.77 5.61
11	AR166001	WAR091214-01	12/14/09	0851	1.77 5.61
12	AR166002	WAR091214-02	12/14/09	0902	1.77 5.61
13	AR166003	WAR091214-03	12/14/09	0913	1.77 5.61
14	AR166004	WAR091214-04	12/14/09	0924	1.77 5.61
15	AR166005	WAR091102-01	12/14/09	0935	1.77 5.61
16	AR166001	WAR091211-60	12/14/09	0946	1.77 5.61
17	DDTANALOGSTD	WAR091020-DD	12/14/09	0958	
18	PIBLK02	WAR091130-99	12/14/09	1009	1.77 5.61
19	ZZZZZ	ZZZZZ	12/14/09	1020	1.77 5.61
20	ZZZZZ	ZZZZZ	12/14/09	1031	1.77 5.61
21	ZZZZZ	ZZZZZ	12/14/09	1042	1.77
22	ZZZZZ	ZZZZZ	12/14/09	1053	1.76
23	ZZZZZ	ZZZZZ	12/14/09	1104	1.76
24	ZZZZZ	ZZZZZ	12/14/09	1115	1.77 5.61
25	ZZZZZ	ZZZZZ	12/14/09	1126	1.77 5.61
26	ZZZZZ	ZZZZZ	12/14/09	1137	1.76
27	ZZZZZ	ZZZZZ	12/14/09	1148	1.77 5.61
28	ZZZZZ	ZZZZZ	12/14/09	1159	1.76 5.62
29	AR166002	WAR091211-60	12/14/09	1211	1.77 5.61
30	PIBLK03	WAR091130-99	12/14/09	1222	1.77 5.61
31	ZZZZZ	ZZZZZ	12/14/09	1233	1.77 5.61
32	ZZZZZ	ZZZZZ	12/14/09	1244	1.76

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.

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.: 10-1102

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 2.07			DCB: 6.30		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/14/09 0700	2.07	6.31
02	ZZZZZ	ZZZZZ	12/14/09 0711	2.07	6.30
03	AR125401	WAR091102-54	12/14/09 0722	2.07	6.30
04	AR124201	WAR091102-42	12/14/09 0733	2.07	6.30
05	AR124801	WAR091027-48	12/14/09 0744	2.07	6.30
06	AR123201	WAR090930-32	12/14/09 0755	2.07	6.30
07	AR122101	WAR091111-21	12/14/09 0807	2.07	6.30
08	ZZZZZ	ZZZZZ	12/14/09 0818	2.07	6.30
09	AR166201	WAR091111-62	12/14/09 0829	2.07	6.30
10	AR126801	WAR091106-68	12/14/09 0840	2.07	6.30
11	AR166001	WAR091214-01	12/14/09 0851	2.07	6.30
12	AR166002	WAR091214-02	12/14/09 0902	2.07	6.30
13	AR166003	WAR091214-03	12/14/09 0913	2.07	6.30
14	AR166004	WAR091214-04	12/14/09 0924	2.07	6.30
15	AR166005	IAR091102-01	12/14/09 0935	2.07	6.30
16	AR166001	WAR091211-60	12/14/09 0946	2.07	6.30
17	DDTANALOGSTD	WAR091020-DD	12/14/09 0958		
18	PIBLK02	WAR091130-99	12/14/09 1009	2.07	6.30
19	ZZZZZ	ZZZZZ	12/14/09 1020	2.07	6.30
20	ZZZZZ	ZZZZZ	12/14/09 1031	2.07	6.30
21	ZZZZZ	ZZZZZ	12/14/09 1042	2.07	
22	ZZZZZ	ZZZZZ	12/14/09 1053	2.07	
23	ZZZZZ	ZZZZZ	12/14/09 1104	2.06	
24	ZZZZZ	ZZZZZ	12/14/09 1115	2.07	6.30
25	ZZZZZ	ZZZZZ	12/14/09 1126	2.07	6.31
26	ZZZZZ	ZZZZZ	12/14/09 1137	2.07	
27	ZZZZZ	ZZZZZ	12/14/09 1148	2.07	6.30
28	ZZZZZ	ZZZZZ	12/14/09 1159	2.06	6.30
29	AR166002	WAR091211-60	12/14/09 1211	2.07	6.30
30	PIBLK03	WAR091130-99	12/14/09 1222	2.07	6.30
31	ZZZZZ	ZZZZZ	12/14/09 1233	2.07	6.31
32	ZZZZZ	ZZZZZ	12/14/09 1244	2.07	

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.

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.: 10-1102

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 1.77				DCB: 5.61			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	DCB RT	#
01	PIBLK01	WAR091130-99	12/31/09	0731	1.77	5.60	
02	ZZZZZ	ZZZZZ	12/31/09	0742	1.77	5.61	
03	AR125401	WAR091216-54	12/31/09	0753	1.77	5.61	
04	AR124201	WAR091217-42	12/31/09	0804	1.77	5.61	
05	AR124801	WAR091217-48	12/31/09	0815	1.77	5.61	
06	AR166001	WAR091231-60	12/31/09	0826	1.77	5.61	
07	AR123201	WAR090930-32	12/31/09	0838	1.77	5.61	
08	AR122101	WAR091111-21	12/31/09	0849	1.77	5.61	
09	AR126201	WAR091111-62	12/31/09	0900	1.77	5.61	
10	AR126801	WAR091106-68	12/31/09	0911	1.77	5.61	
11	DDTANALOGSTD	WAR091219-DD	12/31/09	0922			
12	PIBLK02	WAR091130-99	12/31/09	0939	1.77	5.61	
13	PBLK01	1202006551	12/31/09	0950	1.77	5.61	
14	PBLK01LCS	1202006552	12/31/09	1001	1.77	5.61	
15	ZZZZZ	ZZZZZ	12/31/09	1012	1.77	5.61	
16	ZZZZZ	ZZZZZ	12/31/09	1023	1.77	5.61	
17	ZZZZZ	ZZZZZ	12/31/09	1034	1.77	5.61	
18	ZZZZZ	ZZZZZ	12/31/09	1045	1.77	5.61	
19	ZZZZZ	ZZZZZ	12/31/09	1057	1.77	5.61	
20	AR166002	WAR091231-60	12/31/09	1108	1.77	5.61	
21	PIBLK03	WAR091130-99	12/31/09	1119	1.77	5.61	
22	ZZZZZ	ZZZZZ	12/31/09	1130	1.77	5.61	
23	ZZZZZ	ZZZZZ	12/31/09	1141	1.77	5.61	
24	ZZZZZ	ZZZZZ	12/31/09	1152	1.77	5.61	
25	ZZZZZ	ZZZZZ	12/31/09	1203	1.77	5.61	
26	RE12-10-7663	243630002	12/31/09	1214	1.77	5.61	
27	RE12-10-7664MS	1202006553	12/31/09	1225	1.77	5.61	
28	RE12-10-7664MSD	1202006554	12/31/09	1236	1.77	5.61	
29	RE12-10-7664	243630003	12/31/09	1247	1.77	5.61	
30	AR166003	WAR091231-60	12/31/09	1258	1.77	5.61	
31	PIBLK04	WAR091130-99	12/31/09	1310	1.77	5.61	
32	ZZZZZ	ZZZZZ	12/31/09	1321	1.77	5.61	

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.

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.: 10-1102

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 2.07			DCB: 6.30		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	SI RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/31/09 0731	2.07	6.30
02	ZZZZZ	ZZZZZ	12/31/09 0742	2.07	6.30
03	AR125401	WAR091216-54	12/31/09 0753	2.07	6.30
04	AR124201	WAR091217-42	12/31/09 0804	2.07	6.30
05	AR124801	WAR091217-48	12/31/09 0815	2.07	6.30
06	AR166001	WAR091231-60	12/31/09 0826	2.07	6.30
07	AR123201	WAR090930-32	12/31/09 0838	2.07	6.30
08	AR122101	WAR091111-21	12/31/09 0849	2.07	6.30
09	AR126201	WAR091111-62	12/31/09 0900	2.07	6.30
10	AR126801	WAR091106-68	12/31/09 0911	2.07	6.30
11	DDTANALOGSTD	WAR091219-DD	12/31/09 0922		
12	PIBLK02	WAR091130-99	12/31/09 0939	2.07	6.30
13	PBLK01	1202006551	12/31/09 0950	2.07	6.30
14	PBLK01LCS	1202006552	12/31/09 1001	2.07	6.30
15	ZZZZZ	ZZZZZ	12/31/09 1012	2.07	6.30
16	ZZZZZ	ZZZZZ	12/31/09 1023	2.07	6.30
17	ZZZZZ	ZZZZZ	12/31/09 1034	2.07	6.30
18	ZZZZZ	ZZZZZ	12/31/09 1045	2.07	6.30
19	ZZZZZ	ZZZZZ	12/31/09 1057	2.07	6.30
20	AR166002	WAR091231-60	12/31/09 1108	2.07	6.30
21	PIBLK03	WAR091130-99	12/31/09 1119	2.07	6.30
22	ZZZZZ	ZZZZZ	12/31/09 1130	2.07	6.30
23	ZZZZZ	ZZZZZ	12/31/09 1141	2.07	6.30
24	ZZZZZ	ZZZZZ	12/31/09 1152	2.07	6.30
25	ZZZZZ	ZZZZZ	12/31/09 1203	2.07	6.30
26	RE12-10-7663	243630002	12/31/09 1214	2.07	6.30
27	RE12-10-7664MS	1202006553	12/31/09 1225	2.07	6.30
28	RE12-10-7664MSD	1202006554	12/31/09 1236	2.07	6.30
29	RE12-10-7664	243630003	12/31/09 1247	2.07	6.30
30	AR166003	WAR091231-60	12/31/09 1258	2.07	6.30
31	PIBLK04	WAR091130-99	12/31/09 1310	2.07	6.30
32	ZZZZZ	ZZZZZ	12/31/09 1321	2.07	6.30

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.

Identification Summary

Page 1 of 1

SDG Number: 10-1102

Client ID: LCS for batch 937678

Lab Sample ID: 1202006552

Data File: 014f1401.d

Data File: 014b1401.d

Inst: ECD2A.I_1

Inst: ECD2A.I_2

Column: CLP1

Column: CLP2

Analyzed: 31-DEC-09 10:01

Analyzed: 31-DEC-09 10:01

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							.211
Column 1	1	2.28	2.24 - 2.3	21		ug/kg	
	2	2.6	2.57 - 2.63	21.1		ug/kg	
	3	2.69	2.66 - 2.72	20.9		ug/kg	
	4	2.82	2.79 - 2.85	21.2		ug/kg	
	5	2.98	2.94 - 3	21.3		ug/kg	
					21.1		
Column 2	1	2.75	2.72 - 2.78	21		ug/kg	
	2	3.18	3.15 - 3.21	20.6		ug/kg	
	3	3.33	3.3 - 3.36	21.6		ug/kg	
	4	3.36	3.33 - 3.39	20.9		ug/kg	
	5	3.52	3.49 - 3.55	21.3		ug/kg	
					21.1		
Aroclor-1260							.164
Column 1	1	4.02	3.98 - 4.04	26.4		ug/kg	
	2	4.29	4.26 - 4.32	27.1		ug/kg	
	3	4.45	4.42 - 4.48	27.3		ug/kg	
	4	4.66	4.63 - 4.69	28.5		ug/kg	
	5	4.85	4.82 - 4.88	25.7		ug/kg	
					27		
Column 2	1	4.41	4.38 - 4.44	25.7		ug/kg	
	2	4.57	4.54 - 4.6	27.3		ug/kg	
	3	4.68	4.65 - 4.71	26.8		ug/kg	
	4	4.87	4.84 - 4.9	26.9		ug/kg	
	5	5.5	5.47 - 5.53	28.1		ug/kg	
					27		

Identification Summary

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SDG Number: 10-1102
 Lab Sample ID: 1202006553

Client ID: RE12-10-7664MS

Data File: 027f2701.d
 Inst: ECD2A.I_1
 Column: CLP1
 Analyzed: 31-DEC-09 12:25

Data File: 027b2701.d
 Inst: ECD2A.I_2
 Column: CLP2
 Analyzed: 31-DEC-09 12:25

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							10.8
Column 1	1	2.27	2.24 - 2.3	29.2		ug/kg	
	2	2.6	2.57 - 2.63	28.7		ug/kg	
	3	2.69	2.66 - 2.72	30		ug/kg	
	4	2.82	2.79 - 2.85	31.4		ug/kg	
	5	2.98	2.94 - 3	30.8		ug/kg	
					30		
Column 2	1	2.75	2.72 - 2.78	25.5		ug/kg	
	2	3.18	3.15 - 3.21	27.6		ug/kg	
	3	3.33	3.3 - 3.36	27.7		ug/kg	
	4	3.36	3.33 - 3.39	27.5		ug/kg	
	5	3.52	3.49 - 3.55	26.5		ug/kg	
					26.9		
Aroclor-1260							15.5
Column 1	1	4.01	3.98 - 4.04	33.3		ug/kg	
	2	4.29	4.26 - 4.32	35.5		ug/kg	
	3	4.45	4.42 - 4.48	36		ug/kg	
	4	4.67	4.63 - 4.69	33.9		ug/kg	
	5	4.85	4.82 - 4.88	34.2		ug/kg	
					34.6		
Column 2	1	4.41	4.38 - 4.44	31.3		ug/kg	
	2	4.57	4.54 - 4.6	28.4		ug/kg	
	3	4.68	4.65 - 4.71	29.8		ug/kg	
	4	4.87	4.84 - 4.9	29.3		ug/kg	
	5	5.5	5.47 - 5.53	29.1		ug/kg	
					29.6		

Identification Summary

Page 1 of 1

SDG Number: 10-1102

Client ID: RE12-10-7664MSD

Lab Sample ID: 1202006554

Data File: 028f2801.d

Data File: 028b2801.d

Inst: ECD2A.I_1

Inst: ECD2A.I_2

Column: CLP1

Column: CLP2

Analyzed: 31-DEC-09 12:36

Analyzed: 31-DEC-09 12:36

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							10.6
Column 1	1	2.28	2.24 - 2.3	29.7		ug/kg	
	2	2.6	2.57 - 2.63	28		ug/kg	
	3	2.69	2.66 - 2.72	29.2		ug/kg	
	4	2.82	2.79 - 2.85	30.2		ug/kg	
	5	2.98	2.94 - 3	28.8		ug/kg	
					29.2		
Column 2	1	2.75	2.72 - 2.78	24.8		ug/kg	
	2	3.18	3.15 - 3.21	26.7		ug/kg	
	3	3.33	3.3 - 3.36	27.4		ug/kg	
	4	3.36	3.33 - 3.39	26.9		ug/kg	
	5	3.52	3.49 - 3.55	25.4		ug/kg	
					26.2		
Aroclor-1260							14.1
Column 1	1	4.02	3.98 - 4.04	32.6		ug/kg	
	2	4.29	4.26 - 4.32	34.9		ug/kg	
	3	4.45	4.42 - 4.48	34.7		ug/kg	
	4	4.67	4.63 - 4.69	32.8		ug/kg	
	5	4.86	4.82 - 4.88	33.8		ug/kg	
					33.8		
Column 2	1	4.41	4.38 - 4.44	30.7		ug/kg	
	2	4.57	4.54 - 4.6	28.2		ug/kg	
	3	4.68	4.65 - 4.71	29.6		ug/kg	
	4	4.88	4.84 - 4.9	29		ug/kg	
	5	5.5	5.47 - 5.53	29		ug/kg	
					29.3		

QUALITY CONTROL DATA

PCB
Certificate of Analysis
Sample Summary

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SDG Number: 10-1102

Lab Sample ID: 1202006551

Client Sample: QC for batch 937678

Client ID: MB for batch 937678

Batch ID: 937679

Run Date: 12/31/2009 09:50

Prep Date: 12/30/2009 20:12

Data File: 013f1301-1.d

013b1301-1.d

Client: LANL010

Method: SW846 8082

Inst: ECD2A.I

Analyst: JAOC

Aliquot: 30 g

Column: 1 CLP1

2 CLP2

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-040

Dilution: 1

Inj. Vol: 1 uL

Final Volume: 1 mL

Level: LOW

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/ecd2a.i/123109.b/013f1301-2.d

Lab Smp Id: 1202006551

Client Smp ID: PBLK01

Inj Date : 31-DEC-2009 09:50

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |1202006551|1|

Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MB|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 13

QC Sample: BLANK

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1102.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

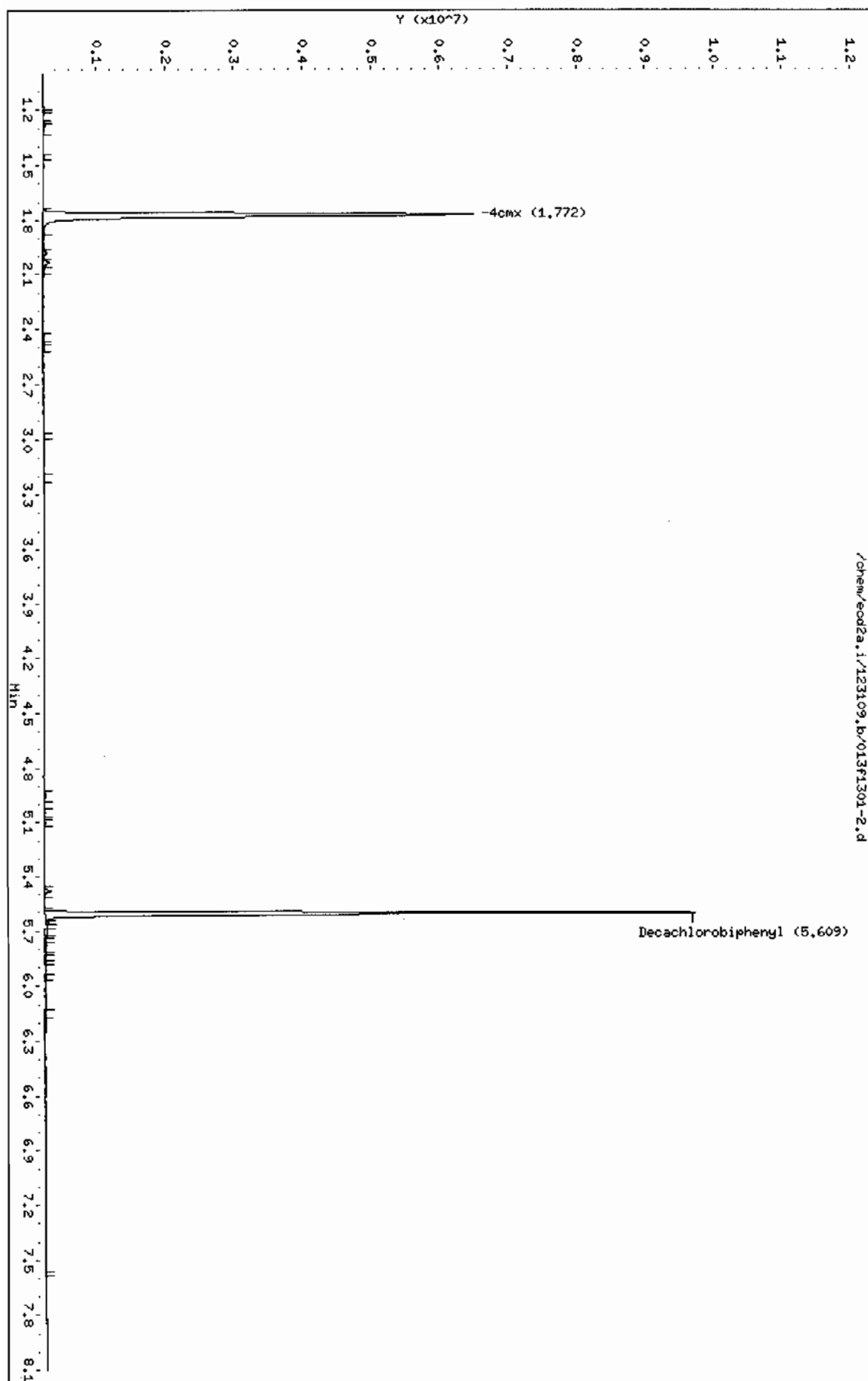
CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE (ug/L)	ON-COL	FINAL	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
1.772	1.772	0.000	8677840 139.310	4.6	80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.608	0.001	8533232 157.697	5.2	80.00- 120.00	100.00	

Data File: /chem/eod2a.i/123109.b/013F1301-2.d
Date: 31-DEC-2009 09:50
Client ID: PLK01
Sample Info: 1120200655111
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: eod2a.i
Operator: JAO
Column diameter: 0.25

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Data File: /chem/ecd2a.i/123109.b/013b1301-2.d
 Report Date: 04-Jan-2010 08:54

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/013b1301-2.d
 Lab Smp Id: 1202006551 Client Smp ID: PBLK01
 Inj Date : 31-DEC-2009 09:50
 Operator : JAOC Inst ID: ecd2a.i
 Smp Info : |1202006551|1|
 Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MB|||
 Comment :
 Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
 Als bottle: 13 QC Sample: BLANK
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: 10-1102.sub
 Target Version: 3.50 Sample Matrix: Soil
 Processing Host: hpc1p1

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

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8	
2.068	2.069	-0.001	19258560 148.924	5.0	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.301	6.300	0.001	19385436 171.883	5.7	80.00- 120.00	100.00

Data File: /chem/eod2a.i/123109.b/013b1301-2.d

Date : 31-DEC-2009 09:50

Client ID: PBLK01

Sample Info: 1120200655111

Volume Injected (uL): 1.0

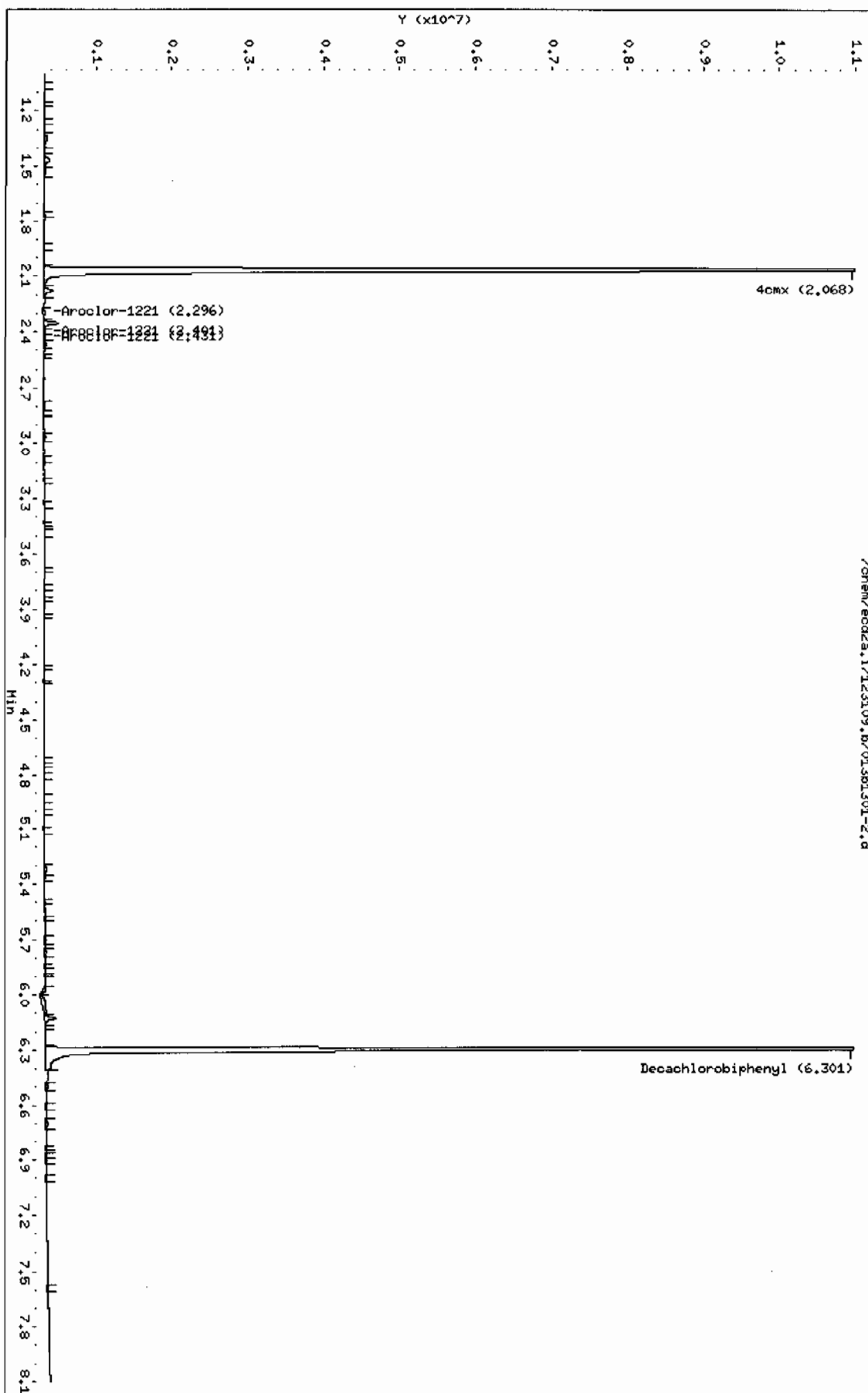
Column phase: CLP2

Instrument: eod2a.i

Operator: JHOC

Column diameter: 0.25

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PCB
Certificate of Analysis
Sample Summary

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SDG Number: 10-1102

Lab Sample ID: 1202006552

Client Sample: QC for batch 937678

Client ID: LCS for batch 937678

Batch ID: 937679

Run Date: 12/31/2009 10:01

Prep Date: 12/30/2009 20:12

Data File: 014f1401-1.d

014b1401-1.d

Client: LANL010

Method: SW846 8082

Inst: ECD2A.I

Analyst: JAOC

Aliquot: 30 g

Column: 1 CLP1

2 CLP2

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-040

Dilution: 1

Inj. Vol: 1 uL

Final Volume: 1 mL

Level: LOW

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		27.0	ug/kg	1.11	3.33	1

Data File: /chem/ecd2a.i/123109.b/014f1401-2.d
Report Date: 04-Jan-2010 08:55

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL
Data file : /chem/ecd2a.i/123109.b/014f1401-2.d
Lab Smp Id: 1202006552 Client Smp ID: PBLK01LCS
Inj Date : 31-DEC-2009 10:01
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202006552||
Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|LCS||
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
Meth Date : 04-Jan-2010 08:01 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpc1pl

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

CONCENTRATIONS							
				ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/Kg)	TARGET RANGE	RATIO
---	-----	-----	-----	-----	-----	-----	-----
\$ 11 4cmx CAS #: 877-09-8							
1.773	1.772	0.001	8286147	133.022	4.4	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3							
5.607	5.608	-0.001	7524026	139.047	4.6	80.00- 120.00	100.00

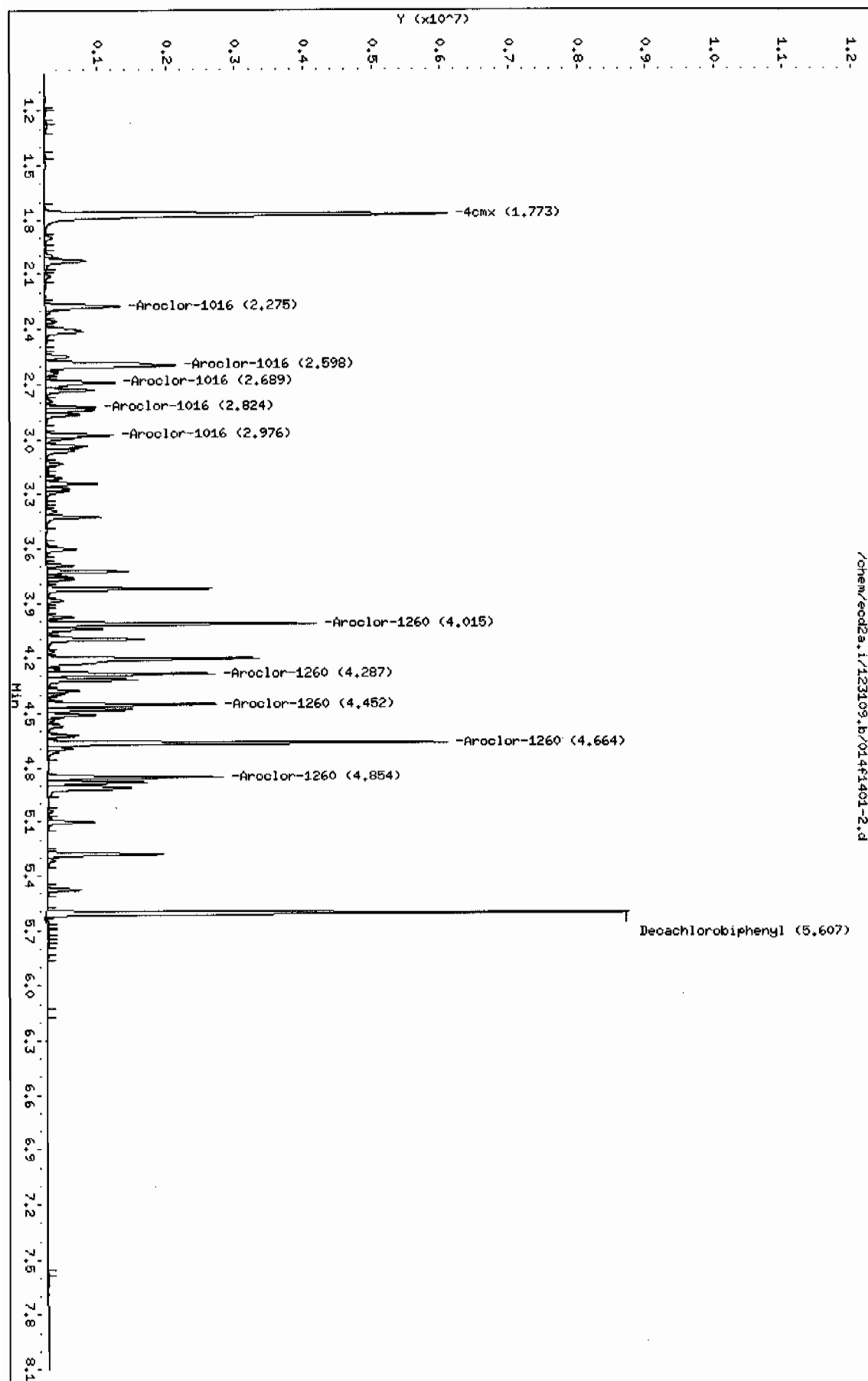
1 Aroclor-1016 CAS #: 12674-11-2							
2.275	2.274	0.001	1413137	631.516	21.0	80.00- 120.00	100.00
2.598	2.598	0.000	2972902	634.521	21.2	192.27- 232.27	210.38
2.689	2.689	0.000	1194428	628.156	20.9	65.25- 105.25	84.52
2.824	2.824	0.000	620041	635.302	21.2	22.83- 62.83	43.88

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE RATIO
==	=====	=====	=====	=====	=====	=====
1 Aroclor-1016 (continued)						
2.976	2.975	0.001	931240	638.769	21.3	44.32- 84.32 65.90
Average of Peak Concentrations =					21.1	

7 Aroclor-1260			CAS #: 11096-82-5			
4.015	4.015	0.000	3298011	791.821	26.4	80.00- 120.00 100.00
4.287	4.287	0.000	2104731	812.458	27.1	42.76- 82.76 63.82
4.452	4.452	0.000	2158738	820.437	27.3	44.99- 84.99 65.46
4.664	4.664	0.000	5212595	856.265	28.5	134.44- 174.44 158.05
4.854	4.854	0.000	2264713	769.748	25.6	55.22- 95.22 68.67
Average of Peak Concentrations =					27.0	

Data File: /chem/eod2a.i/123109.b/014f1401-2.d
Date: 31-DEC-2009 10:01
Client ID: PBLK01LCS
Sample Info: 11202006552111
Volume Injected (uL): 1.0
Column Phase: CLP1

Instrument: eod2a.i
Operator: JHDC
Column diameter: 0.25



Data File: /chem/ecd2a.i/123109.b/014b1401-2.d
 Report Date: 04-Jan-2010 08:54

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
 Data file : /chem/ecd2a.i/123109.b/014b1401-2.d
 Lab Smp Id: 1202006552 Client Smp ID: PBLK01LCS
 Inj Date : 31-DEC-2009 10:01
 Operator : JAOC Inst ID: ecd2a.i
 Smp Info : |1202006552|1|
 Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|LCS|||
 Comment :
 Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Meth Date : 04-Jan-2010 08:00 jen01212 Quant Type: ESTD
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
 Als bottle: 14 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: 10-1102.sub
 Target Version: 3.50 Sample Matrix: Soil
 Processing Host: hpc1p1

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

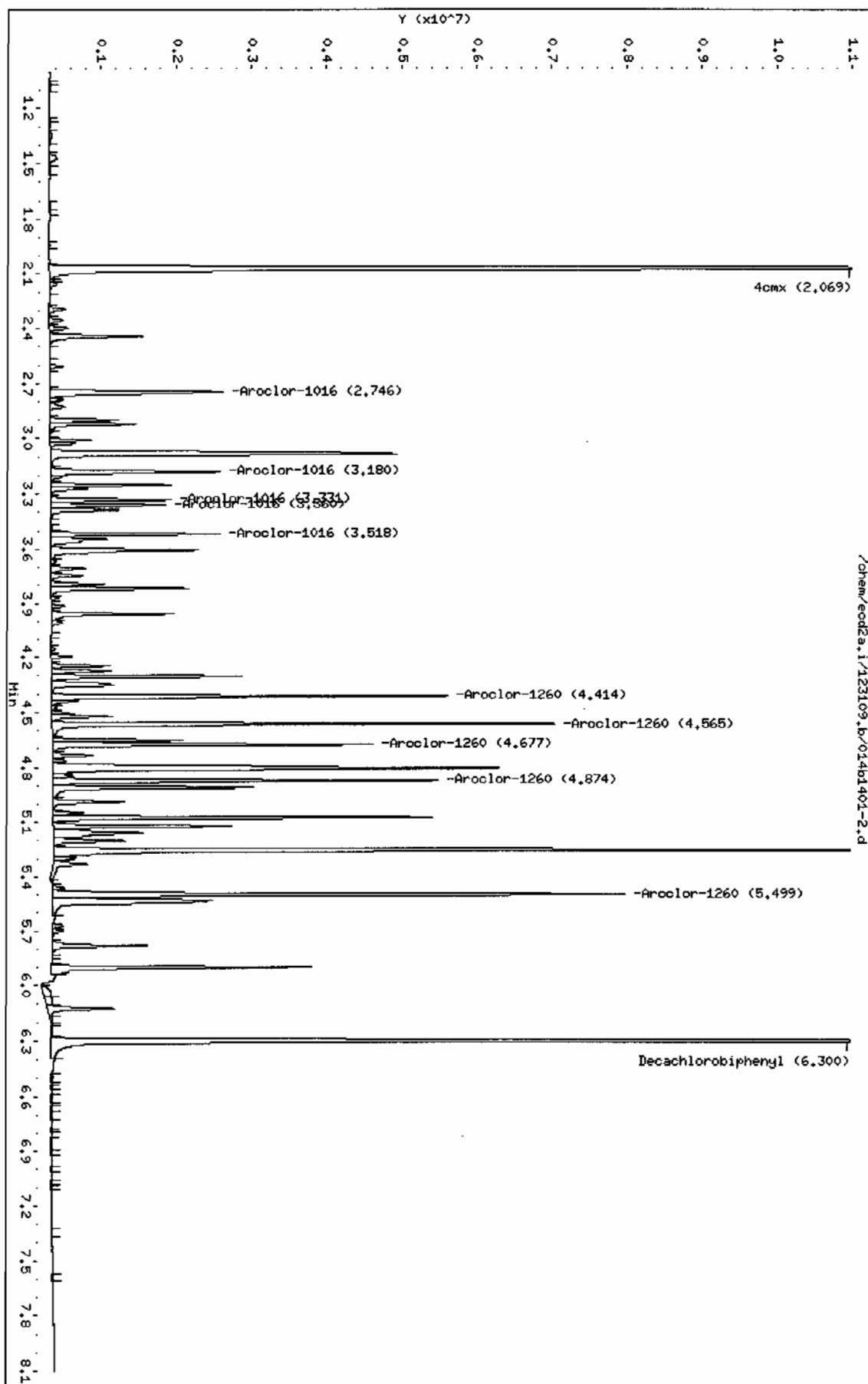
CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx			CAS #: 877-09-8			
2.069	2.069	0.000	18209109	140.809	4.7 80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl			CAS #: 2051-24-3			
6.300	6.300	0.000	17957536	159.222	5.3 80.00- 120.00	100.00
1 Aroclor-1016			CAS #: 12674-11-2			
2.746	2.745	0.001	2856804	629.554	21.0 80.00- 120.00	100.00
3.180	3.179	0.001	2231023	619.356	20.6 58.40- 98.40	78.10
3.331	3.331	0.000	1330120	647.818	21.6 25.06- 65.06	46.56
3.360	3.359	0.001	1339910	626.979	20.9 27.01- 67.01	46.90

CONCENTRATIONS							
			ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
1 Aroclor-1016 (continued)							
3.518	3.518	0.000	1831025	637.873	21.3	43.68- 83.68	64.09
Average of Peak Concentrations =					21.1		

7 Aroclor-1260					CAS #: 11096-82-5		
4.414	4.414	0.000	4438352	769.622	25.6	80.00- 120.00	100.00
4.565	4.565	0.000	5830711	818.473	27.3	107.43- 147.43	131.37
4.677	4.677	0.000	3876307	804.429	26.8	66.66- 106.66	87.34
4.874	4.874	0.000	4548050	807.572	26.9	79.77- 119.77	102.47
5.499	5.500	-0.001	7627587	843.992	28.1	145.98- 185.98	171.86
Average of Peak Concentrations =					26.9		

Data File: /chem/ecd2a.i/123109.b/014b1401-2.d
 Date: 31-DEC-2009 10:01
 Client ID: PALKOILCS
 Sample Info: 120200655211
 Volume Injected (uL): 1.0
 Column phase: CLP2

Instrument: ecd2a.i
 Operator: JNOC
 Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

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SDG Number:	10-1102	Date Collected:	12/22/2009 12:00	Matrix:	R
Lab Sample ID:	1202006553	Date Received:	12/29/2009 08:40	%Moisture:	10.8
Client Sample:	QC for batch 937678	Client:	LANL010	Project:	QC
Client ID:	RE12-10-7664MS	Method:	SW846 8082	SOP Ref:	GL-OA-E-040
Batch ID:	937679	Inst:	ECD2A.1	Dilution:	10
Run Date:	12/31/2009 12:25	Analyst:	JAOC	Inj. Vol:	1 uL
Prep Date:	12/30/2009 20:12	Aliquot:	30.03 g	Final Volume:	1 mL
Data File:	027f2701.d	Column:	1 CLP1	Level:	LOW
	027b2701.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	J	30.0	ug/kg	12.4	37.3	1
11104-28-2	Aroclor-1221	U	37.3	ug/kg	12.4	37.3	1
11141-16-5	Aroclor-1232	U	37.3	ug/kg	12.4	37.3	1
53469-21-9	Aroclor-1242	U	37.3	ug/kg	12.4	37.3	1
12672-29-6	Aroclor-1248	U	37.3	ug/kg	12.4	37.3	1
11097-69-1	Aroclor-1254	U	37.3	ug/kg	12.4	37.3	1
11096-82-5	Aroclor-1260	J	34.6	ug/kg	12.4	37.3	1

Data File: /chem/ecd2a.i/123109.b/027f2701.d
Report Date: 22-Jan-2010 17:18

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/027f2701.d
Lab Smp Id: 1202006553 Client Smp ID: RE12-10-7664MS
Inj Date : 31-DEC-2009 12:25
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202006553|10|
Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MS|||
Comment :
Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m
Meth Date : 04-Jan-2010 09:26 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 27 QC Sample: MS
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	10.00000	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	10.78660	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====
CAS #: 877-09-8							
11	1.772	1.772 0.000	814038 13.0682	4.9	80.00- 120.00	100.00	
CAS #: 2051-24-3							
12	5.608	5.608 0.000	832224 15.3798	5.7	80.00- 120.00	100.00	
CAS #: 12674-11-2							
1	2.275	2.274 0.001	175072 78.2378	29.2	80.00- 120.00	100.00(a)	
	2.599	2.598 0.001	360519 76.9474	28.7	192.27- 232.27	205.93	
	2.689	2.689 0.000	152672 80.2911	30.0	65.25- 105.25	87.21	
	2.824	2.824 0.000	81995 84.0132	31.4	22.83- 62.83	46.84	
	2.976	2.975 0.001	120306 82.5220	30.8	44.32- 84.32	68.72	
Average of Peak Concentrations =				30.0			

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260				CAS #: 11096-82-5		
4.015	4.015	0.000	371809 89.2678	33.3	80.00- 120.00	100.00 (a)
4.286	4.287	-0.001	246102 94.9991	35.4	42.76- 82.76	66.19
4.452	4.452	0.000	253463 96.3296	36.0	44.99- 84.99	68.17
4.666	4.664	0.002	553184 90.8707	33.9	134.44- 174.44	148.78
4.854	4.854	0.000	269622 91.6411	34.2	55.22- 95.22	72.52
Average of Peak Concentrations -				34.6		

QC Flag Legend

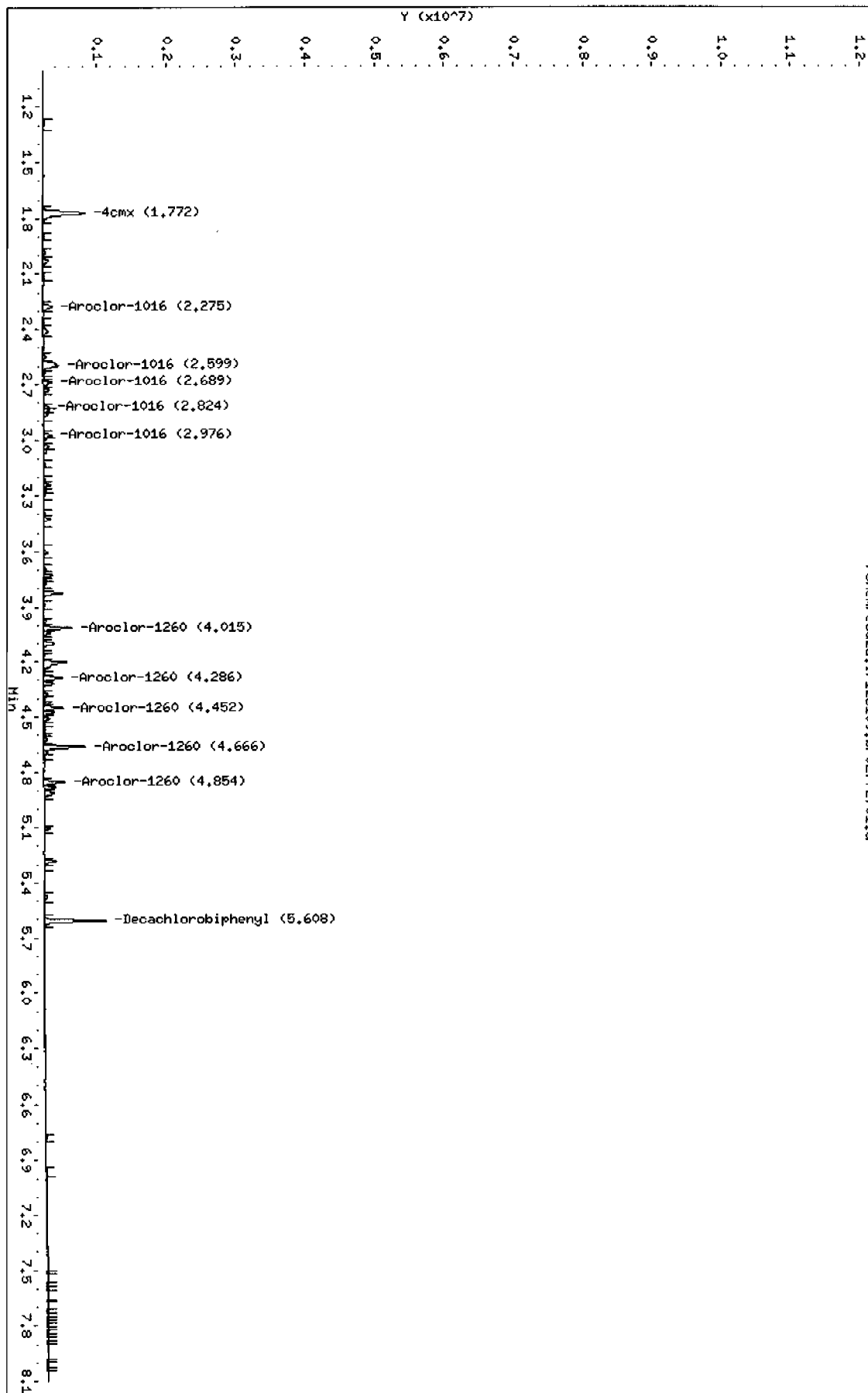
a - Target compound detected but, quantitated amount
 Below Limit Of Quantitation (BLOQ).

Data File: /chem/eod2a.i/123109.b/0272701.d
Date: 31-DEC-2009 12:25
Client ID: RE12-10-7664MS
Sample Info: 11202006531401
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: eod2a.i
Operator: JADC
Column diameter: 0.25

Page 1

/chem/eod2a.i/123109.b/0272701.d



Data File: /chem/ecd2a.i/123109.b/027b2701.d
 Report Date: 22-Jan-2010 17:18

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/027b2701.d
 Lab Smp Id: 1202006553 Client Smp ID: RE12-10-7664MS
 Inj Date : 31-DEC-2009 12:25
 Operator : JAOC Inst ID: ecd2a.i
 Smp Info : |1202006553|10|
 Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MS|||
 Comment :
 Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Meth Date : 04-Jan-2010 09:28 jen01212 Quant Type: ESTD
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
 Als bottle: 27 QC Sample: MS
 Dil Factor: 10.00000
 Integrator: Falcon Compound Sublist: 10-1102.sub
 Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt / (Vi * Ws * (100 - M) / 100) * CpndVariable

Name	Value	Description
DF	10.00000	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	10.78660	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx CAS #: 877-09-8						
2.068	2.069	-0.001	1552308 12.0038	4.5	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
6.300	6.300	0.000	1526997 13.5392	5.0	80.00- 120.00	100.00

1 Aroclor-1016 CAS #: 12674-11-2						
2.746	2.745	0.001	310378 68.3981	25.5	80.00- 120.00	100.00(a)
3.179	3.179	0.000	265902 73.8172	27.6	58.40- 98.40	85.67
3.331	3.331	0.000	152372 74.2109	27.7	25.06- 65.06	49.09
3.360	3.359	0.001	157305 73.6071	27.5	27.01- 67.01	50.68
3.518	3.518	0.000	203697 70.9618	26.5	43.68- 83.68	65.63
Average of Peak Concentrations *				26.9		

CONCENTRATIONS						
		ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.414	4.414	0.000	483898 83.9092	31.3	80.00- 120.00	100.00(a)
4.566	4.565	0.001	541563 76.0207	28.4	107.43- 147.43	111.92
4.677	4.677	0.000	385003 79.8976	29.8	66.66- 106.66	79.56
4.874	4.874	0.000	442145 78.5092	29.3	79.77- 119.77	91.37
5.500	5.500	0.000	705123 78.0218	29.1	145.98- 185.98	145.72
Average of Peak Concentrations =			29.6			

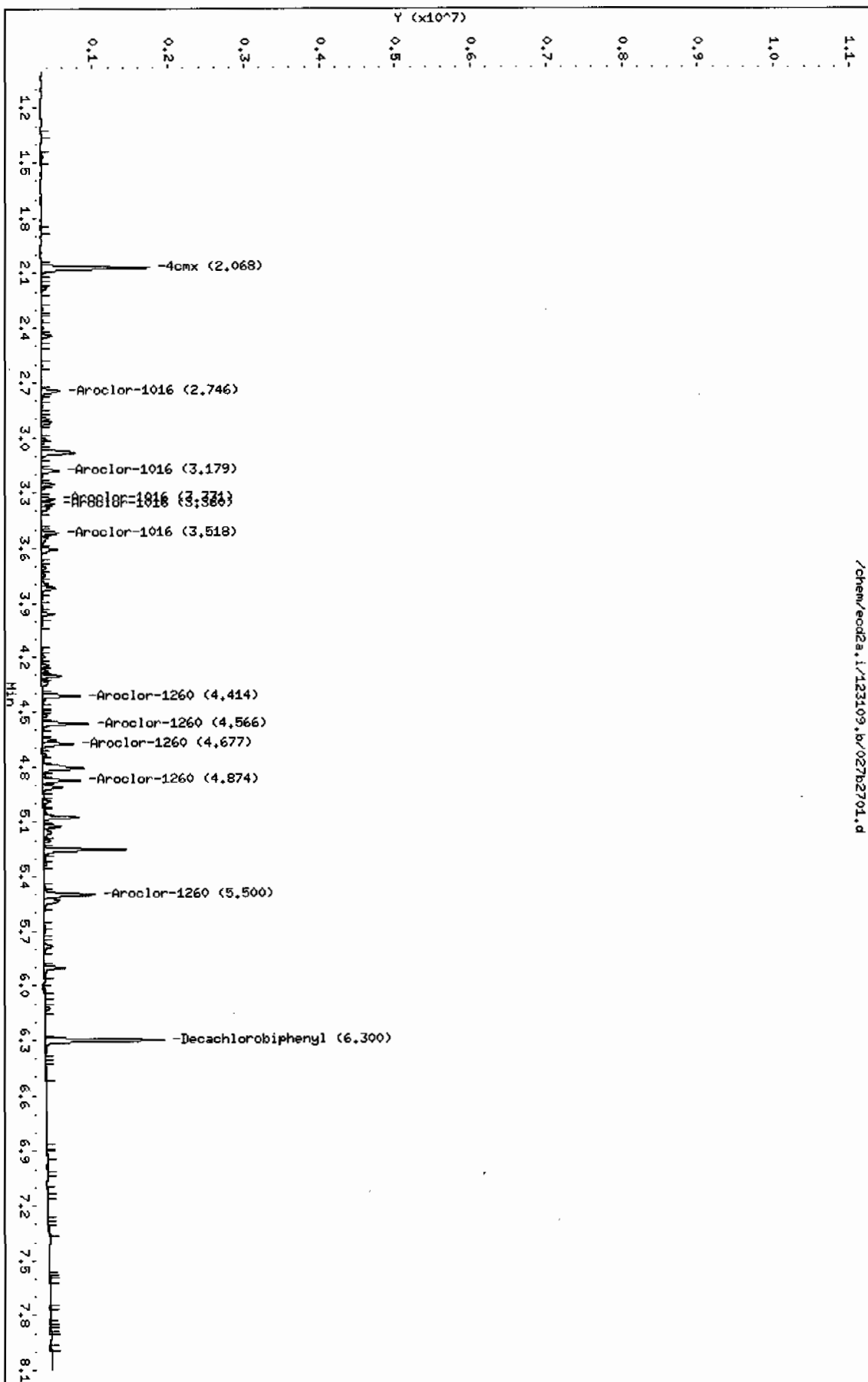
QC Flag Legend

a - Target compound detected but, quantitated amount
 Below Limit Of Quantitation(BLOQ).

Data File: /chem/eod2a.i/123109.b/027b2701.d
Date: 31-DEC-2009 12:25
Client ID: RE12-10-7664HS
Sample Info: 1202006531101
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: eod2a.i
Operator: JMC
Column diameter: 0.25

/chem/eod2a.i/123109.b/027b2701.d



PCB
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number:	10-1102	Date Collected:	12/22/2009 12:00	Matrix:	R
Lab Sample ID:	1202006554	Date Received:	12/29/2009 08:40	%Moisture:	10.8
Client Sample:	QC for batch 937678	Client:	LANL010	Project:	QC
Client ID:	RE12-10-7664MSD	Method:	SW846 8082	SOP Ref:	GL-OA-E-040
Batch ID:	937679	Inst:	ECD2A.I	Dilution:	10
Run Date:	12/31/2009 12:36	Analyst:	JAOC	Inj. Vol:	1 uL
Prep Date:	12/30/2009 20:12	Aliquot:	30.02 g	Final Volume:	1 mL
Data File:	028f2801.d	Column:	1 CLP1	Level:	LOW
	028b2801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	J	29.2	ug/kg	12.4	37.3	1
11104-28-2	Aroclor-1221	U	37.3	ug/kg	12.4	37.3	1
11141-16-5	Aroclor-1232	U	37.3	ug/kg	12.4	37.3	1
53469-21-9	Aroclor-1242	U	37.3	ug/kg	12.4	37.3	1
12672-29-6	Aroclor-1248	U	37.3	ug/kg	12.4	37.3	1
11097-69-1	Aroclor-1254	U	37.3	ug/kg	12.4	37.3	1
11096-82-5	Aroclor-1260	J	33.7	ug/kg	12.4	37.3	1

Data File: /chem/ecd2a.i/123109.b/028f2801.d
Report Date: 22-Jan-2010 17:19

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/123109.b/028f2801.d

Lab Smp Id: 1202006554

Client Smp ID: RE12-10-7664MSD

Inj Date : 31-DEC-2009 12:36

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |1202006554|10|

Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MSD|

Comment :

Method : /chem/ecd2a.i/123109.b/ECD2-F-8082-111209A.m

Meth Date : 04-Jan-2010 09:26 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 28

QC Sample: MSD

Dil Factor: 10.00000

Integrator: Falcon

Compound Sublist: 10-1102.sub

Target Version: 3.50

Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.02000	Weight of sample extracted (g)
M	10.78660	% Moisture

Cpnd Variable

Local Compound Variable

CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE	ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
\$ 11 4cmx						CAS #: 877-09-8	
1.772	1.772	0.000	775811	12.4545	4.6	80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl						CAS #: 2051-24-3	
5.609	5.608	0.001	809543	14.9606	5.6	80.00- 120.00	100.00
1 Aroclor-1016						CAS #: 12674-11-2	
2.276	2.274	0.002	177852	79.4802	29.7	80.00- 120.00	100.00 (aM)
2.598	2.598	0.000	351918	75.1116	28.0	192.27- 232.27	197.87
2.689	2.689	0.000	148456	78.0739	29.2	65.25- 105.25	83.47
2.823	2.824	-0.001	78949	80.8922	30.2	22.83- 62.83	44.39
2.976	2.975	0.001	112258	77.0016	28.8	44.32- 84.32	63.12
Average of Peak Concentrations =					29.2		

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE		RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260					CAS #: 11096-82-5				
4.016	4.015	0.001	363525	87.2789	32.6	80.00-	120.00	100.00(a)	
4.287	4.287	0.000	242390	93.5663	34.9	42.76-	82.76	66.68	
4.452	4.452	0.000	244186	92.8039	34.6	44.99-	84.99	67.17	
4.666	4.664	0.002	535099	87.8999	32.8	134.44-	174.44	147.20	
4.855	4.854	0.001	266197	90.4770	33.8	55.22-	95.22	73.23	
Average of Peak Concentrations =					33.7				

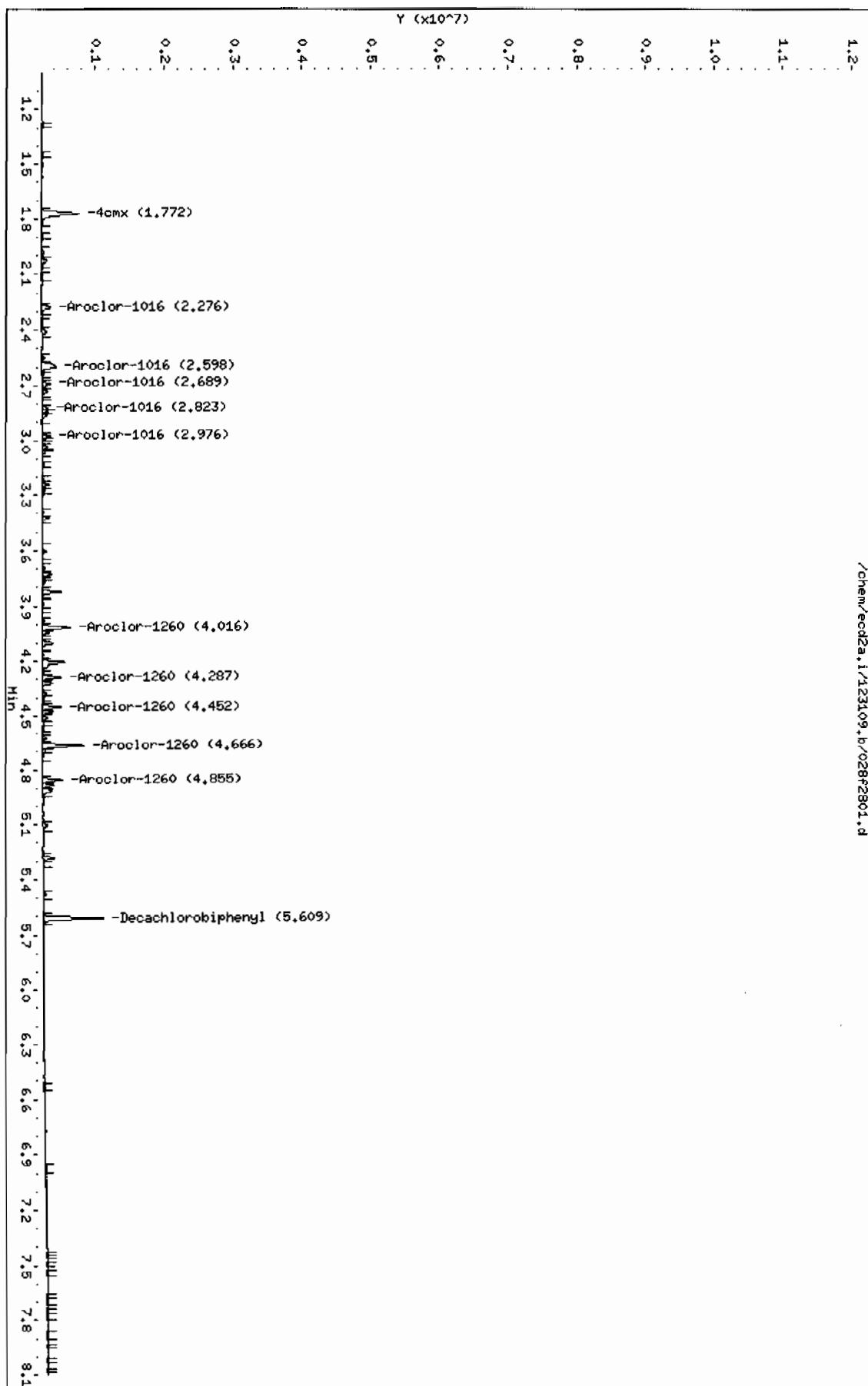
QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- M - Compound response manually integrated.

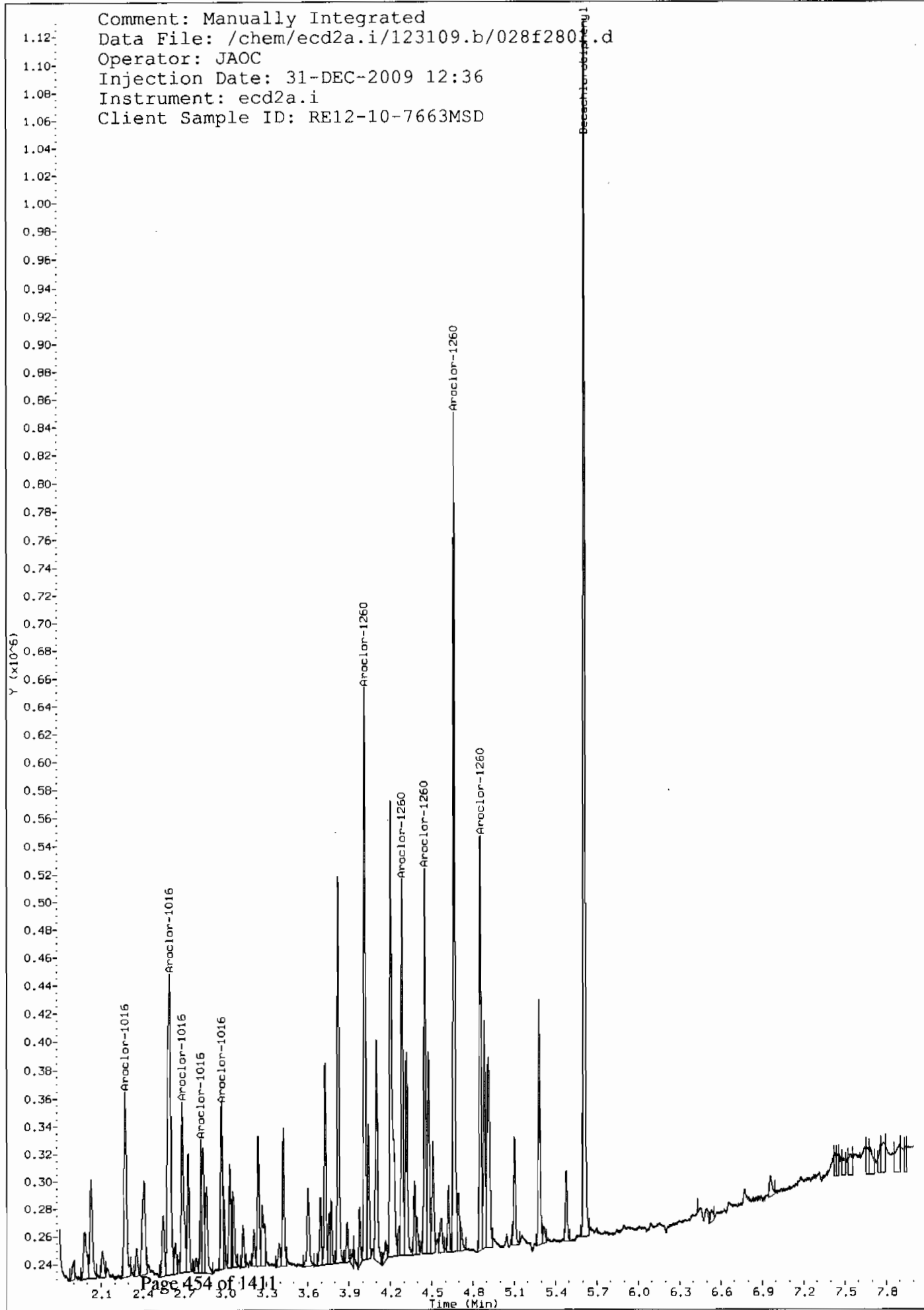
Data File: /chem/eod2a.i/123109.b/028f2801.d
Date: 31-DEC-2009 12:36
Client ID: RE12-10-7664HSD
Sample Info: 112020065541101
Volume Injected (uL): 1.0
Column Phase: CLP1

Instrument: eod2a.i
Operator: JAO
Column diameter: 0.25

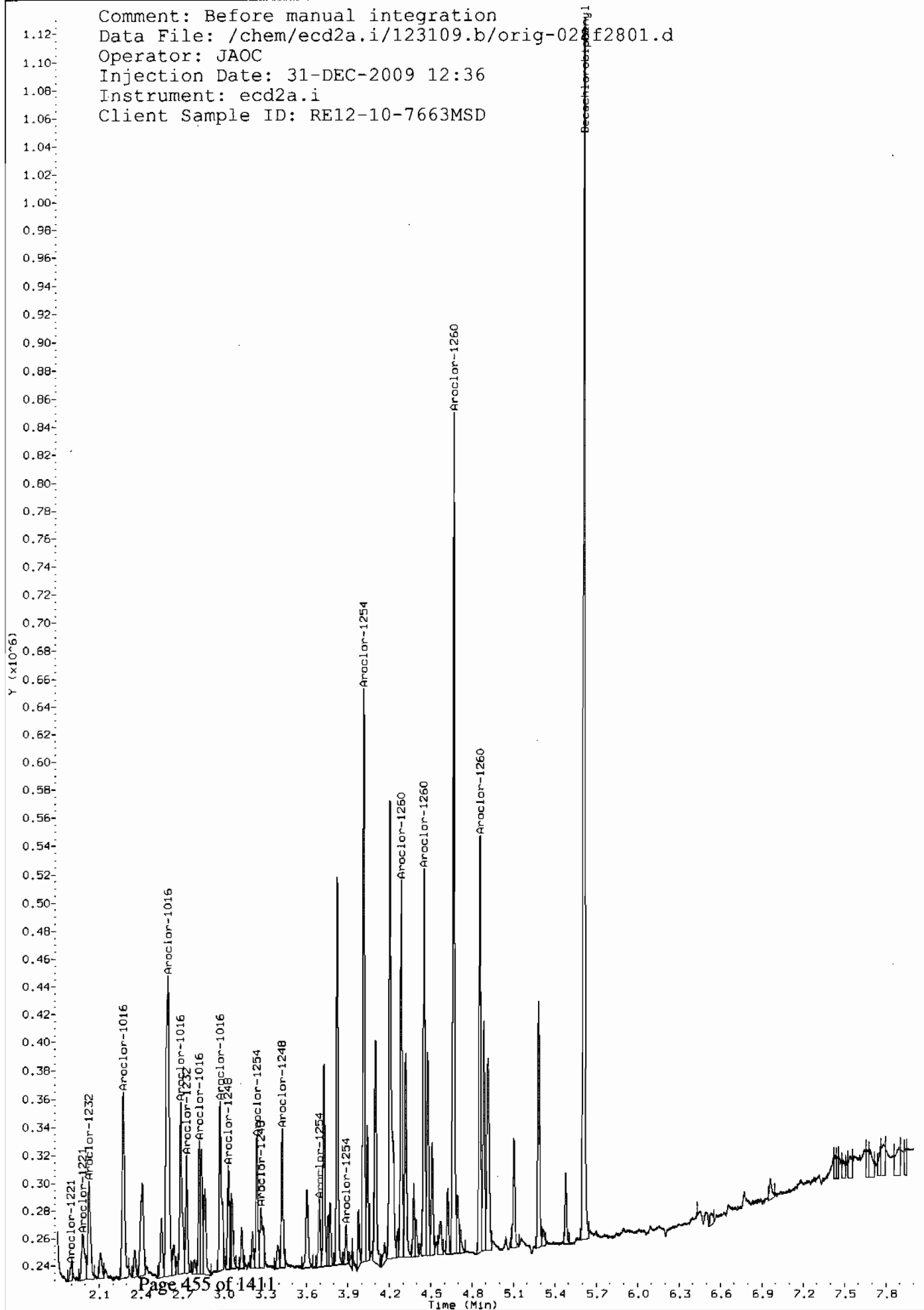
Page 1



Comment: Manually Integrated
Data File: /chem/ecd2a.i/123109.b/028f280.d
Operator: JAOC
Injection Date: 31-DEC-2009 12:36
Instrument: ecd2a.i
Client Sample ID: RE12-10-7663MSD



Comment: Before manual integration
Data File: /chem/ecd2a.i/123109.b/orig-0200f2801.d
Operator: JAOC
Injection Date: 31-DEC-2009 12:36
Instrument: ecd2a.i
Client Sample ID: RE12-10-7663MSD



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
 Data file : /chem/ecd2a.i/123109.b/028b2801.d
 Lab Smp Id: 1202006554 Client Smp ID: RE12-10-7664MSD
 Inj Date : 31-DEC-2009 12:36
 Operator : JAOC Inst ID: ecd2a.i
 Smp Info : |1202006554|10|
 Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MSD|||
 Comment :
 Method : /chem/ecd2a.i/123109.b/ECD2-B-8082-111209A.m
 Meth Date : 04-Jan-2010 09:28 jen01212 Quant Type: ESTD
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
 Als bottle: 28 QC Sample: MSD
 Dil Factor: 10.00000
 Integrator: Falcon Compound Sublist: 10-1102.sub
 Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt / (Vi * Ws * (100 - M) / 100) * CpndVariable

Name	Value	Description
DF	10.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.02000	Weight of sample extracted (g)
M	10.78660	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL RESPONSE (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
\$ 11 4cmx				CAS #: 877-09-8		
2.069	2.069	0.000	1470359 11.3701	4.2	80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.300	6.300	0.000	1500587 13.3051	5.0	80.00- 120.00	100.00
1 Aroclor-1016				CAS #: 12674-11-2		
2.746	2.745	0.001	301879 66.5251	24.8	80.00- 120.00	100.00(a)
3.180	3.179	0.001	257505 71.4861	26.7	58.40- 98.40	85.30
3.331	3.331	0.000	150578 73.3371	27.4	25.06- 65.06	49.88
3.360	3.359	0.001	153815 71.9740	26.9	27.01- 67.01	50.95
3.518	3.518	0.000	195243 68.0167	25.4	43.68- 83.68	64.68
Average of Peak Concentrations =				26.2		

CONCENTRATIONS								
			ON-COL		FINAL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	
7 Aroclor-1260					CAS #: 11096-82-5			
4.415	4.414	0.001	474142	82.2175	30.7	80.00- 120.00	100.00 (a)	
4.566	4.565	0.001	537960	75.5149	28.2	107.43- 147.43	113.46	
4.678	4.677	0.001	382485	79.3750	29.6	66.66- 106.66	80.67	
4.875	4.874	0.001	437710	77.7217	29.0	79.77- 119.77	92.32	
5.500	5.500	0.000	702510	77.7327	29.0	145.98- 185.98	148.16	
Average of Peak Concentrations =					29.3			

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem/eod2a.i/123109.b/02862801.d

Date : 31-DEC-2009 12:36

Client ID: REL2-10-7664MSD

Sample Info: 112020065541401

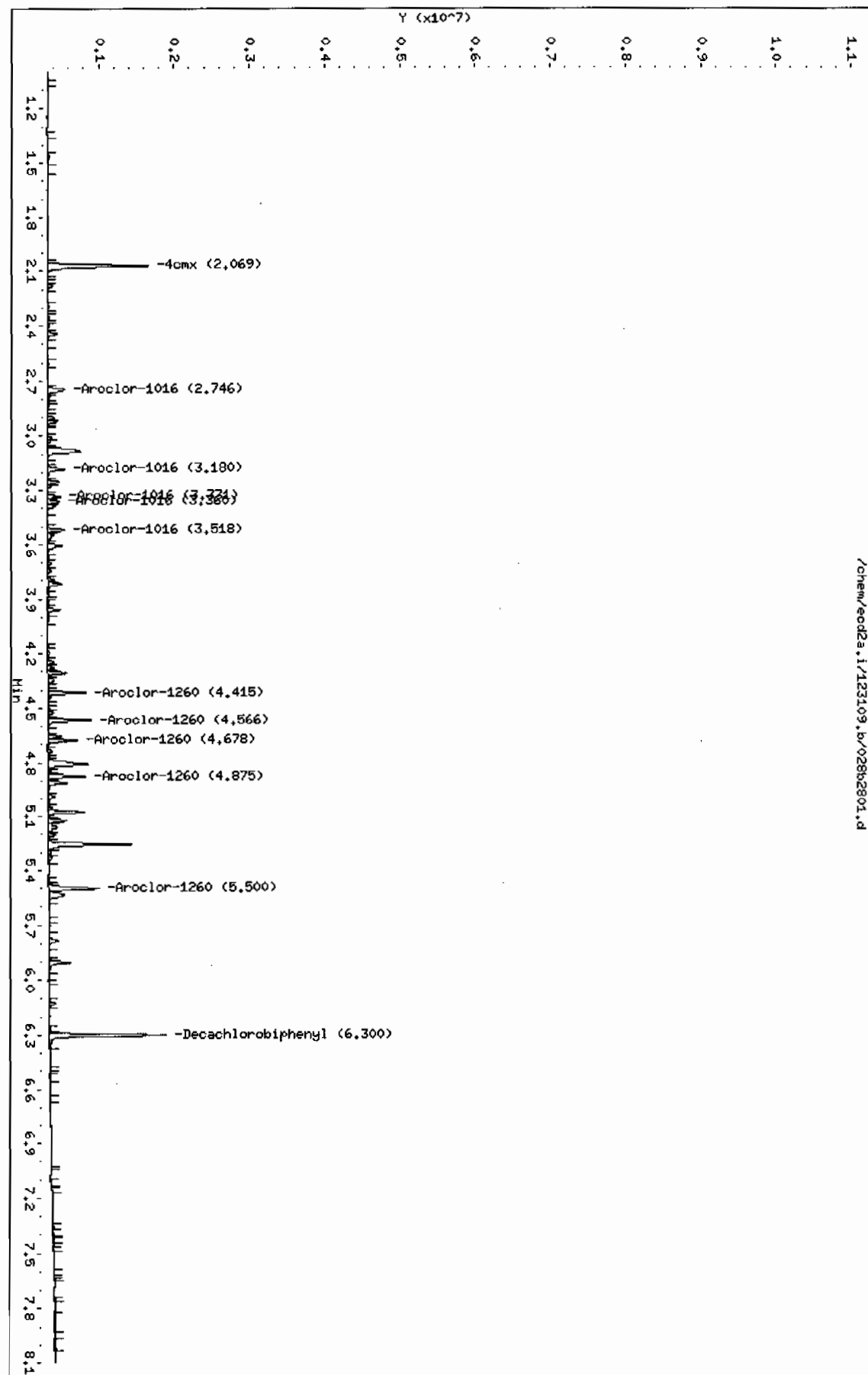
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: eod2a.i

Operator: JAO

Column diameter: 0.25



MISCELLANEOUS DATA

GEL ORGANIC RUN LOG

INSTRUMENT ID: ECD2

DATE: 12/14/2009

METHOD: ECD2-F-8082-111209A.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 Standards Log

Initial Calibration Std ID's: See Calibration History and Standards Log

GEL SOP GL-OA-E-040

EPA Method: 8082 Polychlorinated Biphenyls PCBs by Gas Chromatography

Sequence Number: Injection Volume: 1.0 uL

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 IB	YS1	14-DEC-2009 07:00		121409	1.0	CLEAN	
002f0201.d	WAR091211-60 01	YS1	14-DEC-2009 07:11		121409	1.0	DUSE RE-I-CAL	
003f0301.d	WAR091102-54	YS1	14-DEC-2009 07:22		121409	1.0	PASSED ON BOTH COLUMNS	
004f0401.d	WAR091102-42	YS1	14-DEC-2009 07:33		121409	1.0	PASSED ON BOTH COLUMNS	
005f0501.d	WAR091027-48	YS1	14-DEC-2009 07:44		121409	1.0	PASSED ON BOTH COLUMNS	
006f0601.d	WAR090930-32	YS1	14-DEC-2009 07:55		121409	1.0	PATTERN ONLY	
007f0701.d	WAR091111-21	YS1	14-DEC-2009 08:07		121409	1.0	PATTERN ONLY	
008f0801.d	AR1660-4	YS1	14-DEC-2009 08:18		121409	1.0	DUSE SCREEN	
009f0901.d	WAR091111-62	YS1	14-DEC-2009 08:29		121409	1.0	PATTERN ONLY	
010f1001.d	WAR091106-68	YS1	14-DEC-2009 08:40		121409	1.0	PATTERN ONLY	
011f1101.d	WAR091214-01 60	YS1	14-DEC-2009 08:51		121409	1.0	AR1660 I-CAL LEVEL 1	
012f1201.d	WAR091214-02 60	YS1	14-DEC-2009 09:02		121409	1.0	AR1660 I-CAL LEVEL 2	
013f1301.d	WAR091214-03 60	YS1	14-DEC-2009 09:13		121409	1.0	AR1660 I-CAL LEVEL 3	
014f1401.d	WAR091214-04 60	YS1	14-DEC-2009 09:24		121409	1.0	AR1660 I-CAL LEVEL 4	
015f1501.d	WAR091102-01	YS1	14-DEC-2009 09:35		121409	1.0	AR1660 I-CAL LEVEL 5	

Instrument Batch: /chem/ecd2a.i/121409.b

Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
016f1601.d	WAR091211-60 01	YS1	14-DEC-2009 09:46		121409	1.0	PASSED ON BOTH COLUMNS	

1017f1701.d	WAR091020-BDT	YS1	14-DEC-2009 09:58	121409	1.0	DDT ANALOG STANDARD
1018f1801.d	WAR091130-99 02	YS1	14-DEC-2009 10:09	121409	1.0	CLEAN
1019f1901.d	1201992205	YS1	14-DEC-2009 10:20	1241934	1.0	QC A UPLOAD BOTH COLUMNS, USE HIGHER
1020f2001.d	1201992206	YS1	14-DEC-2009 10:31	1241934	1.0	QC A UPLOAD BOTH COLUMNS, USE HIGHER
1021f2101.d	1241934001	YS1	14-DEC-2009 10:42	1241934	10.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1022f2201.d	1201992207	YS1	14-DEC-2009 10:53	1241934	10.0	QC A UPLOAD BOTH COLUMNS, USE HIGHER
1023f2301.d	1201992208	YS1	14-DEC-2009 11:04	1241934	10.0	QC A UPLOAD BOTH COLUMNS, USE HIGHER
1024f2401.d	1241934002	YS1	14-DEC-2009 11:15	1241934	1.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1025f2501.d	1241934003	YS1	14-DEC-2009 11:26	1241934	1.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1026f2601.d	1241934004	YS1	14-DEC-2009 11:37	1241934	10.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1027f2701.d	1241934005	YS1	14-DEC-2009 11:48	1241934	1.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1028f2801.d	1241934006	YS1	14-DEC-2009 11:59	1241934	20.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1029f2901.d	WAR091211-60 02	YS1	14-DEC-2009 12:11	121409	1.0	CVS PASSED ON BOTH COLUMNS
1030f3001.d	WAR091130-99 03	YS1	14-DEC-2009 12:22	121409	1.0	CLEAN
1031f3101.d	1241934007	YS1	14-DEC-2009 12:33	1241934	1.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1032f3201.d	1241934008	YS1	14-DEC-2009 12:44	1241934	10.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1033f3301.d	1241934009	YS1	14-DEC-2009 13:00	1241934	1.0	NREA DUSE RR5X AFTER MORE SULFUR CLEANED
1034f3401.d	1241934010	YS1	14-DEC-2009 13:11	1241934	10.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER
1035f3501.d	1241934011	YS1	14-DEC-2009 13:27	1241934	5.0	NREA UPLOAD BOTH COLUMNS, USE HIGHER

Instrument Batch: /chem/ecd2a.i/121409.b

Page: 2

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	241935001	YS1	14-DEC-2009 13:43	1931371	1241935	1.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
037f3701.d	241935004	YS1	14-DEC-2009 13:54	1931371	1241935	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
038f3801.d	241935005	YS1	14-DEC-2009 14:05	1931371	1241935	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
039f3901.d	241935006	YS1	14-DEC-2009 14:21	1931371	1241935	50.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
040f4001.d	241935007	YS1	14-DEC-2009 14:36	1931371	1241935	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
041f4101.d	1409091211-60 03	YS:	14-DEC-2009 14:52	121409		1.0		PASSED ON BOTH COLUMNS

1041f4101.d WAR091211-60 03

YS1 14-DEC-2009 14:52 121409 1.0 PASSED ON BOTH COLUMNS

042f4201.d	WAR091130-99 04	Y51	14-DEC-2009 15:03	SOLV	121409	1.01B	CLEAN
043f4301.d	1241934009	Y51	14-DEC-2009 15:14	931371	1241934	5.01NREA	UPLOAD BOTH COLUMNS, USE HIGHER
044f4401.d	1241935008	Y51	14-DEC-2009 15:30	931371	1241935	20000.01NREA	UPLOAD BOTH COLUMNS, USE HIGHER
045f4501.d	WAR091211-60 04	Y51	14-DEC-2009 15:45		121409	1.01	PASSED ON BOTH COLUMNS

Instrument Batch: /chem/ecd2a.i/121409.b

Page: 3

GEL ORGANIC RUN LOG

INSTRUMENT ID: ECD2

DATE: 01/04/2010

METHOD: ECD2-F-8082-111209A.m

OPERATOR: JAOC

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 Standards Log

Initial Calibration Std ID's: See Calibration History and Standards Log

GEL SOP GL-OA-E-040

EPA Method: 8082 Polychlorinated Biphenyls PCBs by Gas Chromatography

Sequence Number: 123109 Injection Volume: 1.0 uL

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR09130-99 IB	JAOC	31-DEC-2009 07:31		123109	1.0	CLEAN	
002f0201.d	WAR091211-60 01	JAOC	31-DEC-2009 07:42		123109	1.0	DUSE	
003f0301.d	WAR091216-54	JAOC	31-DEC-2009 07:53		123109	1.0	PASSES BOTH COLUMNS	
004f0401.d	WAR091217-42	JAOC	31-DEC-2009 08:04		123109	1.0	PASSES BOTH COLUMNS	
005f0501.d	WAR091217-48	JAOC	31-DEC-2009 08:15		123109	1.0	PASSES BOTH COLUMNS	
006f0601.d	WAR091231-60 01	JAOC	31-DEC-2009 08:26		123109	1.0	PASSES BOTH COLUMNS	
007f0701.d	WAR090930-32	JAOC	31-DEC-2009 08:38		123109	1.0	PATTERN ONLY	
008f0801.d	WAR091111-21	JAOC	31-DEC-2009 08:49		123109	1.0	PATTERN ONLY	
009f0901.d	WAR091111-62	JAOC	31-DEC-2009 09:00		123109	1.0	PATTERN ONLY	
010f1001.d	WAR091106-68	JAOC	31-DEC-2009 09:11		123109	1.0	PATTERN ONLY	
011f1101.d	WAR091219-DDT	JAOC	31-DEC-2009 09:22		123109	1.0	DDT	
012f1201.d	WAR091130-99 02	JAOC	31-DEC-2009 09:39		123109	1.0	CLEAN	
013f1301.d	1202006551	JAOC	31-DEC-2009 09:50	937679	10-1090-1	1.0	QC A	UPLOAD BOTH, USE HIGHER
014f1401.d	1202006552	JAOC	31-DEC-2009 10:01	937679	10-1090-1	1.0	QC A	UPLOAD BOTH, USE HIGHER
015f1501.d	243596002	JAOC	31-DEC-2009 10:12	937679	10-1090-1	5.0	LANL	UPLOAD BOTH, USE HIGHER

Instrument Batch: /chem/ecd2a.i/123109.b

Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
016f1601.d	243596003	JAOC	31-DEC-2009 10:23	937679	10-1090-1	5.0	LANL	UPLOAD BOTH, USE HIGHER

1017f1701.d	243596004	JAO	31-DEC-2009 10:34	937679	10-1090-1	5.0 LANL	UPLOAD BOTH, USE HIGHER
1018f1801.d	243596005	JAO	31-DEC-2009 10:45	937679	10-1090-1	1.0 LANL	UPLOAD BOTH, USE HIGHER
1019f1901.d	243596006	JAO	31-DEC-2009 10:57	937679	10-1090-1	1.0 LANL	UPLOAD BOTH, USE HIGHER
1020f2001.d	WAR091231-60 02	JAO	31-DEC-2009 11:08		123109	1.0	PASSES BOTH COLUMNS
1021f2101.d	WAR091130-99 03	JAO	31-DEC-2009 11:19		123109	1.0	CLEAN
1022f2201.d	243624001	JAO	31-DEC-2009 11:30	937679	10-1100	5.0 LANL	UPLOAD BOTH, USE HIGHER
1023f2301.d	243624002	JAO	31-DEC-2009 11:41	937679	10-1100	10.0 LANL	UPLOAD BOTH, USE HIGHER
1024f2401.d	243624003	JAO	31-DEC-2009 11:52	937679	10-1100	1.0 LANL	UPLOAD BOTH, USE HIGHER
1025f2501.d	243624004	JAO	31-DEC-2009 12:03	937679	10-1100	1.0 LANL	UPLOAD BOTH, USE HIGHER
1026f2601.d	243630002	JAO	31-DEC-2009 12:14	937679	10-1102	10.0 LANL	UPLOAD BOTH, USE HIGHER
1027f2701.d	1202006553	JAO	31-DEC-2009 12:25	937679	10-1102	10.0 QC A	UPLOAD BOTH, USE HIGHER
1028f2801.d	1202006554	JAO	31-DEC-2009 12:36	937679	10-1102	10.0 QC A	UPLOAD BOTH, USE HIGHER
1029f2901.d	243630003	JAO	31-DEC-2009 12:47	937679	10-1102	1.0 LANL	UPLOAD BOTH, USE HIGHER
1030f3001.d	WAR091231-60 03	JAO	31-DEC-2009 12:58		123109	1.0	PASSES BOTH COLUMNS
1031f3101.d	WAR091130-99 04	JAO	31-DEC-2009 13:10		123109	1.0	CLEAN
1032f3201.d	1202006786	JAO	31-DEC-2009 13:21	937791	10-1036	1.0 QC A	UPLOAD BOTH, USE HIGHER
1033f3301.d	1202006787	JAO	31-DEC-2009 13:32	937791	10-1036	1.0 QC A	UPLOAD BOTH, USE HIGHER
1034f3401.d	243490007	JAO	31-DEC-2009 13:43	937791	10-1036	1.0 LANL	UPLOAD BOTH, USE HIGHER
1035f3501.d	1202006788	JAO	31-DEC-2009 13:54	937791	10-1036	1.0 QC A	UPLOAD BOTH, USE HIGHER

Instrument Batch: /chem/ecd2a.i/123109.b

Page: 2

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
1036f3601.d	1202006789	JAO	31-DEC-2009 14:05	937791	10-1036	1.0 QC A		UPLOAD BOTH, USE HIGHER
1037f3701.d	WAR091231-60 04	JAO	31-DEC-2009 14:16		123109	1.0		PASSES BOTH COLUMNS
1038f3801.d	WAR091130-99 05	JAO	31-DEC-2009 14:27		123109	1.0		CLEAN

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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012210.b/012b1201.d
 Lab Smp Id: 1202006553 Client Smp ID: RE12-10-7664MS
 Inj Date : 22-JAN-2010 13:12
 Operator : JAOC Inst ID: ecd2a.i
 Smp Info : |1202006553|1|
 Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MS|||
 Comment :
 Method : /chem/ecd2a.i/012210.b/ECD2-B-8082-111209A.m
 Meth Date : 22-Jan-2010 14:04 jen01212 Quant Type: ESTD
 Cal Date : 21-JAN-2010 08:45 Cal File: 010b1001.d
 Als bottle: 12 QC Sample: MS
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: 10-1102.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	10.78660	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx CAS #: 877-09-8						
2.068	2.067	0.001	17664717	126.577	4.7 80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
6.299	6.299	0.000	18194501	146.080	5.4 80.00- 120.00	100.00

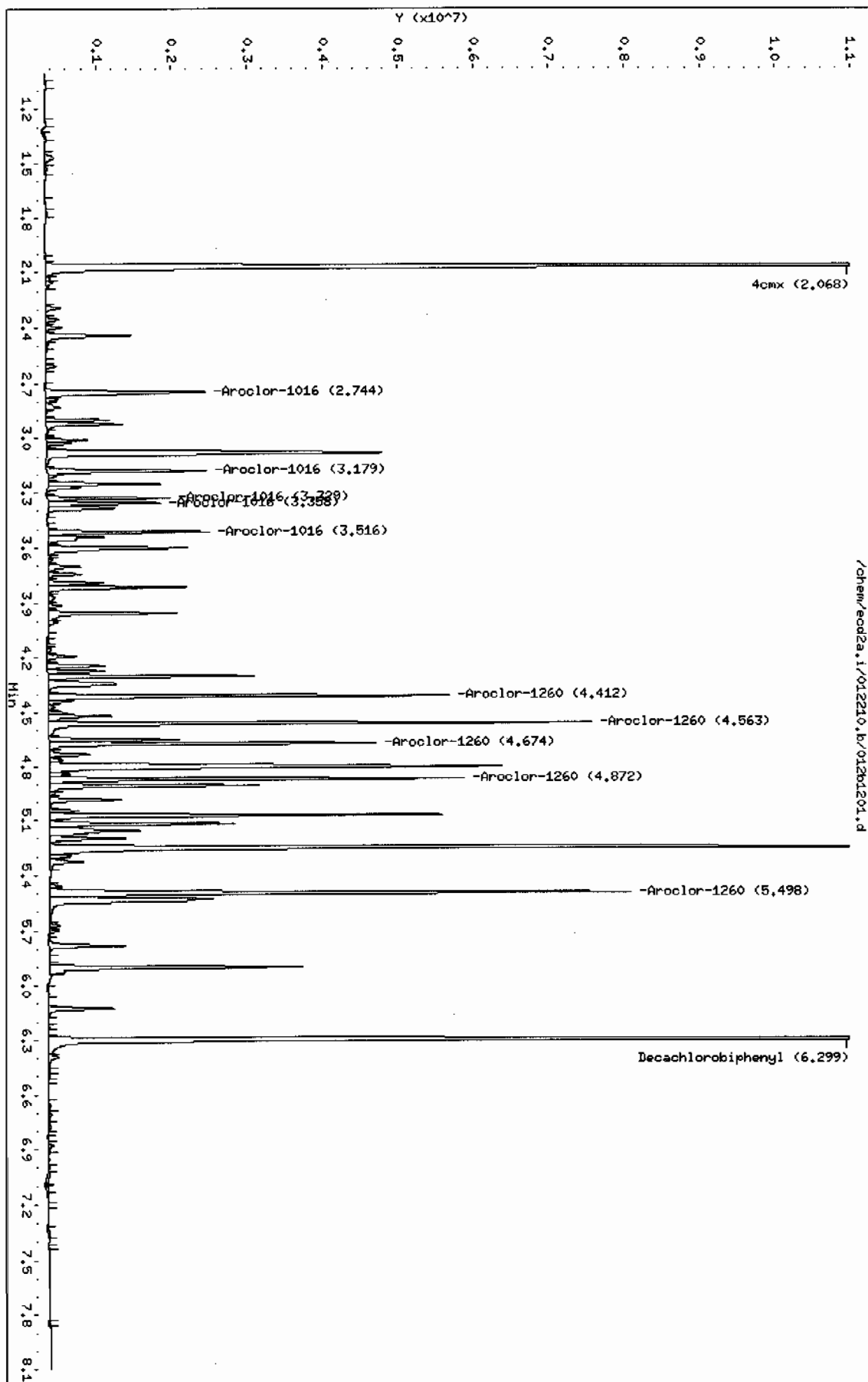
1 Aroclor-1016 CAS #: 12674-11-2						
2.744	2.744	0.000	2642102	588.535	22.0 80.00- 120.00	100.00
3.179	3.179	0.000	2068880	602.446	22.5 58.44- 98.44	78.30
3.329	3.330	-0.001	1330380	659.462	24.6 25.39- 65.39	50.35
3.358	3.359	-0.001	1320359	627.080	23.4 27.28- 67.28	49.97

CONCENTRATIONS								
			ON-COL		FINAL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE		RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
1 Aroclor-1016 (continued)								
3.516	3.517	-0.001	1764443	631.406	23.6	44.12-	84.12	66.78
Average of Peak Concentrations =					23.2			

7 Aroclor-1260					CAS #: 11096-82-5			
4.412	4.413	-0.001	4519437	781.207	29.2	80.00-	120.00	100.00
4.563	4.564	-0.001	6193652	852.751	31.8	105.47-	145.47	137.04
4.674	4.676	-0.002	3940258	787.395	29.4	65.38-	105.38	87.18
4.872	4.873	-0.001	4679078	807.408	30.1	77.98-	117.98	103.53
5.498	5.499	-0.001	7638764	813.115	30.4	141.80-	181.80	169.02
Average of Peak Concentrations =					30.2			

Data File: /chem/ecod2a.i/012210.b/012b1201.d
Date: 22-JUN-2010 13:12
Client ID: REL2-10-7664MS
Sample Info: 1120200655311
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecod2a.i
Operator: JADC
Column diameter: 0.25



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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012210.b/012f1201.d
Lab Smp Id: 1202006553 Client Smp ID: RE12-10-7664MS
Inj Date : 22-JAN-2010 13:12
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202006553|1|
Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MS|
Comment :
Method : /chem/ecd2a.i/012210.b/ECD2-F-8082-111209A.m
Meth Date : 22-Jan-2010 14:24 jen01212 Quant Type: ESTD
Cal Date : 21-JAN-2010 08:45 Cal File: 010f1001.d
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpc1p1

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	10.78660	% Moisture

Cpnd Variable Local Compound Variable

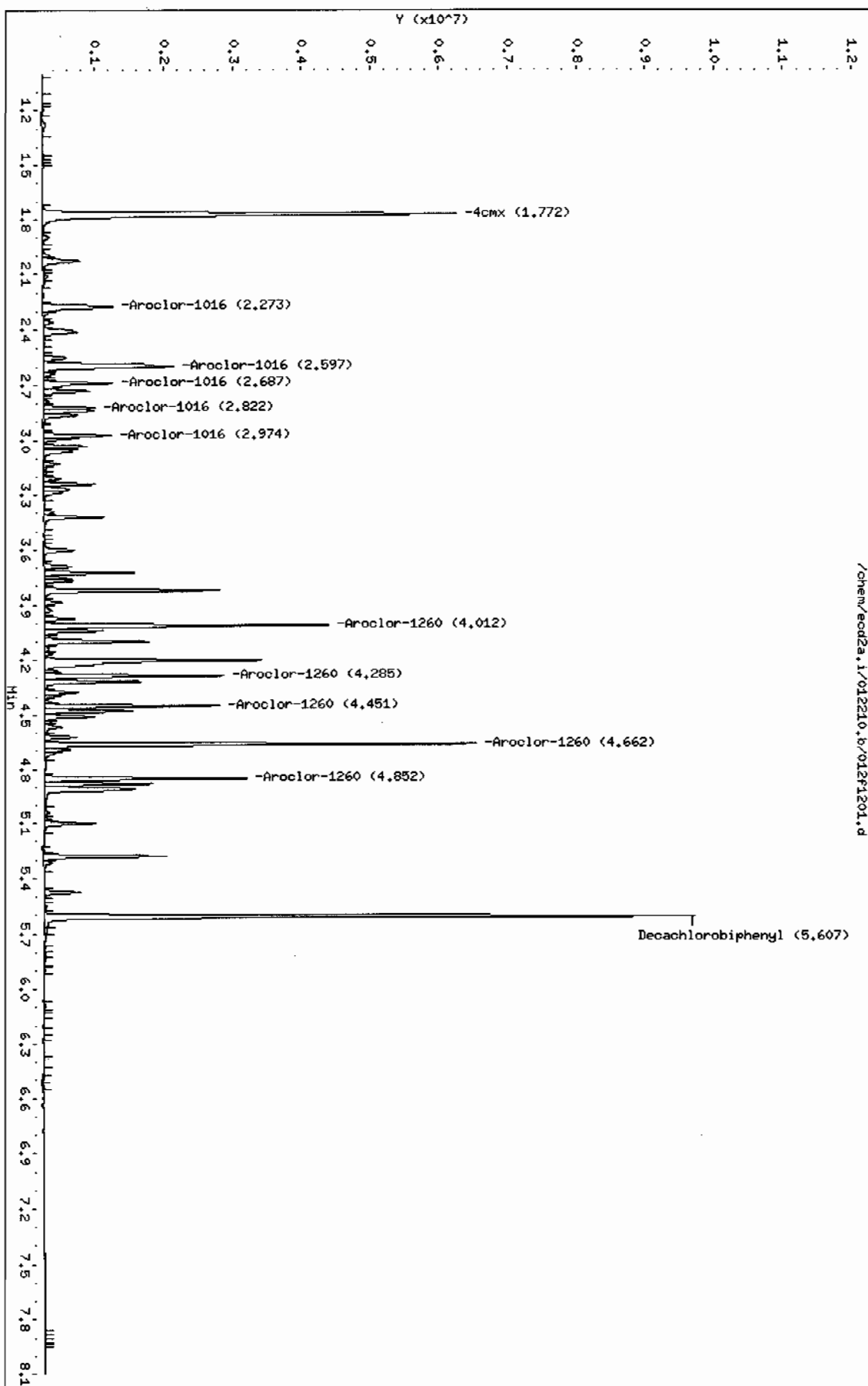
CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
\$ 11 4cmx					CAS #: 877-09-8		
1.772	1.772	0.000	8159406	121.723	4.5 80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.607	5.609	-0.002	8563338	135.070	5.0 80.00- 120.00	100.00	
1 Aroclor-1016					CAS #: 12674-11-2		
2.273	2.274	-0.001	1314436	582.154	21.7 80.00- 120.00	100.00	
2.597	2.598	-0.001	2990016	645.943	24.1 192.19- 232.19	227.48	
2.687	2.689	-0.002	1145569	602.835	22.5 65.39- 105.39	87.15	
2.822	2.824	-0.002	654376	665.356	24.8 23.64- 63.64	49.78	

CONCENTRATIONS								
			ON-COL	FINAL				
RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/Kg)	TARGET	RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
1 Aroclor-1016 (continued)								
2.974	2.975	-0.001	927498	639.520	23.9	45.65-	85.65	70.56
Average of Peak Concentrations =					23.4			

7 Aroclor-1260					CAS #: 11096-82-5			
4.012	4.016	-0.004	3525858	819.459	30.6	80.00-	120.00	100.00
4.285	4.288	-0.003	2241182	802.995	30.0	43.31-	83.31	63.56
4.451	4.453	-0.002	2198202	766.772	28.6	45.94-	85.94	62.35
4.662	4.665	-0.003	5477815	832.597	31.1	133.46-	173.46	155.36
4.852	4.855	-0.003	2606551	816.252	30.5	55.11-	95.11	73.93
Average of Peak Concentrations =					30.2			

Data File: /chem/eod2a.i/012210.b/012f1201.d
Date: 22-JAN-2010 13:12
Client ID: RE12-10-7664HS
Sample Info: 1120200655311
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: eod2a.i
Operator: JAO
Column diameter: 0.25



Data File: /chem/ecd2a.i/012210.b/013b1301.d
Report Date: 22-Jan-2010 14:54

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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
Data file : /chem/ecd2a.i/012210.b/013b1301.d
Lab Smp Id: 1202006554 Client Smp ID: RE12-10-7664MSD
Inj Date : 22-JAN-2010 13:23
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202006554|1|
Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecd2a.i/012210.b/ECD2-B-8082-111209A.m
Meth Date : 22-Jan-2010 14:04 jen01212 Quant Type: ESTD
Cal Date : 21-JAN-2010 08:45 Cal File: 010b1001.d
Als bottle: 13 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpc1p1

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	30.02000	Weight of sample extracted (g)
M	10.78660	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx CAS #: 877-09-8						
2.068	2.067	0.001	16738984	119.944	4.5 80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
6.298	6.299	-0.001	16674407	133.875	5.0 80.00- 120.00	100.00

1 Aroclor-1016 CAS #: 12674-11-2						
2.743	2.744	-0.001	2649736	590.235	22.0 80.00- 120.00	100.00
3.178	3.179	-0.001	2126068	619.099	23.1 58.44- 98.44	80.24
3.328	3.330	-0.002	1345535	666.975	24.9 25.39- 65.39	50.78
3.358	3.359	-0.001	1346680	639.580	23.9 27.28- 67.28	50.82

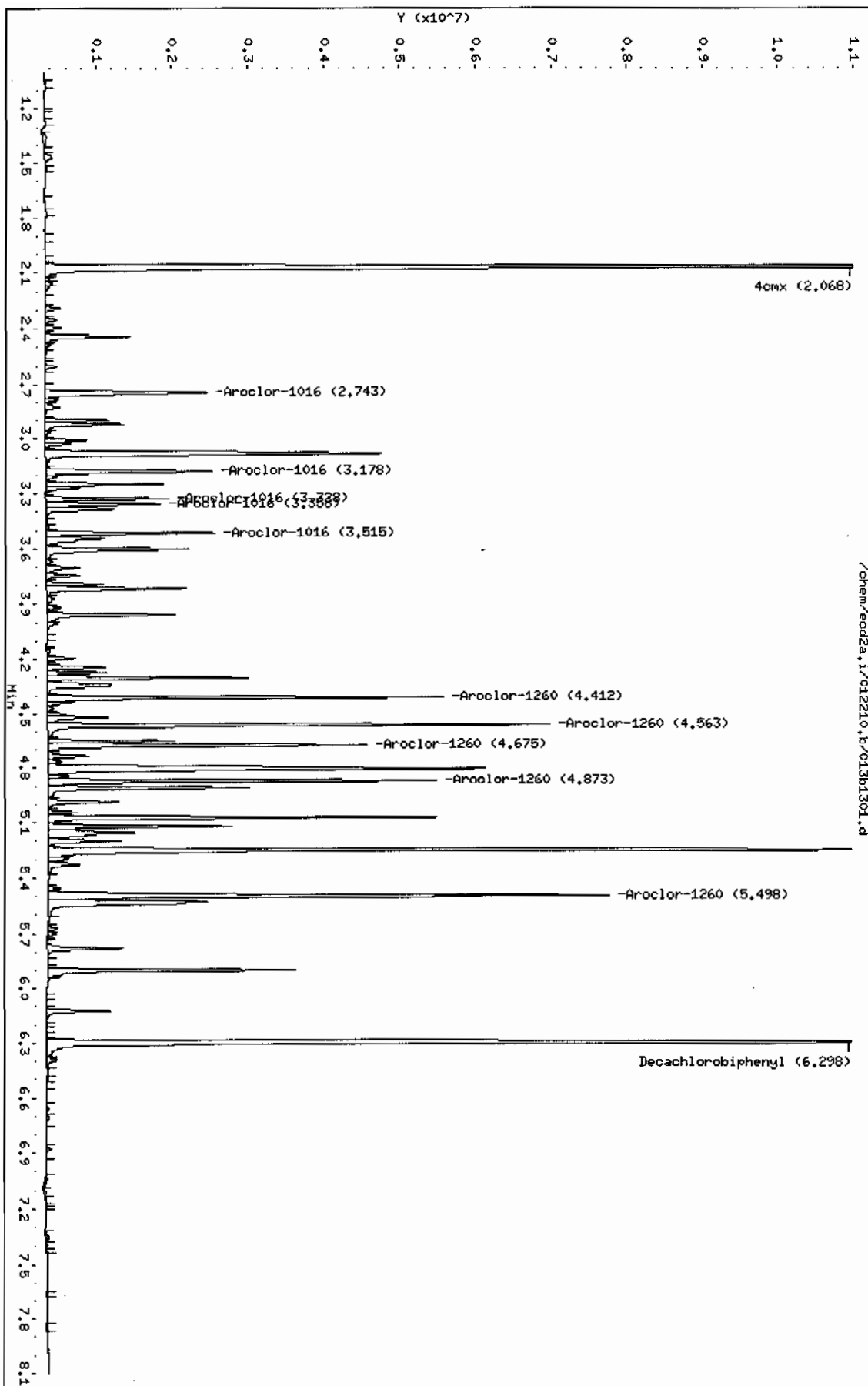
CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====	=====	=====		
1 Aroclor-1016 (continued)									
3.515	3.517	-0.002	1815475 649.668		24.2	44.12-	84.12	68.52	
Average of Peak Concentrations =					23.6				

7 Aroclor-1260					CAS #: 11096-82-5				
4.412	4.413	-0.001	4416996 763.499		28.5	80.00-	120.00	100.00	
4.563	4.564	-0.001	5943795 818.350		30.6	105.47-	145.47	134.57	
4.675	4.676	-0.001	3826036 764.570		28.5	65.38-	105.38	86.62	
4.873	4.873	0.000	4486649 774.203		28.9	77.98-	117.98	101.58	
5.498	5.499	-0.001	7331919 780.452		29.1	141.80-	181.80	165.99	
Average of Peak Concentrations =					29.1				

Data File: /chem/eod2a.i/012210.b/013b1301.d
 Date : 22-JAN-2010 13:23
 Client ID: RE12-10-7664MSD
 Sample Info: 1120200655411
 Volume Injected (uL): 1.0
 Column phase: CLP2

Instrument: eod2a.i
 Operator: JHOC
 Column diameter: 0.25

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL
Data file : /chem/ecd2a.i/012210.b/013f1301.d
Lab Smp Id: 1202006554 Client Smp ID: RE12-10-7664MSD
Inj Date : 22-JAN-2010 13:23
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202006554|1|
Misc Info : |ECD82P_1S|937679|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecd2a.i/012210.b/ECD2-F-8082-111209A.m
Meth Date : 22-Jan-2010 14:24 jen01212 Quant Type: ESTD
Cal Date : 21-JAN-2010 08:45 Cal File: 010f1001.d
Als bottle: 13 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1102.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpc1p1

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	30.02000	Weight of sample extracted (g)
M	10.78660	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL RESPONSE (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO

\$ 11 4cmx					CAS #: 877-09-8	
1.771	1.772	-0.001	7736893	115.420	4.3 80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
5.606	5.609	-0.003	7825145	123.426	4.6 80.00- 120.00	100.00

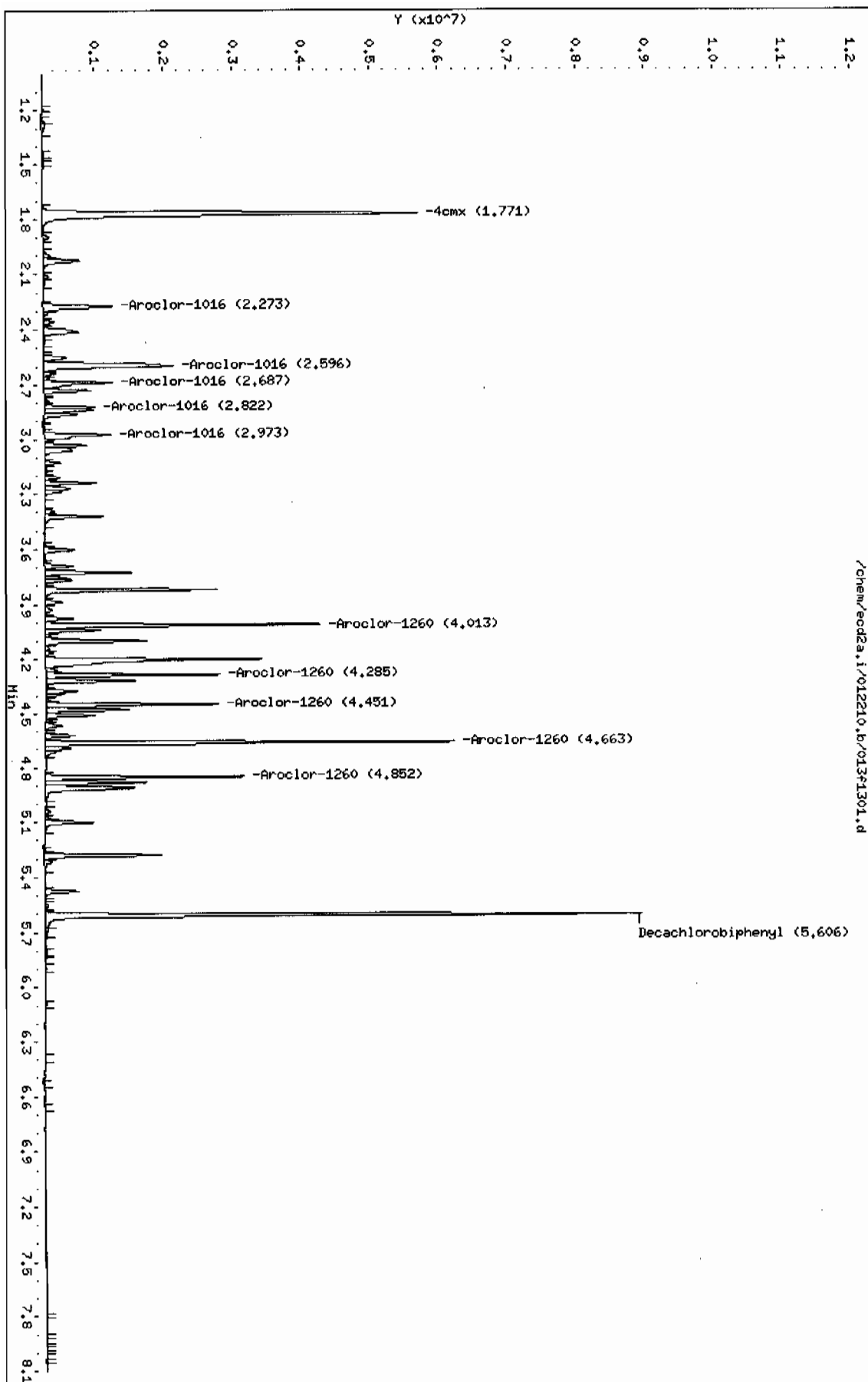
1 Aroclor-1016					CAS #: 12674-11-2	
2.273	2.274	-0.001	1320928	585.030	21.8 80.00- 120.00	100.00
2.596	2.598	-0.002	2968737	641.346	23.9 192.19- 232.19	224.75
2.687	2.689	-0.002	1142988	601.477	22.4 65.39- 105.39	86.53
2.822	2.824	-0.002	599432	609.490	22.8 23.64- 63.64	45.38

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE		RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====	=====
1 Aroclor-1016 (continued)									
2.973	2.975	-0.002	1163328	802.127	30.0	45.65-	85.65	88.07	
Average of Peak Concentrations =					24.2				

7 Aroclor-1260					CAS #: 11096-82-5				
4.013	4.016	-0.003	3413384	793.319	29.6	80.00-	120.00	100.00	
4.285	4.288	-0.003	2157013	772.838	28.8	43.31-	83.31	63.19	
4.451	4.453	-0.002	2134549	744.568	27.8	45.94-	85.94	62.53	
4.663	4.665	-0.002	5222434	793.780	29.6	133.46-	173.46	153.00	
4.852	4.855	-0.003	2555953	800.407	29.9	55.11-	95.11	74.88	
Average of Peak Concentrations =					29.1				

Data File: /chem/ecod2a.i/012210.b/013f1301.d
Date: 22-JAN-2010 13:23
Client ID: RE12-10-7664HSD
Sample Info: 1202006554111
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecod2a.i
Operator: JADC
Column diameter: 0.25



Prep Logbook Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 937678 Verified by: _____

Analyst: Andrew Schwenin

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)
1202006551 MB	30-DEC-2009 20:12:56	30	H2SO4/KM12	2	9	1	0.03333	
1202006552 LCS	30-DEC-2009 20:12:56	30	H2SO4/KM12	2	9	1	0.03333	
243596602	30-DEC-2009 20:12:56	30.1	H2SO4/KM12	2	9	1	0.03322	
243596603	30-DEC-2009 20:12:56	30.08	H2SO4/KM12	2	9	1	0.03324	
243596604	30-DEC-2009 20:12:56	30.11	H2SO4/KM12	2	9	1	0.03321	
243596605	30-DEC-2009 20:12:56	30.15	H2SO4/KM12	2	9	1	0.03317	
243596606	30-DEC-2009 20:12:56	30.06	H2SO4/KM12	2	9	1	0.03327	
243624001	30-DEC-2009 20:12:56	30.04	H2SO4/KM12	2	9	1	0.03329	
243624002	30-DEC-2009 20:12:56	30.12	H2SO4/KM12	2	9	1	0.0332	
243624003	30-DEC-2009 20:12:56	30.16	H2SO4/KM12	2	9	1	0.03316	
243624004	30-DEC-2009 20:12:56	30.09	H2SO4/KM12	2	9	1	0.03323	
243630002	30-DEC-2009 20:12:56	30.07	H2SO4/KM12	2	9	1	0.03326	
243630003	30-DEC-2009 20:12:56	30.05	H2SO4/KM12	2	9	1	0.03328	
1202006553 MS (243630003)	30-DEC-2009 20:12:56	30.03	H2SO4/KM12	2	9	1	0.0333	
1202006554 MSD (243630003)	30-DEC-2009 20:12:56	30.02	H2SO4/KM12	2	9	1	0.03331	
Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:		
LCS	1202006552	PCB Laboratory Control	WIE091210-07	1	mL	Clean up Date: 12/30/09		
MS	1202006553	PCB Laboratory Control	WIE091210-07	1	mL	Clean up Initials: AJS		
MSD	1202006554	PCB Laboratory Control	WIE091210-07	1	mL	Verified By: AV		
SURR	ALL	PEST LOW LEVEL SURROGATE 200 UG/L	UE091130-15	1	mL	Final Solvent: Hexane		
REGNT	ALL	1:1 sulfuric acid	1133264a	5	mL	Clean Up SOP: GL-OA-E-037		
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			

DATA EXCEPTION REPORT			
Mo.Day Yr. 04-JAN-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: GC/ECD	Test / Method: SW846 8082	Matrix Type: Solid	Client Code: LANL
Batch ID: 937679	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 243596(10-1090-1),243624(10-1100),243630(10-1102) Application Issues: Method Blank contamination Failed Yield for Surrogates			
Specification and Requirements		DER Disposition:	
Exception Description:			
1. 243630002 does not meet surrogate recovery limits.		1. The sample fails surrogate due to dilution and matrix interference.	

Originator's Name:

Jennifer Criscione 04-JAN-10

Data Validator/Group Leader:

Robert Whitlock 07-JAN-10

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1102**

Method/Analysis Information

Procedure: Dry Weight-Percent Moisture

Analytical Method:

Analytical Batch Number: 937636

Sample ID	Client ID
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669
1202006447	243630001(RE12-10-7675) 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:

Quality Control (QC) Information:

Designated QC

The following sample was used for QC: 243630001 (RE12-10-7675). The QC was from LANL work order 243630.

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

Unable to homogenize prior to taking aliquot due to a wet and muddy sample. 243630002 (RE12-10-7663).

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:	938229
Prep Batch Number:	937668

Sample ID	Client ID
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669
1202007592	Method Blank (MB)
1202007593	243630005(RE12-10-7667) Sample Duplicate (DUP)
1202007594	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 1202007592 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243630005 (RE12-10-7667). The QC was from LANL work order 243630.

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

Sample 243630007 (RE12-10-7665) was recounted due to high MDA.

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. Sample, 1202007594 (LCS), did not meet the client tracer yield requirements, however it is less than 110 percent and does meet the GEL standard tracer yield requirements. Samples 243630006 (RE12-10-7666) and 243630007 (RE12-10-7665) did not meet the client's yield requirement. However, there are 400 tracer counts, GEL's standard tracer yield requirements are met, and the client's detection limits are met.

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:	938238
Prep Batch Number:	937668

Sample ID	Client ID
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669
1202007599	Method Blank (MB)
1202007600	243630005(RE12-10-7667) Sample Duplicate (DUP)
1202007601	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 1202007599 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243630005 (RE12-10-7667). The QC was from LANL work order 243630.

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

Sample 243630005 (RE12-10-7667) was given additional clean-up steps and recounted in order to remove suspected interferences.

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:	938239
Prep Batch Number:	937668

Sample ID	Client ID
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669
1202007605	Method Blank (MB)
1202007606	243630005(RE12-10-7667) Sample Duplicate (DUP)
1202007607	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 1202007605 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243630005 (RE12-10-7667). The QC was from LANL work order 243630.

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:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	937702
Prep Batch Number:	937668

Sample ID	Client ID
243630001	RE12-10-7675
243630002	RE12-10-7663
243630003	RE12-10-7664
243630004	RE12-10-7672
243630005	RE12-10-7667
243630006	RE12-10-7666
243630007	RE12-10-7665
243630008	RE12-10-7670
243630009	RE12-10-7668
243630010	RE12-10-7671
243630011	RE12-10-7669
1202006611	Method Blank (MB)
1202006612	243630011(RE12-10-7669) Sample Duplicate (DUP)
1202006613	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 February 2009, March 2009, April 2009, June 2009, July 2009, August 2009, October 2009, November 2009 and December 2009.

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: 243630011 (RE12-10-7669). The QC was from LANL work order 243630.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The method blank 1202006611 (MB) result is greater than 1.65 times the CSU but less than the MDC for Cd-109 and Eu-152.

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 method blank 1202006611 (MB) result is greater than the decision level but less than the MDC for Cd-109 and Cs-137.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	243630001	RE12-10-7675
			243630002	RE12-10-7663
			243630003	RE12-10-7664
			243630004	RE12-10-7672
			243630005	RE12-10-7667
			243630006	RE12-10-7666
			243630007	RE12-10-7665
			243630008	RE12-10-7670
			243630009	RE12-10-7668
			243630010	RE12-10-7671
			243630011	RE12-10-7669

			1202006612	RE12-10-7669(243630011DUP)
		Cadmium-109	243630001	RE12-10-7675
			243630002	RE12-10-7663
			243630003	RE12-10-7664
			243630004	RE12-10-7672
			243630005	RE12-10-7667
			243630006	RE12-10-7666
			243630007	RE12-10-7665
			243630008	RE12-10-7670
			243630009	RE12-10-7668
			243630010	RE12-10-7671
			243630011	RE12-10-7669
			1202006612	RE12-10-7669(243630011DUP)
		Radium-224	243630001	RE12-10-7675
			243630002	RE12-10-7663
			243630003	RE12-10-7664
			243630004	RE12-10-7672
			243630005	RE12-10-7667
			243630006	RE12-10-7666
			243630007	RE12-10-7665
			243630008	RE12-10-7670
			243630009	RE12-10-7668
			243630010	RE12-10-7671
			243630011	RE12-10-7669
			1202006612	RE12-10-7669(243630011DUP)
UI	Data rejected due to low abundance.	Cesium-134	243630001	RE12-10-7675
			243630005	RE12-10-7667
			243630009	RE12-10-7668
			243630011	RE12-10-7669

		Strontium-85	243630001	RE12-10-7675
			243630003	RE12-10-7664
			243630004	RE12-10-7672
			243630005	RE12-10-7667
			243630008	RE12-10-7670
			243630010	RE12-10-7671
			243630011	RE12-10-7669
			1202006612	RE12-10-7669(243630011DUP)
UI	Data rejected due to no valid peak.	Uranium-235	243630010	RE12-10-7671

Certification Statement

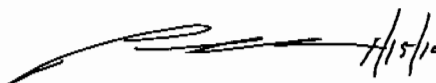
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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: _____



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: 10-1102 GEL Work Order: 243630

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

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 15, 2010

Client Sample ID: RE12-10-7675
Sample ID: 243630001
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 10.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00319	0.0233	+/-0.00722	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0013	0.0215	+/-0.0013	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.0013	0.0246	+/-0.00226	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.03	0.133	+/-0.100	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0265	0.0825	+/-0.0142	0.100	pCi/g						
Uranium-238		1.04	0.0771	+/-0.101	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0626	0.118	+/-0.0378	0.200	pCi/g		MXR1	01/07/10	1309	937702	5
Bismuth-211	UI	4.34	0.382	+/-0.316		pCi/g						
Bismuth-214		1.22	0.154	+/-0.113	0.200	pCi/g						
Cadmium-109	UI	2.30	1.23	+/-0.381		pCi/g						
Cerium-139	U	-0.012	0.0549	+/-0.0169	0.050	pCi/g						
Cesium-134	UI	0.129	0.0999	+/-0.0339	0.100	pCi/g						
Cesium-137	U	-0.00699	0.0809	+/-0.0253	0.100	pCi/g						
Cobalt-60	U	0.0174	0.070	+/-0.0204	0.100	pCi/g						
Europium-152	U	0.0343	0.202	+/-0.0718	0.200	pCi/g						
Lanthanum-140	U	0.0545	0.188	+/-0.053		pCi/g						
Lead-212		1.86	0.106	+/-0.118	0.100	pCi/g						
Lead-214		1.51	0.133	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.0611	0.0862	+/-0.0272	0.100	pCi/g						
Potassium-40		21.2	0.611	+/-1.09	1.00	pCi/g						
Radium-223	U	-0.651	1.27	+/-0.398		pCi/g						
Radium-224	UI	4.82	1.21	+/-0.734		pCi/g						
Radium-226		1.22	0.154	+/-0.113		pCi/g						
Radium-228		1.89	0.278	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	-0.069	0.609	+/-0.190	0.800	pCi/g						

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 15, 2010

Client Sample ID: RE12-10-7675
Sample ID: 243630001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Sodium-22	U	0.00756	0.0839	+/-0.0255	0.080	pCi/g						
Strontium-85	UI	0.112	0.0954	+/-0.0293		pCi/g						
Thallium-208		0.562	0.0753	+/-0.0478	0.080	pCi/g						
Thorium-227	U	0.266	0.757	+/-0.217		pCi/g						
Thorium-231	U	-0.651	1.27	+/-0.398		pCi/g						
Thorium-234		1.32	1.19	+/-0.444	2.00	pCi/g						
Tin-113	U	-0.0281	0.0847	+/-0.0262	0.100	pCi/g						
Uranium-235	U	0.287	0.409	+/-0.124	0.500	pCi/g						
Yttrium-88	U	0.0233	0.0708	+/-0.0193	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"	87.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.9	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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 15, 2010

Client Sample ID: RE12-10-7675
Sample ID: 243630001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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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 15, 2010

Client Sample ID: RE12-10-7663
Sample ID: 243630002
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 25%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0032	0.0234	+/-0.0051	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00385	0.0212	+/-0.00426	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00385	0.0242	+/-0.00642	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.26	0.117	+/-0.113	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236		0.0795	0.0728	+/-0.0211	0.100	pCi/g						
Uranium-238		1.27	0.068	+/-0.114	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.181	0.328	+/-0.0986	0.200	pCi/g		MXR1	01/07/10	1310	937702	5
Bismuth-211	UI	3.52	0.337	+/-0.263		pCi/g						
Bismuth-214		0.961	0.139	+/-0.0945	0.200	pCi/g						
Cadmium-109	UI	2.05	1.28	+/-0.685		pCi/g						
Cerium-139	U	0.00478	0.060	+/-0.0179	0.050	pCi/g						
Cesium-134	U	0.0551	0.0993	+/-0.0273	0.100	pCi/g						
Cesium-137		0.213	0.074	+/-0.0452	0.100	pCi/g						
Cobalt-60	U	0.0347	0.0812	+/-0.0227	0.100	pCi/g						
Europium-152	U	0.0994	0.178	+/-0.0626	0.200	pCi/g						
Lanthanum-140	U	0.063	0.190	+/-0.0522		pCi/g						
Lead-212		1.34	0.109	+/-0.0773	0.100	pCi/g						
Lead-214		1.22	0.118	+/-0.0967	0.100	pCi/g						
Mercury-203	U	0.0373	0.0859	+/-0.0242	0.100	pCi/g						
Potassium-40		20.9	0.730	+/-1.09	1.00	pCi/g						
Radium-223	U	-0.0968	1.34	+/-0.397		pCi/g						
Radium-224	UI	4.06	1.24	+/-0.656		pCi/g						
Radium-226		0.961	0.139	+/-0.0945		pCi/g						
Radium-228		1.16	0.243	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	0.212	0.611	+/-0.177	0.800	pCi/g						
Sodium-22	U	-0.0216	0.0761	+/-0.0248	0.080	pCi/g						

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7663
Sample ID: 243630002

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	U	0.0539	0.0775	+/-0.0243		pCi/g					
Thallium-208		0.461	0.0614	+/-0.0523	0.080	pCi/g					
Thorium-227	U	-0.0116	0.765	+/-0.236		pCi/g					
Thorium-231	U	-0.0968	1.34	+/-0.397		pCi/g					
Thorium-234	U	1.36	2.86	+/-0.823	2.00	pCi/g					
Tin-113	U	-0.0327	0.0836	+/-0.026	0.100	pCi/g					
Uranium-235	U	0.174	0.406	+/-0.118	0.500	pCi/g					
Yttrium-88	U	-0.0131	0.0625	+/-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"	90.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.6	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7663
Sample ID: 243630002
DL

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7664
Sample ID: 243630003
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 10.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00758	0.020	+/-0.00507	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	2.99E-10	0.0207	+/-0.00354	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.0125	0.0237	+/-0.00473	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.09	0.110	+/-0.0989	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0528	0.0685	+/-0.0157	0.100	pCi/g						
Uranium-238		1.15	0.064	+/-0.104	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0152	0.175	+/-0.0557	0.200	pCi/g		MXR1	01/07/10	1310	937702	5
Bismuth-211	UI	4.03	0.328	+/-0.293		pCi/g						
Bismuth-214		1.10	0.116	+/-0.0899	0.200	pCi/g						
Cadmium-109	UI	3.48	1.01	+/-0.445		pCi/g						
Cerium-139	U	0.00893	0.0467	+/-0.014	0.050	pCi/g						
Cesium-134	U	0.0617	0.0908	+/-0.0381	0.100	pCi/g						
Cesium-137	U	0.0377	0.0759	+/-0.0215	0.100	pCi/g						
Cobalt-60	U	0.0294	0.0658	+/-0.0182	0.100	pCi/g						
Europium-152	U	-0.013	0.153	+/-0.0525	0.200	pCi/g						
Lanthanum-140	U	-0.0831	0.120	+/-0.0445		pCi/g						
Lead-212		1.64	0.0919	+/-0.0977	0.100	pCi/g						
Lead-214		1.40	0.114	+/-0.108	0.100	pCi/g						
Mercury-203	U	0.0464	0.0701	+/-0.0218	0.100	pCi/g						
Potassium-40		21.5	0.516	+/-1.19	1.00	pCi/g						
Radium-223	U	0.0603	1.05	+/-0.352		pCi/g						
Radium-224	UI	4.23	1.05	+/-0.548		pCi/g						
Radium-226		1.10	0.116	+/-0.0899		pCi/g						
Radium-228		1.62	0.196	+/-0.176	0.500	pCi/g						
Ruthenium-106	U	0.0051	0.515	+/-0.152	0.800	pCi/g						
Sodium-22	U	0.0175	0.0646	+/-0.0185	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:			RE12-10-7664		Project:		LANL01004					
Sample ID:			243630003		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	0.070	0.0657	+/-0.0189		pCi/g						
Thallium-208		0.520	0.0574	+/-0.0452	0.080	pCi/g						
Thorium-227	U	-0.255	0.585	+/-0.179		pCi/g						
Thorium-231	U	0.0603	1.05	+/-0.352		pCi/g						
Thorium-234		1.57	1.49	+/-0.659	2.00	pCi/g						
Tin-113	U	0.00247	0.0705	+/-0.0211	0.100	pCi/g						
Uranium-235	U	-0.0494	0.328	+/-0.102	0.500	pCi/g						
Yttrium-88	U	0.00986	0.0548	+/-0.0155	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"	91.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.0	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7664
Sample ID: 243630003

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7672
Sample ID: 243630004
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 11.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0147	0.0216	+/-0.00764	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00111	0.0183	+/-0.00596	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00332	0.0209	+/-0.00368	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.115	+/-0.0964	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0457	0.0712	+/-0.0148	0.100	pCi/g						
Uranium-238		1.17	0.0665	+/-0.105	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00351	0.205	+/-0.067	0.200	pCi/g		MXR1	01/07/10	1312	937702	5
Bismuth-211	UI	3.67	0.296	+/-0.229		pCi/g						
Bismuth-214		1.30	0.105	+/-0.0906	0.200	pCi/g						
Cadmium-109	UI	2.91	1.14	+/-0.407		pCi/g						
Cerium-139	U	0.00954	0.0477	+/-0.014	0.050	pCi/g						
Cesium-134	U	0.0707	0.0872	+/-0.0274	0.100	pCi/g						
Cesium-137	U	0.0054	0.0576	+/-0.0172	0.100	pCi/g						
Cobalt-60	U	0.0108	0.0621	+/-0.0182	0.100	pCi/g						
Europium-152	U	-0.028	0.136	+/-0.0539	0.200	pCi/g						
Lanthanum-140	U	-0.0448	0.135	+/-0.0446		pCi/g						
Lead-212		1.55	0.0846	+/-0.0751	0.100	pCi/g						
Lead-214		1.28	0.103	+/-0.0863	0.100	pCi/g						
Mercury-203	U	0.0103	0.0647	+/-0.0184	0.100	pCi/g						
Potassium-40		20.8	0.545	+/-1.06	1.00	pCi/g						
Radium-223	U	-0.0166	0.989	+/-0.332		pCi/g						
Radium-224	UI	4.70	0.962	+/-0.637		pCi/g						
Radium-226		1.30	0.105	+/-0.0906		pCi/g						
Radium-228		1.55	0.237	+/-0.160	0.500	pCi/g						
Ruthenium-106	U	0.0358	0.454	+/-0.135	0.800	pCi/g						
Sodium-22	U	-0.00397	0.0654	+/-0.0199	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7672			Project: LANL01004								
Sample ID: 243630004			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	0.0653	0.0616	+/-0.0184		pCi/g					
Thallium-208		0.530	0.0529	+/-0.0393	0.080	pCi/g					
Thorium-227	U	-0.0614	0.571	+/-0.166		pCi/g					
Thorium-231	U	-0.0166	0.989	+/-0.332		pCi/g					
Thorium-234	U	1.12	1.75	+/-0.688	2.00	pCi/g					
Tin-113	U	0.00926	0.0689	+/-0.020	0.100	pCi/g					
Uranium-235	U	0.135	0.346	+/-0.102	0.500	pCi/g					
Yttrium-88	U	0.00536	0.0553	+/-0.0167	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"	92.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.3	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID:	RE12-10-7672	Project:	LANL01004									
Sample ID:	243630004	Client ID:	LANL010									
Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7667
Sample ID: 243630005
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 17.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00139	0.0273	+/-0.00949	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0115	0.019	+/-0.00368	0.050	pCi/g		KXM4	01/12/10	1440	938238	3
Plutonium-239/240		0.031	0.0217	+/-0.00617	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.62	0.110	+/-0.137	0.100	pCi/g		KXM4	01/09/10	1100	938239	5
Uranium-235/236		0.0833	0.0682	+/-0.020	0.100	pCi/g						
Uranium-238		1.68	0.0638	+/-0.141	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0607	0.206	+/-0.0645	0.200	pCi/g		MXR1	01/07/10	1313	937702	6
Bismuth-211	UI	3.90	0.284	+/-0.296		pCi/g						
Bismuth-214		1.21	0.0963	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	2.57	1.16	+/-0.453		pCi/g						
Cerium-139	U	0.0207	0.0503	+/-0.0143	0.050	pCi/g						
Cesium-134	UI	0.113	0.0781	+/-0.0314	0.100	pCi/g						
Cesium-137		0.273	0.0545	+/-0.0348	0.100	pCi/g						
Cobalt-60	U	0.00724	0.0521	+/-0.0155	0.100	pCi/g						
Europium-152	U	0.0636	0.155	+/-0.0507	0.200	pCi/g						
Lanthanum-140	U	0.106	0.137	+/-0.0405		pCi/g						
Lead-212		1.59	0.0807	+/-0.116	0.100	pCi/g						
Lead-214		1.36	0.0996	+/-0.109	0.100	pCi/g						
Mercury-203	U	-0.0133	0.065	+/-0.0201	0.100	pCi/g						
Potassium-40		21.5	0.424	+/-1.17	1.00	pCi/g						
Radium-223	U	-1.02	0.997	+/-0.329		pCi/g						
Radium-224	UI	4.54	0.917	+/-0.533		pCi/g						
Radium-226		1.21	0.0963	+/-0.102		pCi/g						
Radium-228		1.47	0.185	+/-0.164	0.500	pCi/g						
Ruthenium-106	U	0.184	0.484	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.0213	0.0562	+/-0.0178	0.080	pCi/g						

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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 15, 2010

Client Sample ID: Sample ID:			RE12-10-7667 243630005		Project: Client ID:		LANL01004 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	0.129	0.0672	+/-0.0205		pCi/g						
Thallium-208		0.500	0.0516	+/-0.0433	0.080	pCi/g						
Thorium-227	U	0.101	0.615	+/-0.184		pCi/g						
Thorium-231	U	-1.02	0.997	+/-0.329		pCi/g						
Thorium-234		2.75	1.71	+/-0.943	2.00	pCi/g						
Tin-113	U	-0.0109	0.0689	+/-0.0208	0.100	pCi/g						
Uranium-235	U	-0.00364	0.341	+/-0.100	0.500	pCi/g						
Yttrium-88	U	-0.00189	0.0474	+/-0.0146	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, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	71.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.1	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7667
Sample ID: 243630005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7666
Sample ID: 243630006
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 10.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0122	0.0444	+/-0.0115	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00869	0.0179	+/-0.00596	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00326	0.0205	+/-0.00288	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.906	0.122	+/-0.0879	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0533	0.0755	+/-0.0192	0.100	pCi/g						
Uranium-238		0.993	0.0705	+/-0.0943	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00365	0.370	+/-0.105	0.200	pCi/g		MXR1	01/07/10	1323	937702	5
Bismuth-211	UI	3.30	0.287	+/-0.222		pCi/g						
Bismuth-214		1.04	0.102	+/-0.0825	0.200	pCi/g						
Cadmium-109	UI	2.80	1.31	+/-0.559		pCi/g						
Cerium-139	U	0.0173	0.0469	+/-0.0137	0.050	pCi/g						
Cesium-134	U	0.0498	0.0825	+/-0.0228	0.100	pCi/g						
Cesium-137	U	-0.00232	0.0545	+/-0.0161	0.100	pCi/g						
Cobalt-60	U	-0.000826	0.0554	+/-0.0167	0.100	pCi/g						
Europium-152	U	0.0181	0.143	+/-0.0447	0.200	pCi/g						
Lanthanum-140	U	-0.0185	0.136	+/-0.0431		pCi/g						
Lead-212		1.51	0.0865	+/-0.0773	0.100	pCi/g						
Lead-214		1.15	0.107	+/-0.0827	0.100	pCi/g						
Mercury-203	U	0.0277	0.0611	+/-0.0258	0.100	pCi/g						
Potassium-40		21.1	0.491	+/-1.18	1.00	pCi/g						
Radium-223		0.077	1.07	+/-0.313		pCi/g						
Radium-224	UI	3.53	0.984	+/-0.474		pCi/g						
Radium-226		1.04	0.102	+/-0.0825		pCi/g						
Radium-228		1.53	0.199	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	-0.116	0.462	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.0479	0.0616	+/-0.0211	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7666
Sample ID: 243630006
Project: LANL01004
Client ID: LANL010...

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	U	0.0421	0.0588	+/-0.0184		pCi/g						
Thallium-208		0.478	0.0536	+/-0.0402	0.080	pCi/g						
Thorium-227	U	-0.0474	0.587	+/-0.171		pCi/g						
Thorium-231	U	0.077	1.07	+/-0.313		pCi/g						
Thorium-234	U	0.615	2.96	+/-0.837	2.00	pCi/g						
Tin-113	U	-0.0108	0.0647	+/-0.0196	0.100	pCi/g						
Uranium-235	U	-0.00887	0.328	+/-0.0985	0.500	pCi/g						
Yttrium-88	U	0.0233	0.0556	+/-0.0147	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"	41.6 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.4	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7666
Sample ID: 243630006

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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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

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

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 15, 2010

Client Sample ID: RE12-10-7665
Sample ID: 243630007
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 11.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00134	0.0374	+/-0.00414	0.050	pCi/g		KXM4	01/13/10	1953	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00249	0.0205	+/-0.00176	0.050	pCi/g		KXM4	01/08/10	1236	938238	4
Plutonium-239/240	U	0.00621	0.0235	+/-0.00449	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.39	0.124	+/-0.124	0.100	pCi/g		KXM4	01/09/10	1100	938239	5
Uranium-235/236	U	0.0691	0.0768	+/-0.0191	0.100	pCi/g						
Uranium-238		1.41	0.0717	+/-0.125	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00449	0.180	+/-0.0591	0.200	pCi/g		MXR1	01/07/10	1323	937702	6
Bismuth-211	UI	4.52	0.301	+/-0.374		pCi/g						
Bismuth-214		1.40	0.0986	+/-0.120	0.200	pCi/g						
Cadmium-109	UI	4.34	0.943	+/-0.493		pCi/g						
Cerium-139	U	-0.00327	0.0439	+/-0.0129	0.050	pCi/g						
Cesium-134	U	0.0652	0.082	+/-0.031	0.100	pCi/g						
Cesium-137		0.277	0.063	+/-0.0309	0.100	pCi/g						
Cobalt-60	U	-0.0457	0.0467	+/-0.0179	0.100	pCi/g						
Europium-152	U	0.00793	0.152	+/-0.0466	0.200	pCi/g						
Lanthanum-140	U	-0.081	0.124	+/-0.0438		pCi/g						
Lead-212		1.79	0.0825	+/-0.137	0.100	pCi/g						
Lead-214		1.57	0.105	+/-0.137	0.100	pCi/g						
Mercury-203	U	0.003	0.0599	+/-0.0203	0.100	pCi/g						
Potassium-40		20.5	0.516	+/-1.15	1.00	pCi/g						
Radium-223	U	-0.239	0.965	+/-0.346		pCi/g						
Radium-224	UI	2.62	0.940	+/-0.529		pCi/g						
Radium-226		1.40	0.0986	+/-0.120		pCi/g						
Radium-228		1.70	0.196	+/-0.190	0.500	pCi/g						
Ruthenium-106	U	0.0733	0.488	+/-0.145	0.800	pCi/g						
Sodium-22	U	-0.00904	0.0568	+/-0.0181	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7665
Sample ID: 243630007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Strontium-85	U	0.0114	0.0551	+/-0.0181		pCi/g					
Thallium-208		0.485	0.0536	+/-0.047	0.080	pCi/g					
Thorium-227	U	-0.205	0.570	+/-0.179		pCi/g					
Thorium-231	U	-0.239	0.965	+/-0.346		pCi/g					
Thorium-234		1.82	1.62	+/-0.640	2.00	pCi/g					
Tin-113	U	-0.0321	0.0653	+/-0.0202	0.100	pCi/g					
Uranium-235	U	0.0391	0.314	+/-0.0916	0.500	pCi/g					
Yttrium-88	U	0.00627	0.0528	+/-0.0155	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, Am-05-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	33.8 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	87.9	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7665
Sample ID: 243630007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

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

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

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 15, 2010

Client Sample ID: RE12-10-7670
Sample ID: 243630008
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 11.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0174	0.0298	+/-0.0106	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00224	0.0185	+/-0.00318	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00224	0.0212	+/-0.00225	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.938	0.113	+/-0.0887	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0542	0.0702	+/-0.0161	0.100	pCi/g						
Uranium-238		1.10	0.0656	+/-0.0999	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0592	0.254	+/-0.0784	0.200	pCi/g		MXR1	01/07/10	1324	937702	5
Bismuth-211	UI	4.19	0.325	+/-0.268		pCi/g						
Bismuth-214		1.36	0.119	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	4.24	1.15	+/-0.613		pCi/g						
Cerium-139	U	-0.00401	0.0472	+/-0.0144	0.050	pCi/g						
Cesium-134	U	0.0718	0.0889	+/-0.0242	0.100	pCi/g						
Cesium-137	U	-0.0202	0.0629	+/-0.0196	0.100	pCi/g						
Cobalt-60	U	0.0111	0.059	+/-0.0172	0.100	pCi/g						
Europium-152	U	0.0123	0.158	+/-0.0503	0.200	pCi/g						
Lanthanum-140	U	-0.0852	0.126	+/-0.0447		pCi/g						
Lead-212		1.75	0.089	+/-0.0845	0.100	pCi/g						
Lead-214		1.46	0.114	+/-0.101	0.100	pCi/g						
Mercury-203	U	0.0115	0.067	+/-0.0193	0.100	pCi/g						
Potassium-40		19.8	0.414	+/-1.03	1.00	pCi/g						
Radium-223	U	0.647	1.14	+/-0.362		pCi/g						
Radium-224	UI	3.78	1.01	+/-0.539		pCi/g						
Radium-226		1.36	0.119	+/-0.104		pCi/g						
Radium-228		1.55	0.193	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	0.105	0.541	+/-0.156	0.800	pCi/g						
Sodium-22	U	-0.0567	0.0635	+/-0.0227	0.080	pCi/g						

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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 15, 2010

Client Sample ID: RE12-10-7670
Sample ID: 243630008
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.0751	0.070	+/-0.0211		pCi/g						
Thallium-208		0.556	0.0616	+/-0.049	0.080	pCi/g						
Thorium-227	U	-0.0436	0.665	+/-0.195		pCi/g						
Thorium-231	U	0.647	1.14	+/-0.362		pCi/g						
Thorium-234		2.44	2.13	+/-1.06	2.00	pCi/g						
Tin-113	U	-0.00392	0.0713	+/-0.0216	0.100	pCi/g						
Uranium-235	U	0.190	0.362	+/-0.106	0.500	pCi/g						
Yttrium-88	U	-0.0116	0.0527	+/-0.0172	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"	63.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	98.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.5	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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

Report Date: January 15, 2010

Client Sample ID: RE12-10-7670
Sample ID: 243630008

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7668
Sample ID: 243630009
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 9.06%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00065	0.0196	+/-0.00214	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00445	0.0184	+/-0.00272	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00889	0.021	+/-0.00354	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.938	0.111	+/-0.0882	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0397	0.0687	+/-0.0135	0.100	pCi/g						
Uranium-238		0.996	0.0642	+/-0.0923	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0636	0.216	+/-0.0687	0.200	pCi/g		MXR1	01/07/10	1324	937702	5
Bismuth-211	UI	3.91	0.274	+/-0.284		pCi/g						
Bismuth-214		1.13	0.0858	+/-0.0938	0.200	pCi/g						
Cadmium-109	UI	2.97	1.01	+/-0.421		pCi/g						
Cerium-139	U	0.0106	0.0426	+/-0.0121	0.050	pCi/g						
Cesium-134	UI	0.085	0.0829	+/-0.0259	0.100	pCi/g						
Cesium-137	U	0.0174	0.0593	+/-0.0173	0.100	pCi/g						
Cobalt-60	U	0.037	0.0565	+/-0.0149	0.100	pCi/g						
Europium-152	U	0.0597	0.142	+/-0.0403	0.200	pCi/g						
Lanthanum-140	U	-0.013	0.126	+/-0.0389		pCi/g						
Lead-212		1.63	0.0777	+/-0.109	0.100	pCi/g						
Lead-214		1.36	0.0917	+/-0.105	0.100	pCi/g						
Mercury-203	U	-0.0236	0.0562	+/-0.0178	0.100	pCi/g						
Potassium-40		20.6	0.376	+/-1.13	1.00	pCi/g						
Radium-223	U	0.162	0.894	+/-0.301		pCi/g						
Radium-224	UI	4.26	0.885	+/-0.551		pCi/g						
Radium-226		1.13	0.0858	+/-0.0938		pCi/g						
Radium-228		1.63	0.180	+/-0.154	0.500	pCi/g						
Ruthenium-106	U	-0.00592	0.424	+/-0.128	0.800	pCi/g						
Sodium-22	U	0.0214	0.0647	+/-0.0187	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7668
Sample ID: 243630009

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	U	0.0336	0.0522	+/-0.0159		pCi/g						
Thallium-208		0.481	0.0471	+/-0.0437	0.080	pCi/g						
Thorium-227	U	-0.207	0.508	+/-0.160		pCi/g						
Thorium-231	U	0.162	0.894	+/-0.301		pCi/g						
Thorium-234	U	1.18	1.74	+/-0.808	2.00	pCi/g						
Tin-113	U	-0.0283	0.060	+/-0.0184	0.100	pCi/g						
Uranium-235	U	0.0118	0.304	+/-0.089	0.500	pCi/g						
Yttrium-88	U	-0.00513	0.0485	+/-0.0153	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"	97.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	95.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.0	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7668
Sample ID: 243630009

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7671
Sample ID: 243630010
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 19.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00215	0.0224	+/-0.00252	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00422	0.0174	+/-0.00259	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.00528	0.0199	+/-0.00381	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.75	0.120	+/-0.149	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236		0.115	0.0744	+/-0.0248	0.100	pCi/g						
Uranium-238		1.96	0.0695	+/-0.164	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0434	0.303	+/-0.0967	0.200	pCi/g		MXR1	01/07/10	1328	937702	5
Bismuth-211	UI	4.02	0.299	+/-0.237		pCi/g						
Bismuth-214		1.13	0.0994	+/-0.0845	0.200	pCi/g						
Cadmium-109	UI	2.75	1.25	+/-0.520		pCi/g						
Cerium-139	U	0.0108	0.0449	+/-0.0128	0.050	pCi/g						
Cesium-134	U	0.0742	0.0759	+/-0.021	0.100	pCi/g						
Cesium-137		0.206	0.053	+/-0.0236	0.100	pCi/g						
Cobalt-60	U	-0.00193	0.045	+/-0.0139	0.100	pCi/g						
Europium-152	U	-0.0372	0.134	+/-0.0441	0.200	pCi/g						
Lanthanum-140	U	-0.0828	0.114	+/-0.0395		pCi/g						
Lead-212		1.47	0.0833	+/-0.0804	0.100	pCi/g						
Lead-214		1.40	0.0964	+/-0.0901	0.100	pCi/g						
Mercury-203	U	0.0342	0.0592	+/-0.0171	0.100	pCi/g						
Potassium-40		21.6	0.405	+/-1.04	1.00	pCi/g						
Radium-223		-0.104	0.926	+/-0.287		pCi/g						
Radium-224	UI	2.62	1.23	+/-0.388		pCi/g						
Radium-226		1.13	0.0994	+/-0.0845		pCi/g						
Radium-228		1.57	0.173	+/-0.160	0.500	pCi/g						
Ruthenium-106	U	-0.34	0.414	+/-0.140	0.800	pCi/g						
Sodium-22	U	-0.0167	0.0564	+/-0.018	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7671
Sample ID: 243630010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.114	0.067	+/-0.0198		pCi/g						
Thallium-208		0.488	0.0475	+/-0.0386	0.080	pCi/g						
Thorium-227	U	0.0243	0.550	+/-0.165		pCi/g						
Thorium-231	U	-0.104	0.926	+/-0.287		pCi/g						
Thorium-234		3.20	2.30	+/-1.08	2.00	pCi/g						
Tin-113	U	-0.00071	0.0621	+/-0.0184	0.100	pCi/g						
Uranium-235	UI	0.356	0.310	+/-0.120	0.500	pCi/g						
Yttrium-88	U	-0.0238	0.0386	+/-0.0139	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"	81.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.1	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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Project: LANL ER Project

Report Date: January 15, 2010

Client Sample ID: RE12-10-7671
Sample ID: 243630010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
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 15, 2010

Client Sample ID: RE12-10-7669
Sample ID: 243630011
Matrix: R
Collect Date: 22-DEC-09
Receive Date: 29-DEC-09
Collector: Client
Moisture: 24.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00303	0.0209	+/-0.00419	0.050	pCi/g		KXM4	01/08/10	1236	938229	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00204	0.0168	+/-0.00144	0.050	pCi/g		KXM4	01/08/10	1236	938238	3
Plutonium-239/240	U	0.0143	0.0193	+/-0.00414	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.28	0.124	+/-0.116	0.100	pCi/g		KXM4	01/09/10	1100	938239	4
Uranium-235/236	U	0.0595	0.0771	+/-0.0177	0.100	pCi/g						
Uranium-238		1.50	0.0721	+/-0.132	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.117	0.202	+/-0.0643	0.200	pCi/g		MXR1	01/07/10	1328	937702	5
Bismuth-211	UI	4.86	0.341	+/-0.342		pCi/g						
Bismuth-214		1.39	0.0991	+/-0.112	0.200	pCi/g						
Cadmium-109	UI	4.62	1.07	+/-0.561		pCi/g						
Cerium-139	U	-0.00268	0.0494	+/-0.0155	0.050	pCi/g						
Cesium-134	UI	0.108	0.0987	+/-0.0393	0.100	pCi/g						
Cesium-137		0.260	0.0661	+/-0.0356	0.100	pCi/g						
Cobalt-60	U	0.0103	0.0704	+/-0.0214	0.100	pCi/g						
Europium-152	U	-0.00786	0.164	+/-0.0536	0.200	pCi/g						
Lanthanum-140	U	0.121	0.162	+/-0.0428		pCi/g						
Lead-212		1.90	0.0863	+/-0.118	0.100	pCi/g						
Lead-214		1.69	0.112	+/-0.127	0.100	pCi/g						
Mercury-203	U	0.0427	0.0737	+/-0.0234	0.100	pCi/g						
Potassium-40		20.9	0.411	+/-1.24	1.00	pCi/g						
Radium-223	U	0.522	1.11	+/-0.358		pCi/g						
Radium-224	UI	4.80	0.982	+/-0.625		pCi/g						
Radium-226		1.39	0.0991	+/-0.112		pCi/g						
Radium-228		1.85	0.197	+/-0.202	0.500	pCi/g						
Ruthenium-106	U	0.123	0.555	+/-0.168	0.800	pCi/g						
Sodium-22	U	-0.014	0.068	+/-0.0221	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 15, 2010

Client Sample ID: Sample ID:			RE12-10-7669 243630011	Project: Client ID:			LANL01004 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	0.0853	0.0744	+/-0.0225		pCi/g						
Thallium-208		0.552	0.060	+/-0.0479	0.080	pCi/g						
Thorium-227	U	-0.0393	0.657	+/-0.196		pCi/g						
Thorium-231	U	0.522	1.11	+/-0.358		pCi/g						
Thorium-234	U	1.21	1.74	+/-0.752	2.00	pCi/g						
Tin-113	U	0.0282	0.075	+/-0.0218	0.100	pCi/g						
Uranium-235	U	0.0536	0.359	+/-0.111	0.500	pCi/g						
Yttrium-88	U	0.0101	0.0487	+/-0.0137	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"	94.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	84.7	(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 Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded

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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 15, 2010

Client Sample ID:

RE12-10-7669

Project:

LANL01004

Sample ID:

243630011

Client ID:

LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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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

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

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 15, 2010
Page 1 of 6

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 243630

Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 938229										
QC1202007593 243630005 DUP										
Americium-241	U	0.00139	U	-0.000634	pCi/g	0.0643		(0-1)	KXM4	01/08/1012:36
	TPU:	+/-0.00949		+/-0.00625						
	Yield:	71.8		95.3						
QC1202007594 LCS										
Americium-241	33.2			30.9	pCi/g		93.3	(75%-125%)		01/08/1012:36
	TPU:			+/-2.06						
	Yield:			107						
QC1202007592 MB										
Americium-241			U	0.00216	pCi/g					01/08/1012:36
	TPU:			+/-0.00748						
	Yield:			97.5						
Batch 938238										
QC1202007600 243630005 DUP										
Plutonium-238	U	0.0115	U	6.41E-11	pCi/g	1.10		(0-1)	KXM4	01/08/1012:36
	TPU:	+/-0.00368		+/-0.00152						
	Yield:	83.2		96.8						
Plutonium-239/240		0.031	U	0.0183	pCi/g	0.596		(0-1)		
	TPU:	+/-0.00617		+/-0.00453						
	Yield:	83.2		96.8						
QC1202007601 LCS										
Plutonium-238				7.26	pCi/g			(75%-125%)		
	TPU:			+/-0.502						
	Yield:			94.7						
Plutonium-239/240	41.8			37.4	pCi/g		89.5	(75%-125%)		
	TPU:			+/-2.22						
	Yield:			94.7						
QC1202007599 MB										
Plutonium-238			U	0.00147	pCi/g					
	TPU:			+/-0.00255						
	Yield:			90.9						
Plutonium-239/240			U	8.77E-11	pCi/g					
	TPU:			+/-0.00208						
	Yield:			90.9						
Batch 938239										
QC1202007606 243630005 DUP										
Uranium-233/234		1.62		1.56	pCi/g	0.124		(0-1)	KXM4	01/09/1011:00
	TPU:	+/-0.137		+/-0.135						
	Yield:	95.1		91.7						
Uranium-235/236		0.0833		0.138	pCi/g	0.575		(0-1)		
	TPU:	+/-0.020		+/-0.0274						
	Yield:	95.1		91.7						
Uranium-238		1.68		1.71	pCi/g	0.0571		(0-1)		
	TPU:	+/-0.141		+/-0.146						

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QC Summary

Workorder: 243630

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	938239										
QC1202007607	LCS	Yield:	95.1	91.7							
Uranium-233/234				5.63	pCi/g			(75%-125%)		01/09/10	11:00
		TPU:		+/-0.539							
Uranium-235/236		Yield:		94.2							
			U	0.226	pCi/g			(75%-125%)			
		TPU:		+/-0.0735							
Uranium-238		Yield:		94.2							
	5.75			5.27	pCi/g		91.6	(75%-125%)			
		TPU:		+/-0.510							
		Yield:		94.2							
QC1202007605	MB										
Uranium-233/234			U	-0.000227	pCi/g					01/09/10	11:00
		TPU:		+/-0.0036							
Uranium-235/236		Yield:		95.4							
			U	0.00	pCi/g						
		TPU:		+/-0.00226							
Uranium-238		Yield:		95.4							
			U	0.00548	pCi/g						
		TPU:		+/-0.0041							
		Yield:		95.4							
Rad Gamma Spec											
Batch	937702										
QC1202006612	243630011	DUP									
Americium-241		U	0.117	U	-0.00328	pCi/g	0.386	(0-1)	MXR1	01/07/10	13:31
		TPU:	+/-0.0643		+/-0.0919						
Bismuth-211		UI	4.86	UI	4.73	pCi/g	0.101	(0-1)			
		TPU:	+/-0.342		+/-0.310						
Bismuth-214			1.39		1.31	pCi/g	0.178	(0-1)			
		TPU:	+/-0.112		+/-0.107						
Cadmium-109		UI	4.62	UI	2.91	pCi/g	0.741	(0-1)			
		TPU:	+/-0.561		+/-0.593						
Cerium-139		U	-0.00268	U	-0.002	pCi/g	0.0104	(0-1)			
		TPU:	+/-0.0155		+/-0.0172						
Cesium-134		UI	0.108	U	0.0546	pCi/g	0.404	(0-1)			
		TPU:	+/-0.0393		+/-0.0263						
Cesium-137			0.260		0.196	pCi/g	0.433	(0-1)			
		TPU:	+/-0.0356		+/-0.0384						
Cobalt-60		U	0.0103	U	0.0205	pCi/g	0.120	(0-1)			
		TPU:	+/-0.0214		+/-0.0211						
Europium-152		U	-0.00786	U	0.0178	pCi/g	0.0861	(0-1)			
		TPU:	+/-0.0536		+/-0.0952						
Lanthanum-140		U	0.121	U	0.00759	pCi/g	0.615	(0-1)			
		TPU:	+/-0.0428		+/-0.0494						
Lead-212			1.90		1.80	pCi/g	0.236	(0-1)			
		TPU:	+/-0.118		+/-0.0888						
Lead-214			1.69		1.65	pCi/g	0.0946	(0-1)			
		TPU:	+/-0.127		+/-0.116						
Mercury-203		U	0.0427	U	0.0382	pCi/g	0.0459	(0-1)			
		TPU:	+/-0.0234		+/-0.0256						

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QC Summary

Workorder: 243630

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	937702										
Potassium-40		20.9		20.3	pCi/g	0.141		(0-1)			
		TPU: +/-1.24		+/-1.10							
Radium-223		U 0.522	U	0.352	pCi/g	0.111		(0-1)			
		TPU: +/-0.358		+/-0.410							
Radium-224		UI 4.80	UI	5.48	pCi/g	0.254		(0-1)			
		TPU: +/-0.625		+/-0.704							
Radium-226		1.39		1.31	pCi/g	0.178		(0-1)			
		TPU: +/-0.112		+/-0.107							
Radium-228		1.85		1.56	pCi/g	0.397		(0-1)			
		TPU: +/-0.202		+/-0.175							
Ruthenium-106		U 0.123	U	0.163	pCi/g	0.0582		(0-1)			
		TPU: +/-0.168		+/-0.176							
Sodium-22		U -0.014	U	-0.0294	pCi/g	0.168		(0-1)			
		TPU: +/-0.0221		+/-0.0237							
Strontium-85		UI 0.0853	UI	0.127	pCi/g	0.480		(0-1)			
		TPU: +/-0.0225		+/-0.0208							
Thallium-208		0.552		0.560	pCi/g	0.0388		(0-1)			
		TPU: +/-0.0479		+/-0.0486							
Thorium-227		U -0.0393	U	-0.00135	pCi/g	0.0448		(0-1)			
		TPU: +/-0.196		+/-0.228							
Thorium-231		U 0.522	U	0.352	pCi/g	0.111		(0-1)			
		TPU: +/-0.358		+/-0.410							
Thorium-234		U 1.21	U	1.12	pCi/g	0.0263		(0-1)			
		TPU: +/-0.752		+/-0.978							
Tin-113		U 0.0282	U	-0.00937	pCi/g	0.401		(0-1)			
		TPU: +/-0.0218		+/-0.0251							
Uranium-235		U 0.0536	U	-0.0752	pCi/g	0.272		(0-1)			
		TPU: +/-0.111		+/-0.126							
Yttrium-88		U 0.0101	U	0.0375	pCi/g	0.430		(0-1)			
		TPU: +/-0.0137		+/-0.0183							
QC1202006613	LCS										
Americium-241	16.3			16.0	pCi/g		97.9 (75%-125%)			01/07/10	13:32
		TPU: +/-1.24									
Bismuth-211				3.20	pCi/g						
		TPU: +/-0.415									
Bismuth-214				1.11	pCi/g						
		TPU: +/-0.154									
Cadmium-109				38.9	pCi/g						
		TPU: +/-2.96									
Cerium-139			U	0.0118	pCi/g						
		TPU: +/-0.0293									
Cesium-134			U	0.0805	pCi/g						
		TPU: +/-0.0544									
Cesium-137	5.71			5.71	pCi/g		100 (75%-125%)				
		TPU: +/-0.210									
Cobalt-60	6.65			6.64	pCi/g		99.8 (75%-125%)				
		TPU: +/-0.321									
Europium-152			U	-0.00652	pCi/g						
		TPU: +/-0.145									
Lanthanum-140			U	-0.0442	pCi/g						
		TPU: +/-0.0449									

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QC Summary

Workorder: 243630

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	937702									
Lead-212			1.41	pCi/g						
	TPU:		+/-0.110							
Lead-214			1.11	pCi/g						
	TPU:		+/-0.147							
Mercury-203		U	-0.0237	pCi/g						
	TPU:		+/-0.0426							
Potassium-40		U	0.264	pCi/g						
	TPU:		+/-0.286							
Radium-223		U	-1.01	pCi/g						
	TPU:		+/-0.739							
Radium-224			3.99	pCi/g						
	TPU:		+/-1.06							
Radium-226			1.11	pCi/g						
	TPU:		+/-0.154							
Radium-228			1.13	pCi/g						
	TPU:		+/-0.284							
Ruthenium-106		U	0.316	pCi/g						
	TPU:		+/-0.364							
Sodium-22		U	-0.0111	pCi/g						
	TPU:		+/-0.0285							
Strontium-85		U	0.138	pCi/g						
	TPU:		+/-0.0421							
Thallium-208			0.401	pCi/g						
	TPU:		+/-0.0721							
Thorium-227		U	0.359	pCi/g						
	TPU:		+/-0.416							
Thorium-231		U	-1.01	pCi/g						
	TPU:		+/-0.739							
Thorium-234		U	-3.56	pCi/g						
	TPU:		+/-2.18							
Tin-113		U	0.026	pCi/g						
	TPU:		+/-0.051							
Uranium-235		U	-0.168	pCi/g						
	TPU:		+/-0.199							
Yttrium-88		U	0.0194	pCi/g						
	TPU:		+/-0.0279							
QC1202006611 MB										
Americium-241		U	-0.00498	pCi/g						01/07/1013:29
	TPU:		+/-0.00858							
Bismuth-211		U	-0.0381	pCi/g						
	TPU:		+/-0.0565							
Bismuth-214		U	-0.0158	pCi/g						
	TPU:		+/-0.0215							
Cadmium-109		U	0.228	pCi/g						
	TPU:		+/-0.0986							
Cerium-139		U	-0.0102	pCi/g						
	TPU:		+/-0.006							
Cesium-134		U	-0.00869	pCi/g						
	TPU:		+/-0.0128							
Cesium-137		U	0.027	pCi/g						
	TPU:		+/-0.0204							

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QC Summary

Workorder: 243630

Page 5 of 6

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	937702									
Cobalt-60		U	-0.0136	pCi/g						
	TPU:		+/-0.0112							
Europium-152		U	0.0438	pCi/g						
	TPU:		+/-0.0256							
Lanthanum-140		U	-0.00318	pCi/g						
	TPU:		+/-0.0153							
Lead-212		U	-0.00356	pCi/g						
	TPU:		+/-0.0153							
Lead-214		U	-0.0157	pCi/g						
	TPU:		+/-0.0195							
Mercury-203		U	0.00805	pCi/g						
	TPU:		+/-0.00955							
Potassium-40		U	0.0597	pCi/g						
	TPU:		+/-0.144							
Radium-223		U	0.181	pCi/g						
	TPU:		+/-0.156							
Radium-224		U	-0.256	pCi/g						
	TPU:		+/-0.161							
Radium-226		U	-0.0158	pCi/g						
	TPU:		+/-0.0215							
Radium-228		U	-0.107	pCi/g						
	TPU:		+/-0.0419							
Ruthenium-106		U	-0.0941	pCi/g						
	TPU:		+/-0.0874							
Sodium-22		U	-0.00883	pCi/g						
	TPU:		+/-0.0106							
Strontium-85		U	-0.0843	pCi/g						
	TPU:		+/-0.0156							
Thallium-208		U	-0.00694	pCi/g						
	TPU:		+/-0.011							
Thorium-227		U	0.0332	pCi/g						
	TPU:		+/-0.0869							
Thorium-231		U	0.181	pCi/g						
	TPU:		+/-0.156							
Thorium-234		U	-0.146	pCi/g						
	TPU:		+/-0.120							
Tin-113		U	-0.00483	pCi/g						
	TPU:		+/-0.00921							
Uranium-235		U	-0.0536	pCi/g						
	TPU:		+/-0.0407							
Yttrium-88		U	-0.00614	pCi/g						
	TPU:		+/-0.00878							

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

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QC Summary

Workorder: 243630

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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	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								
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.								
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 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.

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# 938229 Product: Am Date: 1/14/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 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%.	✓		case narrative
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.	✓		
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: S. Holt 1/14/10

Secondary Review Performed By: J. L. R. S. 1/15/10

LANL

1/15 - 1/26 Page 535 of 1411

Am/Cm Que Sheet

04-JAN-10

Batch #: 938229 Analyst: KXM4 First Client Due Date: 26-JAN-10 Internal Due Date: 5-JAN-10 Comments:
 Tracer(s): (Am243)Cm244 Tracer Code: 445-962-55 Expiration Date: 5-11-10 Vol: 0.1ml
 LCS Isotope(s): (Am243)Cm244 LCS Code(s): 59M 0244-485 / NA Expiration Date: 4-30-20 / NA Vol(s): 0.1g / NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): NA / NA
 Prep Date: 1-5-10 Initials: KXM Pipet ID: 297105B Balance ID: 50410272 Witness: MDA 1/5/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/l/n)	Am/Cm Det #
243630001-1	RE12-10-7675	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	1	1	1.258	12
243630002-1	RE12-10-7663	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	2	2	1.253	19
243630003-1	RE12-10-7664	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	3	3	1.251	20
243630004-1	RE12-10-7672	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	4	4	1.265	21
243630005-1	RE12-10-7667	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	5	5	1.252	22
243630006-1	RE12-10-7666	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	6	6	1.274	23
243630007-1	RE12-10-7665	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	7	7	1.254	209 24 1/14/10
243630008-1	RE12-10-7670	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	8	8	1.250	25
243630009-1	RE12-10-7668	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	9	9	1.266	24
243630010-1	RE12-10-7671	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	10	10	1.258	27
243630011-1	RE12-10-7669	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	11	11	1.277	28
1202007592-1	MB for batch 938229	MB		.05 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	12	12	1.278	29
1202007593-1	RE12-10-7667(243630005DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	13	13	1.278	30
1202007594-1	LCS for batch 938229	LCS		.05 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	14	14	0.121	31

Choose SOP Used (GL-RAD-A-011)
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH OR DIGESTION
 Circle One

Data Reviewed By: E. [Signature] 1/14/10
 Page 1 of 1

GEL Laboratories LLC, Radiochemistry Division

1/15/10

Blank Correction Report

Batch ID 938229

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202007593	DUP	Americium-241	1.28 g	-0.000634	0.00625	0.0196	.0016875	pCi/g	YES
1202007594	LCS	Americium-241	0.121 g	30.9	2.06	0.177	.017851240	pCi/g	NO
1202007592	MB	Americium-241	1.00 g	0.00216	0.00748	0.0252	.00216	pCi/g	YES
243630001	RE12-10-7675	Americium-241	1.26 g	-0.00319	0.00722	0.0233	.001714286	pCi/g	YES
243630002	RE12-10-7663	Americium-241	1.25 g	-0.0032	0.0051	0.0234	.001728	pCi/g	YES
243630003	RE12-10-7664	Americium-241	1.25 g	0.00758	0.00507	0.020	.001728	pCi/g	YES
243630004	RE12-10-7672	Americium-241	1.27 g	0.0147	0.00764	0.0216	.001700787	pCi/g	NO
243630005	RE12-10-7667	Americium-241	1.25 g	0.00139	0.00949	0.0273	.001728	pCi/g	YES
243630006	RE12-10-7666	Americium-241	1.27 g	-0.0122	0.0115	0.0444	.001700787	pCi/g	YES
243630007	RE12-10-7665	Americium-241	1.25 g	0.00134	0.00414	0.0374	.001728	pCi/g	YES
243630008	RE12-10-7670	Americium-241	1.25 g	0.0174	0.0106	0.0298	.001728	pCi/g	NO
243630009	RE12-10-7668	Americium-241	1.27 g	-0.00065	0.00214	0.0196	.001700787	pCi/g	YES
243630010	RE12-10-7671	Americium-241	1.26 g	0.00215	0.00252	0.0224	.001714286	pCi/g	YES
243630011	RE12-10-7669	Americium-241	1.27 g	-0.00303	0.00419	0.0209	.001700787	pCi/g	YES

Don
1/15/10

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630001_AM
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :67594
AVERAGE %EFFICIENCY :29.8562
% YIELD : 87.470

COUNT DATE: 8-JAN-2010 12:36:16
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.55115 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B012.CNF;1104
BKG DATE : 3-JAN-2010
EFF FILE : W012.CNF;312
CAL DATE : 4-JAN-2010

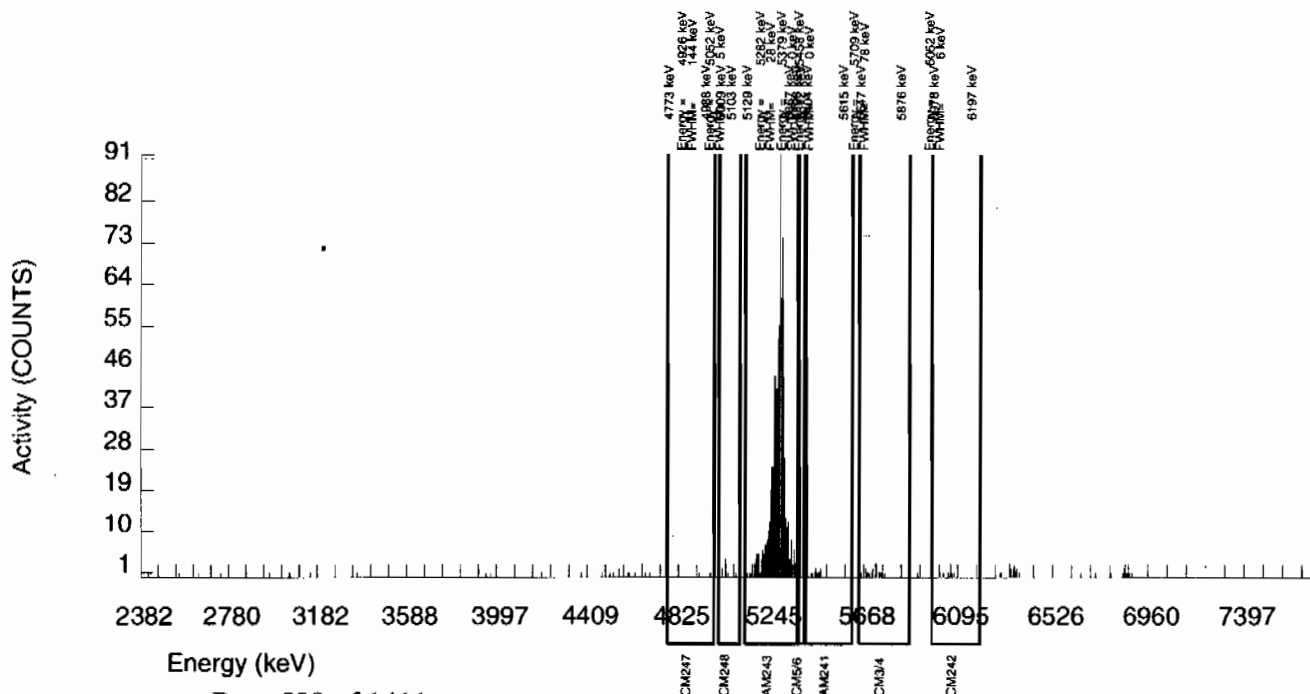
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	22.000	1.000	21.000	5.2338	100.0000	1.37E-03	9.01E-03	1.67E-02	3.71E-02	9.01E-03
CM-5/6	5386.000	7.000	5.000	2.000	19.8463	86.09000	7.96E-03	4.80E-03	7.35E-02	1.51E-01	4.78E-03
AM-241	5479.150	14.000	-2.323	15.000	3.0704	99.94000	-3.19E-03	7.22E-03	9.80E-03	2.33E-02	7.22E-03
CM-242	6102.000	9.000	4.000	5.000	4.3186	100.0000	5.92E-03	5.55E-03	1.38E-02	3.13E-02	5.54E-03
AM243	5270.000	765.000	760.000	5.000	2.2361	99.78000	1.04E+00	7.45E-02	7.15E-03	1.80E-02	3.81E-02
CM-247	4946.000	4.000	2.000	2.000	15.3366	79.30000	3.46E-03	4.24E-03	6.17E-02	1.28E-01	4.24E-03
CM-248	5078.600	9.000	9.000	0.000	22.1555	91.00000	1.36E-02	4.60E-03	7.77E-02	1.59E-01	4.52E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630002_AM
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :78786
AVERAGE %EFFICIENCY :28.8706
% YIELD : 90.457

COUNT DATE: 8-JAN-2010 12:36:17
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.63825 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B019.CNF;1090
BKG DATE : 3-JAN-2010
EFF FILE : W019.CNF;305
CAL DATE : 4-JAN-2010

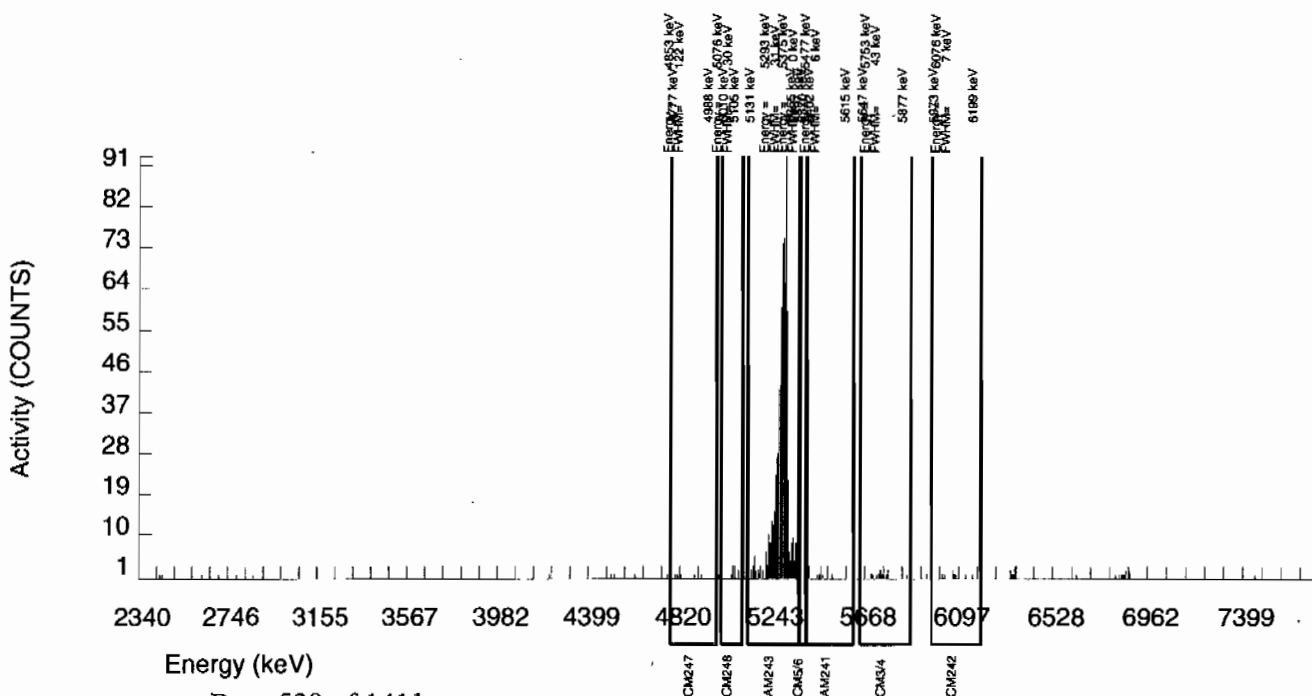
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	16.000	12.000	4.000	5.2338	100.0000	1.65E-02	6.25E-03	1.68E-02	3.73E-02	6.17E-03
CM-5/6	5386.000	15.000	12.000	3.000	19.8463	86.09000	1.92E-02	6.89E-03	7.38E-02	1.52E-01	6.78E-03
AM-241	5479.150	7.000	-2.323	8.000	3.0704	99.94000	-3.20E-03	5.10E-03	9.84E-03	2.34E-02	5.09E-03
CM-242	6102.000	10.000	6.000	4.000	4.3186	100.0000	8.91E-03	5.58E-03	1.38E-02	3.14E-02	5.56E-03
AM243	5270.000	762.000	760.000	2.000	1.4142	99.78000	1.05E+00	7.47E-02	4.54E-03	1.28E-02	3.81E-02
CM-247	4946.000	5.000	4.000	1.000	15.3366	79.30000	6.94E-03	4.27E-03	6.19E-02	1.29E-01	4.25E-03
CM-248	5078.600	6.000	6.000	0.000	22.1555	91.00000	9.08E-03	3.75E-03	7.80E-02	1.60E-01	3.71E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630003_AM
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :78787
AVERAGE %EFFICIENCY :33.6054
% YIELD : 91.209

COUNT DATE: 8-JAN-2010 12:36:17
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.66019 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B020.CNF;1085
BKG DATE : 3-JAN-2010
EFF FILE : W020.CNF;318
CAL DATE : 4-JAN-2010

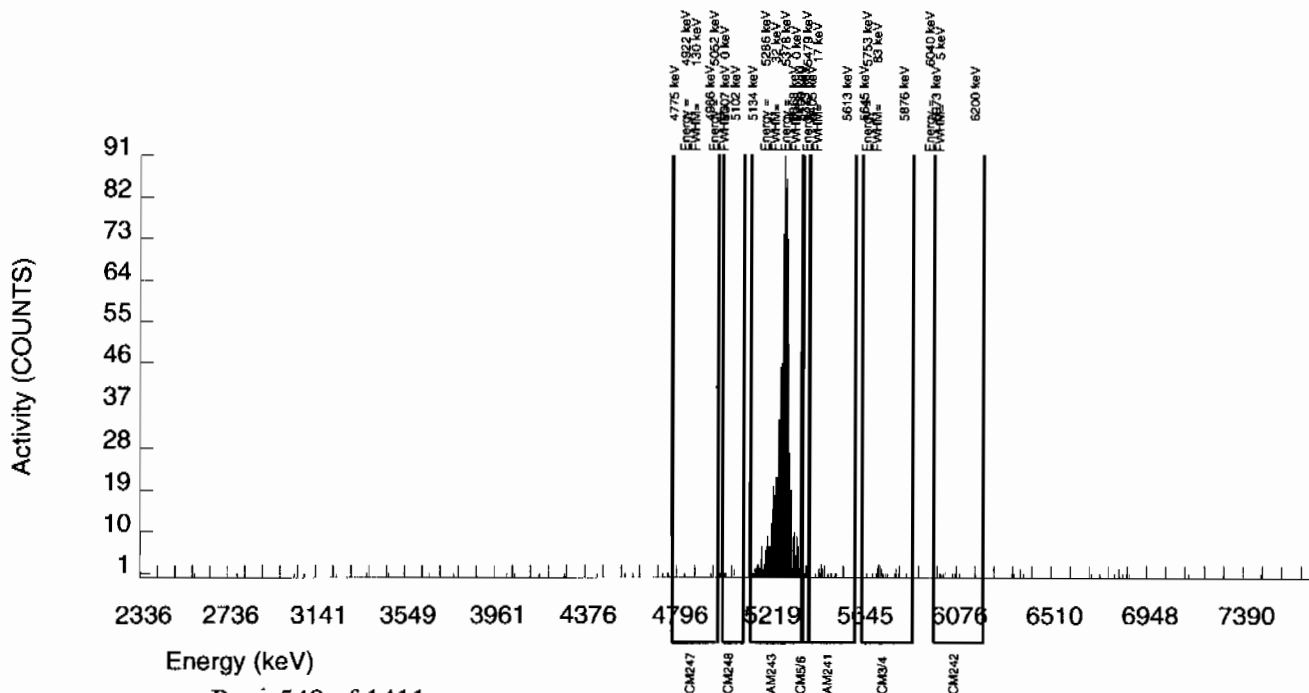
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	18.000	15.000	3.000	5.2338	100.0000	1.77E-02	5.50E-03	1.43E-02	3.18E-02	5.39E-03
CM-5/6	5386.000	10.000	8.000	2.000	19.8463	86.09000	1.09E-02	4.77E-03	6.30E-02	1.30E-01	4.73E-03
AM-241	5479.150	14.000	6.448	6.000	3.0704	99.94000	7.58E-03	5.07E-03	8.40E-03	2.00E-02	5.05E-03
CM-242	6102.000	10.000	6.000	4.000	4.3186	100.0000	7.61E-03	4.76E-03	1.18E-02	2.68E-02	4.74E-03
AM243	5270.000	894.000	892.000	2.000	1.4142	99.78000	1.05E+00	7.18E-02	3.87E-03	1.09E-02	3.52E-02
CM-247	4946.000	3.000	3.000	0.000	15.3366	79.30000	4.44E-03	2.58E-03	5.29E-02	1.10E-01	2.57E-03
CM-248	5078.600	9.000	9.000	0.000	22.1555	91.00000	1.16E-02	3.93E-03	6.65E-02	1.37E-01	3.87E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630004_AM
SAMPLE QTY: 1.265 G

DETECTOR NUMBER :67047
AVERAGE %EFFICIENCY :30.1536
% YIELD : 92.875

COUNT DATE: 8-JAN-2010 12:36:17
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.70880 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B021.CNF;1093
BKG DATE : 3-JAN-2010
EFF FILE : W021.CNF;326
CAL DATE : 4-JAN-2010

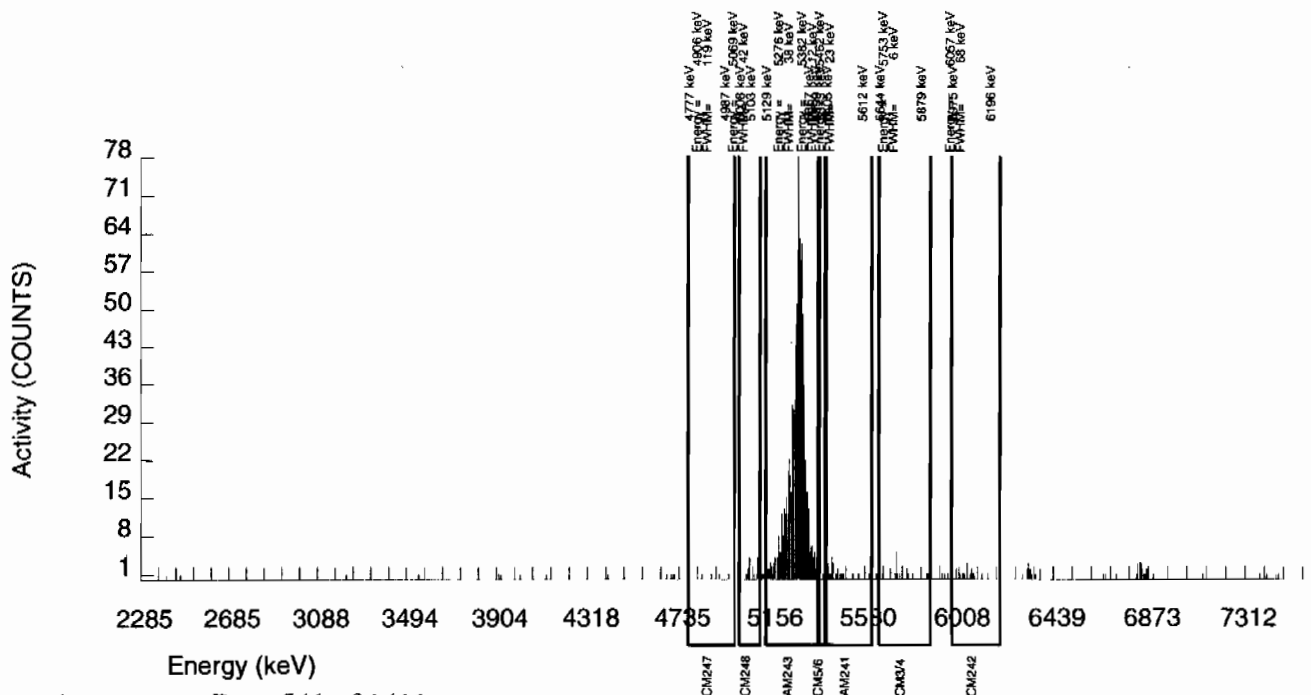
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	18.000	4.000	14.000	5.2338	100.0000	5.10E-03	7.21E-03	1.55E-02	3.44E-02	7.21E-03
CM-5/6	5386.000	6.000	3.000	3.000	19.8463	86.09000	4.43E-03	4.44E-03	6.82E-02	1.40E-01	4.43E-03
AM-241	5479.150	25.000	11.582	12.000	3.0704	99.94000	1.47E-02	7.64E-03	9.09E-03	2.16E-02	7.59E-03
CM-242	6102.000	16.000	12.000	4.000	4.3186	100.0000	1.65E-02	6.22E-03	1.28E-02	2.90E-02	6.14E-03
AM243	5270.000	820.000	815.000	5.000	2.2361	99.78000	1.04E+00	7.28E-02	6.63E-03	1.67E-02	3.66E-02
CM-247	4946.000	4.000	-2.000	6.000	15.3366	79.30000	-3.21E-03	5.07E-03	5.72E-02	1.19E-01	5.07E-03
CM-248	5078.600	15.000	15.000	0.000	22.1555	91.00000	2.10E-02	5.56E-03	7.20E-02	1.48E-01	5.41E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630005_AM
SAMPLE QTY: 1.252 G

DETECTOR NUMBER :72530
AVERAGE %EFFICIENCY :31.2191
% YIELD : 71.764

COUNT DATE: 8-JAN-2010 12:36:17
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.09308 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B022.CNF;1097
BKG DATE : 3-JAN-2010
EFF FILE : W022.CNF;316
CAL DATE : 4-JAN-2010

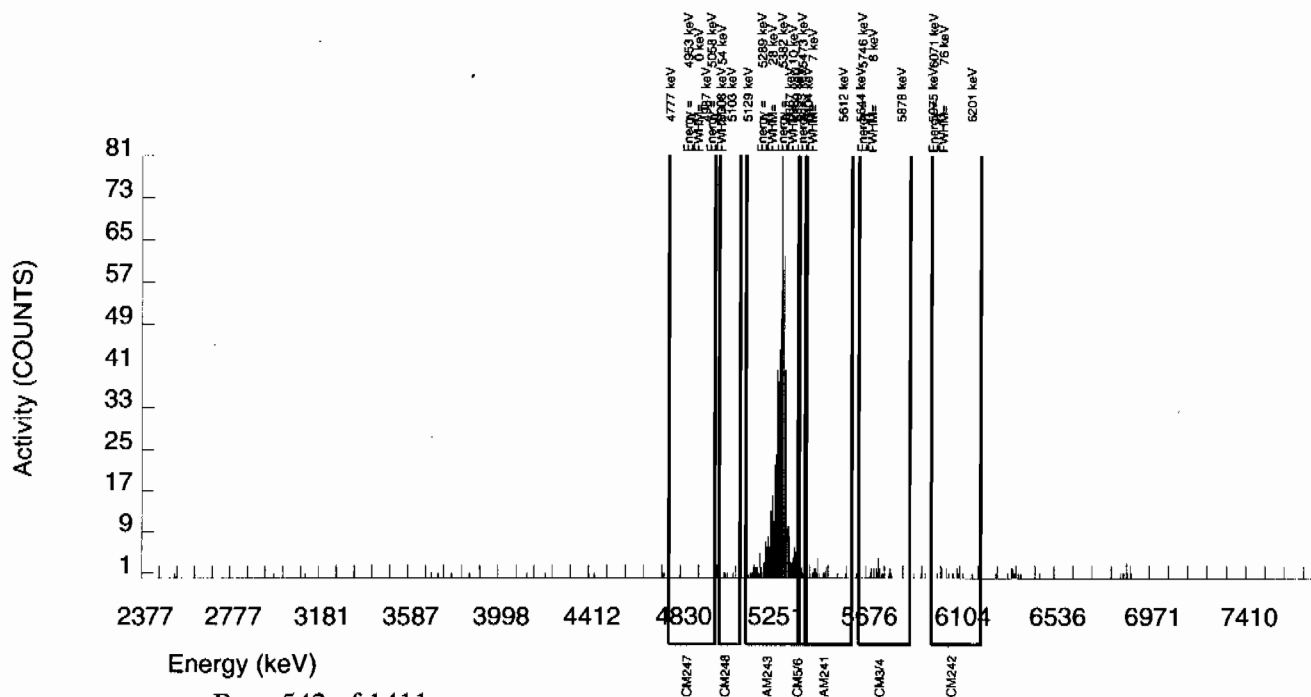
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	22.000	8.000	14.000	5.2338	100.0000	1.29E-02	9.69E-03	1.96E-02	4.35E-02	9.65E-03
CM-5/6	5386.000	14.000	10.000	4.000	19.8463	86.09000	1.87E-02	8.00E-03	8.61E-02	1.77E-01	7.91E-03
AM-241	5479.150	19.000	0.865	17.000	3.0704	99.94000	1.39E-03	9.49E-03	1.15E-02	2.73E-02	9.49E-03
CM-242	6102.000	16.000	10.000	6.000	4.3186	100.0000	1.73E-02	8.20E-03	1.61E-02	3.66E-02	8.13E-03
AM243	5270.000	656.000	652.000	4.000	2.0000	99.78000	1.05E+00	7.80E-02	7.49E-03	1.93E-02	4.13E-02
CM-247	4946.000	2.000	2.000	0.000	15.3366	79.30000	4.05E-03	2.88E-03	7.23E-02	1.50E-01	2.86E-03
CM-248	5078.600	5.000	5.000	0.000	22.1555	91.00000	8.82E-03	3.99E-03	9.10E-02	1.87E-01	3.95E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229 SAMPLE DATE : 22-DEC-2009 00:00:00		SAMPLE ID : S0243630006_AM SAMPLE QTY: 1.274 G	
DETECTOR NUMBER :78264 AVERAGE %EFFICIENCY :32.5118 % YIELD : 41.643		COUNT DATE: 8-JAN-2010 12:36:17 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 1.21454 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B023.CNF;1097 BKG DATE : 3-JAN-2010 EFF FILE : W023.CNF;299 CAL DATE : 4-JAN-2010

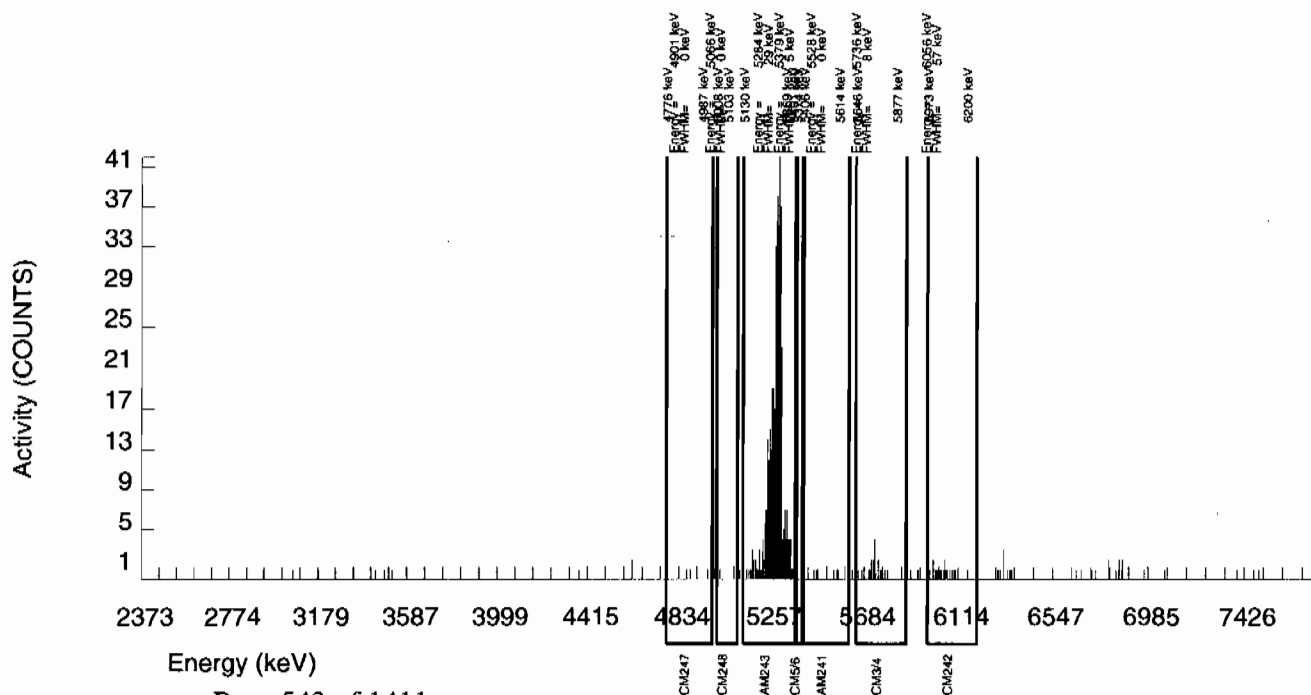
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	19.000	14.000	5.000	5.2338	100.0000	3.66E-02	1.31E-02	3.18E-02	7.07E-02	1.28E-02
CM-5/6	5386.000	3.000	1.000	2.000	19.8463	86.09000	3.03E-03	6.79E-03	1.40E-01	2.88E-01	6.78E-03
AM-241	5479.150	8.000	-4.686	12.000	3.0704	99.94000	-1.22E-02	1.15E-02	1.87E-02	4.44E-02	1.15E-02
CM-242	6102.000	18.000	14.000	4.000	4.3186	100.0000	3.94E-02	1.35E-02	2.62E-02	5.96E-02	1.32E-02
AM243	5270.000	397.000	394.000	3.000	1.7321	99.78000	1.03E+00	8.98E-02	1.05E-02	2.82E-02	5.23E-02
CM-247	4946.000	5.000	5.000	0.000	15.3366	79.30000	1.65E-02	7.46E-03	1.17E-01	2.44E-01	7.36E-03
CM-248	5078.600	2.000	2.000	0.000	22.1555	91.00000	5.74E-03	4.08E-03	1.48E-01	3.04E-01	4.06E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630007_AM
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :79188
AVERAGE %EFFICIENCY :36.4789
% YIELD : 33.820

COUNT DATE:13-JAN-2010 19:53:09
ELAPSED LIVE TIME(SEC): 86400.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 0.98638 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B209.CNF;69
BKG DATE : 10-JAN-2010
EFF FILE : W209.CNF;27
CAL DATE : 28-DEC-2009

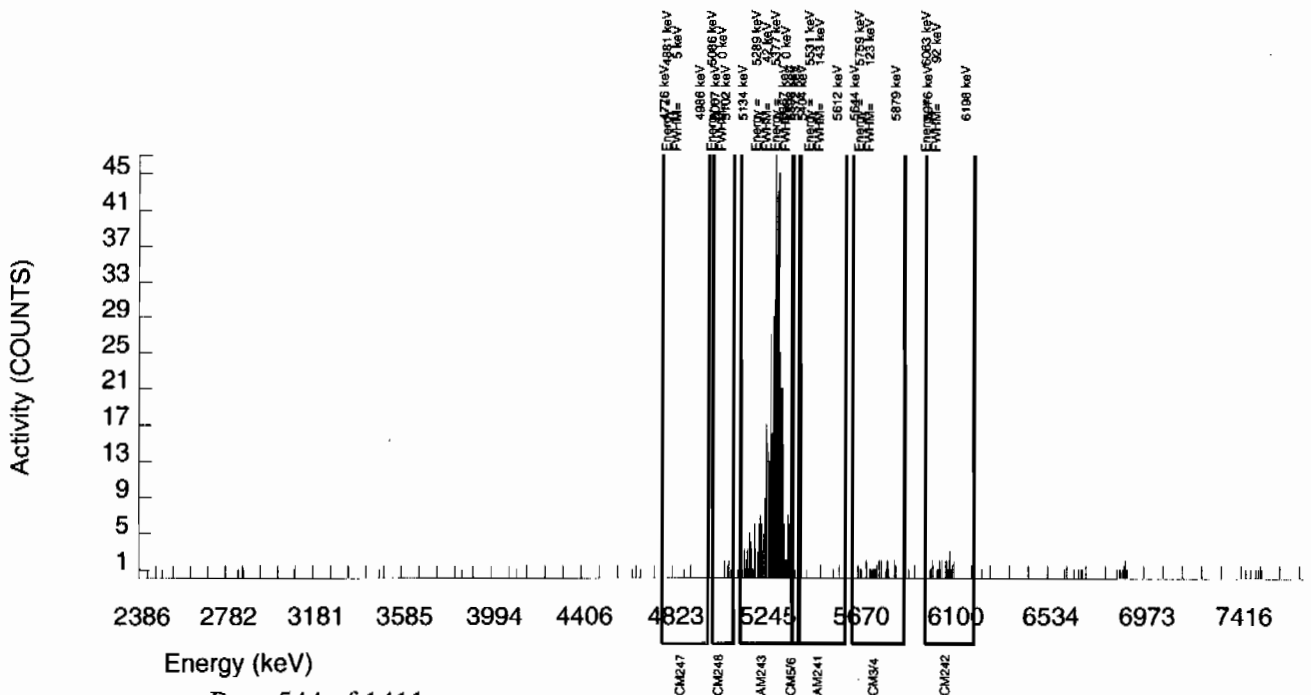
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	21.000	21.000	0.000	5.2338	100.0000	4.26E-02	9.70E-03	2.72E-02	5.99E-02	9.29E-03
CM-5/6	5386.000	13.000	13.000	0.000	19.8463	86.09000	3.05E-02	8.70E-03	1.20E-01	2.46E-01	8.47E-03
AM-241	5479.150	3.000	0.660	1.440	3.0704	99.94000	1.34E-03	4.14E-03	1.60E-02	3.74E-02	4.13E-03
CM-242	6102.000	25.000	23.560	1.440	4.3186	100.0000	5.26E-02	1.21E-02	2.24E-02	5.04E-02	1.16E-02
AM243	5270.000	517.000	517.000	0.000	0.0000	99.78000	1.05E+00	8.31E-02	0.00E+00	5.49E-03	4.61E-02
CM-247	4946.000	1.000	-0.440	1.440	15.3366	79.30000	-1.12E-03	4.47E-03	1.00E-01	2.08E-01	4.47E-03
CM-248	5078.600	7.000	5.560	1.440	22.1555	91.00000	1.24E-02	6.74E-03	1.26E-01	2.59E-01	6.69E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630008_AM
SAMPLE QTY: 1.250 G

DETECTOR NUMBER :45-149AA5
AVERAGE %EFFICIENCY :32.4684
% YIELD : 63.394

COUNT DATE: 8-JAN-2010 12:36:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_AM.N
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	BKG FILE : B025.CNF;1100
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG DATE : 3-JAN-2010
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	EFF FILE : W025.CNF;326
		RESULTS : 1.84894 dpm	CAL DATE : 4-JAN-2010

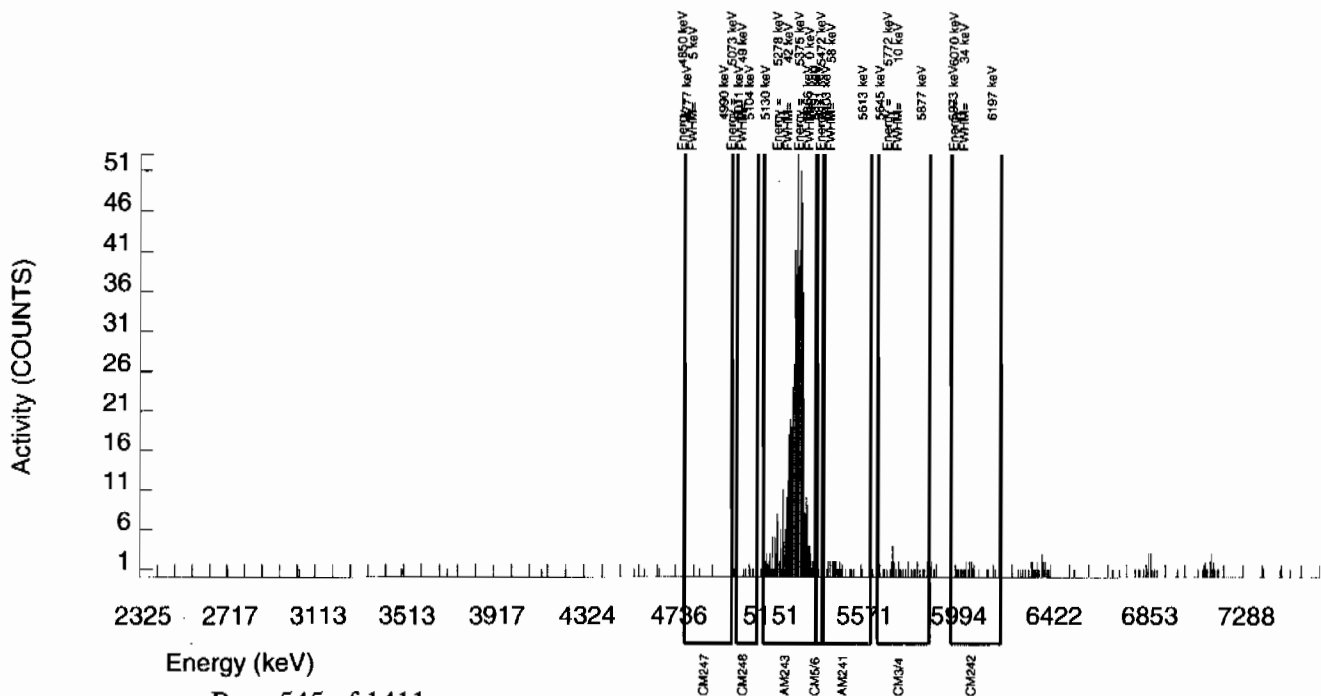
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	33.000	-2.000	35.000	5.2338	100.0000	-3.51E-03	1.45E-02	2.13E-02	4.74E-02	1.45E-02
CM-5/6	5386.000	11.000	9.000	2.000	19.8463	86.09000	1.83E-02	7.43E-03	9.39E-02	1.93E-01	7.33E-03
AM-241	5479.150	24.000	9.957	13.000	3.0704	99.94000	1.74E-02	1.06E-02	1.25E-02	2.98E-02	1.05E-02
CM-242	6102.000	21.000	13.000	8.000	4.3186	100.0000	2.46E-02	1.03E-02	1.76E-02	3.99E-02	1.02E-02
AM243	5270.000	605.000	599.000	6.000	2.4495	99.78000	1.05E+00	8.03E-02	1.00E-02	2.48E-02	4.34E-02
CM-247	4946.000	1.000	-1.000	2.000	15.3366	79.30000	-2.21E-03	3.83E-03	7.88E-02	1.64E-01	3.82E-03
CM-248	5078.600	5.000	3.000	2.000	22.1555	91.00000	5.77E-03	5.10E-03	9.92E-02	2.04E-01	5.09E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630009_AM
SAMPLE QTY: 1.266 G

DETECTOR NUMBER :78204
AVERAGE %EFFICIENCY :31.5763
% YIELD : 97.723

COUNT DATE: 8-JAN-2010 12:36:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.85018 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B026.CNF;1101
BKG DATE : 3-JAN-2010
EFF FILE : W026.CNF;300
CAL DATE : 4-JAN-2010

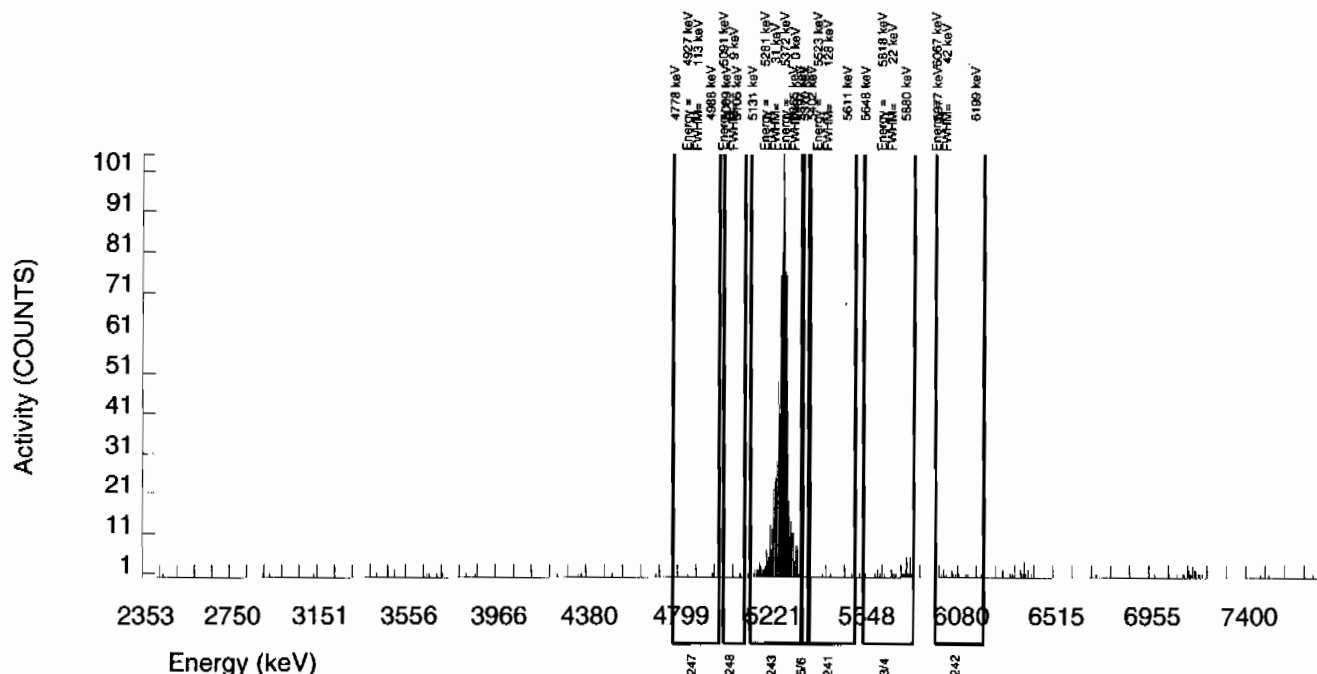
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	34.000	15.000	19.000	5.2338	100.0000	1.73E-02	8.48E-03	1.40E-02	3.12E-02	8.41E-03
CM-5/6	5386.000	3.000	3.000	0.000	19.8463	86.09000	4.02E-03	2.33E-03	6.18E-02	1.27E-01	2.32E-03
AM-241	5479.150	3.000	-0.563	2.000	3.0704	99.94000	-6.50E-04	2.14E-03	8.24E-03	1.96E-02	2.14E-03
CM-242	6102.000	13.000	10.000	3.000	4.3186	100.0000	1.24E-02	5.03E-03	1.16E-02	2.63E-02	4.98E-03
AM243	5270.000	904.000	898.000	6.000	2.4495	99.78000	1.04E+00	7.26E-02	6.59E-03	1.63E-02	3.49E-02
CM-247	4946.000	3.000	2.000	1.000	15.3366	79.30000	2.91E-03	2.91E-03	5.19E-02	1.08E-01	2.91E-03
CM-248	5078.600	2.000	2.000	0.000	22.1555	91.00000	2.53E-03	1.80E-03	6.53E-02	1.34E-01	1.79E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630010_AM
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :42484
AVERAGE %EFFICIENCY :33.2327
% YIELD : 81.685

COUNT DATE: 8-JAN-2010 12:36:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.38242 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B027.CNF;1107
BKG DATE : 3-JAN-2010
EFF FILE : W027.CNF;327
CAL DATE : 4-JAN-2010

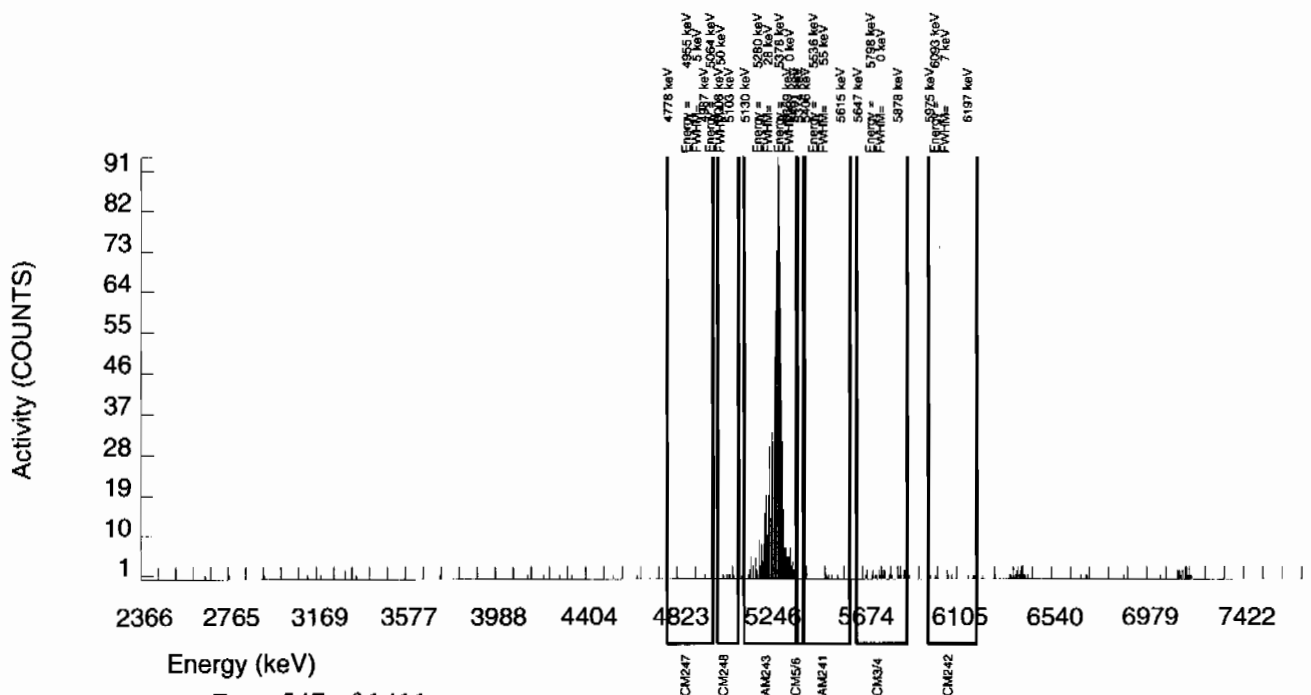
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	36.000	14.000	22.000	5.2338	100.0000	1.85E-02	1.01E-02	1.61E-02	3.57E-02	1.01E-02
CM-5/6	5386.000	8.000	8.000	0.000	19.8463	86.09000	1.23E-02	4.40E-03	7.07E-02	1.46E-01	4.33E-03
AM-241	5479.150	4.000	1.625	1.000	3.0704	99.94000	2.14E-03	2.52E-03	9.43E-03	2.24E-02	2.51E-03
CM-242	6102.000	9.000	7.000	2.000	4.3186	100.0000	9.96E-03	4.76E-03	1.33E-02	3.01E-02	4.72E-03
AM243	5270.000	792.000	790.000	2.000	1.4142	99.78000	1.04E+00	7.51E-02	4.35E-03	1.23E-02	3.72E-02
CM-247	4946.000	1.000	1.000	0.000	15.3366	79.30000	1.66E-03	1.67E-03	5.93E-02	1.23E-01	1.66E-03
CM-248	5078.600	5.000	4.000	1.000	22.1555	91.00000	5.80E-03	3.57E-03	7.47E-02	1.53E-01	3.55E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630011_AM
SAMPLE QTY: 1.273 G

DETECTOR NUMBER :78792
AVERAGE %EFFICIENCY :30.5070
% YIELD : 94.165

COUNT DATE: 8-JAN-2010 12:36:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.74641 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B028.CNF;1111
BKG DATE : 3-JAN-2010
EFF FILE : W028.CNF;319
CAL DATE : 4-JAN-2010

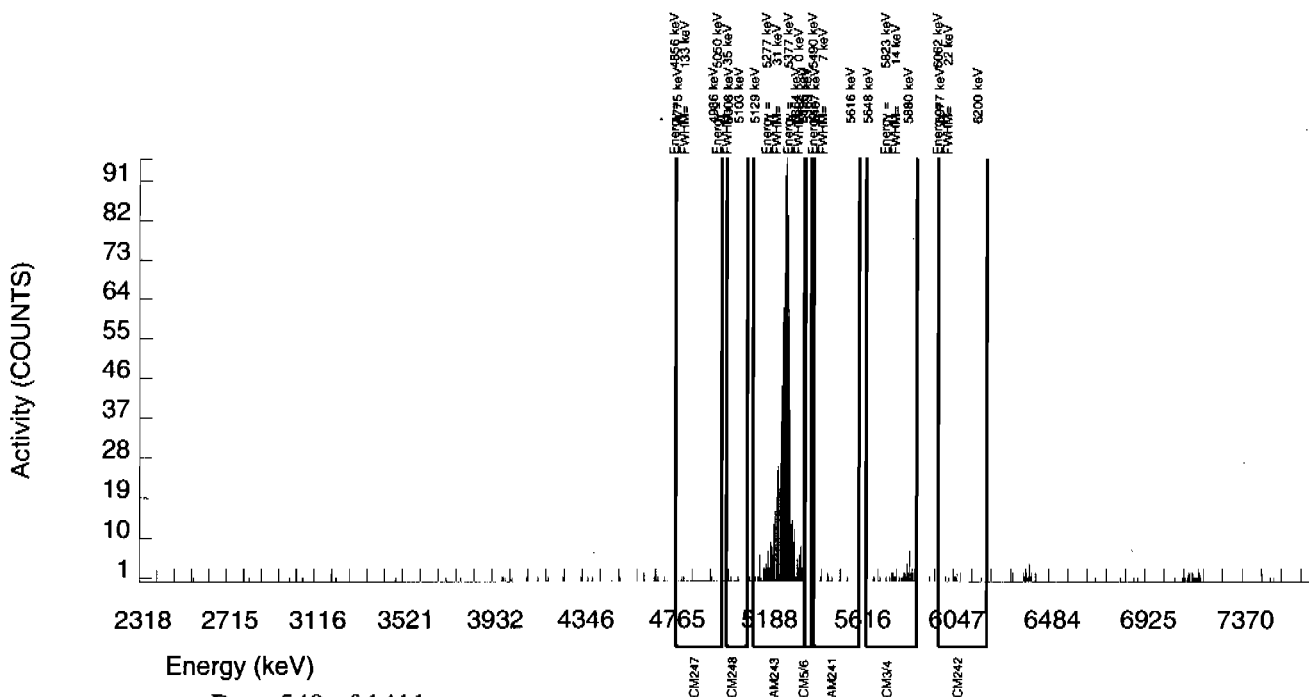
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	42.000	10.000	32.000	5.2338	100.0000	1.23E-02	1.06E-02	1.50E-02	3.33E-02	1.06E-02
CM-5/6	5386.000	4.000	4.000	0.000	19.8463	86.09000	5.72E-03	2.88E-03	6.61E-02	1.36E-01	2.86E-03
AM-241	5479.150	6.000	-2.455	7.000	3.0704	99.94000	-3.03E-03	4.19E-03	8.80E-03	2.09E-02	4.19E-03
CM-242	6102.000	12.000	10.000	2.000	4.3186	100.0000	1.33E-02	5.04E-03	1.24E-02	2.81E-02	4.97E-03
AM243	5270.000	836.000	836.000	0.000	0.0000	99.78000	1.03E+00	7.32E-02	0.00E+00	3.35E-03	3.57E-02
CM-247	4946.000	3.000	1.000	2.000	15.3366	79.30000	1.55E-03	3.47E-03	5.54E-02	1.15E-01	3.47E-03
CM-248	5078.600	2.000	1.000	1.000	22.1555	91.00000	1.35E-03	2.35E-03	6.98E-02	1.43E-01	2.34E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202007592_AM
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :33454
AVERAGE %EFFICIENCY :31.1998
% YIELD : 97.471

COUNT DATE: 8-JAN-2010 12:36:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.84282 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B029.CNF;1102
BKG DATE : 3-JAN-2010
EFF FILE : W029.CNF;318
CAL DATE : 4-JAN-2010

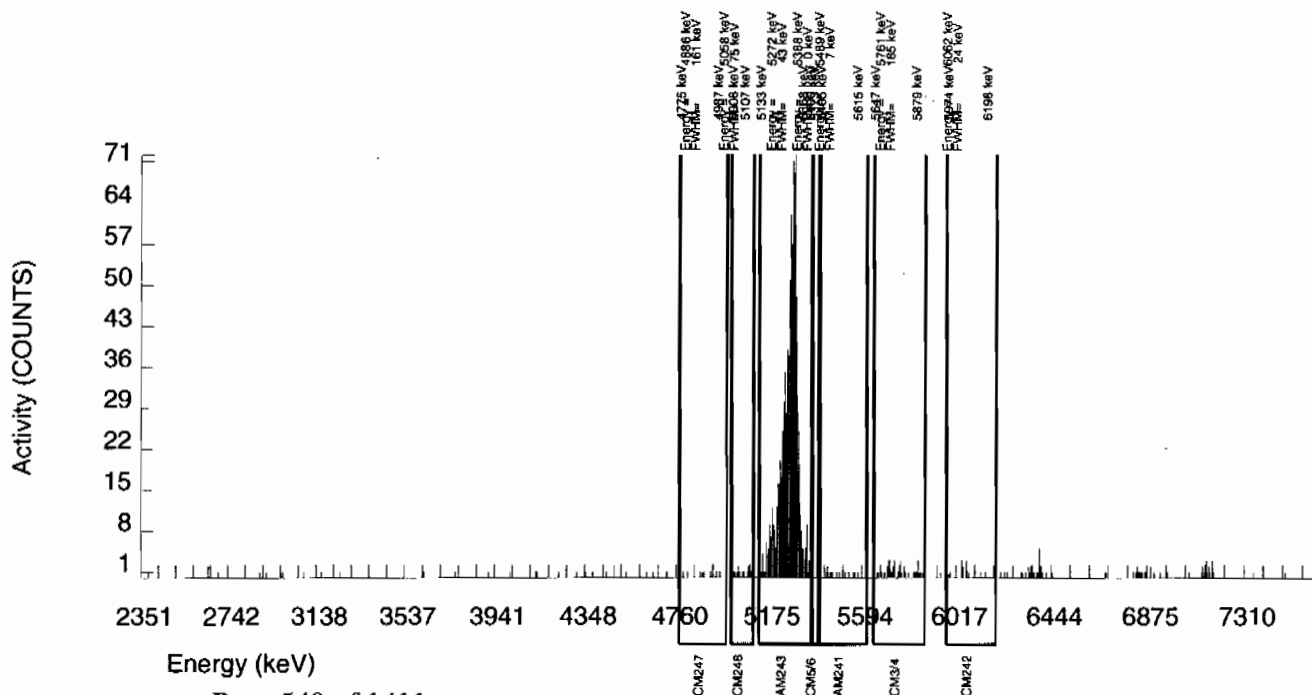
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	44.000	19.000	25.000	5.2338	100.0000	2.82E-02	1.24E-02	1.80E-02	4.01E-02	1.23E-02
CM-5/6	5386.000	7.000	6.000	1.000	19.8463	86.09000	1.03E-02	4.91E-03	7.94E-02	1.64E-01	4.87E-03
AM-241	5479.150	15.000	1.460	12.000	3.0704	99.94000	2.16E-03	7.48E-03	1.06E-02	2.52E-02	7.48E-03
CM-242	6102.000	13.000	8.000	5.000	4.3186	100.0000	1.20E-02	6.43E-03	1.49E-02	3.38E-02	6.39E-03
AM243	5270.000	892.000	885.000	7.000	2.6458	99.78000	1.31E+00	9.23E-02	9.14E-03	2.23E-02	4.45E-02
CM-247	4946.000	8.000	7.000	1.000	15.3366	79.30000	1.31E-02	5.66E-03	6.66E-02	1.38E-01	5.60E-03
CM-248	5078.600	15.000	13.000	2.000	22.1555	91.00000	2.12E-02	6.84E-03	8.39E-02	1.72E-01	6.71E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S1202007593_AM
SAMPLE QTY: 1.278 G

DETECTOR NUMBER :33447
AVERAGE %EFFICIENCY :32.1103
% YIELD : 95.349

COUNT DATE: 8-JAN-2010 12:36:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.78094 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B030.CNF;1099
BKG DATE : 3-JAN-2010
EFF FILE : W030.CNF;303
CAL DATE : 4-JAN-2010

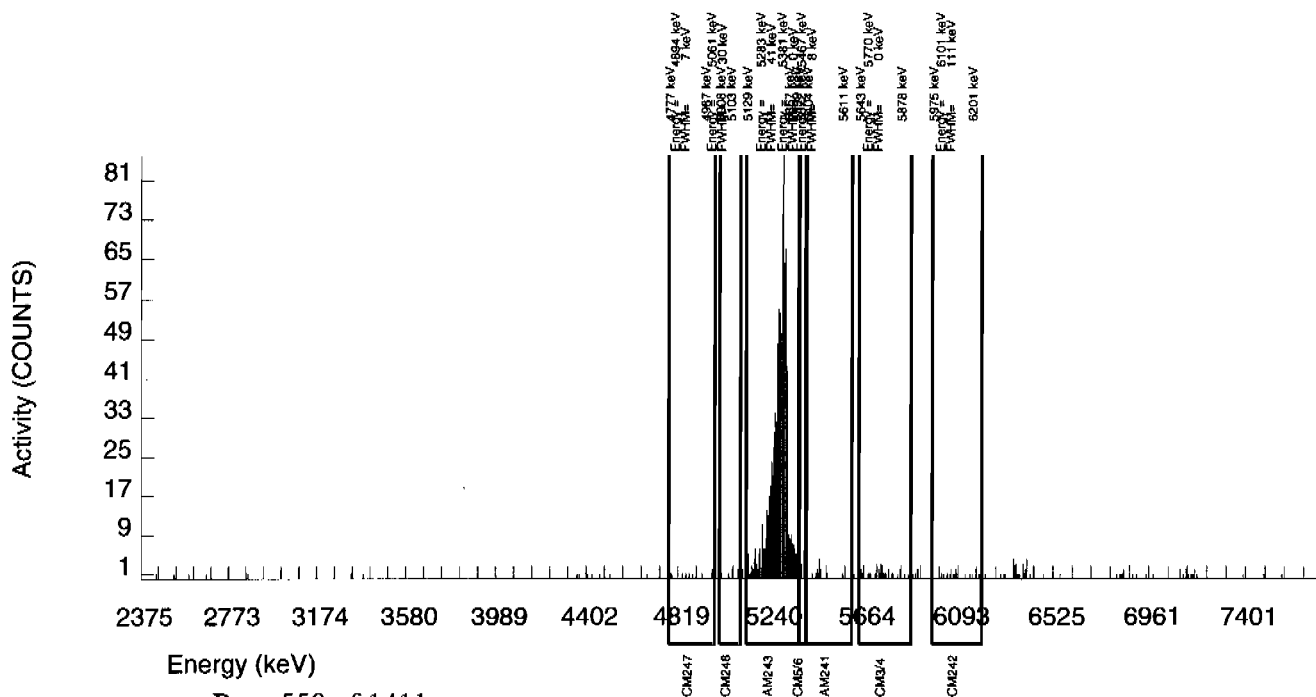
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	35.000	8.000	27.000	5.2338	100.0000	9.23E-03	9.10E-03	1.40E-02	3.12E-02	9.08E-03
CM-5/6	5386.000	16.000	13.000	3.000	19.8463	86.09000	1.74E-02	5.93E-03	6.17E-02	1.27E-01	5.83E-03
AM-241	5479.150	16.000	-0.551	15.000	3.0704	99.94000	-6.34E-04	6.25E-03	8.23E-03	1.96E-02	6.25E-03
CM-242	6102.000	17.000	6.000	11.000	4.3186	100.0000	7.45E-03	6.59E-03	1.16E-02	2.63E-02	6.57E-03
AM243	5270.000	894.000	891.000	3.000	1.7321	99.78000	1.03E+00	7.19E-02	4.65E-03	1.24E-02	3.46E-02
CM-247	4946.000	10.000	7.000	3.000	15.3366	79.30000	1.02E-02	5.27E-03	5.18E-02	1.08E-01	5.23E-03
CM-248	5078.600	7.000	6.000	1.000	22.1555	91.00000	7.59E-03	3.61E-03	6.52E-02	1.34E-01	3.58E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938229
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202007594_AM
SAMPLE QTY: 0.121 G

DETECTOR NUMBER : 79988
AVERAGE %EFFICIENCY : 33.5512
% YIELD : 106.719

COUNT DATE: 8-JAN-2010 12:36:19
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST : KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 3.11255 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B031.CNF;1097
BKG DATE : 3-JAN-2010
EFF FILE : W031.CNF;343
CAL DATE : 4-JAN-2010

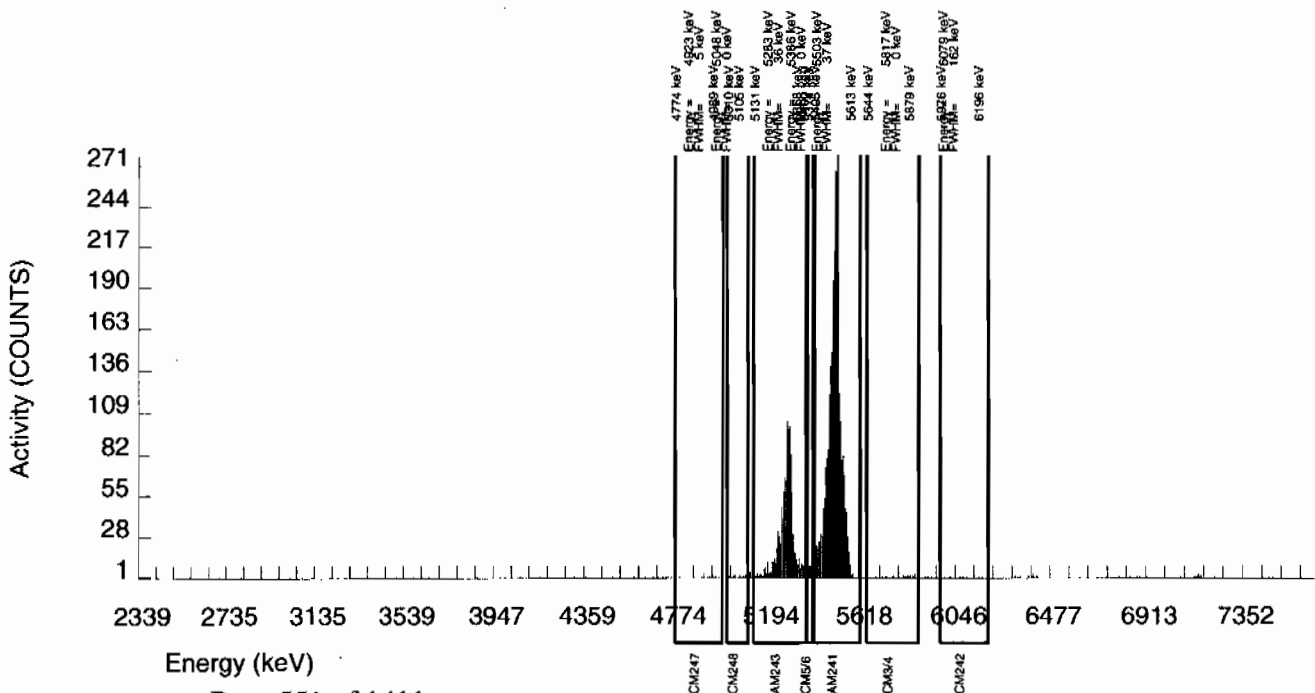
NUCLIDE ACTIVITY SUMMARY

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
CM-3/4	5795.020	27.000	1.000	26.000	5.2338	100.0000	1.04E-02	7.57E-02	1.27E-01	2.81E-01	7.57E-02
CM-5/6	5386.000	53.000	53.000	0.000	19.8463	86.09000	6.40E-01	9.70E-02	5.58E-01	1.15E+00	8.79E-02
AM-241	5479.150	2976.000	2973.187	1.000	3.0704	99.94000	3.09E+01	2.06E+00	7.43E-02	1.77E-01	5.67E-01
CM-242	6102.000	10.000	6.000	4.000	4.3186	100.0000	6.34E-02	3.98E-02	1.04E-01	2.37E-01	3.95E-02
AM243	5270.000	1048.000	1042.000	6.000	2.4495	99.78000	1.09E+01	7.74E-01	5.94E-02	1.47E-01	3.38E-01
CM-247	4946.000	14.000	10.000	4.000	15.3366	79.30000	1.31E-01	5.63E-02	4.68E-01	9.71E-01	5.56E-02
CM-248	5078.600	19.000	12.000	7.000	22.1555	91.00000	1.37E-01	5.89E-02	5.89E-01	1.21E+00	5.83E-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# 938238 Product: Pu Date: 1/14/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 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%.	✓	✓	DER# 780857 @ 1/15/10
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.	✓		
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 stasured.	✓		
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.	✓		DER# 780357
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			DER# 780857
Aliquot Correction completed if required.			N/A @ 1/15/10
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: [Signature] 1/14/10

Secondary Review Performed By: J. L. M. I. - 1/15/10

LAUL

1/15 - 1/26
Page 552 of 1411

Plutonium Que Sheet

04-JAN-10

Batch #: 938238 Analyst: KXM4 First Client Due Date: 26-JAN-10 Internal Due Date: 15-JAN-10

Tracer Isotope(s): Pu-242/238 Tracer Code: 1374A Expiration Date: 12-8-10 Vol: 0.1ml

LCS Isotope(s): Pu-239/238 LCS Code: 5BM 0294-B Expiration Date: 1-30-10 Vol: 1.1g

Spike Isotope(s): Pu-239/238 Spike Code: NA Expiration Date: NA Vol: NA

Prep Date: 1-5-10 Initials: VM Pipet ID: 2971058 Balance ID: 50410272 Witness: MDA 1/5/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/ Aliquot (g/l / g)	Pu Det #
243630001-1	RE12-10-7675	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	1	1	1.258	33
243630002-1	RE12-10-7663	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	2	2	1.253	35
243630003-1	RE12-10-7664	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	3	3	1.251	36
243630004-1	RE12-10-7672	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	4	4	1.265	37
243630005-1	RE12-10-7667	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	5	5	1.252	224 38 1/5/10
243630006-1	RE12-10-7666	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	6	6	1.274	39
243630007-1	RE12-10-7665	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	7	7	1.254	40
243630008-1	RE12-10-7670	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	8	8	1.258	41
243630009-1	RE12-10-7668	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	9	9	1.266	42
243630010-1	RE12-10-7671	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	10	10	1.258	43
243630011-1	RE12-10-7669	SAMPLE		.05 pCi/g	SOIL	LANL010	22-DEC-09	11	11	1.273	44
1202007599-1	MB for batch 938238	MB		.05 pCi/g	SOIL	QC ACCOUNT		12	12	1.278	45
1202007600-1	RE12-10-7667(243630005DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	13	13	1.278	46
1202007601-1	LCS for batch 938238	LCS		.05 pCi/g	SOIL	QC ACCOUNT		14	14	0.121	47

Choose SOP Used: GL-RAD-A-01B GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

GEL Laboratories LLC, Radiochemistry Division

Solid Sample Dissolution by: LEACH or DIGESTION Circle One

Data Reviewed By: [Signature] 1/14/10

[Signature] 1/15/10

Blank Correction Report

Batch ID 938238

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202007600	DUP	Plutonium-238	1.28 g	6.41E-11	0.00152	0.0178	.001148438	pCi/g	YES
		Plutonium-239/240	1.28 g	0.0183	0.00453	0.0203	.000000000	pCi/g	NO
1202007601	LCS	Plutonium-238	0.121 g	7.26	0.502	0.188	.012148760	pCi/g	NO
		Plutonium-239/240	0.121 g	37.4	2.22	0.216	.000000001	pCi/g	NO
1202007599	MB	Plutonium-238	1.00 g	0.00147	0.00255	0.0243	.00147	pCi/g	YES
		Plutonium-239/240	1.00 g	8.77E-11	0.00208	0.0278	.000000000	pCi/g	YES
243630001	RE12-10-7675	Plutonium-238	1.26 g	0.0013	0.0013	0.0215	.001166667	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0013	0.00226	0.0246	.000000000	pCi/g	NO
243630002	RE12-10-7663	Plutonium-238	1.25 g	0.00385	0.00426	0.0212	.001176	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00385	0.00642	0.0242	.000000000	pCi/g	NO
243630003	RE12-10-7664	Plutonium-238	1.25 g	2.99E-10	0.00354	0.0207	.001176	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0125	0.00473	0.0237	.000000000	pCi/g	NO
243630004	RE12-10-7672	Plutonium-238	1.27 g	0.00111	0.00596	0.0183	.001157480	pCi/g	YES
		Plutonium-239/240	1.27 g	0.00332	0.00368	0.0209	.000000000	pCi/g	NO
243630005	RE12-10-7667	Plutonium-238	1.25 g	0.0115	0.00368	0.019	.001176	pCi/g	NO
		Plutonium-239/240	1.25 g	0.031	0.00617	0.0217	.000000000	pCi/g	NO
243630006	RE12-10-7666	Plutonium-238	1.27 g	0.00869	0.00596	0.0179	.001157480	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00326	0.00288	0.0205	.000000000	pCi/g	NO
243630007	RE12-10-7665	Plutonium-238	1.25 g	0.00249	0.00176	0.0205	.001176	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00621	0.00449	0.0235	.000000000	pCi/g	NO
243630008	RE12-10-7670	Plutonium-238	1.25 g	0.00224	0.00318	0.0185	.001176	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00224	0.00225	0.0212	.000000000	pCi/g	NO
243630009	RE12-10-7668	Plutonium-238	1.27 g	-0.00445	0.00272	0.0184	.001157480	pCi/g	YES
		Plutonium-239/240	1.27 g	0.00889	0.00354	0.021	.000000000	pCi/g	NO
243630010	RE12-10-7671	Plutonium-238	1.26 g	0.00422	0.00259	0.0174	.001166667	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00528	0.00381	0.0199	.000000000	pCi/g	NO
243630011	RE12-10-7669	Plutonium-238	1.27 g	0.00204	0.00144	0.0168	.001157480	pCi/g	YES
		Plutonium-239/240	1.27 g	0.0143	0.00414	0.0193	.000000000	pCi/g	NO

Handwritten signature and date 1/15/10

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630001_PU
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :78785
AVERAGE %EFFICIENCY :31.8010
% YIELD : 86.569

COUNT DATE: 8-JAN-2010 12:36:19
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

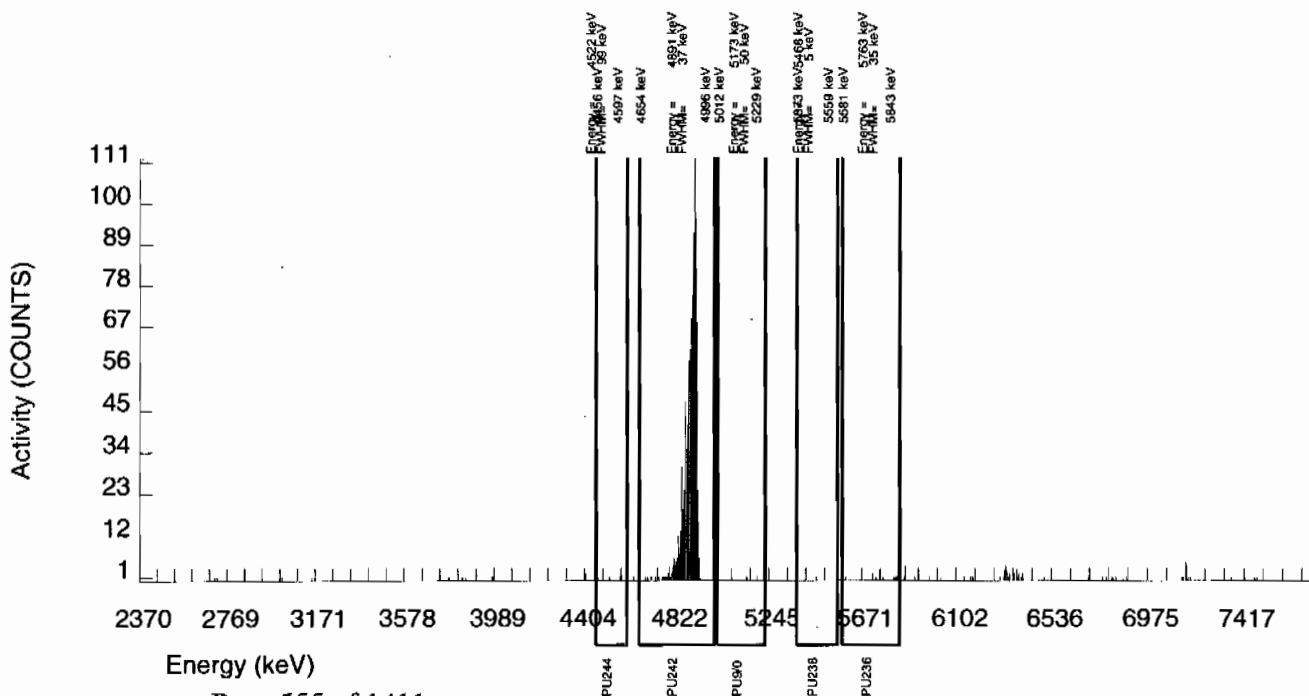
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.93073 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B033.CNF;1096
BKG DATE : 3-JAN-2010
EFF FILE : W033.CNF;328
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	2.000	1.000	1.000	3.4797	99.90000	1.30E-03	2.26E-03	1.05E-02	2.46E-02	2.26E-03
PU-236	5749.000	13.000	7.000	6.000	2.1286	100.0000	9.21E-03	5.76E-03	6.44E-03	1.64E-02	5.74E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.30E-03	1.30E-03	8.99E-03	2.15E-02	1.30E-03
PU242	4890.000	934.000	932.000	2.000	1.4142	100.0000	1.21E+00	7.41E-02	4.28E-03	1.21E-02	3.98E-02
PU-244	4589.000	3.000	2.000	1.000	5.2050	99.90000	2.60E-03	2.61E-03	1.58E-02	3.51E-02	2.60E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



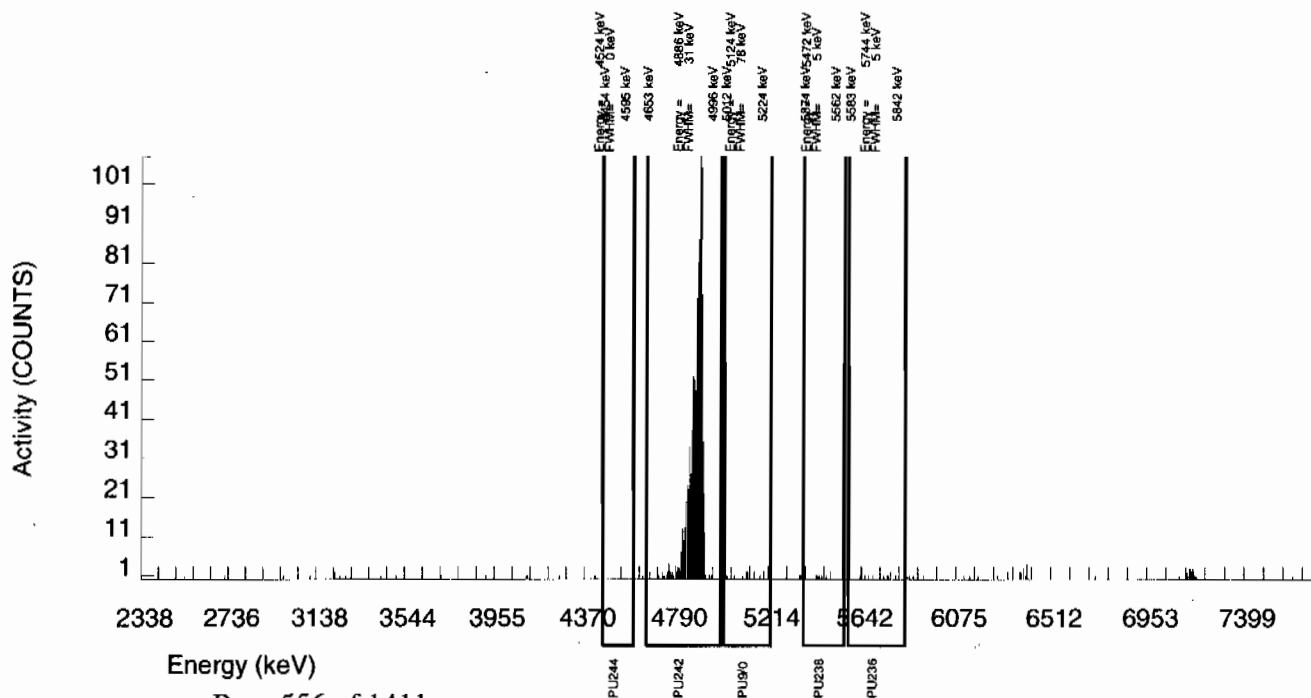
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238 SAMPLE DATE : 22-DEC-2009 00:00:00		SAMPLE ID : S0243630002_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :78202 AVERAGE %EFFICIENCY :29.7838 % YIELD : 94.217		COUNT DATE: 8-JAN-2010 12:36:19 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.18965 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B035.CNF;1094 BKG DATE : 3-JAN-2010 EFF FILE : W035.CNF;317 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	14.000	3.000	11.000	3.4797	99.90000	3.85E-03	6.42E-03	1.04E-02	2.42E-02	6.41E-03
PU-236	5749.000	11.000	-4.000	15.000	2.1286	100.0000	-5.19E-03	6.61E-03	6.34E-03	1.62E-02	6.61E-03
PU-238	5499.000	7.000	3.000	4.000	2.9680	99.90000	3.85E-03	4.26E-03	8.85E-03	2.12E-02	4.25E-03
PU242	4890.000	962.000	950.000	12.000	3.4641	100.0000	1.22E+00	7.45E-02	1.03E-02	2.41E-02	4.00E-02
PU-244	4589.000	0.000	-1.000	1.000	5.2050	99.90000	-1.28E-03	1.81E-03	1.55E-02	3.45E-02	1.81E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630003_PU
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :78203
AVERAGE %EFFICIENCY :32.3142
% YIELD : 89.124

COUNT DATE: 8-JAN-2010 12:36:19
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

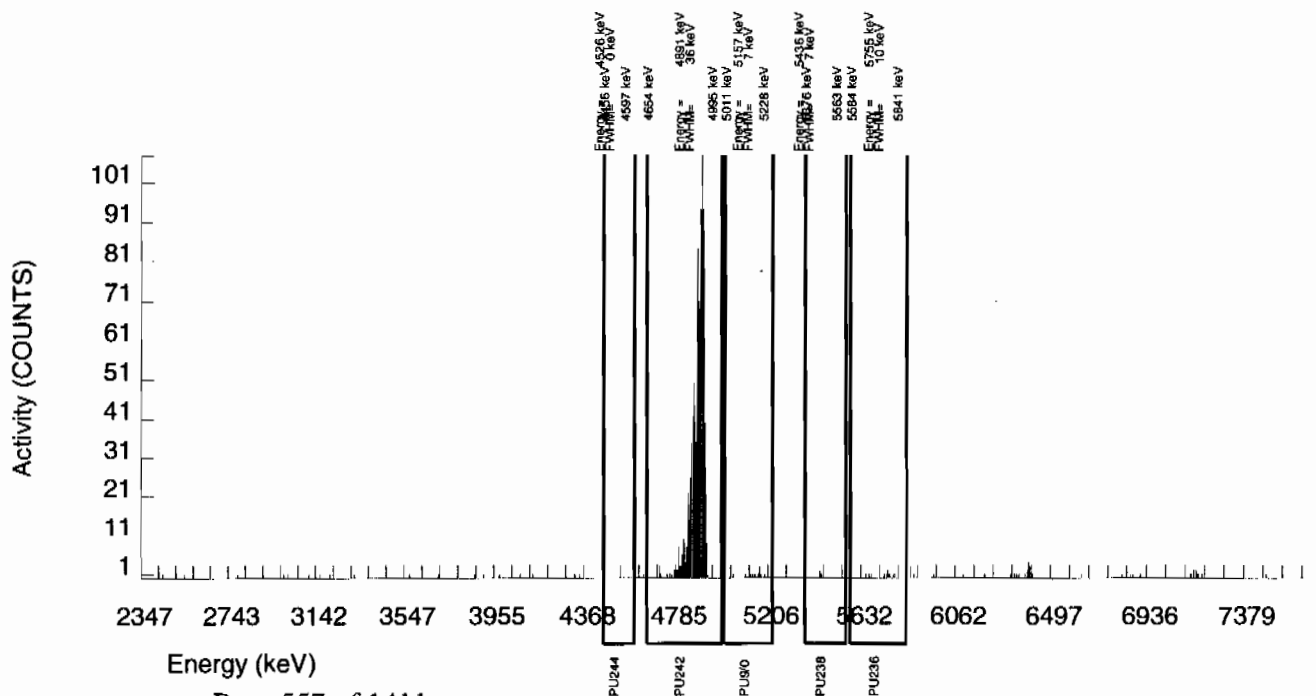
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.01725 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B036.CNF;1092
BKG DATE : 3-JAN-2010
EFF FILE : W036.CNF;329
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	12.000	10.000	2.000	3.4797	99.90000	1.25E-02	4.73E-03	1.01E-02	2.37E-02	4.68E-03
PU-236	5749.000	13.000	1.000	12.000	2.1286	100.0000	1.27E-03	6.33E-03	6.19E-03	1.58E-02	6.33E-03
PU-238	5499.000	4.000	0.000	4.000	2.9680	99.90000	2.98E-10	3.54E-03	8.64E-03	2.07E-02	3.54E-03
PU242	4890.000	975.000	975.000	0.000	0.0000	100.0000	1.22E+00	7.35E-02	0.00E+00	3.39E-03	3.90E-02
PU-244	4589.000	0.000	0.000	0.000	5.2050	99.90000	0.00E+00	1.25E-03	1.52E-02	3.37E-02	1.25E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630004_PU
SAMPLE QTY: 1.265 G

DETECTOR NUMBER :45-149BB5
AVERAGE %EFFICIENCY :35.8566
% YIELD : 89.793

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

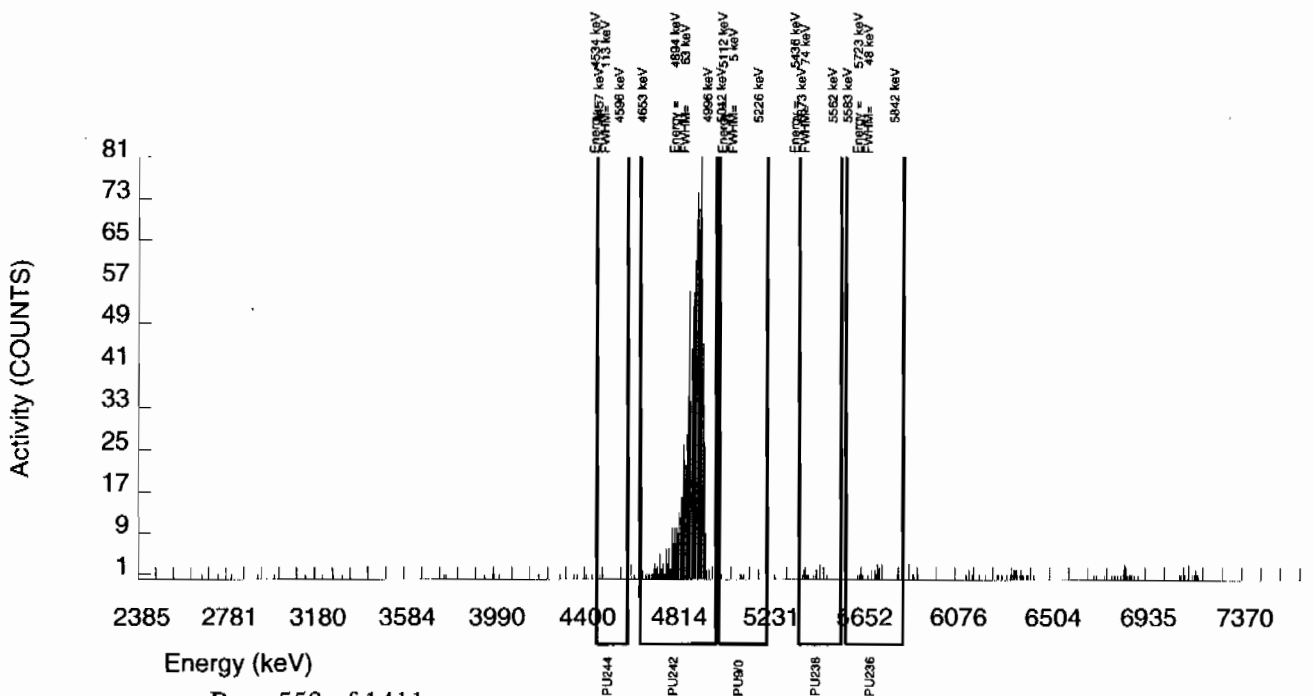
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.03988 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B037.CNF;1104
BKG DATE : 3-JAN-2010
EFF FILE : W037.CNF;305
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	7.000	3.000	4.000	3.4797	99.90000	3.32E-03	3.68E-03	8.96E-03	2.09E-02	3.67E-03
PU-236	5749.000	23.000	-4.000	27.000	2.1286	100.0000	-4.48E-03	7.91E-03	5.48E-03	1.40E-02	7.91E-03
PU-238	5499.000	15.000	1.000	14.000	2.9680	99.90000	1.11E-03	5.96E-03	7.64E-03	1.83E-02	5.96E-03
PU242	4890.000	1095.000	1090.000	5.000	2.2361	100.0000	1.21E+00	7.06E-02	5.75E-03	1.45E-02	3.67E-02
PU-244	4589.000	2.000	-2.000	4.000	5.2050	99.90000	-2.21E-03	2.71E-03	1.34E-02	2.98E-02	2.71E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630005_PU
SAMPLE QTY: 1.252 G

DETECTOR NUMBER :79417
AVERAGE %EFFICIENCY :37.6848
% YIELD : 83.164

COUNT DATE:12-JAN-2010 14:40:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

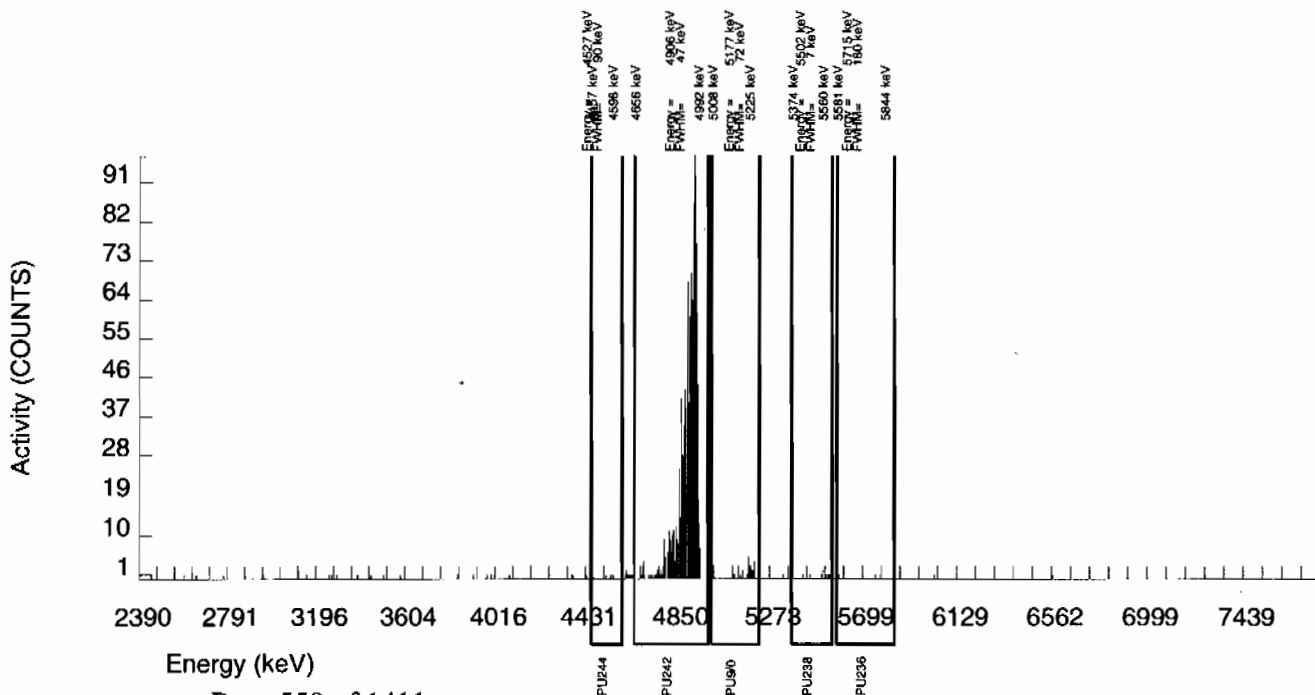
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.81545 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B224.CNF;68
BKG DATE : 10-JAN-2010
EFF FILE : W224.CNF;24
CAL DATE : 28-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
PU-9/0	5155.000	27.000	27.000	0.000	3.4797	99.90000	3.10E-02	6.17E-03	9.30E-03	2.17E-02	5.97E-03
PU-236	5749.000	3.000	1.000	2.000	2.1286	100.0000	1.16E-03	2.61E-03	5.68E-03	1.45E-02	2.60E-03
PU-238	5499.000	10.000	10.000	0.000	2.9680	99.90000	1.15E-02	3.68E-03	7.93E-03	1.90E-02	3.64E-03
PU242	4890.000	1064.000	1061.000	3.000	1.7321	100.0000	1.22E+00	7.16E-02	4.63E-03	1.24E-02	3.75E-02
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	5.75E-03	2.59E-03	1.39E-02	3.09E-02	2.57E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630006_PU
SAMPLE QTY: 1.274 G

DETECTOR NUMBER :45-149BB2
AVERAGE %EFFICIENCY :35.9356
% YIELD : 90.746

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

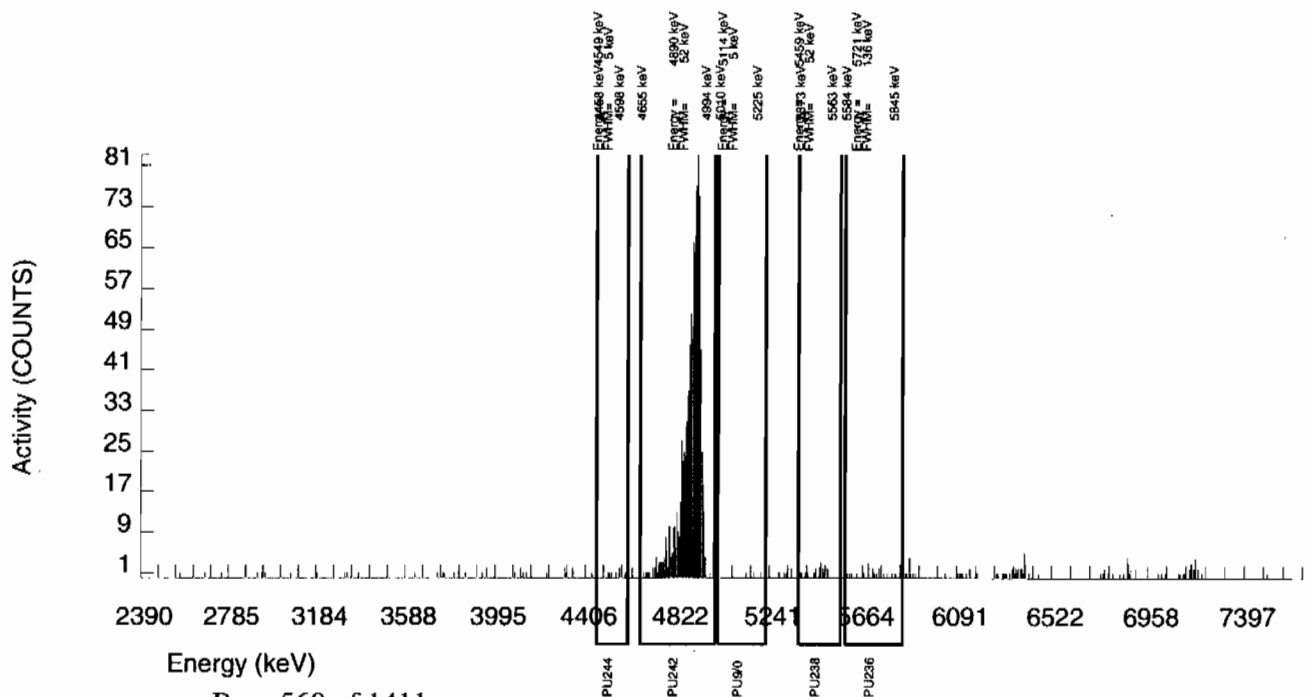
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.07216 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B039.CNF;1101
BKG DATE : 3-JAN-2010
EFF FILE : W039.CNF;296
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	5.000	3.000	2.000	3.4797	99.90000	3.26E-03	2.88E-03	8.79E-03	2.05E-02	2.87E-03
PU-236	5749.000	21.000	-5.000	26.000	2.1286	100.0000	-5.49E-03	7.52E-03	5.37E-03	1.37E-02	7.52E-03
PU-238	5499.000	19.000	8.000	11.000	2.9680	99.90000	8.69E-03	5.96E-03	7.49E-03	1.79E-02	5.95E-03
PU242	4890.000	1106.000	1104.000	2.000	1.4142	100.0000	1.20E+00	6.98E-02	3.57E-03	1.01E-02	3.61E-02
PU-244	4589.000	7.000	7.000	0.000	5.2050	99.90000	7.60E-03	2.90E-03	1.31E-02	2.92E-02	2.87E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630007_PU
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :78773
AVERAGE %EFFICIENCY :32.1969
% YIELD : 89.908

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

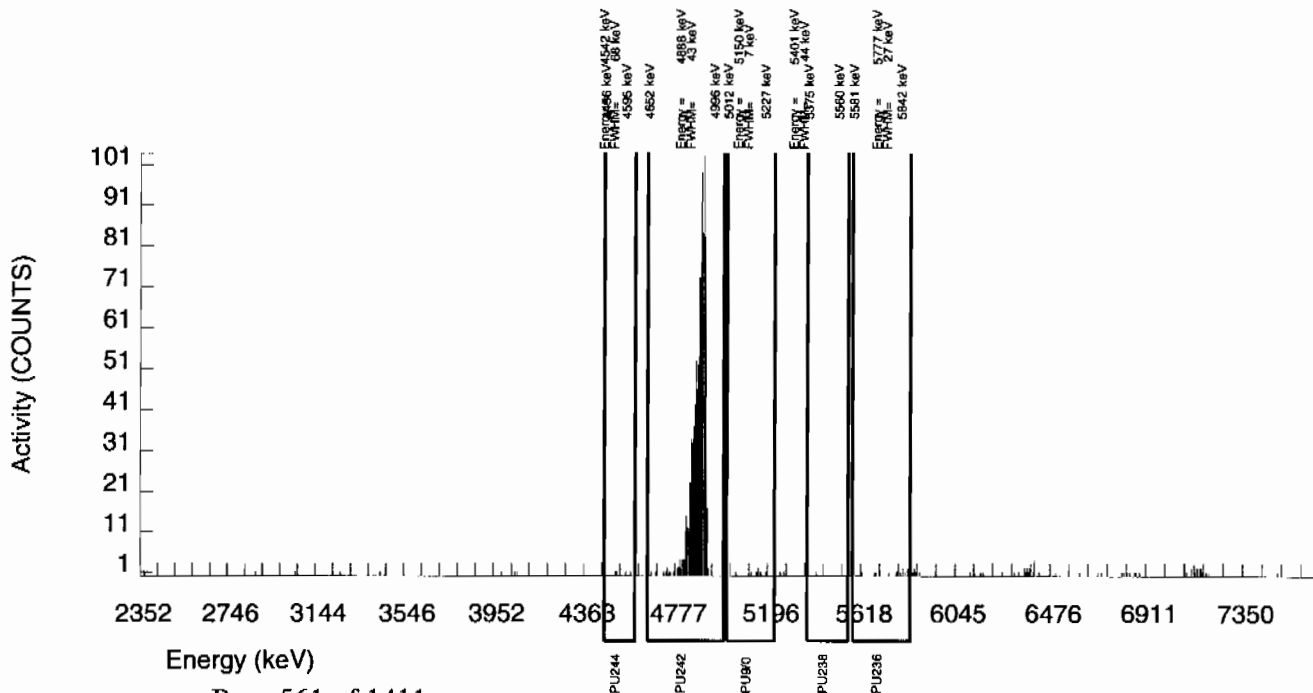
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.04377 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B040.CNF;1104
BKG DATE : 3-JAN-2010
EFF FILE : W040.CNF;315
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	9.000	5.000	4.000	3.4797	99.90000	6.21E-03	4.49E-03	1.01E-02	2.35E-02	4.48E-03
PU-236	5749.000	13.000	-5.000	18.000	2.1286	100.0000	-6.28E-03	6.99E-03	6.14E-03	1.57E-02	6.99E-03
PU-238	5499.000	2.000	2.000	0.000	2.9680	99.90000	2.49E-03	1.76E-03	8.58E-03	2.05E-02	1.76E-03
PU242	4890.000	982.000	980.000	2.000	1.4142	100.0000	1.22E+00	7.33E-02	4.08E-03	1.15E-02	3.89E-02
PU-244	4589.000	4.000	4.000	0.000	5.2050	99.90000	4.97E-03	2.50E-03	1.50E-02	3.34E-02	2.48E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630008_PU
SAMPLE QTY: 1.250 G

DETECTOR NUMBER :78205
AVERAGE %EFFICIENCY :32.6825
% YIELD : 98.423

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

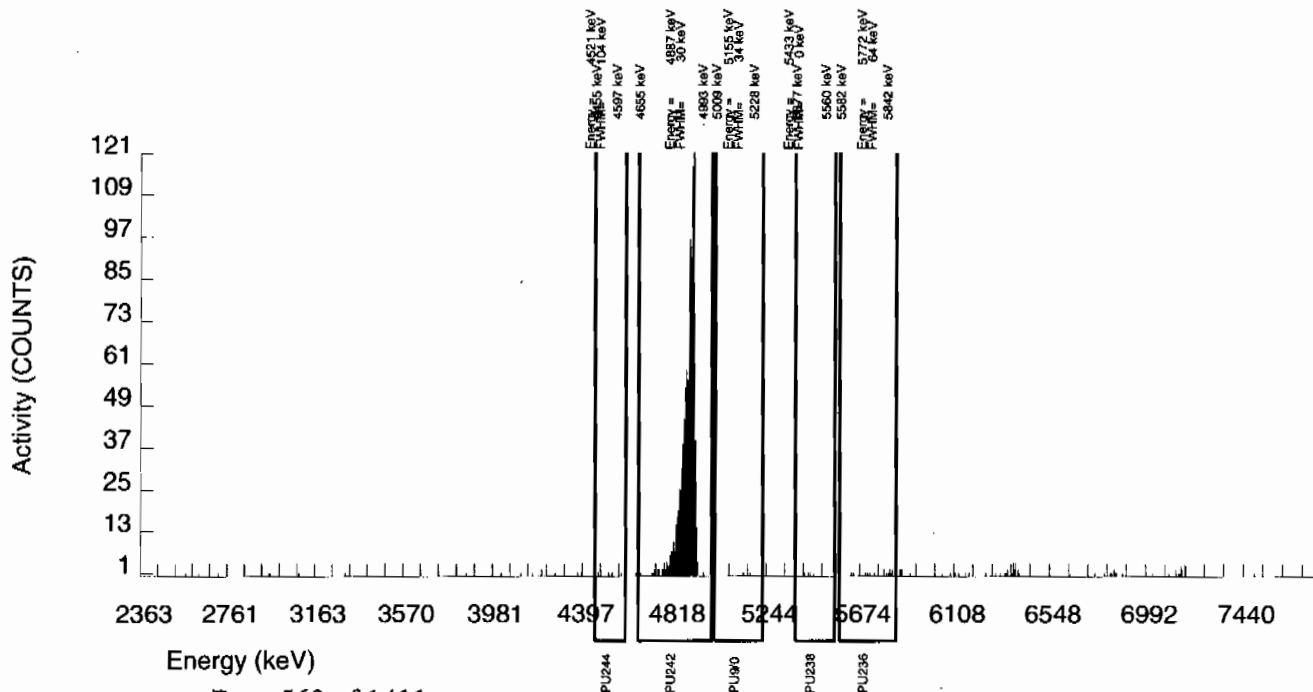
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.33206 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B041.CNF;1097
BKG DATE : 3-JAN-2010
EFF FILE : W041.CNF;319
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	3.000	2.000	1.000	3.4797	99.90000	2.24E-03	2.25E-03	9.08E-03	2.12E-02	2.24E-03
PU-236	5749.000	18.000	4.000	14.000	2.1286	100.0000	4.53E-03	6.42E-03	5.55E-03	1.41E-02	6.41E-03
PU-238	5499.000	5.000	2.000	3.000	2.9680	99.90000	2.24E-03	3.17E-03	7.74E-03	1.85E-02	3.17E-03
PU242	4890.000	1091.000	1089.000	2.000	1.4142	100.0000	1.22E+00	7.14E-02	3.69E-03	1.04E-02	3.70E-02
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	5.61E-03	2.52E-03	1.36E-02	3.02E-02	2.51E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630009_PU
SAMPLE QTY: 1.266 G

DETECTOR NUMBER : 78793
AVERAGE %EFFICIENCY : 33.4897
% YIELD : 95.698

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST : KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.23980 dpm

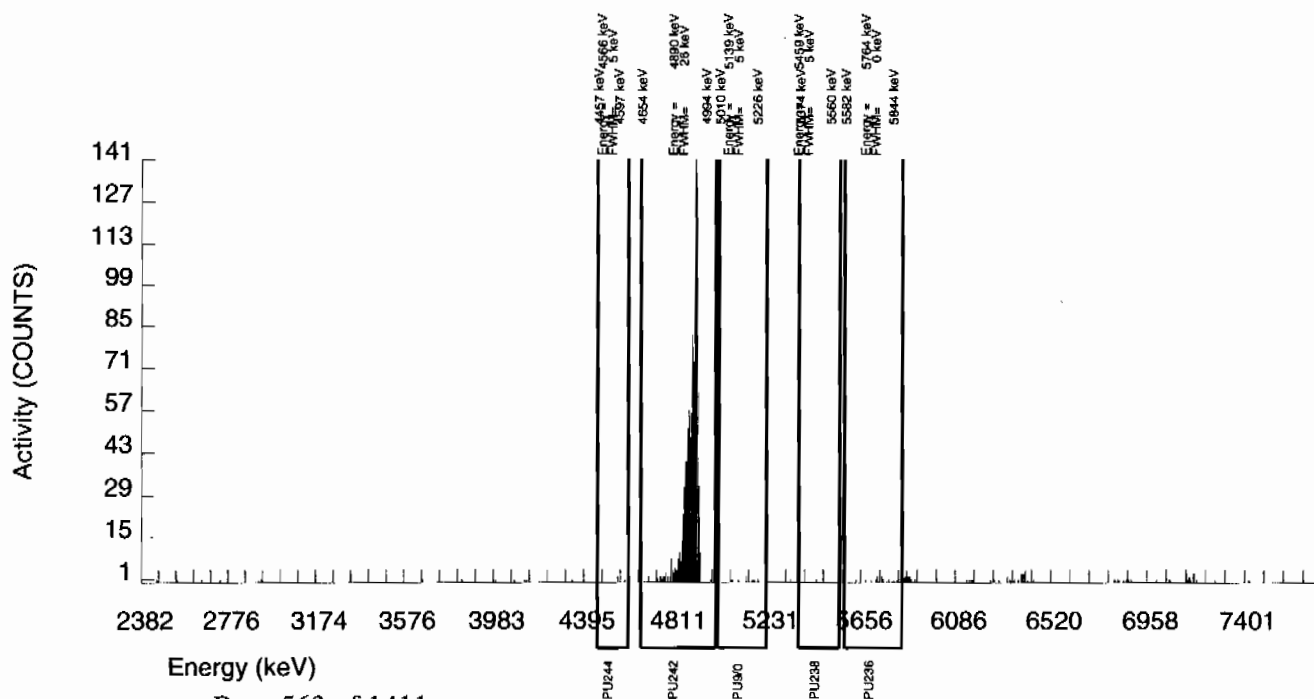
LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B042.CNF;1096
BKG DATE : 3-JAN-2010
EFF FILE : W042.CNF;292
CAL DATE : 4-JAN-2010

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	9.000	8.000	1.000	3.4797	99.90000	8.89E-03	3.54E-03	9.00E-03	2.10E-02	3.51E-03
PU-236	5749.000	16.000	7.000	9.000	2.1286	100.0000	7.86E-03	5.63E-03	5.50E-03	1.40E-02	5.62E-03
PU-238	5499.000	1.000	-4.000	5.000	2.9680	99.90000	-4.45E-03	2.72E-03	7.67E-03	1.84E-02	2.72E-03
PU242	4890.000	1088.000	1085.000	3.000	1.7321	100.0000	1.20E+00	7.06E-02	4.47E-03	1.20E-02	3.67E-02
PU-244	4589.000	3.000	1.000	2.000	5.2050	99.90000	1.11E-03	2.49E-03	1.35E-02	2.99E-02	2.48E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630010_PU
SAMPLE QTY: 1.258 G

DETECTOR NUMBER :76543
AVERAGE %EFFICIENCY :34.3031
% YIELD : 99.026

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

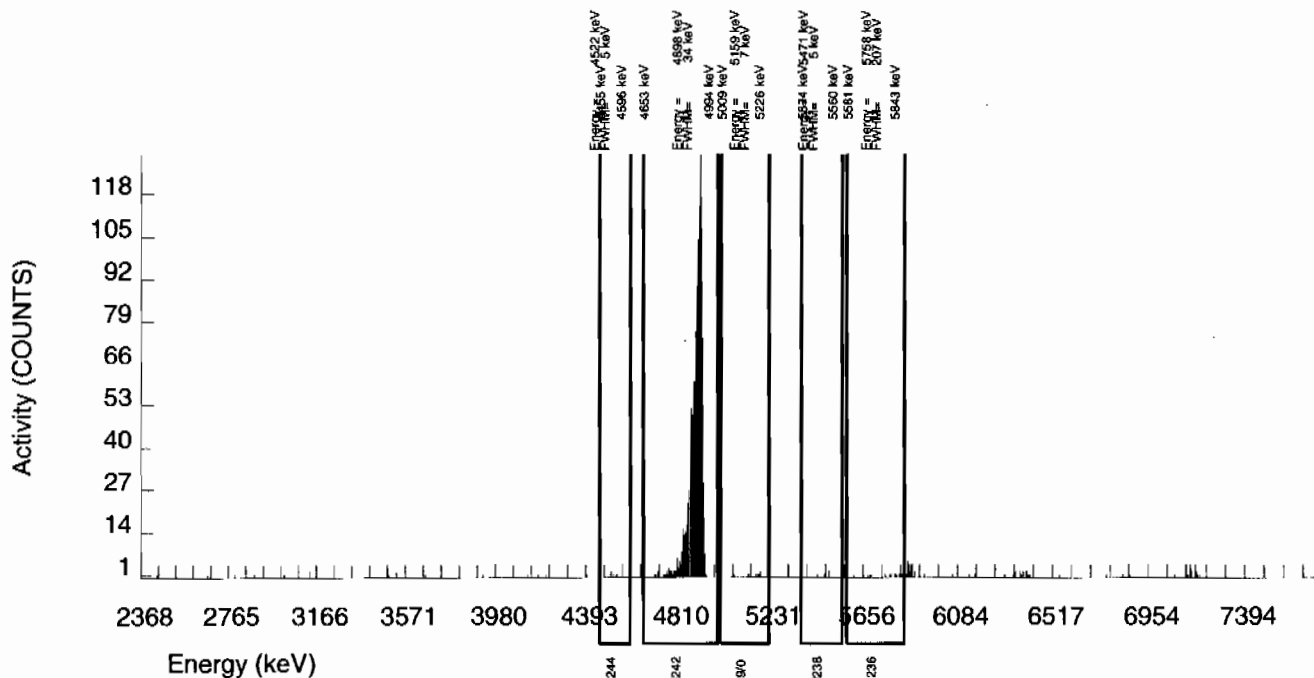
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.35246 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B043.CNF;1094
BKG DATE : 3-JAN-2010
EFF FILE : W043.CNF;284
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	9.000	5.000	4.000	3.4797	99.90000	5.28E-03	3.81E-03	8.54E-03	1.99E-02	3.80E-03
PU-236	5749.000	14.000	6.000	8.000	2.1286	100.0000	6.40E-03	5.01E-03	5.22E-03	1.33E-02	5.00E-03
PU-238	5499.000	5.000	4.000	1.000	2.9680	99.90000	4.22E-03	2.59E-03	7.29E-03	1.74E-02	2.59E-03
PU242	4890.000	1151.000	1150.000	1.000	1.0000	100.0000	1.21E+00	6.99E-02	2.45E-03	7.76E-03	3.58E-02
PU-244	4589.000	4.000	1.000	3.000	5.2050	99.90000	1.06E-03	2.79E-03	1.28E-02	2.84E-02	2.79E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630011_PU
SAMPLE QTY: 1.273 G

DETECTOR NUMBER : 79459
AVERAGE %EFFICIENCY : 34.8103
% YIELD : 99.874

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST : KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

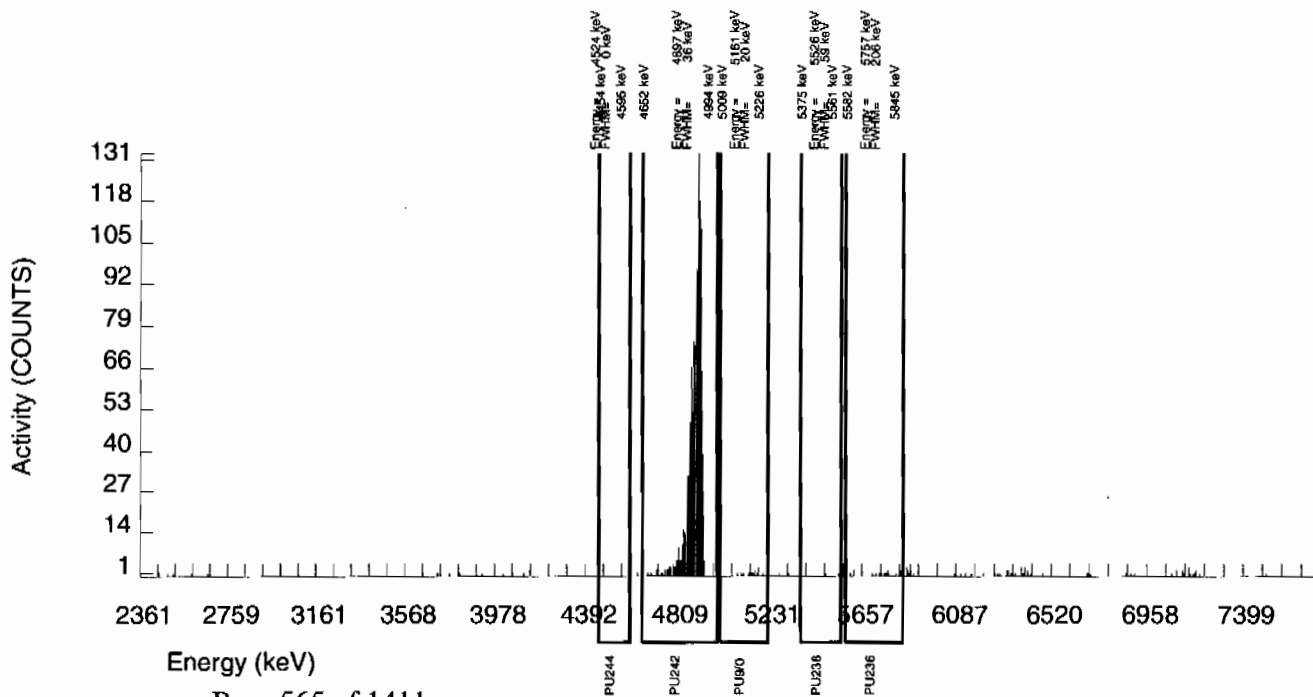
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.38118 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B044.CNF;1104
BKG DATE : 3-JAN-2010
EFF FILE : W044.CNF;305
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	15.000	14.000	1.000	3.4797	99.90000	1.43E-02	4.14E-03	8.25E-03	1.93E-02	4.08E-03
PU-236	5749.000	18.000	6.000	12.000	2.1286	100.0000	6.18E-03	5.65E-03	5.04E-03	1.28E-02	5.64E-03
PU-238	5499.000	2.000	2.000	0.000	2.9680	99.90000	2.04E-03	1.44E-03	7.03E-03	1.68E-02	1.44E-03
PU242	4890.000	1182.000	1177.000	5.000	2.2361	100.0000	1.20E+00	6.87E-02	5.29E-03	1.33E-02	3.51E-02
PU-244	4589.000	0.000	0.000	0.000	5.2050	99.90000	0.00E+00	1.02E-03	1.23E-02	2.74E-02	1.02E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202007599_PU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :78783
AVERAGE %EFFICIENCY :33.6899
% YIELD : 90.921

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

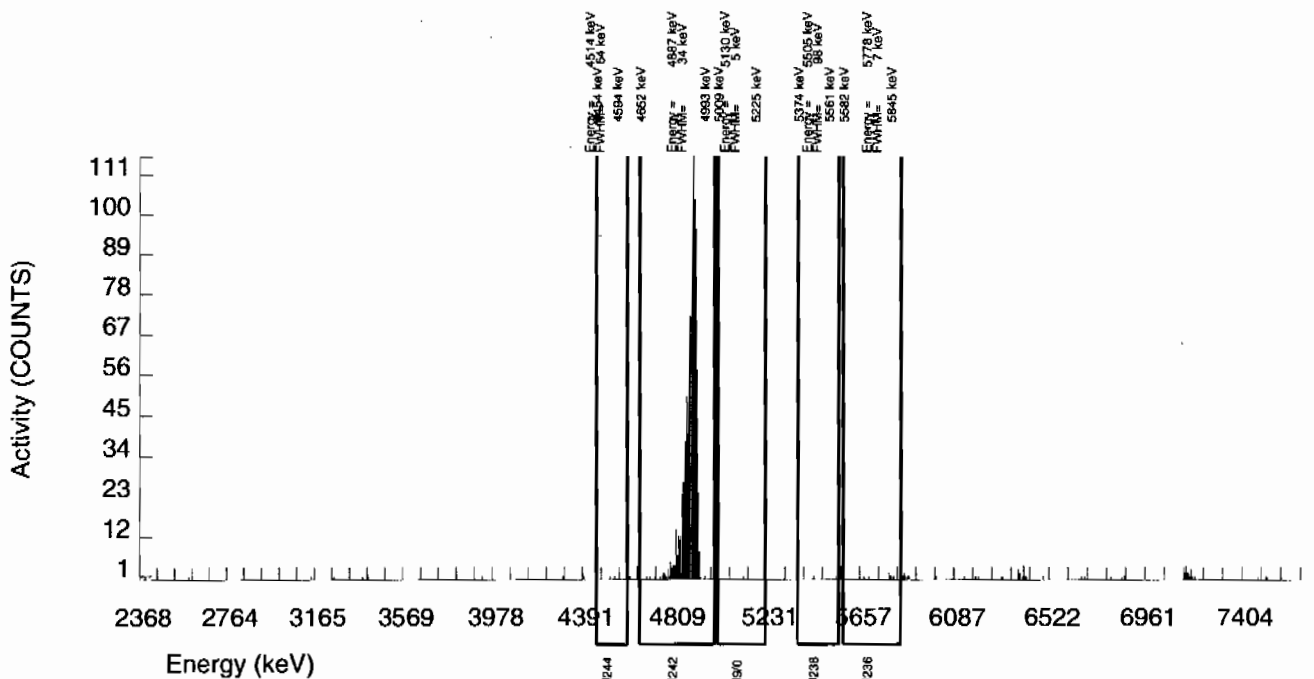
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.07808 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B045.CNF;1093
BKG DATE : 3-JAN-2010
EFF FILE : W045.CNF;296
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	1.000	0.000	1.000	3.4797	99.90000	8.77E-11	2.08E-03	1.19E-02	2.78E-02	2.08E-03
PU-236	5749.000	9.000	-4.000	13.000	2.1286	100.0000	-5.90E-03	6.92E-03	7.28E-03	1.85E-02	6.92E-03
PU-238	5499.000	2.000	1.000	1.000	2.9680	99.90000	1.47E-03	2.55E-03	1.02E-02	2.43E-02	2.55E-03
PU242	4890.000	1039.000	1037.000	2.000	1.4142	100.0000	1.52E+00	9.05E-02	4.84E-03	1.37E-02	4.74E-02
PU-244	4589.000	3.000	2.000	1.000	5.2050	99.90000	2.94E-03	2.95E-03	1.78E-02	3.96E-02	2.94E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S1202007600_PU
SAMPLE QTY: 1.278 G

DETECTOR NUMBER :76544
AVERAGE %EFFICIENCY :33.8926
% YIELD : 96.827

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.27800 dpm

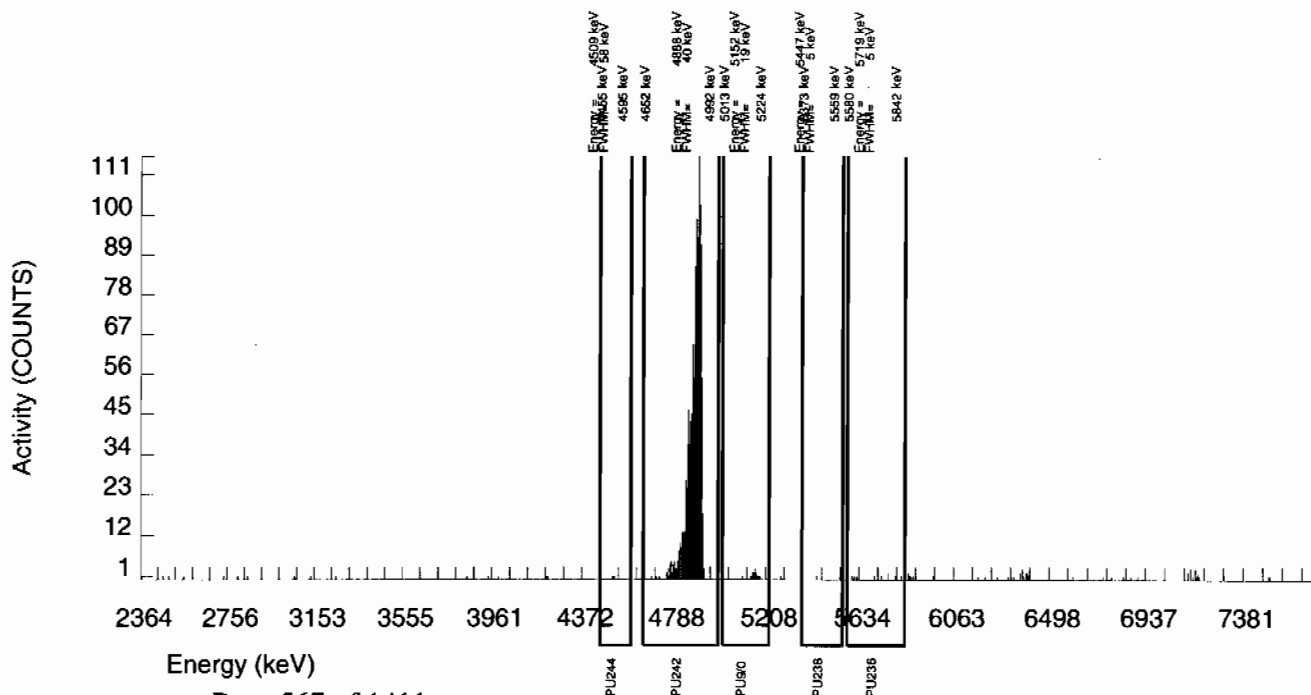
LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B046.CNF;1104
BKG DATE : 3-JAN-2010
EFF FILE : W046.CNF;287
CAL DATE : 4-JAN-2010

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	17.000	17.000	0.000	3.4797	99.90000	1.83E-02	4.53E-03	8.70E-03	2.03E-02	4.43E-03
PU-236	5749.000	11.000	-2.000	13.000	2.1286	100.0000	-2.17E-03	5.32E-03	5.32E-03	1.35E-02	5.32E-03
PU-238	5499.000	1.000	0.000	1.000	2.9680	99.90000	6.41E-11	1.52E-03	7.42E-03	1.78E-02	1.52E-03
PU242	4890.000	1114.000	1111.000	3.000	1.7321	100.0000	1.19E+00	6.95E-02	4.33E-03	1.16E-02	3.59E-02
PU-244	4589.000	4.000	4.000	0.000	5.2050	99.90000	4.30E-03	2.16E-03	1.30E-02	2.90E-02	2.15E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938238
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202007601_PU
SAMPLE QTY: 0.121 G

DETECTOR NUMBER :46-089B1
AVERAGE %EFFICIENCY :34.5024
% YIELD : 94.687

COUNT DATE: 8-JAN-2010 12:36:20
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

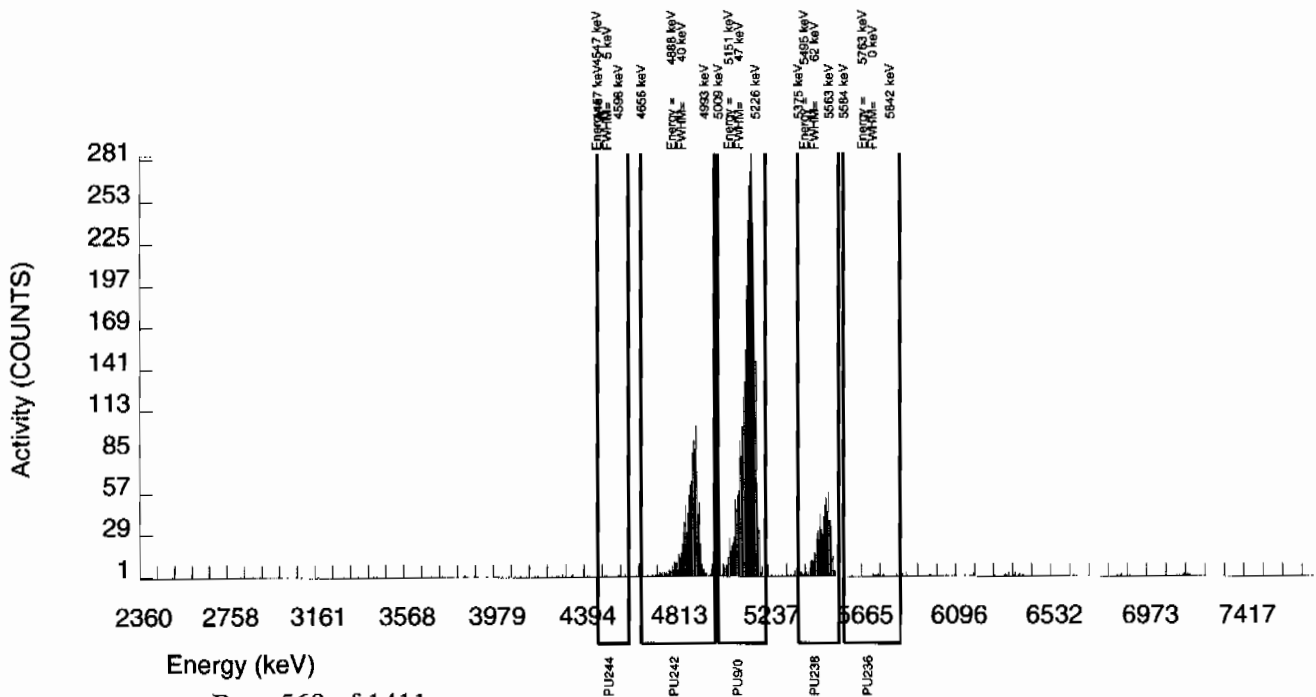
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.20557 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B047.CNF;1099
BKG DATE : 3-JAN-2010
EFF FILE : W047.CNF;301
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	3285.000	3282.000	3.000	3.4797	99.90000	3.74E+01	2.21E+00	9.23E-02	2.16E-01	6.54E-01
PU-236	5749.000	15.000	0.000	15.000	2.1286	100.0000	1.09E-08	6.26E-02	5.64E-02	1.44E-01	6.26E-02
PU-238	5499.000	641.000	636.000	5.000	2.9680	99.90000	7.26E+00	5.02E-01	7.88E-02	1.88E-01	2.90E-01
PU242	4890.000	1109.000	1106.000	3.000	1.7321	100.0000	1.26E+01	8.07E-01	4.59E-02	1.23E-01	3.80E-01
PU-244	4589.000	9.000	9.000	0.000	5.2050	99.90000	1.03E-01	3.47E-02	1.38E-01	3.07E-01	3.42E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Radiochemistry Batch Checklist, Rev 9

Batch# 938239 Product: U Date: 1/11/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 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	✓		
Htl notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			N/A
Batch non-conformances 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

revised 8/1/08

Primary Review Performed By:

SapLM-L- 1/11/10

Secondary Review Performed By:

[Signature] 1/12/10

1/15 1/26

LANL

Uranium Que Sheet

04-JAN-10

Internal Due Date: 15-JAN-10

First Client Due Date: 26-JAN-10

Analyst: KXM4

Batch #: 938239

Vol: 0.1m

Expiration Date: 17-9-10

Tracer Code: 1283-H

Tracer Isotope: U-232/U-236

Vol: 0.12

Expiration Date: 10-3-10

LCS Code: 58M0244-A

LCS Isotope: U-238

Vol: NA

Expiration Date: NA

Spike Code: NA

Spike Isotope: U-238

Witness: MDA 1/5/10

Pipet ID: 2471058

Initials: KXM

Prep Date: 1-5-10

Balance ID: 50410272

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g) (l) (n)	U Det #
243630001-1	RE12-10-7675	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	1	1	0.536	115
243630002-1	RE12-10-7663	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	2	2	0.505	117
243630003-1	RE12-10-7664	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	3	3	0.505	118
243630004-1	RE12-10-7672	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	4	4	0.511	119
* 243630005-1	RE12-10-7667	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	5	5	0.514	120
243630006-1	RE12-10-7666	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	6	6	0.508	121
243630007-1	RE12-10-7665	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	7	7	0.511	122
243630008-1	RE12-10-7670	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	8	8	0.508	123
243630009-1	RE12-10-7668	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	9	9	0.520	124
243630010-1	RE12-10-7671	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	10	10	0.513	128
243630011-1	RE12-10-7669	SAMPLE		.1 pCi/g	SOIL	LANL010	22-DEC-09	11	11	0.503	129
1202007605-1	MB for batch 938239	MB		.1 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	12	12	0.500	125
1202007606-1	RE12-10-7667 (243630005DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	13	13	0.511	125
1202007607-1	LCS for batch 938239	LCS		.1 pCi/g	SOIL	QC ACCOUNT	22-DEC-09	14	14	0.106 KM 1-5-10	127

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By:

Jep/LR-1/11/10

Blank Correction Report

Batch ID 938239

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202007606	DUP	Uranium-233/234	0.511 g	1.56	0.135	0.119	-.00044423	pCi/g	NO
		Uranium-235/236	0.511 g	0.138	0.0274	0.0739	0	pCi/g	NO
		Uranium-238	0.511 g	1.71	0.146	0.0691	.010724070	pCi/g	NO
1202007607	LCS	Uranium-233/234	0.106 g	5.63	0.539	0.567	-.00214151	pCi/g	NO
		Uranium-235/236	0.106 g	0.226	0.0735	0.352	0	pCi/g	NO
		Uranium-238	0.106 g	5.27	0.510	0.329	.051698113	pCi/g	NO
1202007605	MB	Uranium-233/234	1.00 g	-0.000227	0.0036	0.0566	-.000227	pCi/g	NO
		Uranium-235/236	1.00 g	0.00	0.00226	0.0351	0	pCi/g	NO
		Uranium-238	1.00 g	0.00548	0.0041	0.0328	.00548	pCi/g	YES
243630001	RE12-10-7675	Uranium-233/234	0.535 g	1.03	0.100	0.133	-.00042430	pCi/g	NO
		Uranium-235/236	0.535 g	0.0265	0.0142	0.0825	0	pCi/g	NO
		Uranium-238	0.535 g	1.04	0.101	0.0771	.010242991	pCi/g	NO
243630002	RE12-10-7663	Uranium-233/234	0.505 g	1.26	0.113	0.117	-.00044950	pCi/g	NO
		Uranium-235/236	0.505 g	0.0795	0.0211	0.0728	0	pCi/g	NO
		Uranium-238	0.505 g	1.27	0.114	0.068	.010851485	pCi/g	NO
243630003	RE12-10-7664	Uranium-233/234	0.505 g	1.09	0.0989	0.110	-.00044950	pCi/g	NO
		Uranium-235/236	0.505 g	0.0528	0.0157	0.0685	0	pCi/g	NO
		Uranium-238	0.505 g	1.15	0.104	0.064	.010851485	pCi/g	NO
243630004	RE12-10-7672	Uranium-233/234	0.511 g	1.04	0.0964	0.115	-.00044423	pCi/g	NO
		Uranium-235/236	0.511 g	0.0457	0.0148	0.0712	0	pCi/g	NO
		Uranium-238	0.511 g	1.17	0.105	0.0665	.010724070	pCi/g	NO
243630005	RE12-10-7667	Uranium-233/234	0.514 g	1.62	0.137	0.110	-.00044163	pCi/g	NO
		Uranium-235/236	0.514 g	0.0833	0.020	0.0682	0	pCi/g	NO
		Uranium-238	0.514 g	1.68	0.141	0.0638	.010661479	pCi/g	NO
243630006	RE12-10-7666	Uranium-233/234	0.508 g	0.906	0.0879	0.122	-.00044685	pCi/g	NO
		Uranium-235/236	0.508 g	0.0533	0.0192	0.0755	0	pCi/g	NO
		Uranium-238	0.508 g	0.993	0.0943	0.0705	.010787402	pCi/g	NO
243630007	RE12-10-7665	Uranium-233/234	0.511 g	1.39	0.124	0.124	-.00044423	pCi/g	NO
		Uranium-235/236	0.511 g	0.0691	0.0191	0.0768	0	pCi/g	NO
		Uranium-238	0.511 g	1.41	0.125	0.0717	.010724070	pCi/g	NO
243630008	RE12-10-7670	Uranium-233/234	0.508 g	0.938	0.0887	0.113	-.00044685	pCi/g	NO
		Uranium-235/236	0.508 g	0.0542	0.0161	0.0702	0	pCi/g	NO
		Uranium-238	0.508 g	1.10	0.0999	0.0656	.010787402	pCi/g	NO
243630009	RE12-10-7668	Uranium-233/234	0.520 g	0.938	0.0882	0.111	-.00043654	pCi/g	NO
		Uranium-235/236	0.520 g	0.0397	0.0135	0.0687	0	pCi/g	NO
		Uranium-238	0.520 g	0.996	0.0923	0.0642	.010538462	pCi/g	NO
243630010	RE12-10-7671	Uranium-233/234	0.513 g	1.75	0.149	0.120	-.00044250	pCi/g	NO
		Uranium-235/236	0.513 g	0.115	0.0248	0.0744	0	pCi/g	NO
		Uranium-238	0.513 g	1.96	0.164	0.0695	.010682261	pCi/g	NO
243630011	RE12-10-7669	Uranium-233/234	0.503 g	1.28	0.116	0.124	-.00045129	pCi/g	NO
		Uranium-235/236	0.503 g	0.0595	0.0177	0.0771	0	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
243630011	RE12-10-7669	Uranium-238	0.503 g	1.50	0.132	0.0721	.010894632	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239 SAMPLE DATE : 22-DEC-2009 00:00:00		SAMPLE ID : S0243630001_UU SAMPLE QTY: 0.535 G	
DETECTOR NUMBER :79995 AVERAGE %EFFICIENCY :25.5238 % YIELD : 76.908		COUNT DATE: 9-JAN-2010 11:00:21 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51077 dpm RESULTS : 3.46916 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B115.CNF;435 BKG DATE : 3-JAN-2010 EFF FILE : W115.CNF;145 CAL DATE : 15-DEC-2009

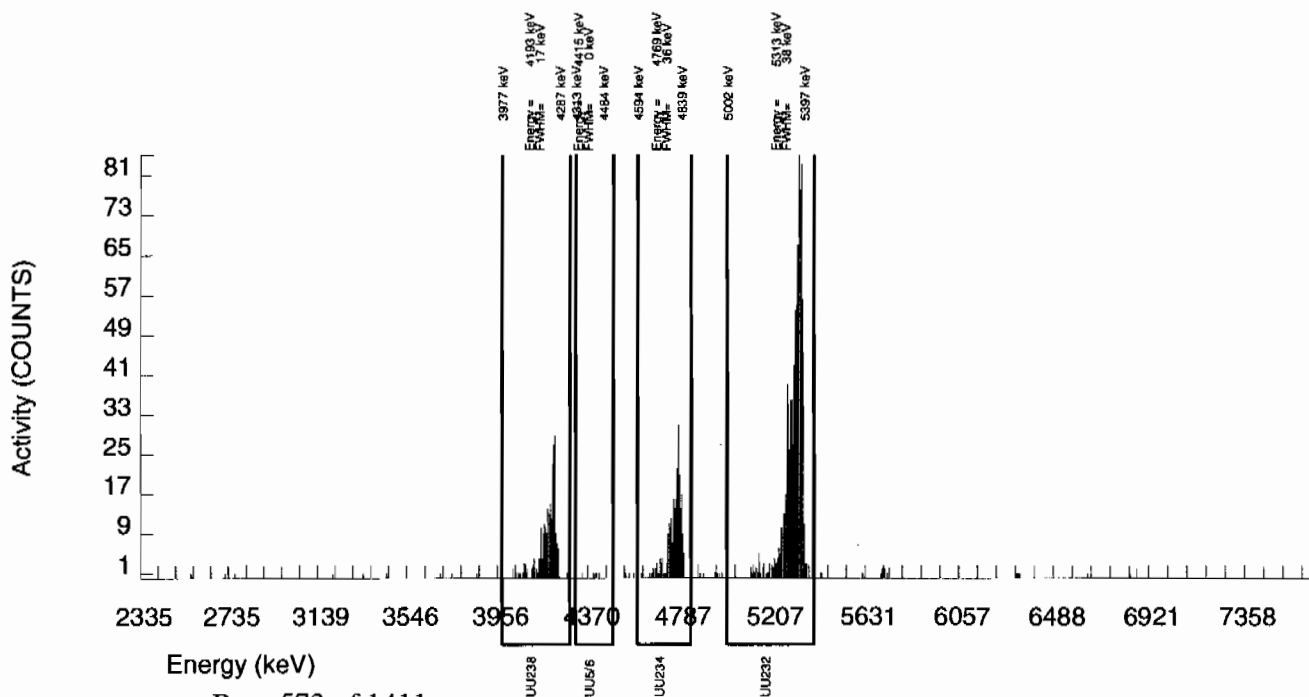
NUCLIDE ACTIVITY SUMMARY

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	243.000	241.105	1.000	6.0782	100.0000	1.03E+00	1.00E-01	6.06E-02	1.33E-01	6.69E-02
U232	5302.100	888.000	885.000	3.000	1.7321	100.0000	3.80E+00	3.02E-01	1.73E-02	4.62E-02	1.28E-01
U-235	4391.000	6.000	5.000	1.000	2.7628	80.90000	2.65E-02	1.42E-02	3.41E-02	8.25E-02	1.40E-02
U-238	4184.730	244.000	243.000	1.000	3.2810	100.0000	1.04E+00	1.01E-01	3.27E-02	7.71E-02	6.71E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630002_UU
SAMPLE QTY: 0.505 G

DETECTOR NUMBER :33450
AVERAGE %EFFICIENCY :25.1810
% YIELD : 93.634

COUNT DATE: 9-JAN-2010 11:00:25
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51077 dpm
RESULTS : 4.22362 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B117.CNF;432
BKG DATE : 3-JAN-2010
EFF FILE : W117.CNF;117
CAL DATE : 15-DEC-2009

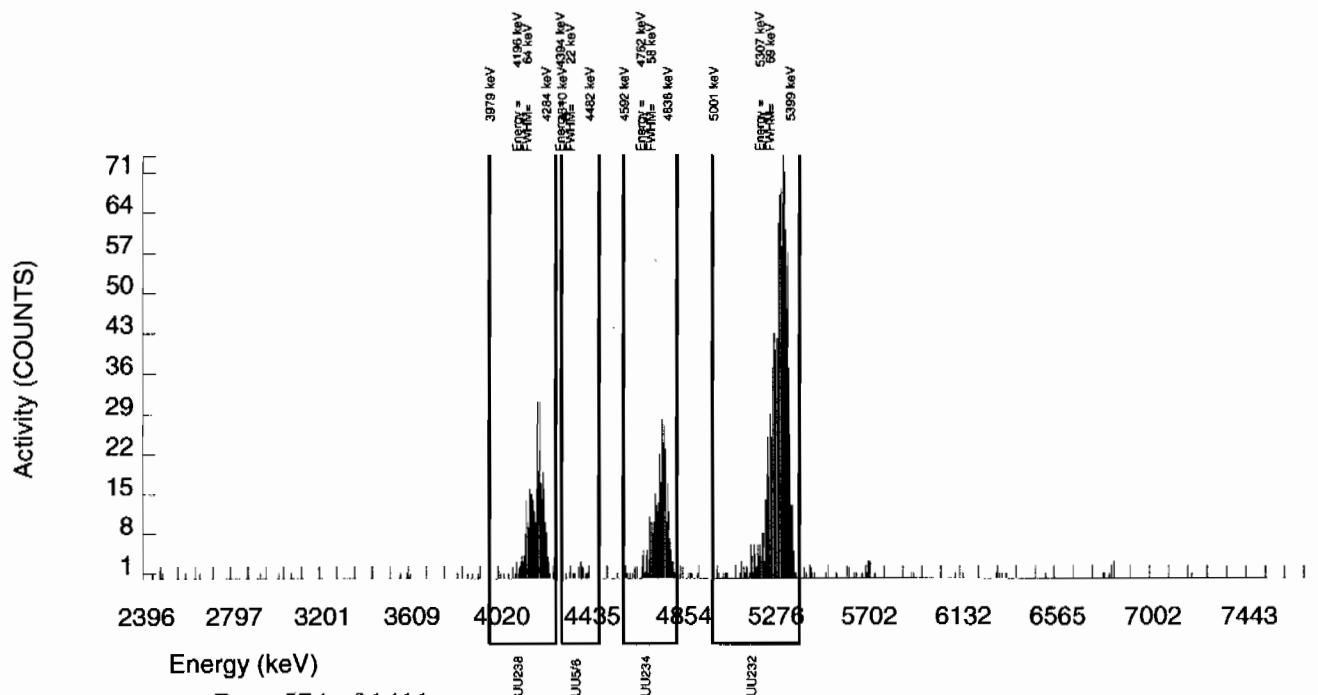
NUCLIDE ACTIVITY SUMMARY

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	331.925	1.000	6.0782	100.0000	1.26E+00	1.13E-01	5.35E-02	1.17E-01	6.91E-02
U232	5302.100	1077.000	1063.000	14.000	3.7417	100.0000	4.02E+00	3.11E-01	3.29E-02	7.61E-02	1.25E-01
U-235	4391.000	18.000	17.000	1.000	2.7628	80.90000	7.95E-02	2.11E-02	3.01E-02	7.28E-02	2.04E-02
U-238	4184.730	339.000	337.000	2.000	3.2810	100.0000	1.27E+00	1.14E-01	2.89E-02	6.80E-02	6.99E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630003_UU
SAMPLE QTY: 0.505 G

DETECTOR NUMBER :75544
AVERAGE %EFFICIENCY :25.5808
% YIELD : 97.980

COUNT DATE: 9-JAN-2010 11:00:28
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 4.41967 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B118.CNF;431
BKG DATE : 3-JAN-2010
EFF FILE : W118.CNF;114
CAL DATE : 15-DEC-2009

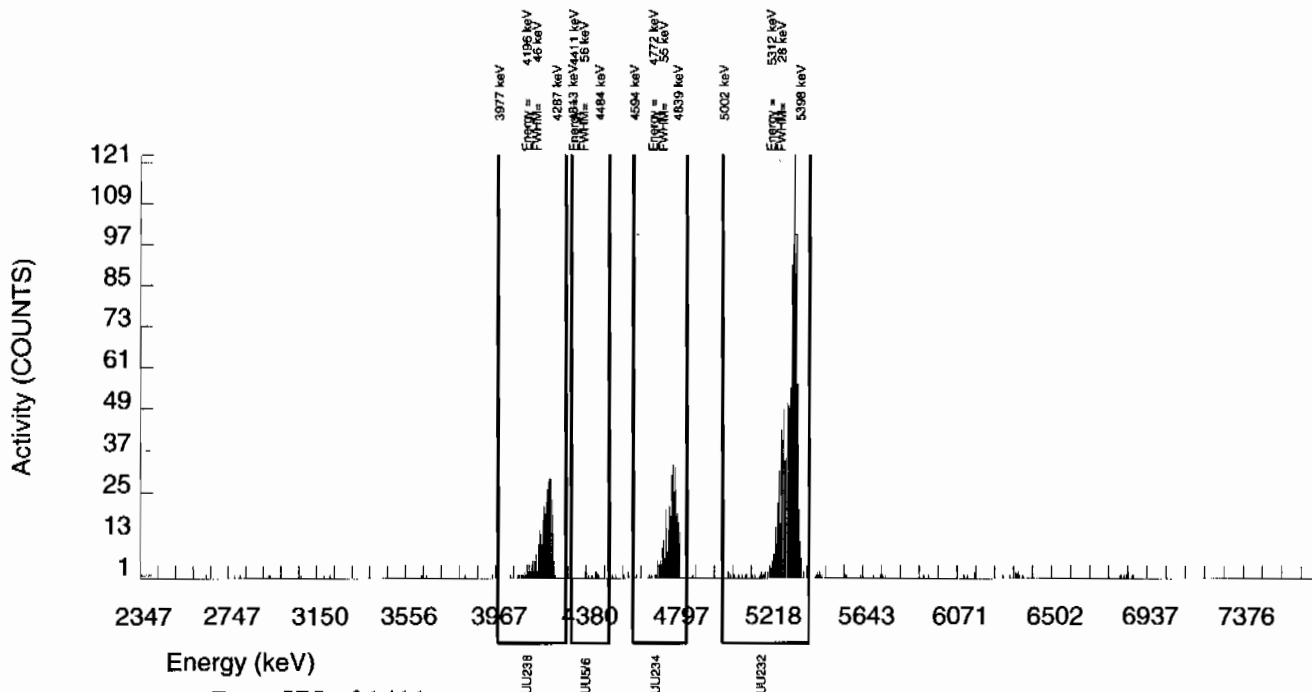
NUCLIDE ACTIVITY SUMMARY

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	308.000	305.858	1.000	6.0782	100.0000	1.09E+00	9.89E-02	5.03E-02	1.10E-01	6.24E-02
U232	5302.100	1139.000	1130.000	9.000	3.0000	100.0000	4.02E+00	3.08E-01	2.48E-02	5.93E-02	1.21E-01
U-235	4391.000	12.000	12.000	0.000	2.7628	80.90000	5.28E-02	1.57E-02	2.83E-02	6.85E-02	1.52E-02
U-238	4184.730	325.000	324.000	1.000	3.2810	100.0000	1.15E+00	1.04E-01	2.72E-02	6.40E-02	6.43E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630004_UU
SAMPLE QTY: 0.511 G

DETECTOR NUMBER :79450
AVERAGE %EFFICIENCY :25.5316
% YIELD : 93.304

COUNT DATE: 9-JAN-2010 11:00:30
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 4.20873 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B119.CNF;441
BKG DATE : 3-JAN-2010
EFF FILE : W119.CNF;117
CAL DATE : 18-DEC-2009

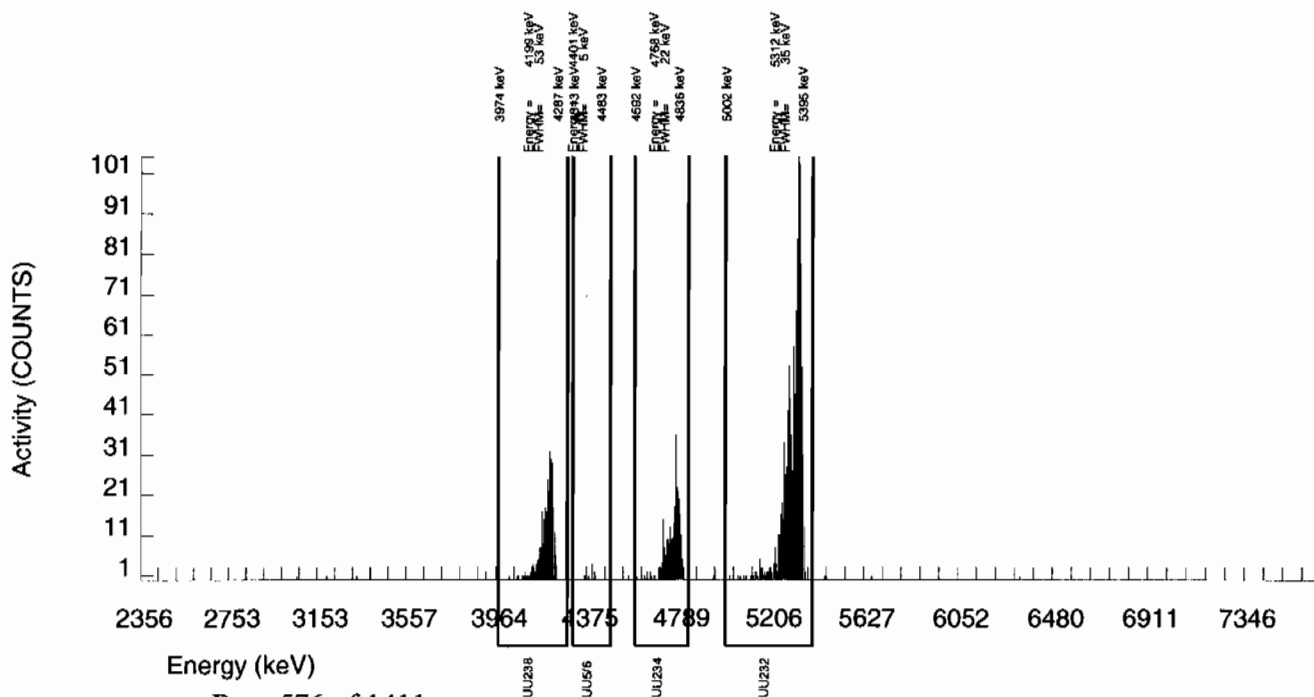
NUCLIDE ACTIVITY SUMMARY

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	283.000	281.914	0.000	6.0782	100.0000	1.04E+00	9.64E-02	5.23E-02	1.15E-01	6.21E-02
U232	5302.100	1074.000	1074.000	0.000	0.0000	100.0000	3.98E+00	3.06E-01	0.00E+00	1.00E-02	1.21E-01
U-235	4391.000	10.000	10.000	0.000	2.7628	80.90000	4.57E-02	1.48E-02	2.94E-02	7.12E-02	1.45E-02
U-238	4184.730	316.000	315.000	1.000	3.2810	100.0000	1.17E+00	1.05E-01	2.82E-02	6.65E-02	6.59E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630005_UU
SAMPLE QTY: 0.514 G

DETECTOR NUMBER :74430
AVERAGE %EFFICIENCY :25.9702
% YIELD : 95.145

COUNT DATE: 9-JAN-2010 11:00:33
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 4.29175 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B120.CNF;445
BKG DATE : 3-JAN-2010
EFF FILE : W120.CNF;124
CAL DATE : 18-DEC-2009

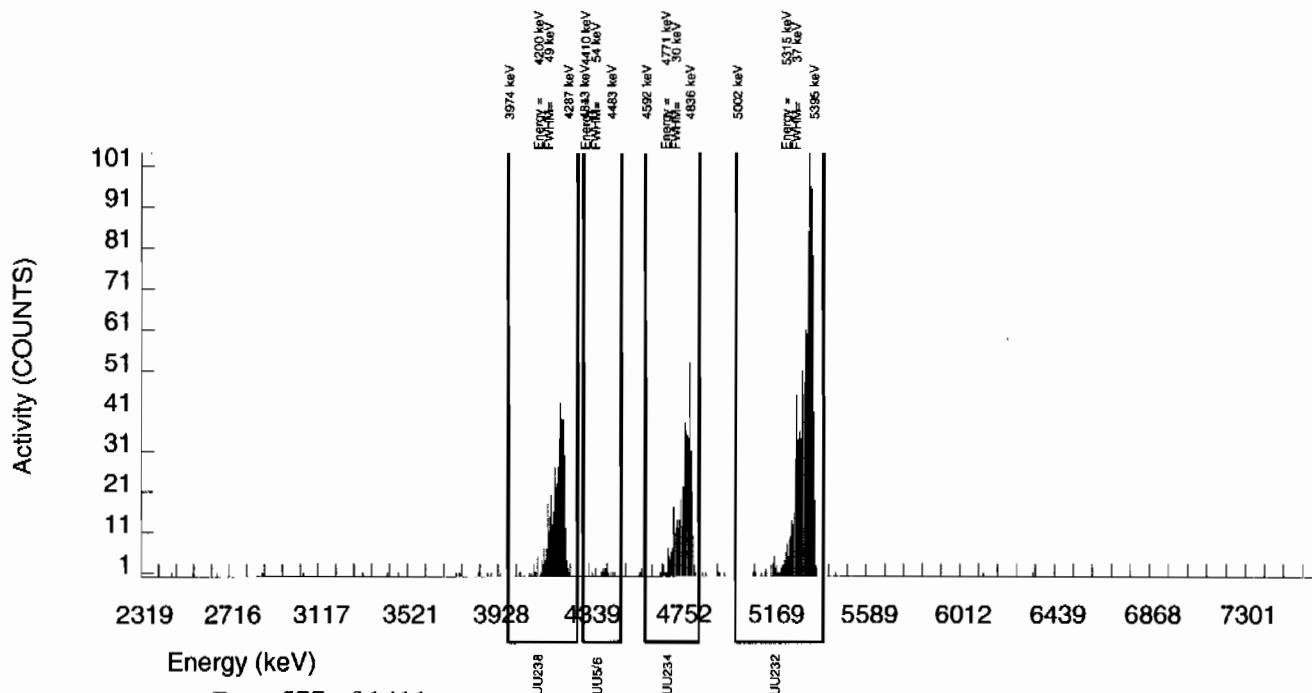
NUCLIDE ACTIVITY SUMMARY

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	460.000	457.874	1.000	6.0782	100.0000	1.62E+00	1.37E-01	5.02E-02	1.10E-01	7.61E-02
U232	5302.100	1115.000	1114.000	1.000	1.0000	100.0000	3.95E+00	3.03E-01	8.25E-03	2.61E-02	1.19E-01
U-235	4391.000	19.000	19.000	0.000	2.7628	80.90000	8.33E-02	2.00E-02	2.82E-02	6.82E-02	1.91E-02
U-238	4184.730	475.000	473.000	2.000	3.2810	100.0000	1.68E+00	1.41E-01	2.71E-02	6.38E-02	7.75E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630006_UU
SAMPLE QTY: 0.508 G

DETECTOR NUMBER :75545
AVERAGE %EFFICIENCY :24.7171
% YIELD : 91.443

COUNT DATE: 9-JAN-2010 11:00:35
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 4.12479 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B121.CNF;427
BKG DATE : 3-JAN-2010
EFF FILE : W121.CNF;115
CAL DATE : 15-DEC-2009

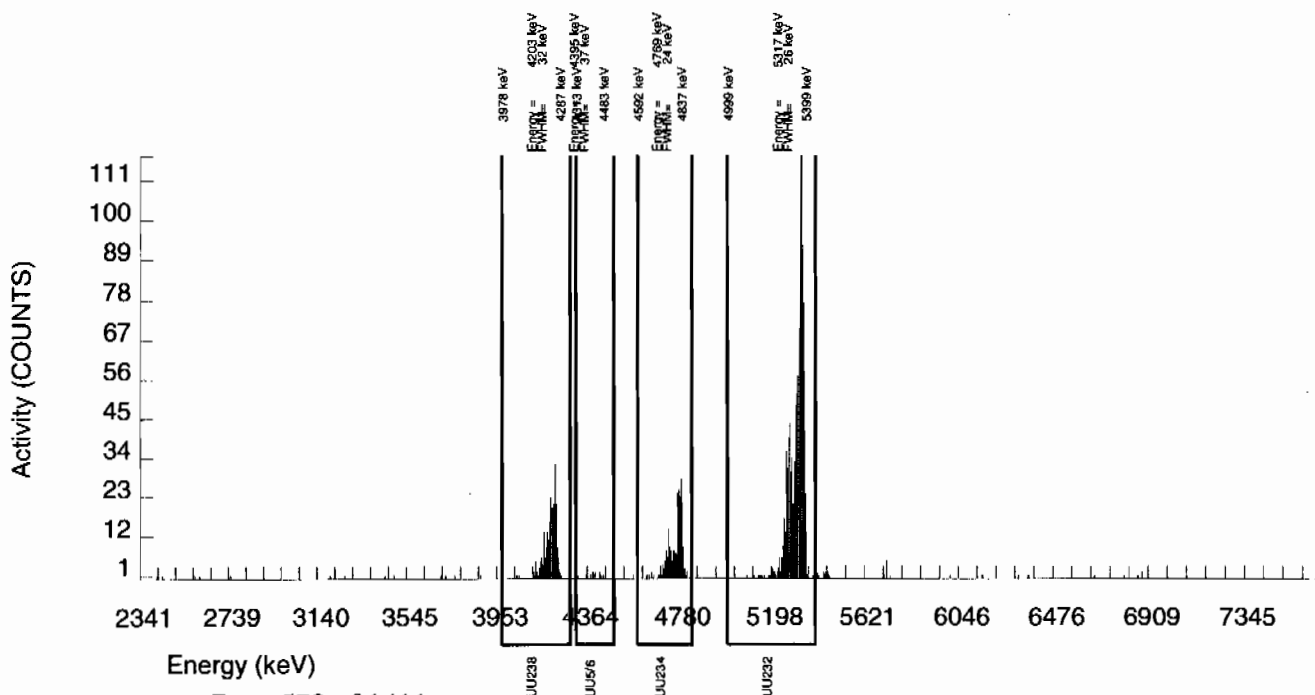
NUCLIDE ACTIVITY SUMMARY

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	233.000	230.970	1.000	6.0782	100.0000	9.06E-01	8.79E-02	5.55E-02	1.22E-01	5.99E-02
U232	5302.100	1020.000	1019.000	1.000	1.0000	100.0000	4.00E+00	3.11E-01	9.13E-03	2.89E-02	1.25E-01
U-235	4391.000	13.000	11.000	2.000	2.7628	80.90000	5.33E-02	1.92E-02	3.12E-02	7.55E-02	1.88E-02
U-238	4184.730	254.000	253.000	1.000	3.2810	100.0000	9.93E-01	9.43E-02	2.99E-02	7.05E-02	6.26E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630007_UU
SAMPLE QTY: 0.511 G

DETECTOR NUMBER :75546
AVERAGE %EFFICIENCY :25.1424
% YIELD : 87.867

COUNT DATE: 9-JAN-2010 11:00:37
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 3.96349 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B122.CNF;429
BKG DATE : 3-JAN-2010
EFF FILE : W122.CNF;118
CAL DATE : 15-DEC-2009

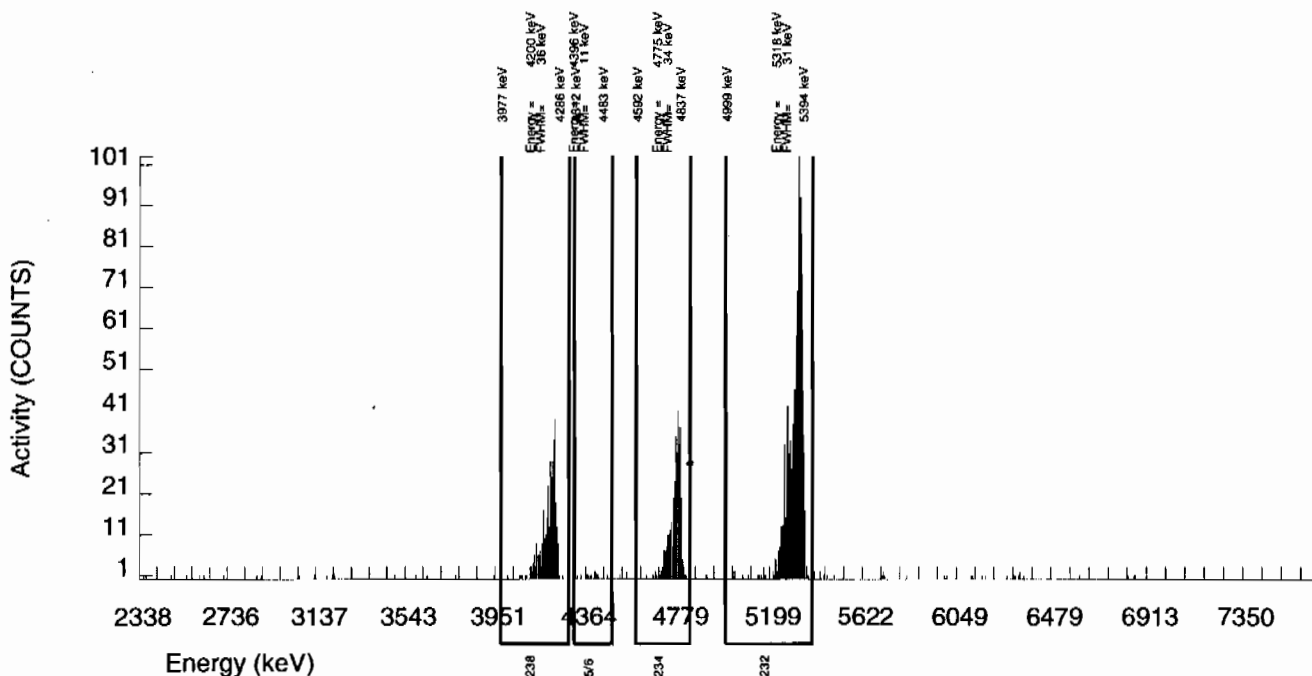
NUCLIDE ACTIVITY SUMMARY

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	350.000	348.993	0.000	6.0782	100.0000	1.39E+00	1.24E-01	5.64E-02	1.24E-01	7.45E-02
U232	5302.100	1004.000	996.000	8.000	2.8284	100.0000	3.98E+00	3.11E-01	2.63E-02	6.33E-02	1.27E-01
U-235	4391.000	14.000	14.000	0.000	2.7628	80.90000	6.91E-02	1.91E-02	3.17E-02	7.68E-02	1.85E-02
U-238	4184.730	354.000	353.000	1.000	3.2810	100.0000	1.41E+00	1.25E-01	3.05E-02	7.17E-02	7.52E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239 SAMPLE DATE : 22-DEC-2009 00:00:00		SAMPLE ID : S0243630008_UU SAMPLE QTY: 0.508 G	
DETECTOR NUMBER :45-142V3 AVERAGE %EFFICIENCY :25.9872 % YIELD : 93.461		COUNT DATE: 9-JAN-2010 11:00:40 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51076 dpm RESULTS : 4.21580 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B123.CNF;427 BKG DATE : 3-JAN-2010 EFF FILE : W123.CNF;114 CAL DATE : 15-DEC-2009

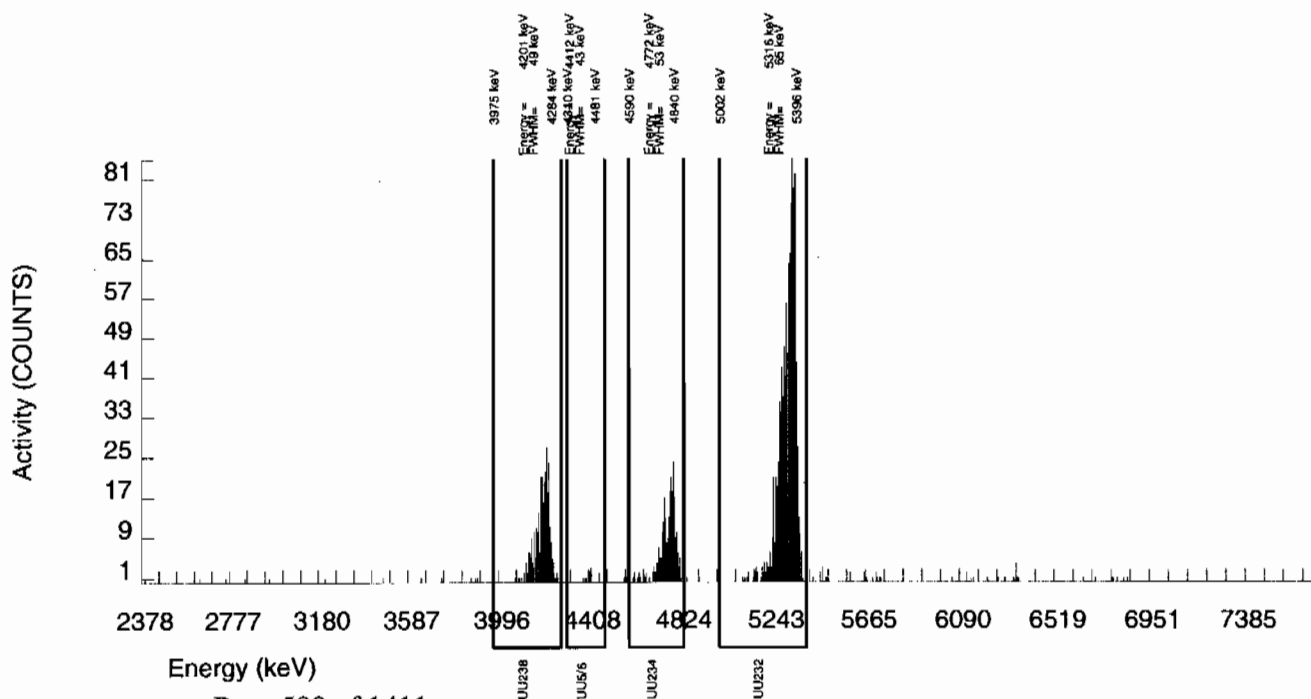
NUCLIDE ACTIVITY SUMMARY

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	260.000	256.893	2.000	6.0782	100.0000	9.38E-01	8.87E-02	5.16E-02	1.13E-01	5.90E-02
U232	5302.100	1102.000	1095.000	7.000	2.6458	100.0000	4.00E+00	3.07E-01	2.25E-02	5.48E-02	1.22E-01
U-235	4391.000	12.000	12.000	0.000	2.7628	80.90000	5.42E-02	1.61E-02	2.90E-02	7.02E-02	1.56E-02
U-238	4184.730	300.000	300.000	0.000	3.2810	100.0000	1.10E+00	9.99E-02	2.79E-02	6.56E-02	6.32E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630009_UU
SAMPLE QTY: 0.520 G

DETECTOR NUMBER :45-142V2
AVERAGE %EFFICIENCY :25.8094
% YIELD : 94.019

COUNT DATE: 9-JAN-2010 11:00:42
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 4.24097 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B124.CNF;423
BKG DATE : 3-JAN-2010
EFF FILE : W124.CNF;110
CAL DATE : 15-DEC-2009

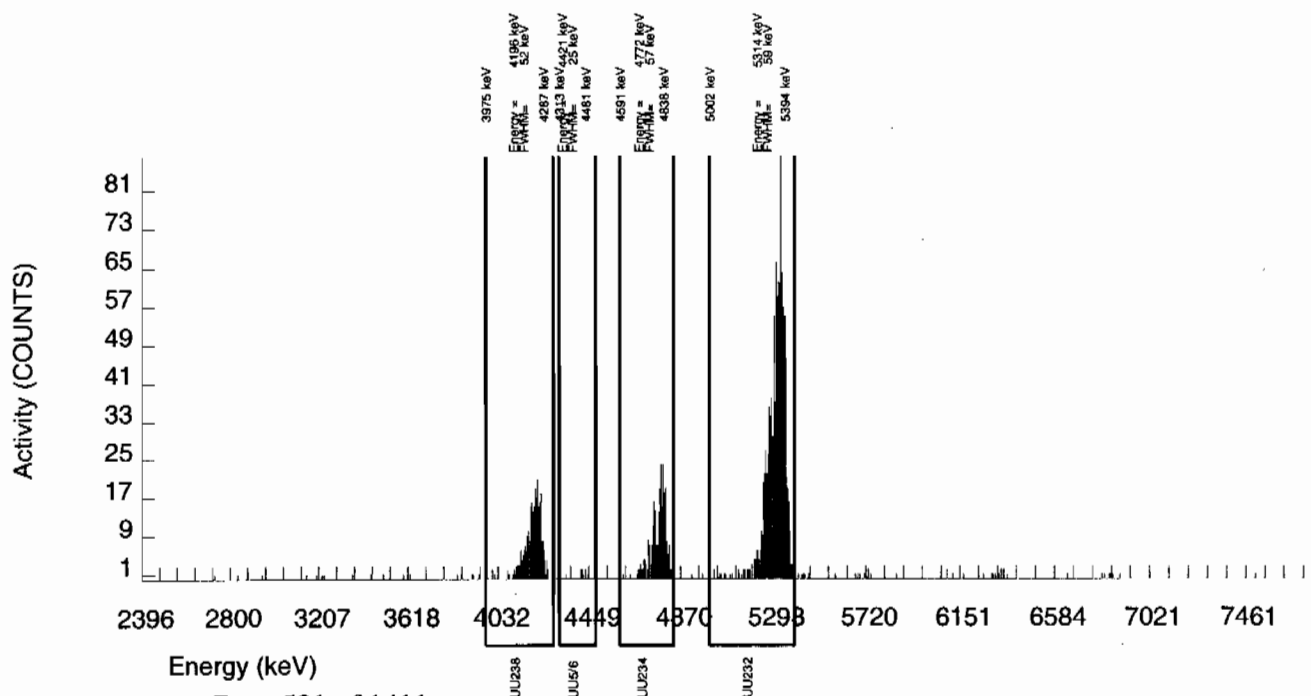
NUCLIDE ACTIVITY SUMMARY

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	266.000	262.894	2.000	6.0782	100.0000	9.38E-01	8.82E-02	5.05E-02	1.11E-01	5.83E-02
U232	5302.100	1096.000	1094.000	2.000	1.4142	100.0000	3.91E+00	3.00E-01	1.17E-02	3.32E-02	1.18E-01
U-235	4391.000	9.000	9.000	0.000	2.7628	80.90000	3.97E-02	1.35E-02	2.84E-02	6.87E-02	1.32E-02
U-238	4184.730	280.000	279.000	1.000	3.2810	100.0000	9.96E-01	9.23E-02	2.72E-02	6.42E-02	5.98E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630010_UU
SAMPLE QTY: 0.513 G

DETECTOR NUMBER :75549
AVERAGE %EFFICIENCY :25.7685
% YIELD : 88.143

COUNT DATE: 9-JAN-2010 11:00:52
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 3.97590 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B128.CNF;442
BKG DATE : 3-JAN-2010
EFF FILE : W128.CNF;131
CAL DATE : 15-DEC-2009

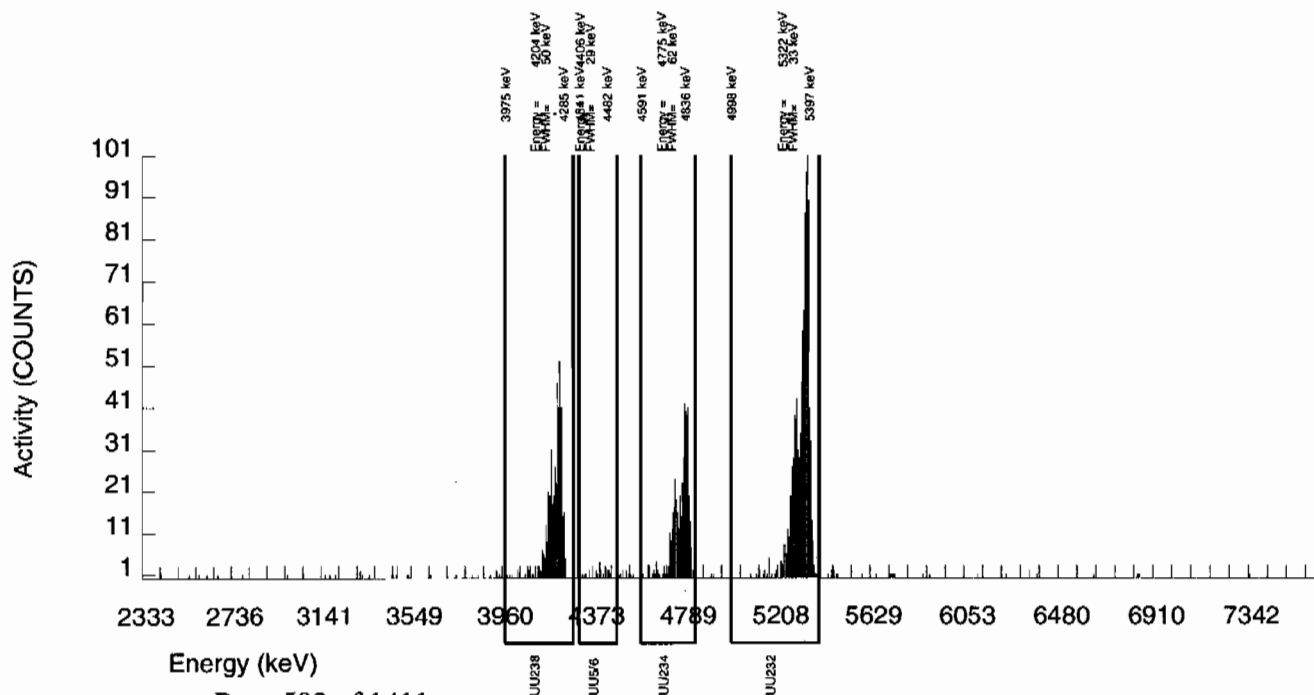
NUCLIDE ACTIVITY SUMMARY

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	455.000	452.965	1.000	6.0782	100.0000	1.75E+00	1.49E-01	5.47E-02	1.20E-01	8.25E-02
U232	5302.100	1027.000	1024.000	3.000	1.7321	100.0000	3.96E+00	3.07E-01	1.56E-02	4.16E-02	1.24E-01
U-235	4391.000	24.000	24.000	0.000	2.7628	80.90000	1.15E-01	2.48E-02	3.07E-02	7.44E-02	2.34E-02
U-238	4184.730	507.000	506.000	1.000	3.2810	100.0000	1.96E+00	1.64E-01	2.95E-02	6.95E-02	8.71E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S0243630011_UU
SAMPLE QTY: 0.503 G

DETECTOR NUMBER :76227
AVERAGE %EFFICIENCY :26.3585
% YIELD : 84.739

COUNT DATE: 9-JAN-2010 11:00:54
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 3.82238 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B129.CNF;431
BKG DATE : 3-JAN-2010
EFF FILE : W129.CNF;126
CAL DATE : 15-DEC-2009

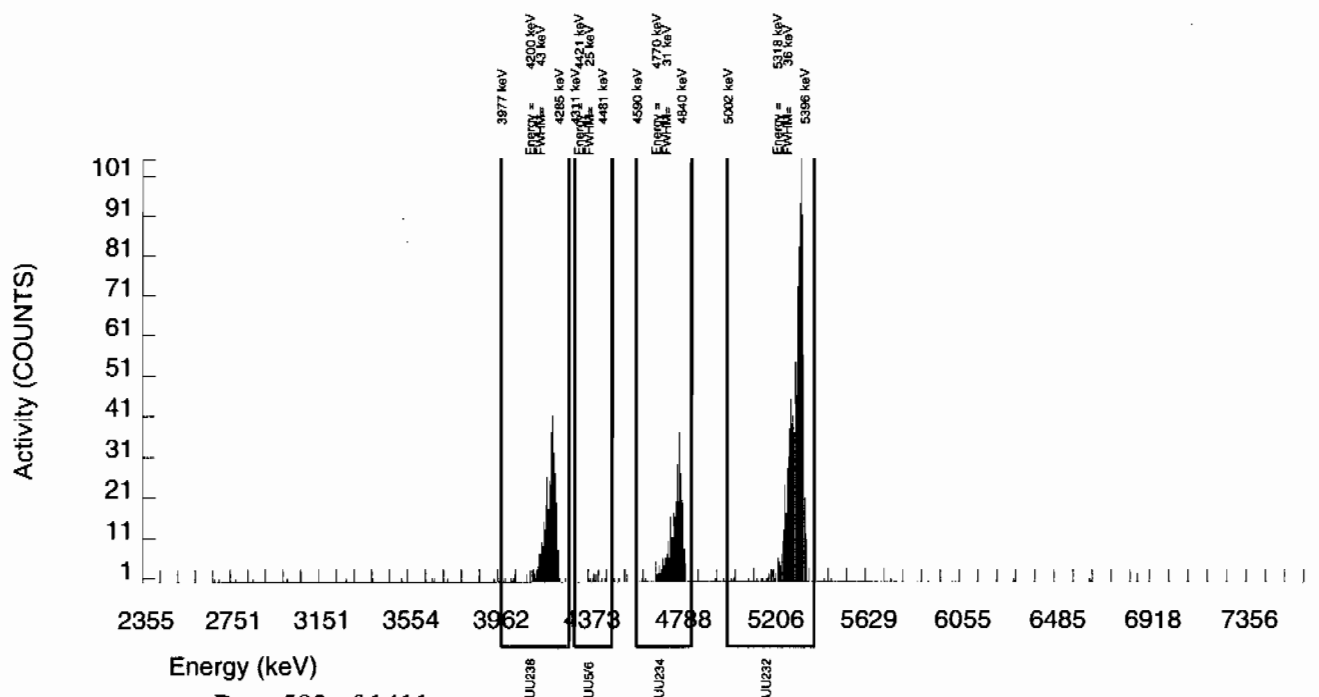
NUCLIDE ACTIVITY SUMMARY

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	321.000	318.982	1.000	6.0782	100.0000	1.28E+00	1.16E-01	5.67E-02	1.24E-01	7.18E-02
U232	5302.100	1011.000	1007.000	4.000	2.0000	100.0000	4.04E+00	3.14E-01	1.87E-02	4.82E-02	1.28E-01
U-235	4391.000	12.000	12.000	0.000	2.7628	80.90000	5.95E-02	1.77E-02	3.19E-02	7.71E-02	1.72E-02
U-238	4184.730	374.000	373.000	1.000	3.2810	100.0000	1.50E+00	1.32E-01	3.06E-02	7.21E-02	7.76E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202007605_UU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :75547
AVERAGE %EFFICIENCY :25.8475
% YIELD : 95.424

COUNT DATE: 9-JAN-2010 11:00:45
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50902 dpm
RESULTS : 4.30271 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B125.CNF;433
BKG DATE : 3-JAN-2010
EFF FILE : W125.CNF;128
CAL DATE : 15-DEC-2009

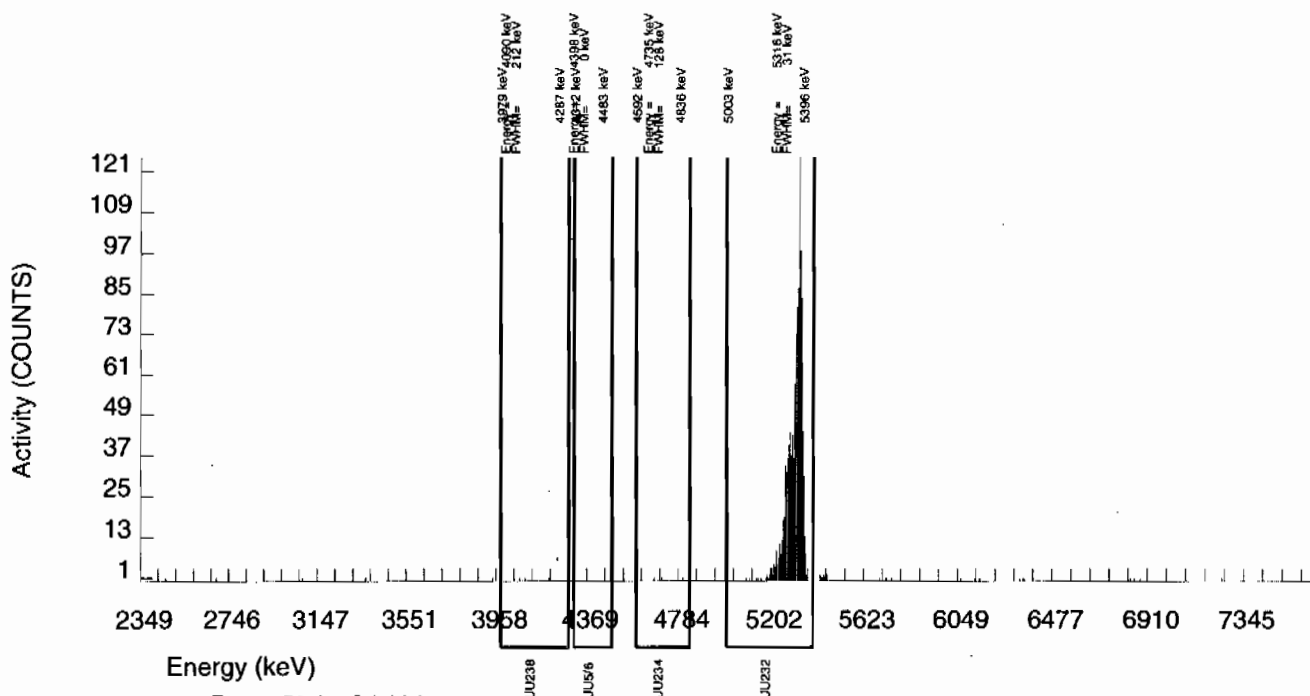
NUCLIDE ACTIVITY SUMMARY

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	3.000	-0.124	2.000	6.0782	100.0000	-2.27E-04	3.60E-03	2.58E-02	5.66E-02	3.60E-03
U232	5302.100	1116.000	1112.000	4.000	2.0000	100.0000	2.03E+00	1.55E-01	8.50E-03	2.19E-02	6.11E-02
U-235	4391.000	0.000	0.000	0.000	2.7628	80.90000	0.00E+00	2.26E-03	1.45E-02	3.51E-02	2.26E-03
U-238	4184.730	4.000	3.000	1.000	3.2810	100.0000	5.48E-03	4.10E-03	1.39E-02	3.28E-02	4.08E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 22-DEC-2009 00:00:00

SAMPLE ID : S1202007606_UU
SAMPLE QTY: 0.511 G

DETECTOR NUMBER :75548
AVERAGE %EFFICIENCY :25.0198
% YIELD : 91.667

COUNT DATE: 9-JAN-2010 11:00:48
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.51076 dpm
RESULTS : 4.13486 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B126.CNF;432
BKG DATE : 3-JAN-2010
EFF FILE : W126.CNF;130
CAL DATE : 15-DEC-2009

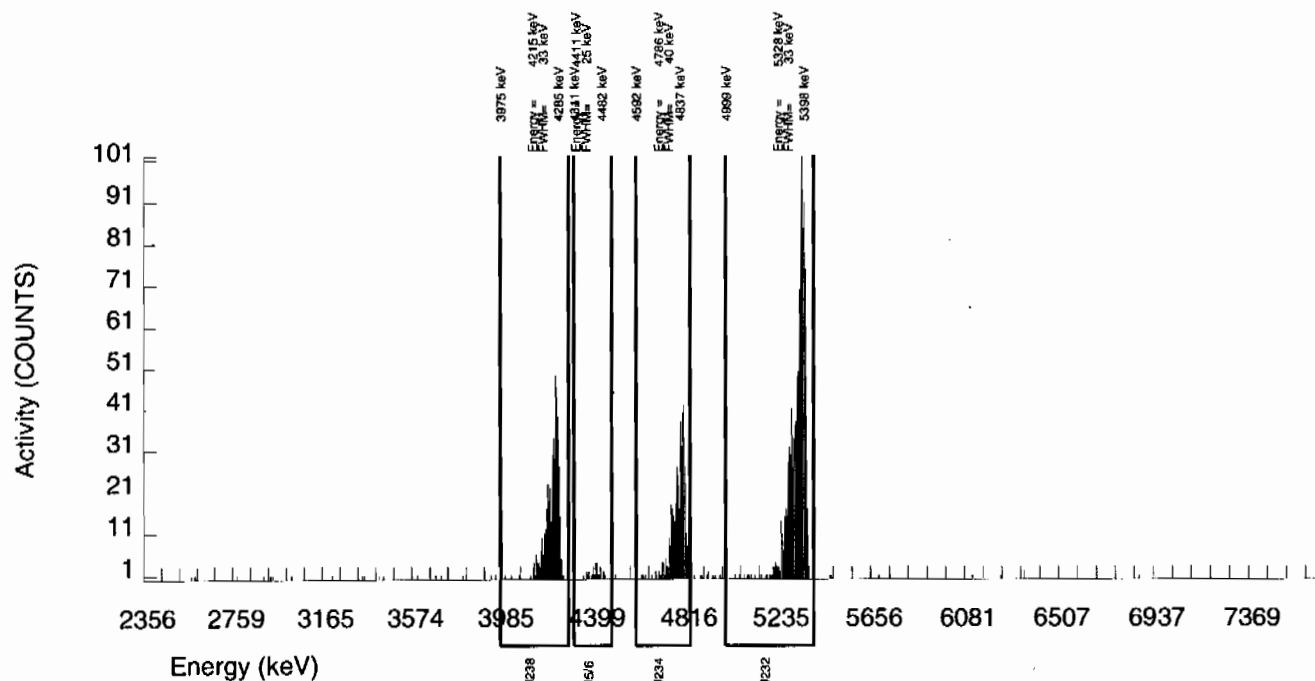
NUCLIDE ACTIVITY SUMMARY

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	406.000	404.955	0.000	6.0782	100.0000	1.56E+00	1.35E-01	5.43E-02	1.19E-01	7.73E-02
U232	5302.100	1035.000	1034.000	1.000	1.0000	100.0000	3.98E+00	3.08E-01	8.94E-03	2.83E-02	1.24E-01
U-235	4391.000	29.000	29.000	0.000	2.7628	80.90000	1.38E-01	2.74E-02	3.05E-02	7.39E-02	2.56E-02
U-238	4184.730	445.000	445.000	0.000	3.2810	100.0000	1.71E+00	1.46E-01	2.93E-02	6.91E-02	8.11E-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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938239
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202007607_UU
SAMPLE QTY: 0.106 G

DETECTOR NUMBER :78770
AVERAGE %EFFICIENCY :24.6888
% YIELD : 94.153

COUNT DATE: 9-JAN-2010 11:00:50
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50902 dpm
RESULTS : 4.24539 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B127.CNF;436
BKG DATE : 3-JAN-2010
EFF FILE : W127.CNF;121
CAL DATE : 15-DEC-2009

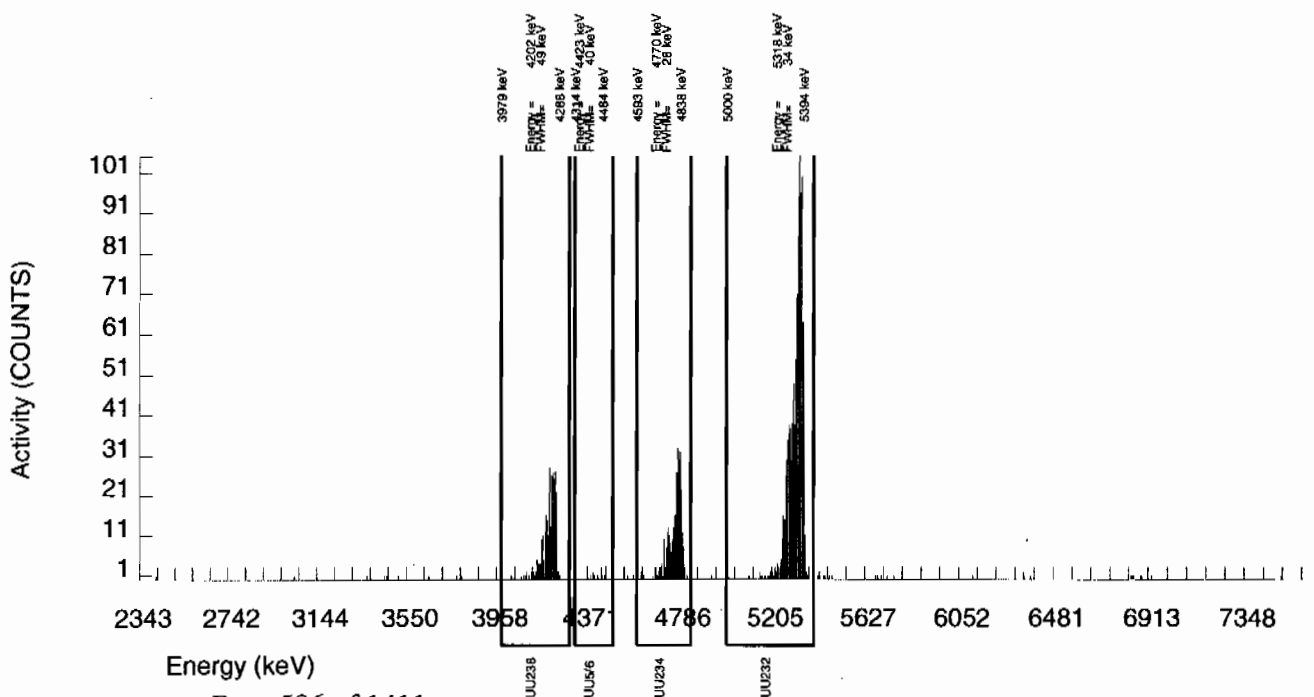
NUCLIDE ACTIVITY SUMMARY

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	310.000	307.940	1.000	6.0782	100.0000	5.63E+00	5.39E-01	2.59E-01	5.67E-01	3.22E-01
U232	5302.100	1049.000	1048.000	1.000	1.0000	100.0000	1.92E+01	1.59E+00	4.25E-02	1.35E-01	5.92E-01
U-235	4391.000	10.000	10.000	0.000	2.7628	80.90000	2.26E-01	7.35E-02	1.45E-01	3.52E-01	7.15E-02
U-238	4184.730	288.000	288.000	0.000	3.2810	100.0000	5.26E+00	5.10E-01	1.40E-01	3.29E-01	3.10E-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, Rev 9

Batch# 931702 Product: 85 Date: 1/8/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NK
Samples have been blank corrected (if required)			NK
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%.			NK
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.			NK
Smears Taken for Radioactive batches.			NK
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.			NK
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NK
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			NK
Batch non-conformances second reviewed and disposition verified to be completed.			NK
Aliquot Correction completed if required.			NK
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Life H. Perry 1/8/10

Secondary Review Performed By: Staub 1/10/10

Gamma Spec Que Sheet

14-17/10

01/05/2010

Batch #: 937702

Analyst: MXR1

First Client Due Date: 01/26/2010

Internal Due Date: 01/15/2010

Gamma Spike Isotope: Mixed Gamma

Gamma LCS Isotope: Mixed Gamma

Initials: MS

Spike Code: N/A

LCS Code: 1032-A

Expiration Date: 12/2/10

Vol: 1.0 mL

Nominal Concentration: 1.0

6.35, 6.37, 5.710

Prep Date: 12/31/09

Library: SOLID

Witness: N/A

6.40, 6.646

Sealing Date/Time

(if Applicable)

Detector

Geometry

Collect Date

Matrix

Client

Hazard Code

Type

Sample ID

Client Description / Container ID

Sample ID

RE12-10-7675

RE12-10-7663

RE12-10-7664

RE12-10-7672

RE12-10-7667

RE12-10-7666

RE12-10-7665

RE12-10-7670

RE12-10-7668

RE12-10-7671

RE12-10-7669

MB

DUP RE12-10-7669(243630011)

LCS

243630001-1

243630002-1

243630003-1

243630004-1

243630005-1

243630006-1

243630007-1

243630008-1

243630009-1

243630010-1

243630011-1

1202006611-1

1202006612-1

1202006613-1

MB

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
937702	243630001	SAMPLE	07-JAN-10		Cerium-139	-0.01203	0.05487	0.050
					Europium-152	0.0343	0.2021	0.200
					Sodium-22	0.00756	0.08387	0.080
937702	243630002	SAMPLE	07-JAN-10		Americium-241	-0.1811	0.3276	0.200
					Cerium-139	0.00478	0.05997	0.050
					Thorium-234	1.363	2.859	2.00
937702	243630003	SAMPLE	07-JAN-10					
937702	243630004	SAMPLE	07-JAN-10		Americium-241	-0.00351	0.2045	0.200
937702	243630005	SAMPLE	07-JAN-10		Americium-241	0.0607	0.2056	0.200
					Cerium-139	0.02071	0.05031	0.050
937702	243630006	SAMPLE	07-JAN-10		Americium-241	-0.00365	0.3699	0.200
					Thorium-234	0.6151	2.963	2.00
937702	243630007	SAMPLE	07-JAN-10					
937702	243630008	SAMPLE	07-JAN-10		Americium-241	0.05921	0.2538	0.200
937702	243630009	SAMPLE	07-JAN-10		Americium-241	0.06361	0.2155	0.200
937702	243630010	SAMPLE	07-JAN-10		Americium-241	0.04342	0.3031	0.200
937702	243630011	SAMPLE	07-JAN-10		Americium-241	0.1173	0.2015	0.200
937702	1202006611	MB	07-JAN-10					
937702	1202006612	DUP	07-JAN-10		Americium-241	-0.00328	0.2727	0.200
					Cerium-139	-0.002	0.05647	0.050
					Thorium-234	1.119	2.273	2.00
937702	1202006613	LCS	07-JAN-10		Cerium-139	0.01184	0.1014	0.050
					Cesium-134	0.08046	0.1941	0.100
					Europium-152	-0.00652	0.3819	0.200
					Mercury-203	-0.02368	0.1479	0.100
					Potassium-40	0.2644	1.07	1.00
					Ruthenium-106	0.3155	1.244	0.800
					Sodium-22	-0.01108	0.09034	0.080
					Thorium-234	-3.562	6.575	2.00
					Tin-113	0.02602	0.1776	0.100
					Uranium-235	-0.1684	0.6717	0.500

GEL QUALS

Batch ID: 937702

Report run on: January 8, 2010 4:16 PM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
243630001-1 07-JAN-2010 13:09	Bismuth-211	UI	UI	Data rejected due to interference.		4.343			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.298			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1288		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.821			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.1115			
243630002-1 07-JAN-2010 13:10	Bismuth-211	UI	UI	Data rejected due to interference.		3.515			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.047			
	Radium-224	UI	UI	Data rejected due to interference.		4.059			
243630003-1 07-JAN-2010 13:10	Bismuth-211	UI	UI	Data rejected due to interference.		4.03			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.478			
	Radium-224	UI	UI	Data rejected due to interference.		4.227			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07			
243630004-1 07-JAN-2010 13:12	Bismuth-211	UI	UI	Data rejected due to interference.		3.666			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.912			
	Radium-224	UI	UI	Data rejected due to interference.		4.698			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.06532			
243630005-1 07-JAN-2010 13:13	Bismuth-211	UI	UI	Data rejected due to interference.		3.897			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.566			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1131		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.543			

GEL QUALS

Batch ID: 937702

Report run on: January 8, 2010 4:16 PM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
243630005-1 07-JAN-2010 13:13	Strontium-85	UI	UI	Data rejected due to low abundance.		.1285			
	Bismuth-211	UI	UI	Data rejected due to interference.		3.3			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.802			
	Radium-224	UI	UI	Data rejected due to interference.		3.531			
243630007-1 07-JAN-2010 13:23	Bismuth-211	UI	UI	Data rejected due to interference.		4.524			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.341			
	Radium-224	UI	UI	Data rejected due to interference.		2.621			
243630008-1 07-JAN-2010 13:24	Bismuth-211	UI	UI	Data rejected due to interference.		4.194			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.236			
	Radium-224	UI	UI	Data rejected due to interference.		3.782			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07512			
243630009-1 07-JAN-2010 13:24	Bismuth-211	UI	UI	Data rejected due to interference.		3.907			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.971			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.085		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.256			
243630010-1 07-JAN-2010 13:28	Bismuth-211	UI	UI	Data rejected due to interference.		4.018			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.747			
	Radium-224	UI	UI	Data rejected due to interference.		2.622			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.1144			

GEL QUALS

Batch ID: 937702

Report run on: January 8, 2010 4:16 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
243630010-1 07-JAN-2010 13:28	Uranium-235	UI	UI	UI Data rejected due to interference. <i>NO valid peak</i>		.356		.5	.5
243630011-1 07-JAN-2010 13:28	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.86			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		4.616			
	Cesium-134	UI	UI	UI Data rejected due to low abundance.		.1076		.1	.1
	Radium-224	UI	UI	UI Data rejected due to interference.		4.803			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.08529			
120200612-1 DUP 07-JAN-2010 13:31	Bismuth-211	UI	UI	UI Data rejected due to interference.		4.728			
	Cadmium-109	UI	UI	UI Data rejected due to interference.		2.906			
	Radium-224	UI	UI	UI Data rejected due to interference.		5.479			
	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.1268			

Cadmium-109	INT	2.047	0.6853	pCi/g	1.282	Y	87.55	3	1.221	IDENTIFIED	33.11	<input checked="" type="checkbox"/>
Cerium-143		1491	224.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-137	✓	0.2125	0.04522	pCi/g	0.07397	0.100	661.5	2	0.9116	IDENTIFIED	21.13	<input type="checkbox"/>
Gross Gamma		7.13	1.301	pCi/g	3.414	N		0				<input type="checkbox"/>
Iodine-123	HE	4.88E+06	1.09E+07	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	2003	7158	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.343	0.07729	pCi/g	0.1088	0.100	238.5	4	1.145	IDENTIFIED	4.419	<input type="checkbox"/>
Lead-214	✓	1.223	0.09672	pCi/g	0.1175	0.100	351.6	4	1.183	IDENTIFIED	6.735	<input type="checkbox"/>
Neptunium-237	HE	0.5901	0.2067	pCi/g	0.4687	N	87.55	3	1.221	IDENTIFIED	33.11	<input type="checkbox"/>
Niobium-95m	HE	0.3456	0.09507	pCi/g	0.2983	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97	HE	1.30E+05	1.56E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.343	0.07729	pCi/g	0.1088	N	238.5	4	1.145	IDENTIFIED	4.419	<input type="checkbox"/>
Polonium-214	NR	1.223	0.09672	pCi/g	0.1175	N	351.6	4	1.183	IDENTIFIED	6.735	<input type="checkbox"/>
Polonium-216	NR	1.343	0.07729	pCi/g	0.1088	N	238.5	4	1.145	IDENTIFIED	4.419	<input type="checkbox"/>
Polonium-218	NR	1.223	0.09672	pCi/g	0.1175	N	351.6	4	1.183	IDENTIFIED	6.735	<input type="checkbox"/>
Potassium-40	✓	20.92	1.092	pCi/g	0.7303	1.00	1461	1	2.311	IDENTIFIED	4.042	<input type="checkbox"/>
Radium-224	INT	4.059	0.6556	pCi/g	1.238	Y	241.4	1	1.696	IDENTIFIED	15.89	<input checked="" type="checkbox"/>
Radium-226	✓	0.9608	0.09449	pCi/g	0.1386	Y	609	4	1.509	IDENTIFIED	9.116	<input type="checkbox"/>
Radium-228	✓	1.164	0.1548	pCi/g	0.2429	0.500	910.9	3	1.775	IDENTIFIED	12.28	<input type="checkbox"/>
Sodium-24		3.03E+06	1.10E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	557.7	466	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4609	0.05233	pCi/g	0.06141	0.080	582.9	1	1.471	IDENTIFIED	10.91	<input type="checkbox"/>
Thorium-228	NR	1.365	0.07854	pCi/g	0.1106	N	238.5	4	1.145	IDENTIFIED	4.419	<input type="checkbox"/>
Thorium-230	NR	0.9608	0.09449	pCi/g	0.1386	N	609	4	1.509	IDENTIFIED	9.116	<input type="checkbox"/>
Thorium-232	NR	1.164	0.1548	pCi/g	0.2429	N	910.9	3	1.775	IDENTIFIED	12.28	<input type="checkbox"/>
Tin-126	HE	0.201	0.06727	pCi/g	0.1265	N	87.55	3	1.221	IDENTIFIED	33.11	<input type="checkbox"/>
Titanium-44	LA	0.3157	0.03107	pCi/g	0.08945	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	0.9608	0.09449	pCi/g	0.1386	N	609	4	1.509	IDENTIFIED	9.116	<input type="checkbox"/>
Zirconium-97		1.29E+07	2.96E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = 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
243630003	22-DEC-09 12:00	07-JAN-10 13:10	16	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.618	0.1761	pCi/g	0.1964	N	911.6	3	1.363	IDENTIFIED 9.192 <input type="checkbox"/>
Americium-243	INT	0.387	0.03722	pCi/g	0.07037	N	74.75	1	1.339	IDENTIFIED 8.736 <input type="checkbox"/>
Annihilation Rad.	HE	0.07899	0.03125	pCi/g	0.04667	N	511.1	1	2.372	IDENTIFIED 39.32 <input type="checkbox"/>
Bismuth-211	INT	4.03	0.2926	pCi/g	0.3277	Y	352	4	1.201	IDENTIFIED 5.71 <input checked="" type="checkbox"/>
Bismuth-212	LA	1.235	0.2512	pCi/g	0.6924	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.097	0.08993	pCi/g	0.1164	0.200	609.3	4	1.157	IDENTIFIED 6.357 <input type="checkbox"/>
Cadmium-109	INT	3.478	0.4453	pCi/g	1.013	Y	87.19	3	1.121	IDENTIFIED 11.92 <input checked="" type="checkbox"/>
Cerium-143		1139	179.3	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Gross Gamma		8.282	1.236	pCi/g	2.812	N		0		
Iodine-135		3.45E+16		pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Krypton-85	HE	13.52	3.658	pCi/g	12.68	N	0	9	0	NOT_IDENTI 0 <input type="checkbox"/>
Lead-212	✓	1.639	0.0977	pCi/g	0.09187	0.100	238.7	4	1.124	IDENTIFIED 3.56 <input type="checkbox"/>
Lead-214	✓	1.402	0.1081	pCi/g	0.1142	0.100	352	4	1.201	IDENTIFIED 5.71 <input type="checkbox"/>
Lutetium-177	HE	2.344	0.8368	pCi/g	2.217	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	INT	1.002	0.1648	pCi/g	0.2942	N	87.19	3	1.121	IDENTIFIED 11.92 <input type="checkbox"/>
Polonium-212	NR	1.639	0.0977	pCi/g	0.09187	N	238.7	4	1.124	IDENTIFIED 3.56 <input type="checkbox"/>
Polonium-214	NR	1.402	0.1081	pCi/g	0.1142	N	352	4	1.201	IDENTIFIED 5.71 <input type="checkbox"/>
Polonium-216	NR	1.639	0.0977	pCi/g	0.09187	N	238.7	4	1.124	IDENTIFIED 3.56 <input type="checkbox"/>
Polonium-218	NR	1.402	0.1081	pCi/g	0.1142	N	352	4	1.201	IDENTIFIED 5.71 <input type="checkbox"/>
Potassium-40	✓	21.5	1.188	pCi/g	0.5161	1.00	1461	1	1.895	IDENTIFIED 3.48 <input type="checkbox"/>
Radium-224	INT	4.227	0.5479	pCi/g	1.046	Y	241.8	1	1.531	IDENTIFIED 12.25 <input checked="" type="checkbox"/>
Radium-226	✓	1.097	0.08993	pCi/g	0.1164	Y	609.3	4	1.157	IDENTIFIED 6.357 <input type="checkbox"/>
Radium-228	✓	1.618	0.1761	pCi/g	0.1964	0.500	911.6	3	1.363	IDENTIFIED 9.192 <input type="checkbox"/>
Sodium-24	HE	1.69E+05	8.96E+05	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>

Strontium-85	✓	0.07	0.01894	pCi/g	0.06568	Y	0	9	0	NOT_IDENTI	0	✓ UI	Data rejected due to low abundance.
Thallium-208	✓	0.5201	0.04516	pCi/g	0.05741	0.080	583.3	1	1.321	IDENTIFIED	7.247	✓	
Thorium-228	NR	1.665	0.09928	pCi/g	0.09335	N	238.7	4	1.124	IDENTIFIED	3.56	✓	
Thorium-230	NR	1.097	0.08993	pCi/g	0.1164	N	609.3	4	1.157	IDENTIFIED	6.357	✓	
Thorium-232	NR	1.618	0.1761	pCi/g	0.1964	N	911.6	3	1.363	IDENTIFIED	9.192	✓	
Thorium-234	✓	1.569	0.6592	pCi/g	1.488	2.00	63.07	2	1.41	IDENTIFIED	41.12	✓	
Tin-126	INT	0.3414	0.04371	pCi/g	0.09963	N	87.19	3	1.121	IDENTIFIED	11.92	✓	
Titanium-44	LA	0.39	0.0261	pCi/g	0.06978	N	0	9	0	FAIL_ABUND	0	✓	
Total Uranium		4.6437	1.96E-06	ug/g	2.2165	N	0	0				✓	
Uranium-234	NR	1.097	0.08993	pCi/g	0.1164	N	609.3	4	1.157	IDENTIFIED	6.357	✓	
Uranium-238	HE	1.569	0.6592	pCi/g	1.488	N	63.07	2	1.41	IDENTIFIED	41.12	✓	
Zirconium-97	HE	2.79E+06	2.44E+06	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	
243630004	22-DEC-09 12:00	07-JAN-10 13:12	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name		Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.553	0.1596	pCi/g	0.2365	N	911	3	1.919	IDENTIFIED 8.432	
Americium-243	WT	0.3787	0.03863	pCi/g	0.08029	N	74.87	1	1.536	IDENTIFIED 9.484	
Annihilation Rad.		0.1342	0.02877	pCi/g	0.04351	N	510.5	1	1.558	IDENTIFIED 21.24	
Bismuth-211	WT	3.666	0.2288	pCi/g	0.2956	Y	351.6	4	1.273	IDENTIFIED 5.378	✓/JL
Bismuth-212	HE	0.8648	0.2059	pCi/g	0.598	N	0	9	0	FAIL_ABUND 0	
Bismuth-214	✓	1.295	0.09062	pCi/g	0.1046	0.200	609.1	4	1.68	IDENTIFIED 5.772	
Cadmium-109	WT	2.912	0.4065	pCi/g	1.143	Y	87.3	3	1.22	IDENTIFIED 13.27	✓/JL
Cerium-143		1772	240.2	pCi/g	0	N	0	9	0	SHORT_HLIF 0	
Gross Gamma		8.625	1.314	pCi/g	3.578	N	0				
Iodine-133	HE	10070	5499	pCi/g	0	N	0	9	0	SHORT_HLIF 0	
Krypton-85	HE	12.62	3.551	pCi/g	11.89	N	0	9	0	NOT_IDENTI 0	
Lead-212	✓	1.545	0.0751	pCi/g	0.08457	0.100	238.4	4	1.335	IDENTIFIED 3.222	
Lead-214	✓	1.275	0.08626	pCi/g	0.103	0.100	351.6	4	1.273	IDENTIFIED 5.378	
Lutetium-177	HE	2.909	0.8227	pCi/g	2.146	N	0	9	0	FAIL_ABUND 0	
Neptunium-237	WT	0.8393	0.1457	pCi/g	0.3333	N	87.3	3	1.22	IDENTIFIED 13.27	
Niobium-95m	LA	0.7925	0.07993	pCi/g	0.2767	N	0	9	0	NOT_IDENTI 0	
Polonium-212	NR	1.545	0.0751	pCi/g	0.08457	N	238.4	4	1.335	IDENTIFIED 3.222	
Polonium-214	NR	1.275	0.08626	pCi/g	0.103	N	351.6	4	1.273	IDENTIFIED 5.378	
Polonium-216	NR	1.545	0.0751	pCi/g	0.08457	N	238.4	4	1.335	IDENTIFIED 3.222	
Polonium-218	NR	1.275	0.08626	pCi/g	0.103	N	351.6	4	1.273	IDENTIFIED 5.378	
Potassium-40	✓	20.81	1.055	pCi/g	0.5454	1.00	1461	1	2.238	IDENTIFIED 3.537	
Radium-224	WT	4.698	0.6368	pCi/g	0.9617	Y	241.5	1	2.062	IDENTIFIED 13.25	✓/JL
Radium-226	✓	1.295	0.09062	pCi/g	0.1046	Y	609.1	4	1.68	IDENTIFIED 5.772	
Radium-228	✓	1.553	0.1596	pCi/g	0.2365	0.500	911	3	1.919	IDENTIFIED 8.432	
Strontium-85	LA	0.06532	0.01839	pCi/g	0.06158	Y	0	9	0	NOT_IDENTI 0	✓ UI Data rejected due to low abundance.
Thallium-208	✓	0.5297	0.03925	pCi/g	0.05289	0.080	582.8	1	1.454	IDENTIFIED 6.573	
Thorium-228	NR	1.569	0.07631	pCi/g	0.08593	N	238.4	4	1.335	IDENTIFIED 3.222	
Thorium-230	NR	1.295	0.09062	pCi/g	0.1046	N	609.1	4	1.68	IDENTIFIED 5.772	
Thorium-232	NR	1.553	0.1596	pCi/g	0.2365	N	911	3	1.919	IDENTIFIED 8.432	
Tin-126	WT	0.2858	0.0399	pCi/g	0.1126	N	87.3	3	1.22	IDENTIFIED 13.27	
Titanium-44	LA	0.385	0.0289	pCi/g	0.07699	N	0	9	0	FAIL_ABUND 0	
Total Uranium		3.399	2.05E-06	ug/g	2.6074	N	0				
Uranium-234	NR	1.295	0.09062	pCi/g	0.1046	N	609.1	4	1.68	IDENTIFIED 5.772	
Zirconium-97		1.60E+07	2.51E+06	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	
243630005	22-DEC-09 12:00	07-JAN-10 13:13	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.466	0.1642	pCi/g	0.1847	N	911.4	3	2.096	IDENTIFIED 9.032	<input checked="" type="checkbox"/>
Americium-243	INT	0.3901	0.03994	pCi/g	0.07769	N	74.8	1	1.258	IDENTIFIED 9.39	<input checked="" type="checkbox"/>

Lead-214	✓	1.148	0.08266	pCi/g	0.1065	0.100	351.9	4	1.201	IDENTIFIED	5.635	<input type="checkbox"/>
Lutetium-177	HE	3.261	0.7231	pCi/g	2.024	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	INT	0.8076	0.1815	pCi/g	0.417	N	87.03	3	1.083	IDENTIFIED	19.15	<input type="checkbox"/>
Polonium-212	NR	1.505	0.07731	pCi/g	0.08645	N	238.6	4	1.099	IDENTIFIED	3.463	<input type="checkbox"/>
Polonium-214	NR	1.148	0.08266	pCi/g	0.1065	N	351.9	4	1.201	IDENTIFIED	5.635	<input type="checkbox"/>
Polonium-216	NR	1.505	0.07731	pCi/g	0.08645	N	238.6	4	1.099	IDENTIFIED	3.463	<input type="checkbox"/>
Polonium-218	NR	1.148	0.08266	pCi/g	0.1065	N	351.9	4	1.201	IDENTIFIED	5.635	<input type="checkbox"/>
Potassium-40	✓	21.07	1.177	pCi/g	0.4905	1.00	1461	1	2.257	IDENTIFIED	3.559	<input type="checkbox"/>
Radium-224	INT	3.531	0.4742	pCi/g	0.9835	Y	241.7	1	1.495	IDENTIFIED	13.07	<input checked="" type="checkbox"/>
Radium-226	✓	1.037	0.08248	pCi/g	0.1022	Y	609.5	4	1.186	IDENTIFIED	6.988	<input type="checkbox"/>
Radium-228	✓	1.525	0.1775	pCi/g	0.1988	0.500	911.7	3	1.849	IDENTIFIED	9.865	<input type="checkbox"/>
Sodium-24	HE	3.31E+05	1.03E+06	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4779	0.04016	pCi/g	0.05357	0.080	583.5	1	1.391	IDENTIFIED	7.703	<input type="checkbox"/>
Thorium-228	NR	1.53	0.07856	pCi/g	0.08785	N	238.6	4	1.099	IDENTIFIED	3.463	<input type="checkbox"/>
Thorium-230	NR	1.037	0.08248	pCi/g	0.1022	N	609.5	4	1.186	IDENTIFIED	6.988	<input type="checkbox"/>
Thorium-232	NR	1.525	0.1775	pCi/g	0.1988	N	911.7	3	1.849	IDENTIFIED	9.865	<input type="checkbox"/>
Tin-126	INT	0.275	0.0549	pCi/g	0.1298	N	87.03	3	1.083	IDENTIFIED	19.15	<input type="checkbox"/>
Titanium-44	✓	0.197	0.02361	pCi/g	0.0785	N	0	7	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-234	NR	1.037	0.08248	pCi/g	0.1022	N	609.5	4	1.186	IDENTIFIED	6.988	<input type="checkbox"/>
Zirconium-97	HE	3.02E+06	2.34E+06	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
243630007	22-DEC-09 12:00	07-JAN-10 13:23	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	1.703	0.19	pCi/g	0.1962	N	910.6	3	1.387	IDENTIFIED	9.349	<input type="checkbox"/>
Americium-243	0.3715	0.0329	pCi/g	0.07442	N	74.68	1	0.9019	IDENTIFIED	7.876	<input type="checkbox"/>
Annihilation Rad.	0.105	0.03315	pCi/g	0.04164	N	510.3	1	1.394	IDENTIFIED	31.12	<input type="checkbox"/>
Barium-137m	0.2619	0.02921	pCi/g	0.05959	N	661	2	1.306	IDENTIFIED	10.1	<input type="checkbox"/>
Bismuth-211	4.524	0.3743	pCi/g	0.3005	Y	351.5	4	1.126	IDENTIFIED	5.007	<input checked="" type="checkbox"/>
Bismuth-212	1.49	0.2349	pCi/g	0.3936	N	726.8	1	1.181	IDENTIFIED	14.78	<input type="checkbox"/>
Bismuth-214	1.403	0.1203	pCi/g	0.09861	0.200	608.7	4	1.432	IDENTIFIED	6.442	<input type="checkbox"/>
Cadmium-109	4.341	0.4926	pCi/g	0.9432	Y	87.04	3	1.181	IDENTIFIED	10.34	<input checked="" type="checkbox"/>
Cerium-143	1269	206.3	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-137	0.2769	0.03089	pCi/g	0.063	0.100	661	2	1.306	IDENTIFIED	10.1	<input type="checkbox"/>
Gross Gamma	9.601	1.517	pCi/g	3.935	N	0	0				<input type="checkbox"/>
Iodine-123	1.83E+06	8.02E+06	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135	2.87E+15	0	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	1.792	0.1374	pCi/g	0.08254	0.100	238.3	4	1.005	IDENTIFIED	3.151	<input type="checkbox"/>
Lead-214	1.574	0.1365	pCi/g	0.1048	0.100	351.5	4	1.126	IDENTIFIED	5.007	<input type="checkbox"/>
Lutetium-177	3.783	0.7249	pCi/g	2.203	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	1.251	0.1919	pCi/g	0.2749	N	87.04	3	1.181	IDENTIFIED	10.34	<input type="checkbox"/>
Niobium-97	1.25E+05	1.15E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	1.792	0.1374	pCi/g	0.08254	N	238.3	4	1.005	IDENTIFIED	3.151	<input type="checkbox"/>
Polonium-214	1.574	0.1365	pCi/g	0.1048	N	351.5	4	1.126	IDENTIFIED	5.007	<input type="checkbox"/>
Polonium-216	1.792	0.1374	pCi/g	0.08254	N	238.3	4	1.005	IDENTIFIED	3.151	<input type="checkbox"/>
Polonium-218	1.574	0.1365	pCi/g	0.1048	N	351.5	4	1.126	IDENTIFIED	5.007	<input type="checkbox"/>
Potassium-40	20.51	1.148	pCi/g	0.516	1.00	1460	1	1.929	IDENTIFIED	3.558	<input type="checkbox"/>
Radium-224	2.621	0.5286	pCi/g	0.9395	Y	240.6	1	1.246	IDENTIFIED	19.03	<input checked="" type="checkbox"/>
Radium-226	1.403	0.1203	pCi/g	0.09861	Y	608.7	4	1.432	IDENTIFIED	6.442	<input type="checkbox"/>
Radium-228	1.703	0.19	pCi/g	0.1962	0.500	910.6	3	1.387	IDENTIFIED	9.349	<input type="checkbox"/>
Rhenium-188	0.2689	0.1091	pCi/g	0.2502	N	153.7	1	1.872	IDENTIFIED	40.31	<input type="checkbox"/>
Thallium-208	0.4845	0.04702	pCi/g	0.05361	0.080	582.6	1	1.116	IDENTIFIED	8.063	<input type="checkbox"/>
Thorium-228	1.82	0.1397	pCi/g	0.08387	N	238.3	4	1.005	IDENTIFIED	3.151	<input type="checkbox"/>
Thorium-230	1.403	0.1203	pCi/g	0.09861	N	608.7	4	1.432	IDENTIFIED	6.442	<input type="checkbox"/>
Thorium-232	1.703	0.19	pCi/g	0.1962	N	910.6	3	1.387	IDENTIFIED	9.349	<input type="checkbox"/>
Thorium-234	1.823	0.6399	pCi/g	1.62	2.00	63.01	2	0.8132	IDENTIFIED	34.01	<input type="checkbox"/>
Tin-126	0.4261	0.04835	pCi/g	0.09288	N	87.04	3	1.181	IDENTIFIED	10.34	<input type="checkbox"/>

Titanium-44 *LA* 0.3897 0.02662 pCi/g 0.05779 N 0 7 0 FAIL_ABUND 0 ☐
 Total Uranium 5.4403 1.90E-06 ug/g 2.4116 N 0 ☐
 Uranium-234 *NR* 1.403 0.1203 pCi/g 0.09861 N 608.7 4 1.432 IDENTIFIED 6.442 ☐
 Uranium-238 HE 1.823 0.6399 pCi/g 1.62 N 63.01 2 0.8132 IDENTIFIED 34.01 ☐
 Zirconium-97 HE 2.16E+06 2.37E+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
243630008	22-DEC-09 12:00	07-JAN-10 13:24	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>NR</i>	1.551	0.1617	pCi/g	0.1928	N	910.5 3	1.891	IDENTIFIED 8.862	<input type="checkbox"/>	
Americium-243 <i>NR</i>	0.3702	0.03941	pCi/g	0.08755	N	74.72 1	0.9187	IDENTIFIED 10.09	<input type="checkbox"/>	
Annihilation Rad.	0.169	0.03425	pCi/g	0.0516	N	510.6 1	1.646	IDENTIFIED 20.04	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	4.194	0.2676	pCi/g	0.3254	Y	351.6 4	1.34	IDENTIFIED 5.553	<input checked="" type="checkbox"/>	<i>NR</i>
Bismuth-212 <i>NR</i>	1.262	0.2632	pCi/g	0.7145	N	0 11 0	FAIL_ABUND 0	<input type="checkbox"/>		
Bismuth-214 <i>✓</i>	1.355	0.1042	pCi/g	0.1189	0.200	608.9 4	1.323	IDENTIFIED 6.498	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	4.236	0.6128	pCi/g	1.153	Y	87.1 3	1.553	IDENTIFIED 13.96	<input checked="" type="checkbox"/>	<i>NR</i>
Cerium-143	1.385	207.9	pCi/g	0	N	0 11 0	SHORT_HLIF 0	<input type="checkbox"/>		
Europium-155 HE	0.1896	0.06957	pCi/g	0.1737	N	105.6 1	1.402	IDENTIFIED 36.53	<input type="checkbox"/>	
Gross Gamma	8.991	1.38	pCi/g	3.054	N	0			<input type="checkbox"/>	
Iodine-123 HE	1.11E+07	9.19E+06	pCi/g	0	N	0 11 0	SHORT_HLIF 0	<input type="checkbox"/>		
Iodine-133 HE	2458	6284	pCi/g	0	N	0 11 0	SHORT_HLIF 0	<input type="checkbox"/>		
Iodine-135	2.57E+16	0	pCi/g	0	N	0 11 0	SHORT_HLIF 0	<input type="checkbox"/>		
Krypton-85 HE	14.51	4.066	pCi/g	13.51	N	0 11 0	NOT_IDENTI 0	<input type="checkbox"/>		
Lead-212 <i>✓</i>	1.754	0.08447	pCi/g	0.08901	0.100	238.4 4	1.068	IDENTIFIED 3.255	<input type="checkbox"/>	
Lead-214 <i>✓</i>	1.459	0.1006	pCi/g	0.1135	0.100	351.6 4	1.34	IDENTIFIED 5.553	<input type="checkbox"/>	
Lutetium-177 HE	3.815	1.029	pCi/g	2.271	N	0 11 0	FAIL_ABUND 0	<input type="checkbox"/>		
Neptunium-237 <i>INT</i>	1.221	0.217	pCi/g	0.3379	N	87.1 3	1.553	IDENTIFIED 13.96	<input type="checkbox"/>	
Polonium-212 <i>NR</i>	1.754	0.08447	pCi/g	0.08901	N	238.4 4	1.068	IDENTIFIED 3.255	<input type="checkbox"/>	
Polonium-214 <i>NR</i>	1.459	0.1006	pCi/g	0.1135	N	351.6 4	1.34	IDENTIFIED 5.553	<input type="checkbox"/>	
Polonium-216 <i>NR</i>	1.754	0.08447	pCi/g	0.08901	N	238.4 4	1.068	IDENTIFIED 3.255	<input type="checkbox"/>	
Polonium-218 <i>NR</i>	1.459	0.1006	pCi/g	0.1135	N	351.6 4	1.34	IDENTIFIED 5.553	<input type="checkbox"/>	
Potassium-40 <i>✓</i>	19.83	1.028	pCi/g	0.4142	1.00	1460 1	2.243	IDENTIFIED 3.762	<input type="checkbox"/>	
Radium-224 <i>INT</i>	3.782	0.5387	pCi/g	1.013	Y	241.4 1	1.479	IDENTIFIED 13.98	<input checked="" type="checkbox"/>	<i>NR</i>
Radium-226 <i>✓</i>	1.355	0.1042	pCi/g	0.1189	Y	608.9 4	1.323	IDENTIFIED 6.498	<input type="checkbox"/>	
Radium-228 <i>✓</i>	1.551	0.1617	pCi/g	0.1928	0.500	910.5 3	1.891	IDENTIFIED 8.862	<input type="checkbox"/>	
Sodium-24 HE	7.74E+05	1.03E+06	pCi/g	0	N	0 11 0	SHORT_HLIF 0	<input type="checkbox"/>		
Strontium-85 <i>LA</i>	0.07512	0.02106	pCi/g	0.06997	Y	0 11 0	NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI	Date rejected due to low abundance.
Thallium-208 <i>✓</i>	0.5557	0.04898	pCi/g	0.0616	0.080	582.8 1	1.516	IDENTIFIED 8.056	<input type="checkbox"/>	
Thorium-228 <i>NR</i>	1.782	0.08584	pCi/g	0.09044	N	238.4 4	1.068	IDENTIFIED 3.255	<input type="checkbox"/>	
Thorium-230 <i>NR</i>	1.355	0.1042	pCi/g	0.1189	N	608.9 4	1.323	IDENTIFIED 6.498	<input type="checkbox"/>	
Thorium-232 <i>NR</i>	1.551	0.1617	pCi/g	0.1928	N	910.5 3	1.891	IDENTIFIED 8.862	<input type="checkbox"/>	
Thorium-234 <i>✓</i>	2.441	1.064	pCi/g	2.132	2.00	62.94 2	1.095	IDENTIFIED 42.74	<input type="checkbox"/>	
Tin-126 <i>INT</i>	0.4158	0.06015	pCi/g	0.1137	N	87.1 3	1.553	IDENTIFIED 13.96	<input type="checkbox"/>	
Titanium-44 <i>LA</i>	0.4377	0.03232	pCi/g	0.07668	N	0 11 0	FAIL_ABUND 0	<input type="checkbox"/>		
Total Uranium	7.3505	3.17E-06	ug/g	3.1743	N	0			<input type="checkbox"/>	
Uranium-234 <i>NR</i>	1.355	0.1042	pCi/g	0.1189	N	608.9 4	1.323	IDENTIFIED 6.498	<input type="checkbox"/>	
Uranium-238 HE	2.441	1.064	pCi/g	2.132	N	62.94 2	1.095	IDENTIFIED 42.74	<input type="checkbox"/>	
Zirconium-97	1.47E+07	2.61E+06	pCi/g	0	N	0 11 0	SHORT_HLIF 0	<input type="checkbox"/>		

*** = 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
243630009	22-DEC-09 12:00	07-JAN-10 13:24	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>NR</i>	1.631	0.1539	pCi/g	0.1795	N	910.7 3	1.42	IDENTIFIED 7.333	<input type="checkbox"/>	
Americium-243 <i>INT</i>	0.3038	0.02975	pCi/g	0.07159	N	74.79 1	0.8246	IDENTIFIED 8.87	<input type="checkbox"/>	
Annihilation Rad.	0.1933	0.03141	pCi/g	0.03725	N	510.3 1	1.736	IDENTIFIED 15.54	<input type="checkbox"/>	

Bismuth-211	INT	3.907	0.2841	pCi/g	0.2744	Y	351.7	4	1.217	IDENTIFIED	4.804	<input checked="" type="checkbox"/>	UF
Bismuth-212	LA	1.21	0.2143	pCi/g	0.649	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.127	0.09379	pCi/g	0.08577	0.200	608.9	4	1.42	IDENTIFIED	6.426	<input type="checkbox"/>	
Cadmium-109	INT	2.971	0.4207	pCi/g	1.01	Y	87.23	3	1.052	IDENTIFIED	13.33	<input checked="" type="checkbox"/>	UF
Cerium-143		935.3	164.6	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.085	0.02586	pCi/g	0.08288	0.100	0	8	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gross Gamma		8.163	1.275	pCi/g	3.051	N	0					<input type="checkbox"/>	
Lead-212	✓	1.631	0.109	pCi/g	0.07772	0.100	238.4	4	1.005	IDENTIFIED	3.102	<input type="checkbox"/>	
Lead-214	✓	1.359	0.105	pCi/g	0.09174	0.100	351.7	4	1.217	IDENTIFIED	4.804	<input type="checkbox"/>	
Lutetium-177	HE	2.931	0.6915	pCi/g	1.958	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	INT	0.8564	0.15	pCi/g	0.2957	N	87.23	3	1.052	IDENTIFIED	13.33	<input type="checkbox"/>	
Polonium-212	NR	1.631	0.109	pCi/g	0.07772	N	238.4	4	1.005	IDENTIFIED	3.102	<input type="checkbox"/>	
Polonium-214	NR	1.359	0.105	pCi/g	0.09174	N	351.7	4	1.217	IDENTIFIED	4.804	<input type="checkbox"/>	
Polonium-216	NR	1.631	0.109	pCi/g	0.07772	N	238.4	4	1.005	IDENTIFIED	3.102	<input type="checkbox"/>	
Polonium-218	NR	1.359	0.105	pCi/g	0.09174	N	351.7	4	1.217	IDENTIFIED	4.804	<input type="checkbox"/>	
Potassium-40	✓	20.56	1.134	pCi/g	0.3755	1.00	1460	1	1.923	IDENTIFIED	3.335	<input type="checkbox"/>	
Radium-224	INT	4.256	0.5511	pCi/g	0.8845	Y	241.4	1	1.578	IDENTIFIED	11.71	<input checked="" type="checkbox"/>	UF
Radium-226	✓	1.127	0.09379	pCi/g	0.08577	Y	608.9	4	1.42	IDENTIFIED	6.426	<input type="checkbox"/>	
Radium-228	✓	1.631	0.1539	pCi/g	0.1795	0.500	910.7	3	1.42	IDENTIFIED	7.333	<input type="checkbox"/>	
Sodium-24	HE	1.51E+06	8.45E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-200	HE	79	318.9	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.4807	0.04367	pCi/g	0.04713	0.080	582.8	1	1.211	IDENTIFIED	7.612	<input type="checkbox"/>	
Thorium-228	NR	1.658	0.1107	pCi/g	0.07898	N	238.4	4	1.005	IDENTIFIED	3.102	<input type="checkbox"/>	
Thorium-230	NR	1.127	0.09379	pCi/g	0.08577	N	608.9	4	1.42	IDENTIFIED	6.426	<input type="checkbox"/>	
Thorium-232	NR	1.631	0.1539	pCi/g	0.1795	N	910.7	3	1.42	IDENTIFIED	7.333	<input type="checkbox"/>	
Tin-126	INT	0.2916	0.04129	pCi/g	0.09959	N	87.23	3	1.052	IDENTIFIED	13.33	<input type="checkbox"/>	
Titanium-44	LA	0.3361	0.02537	pCi/g	0.06232	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		3.5192	2.40E-06	ug/g	2.5909	N	0					<input type="checkbox"/>	
Uranium-234	NR	1.127	0.09379	pCi/g	0.08577	N	608.9	4	1.42	IDENTIFIED	6.426	<input type="checkbox"/>	
Zirconium-97		1.13E+07	2.14E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quas	Zero?	queue	
243630010	22-DEC-09 12:00	07-JAN-10 13:28	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.572	0.1597	pCi/g	0.1731	N	911.4	3	1.717	IDENTIFIED 7.701	<input type="checkbox"/>
Americium-243	INT	0.3318	0.03863	pCi/g	0.09395	N	75.22	1	1.011	IDENTIFIED 10.86	<input type="checkbox"/>
Annihilation Rad.		0.09445	0.02782	pCi/g	0.03588	N	511.1	1	1.33	IDENTIFIED 29.27	<input type="checkbox"/>
Barium-137m	NR	0.1947	0.02231	pCi/g	0.05016	N	661.8	2	1.815	IDENTIFIED 10.81	<input type="checkbox"/>
Bismuth-211	INT	4.018	0.2369	pCi/g	0.299	Y	352.3	4	1.38	IDENTIFIED 4.946	<input checked="" type="checkbox"/>
Bismuth-212	LA	1.042	0.2094	pCi/g	0.5579	N	0	13	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.128	0.08448	pCi/g	0.09942	0.200	609.5	4	1.661	IDENTIFIED 6.011	<input type="checkbox"/>
Cadmium-109	INT	2.747	0.5197	pCi/g	1.25	Y	87.56	3	1.372	IDENTIFIED 18.35	<input checked="" type="checkbox"/>
Cerium-141	HE	0.1089	0.03581	pCi/g	0.0904	N	144.1	2	1.434	IDENTIFIED 32.76	<input type="checkbox"/>
Cerium-143		592.4	131.1	pCi/g	0	N	0	13	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-137	✓	0.2058	0.0236	pCi/g	0.05302	0.100	661.8	2	1.815	IDENTIFIED 10.81	<input type="checkbox"/>
Gross Gamma		8.173	1.11	pCi/g	2.141	N	0				<input type="checkbox"/>
Iodine-133	HE	1525	5471	pCi/g	0	N	0	13	0	SHORT_HLIF 0	<input type="checkbox"/>
Krypton-85	LA	22.1	3.821	pCi/g	12.94	N	0	13	0	NOT_IDENTI 0	<input type="checkbox"/>
Lead-212	✓	1.469	0.08043	pCi/g	0.08331	0.100	238.9	4	1.287	IDENTIFIED 4.15	<input type="checkbox"/>
Lead-214	✓	1.398	0.09012	pCi/g	0.0964	0.100	352.3	4	1.38	IDENTIFIED 4.946	<input type="checkbox"/>
Lutetium-177	LA	4.229	0.8792	pCi/g	2.004	N	0	13	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	INT	0.7917	0.1706	pCi/g	0.4196	N	87.56	3	1.372	IDENTIFIED 18.35	<input type="checkbox"/>
Niobium-95	HE	0.08007	0.02018	pCi/g	0.06721	N	0	13	0	NOT_IDENTI 0	<input type="checkbox"/>
Polonium-212	NR	1.469	0.08043	pCi/g	0.08331	N	238.9	4	1.287	IDENTIFIED 4.15	<input type="checkbox"/>
Polonium-214	NR	1.398	0.09012	pCi/g	0.0964	N	352.3	4	1.38	IDENTIFIED 4.946	<input type="checkbox"/>
Polonium-216	NR	1.469	0.08043	pCi/g	0.08331	N	238.9	4	1.287	IDENTIFIED 4.15	<input type="checkbox"/>
Polonium-218	NR	1.398	0.09012	pCi/g	0.0964	N	352.3	4	1.38	IDENTIFIED 4.946	<input type="checkbox"/>

Potassium-40	✓	21.56	1.043	pCi/g	0.4054	1.00	1461	1	2.254	IDENTIFIED	3.001	<input type="checkbox"/>	
Radium-224	✓	2.622	0.3884	pCi/g	1.227	Y	242.1	1	1.614	IDENTIFIED	14.55	<input checked="" type="checkbox"/>	✓
Radium-226	✓	1.128	0.08448	pCi/g	0.09942	Y	609.5	4	1.661	IDENTIFIED	6.011	<input type="checkbox"/>	
Radium-228	✓	1.572	0.1597	pCi/g	0.1731	0.500	911.4	3	1.717	IDENTIFIED	7.701	<input type="checkbox"/>	
Sodium-24	HE	8.49E+05	9.42E+05	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>	
Strontium-85	LA	0.1144	0.01978	pCi/g	0.067	Y	0	13	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Technetium-99m		1.03E+17	0	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-200	HE	261	334.6	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.4876	0.03864	pCi/g	0.04745	0.080	583.5	1	1.488	IDENTIFIED	6.886	<input type="checkbox"/>	
Thorium-228	NE	1.492	0.08172	pCi/g	0.08465	N	238.9	4	1.287	IDENTIFIED	4.15	<input type="checkbox"/>	
Thorium-230	NE	1.128	0.08448	pCi/g	0.09942	N	609.5	4	1.661	IDENTIFIED	6.011	<input type="checkbox"/>	
Thorium-232	NE	1.572	0.1597	pCi/g	0.1731	N	911.4	3	1.717	IDENTIFIED	7.701	<input type="checkbox"/>	
Thorium-234	✓	3.202	1.08	pCi/g	2.299	2.00	64.18	2	1.022	IDENTIFIED	32.56	<input type="checkbox"/>	
Tin-126	INT	0.2696	0.05101	pCi/g	0.1365	N	87.56	3	1.372	IDENTIFIED	18.35	<input type="checkbox"/>	
Titanium-44	LA	0.3683	0.02926	pCi/g	0.08608	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		9.6901	3.21E-06	ug/g	3.4228	N	0					<input type="checkbox"/>	
Tungsten-181	HE	0.9669	0.3171	pCi/g	0.6737	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>	
Uranium-234	NE	1.128	0.08448	pCi/g	0.09942	N	609.5	4	1.661	IDENTIFIED	6.011	<input type="checkbox"/>	
Uranium-235	✓	0.356	0.1202	pCi/g	0.3096	0.500	144.1	2	1.434	IDENTIFIED	32.76	<input checked="" type="checkbox"/>	✓
Uranium-238	HE	3.202	1.08	pCi/g	2.299	N	64.18	2	1.022	IDENTIFIED	32.56	<input type="checkbox"/>	
Zirconium-97	HE	4.10E+06	2.15E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>	

*** = 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
243630011	22-DEC-09 12:00	07-JAN-10 13:28	16.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.854	0.2017	pCi/g	0.1973	N	911.6	3	1.429	IDENTIFIED	8.987
Americium-243	0.4341	0.04003	pCi/g	0.07947	N	74.99	1	1.137	IDENTIFIED	8.29
Annihilation Rad.	0.1018	0.03976	pCi/g	0.0475	N	511.4	1	1.614	IDENTIFIED	38.76
Barium-137m	0.2456	0.03367	pCi/g	0.06249	N	661.8	2	1.184	IDENTIFIED	12.76
Bismuth-210	4.06	1.657	pCi/g	3.38	N	46.45	3	1.516	IDENTIFIED	40.53
Bismuth-211	4.86	0.3422	pCi/g	0.3409	Y	351.9	4	1.202	IDENTIFIED	5.167
Bismuth-212	0.9565	0.2646	pCi/g	0.6606	N	0	11	0	FAIL_ABUND	0
Bismuth-214	1.389	0.1116	pCi/g	0.09912	0.200	609.5	4	1.285	IDENTIFIED	5.793
Cadmium-109	4.616	0.5608	pCi/g	1.072	Y	87.31	3	1.394	IDENTIFIED	11.21
Cerium-143	1045	184.4	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Cesium-134	0.1076	0.03925	pCi/g	0.09874	0.100	0	11	0	FAIL_ABUND	0
Cesium-137	0.2596	0.03559	pCi/g	0.06605	0.100	661.8	2	1.184	IDENTIFIED	12.76
Gross Gamma	10.16	1.65	pCi/g	4.987	N	0				
Krypton-85	16.47	4.346	pCi/g	14.36	N	0	11	0	NOT_IDENTI	0
Lead-210	4.06	1.657	pCi/g	3.38	N	46.45	3	1.516	IDENTIFIED	40.53
Lead-212	1.899	0.1184	pCi/g	0.08628	0.100	238.7	4	1.089	IDENTIFIED	3.254
Lead-214	1.691	0.127	pCi/g	0.1118	0.100	351.9	4	1.202	IDENTIFIED	5.167
Lutetium-177	3.9	0.9311	pCi/g	2.362	N	0	11	0	FAIL_ABUND	0
Neptunium-237	1.33	0.2121	pCi/g	0.3122	N	87.31	3	1.394	IDENTIFIED	11.21
Niobium-97	1.02E+05	1.26E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Polonium-210	4.06	1.655	pCi/g	3.38	N	46.45	3	1.516	IDENTIFIED	40.53
Polonium-212	1.899	0.1184	pCi/g	0.08628	N	238.7	4	1.089	IDENTIFIED	3.254
Polonium-214	1.691	0.127	pCi/g	0.1118	N	351.9	4	1.202	IDENTIFIED	5.167
Polonium-216	1.899	0.1184	pCi/g	0.08628	N	238.7	4	1.089	IDENTIFIED	3.254
Polonium-218	1.691	0.127	pCi/g	0.1118	N	351.9	4	1.202	IDENTIFIED	5.167
Potassium-40	20.94	1.24	pCi/g	0.4111	1.00	1461	1	1.604	IDENTIFIED	4.006
Radium-224	4.803	0.6251	pCi/g	0.9816	Y	241.7	1	1.535	IDENTIFIED	12.08
Radium-226	1.389	0.1116	pCi/g	0.09912	Y	609.5	4	1.285	IDENTIFIED	5.793
Radium-228	1.854	0.2017	pCi/g	0.1973	0.500	911.6	3	1.429	IDENTIFIED	8.987
Sodium-24	5.51E+05	1.00E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Strontium-85	0.08529	0.02251	pCi/g	0.07435	Y	0	11	0	NOT_IDENTI	0
Thallium-200	356.6	400.8	pCi/g	0	N	0	11	0	SHORT_HLIF	0

Thallium-208	✓	0.5524	0.04793	pCi/g	0.06002	0.080	583.5	1	1.425	IDENTIFIED	6.988	☐
Thorium-228	NR	1.93	0.1203	pCi/g	0.08767	N	238.7	4	1.089	IDENTIFIED	3.254	☐
Thorium-230	NR	1.389	0.1116	pCi/g	0.09912	N	609.5	4	1.285	IDENTIFIED	5.793	☐
Thorium-232	NR	1.854	0.2017	pCi/g	0.1973	N	911.6	3	1.429	IDENTIFIED	8.987	☐
Tin-126	INT	0.4531	0.05505	pCi/g	0.1056	N	87.31	3	1.394	IDENTIFIED	11.21	☐
Titanium-44	LA	0.4529	0.03134	pCi/g	0.08173	N	0	11	0	FAIL_ABUND	0	☐
Total Uranium		3.6243	2.24E-06	ug/g	2.5948	N	0					☐
Uranium-234	NR	1.389	0.1116	pCi/g	0.09912	N	609.5	4	1.285	IDENTIFIED	5.793	☐
Zirconium-97	HE	2.59E+06	2.53E+06	pCi/g	0	N	0	11	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
1202006611		07-JAN-10 13:29	0	MB	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Iodine-123	HE	139.8	75.03	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Iodine-135	HE	6.67E+05	7.17E+06	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Niobium-97	HE	12.94	18.07	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Sodium-24	HE	65.8	45.6	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Technetium-99m	HE	1.21E+06	6.25E+06	pCi/g	0	N	0	5	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
1202006612	22-DEC-09 12:00	07-JAN-10 13:31	16.1	DUP	LOAD	1		LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.555	0.1749	pCi/g	0.2296	N	911.4	3	1.428	IDENTIFIED	9.719	☐	
Americium-243	INT	0.4681	0.05549	pCi/g	0.1001	N	74.86	1	1.617	IDENTIFIED	11.17	☐	
Annihilation Rad.		0.2328	0.04454	pCi/g	0.04281	N	510.8	1	2.255	IDENTIFIED	18.9	☐	
Barium-137m	NR	0.185	0.03628	pCi/g	0.06965	N	661.8	2	1.843	IDENTIFIED	19.39	☐	
Bismuth-211	INT	4.728	0.3102	pCi/g	0.3518	Y	351.7	4	1.391	IDENTIFIED	5.731	☐	✓
Bismuth-212	HE	1.268	0.3385	pCi/g	0.7673	N	0	11	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.311	0.1069	pCi/g	0.112	0.200	609.2	4	1.348	IDENTIFIED	7.14	☐	
Cadmium-109	INT	2.906	0.5931	pCi/g	1.407	Y	87.25	3	1.279	IDENTIFIED	19.92	☐	✓
Cerium-143		1821	262.5	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Cesium-137	✓	0.1956	0.03836	pCi/g	0.07363	0.100	661.8	2	1.843	IDENTIFIED	19.39	☐	
Gross Gamma		8.982	1.408	pCi/g	3.458	N	0					☐	
Iodine-135		1.06E+16	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Krypton-85	LA	24.49	4.007	pCi/g	15.57	N	0	11	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.801	0.08882	pCi/g	0.1004	0.100	238.4	4	1.406	IDENTIFIED	3.361	☐	
Lead-214	✓	1.645	0.1161	pCi/g	0.1226	0.100	351.7	4	1.391	IDENTIFIED	5.731	☐	
Lutetium-177	LA	4.345	0.8277	pCi/g	2.519	N	0	11	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.8376	0.1916	pCi/g	0.4117	N	87.25	3	1.279	IDENTIFIED	19.92	☐	
Niobium-95m	LA	0.6729	0.09262	pCi/g	0.3051	N	0	11	0	NOT_IDENTI	0	☐	
Niobium-97	HE	2.50E+05	1.58E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.801	0.08882	pCi/g	0.1004	N	238.4	4	1.406	IDENTIFIED	3.361	☐	
Polonium-214	NR	1.645	0.1161	pCi/g	0.1226	N	351.7	4	1.391	IDENTIFIED	5.731	☐	
Polonium-216	NR	1.801	0.08882	pCi/g	0.1004	N	238.4	4	1.406	IDENTIFIED	3.361	☐	
Polonium-218	NR	1.645	0.1161	pCi/g	0.1226	N	351.7	4	1.391	IDENTIFIED	5.731	☐	
Potassium-40	✓	20.28	1.097	pCi/g	0.6054	1.00	1461	1	2.025	IDENTIFIED	3.922	☐	
Radium-224	INT	5.479	0.704	pCi/g	1.141	Y	241.5	1	1.798	IDENTIFIED	12.53	☐	✓
Radium-226	✓	1.311	0.1069	pCi/g	0.112	Y	609.2	4	1.348	IDENTIFIED	7.14	☐	
Radium-228	✓	1.555	0.1749	pCi/g	0.2296	0.500	911.4	3	1.428	IDENTIFIED	9.719	☐	
Strontium-85	LA	0.1268	0.02075	pCi/g	0.08062	Y	0	11	0	NOT_IDENTI	0	☐	UI Data rejected due to low abundance.
Technetium-99m		6.62E+16	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5599	0.0486	pCi/g	0.06497	0.080	583.1	1	1.4	IDENTIFIED	7.985	☐	
Thorium-228	NR	1.83	0.09025	pCi/g	0.102	N	238.4	4	1.406	IDENTIFIED	3.361	☐	
Thorium-230	NR	1.311	0.1069	pCi/g	0.112	N	609.2	4	1.348	IDENTIFIED	7.14	☐	
Thorium-232	NR	1.555	0.1749	pCi/g	0.2296	N	911.4	3	1.428	IDENTIFIED	9.719	☐	
Tin-126	INT	0.2852	0.05822	pCi/g	0.1387	N	87.25	3	1.279	IDENTIFIED	19.92	☐	

Titanium-44 LP 0.4051 0.03126 pCi/g 0.09362 N 0 11 0 FAIL_ABUND 0 ☐
 Uranium-234 N 1.311 0.1069 pCi/g 0.112 N 609.2 4 1.348 IDENTIFIED 7.14 ☐
 Zirconium-97 1.77E+07 2.97E+06 pCi/g 0 N 0 11 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
1202006613		07-JAN-10 13:32	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	1.134	0.2839	pCi/g	0.6289	N	910.8 3	1.851	IDENTIFIED 24.41	<input type="checkbox"/>	
Americium-241 ✓	15.95	1.235	pCi/g	1.069	0.200	58.89 1	1.238	IDENTIFIED 4.308	<input type="checkbox"/>	
Annihilation Rad. HE	0.1439	0.05827	pCi/g	0.1163	N	510.9 1	1.84	IDENTIFIED 40.4	<input type="checkbox"/>	
Barium-137m	5.4	0.1981	pCi/g	0.1443	N	661.3 2	1.681	IDENTIFIED 2.669	<input type="checkbox"/>	
Bismuth-211	3.203	0.415	pCi/g	0.8056	Y	351.4 4	1.576	IDENTIFIED 12.49	<input type="checkbox"/>	
Bismuth-214	1.11	0.1539	pCi/g	0.2549	0.200	609.2 4	1.698	IDENTIFIED 13.36	<input type="checkbox"/>	
Cadmium-109	38.89	2.956	pCi/g	3.15	Y	87.45 3	1.34	IDENTIFIED 4.953	<input type="checkbox"/>	
Cerium-143 HE	20.85	6.055	pCi/g	13.89	N	0 7 0		FAIL_ABUND 0	<input type="checkbox"/>	
Cesium-137 ✓	5.708	0.2099	pCi/g	0.1525	0.100	661.3 2	1.681	IDENTIFIED 2.669	<input type="checkbox"/>	
Cobalt-57 ✓	0.1986	0.04684	pCi/g	0.08619	N	121.6 1	1.132	IDENTIFIED 23.3	<input type="checkbox"/>	
Cobalt-60 ✓	6.635	0.3209	pCi/g	0.1142	0.100	1332 1	2.125	IDENTIFIED 3.025	<input type="checkbox"/>	
Gross Gamma	29.33	3.739	pCi/g	5.258	N	0			<input type="checkbox"/>	
Iodine-123 HE	747.5	408.7	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135 HE	8.41E+06	2.34E+07	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212	1.414	0.1104	pCi/g	0.203	0.100	238.2 4	1.362	IDENTIFIED 6.619	<input type="checkbox"/>	
Lead-214	1.114	0.1473	pCi/g	0.2807	0.100	351.4 4	1.576	IDENTIFIED 12.49	<input type="checkbox"/>	
Neptunium-237	11.35	1.455	pCi/g	0.9448	N	87.45 3	1.34	IDENTIFIED 4.953	<input type="checkbox"/>	
Niobium-95m	1.002	0.1587	pCi/g	0.5455	N	0 7 0		NOT_IDENTI 0	<input type="checkbox"/>	
Niobium-97	1761	122.4	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Polonium-212	1.414	0.1104	pCi/g	0.203	N	238.2 4	1.362	IDENTIFIED 6.619	<input type="checkbox"/>	
Polonium-214	1.114	0.1473	pCi/g	0.2807	N	351.4 4	1.576	IDENTIFIED 12.49	<input type="checkbox"/>	
Polonium-216	1.414	0.1104	pCi/g	0.203	N	238.2 4	1.362	IDENTIFIED 6.619	<input type="checkbox"/>	
Polonium-218	1.114	0.1473	pCi/g	0.2807	N	351.4 4	1.576	IDENTIFIED 12.49	<input type="checkbox"/>	
Radium-224	3.993	1.06	pCi/g	2.309	Y	241.2 1	1.668	IDENTIFIED 26.32	<input type="checkbox"/>	
Radium-226	1.11	0.1539	pCi/g	0.2549	Y	609.2 4	1.698	IDENTIFIED 13.36	<input type="checkbox"/>	
Radium-228	1.134	0.2839	pCi/g	0.6289	0.500	910.8 3	1.851	IDENTIFIED 24.41	<input type="checkbox"/>	
Silver-110m	0.8463	0.06885	pCi/g	0.259	N	0 7 0		NOT_IDENTI 0	<input type="checkbox"/>	
Thallium-208	0.4009	0.07212	pCi/g	0.1479	0.080	582.7 1	1.5	IDENTIFIED 17.7	<input type="checkbox"/>	
Thorium-228	1.425	0.1112	pCi/g	0.2045	N	238.2 4	1.362	IDENTIFIED 6.619	<input type="checkbox"/>	
Thorium-230	1.11	0.1539	pCi/g	0.2549	N	609.2 4	1.698	IDENTIFIED 13.36	<input type="checkbox"/>	
Thorium-232 HE	1.134	0.2839	pCi/g	0.6289	N	910.8 3	1.851	IDENTIFIED 24.41	<input type="checkbox"/>	
Tin-126	3.866	0.2939	pCi/g	0.3156	N	87.45 3	1.34	IDENTIFIED 4.953	<input type="checkbox"/>	
Uranium-234	1.11	0.1539	pCi/g	0.2549	N	609.2 4	1.698	IDENTIFIED 13.36	<input type="checkbox"/>	
Zirconium-97 HE	1791	1411	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	

*** = Number of isotopes identified with a keyline at this energy.

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
937702	243630011	SAMPLE	07-JAN-10	Gross Gamma	10.16	1.65	pCi/g	2.417	N
				Krypton-85	16.47	4.346	pCi/g	7.183	N
				Lanthanum-140	0.121	0.04277	pCi/g	0.08103	Y
				Lead-212	1.899	0.1184	pCi/g	0.04316	0.100
				Lead-214	1.891	0.127	pCi/g	0.05591	0.100
				Mercury-203	0.04271	0.02343	pCi/g	0.03686	0.100
				Niobium-97	1.02E+05	1.26E+05	pCi/g	0	N
				Potassium-40	20.94	1.24	pCi/g	0.2057	1.00
				Radium-224	4.803	0.6251	pCi/g	0.4911	Y
				Radium-226	1.389	0.1116	pCi/g	0.04959	Y
				Radium-228	1.854	0.2017	pCi/g	0.08872	0.500
				Sodium-24	5.51E+06	1.00E+06	pCi/g	0	N
				Strontium-85	0.08529	0.02251	pCi/g	0.0372	Y
				Thallium-200	356.6	400.8	pCi/g	0	N
				Thallium-208	0.5524	0.04793	pCi/g	0.03003	0.080
				Thorium-234	1.21	0.7518	pCi/g	0.8717	2.00
				Zirconium-97	2.59E+06	2.53E+06	pCi/g	0	N
937702	1202006811	MB	07-JAN-10	Cadmium-109	0.2275	0.0996	pCi/g	0.1762	Y
				Cesium-137	0.027	0.0204	pCi/g	0.01683	0.100
				Iodine-123	139.8	75.03	pCi/g	0	N
				Iodine-135	6.87E+05	7.17E+06	pCi/g	0	N
				Niobium-97	12.94	18.07	pCi/g	0	N
				Sodium-24	65.8	45.6	pCi/g	0	N
				Technetium-99m	1.21E+06	6.25E+06	pCi/g	0	N
937702	1202006812	DUP	07-JAN-10	Bismuth-211	4.728	0.3102	pCi/g	0.176	Y
				Bismuth-214	1.311	0.1069	pCi/g	0.05804	0.200
				Bromine-77	14.16	7.497	pCi/g	12.72	N
				Cadmium-109	2.906	0.5931	pCi/g	0.704	Y
				Cerium-143	1821	262.5	pCi/g	0	N
				Cesium-134	0.05459	0.02633	pCi/g	0.04842	0.100
				Cesium-137	0.1956	0.03836	pCi/g	0.03684	0.100
				Gross Gamma	8.982	1.408	pCi/g	1.679	N
				Iodine-135	1.06E+16	0	pCi/g	0	N
				Krypton-85	24.49	4.007	pCi/g	7.789	N
				Lead-212	1.801	0.08889	pCi/g	0.05021	0.100
				Lead-214	1.645	0.1161	pCi/g	0.06134	0.100
				Niobium-97	2.50E+06	1.58E+05	pCi/g	0	N

88E
1/10/10

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:10:28.20

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630001.CNF;1
Sample date   : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:09:52.
Sample ID    : G243630001 Sample quantity : 1.21400E+02 GRAM
Detector name : GAM05 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.69 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID      : 937702 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.60*	114	512	1.19	94.19	89	11	1.58E-02	42.8	
2	0	63.13*	131	519	1.11	127.24	123	8	1.81E-02	32.5	
3	1	74.64*	649	533	1.45	150.26	145	22	9.02E-02	8.0	4.82E+00
4	1	77.10*	1037	427	1.30	155.18	145	22	1.44E-01	5.1	
5	0	83.94*	36	491	1.37	168.85	166	8	4.95E-03	110.7	
6	0	87.19*	212	390	1.11	175.35	173	6	2.95E-02	16.1	
7	0	93.06*	397	348	1.82	187.09	184	8	5.52E-02	10.1	
8	0	186.19*	233	272	1.54	373.33	369	10	3.24E-02	15.3	
9	0	209.55	110	289	1.31	420.04	415	11	1.53E-02	31.5	
10	2	238.77*	1276	170	1.28	478.46	472	18	1.77E-01	3.4	1.65E+00
11	2	241.80	291	198	1.75	484.52	472	18	4.04E-02	14.4	
12	0	270.79	94	269	0.69	542.50	536	14	1.31E-02	38.7	
13	0	277.16	64	202	1.27	555.23	550	12	8.88E-03	46.1	
14	0	295.41*	371	196	1.31	591.71	586	12	5.15E-02	9.4	
15	0	338.48	209	154	1.35	677.83	672	11	2.91E-02	13.4	
16	0	351.99*	639	190	1.36	704.84	698	14	8.87E-02	6.1	
17	0	410.83	21	146	0.94	822.49	814	12	2.93E-03	117.5	
18	0	463.66	39	125	1.02	928.10	922	11	5.39E-03	58.3	
19	0	510.81*	99	138	1.89	1022.37	1016	14	1.38E-02	31.3	
20	0	583.48*	346	97	1.20	1167.64	1162	11	4.80E-02	7.7	
21	0	609.51*	396	128	1.59	1219.67	1211	16	5.50E-02	8.3	
22	0	727.37	68	75	1.10	1455.25	1451	13	9.45E-03	28.5	
23	0	772.13	41	93	5.70	1544.72	1535	19	5.65E-03	59.4	
24	0	795.08	54	33	1.64	1590.58	1585	12	7.48E-03	25.9	
25	0	861.39	46	62	1.82	1723.10	1719	15	6.33E-03	42.5	
26	0	911.23*	255	33	1.57	1822.72	1814	17	3.55E-02	8.4	
27	1	964.72	58	56	2.19	1929.60	1921	25	7.99E-03	28.4	1.32E+00
28	1	969.27*	113	50	2.19	1938.69	1921	25	1.56E-02	16.6	
29	0	1120.58*	107	47	2.00	2241.05	2230	18	1.49E-02	17.9	
30	0	1461.25*	735	29	1.82	2921.66	2912	19	1.02E-01	4.1	
31	0	1765.16*	63	12	2.40	3528.66	3522	12	8.70E-03	17.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 7-JAN-2010 15:10:31

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:09:52
Sample ID         : G243630001 Sample quantity      : 121.40 GRAM
Sample type       : SOLID Sample geometry       :
Detector name     : GAMMA5 Detector geometry    : CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.69 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

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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	*	2.123E+01	2.186E+00	6.119E-01	3.806E-02	34.695
CD-109	+	88.03	*	2.298E+00	7.624E-01	1.190E+00	9.060E-02	1.932
SN-126	+	64.28		5.215E-01	3.479E-01	4.708E-01	7.016E-02	1.108
	+	86.94		9.379E-01	4.906E-01	5.570E-01	2.293E-01	1.684
	+	87.57	*	2.256E-01	7.483E-02	1.283E-01	9.770E-03	1.758
TL-208	+	277.35		6.815E-01	6.348E-01	6.556E-01	8.411E-02	1.039
	+	510.84		5.589E-01	3.544E-01	2.630E-01	2.764E-02	2.125
	+	583.14	*	5.622E-01	9.561E-02	7.457E-02	5.487E-03	7.540
	+	860.37		7.123E-01	6.097E-01	4.949E-01	5.022E-02	1.439
BI-210	+	46.50	*	1.139E+00	9.797E-01	9.044E-01	7.055E-02	1.259
PB-210	+	46.50	*	1.139E+00	9.797E-01	9.044E-01	7.055E-02	1.259
PO-210	+	46.50	*	1.139E+00	9.787E-01	9.044E-01	6.083E-02	1.259
BI-211	+	72.87		9.922E+00	2.671E+00	4.200E+00	3.306E-01	2.362
	+	351.07	*	4.343E+00	6.318E-01	3.759E-01	2.979E-02	11.555
PB-212	+	74.81		2.334E+00	4.680E-01	3.841E-01	4.683E-02	6.077
	+	77.11		2.224E+00	2.856E-01	2.294E-01	1.785E-02	9.697
	+	87.30		1.043E+00	3.615E-01	5.929E-01	7.453E-02	1.760
	+	238.63	*	1.855E+00	2.366E-01	1.041E-01	1.123E-02	17.814
	+	300.09		7.843E-01	1.055E+00	1.598E+00	1.699E-01	0.491
PO-212	+	74.81		2.334E+00	4.680E-01	3.841E-01	4.683E-02	6.077
	+	77.11		2.224E+00	2.856E-01	2.294E-01	1.785E-02	9.697
	+	87.30		1.043E+00	3.615E-01	5.929E-01	7.453E-02	1.760
	+	115.19		3.180E+00	3.689E+00	6.177E+00	7.860E-01	0.515
	+	238.63	*	1.855E+00	2.366E-01	1.041E-01	1.123E-02	17.814
	+	300.09		7.843E-01	1.055E+00	1.598E+00	1.699E-01	0.491
BI-214	+	609.31	*	1.217E+00	2.257E-01	1.530E-01	1.282E-02	7.959
	+	1120.29		1.742E+00	6.454E-01	5.038E-01	4.812E-02	3.458
	+	1764.49		1.425E+00	5.082E-01	3.328E-01	1.924E-02	4.281
PB-214	+	74.81		4.022E+00	7.731E-01	6.618E-01	7.133E-02	6.077
	+	77.11		3.813E+00	5.693E-01	3.932E-01	4.282E-02	9.697
	+	87.30		1.787E+00	6.087E-01	1.016E+00	1.101E-01	1.760
	+	241.98		2.543E+00	7.877E-01	6.270E-01	7.066E-02	4.055
	+	295.21		1.473E+00	3.192E-01	2.679E-01	2.929E-02	5.497
	+	351.92	*	1.511E+00	2.335E-01	1.310E-01	1.240E-02	11.529

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		4.022E+00	7.731E-01	6.618E-01	7.133E-02	6.077
	+	77.11		3.813E+00	5.693E-01	3.932E-01	4.282E-02	9.697
	+	87.30		1.787E+00	6.087E-01	1.016E+00	1.101E-01	1.760
	+	241.98		2.543E+00	7.877E-01	6.270E-01	7.066E-02	4.055
	+	295.21		1.473E+00	3.192E-01	2.679E-01	2.929E-02	5.497
	+	351.92	*	1.511E+00	2.335E-01	1.310E-01	1.240E-02	11.529
PO-216	+	74.81		2.334E+00	4.680E-01	3.841E-01	4.683E-02	6.077
	+	77.11		2.224E+00	2.856E-01	2.294E-01	1.785E-02	9.697
	+	87.30		1.043E+00	3.615E-01	5.929E-01	7.453E-02	1.760
	+	238.63	*	1.855E+00	2.366E-01	1.041E-01	1.123E-02	17.814
	+	300.09		7.843E-01	1.055E+00	1.598E+00	1.699E-01	0.491
PO-218	+	74.81		4.022E+00	7.731E-01	6.618E-01	7.133E-02	6.077
	+	77.11		3.813E+00	5.693E-01	3.932E-01	4.282E-02	9.697
	+	87.30		1.787E+00	6.087E-01	1.016E+00	1.101E-01	1.760
	+	241.98		2.543E+00	7.877E-01	6.270E-01	7.066E-02	4.055
	+	295.21		1.473E+00	3.192E-01	2.679E-01	2.929E-02	5.497
	+	351.92	*	1.511E+00	2.335E-01	1.310E-01	1.240E-02	11.529
RA-224	+	240.98	*	4.821E+00	1.469E+00	1.185E+00	1.159E-01	4.069
RA-226	+	609.31	*	1.217E+00	2.257E-01	1.530E-01	1.282E-02	7.959
	+	1120.29		1.742E+00	6.454E-01	5.038E-01	4.812E-02	3.458
	+	1764.49		1.425E+00	5.082E-01	3.328E-01	1.924E-02	4.281
AC-228	+	338.32		1.563E+00	7.670E-01	4.344E-01	1.786E-01	3.598
	+	911.07	*	1.888E+00	3.927E-01	2.766E-01	3.423E-02	6.826
	+	969.11		1.466E+00	5.987E-01	4.484E-01	1.059E-01	3.271
RA-228	+	338.32		1.563E+00	7.670E-01	4.344E-01	1.786E-01	3.598
	+	911.07	*	1.888E+00	3.927E-01	2.766E-01	3.423E-02	6.826
	+	969.11		1.466E+00	5.987E-01	4.484E-01	1.059E-01	3.271
TH-228	+	74.81		2.372E+00	4.215E-01	3.903E-01	3.087E-02	6.077
	+	77.11		2.260E+00	2.902E-01	2.330E-01	1.814E-02	9.697
	+	87.30		1.060E+00	3.517E-01	6.024E-01	4.590E-02	1.760
	+	238.63	*	1.885E+00	2.404E-01	1.058E-01	1.141E-02	17.814
	+	300.09		7.969E-01	1.169E+00	1.624E+00	9.632E-01	0.491
TH-230	+	609.31	*	1.217E+00	2.257E-01	1.529E-01	1.282E-02	7.959
	+	1120.29		1.742E+00	6.453E-01	5.038E-01	4.812E-02	3.458
	+	1764.49		1.425E+00	5.082E-01	3.328E-01	1.924E-02	4.281
TH-232	+	338.32		1.563E+00	4.365E-01	4.344E-01	3.406E-02	3.598
	+	911.07	*	1.888E+00	3.927E-01	2.766E-01	3.423E-02	6.826
	+	969.11		1.466E+00	5.987E-01	4.484E-01	1.059E-01	3.271
TH-234	+	63.29	*	1.317E+00	8.880E-01	1.148E+00	2.040E-01	1.147
	+	92.38		2.930E+00	7.950E-01	9.244E-01	1.661E-01	3.170
U-234	+	609.31	*	1.217E+00	2.257E-01	1.529E-01	1.282E-02	7.959
	+	1120.29		1.742E+00	6.453E-01	5.038E-01	4.812E-02	3.458
	+	1764.49		1.425E+00	5.082E-01	3.328E-01	1.924E-02	4.281
NP-237	+	86.50	*	6.625E-01	2.588E-01	3.997E-01	8.794E-02	1.657
	+	95.87		7.200E-01	9.915E-01	1.452E+00	3.596E-01	0.496
U-238	+	63.29	*	1.317E+00	8.880E-01	1.148E+00	2.040E-01	1.147
	+	92.38		2.930E+00	6.443E-01	9.244E-01	7.734E-02	3.170
AM-243	+	74.67	*	3.784E-01	6.712E-02	6.226E-02	4.876E-03	6.078
	+	86.72		2.484E+01	8.240E+00	1.500E+01	1.144E+00	1.656

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-7.577E-01	4.040E+00	6.525E+00	8.640E-01	-0.116
		142.18		1.120E+01	1.958E+01	3.234E+01	4.019E+00	0.346
ANH-511	+	511.00	*	1.207E-01	7.589E-02	5.683E-02	3.637E-03	2.124

---- 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	*	9.453E-02	3.839E-01	6.377E-01	4.568E-02	0.148
NA-22		1274.54	*	7.562E-03	5.096E-02	8.389E-02	4.887E-03	0.090
NA-24		1368.53	*	-1.754E+00	5.096E-02	Half-Life too short		
AL-26		1129.67		-6.094E-01	2.089E+00	3.225E+00	2.160E-01	-0.189
		1808.65	*	-2.196E-02	3.882E-02	5.657E-02	3.246E-03	-0.388
TI-44		67.85		2.359E-02	3.257E-02	4.851E-02	3.882E-03	0.486
	+	78.38	*	4.104E-01	5.270E-02	6.862E-02	5.324E-03	5.981
SC-46		889.25	*	-4.221E-02	5.000E-02	7.589E-02	7.622E-03	-0.556
	+	1120.51		3.006E-01	1.095E-01	1.537E-01	1.057E-02	1.956
V-48		944.10		1.843E-01	1.126E+00	1.885E+00	1.823E-01	0.098
		983.50	*	-1.186E-02	8.227E-02	1.332E-01	1.220E-02	-0.089
		1312.09		5.431E-02	9.975E-02	1.717E-01	9.953E-03	0.316
CR-51		320.08	*	-3.326E-01	4.384E-01	6.963E-01	6.158E-02	-0.478
MN-52		744.21		3.493E-02	3.197E-01	5.387E-01	4.183E-02	0.065
		848.13		8.076E+00	9.545E+00	1.690E+01	1.584E+00	0.478
		935.52		2.707E-01	3.288E-01	5.827E-01	5.696E-02	0.465
		1246.25		-4.041E+00	1.030E+01	1.605E+01	9.334E-01	-0.252
		1333.61		2.896E-01	5.973E+00	9.709E+00	5.619E-01	0.030
		1434.06	*	-1.258E-01	3.181E-01	5.026E-01	2.943E-02	-0.250
MN-54		834.83	*	-3.660E-02	4.807E-02	7.467E-02	6.840E-03	-0.490
CO-56		846.75	*	-2.958E-02	5.133E-02	8.083E-02	7.559E-03	-0.366
		977.42		-3.974E-01	3.750E+00	5.635E+00	5.209E-01	-0.071
		1037.82		3.172E-01	3.865E-01	6.816E-01	6.012E-02	0.465
		1175.09		3.534E-01	2.859E+00	4.706E+00	2.730E-01	0.075
		1238.25		1.932E-01	1.177E-01	2.143E-01	1.324E-02	0.901
		1360.21		-1.130E+00	1.137E+00	1.536E+00	8.924E-02	-0.735
		1771.40		-1.606E+00	4.889E-01	4.024E-01	2.324E-02	-3.992
CO-57		122.06	*	1.142E-02	2.718E-02	4.488E-02	6.368E-03	0.255
		136.48		1.225E-01	2.321E-01	3.833E-01	5.135E-02	0.320
CO-58		810.76	*	-8.109E-03	4.561E-02	7.458E-02	6.564E-03	-0.109
FE-59		142.65		2.371E+00	3.076E+00	5.110E+00	6.327E-01	0.464
		192.34		-1.691E-01	1.209E+00	1.771E+00	2.540E-01	-0.095
		1099.22	*	-1.397E-01	1.029E-01	1.398E-01	1.132E-02	-1.000
		1291.56		-5.588E-02	1.471E-01	2.267E-01	1.684E-02	-0.247
CO-60		1173.22		1.245E-02	5.480E-02	9.112E-02	5.285E-03	0.137
		1332.49	*	1.736E-02	4.088E-02	7.005E-02	4.054E-03	0.248
ZN-65		1115.52	*	1.944E-02	1.197E-01	1.714E-01	1.197E-02	0.113
GE-68		1077.35	*	-2.481E-01	1.545E+00	2.487E+00	1.910E-01	-0.100
AS-73		53.44	*	-7.616E-02	2.585E-01	4.213E-01	3.171E-02	-0.181
AS-74		595.88	*	-7.376E-02	1.140E-01	1.738E-01	1.143E-02	-0.424
		634.78		-6.466E-02	4.919E-01	7.832E-01	5.162E-02	-0.083

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75	66.05			9.411E-01	3.203E+00	4.702E+00	4.690E-01	0.200
	96.73			-9.323E-02	7.965E-01	1.135E+00	1.586E-01	-0.082
	121.11			5.176E-02	1.470E-01	2.422E-01	3.807E-02	0.214
	136.00			3.184E-02	4.332E-02	7.202E-02	9.391E-03	0.442
	198.60			7.526E-01	2.213E+00	3.564E+00	3.853E-01	0.211
	264.65	*		3.673E-02	5.720E-02	8.681E-02	8.287E-03	0.423
	279.53			1.056E-01	1.438E-01	2.188E-01	2.095E-02	0.482
	303.91			-1.213E+00	2.517E+00	4.085E+00	4.736E-01	-0.297
	400.65			-1.549E-02	3.052E-01	5.008E-01	4.582E-02	-0.031
	87.88			6.507E+02	2.158E+02	4.050E+02	3.083E+01	1.607
BR-77	200.40			-6.667E+00	2.567E+02	4.100E+02	4.094E+01	-0.016
	239.00	+		3.908E+02	4.667E+01	5.639E+01	5.527E+00	6.931
	249.79			-8.643E+01	9.266E+01	1.476E+02	1.431E+01	-0.586
	281.68			-2.541E+01	1.504E+02	2.157E+02	1.992E+01	-0.118
	297.23			5.243E+02	1.277E+02	2.088E+02	1.864E+01	2.512
	303.76			-1.262E+02	2.801E+02	4.557E+02	4.001E+01	-0.277
	439.47			-6.632E+01	2.079E+02	3.326E+02	2.027E+01	-0.199
	484.57			-6.405E+01	3.506E+02	5.641E+02	3.556E+01	-0.114
	520.65	*		-1.972E+00	1.685E+01	2.715E+01	1.746E+00	-0.073
	574.64			-1.635E+02	3.392E+02	5.274E+02	3.456E+01	-0.310
SR-82	578.91			-3.622E+01	1.647E+02	2.241E+02	1.470E+01	-0.162
	585.48			2.773E+03	4.886E+02	8.752E+02	5.748E+01	3.168
	755.35			2.536E+01	2.650E+02	4.456E+02	3.534E+01	0.057
	817.79			-6.921E+01	1.985E+02	3.186E+02	2.833E+01	-0.217
	698.33			-2.681E+01	4.182E+01	6.658E+01	4.723E+00	-0.403
	776.49	*		-2.656E-01	5.806E-01	7.880E-01	6.501E-02	-0.337
	1395.20			-3.684E+00	1.238E+01	1.984E+01	1.158E+00	-0.186
	520.41	*		-8.496E-03	8.702E-02	1.404E-01	9.031E-03	-0.060
	529.64			-6.944E-02	1.339E-01	2.032E-01	1.312E-02	-0.342
	552.65			5.496E-02	2.371E-01	3.914E-01	2.549E-02	0.140
RB-84	881.50	*		2.789E-02	8.820E-02	1.500E-01	1.488E-02	0.186
KR-85	513.99	*		2.153E+01	1.131E+01	1.823E+01	1.168E+00	1.181
SR-85	513.99	*		1.115E-01	5.857E-02	9.438E-02	6.050E-03	1.181
RB-86	1076.63	*		-5.434E-01	1.015E+00	1.569E+00	1.207E-01	-0.346
Y-88	898.02			-5.684E-02	5.156E-02	7.559E-02	7.729E-03	-0.752
	1836.01	*		2.331E-02	3.857E-02	7.110E-02	4.068E-03	0.328
ZR-88	392.90	*		3.514E-03	3.657E-02	6.060E-02	3.529E-03	0.058
Y-91	1204.90	*		1.665E+01	2.177E+01	3.798E+01	2.207E+00	0.438
NB-94	702.63	*		2.767E-02	4.124E-02	7.230E-02	5.173E-03	0.383
	871.10			-1.729E-02	4.347E-02	6.348E-02	6.187E-03	-0.272
NB-95	765.79	*		3.161E-02	5.680E-02	8.678E-02	7.019E-03	0.364
NB-95M	235.69	*		3.507E-01	1.668E-01	2.655E-01	2.904E-02	1.321
ZR-95	724.18			-8.105E-02	1.519E-01	1.966E-01	1.635E-02	-0.412
	756.15	*		3.908E-02	8.715E-02	1.505E-01	1.337E-02	0.260
NB-97	657.90	*		-1.234E-01	8.715E-02	Half-Life too short		
	1024.50			-7.396E+00	8.715E-02	Half-Life too short		
ZR-97	254.15			-7.552E+00	8.715E-02	Half-Life too short		
	355.39			1.034E+01	8.715E-02	Half-Life too short		
	507.63	*		1.011E+01	8.715E-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
	602.52			8.333E+00	8.715E-02	Half-Life	too short	
	1021.30			-1.210E+01	8.715E-02	Half-Life	too short	
	1147.95			-6.990E+00	8.715E-02	Half-Life	too short	
	1362.66			2.101E+00	8.715E-02	Half-Life	too short	
	1750.46			2.750E+00	8.715E-02	Half-Life	too short	
MO-99	140.51			-4.523E+01	3.969E+01	5.759E+01	1.680E+01	-0.785
	181.06			2.547E+01	2.793E+01	4.074E+01	7.725E+00	0.625
	366.43			1.274E+01	1.233E+02	2.051E+02	1.407E+01	0.062
	739.58	*		6.692E+00	1.698E+01	2.925E+01	4.294E+00	0.229
	778.00			-5.501E+01	6.409E+01	8.213E+01	6.796E+00	-0.670
TC-99M	140.51	*		-6.823E+11	6.409E+01	Half-Life	too short	
RH-101	127.23			2.193E-02	3.612E-02	5.982E-02	8.235E-03	0.367
	198.01	*		7.947E-03	4.074E-02	6.524E-02	6.515E-03	0.122
	325.23			-1.452E-02	2.651E-01	4.389E-01	3.612E-02	-0.033
RH-102	418.52			1.222E-01	3.284E-01	5.526E-01	3.304E-02	0.221
	475.06	*		1.313E-03	3.525E-02	5.771E-02	3.615E-03	0.023
	631.29			2.402E-02	6.923E-02	1.146E-01	7.552E-03	0.210
	697.49			-3.493E-02	9.080E-02	1.476E-01	1.045E-02	-0.237
	766.84			1.084E-01	1.488E-01	2.304E-01	1.867E-02	0.470
	1046.59			4.526E-02	1.293E-01	2.197E-01	1.803E-02	0.206
	1112.84			-9.034E-02	3.068E-01	4.097E-01	2.879E-02	-0.221
RU-103	497.08	*		8.834E-03	4.969E-02	8.199E-02	1.058E-02	0.108
+	610.33			1.336E+01	3.050E+00	3.433E+00	5.401E-01	3.892
RH-106	511.85	+		6.041E-01	3.797E-01	5.328E-01	3.411E-02	1.134
	621.84	*		-6.896E-02	3.809E-01	6.036E-01	7.333E-02	-0.114
	1050.47			-4.951E-01	2.749E+00	4.419E+00	3.598E-01	-0.112
RU-106	511.85	+		6.041E-01	3.797E-01	5.328E-01	3.411E-02	1.134
	621.84	*		-6.896E-02	3.808E-01	6.036E-01	3.979E-02	-0.114
	1050.47			-4.951E-01	2.749E+00	4.419E+00	3.598E-01	-0.112
AG-108M	433.93	*		-5.072E-03	3.698E-02	6.005E-02	3.929E-03	-0.084
	614.37			-1.353E-02	5.857E-02	7.930E-02	5.572E-03	-0.171
	722.95			-1.995E-02	5.933E-02	8.235E-02	6.455E-03	-0.242
AG-110M	657.75	*		-1.723E-02	4.515E-02	7.017E-02	4.850E-03	-0.246
	677.61			5.273E-02	3.802E-01	6.446E-01	4.579E-02	0.082
	706.67			-1.568E-01	2.709E-01	4.275E-01	3.204E-02	-0.367
	763.93			8.065E-02	2.170E-01	3.256E-01	2.709E-02	0.248
	884.67			2.541E-03	6.196E-02	1.029E-01	1.051E-02	0.025
	937.48			-5.694E-02	1.317E-01	2.078E-01	2.084E-02	-0.274
	1384.27			-1.323E-01	1.993E-01	3.058E-01	1.890E-02	-0.433
IN-111	171.28			-1.816E-01	1.427E+00	2.281E+00	2.268E-01	-0.080
	245.39	*		8.334E-01	1.575E+00	2.384E+00	2.322E-01	0.350
IN-113M	391.69	*		-2.806E-02	5.248E-02	8.350E-02	5.180E-03	-0.336
SN-113	391.69	*		-2.806E-02	5.248E-02	8.350E-02	5.180E-03	-0.336
IN-114M	190.27	*		1.922E-01	2.320E-01	3.405E-01	3.400E-02	0.565
CD-115	260.90			-1.144E+02	2.043E+02	3.330E+02	3.184E+01	-0.344
	492.35			-8.375E+00	5.819E+01	9.384E+01	5.944E+00	-0.089
	527.90	*		8.126E-01	1.808E+01	2.873E+01	1.853E+00	0.028
SN-117M	156.02			6.476E-01	2.815E+00	4.583E+00	5.054E-01	0.141
	158.56	*		-1.072E-01	7.072E-02	1.053E-01	1.132E-02	-1.017

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		3.819E+00	3.276E+00	5.740E+00	3.751E-01	0.665
	692.80			-1.925E+01	6.493E+01	1.063E+02	7.458E+00	-0.181
I-123	159.00	*		-2.193E+01	6.493E+01	Half-Life too short		
	528.96			-7.184E+02	6.493E+01	Half-Life too short		
TE-123M	159.00	*		-3.346E-02	3.445E-02	5.299E-02	5.694E-03	-0.632
I-124	602.71	*		1.337E-01	1.162E+00	1.636E+00	1.077E-01	0.082
	722.78			-2.906E+00	7.270E+00	1.002E+01	7.461E-01	-0.290
	1325.50			6.126E+00	4.181E+01	6.897E+01	3.994E+00	0.089
	1376.25			4.392E+01	4.166E+01	7.745E+01	4.510E+00	0.567
	1509.49			8.811E+00	2.343E+01	4.081E+01	2.399E+00	0.216
	1691.02			5.519E+00	5.487E+00	1.054E+01	6.153E-01	0.523
SB-124	602.71			6.728E-03	5.851E-02	8.237E-02	5.425E-03	0.082
	645.85			-8.894E-02	5.991E-01	9.500E-01	6.888E-02	-0.094
	709.31			-6.075E-01	3.546E+00	5.862E+00	4.251E-01	-0.104
	713.82			-1.145E+00	2.142E+00	3.438E+00	3.831E-01	-0.333
	722.78			-2.121E-01	5.305E-01	7.310E-01	5.601E-02	-0.290
	968.20	+		1.526E+01	5.278E+00	8.273E+00	7.749E-01	1.844
	1045.16			-2.200E+00	2.961E+00	4.457E+00	3.668E-01	-0.494
	1325.50			4.774E-01	3.258E+00	5.375E+00	3.113E-01	0.089
	1368.21			-8.608E-01	2.236E+00	3.406E+00	4.046E-01	-0.253
	1436.60			-1.526E+00	4.008E+00	6.294E+00	3.687E-01	-0.242
	1691.02	*		9.500E-02	9.447E-02	1.815E-01	1.149E-02	0.523
SB-125	427.89	*		-2.993E-02	1.097E-01	1.768E-01	1.108E-02	-0.169
	463.38	+		4.231E-01	4.939E-01	6.269E-01	4.464E-02	0.675
	600.56			9.629E-02	2.353E-01	3.703E-01	2.738E-02	0.260
	635.90			4.657E-02	3.556E-01	5.781E-01	4.323E-02	0.081
TE-125M	109.28	*		-8.359E+00	9.471E+00	1.481E+01	1.903E+00	-0.565
I-126	388.63			4.262E-02	2.481E-01	4.133E-01	2.459E-02	0.103
	666.33	*		-9.537E-02	2.630E-01	4.101E-01	2.723E-02	-0.233
	753.82			2.488E-01	1.873E+00	3.159E+00	2.498E-01	0.079
SB-126	223.80			1.484E+00	4.679E+00	7.983E+00	7.910E-01	0.186
	278.60	+		4.746E+00	4.402E+00	5.257E+00	4.884E-01	0.903
	296.50	+		1.545E+01	3.205E+00	4.510E+00	4.033E-01	3.425
	414.70			-6.908E-02	1.061E-01	1.414E-01	8.424E-03	-0.489
	415.30			2.202E-02	8.347E+00	1.188E+01	7.082E-01	0.002
	555.20			3.477E+00	4.889E+00	8.365E+00	5.453E-01	0.416
	573.80			2.258E-01	1.314E+00	2.155E+00	1.412E-01	0.105
	593.00			-1.038E+00	1.215E+00	1.819E+00	1.196E-01	-0.571
	656.30			-2.911E+00	4.387E+00	6.628E+00	4.362E-01	-0.439
	666.33			-3.994E-02	1.101E-01	1.717E-01	1.140E-02	-0.233
	675.00			3.945E-01	2.558E+00	4.342E+00	2.936E-01	0.091
	695.00			-1.537E-02	9.492E-02	1.571E-01	1.107E-02	-0.098
	697.00			-3.512E-02	3.285E-01	5.459E-01	3.862E-02	-0.064
	720.50	*		7.321E-03	2.089E-01	3.254E-01	2.413E-02	0.022
	856.80			-3.636E-01	7.011E-01	9.297E-01	8.845E-02	-0.391
	989.30			-4.961E-01	1.510E+00	2.394E+00	2.174E-01	-0.207
	1034.80			-2.567E+00	1.221E+01	1.963E+01	1.648E+00	-0.131
	1213.00			-3.473E+00	6.008E+00	9.200E+00	5.348E-01	-0.378
SB-127	61.10			3.135E+01	3.688E+01	5.527E+01	6.164E+00	0.567

---- Non-Identified Nuclides ----

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		252.40		-1.864E+00	5.542E+00	9.046E+00	3.830E+00	-0.206
		290.80		-4.228E+01	3.255E+01	4.192E+01	4.938E+00	-1.009
	+	411.60		1.120E+01	2.638E+01	2.903E+01	4.253E+00	0.386
		444.90		3.119E+00	1.319E+01	2.196E+01	2.471E+00	0.142
		473.00		-1.133E+00	2.393E+00	3.769E+00	4.407E-01	-0.301
		543.00		1.117E+01	2.365E+01	3.968E+01	5.345E+00	0.281
		603.60		1.154E+01	2.001E+01	2.945E+01	3.381E+00	0.392
		685.20	*	-1.177E-02	1.959E+00	3.284E+00	3.434E-01	-0.004
		698.50		-1.464E+01	2.149E+01	3.393E+01	5.176E+00	-0.431
		722.20		-5.695E+00	5.012E+01	7.140E+01	7.554E+00	-0.080
		783.80		2.498E+00	5.169E+00	8.925E+00	1.115E+00	0.280
XE-127		57.60		9.520E-01	2.674E+00	4.164E+00	3.353E-01	0.229
		145.22		3.476E-01	8.217E-01	1.317E+00	1.598E-01	0.264
		172.10		8.303E-02	1.348E-01	2.224E-01	2.212E-02	0.373
		202.84	*	-2.369E-02	5.817E-02	8.773E-02	8.757E-03	-0.270
		374.96		-6.359E-02	2.416E-01	3.926E-01	2.562E-02	-0.162
I-131		80.18		-7.023E-02	4.399E+00	6.345E+00	4.946E-01	-0.011
		284.30		-1.932E+00	1.996E+00	2.953E+00	2.840E-01	-0.654
		364.48	*	5.150E-02	1.439E-01	2.429E-01	1.826E-02	0.212
		636.97		2.884E-01	2.143E+00	3.486E+00	2.516E-01	0.083
TE-132		722.89		-3.684E+00	1.082E+01	1.502E+01	1.129E+00	-0.245
		49.72		-4.224E+00	6.056E+00	8.540E+00	8.509E-01	-0.495
		111.76		-2.923E+01	3.623E+01	5.676E+01	7.898E+00	-0.515
		116.30		2.917E+01	3.558E+01	5.939E+01	8.746E+00	0.491
BA-133		228.16	*	-5.022E-01	9.162E-01	1.499E+00	2.489E-01	-0.335
		53.15		-7.153E-02	1.105E+00	1.756E+00	1.316E-01	-0.041
		79.62		2.064E+00	1.224E+00	1.829E+00	2.697E-01	1.128
		81.00		1.783E-01	1.045E-01	1.211E-01	1.865E-02	1.473
	+	276.40		6.736E-01	6.295E-01	7.226E-01	1.075E-01	0.932
		302.84		8.132E-03	1.758E-01	2.859E-01	3.833E-02	0.028
		356.01	*	6.604E-03	5.851E-02	8.474E-02	1.046E-02	0.078
		383.85		-2.684E-01	3.585E-01	5.618E-01	6.217E-02	-0.478
I-133	+	510.53		2.587E+00	3.585E-01	Half-Life	too short	
		529.87	*	-8.158E-03	3.585E-01	Half-Life	too short	
		706.58		-6.589E-01	3.585E-01	Half-Life	too short	
		856.28		-1.534E+00	3.585E-01	Half-Life	too short	
		875.33		-4.749E-03	3.585E-01	Half-Life	too short	
		1236.41		1.165E-01	3.585E-01	Half-Life	too short	
		1298.22		5.031E-01	3.585E-01	Half-Life	too short	
CS-134		475.35		3.328E-01	2.242E+00	3.700E+00	2.318E-01	0.090
		563.23		4.397E-01	4.533E-01	7.843E-01	5.209E-02	0.561
		569.32		5.576E-03	2.398E-01	3.887E-01	2.604E-02	0.014
		604.70		4.224E-02	4.883E-02	7.388E-02	4.886E-03	0.572
	+	795.84	*	1.288E-01	6.772E-02	9.929E-02	8.551E-03	1.297
		801.93		2.993E-01	5.138E-01	8.243E-01	7.164E-02	0.363
		1038.57		1.805E+00	4.842E+00	8.217E+00	6.850E-01	0.220
		1167.94		-1.130E+00	3.001E+00	4.696E+00	2.777E-01	-0.241
		1365.15		1.980E+00	1.345E+00	2.611E+00	1.666E-01	0.758
CS-135		268.24	*	9.545E-02	2.189E-01	3.231E-01	3.457E-02	0.295

---- Non-Identified Nuclides ----

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I-135	288.45			2.117E+11	2.189E-01	Half-Life	too short	
	417.63			3.057E+09	2.189E-01	Half-Life	too short	
	546.56			-7.408E+09	2.189E-01	Half-Life	too short	
	836.80			1.676E+11	2.189E-01	Half-Life	too short	
	1038.76			7.396E+10	2.189E-01	Half-Life	too short	
	1124.00			7.394E+11	2.189E-01	Half-Life	too short	
	1131.51			1.781E+10	2.189E-01	Half-Life	too short	
	1260.41	*		-1.110E+10	2.189E-01	Half-Life	too short	
	1457.56			3.486E+12	2.189E-01	Half-Life	too short	
	1678.03			8.748E+09	2.189E-01	Half-Life	too short	
	1706.46			1.344E+11	2.189E-01	Half-Life	too short	
	1791.20			-7.294E+10	2.189E-01	Half-Life	too short	
CS-136	66.91			4.699E-01	5.580E-01	8.303E-01	1.255E-01	0.566
	86.29	+		3.092E+00	1.067E+00	1.900E+00	2.320E-01	1.627
	153.22			8.359E-01	8.138E-01	1.357E+00	1.645E-01	0.616
	163.89			-5.362E-01	1.303E+00	2.060E+00	2.276E-01	-0.260
	176.55			-5.397E-02	4.284E-01	6.841E-01	7.112E-02	-0.079
	273.65			4.115E-01	7.860E-01	8.243E-01	8.160E-02	0.499
	340.57			4.311E-01	2.085E-01	3.334E-01	2.682E-02	1.293
	818.51			-7.046E-03	8.932E-02	1.473E-01	1.313E-02	-0.048
	1048.07	*		1.066E-02	1.285E-01	2.124E-01	1.820E-02	0.050
	1235.34			-8.719E-02	7.960E-01	1.279E+00	1.279E-01	-0.068
BA-137M	661.65	*		-6.615E-03	4.784E-02	7.596E-02	4.995E-03	-0.087
CS-137	661.65	*		-6.993E-03	5.057E-02	8.030E-02	5.298E-03	-0.087
CE-139	165.85	*		-1.203E-02	3.379E-02	5.351E-02	5.313E-03	-0.225
BA-140	162.64			7.193E-01	9.212E-01	1.527E+00	1.637E-01	0.471
	304.84			-1.489E+00	1.628E+00	2.493E+00	6.997E-01	-0.597
	423.70			3.003E+00	2.602E+00	4.277E+00	1.361E+00	0.702
LA-140	537.32	*		-1.122E-01	3.368E-01	5.294E-01	1.728E-01	-0.212
	328.77			3.998E-01	3.649E-01	6.361E-01	5.496E-02	0.629
	432.53			4.968E-01	2.381E+00	3.963E+00	2.632E-01	0.125
	487.03			-7.782E-02	1.702E-01	2.678E-01	1.881E-02	-0.291
	751.79			1.688E-02	2.191E+00	3.660E+00	3.248E-01	0.005
	815.85			-1.432E-02	3.886E-01	6.436E-01	6.326E-02	-0.022
	867.82			-2.189E+00	2.028E+00	2.405E+00	2.429E-01	-0.910
	919.63			-1.309E+00	3.608E+00	5.258E+00	6.182E-01	-0.249
	925.24			4.172E-01	1.329E+00	2.263E+00	2.347E-01	0.184
	1596.49	*		5.452E-02	1.060E-01	1.889E-01	1.110E-02	0.289
CE-141	145.44	*		6.637E-03	7.530E-02	1.192E-01	1.458E-02	0.056
CE-143	57.37			2.041E-04	7.530E-02	Half-Life	too short	
	231.56			3.546E-03	7.530E-02	Half-Life	too short	
	293.26	*		1.309E-03	7.530E-02	Half-Life	too short	
	350.59	+		5.506E-02	7.530E-02	Half-Life	too short	
	490.36			2.417E-03	7.530E-02	Half-Life	too short	
	664.57			8.236E-04	7.530E-02	Half-Life	too short	
CE-144	721.93			2.818E-04	7.530E-02	Half-Life	too short	
	80.11			2.411E-01	1.878E+00	2.726E+00	2.106E-01	0.088
	133.54	*		-3.072E-01	2.400E-01	3.579E-01	6.626E-02	-0.858
PM-144	476.78			5.264E-04	8.068E-02	1.318E-01	9.676E-03	0.004

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	618.01			-1.749E-02	4.327E-02	6.543E-02	4.515E-03	-0.267
	696.49	*		7.712E-03	3.941E-02	6.704E-02	4.740E-03	0.115
	778.57			-2.086E+00	3.402E+00	4.516E+00	3.742E-01	-0.462
PR-144	696.49	*		5.229E-01	2.672E+00	4.545E+00	3.212E-01	0.115
	1489.15			-9.457E+00	1.455E+01	2.188E+01	1.285E+00	-0.432
PM-146	453.90	*		1.024E-02	4.980E-02	8.268E-02	7.337E-03	0.124
	633.02			1.187E+00	1.832E+00	3.015E+00	1.114E+00	0.394
	735.90			-9.225E-02	1.878E-01	2.732E-01	7.738E-02	-0.338
	747.13			-6.180E-02	1.094E-01	1.735E-01	2.352E-02	-0.356
ND-147	91.11			1.597E+00	4.245E-01	5.292E-01	4.707E-02	3.018
	319.41			-1.592E-01	3.939E+00	6.532E+00	5.482E-01	-0.024
	439.89			-5.300E-01	6.889E+00	1.123E+01	6.849E-01	-0.047
	531.02	*		-1.880E-01	7.333E-01	1.167E+00	1.612E-01	-0.161
PM-149	285.90	*		1.046E+02	1.390E+02	2.390E+02	3.789E+01	0.438
EU-152	121.78			3.977E-02	7.871E-02	1.303E-01	1.949E-02	0.305
	244.69			4.799E-01	4.018E-01	6.291E-01	6.133E-02	0.763
	344.27	*		3.430E-02	1.436E-01	1.988E-01	1.635E-02	0.173
	443.98			-9.306E-02	1.088E+00	1.772E+00	1.084E-01	-0.053
	778.89			-2.037E-01	3.903E-01	5.245E-01	4.346E-02	-0.388
	867.32			-1.238E+00	1.166E+00	1.393E+00	1.349E-01	-0.889
+	964.01			8.631E-01	4.968E-01	6.686E-01	6.300E-02	1.291
	1085.78			-3.092E-02	4.795E-01	7.787E-01	5.864E-02	-0.040
	1112.02			-2.012E-02	4.124E-01	5.724E-01	4.031E-02	-0.035
	1407.95			8.323E-02	2.276E-01	3.965E-01	2.317E-02	0.210
GD-153	69.67			-1.208E-01	1.217E+00	1.757E+00	1.397E-01	-0.069
+	83.37			6.628E+00	1.468E+01	2.082E+01	1.598E+00	0.318
	97.43	*		7.497E-02	8.056E-02	1.209E-01	1.120E-02	0.620
	103.18			-9.071E-02	1.049E-01	1.650E-01	1.706E-02	-0.550
EU-154	123.07			3.555E-02	5.580E-02	9.259E-02	1.476E-02	0.384
	247.94			4.535E-02	4.111E-01	6.328E-01	7.797E-02	0.072
	591.81			-6.190E-02	7.542E-01	1.210E+00	1.240E-01	-0.051
	723.30			-4.810E-02	2.481E-01	3.501E-01	2.973E-02	-0.137
	756.87			4.407E-01	9.353E-01	1.617E+00	1.860E-01	0.273
	873.19			2.897E-01	3.381E-01	6.021E-01	7.880E-02	0.481
	996.32			4.792E-02	4.501E-01	7.470E-01	1.340E-01	0.064
	1004.76			-1.908E-01	2.606E-01	3.949E-01	4.666E-02	-0.483
	1274.45	*		1.971E-02	1.421E-01	2.337E-01	2.185E-02	0.084
EU-155	48.70			7.917E-01	5.607E-01	8.700E-01	6.063E-02	0.910
	60.01			1.074E+00	2.515E+00	3.725E+00	3.084E-01	0.288
+	86.54			2.718E-01	9.022E-02	1.649E-01	1.274E-02	1.648
	105.31	*		7.064E-02	1.061E-01	1.772E-01	1.920E-02	0.399
TB-160	86.79	+		7.323E-01	2.429E-01	4.391E-01	3.349E-02	1.668
	197.04			5.875E-02	6.910E-01	1.101E+00	1.100E-01	0.053
	215.65			4.595E-02	9.145E-01	1.410E+00	1.403E-01	0.033
	298.57			1.905E-01	1.590E-01	2.465E-01	2.193E-02	0.773
	879.36	*		-4.513E-02	1.774E-01	2.868E-01	2.834E-02	-0.157
	962.29			6.717E-01	7.707E-01	1.198E+00	1.131E-01	0.561
+	966.15			5.979E-01	3.441E-01	5.923E-01	5.564E-02	1.010
	1177.93			1.271E-01	4.540E-01	7.579E-01	4.398E-02	0.168

---- Non-Identified Nuclides ----

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HO-166M	1271.85			-1.072E-01	8.767E-01	1.400E+00	8.135E-02	-0.077
	80.57			-9.480E-02	2.384E-01	3.379E-01	2.609E-02	-0.281
	184.41			8.906E-02	4.971E-02	7.575E-02	7.559E-03	1.176
	280.46			8.110E-04	1.084E-01	1.575E-01	1.458E-02	0.005
	410.95		+	1.893E-01	4.452E-01	4.929E-01	2.926E-02	0.384
TM-171	711.68		*	8.851E-03	7.635E-02	1.289E-01	9.391E-03	0.069
	752.31			1.097E-01	3.248E-01	5.568E-01	4.390E-02	0.197
	810.29			-2.209E-02	6.650E-02	1.070E-01	9.391E-03	-0.206
	51.35			1.368E+00	8.766E+00	1.291E+01	9.390E-01	0.106
	52.39			-1.288E-01	4.785E+00	7.318E+00	5.415E-01	-0.018
LU-176	59.40			1.067E+01	1.295E+01	1.949E+01	1.615E+00	0.548
	66.72		*	1.003E+01	1.930E+01	2.856E+01	2.295E+00	0.351
	88.36		+	5.351E-01	1.775E-01	3.466E-01	2.659E-02	1.544
	201.83			-2.930E-02	3.438E-02	5.262E-02	5.253E-03	-0.557
	306.84		*	-6.481E-03	2.837E-02	4.664E-02	4.062E-03	-0.139
LU-177	401.10			-1.806E+00	7.999E+00	1.298E+01	7.626E-01	-0.139
	112.95			-7.205E-01	1.815E+00	2.907E+00	3.565E-01	-0.248
	208.36		+	3.113E+00	1.987E+00	2.423E+00	2.416E-01	1.284
	52.97			-4.697E-02	4.954E-01	7.866E-01	5.876E-02	-0.060
	54.07			-4.914E-02	2.790E-01	4.567E-01	3.473E-02	-0.108
LU-177M	61.30			6.809E-01	8.305E-01	1.245E+00	1.024E-01	0.547
	121.62			1.487E-01	4.075E-01	6.717E-01	9.462E-02	0.221
	147.16			-5.812E-01	7.442E-01	1.159E+00	1.384E-01	-0.502
	171.86			2.430E-01	5.403E-01	8.858E-01	8.809E-02	0.274
	218.09			-4.007E-02	9.548E-01	1.607E+00	1.597E-01	-0.025
HF-181	268.79			1.289E+00	1.116E+00	1.710E+00	1.615E-01	0.754
	319.02			3.430E-02	2.925E-01	4.892E-01	4.110E-02	0.070
	367.43			-6.020E-01	1.054E+00	1.679E+00	1.145E-01	-0.359
	413.65		*	-1.079E-01	2.286E-01	3.101E-01	1.846E-02	-0.348
	56.28			-1.832E-01	3.608E-01	5.884E-01	4.638E-02	-0.311
W-181	57.53			7.462E-02	2.235E-01	3.478E-01	2.797E-02	0.215
	65.20			3.242E-01	6.413E-01	9.484E-01	7.667E-02	0.342
	133.02			-1.358E-01	7.918E-02	1.162E-01	1.542E-02	-1.168
	136.25			2.689E-01	5.147E-01	8.500E-01	1.103E-01	0.316
	345.85			9.731E-02	2.678E-01	3.957E-01	3.006E-02	0.246
TA-182	482.03		*	1.815E-02	5.027E-02	8.418E-02	5.298E-03	0.216
	56.28			-7.087E-02	1.399E-01	2.281E-01	1.798E-02	-0.311
	57.53			2.889E-02	8.669E-02	1.349E-01	1.085E-02	0.214
	65.20		*	1.248E-01	2.468E-01	3.649E-01	2.950E-02	0.342
	67.75			6.609E-02	7.372E-02	1.161E-01	9.292E-03	0.569
RE-183	100.10			4.441E-02	1.695E-01	2.799E-01	2.733E-02	0.159
	152.43			7.016E-02	4.015E-01	6.528E-01	7.446E-02	0.107
	222.10			1.632E-01	3.877E-01	6.640E-01	6.586E-02	0.246
	1001.68			1.575E-01	2.640E+00	4.273E+00	3.804E-01	0.037
	1121.28		+	8.285E-01	3.019E-01	4.091E-01	2.808E-02	2.025
RE-183	1189.05			2.815E-01	3.748E-01	6.519E-01	3.785E-02	0.432
	1221.42		*	-3.232E-02	2.424E-01	3.885E-01	2.259E-02	-0.083
	1230.97			-1.796E-01	6.101E-01	9.634E-01	5.602E-02	-0.186
	57.98			8.698E-02	9.175E-02	1.388E-01	1.125E-02	0.627

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RE-184		59.32		4.402E-02	5.352E-02	8.051E-02	6.664E-03	0.547
		67.20		1.156E-01	1.377E-01	2.061E-01	1.653E-02	0.561
		162.32	*	1.631E-01	1.282E-01	2.158E-01	2.230E-02	0.756
	+	208.81		2.565E+00	1.638E+00	2.004E+00	1.997E-01	1.280
		291.72		-1.337E+00	1.195E+00	1.575E+00	1.424E-01	-0.849
		57.98		3.188E-01	3.363E-01	5.088E-01	4.121E-02	0.627
		59.32		1.612E-01	1.960E-01	2.948E-01	2.440E-02	0.547
		67.20		4.237E-01	5.047E-01	7.550E-01	6.056E-02	0.561
		161.27		4.871E-01	4.155E-01	6.973E-01	7.287E-02	0.699
		216.55		-1.359E-01	3.090E-01	4.976E-01	4.948E-02	-0.273
		252.85	*	-1.447E-01	2.528E-01	4.114E-01	3.974E-02	-0.352
		318.01		8.432E-02	5.055E-01	8.479E-01	7.146E-02	0.099
OS-185		792.07		1.258E-01	1.414E+00	2.049E+00	1.739E-01	0.061
		903.28		1.490E+00	1.346E+00	2.182E+00	2.211E-01	0.683
		920.93		-3.309E-01	5.299E-01	7.942E-01	7.897E-02	-0.417
		59.72		5.193E-02	1.485E-01	2.193E-01	1.818E-02	0.237
		61.14		8.083E-02	8.943E-02	1.345E-01	1.107E-02	0.601
		69.30		4.272E-02	2.186E-01	3.193E-01	2.542E-02	0.134
		592.07		-7.466E-01	3.062E+00	4.843E+00	3.184E-01	-0.154
		646.12	*	-4.124E-03	5.107E-02	8.149E-02	5.368E-03	-0.051
		717.42		4.221E-01	1.154E+00	1.982E+00	1.460E-01	0.213
		874.81		2.352E-01	6.899E-01	1.178E+00	1.156E-01	0.200
		880.27		-2.235E-01	9.658E-01	1.564E+00	1.548E-01	-0.143
		155.03	*	2.124E-01	2.050E-01	3.423E-01	3.811E-02	0.620
RE-188		477.96		8.438E-01	3.664E+00	6.080E+00	3.816E-01	0.139
		633.10		2.508E+00	3.638E+00	6.171E+00	4.068E-01	0.406
W-188	+	63.58		5.344E+01	3.502E+01	5.100E+01	4.151E+00	1.048
		227.08		-8.770E+00	1.390E+01	2.270E+01	2.245E+00	-0.386
IR-192		290.67	*	-1.244E+01	9.577E+00	1.240E+01	1.124E+00	-1.003
	+	295.96		1.133E+00	2.354E-01	3.297E-01	2.973E-02	3.435
		308.46		-3.186E-02	1.101E-01	1.802E-01	1.571E-02	-0.177
		316.51	*	5.011E-05	3.924E-02	6.524E-02	5.537E-03	0.001
AU-195		468.07		1.922E-02	9.170E-02	1.323E-01	9.347E-03	0.145
		604.41		2.868E-01	6.839E-01	9.910E-01	1.166E-01	0.289
		612.46		4.317E+00	1.341E+00	2.258E+00	1.850E-01	1.912
		65.12		6.806E-02	1.141E-01	1.693E-01	1.369E-02	0.402
		66.83		5.395E-02	6.355E-02	9.511E-02	7.639E-03	0.567
	+	75.70		1.229E+00	2.180E-01	3.943E-01	3.080E-02	3.116
		98.88	*	2.263E-01	2.196E-01	3.601E-01	3.434E-02	0.628
		129.76		7.603E+00	3.365E+00	5.657E+00	7.666E-01	1.344
TL-200		367.94	*	-4.811E-04	3.365E+00	Half-Life	too short	
		579.30		1.162E-03	3.365E+00	Half-Life	too short	
		828.27		-8.545E-04	3.365E+00	Half-Life	too short	
TL-201		1205.75		6.433E-03	3.365E+00	Half-Life	too short	
		68.90		2.395E+00	4.250E+00	6.293E+00	5.017E-01	0.381
		70.82		-1.539E+00	2.530E+00	3.570E+00	2.828E-01	-0.431
		80.30		-1.080E+00	5.453E+00	7.801E+00	6.027E-01	-0.138
		135.34		5.933E+00	3.483E+01	5.683E+01	7.423E+00	0.104
		167.43	*	-7.026E+00	9.685E+00	1.503E+01	1.492E+00	-0.467

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TL-202		68.90		1.837E-01	3.259E-01	4.826E-01	3.848E-02	0.381
		70.82		-1.177E-01	1.935E-01	2.730E-01	2.163E-02	-0.431
		80.30		-8.261E-02	4.172E-01	5.968E-01	4.611E-02	-0.138
HG-203		439.56	*	-2.267E-02	8.106E-02	1.301E-01	7.931E-03	-0.174
		70.83		-4.882E-01	8.084E-01	1.139E+00	1.500E-01	-0.429
		72.87		2.001E+00	5.746E-01	8.470E-01	1.078E-01	2.362
BI-207	+	82.60		4.983E-01	1.105E+00	1.550E+00	2.043E-01	0.321
		279.20	*	6.114E-02	5.448E-02	8.462E-02	8.046E-03	0.723
		72.80		5.224E-01	1.532E-01	2.405E-01	1.893E-02	2.172
	+	74.97		6.793E-01	1.205E-01	1.930E-01	1.510E-02	3.520
	+	84.90		8.550E-02	1.894E-01	2.816E-01	2.155E-02	0.304
		569.67		-5.397E-03	3.712E-02	5.938E-02	3.886E-03	-0.091
TL-207		1063.62	*	-2.104E-02	6.084E-02	9.588E-02	7.593E-03	-0.219
		1770.23		-2.815E-01	6.847E-01	8.495E-01	4.907E-02	-0.331
		81.07		3.894E-01	2.247E-01	2.669E-01	2.058E-02	1.459
	+	83.78		5.637E-02	1.249E-01	1.768E-01	1.356E-02	0.319
		94.90		8.777E-01	2.586E-01	4.093E-01	3.607E-02	2.145
		122.32		5.216E-01	1.883E+00	3.093E+00	4.506E-01	0.169
		144.24		8.292E-01	7.916E-01	1.290E+00	1.674E-01	0.643
		154.21		7.716E-01	4.719E-01	7.963E-01	9.470E-02	0.969
	+	269.46		4.940E-01	3.850E-01	4.079E-01	3.917E-02	1.211
	+	323.87	*	-6.511E-01	7.968E-01	1.253E+00	2.197E-01	-0.520
	+	338.28		6.526E+00	1.911E+00	2.712E+00	3.194E-01	2.407
		445.03		5.904E-01	2.597E+00	4.321E+00	4.518E-01	0.137
PO-209		260.50		-5.278E+00	1.116E+01	1.826E+01	1.747E+00	-0.289
		262.80		-7.527E+00	3.201E+01	5.159E+01	4.920E+00	-0.146
		896.60	*	-5.421E+00	8.913E+00	1.384E+01	1.407E+00	-0.392
PB-211		404.84	*	2.311E-01	1.329E+00	1.911E+00	1.192E+00	0.121
		427.08		1.890E+00	2.678E+00	4.157E+00	2.570E+00	0.455
		831.96		7.583E-01	1.498E+00	2.466E+00	1.547E+00	0.307
BI-212	+	727.18	*	9.634E-01	5.558E-01	7.490E-01	6.794E-02	1.286
		785.46		-4.888E-01	2.130E+00	3.480E+00	2.919E-01	-0.140
		1620.62		3.039E-01	1.556E+00	2.654E+00	1.557E-01	0.115
PO-215		81.07		3.894E-01	2.247E-01	2.669E-01	2.058E-02	1.459
	+	83.78		5.637E-02	1.249E-01	1.768E-01	1.356E-02	0.319
		94.90		8.777E-01	2.586E-01	4.093E-01	3.607E-02	2.145
		122.32		5.216E-01	1.883E+00	3.093E+00	4.506E-01	0.169
		144.24		8.292E-01	7.916E-01	1.290E+00	1.674E-01	0.643
		154.21		7.716E-01	4.719E-01	7.963E-01	9.470E-02	0.969
	+	269.46		4.940E-01	3.850E-01	4.079E-01	3.917E-02	1.211
	+	323.87	*	-6.511E-01	7.968E-01	1.253E+00	2.197E-01	-0.520
	+	338.28		6.526E+00	1.911E+00	2.712E+00	3.194E-01	2.407
RN-219		445.03		5.904E-01	2.597E+00	4.321E+00	4.518E-01	0.137
	+	271.23		6.338E-01	4.952E-01	5.128E-01	5.632E-02	1.236
		401.81	*	4.328E-03	5.090E-01	8.158E-01	1.113E-01	0.005
RN-220		549.76	*	-1.632E+01	3.087E+01	4.784E+01	3.112E+00	-0.341
RA-223		81.07		3.894E-01	2.247E-01	2.669E-01	2.058E-02	1.459
	+	83.78		5.637E-02	1.249E-01	1.768E-01	1.356E-02	0.319
		94.90		8.777E-01	2.586E-01	4.093E-01	3.607E-02	2.145

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		5.216E-01	1.883E+00	3.093E+00	4.506E-01	0.169
		144.24		8.292E-01	7.916E-01	1.290E+00	1.674E-01	0.643
		154.21		7.716E-01	4.719E-01	7.963E-01	9.470E-02	0.969
	+	269.46		4.940E-01	3.850E-01	4.079E-01	3.917E-02	1.211
		323.87	*	-6.511E-01	7.968E-01	1.253E+00	2.197E-01	-0.520
	+	338.28		6.526E+00	1.911E+00	2.712E+00	3.194E-01	2.407
		445.03		5.904E-01	2.597E+00	4.321E+00	4.518E-01	0.137
		79.80		1.108E+00	1.487E+00	2.185E+00	4.625E-01	0.507
		236.00		1.269E+00	3.603E-01	5.581E-01	7.323E-02	2.274
		256.20	*	2.664E-01	4.325E-01	7.420E-01	1.182E-01	0.359
		286.10		1.374E+00	1.736E+00	2.995E+00	4.061E-01	0.459
		299.80		2.051E+00	1.933E+00	2.950E+00	5.195E-01	0.695
TH-227		304.40		-2.126E+00	2.261E+00	3.529E+00	6.531E-01	-0.602
		334.20		-1.575E+00	2.891E+00	3.950E+00	7.556E-01	-0.399
		79.80		1.108E+00	1.487E+00	2.185E+00	4.686E-01	0.507
	+	94.00		1.132E+01	3.366E+00	3.733E+00	8.136E-01	3.033
		236.00		1.269E+00	3.542E-01	5.581E-01	6.719E-02	2.274
		256.20	*	2.664E-01	4.333E-01	7.420E-01	1.377E-01	0.359
		286.10		1.374E+00	2.210E+00	2.995E+00	3.008E+00	0.459
		299.80		2.051E+00	1.933E+00	2.950E+00	5.195E-01	0.695
		304.40		-2.126E+00	2.261E+00	3.529E+00	6.531E-01	-0.602
		334.20		-1.575E+00	2.891E+00	3.950E+00	7.556E-01	-0.399
	+	85.43		8.439E-02	1.869E-01	3.018E-01	2.307E-02	0.280
	+	88.47		3.080E-01	1.022E-01	1.993E-01	1.532E-02	1.546
PA-231		100.00		5.057E-02	1.750E-01	2.893E-01	2.819E-02	0.175
		193.63	*	-4.113E-01	6.089E-01	9.430E-01	9.418E-02	-0.436
	+	210.97		1.990E+00	1.271E+00	1.545E+00	1.539E-01	1.288
		283.67	*	-1.807E+00	1.973E+00	2.788E+00	4.326E-01	-0.648
TH-231		301.29		7.776E-01	7.702E-01	1.182E+00	1.465E-01	0.658
		81.07		3.894E-01	2.247E-01	2.669E-01	2.058E-02	1.459
	+	83.78		5.637E-02	1.249E-01	1.768E-01	1.356E-02	0.319
		94.90		8.777E-01	2.586E-01	4.093E-01	3.607E-02	2.145
U-231		122.32		5.216E-01	1.883E+00	3.093E+00	4.506E-01	0.169
		144.24		8.292E-01	7.916E-01	1.290E+00	1.674E-01	0.643
		154.21		7.716E-01	4.719E-01	7.963E-01	9.470E-02	0.969
	+	269.46		4.940E-01	3.850E-01	4.079E-01	3.917E-02	1.211
		323.87	*	-6.511E-01	7.968E-01	1.253E+00	2.197E-01	-0.520
	+	338.28		6.526E+00	1.911E+00	2.712E+00	3.194E-01	2.407
		445.03		5.904E-01	2.597E+00	4.321E+00	4.518E-01	0.137
	+	84.21		2.831E+00	6.271E+00	8.696E+00	6.664E-01	0.326
	+	92.29		1.304E+01	2.867E+00	4.482E+00	3.743E-01	2.909
		95.87	*	9.515E-01	1.292E+00	1.919E+00	1.724E-01	0.496
		108.00		3.202E-01	2.359E+00	3.871E+00	4.363E-01	0.083
	+	75.28		1.982E+01	4.324E+00	6.013E+00	8.967E-01	3.297
PA-233	+	86.59		4.416E+00	1.845E+00	2.672E+00	7.086E-01	1.653
		300.12		4.038E-01	5.468E-01	8.256E-01	1.240E-01	0.489
		311.98	*	-3.506E-03	7.215E-02	1.197E-01	1.057E-02	-0.029
		340.50		2.132E+00	1.079E+00	1.558E+00	3.668E-01	1.368
		398.62		-1.250E+00	2.501E+00	3.954E+00	1.023E+00	-0.316

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-1.098E+00	2.208E+00	2.973E+00	6.135E-01	-0.369
		63.00		1.536E+00	1.026E+00	1.461E+00	2.228E-01	1.051
		94.67		7.731E-01	2.042E-01	3.050E-01	3.815E-02	2.535
		98.44		1.154E-01	1.110E-01	1.450E-01	8.107E-02	0.796
		99.86		1.441E-01	4.433E-01	7.338E-01	7.130E-02	0.196
		111.00		-1.407E-02	1.827E-01	2.970E-01	4.332E-02	-0.047
		131.20		4.022E-02	1.201E-01	1.972E-01	2.648E-02	0.204
		152.70		2.315E-01	3.836E-01	6.303E-01	1.172E-01	0.367
		186.00		6.378E+00	2.805E+00	2.866E+00	9.060E-01	2.225
		226.40		-6.494E-02	4.370E-01	7.309E-01	1.028E-01	-0.089
		227.20		-2.856E-01	4.655E-01	7.611E-01	7.526E-02	-0.375
		248.90		-4.530E-01	8.935E-01	1.411E+00	3.225E-01	-0.321
		293.70		5.881E+00	1.443E+00	1.904E+00	3.331E-01	3.089
		369.80		-5.612E-01	9.887E-01	1.564E+00	3.299E-01	-0.359
		568.70		5.081E-03	1.212E+00	1.962E+00	1.284E-01	0.003
		569.50		-1.421E-02	3.299E-01	5.320E-01	3.482E-02	-0.027
		574.00		2.539E-01	1.788E+00	2.925E+00	1.916E-01	0.087
		699.00		-6.112E-01	8.567E-01	1.344E+00	2.479E-01	-0.455
		706.10		-8.502E-01	1.408E+00	2.136E+00	9.470E-01	-0.398
		733.00		-2.450E-01	5.146E-01	6.941E-01	1.515E-01	-0.353
		742.81		3.282E-01	1.611E+00	2.711E+00	1.819E+00	0.121
	+	796.30		2.500E+00	1.463E+00	1.874E+00	5.066E-01	1.334
		805.60		-2.531E-01	1.212E+00	1.976E+00	6.060E-01	-0.128
		819.60		5.916E-02	1.381E+00	2.304E+00	8.777E-01	0.026
		826.30		-9.718E-01	1.025E+00	1.380E+00	6.186E-01	-0.704
		831.60		1.211E-01	7.403E-01	1.245E+00	3.734E-01	0.097
		876.40		-6.520E-01	1.250E+00	1.611E+00	1.658E+00	-0.405
		880.51		-8.026E-02	3.468E-01	5.616E-01	5.560E-02	-0.143
		883.24		3.252E-01	4.164E-01	6.332E-01	4.268E-01	0.514
		899.00		-1.176E+00	1.178E+00	1.567E+00	6.903E-01	-0.750
		925.00		5.561E-01	1.286E+00	2.215E+00	2.193E-01	0.251
	*	926.50		7.156E-02	2.013E-01	3.426E-01	8.817E-02	0.209
		946.00		1.900E-02	3.624E-01	6.003E-01	1.156E-01	0.032
		949.00		3.403E-01	5.261E-01	9.187E-01	8.831E-02	0.370
		980.50		-2.386E-01	8.217E-01	1.309E+00	1.204E-01	-0.182
		1394.10		1.197E-01	1.252E+00	2.118E+00	1.372E+00	0.057
PA-234M		766.42		1.176E+01	1.673E+01	2.430E+01	1.231E+01	0.484
		1001.03	*	-2.650E-01	6.042E+00	9.693E+00	9.905E-01	-0.027
U-235	+	89.95		1.809E+00	1.639E+00	1.736E+00	5.326E-01	1.042
		93.35		3.523E+00	1.218E+00	1.189E+00	3.330E-01	2.962
		105.00		1.316E+00	1.098E+00	1.752E+00	5.343E-01	0.751
	*	143.76		2.867E-01	2.469E-01	3.977E-01	7.782E-02	0.721
		163.35		1.888E-01	5.443E-01	8.878E-01	1.762E-01	0.213
NP-236	+	185.71		2.362E-01	7.597E-02	1.060E-01	1.058E-02	2.229
		205.31		1.036E-01	6.710E-01	9.434E-01	1.861E-01	0.110
		94.67		5.886E-01	1.459E-01	2.315E-01	2.031E-02	2.542
		98.44		8.719E-02	6.882E-02	1.096E-01	1.036E-02	0.796
		111.00		-1.064E-02	1.382E-01	2.247E-01	2.667E-02	-0.047
		160.31	*	8.067E-02	9.410E-02	1.564E-01	1.651E-02	0.516

----- 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		9.445E-02	1.474E-01	2.466E-01	2.381E-02	0.383
		117.00	*	1.065E-01	1.991E-01	3.304E-01	4.329E-02	0.322
	+	209.75		2.005E+00	1.280E+00	1.576E+00	1.570E-01	1.272
		228.18		-1.350E-01	2.451E-01	4.021E-01	3.973E-02	-0.336
	+	277.60		3.287E-01	3.048E-01	3.598E-01	3.349E-02	0.913
AM-241		334.30		-9.992E-02	1.562E+00	2.237E+00	1.781E-01	-0.045
		59.54	*	6.263E-02	7.568E-02	1.138E-01	1.018E-02	0.550
CM-243		99.55		9.720E-02	1.517E-01	2.537E-01	2.451E-02	0.383
		103.76	*	-5.891E-04	9.528E-02	1.557E-01	1.627E-02	-0.004
		117.00		1.096E-01	2.049E-01	3.400E-01	4.454E-02	0.322
	+	209.75		1.977E+00	1.262E+00	1.553E+00	1.548E-01	1.272
		228.18		-1.364E-01	2.477E-01	4.063E-01	4.015E-02	-0.336
AM-246	+	277.60		3.314E-01	3.073E-01	3.627E-01	3.376E-02	0.913
		798.80		-2.340E-01	1.851E-01	2.156E-01	1.853E-02	-1.085
		1036.00		6.880E-02	3.748E-01	6.253E-01	5.238E-02	0.110
		1062.04		2.522E-01	2.553E-01	4.598E-01	3.653E-02	0.549
		1078.86	*	-3.159E-02	1.724E-01	2.767E-01	2.118E-02	-0.114
CM-247	+	278.00		1.363E+00	1.264E+00	1.478E+00	1.374E-01	0.922
		287.40		1.001E+00	1.377E+00	2.376E+00	2.169E-01	0.421
		402.60	*	-5.469E-03	4.939E-02	7.312E-02	4.303E-03	-0.075
CF-249		252.85		-5.410E-01	9.449E-01	1.538E+00	1.486E-01	-0.352
		333.44		-3.137E-01	2.281E-01	2.897E-01	2.315E-02	-1.083
		387.95	*	1.003E-02	4.570E-02	7.634E-02	4.566E-03	0.131
CF-251		176.60	*	-6.700E-02	1.428E-01	2.241E-01	2.232E-02	-0.299
		227.00		-2.731E-01	4.144E-01	6.758E-01	6.684E-02	-0.404
		285.00		-6.484E-01	2.025E+00	3.233E+00	2.967E-01	-0.201

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]G243630001      *
* Acquisition date   : 7-JAN-2010 13:09:52 Detector SN#                   *
* Detector ID        : GAM05 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 02:00:01.69 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243630001 Analyst initials: MXR1                  *
* Batch Number      : 937702 Sample Quantity : 1.2140E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 11-JUN-2009 16:41:00 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	2.123E+01	2.143E+00	6.107E-01	0.000E+00
CD-109	2.298E+00	7.471E-01	1.229E+00	0.000E+00
SN-126	2.256E-01	7.333E-02	1.325E-01	0.000E+00
TL-208	5.622E-01	9.370E-02	7.528E-02	0.000E+00
BI-210	1.139E+00	9.602E-01	9.414E-01	0.000E+00
PB-210	1.139E+00	9.602E-01	9.414E-01	0.000E+00
PO-210	1.139E+00	9.591E-01	9.414E-01	0.000E+00
BI-211	4.343E+00	6.192E-01	3.819E-01	0.000E+00
PB-212	1.855E+00	2.318E-01	1.063E-01	0.000E+00
PO-212	1.855E+00	2.318E-01	1.063E-01	0.000E+00
BI-214	1.217E+00	2.212E-01	1.543E-01	0.000E+00
PB-214	1.511E+00	2.288E-01	1.331E-01	0.000E+00
PO-214	1.511E+00	2.288E-01	1.331E-01	0.000E+00
PO-216	1.855E+00	2.318E-01	1.063E-01	0.000E+00
PO-218	1.511E+00	2.288E-01	1.331E-01	0.000E+00
RA-224	4.821E+00	1.440E+00	1.209E+00	0.000E+00
RA-226	1.217E+00	2.212E-01	1.543E-01	0.000E+00
AC-228	1.888E+00	3.848E-01	2.777E-01	0.000E+00
RA-228	1.888E+00	3.848E-01	2.777E-01	0.000E+00
TH-228	1.885E+00	2.356E-01	1.080E-01	0.000E+00
TH-230	1.217E+00	2.212E-01	1.543E-01	0.000E+00
TH-232	1.888E+00	3.848E-01	2.777E-01	0.000E+00
TH-234	1.317E+00	8.702E-01	1.191E+00	0.000E+00
U-234	1.217E+00	2.212E-01	1.543E-01	0.000E+00
NP-237	6.625E-01	2.536E-01	4.131E-01	0.000E+00
U-238	1.317E+00	8.702E-01	1.191E+00	0.000E+00
AM-243	3.784E-01	6.578E-02	6.444E-02	0.000E+00
ANH-511	1.207E-01	7.437E-02	5.747E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	9.453E-02	3.762E-01	6.454E-01	0.000E+00	NOT IDENT.
NA-22	7.562E-03	4.994E-02	8.387E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.617E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.196E-02	3.804E-02	5.631E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.165E-02	7.099E-02	0.000E+00	FAIL ABUN
SC-46	-4.221E-02	4.900E-02	7.621E-02	0.000E+00	FAIL ABUN
V-48	-1.186E-02	8.063E-02	1.336E-01	0.000E+00	NOT IDENT.
CR-51	-3.326E-01	4.296E-01	7.082E-01	0.000E+00	NOT IDENT.
MN-52	-1.258E-01	3.118E-01	5.017E-01	0.000E+00	NOT IDENT.
MN-54	-3.660E-02	4.711E-02	7.505E-02	0.000E+00	NOT IDENT.
CO-56	-2.958E-02	5.031E-02	8.123E-02	0.000E+00	NOT IDENT.
CO-57	1.142E-02	2.664E-02	4.618E-02	0.000E+00	NOT IDENT.
CO-58	-8.109E-03	4.470E-02	7.499E-02	0.000E+00	NOT IDENT.
FE-59	-1.397E-01	1.009E-01	1.400E-01	0.000E+00	NOT IDENT.
CO-60	1.736E-02	4.006E-02	7.000E-02	0.000E+00	NOT IDENT.
ZN-65	1.944E-02	1.173E-01	1.716E-01	0.000E+00	NOT IDENT.
GE-68	-2.481E-01	1.514E+00	2.492E+00	0.000E+00	NOT IDENT.
AS-73	-7.616E-02	2.533E-01	4.378E-01	0.000E+00	NOT IDENT.
AS-74	-7.376E-02	1.117E-01	1.754E-01	0.000E+00	NOT IDENT.
SE-75	3.673E-02	5.605E-02	8.850E-02	0.000E+00	NOT IDENT.
BR-77	-1.972E+00	1.651E+01	2.745E+01	0.000E+00	FAIL ABUN
SR-82	-2.656E-01	5.690E-01	7.927E-01	0.000E+00	NOT IDENT.
RB-83	-8.496E-03	8.528E-02	1.420E-01	0.000E+00	NOT IDENT.
RB-84	2.789E-02	8.644E-02	1.507E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	1.109E+01	1.843E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.740E-02	9.544E-02	0.000E+00	NOT IDENT.
RB-86	-5.434E-01	9.948E-01	1.572E+00	0.000E+00	NOT IDENT.
Y-88	2.331E-02	3.780E-02	7.075E-02	0.000E+00	NOT IDENT.
ZR-88	3.514E-03	3.584E-02	6.149E-02	0.000E+00	NOT IDENT.
Y-91	1.665E+01	2.133E+01	3.799E+01	0.000E+00	NOT IDENT.
NB-94	2.767E-02	4.041E-02	7.282E-02	0.000E+00	NOT IDENT.
NB-95	3.161E-02	5.566E-02	8.731E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.634E-01	2.710E-01	0.000E+00	NOT IDENT.
ZR-95	3.908E-02	8.541E-02	1.514E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.076E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.890E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	6.692E+00	1.664E+01	2.945E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.935E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.947E-03	3.992E-02	6.674E-02	0.000E+00	NOT IDENT.
RH-102	1.313E-03	3.455E-02	5.842E-02	0.000E+00	NOT IDENT.
RU-103	8.834E-03	4.869E-02	8.294E-02	0.000E+00	FAIL ABUN
RH-106	-6.896E-02	3.733E-01	6.089E-01	0.000E+00	FAIL ABUN
RU-106	-6.896E-02	3.732E-01	6.089E-01	0.000E+00	FAIL ABUN
AG-108M	-5.072E-03	3.624E-02	6.085E-02	0.000E+00	NOT IDENT.
AG-110M	-1.723E-02	4.425E-02	7.074E-02	0.000E+00	NOT IDENT.
IN-111	8.334E-01	1.543E+00	2.432E+00	0.000E+00	NOT IDENT.
IN-113M	-2.806E-02	5.143E-02	8.472E-02	0.000E+00	NOT IDENT.
SN-113	-2.806E-02	5.143E-02	8.472E-02	0.000E+00	NOT IDENT.
IN-114M	1.922E-01	2.273E-01	3.485E-01	0.000E+00	NOT IDENT.
CD-115	8.126E-01	1.772E+01	2.904E+01	0.000E+00	NOT IDENT.
SN-117M	-1.072E-01	6.931E-02	1.080E-01	0.000E+00	NOT IDENT.
SB-122	3.819E+00	3.210E+00	5.797E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.212E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.346E-02	3.376E-02	5.436E-02	0.000E+00	NOT IDENT.
I-124	1.337E-01	1.139E+00	1.651E+00	0.000E+00	NOT IDENT.
SB-124	9.500E-02	9.258E-02	1.808E-01	0.000E+00	FAIL ABUN
SB-125	-2.993E-02	1.075E-01	1.792E-01	0.000E+00	FAIL ABUN
TE-125M	-8.359E+00	9.282E+00	1.526E+01	0.000E+00	NOT IDENT.
I-126	-9.537E-02	2.577E-01	4.134E-01	0.000E+00	NOT IDENT.
SB-126	7.321E-03	2.047E-01	3.277E-01	0.000E+00	FAIL ABUN
SB-127	-1.177E-02	1.920E+00	3.309E+00	0.000E+00	FAIL ABUN
XE-127	-2.369E-02	5.701E-02	8.973E-02	0.000E+00	NOT IDENT.
I-131	5.150E-02	1.411E-01	2.467E-01	0.000E+00	NOT IDENT.
TE-132	-5.022E-01	8.979E-01	1.531E+00	0.000E+00	NOT IDENT.
BA-133	6.604E-03	5.734E-02	8.607E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.567E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.637E-02	9.986E-02	0.000E+00	FAIL ABUN
CS-135	9.545E-02	2.146E-01	3.294E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.687E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.066E-02	1.259E-01	2.129E-01	0.000E+00	FAIL ABUN
BA-137M	-6.615E-03	4.688E-02	7.657E-02	0.000E+00	NOT IDENT.
CS-137	-6.993E-03	4.956E-02	8.094E-02	0.000E+00	NOT IDENT.
CE-139	-1.203E-02	3.311E-02	5.487E-02	0.000E+00	NOT IDENT.
BA-140	-1.122E-01	3.301E-01	5.350E-01	0.000E+00	NOT IDENT.
LA-140	5.452E-02	1.039E-01	1.883E-01	0.000E+00	NOT IDENT.
CE-141	6.637E-03	7.380E-02	1.224E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.188E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-3.072E-01	2.352E-01	3.679E-01	0.000E+00	NOT IDENT.
PM-144	7.712E-03	3.862E-02	6.753E-02	0.000E+00	NOT IDENT.
PR-144	5.229E-01	2.618E+00	4.578E+00	0.000E+00	NOT IDENT.
PM-146	1.024E-02	4.881E-02	8.373E-02	0.000E+00	NOT IDENT.
ND-147	-1.880E-01	7.186E-01	1.179E+00	0.000E+00	NOT IDENT.
PM-149	1.046E+02	1.362E+02	2.435E+02	0.000E+00	NOT IDENT.
EU-152	3.430E-02	1.408E-01	2.021E-01	0.000E+00	FAIL ABUN
GD-153	7.497E-02	7.894E-02	1.247E-01	0.000E+00	FAIL ABUN
EU-154	1.971E-02	1.393E-01	2.337E-01	0.000E+00	NOT IDENT.
EU-155	7.064E-02	1.040E-01	1.827E-01	0.000E+00	FAIL ABUN
TB-160	-4.513E-02	1.739E-01	2.881E-01	0.000E+00	FAIL ABUN
HO-166M	8.851E-03	7.482E-02	1.298E-01	0.000E+00	FAIL ABUN
TM-171	1.003E+01	1.891E+01	2.960E+01	0.000E+00	NOT IDENT.
LU-176	-6.481E-03	2.780E-02	4.747E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.947E+00	2.478E+00	0.000E+00	FAIL ABUN
LU-177M	-1.079E-01	2.240E-01	3.144E-01	0.000E+00	NOT IDENT.
HF-181	1.815E-02	4.926E-02	8.519E-02	0.000E+00	NOT IDENT.
W-181	1.248E-01	2.418E-01	3.784E-01	0.000E+00	NOT IDENT.
TA-182	-3.232E-02	2.376E-01	3.886E-01	0.000E+00	FAIL ABUN
RE-183	1.631E-01	1.257E-01	2.214E-01	0.000E+00	FAIL ABUN
RE-184	-1.447E-01	2.477E-01	4.196E-01	0.000E+00	NOT IDENT.
OS-185	-4.124E-03	5.005E-02	8.217E-02	0.000E+00	NOT IDENT.
RE-188	2.124E-01	2.009E-01	3.513E-01	0.000E+00	NOT IDENT.
W-188	-1.244E+01	9.386E+00	1.263E+01	0.000E+00	FAIL ABUN
IR-192	5.011E-05	3.845E-02	6.637E-02	0.000E+00	FAIL ABUN
AU-195	2.263E-01	2.152E-01	3.715E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.398E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.026E+00	9.491E+00	1.541E+01	0.000E+00	NOT IDENT.
TL-202	-2.267E-02	7.944E-02	1.318E-01	0.000E+00	NOT IDENT.
HG-203	6.114E-02	5.339E-02	8.621E-02	0.000E+00	FAIL ABUN
BI-207	-2.104E-02	5.963E-02	9.607E-02	0.000E+00	FAIL ABUN
TL-207	-6.511E-01	7.808E-01	1.274E+00	0.000E+00	FAIL ABUN
PO-209	-5.421E+00	8.735E+00	1.389E+01	0.000E+00	NOT IDENT.
PB-211	2.311E-01	1.303E+00	1.938E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.447E-01	7.541E-01	0.000E+00	FAIL ABUN
PO-215	-6.511E-01	7.808E-01	1.274E+00	0.000E+00	FAIL ABUN
RN-219	4.328E-03	4.988E-01	8.274E-01	0.000E+00	FAIL ABUN
RN-220	-1.632E+01	3.026E+01	4.833E+01	0.000E+00	NOT IDENT.
RA-223	-6.511E-01	7.808E-01	1.274E+00	0.000E+00	FAIL ABUN
AC-227	2.664E-01	4.239E-01	7.568E-01	0.000E+00	NOT IDENT.
TH-227	2.664E-01	4.246E-01	7.568E-01	0.000E+00	FAIL ABUN
TH-229	-4.113E-01	5.967E-01	9.650E-01	0.000E+00	FAIL ABUN
PA-231	-1.807E+00	1.933E+00	2.840E+00	0.000E+00	NOT IDENT.
TH-231	-6.511E-01	7.808E-01	1.274E+00	0.000E+00	FAIL ABUN
U-231	9.515E-01	1.266E+00	1.980E+00	0.000E+00	FAIL ABUN
PA-233	-3.506E-03	7.071E-02	1.218E-01	0.000E+00	FAIL ABUN
PA-234	1.900E-02	3.551E-01	6.024E-01	0.000E+00	FAIL ABUN
PA-234M	-2.650E-01	5.921E+00	9.721E+00	0.000E+00	NOT IDENT.
U-235	2.867E-01	2.420E-01	4.085E-01	0.000E+00	FAIL ABUN
NP-236	8.067E-02	9.222E-02	1.604E-01	0.000E+00	NOT IDENT.
NP-239	1.065E-01	1.952E-01	3.402E-01	0.000E+00	FAIL ABUN
AM-241	6.263E-02	7.417E-02	1.181E-01	0.000E+00	NOT IDENT.
CM-243	-5.891E-04	9.338E-02	1.605E-01	0.000E+00	FAIL ABUN
AM-246	-3.159E-02	1.690E-01	2.772E-01	0.000E+00	NOT IDENT.
CM-247	-5.469E-03	4.840E-02	7.416E-02	0.000E+00	FAIL ABUN
CF-249	1.003E-02	4.478E-02	7.746E-02	0.000E+00	NOT IDENT.
CF-251	-6.700E-02	1.399E-01	2.296E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630001.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:09:52.
Sample ID          : G243630001          Sample quantity  : 1.21400E+02 GRAM
Detector name      : GAM05              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.69  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 937702             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	735	10.67*	1.003E+00	2.123E+01	2.123E+01	10.30
CD-109	88.03	212	3.72*	7.860E+00	2.244E+00	2.298E+00	33.17
SN-126	64.28	131	9.60	8.064E+00	5.215E-01	5.215E-01	66.71
	86.94	212	8.90	7.860E+00	9.379E-01	9.379E-01	52.31
	87.57	212	37.00*	7.860E+00	2.256E-01	2.256E-01	33.17
TL-208	277.35	64	6.80	4.264E+00	6.815E-01	6.815E-01	93.15
	510.84	99	21.60	2.544E+00	5.589E-01	5.589E-01	63.41
	583.14	346	84.20*	2.258E+00	5.622E-01	5.622E-01	17.01
	860.37	46	12.46	1.588E+00	7.123E-01	7.123E-01	85.59
BI-210	46.50	114	4.05*	7.636E+00	1.137E+00	1.139E+00	86.01
PB-210	46.50	114	4.05*	7.636E+00	1.137E+00	1.139E+00	86.01
PO-210	46.50	114	4.05*	7.636E+00	1.137E+00	1.139E+00	85.92
BI-211	72.87	-----	1.27	8.052E+00	-----	Line Not Found	-----
	351.07	639	12.94*	3.515E+00	4.343E+00	4.343E+00	14.55
PB-212	74.81	649	10.70	8.037E+00	2.334E+00	2.334E+00	20.05
	77.11	1037	18.00	8.012E+00	2.224E+00	2.224E+00	12.84
	87.30	212	8.00	7.860E+00	1.043E+00	1.043E+00	34.65
	238.63	1276	44.60*	4.771E+00	1.855E+00	1.855E+00	12.75
	300.09	-----	3.41	4.005E+00	-----	Line Not Found	-----
PO-212	74.81	649	10.70	8.037E+00	2.334E+00	2.334E+00	20.05
	77.11	1037	18.00	8.012E+00	2.224E+00	2.224E+00	12.84
	87.30	212	8.00	7.860E+00	1.043E+00	1.043E+00	34.65
	115.19	-----	0.60	7.241E+00	-----	Line Not Found	-----
	238.63	1276	44.60*	4.771E+00	1.855E+00	1.855E+00	12.75
	300.09	-----	3.41	4.005E+00	-----	Line Not Found	-----
BI-214	609.31	396	46.30*	2.171E+00	1.217E+00	1.217E+00	18.54
	1120.29	107	15.10	1.258E+00	1.742E+00	1.742E+00	37.04
	1764.49	63	15.80	8.609E-01	1.425E+00	1.425E+00	35.67
PB-214	74.81	649	6.21	8.037E+00	4.022E+00	4.022E+00	19.22
	77.11	1037	10.50	8.012E+00	3.813E+00	3.813E+00	14.93
	87.30	212	4.67	7.860E+00	1.787E+00	1.787E+00	34.05
	241.98	291	7.49	4.727E+00	2.543E+00	2.543E+00	30.98

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	371	19.20	4.055E+00	1.473E+00	1.473E+00	21.67
	351.92	639	37.20*	3.515E+00	1.511E+00	1.511E+00	15.46
	74.81	649	6.21	8.037E+00	4.022E+00	4.022E+00	19.22
	77.11	1037	10.50	8.012E+00	3.813E+00	3.813E+00	14.93
	87.30	212	4.67	7.860E+00	1.787E+00	1.787E+00	34.05
PO-216	241.98	291	7.49	4.727E+00	2.543E+00	2.543E+00	30.98
	295.21	371	19.20	4.055E+00	1.473E+00	1.473E+00	21.67
	351.92	639	37.20*	3.515E+00	1.511E+00	1.511E+00	15.46
	74.81	649	10.70	8.037E+00	2.334E+00	2.334E+00	20.05
	77.11	1037	18.00	8.012E+00	2.224E+00	2.224E+00	12.84
PO-218	87.30	212	8.00	7.860E+00	1.043E+00	1.043E+00	34.65
	238.63	1276	44.60*	4.771E+00	1.855E+00	1.855E+00	12.75
	300.09	-----	3.41	4.005E+00	-----	Line Not Found	-----
	74.81	649	6.21	8.037E+00	4.022E+00	4.022E+00	19.22
	77.11	1037	10.50	8.012E+00	3.813E+00	3.813E+00	14.93
RA-224	87.30	212	4.67	7.860E+00	1.787E+00	1.787E+00	34.05
	241.98	291	7.49	4.727E+00	2.543E+00	2.543E+00	30.98
	295.21	371	19.20	4.055E+00	1.473E+00	1.473E+00	21.67
	351.92	639	37.20*	3.515E+00	1.511E+00	1.511E+00	15.46
	240.98	291	3.95*	4.727E+00	4.821E+00	4.821E+00	30.47
RA-226	609.31	396	46.30*	2.171E+00	1.217E+00	1.217E+00	18.54
	1120.29	107	15.10	1.258E+00	1.742E+00	1.742E+00	37.04
	1764.49	63	15.80	8.609E-01	1.425E+00	1.425E+00	35.67
	338.32	209	11.40	3.631E+00	1.563E+00	1.563E+00	49.07
	911.07	255	27.70*	1.510E+00	1.888E+00	1.888E+00	20.80
AC-228	969.11	113	16.60	1.429E+00	1.466E+00	1.466E+00	40.82
	338.32	209	11.40	3.631E+00	1.563E+00	1.563E+00	49.07
	911.07	255	27.70*	1.510E+00	1.888E+00	1.888E+00	20.80
	969.11	113	16.60	1.429E+00	1.466E+00	1.466E+00	40.82
	74.81	649	10.70	8.037E+00	2.334E+00	2.372E+00	17.77
TH-228	77.11	1037	18.00	8.012E+00	2.224E+00	2.260E+00	12.84
	87.30	212	8.00	7.860E+00	1.043E+00	1.060E+00	33.17
	238.63	1276	44.60*	4.771E+00	1.855E+00	1.885E+00	12.75
	300.09	-----	3.41	4.005E+00	-----	Line Not Found	-----
	609.31	396	46.30*	2.171E+00	1.217E+00	1.217E+00	18.54
TH-230	1120.29	107	15.10	1.258E+00	1.742E+00	1.742E+00	37.04
	1764.49	63	15.80	8.609E-01	1.425E+00	1.425E+00	35.67
	338.32	209	11.40	3.631E+00	1.563E+00	1.563E+00	27.93
	911.07	255	27.70*	1.510E+00	1.888E+00	1.888E+00	20.80
	969.11	113	16.60	1.429E+00	1.466E+00	1.466E+00	40.82
TH-232	63.29	131	3.80*	8.064E+00	1.317E+00	1.317E+00	67.41
	92.38	397	5.41	7.746E+00	2.930E+00	2.930E+00	27.13
	609.31	396	46.30*	2.171E+00	1.217E+00	1.217E+00	18.54
	1120.29	107	15.10	1.258E+00	1.742E+00	1.742E+00	37.04
	1764.49	63	15.80	8.609E-01	1.425E+00	1.425E+00	35.67
U-234	86.50	212	12.60*	7.860E+00	6.625E-01	6.625E-01	39.07
	95.87	-----	2.60	7.687E+00	-----	Line Not Found	-----
	63.29	131	3.80*	8.064E+00	1.317E+00	1.317E+00	67.41
	92.38	397	5.41	7.746E+00	2.930E+00	2.930E+00	21.99

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	649	66.00*	8.037E+00	3.784E-01	3.784E-01	17.74
	86.72	212	0.34	7.860E+00	2.484E+01	2.484E+01	33.17
	117.66	-----	0.55	7.181E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.593E+00	-----	Line Not Found	-----
ANH-511	511.00	99	100.00*	2.544E+00	1.207E-01	1.207E-01	62.86

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 1
Number of lines tentatively identified by NID 30 96.77%

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	2.123E+01	2.123E+01	0.219E+01	10.30	
CD-109	464.00D	1.02	2.244E+00	2.298E+00	0.762E+00	33.17	
SN-126	1.00E+05Y	1.00	2.256E-01	2.256E-01	0.748E-01	33.17	
TL-208	1.41E+10Y	1.00	5.622E-01	5.622E-01	0.956E-01	17.01	
BI-210	22.26Y	1.00	1.137E+00	1.139E+00	0.980E+00	86.01	
PB-210	22.26Y	1.00	1.137E+00	1.139E+00	0.980E+00	86.01	
PO-210	22.26Y	1.00	1.137E+00	1.139E+00	0.979E+00	85.92	
BI-211	7.04E+08Y	1.00	4.343E+00	4.343E+00	0.632E+00	14.55	
PB-212	1.41E+10Y	1.00	1.855E+00	1.855E+00	0.237E+00	12.75	
PO-212	1.41E+10Y	1.00	1.855E+00	1.855E+00	0.237E+00	12.75	
BI-214	1600.00Y	1.00	1.217E+00	1.217E+00	0.226E+00	18.54	
PB-214	1600.00Y	1.00	1.511E+00	1.511E+00	0.234E+00	15.46	
PO-214	1600.00Y	1.00	1.511E+00	1.511E+00	0.234E+00	15.46	
PO-216	1.41E+10Y	1.00	1.855E+00	1.855E+00	0.237E+00	12.75	
PO-218	1600.00Y	1.00	1.511E+00	1.511E+00	0.234E+00	15.46	
RA-224	1.41E+10Y	1.00	4.821E+00	4.821E+00	1.469E+00	30.47	
RA-226	1600.00Y	1.00	1.217E+00	1.217E+00	0.226E+00	18.54	
AC-228	1.41E+10Y	1.00	1.888E+00	1.888E+00	0.393E+00	20.80	
RA-228	1.41E+10Y	1.00	1.888E+00	1.888E+00	0.393E+00	20.80	
TH-228	1.91Y	1.02	1.855E+00	1.885E+00	0.240E+00	12.75	
TH-230	4.47E+09Y	1.00	1.217E+00	1.217E+00	0.226E+00	18.54	
TH-232	1.41E+10Y	1.00	1.888E+00	1.888E+00	0.393E+00	20.80	
TH-234	4.47E+09Y	1.00	1.317E+00	1.317E+00	0.888E+00	67.41	
U-234	4.47E+09Y	1.00	1.217E+00	1.217E+00	0.226E+00	18.54	
NP-237	2.14E+06Y	1.00	6.625E-01	6.625E-01	2.588E-01	39.07	
U-238	4.47E+09Y	1.00	1.317E+00	1.317E+00	0.888E+00	67.41	
AM-243	7380.00Y	1.00	3.784E-01	3.784E-01	0.671E-01	17.74	
ANH-511	1.00E+09Y	1.00	1.207E-01	1.207E-01	0.759E-01	62.86	

Total Activity : 6.312E+01 6.321E+01

Grand Total Activity : 6.312E+01 6.321E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243630001

Page : 5
Acquisition date : 7-JAN-2010 13:09:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	83.94	36	491	1.37	168.85	166	8	4.95E-03	****	7.92E+00	T
0	186.19	233	272	1.54	373.33	369	10	3.24E-02	30.6	5.65E+00	T
0	209.55	110	289	1.31	420.04	415	11	1.53E-02	63.1	5.23E+00	T
0	270.79	94	269	0.69	542.50	536	14	1.31E-02	77.4	4.34E+00	T
0	410.83	21	146	0.94	822.49	814	12	2.93E-03	****	3.08E+00	T
0	463.66	39	125	1.02	928.10	922	11	5.39E-03	****	2.77E+00	T
0	727.37	68	75	1.10	1455.25	1451	13	9.45E-03	57.0	1.85E+00	T
0	772.13	41	93	5.70	1544.72	1535	19	5.65E-03	****	1.75E+00	
0	795.08	54	33	1.64	1590.58	1585	12	7.48E-03	51.9	1.71E+00	T
1	964.72	58	56	2.19	1929.60	1921	25	7.99E-03	56.8	1.44E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630001.CNF;1
* Acquisition date   : 7-JAN-2010 13:09:52.  Detector SN#      :
* Detector ID        : GAM05                      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 02:00:01.69             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630001           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.21400E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00.5MS 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	2.123E+01	2.186E+00	6.119E-01	3.806E-02	34.695
CD-109	2.298E+00	7.624E-01	1.190E+00	9.060E-02	1.932
SN-126	2.256E-01	7.483E-02	1.283E-01	9.770E-03	1.758
TL-208	5.622E-01	9.561E-02	7.457E-02	5.487E-03	7.540
BI-210	1.139E+00	9.797E-01	9.044E-01	7.055E-02	1.259
PB-210	1.139E+00	9.797E-01	9.044E-01	7.055E-02	1.259
PO-210	1.139E+00	9.787E-01	9.044E-01	6.083E-02	1.259
BI-211	4.343E+00	6.318E-01	3.759E-01	2.979E-02	11.555
PB-212	1.855E+00	2.366E-01	1.041E-01	1.123E-02	17.814
PO-212	1.855E+00	2.366E-01	1.041E-01	1.123E-02	17.814
BI-214	1.217E+00	2.257E-01	1.530E-01	1.282E-02	7.959
PB-214	1.511E+00	2.335E-01	1.310E-01	1.240E-02	11.529
PO-214	1.511E+00	2.335E-01	1.310E-01	1.240E-02	11.529
PO-216	1.855E+00	2.366E-01	1.041E-01	1.123E-02	17.814
PO-218	1.511E+00	2.335E-01	1.310E-01	1.240E-02	11.529
RA-224	4.821E+00	1.469E+00	1.185E+00	1.159E-01	4.069
RA-226	1.217E+00	2.257E-01	1.530E-01	1.282E-02	7.959
AC-228	1.888E+00	3.927E-01	2.766E-01	3.423E-02	6.826

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.888E+00	3.927E-01	2.766E-01	3.423E-02	6.826
TH-228	1.885E+00	2.404E-01	1.058E-01	1.141E-02	17.814
TH-230	1.217E+00	2.257E-01	1.529E-01	1.282E-02	7.959
TH-232	1.888E+00	3.927E-01	2.766E-01	3.423E-02	6.826
TH-234	1.317E+00	8.880E-01	1.148E+00	2.040E-01	1.147
U-234	1.217E+00	2.257E-01	1.529E-01	1.282E-02	7.959
NP-237	6.625E-01	2.588E-01	3.997E-01	8.794E-02	1.657
U-238	1.317E+00	8.880E-01	1.148E+00	2.040E-01	1.147
AM-243	3.784E-01	6.712E-02	6.226E-02	4.876E-03	6.078
ANH-511	1.207E-01	7.589E-02	5.683E-02	3.637E-03	2.124

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.453E-02		3.839E-01	6.377E-01	4.568E-02	0.148
NA-22	7.562E-03		5.096E-02	8.389E-02	4.887E-03	0.090
NA-24	-1.754E+00		1.335E+00	Half-Life	too short	
AL-26	-2.196E-02		3.882E-02	5.657E-02	3.246E-03	-0.388
TI-44	4.104E-01	+	5.270E-02	6.862E-02	5.324E-03	5.981
SC-46	-4.221E-02		5.000E-02	7.589E-02	7.622E-03	-0.556
V-48	-1.186E-02		8.227E-02	1.332E-01	1.220E-02	-0.089
CR-51	-3.326E-01		4.384E-01	6.963E-01	6.158E-02	-0.478
MN-52	-1.258E-01		3.181E-01	5.026E-01	2.943E-02	-0.250
MN-54	-3.660E-02		4.807E-02	7.467E-02	6.840E-03	-0.490
CO-56	-2.958E-02		5.133E-02	8.083E-02	7.559E-03	-0.366
CO-57	1.142E-02		2.718E-02	4.488E-02	6.368E-03	0.255
CO-58	-8.109E-03		4.561E-02	7.458E-02	6.564E-03	-0.109
FE-59	-1.397E-01		1.029E-01	1.398E-01	1.132E-02	-1.000
CO-60	1.736E-02		4.088E-02	7.005E-02	4.054E-03	0.248
ZN-65	1.944E-02		1.197E-01	1.714E-01	1.197E-02	0.113
GE-68	-2.481E-01		1.545E+00	2.487E+00	1.910E-01	-0.100
AS-73	-7.616E-02		2.585E-01	4.213E-01	3.171E-02	-0.181
AS-74	-7.376E-02		1.140E-01	1.738E-01	1.143E-02	-0.424
SE-75	3.673E-02		5.720E-02	8.681E-02	8.287E-03	0.423
BR-77	-1.972E+00		1.685E+01	2.715E+01	1.746E+00	-0.073
SR-82	-2.656E-01		5.806E-01	7.880E-01	6.501E-02	-0.337
RB-83	-8.496E-03		8.702E-02	1.404E-01	9.031E-03	-0.060
RB-84	2.789E-02		8.820E-02	1.500E-01	1.488E-02	0.186
KR-85	2.153E+01		1.131E+01	1.823E+01	1.168E+00	1.181
SR-85	1.115E-01		5.857E-02	9.438E-02	6.050E-03	1.181
RB-86	-5.434E-01		1.015E+00	1.569E+00	1.207E-01	-0.346
Y-88	2.331E-02		3.857E-02	7.110E-02	4.068E-03	0.328
ZR-88	3.514E-03		3.657E-02	6.060E-02	3.529E-03	0.058
Y-91	1.665E+01		2.177E+01	3.798E+01	2.207E+00	0.438
NB-94	2.767E-02		4.124E-02	7.230E-02	5.173E-03	0.383
NB-95	3.161E-02		5.680E-02	8.678E-02	7.019E-03	0.364
NB-95M	3.507E-01		1.668E-01	2.655E-01	2.904E-02	1.321

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	3.908E-02		8.715E-02	1.505E-01	1.337E-02	0.260
NB-97	-1.234E-01		1.569E-01	Half-Life too short		
ZR-97	1.011E+01		3.005E+00	Half-Life too short		
MO-99	6.692E+00		1.698E+01	2.925E+01	4.294E+00	0.229
TC-99M	-6.823E+11		3.028E+11	Half-Life too short		
RH-101	7.947E-03		4.074E-02	6.524E-02	6.515E-03	0.122
RH-102	1.313E-03		3.525E-02	5.771E-02	3.615E-03	0.023
RU-103	8.834E-03		4.969E-02	8.199E-02	1.058E-02	0.108
RH-106	-6.896E-02		3.809E-01	6.036E-01	7.333E-02	-0.114
RU-106	-6.896E-02		3.808E-01	6.036E-01	3.979E-02	-0.114
AG-108M	-5.072E-03		3.698E-02	6.005E-02	3.929E-03	-0.084
AG-110M	-1.723E-02		4.515E-02	7.017E-02	4.850E-03	-0.246
IN-111	8.334E-01		1.575E+00	2.384E+00	2.322E-01	0.350
IN-113M	-2.806E-02		5.248E-02	8.350E-02	5.180E-03	-0.336
SN-113	-2.806E-02		5.248E-02	8.350E-02	5.180E-03	-0.336
IN-114M	1.922E-01		2.320E-01	3.405E-01	3.400E-02	0.565
CD-115	8.126E-01		1.808E+01	2.873E+01	1.853E+00	0.028
SN-117M	-1.072E-01		7.072E-02	1.053E-01	1.132E-02	-1.017
SB-122	3.819E+00		3.276E+00	5.740E+00	3.751E-01	0.665
I-123	-2.193E+01		1.129E+01	Half-Life too short		
TE-123M	-3.346E-02		3.445E-02	5.299E-02	5.694E-03	-0.632
I-124	1.337E-01		1.162E+00	1.636E+00	1.077E-01	0.082
SB-124	9.500E-02		9.447E-02	1.815E-01	1.149E-02	0.523
SB-125	-2.993E-02		1.097E-01	1.768E-01	1.108E-02	-0.169
TE-125M	-8.359E+00		9.471E+00	1.481E+01	1.903E+00	-0.565
I-126	-9.537E-02		2.630E-01	4.101E-01	2.723E-02	-0.233
SB-126	7.321E-03		2.089E-01	3.254E-01	2.413E-02	0.022
SB-127	-1.177E-02		1.959E+00	3.284E+00	3.434E-01	-0.004
XE-127	-2.369E-02		5.817E-02	8.773E-02	8.757E-03	-0.270
I-131	5.150E-02		1.439E-01	2.429E-01	1.826E-02	0.212
TE-132	-5.022E-01		9.162E-01	1.499E+00	2.489E-01	-0.335
BA-133	6.604E-03		5.851E-02	8.474E-02	1.046E-02	0.078
I-133	-8.158E-03		7.994E-03	Half-Life too short		
CS-134	1.288E-01	+	6.772E-02	9.929E-02	8.551E-03	1.297
CS-135	9.545E-02		2.189E-01	3.231E-01	3.457E-02	0.295
I-135	-1.110E+10		3.412E+10	Half-Life too short		
CS-136	1.066E-02		1.285E-01	2.124E-01	1.820E-02	0.050
BA-137M	-6.615E-03		4.784E-02	7.596E-02	4.995E-03	-0.087
CS-137	-6.993E-03		5.057E-02	8.030E-02	5.298E-03	-0.087
CE-139	-1.203E-02		3.379E-02	5.351E-02	5.313E-03	-0.225
BA-140	-1.122E-01		3.368E-01	5.294E-01	1.728E-01	-0.212
LA-140	5.452E-02		1.060E-01	1.889E-01	1.110E-02	0.289
CE-141	6.637E-03		7.530E-02	1.192E-01	1.458E-02	0.056
CE-143	1.309E-03		2.137E-04	Half-Life too short		
CE-144	-3.072E-01		2.400E-01	3.579E-01	6.626E-02	-0.858
PM-144	7.712E-03		3.941E-02	6.704E-02	4.740E-03	0.115
PR-144	5.229E-01		2.672E+00	4.545E+00	3.212E-01	0.115
PM-146	1.024E-02		4.980E-02	8.268E-02	7.337E-03	0.124

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-1.880E-01		7.333E-01	1.167E+00	1.612E-01	-0.161
PM-149	1.046E+02		1.390E+02	2.390E+02	3.789E+01	0.438
EU-152	3.430E-02		1.436E-01	1.988E-01	1.635E-02	0.173
GD-153	7.497E-02		8.056E-02	1.209E-01	1.120E-02	0.620
EU-154	1.971E-02		1.421E-01	2.337E-01	2.185E-02	0.084
EU-155	7.064E-02		1.061E-01	1.772E-01	1.920E-02	0.399
TB-160	-4.513E-02		1.774E-01	2.868E-01	2.834E-02	-0.157
HO-166M	8.851E-03		7.635E-02	1.289E-01	9.391E-03	0.069
TM-171	1.003E+01		1.930E+01	2.856E+01	2.295E+00	0.351
LU-176	-6.481E-03		2.837E-02	4.664E-02	4.062E-03	-0.139
LU-177	3.113E+00	+	1.987E+00	2.423E+00	2.416E-01	1.284
LU-177M	-1.079E-01		2.286E-01	3.101E-01	1.846E-02	-0.348
HF-181	1.815E-02		5.027E-02	8.418E-02	5.298E-03	0.216
W-181	1.248E-01		2.468E-01	3.649E-01	2.950E-02	0.342
TA-182	-3.232E-02		2.424E-01	3.885E-01	2.259E-02	-0.083
RE-183	1.631E-01		1.282E-01	2.158E-01	2.230E-02	0.756
RE-184	-1.447E-01		2.528E-01	4.114E-01	3.974E-02	-0.352
OS-185	-4.124E-03		5.107E-02	8.149E-02	5.368E-03	-0.051
RE-188	2.124E-01		2.050E-01	3.423E-01	3.811E-02	0.620
W-188	-1.244E+01		9.577E+00	1.240E+01	1.124E+00	-1.003
IR-192	5.011E-05		3.924E-02	6.524E-02	5.537E-03	0.001
AU-195	2.263E-01		2.196E-01	3.601E-01	3.434E-02	0.628
TL-200	-4.811E-04		4.795E-04	Half-Life too short		
TL-201	-7.026E+00		9.685E+00	1.503E+01	1.492E+00	-0.467
TL-202	-2.267E-02		8.106E-02	1.301E-01	7.931E-03	-0.174
HG-203	6.114E-02		5.448E-02	8.462E-02	8.046E-03	0.723
BI-207	-2.104E-02		6.084E-02	9.588E-02	7.593E-03	-0.219
TL-207	-6.511E-01		7.968E-01	1.253E+00	2.197E-01	-0.520
PO-209	-5.421E+00		8.913E+00	1.384E+01	1.407E+00	-0.392
PB-211	2.311E-01		1.329E+00	1.911E+00	1.192E+00	0.121
BI-212	9.634E-01	+	5.558E-01	7.490E-01	6.794E-02	1.286
PO-215	-6.511E-01		7.968E-01	1.253E+00	2.197E-01	-0.520
RN-219	4.328E-03		5.090E-01	8.158E-01	1.113E-01	0.005
RN-220	-1.632E+01		3.087E+01	4.784E+01	3.112E+00	-0.341
RA-223	-6.511E-01		7.968E-01	1.253E+00	2.197E-01	-0.520
AC-227	2.664E-01		4.325E-01	7.420E-01	1.182E-01	0.359
TH-227	2.664E-01		4.333E-01	7.420E-01	1.377E-01	0.359
TH-229	-4.113E-01		6.089E-01	9.430E-01	9.418E-02	-0.436
PA-231	-1.807E+00		1.973E+00	2.788E+00	4.326E-01	-0.648
TH-231	-6.511E-01		7.968E-01	1.253E+00	2.197E-01	-0.520
U-231	9.515E-01		1.292E+00	1.919E+00	1.724E-01	0.496
PA-233	-3.506E-03		7.215E-02	1.197E-01	1.057E-02	-0.029
PA-234	1.900E-02		3.624E-01	6.003E-01	1.156E-01	0.032
PA-234M	-2.650E-01		6.042E+00	9.693E+00	9.905E-01	-0.027
U-235	2.867E-01		2.469E-01	3.977E-01	7.782E-02	0.721
NP-236	8.067E-02		9.410E-02	1.564E-01	1.651E-02	0.516
NP-239	1.065E-01		1.991E-01	3.304E-01	4.329E-02	0.322
AM-241	6.263E-02		7.568E-02	1.138E-01	1.018E-02	0.550

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-5.891E-04		9.528E-02	1.557E-01	1.627E-02	-0.004
AM-246	-3.159E-02		1.724E-01	2.767E-01	2.118E-02	-0.114
CM-247	-5.469E-03		4.939E-02	7.312E-02	4.303E-03	-0.075
CF-249	1.003E-02		4.570E-02	7.634E-02	4.566E-03	0.131
CF-251	-6.700E-02		1.428E-01	2.241E-01	2.232E-02	-0.299

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]G243630001      *
* Acquisition date   : 7-JAN-2010 13:09:52 Detector SN#              *
* Detector ID        : GAM05                                           *
* Geometry           : CAN                                             *
* Elapsed live time  : 0 02:00:00.00 Energy tolerance: 1.500          *
* Elapsed real time  : 0 02:00:01.69 Abundance limit : 75.000         *
*                               Half life ratio : 8.000                 *
*****
*                               SAMPLE DATA                              *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID     *
* Sample ID          : G243630001 Analyst initials: MXR1              *
* Batch Number       : 937702 Sample Quantity : 1.2140E+02 GRAM       *
* Recovery           : 1.00000 Carrier Weight : 0.00000               *
*****
*                               QC DATA                                 *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 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	2.123E+01	2.143E+00	3.055E-01	1.093E+00
CD-109	2.298E+00	7.471E-01	6.149E-01	3.812E-01
SN-126	2.256E-01	7.333E-02	6.631E-02	3.742E-02
TL-208	5.622E-01	9.370E-02	3.766E-02	4.781E-02
BI-210	1.139E+00	9.602E-01	4.710E-01	4.899E-01
PB-210	1.139E+00	9.602E-01	4.710E-01	4.899E-01
PO-210	1.139E+00	9.591E-01	4.710E-01	4.894E-01
BI-211	4.343E+00	6.192E-01	1.911E-01	3.159E-01
PB-212	1.855E+00	2.318E-01	5.317E-02	1.183E-01
PO-212	1.855E+00	2.318E-01	5.317E-02	1.183E-01
BI-214	1.217E+00	2.212E-01	7.721E-02	1.128E-01
PB-214	1.511E+00	2.288E-01	6.660E-02	1.168E-01
PO-214	1.511E+00	2.288E-01	6.660E-02	1.168E-01
PO-216	1.855E+00	2.318E-01	5.317E-02	1.183E-01
PO-218	1.511E+00	2.288E-01	6.660E-02	1.168E-01
RA-224	4.821E+00	1.440E+00	6.051E-01	7.344E-01
RA-226	1.217E+00	2.212E-01	7.721E-02	1.128E-01
AC-228	1.888E+00	3.848E-01	1.389E-01	1.963E-01
RA-228	1.888E+00	3.848E-01	1.389E-01	1.963E-01
TH-228	1.885E+00	2.356E-01	5.403E-02	1.202E-01
TH-230	1.217E+00	2.212E-01	7.721E-02	1.128E-01
TH-232	1.888E+00	3.848E-01	1.389E-01	1.963E-01
TH-234	1.317E+00	8.702E-01	5.957E-01	4.440E-01
U-234	1.217E+00	2.212E-01	7.721E-02	1.128E-01
NP-237	6.625E-01	2.536E-01	2.066E-01	1.294E-01
U-238	1.317E+00	8.702E-01	5.957E-01	4.440E-01
AM-243	3.784E-01	6.578E-02	3.224E-02	3.356E-02
ANH-511	1.207E-01	7.437E-02	2.875E-02	3.794E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	9.453E-02	3.762E-01	3.229E-01	1.919E-01	NOT IDENT.
NA-22	7.562E-03	4.994E-02	4.196E-02	2.548E-02	NOT IDENT.
NA-24	-1.754E+06	2.617E+06	0.000E+00	1.335E+06	SHORT HLIF
AL-26	-2.196E-02	3.804E-02	2.817E-02	1.941E-02	NOT IDENT.
TI-44	4.104E-01	5.165E-02	3.552E-02	2.635E-02	FAIL ABUN
SC-46	-4.221E-02	4.900E-02	3.813E-02	2.500E-02	FAIL ABUN
V-48	-1.186E-02	8.063E-02	6.684E-02	4.114E-02	NOT IDENT.
CR-51	-3.326E-01	4.296E-01	3.543E-01	2.192E-01	NOT IDENT.
MN-52	-1.258E-01	3.118E-01	2.510E-01	1.591E-01	NOT IDENT.
MN-54	-3.660E-02	4.711E-02	3.755E-02	2.404E-02	NOT IDENT.
CO-56	-2.958E-02	5.031E-02	4.064E-02	2.567E-02	NOT IDENT.
CO-57	1.142E-02	2.664E-02	2.311E-02	1.359E-02	NOT IDENT.
CO-58	-8.109E-03	4.470E-02	3.752E-02	2.280E-02	NOT IDENT.
FE-59	-1.397E-01	1.009E-01	7.005E-02	5.147E-02	NOT IDENT.
CO-60	1.736E-02	4.006E-02	3.502E-02	2.044E-02	NOT IDENT.
ZN-65	1.944E-02	1.173E-01	8.586E-02	5.985E-02	NOT IDENT.
GE-68	-2.481E-01	1.514E+00	1.247E+00	7.727E-01	NOT IDENT.
AS-73	-7.616E-02	2.533E-01	2.190E-01	1.292E-01	NOT IDENT.
AS-74	-7.376E-02	1.117E-01	8.775E-02	5.699E-02	NOT IDENT.
SE-75	3.673E-02	5.605E-02	4.427E-02	2.860E-02	NOT IDENT.
BR-77	-1.972E+00	1.651E+01	1.373E+01	8.425E+00	FAIL ABUN
SR-82	-2.656E-01	5.690E-01	3.966E-01	2.903E-01	NOT IDENT.
RB-83	-8.496E-03	8.528E-02	7.104E-02	4.351E-02	NOT IDENT.
RB-84	2.789E-02	8.644E-02	7.539E-02	4.410E-02	NOT IDENT.
KR-85	2.153E+01	1.109E+01	9.222E+00	5.656E+00	NOT IDENT.
SR-85	1.115E-01	5.740E-02	4.775E-02	2.928E-02	NOT IDENT.
RB-86	-5.434E-01	9.948E-01	7.863E-01	5.076E-01	NOT IDENT.
Y-88	2.331E-02	3.780E-02	3.540E-02	1.929E-02	NOT IDENT.
ZR-88	3.514E-03	3.584E-02	3.076E-02	1.829E-02	NOT IDENT.
Y-91	1.665E+01	2.133E+01	1.901E+01	1.088E+01	NOT IDENT.
NB-94	2.767E-02	4.041E-02	3.643E-02	2.062E-02	NOT IDENT.
NB-95	3.161E-02	5.566E-02	4.368E-02	2.840E-02	NOT IDENT.
NB-95M	3.507E-01	1.634E-01	1.356E-01	8.339E-02	NOT IDENT.
ZR-95	3.908E-02	8.541E-02	7.576E-02	4.358E-02	NOT IDENT.
NB-97	-1.234E+05	3.076E+05	0.000E+00	1.569E+05	SHORT HLIF
ZR-97	1.011E+07	5.890E+06	0.000E+00	3.005E+06	SHORT HLIF
MO-99	6.692E+00	1.664E+01	1.473E+01	8.491E+00	NOT IDENT.
TC-99M	-6.823E+17	5.935E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.947E-03	3.992E-02	3.339E-02	2.037E-02	NOT IDENT.
RH-102	1.313E-03	3.455E-02	2.923E-02	1.763E-02	NOT IDENT.
RU-103	8.834E-03	4.869E-02	4.150E-02	2.484E-02	FAIL ABUN
RH-106	-6.896E-02	3.733E-01	3.047E-01	1.904E-01	FAIL ABUN
RU-106	-6.896E-02	3.732E-01	3.047E-01	1.904E-01	FAIL ABUN
AG-108M	-5.072E-03	3.624E-02	3.045E-02	1.849E-02	NOT IDENT.
AG-110M	-1.723E-02	4.425E-02	3.539E-02	2.257E-02	NOT IDENT.
IN-111	8.334E-01	1.543E+00	1.217E+00	7.875E-01	NOT IDENT.
IN-113M	-2.806E-02	5.143E-02	4.239E-02	2.624E-02	NOT IDENT.
SN-113	-2.806E-02	5.143E-02	4.239E-02	2.624E-02	NOT IDENT.
IN-114M	1.922E-01	2.273E-01	1.744E-01	1.160E-01	NOT IDENT.
CD-115	8.126E-01	1.772E+01	1.453E+01	9.041E+00	NOT IDENT.
SN-117M	-1.072E-01	6.931E-02	5.405E-02	3.536E-02	NOT IDENT.
SB-122	3.819E+00	3.210E+00	2.900E+00	1.638E+00	NOT IDENT.
I-123	-2.193E+07	2.212E+07	0.000E+00	1.129E+07	SHORT HLIF
TE-123M	-3.346E-02	3.376E-02	2.719E-02	1.722E-02	NOT IDENT.
I-124	1.337E-01	1.139E+00	8.262E-01	5.812E-01	NOT IDENT.
SB-124	9.500E-02	9.258E-02	9.044E-02	4.724E-02	FAIL ABUN
SB-125	-2.993E-02	1.075E-01	8.963E-02	5.486E-02	FAIL ABUN
TE-125M	-8.359E+00	9.282E+00	7.634E+00	4.736E+00	NOT IDENT.
I-126	-9.537E-02	2.577E-01	2.068E-01	1.315E-01	NOT IDENT.
SB-126	7.321E-03	2.047E-01	1.639E-01	1.044E-01	FAIL ABUN
SB-127	-1.177E-02	1.920E+00	1.656E+00	9.795E-01	FAIL ABUN
XE-127	-2.369E-02	5.701E-02	4.489E-02	2.909E-02	NOT IDENT.
I-131	5.150E-02	1.411E-01	1.234E-01	7.197E-02	NOT IDENT.
TE-132	-5.022E-01	8.979E-01	7.658E-01	4.581E-01	NOT IDENT.
BA-133	6.604E-03	5.734E-02	4.306E-02	2.926E-02	FAIL ABUN
I-133	-8.158E+03	1.567E+04	0.000E+00	7.994E+03	SHORT HLIF
CS-134	1.288E-01	6.637E-02	4.996E-02	3.386E-02	FAIL ABUN
CS-135	9.545E-02	2.146E-01	1.648E-01	1.095E-01	NOT IDENT.
I-135	-1.110E+16	6.687E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.066E-02	1.259E-01	1.065E-01	6.426E-02	FAIL ABUN
BA-137M	-6.615E-03	4.688E-02	3.831E-02	2.392E-02	NOT IDENT.
CS-137	-6.993E-03	4.956E-02	4.050E-02	2.529E-02	NOT IDENT.
CE-139	-1.203E-02	3.311E-02	2.745E-02	1.690E-02	NOT IDENT.
BA-140	-1.122E-01	3.301E-01	2.676E-01	1.684E-01	NOT IDENT.
LA-140	5.452E-02	1.039E-01	9.422E-02	5.301E-02	NOT IDENT.
CE-141	6.637E-03	7.380E-02	6.126E-02	3.765E-02	NOT IDENT.
CE-143	1.309E+03	4.188E+02	0.000E+00	2.137E+02	SHORT HLIF

CE-144	-3.072E-01	2.352E-01	1.841E-01	1.200E-01	NOT IDENT.
PM-144	7.712E-03	3.862E-02	3.379E-02	1.970E-02	NOT IDENT.
PR-144	5.229E-01	2.618E+00	2.291E+00	1.336E+00	NOT IDENT.
PM-146	1.024E-02	4.881E-02	4.189E-02	2.490E-02	NOT IDENT.
ND-147	-1.880E-01	7.186E-01	5.900E-01	3.666E-01	NOT IDENT.
PM-149	1.046E+02	1.362E+02	1.218E+02	6.950E+01	NOT IDENT.
EU-152	3.430E-02	1.408E-01	1.011E-01	7.182E-02	FAIL ABUN
GD-153	7.497E-02	7.894E-02	6.239E-02	4.028E-02	FAIL ABUN
EU-154	1.971E-02	1.393E-01	1.169E-01	7.107E-02	NOT IDENT.
EU-155	7.064E-02	1.040E-01	9.141E-02	5.304E-02	FAIL ABUN
TB-160	-4.513E-02	1.739E-01	1.441E-01	8.871E-02	FAIL ABUN
HO-166M	8.851E-03	7.482E-02	6.495E-02	3.818E-02	FAIL ABUN
TM-171	1.003E+01	1.891E+01	1.481E+01	9.650E+00	NOT IDENT.
LU-176	-6.481E-03	2.780E-02	2.375E-02	1.419E-02	FAIL ABUN
LU-177	3.113E+00	1.947E+00	1.240E+00	9.936E-01	FAIL ABUN
LU-177M	-1.079E-01	2.240E-01	1.573E-01	1.143E-01	NOT IDENT.
HF-181	1.815E-02	4.926E-02	4.262E-02	2.513E-02	NOT IDENT.
W-181	1.248E-01	2.418E-01	1.893E-01	1.234E-01	NOT IDENT.
TA-182	-3.232E-02	2.376E-01	1.944E-01	1.212E-01	FAIL ABUN
RE-183	1.631E-01	1.257E-01	1.107E-01	6.412E-02	FAIL ABUN
RE-184	-1.447E-01	2.477E-01	2.099E-01	1.264E-01	NOT IDENT.
OS-185	-4.124E-03	5.005E-02	4.111E-02	2.553E-02	NOT IDENT.
RE-188	2.124E-01	2.009E-01	1.757E-01	1.025E-01	NOT IDENT.
W-188	-1.244E+01	9.386E+00	6.318E+00	4.789E+00	FAIL ABUN
IR-192	5.011E-05	3.845E-02	3.320E-02	1.962E-02	FAIL ABUN
AU-195	2.263E-01	2.152E-01	1.859E-01	1.098E-01	FAIL ABUN
TL-200	-4.811E+02	9.398E+02	0.000E+00	4.795E+02	SHORT HLIF
TL-201	-7.026E+00	9.491E+00	7.710E+00	4.843E+00	NOT IDENT.
TL-202	-2.267E-02	7.944E-02	6.595E-02	4.053E-02	NOT IDENT.
HG-203	6.114E-02	5.339E-02	4.313E-02	2.724E-02	FAIL ABUN
BI-207	-2.104E-02	5.963E-02	4.806E-02	3.042E-02	FAIL ABUN
TL-207	-6.511E-01	7.808E-01	6.374E-01	3.984E-01	FAIL ABUN
PO-209	-5.421E+00	8.735E+00	6.952E+00	4.457E+00	NOT IDENT.
PB-211	2.311E-01	1.303E+00	9.697E-01	6.647E-01	NOT IDENT.
BI-212	9.634E-01	5.447E-01	3.773E-01	2.779E-01	FAIL ABUN
PO-215	-6.511E-01	7.808E-01	6.374E-01	3.984E-01	FAIL ABUN
RN-219	4.328E-03	4.988E-01	4.140E-01	2.545E-01	FAIL ABUN
RN-220	-1.632E+01	3.026E+01	2.418E+01	1.544E+01	NOT IDENT.
RA-223	-6.511E-01	7.808E-01	6.374E-01	3.984E-01	FAIL ABUN
AC-227	2.664E-01	4.239E-01	3.786E-01	2.163E-01	NOT IDENT.
TH-227	2.664E-01	4.246E-01	3.786E-01	2.166E-01	FAIL ABUN
TH-229	-4.113E-01	5.967E-01	4.828E-01	3.044E-01	FAIL ABUN
PA-231	-1.807E+00	1.933E+00	1.421E+00	9.863E-01	NOT IDENT.
TH-231	-6.511E-01	7.808E-01	6.374E-01	3.984E-01	FAIL ABUN
U-231	9.515E-01	1.266E+00	9.906E-01	6.459E-01	FAIL ABUN
PA-233	-3.506E-03	7.071E-02	6.093E-02	3.607E-02	FAIL ABUN
PA-234	1.900E-02	3.551E-01	3.014E-01	1.812E-01	FAIL ABUN
PA-234M	-2.650E-01	5.921E+00	4.863E+00	3.021E+00	NOT IDENT.
U-235	2.867E-01	2.420E-01	2.044E-01	1.235E-01	FAIL ABUN
NP-236	8.067E-02	9.222E-02	8.027E-02	4.705E-02	NOT IDENT.
NP-239	1.065E-01	1.952E-01	1.702E-01	9.957E-02	FAIL ABUN
AM-241	6.263E-02	7.417E-02	5.910E-02	3.784E-02	NOT IDENT.
CM-243	-5.891E-04	9.338E-02	8.029E-02	4.764E-02	FAIL ABUN
AM-246	-3.159E-02	1.690E-01	1.387E-01	8.621E-02	NOT IDENT.
CM-247	-5.469E-03	4.840E-02	3.710E-02	2.469E-02	FAIL ABUN
CF-249	1.003E-02	4.478E-02	3.876E-02	2.285E-02	NOT IDENT.
CF-251	-6.700E-02	1.399E-01	1.149E-01	7.138E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON, SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
--------	------------

46.50	376.9027
46.50	376.9027
46.50	376.9027
48.70	367.4544
49.72	435.2825
51.35	393.5713
52.39	411.6200
52.97	416.7561
53.15	416.8758
53.44	437.9222
54.07	446.0511
56.28	496.7885
56.28	496.7904
57.37	0.0000
57.53	475.5149
57.53	475.5158
57.60	475.5655
57.98	442.5703
57.98	442.5703
59.32	462.0719
59.32	462.0719
59.40	462.1273
59.54	462.2238
59.72	496.4814
60.01	496.6953
61.10	523.9266
61.14	523.9575
61.30	547.4079
63.00	575.8527
63.29	598.9031
63.29	598.9031
63.58	628.7996
64.28	643.4866
65.12	623.9276
65.20	623.9982
65.20	623.9982
66.05	579.3400
66.72	581.4492
66.83	558.0273
66.91	558.0904
67.20	558.3152
67.20	558.3152
67.75	559.7864
67.85	569.8063
68.90	572.2025
68.90	572.2025
69.30	592.9628
69.67	593.2642
70.82	617.8283
70.82	617.8283
70.83	617.8378
72.80	564.1577
72.87	564.2099
72.87	564.2099
74.67	527.5278
74.81	527.6233
74.81	527.6233
74.81	527.6233
74.81	527.6233
74.81	527.6233
74.81	527.6233
74.81	527.6233
74.97	527.7330
75.28	527.9465
75.70	528.2350
77.11	529.1944
77.11	529.1944

77.11	529.1944
77.11	529.1944
77.11	529.1944
77.11	529.1944
77.11	529.1944
78.38	530.0521
79.62	530.8834
79.80	531.0033
79.80	531.0033
80.11	531.2106
80.18	531.2573
80.30	531.3366
80.30	531.3366
80.57	531.5154
81.00	335.3694
81.07	335.3989
81.07	335.3989
81.07	335.3989
81.07	335.3989
82.60	336.0346
83.37	336.3499
83.78	572.8859
83.78	572.8859
83.78	572.8859
83.78	572.8859
84.21	585.2097
84.90	320.9314
85.43	321.1365
86.29	760.2730
86.50	760.4636
86.54	760.5011
86.59	760.5472
86.72	760.6656
86.79	734.9935
86.94	735.1274
87.30	671.8759
87.30	671.8759
87.30	671.8759
87.30	671.8759
87.30	671.8759
87.30	671.8759
87.57	672.0899
87.88	555.5839
88.03	555.6829
88.36	523.6737
88.47	523.7411
89.95	524.6517
91.11	436.4544
92.29	728.4155
92.38	728.4897
92.38	728.4897
93.35	554.0654
94.00	363.2986
94.67	357.0797
94.67	357.0824
94.90	358.7986
94.90	358.7986
94.90	358.7986
94.90	358.7986
95.87	360.8164
95.87	360.8164
96.73	361.1660
97.43	314.2305
98.44	309.6928
98.44	309.6928
98.88	326.1511
99.55	333.5314
99.55	333.5314
99.86	343.8481
100.00	343.9008
100.10	343.9394
103.18	381.9528
103.76	349.4019
105.00	299.5912
105.31	324.3212
108.00	330.3871
109.28	361.7465

111.00	324.1886
111.00	324.1886
111.76	346.1396
112.95	341.3876
115.19	305.8719
116.30	312.4398
117.00	309.5417
117.00	309.5417
117.66	335.7293
121.11	312.8815
121.62	313.0371
121.78	304.7362
122.06	306.9076
122.32	313.2488
122.32	313.2488
122.32	313.2488
122.32	313.2488
123.07	303.0273
127.23	346.1957
129.76	297.5956
131.20	349.5889
133.02	407.1329
133.54	378.8355
135.34	320.2685
136.00	294.0197
136.25	305.7219
136.48	305.7859
140.51	370.6075
140.51	0.0000
142.18	313.7256
142.65	311.7283
143.76	285.4084
144.24	291.9194
144.24	291.9194
144.24	291.9194
144.24	291.9194
145.22	311.3639
145.44	326.3553
147.16	348.2031
152.43	343.3350
152.70	326.2424
153.22	311.3531
154.21	293.3450
154.21	293.3450
154.21	293.3450
154.21	293.3450
155.03	311.8266
156.02	333.6062
158.56	382.8373
159.00	0.0000
159.00	359.2417
160.31	300.2299
161.27	281.0107
162.32	273.6786
162.64	293.2243
163.35	297.7243
163.89	319.5166
165.85	297.2375
167.43	296.5276
171.28	279.9977
171.86	258.3255
172.10	249.6528
176.55	266.9234
176.60	282.2505
181.06	256.4268
184.41	306.3755
185.71	304.9104
186.00	289.7731
190.27	236.9716
192.34	280.4270
193.63	309.1282
197.04	274.3454
198.01	278.9817
198.60	269.0910
200.40	291.7037
201.83	309.8315
202.84	288.0648
205.31	259.1964

208.36	283.0345
208.81	275.9555
209.75	271.2032
209.75	271.2032
210.97	253.0358
215.65	253.3287
216.55	273.2129
218.09	255.1629
222.10	237.7659
223.80	232.6035
226.40	234.8152
227.00	242.1627
227.08	240.3617
227.20	240.3811
228.16	240.5315
228.18	240.5347
228.18	240.5347
231.56	0.0000
235.69	234.1018
236.00	234.1488
236.00	234.1488
238.63	237.5864
238.63	237.5864
238.63	237.5864
238.63	237.5864
239.00	237.6420
240.98	237.9387
241.98	238.0879
241.98	238.0879
241.98	238.0879
244.69	180.3982
245.39	177.4173
247.94	175.9474
248.90	193.1310
249.79	202.4392
252.40	190.7814
252.85	200.0535
252.85	200.0535
254.15	0.0000
256.20	192.1461
256.20	192.1461
260.50	220.4289
260.90	226.0396
262.80	215.3725
264.65	182.5985
268.24	221.7530
268.79	209.4131
269.46	198.6328
269.46	198.6328
269.46	198.6328
269.46	198.6328
271.23	198.8385
273.65	144.6711
276.40	144.9019
277.35	174.6012
277.60	174.6263
277.60	174.6263
278.00	182.4626
278.60	179.4067
279.20	179.4676
279.53	185.7438
280.46	184.2814
281.68	182.8458
283.67	207.8623
284.30	207.7676
285.00	184.7567
285.90	163.5455
286.10	162.6246
286.10	162.6246
287.40	160.8615
288.45	0.0000
290.67	201.0521
290.80	201.0651
291.72	194.8827
293.26	0.0000
293.70	155.7610
295.21	210.6904
295.21	210.6904

295.21	210.6904
295.96	248.9001
296.50	253.7014
297.23	238.0388
298.57	198.7745
299.80	179.9642
299.80	179.9642
300.09	195.7808
300.09	195.7808
300.09	195.7808
300.09	195.7808
300.12	195.7834
301.29	181.6903
302.84	195.0193
303.76	202.1836
303.91	202.1992
304.40	208.9006
304.40	208.9006
304.84	202.3006
306.84	171.1428
308.46	167.4857
311.98	157.3120
316.51	153.8658
318.01	149.2055
319.02	151.1974
319.41	152.1854
320.08	173.3022
323.87	192.8319
323.87	192.8319
323.87	192.8319
323.87	192.8319
325.23	181.4488
328.77	157.7339
333.44	189.6038
334.20	155.9199
334.20	155.9199
334.30	136.6378
338.28	156.5638
338.28	156.5638
338.28	156.5638
338.28	156.5638
338.32	156.5677
338.32	156.5677
338.32	156.5677
340.50	198.3435
340.57	198.3485
344.27	160.9118
345.85	153.5999
350.59	0.0000
351.07	142.0007
351.92	142.0595
351.92	142.0595
351.92	142.0595
355.39	0.0000
356.01	146.2427
364.48	125.3047
366.43	129.3413
367.43	141.1664
367.94	0.0000
369.80	139.3635
374.96	144.6224
383.85	147.1975
387.95	121.7418
388.63	124.7495
391.69	137.8123
391.69	137.8123
392.90	128.9606
398.62	138.2466
400.65	131.4038
401.10	136.4097
401.81	133.9078
402.60	138.0657
404.84	137.9669
410.95	103.3396
411.60	106.7031
413.65	118.4807
414.70	126.8831
415.30	105.2064

415.76	121.9310
417.63	0.0000
418.52	106.3584
423.70	103.5809
427.08	101.7176
427.89	120.8936
432.53	93.8787
433.93	104.0354
439.47	101.2427
439.56	101.2463
439.89	99.2346
443.98	101.4343
444.90	97.4145
445.03	97.4191
445.03	97.4191
445.03	97.4191
445.03	97.4191
453.90	96.7604
463.38	108.3835
468.07	102.4426
473.00	110.8582
475.06	103.7580
475.35	96.5783
476.78	101.7735
477.59	95.6361
477.96	95.6497
482.03	89.6232
484.57	96.9318
487.03	101.1546
490.36	0.0000
492.35	99.2965
497.08	94.2981
507.63	0.0000
510.53	0.0000
510.84	101.0472
511.00	101.0531
511.85	114.6326
511.85	114.6326
513.99	116.4642
513.99	116.4642
520.41	100.3664
520.65	97.2390
527.90	89.1151
528.96	0.0000
529.64	98.6151
529.87	0.0000
531.02	96.5663
537.32	96.7887
543.00	81.1771
546.56	0.0000
549.76	89.8311
552.65	80.4030
555.20	70.9470
563.23	82.8312
563.90	78.6015
568.70	89.3751
569.32	89.3956
569.50	89.3997
569.67	90.4702
573.80	83.1397
574.00	83.1454
574.64	97.0252
578.91	99.6611
579.30	0.0000
583.14	97.3118
585.48	98.1053
591.81	83.6596
592.07	83.6672
593.00	96.5698
595.88	90.2221
600.56	87.4072
602.52	0.0000
602.71	100.4792
602.71	100.4792
603.60	91.5348
604.41	98.7408
604.70	87.9771
609.31	114.3692

609.31	114.3692
609.31	114.3692
609.31	114.3692
610.33	113.3287
612.46	104.4099
614.37	102.6747
618.01	98.5917
621.84	76.9265
621.84	76.9265
631.29	77.1657
633.02	75.0341
633.10	75.0375
634.78	91.3992
635.90	84.9012
636.97	80.5762
645.85	70.9795
646.12	70.9858
656.30	86.5567
657.75	89.8857
657.90	0.0000
661.65	95.4833
661.65	95.4833
664.57	0.0000
666.33	104.4188
666.33	104.4188
675.00	77.1504
677.61	78.1311
685.20	77.3948
692.80	79.4230
695.00	76.7031
696.49	70.2666
696.49	70.2666
697.00	76.7503
697.49	83.2361
698.33	88.8086
698.50	88.8125
699.00	88.8262
702.63	75.0295
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706.58	0.0000
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709.31	87.2472
711.68	80.8085
713.82	92.9423
717.42	78.1553
720.50	84.4355
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722.20	83.0600
722.78	87.8673
722.78	87.8673
722.89	86.2716
722.95	86.2734
723.30	84.6850
724.18	94.2967
727.18	67.1851
733.00	73.7104
735.90	69.8526
739.58	59.0023
742.81	62.8084
744.21	66.5842
747.13	74.1509
751.79	70.4910
752.31	62.9815
753.82	68.6514
755.35	69.6219
756.15	64.9332
756.87	64.0059
763.93	63.0567
765.79	64.7084
766.42	69.5736
766.84	69.5826
776.49	81.1314
778.00	84.4129
778.57	81.1785
778.89	79.5635
783.80	64.4971
785.46	73.0679
792.07	71.7087

795.84	50.5750
796.30	65.2665
798.80	71.8422
801.93	45.7578
805.60	66.7971
810.29	57.3291
810.76	58.2920
815.85	54.5450
817.79	56.4888
818.51	54.5844
819.60	50.7690
826.30	63.3373
828.27	0.0000
831.60	59.5832
831.96	54.7827
834.83	85.6049
836.80	0.0000
846.75	75.2626
848.13	54.0552
856.28	0.0000
856.80	68.0006
860.37	46.4824
867.32	66.5248
867.82	64.8699
871.10	56.9718
873.19	39.8372
874.81	48.6023
875.33	0.0000
876.40	61.2632
879.36	63.2570
880.27	60.3514
880.51	60.3551
881.50	54.5280
883.24	47.7339
884.67	58.4705
889.25	69.2724
896.60	60.6049
898.02	69.4269
899.00	73.3566
903.28	41.9634
911.07	64.7512
911.07	64.7512
911.07	64.7512
919.63	51.1261
920.93	53.6455
925.00	39.3799
925.24	42.3360
926.50	44.3198
935.52	42.4445
937.48	57.2778
944.10	51.4361
946.00	52.4501
949.00	44.5660
962.29	61.3163
964.01	54.6677
966.15	54.6968
968.20	54.7236
969.11	54.7348
969.11	54.7348
969.11	54.7348
977.42	49.1938
980.50	46.9015
983.50	44.9377
989.30	48.0000
996.32	53.0873
1001.03	55.1522
1001.68	52.1513
1004.76	61.2221
1021.30	0.0000
1024.50	0.0000
1034.80	60.6396
1036.00	51.5582
1037.82	43.4882
1038.57	49.5643
1038.76	0.0000
1045.16	55.7184
1046.59	40.5355
1048.07	43.5896

1050.47	50.7141
1050.47	50.7141
1062.04	33.5586
1063.62	49.8474
1076.63	58.1527
1077.35	54.0826
1078.86	52.0583
1085.78	50.0926
1099.22	55.3689
1112.02	45.8283
1112.84	52.8892
1115.52	49.3926
1120.29	44.2930
1120.29	44.2930
1120.29	44.2930
1120.29	44.2930
1120.51	44.2948
1121.28	38.8560
1124.00	0.0000
1129.67	55.1729
1131.51	0.0000
1147.95	0.0000
1167.94	57.2312
1173.22	53.1271
1175.09	58.3584
1177.93	55.2644
1189.05	48.0758
1204.90	44.0388
1205.75	0.0000
1213.00	66.1685
1221.42	63.1250
1230.97	72.7341
1235.34	78.0740
1236.41	0.0000
1238.25	58.0615
1246.25	62.3826
1260.41	0.0000
1271.85	45.6980
1274.45	39.3411
1274.54	39.3411
1291.56	41.6057
1298.22	0.0000
1312.09	31.0615
1325.50	23.6239
1325.50	23.6239
1332.49	21.5047
1333.61	24.7360
1360.21	32.4268
1362.66	0.0000
1365.15	12.9824
1368.21	33.5568
1368.53	0.0000
1376.25	19.5139
1384.27	37.2252
1394.10	21.4430
1395.20	26.1094
1407.95	28.9749
1434.06	29.1112
1436.60	22.5485
1457.56	0.0000
1460.81	20.7585
1489.15	27.5000
1509.49	25.6939
1596.49	17.3835
1620.62	19.3917
1678.03	0.0000
1691.02	9.8064
1691.02	9.8064
1706.46	0.0000
1750.46	0.0000
1764.49	9.9191
1764.49	9.9191
1764.49	9.9191
1764.49	9.9191
1770.23	17.3737
1771.40	70.4998
1791.20	0.0000
1808.65	16.9763

1836.01

8.0215

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630001

Total Uranium Activity	4.0518E+00	ug/g
Total Uranium Counting Unc.	2.5913E+00	ug/g
Total Uranium Tpu	1.3221E-06	ug/g
Total Uranium Mda	1.7748E+00	ug/g

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*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G243630001
*  ANALYST       : MXR1            DETECTOR    : GAM05
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:09:52.91  SAMPLE ALQT: 121.400 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.587E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.521E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.973E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.936E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:11:23.95

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630002.CNF;1
Sample date   : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:10:19.
Sample ID     : G243630002 Sample quantity : 1.17780E+02 GRAM
Detector name : GAM06 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.05 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 937702 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.60	236	383	1.09	149.21	145	16	3.28E-02	14.8	1.25E+00
2	2	76.95	419	309	1.11	153.90	145	16	5.81E-02	8.7	
3	0	87.55	121	442	1.22	175.10	169	9	1.68E-02	33.1	
4	0	89.71	101	210	1.02	179.42	178	5	1.41E-02	23.4	
5	0	92.75*	178	357	1.18	185.50	182	9	2.48E-02	21.6	
6	0	185.61*	105	287	1.14	371.22	367	9	1.46E-02	31.9	
7	0	210.46	27	269	0.81	420.93	413	9	3.70E-03	113.4	
8	3	238.46*	821	178	1.15	476.91	472	17	1.14E-01	4.4	1.99E+00
9	3	241.45	218	180	1.70	482.89	472	17	3.02E-02	15.9	
10	0	270.11	84	267	1.33	540.21	532	16	1.16E-02	45.1	
11	0	294.88	247	124	1.31	589.76	585	9	3.42E-02	10.4	
12	0	338.36*	165	109	1.36	676.72	672	12	2.29E-02	15.6	
13	0	351.61*	463	111	1.18	703.21	697	13	6.43E-02	6.7	
14	0	510.52*	67	133	1.64	1021.05	1013	17	9.24E-03	46.4	
15	0	582.95*	263	114	1.47	1165.90	1159	15	3.65E-02	10.9	
16	0	608.99*	290	95	1.51	1217.98	1211	12	4.03E-02	9.1	
17	0	661.54	110	99	0.91	1323.09	1318	14	1.53E-02	21.1	
18	0	726.97*	56	55	1.16	1453.94	1448	12	7.78E-03	30.2	
19	0	835.37	29	47	1.39	1670.74	1664	14	4.02E-03	53.0	
20	3	860.26	34	32	2.50	1720.53	1710	45	4.78E-03	38.4	1.39E+00
21	3	875.83	31	8	2.51	1751.66	1710	45	4.29E-03	23.7	
22	0	910.91*	148	42	1.77	1821.83	1816	12	2.05E-02	12.3	
23	0	968.80	93	37	1.29	1937.61	1931	11	1.30E-02	16.2	
24	0	1119.84	88	23	1.55	2239.68	2233	14	1.22E-02	16.0	
25	0	1378.01	19	11	1.16	2756.03	2746	13	2.66E-03	41.0	
26	0	1460.59*	674	11	2.31	2921.17	2914	15	9.36E-02	4.0	
27	0	1764.60	55	11	1.69	3529.20	3520	15	7.69E-03	18.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 7-JAN-2010 15:11:26

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630002.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:10:19
 Sample ID : G243630002 Sample quantity : 117.78 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA6 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.05 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	*	2.092E+01	2.185E+00	7.325E-01	4.846E-02	28.555
MN-54	+	834.83	*	6.055E-02	6.426E-02	7.271E-02	4.799E-03	0.833
CD-109	+	88.03	*	2.047E+00	1.371E+00	1.248E+00	1.232E-01	1.641
SN-126		64.28		5.864E-01	6.248E-01	1.058E+00	1.628E-01	0.554
	+	86.94		8.355E-01	6.535E-01	7.124E-01	2.965E-01	1.173
	+	87.57	*	2.010E-01	1.345E-01	1.231E-01	1.212E-02	1.632
BA-137M	+	661.65	*	2.010E-01	8.554E-02	6.959E-02	3.437E-03	2.889
CS-137	+	661.65	*	2.125E-01	9.043E-02	7.356E-02	3.654E-03	2.889
TL-208		277.35		3.702E-01	5.055E-01	7.791E-01	8.298E-02	0.475
	+	510.84		4.078E-01	3.804E-01	2.376E-01	2.385E-02	1.716
	+	583.14	*	4.609E-01	1.047E-01	6.098E-02	3.854E-03	7.557
	+	860.37		5.722E-01	4.412E-01	4.856E-01	3.713E-02	1.178
BI-211		72.87		1.192E+01	4.451E+00	7.083E+00	6.359E-01	1.683
	+	351.07	*	3.515E+00	5.249E-01	3.328E-01	2.148E-02	10.560
PB-212	+	74.81		1.714E+00	5.528E-01	6.478E-01	8.422E-02	2.646
	+	77.11		1.711E+00	3.367E-01	3.653E-01	3.336E-02	4.682
	+	87.30		9.294E-01	6.291E-01	7.892E-01	1.106E-01	1.178
	+	238.63	*	1.343E+00	1.546E-01	1.070E-01	7.889E-03	12.552
		300.09		1.349E+00	9.432E-01	1.574E+00	1.318E-01	0.857
PO-212	+	74.81		1.714E+00	5.528E-01	6.478E-01	8.422E-02	2.646
	+	77.11		1.711E+00	3.367E-01	3.653E-01	3.336E-02	4.682
	+	87.30		9.294E-01	6.291E-01	7.892E-01	1.106E-01	1.178
	+	115.19		3.124E+00	3.812E+00	6.503E+00	4.291E-01	0.480
	+	238.63	*	1.343E+00	1.546E-01	1.070E-01	7.889E-03	12.552
		300.09		1.349E+00	9.432E-01	1.574E+00	1.318E-01	0.857
BI-214	+	609.31	*	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
	+	1120.29		1.527E+00	5.083E-01	4.507E-01	4.117E-02	3.388
	+	1764.49		1.330E+00	5.054E-01	4.110E-01	2.407E-02	3.235
PB-214	+	74.81		2.954E+00	9.376E-01	1.116E+00	1.304E-01	2.646
	+	77.11		2.932E+00	6.190E-01	6.263E-01	7.448E-02	4.682
	+	87.30		1.592E+00	1.073E+00	1.352E+00	1.688E-01	1.178
	+	241.98		2.140E+00	7.019E-01	6.446E-01	5.230E-02	3.321
	+	295.21		1.100E+00	2.474E-01	2.859E-01	2.472E-02	3.849
	+	351.92	*	1.223E+00	1.934E-01	1.160E-01	9.627E-03	10.538

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		2.954E+00	9.376E-01	1.116E+00	1.304E-01	2.646
	+	77.11		2.932E+00	6.190E-01	6.263E-01	7.448E-02	4.682
	+	87.30		1.592E+00	1.073E+00	1.352E+00	1.688E-01	1.178
	+	241.98		2.140E+00	7.019E-01	6.446E-01	5.230E-02	3.321
	+	295.21		1.100E+00	2.474E-01	2.859E-01	2.472E-02	3.849
PO-216	+	351.92	*	1.223E+00	1.934E-01	1.160E-01	9.627E-03	10.538
	+	74.81		1.714E+00	5.528E-01	6.478E-01	8.422E-02	2.646
	+	77.11		1.711E+00	3.367E-01	3.653E-01	3.336E-02	4.682
	+	87.30		9.294E-01	6.291E-01	7.892E-01	1.106E-01	1.178
	+	238.63	*	1.343E+00	1.546E-01	1.070E-01	7.889E-03	12.552
PO-218		300.09		1.349E+00	9.432E-01	1.574E+00	1.318E-01	0.857
	+	74.81		2.954E+00	9.376E-01	1.116E+00	1.304E-01	2.646
	+	77.11		2.932E+00	6.190E-01	6.263E-01	7.448E-02	4.682
	+	87.30		1.592E+00	1.073E+00	1.352E+00	1.688E-01	1.178
	+	241.98		2.140E+00	7.019E-01	6.446E-01	5.230E-02	3.321
RA-224	+	295.21		1.100E+00	2.474E-01	2.859E-01	2.472E-02	3.849
	+	351.92	*	1.223E+00	1.934E-01	1.160E-01	9.627E-03	10.538
	+	240.98	*	4.059E+00	1.311E+00	1.218E+00	7.139E-02	3.332
	+	609.31	*	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
	+	1120.29		1.527E+00	5.083E-01	4.507E-01	4.117E-02	3.388
RA-226	+	1764.49		1.330E+00	5.054E-01	4.110E-01	2.407E-02	3.235
	+	338.32		1.377E+00	7.066E-01	4.488E-01	1.830E-01	3.069
	+	911.07	*	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803
	+	969.11		1.299E+00	5.138E-01	3.990E-01	9.099E-02	3.255
	+	338.32		1.377E+00	7.066E-01	4.488E-01	1.830E-01	3.069
AC-228	+	911.07	*	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803
	+	969.11		1.299E+00	5.138E-01	3.990E-01	9.099E-02	3.255
	+	338.32		1.377E+00	7.066E-01	4.488E-01	1.830E-01	3.069
	+	911.07	*	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803
	+	969.11		1.299E+00	5.138E-01	3.990E-01	9.099E-02	3.255
TH-228	+	74.81		1.742E+00	5.380E-01	6.583E-01	5.994E-02	2.646
	+	77.11		1.738E+00	3.421E-01	3.712E-01	3.389E-02	4.682
	+	87.30		9.444E-01	6.322E-01	8.019E-01	7.873E-02	1.178
	+	238.63	*	1.365E+00	1.571E-01	1.087E-01	8.016E-03	12.552
		300.09		1.370E+00	1.248E+00	1.600E+00	9.431E-01	0.857
TH-230	+	609.31	*	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
	+	1120.29		1.527E+00	5.083E-01	4.507E-01	4.117E-02	3.388
	+	1764.49		1.330E+00	5.054E-01	4.110E-01	2.407E-02	3.235
	+	338.32		1.377E+00	4.365E-01	4.488E-01	2.640E-02	3.069
	+	911.07	*	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803
TH-232	+	969.11		1.299E+00	5.138E-01	3.990E-01	9.099E-02	3.255
	+	609.31	*	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
	+	1120.29		1.527E+00	5.083E-01	4.507E-01	4.117E-02	3.388
	+	1764.49		1.330E+00	5.054E-01	4.110E-01	2.407E-02	3.235
	+	86.50	*	5.901E-01	4.134E-01	4.561E-01	1.041E-01	1.294
NP-237	+	95.87		-2.396E-01	1.159E+00	1.665E+00	4.098E-01	-0.144
	+	74.67	*	2.779E-01	8.578E-02	1.054E-01	9.518E-03	2.637
	+	86.72		2.213E+01	1.481E+01	1.706E+01	1.666E+00	1.297
		117.66		-4.270E+00	4.200E+00	6.575E+00	4.216E-01	-0.649
		142.18		-3.739E+00	2.028E+01	3.293E+01	1.880E+00	-0.114
ANH-511	+	511.00	*	8.808E-02	8.185E-02	5.134E-02	2.870E-03	1.715

---- 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	*	1.638E-01	4.207E-01	7.112E-01	4.698E-02	0.230

---- 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	*		-2.158E-02	4.956E-02	7.621E-02	4.706E-03	-0.283
NA-24	1368.53	*		3.028E+00	4.956E-02	Half-Life too short		
AL-26	1129.67	*		-4.364E-01	1.926E+00	3.083E+00	1.920E-01	-0.142
	1808.65	*		-1.458E-02	2.843E-02	4.011E-02	2.304E-03	-0.363
TI-44	67.85	*		-1.976E-02	5.435E-02	8.960E-02	7.995E-03	-0.221
+	78.38	*		3.157E-01	6.214E-02	8.696E-02	7.994E-03	3.630
SC-46	889.25	*		8.597E-03	4.584E-02	7.779E-02	5.576E-03	0.111
+	1120.51	*		2.634E-01	8.593E-02	1.433E-01	9.014E-03	1.838
V-48	944.10	*		-4.760E-02	1.058E+00	1.747E+00	1.247E-01	-0.027
	983.50	*		-6.259E-02	8.237E-02	1.242E-01	8.697E-03	-0.504
	1312.09	*		-2.822E-02	8.531E-02	1.315E-01	8.209E-03	-0.215
CR-51	320.08	*		-2.465E-02	4.185E-01	6.994E-01	4.608E-02	-0.035
MN-52	744.21	*		7.772E-02	3.310E-01	5.442E-01	3.103E-02	0.143
	848.13	*		-1.816E+00	8.431E+00	1.378E+01	9.280E-01	-0.132
	935.52	*		1.558E-01	3.189E-01	5.558E-01	3.982E-02	0.280
	1246.25	*		-1.679E+00	9.405E+00	1.504E+01	9.172E-01	-0.112
	1333.61	*		8.237E-01	6.885E+00	1.137E+01	7.140E-01	0.072
	1434.06	*		-1.395E-01	3.296E-01	4.965E-01	3.125E-02	-0.281
CO-56	846.75	*		1.084E-03	4.625E-02	7.744E-02	5.206E-03	0.014
	977.42	*		1.354E+00	3.161E+00	5.488E+00	3.856E-01	0.247
	1037.82	*		6.342E-02	3.633E-01	6.110E-01	4.485E-02	0.104
	1175.09	*		1.887E+00	2.594E+00	4.570E+00	2.706E-01	0.413
	1238.25	*		1.317E-01	1.080E-01	1.951E-01	1.254E-02	0.675
	1360.21	*		6.295E-01	1.002E+00	1.795E+00	1.130E-01	0.351
	1771.40	*		-1.114E+00	4.348E-01	4.152E-01	2.424E-02	-2.683
CO-57	122.06	*		9.841E-03	2.856E-02	4.769E-02	2.913E-03	0.206
	136.48	*		-3.783E-02	2.453E-01	3.992E-01	2.683E-02	-0.095
CO-58	810.76	*		-4.117E-03	4.543E-02	7.543E-02	4.816E-03	-0.055
FE-59	142.65	*		1.378E+00	3.136E+00	5.229E+00	2.982E-01	0.264
	192.34	*		-6.281E-01	1.155E+00	1.818E+00	2.128E-01	-0.346
	1099.22	*		6.947E-02	1.088E-01	1.908E-01	1.400E-02	0.364
	1291.56	*		-4.250E-02	1.433E-01	2.242E-01	1.735E-02	-0.190
CO-60	1173.22	*		-2.477E-02	5.327E-02	8.288E-02	4.903E-03	-0.299
	1332.49	*		3.466E-02	4.546E-02	8.141E-02	5.114E-03	0.426
ZN-65	1115.52	*		-1.910E-02	1.241E-01	1.710E-01	1.083E-02	-0.112
GE-68	1077.35	*		4.773E-01	1.498E+00	2.549E+00	1.670E-01	0.187
AS-73	53.44	*		3.038E-02	1.133E+00	1.905E+00	1.742E-01	0.016
AS-74	595.88	*		2.174E-02	1.063E-01	1.762E-01	9.371E-03	0.123
	634.78	*		-1.337E-01	4.606E-01	7.278E-01	3.720E-02	-0.184
SE-75	66.05	*		-5.637E+00	5.854E+00	9.398E+00	1.006E+00	-0.600
	96.73	*		2.777E-01	9.471E-01	1.401E+00	1.894E-01	0.198
	121.11	*		1.574E-01	1.515E-01	2.597E-01	2.458E-02	0.606
	136.00	*		1.169E-02	4.580E-02	7.589E-02	4.473E-03	0.154
	198.60	*		-1.726E+00	2.446E+00	3.631E+00	2.534E-01	-0.475
	264.65	*		1.477E-02	5.887E-02	8.378E-02	5.026E-03	0.176
	279.53	*		-2.773E-02	1.311E-01	2.187E-01	1.405E-02	-0.127
	303.91	*		-3.402E+00	2.472E+00	3.794E+00	3.659E-01	-0.897
	400.65	*		-9.955E-02	3.193E-01	5.195E-01	4.653E-02	-0.192
BR-77	87.88	+		5.797E+02	3.881E+02	5.083E+02	5.016E+01	1.140

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		200.40		1.858E+02	2.627E+02	4.384E+02	2.470E+01	0.424
	+	239.00		2.831E+02	3.000E+01	5.335E+01	3.122E+00	5.306
		249.79		2.209E+01	1.059E+02	1.718E+02	1.013E+01	0.129
		281.68		-9.306E+01	1.392E+02	2.263E+02	1.351E+01	-0.411
		297.23		2.012E+02	1.083E+02	1.756E+02	1.049E+01	1.146
		303.76		-3.856E+02	2.730E+02	4.203E+02	2.509E+01	-0.917
		439.47		1.041E+02	2.147E+02	3.639E+02	2.047E+01	0.286
		484.57		-3.630E+02	3.582E+02	5.404E+02	3.039E+01	-0.672
		520.65	*	-2.072E+00	1.602E+01	2.598E+01	1.447E+00	-0.080
		574.64		-2.911E+01	3.117E+02	4.901E+02	2.651E+01	-0.059
		578.91		4.672E+01	1.498E+02	2.192E+02	1.182E+01	0.213
		585.48		1.653E+03	3.577E+02	6.865E+02	3.683E+01	2.408
		755.35		8.805E+01	2.166E+02	3.647E+02	2.119E+01	0.241
		817.79		-9.014E+01	2.009E+02	3.213E+02	2.065E+01	-0.281
SR-82		698.33		-1.952E+01	4.468E+01	6.827E+01	3.599E+00	-0.286
		776.49	*	-2.145E-01	3.870E-01	6.109E-01	3.675E-02	-0.351
		1395.20		8.976E+00	1.199E+01	2.178E+01	1.371E+00	0.412
RB-83		520.41	*	-1.051E-02	8.129E-02	1.318E-01	7.347E-03	-0.080
		529.64		-3.704E-02	1.230E-01	1.962E-01	1.089E-02	-0.189
		552.65		7.030E-02	2.230E-01	3.747E-01	2.056E-02	0.188
RB-84		881.50	*	-3.669E-03	8.248E-02	1.225E-01	8.679E-03	-0.030
KR-85		513.99	*	1.041E+01	9.387E+00	1.485E+01	8.292E-01	0.701
SR-85		513.99	*	5.391E-02	4.860E-02	7.688E-02	4.294E-03	0.701
RB-86		1076.63	*	1.516E-01	1.018E+00	1.703E+00	1.117E-01	0.089
Y-88		898.02		-1.155E-02	4.903E-02	7.969E-02	5.826E-03	-0.145
		1836.01	*	-1.310E-02	4.086E-02	6.285E-02	3.572E-03	-0.208
ZR-88		392.90	*	-1.402E-02	3.651E-02	5.911E-02	3.280E-03	-0.237
Y-91		1204.90	*	-3.834E+00	2.333E+01	3.753E+01	2.251E+00	-0.102
NB-94		702.63	*	-1.910E-03	3.753E-02	6.024E-02	3.199E-03	-0.032
		871.10		9.934E-03	3.786E-02	6.484E-02	4.523E-03	0.153
NB-95		765.79	*	6.799E-02	4.902E-02	8.867E-02	5.241E-03	0.767
NB-95M		235.69	*	3.456E-01	1.901E-01	2.933E-01	2.217E-02	1.178
ZR-95		724.18		8.923E-02	1.303E-01	1.966E-01	1.301E-02	0.454
		756.15	*	2.305E-02	7.375E-02	1.227E-01	8.650E-03	0.188
NB-97		657.90	*	1.300E-01	7.375E-02	Half-Life	too short	
		1024.50		-1.651E+01	7.375E-02	Half-Life	too short	
ZR-97		254.15		3.582E+00	7.375E-02	Half-Life	too short	
		355.39		5.686E+00	7.375E-02	Half-Life	too short	
		507.63	*	1.291E+01	7.375E-02	Half-Life	too short	
		602.52		-4.611E-01	7.375E-02	Half-Life	too short	
		1021.30		1.554E+01	7.375E-02	Half-Life	too short	
		1147.95		3.944E+00	7.375E-02	Half-Life	too short	
		1362.66		-8.134E+00	7.375E-02	Half-Life	too short	
		1750.46		1.530E+01	7.375E-02	Half-Life	too short	
MO-99		140.51		-3.684E+01	4.052E+01	6.002E+01	1.617E+01	-0.614
		181.06		-1.087E+01	3.007E+01	4.160E+01	7.090E+00	-0.261
		366.43		1.070E+02	1.209E+02	2.128E+02	1.221E+01	0.503
		739.58	*	-2.251E+00	1.701E+01	2.698E+01	3.702E+00	-0.083
		778.00		-6.714E+01	4.492E+01	6.288E+01	3.793E+00	-1.068

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	140.51	*		-5.560E+11	4.492E+01	Half-Life	too short	
RH-101	127.23			5.024E-02	3.787E-02	6.535E-02	3.902E-03	0.769
	198.01	*		-2.698E-02	4.418E-02	6.586E-02	3.699E-03	-0.410
	325.23			1.166E-01	2.672E-01	4.582E-01	2.716E-02	0.254
RH-102	418.52			1.460E-02	3.205E-01	5.329E-01	2.985E-02	0.027
	475.06	*		1.024E-02	3.677E-02	6.176E-02	3.478E-03	0.166
	631.29			2.588E-02	6.608E-02	1.110E-01	5.695E-03	0.233
	697.49			-4.909E-02	1.007E-01	1.534E-01	8.077E-03	-0.320
	766.84			2.050E-01	1.279E-01	2.338E-01	1.385E-02	0.877
	1046.59			-6.731E-02	1.188E-01	1.819E-01	1.222E-02	-0.370
	1112.84			6.008E-02	2.998E-01	4.363E-01	2.766E-02	0.138
RU-103	497.08	*		3.871E-02	4.699E-02	8.191E-02	1.029E-02	0.473
	610.33	+		1.055E+01	2.505E+00	3.322E+00	5.055E-01	3.175
RH-106	511.85	+		4.407E-01	4.095E-01	4.987E-01	2.787E-02	0.884
	621.84	*		2.123E-01	3.543E-01	6.067E-01	6.944E-02	0.350
	1050.47			-7.846E-01	2.460E+00	3.901E+00	2.614E-01	-0.201
RU-106	511.85	+		4.407E-01	4.095E-01	4.987E-01	2.787E-02	0.884
	621.84	*		2.123E-01	3.536E-01	6.067E-01	3.146E-02	0.350
	1050.47			-7.846E-01	2.460E+00	3.901E+00	2.614E-01	-0.201
AG-108M	433.93	*		-2.967E-02	3.521E-02	5.417E-02	3.322E-03	-0.548
	614.37			3.609E-02	5.148E-02	7.841E-02	4.522E-03	0.460
	722.95			3.416E-03	5.622E-02	7.867E-02	4.733E-03	0.043
AG-110M	657.75	*		1.270E-02	4.425E-02	6.434E-02	3.473E-03	0.197
	677.61			-6.740E-02	3.594E-01	5.703E-01	3.127E-02	-0.118
	706.67			-1.537E-01	2.350E-01	3.531E-01	2.021E-02	-0.435
	763.93			-1.875E-01	2.001E-01	2.903E-01	1.812E-02	-0.646
	884.67			-2.180E-02	5.326E-02	8.468E-02	6.310E-03	-0.257
	937.48			-9.588E-02	1.268E-01	1.931E-01	1.454E-02	-0.497
	1384.27			3.779E-03	1.822E-01	2.740E-01	1.816E-02	0.014
IN-111	171.28			-1.395E-01	1.515E+00	2.452E+00	1.333E-01	-0.057
	245.39	*		-7.113E-01	1.780E+00	2.406E+00	1.415E-01	-0.296
IN-113M	391.69	*		-3.272E-02	5.200E-02	8.267E-02	4.920E-03	-0.396
SN-113	391.69	*		-3.272E-02	5.200E-02	8.267E-02	4.920E-03	-0.396
IN-114M	190.27	*		1.656E-01	2.397E-01	3.551E-01	1.976E-02	0.466
CD-115	260.90			1.029E+02	2.069E+02	3.406E+02	2.020E+01	0.302
	492.35			-8.629E+00	5.610E+01	9.108E+01	5.116E+00	-0.095
	527.90	*		-2.894E+00	1.658E+01	2.676E+01	1.487E+00	-0.108
SN-117M	156.02			-2.548E-01	2.706E+00	4.395E+00	2.428E-01	-0.058
	158.56	*		-2.134E-02	6.699E-02	1.076E-01	5.911E-03	-0.198
SB-122	563.90	*		5.688E-01	3.272E+00	5.416E+00	2.952E-01	0.105
	692.80			4.961E+01	6.695E+01	1.152E+02	6.013E+00	0.431
I-123	159.00	*		4.876E+00	6.695E+01	Half-Life	too short	
	528.96			-1.361E+03	6.695E+01	Half-Life	too short	
TE-123M	159.00	*		7.437E-03	3.316E-02	5.461E-02	3.041E-03	0.136
I-124	602.71	*		2.409E-01	1.015E+00	1.469E+00	7.763E-02	0.164
	722.78			2.363E-01	6.839E+00	9.537E+00	5.245E-01	0.025
	1325.50			-3.527E+01	4.676E+01	6.735E+01	4.222E+00	-0.524
	1376.25			2.896E+01	3.950E+01	7.067E+01	4.449E+00	0.410
	1509.49			-7.965E-01	2.133E+01	3.414E+01	2.136E+00	-0.023

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	1691.02			-1.580E+00	5.078E+00	7.899E+00	4.750E-01	-0.200
	602.71			1.213E-02	5.109E-02	7.394E-02	3.909E-03	0.164
	645.85			-6.721E-01	5.876E-01	8.389E-01	4.936E-02	-0.801
	709.31			1.799E+00	3.118E+00	5.314E+00	2.855E-01	0.339
	713.82			-2.676E-01	1.969E+00	3.130E+00	3.129E-01	-0.085
	722.78			1.724E-02	4.990E-01	6.959E-01	4.027E-02	0.025
	968.20			1.351E+01	4.471E+00	7.713E+00	5.444E-01	1.752
	1045.16			-1.007E+00	2.522E+00	3.947E+00	2.655E-01	-0.255
	1325.50			-2.749E+00	3.644E+00	5.249E+00	3.290E-01	-0.524
	1368.21			2.246E+00	2.004E+00	3.568E+00	4.324E-01	0.629
	1436.60			4.584E+00	4.363E+00	8.197E+00	5.158E-01	0.559
	1691.02	*		-2.720E-02	8.740E-02	1.359E-01	8.828E-03	-0.200
	427.89	*		-3.199E-02	9.975E-02	1.610E-01	9.445E-03	-0.199
	463.38			2.102E-01	3.180E-01	5.491E-01	3.636E-02	0.383
SB-125	600.56			4.926E-03	2.109E-01	3.346E-01	2.100E-02	0.015
	635.90			-1.202E-01	3.472E-01	5.461E-01	3.390E-02	-0.220
	109.28	*		1.661E+00	1.075E+01	1.786E+01	1.624E+00	0.093
TE-125M	388.63			-4.578E-02	2.461E-01	4.040E-01	2.251E-02	-0.113
	666.33	*		2.072E-01	2.714E-01	4.138E-01	2.061E-02	0.501
I-126	753.82			-4.710E-01	1.710E+00	2.663E+00	1.543E-01	-0.177
	223.80			-1.570E-01	5.111E+00	8.213E+00	4.744E-01	-0.019
SB-126	278.60			2.798E+00	3.086E+00	5.423E+00	3.235E-01	0.516
	296.50			8.265E+00	2.514E+00	4.256E+00	2.542E-01	1.942
	414.70			-2.533E-02	8.927E-02	1.449E-01	8.110E-03	-0.175
	415.30			-3.951E+00	7.467E+00	1.190E+01	6.658E-01	-0.332
	555.20			-6.659E+00	4.745E+00	6.689E+00	3.665E-01	-0.995
	573.80			-1.013E-01	1.210E+00	1.959E+00	1.060E-01	-0.052
	593.00			1.686E-02	1.042E+00	1.699E+00	9.058E-02	0.010
	656.30			-2.565E-01	4.421E+00	6.124E+00	3.047E-01	-0.042
	666.33			8.677E-02	1.137E-01	1.733E-01	8.630E-03	0.501
	675.00			1.108E+00	2.393E+00	4.042E+00	2.045E-01	0.274
	695.00			5.287E-02	1.024E-01	1.727E-01	9.049E-03	0.306
	697.00			-2.400E-01	3.695E-01	5.537E-01	2.912E-02	-0.434
	720.50	*		1.623E-01	2.027E-01	3.119E-01	1.709E-02	0.521
	856.80			2.636E-03	6.026E-01	8.679E-01	5.925E-02	0.003
	989.30			1.786E-02	1.508E+00	2.501E+00	1.745E-01	0.007
	1034.80			-3.622E+00	1.114E+01	1.774E+01	1.202E+00	-0.204
	1213.00			2.224E+00	5.715E+00	9.712E+00	5.845E-01	0.229
	61.10			1.739E+01	8.372E+01	1.413E+02	1.669E+01	0.123
SB-127	252.40			-3.989E+00	6.579E+00	9.823E+00	4.090E+00	-0.406
	290.80			-1.229E+01	3.037E+01	4.298E+01	4.129E+00	-0.286
	411.60			1.316E+00	1.700E+01	2.834E+01	4.112E+00	0.046
	444.90			-5.364E+00	1.260E+01	2.008E+01	2.207E+00	-0.267
	473.00			-2.109E+00	2.496E+00	3.836E+00	4.361E-01	-0.550
	543.00			-1.011E+01	2.212E+01	3.464E+01	4.513E+00	-0.292
	603.60			-8.404E-01	1.841E+01	2.560E+01	2.762E+00	-0.033
	685.20	*		8.023E-01	1.798E+00	3.032E+00	2.847E-01	0.265
	698.50			-1.022E+01	2.296E+01	3.498E+01	5.070E+00	-0.292
	722.20			8.352E+00	4.669E+01	6.642E+01	6.188E+00	0.126

---- Non-Identified Nuclides ----

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XE-127	783.80			6.646E+00	4.689E+00	8.749E+00	9.714E-01	0.760
	57.60			1.390E+00	7.918E+00	1.337E+01	1.231E+00	0.104
	145.22			4.082E-01	8.146E-01	1.361E+00	7.710E-02	0.300
	172.10			1.018E-01	1.430E-01	2.401E-01	1.306E-02	0.424
	202.84	*		-6.113E-02	6.631E-02	9.358E-02	5.286E-03	-0.653
I-131	374.96			3.166E-01	2.342E-01	4.221E-01	2.397E-02	0.750
	80.18			-6.209E+00	6.383E+00	8.835E+00	8.261E-01	-0.703
	284.30			-2.387E-01	1.826E+00	3.055E+00	2.020E-01	-0.078
	364.48	*		4.682E-02	1.424E-01	2.425E-01	1.561E-02	0.193
	636.97			-3.896E-01	2.082E+00	3.320E+00	1.954E-01	-0.117
TE-132	722.89			5.282E-01	1.025E+01	1.433E+01	8.021E-01	0.037
	49.72			-1.114E+01	3.439E+01	5.712E+01	6.367E+00	-0.195
	111.76			-3.689E+01	4.097E+01	6.465E+01	6.345E+00	-0.571
	116.30			2.833E-01	3.660E+01	6.030E+01	5.768E+00	0.005
	228.16	*		-6.126E-01	1.026E+00	1.591E+00	2.316E-01	-0.385
BA-133	53.15			1.863E+00	4.810E+00	8.202E+00	7.487E-01	0.227
	79.62			3.204E-01	1.595E+00	2.358E+00	3.677E-01	0.136
	81.00			-1.283E-01	1.519E-01	1.745E-01	2.841E-02	-0.735
	276.40			7.391E-01	5.119E-01	7.810E-01	1.018E-01	0.946
	302.84			-2.030E-01	1.657E-01	2.562E-01	3.009E-02	-0.792
I-133	356.01	*		2.751E-03	5.296E-02	7.726E-02	8.931E-03	0.036
	383.85			-2.300E-02	3.504E-01	5.805E-01	6.253E-02	-0.040
	510.53	+		1.888E+00	3.504E-01	Half-Life	too short	
	529.87	*		2.003E-03	3.504E-01	Half-Life	too short	
	706.58			-6.221E-01	3.504E-01	Half-Life	too short	
CS-134	856.28	+		1.078E-01	3.504E-01	Half-Life	too short	
	875.33			5.641E-01	3.504E-01	Half-Life	too short	
	1236.41			2.569E+00	3.504E-01	Half-Life	too short	
	1298.22			-5.823E-01	3.504E-01	Half-Life	too short	
	475.35			1.488E+00	2.440E+00	4.186E+00	2.357E-01	0.355
CS-135	563.23			2.278E-01	4.441E-01	7.542E-01	4.209E-02	0.302
	569.32			-7.967E-02	2.374E-01	3.704E-01	2.079E-02	-0.215
	604.70			1.910E-02	4.648E-02	6.809E-02	3.616E-03	0.281
	795.84	*		5.506E-02	5.455E-02	9.893E-02	6.226E-03	0.556
	801.93			4.076E-01	4.567E-01	8.244E-01	5.221E-02	0.494
I-135	1038.57			1.569E+00	4.473E+00	7.662E+00	5.179E-01	0.205
	1167.94			-5.011E-01	2.865E+00	4.604E+00	2.742E-01	-0.109
	1365.15			-1.149E+00	1.410E+00	1.971E+00	1.344E-01	-0.583
	268.24	*		2.422E-01	1.958E-01	3.327E-01	2.585E-02	0.728
	288.45			-1.896E+11	1.958E-01	Half-Life	too short	
I-135	417.63			-2.379E+10	1.958E-01	Half-Life	too short	
	546.56			-9.255E+10	1.958E-01	Half-Life	too short	
	836.80	+		3.376E+11	1.958E-01	Half-Life	too short	
	1038.76			6.343E+10	1.958E-01	Half-Life	too short	
	1124.00			1.440E+11	1.958E-01	Half-Life	too short	
I-135	1131.51			2.333E+10	1.958E-01	Half-Life	too short	
	1260.41	*		-2.724E+10	1.958E-01	Half-Life	too short	
	1457.56			5.753E+12	1.958E-01	Half-Life	too short	
	1678.03			1.601E+10	1.958E-01	Half-Life	too short	

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CS-136		1706.46		-4.234E+09	1.958E-01	Half-Life	too short	
		1791.20		-9.791E+10	1.958E-01	Half-Life	too short	
		66.91		-2.605E-01	9.699E-01	1.604E+00	2.505E-01	-0.162
	+	86.29		2.754E+00	1.863E+00	2.448E+00	3.335E-01	1.125
		153.22		3.910E-01	7.905E-01	1.318E+00	9.271E-02	0.297
		163.89		9.452E-02	1.354E+00	2.212E+00	1.539E-01	0.043
		176.55		-4.835E-02	4.708E-01	7.610E-01	4.739E-02	-0.064
		273.65		-9.647E-01	7.232E-01	8.962E-01	6.054E-02	-1.076
		340.57		2.608E-01	1.694E-01	2.757E-01	1.720E-02	0.946
		818.51		-7.041E-03	8.703E-02	1.445E-01	9.314E-03	-0.049
CE-139		1048.07	*	-6.903E-02	1.188E-01	1.817E-01	1.304E-02	-0.380
		1235.34		1.154E+00	7.526E-01	1.380E+00	1.400E-01	0.836
		165.85	*	4.778E-03	3.588E-02	5.877E-02	3.178E-03	0.081
		162.64		1.850E-01	9.462E-01	1.555E+00	9.653E-02	0.119
BA-140		304.84		-1.432E+00	1.595E+00	2.462E+00	6.729E-01	-0.582
		423.70		1.409E-02	2.284E+00	3.784E+00	1.202E+00	0.004
LA-140		537.32	*	1.994E-01	3.127E-01	5.286E-01	1.717E-01	0.377
		328.77		8.173E-03	3.838E-01	6.437E-01	4.249E-02	0.013
		432.53		-2.428E-01	2.303E+00	3.778E+00	2.359E-01	-0.064
		487.03		-2.436E-02	1.682E-01	2.735E-01	1.753E-02	-0.089
		751.79		2.645E-01	1.938E+00	3.162E+00	2.238E-01	0.084
		815.85		-2.113E-01	3.886E-01	6.152E-01	4.732E-02	-0.343
		867.82		1.196E-01	1.568E+00	2.637E+00	1.978E-01	0.045
		919.63		5.759E-01	3.337E+00	5.647E+00	5.388E-01	0.102
		925.24		-1.073E+00	1.314E+00	1.977E+00	1.549E-01	-0.543
		1596.49	*	6.303E-02	1.045E-01	1.903E-01	1.174E-02	0.331
CE-141		145.44	*	3.617E-02	7.377E-02	1.232E-01	7.267E-03	0.294
CE-143		57.37		2.538E-04	7.377E-02	Half-Life	too short	
		231.56		3.308E-04	7.377E-02	Half-Life	too short	
+		293.26	*	1.491E-03	7.377E-02	Half-Life	too short	
		350.59		4.457E-02	7.377E-02	Half-Life	too short	
		490.36		3.116E-03	7.377E-02	Half-Life	too short	
		664.57		4.850E-03	7.377E-02	Half-Life	too short	
		721.93		4.113E-04	7.377E-02	Half-Life	too short	
		80.11		-2.544E+00	2.721E+00	3.776E+00	3.507E-01	-0.674
CE-144		133.54	*	1.976E-01	2.400E-01	4.047E-01	5.755E-02	0.488
PM-144		476.78		3.642E-02	8.696E-02	1.473E-01	1.002E-02	0.247
		618.01		-1.913E-02	3.788E-02	5.867E-02	3.281E-03	-0.326
+		696.49	*	4.248E-03	4.291E-02	6.987E-02	3.675E-03	0.061
		778.57		-1.886E+00	2.375E+00	3.652E+00	2.206E-01	-0.517
PR-144		696.49	*	2.880E-01	2.909E+00	4.737E+00	2.489E-01	0.061
		1489.15		-7.871E+00	1.105E+01	1.462E+01	9.168E-01	-0.538
PM-146		453.90	*	5.060E-02	4.944E-02	8.751E-02	7.448E-03	0.578
		633.02		9.223E-01	1.760E+00	2.931E+00	1.077E+00	0.315
+		735.90		-3.761E-02	1.688E-01	2.645E-01	7.366E-02	-0.142
		747.13		5.607E-02	1.088E-01	1.835E-01	2.289E-02	0.306
		91.11		5.993E-01	2.874E-01	6.719E-01	6.697E-02	0.892
		319.41		-2.468E+00	3.903E+00	6.285E+00	3.737E-01	-0.393
		439.89		3.101E+00	7.082E+00	1.196E+01	6.735E-01	0.259
ND-147								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	531.02	*		4.587E-01	6.559E-01	1.135E+00	1.523E-01	0.404
PM-149	285.90	*		5.690E+01	1.359E+02	2.339E+02	3.333E+01	0.243
EU-152	121.78			2.120E-02	8.237E-02	1.370E-01	1.076E-02	0.155
	244.69			-1.847E-01	4.400E-01	5.943E-01	3.492E-02	-0.311
	344.27	*		9.940E-02	1.251E-01	1.755E-01	1.156E-02	0.566
	443.98			-1.741E-01	1.036E+00	1.689E+00	9.510E-02	-0.103
	778.89			-2.365E-01	2.717E-01	4.135E-01	2.497E-02	-0.572
	867.32			1.651E-02	8.828E-01	1.476E+00	1.024E-01	0.011
	964.01			4.975E-02	3.773E-01	5.482E-01	3.877E-02	0.091
	1085.78			-4.416E-02	4.904E-01	7.999E-01	5.203E-02	-0.055
	1112.02			3.122E-01	3.913E-01	6.403E-01	4.062E-02	0.488
	1407.95			7.051E-02	2.065E-01	3.520E-01	2.217E-02	0.200
GD-153	69.67			5.994E-01	2.184E+00	3.255E+00	2.905E-01	0.184
	83.37			-4.544E+00	2.356E+01	2.867E+01	2.725E+00	-0.158
	97.43	*		5.558E-02	9.740E-02	1.463E-01	1.223E-02	0.380
	103.18			-9.762E-02	1.189E-01	1.892E-01	1.454E-02	-0.516
EU-154	123.07			-1.974E-02	5.929E-02	9.599E-02	9.191E-03	-0.206
	247.94			2.993E-01	4.666E-01	7.199E-01	6.908E-02	0.416
	591.81			-5.109E-01	6.899E-01	1.002E+00	9.530E-02	-0.510
	723.30			-2.569E-02	2.425E-01	3.317E-01	2.269E-02	-0.077
	756.87			1.181E-01	8.019E-01	1.310E+00	1.330E-01	0.090
	873.19			1.571E-01	3.392E-01	5.912E-01	6.598E-02	0.266
	996.32			-1.503E-01	3.978E-01	6.282E-01	1.069E-01	-0.239
	1004.76			-5.090E-04	2.287E-01	3.782E-01	3.948E-02	-0.001
	1274.45	*		-5.874E-02	1.386E-01	2.134E-01	2.043E-02	-0.275
EU-155	48.70			-1.722E+00	3.591E+00	5.931E+00	4.967E-01	-0.290
	60.01			-7.487E+00	6.381E+00	1.017E+01	9.314E-01	-0.736
	86.54			2.421E-01	1.621E-01	2.099E-01	2.063E-02	1.153
	105.31	*		6.358E-02	1.229E-01	2.073E-01	1.572E-02	0.307
TB-160	86.79			6.523E-01	4.367E-01	5.545E-01	5.420E-02	1.176
	197.04			2.286E-01	7.409E-01	1.153E+00	6.468E-02	0.198
	215.65			-6.135E-02	8.892E-01	1.428E+00	8.183E-02	-0.043
	298.57			1.051E-01	1.497E-01	2.305E-01	1.376E-02	0.456
	879.36	*		4.391E-02	1.561E-01	2.353E-01	1.662E-02	0.187
	962.29			4.748E-01	6.557E-01	1.031E+00	7.300E-02	0.460
	966.15			8.965E-01	3.198E-01	5.779E-01	4.083E-02	1.551
	1177.93			1.697E-02	4.345E-01	7.146E-01	4.237E-02	0.024
	1271.85			5.052E-01	7.535E-01	1.334E+00	8.210E-02	0.379
HO-166M	80.57			-2.663E-01	3.706E-01	4.826E-01	4.496E-02	-0.552
	184.41			9.008E-02	5.761E-02	8.281E-02	4.575E-03	1.088
	280.46			-6.645E-02	1.001E-01	1.630E-01	9.725E-03	-0.408
	410.95			1.604E-01	2.901E-01	4.982E-01	2.784E-02	0.322
	711.68	*		-7.135E-03	7.064E-02	1.127E-01	6.082E-03	-0.063
	752.31			-7.185E-02	2.905E-01	4.534E-01	2.621E-02	-0.158
	810.29			-1.627E-02	6.861E-02	1.123E-01	7.134E-03	-0.145
TM-171	51.35			-2.570E+01	4.297E+01	7.047E+01	6.319E+00	-0.365
	52.39			-1.385E+00	2.194E+01	3.679E+01	3.339E+00	-0.038
	59.40			-2.606E+01	3.384E+01	5.494E+01	5.050E+00	-0.474
	66.72	*		-2.069E+01	3.402E+01	5.556E+01	4.963E+00	-0.372

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	+	88.36		4.766E-01	3.191E-01	4.218E-01	4.137E-02	1.130
		201.83		-3.296E-02	3.597E-02	5.553E-02	3.133E-03	-0.594
		306.84	*	1.500E-02	2.797E-02	4.839E-02	2.887E-03	0.310
		401.10		-6.172E-01	8.086E+00	1.336E+01	7.439E-01	-0.046
LU-177		112.95		-2.999E-01	1.961E+00	3.211E+00	2.177E-01	-0.093
		208.36	*	1.604E+00	1.487E+00	2.513E+00	1.428E-01	0.638
LU-177M		52.97		9.625E-01	2.192E+00	3.745E+00	3.415E-01	0.257
		54.07		-1.313E-03	1.146E+00	1.926E+00	1.766E-01	-0.001
		61.30		5.605E-01	1.860E+00	3.148E+00	2.862E-01	0.178
		121.62		2.475E-01	4.210E-01	7.103E-01	4.350E-02	0.348
HF-181		147.16		-2.483E-01	7.664E-01	1.235E+00	6.964E-02	-0.201
		171.86		3.921E-01	5.679E-01	9.524E-01	5.181E-02	0.412
		218.09		5.951E-03	1.021E+00	1.645E+00	9.450E-02	0.004
		268.79	+	2.113E+00	1.910E+00	1.728E+00	1.028E-01	1.223
		319.02		-1.686E-01	2.889E-01	4.669E-01	2.775E-02	-0.361
		367.43		1.087E+00	1.032E+00	1.835E+00	1.051E-01	0.592
		413.65	*	-1.107E-01	2.045E-01	3.260E-01	1.823E-02	-0.340
		56.28		-2.944E-01	1.260E+00	2.095E+00	1.928E-01	-0.141
		57.53		2.896E-02	6.676E-01	1.122E+00	1.033E-01	0.026
		65.20		-1.175E+00	1.175E+00	1.888E+00	1.692E-01	-0.622
W-181		133.02		-5.683E-04	7.953E-02	1.304E-01	7.639E-03	-0.004
		136.25		5.617E-02	5.431E-01	8.941E-01	5.188E-02	0.063
		345.85		-1.113E-01	2.782E-01	3.360E-01	1.966E-02	-0.331
		482.03	*	-2.005E-02	5.422E-02	8.679E-02	4.884E-03	-0.231
		56.28		-1.142E-01	4.882E-01	8.118E-01	7.473E-02	-0.141
		57.53		1.108E-02	2.589E-01	4.351E-01	4.005E-02	0.025
TA-182		65.20	*	-4.522E-01	4.523E-01	7.267E-01	6.509E-02	-0.622
		67.75		-3.936E-02	1.308E-01	2.162E-01	1.930E-02	-0.182
		100.10		8.849E-02	1.942E-01	3.273E-01	2.627E-02	0.270
		152.43		2.267E-01	3.857E-01	6.461E-01	3.599E-02	0.351
RE-183		222.10		3.607E-01	4.152E-01	6.976E-01	4.023E-02	0.517
		1001.68		3.159E-01	2.398E+00	3.814E+00	2.643E-01	0.083
		1121.28	+	7.261E-01	2.368E-01	3.830E-01	2.407E-02	1.896
		1189.05		2.380E-01	3.578E-01	6.255E-01	3.726E-02	0.380
		1221.42	*	-1.943E-01	2.332E-01	3.468E-01	2.094E-02	-0.560
		1230.97		-9.752E-01	6.155E-01	8.416E-01	5.101E-02	-1.159
		57.98		6.922E-02	2.547E-01	4.315E-01	3.971E-02	0.160
		59.32		-1.001E-01	1.407E-01	2.292E-01	2.106E-02	-0.437
RE-184		67.20		7.520E-02	2.352E-01	3.976E-01	3.550E-02	0.189
		162.32	*	4.293E-02	1.329E-01	2.196E-01	1.196E-02	0.195
		208.81		1.126E+00	1.206E+00	2.027E+00	1.153E-01	0.556
		291.72		3.772E-01	1.125E+00	1.695E+00	1.013E-01	0.222
		57.98		2.537E-01	9.335E-01	1.582E+00	1.455E-01	0.160
		59.32		-3.664E-01	5.154E-01	8.392E-01	7.713E-02	-0.437
		67.20		2.755E-01	8.619E-01	1.457E+00	1.300E-01	0.189
		161.27		5.015E-02	4.237E-01	6.941E-01	3.790E-02	0.072
RE-184		216.55		4.839E-02	3.133E-01	5.090E-01	2.919E-02	0.095
		252.85	*	-1.652E-01	2.849E-01	4.403E-01	2.601E-02	-0.375
		318.01		-2.111E-01	4.869E-01	7.942E-01	4.722E-02	-0.266

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		792.07		1.117E+00	1.094E+00	1.995E+00	1.231E-01	0.560
		903.28		-2.473E-01	1.189E+00	1.786E+00	1.295E-01	-0.138
		920.93		-1.328E-01	4.930E-01	7.950E-01	5.728E-02	-0.167
		59.72		-4.547E-01	3.816E-01	6.074E-01	5.574E-02	-0.749
		61.14		2.231E-02	2.041E-01	3.432E-01	3.123E-02	0.065
		69.30		-1.654E-01	3.810E-01	5.789E-01	5.166E-02	-0.286
		592.07		-1.558E+00	2.711E+00	4.158E+00	2.218E-01	-0.375
		646.12	*	-3.875E-02	4.870E-02	7.243E-02	3.651E-03	-0.535
		717.42		1.634E-01	1.118E+00	1.825E+00	9.947E-02	0.090
	+	874.81		1.120E+00	5.358E-01	1.158E+00	8.121E-02	0.967
RE-188		880.27		1.717E-01	9.051E-01	1.342E+00	9.490E-02	0.128
		155.03	*	6.788E-02	1.968E-01	3.261E-01	1.806E-02	0.208
		477.96		3.467E+00	3.980E+00	6.938E+00	3.906E-01	0.500
		633.10		1.904E+00	3.525E+00	5.985E+00	3.065E-01	0.318
W-188		63.58		6.293E+01	6.508E+01	1.111E+02	9.998E+00	0.567
		227.08		3.366E+00	1.513E+01	2.463E+01	1.427E+00	0.137
IR-192		290.67	*	-3.763E+00	8.965E+00	1.267E+01	7.572E-01	-0.297
	+	295.96		8.464E-01	1.830E-01	3.137E-01	1.902E-02	2.698
		308.46		3.315E-02	1.084E-01	1.852E-01	1.117E-02	0.179
		316.51	*	-7.623E-03	3.800E-02	6.296E-02	3.764E-03	-0.121
		468.07		1.732E-02	7.713E-02	1.293E-01	8.459E-03	0.134
		604.41		1.626E-01	6.268E-01	9.031E-01	1.002E-01	0.180
AU-195		612.46		9.695E-01	1.059E+00	1.628E+00	1.164E-01	0.596
		65.12		-2.018E-01	2.095E-01	3.372E-01	3.021E-02	-0.598
		66.83		-6.756E-02	1.127E-01	1.841E-01	1.644E-02	-0.367
	+	75.70		9.027E-01	2.786E-01	5.379E-01	4.879E-02	1.678
		98.88	*	1.701E-01	2.558E-01	4.212E-01	3.443E-02	0.404
TL-200		129.76		1.587E+00	3.408E+00	5.698E+00	3.373E-01	0.279
		367.94	*	5.577E-04	3.408E+00	Half-Life	too short	
		579.30		6.814E-03	3.408E+00	Half-Life	too short	
		828.27		3.226E-03	3.408E+00	Half-Life	too short	
TL-201		1205.75		-2.682E-03	3.408E+00	Half-Life	too short	
		68.90		-3.457E+00	7.595E+00	1.153E+01	1.029E+00	-0.300
		70.82		9.875E-01	4.485E+00	6.660E+00	5.953E-01	0.148
		80.30		-7.967E+00	7.924E+00	1.095E+01	1.018E+00	-0.728
TL-202		135.34		-3.690E+00	3.691E+01	6.024E+01	3.504E+00	-0.061
		167.43	*	-2.743E+00	1.030E+01	1.655E+01	8.956E-01	-0.166
		68.90		-2.651E-01	5.824E-01	8.843E-01	7.890E-02	-0.300
		70.82		7.552E-02	3.430E-01	5.093E-01	4.553E-02	0.148
HG-203		80.30		-6.095E-01	6.062E-01	8.373E-01	7.787E-02	-0.728
		439.56	*	4.047E-02	8.349E-02	1.415E-01	7.962E-03	0.286
		70.83		3.171E-01	1.430E+00	2.123E+00	2.932E-01	0.149
		72.87		2.404E+00	9.292E-01	1.429E+00	1.920E-01	1.683
BI-207		82.60		-9.437E-02	2.064E+00	2.182E+00	3.116E-01	-0.043
		279.20	*	3.728E-02	4.840E-02	8.463E-02	5.345E-03	0.441
		72.80		6.363E-01	2.570E-01	4.079E-01	3.661E-02	1.560
	+	74.97		4.989E-01	1.540E-01	2.731E-01	2.469E-02	1.827
		84.90		1.520E-01	2.580E-01	3.845E-01	3.698E-02	0.395
		569.67		-1.709E-02	3.687E-02	5.682E-02	3.084E-03	-0.301

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207	1063.62	*		2.489E-02	6.643E-02	1.135E-01	7.525E-03	0.219
	1770.23			-4.874E-02	6.207E-01	8.576E-01	5.009E-02	-0.057
	81.07			-2.888E-01	3.328E-01	3.842E-01	3.591E-02	-0.752
	83.78			-7.443E-02	1.805E-01	2.391E-01	2.280E-02	-0.311
	94.90			3.159E-01	2.877E-01	4.416E-01	3.845E-02	0.715
	122.32			1.598E-01	2.002E+00	3.304E+00	2.297E-01	0.048
	144.24			5.797E-01	7.838E-01	1.321E+00	9.429E-02	0.439
	154.21			7.282E-02	4.584E-01	7.535E-01	5.128E-02	0.097
	269.46			4.928E-01	4.455E-01	4.140E-01	2.570E-02	1.190
	323.87	*		-9.675E-02	7.930E-01	1.320E+00	2.186E-01	-0.073
PO-209	338.28	+		5.751E+00	1.891E+00	2.621E+00	2.772E-01	2.194
	445.03			-1.083E+00	2.479E+00	3.948E+00	4.016E-01	-0.274
	260.50			5.896E+00	1.161E+01	1.911E+01	1.133E+00	0.308
	262.80			-3.240E+01	3.882E+01	5.028E+01	2.984E+00	-0.644
	896.60	*		3.102E+00	8.595E+00	1.482E+01	1.074E+00	0.209
	46.50	*		4.079E+00	5.367E+00	9.086E+00	7.481E-01	0.449
PB-210	46.50	*		4.079E+00	5.367E+00	9.086E+00	7.481E-01	0.449
PO-210	46.50	*		4.079E+00	5.365E+00	9.086E+00	6.546E-01	0.449
PB-211	404.84	*		-8.930E-01	1.262E+00	1.783E+00	1.111E+00	-0.501
BI-212	427.08			-6.585E-01	2.289E+00	3.645E+00	2.252E+00	-0.181
	831.96			7.757E-01	1.686E+00	2.478E+00	1.547E+00	0.313
	727.18	+	*	8.468E-01	5.151E-01	7.295E-01	5.486E-02	1.161
	785.46			2.196E+00	1.930E+00	3.555E+00	2.170E-01	0.618
	1620.62			1.524E+00	1.637E+00	3.083E+00	1.891E-01	0.494
PO-215	81.07			-2.888E-01	3.328E-01	3.842E-01	3.591E-02	-0.752
	83.78			-7.443E-02	1.805E-01	2.391E-01	2.280E-02	-0.311
	94.90			3.159E-01	2.877E-01	4.416E-01	3.845E-02	0.715
	122.32			1.598E-01	2.002E+00	3.304E+00	2.297E-01	0.048
	144.24			5.797E-01	7.838E-01	1.321E+00	9.429E-02	0.439
	154.21			7.282E-02	4.584E-01	7.535E-01	5.128E-02	0.097
	269.46			4.928E-01	4.455E-01	4.140E-01	2.570E-02	1.190
	323.87	+	*	-9.675E-02	7.930E-01	1.320E+00	2.186E-01	-0.073
	338.28	+		5.751E+00	1.891E+00	2.621E+00	2.772E-01	2.194
	445.03			-1.083E+00	2.479E+00	3.948E+00	4.016E-01	-0.274
RN-219	271.23	+		6.322E-01	5.726E-01	5.278E-01	4.337E-02	1.198
RN-220	401.81	*		-2.389E-02	4.972E-01	8.230E-01	1.112E-01	-0.029
	549.76	*		2.734E+01	3.021E+01	5.307E+01	2.917E+00	0.515
RA-223	81.07			-2.888E-01	3.328E-01	3.842E-01	3.591E-02	-0.752
	83.78			-7.443E-02	1.805E-01	2.391E-01	2.280E-02	-0.311
	94.90			3.159E-01	2.877E-01	4.416E-01	3.845E-02	0.715
	122.32			1.598E-01	2.002E+00	3.304E+00	2.297E-01	0.048
	144.24			5.797E-01	7.838E-01	1.321E+00	9.429E-02	0.439
	154.21			7.282E-02	4.584E-01	7.535E-01	5.128E-02	0.097
	269.46			4.928E-01	4.455E-01	4.140E-01	2.570E-02	1.190
	323.87	+	*	-9.675E-02	7.930E-01	1.320E+00	2.186E-01	-0.073
	338.28	+		5.751E+00	1.891E+00	2.621E+00	2.772E-01	2.194
	445.03			-1.083E+00	2.479E+00	3.948E+00	4.016E-01	-0.274
AC-227	79.80			2.572E-01	2.015E+00	2.969E+00	6.464E-01	0.087
	236.00			1.390E+00	4.127E-01	6.430E-01	6.734E-02	2.162

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		256.20	*	-1.160E-02	4.711E-01	7.529E-01	1.055E-01	-0.015
		286.10		-3.176E-02	1.730E+00	2.912E+00	3.391E-01	-0.011
		299.80		2.288E+00	1.853E+00	2.911E+00	4.759E-01	0.786
		304.40		-2.957E+00	2.230E+00	3.364E+00	5.837E-01	-0.879
		334.20		9.873E-01	3.119E+00	4.650E+00	8.540E-01	0.212
		79.80		2.572E-01	2.015E+00	2.969E+00	6.545E-01	0.087
	+	94.00		7.417E+00	3.594E+00	4.248E+00	9.289E-01	1.746
		236.00		1.390E+00	4.063E-01	6.430E-01	5.839E-02	2.162
		256.20	*	-1.160E-02	4.711E-01	7.529E-01	1.275E-01	-0.015
		286.10		-3.176E-02	1.730E+00	2.912E+00	2.917E+00	-0.011
TH-229		299.80		2.288E+00	1.853E+00	2.911E+00	4.759E-01	0.786
		304.40		-2.957E+00	2.230E+00	3.364E+00	5.837E-01	-0.879
		334.20		9.873E-01	3.119E+00	4.650E+00	8.540E-01	0.212
		85.43		4.510E-01	2.571E-01	3.995E-01	3.860E-02	1.129
	+	88.47		2.744E-01	1.837E-01	2.410E-01	2.358E-02	1.138
		100.00		1.155E-01	2.016E-01	3.413E-01	2.744E-02	0.338
		193.63	*	-6.820E-02	6.154E-01	9.908E-01	5.536E-02	-0.069
	+	210.97		5.453E-01	1.237E+00	1.513E+00	8.628E-02	0.360
		283.67	*	5.207E-01	1.719E+00	2.943E+00	4.076E-01	0.177
		301.29		6.108E-01	6.678E-01	1.145E+00	1.208E-01	0.533
PA-231		81.07		-2.888E-01	3.328E-01	3.842E-01	3.591E-02	-0.752
		83.78		-7.443E-02	1.805E-01	2.391E-01	2.280E-02	-0.311
		94.90		3.159E-01	2.877E-01	4.416E-01	3.845E-02	0.715
		122.32		1.598E-01	2.002E+00	3.304E+00	2.297E-01	0.048
		144.24		5.797E-01	7.838E-01	1.321E+00	9.429E-02	0.439
		154.21		7.282E-02	4.584E-01	7.535E-01	5.128E-02	0.097
	+	269.46		4.928E-01	4.455E-01	4.140E-01	2.570E-02	1.190
		323.87	*	-9.675E-02	7.930E-01	1.320E+00	2.186E-01	-0.073
	+	338.28		5.751E+00	1.891E+00	2.621E+00	2.772E-01	2.194
		445.03		-1.083E+00	2.479E+00	3.948E+00	4.016E-01	-0.274
U-231		84.21		3.122E+00	8.286E+00	1.225E+01	1.172E+00	0.255
	+	92.29		8.542E+00	3.770E+00	5.343E+00	4.865E-01	1.599
		95.87	*	-3.166E-01	1.530E+00	2.200E+00	1.885E-01	-0.144
		108.00		-2.339E-01	2.754E+00	4.531E+00	3.265E-01	-0.052
	+	75.28		1.456E+01	4.859E+00	8.431E+00	1.315E+00	1.727
	+	86.59		3.934E+00	2.817E+00	3.393E+00	9.230E-01	1.160
		300.12		6.937E-01	4.927E-01	8.129E-01	1.098E-01	0.853
		311.98	*	-6.886E-03	7.132E-02	1.190E-01	7.509E-03	-0.058
		340.50		1.365E+00	8.477E-01	1.302E+00	2.993E-01	1.049
		398.62		1.386E+00	2.577E+00	4.384E+00	1.131E+00	0.316
PA-234		415.76		-1.033E+00	1.876E+00	2.964E+00	6.085E-01	-0.348
		63.00		1.009E+00	1.944E+00	3.269E+00	5.142E-01	0.309
		94.67		3.837E-01	2.106E-01	3.280E-01	4.096E-02	1.170
		98.44		9.799E-02	1.202E-01	1.721E-01	9.588E-02	0.570
		99.86		3.746E-01	5.145E-01	8.759E-01	7.056E-02	0.428
		111.00		-1.313E-01	2.092E-01	3.348E-01	3.667E-02	-0.392
		131.20		-9.298E-02	1.258E-01	1.998E-01	1.177E-02	-0.465
		152.70		2.756E-01	3.690E-01	6.186E-01	9.727E-02	0.446
	+	186.00		3.243E+00	2.291E+00	2.930E+00	8.939E-01	1.107

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	226.40			-9.678E-02	4.720E-01	7.507E-01	8.675E-02	-0.129
	227.20			1.216E-01	5.070E-01	8.259E-01	4.786E-02	0.147
	248.90			4.414E-01	1.011E+00	1.653E+00	3.555E-01	0.267
+	293.70			5.282E+00	1.389E+00	1.888E+00	3.049E-01	2.797
	369.80			-1.527E+00	1.053E+00	1.500E+00	3.120E-01	-1.018
	568.70			-8.830E-02	1.219E+00	1.947E+00	1.058E-01	-0.045
	569.50			-1.382E-01	3.282E-01	5.080E-01	2.758E-02	-0.272
	574.00			-3.258E-01	1.673E+00	2.681E+00	1.451E-01	-0.122
	699.00			-2.627E-01	8.992E-01	1.390E+00	2.477E-01	-0.189
	706.10			-8.012E-01	1.230E+00	1.766E+00	7.785E-01	-0.454
	733.00			-1.825E-01	4.999E-01	6.524E-01	1.383E-01	-0.280
	742.81			1.538E-01	1.586E+00	2.570E+00	1.720E+00	0.060
	796.30			8.670E-01	1.080E+00	1.891E+00	4.989E-01	0.459
	805.60			4.390E-01	1.178E+00	2.027E+00	6.098E-01	0.217
	819.60			-9.275E-01	1.473E+00	2.243E+00	8.431E-01	-0.414
	826.30			-2.637E-01	9.864E-01	1.560E+00	6.922E-01	-0.169
	831.60			1.683E-02	8.024E-01	1.161E+00	3.403E-01	0.015
+	876.40			1.585E+00	1.792E+00	1.665E+00	1.709E+00	0.952
	880.51			2.756E-01	2.921E-01	4.888E-01	3.458E-02	0.564
	883.24			-1.916E-01	3.297E-01	4.696E-01	3.148E-01	-0.408
	899.00			-1.411E-01	9.644E-01	1.579E+00	6.862E-01	-0.089
	925.00			-1.130E+00	1.306E+00	1.953E+00	1.405E-01	-0.579
	926.50			-4.529E-02	1.942E-01	3.140E-01	7.797E-02	-0.144
	946.00	*		2.190E-01	3.417E-01	6.009E-01	1.089E-01	0.365
	949.00			5.055E-03	5.285E-01	8.781E-01	6.255E-02	0.006
	980.50			-6.895E-01	7.668E-01	1.125E+00	7.888E-02	-0.613
	1394.10			3.681E-01	1.368E+00	2.276E+00	1.475E+00	0.162
PA-234M	766.42			2.224E+01	1.732E+01	2.442E+01	1.230E+01	0.911
	1001.03	*		1.829E-01	4.984E+00	8.279E+00	7.076E-01	0.022
TH-234	63.29	*		1.363E+00	1.645E+00	2.774E+00	5.042E-01	0.491
+	92.38			1.919E+00	9.004E-01	1.197E+00	2.193E-01	1.603
U-235	89.95			2.251E+00	1.266E+00	2.142E+00	6.665E-01	1.051
+	93.35			2.308E+00	1.190E+00	1.404E+00	3.950E-01	1.643
	105.00			5.691E-01	1.214E+00	2.025E+00	5.981E-01	0.281
	143.76	*		1.737E-01	2.366E-01	3.969E-01	6.456E-02	0.437
	163.35			2.806E-02	5.685E-01	9.280E-01	1.658E-01	0.030
+	185.71			1.201E-01	7.682E-02	1.079E-01	5.972E-03	1.113
	205.31			-1.195E-01	7.469E-01	1.042E+00	1.870E-01	-0.115
NP-236	94.67			2.938E-01	1.578E-01	2.491E-01	2.177E-02	1.179
	98.44			7.411E-02	8.117E-02	1.301E-01	1.070E-02	0.570
	111.00			-9.934E-02	1.580E-01	2.532E-01	1.758E-02	-0.392
	160.31	*		2.022E-02	9.284E-02	1.528E-01	8.361E-03	0.132
U-238	63.29	*		1.363E+00	1.645E+00	2.774E+00	5.042E-01	0.491
+	92.38			1.919E+00	8.471E-01	1.197E+00	1.089E-01	1.603
NP-239	99.55			1.696E-01	1.720E-01	2.955E-01	2.392E-02	0.574
	117.00	*		-1.970E-01	2.115E-01	3.329E-01	2.151E-02	-0.592
+	209.75			5.493E-01	1.247E+00	1.598E+00	9.097E-02	0.344
	228.18			-1.665E-01	2.743E-01	4.266E-01	2.474E-02	-0.390
	277.60			2.155E-01	2.312E-01	3.757E-01	2.241E-02	0.573

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		5.038E-01	1.761E+00	2.624E+00	1.548E-01	0.192
AM-241		59.54	*	-1.811E-01	1.971E-01	3.176E-01	3.106E-02	-0.570
CM-243		99.55		1.745E-01	1.770E-01	3.041E-01	2.461E-02	0.574
		103.76	*	2.804E-02	1.089E-01	1.818E-01	1.386E-02	0.154
		117.00		-2.027E-01	2.177E-01	3.425E-01	2.213E-02	-0.592
	+	209.75		5.416E-01	1.229E+00	1.575E+00	8.968E-02	0.344
		228.18		-1.682E-01	2.772E-01	4.311E-01	2.500E-02	-0.390
		277.60		2.173E-01	2.331E-01	3.788E-01	2.260E-02	0.573
AM-246		798.80		-2.813E-01	1.749E-01	2.495E-01	1.556E-02	-1.128
		1036.00		9.020E-02	3.551E-01	6.019E-01	4.076E-02	0.150
		1062.04		-2.067E-01	2.818E-01	4.274E-01	2.838E-02	-0.484
		1078.86	*	7.265E-02	1.708E-01	2.937E-01	1.922E-02	0.247
CM-247		278.00		8.792E-01	9.297E-01	1.560E+00	9.306E-02	0.564
		287.40		-7.963E-01	1.352E+00	2.199E+00	1.314E-01	-0.362
		402.60	*	1.346E-02	4.334E-02	7.342E-02	4.091E-03	0.183
CF-249		252.85		-6.174E-01	1.065E+00	1.646E+00	9.722E-02	-0.375
		333.44		1.128E-01	2.340E-01	3.536E-01	2.087E-02	0.319
		387.95	*	-9.056E-03	4.590E-02	7.531E-02	4.200E-03	-0.120
CF-251		176.60	*	-1.520E-02	1.546E-01	2.500E-01	1.368E-02	-0.061
		227.00		-2.880E-02	4.561E-01	7.312E-01	4.236E-02	-0.039
		285.00		2.603E-01	1.951E+00	3.311E+00	1.977E-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]G243630002
* Acquisition date   : 7-JAN-2010 13:10:19 Detector SN#      :
* Detector ID        : GAM06 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 02:00:01.05 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243630002 Analyst initials: MXR1
* Batch Number       : 937702 Sample Quantity : 1.1778E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 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	2.092E+01	2.141E+00	7.303E-01	0.000E+00
MN-54	6.055E-02	6.297E-02	7.293E-02	0.000E+00
CD-109	2.047E+00	1.343E+00	1.282E+00	0.000E+00
SN-126	2.010E-01	1.318E-01	1.265E-01	0.000E+00
BA-137M	2.010E-01	8.383E-02	6.998E-02	0.000E+00
CS-137	2.125E-01	8.862E-02	7.397E-02	0.000E+00
TL-208	4.609E-01	1.026E-01	6.141E-02	0.000E+00
BI-211	3.515E+00	5.144E-01	3.370E-01	0.000E+00
PB-212	1.343E+00	1.515E-01	1.088E-01	0.000E+00
PO-212	1.343E+00	1.515E-01	1.088E-01	0.000E+00
BI-214	9.608E-01	1.852E-01	1.386E-01	0.000E+00
PB-214	1.223E+00	1.896E-01	1.175E-01	0.000E+00
PO-214	1.223E+00	1.896E-01	1.175E-01	0.000E+00
PO-216	1.343E+00	1.515E-01	1.088E-01	0.000E+00
PO-218	1.223E+00	1.896E-01	1.175E-01	0.000E+00
RA-224	4.059E+00	1.285E+00	1.238E+00	0.000E+00
RA-226	9.608E-01	1.852E-01	1.386E-01	0.000E+00
AC-228	1.164E+00	3.035E-01	2.429E-01	0.000E+00
RA-228	1.164E+00	3.035E-01	2.429E-01	0.000E+00
TH-228	1.365E+00	1.539E-01	1.106E-01	0.000E+00
TH-230	9.608E-01	1.852E-01	1.386E-01	0.000E+00
TH-232	1.164E+00	3.035E-01	2.429E-01	0.000E+00
U-234	9.608E-01	1.852E-01	1.386E-01	0.000E+00
NP-237	5.901E-01	4.051E-01	4.687E-01	0.000E+00
AM-243	2.779E-01	8.406E-02	1.085E-01	0.000E+00
ANH-511	8.808E-02	8.021E-02	5.177E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.638E-01	4.123E-01	7.177E-01	0.000E+00 NOT IDENT.

NA-22	-2.158E-02	4.857E-02	7.609E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.147E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.458E-02	2.786E-02	3.989E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.090E-02	8.945E-02	0.000E+00	FAIL ABUN
SC-46	8.597E-03	4.492E-02	7.797E-02	0.000E+00	FAIL ABUN
V-48	-6.259E-02	8.072E-02	1.244E-01	0.000E+00	NOT IDENT.
CR-51	-2.465E-02	4.102E-01	7.088E-01	0.000E+00	NOT IDENT.
MN-52	-1.395E-01	3.231E-01	4.950E-01	0.000E+00	NOT IDENT.
CO-56	1.084E-03	4.532E-02	7.766E-02	0.000E+00	NOT IDENT.
CO-57	9.841E-03	2.799E-02	4.883E-02	0.000E+00	NOT IDENT.
CO-58	-4.117E-03	4.452E-02	7.569E-02	0.000E+00	NOT IDENT.
FE-59	6.947E-02	1.067E-01	1.908E-01	0.000E+00	NOT IDENT.
CO-60	3.466E-02	4.456E-02	8.124E-02	0.000E+00	NOT IDENT.
ZN-65	-1.910E-02	1.216E-01	1.709E-01	0.000E+00	NOT IDENT.
GE-68	4.773E-01	1.468E+00	2.549E+00	0.000E+00	NOT IDENT.
AS-73	3.038E-02	1.110E+00	1.967E+00	0.000E+00	NOT IDENT.
AS-74	2.174E-02	1.041E-01	1.774E-01	0.000E+00	NOT IDENT.
SE-75	1.477E-02	5.769E-02	8.508E-02	0.000E+00	NOT IDENT.
BR-77	-2.072E+00	1.570E+01	2.619E+01	0.000E+00	FAIL ABUN
SR-82	-2.145E-01	3.793E-01	6.132E-01	0.000E+00	NOT IDENT.
RB-83	-1.051E-02	7.966E-02	1.329E-01	0.000E+00	NOT IDENT.
RB-84	-3.669E-03	8.083E-02	1.228E-01	0.000E+00	NOT IDENT.
KR-85	1.041E+01	9.199E+00	1.497E+01	0.000E+00	NOT IDENT.
SR-85	5.391E-02	4.763E-02	7.752E-02	0.000E+00	NOT IDENT.
RB-86	1.516E-01	9.979E-01	1.703E+00	0.000E+00	NOT IDENT.
Y-88	-1.310E-02	4.004E-02	6.249E-02	0.000E+00	NOT IDENT.
ZR-88	-1.402E-02	3.578E-02	5.977E-02	0.000E+00	NOT IDENT.
Y-91	-3.834E+00	2.286E+01	3.749E+01	0.000E+00	NOT IDENT.
NB-94	-1.910E-03	3.678E-02	6.053E-02	0.000E+00	NOT IDENT.
NB-95	6.799E-02	4.804E-02	8.902E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.863E-01	2.983E-01	0.000E+00	NOT IDENT.
ZR-95	2.305E-02	7.228E-02	1.232E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.052E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.793E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.251E+00	1.667E+01	2.710E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.038E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.698E-02	4.329E-02	6.709E-02	0.000E+00	NOT IDENT.
RH-102	1.024E-02	3.604E-02	6.233E-02	0.000E+00	NOT IDENT.
RU-103	3.871E-02	4.605E-02	8.262E-02	0.000E+00	FAIL ABUN
RH-106	2.123E-01	3.472E-01	6.105E-01	0.000E+00	FAIL ABUN
RU-106	2.123E-01	3.465E-01	6.105E-01	0.000E+00	FAIL ABUN
AG-108M	-2.967E-02	3.451E-02	5.472E-02	0.000E+00	NOT IDENT.
AG-110M	1.270E-02	4.337E-02	6.470E-02	0.000E+00	NOT IDENT.
IN-111	-7.113E-01	1.744E+00	2.446E+00	0.000E+00	NOT IDENT.
IN-113M	-3.272E-02	5.096E-02	8.360E-02	0.000E+00	NOT IDENT.
SN-113	-3.272E-02	5.096E-02	8.360E-02	0.000E+00	NOT IDENT.
IN-114M	1.656E-01	2.349E-01	3.619E-01	0.000E+00	NOT IDENT.
CD-115	-2.894E+00	1.625E+01	2.697E+01	0.000E+00	NOT IDENT.
SN-117M	-2.134E-02	6.565E-02	1.099E-01	0.000E+00	NOT IDENT.
SB-122	5.688E-01	3.207E+00	5.456E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.130E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	7.437E-03	3.249E-02	5.575E-02	0.000E+00	NOT IDENT.
I-124	2.409E-01	9.947E-01	1.478E+00	0.000E+00	NOT IDENT.
SB-124	-2.720E-02	8.565E-02	1.353E-01	0.000E+00	FAIL ABUN
SB-125	-3.199E-02	9.775E-02	1.626E-01	0.000E+00	NOT IDENT.
TE-125M	1.661E+00	1.054E+01	1.831E+01	0.000E+00	NOT IDENT.
I-126	2.072E-01	2.660E-01	4.161E-01	0.000E+00	NOT IDENT.
SB-126	1.623E-01	1.986E-01	3.133E-01	0.000E+00	NOT IDENT.
SB-127	8.023E-01	1.762E+00	3.048E+00	0.000E+00	NOT IDENT.
XE-127	-6.113E-02	6.499E-02	9.530E-02	0.000E+00	NOT IDENT.
I-131	4.682E-02	1.395E-01	2.454E-01	0.000E+00	NOT IDENT.
TE-132	-6.126E-01	1.006E+00	1.619E+00	0.000E+00	NOT IDENT.
BA-133	2.751E-03	5.190E-02	7.821E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.403E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.506E-02	5.346E-02	9.928E-02	0.000E+00	NOT IDENT.
CS-135	2.422E-01	1.919E-01	3.378E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.605E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.903E-02	1.165E-01	1.818E-01	0.000E+00	FAIL ABUN
CE-139	4.778E-03	3.517E-02	5.997E-02	0.000E+00	NOT IDENT.
BA-140	1.994E-01	3.064E-01	5.328E-01	0.000E+00	NOT IDENT.
LA-140	6.303E-02	1.024E-01	1.895E-01	0.000E+00	NOT IDENT.
CE-141	3.617E-02	7.229E-02	1.259E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.404E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.976E-01	2.352E-01	4.140E-01	0.000E+00	NOT IDENT.
PM-144	4.248E-03	4.205E-02	7.022E-02	0.000E+00	NOT IDENT.
PR-144	2.880E-01	2.851E+00	4.761E+00	0.000E+00	NOT IDENT.
PM-146	5.060E-02	4.845E-02	8.835E-02	0.000E+00	NOT IDENT.
ND-147	4.587E-01	6.428E-01	1.144E+00	0.000E+00	FAIL ABUN

PM-149	5.690E+01	1.332E+02	2.373E+02	0.000E+00	NOT IDENT.
EU-152	9.940E-02	1.226E-01	1.777E-01	0.000E+00	NOT IDENT.
GD-153	5.558E-02	9.545E-02	1.501E-01	0.000E+00	NOT IDENT.
EU-154	-5.874E-02	1.358E-01	2.131E-01	0.000E+00	NOT IDENT.
EU-155	6.358E-02	1.205E-01	2.125E-01	0.000E+00	FAIL ABUN
TB-160	4.391E-02	1.530E-01	2.358E-01	0.000E+00	FAIL ABUN
HO-166M	-7.135E-03	6.923E-02	1.133E-01	0.000E+00	FAIL ABUN
TM-171	-2.069E+01	3.334E+01	5.725E+01	0.000E+00	NOT IDENT.
LU-176	1.500E-02	2.741E-02	4.907E-02	0.000E+00	FAIL ABUN
LU-177	1.604E+00	1.458E+00	2.558E+00	0.000E+00	NOT IDENT.
LU-177M	-1.107E-01	2.004E-01	3.294E-01	0.000E+00	FAIL ABUN
HF-181	-2.005E-02	5.314E-02	8.758E-02	0.000E+00	NOT IDENT.
W-181	-4.522E-01	4.433E-01	7.489E-01	0.000E+00	NOT IDENT.
TA-182	-1.943E-01	2.285E-01	3.464E-01	0.000E+00	FAIL ABUN
RE-183	4.293E-02	1.303E-01	2.242E-01	0.000E+00	NOT IDENT.
RE-184	-1.652E-01	2.792E-01	4.474E-01	0.000E+00	NOT IDENT.
OS-185	-3.875E-02	4.772E-02	7.285E-02	0.000E+00	FAIL ABUN
RE-188	6.788E-02	1.929E-01	3.330E-01	0.000E+00	NOT IDENT.
W-188	-3.763E+00	8.785E+00	1.286E+01	0.000E+00	NOT IDENT.
IR-192	-7.623E-03	3.724E-02	6.382E-02	0.000E+00	FAIL ABUN
AU-195	1.701E-01	2.507E-01	4.322E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.134E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.743E+00	1.009E+01	1.689E+01	0.000E+00	NOT IDENT.
TL-202	4.047E-02	8.182E-02	1.429E-01	0.000E+00	NOT IDENT.
HG-203	3.728E-02	4.743E-02	8.589E-02	0.000E+00	NOT IDENT.
BI-207	2.489E-02	6.510E-02	1.135E-01	0.000E+00	FAIL ABUN
TL-207	-9.675E-02	7.771E-01	1.338E+00	0.000E+00	FAIL ABUN
PO-209	3.102E+00	8.423E+00	1.485E+01	0.000E+00	NOT IDENT.
BI-210	4.079E+00	5.260E+00	9.396E+00	0.000E+00	NOT IDENT.
PB-210	4.079E+00	5.260E+00	9.396E+00	0.000E+00	NOT IDENT.
PO-210	4.079E+00	5.258E+00	9.396E+00	0.000E+00	NOT IDENT.
PB-211	-8.930E-01	1.237E+00	1.802E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.048E-01	7.328E-01	0.000E+00	FAIL ABUN
PO-215	-9.675E-02	7.771E-01	1.338E+00	0.000E+00	FAIL ABUN
RN-219	-2.389E-02	4.873E-01	8.320E-01	0.000E+00	FAIL ABUN
RN-220	2.734E+01	2.961E+01	5.347E+01	0.000E+00	NOT IDENT.
RA-223	-9.675E-02	7.771E-01	1.338E+00	0.000E+00	FAIL ABUN
AC-227	-1.160E-02	4.616E-01	7.648E-01	0.000E+00	NOT IDENT.
TH-227	-1.160E-02	4.616E-01	7.648E-01	0.000E+00	FAIL ABUN
TH-229	-6.820E-02	6.031E-01	1.010E+00	0.000E+00	FAIL ABUN
PA-231	5.207E-01	1.685E+00	2.986E+00	0.000E+00	NOT IDENT.
TH-231	-9.675E-02	7.771E-01	1.338E+00	0.000E+00	FAIL ABUN
U-231	-3.166E-01	1.500E+00	2.258E+00	0.000E+00	FAIL ABUN
PA-233	-6.886E-03	6.989E-02	1.207E-01	0.000E+00	FAIL ABUN
PA-234	2.190E-01	3.348E-01	6.019E-01	0.000E+00	FAIL ABUN
PA-234M	1.829E-01	4.884E+00	8.288E+00	0.000E+00	NOT IDENT.
TH-234	1.363E+00	1.612E+00	2.859E+00	0.000E+00	FAIL ABUN
U-235	1.737E-01	2.319E-01	4.057E-01	0.000E+00	FAIL ABUN
NP-236	2.022E-02	9.098E-02	1.560E-01	0.000E+00	NOT IDENT.
U-238	1.363E+00	1.612E+00	2.859E+00	0.000E+00	FAIL ABUN
NP-239	-1.970E-01	2.073E-01	3.410E-01	0.000E+00	FAIL ABUN
AM-241	-1.811E-01	1.932E-01	3.276E-01	0.000E+00	NOT IDENT.
CM-243	2.804E-02	1.067E-01	1.865E-01	0.000E+00	FAIL ABUN
AM-246	7.265E-02	1.674E-01	2.937E-01	0.000E+00	NOT IDENT.
CM-247	1.346E-02	4.247E-02	7.422E-02	0.000E+00	NOT IDENT.
CF-249	-9.056E-03	4.498E-02	7.616E-02	0.000E+00	NOT IDENT.
CF-251	-1.520E-02	1.515E-01	2.549E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630002.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:10:19.
Sample ID          : G243630002          Sample quantity  : 1.17780E+02 GRAM
Detector name      : GAM06              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.05  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 937702             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	674	10.67*	9.624E-01	2.092E+01	2.092E+01	10.44
MN-54	834.83	29	99.97*	1.580E+00	5.843E-02	6.055E-02	106.13
CD-109	88.03	121	3.72*	5.180E+00	1.999E+00	2.047E+00	66.95
SN-126	64.28	-----	9.60	2.881E+00	-----	Line Not Found	-----
	86.94	121	8.90	5.180E+00	8.355E-01	8.355E-01	78.22
	87.57	121	37.00*	5.180E+00	2.010E-01	2.010E-01	66.95
BA-137M	661.65	110	89.98*	1.939E+00	2.008E-01	2.010E-01	42.55
CS-137	661.65	110	85.12*	1.939E+00	2.123E-01	2.125E-01	42.56
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	67	21.60	2.408E+00	4.078E-01	4.078E-01	93.29
	583.14	263	84.20*	2.158E+00	4.609E-01	4.609E-01	22.71
	860.37	34	12.46	1.539E+00	5.722E-01	5.722E-01	77.10
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	463	12.94*	3.243E+00	3.515E+00	3.515E+00	14.94
PB-212	74.81	236	10.70	4.098E+00	1.714E+00	1.714E+00	32.25
	77.11	419	18.00	4.334E+00	1.711E+00	1.711E+00	19.68
	87.30	121	8.00	5.180E+00	9.294E-01	9.294E-01	67.69
	238.63	821	44.60*	4.366E+00	1.343E+00	1.343E+00	11.51
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PO-212	74.81	236	10.70	4.098E+00	1.714E+00	1.714E+00	32.25
	77.11	419	18.00	4.334E+00	1.711E+00	1.711E+00	19.68
	87.30	121	8.00	5.180E+00	9.294E-01	9.294E-01	67.69
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	821	44.60*	4.366E+00	1.343E+00	1.343E+00	11.51
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
BI-214	609.31	290	46.30*	2.080E+00	9.608E-01	9.608E-01	19.67
	1120.29	88	15.10	1.211E+00	1.527E+00	1.527E+00	33.29
	1764.49	55	15.80	8.403E-01	1.330E+00	1.330E+00	38.01
PB-214	74.81	236	6.21	4.098E+00	2.954E+00	2.954E+00	31.74
	77.11	419	10.50	4.334E+00	2.932E+00	2.932E+00	21.11
	87.30	121	4.67	5.180E+00	1.592E+00	1.592E+00	67.39
	241.98	218	7.49	4.327E+00	2.140E+00	2.140E+00	32.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	247	19.20	3.719E+00	1.100E+00	1.100E+00	22.48
	351.92	463	37.20*	3.243E+00	1.223E+00	1.223E+00	15.82
	74.81	236	6.21	4.098E+00	2.954E+00	2.954E+00	31.74
	77.11	419	10.50	4.334E+00	2.932E+00	2.932E+00	21.11
	87.30	121	4.67	5.180E+00	1.592E+00	1.592E+00	67.39
PO-216	241.98	218	7.49	4.327E+00	2.140E+00	2.140E+00	32.79
	295.21	247	19.20	3.719E+00	1.100E+00	1.100E+00	22.48
	351.92	463	37.20*	3.243E+00	1.223E+00	1.223E+00	15.82
	74.81	236	10.70	4.098E+00	1.714E+00	1.714E+00	32.25
	77.11	419	18.00	4.334E+00	1.711E+00	1.711E+00	19.68
PO-218	87.30	121	8.00	5.180E+00	9.294E-01	9.294E-01	67.69
	238.63	821	44.60*	4.366E+00	1.343E+00	1.343E+00	11.51
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
	74.81	236	6.21	4.098E+00	2.954E+00	2.954E+00	31.74
	77.11	419	10.50	4.334E+00	2.932E+00	2.932E+00	21.11
RA-224	87.30	121	4.67	5.180E+00	1.592E+00	1.592E+00	67.39
	241.98	218	7.49	4.327E+00	2.140E+00	2.140E+00	32.79
	295.21	247	19.20	3.719E+00	1.100E+00	1.100E+00	22.48
	351.92	463	37.20*	3.243E+00	1.223E+00	1.223E+00	15.82
	240.98	218	3.95*	4.327E+00	4.059E+00	4.059E+00	32.31
RA-226	609.31	290	46.30*	2.080E+00	9.608E-01	9.608E-01	19.67
	1120.29	88	15.10	1.211E+00	1.527E+00	1.527E+00	33.29
	1764.49	55	15.80	8.403E-01	1.330E+00	1.330E+00	38.01
	338.32	165	11.40	3.342E+00	1.377E+00	1.377E+00	51.31
	911.07	148	27.70*	1.462E+00	1.164E+00	1.164E+00	26.60
AC-228	969.11	93	16.60	1.382E+00	1.299E+00	1.299E+00	39.56
	338.32	165	11.40	3.342E+00	1.377E+00	1.377E+00	51.31
	911.07	148	27.70*	1.462E+00	1.164E+00	1.164E+00	26.60
	969.11	93	16.60	1.382E+00	1.299E+00	1.299E+00	39.56
	74.81	236	10.70	4.098E+00	1.714E+00	1.742E+00	30.88
TH-228	77.11	419	18.00	4.334E+00	1.711E+00	1.738E+00	19.68
	87.30	121	8.00	5.180E+00	9.294E-01	9.444E-01	66.95
	238.63	821	44.60*	4.366E+00	1.343E+00	1.365E+00	11.51
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
	609.31	290	46.30*	2.080E+00	9.608E-01	9.608E-01	19.67
TH-230	1120.29	88	15.10	1.211E+00	1.527E+00	1.527E+00	33.29
	1764.49	55	15.80	8.403E-01	1.330E+00	1.330E+00	38.01
	338.32	165	11.40	3.342E+00	1.377E+00	1.377E+00	31.69
	911.07	148	27.70*	1.462E+00	1.164E+00	1.164E+00	26.60
	969.11	93	16.60	1.382E+00	1.299E+00	1.299E+00	39.56
U-234	609.31	290	46.30*	2.080E+00	9.608E-01	9.608E-01	19.67
	1120.29	88	15.10	1.211E+00	1.527E+00	1.527E+00	33.29
	1764.49	55	15.80	8.403E-01	1.330E+00	1.330E+00	38.01
	86.50	121	12.60*	5.180E+00	5.901E-01	5.901E-01	70.05
	95.87	-----	2.60	5.611E+00	-----	Line Not Found	-----
AM-243	74.67	236	66.00*	4.098E+00	2.779E-01	2.779E-01	30.86
	86.72	121	0.34	5.180E+00	2.213E+01	2.213E+01	66.95
	117.66	-----	0.55	6.042E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
ANH-511	511.00	67	100.00*	2.408E+00	8.808E-02	8.808E-02	92.92

Flag: "*" = Keyline

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	2.092E+01	2.092E+01	0.218E+01	10.44	
MN-54	312.70D	1.04	5.843E-02	6.055E-02	6.426E-02	106.13	
CD-109	464.00D	1.02	1.999E+00	2.047E+00	1.371E+00	66.95	
SN-126	1.00E+05Y	1.00	2.010E-01	2.010E-01	1.345E-01	66.95	
BA-137M	30.17Y	1.00	2.008E-01	2.010E-01	0.855E-01	42.55	
CS-137	30.17Y	1.00	2.123E-01	2.125E-01	0.904E-01	42.56	
TL-208	1.41E+10Y	1.00	4.609E-01	4.609E-01	1.047E-01	22.71	
BI-211	7.04E+08Y	1.00	3.515E+00	3.515E+00	0.525E+00	14.94	
PB-212	1.41E+10Y	1.00	1.343E+00	1.343E+00	0.155E+00	11.51	
PO-212	1.41E+10Y	1.00	1.343E+00	1.343E+00	0.155E+00	11.51	
BI-214	1600.00Y	1.00	9.608E-01	9.608E-01	1.890E-01	19.67	
PB-214	1600.00Y	1.00	1.223E+00	1.223E+00	0.193E+00	15.82	
PO-214	1600.00Y	1.00	1.223E+00	1.223E+00	0.193E+00	15.82	
PO-216	1.41E+10Y	1.00	1.343E+00	1.343E+00	0.155E+00	11.51	
PO-218	1600.00Y	1.00	1.223E+00	1.223E+00	0.193E+00	15.82	
RA-224	1.41E+10Y	1.00	4.059E+00	4.059E+00	1.311E+00	32.31	
RA-226	1600.00Y	1.00	9.608E-01	9.608E-01	1.890E-01	19.67	
AC-228	1.41E+10Y	1.00	1.164E+00	1.164E+00	0.310E+00	26.60	
RA-228	1.41E+10Y	1.00	1.164E+00	1.164E+00	0.310E+00	26.60	
TH-228	1.91Y	1.02	1.343E+00	1.365E+00	0.157E+00	11.51	
TH-230	4.47E+09Y	1.00	9.608E-01	9.608E-01	1.890E-01	19.67	
TH-232	1.41E+10Y	1.00	1.164E+00	1.164E+00	0.310E+00	26.60	
U-234	4.47E+09Y	1.00	9.608E-01	9.608E-01	1.890E-01	19.67	
NP-237	2.14E+06Y	1.00	5.901E-01	5.901E-01	4.134E-01	70.05	
AM-243	7380.00Y	1.00	2.779E-01	2.779E-01	0.858E-01	30.86	
ANH-511	1.00E+09Y	1.00	8.808E-02	8.808E-02	8.185E-02	92.92	

Total Activity : 4.896E+01 4.903E+01

Grand Total Activity : 4.896E+01 4.903E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	89.71	101	210	1.02	179.42	178	5	1.41E-02	46.9	5.31E+00	T
0	92.75	178	357	1.18	185.50	182	9	2.48E-02	43.2	5.47E+00	T
0	185.61	105	287	1.14	371.22	367	9	1.46E-02	63.7	5.18E+00	T
0	210.46	27	269	0.81	420.93	413	9	3.70E-03	****	4.77E+00	T
0	270.11	84	267	1.33	540.21	532	16	1.16E-02	90.2	3.98E+00	T
0	726.97	56	55	1.16	1453.94	1448	12	7.78E-03	60.4	1.79E+00	T
3	875.83	31	8	2.51	1751.66	1710	45	4.29E-03	47.3	1.51E+00	T
0	1378.01	19	11	1.16	2756.03	2746	13	2.66E-03	82.0	1.01E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630002.CNF;1
* Acquisition date   : 7-JAN-2010 13:10:19.  Detector SN#      :
* Detector ID        : GAM06                      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 02:00:01.05             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630002           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.17780E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS 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	2.092E+01	2.185E+00	7.325E-01	4.846E-02	28.555
MN-54	6.055E-02	6.426E-02	7.271E-02	4.799E-03	0.833
CD-109	2.047E+00	1.371E+00	1.248E+00	1.232E-01	1.641
SN-126	2.010E-01	1.345E-01	1.231E-01	1.212E-02	1.632
BA-137M	2.010E-01	8.554E-02	6.959E-02	3.437E-03	2.889
CS-137	2.125E-01	9.043E-02	7.356E-02	3.654E-03	2.889
TL-208	4.609E-01	1.047E-01	6.098E-02	3.854E-03	7.557
BI-211	3.515E+00	5.249E-01	3.328E-01	2.148E-02	10.560
PB-212	1.343E+00	1.546E-01	1.070E-01	7.889E-03	12.552
PO-212	1.343E+00	1.546E-01	1.070E-01	7.889E-03	12.552
BI-214	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
PB-214	1.223E+00	1.934E-01	1.160E-01	9.627E-03	10.538
PO-214	1.223E+00	1.934E-01	1.160E-01	9.627E-03	10.538
PO-216	1.343E+00	1.546E-01	1.070E-01	7.889E-03	12.552
PO-218	1.223E+00	1.934E-01	1.160E-01	9.627E-03	10.538
RA-224	4.059E+00	1.311E+00	1.218E+00	7.139E-02	3.332
RA-226	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
AC-228	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803
TH-228	1.365E+00	1.571E-01	1.087E-01	8.016E-03	12.552
TH-230	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
TH-232	1.164E+00	3.097E-01	2.424E-01	2.476E-02	4.803
U-234	9.608E-01	1.890E-01	1.377E-01	1.016E-02	6.976
NP-237	5.901E-01	4.134E-01	4.561E-01	1.041E-01	1.294
AM-243	2.779E-01	8.578E-02	1.054E-01	9.518E-03	2.637
ANH-511	8.808E-02	8.185E-02	5.134E-02	2.870E-03	1.715

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.638E-01		4.207E-01	7.112E-01	4.698E-02	0.230
NA-22	-2.158E-02		4.956E-02	7.621E-02	4.706E-03	-0.283
NA-24	3.028E+00		1.095E+00	Half-Life too short		
AL-26	-1.458E-02		2.843E-02	4.011E-02	2.304E-03	-0.363
TI-44	3.157E-01	+	6.214E-02	8.696E-02	7.994E-03	3.630
SC-46	8.597E-03		4.584E-02	7.779E-02	5.576E-03	0.111
V-48	-6.259E-02		8.237E-02	1.242E-01	8.697E-03	-0.504
CR-51	-2.465E-02		4.185E-01	6.994E-01	4.608E-02	-0.035
MN-52	-1.395E-01		3.296E-01	4.965E-01	3.125E-02	-0.281
CO-56	1.084E-03		4.625E-02	7.744E-02	5.206E-03	0.014
CO-57	9.841E-03		2.856E-02	4.769E-02	2.913E-03	0.206
CO-58	-4.117E-03		4.543E-02	7.543E-02	4.816E-03	-0.055
FE-59	6.947E-02		1.088E-01	1.908E-01	1.400E-02	0.364
CO-60	3.466E-02		4.546E-02	8.141E-02	5.114E-03	0.426
ZN-65	-1.910E-02		1.241E-01	1.710E-01	1.083E-02	-0.112
GE-68	4.773E-01		1.498E+00	2.549E+00	1.670E-01	0.187
AS-73	3.038E-02		1.133E+00	1.905E+00	1.742E-01	0.016
AS-74	2.174E-02		1.063E-01	1.762E-01	9.371E-03	0.123
SE-75	1.477E-02		5.887E-02	8.378E-02	5.026E-03	0.176
BR-77	-2.072E+00		1.602E+01	2.598E+01	1.447E+00	-0.080
SR-82	-2.145E-01		3.870E-01	6.109E-01	3.675E-02	-0.351
RB-83	-1.051E-02		8.129E-02	1.318E-01	7.347E-03	-0.080
RB-84	-3.669E-03		8.248E-02	1.225E-01	8.679E-03	-0.030
KR-85	1.041E+01		9.387E+00	1.485E+01	8.292E-01	0.701
SR-85	5.391E-02		4.860E-02	7.688E-02	4.294E-03	0.701
RB-86	1.516E-01		1.018E+00	1.703E+00	1.117E-01	0.089
Y-88	-1.310E-02		4.086E-02	6.285E-02	3.572E-03	-0.208
ZR-88	-1.402E-02		3.651E-02	5.911E-02	3.280E-03	-0.237
Y-91	-3.834E+00		2.333E+01	3.753E+01	2.251E+00	-0.102
NB-94	-1.910E-03		3.753E-02	6.024E-02	3.199E-03	-0.032
NB-95	6.799E-02		4.902E-02	8.867E-02	5.241E-03	0.767
NB-95M	3.456E-01		1.901E-01	2.933E-01	2.217E-02	1.178
ZR-95	2.305E-02		7.375E-02	1.227E-01	8.650E-03	0.188
NB-97	1.300E-01		1.557E-01	Half-Life too short		
ZR-97	1.291E+01		2.955E+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	-2.251E+00		1.701E+01	2.698E+01	3.702E+00	-0.083
TC-99M	-5.560E+11		3.081E+11	Half-Life too short		
RH-101	-2.698E-02		4.418E-02	6.586E-02	3.699E-03	-0.410
RH-102	1.024E-02		3.677E-02	6.176E-02	3.478E-03	0.166
RU-103	3.871E-02		4.699E-02	8.191E-02	1.029E-02	0.473
RH-106	2.123E-01		3.543E-01	6.067E-01	6.944E-02	0.350
RU-106	2.123E-01		3.536E-01	6.067E-01	3.146E-02	0.350
AG-108M	-2.967E-02		3.521E-02	5.417E-02	3.322E-03	-0.548
AG-110M	1.270E-02		4.425E-02	6.434E-02	3.473E-03	0.197
IN-111	-7.113E-01		1.780E+00	2.406E+00	1.415E-01	-0.296
IN-113M	-3.272E-02		5.200E-02	8.267E-02	4.920E-03	-0.396
SN-113	-3.272E-02		5.200E-02	8.267E-02	4.920E-03	-0.396
IN-114M	1.656E-01		2.397E-01	3.551E-01	1.976E-02	0.466
CD-115	-2.894E+00		1.658E+01	2.676E+01	1.487E+00	-0.108
SN-117M	-2.134E-02		6.699E-02	1.076E-01	5.911E-03	-0.198
SB-122	5.688E-01		3.272E+00	5.416E+00	2.952E-01	0.105
I-123	4.876E+00		1.087E+01	Half-Life too short		
TE-123M	7.437E-03		3.316E-02	5.461E-02	3.041E-03	0.136
I-124	2.409E-01		1.015E+00	1.469E+00	7.763E-02	0.164
SB-124	-2.720E-02		8.740E-02	1.359E-01	8.828E-03	-0.200
SB-125	-3.199E-02		9.975E-02	1.610E-01	9.445E-03	-0.199
TE-125M	1.661E+00		1.075E+01	1.786E+01	1.624E+00	0.093
I-126	2.072E-01		2.714E-01	4.138E-01	2.061E-02	0.501
SB-126	1.623E-01		2.027E-01	3.119E-01	1.709E-02	0.521
SB-127	8.023E-01		1.798E+00	3.032E+00	2.847E-01	0.265
XE-127	-6.113E-02		6.631E-02	9.358E-02	5.286E-03	-0.653
I-131	4.682E-02		1.424E-01	2.425E-01	1.561E-02	0.193
TE-132	-6.126E-01		1.026E+00	1.591E+00	2.316E-01	-0.385
BA-133	2.751E-03		5.296E-02	7.726E-02	8.931E-03	0.036
I-133	2.003E-03		7.158E-03	Half-Life too short		
CS-134	5.506E-02		5.455E-02	9.893E-02	6.226E-03	0.556
CS-135	2.422E-01		1.958E-01	3.327E-01	2.585E-02	0.728
I-135	-2.724E+10		3.370E+10	Half-Life too short		
CS-136	-6.903E-02		1.188E-01	1.817E-01	1.304E-02	-0.380
CE-139	4.778E-03		3.588E-02	5.877E-02	3.178E-03	0.081
BA-140	1.994E-01		3.127E-01	5.286E-01	1.717E-01	0.377
LA-140	6.303E-02		1.045E-01	1.903E-01	1.174E-02	0.331
CE-141	3.617E-02		7.377E-02	1.232E-01	7.267E-03	0.294
CE-143	1.491E-03		2.247E-04	Half-Life too short		
CE-144	1.976E-01		2.400E-01	4.047E-01	5.755E-02	0.488
PM-144	4.248E-03		4.291E-02	6.987E-02	3.675E-03	0.061
PR-144	2.880E-01		2.909E+00	4.737E+00	2.489E-01	0.061
PM-146	5.060E-02		4.944E-02	8.751E-02	7.448E-03	0.578
ND-147	4.587E-01		6.559E-01	1.135E+00	1.523E-01	0.404
PM-149	5.690E+01		1.359E+02	2.339E+02	3.333E+01	0.243
EU-152	9.940E-02		1.251E-01	1.755E-01	1.156E-02	0.566
GD-153	5.558E-02		9.740E-02	1.463E-01	1.223E-02	0.380
EU-154	-5.874E-02		1.386E-01	2.134E-01	2.043E-02	-0.275

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	6.358E-02		1.229E-01	2.073E-01	1.572E-02	0.307
TB-160	4.391E-02		1.561E-01	2.353E-01	1.662E-02	0.187
HO-166M	-7.135E-03		7.064E-02	1.127E-01	6.082E-03	-0.063
TM-171	-2.069E+01		3.402E+01	5.556E+01	4.963E+00	-0.372
LU-176	1.500E-02		2.797E-02	4.839E-02	2.887E-03	0.310
LU-177	1.604E+00		1.487E+00	2.513E+00	1.428E-01	0.638
LU-177M	-1.107E-01		2.045E-01	3.260E-01	1.823E-02	-0.340
HF-181	-2.005E-02		5.422E-02	8.679E-02	4.884E-03	-0.231
W-181	-4.522E-01		4.523E-01	7.267E-01	6.509E-02	-0.622
TA-182	-1.943E-01		2.332E-01	3.468E-01	2.094E-02	-0.560
RE-183	4.293E-02		1.329E-01	2.196E-01	1.196E-02	0.195
RE-184	-1.652E-01		2.849E-01	4.403E-01	2.601E-02	-0.375
OS-185	-3.875E-02		4.870E-02	7.243E-02	3.651E-03	-0.535
RE-188	6.788E-02		1.968E-01	3.261E-01	1.806E-02	0.208
W-188	-3.763E+00		8.965E+00	1.267E+01	7.572E-01	-0.297
IR-192	-7.623E-03		3.800E-02	6.296E-02	3.764E-03	-0.121
AU-195	1.701E-01		2.558E-01	4.212E-01	3.443E-02	0.404
TL-200	5.577E-04		4.660E-04	Half-Life too short		
TL-201	-2.743E+00		1.030E+01	1.655E+01	8.956E-01	-0.166
TL-202	4.047E-02		8.349E-02	1.415E-01	7.962E-03	0.286
HG-203	3.728E-02		4.840E-02	8.463E-02	5.345E-03	0.441
BI-207	2.489E-02		6.643E-02	1.135E-01	7.525E-03	0.219
TL-207	-9.675E-02		7.930E-01	1.320E+00	2.186E-01	-0.073
PO-209	3.102E+00		8.595E+00	1.482E+01	1.074E+00	0.209
BI-210	4.079E+00		5.367E+00	9.086E+00	7.481E-01	0.449
PB-210	4.079E+00		5.367E+00	9.086E+00	7.481E-01	0.449
PO-210	4.079E+00		5.365E+00	9.086E+00	6.564E-01	0.449
PB-211	-8.930E-01		1.262E+00	1.783E+00	1.111E+00	-0.501
BI-212	8.468E-01	+	5.151E-01	7.295E-01	5.486E-02	1.161
PO-215	-9.675E-02		7.930E-01	1.320E+00	2.186E-01	-0.073
RN-219	-2.389E-02		4.972E-01	8.230E-01	1.112E-01	-0.029
RN-220	2.734E+01		3.021E+01	5.307E+01	2.917E+00	0.515
RA-223	-9.675E-02		7.930E-01	1.320E+00	2.186E-01	-0.073
AC-227	-1.160E-02		4.711E-01	7.529E-01	1.055E-01	-0.015
TH-227	-1.160E-02		4.711E-01	7.529E-01	1.275E-01	-0.015
TH-229	-6.820E-02		6.154E-01	9.908E-01	5.536E-02	-0.069
PA-231	5.207E-01		1.719E+00	2.943E+00	4.076E-01	0.177
TH-231	-9.675E-02		7.930E-01	1.320E+00	2.186E-01	-0.073
U-231	-3.166E-01		1.530E+00	2.200E+00	1.885E-01	-0.144
PA-233	-6.886E-03		7.132E-02	1.190E-01	7.509E-03	-0.058
PA-234	2.190E-01		3.417E-01	6.009E-01	1.089E-01	0.365
PA-234M	1.829E-01		4.984E+00	8.279E+00	7.076E-01	0.022
TH-234	1.363E+00		1.645E+00	2.774E+00	5.042E-01	0.491
U-235	1.737E-01		2.366E-01	3.969E-01	6.456E-02	0.437
NP-236	2.022E-02		9.284E-02	1.528E-01	8.361E-03	0.132
U-238	1.363E+00		1.645E+00	2.774E+00	5.042E-01	0.491
NP-239	-1.970E-01		2.115E-01	3.329E-01	2.151E-02	-0.592
AM-241	-1.811E-01		1.971E-01	3.176E-01	3.106E-02	-0.570

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.804E-02		1.089E-01	1.818E-01	1.386E-02	0.154
AM-246	7.265E-02		1.708E-01	2.937E-01	1.922E-02	0.247
CM-247	1.346E-02		4.334E-02	7.342E-02	4.091E-03	0.183
CF-249	-9.056E-03		4.590E-02	7.531E-02	4.200E-03	-0.120
CF-251	-1.520E-02		1.546E-01	2.500E-01	1.368E-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]G243630002
* Acquisition date   : 7-JAN-2010 13:10:19 Detector SN#      :
* Detector ID        : GAM06                               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 02:00:01.05                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243630002                         Analyst initials: MXR1
* Batch Number       : 937702                             Sample Quantity : 1.1778E+02 GRAM
* Recovery           : 1.00000                             Carrier Weight  : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 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	2.092E+01	2.141E+00	3.653E-01	1.092E+00
MN-54	6.055E-02	6.297E-02	3.649E-02	3.213E-02
CD-109	2.047E+00	1.343E+00	6.413E-01	6.853E-01
SN-126	2.010E-01	1.318E-01	6.328E-02	6.727E-02
BA-137M	2.010E-01	8.383E-02	3.501E-02	4.277E-02
CS-137	2.125E-01	8.862E-02	3.701E-02	4.522E-02
TL-208	4.609E-01	1.026E-01	3.072E-02	5.233E-02
BI-211	3.515E+00	5.144E-01	1.686E-01	2.625E-01
PB-212	1.343E+00	1.515E-01	5.443E-02	7.729E-02
PO-212	1.343E+00	1.515E-01	5.443E-02	7.729E-02
BI-214	9.608E-01	1.852E-01	6.936E-02	9.449E-02
PB-214	1.223E+00	1.896E-01	5.877E-02	9.672E-02
PO-214	1.223E+00	1.896E-01	5.877E-02	9.672E-02
PO-216	1.343E+00	1.515E-01	5.443E-02	7.729E-02
PO-218	1.223E+00	1.896E-01	5.877E-02	9.672E-02
RA-224	4.059E+00	1.285E+00	6.195E-01	6.556E-01
RA-226	9.608E-01	1.852E-01	6.936E-02	9.449E-02
AC-228	1.164E+00	3.035E-01	1.215E-01	1.548E-01
RA-228	1.164E+00	3.035E-01	1.215E-01	1.548E-01
TH-228	1.365E+00	1.539E-01	5.531E-02	7.854E-02
TH-230	9.608E-01	1.852E-01	6.935E-02	9.449E-02
TH-232	1.164E+00	3.035E-01	1.215E-01	1.548E-01
U-234	9.608E-01	1.852E-01	6.935E-02	9.449E-02
NP-237	5.901E-01	4.051E-01	2.345E-01	2.067E-01
AM-243	2.779E-01	8.406E-02	5.426E-02	4.289E-02
ANH-511	8.808E-02	8.021E-02	2.590E-02	4.092E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.638E-01	4.123E-01	3.590E-01	2.103E-01 NOT IDENT.

NA-22	-2.158E-02	4.857E-02	3.807E-02	2.478E-02	NOT IDENT.
NA-24	3.028E+06	2.147E+06	0.000E+00	1.095E+06	SHORT HLIF
AL-26	-1.458E-02	2.786E-02	1.996E-02	1.421E-02	NOT IDENT.
TI-44	3.157E-01	6.090E-02	4.475E-02	3.107E-02	FAIL ABUN
SC-46	8.597E-03	4.492E-02	3.901E-02	2.292E-02	FAIL ABUN
V-48	-6.259E-02	8.072E-02	6.222E-02	4.118E-02	NOT IDENT.
CR-51	-2.465E-02	4.102E-01	3.546E-01	2.093E-01	NOT IDENT.
MN-52	-1.395E-01	3.231E-01	2.477E-01	1.648E-01	NOT IDENT.
CO-56	1.084E-03	4.532E-02	3.885E-02	2.312E-02	NOT IDENT.
CO-57	9.841E-03	2.799E-02	2.443E-02	1.428E-02	NOT IDENT.
CO-58	-4.117E-03	4.452E-02	3.787E-02	2.272E-02	NOT IDENT.
FE-59	6.947E-02	1.067E-01	9.546E-02	5.442E-02	NOT IDENT.
CO-60	3.466E-02	4.456E-02	4.064E-02	2.273E-02	NOT IDENT.
ZN-65	-1.910E-02	1.216E-01	8.551E-02	6.204E-02	NOT IDENT.
GE-68	4.773E-01	1.468E+00	1.275E+00	7.488E-01	NOT IDENT.
AS-73	3.038E-02	1.110E+00	9.842E-01	5.663E-01	NOT IDENT.
AS-74	2.174E-02	1.041E-01	8.876E-02	5.313E-02	NOT IDENT.
SE-75	1.477E-02	5.769E-02	4.256E-02	2.943E-02	NOT IDENT.
BR-77	-2.072E+00	1.570E+01	1.310E+01	8.008E+00	FAIL ABUN
SR-82	-2.145E-01	3.793E-01	3.068E-01	1.935E-01	NOT IDENT.
RB-83	-1.051E-02	7.966E-02	6.650E-02	4.064E-02	NOT IDENT.
RB-84	-3.669E-03	8.083E-02	6.143E-02	4.124E-02	NOT IDENT.
KR-85	1.041E+01	9.199E+00	7.490E+00	4.694E+00	NOT IDENT.
SR-85	5.391E-02	4.763E-02	3.878E-02	2.430E-02	NOT IDENT.
RB-86	1.516E-01	9.979E-01	8.520E-01	5.091E-01	NOT IDENT.
Y-88	-1.310E-02	4.004E-02	3.126E-02	2.043E-02	NOT IDENT.
ZR-88	-1.402E-02	3.578E-02	2.990E-02	1.825E-02	NOT IDENT.
Y-91	-3.834E+00	2.286E+01	1.876E+01	1.166E+01	NOT IDENT.
NB-94	-1.910E-03	3.678E-02	3.028E-02	1.876E-02	NOT IDENT.
NB-95	6.799E-02	4.804E-02	4.454E-02	2.451E-02	NOT IDENT.
NB-95M	3.456E-01	1.863E-01	1.492E-01	9.507E-02	NOT IDENT.
ZR-95	2.305E-02	7.228E-02	6.165E-02	3.688E-02	NOT IDENT.
NB-97	1.300E+05	3.052E+05	0.000E+00	1.557E+05	SHORT HLIF
ZR-97	1.291E+07	5.793E+06	0.000E+00	2.955E+06	SHORT HLIF
MO-99	-2.251E+00	1.667E+01	1.356E+01	8.506E+00	NOT IDENT.
TC-99M	-5.560E+17	6.038E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.698E-02	4.329E-02	3.356E-02	2.209E-02	NOT IDENT.
RH-102	1.024E-02	3.604E-02	3.118E-02	1.839E-02	NOT IDENT.
RU-103	3.871E-02	4.605E-02	4.134E-02	2.350E-02	FAIL ABUN
RH-106	2.123E-01	3.472E-01	3.054E-01	1.771E-01	FAIL ABUN
RU-106	2.123E-01	3.465E-01	3.054E-01	1.768E-01	FAIL ABUN
AG-108M	-2.967E-02	3.451E-02	2.737E-02	1.761E-02	NOT IDENT.
AG-110M	1.270E-02	4.337E-02	3.237E-02	2.213E-02	NOT IDENT.
IN-111	-7.113E-01	1.744E+00	1.224E+00	8.899E-01	NOT IDENT.
IN-113M	-3.272E-02	5.096E-02	4.182E-02	2.600E-02	NOT IDENT.
SN-113	-3.272E-02	5.096E-02	4.182E-02	2.600E-02	NOT IDENT.
IN-114M	1.656E-01	2.349E-01	1.811E-01	1.199E-01	NOT IDENT.
CD-115	-2.894E+00	1.625E+01	1.349E+01	8.290E+00	NOT IDENT.
SN-117M	-2.134E-02	6.565E-02	5.497E-02	3.350E-02	NOT IDENT.
SB-122	5.688E-01	3.207E+00	2.730E+00	1.636E+00	NOT IDENT.
I-123	4.876E+06	2.130E+07	0.000E+00	1.087E+07	SHORT HLIF
TE-123M	7.437E-03	3.249E-02	2.789E-02	1.658E-02	NOT IDENT.
I-124	2.409E-01	9.947E-01	7.397E-01	5.075E-01	NOT IDENT.
SB-124	-2.720E-02	8.565E-02	6.769E-02	4.370E-02	FAIL ABUN
SB-125	-3.199E-02	9.775E-02	8.136E-02	4.987E-02	NOT IDENT.
TE-125M	1.661E+00	1.054E+01	9.159E+00	5.377E+00	NOT IDENT.
I-126	2.072E-01	2.660E-01	2.082E-01	1.357E-01	NOT IDENT.
SB-126	1.623E-01	1.986E-01	1.568E-01	1.013E-01	NOT IDENT.
SB-127	8.023E-01	1.762E+00	1.525E+00	8.991E-01	NOT IDENT.
XE-127	-6.113E-02	6.499E-02	4.768E-02	3.316E-02	NOT IDENT.
I-131	4.682E-02	1.395E-01	1.228E-01	7.118E-02	NOT IDENT.
TE-132	-6.126E-01	1.006E+00	8.098E-01	5.130E-01	NOT IDENT.
BA-133	2.751E-03	5.190E-02	3.913E-02	2.648E-02	NOT IDENT.
I-133	2.003E+03	1.403E+04	0.000E+00	7.158E+03	SHORT HLIF
CS-134	5.506E-02	5.346E-02	4.967E-02	2.728E-02	NOT IDENT.
CS-135	2.422E-01	1.919E-01	1.690E-01	9.790E-02	NOT IDENT.
I-135	-2.724E+16	6.605E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.903E-02	1.165E-01	9.094E-02	5.942E-02	FAIL ABUN
CE-139	4.778E-03	3.517E-02	3.000E-02	1.794E-02	NOT IDENT.
BA-140	1.994E-01	3.064E-01	2.665E-01	1.563E-01	NOT IDENT.
LA-140	6.303E-02	1.024E-01	9.480E-02	5.223E-02	NOT IDENT.
CE-141	3.617E-02	7.229E-02	6.297E-02	3.688E-02	NOT IDENT.
CE-143	1.491E+03	4.404E+02	0.000E+00	2.247E+02	SHORT HLIF
CE-144	1.976E-01	2.352E-01	2.071E-01	1.200E-01	NOT IDENT.
PM-144	4.248E-03	4.205E-02	3.513E-02	2.146E-02	NOT IDENT.
PR-144	2.880E-01	2.851E+00	2.382E+00	1.455E+00	NOT IDENT.
PM-146	5.060E-02	4.845E-02	4.420E-02	2.472E-02	NOT IDENT.
ND-147	4.587E-01	6.428E-01	5.723E-01	3.280E-01	FAIL ABUN

PM-149	5.690E+01	1.332E+02	1.187E+02	6.797E+01	NOT IDENT.
EU-152	9.940E-02	1.226E-01	8.891E-02	6.255E-02	NOT IDENT.
GD-153	5.558E-02	9.545E-02	7.510E-02	4.870E-02	NOT IDENT.
EU-154	-5.874E-02	1.358E-01	1.066E-01	6.930E-02	NOT IDENT.
EU-155	6.358E-02	1.205E-01	1.063E-01	6.146E-02	FAIL ABUN
TB-160	4.391E-02	1.530E-01	1.180E-01	7.806E-02	FAIL ABUN
HO-166M	-7.135E-03	6.923E-02	5.667E-02	3.532E-02	FAIL ABUN
TM-171	-2.069E+01	3.334E+01	2.864E+01	1.701E+01	NOT IDENT.
LU-176	1.500E-02	2.741E-02	2.455E-02	1.398E-02	FAIL ABUN
LU-177	1.604E+00	1.458E+00	1.280E+00	7.437E-01	NOT IDENT.
LU-177M	-1.107E-01	2.004E-01	1.648E-01	1.022E-01	FAIL ABUN
HF-181	-2.005E-02	5.314E-02	4.381E-02	2.711E-02	NOT IDENT.
W-181	-4.522E-01	4.433E-01	3.747E-01	2.262E-01	NOT IDENT.
TA-182	-1.943E-01	2.285E-01	1.733E-01	1.166E-01	FAIL ABUN
RE-183	4.293E-02	1.303E-01	1.121E-01	6.646E-02	NOT IDENT.
RE-184	-1.652E-01	2.792E-01	2.238E-01	1.424E-01	NOT IDENT.
OS-185	-3.875E-02	4.772E-02	3.645E-02	2.435E-02	FAIL ABUN
RE-188	6.788E-02	1.929E-01	1.666E-01	9.840E-02	NOT IDENT.
W-188	-3.763E+00	8.785E+00	6.433E+00	4.482E+00	NOT IDENT.
IR-192	-7.623E-03	3.724E-02	3.193E-02	1.900E-02	FAIL ABUN
AU-195	1.701E-01	2.507E-01	2.162E-01	1.279E-01	FAIL ABUN
TL-200	5.577E+02	9.134E+02	0.000E+00	4.660E+02	SHORT HLIF
TL-201	-2.743E+00	1.009E+01	8.448E+00	5.148E+00	NOT IDENT.
TL-202	4.047E-02	8.182E-02	7.151E-02	4.174E-02	NOT IDENT.
HG-203	3.728E-02	4.743E-02	4.297E-02	2.420E-02	NOT IDENT.
BI-207	2.489E-02	6.510E-02	5.680E-02	3.321E-02	FAIL ABUN
TL-207	-9.675E-02	7.771E-01	6.692E-01	3.965E-01	FAIL ABUN
PO-209	3.102E+00	8.423E+00	7.432E+00	4.297E+00	NOT IDENT.
BI-210	4.079E+00	5.260E+00	4.701E+00	2.684E+00	NOT IDENT.
PB-210	4.079E+00	5.260E+00	4.701E+00	2.684E+00	NOT IDENT.
PO-210	4.079E+00	5.258E+00	4.701E+00	2.683E+00	NOT IDENT.
PB-211	-8.930E-01	1.237E+00	9.017E-01	6.312E-01	NOT IDENT.
BI-212	8.468E-01	5.048E-01	3.666E-01	2.575E-01	FAIL ABUN
PO-215	-9.675E-02	7.771E-01	6.692E-01	3.965E-01	FAIL ABUN
RN-219	-2.389E-02	4.873E-01	4.163E-01	2.486E-01	FAIL ABUN
RN-220	2.734E+01	2.961E+01	2.675E+01	1.511E+01	NOT IDENT.
RA-223	-9.675E-02	7.771E-01	6.692E-01	3.965E-01	FAIL ABUN
AC-227	-1.160E-02	4.616E-01	3.826E-01	2.355E-01	NOT IDENT.
TH-227	-1.160E-02	4.616E-01	3.826E-01	2.355E-01	FAIL ABUN
TH-229	-6.820E-02	6.031E-01	5.051E-01	3.077E-01	FAIL ABUN
PA-231	5.207E-01	1.685E+00	1.494E+00	8.596E-01	NOT IDENT.
TH-231	-9.675E-02	7.771E-01	6.692E-01	3.965E-01	FAIL ABUN
U-231	-3.166E-01	1.500E+00	1.130E+00	7.652E-01	FAIL ABUN
PA-233	-6.886E-03	6.989E-02	6.037E-02	3.566E-02	FAIL ABUN
PA-234	2.190E-01	3.348E-01	3.011E-01	1.708E-01	FAIL ABUN
PA-234M	1.829E-01	4.884E+00	4.146E+00	2.492E+00	NOT IDENT.
TH-234	1.363E+00	1.612E+00	1.430E+00	8.225E-01	FAIL ABUN
U-235	1.737E-01	2.319E-01	2.030E-01	1.183E-01	FAIL ABUN
NP-236	2.022E-02	9.098E-02	7.805E-02	4.642E-02	NOT IDENT.
U-238	1.363E+00	1.612E+00	1.430E+00	8.225E-01	FAIL ABUN
NP-239	-1.970E-01	2.073E-01	1.706E-01	1.058E-01	FAIL ABUN
AM-241	-1.811E-01	1.932E-01	1.639E-01	9.855E-02	NOT IDENT.
CM-243	2.804E-02	1.067E-01	9.330E-02	5.443E-02	FAIL ABUN
AM-246	7.265E-02	1.674E-01	1.469E-01	8.540E-02	NOT IDENT.
CM-247	1.346E-02	4.247E-02	3.713E-02	2.167E-02	NOT IDENT.
CF-249	-9.056E-03	4.498E-02	3.810E-02	2.295E-02	NOT IDENT.
CF-251	-1.520E-02	1.515E-01	1.275E-01	7.730E-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	271.0287
46.50	271.0287
46.50	271.0287
48.70	314.7348
49.72	309.8508
51.35	304.3515
52.39	295.7657
52.97	269.5579
53.15	270.5540
53.44	287.1468
54.07	286.5350
56.28	304.1198
56.28	304.1210
57.37	0.0000
57.53	301.0558
57.53	301.0565
57.60	295.5649
57.98	291.1389
57.98	291.1389
59.32	341.6188
59.32	341.6188
59.40	341.6619
59.54	348.2027
59.72	364.9317
60.01	368.7954
61.10	328.6855
61.14	336.1133
61.30	336.1971
63.00	330.5776
63.29	315.8593
63.29	315.8593
63.58	309.4932
64.28	316.3337
65.12	395.9165
65.20	395.9635
65.20	395.9635
66.05	386.2046
66.72	378.1812
66.83	378.2445
66.91	361.4765
67.20	337.3344
67.20	337.3344
67.75	360.9856
67.85	361.0386
68.90	383.4486
68.90	383.4486
69.30	379.9211
69.67	349.6152
70.82	375.7385
70.82	375.7385
70.83	375.7446
72.80	378.2986
72.87	378.3353
72.87	378.3353
74.67	371.1600
74.81	371.2320
74.81	371.2320
74.81	371.2320
74.81	371.2320
74.81	371.2320
74.81	371.2320
74.97	371.3129
75.28	371.4718
75.70	371.6847
77.11	372.3983
77.11	372.3983

77.11	372.3983
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77.11	372.3983
77.11	372.3983
77.11	372.3983
78.38	350.8242
79.62	331.6277
79.80	331.7062
79.80	331.7062
80.11	385.1208
80.18	385.1563
80.30	385.2166
80.30	385.2166
80.57	376.9768
81.00	393.6998
81.07	393.7360
81.07	393.7360
81.07	393.7360
81.07	393.7360
82.60	389.4322
83.37	400.0095
83.78	403.4084
83.78	403.4084
83.78	403.4084
83.78	403.4084
84.21	371.8772
84.90	398.2440
85.43	384.7176
86.29	392.8094
86.50	392.9141
86.54	392.9328
86.59	392.9578
86.72	393.0234
86.79	393.0562
86.94	483.7357
87.30	483.9549
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87.30	483.9549
87.57	253.5858
87.88	253.6845
88.03	253.7318
88.36	253.8355
88.47	253.8708
89.95	597.3044
91.11	297.1484
92.29	340.0856
92.38	340.1232
92.38	340.1232
93.35	238.3654
94.00	263.3361
94.67	268.1959
94.67	268.1975
94.90	283.7784
94.90	283.7784
94.90	283.7784
94.90	283.7784
95.87	279.4482
95.87	279.4482
96.73	259.5299
97.43	250.4108
98.44	238.7672
98.44	238.7682
98.88	247.0507
99.55	238.7513
99.55	238.7513
99.86	244.6854
100.00	244.7246
100.10	244.7543
103.18	288.6722
103.76	261.4439
105.00	263.7697
105.31	263.8610
108.00	284.3256
109.28	274.8727

111.00	284.2712
111.00	284.2712
111.76	291.4192
112.95	257.1723
115.19	218.1268
116.30	241.2128
117.00	268.2109
117.00	268.2109
117.66	265.4142
121.11	214.4866
121.62	228.5728
121.78	239.5908
122.06	239.6594
122.32	253.7064
122.32	253.7064
122.32	253.7064
122.32	253.7064
123.07	264.8959
127.23	256.9702
129.76	287.8023
131.20	308.3626
133.02	285.6881
133.54	249.4724
135.34	276.2096
136.00	259.1719
136.25	266.3228
136.48	273.4710
140.51	282.6449
140.51	0.0000
142.18	275.9560
142.65	256.7200
143.76	238.6274
144.24	251.9957
144.24	251.9957
144.24	251.9957
144.24	251.9957
145.22	257.3275
145.44	255.3368
147.16	280.2881
152.43	238.4482
152.70	231.3086
153.22	242.7286
154.21	255.2921
154.21	255.2921
154.21	255.2921
154.21	255.2921
155.03	241.0554
156.02	249.5126
158.56	257.2980
159.00	0.0000
159.00	242.9229
160.31	245.2669
161.27	256.8625
162.32	257.0915
162.64	259.2354
163.35	265.6172
163.89	264.7012
165.85	256.8218
167.43	259.2433
171.28	251.7159
171.86	222.5781
172.10	222.6220
176.55	258.0455
176.60	258.0549
181.06	271.1903
184.41	249.9523
185.71	257.8147
186.00	253.6469
190.27	206.9830
192.34	250.6420
193.63	244.5101
197.04	222.7593
198.01	258.1202
198.60	265.7023
200.40	229.7317
201.83	277.0390
202.84	286.8806
205.31	265.9540

208.36	238.6019
208.81	233.3041
209.75	194.5153
209.75	194.5153
210.97	196.4092
215.65	209.6003
216.55	202.1658
218.09	208.8792
222.10	186.6750
223.80	206.4542
226.40	198.1155
227.00	200.3754
227.08	189.4961
227.20	189.5120
228.16	217.9718
228.18	217.9749
228.18	217.9749
231.56	0.0000
235.69	234.8582
236.00	261.2029
236.00	261.2029
238.63	197.5630
238.63	197.5630
238.63	197.5630
238.63	197.5630
239.00	197.6111
240.98	197.8706
241.98	198.0011
241.98	198.0011
241.98	198.0011
244.69	183.3660
245.39	178.1580
247.94	157.5448
248.90	170.1658
249.79	170.2633
252.40	189.3757
252.85	182.7838
252.85	182.7838
254.15	0.0000
256.20	176.5119
256.20	176.5119
260.50	154.7270
260.90	149.2001
262.80	190.8445
264.65	144.6372
268.24	157.7085
268.79	157.7623
269.46	157.8268
269.46	157.8268
269.46	157.8268
269.46	157.8268
271.23	157.9989
273.65	231.6237
276.40	138.4853
277.35	163.4579
277.60	156.8401
277.60	156.8401
278.00	157.5214
278.60	159.3778
279.20	154.0315
279.53	180.1880
280.46	179.3866
281.68	175.9094
283.67	138.1837
284.30	146.3676
285.00	138.2921
285.90	131.1319
286.10	143.8084
286.10	143.8084
287.40	145.7294
288.45	0.0000
290.67	134.5212
290.80	134.5303
291.72	122.5036
293.26	0.0000
293.70	128.7019
295.21	189.4302
295.21	189.4302

295.21	189.4302
295.96	207.7075
296.50	203.2219
297.23	189.6515
298.57	148.8004
299.80	127.6338
299.80	127.6338
300.09	123.7465
300.09	123.7465
300.09	123.7465
300.09	123.7465
300.12	123.7482
301.29	136.8658
302.84	166.2105
303.76	171.7795
303.91	171.7933
304.40	169.0993
304.40	169.0993
304.84	159.0830
306.84	121.7359
308.46	121.8463
311.98	124.8388
316.51	119.6295
318.01	120.6505
319.02	129.9310
319.41	129.9586
320.08	118.9423
323.87	146.9061
323.87	146.9061
323.87	146.9061
323.87	146.9061
325.23	140.5406
328.77	161.1900
333.44	137.7552
334.20	136.2629
334.20	136.2629
334.30	136.2700
338.28	133.1426
338.28	133.1426
338.28	133.1426
338.28	133.1426
338.32	133.1443
338.32	133.1443
338.32	133.1443
340.50	108.7512
340.57	108.7541
344.27	79.3887
345.85	112.1689
350.59	0.0000
351.07	89.0405
351.92	89.0787
351.92	89.0787
351.92	89.0787
355.39	0.0000
356.01	98.6605
364.48	100.0259
366.43	89.7339
367.43	87.8880
367.94	0.0000
369.80	134.3522
374.96	87.2664
383.85	107.6507
387.95	106.9086
388.63	105.9879
391.69	113.7923
391.69	113.7923
392.90	112.9009
398.62	105.5313
400.65	122.9172
401.10	113.3388
401.81	112.4154
402.60	100.9228
404.84	126.0443
410.95	100.3488
411.60	105.2052
413.65	107.2359
414.70	96.6553
415.30	100.5494

415.76	99.6040
417.63	0.0000
418.52	88.1096
423.70	91.2277
427.08	86.5067
427.89	84.5935
432.53	76.9739
433.93	87.7456
439.47	72.3234
439.56	72.3261
439.89	73.3145
443.98	78.3418
444.90	82.2917
445.03	82.2968
445.03	82.2968
445.03	82.2968
445.03	82.2968
453.90	68.8439
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468.07	81.1332
473.00	107.0798
475.06	92.2859
475.35	90.3124
476.78	94.3378
477.59	95.3637
477.96	86.4361
482.03	98.5238
484.57	96.6341
487.03	80.7765
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492.35	78.9528
497.08	63.0831
507.63	0.0000
510.53	0.0000
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511.00	69.4755
511.85	69.4995
511.85	69.4995
513.99	73.9259
513.99	73.9259
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528.96	0.0000
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529.87	0.0000
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537.32	58.9997
543.00	71.3604
546.56	0.0000
549.76	58.2566
552.65	60.3655
555.20	80.9056
563.23	73.9564
563.90	80.1404
568.70	72.0474
569.32	73.0939
569.50	74.1287
569.67	74.1322
573.80	63.9330
574.00	67.0313
574.64	64.1819
578.91	67.1503
579.30	0.0000
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591.81	64.5799
592.07	61.2413
593.00	55.0315
595.88	60.2840
600.56	69.4075
602.52	0.0000
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602.71	65.9867
603.60	67.7454
604.41	67.7644
604.70	67.7708
609.31	80.0639

609.31	80.0639
609.31	80.0639
609.31	80.0639
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612.46	80.1519
614.37	61.0264
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621.84	50.3449
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633.10	63.1743
634.78	72.6926
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645.85	70.8489
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657.75	51.3129
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661.65	66.9698
664.57	0.0000
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666.33	62.1045
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677.61	59.8391
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692.80	56.9103
695.00	64.4722
696.49	68.8031
696.49	68.8031
697.00	75.2654
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702.63	57.0876
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713.82	60.5309
717.42	61.6813
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721.93	0.0000
722.20	55.9926
722.78	59.6151
722.78	59.6151
722.89	59.6178
722.95	59.6191
723.30	65.0464
724.18	57.8346
727.18	54.2700
733.00	56.1787
735.90	52.2387
739.58	53.3856
742.81	51.2571
744.21	56.7341
747.13	49.1407
751.79	43.7412
752.31	45.9354
753.82	50.3338
755.35	35.0305
756.15	38.3240
756.87	40.5229
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765.79	42.8267
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766.84	45.0369
776.49	45.8995
778.00	58.7773
778.57	51.4381
778.89	51.4427
783.80	35.8777
785.46	39.5768
792.07	41.4972

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796.30	49.8571
798.80	83.1555
801.93	43.4649
805.60	49.9900
810.29	53.7649
810.76	50.9907
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817.79	52.9504
818.51	46.4569
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826.30	52.8229
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836.80	0.0000
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867.32	39.5536
867.82	39.5587
871.10	39.5938
873.19	39.6160
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876.40	29.1307
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883.24	43.5059
884.67	42.5766
889.25	43.5761
896.60	41.7629
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911.07	43.8269
911.07	43.8269
911.07	43.8269
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920.93	41.0736
925.00	47.8099
925.24	46.8567
926.50	42.0897
935.52	38.3521
937.48	50.8413
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949.00	46.1807
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969.11	38.1258
969.11	38.1258
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983.50	45.6097
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1001.68	34.1156
1004.76	37.0676
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1024.50	0.0000
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1036.00	40.2943
1037.82	39.3294
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1038.76	0.0000
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1046.59	37.4403
1048.07	38.4382

1050.47	37.4743
1050.47	37.4743
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1076.63	45.6406
1077.35	40.6864
1078.86	39.7070
1085.78	46.7303
1099.22	36.9006
1112.02	33.0067
1112.84	41.1596
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1120.29	30.9212
1120.29	30.9212
1120.29	30.9212
1120.29	30.9212
1120.51	30.9224
1121.28	34.3638
1124.00	0.0000
1129.67	43.1785
1131.51	0.0000
1147.95	0.0000
1167.94	44.5550
1173.22	50.6897
1175.09	36.5112
1177.93	46.6813
1189.05	38.6556
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1230.97	79.0240
1235.34	42.1161
1236.41	0.0000
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1260.41	0.0000
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1274.54	37.2788
1291.56	34.2891
1298.22	0.0000
1312.09	25.0400
1325.50	32.4292
1325.50	32.4292
1332.49	20.9513
1333.61	28.2898
1360.21	13.6919
1362.66	0.0000
1365.15	27.4092
1368.21	11.0759
1368.53	0.0000
1376.25	19.0166
1384.27	18.3405
1394.10	19.0811
1395.20	13.7839
1407.95	19.1309
1434.06	25.6328
1436.60	12.8223
1457.56	0.0000
1460.81	25.7598
1489.15	14.0251
1509.49	19.4897
1596.49	14.1342
1620.62	14.1922
1678.03	0.0000
1691.02	13.4019
1691.02	13.4019
1706.46	0.0000
1750.46	0.0000
1764.49	13.5610
1764.49	13.5610
1764.49	13.5610
1764.49	13.5610
1770.23	11.8766
1771.40	49.4543
1791.20	0.0000
1808.65	8.7784

1836.01

12.7334

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630002

Total Uranium Activity	4.1353E+00	ug/g
Total Uranium Counting Unc.	4.7970E+00	ug/g
Total Uranium Tpu	2.4475E-06	ug/g
Total Uranium Mda	4.2565E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G243630002
*  ANALYST       : MXR1            DETECTOR    : GAM06
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:10:19.57  SAMPLE ALQT: 117.780 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.130E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.301E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.414E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.653E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:12:15.92

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630003.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:10:42.
Sample ID          : G243630003 Sample quantity : 1.30230E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.26 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.07*	99	488	1.41	125.80	122	8	1.37E-02	41.1	
2	3	74.75	538	545	1.34	149.15	142	17	7.47E-02	8.7	1.08E+00
3	3	77.07*	826	379	1.04	153.80	142	17	1.15E-01	5.3	
4	3	84.01*	105	410	1.36	167.67	164	27	1.45E-02	35.1	1.86E+00
5	3	87.19	299	348	1.12	174.04	164	27	4.16E-02	11.9	
6	3	89.95	181	340	1.13	179.55	164	27	2.51E-02	18.5	
7	3	92.72*	280	332	1.21	185.07	164	27	3.89E-02	13.4	
8	0	129.39	85	278	0.83	258.40	255	7	1.19E-02	34.3	
9	0	186.23*	194	415	1.17	372.07	366	12	2.70E-02	22.7	
10	0	209.48	91	293	0.86	418.57	414	9	1.27E-02	35.5	
11	4	238.68*	1245	219	1.12	476.96	472	18	1.73E-01	3.6	2.29E+00
12	4	241.84	282	239	1.53	483.26	472	18	3.91E-02	12.3	
13	0	271.13*	96	226	0.77	541.84	537	12	1.33E-02	34.2	
14	0	277.20	95	161	1.12	553.98	549	10	1.32E-02	26.9	
15	2	295.31*	432	140	1.26	590.19	585	20	6.00E-02	6.8	1.69E+00
16	2	300.44	84	150	1.53	600.45	585	20	1.16E-02	28.7	
17	0	327.78	64	140	1.14	655.12	651	9	8.90E-03	35.5	
18	0	338.52*	254	209	1.17	676.60	671	13	3.53E-02	13.4	
19	0	352.02*	666	187	1.20	703.60	697	12	9.25E-02	5.7	
20	0	463.62	78	151	1.37	926.76	920	15	1.08E-02	36.4	
21	0	511.12*	75	114	2.37	1021.74	1015	16	1.05E-02	39.3	
22	0	583.28*	376	85	1.32	1166.04	1159	12	5.23E-02	7.2	
23	0	609.32*	421	99	1.16	1218.12	1212	11	5.85E-02	6.4	
24	0	727.23	104	71	1.52	1453.91	1448	14	1.45E-02	19.7	
25	0	796.70	31	77	1.76	1592.83	1583	13	4.29E-03	61.6	
26	0	860.48*	47	50	1.85	1720.37	1715	11	6.53E-03	33.5	
27	0	911.60*	264	71	1.36	1822.60	1816	13	3.66E-02	9.2	
28	1	964.46*	62	31	1.93	1928.30	1923	24	8.67E-03	23.5	1.02E+00
29	1	969.13	180	31	1.88	1937.64	1923	24	2.50E-02	9.7	
30	0	1120.66*	85	64	1.15	2240.67	2236	12	1.19E-02	21.7	
31	0	1461.18*	899	14	1.89	2921.66	2915	14	1.25E-01	3.5	
32	0	1764.85*	64	7	2.39	3528.96	3521	14	8.82E-03	16.3	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:10:42
Sample ID         : G243630003 Sample quantity : 130.23 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.26 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

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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	*	2.150E+01	2.376E+00	5.157E-01	4.429E-02	41.680
CD-109	+	88.03	*	3.478E+00	8.906E-01	9.673E-01	9.112E-02	3.595
SN-126	+	64.28		6.209E-01	5.184E-01	5.546E-01	8.044E-02	1.119
	+	86.94		1.419E+00	6.794E-01	3.968E-01	1.647E-01	3.576
	+	87.57	*	3.414E-01	8.741E-02	9.515E-02	8.916E-03	3.588
TL-208	+	277.35		9.174E-01	5.058E-01	5.011E-01	6.135E-02	1.831
	+	510.84		3.657E-01	2.910E-01	2.121E-01	2.584E-02	1.724
	+	583.14	*	5.201E-01	9.032E-02	5.650E-02	5.405E-03	9.205
	+	860.37		6.098E-01	4.128E-01	3.892E-01	3.806E-02	1.566
BI-211		72.87		6.428E+00	2.444E+00	4.256E+00	3.359E-01	1.510
	+	351.07	*	4.030E+00	5.851E-01	3.198E-01	2.869E-02	12.600
PB-212	+	74.81		2.387E+00	5.105E-01	4.127E-01	5.091E-02	5.783
	+	77.11		2.113E+00	2.829E-01	2.387E-01	1.970E-02	8.856
	+	87.30		1.579E+00	4.340E-01	4.407E-01	6.029E-02	3.583
	+	238.63	*	1.639E+00	1.954E-01	8.912E-02	8.524E-03	18.386
	+	300.09		1.708E+00	9.961E-01	1.115E+00	1.157E-01	1.532
PO-212	+	74.81		2.387E+00	5.105E-01	4.127E-01	5.091E-02	5.783
	+	77.11		2.113E+00	2.829E-01	2.387E-01	1.970E-02	8.856
	+	87.30		1.579E+00	4.340E-01	4.407E-01	6.029E-02	3.583
		115.19		4.786E-01	3.187E+00	5.173E+00	4.455E-01	0.093
	+	238.63	*	1.639E+00	1.954E-01	8.912E-02	8.524E-03	18.386
	+	300.09		1.708E+00	9.961E-01	1.115E+00	1.157E-01	1.532
BI-214	+	609.31	*	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
	+	1120.29		1.154E+00	5.169E-01	4.438E-01	4.765E-02	2.601
	+	1764.49		1.179E+00	3.952E-01	2.919E-01	2.401E-02	4.037
PB-214	+	74.81		4.113E+00	8.478E-01	7.112E-01	7.780E-02	5.783
	+	77.11		3.623E+00	5.580E-01	4.091E-01	4.595E-02	8.856
	+	87.30		2.705E+00	7.233E-01	7.549E-01	9.141E-02	3.583
	+	241.98		2.229E+00	5.913E-01	5.368E-01	5.449E-02	4.152
	+	295.21		1.545E+00	2.655E-01	1.953E-01	2.067E-02	7.910
	+	351.92	*	1.402E+00	2.163E-01	1.115E-01	1.157E-02	12.573
PO-214	+	74.81		4.113E+00	8.478E-01	7.112E-01	7.780E-02	5.783
	+	77.11		3.623E+00	5.580E-01	4.091E-01	4.595E-02	8.856
	+	87.30		2.705E+00	7.233E-01	7.549E-01	9.141E-02	3.583

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.229E+00	5.913E-01	5.368E-01	5.449E-02	4.152
	+	295.21		1.545E+00	2.655E-01	1.953E-01	2.067E-02	7.910
	+	351.92	*	1.402E+00	2.163E-01	1.115E-01	1.157E-02	12.573
	+	74.81		2.387E+00	5.105E-01	4.127E-01	5.091E-02	5.783
	+	77.11		2.113E+00	2.829E-01	2.387E-01	1.970E-02	8.856
PO-218	+	87.30		1.579E+00	4.340E-01	4.407E-01	6.029E-02	3.583
	+	238.63	*	1.639E+00	1.954E-01	8.912E-02	8.524E-03	18.386
	+	300.09		1.708E+00	9.961E-01	1.115E+00	1.157E-01	1.532
	+	74.81		4.113E+00	8.478E-01	7.112E-01	7.780E-02	5.783
	+	77.11		3.623E+00	5.580E-01	4.091E-01	4.595E-02	8.856
RA-224	+	87.30		2.705E+00	7.233E-01	7.549E-01	9.141E-02	3.583
	+	241.98		2.229E+00	5.913E-01	5.368E-01	5.449E-02	4.152
	+	295.21		1.545E+00	2.655E-01	1.953E-01	2.067E-02	7.910
	+	351.92	*	1.402E+00	2.163E-01	1.115E-01	1.157E-02	12.573
	+	240.98	*	4.227E+00	1.096E+00	1.014E+00	8.579E-02	4.166
RA-226	+	609.31	*	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
	+	1120.29		1.154E+00	5.169E-01	4.438E-01	4.765E-02	2.601
	+	1764.49		1.179E+00	3.952E-01	2.919E-01	2.401E-02	4.037
	+	338.32		1.696E+00	8.340E-01	3.241E-01	1.337E-01	5.233
	+	911.07	*	1.618E+00	3.522E-01	1.947E-01	2.268E-02	8.311
AC-228	+	969.11		1.942E+00	5.915E-01	3.218E-01	7.561E-02	6.034
	+	338.32		1.696E+00	8.340E-01	3.241E-01	1.337E-01	5.233
	+	911.07	*	1.618E+00	3.522E-01	1.947E-01	2.268E-02	8.311
	+	969.11		1.942E+00	5.915E-01	3.218E-01	7.561E-02	6.034
	+	74.81		2.426E+00	4.673E-01	4.194E-01	3.409E-02	5.783
TH-228	+	77.11		2.148E+00	2.875E-01	2.425E-01	2.001E-02	8.856
	+	87.30		1.604E+00	4.108E-01	4.478E-01	4.181E-02	3.583
	+	238.63	*	1.665E+00	1.986E-01	9.056E-02	8.662E-03	18.386
	+	300.09		1.735E+00	1.432E+00	1.133E+00	6.716E-01	1.532
	+	609.31	*	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
TH-230	+	1120.29		1.154E+00	5.169E-01	4.437E-01	4.765E-02	2.601
	+	1764.49		1.179E+00	3.952E-01	2.919E-01	2.401E-02	4.037
	+	338.32		1.696E+00	4.768E-01	3.241E-01	2.774E-02	5.233
	+	911.07	*	1.618E+00	3.522E-01	1.947E-01	2.268E-02	8.311
	+	969.11		1.942E+00	5.915E-01	3.218E-01	7.561E-02	6.034
TH-232	+	63.29	*	1.569E+00	1.318E+00	1.414E+00	2.461E-01	1.109
	+	92.38		2.128E+00	6.904E-01	6.388E-01	1.172E-01	3.332
	+	609.31	*	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
	+	1120.29		1.154E+00	5.169E-01	4.437E-01	4.765E-02	2.601
	+	1764.49		1.179E+00	3.952E-01	2.919E-01	2.401E-02	4.037
NP-237	+	86.50	*	1.002E+00	3.297E-01	2.809E-01	6.352E-02	3.568
	+	95.87		-6.452E-01	9.000E-01	1.232E+00	3.051E-01	-0.524
	+	63.29	*	1.569E+00	1.318E+00	1.414E+00	2.461E-01	1.109
	+	92.38		2.128E+00	6.018E-01	6.388E-01	5.852E-02	3.332
	+	74.67	*	3.870E-01	7.444E-02	6.704E-02	5.389E-03	5.773
AM-243	+	86.72		3.759E+01	9.626E+00	1.052E+01	9.753E-01	3.572
	+	117.66		-3.239E+00	3.510E+00	5.394E+00	4.640E-01	-0.600
	+	142.18		2.603E+00	1.654E+01	2.659E+01	2.194E+00	0.098
	+	511.00	*	7.899E-02	6.251E-02	4.583E-02	4.072E-03	1.724
	+	511.00	*	7.899E-02	6.251E-02	4.583E-02	4.072E-03	1.724

---- 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	*		6.938E-02	3.344E-01	5.444E-01	5.138E-02	0.127
NA-22	1274.54	*		1.746E-02	3.689E-02	6.436E-02	5.283E-03	0.271
NA-24	1368.53	*		1.686E-01	3.689E-02	Half-Life too short		
AL-26	1129.67			-4.185E-01	1.637E+00	2.600E+00	2.184E-01	-0.161
	1808.65	*		2.368E-02	2.844E-02	5.461E-02	4.453E-03	0.434
TI-44	67.85			7.478E-03	3.546E-02	5.617E-02	4.238E-03	0.133
	+ 78.38	*		3.900E-01	5.221E-02	6.653E-02	5.570E-03	5.863
SC-46	889.25	*		-1.586E-02	3.794E-02	5.877E-02	5.386E-03	-0.270
	+ 1120.51			1.991E-01	8.819E-02	1.312E-01	1.108E-02	1.518
V-48	944.10			1.060E-01	9.759E-01	1.594E+00	1.449E-01	0.067
	983.50	*		4.628E-02	7.097E-02	1.222E-01	1.100E-02	0.379
	1312.09			1.326E-02	7.572E-02	1.275E-01	1.046E-02	0.104
CR-51	320.08	*		-6.172E-02	3.644E-01	5.930E-01	5.359E-02	-0.104
MN-52	744.21			2.444E-01	2.526E-01	4.495E-01	4.081E-02	0.544
	848.13			-2.089E+00	6.831E+00	1.075E+01	9.872E-01	-0.194
	935.52			3.754E-01	3.016E-01	5.400E-01	4.917E-02	0.695
	1246.25			-7.488E-01	7.649E+00	1.254E+01	1.027E+00	-0.060
	1333.61			3.363E+00	5.298E+00	9.399E+00	7.701E-01	0.358
	1434.06	*		5.595E-02	2.512E-01	4.246E-01	3.530E-02	0.132
MN-54	834.83	*		-1.993E-03	3.550E-02	5.760E-02	5.287E-03	-0.035
CO-56	846.75	*		1.008E-02	3.484E-02	5.853E-02	5.373E-03	0.172
	977.42			-8.712E-01	3.213E+00	4.499E+00	4.057E-01	-0.194
	1037.82			2.365E-02	3.077E-01	5.202E-01	4.826E-02	0.045
	1175.09			-2.429E+00	2.102E+00	3.059E+00	2.490E-01	-0.794
	1238.25			1.193E-01	8.956E-02	1.629E-01	1.377E-02	0.732
	1360.21			-2.097E-05	9.148E-01	1.504E+00	1.238E-01	0.000
	1771.40			-7.337E-01	3.502E-01	4.060E-01	3.335E-02	-1.807
CO-57	122.06	*		-6.324E-03	2.335E-02	3.706E-02	3.189E-03	-0.171
	136.48			4.896E-02	1.935E-01	3.096E-01	2.787E-02	0.158
CO-58	810.76	*		-1.102E-02	3.930E-02	6.250E-02	5.742E-03	-0.176
FE-59	142.65			8.603E-01	2.628E+00	4.204E+00	3.467E-01	0.205
	192.34			-2.284E-01	9.181E-01	1.484E+00	1.948E-01	-0.154
	1099.22	*		2.290E-02	7.633E-02	1.317E-01	1.221E-02	0.174
	1291.56			2.316E-02	1.207E-01	2.034E-01	1.916E-02	0.114
CO-60	1173.22			-3.310E-02	4.358E-02	6.700E-02	5.452E-03	-0.494
	1332.49	*		2.938E-02	3.631E-02	6.568E-02	5.380E-03	0.447
ZN-65	1115.52	*		-4.571E-02	1.008E-01	1.358E-01	1.153E-02	-0.336
GE-68	1077.35	*		-6.287E-01	1.195E+00	1.894E+00	1.641E-01	-0.332
AS-73	53.44	*		-4.607E-02	4.720E-01	7.599E-01	5.706E-02	-0.061
AS-74	595.88	*		-5.951E-04	8.284E-02	1.383E-01	1.240E-02	-0.004
	634.78			1.283E-01	3.355E-01	5.760E-01	5.135E-02	0.223
SE-75	66.05			-2.438E+00	3.852E+00	5.505E+00	5.223E-01	-0.443
	96.73			-8.794E-01	7.551E-01	1.008E+00	1.396E-01	-0.873
	121.11			6.561E-02	1.233E-01	2.029E-01	2.272E-02	0.323
	136.00			1.316E-02	3.700E-02	5.948E-02	5.000E-03	0.221
	198.60			-8.983E-01	1.701E+00	2.788E+00	2.563E-01	-0.322
	264.65	*		-4.068E-02	4.352E-02	6.580E-02	5.619E-03	-0.618
	279.53			5.681E-02	1.135E-01	1.715E-01	1.512E-02	0.331
	303.91			5.399E-01	2.147E+00	3.174E+00	3.628E-01	0.170

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		2.421E-02	2.504E-01	4.089E-01	4.470E-02	0.059
		87.88		9.848E+02	2.522E+02	3.785E+02	3.561E+01	2.602
		200.40		3.978E+01	1.991E+02	3.386E+02	2.784E+01	0.117
	+	239.00		3.454E+02	3.816E+01	5.092E+01	4.302E+00	6.783
		249.79		4.571E+00	8.255E+01	1.380E+02	1.171E+01	0.033
		281.68		-4.224E+01	1.248E+02	1.767E+02	1.501E+01	-0.239
		297.23		4.409E+02	9.056E+01	1.644E+02	1.406E+01	2.681
		303.76		6.198E+01	2.388E+02	3.533E+02	3.025E+01	0.175
		439.47		-9.528E+00	1.862E+02	2.991E+02	2.576E+01	-0.032
		484.57		-2.272E+02	2.964E+02	4.427E+02	3.899E+01	-0.513
		520.65	*	-1.032E+01	1.134E+01	1.755E+01	1.564E+00	-0.588
		574.64		-1.752E+02	2.706E+02	4.306E+02	3.862E+01	-0.407
		578.91		6.134E+01	1.254E+02	1.917E+02	1.719E+01	0.320
		585.48		1.942E+03	3.649E+02	6.519E+02	5.847E+01	2.979
		755.35		-3.906E+01	2.237E+02	3.620E+02	3.294E+01	-0.108
SR-82		817.79		-2.453E+01	1.764E+02	2.725E+02	2.500E+01	-0.090
		698.33		-1.514E+01	3.604E+01	5.757E+01	5.162E+00	-0.263
		776.49	*	-5.670E-01	4.075E-01	5.779E-01	5.277E-02	-0.981
RB-83		1395.20		-7.785E+00	1.134E+01	1.678E+01	1.389E+00	-0.464
		520.41	*	-5.869E-02	5.703E-02	8.705E-02	7.754E-03	-0.674
		529.64		-8.628E-03	9.968E-02	1.667E-01	1.488E-02	-0.052
RB-84		552.65		-4.208E-02	1.868E-01	3.082E-01	2.760E-02	-0.137
		881.50	*	5.186E-03	6.930E-02	1.134E-01	1.040E-02	0.046
		513.99	*	1.352E+01	7.316E+00	1.246E+01	1.108E+00	1.085
KR-85		513.99	*	7.000E-02	3.788E-02	6.450E-02	5.736E-03	1.085
SR-85		513.99	*	7.000E-02	3.788E-02	6.450E-02	5.736E-03	1.085
RB-86		1076.63	*	-5.643E-01	7.827E-01	1.213E+00	1.051E-01	-0.465
Y-88		898.02		-2.657E-02	4.235E-02	6.415E-02	5.899E-03	-0.414
ZR-88		1836.01	*	9.855E-03	3.107E-02	5.501E-02	4.465E-03	0.179
		392.90	*	-1.621E-02	2.945E-02	4.586E-02	3.820E-03	-0.353
		1204.90	*	2.885E+00	1.845E+01	3.106E+01	2.537E+00	0.093
Y-91		1204.90	*	2.885E+00	1.845E+01	3.106E+01	2.537E+00	0.093
NB-94		702.63	*	-8.590E-03	3.425E-02	5.545E-02	4.979E-03	-0.155
NB-95		871.10		-8.799E-03	3.151E-02	4.963E-02	4.554E-03	-0.177
		765.79	*	-4.006E-03	4.453E-02	7.257E-02	6.616E-03	-0.055
		235.69	*	8.135E-02	1.398E-01	2.126E-01	2.064E-02	0.383
NB-95M		235.69	*	8.135E-02	1.398E-01	2.126E-01	2.064E-02	0.383
ZR-95		724.18		3.656E-02	1.068E-01	1.584E-01	1.544E-02	0.231
NB-97		756.15	*	-2.747E-02	7.413E-02	1.179E-01	1.170E-02	-0.233
		657.90	*	-4.659E-01	7.413E-02	Half-Life	too short	
		1024.50		7.325E+00	7.413E-02	Half-Life	too short	
ZR-97		254.15		-1.894E+00	7.413E-02	Half-Life	too short	
		355.39		2.493E+00	7.413E-02	Half-Life	too short	
		507.63	*	2.792E+00	7.413E-02	Half-Life	too short	
MO-99		602.52		1.444E+00	7.413E-02	Half-Life	too short	
		1021.30		-1.740E+00	7.413E-02	Half-Life	too short	
		1147.95		-1.188E+01	7.413E-02	Half-Life	too short	
		1362.66		-1.201E+01	7.413E-02	Half-Life	too short	
		1750.46		-8.731E+00	7.413E-02	Half-Life	too short	
		140.51		-4.148E+00	3.143E+01	4.986E+01	1.376E+01	-0.083
		181.06		-1.986E+00	2.242E+01	3.339E+01	6.020E+00	-0.059
		366.43		1.771E+01	9.866E+01	1.629E+02	1.380E+01	0.109

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		5.454E+00	1.401E+01	2.383E+01	3.680E+00	0.229
	778.00			-1.925E+01	4.299E+01	6.755E+01	6.170E+00	-0.285
TC-99M	140.51	*		-6.265E+10	4.299E+01	Half-Life	too short	
RH-101	127.23			2.818E-02	3.469E-02	5.173E-02	4.394E-03	0.545
	198.01	*		-2.600E-02	3.104E-02	5.013E-02	4.112E-03	-0.519
	325.23			-4.778E-02	2.449E-01	3.471E-01	2.976E-02	-0.138
RH-102	418.52			9.439E-03	2.715E-01	4.403E-01	3.741E-02	0.021
	475.06	*		-8.540E-03	2.992E-02	4.689E-02	4.114E-03	-0.182
	631.29			-9.223E-03	5.106E-02	8.366E-02	7.464E-03	-0.110
	697.49			2.212E-02	7.756E-02	1.310E-01	1.174E-02	0.169
	766.84			6.460E-02	1.130E-01	1.933E-01	1.762E-02	0.334
	1046.59			-5.599E-02	1.058E-01	1.676E-01	1.474E-02	-0.334
	1112.84			6.994E-02	2.231E-01	3.676E-01	3.121E-02	0.190
RU-103	497.08	*		1.920E-03	4.286E-02	6.877E-02	9.835E-03	0.028
	610.33			1.204E+01	2.543E+00	3.008E+00	5.072E-01	4.004
RH-106	511.85	+		3.952E-01	3.128E-01	4.125E-01	3.666E-02	0.958
	621.84	*		5.097E-03	3.041E-01	5.073E-01	6.881E-02	0.010
	1050.47			1.675E-01	2.045E+00	3.459E+00	3.037E-01	0.048
RU-106	511.85	+		3.952E-01	3.128E-01	4.125E-01	3.666E-02	0.958
	621.84	*		5.097E-03	3.041E-01	5.073E-01	4.534E-02	0.010
	1050.47			1.675E-01	2.045E+00	3.459E+00	3.037E-01	0.048
AG-108M	433.93	*		3.864E-03	3.193E-02	5.198E-02	4.641E-03	0.074
	614.37			3.602E-02	4.147E-02	6.553E-02	6.077E-03	0.550
	722.95			-9.749E-03	4.738E-02	6.602E-02	6.175E-03	-0.148
AG-110M	657.75	*		-6.820E-02	3.878E-02	5.483E-02	4.995E-03	-1.244
	677.61			-1.999E-01	2.859E-01	4.425E-01	4.044E-02	-0.452
	706.67			5.467E-03	2.032E-01	3.362E-01	3.099E-02	0.016
	763.93			-1.814E-01	1.712E-01	2.545E-01	2.378E-02	-0.713
	884.67			8.358E-03	4.515E-02	7.481E-02	7.054E-03	0.112
	937.48			-6.646E-02	1.180E-01	1.798E-01	1.690E-02	-0.370
	1384.27			-5.978E-02	1.672E-01	2.615E-01	2.227E-02	-0.229
IN-111	171.28			5.995E-01	1.186E+00	1.923E+00	1.530E-01	0.312
	245.39	*		1.133E-01	1.392E+00	2.043E+00	1.730E-01	0.055
IN-113M	391.69	*		2.474E-03	4.226E-02	6.892E-02	5.925E-03	0.036
SN-113	391.69	*		2.474E-03	4.226E-02	6.892E-02	5.925E-03	0.036
IN-114M	190.27	*		7.999E-02	1.846E-01	2.827E-01	2.300E-02	0.283
CD-115	260.90			-7.427E+01	1.623E+02	2.631E+02	2.236E+01	-0.282
	492.35			-1.498E+01	4.630E+01	7.195E+01	6.355E+00	-0.208
	527.90	*		9.129E-01	1.321E+01	2.236E+01	1.995E+00	0.041
SN-117M	156.02			-1.491E+00	2.276E+00	3.495E+00	2.815E-01	-0.427
	158.56	*		9.515E-03	5.447E-02	8.722E-02	6.993E-03	0.109
SB-122	563.90	*		5.609E-01	2.553E+00	4.348E+00	3.898E-01	0.129
	692.80			2.499E+00	5.310E+01	8.814E+01	7.889E+00	0.028
I-123	159.00	*		-5.432E+00	5.310E+01	Half-Life	too short	
	528.96			-1.588E+01	5.310E+01	Half-Life	too short	
TE-123M	159.00	*		-8.281E-03	2.736E-02	4.277E-02	3.450E-03	-0.194
I-124	602.71	*		6.997E-02	8.654E-01	1.267E+00	1.135E-01	0.055
	722.78			-1.611E+00	5.747E+00	7.930E+00	7.161E-01	-0.203
	1325.50			-2.619E+01	3.586E+01	5.285E+01	4.331E+00	-0.495

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25		8.098E+01	3.515E+01	7.148E+01	5.900E+00	1.133
		1509.49		1.459E+00	1.748E+01	2.884E+01	2.412E+00	0.051
		1691.02		1.396E+00	4.302E+00	7.384E+00	6.135E-01	0.189
		602.71		3.522E-03	4.356E-02	6.376E-02	5.713E-03	0.055
		645.85		-3.827E-01	4.728E-01	7.271E-01	6.830E-02	-0.526
		709.31		9.515E-02	2.717E+00	4.449E+00	4.003E-01	0.021
		713.82		2.256E-01	1.566E+00	2.617E+00	3.223E-01	0.086
		722.78		-1.175E-01	4.193E-01	5.786E-01	5.328E-02	-0.203
	+	968.20		2.021E+01	4.322E+00	7.789E+00	7.041E-01	2.594
		1045.16		-1.141E+00	2.353E+00	3.754E+00	3.304E-01	-0.304
		1325.50		-2.041E+00	2.795E+00	4.118E+00	3.375E-01	-0.495
		1368.21		2.924E-01	1.551E+00	2.619E+00	3.467E-01	0.112
		1436.60		5.851E-01	3.415E+00	5.739E+00	4.773E-01	0.102
		1691.02	*	2.403E-02	7.403E-02	1.271E-01	1.101E-02	0.189
SB-125		427.89	*	-3.649E-03	8.698E-02	1.400E-01	1.221E-02	-0.026
	+	463.38		7.377E-01	5.417E-01	5.582E-01	5.243E-02	1.322
		600.56		9.931E-02	1.698E-01	2.952E-01	2.826E-02	0.336
		635.90		2.098E-01	2.448E-01	4.352E-01	4.172E-02	0.482
TE-125M		109.28	*	3.900E+00	7.904E+00	1.305E+01	1.353E+00	0.299
I-126		388.63		1.274E-01	1.951E-01	3.316E-01	2.766E-02	0.384
		666.33	*	-1.333E-01	2.038E-01	3.208E-01	2.844E-02	-0.416
SB-126		753.82		1.179E+00	1.542E+00	2.692E+00	2.448E-01	0.438
		223.80		-2.978E+00	4.080E+00	6.492E+00	5.441E-01	-0.459
	+	278.60		6.390E+00	3.477E+00	4.578E+00	3.886E-01	1.396
	+	296.50		1.620E+01	2.594E+00	4.094E+00	3.498E-01	3.958
		414.70		2.464E-02	7.465E-02	1.237E-01	1.048E-02	0.199
		415.30		3.249E+00	6.213E+00	1.043E+01	8.842E-01	0.311
		555.20		-1.951E-01	3.896E+00	6.513E+00	5.835E-01	-0.030
		573.80		-7.771E-01	1.069E+00	1.689E+00	1.515E-01	-0.460
		593.00		1.166E-01	8.370E-01	1.415E+00	1.269E-01	0.082
		656.30		-1.964E+00	3.670E+00	5.832E+00	5.170E-01	-0.337
		666.33		-5.583E-02	8.533E-02	1.343E-01	1.191E-02	-0.416
		675.00		6.850E-01	1.856E+00	3.174E+00	2.823E-01	0.216
		695.00		-1.901E-02	8.166E-02	1.324E-01	1.186E-02	-0.144
		697.00		-3.431E-02	2.856E-01	4.675E-01	4.190E-02	-0.073
SB-127		720.50	*	-5.613E-03	1.633E-01	2.436E-01	2.199E-02	-0.023
		856.80		-3.051E-01	5.013E-01	6.336E-01	5.816E-02	-0.481
		989.30		2.211E-01	1.201E+00	1.975E+00	1.775E-01	0.112
		1034.80		-9.890E-01	8.389E+00	1.391E+01	1.230E+00	-0.071
		1213.00		-2.861E+00	4.925E+00	7.732E+00	6.319E-01	-0.370
		61.10		1.546E+01	4.959E+01	7.450E+01	7.776E+00	0.207
		252.40		1.484E+00	4.951E+00	8.311E+00	3.497E+00	0.179
		290.80		-2.445E+01	2.675E+01	3.572E+01	4.063E+00	-0.684
		411.60		5.104E+00	1.470E+01	2.431E+01	3.850E+00	0.210
		444.90		2.270E+00	1.109E+01	1.814E+01	2.321E+00	0.125
		473.00		6.550E-03	1.953E+00	3.133E+00	4.138E-01	0.002
		543.00		4.741E+00	1.813E+01	3.105E+01	4.598E+00	0.153
		603.60		4.479E+00	1.437E+01	2.154E+01	2.799E+00	0.208
		685.20	*	-4.346E-01	1.672E+00	2.708E+00	3.219E-01	-0.161

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		-9.223E+00	1.844E+01	2.917E+01	4.727E+00	-0.316
		722.20		5.299E+00	3.749E+01	5.451E+01	6.407E+00	0.097
		783.80		3.686E+00	4.504E+00	7.826E+00	1.020E+00	0.471
		57.60		3.606E+00	3.826E+00	6.551E+00	4.749E-01	0.550
		145.22		-4.069E-01	6.829E-01	1.044E+00	8.570E-02	-0.390
		172.10		5.826E-02	1.162E-01	1.883E-01	1.500E-02	0.309
I-131		202.84	*	-2.426E-02	4.530E-02	7.456E-02	6.145E-03	-0.325
		374.96		-6.069E-02	1.917E-01	3.053E-01	2.572E-02	-0.199
		80.18		2.172E+00	5.125E+00	6.117E+00	5.268E-01	0.355
		284.30		2.211E-01	1.539E+00	2.568E+00	2.303E-01	0.086
		364.48	*	7.135E-02	1.186E-01	2.011E-01	1.802E-02	0.355
		636.97		1.177E+00	1.548E+00	2.731E+00	2.562E-01	0.431
TE-132		722.89		-2.002E+00	8.632E+00	1.199E+01	1.090E+00	-0.167
		49.72		-1.176E+01	1.244E+01	1.982E+01	2.097E+00	-0.593
		111.76		-1.586E+01	3.105E+01	4.886E+01	5.434E+00	-0.325
		116.30		2.232E+00	3.024E+01	4.890E+01	5.426E+00	0.046
BA-133		228.16	*	3.278E-01	7.758E-01	1.323E+00	2.087E-01	0.248
		53.15		2.563E-02	2.018E+00	3.266E+00	2.461E-01	0.008
		79.62		9.760E-01	1.332E+00	1.619E+00	2.453E-01	0.603
		81.00		2.569E-02	1.008E-01	1.187E-01	1.885E-02	0.216
	+	276.40		9.067E-01	5.045E-01	6.374E-01	9.159E-02	1.423
		302.84		3.130E-02	1.507E-01	2.219E-01	2.940E-02	0.141
I-133		356.01	*	-1.294E-02	4.720E-02	6.579E-02	8.640E-03	-0.197
		383.85		-1.992E-01	2.804E-01	4.303E-01	5.352E-02	-0.463
	+	510.53		1.694E+00	2.804E-01	Half-Life	too short	
		529.87	*	-3.016E-03	2.804E-01	Half-Life	too short	
		706.58		3.524E-03	2.804E-01	Half-Life	too short	
		856.28		-3.528E-01	2.804E-01	Half-Life	too short	
		875.33		6.420E-02	2.804E-01	Half-Life	too short	
		1236.41		2.152E+00	2.804E-01	Half-Life	too short	
		1298.22		1.201E-01	2.804E-01	Half-Life	too short	
		475.35		3.448E-01	1.918E+00	3.119E+00	2.737E-01	0.111
CS-134		563.23		1.376E-01	3.458E-01	5.961E-01	5.391E-02	0.231
		569.32		1.340E-01	1.965E-01	3.358E-01	3.049E-02	0.399
		604.70		-2.333E-03	3.556E-02	5.122E-02	4.599E-03	-0.046
	+	795.84	*	6.168E-02	7.615E-02	8.985E-02	8.279E-03	0.686
		801.93		-2.476E-01	4.828E-01	6.699E-01	6.167E-02	-0.370
		1038.57		2.439E+00	3.856E+00	6.831E+00	6.029E-01	0.357
CS-135		1167.94		2.976E+00	2.539E+00	4.629E+00	3.783E-01	0.643
		1365.15		2.602E-01	1.062E+00	1.808E+00	1.564E-01	0.144
		268.24	*	1.705E-01	1.747E-01	2.710E-01	2.672E-02	0.629
		288.45		-8.246E+10	1.747E-01	Half-Life	too short	
		417.63		1.506E+10	1.747E-01	Half-Life	too short	
		546.56		3.847E+10	1.747E-01	Half-Life	too short	
		836.80		-2.009E+11	1.747E-01	Half-Life	too short	
		1038.76		1.280E+11	1.747E-01	Half-Life	too short	
		1124.00		6.369E+11	1.747E-01	Half-Life	too short	
		1131.51		5.059E+09	1.747E-01	Half-Life	too short	
I-135		1260.41	*	3.453E+10	1.747E-01	Half-Life	too short	

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		2.772E+12	1.747E-01	Half-Life	too short	
		1678.03		-1.525E+10	1.747E-01	Half-Life	too short	
		1706.46		-7.897E+10	1.747E-01	Half-Life	too short	
		1791.20		1.901E+10	1.747E-01	Half-Life	too short	
		66.91		-2.254E-01	6.650E-01	9.644E-01	1.431E-01	-0.234
	+	86.29		4.679E+00	1.278E+00	1.820E+00	2.413E-01	2.571
		153.22		1.038E+00	6.417E-01	1.088E+00	9.979E-02	0.954
		163.89		-3.801E-01	1.079E+00	1.679E+00	1.521E-01	-0.226
		176.55		1.102E-01	3.638E-01	6.245E-01	5.336E-02	0.176
		273.65		4.928E-01	5.698E-01	6.787E-01	6.157E-02	0.726
		340.57		4.216E-01	1.582E-01	2.636E-01	2.322E-02	1.599
		818.51		2.419E-02	7.501E-02	1.210E-01	1.111E-02	0.200
		1048.07	*	-9.856E-02	1.022E-01	1.530E-01	1.400E-02	-0.644
		1235.34		2.730E-01	5.843E-01	1.005E+00	1.160E-01	0.272
BA-137M		661.65	*	3.562E-02	4.075E-02	7.085E-02	6.270E-03	0.503
CS-137		661.65	*	3.766E-02	4.308E-02	7.490E-02	6.640E-03	0.503
CE-139		165.85	*	8.931E-03	2.801E-02	4.507E-02	3.565E-03	0.198
BA-140		162.64		6.706E-01	7.468E-01	1.233E+00	1.048E-01	0.544
		304.84		-6.397E-01	1.471E+00	2.037E+00	5.706E-01	-0.314
		423.70		1.381E+00	1.960E+00	3.248E+00	1.052E+00	0.425
LA-140	+	537.32	*	-4.567E-02	2.662E-01	4.416E-01	1.467E-01	-0.103
		328.77		5.546E-01	3.972E-01	5.497E-01	4.979E-02	1.009
		432.53		-2.276E+00	2.142E+00	3.152E+00	2.836E-01	-0.722
		487.03		9.095E-02	1.399E-01	2.355E-01	2.199E-02	0.386
		751.79		5.493E-01	1.819E+00	3.065E+00	3.056E-01	0.179
		815.85		-4.591E-01	3.415E-01	4.762E-01	4.814E-02	-0.964
		867.82		-7.286E-01	1.400E+00	2.076E+00	1.995E-01	-0.351
		919.63		7.924E-01	3.000E+00	4.860E+00	5.377E-01	0.163
		925.24		-3.322E-01	1.186E+00	1.862E+00	1.794E-01	-0.178
		1596.49	*	-8.311E-02	8.902E-02	1.200E-01	1.004E-02	-0.692
CE-141		145.44	*	-3.540E-02	6.157E-02	9.417E-02	7.883E-03	-0.376
CE-143		57.37		8.422E-04	6.157E-02	Half-Life	too short	
		231.56		-1.348E-03	6.157E-02	Half-Life	too short	
		293.26	*	1.139E-03	6.157E-02	Half-Life	too short	
	+	350.59		5.111E-02	6.157E-02	Half-Life	too short	
		490.36		-1.148E-03	6.157E-02	Half-Life	too short	
		664.57		4.936E-04	6.157E-02	Half-Life	too short	
		721.93		2.069E-04	6.157E-02	Half-Life	too short	
CE-144		80.11		9.652E-01	2.182E+00	2.608E+00	2.228E-01	0.370
		133.54	*	4.706E-03	2.112E-01	3.014E-01	4.653E-02	0.016
PM-144		476.78		3.422E-02	6.839E-02	1.137E-01	1.089E-02	0.301
		618.01		-9.450E-03	3.214E-02	5.234E-02	4.801E-03	-0.181
		696.49	*	-5.124E-03	3.438E-02	5.614E-02	5.033E-03	-0.091
		778.57		-1.573E-01	2.240E+00	3.649E+00	3.335E-01	-0.043
PR-144		696.49	*	-3.474E-01	2.331E+00	3.806E+00	3.411E-01	-0.091
		1489.15		5.768E-01	1.200E+01	1.972E+01	1.647E+00	0.029
PM-146		453.90	*	4.030E-02	4.311E-02	7.386E-02	7.958E-03	0.546
		633.02		-9.169E-01	1.337E+00	2.018E+00	7.557E-01	-0.454
		735.90		-1.327E-01	1.459E-01	2.030E-01	5.835E-02	-0.654

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		-1.161E-01	9.395E-02	1.346E-01	1.929E-02	-0.862
		91.11		7.415E-01	2.846E-01	4.652E-01	4.604E-02	1.594
		319.41		-3.065E+00	3.412E+00	5.283E+00	4.532E-01	-0.580
		439.89		-8.215E-01	6.129E+00	9.779E+00	8.427E-01	-0.084
PM-149	*	531.02		3.547E-02	5.677E-01	9.598E-01	1.452E-01	0.037
		285.90		6.603E+01	1.160E+02	1.973E+02	3.056E+01	0.335
		121.78		-2.242E-02	6.713E-02	1.062E-01	1.052E-02	-0.211
		244.69		1.154E-01	3.411E-01	5.130E-01	4.344E-02	0.225
EU-152	*	344.27		-1.299E-02	1.049E-01	1.488E-01	1.349E-02	-0.087
		443.98		5.691E-02	8.959E-01	1.451E+00	1.253E-01	0.039
		778.89		-3.156E-03	2.595E-01	4.251E-01	3.883E-02	-0.007
		867.32		-2.088E-01	8.073E-01	1.195E+00	1.097E-01	-0.175
	+	964.01		7.761E-01	3.711E-01	5.716E-01	5.173E-02	1.358
		1085.78		-2.998E-01	3.801E-01	5.835E-01	5.033E-02	-0.514
		1112.02		1.734E-01	3.007E-01	5.285E-01	4.490E-02	0.328
		1407.95		1.128E-01	1.833E-01	3.237E-01	2.684E-02	0.349
GD-153	+	69.67		1.275E-01	1.380E+00	2.041E+00	1.564E-01	0.062
		83.37		2.145E+01	1.518E+01	1.991E+01	1.769E+00	1.077
		97.43		-5.879E-03	7.339E-02	1.059E-01	9.467E-03	-0.056
		103.18		-9.297E-02	8.684E-02	1.329E-01	1.166E-02	-0.700
EU-154		123.07		-6.642E-02	4.915E-02	7.305E-02	8.277E-03	-0.909
		247.94		-2.435E-01	3.647E-01	5.385E-01	6.122E-02	-0.452
		591.81		7.609E-02	5.338E-01	9.028E-01	1.077E-01	0.084
		723.30		4.452E-02	1.908E-01	2.802E-01	2.775E-02	0.159
		756.87		-2.596E-01	7.964E-01	1.271E+00	1.567E-01	-0.204
		873.19		1.050E-01	2.789E-01	4.708E-01	5.951E-02	0.223
		996.32		-1.484E-01	3.483E-01	5.312E-01	9.528E-02	-0.279
		1004.76		-1.865E-02	2.132E-01	3.396E-01	4.035E-02	-0.055
EU-155	*	1274.45		4.991E-02	1.032E-01	1.801E-01	1.980E-02	0.277
		48.70		-9.606E-01	1.264E+00	2.040E+00	1.651E-01	-0.471
		60.01		-1.397E-02	3.593E+00	5.323E+00	3.833E-01	-0.003
		86.54		4.113E-01	1.054E-01	1.612E-01	1.504E-02	2.551
TB-160	+	105.31		1.046E-02	8.995E-02	1.464E-01	1.293E-02	0.071
		86.79		1.108E+00	2.837E-01	4.339E-01	4.025E-02	2.554
		197.04		-3.953E-01	5.287E-01	8.578E-01	7.029E-02	-0.461
		215.65		-5.386E-02	6.991E-01	1.171E+00	9.755E-02	-0.046
		298.57		1.920E-01	1.109E-01	1.973E-01	1.687E-02	0.973
		879.36		5.290E-02	1.365E-01	2.304E-01	2.113E-02	0.230
		962.29		1.140E+00	5.674E-01	9.855E-01	8.922E-02	1.157
		966.15		1.064E+00	2.671E-01	5.143E-01	4.652E-02	2.070
HO-166M		1177.93		-1.148E-02	3.080E-01	5.101E-01	4.154E-02	-0.022
		1271.85		1.632E-01	6.529E-01	1.109E+00	9.093E-02	0.147
		80.57		1.146E-01	2.767E-01	3.301E-01	2.835E-02	0.347
		184.41		6.680E-02	3.891E-02	6.330E-02	5.117E-03	1.055
		280.46		-1.227E-02	8.605E-02	1.238E-01	1.052E-02	-0.099
		410.95		2.570E-01	2.528E-01	4.347E-01	3.673E-02	0.591
		711.68		-3.429E-02	6.067E-02	9.409E-02	8.471E-03	-0.364
		752.31		2.061E-01	2.755E-01	4.803E-01	4.367E-02	0.429
		810.29		-1.015E-02	5.762E-02	9.259E-02	8.488E-03	-0.110

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		-3.411E+00	1.624E+01	2.678E+01	2.068E+00	-0.127
		52.39		2.076E+00	8.743E+00	1.428E+01	1.086E+00	0.145
		59.40		1.926E+00	1.921E+01	2.862E+01	2.058E+00	0.067
		66.72	*	-5.992E+00	2.279E+01	3.320E+01	2.483E+00	-0.180
LU-176	+	88.36		8.097E-01	2.073E-01	3.106E-01	2.919E-02	2.606
		201.83		-6.394E-03	2.735E-02	4.567E-02	3.760E-03	-0.140
		306.84	*	2.072E-02	2.315E-02	4.007E-02	3.433E-03	0.517
		401.10		-2.295E+00	6.690E+00	1.059E+01	8.879E-01	-0.217
LU-177	+	112.95		-2.252E-01	1.562E+00	2.504E+00	2.161E-01	-0.090
		208.36	*	2.344E+00	1.674E+00	2.147E+00	1.778E-01	1.092
LU-177M	+	52.97		2.290E-01	9.097E-01	1.486E+00	1.122E-01	0.154
		54.07		-2.713E-01	4.925E-01	7.769E-01	5.793E-02	-0.349
		61.30		5.419E-01	1.097E+00	1.661E+00	1.202E-01	0.326
		121.62		-1.035E-01	3.459E-01	5.484E-01	4.713E-02	-0.189
		147.16		3.268E-01	6.028E-01	9.847E-01	8.056E-02	0.332
		171.86		2.018E-01	4.604E-01	7.438E-01	5.924E-02	0.271
		218.09		1.490E-01	7.937E-01	1.344E+00	1.122E-01	0.111
		268.79		1.579E+00	9.273E-01	1.486E+00	1.263E-01	1.062
		319.02		-2.734E-01	2.493E-01	3.799E-01	3.258E-02	-0.720
		367.43		-6.272E-01	8.629E-01	1.332E+00	1.127E-01	-0.471
		413.65	*	-2.143E-01	1.794E-01	2.639E-01	2.234E-02	-0.812
HF-181		56.28		-3.539E-01	5.782E-01	9.347E-01	6.833E-02	-0.379
		57.53		2.886E-01	3.203E-01	5.477E-01	3.971E-02	0.527
		65.20		-4.292E-01	7.585E-01	1.090E+00	8.063E-02	-0.394
		133.02		2.061E-02	6.684E-02	9.711E-02	8.150E-03	0.212
		136.25		1.421E-01	4.345E-01	6.976E-01	5.819E-02	0.204
		345.85		3.582E-02	2.250E-01	3.053E-01	2.608E-02	0.117
W-181		482.03	*	-2.752E-02	4.278E-02	6.474E-02	5.696E-03	-0.425
		56.28		-1.364E-01	2.241E-01	3.624E-01	2.649E-02	-0.376
		57.53		1.118E-01	1.242E-01	2.124E-01	1.540E-02	0.526
TA-182		65.20	*	-1.651E-01	2.919E-01	4.193E-01	3.103E-02	-0.394
		67.75		1.171E-02	8.484E-02	1.340E-01	1.010E-02	0.087
		100.10		1.126E-01	1.500E-01	2.508E-01	2.221E-02	0.449
		152.43		3.033E-01	3.157E-01	5.239E-01	4.247E-02	0.579
		222.10		1.693E-01	3.340E-01	5.640E-01	4.722E-02	0.300
		1001.68		1.683E+00	2.085E+00	3.640E+00	3.258E-01	0.462
RE-183	+	1121.28		5.488E-01	2.431E-01	3.617E-01	3.055E-02	1.517
		1189.05		1.965E-02	2.804E-01	4.692E-01	3.825E-02	0.042
		1221.42	*	-7.734E-02	2.084E-01	3.345E-01	2.736E-02	-0.231
		1230.97		-4.318E-01	4.409E-01	6.580E-01	5.385E-02	-0.656
		57.98		1.499E-01	1.310E-01	2.166E-01	1.567E-02	0.692
		59.32		5.105E-02	7.767E-02	1.188E-01	8.545E-03	0.430
RE-184	+	67.20		-3.652E-02	1.628E-01	2.375E-01	1.783E-02	-0.154
		162.32	*	8.078E-02	1.040E-01	1.710E-01	1.361E-02	0.472
		208.81		1.932E+00	1.379E+00	1.773E+00	1.469E-01	1.090
		291.72		-9.308E-02	9.612E-01	1.385E+00	1.181E-01	-0.067
RE-184		57.98		5.493E-01	4.803E-01	7.938E-01	5.742E-02	0.692
		59.32		1.870E-01	2.844E-01	4.351E-01	3.129E-02	0.430
		67.20		-1.338E-01	5.964E-01	8.703E-01	6.533E-02	-0.154

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		-3.039E-02	3.457E-01	5.459E-01	4.355E-02	-0.056
		216.55		4.892E-02	2.458E-01	4.167E-01	3.474E-02	0.117
		252.85	*	-1.781E-02	2.216E-01	3.678E-01	3.122E-02	-0.048
		318.01		-2.468E-01	4.320E-01	6.848E-01	5.873E-02	-0.360
		792.07		-1.775E-01	1.153E+00	1.601E+00	1.465E-01	-0.111
		903.28		-2.314E-01	1.045E+00	1.608E+00	1.472E-01	-0.144
		920.93		1.970E-01	4.440E-01	7.513E-01	6.858E-02	0.262
		59.72		2.647E-02	2.130E-01	3.176E-01	2.285E-02	0.083
		61.14		4.190E-02	1.203E-01	1.810E-01	1.309E-02	0.231
		69.30		1.699E-01	2.423E-01	3.679E-01	2.809E-02	0.462
		592.07		9.907E-01	2.123E+00	3.688E+00	3.307E-01	0.269
		646.12	*	-3.697E-02	4.029E-02	6.129E-02	5.449E-03	-0.603
		717.42		-1.308E-01	8.898E-01	1.449E+00	1.307E-01	-0.090
		874.81		3.780E-01	5.632E-01	9.762E-01	8.955E-02	0.387
		880.27		-1.034E-01	7.676E-01	1.230E+00	1.128E-01	-0.084
RE-188		155.03	*	-3.281E-02	1.671E-01	2.631E-01	2.123E-02	-0.125
		477.96		5.055E-01	3.202E+00	5.195E+00	4.563E-01	0.097
W-188	+	633.10		-1.796E+00	2.647E+00	4.139E+00	3.691E-01	-0.434
		63.58		6.363E+01	5.254E+01	6.542E+01	4.792E+00	0.973
		227.08		-2.244E+00	1.172E+01	1.946E+01	1.634E+00	-0.115
IR-192	+	290.67	*	-7.172E+00	7.889E+00	1.057E+01	9.013E-01	-0.679
		295.96		1.188E+00	1.906E-01	3.041E-01	2.617E-02	3.907
		308.46		3.962E-02	9.004E-02	1.522E-01	1.311E-02	0.260
		316.51	*	2.444E-02	3.180E-02	5.472E-02	4.703E-03	0.447
AU-195		468.07		-2.970E-02	7.302E-02	9.734E-02	9.108E-03	-0.305
		604.41		-6.989E-02	4.820E-01	6.880E-01	9.112E-02	-0.102
		612.46		1.901E+00	8.825E-01	1.490E+00	1.518E-01	1.276
		65.12		-6.125E-02	1.353E-01	1.955E-01	1.446E-02	-0.313
		66.83		-1.725E-02	7.567E-02	1.104E-01	8.267E-03	-0.156
	+	75.70		1.257E+00	2.417E-01	3.969E-01	3.225E-02	3.167
		98.88	*	2.281E-01	1.908E-01	3.238E-01	2.879E-02	0.704
TL-200	+	129.76		4.639E+00	3.208E+00	4.624E+00	3.906E-01	1.003
		367.94	*	-8.940E-04	3.208E+00	Half-Life	too short	
		579.30		2.515E-03	3.208E+00	Half-Life	too short	
		828.27		-5.750E-04	3.208E+00	Half-Life	too short	
TL-201		1205.75		-1.266E-04	3.208E+00	Half-Life	too short	
		68.90		3.151E+00	4.791E+00	7.263E+00	5.527E-01	0.434
		70.82		-2.271E-01	2.806E+00	4.114E+00	3.184E-01	-0.055
		80.30		2.499E+00	6.370E+00	7.584E+00	6.493E-01	0.329
		135.34		-4.621E+00	2.964E+01	4.654E+01	3.889E+00	-0.099
TL-202		167.43	*	-3.060E-01	8.241E+00	1.302E+01	1.031E+00	-0.024
		68.90		2.416E-01	3.674E-01	5.570E-01	4.238E-02	0.434
		70.82		-1.737E-02	2.146E-01	3.146E-01	2.435E-02	-0.055
		80.30		1.911E-01	4.873E-01	5.802E-01	4.967E-02	0.329
HG-203		439.56	*	-5.980E-03	7.226E-02	1.158E-01	9.971E-03	-0.052
		70.83		-7.591E-02	8.944E-01	1.311E+00	1.713E-01	-0.058
		72.87		1.296E+00	5.097E-01	8.582E-01	1.093E-01	1.510
	+	82.60		1.612E+00	1.154E+00	1.462E+00	2.026E-01	1.103
		279.20	*	4.642E-02	4.355E-02	6.818E-02	5.956E-03	0.681

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		3.478E-01	1.413E-01	2.457E-01	1.938E-02	1.415
	+	74.97		6.947E-01	1.336E-01	1.907E-01	1.538E-02	3.642
	+	84.90		2.767E-01	1.958E-01	2.620E-01	2.373E-02	1.056
		569.67		2.170E-02	3.068E-02	5.251E-02	4.709E-03	0.413
		1063.62	*	2.412E-02	5.232E-02	9.070E-02	7.914E-03	0.266
		1770.23		-1.310E-01	5.448E-01	7.297E-01	5.995E-02	-0.180
TL-207		81.07		5.628E-02	2.224E-01	2.619E-01	2.263E-02	0.215
	+	83.78		1.824E-01	1.291E-01	1.696E-01	1.515E-02	1.076
		94.90		3.792E-01	2.123E-01	3.327E-01	3.008E-02	1.140
		122.32		-8.897E-01	1.627E+00	2.546E+00	2.348E-01	-0.349
		144.24		-4.651E-02	6.491E-01	1.019E+00	9.466E-02	-0.046
		154.21		1.823E-01	3.784E-01	6.149E-01	5.529E-02	0.297
		269.46		3.847E-01	2.232E-01	3.568E-01	3.097E-02	1.078
		323.87	*	6.032E-02	7.042E-01	1.022E+00	1.808E-01	0.059
	+	338.28		7.081E+00	2.086E+00	2.533E+00	3.108E-01	2.796
		445.03		3.636E-01	2.177E+00	3.553E+00	4.300E-01	0.102
PO-209		260.50		-3.197E+00	8.906E+00	1.452E+01	1.234E+00	-0.220
		262.80		2.083E+01	2.453E+01	4.254E+01	3.615E+00	0.490
		896.60	*	-5.575E+00	7.641E+00	1.144E+01	1.048E+00	-0.487
BI-210		46.50	*	8.784E-01	1.742E+00	2.972E+00	2.788E-01	0.296
PB-210		46.50	*	8.784E-01	1.742E+00	2.972E+00	2.788E-01	0.296
PO-210		46.50	*	8.784E-01	1.742E+00	2.972E+00	2.529E-01	0.296
PB-211		404.84	*	6.486E-03	9.556E-01	1.550E+00	9.706E-01	0.004
		427.08		1.119E+00	2.087E+00	3.313E+00	2.058E+00	0.338
		831.96		-3.162E-01	1.201E+00	1.884E+00	1.182E+00	-0.168
BI-212	+	727.18	*	1.235E+00	5.024E-01	6.839E-01	7.094E-02	1.806
		785.46		1.270E+00	1.907E+00	3.282E+00	3.001E-01	0.387
		1620.62		8.984E-01	1.230E+00	2.227E+00	1.861E-01	0.403
PO-215		81.07		5.628E-02	2.224E-01	2.619E-01	2.263E-02	0.215
	+	83.78		1.824E-01	1.291E-01	1.696E-01	1.515E-02	1.076
		94.90		3.792E-01	2.123E-01	3.327E-01	3.008E-02	1.140
		122.32		-8.897E-01	1.627E+00	2.546E+00	2.348E-01	-0.349
		144.24		-4.651E-02	6.491E-01	1.019E+00	9.466E-02	-0.046
		154.21		1.823E-01	3.784E-01	6.149E-01	5.529E-02	0.297
		269.46		3.847E-01	2.232E-01	3.568E-01	3.097E-02	1.078
		323.87	*	6.032E-02	7.042E-01	1.022E+00	1.808E-01	0.059
	+	338.28		7.081E+00	2.086E+00	2.533E+00	3.108E-01	2.796
		445.03		3.636E-01	2.177E+00	3.553E+00	4.300E-01	0.102
RN-219	+	271.23		5.810E-01	4.022E-01	4.473E-01	4.567E-02	1.299
		401.81	*	-1.240E-01	4.138E-01	6.565E-01	9.778E-02	-0.189
RN-220		549.76	*	9.614E-01	2.443E+01	4.116E+01	3.685E+00	0.023
RA-223		81.07		5.628E-02	2.224E-01	2.619E-01	2.263E-02	0.215
	+	83.78		1.824E-01	1.291E-01	1.696E-01	1.515E-02	1.076
		94.90		3.792E-01	2.123E-01	3.327E-01	3.008E-02	1.140
		122.32		-8.897E-01	1.627E+00	2.546E+00	2.348E-01	-0.349
		144.24		-4.651E-02	6.491E-01	1.019E+00	9.466E-02	-0.046
		154.21		1.823E-01	3.784E-01	6.149E-01	5.529E-02	0.297
		269.46		3.847E-01	2.232E-01	3.568E-01	3.097E-02	1.078
		323.87	*	6.032E-02	7.042E-01	1.022E+00	1.808E-01	0.059

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		7.081E+00	2.086E+00	2.533E+00	3.108E-01	2.796
		445.03		3.636E-01	2.177E+00	3.553E+00	4.300E-01	0.102
		79.80		1.103E+00	1.693E+00	2.039E+00	4.375E-01	0.541
		236.00		3.548E-01	2.674E-01	4.177E-01	5.061E-02	0.850
		256.20	*	-2.553E-01	3.569E-01	5.682E-01	8.679E-02	-0.449
TH-227		286.10		1.003E+00	1.439E+00	2.465E+00	3.237E-01	0.407
	+	299.80		3.165E+00	1.899E+00	2.541E+00	4.436E-01	1.246
		304.40		-4.786E-02	1.966E+00	2.840E+00	5.228E-01	-0.017
		334.20		-9.992E-01	2.390E+00	3.295E+00	6.387E-01	-0.303
		79.80		1.103E+00	1.694E+00	2.039E+00	4.431E-01	0.541
TH-229	+	94.00		8.225E+00	2.848E+00	3.313E+00	7.277E-01	2.483
		236.00		3.548E-01	2.668E-01	4.177E-01	4.568E-02	0.850
		256.20	*	-2.553E-01	3.578E-01	5.682E-01	1.023E-01	-0.449
		286.10		1.003E+00	1.751E+00	2.465E+00	2.474E+00	0.407
	+	299.80		3.165E+00	1.899E+00	2.541E+00	4.436E-01	1.246
TH-229		304.40		-4.786E-02	1.966E+00	2.840E+00	5.228E-01	-0.017
		334.20		-9.992E-01	2.390E+00	3.295E+00	6.387E-01	-0.303
	+	85.43		2.731E-01	1.933E-01	2.687E-01	2.450E-02	1.016
	+	88.47		4.661E-01	1.193E-01	1.785E-01	1.676E-02	2.611
		100.00		1.509E-01	1.541E-01	2.597E-01	2.301E-02	0.581
PA-231		193.63	*	1.477E-01	4.668E-01	7.989E-01	6.524E-02	0.185
	+	210.97		1.499E+00	1.070E+00	1.332E+00	1.106E-01	1.125
		283.67	*	2.616E-01	1.445E+00	2.416E+00	3.652E-01	0.108
	+	301.29		1.266E+00	7.429E-01	1.005E+00	1.225E-01	1.260
	TH-231	81.07		5.628E-02	2.224E-01	2.619E-01	2.263E-02	0.215
U-231	+	83.78		1.824E-01	1.291E-01	1.696E-01	1.515E-02	1.076
		94.90		3.792E-01	2.123E-01	3.327E-01	3.008E-02	1.140
		122.32		-8.897E-01	1.627E+00	2.546E+00	2.348E-01	-0.349
		144.24		-4.651E-02	6.491E-01	1.019E+00	9.466E-02	-0.046
		154.21		1.823E-01	3.784E-01	6.149E-01	5.529E-02	0.297
PA-233		269.46		3.847E-01	2.232E-01	3.568E-01	3.097E-02	1.078
		323.87	*	6.032E-02	7.042E-01	1.022E+00	1.808E-01	0.059
	+	338.28		7.081E+00	2.086E+00	2.533E+00	3.108E-01	2.796
		445.03		3.636E-01	2.177E+00	3.553E+00	4.300E-01	0.102
	+	84.21		9.161E+00	6.485E+00	8.490E+00	7.622E-01	1.079
PA-233	+	92.29		9.473E+00	2.678E+00	4.113E+00	3.769E-01	2.303
		95.87	*	-8.527E-01	1.173E+00	1.628E+00	1.465E-01	-0.524
		108.00		6.255E-01	2.021E+00	3.314E+00	2.878E-01	0.189
	+	75.28		2.027E+01	4.672E+00	5.891E+00	8.870E-01	3.441
	+	86.59		6.683E+00	2.410E+00	2.619E+00	7.079E-01	2.552
PA-234	+	300.12		8.824E-01	5.231E-01	7.054E-01	1.047E-01	1.251
		311.98	*	-9.359E-02	5.893E-02	8.584E-02	7.570E-03	-1.090
		340.50		2.122E+00	8.784E-01	1.243E+00	2.961E-01	1.707
		398.62		-1.418E-01	2.074E+00	3.349E+00	8.891E-01	-0.042
		415.76		7.009E-01	1.559E+00	2.596E+00	5.579E-01	0.270
PA-234	+	63.00		1.828E+00	1.528E+00	1.937E+00	2.868E-01	0.944
		94.67		4.207E-01	1.610E-01	2.510E-01	3.189E-02	1.676
		98.44		8.105E-02	9.229E-02	1.305E-01	7.285E-02	0.621
		99.86		4.025E-01	3.910E-01	6.602E-01	5.851E-02	0.610

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-1.335E-01	1.604E-01	2.477E-01	2.999E-02	-0.539
		131.20		9.046E-02	1.023E-01	1.538E-01	1.295E-02	0.588
		152.70		4.002E-01	3.109E-01	5.129E-01	8.611E-02	0.780
	+	186.00		4.824E+00	2.657E+00	2.514E+00	7.811E-01	1.919
		226.40		-1.066E-01	3.709E-01	6.129E-01	8.003E-02	-0.174
		227.20		-1.044E-02	3.889E-01	6.510E-01	5.467E-02	-0.016
		248.90		1.733E-01	7.764E-01	1.308E+00	2.925E-01	0.132
		293.70		5.709E+00	1.312E+00	1.694E+00	2.924E-01	3.370
		369.80		-3.219E-01	8.024E-01	1.266E+00	2.748E-01	-0.254
		568.70		5.391E-01	9.471E-01	1.651E+00	1.480E-01	0.327
		569.50		1.890E-01	2.719E-01	4.651E-01	4.171E-02	0.406
		574.00		-1.212E+00	1.463E+00	2.290E+00	2.054E-01	-0.529
		699.00		7.153E-02	7.315E-01	1.218E+00	2.343E-01	0.059
		706.10		-3.736E-01	1.047E+00	1.656E+00	7.398E-01	-0.226
		733.00		-2.160E-02	3.717E-01	5.259E-01	1.176E-01	-0.041
		742.81		-6.783E-01	1.476E+00	2.213E+00	1.489E+00	-0.307
	+	796.30		1.198E+00	1.510E+00	1.752E+00	4.771E-01	0.684
		805.60		6.209E-01	1.007E+00	1.708E+00	5.262E-01	0.364
		819.60		-5.717E-03	1.230E+00	1.925E+00	7.345E-01	-0.003
		826.30		-3.724E-01	7.427E-01	1.114E+00	4.995E-01	-0.334
		831.60		-1.199E-01	6.075E-01	9.707E-01	2.913E-01	-0.124
		876.40		1.491E-01	8.247E-01	1.342E+00	1.380E+00	0.111
		880.51		-1.433E-02	2.750E-01	4.444E-01	4.075E-02	-0.032
		883.24		1.361E-02	2.726E-01	4.449E-01	2.994E-01	0.031
		899.00		-2.261E-01	8.250E-01	1.290E+00	5.654E-01	-0.175
		925.00		-2.577E-01	1.190E+00	1.883E+00	1.718E-01	-0.137
		926.50		-2.943E-02	1.708E-01	2.709E-01	6.896E-02	-0.109
		946.00	*	1.726E-01	3.017E-01	5.129E-01	9.736E-02	0.336
		949.00		-1.577E-02	4.489E-01	7.224E-01	6.561E-02	-0.022
		980.50		-4.653E-01	7.260E-01	1.084E+00	9.762E-02	-0.429
		1394.10		4.687E-01	1.145E+00	1.918E+00	1.248E+00	0.244
PA-234M		766.42		5.967E+00	1.211E+01	1.999E+01	1.016E+01	0.298
		1001.03	*	3.318E+00	4.752E+00	8.214E+00	8.422E-01	0.404
U-235	+	89.95		2.785E+00	1.347E+00	1.568E+00	4.868E-01	1.776
	+	93.35		2.559E+00	9.945E-01	1.114E+00	3.140E-01	2.297
		105.00		-1.958E-02	8.811E-01	1.425E+00	4.257E-01	-0.014
		143.76	*	-4.944E-02	2.030E-01	3.161E-01	5.474E-02	-0.156
		163.35		2.235E-01	4.531E-01	7.325E-01	1.376E-01	0.305
	+	185.71		1.787E-01	8.254E-02	9.234E-02	7.475E-03	1.935
		205.31		7.223E-02	5.552E-01	8.312E-01	1.573E-01	0.087
NP-236		94.67		3.210E-01	1.188E-01	1.906E-01	1.725E-02	1.684
		98.44		6.127E-02	6.105E-02	9.863E-02	8.785E-03	0.621
		111.00		-1.010E-01	1.210E-01	1.874E-01	1.620E-02	-0.539
		160.31	*	2.719E-03	7.608E-02	1.209E-01	9.664E-03	0.022
NP-239		99.55		1.540E-01	1.321E-01	2.239E-01	1.987E-02	0.688
		117.00	*	-6.342E-02	1.699E-01	2.688E-01	2.312E-02	-0.236
	+	209.75		1.510E+00	1.078E+00	1.377E+00	1.142E-01	1.097
		228.18		8.752E-02	2.078E-01	3.548E-01	2.982E-02	0.247
	+	277.60		4.424E-01	2.408E-01	3.174E-01	2.695E-02	1.394

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-6.256E-01	1.347E+00	1.854E+00	1.588E-01	-0.337
AM-241		59.54	*	1.518E-02	1.113E-01	1.661E-01	1.317E-02	0.091
CM-243		99.55		1.585E-01	1.359E-01	2.304E-01	2.044E-02	0.688
		103.76	*	-6.447E-02	7.976E-02	1.239E-01	1.086E-02	-0.520
		117.00		-6.525E-02	1.748E-01	2.765E-01	2.379E-02	-0.236
	+	209.75		1.489E+00	1.063E+00	1.357E+00	1.126E-01	1.097
		228.18		8.844E-02	2.099E-01	3.585E-01	3.013E-02	0.247
	+	277.60		4.461E-01	2.427E-01	3.200E-01	2.717E-02	1.394
AM-246		798.80		-1.325E-02	1.580E-01	2.213E-01	2.026E-02	-0.060
		1036.00		-9.681E-02	2.793E-01	4.525E-01	3.998E-02	-0.214
		1062.04		1.824E-01	2.195E-01	3.951E-01	3.450E-02	0.462
		1078.86	*	1.000E-02	1.313E-01	2.215E-01	1.918E-02	0.045
CM-247	+	278.00		1.835E+00	9.985E-01	1.304E+00	1.107E-01	1.407
		287.40		7.727E-01	1.124E+00	1.931E+00	1.645E-01	0.400
		402.60	*	-1.470E-02	3.720E-02	5.865E-02	4.924E-03	-0.251
CF-249		252.85		-6.657E-02	8.284E-01	1.375E+00	1.167E-01	-0.048
		333.44		-8.979E-02	2.143E-01	2.456E-01	2.104E-02	-0.366
		387.95	*	8.590E-03	3.744E-02	6.183E-02	5.161E-03	0.139
CF-251		176.60	*	3.833E-02	1.195E-01	2.054E-01	1.645E-02	0.187
		227.00		-6.377E-02	3.485E-01	5.789E-01	4.861E-02	-0.110
		285.00		2.221E-01	1.658E+00	2.766E+00	2.354E-01	0.080

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]G243630003      *
* Acquisition date   : 7-JAN-2010 13:10:42 Detector SN#                   *
* Detector ID        : GAM07 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 02:00:01.26 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243630003 Analyst initials: MXR1                 *
* Batch Number       : 937702 Sample Quantity : 1.3023E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                 *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58 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	2.150E+01	2.329E+00	5.161E-01	0.000E+00
CD-109	3.478E+00	8.728E-01	1.013E+00	0.000E+00
SN-126	3.414E-01	8.566E-02	9.963E-02	0.000E+00
TL-208	5.201E-01	8.852E-02	5.741E-02	0.000E+00
BI-211	4.030E+00	5.734E-01	3.277E-01	0.000E+00
PB-212	1.639E+00	1.915E-01	9.187E-02	0.000E+00
PO-212	1.639E+00	1.915E-01	9.187E-02	0.000E+00
BI-214	1.097E+00	1.763E-01	1.164E-01	0.000E+00
PB-214	1.402E+00	2.120E-01	1.142E-01	0.000E+00
PO-214	1.402E+00	2.120E-01	1.142E-01	0.000E+00
PO-216	1.639E+00	1.915E-01	9.187E-02	0.000E+00
PO-218	1.402E+00	2.120E-01	1.142E-01	0.000E+00
RA-224	4.227E+00	1.074E+00	1.046E+00	0.000E+00
RA-226	1.097E+00	1.763E-01	1.164E-01	0.000E+00
AC-228	1.618E+00	3.452E-01	1.964E-01	0.000E+00
RA-228	1.618E+00	3.452E-01	1.964E-01	0.000E+00
TH-228	1.665E+00	1.946E-01	9.335E-02	0.000E+00
TH-230	1.097E+00	1.763E-01	1.164E-01	0.000E+00
TH-232	1.618E+00	3.452E-01	1.964E-01	0.000E+00
TH-234	1.569E+00	1.292E+00	1.488E+00	0.000E+00
U-234	1.097E+00	1.763E-01	1.164E-01	0.000E+00
NP-237	1.002E+00	3.231E-01	2.942E-01	0.000E+00
U-238	1.569E+00	1.292E+00	1.488E+00	0.000E+00
AM-243	3.870E-01	7.295E-02	7.037E-02	0.000E+00
ANH-511	7.899E-02	6.126E-02	4.667E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	6.938E-02	3.277E-01	5.550E-01	0.000E+00 NOT IDENT.
NA-22	1.746E-02	3.616E-02	6.456E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	1.757E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.368E-02	2.787E-02	5.445E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.116E-02	6.978E-02	0.000E+00	FAIL ABUN
SC-46	-1.586E-02	3.718E-02	5.931E-02	0.000E+00	FAIL ABUN
V-48	4.628E-02	6.955E-02	1.231E-01	0.000E+00	NOT IDENT.
CR-51	-6.172E-02	3.571E-01	6.084E-01	0.000E+00	NOT IDENT.
MN-52	5.595E-02	2.462E-01	4.250E-01	0.000E+00	NOT IDENT.
MN-54	-1.993E-03	3.479E-02	5.818E-02	0.000E+00	NOT IDENT.
CO-56	1.008E-02	3.415E-02	5.910E-02	0.000E+00	NOT IDENT.
CO-57	-6.324E-03	2.288E-02	3.861E-02	0.000E+00	NOT IDENT.
CO-58	-1.102E-02	3.851E-02	6.316E-02	0.000E+00	NOT IDENT.
FE-59	2.290E-02	7.480E-02	1.325E-01	0.000E+00	NOT IDENT.
CO-60	2.938E-02	3.559E-02	6.583E-02	0.000E+00	NOT IDENT.
ZN-65	-4.571E-02	9.877E-02	1.366E-01	0.000E+00	NOT IDENT.
GE-68	-6.287E-01	1.171E+00	1.905E+00	0.000E+00	NOT IDENT.
AS-73	-4.607E-02	4.626E-01	8.017E-01	0.000E+00	NOT IDENT.
AS-74	-5.951E-04	8.118E-02	1.405E-01	0.000E+00	NOT IDENT.
SE-75	-4.068E-02	4.265E-02	6.771E-02	0.000E+00	NOT IDENT.
BR-77	-1.032E+01	1.111E+01	1.787E+01	0.000E+00	FAIL ABUN
SR-82	-5.670E-01	3.993E-01	5.844E-01	0.000E+00	NOT IDENT.
RB-83	-5.869E-02	5.588E-02	8.862E-02	0.000E+00	NOT IDENT.
RB-84	5.186E-03	6.791E-02	1.145E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.169E+00	1.268E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.712E-02	6.568E-02	0.000E+00	NOT IDENT.
RB-86	-5.643E-01	7.670E-01	1.220E+00	0.000E+00	NOT IDENT.
Y-88	9.855E-03	3.045E-02	5.484E-02	0.000E+00	NOT IDENT.
ZR-88	-1.621E-02	2.886E-02	4.690E-02	0.000E+00	NOT IDENT.
Y-91	2.885E+00	1.808E+01	3.118E+01	0.000E+00	NOT IDENT.
NB-94	-8.590E-03	3.357E-02	5.617E-02	0.000E+00	NOT IDENT.
NB-95	-4.006E-03	4.364E-02	7.341E-02	0.000E+00	NOT IDENT.
NB-95M	8.135E-02	1.370E-01	2.192E-01	0.000E+00	NOT IDENT.
ZR-95	-2.747E-02	7.264E-02	1.192E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.649E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.784E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.454E+00	1.373E+01	2.412E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.653E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.600E-02	3.042E-02	5.183E-02	0.000E+00	NOT IDENT.
RH-102	-8.540E-03	2.932E-02	4.780E-02	0.000E+00	NOT IDENT.
RU-103	1.920E-03	4.201E-02	7.006E-02	0.000E+00	FAIL ABUN
RH-106	5.097E-03	2.980E-01	5.149E-01	0.000E+00	FAIL ABUN
RU-106	5.097E-03	2.980E-01	5.149E-01	0.000E+00	FAIL ABUN
AG-108M	3.864E-03	3.129E-02	5.307E-02	0.000E+00	NOT IDENT.
AG-110M	-6.820E-02	3.801E-02	5.560E-02	0.000E+00	NOT IDENT.
IN-111	1.133E-01	1.364E+00	2.105E+00	0.000E+00	NOT IDENT.
IN-113M	2.474E-03	4.141E-02	7.049E-02	0.000E+00	NOT IDENT.
SN-113	2.474E-03	4.141E-02	7.049E-02	0.000E+00	NOT IDENT.
IN-114M	7.999E-02	1.809E-01	2.924E-01	0.000E+00	NOT IDENT.
CD-115	9.129E-01	1.294E+01	2.275E+01	0.000E+00	NOT IDENT.
SN-117M	9.515E-03	5.339E-02	9.049E-02	0.000E+00	NOT IDENT.
SB-122	5.609E-01	2.502E+00	4.420E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.759E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-8.281E-03	2.682E-02	4.437E-02	0.000E+00	NOT IDENT.
I-124	6.997E-02	8.481E-01	1.286E+00	0.000E+00	NOT IDENT.
SB-124	2.403E-02	7.255E-02	1.269E-01	0.000E+00	FAIL ABUN
SB-125	-3.649E-03	8.524E-02	1.430E-01	0.000E+00	FAIL ABUN
TE-125M	3.900E+00	7.746E+00	1.362E+01	0.000E+00	NOT IDENT.
I-126	-1.333E-01	1.997E-01	3.252E-01	0.000E+00	NOT IDENT.
SB-126	-5.613E-03	1.601E-01	2.467E-01	0.000E+00	FAIL ABUN
SB-127	-4.346E-01	1.638E+00	2.744E+00	0.000E+00	NOT IDENT.
XE-127	-2.426E-02	4.439E-02	7.706E-02	0.000E+00	NOT IDENT.
I-131	7.135E-02	1.162E-01	2.059E-01	0.000E+00	NOT IDENT.
TE-132	3.278E-01	7.603E-01	1.365E+00	0.000E+00	NOT IDENT.
BA-133	-1.294E-02	4.625E-02	6.739E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.188E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.168E-02	7.462E-02	9.084E-02	0.000E+00	FAIL ABUN
CS-135	1.705E-01	1.712E-01	2.788E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.923E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.856E-02	1.002E-01	1.540E-01	0.000E+00	FAIL ABUN
BA-137M	3.562E-02	3.994E-02	7.184E-02	0.000E+00	NOT IDENT.
CS-137	3.766E-02	4.222E-02	7.594E-02	0.000E+00	NOT IDENT.
CE-139	8.931E-03	2.745E-02	4.673E-02	0.000E+00	NOT IDENT.
BA-140	-4.567E-02	2.609E-01	4.493E-01	0.000E+00	NOT IDENT.
LA-140	-8.311E-02	8.724E-02	1.200E-01	0.000E+00	FAIL ABUN
CE-141	-3.540E-02	6.034E-02	9.783E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.514E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.706E-03	2.070E-01	3.136E-01	0.000E+00	NOT IDENT.
PM-144	-5.124E-03	3.369E-02	5.688E-02	0.000E+00	NOT IDENT.
PR-144	-3.474E-01	2.284E+00	3.856E+00	0.000E+00	NOT IDENT.

PM-146	4.030E-02	4.225E-02	7.535E-02	0.000E+00	NOT IDENT.
ND-147	3.547E-02	5.563E-01	9.767E-01	0.000E+00	FAIL ABUN
PM-149	6.603E+01	1.137E+02	2.028E+02	0.000E+00	NOT IDENT.
EU-152	-1.299E-02	1.028E-01	1.525E-01	0.000E+00	FAIL ABUN
GD-153	-5.879E-03	7.192E-02	1.107E-01	0.000E+00	FAIL ABUN
EU-154	4.991E-02	1.012E-01	1.807E-01	0.000E+00	NOT IDENT.
EU-155	1.046E-02	8.815E-02	1.528E-01	0.000E+00	FAIL ABUN
TB-160	5.290E-02	1.338E-01	2.325E-01	0.000E+00	FAIL ABUN
HO-166M	-3.429E-02	5.945E-02	9.529E-02	0.000E+00	NOT IDENT.
TM-171	-5.992E+00	2.233E+01	3.491E+01	0.000E+00	NOT IDENT.
LU-176	2.072E-02	2.269E-02	4.114E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.640E+00	2.217E+00	0.000E+00	FAIL ABUN
LU-177M	-2.143E-01	1.758E-01	2.697E-01	0.000E+00	NOT IDENT.
HF-181	-2.752E-02	4.192E-02	6.599E-02	0.000E+00	NOT IDENT.
W-181	-1.651E-01	2.861E-01	4.410E-01	0.000E+00	NOT IDENT.
TA-182	-7.734E-02	2.042E-01	3.358E-01	0.000E+00	FAIL ABUN
RE-183	8.078E-02	1.019E-01	1.773E-01	0.000E+00	FAIL ABUN
RE-184	-1.781E-02	2.172E-01	3.788E-01	0.000E+00	NOT IDENT.
OS-185	-3.697E-02	3.948E-02	6.217E-02	0.000E+00	NOT IDENT.
RE-188	-3.281E-02	1.638E-01	2.730E-01	0.000E+00	NOT IDENT.
W-188	-7.172E+00	7.732E+00	1.086E+01	0.000E+00	FAIL ABUN
IR-192	2.444E-02	3.117E-02	5.615E-02	0.000E+00	FAIL ABUN
AU-195	2.281E-01	1.870E-01	3.384E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.784E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.060E-01	8.076E+00	1.350E+01	0.000E+00	NOT IDENT.
TL-202	-5.980E-03	7.082E-02	1.182E-01	0.000E+00	NOT IDENT.
HG-203	4.642E-02	4.268E-02	7.010E-02	0.000E+00	FAIL ABUN
BI-207	2.412E-02	5.127E-02	9.125E-02	0.000E+00	FAIL ABUN
TL-207	6.032E-02	6.901E-01	1.049E+00	0.000E+00	FAIL ABUN
PO-209	-5.575E+00	7.488E+00	1.154E+01	0.000E+00	NOT IDENT.
BI-210	8.784E-01	1.707E+00	3.142E+00	0.000E+00	NOT IDENT.
PB-210	8.784E-01	1.707E+00	3.142E+00	0.000E+00	NOT IDENT.
PO-210	8.784E-01	1.707E+00	3.142E+00	0.000E+00	NOT IDENT.
PB-211	6.486E-03	9.365E-01	1.584E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.924E-01	6.924E-01	0.000E+00	FAIL ABUN
PO-215	6.032E-02	6.901E-01	1.049E+00	0.000E+00	FAIL ABUN
RN-219	-1.240E-01	4.055E-01	6.711E-01	0.000E+00	FAIL ABUN
RN-220	9.614E-01	2.395E+01	4.186E+01	0.000E+00	NOT IDENT.
RA-223	6.032E-02	6.901E-01	1.049E+00	0.000E+00	FAIL ABUN
AC-227	-2.553E-01	3.498E-01	5.850E-01	0.000E+00	FAIL ABUN
TH-227	-2.553E-01	3.506E-01	5.850E-01	0.000E+00	FAIL ABUN
TH-229	1.477E-01	4.574E-01	8.262E-01	0.000E+00	FAIL ABUN
PA-231	2.616E-01	1.416E+00	2.483E+00	0.000E+00	FAIL ABUN
TH-231	6.032E-02	6.901E-01	1.049E+00	0.000E+00	FAIL ABUN
U-231	-8.527E-01	1.150E+00	1.702E+00	0.000E+00	FAIL ABUN
PA-233	-9.359E-02	5.775E-02	8.811E-02	0.000E+00	FAIL ABUN
PA-234	1.726E-01	2.957E-01	5.170E-01	0.000E+00	FAIL ABUN
PA-234M	3.318E+00	4.657E+00	8.272E+00	0.000E+00	NOT IDENT.
U-235	-4.944E-02	1.990E-01	3.284E-01	0.000E+00	FAIL ABUN
NP-236	2.719E-03	7.456E-02	1.254E-01	0.000E+00	NOT IDENT.
NP-239	-6.342E-02	1.665E-01	2.802E-01	0.000E+00	FAIL ABUN
AM-241	1.518E-02	1.091E-01	1.750E-01	0.000E+00	NOT IDENT.
CM-243	-6.447E-02	7.816E-02	1.294E-01	0.000E+00	FAIL ABUN
AM-246	1.000E-02	1.287E-01	2.228E-01	0.000E+00	NOT IDENT.
CM-247	-1.470E-02	3.646E-02	5.995E-02	0.000E+00	FAIL ABUN
CF-249	8.590E-03	3.669E-02	6.325E-02	0.000E+00	NOT IDENT.
CF-251	3.833E-02	1.171E-01	2.127E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630003.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:10:42.
Sample ID          : G243630003 Sample quantity : 1.30230E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.26 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 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	899	10.67*	1.129E+00	2.150E+01	2.150E+01	11.05
CD-109	88.03	299	3.72*	6.835E+00	3.395E+00	3.478E+00	25.61
SN-126	64.28	99	9.60	4.767E+00	6.209E-01	6.209E-01	83.50
	86.94	299	8.90	6.835E+00	1.419E+00	1.419E+00	47.87
	87.57	299	37.00*	6.835E+00	3.414E-01	3.414E-01	25.61
TL-208	277.35	95	6.80	4.403E+00	9.174E-01	9.174E-01	55.13
	510.84	75	21.60	2.754E+00	3.657E-01	3.657E-01	79.57
	583.14	376	84.20*	2.476E+00	5.201E-01	5.201E-01	17.37
	860.37	47	12.46	1.783E+00	6.098E-01	6.098E-01	67.70
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	666	12.94*	3.680E+00	4.030E+00	4.030E+00	14.52
PB-212	74.81	538	10.70	6.067E+00	2.387E+00	2.387E+00	21.39
	77.11	826	18.00	6.255E+00	2.113E+00	2.113E+00	13.39
	87.30	299	8.00	6.835E+00	1.579E+00	1.579E+00	27.49
	238.63	1245	44.60*	4.909E+00	1.639E+00	1.639E+00	11.92
	300.09	84	3.41	4.148E+00	1.708E+00	1.708E+00	58.32
PO-212	74.81	538	10.70	6.067E+00	2.387E+00	2.387E+00	21.39
	77.11	826	18.00	6.255E+00	2.113E+00	2.113E+00	13.39
	87.30	299	8.00	6.835E+00	1.579E+00	1.579E+00	27.49
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1245	44.60*	4.909E+00	1.639E+00	1.639E+00	11.92
	300.09	84	3.41	4.148E+00	1.708E+00	1.708E+00	58.32
BI-214	609.31	421	46.30*	2.389E+00	1.097E+00	1.097E+00	16.39
	1120.29	85	15.10	1.414E+00	1.154E+00	1.154E+00	44.79
	1764.49	64	15.80	9.832E-01	1.179E+00	1.179E+00	33.53
PB-214	74.81	538	6.21	6.067E+00	4.113E+00	4.113E+00	20.61
	77.11	826	10.50	6.255E+00	3.623E+00	3.623E+00	15.40
	87.30	299	4.67	6.835E+00	2.705E+00	2.705E+00	26.74
	241.98	282	7.49	4.864E+00	2.229E+00	2.229E+00	26.53
	295.21	432	19.20	4.201E+00	1.545E+00	1.545E+00	17.19
	351.92	666	37.20*	3.680E+00	1.402E+00	1.402E+00	15.43
PO-214	74.81	538	6.21	6.067E+00	4.113E+00	4.113E+00	20.61

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	826	10.50	6.255E+00	3.623E+00	3.623E+00	15.40
	87.30	299	4.67	6.835E+00	2.705E+00	2.705E+00	26.74
	241.98	282	7.49	4.864E+00	2.229E+00	2.229E+00	26.53
	295.21	432	19.20	4.201E+00	1.545E+00	1.545E+00	17.19
	351.92	666	37.20*	3.680E+00	1.402E+00	1.402E+00	15.43
	74.81	538	10.70	6.067E+00	2.387E+00	2.387E+00	21.39
	77.11	826	18.00	6.255E+00	2.113E+00	2.113E+00	13.39
	87.30	299	8.00	6.835E+00	1.579E+00	1.579E+00	27.49
	238.63	1245	44.60*	4.909E+00	1.639E+00	1.639E+00	11.92
	300.09	84	3.41	4.148E+00	1.708E+00	1.708E+00	58.32
PO-218	74.81	538	6.21	6.067E+00	4.113E+00	4.113E+00	20.61
	77.11	826	10.50	6.255E+00	3.623E+00	3.623E+00	15.40
	87.30	299	4.67	6.835E+00	2.705E+00	2.705E+00	26.74
	241.98	282	7.49	4.864E+00	2.229E+00	2.229E+00	26.53
	295.21	432	19.20	4.201E+00	1.545E+00	1.545E+00	17.19
	351.92	666	37.20*	3.680E+00	1.402E+00	1.402E+00	15.43
RA-224	240.98	282	3.95*	4.864E+00	4.227E+00	4.227E+00	25.93
RA-226	609.31	421	46.30*	2.389E+00	1.097E+00	1.097E+00	16.39
	1120.29	85	15.10	1.414E+00	1.154E+00	1.154E+00	44.79
AC-228	1764.49	64	15.80	9.832E-01	1.179E+00	1.179E+00	33.53
	338.32	254	11.40	3.791E+00	1.696E+00	1.696E+00	49.18
	911.07	264	27.70*	1.695E+00	1.618E+00	1.618E+00	21.76
	969.11	180	16.60	1.606E+00	1.942E+00	1.942E+00	30.46
RA-228	338.32	254	11.40	3.791E+00	1.696E+00	1.696E+00	49.18
	911.07	264	27.70*	1.695E+00	1.618E+00	1.618E+00	21.76
TH-228	969.11	180	16.60	1.606E+00	1.942E+00	1.942E+00	30.46
	74.81	538	10.70	6.067E+00	2.387E+00	2.426E+00	19.27
	77.11	826	18.00	6.255E+00	2.113E+00	2.148E+00	13.39
	87.30	299	8.00	6.835E+00	1.579E+00	1.604E+00	25.61
TH-230	238.63	1245	44.60*	4.909E+00	1.639E+00	1.665E+00	11.92
	300.09	84	3.41	4.148E+00	1.708E+00	1.735E+00	82.50
	609.31	421	46.30*	2.389E+00	1.097E+00	1.097E+00	16.39
	1120.29	85	15.10	1.414E+00	1.154E+00	1.154E+00	44.79
	1764.49	64	15.80	9.832E-01	1.179E+00	1.179E+00	33.53
TH-232	338.32	254	11.40	3.791E+00	1.696E+00	1.696E+00	28.12
	911.07	264	27.70*	1.695E+00	1.618E+00	1.618E+00	21.76
	969.11	180	16.60	1.606E+00	1.942E+00	1.942E+00	30.46
TH-234	63.29	99	3.80*	4.767E+00	1.569E+00	1.569E+00	84.05
	92.38	280	5.41	7.017E+00	2.128E+00	2.128E+00	32.44
U-234	609.31	421	46.30*	2.389E+00	1.097E+00	1.097E+00	16.39
	1120.29	85	15.10	1.414E+00	1.154E+00	1.154E+00	44.79
	1764.49	64	15.80	9.832E-01	1.179E+00	1.179E+00	33.53
NP-237	86.50	299	12.60*	6.835E+00	1.002E+00	1.002E+00	32.89
	95.87	-----	2.60	7.087E+00	-----	Line Not Found	-----
U-238	63.29	99	3.80*	4.767E+00	1.569E+00	1.569E+00	84.05
	92.38	280	5.41	7.017E+00	2.128E+00	2.128E+00	28.27
AM-243	74.67	538	66.00*	6.067E+00	3.870E-01	3.870E-01	19.23
	86.72	299	0.34	6.835E+00	3.759E+01	3.759E+01	25.61
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	75	100.00*	2.754E+00	7.899E-02	7.899E-02	79.13

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 0
Number of lines tentatively identified by NID 32 100.00%

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	2.150E+01	2.150E+01	0.238E+01	11.05	
CD-109	464.00D	1.02	3.395E+00	3.478E+00	0.891E+00	25.61	
SN-126	1.00E+05Y	1.00	3.414E-01	3.414E-01	0.874E-01	25.61	
TL-208	1.41E+10Y	1.00	5.201E-01	5.201E-01	0.903E-01	17.37	
BI-211	7.04E+08Y	1.00	4.030E+00	4.030E+00	0.585E+00	14.52	
PB-212	1.41E+10Y	1.00	1.639E+00	1.639E+00	0.195E+00	11.92	
PO-212	1.41E+10Y	1.00	1.639E+00	1.639E+00	0.195E+00	11.92	
BI-214	1600.00Y	1.00	1.097E+00	1.097E+00	0.180E+00	16.39	
PB-214	1600.00Y	1.00	1.402E+00	1.402E+00	0.216E+00	15.43	
PO-214	1600.00Y	1.00	1.402E+00	1.402E+00	0.216E+00	15.43	
PO-216	1.41E+10Y	1.00	1.639E+00	1.639E+00	0.195E+00	11.92	
PO-218	1600.00Y	1.00	1.402E+00	1.402E+00	0.216E+00	15.43	
RA-224	1.41E+10Y	1.00	4.227E+00	4.227E+00	1.096E+00	25.93	
RA-226	1600.00Y	1.00	1.097E+00	1.097E+00	0.180E+00	16.39	
AC-228	1.41E+10Y	1.00	1.618E+00	1.618E+00	0.352E+00	21.76	
RA-228	1.41E+10Y	1.00	1.618E+00	1.618E+00	0.352E+00	21.76	
TH-228	1.91Y	1.02	1.639E+00	1.665E+00	0.199E+00	11.92	
TH-230	4.47E+09Y	1.00	1.097E+00	1.097E+00	0.180E+00	16.39	
TH-232	1.41E+10Y	1.00	1.618E+00	1.618E+00	0.352E+00	21.76	
TH-234	4.47E+09Y	1.00	1.569E+00	1.569E+00	1.318E+00	84.05	
U-234	4.47E+09Y	1.00	1.097E+00	1.097E+00	0.180E+00	16.39	
NP-237	2.14E+06Y	1.00	1.002E+00	1.002E+00	0.330E+00	32.89	
U-238	4.47E+09Y	1.00	1.569E+00	1.569E+00	1.318E+00	84.05	
AM-243	7380.00Y	1.00	3.870E-01	3.870E-01	0.744E-01	19.23	
ANH-511	1.00E+09Y	1.00	7.899E-02	7.899E-02	6.251E-02	79.13	
Total Activity :			5.862E+01	5.873E+01			

Grand Total Activity : 5.862E+01 5.873E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243630003

Page : 5
Acquisition date : 7-JAN-2010 13:10:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	84.01	105	410	1.36	167.67	164	27	1.45E-02	70.2	6.69E+00	T
3	89.95	181	340	1.13	179.55	164	27	2.51E-02	37.1	6.94E+00	T
0	129.39	85	278	0.83	258.40	255	7	1.19E-02	68.6	6.96E+00	T
0	186.23	194	415	1.17	372.07	366	12	2.70E-02	45.5	5.81E+00	T
0	209.48	91	293	0.86	418.57	414	9	1.27E-02	70.9	5.38E+00	T
0	271.13	96	226	0.77	541.84	537	12	1.33E-02	68.5	4.48E+00	T
0	327.78	64	140	1.14	655.12	651	9	8.90E-03	71.0	3.88E+00	T
0	463.62	78	151	1.37	926.76	920	15	1.08E-02	72.8	2.98E+00	T
0	727.23	104	71	1.52	1453.91	1448	14	1.45E-02	39.3	2.06E+00	T
0	796.70	31	77	1.76	1592.83	1583	13	4.29E-03	****	1.91E+00	T
1	964.46	62	31	1.93	1928.30	1923	24	8.67E-03	46.9	1.61E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630003.CNF;1
* Acquisition date   : 7-JAN-2010 13:10:42.  Detector SN#      :
* Detector ID        : GAM07                      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 02:00:01.26             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630003           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.30230E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58.0MS 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	2.150E+01	2.376E+00	5.157E-01	4.429E-02	41.680
CD-109	3.478E+00	8.906E-01	9.673E-01	9.112E-02	3.595
SN-126	3.414E-01	8.741E-02	9.515E-02	8.916E-03	3.588
TL-208	5.201E-01	9.032E-02	5.650E-02	5.405E-03	9.205
BI-211	4.030E+00	5.851E-01	3.198E-01	2.869E-02	12.600
PB-212	1.639E+00	1.954E-01	8.912E-02	8.524E-03	18.386
PO-212	1.639E+00	1.954E-01	8.912E-02	8.524E-03	18.386
BI-214	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
PB-214	1.402E+00	2.163E-01	1.115E-01	1.157E-02	12.573
PO-214	1.402E+00	2.163E-01	1.115E-01	1.157E-02	12.573
PO-216	1.639E+00	1.954E-01	8.912E-02	8.524E-03	18.386
PO-218	1.402E+00	2.163E-01	1.115E-01	1.157E-02	12.573
RA-224	4.227E+00	1.096E+00	1.014E+00	8.579E-02	4.166
RA-226	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
AC-228	1.618E+00	3.522E-01	1.947E-01	2.268E-02	8.311
RA-228	1.618E+00	3.522E-01	1.947E-01	2.268E-02	8.311
TH-228	1.665E+00	1.986E-01	9.056E-02	8.662E-03	18.386
TH-230	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.618E+00	3.522E-01	1.947E-01	2.268E-02	8.311
TH-234	1.569E+00	1.318E+00	1.414E+00	2.461E-01	1.109
U-234	1.097E+00	1.799E-01	1.146E-01	1.186E-02	9.571
NP-237	1.002E+00	3.297E-01	2.809E-01	6.352E-02	3.568
U-238	1.569E+00	1.318E+00	1.414E+00	2.461E-01	1.109
AM-243	3.870E-01	7.444E-02	6.704E-02	5.389E-03	5.773
ANH-511	7.899E-02	6.251E-02	4.583E-02	4.072E-03	1.724

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.938E-02		3.344E-01	5.444E-01	5.138E-02	0.127
NA-22	1.746E-02		3.689E-02	6.436E-02	5.283E-03	0.271
NA-24	1.686E-01		8.964E-01	Half-Life too short		
AL-26	2.368E-02		2.844E-02	5.461E-02	4.453E-03	0.434
TI-44	3.900E-01	+	5.221E-02	6.653E-02	5.570E-03	5.863
SC-46	-1.586E-02		3.794E-02	5.877E-02	5.386E-03	-0.270
V-48	4.628E-02		7.097E-02	1.222E-01	1.100E-02	0.379
CR-51	-6.172E-02		3.644E-01	5.930E-01	5.359E-02	-0.104
MN-52	5.595E-02		2.512E-01	4.246E-01	3.530E-02	0.132
MN-54	-1.993E-03		3.550E-02	5.760E-02	5.287E-03	-0.035
CO-56	1.008E-02		3.484E-02	5.853E-02	5.373E-03	0.172
CO-57	-6.324E-03		2.335E-02	3.706E-02	3.189E-03	-0.171
CO-58	-1.102E-02		3.930E-02	6.250E-02	5.742E-03	-0.176
FE-59	2.290E-02		7.633E-02	1.317E-01	1.221E-02	0.174
CO-60	2.938E-02		3.631E-02	6.568E-02	5.380E-03	0.447
ZN-65	-4.571E-02		1.008E-01	1.358E-01	1.153E-02	-0.336
GE-68	-6.287E-01		1.195E+00	1.894E+00	1.641E-01	-0.332
AS-73	-4.607E-02		4.720E-01	7.599E-01	5.706E-02	-0.061
AS-74	-5.951E-04		8.284E-02	1.383E-01	1.240E-02	-0.004
SE-75	-4.068E-02		4.352E-02	6.580E-02	5.619E-03	-0.618
BR-77	-1.032E+01		1.134E+01	1.755E+01	1.564E+00	-0.588
SR-82	-5.670E-01		4.075E-01	5.779E-01	5.277E-02	-0.981
RB-83	-5.869E-02		5.703E-02	8.705E-02	7.754E-03	-0.674
RB-84	5.186E-03		6.930E-02	1.134E-01	1.040E-02	0.046
KR-85	1.352E+01		7.316E+00	1.246E+01	1.108E+00	1.085
SR-85	7.000E-02		3.788E-02	6.450E-02	5.736E-03	1.085
RB-86	-5.643E-01		7.827E-01	1.213E+00	1.051E-01	-0.465
Y-88	9.855E-03		3.107E-02	5.501E-02	4.465E-03	0.179
ZR-88	-1.621E-02		2.945E-02	4.586E-02	3.820E-03	-0.353
Y-91	2.885E+00		1.845E+01	3.106E+01	2.537E+00	0.093
NB-94	-8.590E-03		3.425E-02	5.545E-02	4.979E-03	-0.155
NB-95	-4.006E-03		4.453E-02	7.257E-02	6.616E-03	-0.055
NB-95M	8.135E-02		1.398E-01	2.126E-01	2.064E-02	0.383
ZR-95	-2.747E-02		7.413E-02	1.179E-01	1.170E-02	-0.233
NB-97	-4.659E-01		1.352E-01	Half-Life too short		
ZR-97	2.792E+00		2.441E+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	5.454E+00		1.401E+01	2.383E+01	3.680E+00	0.229
TC-99M	-6.265E+10		2.374E+11	Half-Life too short		
RH-101	-2.600E-02		3.104E-02	5.013E-02	4.112E-03	-0.519
RH-102	-8.540E-03		2.992E-02	4.689E-02	4.114E-03	-0.182
RU-103	1.920E-03		4.286E-02	6.877E-02	9.835E-03	0.028
RH-106	5.097E-03		3.041E-01	5.073E-01	6.881E-02	0.010
RU-106	5.097E-03		3.041E-01	5.073E-01	4.534E-02	0.010
AG-108M	3.864E-03		3.193E-02	5.198E-02	4.641E-03	0.074
AG-110M	-6.820E-02		3.878E-02	5.483E-02	4.995E-03	-1.244
IN-111	1.133E-01		1.392E+00	2.043E+00	1.730E-01	0.055
IN-113M	2.474E-03		4.226E-02	6.892E-02	5.925E-03	0.036
SN-113	2.474E-03		4.226E-02	6.892E-02	5.925E-03	0.036
IN-114M	7.999E-02		1.846E-01	2.827E-01	2.300E-02	0.283
CD-115	9.129E-01		1.321E+01	2.236E+01	1.995E+00	0.041
SN-117M	9.515E-03		5.447E-02	8.722E-02	6.993E-03	0.109
SB-122	5.609E-01		2.553E+00	4.348E+00	3.898E-01	0.129
I-123	-5.432E+00		8.974E+00	Half-Life too short		
TE-123M	-8.281E-03		2.736E-02	4.277E-02	3.450E-03	-0.194
I-124	6.997E-02		8.654E-01	1.267E+00	1.135E-01	0.055
SB-124	2.403E-02		7.403E-02	1.271E-01	1.101E-02	0.189
SB-125	-3.649E-03		8.698E-02	1.400E-01	1.221E-02	-0.026
TE-125M	3.900E+00		7.904E+00	1.305E+01	1.353E+00	0.299
I-126	-1.333E-01		2.038E-01	3.208E-01	2.844E-02	-0.416
SB-126	-5.613E-03		1.633E-01	2.436E-01	2.199E-02	-0.023
SB-127	-4.346E-01		1.672E+00	2.708E+00	3.219E-01	-0.161
XE-127	-2.426E-02		4.530E-02	7.456E-02	6.145E-03	-0.325
I-131	7.135E-02		1.186E-01	2.011E-01	1.802E-02	0.355
TE-132	3.278E-01		7.758E-01	1.323E+00	2.087E-01	0.248
BA-133	-1.294E-02		4.720E-02	6.579E-02	8.640E-03	-0.197
I-133	-3.016E-03		6.063E-03	Half-Life too short		
CS-134	6.168E-02	+	7.615E-02	8.985E-02	8.279E-03	0.686
CS-135	1.705E-01		1.747E-01	2.710E-01	2.672E-02	0.629
I-135	3.453E+10		2.512E+10	Half-Life too short		
CS-136	-9.856E-02		1.022E-01	1.530E-01	1.400E-02	-0.644
BA-137M	3.562E-02		4.075E-02	7.085E-02	6.270E-03	0.503
CS-137	3.766E-02		4.308E-02	7.490E-02	6.640E-03	0.503
CE-139	8.931E-03		2.801E-02	4.507E-02	3.565E-03	0.198
BA-140	-4.567E-02		2.662E-01	4.416E-01	1.467E-01	-0.103
LA-140	-8.311E-02		8.902E-02	1.200E-01	1.004E-02	-0.692
CE-141	-3.540E-02		6.157E-02	9.417E-02	7.883E-03	-0.376
CE-143	1.139E-03		1.793E-04	Half-Life too short		
CE-144	4.706E-03		2.112E-01	3.014E-01	4.653E-02	0.016
PM-144	-5.124E-03		3.438E-02	5.614E-02	5.033E-03	-0.091
PR-144	-3.474E-01		2.331E+00	3.806E+00	3.411E-01	-0.091
PM-146	4.030E-02		4.311E-02	7.386E-02	7.958E-03	0.546
ND-147	3.547E-02		5.677E-01	9.598E-01	1.452E-01	0.037
PM-149	6.603E+01		1.160E+02	1.973E+02	3.056E+01	0.335
EU-152	-1.299E-02		1.049E-01	1.488E-01	1.349E-02	-0.087

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-5.879E-03		7.339E-02	1.059E-01	9.467E-03	-0.056
EU-154	4.991E-02		1.032E-01	1.801E-01	1.980E-02	0.277
EU-155	1.046E-02		8.995E-02	1.464E-01	1.293E-02	0.071
TB-160	5.290E-02		1.365E-01	2.304E-01	2.113E-02	0.230
HO-166M	-3.429E-02		6.067E-02	9.409E-02	8.471E-03	-0.364
TM-171	-5.992E+00		2.279E+01	3.320E+01	2.483E+00	-0.180
LU-176	2.072E-02		2.315E-02	4.007E-02	3.433E-03	0.517
LU-177	2.344E+00	+	1.674E+00	2.147E+00	1.778E-01	1.092
LU-177M	-2.143E-01		1.794E-01	2.639E-01	2.234E-02	-0.812
HF-181	-2.752E-02		4.278E-02	6.474E-02	5.696E-03	-0.425
W-181	-1.651E-01		2.919E-01	4.193E-01	3.103E-02	-0.394
TA-182	-7.734E-02		2.084E-01	3.345E-01	2.736E-02	-0.231
RE-183	8.078E-02		1.040E-01	1.710E-01	1.361E-02	0.472
RE-184	-1.781E-02		2.216E-01	3.678E-01	3.122E-02	-0.048
OS-185	-3.697E-02		4.029E-02	6.129E-02	5.449E-03	-0.603
RE-188	-3.281E-02		1.671E-01	2.631E-01	2.123E-02	-0.125
W-188	-7.172E+00		7.889E+00	1.057E+01	9.013E-01	-0.679
IR-192	2.444E-02		3.180E-02	5.472E-02	4.703E-03	0.447
AU-195	2.281E-01		1.908E-01	3.238E-01	2.879E-02	0.704
TL-200	-8.940E-04		3.972E-04	Half-Life too short		
TL-201	-3.060E-01		8.241E+00	1.302E+01	1.031E+00	-0.024
TL-202	-5.980E-03		7.226E-02	1.158E-01	9.971E-03	-0.052
HG-203	4.642E-02		4.355E-02	6.818E-02	5.956E-03	0.681
BI-207	2.412E-02		5.232E-02	9.070E-02	7.914E-03	0.266
TL-207	6.032E-02		7.042E-01	1.022E+00	1.808E-01	0.059
PO-209	-5.575E+00		7.641E+00	1.144E+01	1.048E+00	-0.487
BI-210	8.784E-01		1.742E+00	2.972E+00	2.788E-01	0.296
PB-210	8.784E-01		1.742E+00	2.972E+00	2.788E-01	0.296
PO-210	8.784E-01		1.742E+00	2.972E+00	2.529E-01	0.296
PB-211	6.486E-03		9.556E-01	1.550E+00	9.706E-01	0.004
BI-212	1.235E+00	+	5.024E-01	6.839E-01	7.094E-02	1.806
PO-215	6.032E-02		7.042E-01	1.022E+00	1.808E-01	0.059
RN-219	-1.240E-01		4.138E-01	6.565E-01	9.778E-02	-0.189
RN-220	9.614E-01		2.443E+01	4.116E+01	3.685E+00	0.023
RA-223	6.032E-02		7.042E-01	1.022E+00	1.808E-01	0.059
AC-227	-2.553E-01		3.569E-01	5.682E-01	8.679E-02	-0.449
TH-227	-2.553E-01		3.578E-01	5.682E-01	1.023E-01	-0.449
TH-229	1.477E-01		4.668E-01	7.989E-01	6.524E-02	0.185
PA-231	2.616E-01		1.445E+00	2.416E+00	3.652E-01	0.108
TH-231	6.032E-02		7.042E-01	1.022E+00	1.808E-01	0.059
U-231	-8.527E-01		1.173E+00	1.628E+00	1.465E-01	-0.524
PA-233	-9.359E-02		5.893E-02	8.584E-02	7.570E-03	-1.090
PA-234	1.726E-01		3.017E-01	5.129E-01	9.736E-02	0.336
PA-234M	3.318E+00		4.752E+00	8.214E+00	8.422E-01	0.404
U-235	-4.944E-02		2.030E-01	3.161E-01	5.474E-02	-0.156
NP-236	2.719E-03		7.608E-02	1.209E-01	9.664E-03	0.022
NP-239	-6.342E-02		1.699E-01	2.688E-01	2.312E-02	-0.236
AM-241	1.518E-02		1.113E-01	1.661E-01	1.317E-02	0.091

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-6.447E-02		7.976E-02	1.239E-01	1.086E-02	-0.520
AM-246	1.000E-02		1.313E-01	2.215E-01	1.918E-02	0.045
CM-247	-1.470E-02		3.720E-02	5.865E-02	4.924E-03	-0.251
CF-249	8.590E-03		3.744E-02	6.183E-02	5.161E-03	0.139
CF-251	3.833E-02		1.195E-01	2.054E-01	1.645E-02	0.187

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]G243630003          *
* Acquisition date   : 7-JAN-2010 13:10:42 Detector SN#                   *
* Detector ID        : GAM07 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 02:00:01.26 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630003 Analyst initials: MXR1                 *
* Batch Number       : 937702 Sample Quantity : 1.3023E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58 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	2.150E+01	2.329E+00	2.582E-01	1.188E+00
CD-109	3.478E+00	8.728E-01	5.067E-01	4.453E-01
SN-126	3.414E-01	8.566E-02	4.985E-02	4.371E-02
TL-208	5.201E-01	8.852E-02	2.872E-02	4.516E-02
BI-211	4.030E+00	5.734E-01	1.639E-01	2.926E-01
PB-212	1.639E+00	1.915E-01	4.596E-02	9.770E-02
PO-212	1.639E+00	1.915E-01	4.596E-02	9.770E-02
BI-214	1.097E+00	1.763E-01	5.824E-02	8.993E-02
PB-214	1.402E+00	2.120E-01	5.714E-02	1.081E-01
PO-214	1.402E+00	2.120E-01	5.714E-02	1.081E-01
PO-216	1.639E+00	1.915E-01	4.596E-02	9.770E-02
PO-218	1.402E+00	2.120E-01	5.714E-02	1.081E-01
RA-224	4.227E+00	1.074E+00	5.231E-01	5.479E-01
RA-226	1.097E+00	1.763E-01	5.824E-02	8.993E-02
AC-228	1.618E+00	3.452E-01	9.827E-02	1.761E-01
RA-228	1.618E+00	3.452E-01	9.827E-02	1.761E-01
TH-228	1.665E+00	1.946E-01	4.670E-02	9.928E-02
TH-230	1.097E+00	1.763E-01	5.824E-02	8.993E-02
TH-232	1.618E+00	3.452E-01	9.827E-02	1.761E-01
TH-234	1.569E+00	1.292E+00	7.446E-01	6.592E-01
U-234	1.097E+00	1.763E-01	5.824E-02	8.993E-02
NP-237	1.002E+00	3.231E-01	1.472E-01	1.648E-01
U-238	1.569E+00	1.292E+00	7.446E-01	6.592E-01
AM-243	3.870E-01	7.295E-02	3.520E-02	3.722E-02
ANH-511	7.899E-02	6.126E-02	2.335E-02	3.125E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	6.938E-02	3.277E-01	2.777E-01	1.672E-01 NOT IDENT.
NA-22	1.746E-02	3.616E-02	3.230E-02	1.845E-02 NOT IDENT.

NA-24	1.686E+05	1.757E+06	0.000E+00	8.964E+05	SHORT HLIF
AL-26	2.368E-02	2.787E-02	2.724E-02	1.422E-02	NOT IDENT.
TI-44	3.900E-01	5.116E-02	3.491E-02	2.610E-02	FAIL ABUN
SC-46	-1.586E-02	3.718E-02	2.967E-02	1.897E-02	FAIL ABUN
V-48	4.628E-02	6.955E-02	6.157E-02	3.549E-02	NOT IDENT.
CR-51	-6.172E-02	3.571E-01	3.044E-01	1.822E-01	NOT IDENT.
MN-52	5.595E-02	2.462E-01	2.126E-01	1.256E-01	NOT IDENT.
MN-54	-1.993E-03	3.479E-02	2.911E-02	1.775E-02	NOT IDENT.
CO-56	1.008E-02	3.415E-02	2.957E-02	1.742E-02	NOT IDENT.
CO-57	-6.324E-03	2.288E-02	1.932E-02	1.168E-02	NOT IDENT.
CO-58	-1.102E-02	3.851E-02	3.160E-02	1.965E-02	NOT IDENT.
FE-59	2.290E-02	7.480E-02	6.627E-02	3.817E-02	NOT IDENT.
CO-60	2.938E-02	3.559E-02	3.293E-02	1.816E-02	NOT IDENT.
ZN-65	-4.571E-02	9.877E-02	6.832E-02	5.039E-02	NOT IDENT.
GE-68	-6.287E-01	1.171E+00	9.532E-01	5.976E-01	NOT IDENT.
AS-73	-4.607E-02	4.626E-01	4.011E-01	2.360E-01	NOT IDENT.
AS-74	-5.951E-04	8.118E-02	7.028E-02	4.142E-02	NOT IDENT.
SE-75	-4.068E-02	4.265E-02	3.388E-02	2.176E-02	NOT IDENT.
BR-77	-1.032E+01	1.111E+01	8.940E+00	5.671E+00	FAIL ABUN
SR-82	-5.670E-01	3.993E-01	2.924E-01	2.037E-01	NOT IDENT.
RB-83	-5.869E-02	5.588E-02	4.433E-02	2.851E-02	NOT IDENT.
RB-84	5.186E-03	6.791E-02	5.727E-02	3.465E-02	NOT IDENT.
KR-85	1.352E+01	7.169E+00	6.346E+00	3.658E+00	NOT IDENT.
SR-85	7.000E-02	3.712E-02	3.286E-02	1.894E-02	NOT IDENT.
RB-86	-5.643E-01	7.670E-01	6.103E-01	3.913E-01	NOT IDENT.
Y-88	9.855E-03	3.045E-02	2.744E-02	1.554E-02	NOT IDENT.
ZR-88	-1.621E-02	2.886E-02	2.346E-02	1.473E-02	NOT IDENT.
Y-91	2.885E+00	1.808E+01	1.560E+01	9.226E+00	NOT IDENT.
NB-94	-8.590E-03	3.357E-02	2.810E-02	1.713E-02	NOT IDENT.
NB-95	-4.006E-03	4.364E-02	3.673E-02	2.226E-02	NOT IDENT.
NB-95M	8.135E-02	1.370E-01	1.097E-01	6.989E-02	NOT IDENT.
ZR-95	-2.747E-02	7.264E-02	5.966E-02	3.706E-02	NOT IDENT.
NB-97	-4.659E+05	2.649E+05	0.000E+00	1.352E+05	SHORT HLIF
ZR-97	2.792E+06	4.784E+06	0.000E+00	2.441E+06	SHORT HLIF
MO-99	5.454E+00	1.373E+01	1.207E+01	7.007E+00	NOT IDENT.
TC-99M	-6.265E+16	4.653E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.600E-02	3.042E-02	2.593E-02	1.552E-02	NOT IDENT.
RH-102	-8.540E-03	2.932E-02	2.392E-02	1.496E-02	NOT IDENT.
RU-103	1.920E-03	4.201E-02	3.505E-02	2.143E-02	FAIL ABUN
RH-106	5.097E-03	2.980E-01	2.576E-01	1.521E-01	FAIL ABUN
RU-106	5.097E-03	2.980E-01	2.576E-01	1.521E-01	FAIL ABUN
AG-108M	3.864E-03	3.129E-02	2.655E-02	1.596E-02	NOT IDENT.
AG-110M	-6.820E-02	3.801E-02	2.782E-02	1.939E-02	NOT IDENT.
IN-111	1.133E-01	1.364E+00	1.053E+00	6.960E-01	NOT IDENT.
IN-113M	2.474E-03	4.141E-02	3.526E-02	2.113E-02	NOT IDENT.
SN-113	2.474E-03	4.141E-02	3.526E-02	2.113E-02	NOT IDENT.
IN-114M	7.999E-02	1.809E-01	1.463E-01	9.230E-02	NOT IDENT.
CD-115	9.129E-01	1.294E+01	1.138E+01	6.604E+00	NOT IDENT.
SN-117M	9.515E-03	5.339E-02	4.527E-02	2.724E-02	NOT IDENT.
SB-122	5.609E-01	2.502E+00	2.211E+00	1.277E+00	NOT IDENT.
I-123	-5.432E+06	1.759E+07	0.000E+00	8.974E+06	SHORT HLIF
TE-123M	-8.281E-03	2.682E-02	2.220E-02	1.368E-02	NOT IDENT.
I-124	6.997E-02	8.481E-01	6.436E-01	4.327E-01	NOT IDENT.
SB-124	2.403E-02	7.255E-02	6.347E-02	3.702E-02	FAIL ABUN
SB-125	-3.649E-03	8.524E-02	7.154E-02	4.349E-02	FAIL ABUN
TE-125M	3.900E+00	7.746E+00	6.812E+00	3.952E+00	NOT IDENT.
I-126	-1.333E-01	1.997E-01	1.627E-01	1.019E-01	NOT IDENT.
SB-126	-5.613E-03	1.601E-01	1.234E-01	8.167E-02	FAIL ABUN
SB-127	-4.346E-01	1.638E+00	1.373E+00	8.358E-01	NOT IDENT.
XE-127	-2.426E-02	4.439E-02	3.855E-02	2.265E-02	NOT IDENT.
I-131	7.135E-02	1.162E-01	1.030E-01	5.930E-02	NOT IDENT.
TE-132	3.278E-01	7.603E-01	6.827E-01	3.879E-01	NOT IDENT.
BA-133	-1.294E-02	4.625E-02	3.371E-02	2.360E-02	FAIL ABUN
I-133	-3.016E+03	1.188E+04	0.000E+00	6.063E+03	SHORT HLIF
CS-134	6.168E-02	7.462E-02	4.544E-02	3.807E-02	FAIL ABUN
CS-135	1.705E-01	1.712E-01	1.395E-01	8.736E-02	NOT IDENT.
I-135	3.453E+16	4.923E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.856E-02	1.002E-01	7.704E-02	5.111E-02	FAIL ABUN
BA-137M	3.562E-02	3.994E-02	3.594E-02	2.038E-02	NOT IDENT.
CS-137	3.766E-02	4.222E-02	3.799E-02	2.154E-02	NOT IDENT.
CE-139	8.931E-03	2.745E-02	2.338E-02	1.401E-02	NOT IDENT.
BA-140	-4.567E-02	2.609E-01	2.248E-01	1.331E-01	NOT IDENT.
LA-140	-8.311E-02	8.724E-02	6.001E-02	4.451E-02	FAIL ABUN
CE-141	-3.540E-02	6.034E-02	4.894E-02	3.079E-02	NOT IDENT.
CE-143	1.139E+03	3.514E+02	0.000E+00	1.793E+02	SHORT HLIF
CE-144	4.706E-03	2.070E-01	1.569E-01	1.056E-01	NOT IDENT.
PM-144	-5.124E-03	3.369E-02	2.846E-02	1.719E-02	NOT IDENT.
PR-144	-3.474E-01	2.284E+00	1.929E+00	1.165E+00	NOT IDENT.

PM-146	4.030E-02	4.225E-02	3.770E-02	2.156E-02	NOT IDENT.
ND-147	3.547E-02	5.563E-01	4.887E-01	2.838E-01	FAIL ABUN
PM-149	6.603E+01	1.137E+02	1.015E+02	5.800E+01	NOT IDENT.
EU-152	-1.299E-02	1.028E-01	7.629E-02	5.245E-02	FAIL ABUN
GD-153	-5.879E-03	7.192E-02	5.537E-02	3.670E-02	FAIL ABUN
EU-154	4.991E-02	1.012E-01	9.040E-02	5.161E-02	NOT IDENT.
EU-155	1.046E-02	8.815E-02	7.646E-02	4.497E-02	FAIL ABUN
TB-160	5.290E-02	1.338E-01	1.163E-01	6.824E-02	FAIL ABUN
HO-166M	-3.429E-02	5.945E-02	4.768E-02	3.033E-02	NOT IDENT.
TM-171	-5.992E+00	2.233E+01	1.746E+01	1.139E+01	NOT IDENT.
LU-176	2.072E-02	2.269E-02	2.058E-02	1.158E-02	FAIL ABUN
LU-177	2.344E+00	1.640E+00	1.109E+00	8.368E-01	FAIL ABUN
LU-177M	-2.143E-01	1.758E-01	1.349E-01	8.972E-02	NOT IDENT.
HF-181	-2.752E-02	4.192E-02	3.301E-02	2.139E-02	NOT IDENT.
W-181	-1.651E-01	2.861E-01	2.207E-01	1.459E-01	NOT IDENT.
TA-182	-7.734E-02	2.042E-01	1.680E-01	1.042E-01	FAIL ABUN
RE-183	8.078E-02	1.019E-01	8.872E-02	5.200E-02	FAIL ABUN
RE-184	-1.781E-02	2.172E-01	1.895E-01	1.108E-01	NOT IDENT.
OS-185	-3.697E-02	3.948E-02	3.110E-02	2.015E-02	NOT IDENT.
RE-188	-3.281E-02	1.638E-01	1.366E-01	8.356E-02	NOT IDENT.
W-188	-7.172E+00	7.732E+00	5.432E+00	3.945E+00	FAIL ABUN
IR-192	2.444E-02	3.117E-02	2.809E-02	1.590E-02	FAIL ABUN
AU-195	2.281E-01	1.870E-01	1.693E-01	9.541E-02	FAIL ABUN
TL-200	-8.940E+02	7.784E+02	0.000E+00	3.972E+02	SHORT HLIF
TL-201	-3.060E-01	8.076E+00	6.753E+00	4.121E+00	NOT IDENT.
TL-202	-5.980E-03	7.082E-02	5.912E-02	3.613E-02	NOT IDENT.
HG-203	4.642E-02	4.268E-02	3.507E-02	2.178E-02	FAIL ABUN
BI-207	2.412E-02	5.127E-02	4.565E-02	2.616E-02	FAIL ABUN
TL-207	6.032E-02	6.901E-01	5.246E-01	3.521E-01	FAIL ABUN
PO-209	-5.575E+00	7.488E+00	5.775E+00	3.820E+00	NOT IDENT.
BI-210	8.784E-01	1.707E+00	1.572E+00	8.711E-01	NOT IDENT.
PB-210	8.784E-01	1.707E+00	1.572E+00	8.711E-01	NOT IDENT.
PO-210	8.784E-01	1.707E+00	1.572E+00	8.709E-01	NOT IDENT.
PB-211	6.486E-03	9.365E-01	7.924E-01	4.778E-01	NOT IDENT.
BI-212	1.235E+00	4.924E-01	3.464E-01	2.512E-01	FAIL ABUN
PO-215	6.032E-02	6.901E-01	5.246E-01	3.521E-01	FAIL ABUN
RN-219	-1.240E-01	4.055E-01	3.357E-01	2.069E-01	FAIL ABUN
RN-220	9.614E-01	2.395E+01	2.094E+01	1.222E+01	NOT IDENT.
RA-223	6.032E-02	6.901E-01	5.246E-01	3.521E-01	FAIL ABUN
AC-227	-2.553E-01	3.498E-01	2.927E-01	1.785E-01	FAIL ABUN
TH-227	-2.553E-01	3.506E-01	2.927E-01	1.789E-01	FAIL ABUN
TH-229	1.477E-01	4.574E-01	4.134E-01	2.334E-01	FAIL ABUN
PA-231	2.616E-01	1.416E+00	1.242E+00	7.223E-01	FAIL ABUN
TH-231	6.032E-02	6.901E-01	5.246E-01	3.521E-01	FAIL ABUN
U-231	-8.527E-01	1.150E+00	8.516E-01	5.865E-01	FAIL ABUN
PA-233	-9.359E-02	5.775E-02	4.408E-02	2.946E-02	FAIL ABUN
PA-234	1.726E-01	2.957E-01	2.586E-01	1.508E-01	FAIL ABUN
PA-234M	3.318E+00	4.657E+00	4.138E+00	2.376E+00	NOT IDENT.
U-235	-4.944E-02	1.990E-01	1.643E-01	1.015E-01	FAIL ABUN
NP-236	2.719E-03	7.456E-02	6.275E-02	3.804E-02	NOT IDENT.
NP-239	-6.342E-02	1.665E-01	1.402E-01	8.493E-02	FAIL ABUN
AM-241	1.518E-02	1.091E-01	8.754E-02	5.566E-02	NOT IDENT.
CM-243	-6.447E-02	7.816E-02	6.474E-02	3.988E-02	FAIL ABUN
AM-246	1.000E-02	1.287E-01	1.115E-01	6.566E-02	NOT IDENT.
CM-247	-1.470E-02	3.646E-02	2.999E-02	1.860E-02	FAIL ABUN
CF-249	8.590E-03	3.669E-02	3.164E-02	1.872E-02	NOT IDENT.
CF-251	3.833E-02	1.171E-01	1.064E-01	5.977E-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	271.1433
46.50	271.1433
46.50	271.1433
48.70	326.7452
49.72	320.0316
51.35	284.1995
52.39	262.9640
52.97	261.4362
53.15	270.1776
53.44	271.3336
54.07	287.1264
56.28	327.3131
56.28	327.3148
57.37	0.0000
57.53	299.2510
57.53	299.2526
57.60	299.3013
57.98	296.6647
57.98	296.6647
59.32	322.4094
59.32	322.4094
59.40	353.1111
59.54	350.3082
59.72	350.4565
60.01	359.4610
61.10	363.3021
61.14	363.3352
61.30	363.4695
63.00	369.7867
63.29	370.0293
63.29	370.0293
63.58	371.2536
64.28	383.6404
65.12	431.6636
65.20	431.7399
65.20	431.7399
66.05	428.1046
66.72	424.2803
66.83	424.3851
66.91	433.3640
67.20	424.7255
67.20	424.7255
67.75	415.1213
67.85	415.2108
68.90	394.9829
68.90	394.9829
69.30	392.3370
69.67	428.4790
70.82	439.9929
70.82	439.9929
70.83	440.0019
72.80	398.7288
72.87	398.7875
72.87	398.7875
74.67	400.2571
74.81	400.3705
74.81	400.3705
74.81	400.3705
74.81	400.3705
74.81	400.3705
74.81	400.3705
74.97	400.5001
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77.11	402.2208

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77.11	402.2208
77.11	402.2208
77.11	402.2208
77.11	402.2208
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80.18	341.6123
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80.30	341.6909
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81.07	342.1985
81.07	342.1985
81.07	342.1985
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86.79	323.2455
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87.30	323.5490
87.30	323.5490
87.30	323.5490
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87.57	323.7087
87.88	323.8923
88.03	323.9802
88.36	324.1750
88.47	324.2405
89.95	325.1061
91.11	325.7817
92.29	326.4621
92.38	326.5148
92.38	326.5148
93.35	327.0706
94.00	273.7379
94.67	269.3563
94.67	269.3589
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94.90	281.9998
94.90	281.9998
94.90	281.9998
95.87	327.9817
95.87	327.9817
96.73	342.6109
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98.44	259.7544
98.44	259.7544
98.88	254.4786
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99.55	251.6071
99.86	248.5785
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100.10	257.1092
103.18	276.4257
103.76	269.2678
105.00	258.1257
105.31	255.0671
108.00	252.9661
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111.00	284.1908
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112.95	271.0671
115.19	268.7609
116.30	268.1318
117.00	269.4980
117.00	269.4980
117.66	296.8501
121.11	241.7477
121.62	268.0840
121.78	268.1466
122.06	270.4377
122.32	281.4487
122.32	281.4487
122.32	281.4487
122.32	281.4487
123.07	306.8749
127.23	285.0945
129.76	244.7688
131.20	218.7479
133.02	240.8974
133.54	257.6956
135.34	264.4428
136.00	246.8865
136.25	245.8575
136.48	241.4827
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142.18	270.2400
142.65	254.7007
143.76	271.9250
144.24	259.7293
144.24	259.7293
144.24	259.7293
144.24	259.7293
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145.44	271.3947
147.16	241.5250
152.43	229.5145
152.70	225.0461
153.22	209.2704
154.21	251.6622
154.21	251.6622
154.21	251.6622
154.21	251.6622
155.03	271.2969
156.02	273.9136
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161.27	257.2979
162.32	221.9704
162.64	222.0549
163.35	237.2131
163.89	256.9568
165.85	226.3718
167.43	239.5227
171.28	213.8674
171.86	219.8271
172.10	219.8886
176.55	250.8282
176.60	250.8435
181.06	255.2758
184.41	247.7322
185.71	231.2504
186.00	231.3241
190.27	215.1234
192.34	243.7492
193.63	226.9784
197.04	242.1476
198.01	247.7792
198.60	240.7444
200.40	232.1965
201.83	255.0740
202.84	258.0463
205.31	246.0352

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209.75	234.0593
210.97	199.4126
215.65	217.5233
216.55	207.6533
218.09	207.9667
222.10	193.1419
223.80	217.4095
226.40	206.8674
227.00	198.6690
227.08	198.6854
227.20	192.2372
228.16	189.6366
228.18	189.6413
228.18	189.6413
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236.00	244.5206
238.63	212.0435
238.63	212.0435
238.63	212.0435
238.63	212.0435
239.00	212.1163
240.98	212.4990
241.98	212.6921
241.98	212.6921
241.98	212.6921
244.69	175.8299
245.39	171.4300
247.94	185.8883
248.90	173.4756
249.79	176.4439
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252.85	176.9204
252.85	176.9204
254.15	0.0000
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256.20	181.2352
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260.90	171.4938
262.80	141.2341
264.65	183.5127
268.24	170.2641
268.79	161.1350
269.46	171.9758
269.46	171.9758
269.46	171.9758
269.46	171.9758
271.23	184.5322
273.65	107.8608
276.40	125.0952
277.35	125.1921
277.60	131.4014
277.60	131.4014
278.00	131.4449
278.60	142.3394
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280.46	145.6541
281.68	158.2071
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284.30	151.5487
285.00	150.6624
285.90	141.0440
286.10	136.2018
286.10	136.2018
287.40	129.5277
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290.67	165.6017
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291.72	143.8511
293.26	0.0000
293.70	120.5851
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295.21	138.1708

295.21	138.1708
295.96	138.2525
296.50	138.3106
297.23	138.3902
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300.09	138.6979
300.09	138.6979
300.09	138.6979
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302.84	138.7955
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303.91	127.8598
304.40	138.9631
304.40	138.9631
304.84	154.8070
306.84	119.6448
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311.98	149.8917
316.51	110.5596
318.01	144.5863
319.02	152.6778
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320.08	137.8168
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323.87	131.3922
323.87	131.3922
323.87	131.3922
325.23	147.5616
328.77	133.4707
333.44	137.1476
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334.20	132.3792
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338.28	109.2887
338.28	109.2887
338.28	109.2887
338.28	109.2887
338.32	109.2920
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338.32	109.2920
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351.92	129.7479
351.92	129.7479
355.39	0.0000
356.01	113.1054
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366.43	101.1118
367.43	119.7631
367.94	0.0000
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374.96	114.1357
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387.95	101.4995
388.63	88.9818
391.69	103.8400
391.69	103.8400
392.90	113.3674
398.62	114.8312
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401.10	121.3400
401.81	121.3943
402.60	123.5663
404.84	122.6818
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411.60	114.6989
413.65	132.9193
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427.08	87.9045
427.89	93.3097
432.53	112.9259
433.93	94.7206
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439.56	99.3531
439.89	100.4529
443.98	85.5335
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445.03	87.7533
445.03	87.7533
445.03	87.7533
445.03	87.7533
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475.06	100.2700
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476.78	87.1295
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477.96	94.9115
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511.85	88.7768
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513.99	66.0000
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563.90	82.1229
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569.32	71.2363
569.50	71.2419
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602.71	84.5750
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609.31	89.5426
609.31	89.5426
609.31	89.5426
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614.37	66.1309
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621.84	71.0925
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661.65	84.8762
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666.33	98.5759
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696.49	78.2910
697.00	80.2643
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722.78	75.8281
722.89	75.8319
722.95	75.8337
723.30	65.9521
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744.21	47.8770
747.13	81.8819
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778.89	61.6538
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867.82	52.1741
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896.60	63.2241
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911.07	46.5878
911.07	46.5878
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969.11	40.9957
969.11	40.9957
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983.50	39.0129
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1048.07	51.5726

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1050.47	40.5500
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1076.63	54.7891
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1085.78	54.9356
1099.22	33.6489
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1175.09	60.1340
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1274.54	28.4065
1291.56	37.3815
1298.22	0.0000
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1325.50	32.7355
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1333.61	24.8484
1360.21	25.0081
1362.66	0.0000
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1368.21	21.0470
1368.53	0.0000
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1384.27	34.2061
1394.10	21.1760
1395.20	33.2847
1407.95	24.2793
1434.06	21.3726
1436.60	19.3479
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1596.49	26.3621
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1691.02	11.8254
1691.02	11.8254
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1750.46	0.0000
1764.49	11.4515
1764.49	11.4515
1764.49	11.4515
1764.49	11.4515
1770.23	16.3770
1771.40	49.6117
1791.20	0.0000
1808.65	7.5416

1836.01

9.4754

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630003

Total Uranium Activity	4.6437E+00	ug/g
Total Uranium Counting Unc.	3.8451E+00	ug/g
Total Uranium Tpu	1.9618E-06	ug/g
Total Uranium Mda	2.2165E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937702                          SAMPLE ID   : G243630003
*  ANALYST       : MXR1                             DETECTOR    : GAM07
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 7-JAN-2010 13:10:42.64          SAMPLE ALQT  : 130.230 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.282E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.236E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.812E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.363E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:13:13.15

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630004.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:12:40.
Sample ID          : G243630004 Sample quantity : 1.40030E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.45 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.61*	74	586	1.24	126.77	122	9	1.03E-02	60.8	
2	1	74.87*	568	617	1.54	149.28	140	20	7.88E-02	9.5	2.46E+00
3	1	77.15*	884	577	1.51	153.82	140	20	1.23E-01	6.4	
4	3	84.53*	144	545	1.83	168.57	164	28	1.99E-02	29.5	9.96E-01
5	3	87.30*	278	394	1.22	174.11	164	28	3.86E-02	13.3	
6	3	90.02	214	460	1.57	179.53	164	28	2.98E-02	20.1	
7	3	93.02*	343	504	1.89	185.54	164	28	4.77E-02	15.1	
8	0	129.83	83	522	0.98	259.07	253	12	1.15E-02	56.7	
9	0	185.72*	269	502	1.84	370.76	363	16	3.74E-02	19.9	
10	0	209.39	138	362	1.34	418.05	412	11	1.91E-02	28.1	
11	3	238.41*	1432	209	1.34	476.04	469	21	1.99E-01	3.2	1.33E+00
12	3	241.54	382	257	2.06	482.30	469	21	5.31E-02	13.2	
13	0	270.24	130	257	1.69	539.66	533	13	1.81E-02	27.0	
14	0	294.88	456	295	1.42	588.90	582	13	6.33E-02	9.1	
15	0	299.76	110	152	1.43	598.65	595	8	1.53E-02	21.8	
16	0	327.61	66	191	0.72	654.31	650	10	9.12E-03	41.2	
17	0	338.10	340	244	1.37	675.27	667	15	4.72E-02	11.4	
18	0	351.60	740	198	1.27	702.26	696	13	1.03E-01	5.4	
19	0	462.59*	122	131	2.63	924.09	916	15	1.69E-02	22.6	
20	0	510.48*	155	140	1.56	1019.82	1012	16	2.15E-02	21.2	
21	0	567.32*	138	147	2.10	1133.44	1128	15	1.92E-02	21.1	
22	0	582.78*	459	95	1.45	1164.36	1158	14	6.38E-02	6.6	
23	0	609.12	594	117	1.68	1217.01	1211	15	8.25E-02	5.8	
24	0	727.18	86	80	1.36	1453.06	1447	12	1.20E-02	23.4	
25	0	767.79*	47	58	1.09	1534.25	1528	11	6.54E-03	38.6	
26	0	794.04	31	105	4.85	1586.74	1578	15	4.32E-03	74.9	
27	0	861.44	122	53	1.84	1721.53	1714	18	1.70E-02	16.7	
28	0	911.00	296	84	1.92	1820.65	1813	13	4.11E-02	8.4	
29	1	964.78	94	26	2.08	1928.21	1920	31	1.31E-02	15.7	1.22E+00
30	1	968.79*	187	31	2.05	1936.23	1920	31	2.59E-02	9.7	
31	0	1120.15*	109	35	2.10	2239.00	2234	11	1.51E-02	13.8	
32	0	1378.03	31	28	1.12	2754.95	2747	14	4.35E-03	40.0	
33	0	1460.56*	1004	38	2.24	2920.10	2912	20	1.39E-01	3.5	
34	0	1728.94	23	8	2.25	3457.28	3449	13	3.24E-03	34.0	
35	0	1764.08	90	11	2.00	3527.63	3518	16	1.25E-02	13.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 7-JAN-2010 15:13:16

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:12:40
Sample ID         : G243630004 Sample quantity : 140.03 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA14 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.45 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	*	2.081E+01	2.110E+00	5.434E-01	3.945E-02	38.303
CD-109	+	88.03	*	2.912E+00	8.131E-01	1.076E+00	9.408E-02	2.707
SN-126	+	64.28		4.439E-01	5.433E-01	6.448E-01	9.188E-02	0.688
	+	86.94		1.188E+00	5.840E-01	4.425E-01	1.830E-01	2.685
	+	87.57	*	2.858E-01	7.981E-02	1.059E-01	9.219E-03	2.698
TL-208		277.35		1.838E-01	3.452E-01	5.582E-01	5.903E-02	0.329
	+	510.84		6.212E-01	2.714E-01	1.963E-01	2.001E-02	3.165
	+	583.14	*	5.297E-01	7.850E-02	5.169E-02	3.535E-03	10.248
	+	860.37		1.355E+00	4.706E-01	3.929E-01	3.696E-02	3.450
BI-211		72.87		1.376E+01	3.030E+00	5.197E+00	3.830E-01	2.648
	+	351.07	*	3.666E+00	4.576E-01	2.860E-01	1.812E-02	12.819
PB-212	+	74.81		2.336E+00	5.242E-01	4.637E-01	5.561E-02	5.037
	+	77.11		2.086E+00	3.132E-01	2.661E-01	2.049E-02	7.839
	+	87.30		1.322E+00	3.921E-01	4.910E-01	6.499E-02	2.692
	+	238.63	*	1.545E+00	1.502E-01	8.117E-02	5.912E-03	19.029
	+	300.09		1.835E+00	8.148E-01	1.047E+00	8.655E-02	1.753
PO-212	+	74.81		2.336E+00	5.242E-01	4.637E-01	5.561E-02	5.037
	+	77.11		2.086E+00	3.132E-01	2.661E-01	2.049E-02	7.839
	+	87.30		1.322E+00	3.921E-01	4.910E-01	6.499E-02	2.692
		115.19		4.971E+00	3.402E+00	5.740E+00	4.177E-01	0.866
	+	238.63	*	1.545E+00	1.502E-01	8.117E-02	5.912E-03	19.029
	+	300.09		1.835E+00	8.148E-01	1.047E+00	8.655E-02	1.753
BI-214	+	609.31	*	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
	+	1120.29		1.266E+00	3.684E-01	4.170E-01	3.864E-02	3.036
	+	1764.49		1.437E+00	4.005E-01	3.340E-01	2.003E-02	4.302
PB-214	+	74.81		4.024E+00	8.736E-01	7.990E-01	8.431E-02	5.037
	+	77.11		3.576E+00	6.021E-01	4.563E-01	4.942E-02	7.839
	+	87.30		2.265E+00	6.560E-01	8.411E-01	9.759E-02	2.692
	+	241.98		2.478E+00	6.859E-01	4.884E-01	3.923E-02	5.073
	+	295.21		1.331E+00	2.672E-01	2.067E-01	1.767E-02	6.440
	+	351.92	*	1.275E+00	1.725E-01	9.968E-02	8.179E-03	12.793
PO-214	+	74.81		4.024E+00	8.736E-01	7.990E-01	8.431E-02	5.037
	+	77.11		3.576E+00	6.021E-01	4.563E-01	4.942E-02	7.839
	+	87.30		2.265E+00	6.560E-01	8.411E-01	9.759E-02	2.692

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.478E+00	6.859E-01	4.884E-01	3.923E-02	5.073
	+	295.21		1.331E+00	2.672E-01	2.067E-01	1.767E-02	6.440
	+	351.92	*	1.275E+00	1.725E-01	9.968E-02	8.179E-03	12.793
	+	74.81		2.336E+00	5.242E-01	4.637E-01	5.561E-02	5.037
	+	77.11		2.086E+00	3.132E-01	2.661E-01	2.049E-02	7.839
	+	87.30		1.322E+00	3.921E-01	4.910E-01	6.499E-02	2.692
PO-218	+	238.63	*	1.545E+00	1.502E-01	8.117E-02	5.912E-03	19.029
	+	300.09		1.835E+00	8.148E-01	1.047E+00	8.655E-02	1.753
	+	74.81		4.024E+00	8.736E-01	7.990E-01	8.431E-02	5.037
	+	77.11		3.576E+00	6.021E-01	4.563E-01	4.942E-02	7.839
	+	87.30		2.265E+00	6.560E-01	8.411E-01	9.759E-02	2.692
	+	241.98		2.478E+00	6.859E-01	4.884E-01	3.923E-02	5.073
RA-224	+	295.21		1.331E+00	2.672E-01	2.067E-01	1.767E-02	6.440
	+	351.92	*	1.275E+00	1.725E-01	9.968E-02	8.179E-03	12.793
	+	240.98	*	4.698E+00	1.274E+00	9.232E-01	5.307E-02	5.089
RA-226	+	609.31	*	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
	+	1120.29		1.266E+00	3.684E-01	4.170E-01	3.864E-02	3.036
	+	1764.49		1.437E+00	4.005E-01	3.340E-01	2.003E-02	4.302
AC-228	+	338.32		1.855E+00	8.662E-01	3.357E-01	1.368E-01	5.526
	+	911.07	*	1.553E+00	3.192E-01	2.333E-01	2.740E-02	6.659
	+	969.11		1.731E+00	5.250E-01	3.301E-01	7.710E-02	5.243
RA-228	+	338.32		1.855E+00	8.662E-01	3.357E-01	1.368E-01	5.526
	+	911.07	*	1.553E+00	3.192E-01	2.333E-01	2.740E-02	6.659
	+	969.11		1.731E+00	5.250E-01	3.301E-01	7.710E-02	5.243
TH-228	+	74.81		2.373E+00	4.850E-01	4.712E-01	3.580E-02	5.037
	+	77.11		2.120E+00	3.182E-01	2.704E-01	2.082E-02	7.839
	+	87.30		1.343E+00	3.751E-01	4.989E-01	4.327E-02	2.692
TH-230	+	238.63	*	1.569E+00	1.526E-01	8.248E-02	6.008E-03	19.029
	+	300.09		1.864E+00	1.367E+00	1.063E+00	6.268E-01	1.753
	+	609.31	*	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
TH-232	+	1120.29		1.266E+00	3.684E-01	4.170E-01	3.864E-02	3.036
	+	1764.49		1.437E+00	4.005E-01	3.340E-01	2.003E-02	4.302
	+	338.32		1.855E+00	4.357E-01	3.357E-01	1.929E-02	5.526
TH-234	+	911.07	*	1.553E+00	3.192E-01	2.333E-01	2.740E-02	6.659
	+	969.11		1.731E+00	5.250E-01	3.301E-01	7.710E-02	5.243
	+	63.29	*	1.121E+00	1.377E+00	1.638E+00	2.816E-01	0.685
U-234	+	92.38		2.322E+00	8.166E-01	7.032E-01	1.263E-01	3.302
	+	609.31	*	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
	+	1120.29		1.266E+00	3.684E-01	4.170E-01	3.864E-02	3.036
NP-237	+	1764.49		1.437E+00	4.005E-01	3.340E-01	2.003E-02	4.302
	+	86.50	*	8.393E-01	2.914E-01	3.137E-01	7.010E-02	2.676
	+	95.87		-3.810E-02	9.805E-01	1.384E+00	3.385E-01	-0.028
U-238	+	63.29	*	1.121E+00	1.377E+00	1.638E+00	2.816E-01	0.685
	+	92.38		2.322E+00	7.284E-01	7.032E-01	5.883E-02	3.302
	+	74.67	*	3.787E-01	7.726E-02	7.535E-02	5.655E-03	5.025
AM-243	+	86.72		3.147E+01	8.788E+00	1.174E+01	1.011E+00	2.680
	+	117.66		-1.616E+00	3.691E+00	5.847E+00	4.215E-01	-0.276
	+	142.18		7.235E+00	1.710E+01	2.747E+01	1.727E+00	0.263
ANH-511	+	511.00	*	1.342E-01	5.754E-02	4.241E-02	2.491E-03	3.164

---- 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	*		-1.678E-01	2.886E-01	4.535E-01	3.057E-02	-0.370
NA-22	1274.54	*		-3.973E-03	3.986E-02	6.493E-02	4.242E-03	-0.061
NA-24	1368.53	*		-1.012E+00	3.986E-02	Half-Life too short		
AL-26	1129.67	*		-4.163E-01	1.457E+00	2.344E+00	1.480E-01	-0.178
	1808.65	*		1.602E-02	2.524E-02	4.606E-02	2.670E-03	0.348
TI-44	67.85	*		-9.506E-03	6.203E-02	6.277E-02	4.418E-03	-0.151
	78.38	*	+	3.850E-01	5.779E-02	7.232E-02	5.647E-03	5.323
SC-46	889.25	*		-1.176E-03	3.473E-02	5.794E-02	5.354E-03	-0.020
	1120.51	*	+	2.184E-01	6.188E-02	1.141E-01	7.385E-03	1.915
V-48	944.10	*		3.980E-01	7.994E-01	1.392E+00	1.244E-01	0.286
	983.50	*		3.635E-02	5.746E-02	1.017E-01	8.633E-03	0.358
	1312.09	*		-7.985E-03	7.901E-02	1.281E-01	8.855E-03	-0.062
CR-51	320.08	*		2.230E-01	3.353E-01	5.753E-01	3.717E-02	0.388
MN-52	744.21	*		9.065E-02	2.481E-01	4.119E-01	2.907E-02	0.220
	848.13	*		-4.937E+00	6.864E+00	1.079E+01	9.273E-01	-0.457
	935.52	*		2.230E-01	2.655E-01	4.716E-01	4.256E-02	0.473
	1246.25	*		1.433E+00	7.120E+00	1.195E+01	7.446E-01	0.120
	1333.61	*		1.881E+00	5.083E+00	8.699E+00	6.199E-01	0.216
	1434.06	*		-1.524E-01	2.367E-01	3.506E-01	2.457E-02	-0.435
MN-54	834.83	*		-1.213E-02	3.310E-02	5.390E-02	4.521E-03	-0.225
CO-56	846.75	*		7.406E-03	3.630E-02	6.183E-02	5.300E-03	0.120
	977.42	*		-1.279E+00	2.830E+00	3.784E+00	3.241E-01	-0.338
	1037.82	*		8.266E-02	2.887E-01	4.918E-01	4.075E-02	0.168
	1175.09	*		-2.290E-01	2.032E+00	3.324E+00	1.837E-01	-0.069
	1238.25	*		1.229E-01	8.548E-02	1.551E-01	1.007E-02	0.793
	1360.21	*		5.046E-01	8.521E-01	1.503E+00	1.067E-01	0.336
	1771.40	*		-2.023E-01	2.386E-01	3.256E-01	1.943E-02	-0.621
CO-57	122.06	*		-1.074E-02	2.436E-02	3.853E-02	2.741E-03	-0.279
	136.48	*		5.072E-02	1.961E-01	3.072E-01	2.255E-02	0.165
CO-58	810.76	*		-1.640E-02	3.350E-02	5.099E-02	4.103E-03	-0.322
FE-59	142.65	*		3.555E+00	2.620E+00	4.340E+00	2.722E-01	0.819
	192.34	*		2.235E-01	9.653E-01	1.434E+00	1.674E-01	0.156
	1099.22	*		-5.665E-02	8.648E-02	1.346E-01	1.037E-02	-0.421
	1291.56	*		3.358E-03	9.380E-02	1.550E-01	1.262E-02	0.022
CO-60	1173.22	*		1.350E-02	3.908E-02	6.659E-02	3.668E-03	0.203
	1332.49	*		1.079E-02	3.640E-02	6.174E-02	4.400E-03	0.175
ZN-65	1115.52	*		-3.846E-02	8.955E-02	1.199E-01	7.883E-03	-0.321
GE-68	1077.35	*		8.772E-01	1.052E+00	1.880E+00	1.352E-01	0.466
AS-73	53.44	*		6.192E-02	5.957E-01	9.770E-01	6.369E-02	0.063
AS-74	595.88	*		4.507E-02	7.734E-02	1.316E-01	7.874E-03	0.342
	634.78	*		-1.526E-01	3.470E-01	5.430E-01	3.243E-02	-0.281
SE-75	66.05	*		3.505E-01	4.827E+00	6.422E+00	5.840E-01	0.055
	96.73	*		-2.648E-02	7.747E-01	1.093E+00	1.452E-01	-0.024
	121.11	*		-2.767E-04	1.301E-01	2.094E-01	2.119E-02	-0.001
	136.00	*		1.900E-02	3.798E-02	5.767E-02	3.809E-03	0.330
	198.60	*		5.116E-01	1.610E+00	2.739E+00	1.897E-01	0.187
	264.65	*		-1.585E-03	4.529E-02	6.562E-02	3.853E-03	-0.024
	279.53	*		3.745E-02	9.643E-02	1.636E-01	1.030E-02	0.229
	303.91	*		-1.693E-01	2.085E+00	2.995E+00	2.862E-01	-0.057

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		2.523E-01	2.435E-01	4.224E-01	3.762E-02	0.597
		87.88		8.249E+02	2.303E+02	3.984E+02	3.480E+01	2.070
	+	200.40		-1.911E+01	1.934E+02	3.241E+02	1.802E+01	-0.059
		239.00		3.257E+02	2.810E+01	4.546E+01	2.610E+00	7.163
		249.79		-1.981E+01	7.735E+01	1.245E+02	7.189E+00	-0.159
		281.68		-6.287E+01	1.070E+02	1.734E+02	1.011E+01	-0.363
		297.23		4.285E+02	1.221E+02	1.574E+02	9.179E+00	2.723
		303.76		4.251E+01	2.267E+02	3.321E+02	1.936E+01	0.128
		439.47		-1.056E+01	1.736E+02	2.844E+02	1.608E+01	-0.037
		484.57		-3.814E+00	2.666E+02	4.363E+02	2.534E+01	-0.009
	*	520.65		-3.802E+00	1.160E+01	1.848E+01	1.089E+00	-0.206
		574.64		1.494E+01	3.160E+02	4.209E+02	2.513E+01	0.035
		578.91		6.041E+01	1.199E+02	1.770E+02	1.057E+01	0.341
		585.48		1.433E+03	2.926E+02	5.367E+02	3.208E+01	2.671
		755.35		1.416E+02	2.127E+02	3.601E+02	2.598E+01	0.393
		817.79		-2.072E+01	1.435E+02	2.378E+02	1.933E+01	-0.087
SR-82		698.33		1.034E+01	3.124E+01	5.179E+01	3.329E+00	0.200
		776.49	*	-6.256E-01	3.955E-01	5.441E-01	4.091E-02	-1.150
		1395.20		-5.301E-01	9.630E+00	1.566E+01	1.106E+00	-0.034
RB-83	*	520.41		-1.719E-02	5.902E-02	9.427E-02	5.557E-03	-0.182
		529.64		6.315E-02	9.161E-02	1.571E-01	9.286E-03	0.402
		552.65		-1.866E-01	1.826E-01	2.739E-01	1.629E-02	-0.681
RB-84	*	881.50		8.660E-04	5.546E-02	9.296E-02	8.475E-03	0.009
KR-85	*	513.99		1.262E+01	7.102E+00	1.159E+01	6.818E-01	1.088
SR-85	*	513.99		6.532E-02	3.677E-02	6.002E-02	3.530E-03	1.088
RB-86	*	1076.63		3.989E-01	6.977E-01	1.219E+00	8.777E-02	0.327
Y-88	*	898.02		-3.883E-03	3.958E-02	6.567E-02	6.186E-03	-0.059
		1836.01		5.357E-03	3.330E-02	5.534E-02	3.143E-03	0.097
ZR-88	*	392.90		-3.466E-03	2.777E-02	4.549E-02	2.477E-03	-0.076
Y-91	*	1204.90		-3.140E+00	1.654E+01	2.682E+01	1.560E+00	-0.117
NB-94	*	702.63		-2.679E-03	2.960E-02	4.743E-02	3.076E-03	-0.056
		871.10		-6.608E-04	3.175E-02	4.924E-02	4.408E-03	-0.013
NB-95	*	765.79		4.803E-02	5.080E-02	7.325E-02	5.394E-03	0.656
NB-95M	*	235.69		7.925E-01	1.599E-01	2.655E-01	1.984E-02	2.985
ZR-95	*	724.18		1.085E-01	9.974E-02	1.547E-01	1.192E-02	0.702
		756.15		6.117E-02	7.039E-02	1.208E-01	9.962E-03	0.506
NB-97	*	657.90		-4.419E-02	7.039E-02	Half-Life	too short	
		1024.50		5.387E+00	7.039E-02	Half-Life	too short	
ZR-97		254.15		9.596E+00	7.039E-02	Half-Life	too short	
		355.39		4.577E+00	7.039E-02	Half-Life	too short	
	*	507.63		1.600E+01	7.039E-02	Half-Life	too short	
		602.52		2.541E+01	7.039E-02	Half-Life	too short	
		1021.30		-8.966E+00	7.039E-02	Half-Life	too short	
		1147.95		-1.368E+01	7.039E-02	Half-Life	too short	
		1362.66		1.956E+01	7.039E-02	Half-Life	too short	
		1750.46		1.167E+01	7.039E-02	Half-Life	too short	
MO-99		140.51		-2.241E+01	3.173E+01	4.857E+01	1.315E+01	-0.461
		181.06		9.629E+00	2.168E+01	3.251E+01	5.535E+00	0.296
		366.43		1.383E+01	9.472E+01	1.580E+02	8.867E+00	0.088

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		2.971E+00	1.402E+01	2.297E+01	3.290E+00	0.129
	778.00			-2.774E+01	4.092E+01	6.174E+01	4.656E+00	-0.449
TC-99M	140.51	*		-3.397E+11	4.092E+01	Half-Life too short		
RH-101	127.23			4.234E-02	3.611E-02	5.344E-02	3.677E-03	0.792
	198.01	*		5.844E-03	2.936E-02	4.976E-02	2.761E-03	0.117
	325.23			1.244E-01	2.221E-01	3.331E-01	1.928E-02	0.373
RH-102	418.52			-9.128E-02	2.685E-01	4.332E-01	2.411E-02	-0.211
	475.06	*		-6.215E-03	2.605E-02	4.201E-02	2.428E-03	-0.148
	631.29			2.905E-02	5.111E-02	8.642E-02	5.164E-03	0.336
	697.49			4.300E-02	6.862E-02	1.163E-01	7.461E-03	0.370
	766.84	+		1.738E-01	1.349E-01	1.865E-01	1.376E-02	0.932
	1046.59			-2.059E-02	1.006E-01	1.638E-01	1.254E-02	-0.126
	1112.84			-2.926E-02	2.195E-01	3.320E-01	2.194E-02	-0.088
RU-103	497.08	*		-9.567E-03	3.598E-02	5.773E-02	7.310E-03	-0.166
	610.33	+		1.421E+01	2.746E+00	2.843E+00	4.403E-01	5.000
RH-106	511.85	+		6.714E-01	2.879E-01	3.901E-01	2.293E-02	1.721
	621.84	*		3.579E-02	2.707E-01	4.441E-01	5.253E-02	0.081
	1050.47			-1.620E+00	2.001E+00	3.050E+00	2.317E-01	-0.531
RU-106	511.85	+		6.714E-01	2.879E-01	3.901E-01	2.293E-02	1.721
	621.84	*		3.579E-02	2.707E-01	4.441E-01	2.656E-02	0.081
	1050.47			-1.620E+00	2.001E+00	3.050E+00	2.317E-01	-0.531
AG-108M	433.93	*		-2.082E-02	2.984E-02	4.686E-02	2.878E-03	-0.444
	614.37			2.447E-02	3.858E-02	5.777E-02	3.732E-03	0.423
	722.95			3.075E-03	4.085E-02	5.732E-02	4.120E-03	0.054
AG-110M	657.75	*		-7.058E-03	3.032E-02	4.812E-02	3.040E-03	-0.147
	677.61			-1.057E-01	2.730E-01	4.266E-01	2.768E-02	-0.248
	706.67			-3.212E-02	1.867E-01	2.971E-01	2.035E-02	-0.108
	763.93			4.238E-02	1.688E-01	2.411E-01	1.837E-02	0.176
	884.67			-5.051E-02	3.973E-02	5.732E-02	5.404E-03	-0.881
	937.48			-5.611E-02	1.027E-01	1.632E-01	1.518E-02	-0.344
	1384.27			5.918E-03	1.647E-01	2.332E-01	1.719E-02	0.025
IN-111	171.28			-4.008E-01	1.228E+00	1.914E+00	1.033E-01	-0.209
	245.39	*		1.013E+00	1.260E+00	1.928E+00	1.111E-01	0.525
IN-113M	391.69	*		9.264E-03	3.991E-02	6.675E-02	3.906E-03	0.139
SN-113	391.69	*		9.264E-03	3.991E-02	6.675E-02	3.906E-03	0.139
IN-114M	190.27	*		-4.944E-02	1.813E-01	2.621E-01	1.443E-02	-0.189
CD-115	260.90			3.266E+01	1.549E+02	2.613E+02	1.516E+01	0.125
	492.35			6.460E+00	4.001E+01	6.630E+01	3.865E+00	0.097
	527.90	*		-2.615E+00	1.264E+01	2.032E+01	1.201E+00	-0.129
SN-117M	156.02			3.248E-01	2.292E+00	3.689E+00	2.124E-01	0.088
	158.56	*		-6.173E-04	5.412E-02	8.655E-02	4.896E-03	-0.007
SB-122	563.90	*		2.284E+00	2.728E+00	4.161E+00	2.481E-01	0.549
	692.80			-1.153E+01	4.919E+01	7.791E+01	4.950E+00	-0.148
I-123	159.00	*		-6.219E+00	4.919E+01	Half-Life too short		
	528.96			2.749E+01	4.919E+01	Half-Life too short		
TE-123M	159.00	*		-9.465E-03	2.675E-02	4.217E-02	2.412E-03	-0.224
I-124	602.71	*		1.168E+00	6.969E-01	1.157E+00	6.922E-02	1.009
	722.78			2.560E-01	4.973E+00	6.958E+00	4.703E-01	0.037
	1325.50			2.817E+00	3.757E+01	6.223E+01	4.389E+00	0.045

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25		5.170E+01	3.919E+01	6.589E+01	4.670E+00	0.785
		1509.49		2.098E+01	1.565E+01	3.009E+01	2.064E+00	0.697
		1691.02		-1.822E-01	3.702E+00	5.944E+00	3.745E-01	-0.031
		602.71		5.878E-02	3.507E-02	5.823E-02	3.485E-03	1.009
		645.85		-6.080E-02	4.791E-01	7.634E-01	5.107E-02	-0.080
		709.31		3.600E-01	2.494E+00	4.074E+00	2.679E-01	0.088
		713.82		-5.244E-01	1.523E+00	2.384E+00	2.553E-01	-0.220
		722.78		1.867E-02	3.628E-01	5.076E-01	3.551E-02	0.037
	+	968.20		1.801E+01	3.819E+00	6.951E+00	6.028E-01	2.591
		1045.16		-1.411E+00	2.328E+00	3.609E+00	2.769E-01	-0.391
SB-125		1325.50		2.195E-01	2.927E+00	4.848E+00	3.419E-01	0.045
		1368.21		-7.906E-01	1.359E+00	1.956E+00	2.456E-01	-0.404
		1436.60		-3.035E+00	3.155E+00	4.345E+00	3.043E-01	-0.699
		1691.02	*	-3.134E-03	6.371E-02	1.023E-01	6.914E-03	-0.031
		427.89	*	-1.701E-02	8.461E-02	1.375E-01	8.058E-03	-0.124
TE-125M	+	463.38		9.509E-01	4.350E-01	5.145E-01	3.454E-02	1.848
		600.56		-1.210E-01	1.522E-01	2.312E-01	1.587E-02	-0.524
		635.90		-9.983E-02	2.456E-01	3.847E-01	2.670E-02	-0.259
I-126		109.28	*	-5.966E-01	8.759E+00	1.410E+01	1.324E+00	-0.042
		388.63		2.502E-01	1.877E-01	3.327E-01	1.817E-02	0.752
SB-126		666.33	*	7.871E-02	1.777E-01	2.971E-01	1.784E-02	0.265
		753.82		5.096E-01	1.508E+00	2.494E+00	1.794E-01	0.204
		223.80		1.296E+00	3.725E+00	6.335E+00	3.598E-01	0.205
		278.60		7.274E-01	2.303E+00	3.894E+00	2.270E-01	0.187
		296.50		1.238E+01	2.668E+00	3.606E+00	2.103E-01	3.434
		414.70		-1.016E-02	7.244E-02	1.183E-01	6.566E-03	-0.086
		415.30		8.822E-01	6.018E+00	9.998E+00	5.551E-01	0.088
		555.20		3.425E+00	3.818E+00	6.612E+00	3.935E-01	0.518
		573.80		8.564E-02	1.210E+00	1.714E+00	1.023E-01	0.050
		593.00		-1.144E-01	8.471E-01	1.362E+00	8.146E-02	-0.084
SB-127		656.30		-1.986E+00	3.072E+00	4.694E+00	2.794E-01	-0.423
		666.33		3.296E-02	7.441E-02	1.244E-01	7.473E-03	0.265
		675.00		1.150E+00	1.814E+00	3.088E+00	1.890E-01	0.372
		695.00		2.960E-02	7.314E-02	1.220E-01	7.785E-03	0.243
		697.00		1.631E-01	2.551E-01	4.325E-01	2.772E-02	0.377
		720.50	*	-3.380E-02	1.606E-01	2.176E-01	1.464E-02	-0.155
		856.80		-2.686E-02	4.892E-01	7.025E-01	6.131E-02	-0.038
		989.30		-9.161E-01	1.064E+00	1.604E+00	1.351E-01	-0.571
		1034.80		9.783E-01	8.475E+00	1.423E+01	1.113E+00	0.069
		1213.00		2.627E+00	4.421E+00	7.655E+00	4.515E-01	0.343
SB-127		61.10		4.550E+01	5.829E+01	8.585E+01	8.647E+00	0.530
		252.40		-7.382E-01	4.569E+00	7.568E+00	3.150E+00	-0.098
		290.80		-2.916E+00	2.639E+01	3.791E+01	3.610E+00	-0.077
		411.60		-5.809E+00	1.316E+01	2.108E+01	3.055E+00	-0.276
		444.90		3.370E+00	1.101E+01	1.842E+01	2.029E+00	0.183
		473.00		7.812E-01	1.746E+00	2.946E+00	3.371E-01	0.265
		543.00		1.955E+00	1.775E+01	2.918E+01	3.855E+00	0.067
		603.60		2.183E+01	1.273E+01	2.087E+01	2.327E+00	1.046
		685.20	*	-4.920E-01	1.290E+00	2.008E+00	2.015E-01	-0.245

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	698.50			4.273E+00	1.597E+01	2.633E+01	3.938E+00	0.162
	722.20			-1.528E+01	3.642E+01	4.796E+01	4.849E+00	-0.319
	783.80			1.645E+00	4.081E+00	6.768E+00	8.133E-01	0.243
	57.60			9.807E-01	5.020E+00	7.638E+00	5.030E-01	0.128
	145.22			3.268E-01	6.675E-01	1.090E+00	6.726E-02	0.300
I-131	172.10			-1.213E-01	1.221E-01	1.849E-01	9.983E-03	-0.656
	202.84	*		-1.548E-02	4.953E-02	7.135E-02	3.977E-03	-0.217
	374.96			5.137E-03	1.810E-01	2.997E-01	1.666E-02	0.017
	80.18			2.998E+00	6.713E+00	7.071E+00	5.681E-01	0.424
	284.30			3.172E-03	1.457E+00	2.429E+00	1.576E-01	0.001
TE-132	364.48	*		5.847E-02	1.119E-01	1.904E-01	1.204E-02	0.307
	636.97			-3.978E-01	1.526E+00	2.421E+00	1.612E-01	-0.164
	722.89			4.985E-01	7.453E+00	1.045E+01	7.145E-01	0.048
	49.72			-1.089E+01	1.570E+01	2.500E+01	2.379E+00	-0.436
	111.76			-4.395E+01	3.531E+01	5.334E+01	5.428E+00	-0.824
BA-133	116.30			9.543E+00	3.238E+01	5.272E+01	5.313E+00	0.181
	228.16	*		-2.796E-01	7.498E-01	1.237E+00	1.795E-01	-0.226
	53.15			-3.144E-01	2.560E+00	4.167E+00	2.715E-01	-0.075
	79.62			3.673E+00	1.872E+00	2.090E+00	3.101E-01	1.757
	81.00			-8.289E-03	1.309E-01	1.327E-01	2.066E-02	-0.062
I-133	276.40			3.112E-01	3.707E-01	5.576E-01	7.235E-02	0.558
	302.84			2.935E-02	1.416E-01	2.076E-01	2.423E-02	0.141
	356.01	*		1.210E-02	4.388E-02	6.436E-02	7.398E-03	0.188
	383.85			-2.978E-01	2.650E-01	4.043E-01	4.331E-02	-0.737
	510.53	+		2.880E+00	2.650E-01	Half-Life	too short	
CS-134	529.87	*		1.007E-02	2.650E-01	Half-Life	too short	
	706.58			-4.791E-02	2.650E-01	Half-Life	too short	
	856.28			3.315E-02	2.650E-01	Half-Life	too short	
	875.33			-7.763E-02	2.650E-01	Half-Life	too short	
	1236.41			1.603E+00	2.650E-01	Half-Life	too short	
CS-135	1298.22			-2.268E-01	2.650E-01	Half-Life	too short	
	475.35			-1.001E+00	1.718E+00	2.703E+00	1.563E-01	-0.370
	563.23			1.781E-01	3.589E-01	5.318E-01	3.233E-02	0.335
	569.32			6.415E-01	2.650E-01	4.370E-01	2.681E-02	1.468
	604.70			3.209E-02	3.282E-02	5.072E-02	3.050E-03	0.633
I-135	795.84	*		7.070E-02	5.478E-02	8.575E-02	6.749E-03	0.825
	801.93			-2.887E-01	4.052E-01	5.964E-01	4.738E-02	-0.484
	1038.57			2.087E+00	3.643E+00	6.345E+00	4.929E-01	0.329
	1167.94			4.013E-01	2.166E+00	3.640E+00	2.042E-01	0.110
	1365.15			-1.037E+00	1.051E+00	1.472E+00	1.115E-01	-0.704
I-135	268.24	*		2.495E-01	1.663E-01	2.613E-01	2.005E-02	0.955
	288.45			1.066E+11	1.663E-01	Half-Life	too short	
	417.63			7.925E+10	1.663E-01	Half-Life	too short	
	546.56			-8.969E+10	1.663E-01	Half-Life	too short	
	836.80			1.202E+11	1.663E-01	Half-Life	too short	
I-135	1038.76			1.100E+11	1.663E-01	Half-Life	too short	
	1124.00			2.178E+11	1.663E-01	Half-Life	too short	
	1131.51			-1.799E+10	1.663E-01	Half-Life	too short	
	1260.41	*		-2.400E+10	1.663E-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
CS-136		1457.56		5.472E+12	1.663E-01	Half-Life	too short	
		1678.03		-3.529E+10	1.663E-01	Half-Life	too short	
		1706.46		-2.035E+11	1.663E-01	Half-Life	too short	
		1791.20		1.756E+10	1.663E-01	Half-Life	too short	
		66.91		2.297E-01	1.047E+00	1.090E+00	1.590E-01	0.211
	+	86.29		3.918E+00	1.156E+00	1.918E+00	2.458E-01	2.043
		153.22		1.591E-01	6.751E-01	1.091E+00	7.936E-02	0.146
		163.89		3.061E-01	1.049E+00	1.697E+00	1.184E-01	0.180
		176.55		-7.148E-02	3.803E-01	6.022E-01	3.725E-02	-0.119
		273.65		-3.226E-01	4.717E-01	6.523E-01	4.330E-02	-0.495
		340.57		4.369E-01	1.393E-01	2.372E-01	1.449E-02	1.842
		818.51		1.078E-03	6.345E-02	1.067E-01	8.694E-03	0.010
		1048.07	*	-4.363E-02	9.712E-02	1.541E-01	1.240E-02	-0.283
		1235.34		1.337E-01	5.890E-01	9.873E-01	1.005E-01	0.135
BA-137M		661.65	*	5.103E-03	3.258E-02	5.339E-02	3.174E-03	0.096
CS-137		661.65	*	5.395E-03	3.444E-02	5.644E-02	3.369E-03	0.096
CE-139		165.85	*	9.538E-03	2.803E-02	4.541E-02	2.438E-03	0.210
BA-140		162.64		-2.152E-01	7.462E-01	1.164E+00	7.282E-02	-0.185
		304.84		-4.193E-01	1.344E+00	1.891E+00	5.161E-01	-0.222
		423.70		6.162E-01	1.854E+00	3.096E+00	9.828E-01	0.199
LA-140	+	537.32	*	5.690E-03	2.472E-01	4.040E-01	1.315E-01	0.014
		328.77		4.653E-01	3.846E-01	5.211E-01	3.375E-02	0.893
		432.53		-2.456E+00	1.956E+00	2.942E+00	1.839E-01	-0.835
		487.03		-7.827E-03	1.223E-01	1.993E-01	1.311E-02	-0.039
		751.79		-1.002E-01	1.729E+00	2.771E+00	2.286E-01	-0.036
		815.85		-7.677E-02	2.717E-01	4.442E-01	4.064E-02	-0.173
		867.82		2.016E-01	1.373E+00	2.022E+00	1.890E-01	0.100
		919.63		-1.463E+00	2.698E+00	4.286E+00	4.761E-01	-0.341
		925.24		3.764E-01	1.049E+00	1.807E+00	1.742E-01	0.208
		1596.49	*	-4.484E-02	8.910E-02	1.343E-01	8.906E-03	-0.334
CE-141		145.44	*	2.152E-02	6.066E-02	9.857E-02	6.290E-03	0.218
CE-143		57.37		5.371E-04	6.066E-02	Half-Life	too short	
		231.56		-1.573E-04	6.066E-02	Half-Life	too short	
		293.26	*	1.772E-03	6.066E-02	Half-Life	too short	
	+	350.59		4.652E-02	6.066E-02	Half-Life	too short	
		490.36		-5.843E-03	6.066E-02	Half-Life	too short	
		664.57		-2.113E-04	6.066E-02	Half-Life	too short	
		721.93		-1.445E-03	6.066E-02	Half-Life	too short	
CE-144		80.11		1.458E+00	2.861E+00	3.027E+00	2.410E-01	0.482
		133.54	*	-5.025E-03	2.130E-01	2.982E-01	4.341E-02	-0.017
PM-144		476.78		-4.318E-02	5.956E-02	9.255E-02	6.414E-03	-0.467
		618.01		8.886E-03	2.894E-02	4.689E-02	2.963E-03	0.190
		696.49	*	3.369E-02	3.026E-02	5.312E-02	3.403E-03	0.634
		778.57		-7.693E-01	2.143E+00	3.333E+00	2.517E-01	-0.231
PR-144		696.49	*	2.284E+00	2.052E+00	3.601E+00	2.306E-01	0.634
		1489.15		-2.928E+00	8.477E+00	1.290E+01	8.910E-01	-0.227
PM-146		453.90	*	2.096E-02	4.096E-02	6.581E-02	5.634E-03	0.318
		633.02		-4.486E-01	1.312E+00	2.053E+00	7.566E-01	-0.218
		735.90		-5.465E-02	1.479E-01	2.298E-01	6.468E-02	-0.238

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		-3.406E-02	8.410E-02	1.304E-01	1.716E-02	-0.261
		91.11		7.880E-01	3.259E-01	5.021E-01	4.615E-02	1.569
		319.41		7.699E-01	3.120E+00	5.248E+00	3.046E-01	0.147
		439.89		-1.391E+00	5.866E+00	9.504E+00	5.378E-01	-0.146
		531.02	*	5.201E-01	5.146E-01	8.947E-01	1.214E-01	0.581
PM-149		285.90	*	-8.314E+00	1.112E+02	1.846E+02	2.620E+01	-0.045
EU-152		121.78		-2.873E-02	7.061E-02	1.118E-01	9.674E-03	-0.257
		244.69		3.521E-01	3.205E-01	4.972E-01	2.864E-02	0.708
		344.27	*	-2.801E-02	1.078E-01	1.316E-01	8.516E-03	-0.213
		443.98		5.331E-01	9.159E-01	1.556E+00	8.827E-02	0.343
		778.89		1.764E-02	2.408E-01	3.896E-01	2.943E-02	0.045
	+	867.32		3.042E-01	7.827E-01	1.189E+00	1.057E-01	0.256
		964.01		1.005E+00	3.270E-01	5.638E-01	4.916E-02	1.783
		1085.78		3.722E-02	3.474E-01	5.820E-01	4.106E-02	0.064
		1112.02		-3.211E-01	3.144E-01	4.434E-01	2.936E-02	-0.724
		1407.95		1.748E-01	1.694E-01	3.104E-01	2.188E-02	0.563
GD-153	+	69.67		2.715E-01	1.595E+00	2.287E+00	1.635E-01	0.119
		83.37		2.661E+01	1.584E+01	2.235E+01	1.848E+00	1.191
		97.43	*	8.645E-02	7.797E-02	1.160E-01	9.306E-03	0.745
EU-154		103.18		-7.994E-03	9.762E-02	1.572E-01	1.213E-02	-0.051
		123.07		-2.347E-02	5.480E-02	7.971E-02	8.156E-03	-0.294
		247.94		2.614E-02	3.602E-01	5.267E-01	5.016E-02	0.050
		591.81		-3.746E-02	5.385E-01	8.707E-01	8.604E-02	-0.043
		723.30		-3.537E-02	1.819E-01	2.470E-01	1.949E-02	-0.143
		756.87		7.845E-01	7.369E-01	1.280E+00	1.411E-01	0.613
		873.19		2.424E-02	2.530E-01	4.272E-01	5.341E-02	0.057
		996.32		-1.495E-01	3.217E-01	5.152E-01	9.081E-02	-0.290
		1004.76		-2.320E-02	1.747E-01	2.870E-01	3.258E-02	-0.081
		1274.45	*	-1.109E-02	1.113E-01	1.813E-01	1.778E-02	-0.061
EU-155		48.70		-9.646E-01	1.555E+00	2.487E+00	1.594E-01	-0.388
		60.01		-6.471E-01	4.265E+00	6.048E+00	4.021E-01	-0.107
		86.54		3.444E-01	9.624E-02	1.667E-01	1.447E-02	2.066
TB-160	+	105.31	*	4.078E-02	1.006E-01	1.647E-01	1.275E-02	0.248
		86.79		9.278E-01	2.591E-01	4.429E-01	3.817E-02	2.095
		197.04		1.232E-01	5.042E-01	8.560E-01	4.744E-02	0.144
		215.65		2.152E-01	6.992E-01	1.125E+00	6.348E-02	0.191
		298.57		2.694E-01	1.186E-01	2.002E-01	1.168E-02	1.346
	+	879.36	*	3.112E-02	1.134E-01	1.946E-01	1.767E-02	0.160
		962.29		9.623E-01	5.729E-01	9.581E-01	8.372E-02	1.004
		966.15		6.964E-01	2.265E-01	5.177E-01	4.501E-02	1.345
		1177.93		3.217E-01	3.147E-01	5.664E-01	3.146E-02	0.568
		1271.85		2.626E-01	6.617E-01	1.131E+00	7.340E-02	0.232
HO-166M	+	80.57		3.382E-02	3.627E-01	3.722E-01	2.979E-02	0.091
		184.41		1.535E-01	6.174E-02	6.241E-02	3.414E-03	2.459
		280.46		-4.687E-02	7.571E-02	1.225E-01	7.145E-03	-0.383
		410.95		-2.187E-02	2.239E-01	3.668E-01	2.029E-02	-0.060
		711.68	*	3.556E-02	5.379E-02	9.151E-02	6.047E-03	0.389
		752.31		7.917E-02	2.581E-01	4.261E-01	3.056E-02	0.186
		810.29		-2.722E-02	5.117E-02	7.760E-02	6.221E-03	-0.351

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		7.030E+00	2.090E+01	3.457E+01	2.241E+00	0.203
		52.39		-5.583E-01	1.113E+01	1.816E+01	1.181E+00	-0.031
		59.40		-3.194E+00	2.322E+01	3.296E+01	2.183E+00	-0.097
LU-176	+	66.72	*	2.974E+00	3.115E+01	3.752E+01	2.616E+00	0.079
		88.36		6.779E-01	1.893E-01	3.319E-01	2.892E-02	2.043
		201.83		-1.445E-02	2.773E-02	4.309E-02	2.400E-03	-0.335
		306.84	*	-6.827E-03	2.202E-02	3.605E-02	2.099E-03	-0.189
LU-177	+	401.10		5.656E+00	6.298E+00	1.088E+01	5.969E-01	0.520
		112.95		-5.785E-01	1.730E+00	2.728E+00	2.004E-01	-0.212
LU-177M	+	208.36	*	2.909E+00	1.645E+00	2.054E+00	1.151E-01	1.416
		52.97		1.095E-01	1.152E+00	1.888E+00	1.230E-01	0.058
		54.07		2.183E-01	6.245E-01	1.032E+00	6.737E-02	0.212
		61.30		1.335E+00	1.288E+00	1.918E+00	1.285E-01	0.696
		121.62		-1.447E-01	3.645E-01	5.777E-01	4.109E-02	-0.250
		147.16		-5.860E-01	6.246E-01	9.625E-01	5.869E-02	-0.609
		171.86		-5.191E-01	4.843E-01	7.304E-01	3.942E-02	-0.711
		218.09		-1.365E-01	7.534E-01	1.256E+00	7.098E-02	-0.109
		268.79		2.159E+00	1.171E+00	1.362E+00	7.926E-02	1.585
		319.02		2.839E-02	2.287E-01	3.824E-01	2.219E-02	0.074
		367.43		-5.988E-01	8.130E-01	1.286E+00	7.207E-02	-0.466
		413.65	*	-3.816E-02	1.636E-01	2.659E-01	1.474E-02	-0.144
		56.28		-2.152E-02	7.230E-01	1.179E+00	7.740E-02	-0.018
		57.53		9.331E-02	4.214E-01	6.419E-01	4.227E-02	0.145
HF-181		65.20		1.008E+00	8.923E-01	1.327E+00	9.146E-02	0.760
		133.02		4.767E-02	6.695E-02	9.755E-02	6.482E-03	0.489
		136.25		2.442E-01	4.282E-01	6.798E-01	4.430E-02	0.359
		345.85		-5.757E-02	2.004E-01	2.645E-01	1.512E-02	-0.218
		482.03	*	1.178E-02	3.882E-02	6.490E-02	3.764E-03	0.181
		56.28		-8.207E-03	2.802E-01	4.572E-01	3.000E-02	-0.018
		57.53		3.632E-02	1.635E-01	2.490E-01	1.639E-02	0.146
W-181		65.20	*	3.880E-01	3.433E-01	5.108E-01	3.519E-02	0.760
		67.75		-2.817E-02	1.487E-01	1.501E-01	1.055E-02	-0.188
		100.10		-1.866E-02	1.692E-01	2.628E-01	2.067E-02	-0.071
TA-182		152.43		2.745E-01	3.269E-01	5.397E-01	3.182E-02	0.509
		222.10		1.212E-01	3.069E-01	5.229E-01	2.966E-02	0.232
		1001.68		1.171E+00	1.687E+00	2.982E+00	2.465E-01	0.393
		1121.28		6.019E-01	1.706E-01	3.207E-01	2.073E-02	1.877
		1189.05		1.802E-01	2.791E-01	4.862E-01	2.753E-02	0.371
		1221.42	*	1.515E-01	1.891E-01	3.311E-01	1.981E-02	0.458
		1230.97		-2.135E-02	4.588E-01	7.535E-01	4.579E-02	-0.028
RE-183		57.98		5.441E-02	1.697E-01	2.462E-01	1.623E-02	0.221
		59.32		-1.725E-02	9.614E-02	1.362E-01	9.021E-03	-0.127
		67.20		6.349E-02	2.581E-01	2.693E-01	1.885E-02	0.236
		162.32	*	-4.125E-02	1.049E-01	1.630E-01	8.976E-03	-0.253
		208.81		2.397E+00	1.356E+00	1.704E+00	9.553E-02	1.406
RE-184	+	291.72		7.331E-01	1.022E+00	1.544E+00	9.006E-02	0.475
		57.98		1.994E-01	6.221E-01	9.022E-01	5.949E-02	0.221
		59.32		-6.315E-02	3.521E-01	4.988E-01	3.303E-02	-0.127
		67.20		2.326E-01	9.458E-01	9.865E-01	6.906E-02	0.236

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		-2.595E-01	3.411E-01	5.215E-01	2.894E-02	-0.498
		216.55		-4.450E-04	2.359E-01	3.960E-01	2.236E-02	-0.001
		252.85	*	4.225E-02	2.031E-01	3.428E-01	1.983E-02	0.123
		318.01		-7.636E-02	4.020E-01	6.612E-01	3.838E-02	-0.115
		792.07		4.797E-01	1.098E+00	1.596E+00	1.236E-01	0.301
		903.28		-8.148E-01	1.132E+00	1.489E+00	1.390E-01	-0.547
		920.93		-5.028E-01	4.141E-01	6.109E-01	5.603E-02	-0.823
		59.72		-2.708E-02	2.555E-01	3.632E-01	2.410E-02	-0.075
		61.14		1.176E-01	1.411E-01	2.086E-01	1.397E-02	0.564
		69.30		6.461E-02	3.049E-01	4.079E-01	2.907E-02	0.158
		592.07		-1.571E-01	2.240E+00	3.622E+00	2.166E-01	-0.043
		646.12	*	-8.797E-03	4.082E-02	6.459E-02	3.852E-03	-0.136
		717.42		-2.937E-02	8.103E-01	1.303E+00	8.712E-02	-0.023
		874.81		1.797E-02	5.099E-01	8.563E-01	7.715E-02	0.021
		880.27		-1.009E-01	6.263E-01	1.032E+00	9.389E-02	-0.098
RE-188		155.03	*	1.002E-01	1.668E-01	2.731E-01	1.583E-02	0.367
		477.96		-4.132E-01	2.721E+00	4.414E+00	2.554E-01	-0.094
		633.10		-9.772E-01	2.650E+00	4.172E+00	2.492E-01	-0.234
W-188	+	63.58		4.550E+01	5.539E+01	7.191E+01	4.896E+00	0.633
		227.08		-1.388E+00	1.130E+01	1.886E+01	1.074E+00	-0.074
IR-192	+	290.67	*	-9.898E-01	7.791E+00	1.118E+01	6.523E-01	-0.089
		295.96		1.024E+00	1.956E-01	2.714E-01	1.608E-02	3.773
		308.46		2.743E-02	8.572E-02	1.448E-01	8.525E-03	0.189
		316.51	*	-2.908E-03	3.069E-02	5.074E-02	2.961E-03	-0.057
		468.07		-1.767E-03	6.770E-02	9.587E-02	6.375E-03	-0.018
AU-195		604.41		5.677E-01	4.377E-01	6.927E-01	7.927E-02	0.820
		612.46		2.033E+00	7.857E-01	1.335E+00	1.030E-01	1.523
		65.12		1.848E-01	1.589E-01	2.366E-01	1.629E-02	0.781
		66.83		1.410E-02	1.034E-01	1.248E-01	8.711E-03	0.113
	+	75.70		1.230E+00	2.509E-01	4.221E-01	3.202E-02	2.913
		98.88	*	1.081E-01	2.320E-01	3.352E-01	2.660E-02	0.323
	+	129.76		3.845E+00	4.365E+00	4.627E+00	3.135E-01	0.831
TL-200		367.94	*	-7.564E-04	4.365E+00	Half-Life	too short	
		579.30		9.858E-03	4.365E+00	Half-Life	too short	
		828.27		3.904E-03	4.365E+00	Half-Life	too short	
		1205.75		-1.247E-03	4.365E+00	Half-Life	too short	
TL-201		68.90		7.973E-01	6.659E+00	8.024E+00	5.699E-01	0.099
		70.82		2.743E+00	3.262E+00	4.792E+00	3.462E-01	0.573
		80.30		2.819E+00	8.330E+00	8.707E+00	6.947E-01	0.324
		135.34		-3.116E+00	3.215E+01	4.480E+01	2.935E+00	-0.070
TL-202		167.43	*	3.555E+00	8.150E+00	1.325E+01	7.119E-01	0.268
		68.90		6.112E-02	5.105E-01	6.152E-01	4.369E-02	0.099
		70.82		2.097E-01	2.494E-01	3.663E-01	2.647E-02	0.573
		80.30		2.156E-01	6.371E-01	6.659E-01	5.313E-02	0.324
HG-203		439.56	*	-1.100E-03	6.768E-02	1.112E-01	6.285E-03	-0.010
		70.83		8.790E-01	1.044E+00	1.527E+00	1.950E-01	0.576
		72.87		2.776E+00	6.711E-01	1.048E+00	1.302E-01	2.648
		82.60		1.959E+00	1.502E+00	1.659E+00	2.236E-01	1.181
		279.20	*	1.029E-02	3.687E-02	6.224E-02	3.851E-03	0.165

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		7.527E-01	1.744E-01	2.996E-01	2.207E-02	2.512
	+	74.97		6.797E-01	1.387E-01	2.153E-01	1.621E-02	3.158
	+	84.90		3.432E-01	2.044E-01	2.976E-01	2.506E-02	1.154
		569.67		8.595E-02	4.049E-02	6.589E-02	3.931E-03	1.304
		1063.62	*	-1.648E-02	4.532E-02	7.255E-02	5.369E-03	-0.227
TL-207		1770.23		-1.782E+00	6.806E-01	6.665E-01	3.981E-02	-2.673
		81.07		-2.472E-02	2.888E-01	2.922E-01	2.352E-02	-0.085
	+	83.78		2.263E-01	1.347E-01	1.878E-01	1.560E-02	1.205
		94.90		5.419E-01	2.491E-01	3.796E-01	3.106E-02	1.428
		122.32		-1.175E+00	1.700E+00	2.660E+00	2.087E-01	-0.442
		144.24		6.618E-01	6.551E-01	1.072E+00	8.112E-02	0.617
		154.21		2.849E-01	3.804E-01	6.258E-01	4.402E-02	0.455
	+	269.46		5.034E-01	2.732E-01	3.181E-01	1.934E-02	1.582
		323.87	*	-1.655E-02	6.634E-01	9.545E-01	1.576E-01	-0.017
	+	338.28		7.748E+00	1.943E+00	2.347E+00	2.465E-01	3.301
PO-209		445.03		7.493E-01	2.174E+00	3.643E+00	3.716E-01	0.206
		260.50		-1.388E-01	8.453E+00	1.411E+01	8.190E-01	-0.010
		262.80		2.845E+01	2.447E+01	4.091E+01	2.376E+00	0.695
		896.60	*	8.947E+00	6.912E+00	1.265E+01	1.184E+00	0.707
		46.50	*	-2.635E-01	2.114E+00	3.409E+00	2.528E-01	-0.077
PB-210		46.50	*	-2.635E-01	2.114E+00	3.409E+00	2.528E-01	-0.077
PO-210		46.50	*	-2.635E-01	2.114E+00	3.409E+00	2.139E-01	-0.077
PB-211		404.84	*	-4.624E-01	9.425E-01	1.437E+00	8.956E-01	-0.322
		427.08		2.905E-03	1.873E+00	3.082E+00	1.905E+00	0.001
BI-212		831.96		-3.377E-01	1.060E+00	1.696E+00	1.062E+00	-0.199
	+	727.18	*	8.648E-01	4.117E-01	5.871E-01	4.994E-02	1.473
		785.46		-7.218E-02	1.939E+00	2.806E+00	2.146E-01	-0.026
PO-215		1620.62		1.840E+00	1.301E+00	2.491E+00	1.632E-01	0.739
		81.07		-2.472E-02	2.888E-01	2.922E-01	2.352E-02	-0.085
	+	83.78		2.263E-01	1.347E-01	1.878E-01	1.560E-02	1.205
		94.90		5.419E-01	2.491E-01	3.796E-01	3.106E-02	1.428
		122.32		-1.175E+00	1.700E+00	2.660E+00	2.087E-01	-0.442
		144.24		6.618E-01	6.551E-01	1.072E+00	8.112E-02	0.617
		154.21		2.849E-01	3.804E-01	6.258E-01	4.402E-02	0.455
	+	269.46		5.034E-01	2.732E-01	3.181E-01	1.934E-02	1.582
		323.87	*	-1.655E-02	6.634E-01	9.545E-01	1.576E-01	-0.017
	+	338.28		7.748E+00	1.943E+00	2.347E+00	2.465E-01	3.301
RN-219		445.03		7.493E-01	2.174E+00	3.643E+00	3.716E-01	0.206
	+	271.23		6.458E-01	3.522E-01	4.044E-01	3.284E-02	1.597
		401.81	*	1.379E-01	3.908E-01	6.562E-01	8.844E-02	0.210
RN-220		549.76	*	1.409E+00	2.188E+01	3.586E+01	2.131E+00	0.039
RA-223		81.07		-2.472E-02	2.888E-01	2.922E-01	2.352E-02	-0.085
	+	83.78		2.263E-01	1.347E-01	1.878E-01	1.560E-02	1.205
		94.90		5.419E-01	2.491E-01	3.796E-01	3.106E-02	1.428
		122.32		-1.175E+00	1.700E+00	2.660E+00	2.087E-01	-0.442
		144.24		6.618E-01	6.551E-01	1.072E+00	8.112E-02	0.617
		154.21		2.849E-01	3.804E-01	6.258E-01	4.402E-02	0.455
	+	269.46		5.034E-01	2.732E-01	3.181E-01	1.934E-02	1.582
		323.87	*	-1.655E-02	6.634E-01	9.545E-01	1.576E-01	-0.017

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		7.748E+00	1.943E+00	2.347E+00	2.465E-01	3.301
		445.03		7.493E-01	2.174E+00	3.643E+00	3.716E-01	0.206
		79.80		3.327E+00	2.356E+00	2.537E+00	5.389E-01	1.311
		236.00		2.517E+00	4.035E-01	5.808E-01	6.048E-02	4.334
		256.20	*	-6.141E-02	3.311E-01	5.486E-01	7.657E-02	-0.112
TH-227		286.10		-2.800E-01	1.395E+00	2.302E+00	2.665E-01	-0.122
	+	299.80		3.400E+00	1.584E+00	2.439E+00	3.974E-01	1.394
		304.40		-4.577E-01	1.880E+00	2.665E+00	4.613E-01	-0.172
		334.20		-4.556E-01	2.786E+00	3.452E+00	6.324E-01	-0.132
		79.80		3.327E+00	2.359E+00	2.537E+00	5.459E-01	1.311
TH-229	+	94.00		8.974E+00	3.338E+00	3.343E+00	7.232E-01	2.684
		236.00		2.517E+00	3.816E-01	5.808E-01	5.234E-02	4.334
		256.20	*	-6.141E-02	3.312E-01	5.486E-01	9.270E-02	-0.112
		286.10		-2.800E-01	1.422E+00	2.302E+00	2.305E+00	-0.122
	+	299.80		3.400E+00	1.584E+00	2.439E+00	3.974E-01	1.394
TH-229		304.40		-4.577E-01	1.880E+00	2.665E+00	4.613E-01	-0.172
		334.20		-4.556E-01	2.786E+00	3.452E+00	6.324E-01	-0.132
	+	85.43		3.388E-01	2.017E-01	3.116E-01	2.641E-02	1.087
	+	88.47		3.902E-01	1.090E-01	1.910E-01	1.662E-02	2.043
		100.00		-1.450E-02	1.748E-01	2.717E-01	2.139E-02	-0.053
PA-231		193.63	*	-8.501E-02	4.786E-01	7.559E-01	4.175E-02	-0.112
		210.97		1.689E+00	8.023E-01	1.288E+00	7.235E-02	1.311
		283.67	*	-9.729E-02	1.378E+00	2.289E+00	3.158E-01	-0.042
		301.29		1.260E+00	5.997E-01	9.603E-01	1.005E-01	1.312
	TH-231	81.07		-2.472E-02	2.888E-01	2.922E-01	2.352E-02	-0.085
TH-231	+	83.78		2.263E-01	1.347E-01	1.878E-01	1.560E-02	1.205
		94.90		5.419E-01	2.491E-01	3.796E-01	3.106E-02	1.428
		122.32		-1.175E+00	1.700E+00	2.660E+00	2.087E-01	-0.442
		144.24		6.618E-01	6.551E-01	1.072E+00	8.112E-02	0.617
		154.21		2.849E-01	3.804E-01	6.258E-01	4.402E-02	0.455
U-231	+	269.46		5.034E-01	2.732E-01	3.181E-01	1.934E-02	1.582
		323.87	*	-1.655E-02	6.634E-01	9.545E-01	1.576E-01	-0.017
	+	338.28		7.748E+00	1.943E+00	2.347E+00	2.465E-01	3.301
		445.03		7.493E-01	2.174E+00	3.643E+00	3.716E-01	0.206
	+	84.21		1.137E+01	6.768E+00	9.478E+00	7.916E-01	1.199
PA-233	+	92.29		1.034E+01	3.243E+00	4.202E+00	3.518E-01	2.460
		95.87	*	-5.037E-02	1.296E+00	1.829E+00	1.485E-01	-0.028
		108.00		2.049E-01	2.219E+00	3.593E+00	2.699E-01	0.057
	+	75.28		1.983E+01	4.767E+00	6.567E+00	9.702E-01	3.020
	+	86.59		5.595E+00	2.112E+00	2.702E+00	7.246E-01	2.070
PA-234	+	300.12		9.479E-01	4.328E-01	6.812E-01	9.163E-02	1.391
		311.98	*	1.223E-02	5.706E-02	9.586E-02	5.919E-03	0.128
		340.50		2.225E+00	8.190E-01	1.123E+00	2.578E-01	1.981
		398.62		1.667E+00	1.968E+00	3.321E+00	8.564E-01	0.502
		415.76		5.428E-02	1.508E+00	2.489E+00	5.107E-01	0.022
PA-234	+	63.00		1.307E+00	1.600E+00	2.101E+00	3.059E-01	0.622
		94.67		5.837E-01	1.873E-01	2.803E-01	3.396E-02	2.082
		98.44		8.933E-02	1.045E-01	1.363E-01	7.593E-02	0.655
		99.86		1.048E-01	4.381E-01	6.898E-01	5.437E-02	0.152

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-1.660E-01	1.769E-01	2.710E-01	3.050E-02	-0.613
	+	131.20		1.437E-01	1.631E-01	1.608E-01	1.080E-02	0.894
		152.70		2.776E-01	3.162E-01	5.184E-01	8.212E-02	0.536
	+	186.00		5.526E+00	2.773E+00	2.314E+00	7.056E-01	2.388
		226.40		-8.623E-02	3.533E-01	5.865E-01	6.748E-02	-0.147
		227.20		-4.838E-02	3.782E-01	6.309E-01	3.592E-02	-0.077
		248.90		-1.735E-01	7.946E-01	1.194E+00	2.564E-01	-0.145
	+	293.70		6.389E+00	1.550E+00	1.668E+00	2.684E-01	3.831
		369.80		2.374E-01	7.293E-01	1.226E+00	2.547E-01	0.194
	+	568.70		4.375E+00	1.864E+00	2.299E+00	1.371E-01	1.903
		569.50		8.302E-01	3.630E-01	5.954E-01	3.552E-02	1.394
		574.00		9.264E-02	1.648E+00	2.331E+00	1.392E-01	0.040
		699.00		-1.520E-01	6.444E-01	1.020E+00	1.856E-01	-0.149
		706.10		-4.115E-01	9.467E-01	1.444E+00	6.385E-01	-0.285
		733.00		2.115E-01	4.107E-01	6.010E-01	1.297E-01	0.352
		742.81		-1.632E-01	1.298E+00	2.062E+00	1.382E+00	-0.079
		796.30		1.291E+00	1.099E+00	1.635E+00	4.383E-01	0.790
		805.60		5.728E-01	9.033E-01	1.507E+00	4.591E-01	0.380
		819.60		1.015E-01	1.006E+00	1.703E+00	6.457E-01	0.060
		826.30		-2.496E-01	7.060E-01	1.134E+00	5.064E-01	-0.220
		831.60		-3.114E-01	5.447E-01	8.568E-01	2.550E-01	-0.363
		876.40		-1.929E-02	7.076E-01	1.181E+00	1.215E+00	-0.016
		880.51		-5.280E-02	2.232E-01	3.650E-01	3.322E-02	-0.145
		883.24		-1.501E-01	2.466E-01	3.513E-01	2.364E-01	-0.427
		899.00		-1.859E-01	8.096E-01	1.322E+00	5.801E-01	-0.141
		925.00		1.156E-01	1.046E+00	1.763E+00	1.610E-01	0.066
		926.50		1.032E-01	1.571E-01	2.735E-01	6.961E-02	0.377
		946.00	*	-8.005E-03	2.641E-01	4.396E-01	8.308E-02	-0.018
		949.00		-9.621E-02	4.009E-01	6.547E-01	5.816E-02	-0.147
		980.50		-1.871E-03	6.401E-01	9.888E-01	8.432E-02	-0.002
		1394.10		6.043E-02	9.718E-01	1.605E+00	1.042E+00	0.038
PA-234M	+	766.42		1.828E+01	1.688E+01	1.958E+01	9.896E+00	0.933
		1001.03	*	-9.424E-01	4.035E+00	6.576E+00	6.357E-01	-0.143
U-235	+	89.95		2.959E+00	1.502E+00	1.734E+00	5.347E-01	1.707
	+	93.35		2.792E+00	1.149E+00	1.077E+00	3.008E-01	2.592
		105.00		5.521E-01	9.926E-01	1.613E+00	4.772E-01	0.342
		143.76	*	1.354E-01	2.040E-01	3.287E-01	5.412E-02	0.412
		163.35		2.777E-01	4.471E-01	7.201E-01	1.287E-01	0.386
	+	185.71		2.047E-01	8.232E-02	8.538E-02	4.676E-03	2.397
		205.31		-2.535E-01	5.329E-01	7.577E-01	1.357E-01	-0.335
NP-236		94.67		4.443E-01	1.366E-01	2.128E-01	1.744E-02	2.088
		98.44		6.753E-02	6.971E-02	1.031E-01	8.205E-03	0.655
		111.00		-1.256E-01	1.334E-01	2.050E-01	1.518E-02	-0.613
		160.31	*	-8.075E-02	7.545E-02	1.151E-01	6.431E-03	-0.702
NP-239		99.55		2.918E-02	1.540E-01	2.319E-01	1.832E-02	0.126
		117.00	*	-5.080E-02	1.856E-01	2.959E-01	2.139E-02	-0.172
	+	209.75		1.873E+00	1.060E+00	1.337E+00	7.505E-02	1.401
		228.18		-7.517E-02	2.008E-01	3.316E-01	1.890E-02	-0.227
		277.60		8.903E-02	1.612E-01	2.688E-01	1.567E-02	0.331

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-2.521E-01	1.578E+00	1.957E+00	1.127E-01	-0.129
AM-241		59.54	*	-3.508E-03	1.339E-01	1.911E-01	1.419E-02	-0.018
CM-243		99.55		3.002E-02	1.585E-01	2.386E-01	1.885E-02	0.126
		103.76	*	4.628E-02	8.957E-02	1.473E-01	1.132E-02	0.314
		117.00		-5.227E-02	1.909E-01	3.045E-01	2.200E-02	-0.172
	+	209.75		1.847E+00	1.045E+00	1.319E+00	7.399E-02	1.401
		228.18		-7.596E-02	2.029E-01	3.351E-01	1.909E-02	-0.227
		277.60		8.976E-02	1.625E-01	2.710E-01	1.580E-02	0.331
AM-246		798.80		-1.105E-01	1.636E-01	2.073E-01	1.627E-02	-0.533
		1036.00		-5.932E-02	2.747E-01	4.474E-01	3.492E-02	-0.133
		1062.04		-1.717E-01	1.921E-01	2.887E-01	2.144E-02	-0.595
		1078.86	*	2.837E-02	1.265E-01	2.141E-01	1.534E-02	0.132
CM-247		278.00		3.198E-01	6.683E-01	1.111E+00	6.475E-02	0.288
		287.40		5.971E-01	1.222E+00	1.906E+00	1.112E-01	0.313
		402.60	*	1.248E-02	3.513E-02	5.905E-02	3.244E-03	0.211
CF-249		252.85		1.579E-01	7.592E-01	1.281E+00	7.412E-02	0.123
		333.44		-3.304E-02	2.718E-01	2.573E-01	1.483E-02	-0.128
		387.95	*	2.230E-02	3.495E-02	5.981E-02	3.270E-03	0.373
CF-251		176.60	*	-2.437E-02	1.248E-01	1.976E-01	1.072E-02	-0.123
		227.00		-4.007E-02	3.361E-01	5.608E-01	3.193E-02	-0.071
		285.00		9.943E-03	1.601E+00	2.669E+00	1.557E-01	0.004

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]G243630004
* Acquisition date   : 7-JAN-2010 13:12:40 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 02:00:01.45                               Half life ratio  : 8.000
*****
*                               SAMPLE DATA                             *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243630004 Analyst initials: MXR1
* Batch Number       : 937702 Sample Quantity : 1.4003E+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	2.081E+01	2.068E+00	5.454E-01	0.000E+00
CD-109	2.912E+00	7.968E-01	1.143E+00	0.000E+00
SN-126	2.858E-01	7.821E-02	1.126E-01	0.000E+00
TL-208	5.297E-01	7.693E-02	5.289E-02	0.000E+00
BI-211	3.666E+00	4.484E-01	2.956E-01	0.000E+00
PB-212	1.545E+00	1.472E-01	8.457E-02	0.000E+00
PO-212	1.545E+00	1.472E-01	8.457E-02	0.000E+00
BI-214	1.295E+00	1.776E-01	1.046E-01	0.000E+00
PB-214	1.275E+00	1.691E-01	1.030E-01	0.000E+00
PO-214	1.275E+00	1.691E-01	1.030E-01	0.000E+00
PO-216	1.545E+00	1.472E-01	8.457E-02	0.000E+00
PO-218	1.275E+00	1.691E-01	1.030E-01	0.000E+00
RA-224	4.698E+00	1.248E+00	9.617E-01	0.000E+00
RA-226	1.295E+00	1.776E-01	1.046E-01	0.000E+00
AC-228	1.553E+00	3.128E-01	2.365E-01	0.000E+00
RA-228	1.553E+00	3.128E-01	2.365E-01	0.000E+00
TH-228	1.569E+00	1.496E-01	8.593E-02	0.000E+00
TH-230	1.295E+00	1.776E-01	1.046E-01	0.000E+00
TH-232	1.553E+00	3.128E-01	2.365E-01	0.000E+00
TH-234	1.121E+00	1.349E+00	1.751E+00	0.000E+00
U-234	1.295E+00	1.776E-01	1.046E-01	0.000E+00
NP-237	8.393E-01	2.856E-01	3.333E-01	0.000E+00
U-238	1.121E+00	1.349E+00	1.751E+00	0.000E+00
AM-243	3.787E-01	7.572E-02	8.029E-02	0.000E+00
ANH-511	1.342E-01	5.638E-02	4.351E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.678E-01	2.828E-01	4.660E-01	0.000E+00 NOT IDENT.
NA-22	-3.973E-03	3.906E-02	6.537E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	1.649E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.602E-02	2.473E-02	4.602E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.664E-02	7.699E-02	0.000E+00	FAIL ABUN
SC-46	-1.176E-03	3.404E-02	5.877E-02	0.000E+00	FAIL ABUN
V-48	3.635E-02	5.631E-02	1.029E-01	0.000E+00	NOT IDENT.
CR-51	2.230E-01	3.286E-01	5.959E-01	0.000E+00	NOT IDENT.
MN-52	-1.524E-01	2.319E-01	3.520E-01	0.000E+00	NOT IDENT.
MN-54	-1.213E-02	3.243E-02	5.474E-02	0.000E+00	NOT IDENT.
CO-56	7.406E-03	3.557E-02	6.278E-02	0.000E+00	NOT IDENT.
CO-57	-1.074E-02	2.387E-02	4.067E-02	0.000E+00	NOT IDENT.
CO-58	-1.640E-02	3.283E-02	5.182E-02	0.000E+00	NOT IDENT.
FE-59	-5.665E-02	8.475E-02	1.360E-01	0.000E+00	NOT IDENT.
CO-60	1.079E-02	3.567E-02	6.209E-02	0.000E+00	NOT IDENT.
ZN-65	-3.846E-02	8.776E-02	1.211E-01	0.000E+00	NOT IDENT.
GE-68	8.772E-01	1.031E+00	1.900E+00	0.000E+00	NOT IDENT.
AS-73	6.192E-02	5.838E-01	1.048E+00	0.000E+00	NOT IDENT.
AS-74	4.507E-02	7.580E-02	1.346E-01	0.000E+00	NOT IDENT.
SE-75	-1.585E-03	4.439E-02	6.823E-02	0.000E+00	NOT IDENT.
BR-77	-3.802E+00	1.137E+01	1.895E+01	0.000E+00	FAIL ABUN
SR-82	-6.256E-01	3.876E-01	5.535E-01	0.000E+00	NOT IDENT.
RB-83	-1.719E-02	5.784E-02	9.669E-02	0.000E+00	NOT IDENT.
RB-84	8.660E-04	5.435E-02	9.431E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.960E+00	1.189E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.604E-02	6.158E-02	0.000E+00	NOT IDENT.
RB-86	3.989E-01	6.837E-01	1.232E+00	0.000E+00	NOT IDENT.
Y-88	5.357E-03	3.263E-02	5.527E-02	0.000E+00	NOT IDENT.
ZR-88	-3.466E-03	2.721E-02	4.692E-02	0.000E+00	NOT IDENT.
Y-91	-3.140E+00	1.621E+01	2.703E+01	0.000E+00	NOT IDENT.
NB-94	-2.679E-03	2.901E-02	4.835E-02	0.000E+00	NOT IDENT.
NB-95	4.803E-02	4.979E-02	7.453E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.567E-01	2.767E-01	0.000E+00	NOT IDENT.
ZR-95	6.117E-02	6.898E-02	1.229E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.075E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.927E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.971E+00	1.374E+01	2.339E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.735E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.844E-03	2.877E-02	5.204E-02	0.000E+00	NOT IDENT.
RH-102	-6.215E-03	2.553E-02	4.317E-02	0.000E+00	FAIL ABUN
RU-103	-9.567E-03	3.526E-02	5.926E-02	0.000E+00	FAIL ABUN
RH-106	3.579E-02	2.653E-01	4.539E-01	0.000E+00	FAIL ABUN
RU-106	3.579E-02	2.653E-01	4.539E-01	0.000E+00	FAIL ABUN
AG-108M	-2.082E-02	2.925E-02	4.824E-02	0.000E+00	NOT IDENT.
AG-110M	-7.058E-03	2.972E-02	4.912E-02	0.000E+00	NOT IDENT.
IN-111	1.013E+00	1.235E+00	2.007E+00	0.000E+00	NOT IDENT.
IN-113M	9.264E-03	3.911E-02	6.885E-02	0.000E+00	NOT IDENT.
SN-113	9.264E-03	3.911E-02	6.885E-02	0.000E+00	NOT IDENT.
IN-114M	-4.944E-02	1.777E-01	2.743E-01	0.000E+00	NOT IDENT.
CD-115	-2.615E+00	1.239E+01	2.083E+01	0.000E+00	NOT IDENT.
SN-117M	-6.173E-04	5.304E-02	9.090E-02	0.000E+00	NOT IDENT.
SB-122	2.284E+00	2.674E+00	4.261E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.723E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.465E-03	2.622E-02	4.428E-02	0.000E+00	NOT IDENT.
I-124	1.168E+00	6.829E-01	1.183E+00	0.000E+00	NOT IDENT.
SB-124	-3.134E-03	6.243E-02	1.023E-01	0.000E+00	FAIL ABUN
SB-125	-1.701E-02	8.292E-02	1.416E-01	0.000E+00	FAIL ABUN
TE-125M	-5.966E-01	8.584E+00	1.491E+01	0.000E+00	NOT IDENT.
I-126	7.871E-02	1.741E-01	3.032E-01	0.000E+00	NOT IDENT.
SB-126	-3.380E-02	1.574E-01	2.217E-01	0.000E+00	NOT IDENT.
SB-127	-4.920E-01	1.264E+00	2.047E+00	0.000E+00	NOT IDENT.
XE-127	-1.548E-02	4.854E-02	7.457E-02	0.000E+00	NOT IDENT.
I-131	5.847E-02	1.096E-01	1.967E-01	0.000E+00	NOT IDENT.
TE-132	-2.796E-01	7.348E-01	1.289E+00	0.000E+00	NOT IDENT.
BA-133	1.210E-02	4.300E-02	6.652E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.078E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.070E-02	5.368E-02	8.718E-02	0.000E+00	NOT IDENT.
CS-135	2.495E-01	1.630E-01	2.716E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.347E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.363E-02	9.518E-02	1.558E-01	0.000E+00	FAIL ABUN
BA-137M	5.103E-03	3.193E-02	5.449E-02	0.000E+00	NOT IDENT.
CS-137	5.395E-03	3.375E-02	5.760E-02	0.000E+00	NOT IDENT.
CE-139	9.538E-03	2.747E-02	4.765E-02	0.000E+00	NOT IDENT.
BA-140	5.690E-03	2.422E-01	4.141E-01	0.000E+00	NOT IDENT.
LA-140	-4.484E-02	8.732E-02	1.346E-01	0.000E+00	FAIL ABUN
CE-141	2.152E-02	5.945E-02	1.037E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.707E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-5.025E-03	2.088E-01	3.142E-01	0.000E+00	NOT IDENT.
PM-144	3.369E-02	2.966E-02	5.415E-02	0.000E+00	NOT IDENT.
PR-144	2.284E+00	2.011E+00	3.671E+00	0.000E+00	NOT IDENT.

PM-146	2.096E-02	4.014E-02	6.769E-02	0.000E+00	NOT IDENT.
ND-147	5.201E-01	5.043E-01	9.172E-01	0.000E+00	FAIL ABUN
PM-149	-8.314E+00	1.089E+02	1.916E+02	0.000E+00	NOT IDENT.
EU-152	-2.801E-02	1.056E-01	1.361E-01	0.000E+00	FAIL ABUN
GD-153	8.645E-02	7.641E-02	1.230E-01	0.000E+00	FAIL ABUN
EU-154	-1.109E-02	1.091E-01	1.825E-01	0.000E+00	NOT IDENT.
EU-155	4.078E-02	9.858E-02	1.744E-01	0.000E+00	FAIL ABUN
TB-160	3.112E-02	1.111E-01	1.974E-01	0.000E+00	FAIL ABUN
HO-166M	3.556E-02	5.271E-02	9.325E-02	0.000E+00	FAIL ABUN
TM-171	2.974E+00	3.053E+01	4.006E+01	0.000E+00	NOT IDENT.
LU-176	-6.827E-03	2.158E-02	3.737E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.613E+00	2.146E+00	0.000E+00	FAIL ABUN
LU-177M	-3.816E-02	1.603E-01	2.739E-01	0.000E+00	FAIL ABUN
HF-181	1.178E-02	3.805E-02	6.667E-02	0.000E+00	NOT IDENT.
W-181	3.880E-01	3.365E-01	5.457E-01	0.000E+00	NOT IDENT.
TA-182	1.515E-01	1.853E-01	3.336E-01	0.000E+00	FAIL ABUN
RE-183	-4.125E-02	1.028E-01	1.711E-01	0.000E+00	FAIL ABUN
RE-184	4.225E-02	1.990E-01	3.567E-01	0.000E+00	NOT IDENT.
OS-185	-8.797E-03	4.001E-02	6.596E-02	0.000E+00	NOT IDENT.
RE-188	1.002E-01	1.635E-01	2.869E-01	0.000E+00	NOT IDENT.
W-188	-9.898E-01	7.635E+00	1.160E+01	0.000E+00	FAIL ABUN
IR-192	-2.908E-03	3.007E-02	5.256E-02	0.000E+00	FAIL ABUN
AU-195	1.081E-01	2.273E-01	3.553E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.333E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.555E+00	7.987E+00	1.390E+01	0.000E+00	NOT IDENT.
TL-202	-1.100E-03	6.633E-02	1.144E-01	0.000E+00	NOT IDENT.
HG-203	1.029E-02	3.613E-02	6.465E-02	0.000E+00	NOT IDENT.
BI-207	-1.648E-02	4.441E-02	7.332E-02	0.000E+00	FAIL ABUN
TL-207	-1.655E-02	6.502E-01	9.885E-01	0.000E+00	FAIL ABUN
PO-209	8.947E+00	6.774E+00	1.283E+01	0.000E+00	NOT IDENT.
BI-210	-2.635E-01	2.072E+00	3.665E+00	0.000E+00	NOT IDENT.
PB-210	-2.635E-01	2.072E+00	3.665E+00	0.000E+00	NOT IDENT.
PO-210	-2.635E-01	2.072E+00	3.665E+00	0.000E+00	NOT IDENT.
PB-211	-4.624E-01	9.237E-01	1.482E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.035E-01	5.980E-01	0.000E+00	FAIL ABUN
PO-215	-1.655E-02	6.502E-01	9.885E-01	0.000E+00	FAIL ABUN
RN-219	1.379E-01	3.830E-01	6.766E-01	0.000E+00	FAIL ABUN
RN-220	1.409E+00	2.144E+01	3.673E+01	0.000E+00	NOT IDENT.
RA-223	-1.655E-02	6.502E-01	9.885E-01	0.000E+00	FAIL ABUN
AC-227	-6.141E-02	3.245E-01	5.708E-01	0.000E+00	FAIL ABUN
TH-227	-6.141E-02	3.245E-01	5.708E-01	0.000E+00	FAIL ABUN
TH-229	-8.501E-02	4.690E-01	7.908E-01	0.000E+00	FAIL ABUN
PA-231	-9.729E-02	1.350E+00	2.377E+00	0.000E+00	NOT IDENT.
TH-231	-1.655E-02	6.502E-01	9.885E-01	0.000E+00	FAIL ABUN
U-231	-5.037E-02	1.270E+00	1.940E+00	0.000E+00	FAIL ABUN
PA-233	1.223E-02	5.592E-02	9.934E-02	0.000E+00	FAIL ABUN
PA-234	-8.005E-03	2.589E-01	4.453E-01	0.000E+00	FAIL ABUN
PA-234M	-9.424E-01	3.954E+00	6.654E+00	0.000E+00	FAIL ABUN
U-235	1.354E-01	1.999E-01	3.459E-01	0.000E+00	FAIL ABUN
NP-236	-8.075E-02	7.394E-02	1.208E-01	0.000E+00	NOT IDENT.
NP-239	-5.080E-02	1.819E-01	3.126E-01	0.000E+00	FAIL ABUN
AM-241	-3.508E-03	1.312E-01	2.045E-01	0.000E+00	NOT IDENT.
CM-243	4.628E-02	8.777E-02	1.560E-01	0.000E+00	FAIL ABUN
AM-246	2.837E-02	1.239E-01	2.163E-01	0.000E+00	NOT IDENT.
CM-247	1.248E-02	3.443E-02	6.088E-02	0.000E+00	NOT IDENT.
CF-249	2.230E-02	3.425E-02	6.171E-02	0.000E+00	NOT IDENT.
CF-251	-2.437E-02	1.223E-01	2.071E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630004.CNF;1
Sample date     : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:12:40.
Sample ID       : G243630004           Sample quantity  : 1.40030E+02 GRAM
Detector name   : GAM14               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:01.45  0.0%
Energy tolerance: 1.50000 keV         Analyst Initials : MXR1
Abundance limit : 75.00000           Sensitivity      : 5.00000
Batch ID        : 937702             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	1004	10.67*	1.211E+00	2.081E+01	2.081E+01	10.14
CD-109	88.03	278	3.72*	7.054E+00	2.843E+00	2.912E+00	27.92
SN-126	64.28	74	9.60	4.675E+00	4.439E-01	4.439E-01	122.39
	86.94	278	8.90	7.054E+00	1.188E+00	1.188E+00	49.15
	87.57	278	37.00*	7.054E+00	2.858E-01	2.858E-01	27.92
TL-208	277.35	-----	6.80	5.002E+00	-----	Line Not Found	-----
	510.84	155	21.60	3.090E+00	6.212E-01	6.212E-01	43.68
	583.14	459	84.20*	2.760E+00	5.297E-01	5.297E-01	14.82
	860.37	122	12.46	1.942E+00	1.355E+00	1.355E+00	34.72
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	740	12.94*	4.180E+00	3.666E+00	3.666E+00	12.48
PB-212	74.81	568	10.70	6.088E+00	2.336E+00	2.336E+00	22.44
	77.11	884	18.00	6.309E+00	2.086E+00	2.086E+00	15.01
	87.30	278	8.00	7.054E+00	1.322E+00	1.322E+00	29.66
	238.63	1432	44.60*	5.571E+00	1.545E+00	1.545E+00	9.73
	300.09	110	3.41	4.722E+00	1.835E+00	1.835E+00	44.41
PO-212	74.81	568	10.70	6.088E+00	2.336E+00	2.336E+00	22.44
	77.11	884	18.00	6.309E+00	2.086E+00	2.086E+00	15.01
	87.30	278	8.00	7.054E+00	1.322E+00	1.322E+00	29.66
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	1432	44.60*	5.571E+00	1.545E+00	1.545E+00	9.73
	300.09	110	3.41	4.722E+00	1.835E+00	1.835E+00	44.41
BI-214	609.31	594	46.30*	2.656E+00	1.295E+00	1.295E+00	14.00
	1120.29	109	15.10	1.524E+00	1.266E+00	1.266E+00	29.10
	1764.49	90	15.80	1.059E+00	1.437E+00	1.437E+00	27.87
PB-214	74.81	568	6.21	6.088E+00	4.024E+00	4.024E+00	21.71
	77.11	884	10.50	6.309E+00	3.576E+00	3.576E+00	16.83
	87.30	278	4.67	7.054E+00	2.265E+00	2.265E+00	28.97
	241.98	382	7.49	5.521E+00	2.478E+00	2.478E+00	27.68
	295.21	456	19.20	4.780E+00	1.331E+00	1.331E+00	20.07
	351.92	740	37.20*	4.180E+00	1.275E+00	1.275E+00	13.53
PO-214	74.81	568	6.21	6.088E+00	4.024E+00	4.024E+00	21.71

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	884	10.50	6.309E+00	3.576E+00	3.576E+00	16.83
	87.30	278	4.67	7.054E+00	2.265E+00	2.265E+00	28.97
	241.98	382	7.49	5.521E+00	2.478E+00	2.478E+00	27.68
	295.21	456	19.20	4.780E+00	1.331E+00	1.331E+00	20.07
	351.92	740	37.20*	4.180E+00	1.275E+00	1.275E+00	13.53
	74.81	568	10.70	6.088E+00	2.336E+00	2.336E+00	22.44
	77.11	884	18.00	6.309E+00	2.086E+00	2.086E+00	15.01
	87.30	278	8.00	7.054E+00	1.322E+00	1.322E+00	29.66
	238.63	1432	44.60*	5.571E+00	1.545E+00	1.545E+00	9.73
	300.09	110	3.41	4.722E+00	1.835E+00	1.835E+00	44.41
PO-218	74.81	568	6.21	6.088E+00	4.024E+00	4.024E+00	21.71
	77.11	884	10.50	6.309E+00	3.576E+00	3.576E+00	16.83
	87.30	278	4.67	7.054E+00	2.265E+00	2.265E+00	28.97
	241.98	382	7.49	5.521E+00	2.478E+00	2.478E+00	27.68
	295.21	456	19.20	4.780E+00	1.331E+00	1.331E+00	20.07
	351.92	740	37.20*	4.180E+00	1.275E+00	1.275E+00	13.53
RA-224	240.98	382	3.95*	5.521E+00	4.698E+00	4.698E+00	27.11
RA-226	609.31	594	46.30*	2.656E+00	1.295E+00	1.295E+00	14.00
	1120.29	109	15.10	1.524E+00	1.266E+00	1.266E+00	29.10
	1764.49	90	15.80	1.059E+00	1.437E+00	1.437E+00	27.87
AC-228	338.32	340	11.40	4.309E+00	1.855E+00	1.855E+00	46.69
	911.07	296	27.70*	1.844E+00	1.553E+00	1.553E+00	20.55
	969.11	187	16.60	1.742E+00	1.731E+00	1.731E+00	30.33
RA-228	338.32	340	11.40	4.309E+00	1.855E+00	1.855E+00	46.69
	911.07	296	27.70*	1.844E+00	1.553E+00	1.553E+00	20.55
	969.11	187	16.60	1.742E+00	1.731E+00	1.731E+00	30.33
TH-228	74.81	568	10.70	6.088E+00	2.336E+00	2.373E+00	20.43
	77.11	884	18.00	6.309E+00	2.086E+00	2.120E+00	15.01
	87.30	278	8.00	7.054E+00	1.322E+00	1.343E+00	27.92
	238.63	1432	44.60*	5.571E+00	1.545E+00	1.569E+00	9.73
	300.09	110	3.41	4.722E+00	1.835E+00	1.864E+00	73.33
TH-230	609.31	594	46.30*	2.656E+00	1.295E+00	1.295E+00	14.00
	1120.29	109	15.10	1.524E+00	1.266E+00	1.266E+00	29.10
	1764.49	90	15.80	1.059E+00	1.437E+00	1.437E+00	27.87
TH-232	338.32	340	11.40	4.309E+00	1.855E+00	1.855E+00	23.48
	911.07	296	27.70*	1.844E+00	1.553E+00	1.553E+00	20.55
	969.11	187	16.60	1.742E+00	1.731E+00	1.731E+00	30.33
TH-234	63.29	74	3.80*	4.675E+00	1.121E+00	1.121E+00	122.77
	92.38	343	5.41	7.324E+00	2.322E+00	2.322E+00	35.16
U-234	609.31	594	46.30*	2.656E+00	1.295E+00	1.295E+00	14.00
	1120.29	109	15.10	1.524E+00	1.266E+00	1.266E+00	29.10
	1764.49	90	15.80	1.059E+00	1.437E+00	1.437E+00	27.87
NP-237	86.50	278	12.60*	7.054E+00	8.393E-01	8.393E-01	34.72
	95.87	-----	2.60	7.425E+00	-----	Line Not Found	-----
U-238	63.29	74	3.80*	4.675E+00	1.121E+00	1.121E+00	122.77
	92.38	343	5.41	7.324E+00	2.322E+00	2.322E+00	31.37
AM-243	74.67	568	66.00*	6.088E+00	3.787E-01	3.787E-01	20.40
	86.72	278	0.34	7.054E+00	3.147E+01	3.147E+01	27.92
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	155	100.00*	3.090E+00	1.342E-01	1.342E-01	42.88

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 3
Number of lines tentatively identified by NID 32 91.43%

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	2.081E+01	2.081E+01	0.211E+01	10.14	
CD-109	464.00D	1.02	2.843E+00	2.912E+00	0.813E+00	27.92	
SN-126	1.00E+05Y	1.00	2.858E-01	2.858E-01	0.798E-01	27.92	
TL-208	1.41E+10Y	1.00	5.297E-01	5.297E-01	0.785E-01	14.82	
BI-211	7.04E+08Y	1.00	3.666E+00	3.666E+00	0.458E+00	12.48	
PB-212	1.41E+10Y	1.00	1.545E+00	1.545E+00	0.150E+00	9.73	
PO-212	1.41E+10Y	1.00	1.545E+00	1.545E+00	0.150E+00	9.73	
BI-214	1600.00Y	1.00	1.295E+00	1.295E+00	0.181E+00	14.00	
PB-214	1600.00Y	1.00	1.275E+00	1.275E+00	0.173E+00	13.53	
PO-214	1600.00Y	1.00	1.275E+00	1.275E+00	0.173E+00	13.53	
PO-216	1.41E+10Y	1.00	1.545E+00	1.545E+00	0.150E+00	9.73	
PO-218	1600.00Y	1.00	1.275E+00	1.275E+00	0.173E+00	13.53	
RA-224	1.41E+10Y	1.00	4.698E+00	4.698E+00	1.274E+00	27.11	
RA-226	1600.00Y	1.00	1.295E+00	1.295E+00	0.181E+00	14.00	
AC-228	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.319E+00	20.55	
RA-228	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.319E+00	20.55	
TH-228	1.91Y	1.02	1.545E+00	1.569E+00	0.153E+00	9.73	
TH-230	4.47E+09Y	1.00	1.295E+00	1.295E+00	0.181E+00	14.00	
TH-232	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.319E+00	20.55	
TH-234	4.47E+09Y	1.00	1.121E+00	1.121E+00	1.377E+00	122.77	
U-234	4.47E+09Y	1.00	1.295E+00	1.295E+00	0.181E+00	14.00	
NP-237	2.14E+06Y	1.00	8.393E-01	8.393E-01	2.914E-01	34.72	
U-238	4.47E+09Y	1.00	1.121E+00	1.121E+00	1.377E+00	122.77	
AM-243	7380.00Y	1.00	3.787E-01	3.787E-01	0.773E-01	20.40	
ANH-511	1.00E+09Y	1.00	1.342E-01	1.342E-01	0.575E-01	42.88	
Total Activity :			5.627E+01	5.637E+01			

Grand Total Activity : 5.627E+01 5.637E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	84.53	144	545	1.83	168.57	164	28	1.99E-02	58.9	6.89E+00	T
3	90.02	214	460	1.57	179.53	164	28	2.98E-02	40.3	7.19E+00	T
0	129.83	83	522	0.98	259.07	253	12	1.15E-02	****	7.59E+00	T
0	185.72	269	502	1.84	370.76	363	16	3.74E-02	39.8	6.53E+00	T
0	209.39	138	362	1.34	418.05	412	11	1.91E-02	56.3	6.07E+00	T
0	270.24	130	257	1.69	539.66	533	13	1.81E-02	53.9	5.10E+00	T
0	327.61	66	191	0.72	654.31	650	10	9.12E-03	82.4	4.41E+00	T
0	462.59	122	131	2.63	924.09	916	15	1.69E-02	45.3	3.35E+00	T
0	567.32	138	147	2.10	1133.44	1128	15	1.92E-02	42.2	2.82E+00	T
0	727.18	86	80	1.36	1453.06	1447	12	1.20E-02	46.8	2.27E+00	T
0	767.79	47	58	1.09	1534.25	1528	11	6.54E-03	77.3	2.16E+00	T
0	794.04	31	105	4.85	1586.74	1578	15	4.32E-03	****	2.09E+00	
1	964.78	94	26	2.08	1928.21	1920	31	1.31E-02	31.3	1.75E+00	T
0	1378.03	31	28	1.12	2754.95	2747	14	4.35E-03	80.1	1.27E+00	
0	1728.94	23	8	2.25	3457.28	3449	13	3.24E-03	67.9	1.07E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630004.CNF;1  *
* Acquisition date   : 7-JAN-2010 13:12:40.  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 02:00:01.45             Half life ratio : 8.00000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G243630004             Analyst initials: MXR1          *
* Batch Number       : 937702                 Sample Quantity : 1.40030E+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	2.081E+01	2.110E+00	5.434E-01	3.945E-02	38.303
CD-109	2.912E+00	8.131E-01	1.076E+00	9.408E-02	2.707
SN-126	2.858E-01	7.981E-02	1.059E-01	9.219E-03	2.698
TL-208	5.297E-01	7.850E-02	5.169E-02	3.535E-03	10.248
BI-211	3.666E+00	4.576E-01	2.860E-01	1.812E-02	12.819
PB-212	1.545E+00	1.502E-01	8.117E-02	5.912E-03	19.029
PO-212	1.545E+00	1.502E-01	8.117E-02	5.912E-03	19.029
BI-214	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
PB-214	1.275E+00	1.725E-01	9.968E-02	8.179E-03	12.793
PO-214	1.275E+00	1.725E-01	9.968E-02	8.179E-03	12.793
PO-216	1.545E+00	1.502E-01	8.117E-02	5.912E-03	19.029
PO-218	1.275E+00	1.725E-01	9.968E-02	8.179E-03	12.793
RA-224	4.698E+00	1.274E+00	9.232E-01	5.307E-02	5.089
RA-226	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
AC-228	1.553E+00	3.192E-01	2.333E-01	2.740E-02	6.659
RA-228	1.553E+00	3.192E-01	2.333E-01	2.740E-02	6.659
TH-228	1.569E+00	1.526E-01	8.248E-02	6.008E-03	19.029
TH-230	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.553E+00	3.192E-01	2.333E-01	2.740E-02	6.659
TH-234	1.121E+00	1.377E+00	1.638E+00	2.816E-01	0.685
U-234	1.295E+00	1.812E-01	1.023E-01	8.098E-03	12.657
NP-237	8.393E-01	2.914E-01	3.137E-01	7.010E-02	2.676
U-238	1.121E+00	1.377E+00	1.638E+00	2.816E-01	0.685
AM-243	3.787E-01	7.726E-02	7.535E-02	5.655E-03	5.025
ANH-511	1.342E-01	5.754E-02	4.241E-02	2.491E-03	3.164

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.678E-01		2.886E-01	4.535E-01	3.057E-02	-0.370
NA-22	-3.973E-03		3.986E-02	6.493E-02	4.242E-03	-0.061
NA-24	-1.012E+00		8.413E-01	Half-Life too short		
AL-26	1.602E-02		2.524E-02	4.606E-02	2.670E-03	0.348
TI-44	3.850E-01	+	5.779E-02	7.232E-02	5.647E-03	5.323
SC-46	-1.176E-03		3.473E-02	5.794E-02	5.354E-03	-0.020
V-48	3.635E-02		5.746E-02	1.017E-01	8.633E-03	0.358
CR-51	2.230E-01		3.353E-01	5.753E-01	3.717E-02	0.388
MN-52	-1.524E-01		2.367E-01	3.506E-01	2.457E-02	-0.435
MN-54	-1.213E-02		3.310E-02	5.390E-02	4.521E-03	-0.225
CO-56	7.406E-03		3.630E-02	6.183E-02	5.300E-03	0.120
CO-57	-1.074E-02		2.436E-02	3.853E-02	2.741E-03	-0.279
CO-58	-1.640E-02		3.350E-02	5.099E-02	4.103E-03	-0.322
FE-59	-5.665E-02		8.648E-02	1.346E-01	1.037E-02	-0.421
CO-60	1.079E-02		3.640E-02	6.174E-02	4.400E-03	0.175
ZN-65	-3.846E-02		8.955E-02	1.199E-01	7.883E-03	-0.321
GE-68	8.772E-01		1.052E+00	1.880E+00	1.352E-01	0.466
AS-73	6.192E-02		5.957E-01	9.770E-01	6.369E-02	0.063
AS-74	4.507E-02		7.734E-02	1.316E-01	7.874E-03	0.342
SE-75	-1.585E-03		4.529E-02	6.562E-02	3.853E-03	-0.024
BR-77	-3.802E+00		1.160E+01	1.848E+01	1.089E+00	-0.206
SR-82	-6.256E-01		3.955E-01	5.441E-01	4.091E-02	-1.150
RB-83	-1.719E-02		5.902E-02	9.427E-02	5.557E-03	-0.182
RB-84	8.660E-04		5.546E-02	9.296E-02	8.475E-03	0.009
KR-85	1.262E+01		7.102E+00	1.159E+01	6.818E-01	1.088
SR-85	6.532E-02		3.677E-02	6.002E-02	3.530E-03	1.088
RB-86	3.989E-01		6.977E-01	1.219E+00	8.777E-02	0.327
Y-88	5.357E-03		3.330E-02	5.534E-02	3.143E-03	0.097
ZR-88	-3.466E-03		2.777E-02	4.549E-02	2.477E-03	-0.076
Y-91	-3.140E+00		1.654E+01	2.682E+01	1.560E+00	-0.117
NB-94	-2.679E-03		2.960E-02	4.743E-02	3.076E-03	-0.056
NB-95	4.803E-02		5.080E-02	7.325E-02	5.394E-03	0.656
NB-95M	7.925E-01		1.599E-01	2.655E-01	1.984E-02	2.985
ZR-95	6.117E-02		7.039E-02	1.208E-01	9.962E-03	0.506
NB-97	-4.419E-02		1.059E-01	Half-Life too short		
ZR-97	1.600E+01		2.514E+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	2.971E+00		1.402E+01	2.297E+01	3.290E+00	0.129
TC-99M	-3.397E+11		2.416E+11	Half-Life too short		
RH-101	5.844E-03		2.936E-02	4.976E-02	2.761E-03	0.117
RH-102	-6.215E-03		2.605E-02	4.201E-02	2.428E-03	-0.148
RU-103	-9.567E-03		3.598E-02	5.773E-02	7.310E-03	-0.166
RH-106	3.579E-02		2.707E-01	4.441E-01	5.253E-02	0.081
RU-106	3.579E-02		2.707E-01	4.441E-01	2.656E-02	0.081
AG-108M	-2.082E-02		2.984E-02	4.686E-02	2.878E-03	-0.444
AG-110M	-7.058E-03		3.032E-02	4.812E-02	3.040E-03	-0.147
IN-111	1.013E+00		1.260E+00	1.928E+00	1.111E-01	0.525
IN-113M	9.264E-03		3.991E-02	6.675E-02	3.906E-03	0.139
SN-113	9.264E-03		3.991E-02	6.675E-02	3.906E-03	0.139
IN-114M	-4.944E-02		1.813E-01	2.621E-01	1.443E-02	-0.189
CD-115	-2.615E+00		1.264E+01	2.032E+01	1.201E+00	-0.129
SN-117M	-6.173E-04		5.412E-02	8.655E-02	4.896E-03	-0.007
SB-122	2.284E+00		2.728E+00	4.161E+00	2.481E-01	0.549
I-123	-6.219E+00		8.789E+00	Half-Life too short		
TE-123M	-9.465E-03		2.675E-02	4.217E-02	2.412E-03	-0.224
I-124	1.168E+00		6.969E-01	1.157E+00	6.922E-02	1.009
SB-124	-3.134E-03		6.371E-02	1.023E-01	6.914E-03	-0.031
SB-125	-1.701E-02		8.461E-02	1.375E-01	8.058E-03	-0.124
TE-125M	-5.966E-01		8.759E+00	1.410E+01	1.324E+00	-0.042
I-126	7.871E-02		1.777E-01	2.971E-01	1.784E-02	0.265
SB-126	-3.380E-02		1.606E-01	2.176E-01	1.464E-02	-0.155
SB-127	-4.920E-01		1.290E+00	2.008E+00	2.015E-01	-0.245
XE-127	-1.548E-02		4.953E-02	7.135E-02	3.977E-03	-0.217
I-131	5.847E-02		1.119E-01	1.904E-01	1.204E-02	0.307
TE-132	-2.796E-01		7.498E-01	1.237E+00	1.795E-01	-0.226
BA-133	1.210E-02		4.388E-02	6.436E-02	7.398E-03	0.188
I-133	1.007E-02		5.499E-03	Half-Life too short		
CS-134	7.070E-02		5.478E-02	8.575E-02	6.749E-03	0.825
CS-135	2.495E-01		1.663E-01	2.613E-01	2.005E-02	0.955
I-135	-2.400E+10		2.728E+10	Half-Life too short		
CS-136	-4.363E-02		9.712E-02	1.541E-01	1.240E-02	-0.283
BA-137M	5.103E-03		3.258E-02	5.339E-02	3.174E-03	0.096
CS-137	5.395E-03		3.444E-02	5.644E-02	3.369E-03	0.096
CE-139	9.538E-03		2.803E-02	4.541E-02	2.438E-03	0.210
BA-140	5.690E-03		2.472E-01	4.040E-01	1.315E-01	0.014
LA-140	-4.484E-02		8.910E-02	1.343E-01	8.906E-03	-0.334
CE-141	2.152E-02		6.066E-02	9.857E-02	6.290E-03	0.218
CE-143	1.772E-03		2.402E-04	Half-Life too short		
CE-144	-5.025E-03		2.130E-01	2.982E-01	4.341E-02	-0.017
PM-144	3.369E-02		3.026E-02	5.312E-02	3.403E-03	0.634
PR-144	2.284E+00		2.052E+00	3.601E+00	2.306E-01	0.634
PM-146	2.096E-02		4.096E-02	6.581E-02	5.634E-03	0.318
ND-147	5.201E-01		5.146E-01	8.947E-01	1.214E-01	0.581
PM-149	-8.314E+00		1.112E+02	1.846E+02	2.620E+01	-0.045
EU-152	-2.801E-02		1.078E-01	1.316E-01	8.516E-03	-0.213

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	8.645E-02		7.797E-02	1.160E-01	9.306E-03	0.745
EU-154	-1.109E-02		1.113E-01	1.813E-01	1.778E-02	-0.061
EU-155	4.078E-02		1.006E-01	1.647E-01	1.275E-02	0.248
TB-160	3.112E-02		1.134E-01	1.946E-01	1.767E-02	0.160
HO-166M	3.556E-02		5.379E-02	9.151E-02	6.047E-03	0.389
TM-171	2.974E+00		3.115E+01	3.752E+01	2.616E+00	0.079
LU-176	-6.827E-03		2.202E-02	3.605E-02	2.099E-03	-0.189
LU-177	2.909E+00	+	1.645E+00	2.054E+00	1.151E-01	1.416
LU-177M	-3.816E-02		1.636E-01	2.659E-01	1.474E-02	-0.144
HF-181	1.178E-02		3.882E-02	6.490E-02	3.764E-03	0.181
W-181	3.880E-01		3.433E-01	5.108E-01	3.519E-02	0.760
TA-182	1.515E-01		1.891E-01	3.311E-01	1.981E-02	0.458
RE-183	-4.125E-02		1.049E-01	1.630E-01	8.976E-03	-0.253
RE-184	4.225E-02		2.031E-01	3.428E-01	1.983E-02	0.123
OS-185	-8.797E-03		4.082E-02	6.459E-02	3.852E-03	-0.136
RE-188	1.002E-01		1.668E-01	2.731E-01	1.583E-02	0.367
W-188	-9.898E-01		7.791E+00	1.118E+01	6.523E-01	-0.089
IR-192	-2.908E-03		3.069E-02	5.074E-02	2.961E-03	-0.057
AU-195	1.081E-01		2.320E-01	3.352E-01	2.660E-02	0.323
TL-200	-7.564E-04		3.741E-04	Half-Life too short		
TL-201	3.555E+00		8.150E+00	1.325E+01	7.119E-01	0.268
TL-202	-1.100E-03		6.768E-02	1.112E-01	6.285E-03	-0.010
HG-203	1.029E-02		3.687E-02	6.224E-02	3.851E-03	0.165
BI-207	-1.648E-02		4.532E-02	7.255E-02	5.369E-03	-0.227
TL-207	-1.655E-02		6.634E-01	9.545E-01	1.576E-01	-0.017
PO-209	8.947E+00		6.912E+00	1.265E+01	1.184E+00	0.707
BI-210	-2.635E-01		2.114E+00	3.409E+00	2.528E-01	-0.077
PB-210	-2.635E-01		2.114E+00	3.409E+00	2.528E-01	-0.077
PO-210	-2.635E-01		2.114E+00	3.409E+00	2.139E-01	-0.077
PB-211	-4.624E-01		9.425E-01	1.437E+00	8.956E-01	-0.322
BI-212	8.648E-01	+	4.117E-01	5.871E-01	4.994E-02	1.473
PO-215	-1.655E-02		6.634E-01	9.545E-01	1.576E-01	-0.017
RN-219	1.379E-01		3.908E-01	6.562E-01	8.844E-02	0.210
RN-220	1.409E+00		2.188E+01	3.586E+01	2.131E+00	0.039
RA-223	-1.655E-02		6.634E-01	9.545E-01	1.576E-01	-0.017
AC-227	-6.141E-02		3.311E-01	5.486E-01	7.657E-02	-0.112
TH-227	-6.141E-02		3.312E-01	5.486E-01	9.270E-02	-0.112
TH-229	-8.501E-02		4.786E-01	7.559E-01	4.175E-02	-0.112
PA-231	-9.729E-02		1.378E+00	2.289E+00	3.158E-01	-0.042
TH-231	-1.655E-02		6.634E-01	9.545E-01	1.576E-01	-0.017
U-231	-5.037E-02		1.296E+00	1.829E+00	1.485E-01	-0.028
PA-233	1.223E-02		5.706E-02	9.586E-02	5.919E-03	0.128
PA-234	-8.005E-03		2.641E-01	4.396E-01	8.308E-02	-0.018
PA-234M	-9.424E-01		4.035E+00	6.576E+00	6.357E-01	-0.143
U-235	1.354E-01		2.040E-01	3.287E-01	5.412E-02	0.412
NP-236	-8.075E-02		7.545E-02	1.151E-01	6.431E-03	-0.702
NP-239	-5.080E-02		1.856E-01	2.959E-01	2.139E-02	-0.172
AM-241	-3.508E-03		1.339E-01	1.911E-01	1.419E-02	-0.018

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.628E-02		8.957E-02	1.473E-01	1.132E-02	0.314
AM-246	2.837E-02		1.265E-01	2.141E-01	1.534E-02	0.132
CM-247	1.248E-02		3.513E-02	5.905E-02	3.244E-03	0.211
CF-249	2.230E-02		3.495E-02	5.981E-02	3.270E-03	0.373
CF-251	-2.437E-02		1.248E-01	1.976E-01	1.072E-02	-0.123

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243630004          *
* Acquisition date   : 7-JAN-2010 13:12:40 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 02:00:01.45 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243630004 Analyst initials: MXR1                 *
* Batch Number       : 937702 Sample Quantity : 1.4003E+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	2.081E+01	2.068E+00	2.729E-01	1.055E+00
CD-109	2.912E+00	7.968E-01	5.717E-01	4.065E-01
SN-126	2.858E-01	7.821E-02	5.631E-02	3.990E-02
TL-208	5.297E-01	7.693E-02	2.646E-02	3.925E-02
BI-211	3.666E+00	4.484E-01	1.479E-01	2.288E-01
PB-212	1.545E+00	1.472E-01	4.231E-02	7.510E-02
PO-212	1.545E+00	1.472E-01	4.231E-02	7.510E-02
BI-214	1.295E+00	1.776E-01	5.233E-02	9.062E-02
PB-214	1.275E+00	1.691E-01	5.155E-02	8.626E-02
PO-214	1.275E+00	1.691E-01	5.155E-02	8.626E-02
PO-216	1.545E+00	1.472E-01	4.231E-02	7.510E-02
PO-218	1.275E+00	1.691E-01	5.155E-02	8.626E-02
RA-224	4.698E+00	1.248E+00	4.811E-01	6.368E-01
RA-226	1.295E+00	1.776E-01	5.233E-02	9.062E-02
AC-228	1.553E+00	3.128E-01	1.183E-01	1.596E-01
RA-228	1.553E+00	3.128E-01	1.183E-01	1.596E-01
TH-228	1.569E+00	1.496E-01	4.299E-02	7.631E-02
TH-230	1.295E+00	1.776E-01	5.233E-02	9.062E-02
TH-232	1.553E+00	3.128E-01	1.183E-01	1.596E-01
TH-234	1.121E+00	1.349E+00	8.760E-01	6.884E-01
U-234	1.295E+00	1.776E-01	5.233E-02	9.062E-02
NP-237	8.393E-01	2.856E-01	1.667E-01	1.457E-01
U-238	1.121E+00	1.349E+00	8.760E-01	6.884E-01
AM-243	3.787E-01	7.572E-02	4.017E-02	3.863E-02
ANH-511	1.342E-01	5.638E-02	2.177E-02	2.877E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.678E-01	2.828E-01	2.331E-01	1.443E-01 NOT IDENT.
NA-22	-3.973E-03	3.906E-02	3.270E-02	1.993E-02 NOT IDENT.

NA-24	-1.012E+06	1.649E+06	0.000E+00	8.413E+05	SHORT HLIF
AL-26	1.602E-02	2.473E-02	2.302E-02	1.262E-02	NOT IDENT.
TI-44	3.850E-01	5.664E-02	3.852E-02	2.890E-02	FAIL ABUN
SC-46	-1.176E-03	3.404E-02	2.940E-02	1.737E-02	FAIL ABUN
V-48	3.635E-02	5.631E-02	5.149E-02	2.873E-02	NOT IDENT.
CR-51	2.230E-01	3.286E-01	2.981E-01	1.676E-01	NOT IDENT.
MN-52	-1.524E-01	2.319E-01	1.761E-01	1.183E-01	NOT IDENT.
MN-54	-1.213E-02	3.243E-02	2.739E-02	1.655E-02	NOT IDENT.
CO-56	7.406E-03	3.557E-02	3.141E-02	1.815E-02	NOT IDENT.
CO-57	-1.074E-02	2.387E-02	2.035E-02	1.218E-02	NOT IDENT.
CO-58	-1.640E-02	3.283E-02	2.593E-02	1.675E-02	NOT IDENT.
FE-59	-5.665E-02	8.475E-02	6.802E-02	4.324E-02	NOT IDENT.
CO-60	1.079E-02	3.567E-02	3.106E-02	1.820E-02	NOT IDENT.
ZN-65	-3.846E-02	8.776E-02	6.057E-02	4.477E-02	NOT IDENT.
GE-68	8.772E-01	1.031E+00	9.504E-01	5.262E-01	NOT IDENT.
AS-73	6.192E-02	5.838E-01	5.241E-01	2.979E-01	NOT IDENT.
AS-74	4.507E-02	7.580E-02	6.736E-02	3.867E-02	NOT IDENT.
SE-75	-1.585E-03	4.439E-02	3.413E-02	2.265E-02	NOT IDENT.
BR-77	-3.802E+00	1.137E+01	9.482E+00	5.802E+00	FAIL ABUN
SR-82	-6.256E-01	3.876E-01	2.769E-01	1.977E-01	NOT IDENT.
RB-83	-1.719E-02	5.784E-02	4.837E-02	2.951E-02	NOT IDENT.
RB-84	8.660E-04	5.435E-02	4.719E-02	2.773E-02	NOT IDENT.
KR-85	1.262E+01	6.960E+00	5.950E+00	3.551E+00	NOT IDENT.
SR-85	6.532E-02	3.604E-02	3.081E-02	1.839E-02	NOT IDENT.
RB-86	3.989E-01	6.837E-01	6.162E-01	3.489E-01	NOT IDENT.
Y-88	5.357E-03	3.263E-02	2.765E-02	1.665E-02	NOT IDENT.
ZR-88	-3.466E-03	2.721E-02	2.347E-02	1.388E-02	NOT IDENT.
Y-91	-3.140E+00	1.621E+01	1.352E+01	8.269E+00	NOT IDENT.
NB-94	-2.679E-03	2.901E-02	2.419E-02	1.480E-02	NOT IDENT.
NB-95	4.803E-02	4.979E-02	3.729E-02	2.540E-02	NOT IDENT.
NB-95M	7.925E-01	1.567E-01	1.384E-01	7.993E-02	NOT IDENT.
ZR-95	6.117E-02	6.898E-02	6.149E-02	3.519E-02	NOT IDENT.
NB-97	-4.419E+04	2.075E+05	0.000E+00	1.059E+05	SHORT HLIF
ZR-97	1.600E+07	4.927E+06	0.000E+00	2.514E+06	SHORT HLIF
MO-99	2.971E+00	1.374E+01	1.170E+01	7.008E+00	NOT IDENT.
TC-99M	-3.397E+17	4.735E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.844E-03	2.877E-02	2.603E-02	1.468E-02	NOT IDENT.
RH-102	-6.215E-03	2.553E-02	2.160E-02	1.302E-02	FAIL ABUN
RU-103	-9.567E-03	3.526E-02	2.965E-02	1.799E-02	FAIL ABUN
RH-106	3.579E-02	2.653E-01	2.271E-01	1.354E-01	FAIL ABUN
RU-106	3.579E-02	2.653E-01	2.271E-01	1.354E-01	FAIL ABUN
AG-108M	-2.082E-02	2.925E-02	2.413E-02	1.492E-02	NOT IDENT.
AG-110M	-7.058E-03	2.972E-02	2.457E-02	1.516E-02	NOT IDENT.
IN-111	1.013E+00	1.235E+00	1.004E+00	6.299E-01	NOT IDENT.
IN-113M	9.264E-03	3.911E-02	3.445E-02	1.995E-02	NOT IDENT.
SN-113	9.264E-03	3.911E-02	3.445E-02	1.995E-02	NOT IDENT.
IN-114M	-4.944E-02	1.777E-01	1.373E-01	9.066E-02	NOT IDENT.
CD-115	-2.615E+00	1.239E+01	1.042E+01	6.319E+00	NOT IDENT.
SN-117M	-6.117E-04	5.304E-02	4.548E-02	2.706E-02	NOT IDENT.
SB-122	2.284E+00	2.674E+00	2.132E+00	1.364E+00	NOT IDENT.
I-123	-6.219E+06	1.723E+07	0.000E+00	8.789E+06	SHORT HLIF
TE-123M	-9.465E-03	2.622E-02	2.215E-02	1.338E-02	NOT IDENT.
I-124	1.168E+00	6.829E-01	5.919E-01	3.484E-01	NOT IDENT.
SB-124	-3.134E-03	6.243E-02	5.120E-02	3.185E-02	FAIL ABUN
SB-125	-1.701E-02	8.292E-02	7.084E-02	4.230E-02	FAIL ABUN
TE-125M	-5.966E-01	8.584E+00	7.461E+00	4.380E+00	NOT IDENT.
I-126	7.871E-02	1.741E-01	1.517E-01	8.885E-02	NOT IDENT.
SB-126	-3.380E-02	1.574E-01	1.109E-01	8.030E-02	NOT IDENT.
SB-127	-4.920E-01	1.264E+00	1.024E+00	6.451E-01	NOT IDENT.
XE-127	-1.548E-02	4.854E-02	3.731E-02	2.477E-02	NOT IDENT.
I-131	5.847E-02	1.096E-01	9.839E-02	5.593E-02	NOT IDENT.
TE-132	-2.796E-01	7.348E-01	6.451E-01	3.749E-01	NOT IDENT.
BA-133	1.210E-02	4.300E-02	3.328E-02	2.194E-02	NOT IDENT.
I-133	1.007E+04	1.078E+04	0.000E+00	5.499E+03	SHORT HLIF
CS-134	7.070E-02	5.368E-02	4.361E-02	2.739E-02	NOT IDENT.
CS-135	2.495E-01	1.630E-01	1.359E-01	8.317E-02	NOT IDENT.
I-135	-2.400E+16	5.347E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.363E-02	9.518E-02	7.794E-02	4.856E-02	FAIL ABUN
BA-137M	5.103E-03	3.193E-02	2.726E-02	1.629E-02	NOT IDENT.
CS-137	5.395E-03	3.375E-02	2.882E-02	1.722E-02	NOT IDENT.
CE-139	9.538E-03	2.747E-02	2.384E-02	1.401E-02	NOT IDENT.
BA-140	5.690E-03	2.422E-01	2.072E-01	1.236E-01	NOT IDENT.
LA-140	-4.484E-02	8.732E-02	6.734E-02	4.455E-02	FAIL ABUN
CE-141	2.152E-02	5.945E-02	5.188E-02	3.033E-02	NOT IDENT.
CE-143	1.772E+03	4.707E+02	0.000E+00	2.402E+02	SHORT HLIF
CE-144	-5.025E-03	2.088E-01	1.572E-01	1.065E-01	NOT IDENT.
PM-144	3.369E-02	2.966E-02	2.709E-02	1.513E-02	NOT IDENT.
PR-144	2.284E+00	2.011E+00	1.837E+00	1.026E+00	NOT IDENT.

PM-146	2.096E-02	4.014E-02	3.386E-02	2.048E-02	NOT IDENT.
ND-147	5.201E-01	5.043E-01	4.589E-01	2.573E-01	FAIL ABUN
PM-149	-8.314E+00	1.089E+02	9.587E+01	5.558E+01	NOT IDENT.
EU-152	-2.801E-02	1.056E-01	6.811E-02	5.389E-02	FAIL ABUN
GD-153	8.645E-02	7.641E-02	6.154E-02	3.899E-02	FAIL ABUN
EU-154	-1.109E-02	1.091E-01	9.130E-02	5.564E-02	NOT IDENT.
EU-155	4.078E-02	9.858E-02	8.724E-02	5.029E-02	FAIL ABUN
TB-160	3.112E-02	1.111E-01	9.877E-02	5.669E-02	FAIL ABUN
HO-166M	3.556E-02	5.271E-02	4.665E-02	2.689E-02	FAIL ABUN
TM-171	2.974E+00	3.053E+01	2.004E+01	1.558E+01	NOT IDENT.
LU-176	-6.827E-03	2.158E-02	1.870E-02	1.101E-02	FAIL ABUN
LU-177	2.909E+00	1.613E+00	1.074E+00	8.227E-01	FAIL ABUN
LU-177M	-3.816E-02	1.603E-01	1.371E-01	8.181E-02	FAIL ABUN
HF-181	1.178E-02	3.805E-02	3.336E-02	1.941E-02	NOT IDENT.
W-181	3.880E-01	3.365E-01	2.730E-01	1.717E-01	NOT IDENT.
TA-182	1.515E-01	1.853E-01	1.669E-01	9.456E-02	FAIL ABUN
RE-183	-4.125E-02	1.028E-01	8.559E-02	5.245E-02	FAIL ABUN
RE-184	4.225E-02	1.990E-01	1.785E-01	1.016E-01	NOT IDENT.
OS-185	-8.797E-03	4.001E-02	3.300E-02	2.041E-02	NOT IDENT.
RE-188	1.002E-01	1.635E-01	1.436E-01	8.342E-02	NOT IDENT.
W-188	-9.898E-01	7.635E+00	5.805E+00	3.895E+00	FAIL ABUN
IR-192	-2.908E-03	3.007E-02	2.630E-02	1.534E-02	FAIL ABUN
AU-195	1.081E-01	2.273E-01	1.778E-01	1.160E-01	FAIL ABUN
TL-200	-7.564E+02	7.333E+02	0.000E+00	3.741E+02	SHORT HLIF
TL-201	3.555E+00	7.987E+00	6.956E+00	4.075E+00	NOT IDENT.
TL-202	-1.100E-03	6.633E-02	5.723E-02	3.384E-02	NOT IDENT.
HG-203	1.029E-02	3.613E-02	3.234E-02	1.843E-02	NOT IDENT.
BI-207	-1.648E-02	4.441E-02	3.668E-02	2.266E-02	FAIL ABUN
TL-207	-1.655E-02	6.502E-01	4.945E-01	3.317E-01	FAIL ABUN
PO-209	8.947E+00	6.774E+00	6.421E+00	3.456E+00	NOT IDENT.
BI-210	-2.635E-01	2.072E+00	1.833E+00	1.057E+00	NOT IDENT.
PB-210	-2.635E-01	2.072E+00	1.833E+00	1.057E+00	NOT IDENT.
PO-210	-2.635E-01	2.072E+00	1.833E+00	1.057E+00	NOT IDENT.
PB-211	-4.624E-01	9.237E-01	7.413E-01	4.713E-01	NOT IDENT.
BI-212	8.648E-01	4.035E-01	2.992E-01	2.059E-01	FAIL ABUN
PO-215	-1.655E-02	6.502E-01	4.945E-01	3.317E-01	FAIL ABUN
RN-219	1.379E-01	3.830E-01	3.385E-01	1.954E-01	FAIL ABUN
RN-220	1.409E+00	2.144E+01	1.838E+01	1.094E+01	NOT IDENT.
RA-223	-1.655E-02	6.502E-01	4.945E-01	3.317E-01	FAIL ABUN
AC-227	-6.141E-02	3.245E-01	2.856E-01	1.656E-01	FAIL ABUN
TH-227	-6.141E-02	3.245E-01	2.856E-01	1.656E-01	FAIL ABUN
TH-229	-8.501E-02	4.690E-01	3.956E-01	2.393E-01	FAIL ABUN
PA-231	-9.729E-02	1.350E+00	1.189E+00	6.890E-01	NOT IDENT.
TH-231	-1.655E-02	6.502E-01	4.945E-01	3.317E-01	FAIL ABUN
U-231	-5.037E-02	1.270E+00	9.704E-01	6.481E-01	FAIL ABUN
PA-233	1.223E-02	5.592E-02	4.970E-02	2.853E-02	FAIL ABUN
PA-234	-8.005E-03	2.589E-01	2.228E-01	1.321E-01	FAIL ABUN
PA-234M	-9.424E-01	3.954E+00	3.329E+00	2.018E+00	FAIL ABUN
U-235	1.354E-01	1.999E-01	1.731E-01	1.020E-01	FAIL ABUN
NP-236	-8.075E-02	7.394E-02	6.046E-02	3.772E-02	NOT IDENT.
NP-239	-5.080E-02	1.819E-01	1.564E-01	9.278E-02	FAIL ABUN
AM-241	-3.508E-03	1.312E-01	1.023E-01	6.696E-02	NOT IDENT.
CM-243	4.628E-02	8.777E-02	7.802E-02	4.478E-02	FAIL ABUN
AM-246	2.837E-02	1.239E-01	1.082E-01	6.324E-02	NOT IDENT.
CM-247	1.248E-02	3.443E-02	3.046E-02	1.757E-02	NOT IDENT.
CF-249	2.230E-02	3.425E-02	3.087E-02	1.748E-02	NOT IDENT.
CF-251	-2.437E-02	1.223E-01	1.036E-01	6.241E-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	385.0918
46.50	385.0918
46.50	385.0918
48.70	437.0271
49.72	452.8421
51.35	419.9641
52.39	448.0760
52.97	440.1765
53.15	453.5746
53.44	441.4296
54.07	448.9106
56.28	480.8085
56.28	480.8098
57.37	0.0000
57.53	470.4779
57.53	470.4788
57.60	470.5128
57.98	452.8621
57.98	452.8621
59.32	506.2699
59.32	506.2699
59.40	506.3120
59.54	496.4893
59.72	496.5820
60.01	496.7308
61.10	479.1160
61.14	479.1354
61.30	479.2142
63.00	545.2192
63.29	533.9950
63.29	533.9950
63.58	574.7288
64.28	561.8723
65.12	550.7286
65.20	550.7727
65.20	550.7727
66.05	572.8176
66.72	564.8848
66.83	564.9470
66.91	556.6819
67.20	556.8394
67.20	556.8394
67.75	611.1863
67.85	611.2446
68.90	585.5023
68.90	585.5023
69.30	585.0315
69.67	599.8184
70.82	598.8030
70.82	598.8030
70.83	598.8074
72.80	584.8732
72.87	584.9106
72.87	584.9106
74.67	585.8826
74.81	585.9573
74.81	585.9573
74.81	585.9573
74.81	585.9573
74.81	585.9573
74.81	585.9573
74.81	585.9573
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77.11	587.1793

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77.11	587.1793
77.11	587.1793
77.11	587.1793
77.11	587.1793
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79.80	546.5451
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80.30	546.7852
80.30	546.7852
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81.07	547.1541
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86.72	493.7701
86.79	493.7968
86.94	493.8609
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87.30	494.0088
87.30	494.0088
87.30	494.0088
87.30	494.0088
87.30	494.0088
87.57	494.1210
87.88	494.2493
88.03	494.3098
88.36	494.4470
88.47	494.4915
89.95	495.0973
91.11	495.5676
92.29	496.0432
92.38	496.0806
92.38	496.0806
93.35	496.4690
94.00	413.5509
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94.67	427.3940
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94.90	468.3459
94.90	468.3459
94.90	468.3459
95.87	461.8909
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96.73	414.4511
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98.44	370.6020
98.88	398.0639
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105.00	396.9302
105.31	406.6793
108.00	407.4961
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115.19	368.5590
116.30	405.6273
117.00	426.3910
117.00	426.3910
117.66	424.4239
121.11	384.2045
121.62	404.9693
121.78	402.8418
122.06	402.9196
122.32	418.1990
122.32	418.1990
122.32	418.1990
122.32	418.1990
123.07	417.3281
127.23	402.8147
129.76	388.6498
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133.02	315.0923
133.54	351.9708
135.34	341.8665
136.00	321.5495
136.25	319.5126
136.48	338.3593
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143.76	364.6374
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144.24	349.3187
144.24	349.3187
144.24	349.3187
145.22	373.7892
145.44	377.1493
147.16	412.8775
152.43	364.3719
152.70	364.4322
153.22	391.1381
154.21	361.4374
154.21	361.4374
154.21	361.4374
154.21	361.4374
155.03	367.1627
156.02	377.3691
158.56	351.2592
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159.00	355.7983
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161.27	369.6347
162.32	353.1496
162.64	348.7579
163.35	323.2653
163.89	336.7455
165.85	332.6627
167.43	330.7304
171.28	346.0101
171.86	384.2080
172.10	384.2604
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176.60	366.1357
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185.71	328.6820
186.00	328.7331
190.27	310.7749
192.34	305.0734
193.63	324.1720
197.04	318.8457
198.01	319.9142
198.60	316.3754
200.40	328.4981
201.83	348.3169
202.84	334.0709
205.31	336.0120

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208.81	306.1435
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209.75	281.9056
210.97	291.2253
215.65	277.3828
216.55	288.0544
218.09	286.4348
222.10	267.6777
223.80	263.2932
226.40	276.5259
227.00	271.9945
227.08	272.0053
227.20	272.0197
228.16	284.1367
228.18	284.1405
228.18	284.1405
231.56	0.0000
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236.00	297.8401
238.63	261.4301
238.63	261.4301
238.63	261.4301
238.63	261.4301
239.00	261.4748
240.98	261.7141
241.98	261.8345
241.98	261.8345
241.98	261.8345
244.69	212.2675
245.39	199.9366
247.94	223.4429
248.90	235.5149
249.79	226.7349
252.40	233.2184
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252.85	216.4706
254.15	0.0000
256.20	223.3339
256.20	223.3339
260.50	220.0113
260.90	219.1151
262.80	186.2602
264.65	221.9732
268.24	219.1858
268.79	217.6739
269.46	216.1697
269.46	216.1697
269.46	216.1697
269.46	216.1697
271.23	216.3325
273.65	238.5267
276.40	193.2435
277.35	208.6426
277.60	207.4880
277.60	207.4880
278.00	208.5710
278.60	217.9527
279.20	217.0653
279.53	208.5984
280.46	230.3971
281.68	232.4057
283.67	211.7965
284.30	209.0139
285.00	215.6982
285.90	212.9398
286.10	216.7421
286.10	216.7421
287.40	200.2197
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290.67	222.8398
290.80	222.8513
291.72	224.5155
293.26	0.0000
293.70	231.0271
295.21	231.1696
295.21	231.1696

295.21	231.1696
295.96	232.8218
296.50	232.8726
297.23	232.9414
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299.80	195.1129
299.80	195.1129
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300.09	182.4436
300.09	182.4436
300.09	182.4436
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301.29	176.1836
302.84	182.6449
303.76	173.1799
303.91	185.8998
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304.40	192.2948
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308.46	175.7299
311.98	176.9311
316.51	176.2847
318.01	182.1398
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319.41	171.6866
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323.87	176.1450
323.87	176.1450
323.87	176.1450
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334.20	200.1468
334.20	200.1468
334.30	200.1544
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338.28	174.8510
338.28	174.8510
338.28	174.8510
338.32	174.8555
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338.32	174.8555
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344.27	152.4878
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351.92	154.3728
351.92	154.3728
351.92	154.3728
355.39	0.0000
356.01	152.3312
364.48	140.4404
366.43	143.4668
367.43	161.0905
367.94	0.0000
369.80	129.9575
374.96	148.7919
383.85	158.0874
387.95	128.8108
388.63	116.0554
391.69	138.8210
391.69	138.8210
392.90	145.7724
398.62	134.2120
400.65	139.2410
401.10	141.2369
401.81	153.1249
402.60	154.1547
404.84	175.0360
410.95	151.6086
411.60	154.6156
413.65	151.7431
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433.93	139.7625
439.47	132.0081
439.56	132.0129
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444.90	131.2319
445.03	131.2383
445.03	131.2383
445.03	131.2383
445.03	131.2383
453.90	109.2478
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468.07	112.6658
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476.78	119.3684
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477.96	109.2920
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487.03	97.4098
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511.85	97.0938
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513.99	90.3352
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563.23	84.6654
563.90	88.1356
568.70	118.3585
569.32	122.8777
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569.67	122.8893
573.80	107.4303
574.00	107.4354
574.64	103.9868
578.91	97.1660
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592.07	87.7509
593.00	85.6816
595.88	69.0148
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602.71	55.8685
603.60	59.3741
604.41	69.8665
604.70	78.6053
609.31	101.7837

609.31	101.7837
609.31	101.7837
609.31	101.7837
610.33	101.8097
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661.65	86.1080
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677.61	81.1025
685.20	66.2822
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722.78	71.8945
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722.95	71.8978
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752.31	74.9078
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756.87	66.2898
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765.79	68.9616
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778.89	69.8875
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896.60	50.3514
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911.07	91.3706
911.07	91.3706
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969.11	58.6220
969.11	58.6220
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1050.47	60.4570
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1085.78	51.1777
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1112.02	76.8217
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1120.29	59.2501
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1175.09	61.7567
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1274.54	50.7925
1291.56	30.9546
1298.22	0.0000
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1325.50	39.1444
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1360.21	24.2148
1362.66	0.0000
1365.15	35.3390
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1368.53	0.0000
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1394.10	24.3359
1395.20	27.3823
1407.95	24.3848
1434.06	31.6156
1436.60	29.5865
1457.56	0.0000
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1509.49	14.4295
1596.49	31.2854
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1691.02	13.7242
1691.02	13.7242
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1750.46	0.0000
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1764.49	20.0917
1764.49	20.0917
1764.49	20.0917
1770.23	62.9060
1771.40	24.5264
1791.20	0.0000
1808.65	8.5700

1836.01

15.0465

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630004

Total Uranium Activity	3.3990E+00	ug/g
Total Uranium Counting Unc.	4.0151E+00	ug/g
Total Uranium Tpu	2.0485E-06	ug/g
Total Uranium Mda	2.6074E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 937702                SAMPLE ID   : G243630004                *
*  ANALYST       : MXR1                  DETECTOR    : GAM14                  *
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE: 7-JAN-2010 13:12:40.48  SAMPLE ALQT: 140.030 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.625E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.314E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.578E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.744E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:14:06.66

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630005.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:13:07.
Sample ID          : G243630005 Sample quantity : 1.26270E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.05 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.26*	152	651	0.73	126.78	122	10	2.12E-02	33.1	
2	3	74.80*	534	608	1.26	149.84	143	16	7.42E-02	9.4	9.74E-01
3	3	77.14*	753	518	1.09	154.50	143	16	1.05E-01	6.5	
4	3	87.20*	234	533	1.21	174.61	171	23	3.26E-02	17.0	2.30E+00
5	3	89.99*	188	538	1.41	180.19	171	23	2.61E-02	22.6	
6	3	92.71*	379	447	1.36	185.61	171	23	5.26E-02	12.2	
7	0	129.84	205	554	1.22	259.79	255	11	2.85E-02	23.3	
8	0	185.93*	394	583	1.31	371.88	365	14	5.47E-02	14.4	
9	0	209.24	147	440	1.13	418.44	414	10	2.04E-02	27.9	
10	4	238.69*	1595	251	1.21	477.30	469	19	2.22E-01	3.1	9.73E-01
11	4	241.58	402	295	1.83	483.08	469	19	5.59E-02	9.9	
12	0	270.21	200	323	2.10	540.29	535	12	2.78E-02	19.3	
13	0	295.26*	536	291	1.24	590.34	585	11	7.44E-02	7.7	
14	0	300.45	146	258	1.18	600.72	596	12	2.03E-02	23.7	
15	0	338.47*	322	274	1.60	676.70	672	11	4.47E-02	11.7	
16	0	351.94*	916	249	1.28	703.61	699	12	1.27E-01	4.9	
17	0	410.26	74	233	1.46	820.17	812	12	1.03E-02	43.1	
18	0	463.30	79	181	1.38	926.16	921	11	1.09E-02	35.2	
19	0	510.65*	202	230	1.84	1020.80	1012	19	2.81E-02	21.7	
20	0	583.25*	556	159	1.58	1165.90	1159	16	7.73E-02	6.8	
21	0	609.22*	717	213	1.79	1217.82	1209	17	9.95E-02	6.1	
22	0	661.42	281	154	2.09	1322.17	1313	16	3.90E-02	11.6	
23	0	727.52*	89	146	2.09	1454.30	1448	12	1.24E-02	29.6	
24	5	768.62	76	74	2.44	1536.47	1532	17	1.06E-02	22.7	9.37E-01
25	5	772.60	46	63	1.98	1544.42	1532	17	6.37E-03	38.2	
26	0	794.89*	90	97	1.75	1588.98	1582	16	1.25E-02	27.2	
27	0	861.06	111	76	1.69	1721.26	1713	17	1.54E-02	20.7	
28	0	911.38*	381	116	2.10	1821.89	1813	20	5.29E-02	9.0	
29	1	964.69*	111	63	2.56	1928.46	1918	30	1.54E-02	20.6	1.94E+00
30	1	969.00*	246	65	2.35	1937.09	1918	30	3.42E-02	9.9	
31	0	1121.42*	211	120	3.06	2241.86	2233	25	2.93E-02	16.3	
32	0	1238.71	98	73	1.94	2476.42	2470	16	1.36E-02	22.6	
33	0	1460.61*	1470	56	2.68	2920.24	2909	21	2.04E-01	3.0	
34	0	1589.85	30	50	1.63	3178.78	3171	18	4.12E-03	60.5	
35	0	1729.25	64	10	2.40	3457.67	3447	19	8.82E-03	17.1	
36	0	1764.37*	157	21	1.62	3527.93	3517	21	2.17E-02	11.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 7-JAN-2010 15:14:09

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630005.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:13:07
 Sample ID : G243630005 Sample quantity : 126.27 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA22 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.05 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	*	2.145E+01	2.339E+00	4.243E-01	3.887E-02	50.548
CD-109	+	88.03	*	2.566E+00	9.066E-01	1.110E+00	1.053E-01	2.313
SN-126	+	64.28		1.089E+00	7.393E-01	6.646E-01	9.653E-02	1.639
	+	86.94		1.047E+00	5.624E-01	4.572E-01	1.898E-01	2.291
	+	87.57	*	2.519E-01	8.898E-02	1.093E-01	1.033E-02	2.304
BA-137M	+	661.65	*	2.586E-01	6.586E-02	5.093E-02	5.371E-03	5.078
CS-137	+	661.65	*	2.734E-01	6.963E-02	5.384E-02	5.685E-03	5.078
TL-208		277.35		5.203E-01	3.788E-01	6.074E-01	1.001E-01	0.857
	+	510.84		6.470E-01	2.927E-01	1.791E-01	2.334E-02	3.612
	+	583.14	*	4.998E-01	8.658E-02	5.093E-02	5.523E-03	9.814
	+	860.37		9.065E-01	3.906E-01	3.610E-01	4.206E-02	2.511
BI-211		72.87		5.642E+00	2.664E+00	4.584E+00	3.669E-01	1.231
	+	351.07	*	3.897E+00	5.914E-01	2.783E-01	3.247E-02	14.000
PB-212	+	74.81		2.406E+00	5.416E-01	4.581E-01	5.684E-02	5.253
	+	77.11		1.923E+00	2.964E-01	2.608E-01	2.181E-02	7.373
	+	87.30		1.165E+00	4.277E-01	5.070E-01	6.962E-02	2.298
	+	238.63	*	1.585E+00	2.311E-01	7.859E-02	1.038E-02	20.162
	+	300.09		2.151E+00	1.067E+00	1.034E+00	1.508E-01	2.080
PO-212	+	74.81		2.406E+00	5.416E-01	4.581E-01	5.684E-02	5.253
	+	77.11		1.923E+00	2.964E-01	2.608E-01	2.181E-02	7.373
	+	87.30		1.165E+00	4.277E-01	5.070E-01	6.962E-02	2.298
		115.19		6.702E-02	3.328E+00	5.302E+00	4.392E-01	0.013
	+	238.63	*	1.585E+00	2.311E-01	7.859E-02	1.038E-02	20.162
	+	300.09		2.151E+00	1.067E+00	1.034E+00	1.508E-01	2.080
BI-214	+	609.31	*	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
	+	1120.29		1.769E+00	6.095E-01	3.520E-01	3.889E-02	5.026
	+	1764.49		1.716E+00	4.262E-01	2.633E-01	2.194E-02	6.518
PB-214	+	74.81		4.146E+00	9.028E-01	7.893E-01	8.700E-02	5.253
	+	77.11		3.297E+00	5.669E-01	4.471E-01	5.058E-02	7.373
	+	87.30		1.996E+00	7.216E-01	8.685E-01	1.057E-01	2.298
	+	241.98		2.396E+00	5.777E-01	4.763E-01	6.551E-02	5.029
	+	295.21		1.390E+00	2.977E-01	1.921E-01	2.860E-02	7.236
	+	351.92	*	1.355E+00	2.175E-01	9.754E-02	1.243E-02	13.896
PO-214	+	74.81		4.146E+00	9.028E-01	7.893E-01	8.700E-02	5.253

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.297E+00	5.669E-01	4.471E-01	5.058E-02	7.373
	+	87.30		1.996E+00	7.216E-01	8.685E-01	1.057E-01	2.298
	+	241.98		2.396E+00	5.777E-01	4.763E-01	6.551E-02	5.029
	+	295.21		1.390E+00	2.977E-01	1.921E-01	2.860E-02	7.236
	+	351.92	*	1.355E+00	2.175E-01	9.754E-02	1.243E-02	13.896
	+	74.81		2.406E+00	5.416E-01	4.581E-01	5.684E-02	5.253
	+	77.11		1.923E+00	2.964E-01	2.608E-01	2.181E-02	7.373
	+	87.30		1.165E+00	4.277E-01	5.070E-01	6.962E-02	2.298
PO-218	+	238.63	*	1.585E+00	2.311E-01	7.859E-02	1.038E-02	20.162
	+	300.09		2.151E+00	1.067E+00	1.034E+00	1.508E-01	2.080
	+	74.81		4.146E+00	9.028E-01	7.893E-01	8.700E-02	5.253
	+	77.11		3.297E+00	5.669E-01	4.471E-01	5.058E-02	7.373
	+	87.30		1.996E+00	7.216E-01	8.685E-01	1.057E-01	2.298
	+	241.98		2.396E+00	5.777E-01	4.763E-01	6.551E-02	5.029
	+	295.21		1.390E+00	2.977E-01	1.921E-01	2.860E-02	7.236
	+	351.92	*	1.355E+00	2.175E-01	9.754E-02	1.243E-02	13.896
RA-224	+	240.98	*	4.543E+00	1.065E+00	8.935E-01	1.119E-01	5.084
RA-226	+	609.31	*	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
AC-228	+	1120.29		1.769E+00	6.095E-01	3.520E-01	3.889E-02	5.026
	+	1764.49		1.716E+00	4.262E-01	2.633E-01	2.194E-02	6.518
	+	338.32		1.520E+00	7.323E-01	3.702E-01	1.557E-01	4.106
	+	911.07	*	1.466E+00	3.285E-01	1.835E-01	2.432E-02	7.989
	+	969.11		1.663E+00	5.203E-01	2.646E-01	6.390E-02	6.284
	+	338.32		1.520E+00	7.323E-01	3.702E-01	1.557E-01	4.106
	+	911.07	*	1.466E+00	3.285E-01	1.835E-01	2.432E-02	7.989
	+	969.11		1.663E+00	5.203E-01	2.646E-01	6.390E-02	6.284
TH-228	+	74.81		2.445E+00	5.014E-01	4.655E-01	3.835E-02	5.253
TH-230	+	77.11		1.954E+00	3.012E-01	2.650E-01	2.216E-02	7.373
	+	87.30		1.184E+00	4.182E-01	5.151E-01	4.848E-02	2.298
	+	238.63	*	1.610E+00	2.348E-01	7.986E-02	1.055E-02	20.162
	+	300.09		2.186E+00	1.674E+00	1.051E+00	6.322E-01	2.080
	+	609.31	*	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
	+	1120.29		1.769E+00	6.095E-01	3.520E-01	3.889E-02	5.026
	+	1764.49		1.716E+00	4.262E-01	2.633E-01	2.194E-02	6.518
	+	338.32		1.520E+00	3.999E-01	3.702E-01	4.403E-02	4.106
TH-232	+	911.07	*	1.466E+00	3.285E-01	1.835E-01	2.432E-02	7.989
TH-234	+	969.11		1.663E+00	5.203E-01	2.646E-01	6.390E-02	6.284
	+	63.29	*	2.752E+00	1.886E+00	1.639E+00	2.852E-01	1.680
	+	92.38		2.649E+00	8.101E-01	7.211E-01	1.321E-01	3.674
	+	609.31	*	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
	+	1120.29		1.769E+00	6.095E-01	3.520E-01	3.889E-02	5.026
	+	1764.49		1.716E+00	4.262E-01	2.633E-01	2.194E-02	6.518
	+	86.50	*	7.397E-01	3.026E-01	3.566E-01	8.074E-02	2.074
	+	95.87		-2.655E-01	8.970E-01	1.266E+00	3.131E-01	-0.210
U-238	+	63.29	*	2.752E+00	1.886E+00	1.639E+00	2.852E-01	1.680
AM-243	+	92.38		2.649E+00	6.921E-01	7.211E-01	6.571E-02	3.674
	+	74.67	*	3.901E-01	7.988E-02	7.447E-02	6.070E-03	5.238
	+	86.72		2.774E+01	9.799E+00	1.334E+01	1.247E+00	2.079
		117.66		-4.132E+00	3.733E+00	5.651E+00	4.668E-01	-0.731

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	142.18			4.500E+00	1.611E+01	2.739E+01	2.419E+00	0.164
	511.00	*		1.398E-01	6.213E-02	3.870E-02	3.878E-03	3.611

---- 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	*		1.017E-01	2.818E-01	4.646E-01	4.849E-02	0.219
NA-22	1274.54	*		-2.127E-02	3.565E-02	5.611E-02	4.836E-03	-0.379
NA-24	1368.53	*		-2.323E+00	3.565E-02	Half-Life too short		
AL-26	1129.67			6.206E-01	1.667E+00	2.388E+00	2.080E-01	0.260
	1808.65	*		-1.393E-02	2.327E-02	3.460E-02	2.830E-03	-0.403
TI-44	67.85			-2.039E-02	4.346E-02	6.262E-02	4.780E-03	-0.326
	78.38	*		3.549E-01	5.470E-02	6.763E-02	5.734E-03	5.248
SC-46	889.25	*		-2.031E-02	3.295E-02	5.211E-02	5.834E-03	-0.390
	1120.51	+		3.052E-01	1.032E-01	1.118E-01	9.881E-03	2.731
V-48	944.10			-1.355E-02	7.553E-01	1.244E+00	1.349E-01	-0.011
	983.50	*		-3.042E-03	5.879E-02	9.618E-02	1.009E-02	-0.032
	1312.09			6.697E-02	6.433E-02	1.154E-01	1.016E-02	0.580
CR-51	320.08	*		-1.503E-02	3.403E-01	5.683E-01	7.358E-02	-0.026
MN-52	744.21			1.142E-01	2.304E-01	3.858E-01	4.192E-02	0.296
	848.13			-3.374E+00	6.403E+00	1.027E+01	1.144E+00	-0.328
	935.52			3.172E-01	2.420E-01	4.303E-01	4.698E-02	0.737
	1246.25			-1.621E+00	7.484E+00	1.030E+01	8.709E-01	-0.157
	1333.61			1.477E+00	4.349E+00	7.393E+00	6.593E-01	0.200
	1434.06	*		1.549E-02	2.219E-01	3.655E-01	3.266E-02	0.042
MN-54	834.83	*		-9.727E-03	3.171E-02	5.187E-02	5.763E-03	-0.188
CO-56	846.75	*		-2.126E-02	3.463E-02	5.529E-02	6.154E-03	-0.385
	977.42			-1.911E-01	2.719E+00	3.779E+00	3.985E-01	-0.051
	1037.82			-9.629E-02	2.599E-01	4.120E-01	4.249E-02	-0.234
	1175.09			-5.422E-01	1.861E+00	3.042E+00	2.450E-01	-0.178
	1238.25	+		2.321E-01	1.068E-01	1.455E-01	1.261E-02	1.595
	1360.21			7.093E-01	9.281E-01	1.619E+00	1.447E-01	0.438
	1771.40			1.349E-01	2.159E-01	3.382E-01	2.810E-02	0.399
CO-57	122.06	*		1.997E-03	2.485E-02	3.951E-02	3.258E-03	0.051
	136.48			-8.530E-02	1.924E-01	3.203E-01	2.972E-02	-0.266
CO-58	810.76	*		-1.261E-02	3.151E-02	5.123E-02	5.673E-03	-0.246
FE-59	142.65			-4.828E-01	2.609E+00	4.281E+00	3.788E-01	-0.113
	192.34			2.443E-01	9.601E-01	1.482E+00	2.201E-01	0.165
	1099.22	*		-2.795E-02	8.078E-02	1.278E-01	1.252E-02	-0.219
	1291.56			-7.666E-02	9.916E-02	1.524E-01	1.503E-02	-0.503
CO-60	1173.22			-4.929E-03	3.790E-02	6.269E-02	5.041E-03	-0.079
	1332.49	*		7.243E-03	3.095E-02	5.210E-02	4.646E-03	0.139
ZN-65	1115.52	*		5.243E-02	9.246E-02	1.346E-01	1.201E-02	0.390
GE-68	1077.35	*		-7.737E-02	1.035E+00	1.675E+00	1.579E-01	-0.046
AS-73	53.44	*		8.379E-01	6.935E-01	1.184E+00	8.950E-02	0.707
AS-74	595.88	*		-1.663E-02	8.390E-02	1.375E-01	1.425E-02	-0.121
	634.78			-6.178E-02	3.114E-01	5.067E-01	5.311E-02	-0.122
SE-75	66.05			-2.216E+00	4.486E+00	6.462E+00	6.165E-01	-0.343

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-5.441E-01	7.667E-01	1.056E+00	1.453E-01	-0.515
		121.11		8.730E-02	1.317E-01	2.138E-01	2.338E-02	0.408
		136.00		4.368E-03	3.718E-02	6.112E-02	5.303E-03	0.071
		198.60		2.163E-01	1.779E+00	2.820E+00	3.296E-01	0.077
		264.65	*	3.854E-02	4.667E-02	6.847E-02	9.215E-03	0.563
		279.53		-5.466E-02	1.063E-01	1.656E-01	2.351E-02	-0.330
		303.91		9.677E-01	2.035E+00	3.058E+00	4.659E-01	0.316
		400.65		1.897E-02	2.359E-01	3.887E-01	4.549E-02	0.049
BR-77	+	87.88		7.271E+02	2.568E+02	3.810E+02	3.611E+01	1.908
		200.40		-2.039E+01	2.055E+02	3.367E+02	3.702E+01	-0.061
	+	239.00		3.341E+02	4.637E+01	4.436E+01	5.520E+00	7.532
		249.79		3.567E+01	8.129E+01	1.336E+02	1.718E+01	0.267
		281.68		-7.437E+01	1.131E+02	1.746E+02	2.432E+01	-0.426
		297.23		5.446E+02	1.300E+02	1.546E+02	2.079E+01	3.522
		303.76		1.006E+02	2.259E+02	3.392E+02	4.486E+01	0.297
		439.47		1.048E+02	1.779E+02	2.978E+02	2.867E+01	0.352
		484.57		-1.766E+02	2.715E+02	4.203E+02	4.155E+01	-0.420
		520.65	*	1.039E+01	1.210E+01	2.034E+01	2.047E+00	0.511
		574.64		-8.324E+01	2.513E+02	3.904E+02	4.017E+01	-0.213
		578.91		2.827E+01	1.093E+02	1.596E+02	1.645E+01	0.177
		585.48		2.384E+03	3.939E+02	6.018E+02	6.216E+01	3.962
		755.35		2.773E+01	1.846E+02	3.022E+02	3.295E+01	0.092
		817.79		2.364E+01	1.448E+02	2.447E+02	2.709E+01	0.097
SR-82		698.33		-5.608E+00	3.021E+01	4.877E+01	5.218E+00	-0.115
		776.49	*	1.332E-01	3.930E-01	5.610E-01	6.152E-02	0.237
		1395.20		-7.460E+00	9.784E+00	1.479E+01	1.323E+00	-0.504
RB-83		520.41	*	5.106E-02	6.127E-02	1.029E-01	1.035E-02	0.496
		529.64		7.353E-02	9.145E-02	1.592E-01	1.609E-02	0.462
		552.65		-2.154E-03	1.706E-01	2.845E-01	2.903E-02	-0.008
RB-84		881.50	*	-8.471E-03	5.476E-02	8.982E-02	1.005E-02	-0.094
KR-85		513.99	*	2.482E+01	7.921E+00	1.279E+01	1.283E+00	1.940
SR-85		513.99	*	1.285E-01	4.101E-02	6.623E-02	6.646E-03	1.940
RB-86		1076.63	*	2.044E-01	6.732E-01	1.121E+00	1.058E-01	0.182
Y-88		898.02		-2.630E-02	3.719E-02	5.852E-02	6.575E-03	-0.449
		1836.01	*	-1.888E-03	2.925E-02	4.761E-02	3.849E-03	-0.040
ZR-88		392.90	*	1.219E-02	2.925E-02	4.900E-02	4.563E-03	0.249
Y-91		1204.90	*	-3.336E+00	1.543E+01	2.529E+01	2.080E+00	-0.132
NB-94		702.63	*	-2.312E-02	2.866E-02	4.420E-02	4.736E-03	-0.523
		871.10		1.512E-02	2.921E-02	4.846E-02	5.414E-03	0.312
NB-95		765.79	*	6.816E-02	4.255E-02	6.643E-02	7.265E-03	1.026
NB-95M		235.69	*	1.779E-01	1.318E-01	1.973E-01	2.608E-02	0.902
ZR-95		724.18		1.358E-01	1.034E-01	1.576E-01	1.797E-02	0.861
		756.15	*	3.146E-02	5.957E-02	9.990E-02	1.160E-02	0.315
NB-97		657.90	*	5.096E-01	5.957E-02	Half-Life	too short	
		1024.50		-1.598E+01	5.957E-02	Half-Life	too short	
ZR-97		254.15		-1.683E+01	5.957E-02	Half-Life	too short	
		355.39		1.197E+01	5.957E-02	Half-Life	too short	
		507.63	*	1.500E+01	5.957E-02	Half-Life	too short	
		602.52		-6.048E+00	5.957E-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
	1021.30			-7.797E+00	5.957E-02	Half-Life	too short	
	1147.95			-3.422E+00	5.957E-02	Half-Life	too short	
	1362.66			1.495E+01	5.957E-02	Half-Life	too short	
	1750.46			-3.368E+00	5.957E-02	Half-Life	too short	
MO-99	140.51			3.158E+00	3.048E+01	5.158E+01	1.431E+01	0.061
	181.06			1.328E+01	2.230E+01	3.321E+01	6.358E+00	0.400
	366.43			-8.199E+01	9.939E+01	1.573E+02	1.669E+01	-0.521
	739.58	*		-6.483E+00	1.284E+01	2.007E+01	3.323E+00	-0.323
	778.00			4.222E+01	4.116E+01	6.246E+01	6.853E+00	0.676
TC-99M	140.51	*		4.790E+10	4.116E+01	Half-Life	too short	
RH-101	127.23			-2.841E-03	3.476E-02	4.855E-02	4.058E-03	-0.059
	198.01	*		-4.185E-03	3.298E-02	5.189E-02	5.661E-03	-0.081
	325.23			2.133E-02	2.062E-01	3.459E-01	4.300E-02	0.062
RH-102	418.52			-1.586E-01	2.583E-01	4.080E-01	3.872E-02	-0.389
	475.06	*		-3.236E-02	2.644E-02	3.933E-02	3.867E-03	-0.823
	631.29			-2.477E-02	4.817E-02	7.686E-02	8.048E-03	-0.322
	697.49			-1.349E-02	6.671E-02	1.076E-01	1.151E-02	-0.125
	766.84			2.496E-01	1.092E-01	1.761E-01	1.927E-02	1.417
	1046.59			3.621E-02	9.642E-02	1.617E-01	1.586E-02	0.224
	1112.84			-6.919E-04	2.192E-01	3.021E-01	2.704E-02	-0.002
RU-103	497.08	*		1.282E-02	3.661E-02	6.008E-02	9.017E-03	0.213
	610.33	+		1.325E+01	2.846E+00	2.563E+00	4.531E-01	5.171
RH-106	511.85	+		6.993E-01	3.109E-01	3.853E-01	3.862E-02	1.815
	621.84	*		1.835E-01	2.804E-01	4.784E-01	6.985E-02	0.384
	1050.47			-4.184E-01	1.933E+00	3.101E+00	3.026E-01	-0.135
RU-106	511.85	+		6.993E-01	3.109E-01	3.853E-01	3.862E-02	1.815
	621.84	*		1.835E-01	2.798E-01	4.784E-01	4.996E-02	0.384
	1050.47			-4.184E-01	1.933E+00	3.101E+00	3.026E-01	-0.135
AG-108M	433.93	*		-1.619E-02	3.095E-02	4.901E-02	4.852E-03	-0.330
	614.37			-1.391E-02	3.845E-02	5.293E-02	5.666E-03	-0.263
	722.95			2.215E-02	4.254E-02	6.194E-02	6.853E-03	0.358
AG-110M	657.75	*		5.882E-02	3.451E-02	5.498E-02	5.909E-03	1.070
	677.61			1.329E-01	2.566E-01	4.336E-01	4.689E-02	0.306
	706.67			5.246E-02	1.748E-01	2.906E-01	3.174E-02	0.181
	763.93			5.985E-02	1.532E-01	2.203E-01	2.451E-02	0.272
	884.67			3.505E-02	3.761E-02	6.639E-02	7.571E-03	0.528
	937.48			9.831E-04	9.293E-02	1.535E-01	1.711E-02	0.006
	1384.27			-2.709E-01	1.653E-01	2.302E-01	2.112E-02	-1.177
IN-111	171.28			-7.688E-01	1.156E+00	1.874E+00	1.870E-01	-0.410
	245.39	*		3.433E-02	1.373E+00	1.944E+00	2.467E-01	0.018
IN-113M	391.69	*		-1.085E-02	4.165E-02	6.763E-02	6.458E-03	-0.161
SN-113	391.69	*		-1.085E-02	4.165E-02	6.763E-02	6.458E-03	-0.161
IN-114M	190.27	*		-7.269E-02	1.928E-01	2.737E-01	2.910E-02	-0.266
CD-115	260.90			-1.257E+02	1.733E+02	2.688E+02	3.572E+01	-0.467
	492.35			4.902E+00	4.307E+01	6.986E+01	6.935E+00	0.070
	527.90	*		-1.084E+00	1.283E+01	2.094E+01	2.114E+00	-0.052
SN-117M	156.02			7.688E-01	2.193E+00	3.714E+00	3.482E-01	0.207
	158.56	*		-2.994E-02	5.729E-02	8.994E-02	8.530E-03	-0.333
SB-122	563.90	*		1.396E+00	2.377E+00	4.072E+00	4.174E-01	0.343

---- Non-Identified Nuclides ----

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I-123	692.80			2.195E+01	4.886E+01	8.192E+01	8.747E+00	0.268
	159.00	*		8.378E-02	4.886E+01	Half-Life	too short	
	528.96			9.744E+02	4.886E+01	Half-Life	too short	
TE-123M	159.00	*		1.275E-04	2.815E-02	4.502E-02	4.299E-03	0.003
I-124	602.71	*		-2.739E-01	7.883E-01	1.090E+00	1.133E-01	-0.251
	722.78			2.611E+00	5.183E+00	7.536E+00	8.133E-01	0.346
	1325.50			1.833E+01	3.148E+01	5.459E+01	4.848E+00	0.336
SB-124	1376.25			5.705E+01	3.522E+01	6.397E+01	5.717E+00	0.892
	1509.49			2.789E+01	1.624E+01	3.040E+01	2.702E+00	0.917
	1691.02			-6.355E-01	3.049E+00	4.883E+00	4.176E-01	-0.130
	602.71			-1.378E-02	3.967E-02	5.487E-02	5.700E-03	-0.251
	645.85			3.441E-03	4.340E-01	7.144E-01	7.814E-02	0.005
	709.31			1.339E+00	2.405E+00	4.052E+00	4.353E-01	0.330
	713.82			-9.360E-01	1.461E+00	2.274E+00	3.105E-01	-0.412
	722.78			1.905E-01	3.781E-01	5.497E-01	6.015E-02	0.346
	968.20	+		1.730E+01	3.903E+00	6.369E+00	6.773E-01	2.717
	1045.16			7.398E-01	2.068E+00	3.467E+00	3.405E-01	0.213
	1325.50			1.428E+00	2.452E+00	4.253E+00	3.777E-01	0.336
SB-125	1368.21			-1.273E+00	1.587E+00	2.395E+00	3.277E-01	-0.531
	1436.60			4.051E+00	3.087E+00	5.686E+00	5.081E-01	0.713
	1691.02	*		-1.094E-02	5.246E-02	8.402E-02	7.473E-03	-0.130
	427.89	*		4.921E-02	8.372E-02	1.406E-01	1.364E-02	0.350
	463.38	+		4.992E-01	3.552E-01	4.695E-01	4.869E-02	1.063
TE-125M	600.56			1.497E-01	1.695E-01	2.666E-01	2.909E-02	0.561
	635.90			-4.485E-02	2.291E-01	3.728E-01	4.124E-02	-0.120
	109.28	*		1.200E+00	8.743E+00	1.405E+01	1.423E+00	0.085
I-126	388.63			-6.608E-02	1.996E-01	3.231E-01	3.059E-02	-0.204
	666.33	*		-7.574E-03	1.841E-01	2.582E-01	2.728E-02	-0.029
	753.82			1.599E-01	1.300E+00	2.126E+00	2.316E-01	0.075
SB-126	223.80			-1.041E+00	3.987E+00	6.428E+00	7.627E-01	-0.162
	278.60			5.707E-01	2.528E+00	4.082E+00	5.706E-01	0.140
	296.50	+		1.458E+01	2.987E+00	3.529E+00	4.755E-01	4.131
	414.70			3.155E-02	7.848E-02	1.144E-01	1.083E-02	0.276
	415.30			3.402E+00	6.459E+00	9.503E+00	8.998E-01	0.358
	555.20			-5.448E-01	3.492E+00	5.772E+00	5.896E-01	-0.094
	573.80			-5.294E-01	9.967E-01	1.570E+00	1.615E-01	-0.337
	593.00			-4.637E-01	8.755E-01	1.372E+00	1.421E-01	-0.338
	656.30			8.370E-01	3.366E+00	4.854E+00	5.113E-01	0.172
	666.33			-3.172E-03	7.711E-02	1.081E-01	1.142E-02	-0.029
	675.00			-1.783E+00	1.789E+00	2.722E+00	2.887E-01	-0.655
	695.00			6.180E-02	7.128E-02	1.220E-01	1.304E-02	0.507
	697.00			1.228E-02	2.452E-01	4.017E-01	4.296E-02	0.031
	720.50	*		4.274E-02	1.557E-01	2.224E-01	2.399E-02	0.192
SB-127	856.80			2.125E-01	4.715E-01	7.003E-01	7.808E-02	0.303
	989.30			2.652E-01	1.083E+00	1.810E+00	1.888E-01	0.146
	1034.80			-1.306E+00	7.822E+00	1.262E+01	1.255E+00	-0.104
	1213.00			-1.316E+00	3.987E+00	6.481E+00	5.358E-01	-0.203
	61.10			3.134E+01	5.728E+01	8.731E+01	9.082E+00	0.359
	252.40			-9.396E-01	4.823E+00	7.689E+00	3.322E+00	-0.122

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	290.80			-1.441E+01	2.591E+01	3.671E+01	5.723E+00	-0.393
	411.60		+	2.355E+01	2.068E+01	2.295E+01	3.760E+00	1.027
	444.90			-6.602E+00	1.029E+01	1.606E+01	2.169E+00	-0.411
	473.00			5.023E-01	1.813E+00	2.815E+00	3.922E-01	0.178
	543.00			4.071E+00	1.600E+01	2.711E+01	4.223E+00	0.150
	603.60			-5.935E+00	1.402E+01	1.925E+01	2.698E+00	-0.308
	685.20		*	-1.338E+00	1.378E+00	2.091E+00	2.766E-01	-0.640
	698.50			-2.878E+00	1.551E+01	2.504E+01	4.314E+00	-0.115
	722.20			1.472E+01	3.567E+01	5.150E+01	6.775E+00	0.286
	783.80			5.544E-01	3.967E+00	6.239E+00	8.976E-01	0.089
XE-127	57.60			-3.440E-01	4.765E+00	7.915E+00	5.685E-01	-0.043
	145.22			-6.260E-02	6.604E-01	1.085E+00	9.701E-02	-0.058
	172.10			-5.971E-02	1.112E-01	1.811E-01	1.812E-02	-0.330
	202.84		*	-7.869E-03	4.746E-02	7.480E-02	8.292E-03	-0.105
	374.96			-1.087E-01	1.762E-01	2.813E-01	2.864E-02	-0.386
I-131	80.18			7.163E-01	4.532E+00	6.654E+00	5.797E-01	0.108
	284.30			-6.200E-01	1.573E+00	2.463E+00	3.483E-01	-0.252
	364.48		*	3.478E-02	1.138E-01	1.910E-01	2.118E-02	0.182
	636.97			4.663E-01	1.409E+00	2.368E+00	2.579E-01	0.197
	722.89			3.995E+00	7.763E+00	1.130E+01	1.225E+00	0.354
TE-132	49.72			-6.662E+00	1.846E+01	3.056E+01	3.251E+00	-0.218
	111.76			-2.359E+01	3.528E+01	5.307E+01	5.777E+00	-0.444
	116.30			1.221E+01	3.177E+01	5.126E+01	5.556E+00	0.238
	228.16		*	-8.300E-02	7.934E-01	1.285E+00	2.310E-01	-0.065
BA-133	53.15			4.114E+00	2.915E+00	5.085E+00	3.859E-01	0.809
	79.62			4.432E-01	1.173E+00	1.737E+00	2.642E-01	0.255
	81.00			-5.134E-02	9.120E-02	1.290E-01	2.055E-02	-0.398
	276.40			9.041E-01	4.189E-01	6.141E-01	1.111E-01	1.472
	302.84			6.013E-02	1.435E-01	2.148E-01	3.581E-02	0.280
	356.01		*	3.173E-03	4.224E-02	6.111E-02	9.132E-03	0.052
	383.85			1.122E-01	2.745E-01	4.604E-01	6.161E-02	0.244
I-133	510.53		+	3.001E+00	2.745E-01	Half-Life	too short	
	529.87		*	7.898E-03	2.745E-01	Half-Life	too short	
	706.58			2.304E-01	2.745E-01	Half-Life	too short	
	856.28			5.789E-01	2.745E-01	Half-Life	too short	
	875.33			4.717E-02	2.745E-01	Half-Life	too short	
	1236.41			1.857E+00	2.745E-01	Half-Life	too short	
	1298.22			2.414E-01	2.745E-01	Half-Life	too short	
CS-134	475.35			-1.479E+00	1.708E+00	2.609E+00	2.566E-01	-0.567
	563.23			9.309E-02	3.275E-01	5.534E-01	5.709E-02	0.168
	569.32			4.119E-02	1.863E-01	3.024E-01	3.136E-02	0.136
	604.70			1.168E-03	3.508E-02	5.007E-02	5.213E-03	0.023
	795.84		+	1.131E-01	6.285E-02	7.743E-02	8.571E-03	1.461
	801.93			-2.541E-01	4.012E-01	5.134E-01	5.685E-02	-0.495
	1038.57			-1.264E+00	3.247E+00	5.141E+00	5.090E-01	-0.246
	1167.94			1.723E-01	2.088E+00	3.505E+00	2.848E-01	0.049
	1365.15			-3.507E-01	1.150E+00	1.811E+00	1.687E-01	-0.194
CS-135	268.24		*	2.581E-01	1.777E-01	2.640E-01	3.818E-02	0.978
I-135	288.45			8.315E+10	1.777E-01	Half-Life	too short	

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		417.63		-2.565E+11	1.777E-01	Half-Life too short		
		546.56		-4.619E+10	1.777E-01	Half-Life too short		
		836.80		-5.231E+10	1.777E-01	Half-Life too short		
		1038.76		-6.388E+10	1.777E-01	Half-Life too short		
		1124.00		1.422E+12	1.777E-01	Half-Life too short		
		1131.51		6.782E+09	1.777E-01	Half-Life too short		
		1260.41	*	1.142E+10	1.777E-01	Half-Life too short		
		1457.56		8.342E+12	1.777E-01	Half-Life too short		
		1678.03		-5.682E+10	1.777E-01	Half-Life too short		
		1706.46		-1.486E+11	1.777E-01	Half-Life too short		
		1791.20		8.976E+10	1.777E-01	Half-Life too short		
CS-136		66.91		-4.163E-01	7.613E-01	1.091E+00	1.623E-01	-0.382
	+	86.29		3.453E+00	1.263E+00	1.844E+00	2.455E-01	1.873
		153.22		1.485E-01	6.386E-01	1.079E+00	1.102E-01	0.138
		163.89		1.993E-01	1.083E+00	1.817E+00	1.935E-01	0.110
		176.55		-1.921E-01	3.659E-01	5.834E-01	6.174E-02	-0.329
		273.65		-5.064E-01	5.375E-01	7.019E-01	9.930E-02	-0.722
		340.57		5.522E-01	1.662E-01	2.600E-01	3.115E-02	2.124
		818.51		7.843E-03	6.560E-02	1.105E-01	1.225E-02	0.071
		1048.07	*	3.625E-02	9.257E-02	1.555E-01	1.573E-02	0.233
		1235.34		7.796E-01	6.224E-01	9.640E-01	1.127E-01	0.809
CE-139		165.85	*	2.071E-02	2.864E-02	4.877E-02	4.783E-03	0.425
BA-140		162.64		-1.023E-01	7.589E-01	1.262E+00	1.276E-01	-0.081
		304.84		7.718E-01	1.314E+00	1.963E+00	5.841E-01	0.393
		423.70		2.170E-01	1.862E+00	3.057E+00	9.986E-01	0.071
		537.32	*	-9.896E-02	2.256E-01	3.638E-01	1.221E-01	-0.272
LA-140		328.77		4.408E-01	2.998E-01	5.200E-01	6.569E-02	0.848
		432.53		-7.787E-01	2.044E+00	3.265E+00	3.252E-01	-0.238
		487.03		4.362E-02	1.265E-01	2.081E-01	2.157E-02	0.210
		751.79		-4.903E-01	1.551E+00	2.459E+00	2.860E-01	-0.199
		815.85		1.004E-01	2.803E-01	4.793E-01	5.683E-02	0.209
		867.82		5.465E-01	1.326E+00	1.967E+00	2.266E-01	0.278
		919.63		3.969E-01	2.823E+00	4.046E+00	5.135E-01	0.098
		925.24		-5.261E-01	9.781E-01	1.548E+00	1.770E-01	-0.340
		1596.49	*	1.057E-01	8.094E-02	1.373E-01	1.204E-02	0.769
CE-141		145.44	*	1.766E-02	5.804E-02	9.862E-02	8.977E-03	0.179
CE-143		57.37		-3.901E-04	5.804E-02	Half-Life too short		
		231.56		-3.471E-03	5.804E-02	Half-Life too short		
		293.26	*	1.407E-03	5.804E-02	Half-Life too short		
	+	350.59		4.946E-02	5.804E-02	Half-Life too short		
		490.36		-7.292E-04	5.804E-02	Half-Life too short		
		664.57		9.159E-03	5.804E-02	Half-Life too short		
		721.93		1.100E-03	5.804E-02	Half-Life too short		
CE-144		80.11		3.643E-01	1.931E+00	2.839E+00	2.454E-01	0.128
		133.54	*	5.516E-02	2.092E-01	3.164E-01	4.912E-02	0.174
PM-144		476.78		-2.441E-02	5.910E-02	9.306E-02	9.825E-03	-0.262
		618.01		-1.362E-02	2.899E-02	4.417E-02	4.696E-03	-0.308
		696.49	*	1.489E-02	3.013E-02	5.061E-02	5.413E-03	0.294
		778.57		1.867E+00	2.245E+00	3.348E+00	3.675E-01	0.558

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49	*		1.009E+00	2.043E+00	3.431E+00	3.669E-01	0.294
	1489.15			-4.715E+00	9.536E+00	1.458E+01	1.298E+00	-0.323
PM-146	453.90	*		6.364E-03	3.925E-02	6.428E-02	7.469E-03	0.099
	633.02			-6.145E-01	1.214E+00	1.902E+00	7.199E-01	-0.323
	735.90			5.524E-03	1.287E-01	2.050E-01	6.018E-02	0.027
	747.13			8.688E-03	7.928E-02	1.296E-01	2.012E-02	0.067
ND-147	91.11	+		7.160E-01	3.321E-01	4.997E-01	4.937E-02	1.433
	319.41			-1.444E+00	3.188E+00	5.222E+00	6.610E-01	-0.277
	439.89			6.095E-01	5.886E+00	9.632E+00	9.276E-01	0.063
	531.02	*		1.067E-01	5.123E-01	8.672E-01	1.375E-01	0.123
PM-149	285.90	*		3.212E+01	1.188E+02	1.918E+02	3.628E+01	0.168
EU-152	121.78			7.866E-03	7.199E-02	1.146E-01	1.100E-02	0.069
	244.69			2.143E-01	3.460E-01	5.053E-01	6.398E-02	0.424
	344.27	*		6.355E-02	1.013E-01	1.517E-01	1.824E-02	0.419
	443.98			-6.302E-01	8.555E-01	1.330E+00	1.284E-01	-0.474
	778.89			2.102E-01	2.514E-01	3.883E-01	4.261E-02	0.541
	867.32			2.797E-01	7.705E-01	1.137E+00	1.269E-01	0.246
	964.01	+		8.608E-01	3.670E-01	5.087E-01	5.428E-02	1.692
	1085.78			-3.532E-01	3.471E-01	5.167E-01	4.814E-02	-0.684
	1112.02			4.914E-03	3.009E-01	4.314E-01	3.866E-02	0.011
	1407.95			7.727E-02	1.670E-01	2.844E-01	2.543E-02	0.272
GD-153	69.67			5.873E-01	1.507E+00	2.258E+00	1.753E-01	0.260
	83.37			5.197E-01	1.437E+01	2.077E+01	1.864E+00	0.025
	97.43	*		-7.622E-02	8.009E-02	1.090E-01	9.582E-03	-0.699
	103.18			-1.311E-01	9.795E-02	1.479E-01	1.264E-02	-0.886
EU-154	123.07			-1.625E-02	5.017E-02	7.841E-02	8.698E-03	-0.207
	247.94			-1.845E-02	3.398E-01	5.479E-01	8.143E-02	-0.034
	591.81			2.784E-01	5.863E-01	9.017E-01	1.172E-01	0.309
	723.30			4.824E-02	1.866E-01	2.657E-01	3.064E-02	0.182
	756.87			1.886E-01	6.406E-01	1.059E+00	1.452E-01	0.178
	873.19			1.498E-01	2.418E-01	4.177E-01	5.914E-02	0.359
	996.32			-2.428E-01	3.143E-01	4.804E-01	8.970E-02	-0.505
	1004.76			-1.942E-01	1.907E-01	2.869E-01	3.704E-02	-0.677
	1274.45	*		-5.794E-02	9.972E-02	1.570E-01	1.775E-02	-0.369
EU-155	48.70			-3.975E-02	1.901E+00	3.193E+00	2.600E-01	-0.012
	60.01			2.127E+00	4.081E+00	6.233E+00	4.427E-01	0.341
	86.54	+		3.035E-01	1.073E-01	1.629E-01	1.532E-02	1.863
	105.31	*		9.959E-02	9.988E-02	1.655E-01	1.420E-02	0.602
TB-160	86.79	+		8.177E-01	2.888E-01	4.368E-01	4.085E-02	1.872
	197.04			-5.870E-01	5.702E-01	8.617E-01	9.370E-02	-0.681
	215.65			7.559E-01	7.621E-01	1.243E+00	1.437E-01	0.608
	298.57			2.627E-01	1.643E-01	1.875E-01	2.513E-02	1.401
	879.36	*		-6.750E-02	1.072E-01	1.689E-01	1.888E-02	-0.400
	962.29			1.401E+00	5.092E-01	8.635E-01	9.228E-02	1.623
	966.15	+		5.963E-01	2.543E-01	4.874E-01	5.192E-02	1.223
	1177.93			1.293E-01	2.937E-01	5.042E-01	4.068E-02	0.256
	1271.85			3.053E-01	5.802E-01	9.984E-01	8.581E-02	0.306
HO-166M	80.57			7.197E-02	2.474E-01	3.653E-01	3.174E-02	0.197
	184.41			9.893E-02	3.865E-02	6.636E-02	6.918E-03	1.491

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	+	280.46		-8.467E-02	8.335E-02	1.258E-01	1.757E-02	-0.673
		410.95		3.980E-01	3.454E-01	3.967E-01	3.744E-02	1.003
		711.68	*	-3.302E-02	5.322E-02	8.312E-02	8.936E-03	-0.397
		752.31		1.462E-01	2.294E-01	3.872E-01	4.218E-02	0.378
		810.29		-1.512E-02	4.725E-02	7.730E-02	8.545E-03	-0.196
		51.35		-1.495E+01	2.436E+01	3.973E+01	3.099E+00	-0.376
		52.39		4.904E+00	1.299E+01	2.198E+01	1.687E+00	0.223
		59.40		1.080E+01	2.223E+01	3.392E+01	2.398E+00	0.318
		66.72	*	-1.682E+01	2.625E+01	3.753E+01	2.836E+00	-0.448
		88.36		5.975E-01	2.110E-01	3.129E-01	2.960E-02	1.909
LU-176	+	201.83		-4.881E-03	2.754E-02	4.496E-02	4.968E-03	-0.109
		306.84	*	3.999E-03	2.486E-02	3.669E-02	4.814E-03	0.109
		401.10		-9.732E-01	6.409E+00	1.016E+01	9.516E-01	-0.096
LU-177	+	112.95		-1.496E+00	1.717E+00	2.555E+00	2.124E-01	-0.586
		208.36	*	2.915E+00	1.662E+00	2.059E+00	2.324E-01	1.415
LU-177M	+	52.97		1.251E+00	1.348E+00	2.319E+00	1.764E-01	0.539
		54.07		8.324E-01	7.120E-01	1.214E+00	9.094E-02	0.686
		61.30		9.687E-01	1.264E+00	1.946E+00	1.400E-01	0.498
		121.62		4.855E-02	3.709E-01	5.911E-01	4.869E-02	0.082
		147.16		-6.757E-01	5.924E-01	9.529E-01	8.592E-02	-0.709
		171.86		-2.651E-01	4.411E-01	7.164E-01	7.164E-02	-0.370
		218.09		1.409E-01	8.297E-01	1.363E+00	1.588E-01	0.103
		268.79		2.993E+00	1.226E+00	1.383E+00	1.881E-01	2.164
		319.02		-1.290E-02	2.325E-01	3.881E-01	4.918E-02	-0.033
		367.43		-7.863E-01	8.348E-01	1.311E+00	1.384E-01	-0.600
		413.65	*	1.349E-01	1.701E-01	2.549E-01	2.411E-02	0.529
		56.28		-6.936E-01	7.565E-01	1.215E+00	8.852E-02	-0.571
		57.53		-8.823E-02	4.029E-01	6.655E-01	4.784E-02	-0.133
		65.20		-4.654E-01	8.987E-01	1.296E+00	9.658E-02	-0.359
		133.02		2.646E-02	6.807E-02	1.036E-01	8.827E-03	0.255
W-181	+	136.25		9.286E-03	4.366E-01	7.151E-01	6.169E-02	0.013
		345.85		-1.411E-01	2.097E-01	2.888E-01	3.340E-02	-0.489
		482.03	*	5.824E-03	3.846E-02	6.262E-02	6.182E-03	0.093
		56.28		-2.688E-01	2.932E-01	4.709E-01	3.430E-02	-0.571
		57.53		-3.437E-02	1.563E-01	2.581E-01	1.855E-02	-0.133
TA-182	+	65.20	*	-1.791E-01	3.458E-01	4.985E-01	3.716E-02	-0.359
		67.75		-4.709E-02	1.044E-01	1.505E-01	1.148E-02	-0.313
		100.10		1.080E-01	1.606E-01	2.645E-01	2.291E-02	0.408
		152.43		-1.865E-02	3.095E-01	5.182E-01	4.781E-02	-0.036
RE-183	+	222.10		3.060E-02	3.288E-01	5.380E-01	6.349E-02	0.057
		1001.68		1.410E+00	1.753E+00	3.022E+00	3.114E-01	0.467
		1121.28		8.412E-01	2.844E-01	3.109E-01	2.745E-02	2.706
		1189.05		2.683E-01	2.369E-01	4.241E-01	3.449E-02	0.632
		1221.42	*	-4.343E-02	1.536E-01	2.502E-01	2.080E-02	-0.174
		1230.97		1.482E-01	4.386E-01	6.407E-01	5.362E-02	0.231
		57.98		-1.508E-02	1.610E-01	2.549E-01	1.824E-02	-0.059
		59.32		4.557E-02	9.226E-02	1.408E-01	9.962E-03	0.324
		67.20		-8.598E-02	1.879E-01	2.710E-01	2.057E-02	-0.317
		162.32	*	-3.496E-02	1.068E-01	1.764E-01	1.701E-02	-0.198

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.402E+00	1.369E+00	1.693E+00	1.914E-01	1.418
		291.72		-5.690E-01	9.790E-01	1.386E+00	1.888E-01	-0.411
		57.98		-5.528E-02	5.900E-01	9.340E-01	6.684E-02	-0.059
		59.32		1.669E-01	3.378E-01	5.158E-01	3.648E-02	0.324
		67.20		-3.150E-01	6.883E-01	9.929E-01	7.535E-02	-0.317
		161.27		-1.399E-01	3.416E-01	5.626E-01	5.402E-02	-0.249
		216.55		1.281E-01	2.597E-01	4.314E-01	5.000E-02	0.297
		252.85	*	-1.289E-01	2.240E-01	3.513E-01	4.559E-02	-0.367
		318.01		1.845E-01	4.066E-01	6.926E-01	8.803E-02	0.266
		792.07		-1.949E-01	1.116E+00	1.514E+00	1.667E-01	-0.129
OS-185		903.28		4.043E-02	1.016E+00	1.444E+00	1.612E-01	0.028
		920.93		4.306E-01	4.189E-01	6.533E-01	7.208E-02	0.659
		59.72		1.223E-01	2.447E-01	3.735E-01	2.644E-02	0.327
		61.14		7.924E-02	1.387E-01	2.117E-01	1.521E-02	0.374
		69.30		3.556E-02	2.737E-01	4.058E-01	3.139E-02	0.088
		592.07		8.229E-01	2.362E+00	3.718E+00	3.849E-01	0.221
		646.12	*	4.992E-03	3.623E-02	6.012E-02	6.319E-03	0.083
		717.42		-1.171E-01	7.951E-01	1.283E+00	1.382E-01	-0.091
		874.81		1.581E-02	4.730E-01	7.877E-01	8.803E-02	0.020
		880.27		-5.609E-01	6.118E-01	9.386E-01	1.050E-01	-0.598
RE-188		155.03	*	1.230E-01	1.604E-01	2.749E-01	2.566E-02	0.447
		477.96		9.067E-01	2.707E+00	4.457E+00	4.390E-01	0.203
		633.10		-1.021E+00	2.420E+00	3.882E+00	4.067E-01	-0.263
W-188	+	63.58		1.117E+02	7.447E+01	8.229E+01	6.046E+00	1.357
		227.08		3.446E+00	1.218E+01	2.004E+01	2.402E+00	0.172
IR-192		290.67	*	-3.916E+00	7.659E+00	1.089E+01	1.488E+00	-0.359
	+	295.96		1.069E+00	2.193E-01	2.601E-01	3.519E-02	4.110
		308.46		-7.841E-02	8.871E-02	1.380E-01	1.807E-02	-0.568
		316.51	*	1.285E-02	3.168E-02	5.388E-02	6.887E-03	0.239
		468.07		-4.645E-03	6.509E-02	9.034E-02	9.345E-03	-0.051
		604.41		-1.589E-01	4.750E-01	6.579E-01	9.378E-02	-0.242
AU-195		612.46		5.435E+00	1.066E+00	1.662E+00	1.911E-01	3.271
		65.12		-2.345E-03	1.570E-01	2.315E-01	1.725E-02	-0.010
		66.83		-5.110E-02	8.711E-02	1.249E-01	9.446E-03	-0.409
	+	75.70		1.267E+00	2.594E-01	3.993E-01	3.290E-02	3.173
		98.88	*	3.441E-01	2.203E-01	3.380E-01	2.948E-02	1.018
TL-200	+	129.76		9.378E+00	4.440E+00	4.874E+00	4.108E-01	1.924
		367.94	*	-6.900E-04	4.440E+00	Half-Life	too short	
		579.30		5.467E-03	4.440E+00	Half-Life	too short	
		828.27		8.796E-03	4.440E+00	Half-Life	too short	
TL-201		1205.75		-1.355E-03	4.440E+00	Half-Life	too short	
		68.90		3.716E+00	5.317E+00	8.072E+00	6.220E-01	0.460
		70.82		7.578E-01	3.056E+00	4.545E+00	3.566E-01	0.167
		80.30		1.114E+00	5.642E+00	8.298E+00	7.188E-01	0.134
		135.34		2.642E+01	3.159E+01	4.887E+01	4.201E+00	0.541
TL-202		167.43	*	4.567E+00	8.125E+00	1.378E+01	1.358E+00	0.331
		68.90		2.849E-01	4.076E-01	6.188E-01	4.769E-02	0.460
		70.82		5.793E-02	2.336E-01	3.475E-01	2.726E-02	0.167
		80.30		8.520E-02	4.315E-01	6.346E-01	5.497E-02	0.134

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203	439.56	*		5.613E-02	6.857E-02	1.159E-01	1.116E-02	0.484
	70.83			2.451E-01	9.740E-01	1.449E+00	1.902E-01	0.169
	72.87			1.138E+00	5.492E-01	9.246E-01	1.184E-01	1.231
	82.60			-8.963E-02	1.065E+00	1.544E+00	2.149E-01	-0.058
BI-207	279.20	*		-1.334E-02	4.028E-02	6.343E-02	8.978E-03	-0.210
	72.80			2.872E-01	1.538E-01	2.638E-01	2.110E-02	1.089
	74.97		+	7.002E-01	1.434E-01	1.988E-01	1.626E-02	3.522
	84.90			2.711E-01	1.833E-01	2.784E-01	2.545E-02	0.974
TL-207	569.67			1.278E-02	2.923E-02	4.797E-02	4.927E-03	0.266
	1063.62	*		2.549E-02	4.307E-02	7.326E-02	7.033E-03	0.348
	1770.23			9.090E-01	5.012E-01	8.925E-01	7.419E-02	1.019
	81.07			-1.270E-01	2.003E-01	2.830E-01	2.473E-02	-0.449
PO-209	83.78			2.025E-02	1.225E-01	1.780E-01	1.605E-02	0.114
	94.90			-3.080E-02	2.117E-01	3.401E-01	3.040E-02	-0.091
	122.32			1.230E-01	1.714E+00	2.724E+00	2.424E-01	0.045
	144.24			1.776E-01	6.439E-01	1.071E+00	1.060E-01	0.166
BI-210	154.21			2.979E-01	3.651E-01	6.262E-01	6.325E-02	0.476
	269.46		+	6.980E-01	2.861E-01	3.320E-01	4.560E-02	2.102
	323.87	*		-1.020E+00	6.582E-01	9.753E-01	1.938E-01	-1.046
	338.28		+	6.348E+00	1.761E+00	2.210E+00	3.269E-01	2.872
PB-210	445.03			-1.328E+00	2.024E+00	3.157E+00	4.057E-01	-0.421
	260.50			-5.093E+00	9.624E+00	1.510E+01	2.004E+00	-0.337
	262.80			-2.572E+01	2.645E+01	4.035E+01	5.391E+00	-0.637
	896.60	*		1.373E+00	6.490E+00	1.090E+01	1.221E+00	0.126
PB-211	46.50	*		2.095E+00	2.806E+00	4.758E+00	4.421E-01	0.440
	46.50	*		2.095E+00	2.806E+00	4.758E+00	4.421E-01	0.440
	46.50	*		2.095E+00	2.805E+00	4.758E+00	4.001E-01	0.440
	404.84	*		-1.958E-01	9.982E-01	1.387E+00	8.704E-01	-0.141
BI-212	427.08			6.127E-01	1.945E+00	3.165E+00	1.971E+00	0.194
	831.96			-6.578E-01	1.128E+00	1.682E+00	1.060E+00	-0.391
	727.18	*	+	6.719E-01	4.060E-01	5.495E-01	6.563E-02	1.223
	785.46			1.025E+00	1.657E+00	2.581E+00	2.837E-01	0.397
PO-215	1620.62			1.560E+00	1.101E+00	2.073E+00	1.807E-01	0.753
	81.07			-1.270E-01	2.003E-01	2.830E-01	2.473E-02	-0.449
	83.78			2.025E-02	1.225E-01	1.780E-01	1.605E-02	0.114
	94.90			-3.080E-02	2.117E-01	3.401E-01	3.040E-02	-0.091
RN-219	122.32			1.230E-01	1.714E+00	2.724E+00	2.424E-01	0.045
	144.24			1.776E-01	6.439E-01	1.071E+00	1.060E-01	0.166
	154.21			2.979E-01	3.651E-01	6.262E-01	6.325E-02	0.476
	269.46		+	6.980E-01	2.861E-01	3.320E-01	4.560E-02	2.102
RA-223	323.87	*		-1.020E+00	6.582E-01	9.753E-01	1.938E-01	-1.046
	338.28		+	6.348E+00	1.761E+00	2.210E+00	3.269E-01	2.872
	445.03			-1.328E+00	2.024E+00	3.157E+00	4.057E-01	-0.421
	271.23		+	8.955E-01	3.703E-01	4.184E-01	6.199E-02	2.140
RN-220	401.81	*		7.088E-02	4.047E-01	6.321E-01	9.780E-02	0.112
	549.76	*		1.408E+01	2.242E+01	3.864E+01	3.938E+00	0.364
	81.07			-1.270E-01	2.003E-01	2.830E-01	2.473E-02	-0.449
	83.78			2.025E-02	1.225E-01	1.780E-01	1.605E-02	0.114
RA-223	94.90			-3.080E-02	2.117E-01	3.401E-01	3.040E-02	-0.091

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		1.230E-01	1.714E+00	2.724E+00	2.424E-01	0.045
		144.24		1.776E-01	6.439E-01	1.071E+00	1.060E-01	0.166
		154.21		2.979E-01	3.651E-01	6.262E-01	6.325E-02	0.476
	+	269.46		6.980E-01	2.861E-01	3.320E-01	4.560E-02	2.102
		323.87	*	-1.020E+00	6.582E-01	9.753E-01	1.938E-01	-1.046
	+	338.28		6.348E+00	1.761E+00	2.210E+00	3.269E-01	2.872
		445.03		-1.328E+00	2.024E+00	3.157E+00	4.057E-01	-0.421
		79.80		4.246E-01	1.483E+00	2.188E+00	4.703E-01	0.194
		236.00		1.091E+00	3.031E-01	4.325E-01	6.525E-02	2.523
		256.20	*	1.010E-01	3.680E-01	5.994E-01	1.094E-01	0.169
		286.10		7.605E-01	1.474E+00	2.400E+00	4.091E-01	0.317
	+	299.80		3.986E+00	2.055E+00	2.325E+00	4.708E-01	1.715
TH-227		304.40		1.351E+00	1.817E+00	2.748E+00	5.765E-01	0.491
		334.20		7.391E-01	2.422E+00	3.567E+00	7.549E-01	0.207
		79.80		4.246E-01	1.483E+00	2.188E+00	4.764E-01	0.194
	+	94.00		1.024E+01	3.368E+00	3.458E+00	7.584E-01	2.961
		236.00		1.091E+00	2.977E-01	4.325E-01	6.123E-02	2.523
		256.20	*	1.010E-01	3.682E-01	5.994E-01	1.234E-01	0.169
		286.10		7.605E-01	1.657E+00	2.400E+00	2.423E+00	0.317
	+	299.80		3.986E+00	2.055E+00	2.325E+00	4.708E-01	1.715
		304.40		1.351E+00	1.817E+00	2.748E+00	5.765E-01	0.491
		334.20		7.391E-01	2.422E+00	3.567E+00	7.549E-01	0.207
		85.43		3.759E-01	1.862E-01	2.859E-01	2.630E-02	1.315
	+	88.47		3.439E-01	1.215E-01	1.797E-01	1.698E-02	1.914
PA-231		100.00		1.728E-01	1.648E-01	2.745E-01	2.380E-02	0.629
		193.63	*	-8.421E-02	4.716E-01	7.722E-01	8.303E-02	-0.109
		210.97		9.437E-01	8.539E-01	1.280E+00	1.457E-01	0.737
		283.67	*	4.651E-02	1.465E+00	2.344E+00	4.377E-01	0.020
	+	301.29		1.594E+00	7.976E-01	9.213E-01	1.465E-01	1.731
		81.07		-1.270E-01	2.003E-01	2.830E-01	2.473E-02	-0.449
		83.78		2.025E-02	1.225E-01	1.780E-01	1.605E-02	0.114
		94.90		-3.080E-02	2.117E-01	3.401E-01	3.040E-02	-0.091
		122.32		1.230E-01	1.714E+00	2.724E+00	2.424E-01	0.045
		144.24		1.776E-01	6.439E-01	1.071E+00	1.060E-01	0.166
		154.21		2.979E-01	3.651E-01	6.262E-01	6.325E-02	0.476
	+	269.46		6.980E-01	2.861E-01	3.320E-01	4.560E-02	2.102
U-231		323.87	*	-1.020E+00	6.582E-01	9.753E-01	1.938E-01	-1.046
	+	338.28		6.348E+00	1.761E+00	2.210E+00	3.269E-01	2.872
		445.03		-1.328E+00	2.024E+00	3.157E+00	4.057E-01	-0.421
		84.21		5.186E+00	6.100E+00	9.092E+00	8.242E-01	0.570
	+	92.29		1.179E+01	3.081E+00	4.433E+00	4.042E-01	2.661
		95.87	*	-3.510E-01	1.183E+00	1.674E+00	1.486E-01	-0.210
		108.00		-5.289E-01	2.280E+00	3.615E+00	3.039E-01	-0.146
	+	75.28		2.043E+01	4.923E+00	6.031E+00	9.117E-01	3.388
	+	86.59		4.931E+00	2.145E+00	2.647E+00	7.162E-01	1.863
	+	300.12		1.111E+00	5.638E-01	6.485E-01	1.169E-01	1.714
		311.98	*	-6.380E-03	5.700E-02	9.509E-02	1.246E-02	-0.067
		340.50		2.699E+00	9.815E-01	1.216E+00	3.061E-01	2.218
PA-233		398.62		-6.948E-01	1.978E+00	3.180E+00	8.547E-01	-0.218

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		3.423E-02	1.600E+00	2.377E+00	5.207E-01	0.014
		63.00		3.208E+00	2.179E+00	2.393E+00	3.544E-01	1.341
		94.67		1.371E-01	1.571E-01	2.592E-01	3.275E-02	0.529
		98.44		1.005E-01	1.052E-01	1.350E-01	7.532E-02	0.744
		99.86		4.747E-01	4.188E-01	6.993E-01	6.067E-02	0.679
		111.00		-2.993E-02	1.680E-01	2.662E-01	3.166E-02	-0.112
		131.20		3.503E-01	1.659E-01	1.719E-01	1.456E-02	2.038
		152.70		-9.726E-03	2.994E-01	5.017E-01	8.712E-02	-0.019
		186.00		7.699E+00	3.304E+00	2.541E+00	8.073E-01	3.031
		226.40		-3.399E-02	3.779E-01	6.131E-01	9.559E-02	-0.055
		227.20		6.131E-02	4.110E-01	6.727E-01	8.068E-02	0.091
		248.90		-1.164E-01	7.663E-01	1.229E+00	2.991E-01	-0.095
		293.70		5.717E+00	1.438E+00	1.571E+00	3.176E-01	3.640
		369.80		8.078E-01	7.580E-01	1.282E+00	2.891E-01	0.630
		568.70		-2.742E-01	9.610E-01	1.521E+00	1.562E-01	-0.180
		569.50		9.265E-02	2.582E-01	4.221E-01	4.335E-02	0.220
		574.00		-3.163E-01	1.331E+00	2.135E+00	2.197E-01	-0.148
		699.00		3.929E-02	6.039E-01	9.903E-01	1.991E-01	0.040
		706.10		2.764E-01	8.906E-01	1.467E+00	6.609E-01	0.188
		733.00		8.782E-02	3.608E-01	5.135E-01	1.188E-01	0.171
		742.81		8.662E-01	1.302E+00	1.982E+00	1.339E+00	0.437
		796.30		2.196E+00	1.344E+00	1.476E+00	4.120E-01	1.488
		805.60		3.430E-01	9.221E-01	1.407E+00	4.419E-01	0.244
		819.60		-4.866E-01	1.090E+00	1.743E+00	6.737E-01	-0.279
		826.30		-9.672E-02	7.298E-01	1.207E+00	5.464E-01	-0.080
		831.60		-4.723E-01	5.675E-01	8.670E-01	2.658E-01	-0.545
		876.40		-1.070E-01	6.810E-01	1.103E+00	1.137E+00	-0.097
		880.51		-2.356E-01	2.200E-01	3.321E-01	3.714E-02	-0.709
		883.24		-3.545E-02	2.217E-01	3.614E-01	2.443E-01	-0.098
		899.00		-4.158E-01	7.764E-01	1.204E+00	5.335E-01	-0.345
		925.00		-8.049E-01	9.985E-01	1.546E+00	1.701E-01	-0.521
		926.50		-1.337E-01	1.525E-01	2.292E-01	6.000E-02	-0.583
		946.00	*	9.686E-02	2.530E-01	4.273E-01	8.493E-02	0.227
		949.00		2.229E-01	3.712E-01	6.365E-01	6.877E-02	0.350
		980.50		4.272E-01	5.946E-01	9.944E-01	1.046E-01	0.430
		1394.10		-2.140E-01	1.016E+00	1.616E+00	1.052E+00	-0.132
PA-234M	+	766.42		2.287E+01	1.618E+01	1.821E+01	9.319E+00	1.256
		1001.03	*	5.681E-01	4.031E+00	6.670E+00	7.644E-01	0.085
U-235	+	89.95		2.689E+00	1.477E+00	1.636E+00	5.081E-01	1.644
		93.35		3.185E+00	1.189E+00	1.164E+00	3.279E-01	2.735
		105.00		1.444E+00	1.055E+00	1.631E+00	4.860E-01	0.886
		143.76	*	-3.642E-03	2.001E-01	3.300E-01	5.822E-02	-0.011
		163.35		4.078E-02	4.535E-01	7.593E-01	1.487E-01	0.054
		185.71		2.852E-01	8.750E-02	9.417E-02	9.860E-03	3.028
NP-236	+	205.31		-2.415E-01	5.705E-01	7.901E-01	1.609E-01	-0.306
		94.67		1.074E-01	1.189E-01	1.969E-01	1.763E-02	0.545
		98.44		7.595E-02	6.758E-02	1.020E-01	8.919E-03	0.744
		111.00		-2.264E-02	1.270E-01	2.014E-01	1.680E-02	-0.112
		160.31	*	-7.741E-03	7.888E-02	1.257E-01	1.202E-02	-0.062

---- 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		1.897E-01	1.464E-01	2.353E-01	2.044E-02	0.806
		117.00	*	-3.616E-02	1.816E-01	2.865E-01	2.368E-02	-0.126
	+	209.75		1.877E+00	1.070E+00	1.324E+00	1.501E-01	1.418
		228.18		-2.403E-02	2.127E-01	3.445E-01	4.144E-02	-0.070
		277.60		2.120E-01	1.752E-01	2.910E-01	4.056E-02	0.729
AM-241		334.30		5.757E-01	1.361E+00	2.020E+00	2.436E-01	0.285
		59.54	*	6.070E-02	1.289E-01	1.965E-01	1.536E-02	0.309
CM-243		99.55		1.952E-01	1.507E-01	2.421E-01	2.104E-02	0.806
		103.76	*	-3.311E-02	8.956E-02	1.416E-01	1.207E-02	-0.234
		117.00		-3.720E-02	1.868E-01	2.947E-01	2.436E-02	-0.126
	+	209.75		1.851E+00	1.055E+00	1.305E+00	1.480E-01	1.418
		228.18		-2.429E-02	2.149E-01	3.481E-01	4.188E-02	-0.070
AM-246		277.60		2.137E-01	1.767E-01	2.934E-01	4.089E-02	0.729
		798.80		-4.092E-03	1.337E-01	1.835E-01	2.023E-02	-0.022
		1036.00		-2.506E-02	2.492E-01	4.041E-01	4.012E-02	-0.062
		1062.04		-5.645E-02	1.921E-01	3.059E-01	2.943E-02	-0.185
		1078.86	*	-7.254E-02	1.203E-01	1.882E-01	1.770E-02	-0.385
CM-247		278.00		7.172E-01	7.255E-01	1.199E+00	1.673E-01	0.598
		287.40		6.660E-01	1.185E+00	1.934E+00	2.661E-01	0.344
CF-249		402.60	*	-7.755E-03	3.954E-02	5.537E-02	5.195E-03	-0.140
		252.85		-4.817E-01	8.374E-01	1.313E+00	1.704E-01	-0.367
		333.44		-7.048E-03	1.820E-01	2.631E-01	3.183E-02	-0.027
CF-251		387.95	*	-9.414E-03	3.637E-02	5.910E-02	5.617E-03	-0.159
		176.60	*	-6.284E-02	1.201E-01	1.915E-01	1.946E-02	-0.328
		227.00		9.123E-02	3.616E-01	5.942E-01	7.122E-02	0.154
		285.00		-4.206E-01	1.693E+00	2.671E+00	3.694E-01	-0.158

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]G243630005      *
* Acquisition date   : 7-JAN-2010 13:13:07 Detector SN#                   *
* Detector ID        : GAM22                                           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 02:00:02.05                               Half life ratio   : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630005                               Analyst initials: MXR1         *
* Batch Number       : 937702                                   Sample Quantity : 1.2627E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                       *
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 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	2.145E+01	2.292E+00	4.241E-01	0.000E+00
CD-109	2.566E+00	8.884E-01	1.155E+00	0.000E+00
SN-126	2.519E-01	8.720E-02	1.138E-01	0.000E+00
BA-137M	2.586E-01	6.454E-02	5.151E-02	0.000E+00
CS-137	2.734E-01	6.824E-02	5.445E-02	0.000E+00
TL-208	4.998E-01	8.484E-02	5.160E-02	0.000E+00
BI-211	3.897E+00	5.795E-01	2.841E-01	0.000E+00
PB-212	1.585E+00	2.265E-01	8.066E-02	0.000E+00
PO-212	1.585E+00	2.265E-01	8.066E-02	0.000E+00
BI-214	1.207E+00	1.994E-01	9.625E-02	0.000E+00
PB-214	1.355E+00	2.132E-01	9.955E-02	0.000E+00
PO-214	1.355E+00	2.132E-01	9.955E-02	0.000E+00
PO-216	1.585E+00	2.265E-01	8.066E-02	0.000E+00
PO-218	1.355E+00	2.132E-01	9.955E-02	0.000E+00
RA-224	4.543E+00	1.044E+00	9.169E-01	0.000E+00
RA-226	1.207E+00	1.994E-01	9.625E-02	0.000E+00
AC-228	1.466E+00	3.219E-01	1.847E-01	0.000E+00
RA-228	1.466E+00	3.219E-01	1.847E-01	0.000E+00
TH-228	1.610E+00	2.302E-01	8.196E-02	0.000E+00
TH-230	1.207E+00	1.994E-01	9.625E-02	0.000E+00
TH-232	1.466E+00	3.219E-01	1.847E-01	0.000E+00
TH-234	2.752E+00	1.849E+00	1.713E+00	0.000E+00
U-234	1.207E+00	1.994E-01	9.625E-02	0.000E+00
NP-237	7.397E-01	2.966E-01	3.712E-01	0.000E+00
U-238	2.752E+00	1.849E+00	1.713E+00	0.000E+00
AM-243	3.901E-01	7.828E-02	7.769E-02	0.000E+00
ANH-511	1.398E-01	6.089E-02	3.929E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	1.017E-01	2.761E-01	4.721E-01	0.000E+00	NOT IDENT.
NA-22	-2.127E-02	3.493E-02	5.620E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.885E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.393E-02	2.280E-02	3.447E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.361E-02	7.050E-02	0.000E+00	FAIL ABUN
SC-46	-2.031E-02	3.229E-02	5.248E-02	0.000E+00	FAIL ABUN
V-48	-3.042E-03	5.762E-02	9.670E-02	0.000E+00	NOT IDENT.
CR-51	-1.503E-02	3.335E-01	5.808E-01	0.000E+00	NOT IDENT.
MN-52	1.549E-02	2.174E-01	3.654E-01	0.000E+00	NOT IDENT.
MN-54	-9.727E-03	3.107E-02	5.228E-02	0.000E+00	NOT IDENT.
CO-56	-2.126E-02	3.394E-02	5.571E-02	0.000E+00	FAIL ABUN
CO-57	1.997E-03	2.435E-02	4.094E-02	0.000E+00	NOT IDENT.
CO-58	-1.261E-02	3.088E-02	5.166E-02	0.000E+00	NOT IDENT.
FE-59	-2.795E-02	7.917E-02	1.282E-01	0.000E+00	NOT IDENT.
CO-60	7.243E-03	3.033E-02	5.214E-02	0.000E+00	NOT IDENT.
ZN-65	5.243E-02	9.061E-02	1.351E-01	0.000E+00	NOT IDENT.
GE-68	-7.737E-02	1.015E+00	1.682E+00	0.000E+00	NOT IDENT.
AS-73	8.379E-01	6.796E-01	1.241E+00	0.000E+00	NOT IDENT.
AS-74	-1.663E-02	8.222E-02	1.393E-01	0.000E+00	NOT IDENT.
SE-75	3.854E-02	4.574E-02	7.017E-02	0.000E+00	NOT IDENT.
BR-77	1.039E+01	1.186E+01	2.064E+01	0.000E+00	FAIL ABUN
SR-82	1.332E-01	3.852E-01	5.660E-01	0.000E+00	NOT IDENT.
RB-83	5.106E-02	6.005E-02	1.044E-01	0.000E+00	NOT IDENT.
RB-84	-8.471E-03	5.366E-02	9.046E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.763E+00	1.298E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.019E-02	6.723E-02	0.000E+00	NOT IDENT.
RB-86	2.044E-01	6.597E-01	1.126E+00	0.000E+00	NOT IDENT.
Y-88	-1.888E-03	2.867E-02	4.742E-02	0.000E+00	NOT IDENT.
ZR-88	1.219E-02	2.867E-02	4.994E-02	0.000E+00	NOT IDENT.
Y-91	-3.336E+00	1.512E+01	2.535E+01	0.000E+00	NOT IDENT.
NB-94	-2.312E-02	2.809E-02	4.466E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	4.170E-02	6.704E-02	0.000E+00	NOT IDENT.
NB-95M	1.779E-01	1.291E-01	2.025E-01	0.000E+00	NOT IDENT.
ZR-95	3.146E-02	5.838E-02	1.008E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.428E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.754E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.483E+00	1.258E+01	2.027E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.531E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.185E-03	3.232E-02	5.340E-02	0.000E+00	NOT IDENT.
RH-102	-3.236E-02	2.591E-02	3.996E-02	0.000E+00	NOT IDENT.
RU-103	1.282E-02	3.588E-02	6.101E-02	0.000E+00	FAIL ABUN
RH-106	1.835E-01	2.748E-01	4.842E-01	0.000E+00	FAIL ABUN
RU-106	1.835E-01	2.742E-01	4.842E-01	0.000E+00	FAIL ABUN
AG-108M	-1.619E-02	3.033E-02	4.987E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	3.382E-02	5.561E-02	0.000E+00	NOT IDENT.
IN-111	3.433E-02	1.346E+00	1.994E+00	0.000E+00	NOT IDENT.
IN-113M	-1.085E-02	4.081E-02	6.891E-02	0.000E+00	NOT IDENT.
SN-113	-1.085E-02	4.081E-02	6.891E-02	0.000E+00	NOT IDENT.
IN-114M	-7.269E-02	1.889E-01	2.818E-01	0.000E+00	NOT IDENT.
CD-115	-1.084E+00	1.258E+01	2.124E+01	0.000E+00	NOT IDENT.
SN-117M	-2.994E-02	5.614E-02	9.285E-02	0.000E+00	NOT IDENT.
SB-122	1.396E+00	2.329E+00	4.128E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.813E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.275E-04	2.759E-02	4.647E-02	0.000E+00	NOT IDENT.
I-124	-2.739E-01	7.725E-01	1.104E+00	0.000E+00	NOT IDENT.
SB-124	-1.094E-02	5.141E-02	8.379E-02	0.000E+00	FAIL ABUN
SB-125	4.921E-02	8.204E-02	1.431E-01	0.000E+00	FAIL ABUN
TE-125M	1.200E+00	8.569E+00	1.458E+01	0.000E+00	NOT IDENT.
I-126	-7.574E-03	1.805E-01	2.611E-01	0.000E+00	NOT IDENT.
SB-126	4.274E-02	1.526E-01	2.247E-01	0.000E+00	FAIL ABUN
SB-127	-1.338E+00	1.350E+00	2.113E+00	0.000E+00	FAIL ABUN
XE-127	-7.869E-03	4.651E-02	7.695E-02	0.000E+00	NOT IDENT.
I-131	3.478E-02	1.116E-01	1.949E-01	0.000E+00	NOT IDENT.
TE-132	-8.300E-02	7.776E-01	1.320E+00	0.000E+00	NOT IDENT.
BA-133	3.173E-03	4.139E-02	6.236E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.080E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.160E-02	7.810E-02	0.000E+00	FAIL ABUN
CS-135	2.581E-01	1.741E-01	2.705E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.642E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.625E-02	9.072E-02	1.562E-01	0.000E+00	FAIL ABUN
CE-139	2.071E-02	2.807E-02	5.031E-02	0.000E+00	NOT IDENT.
BA-140	-9.896E-02	2.211E-01	3.691E-01	0.000E+00	NOT IDENT.
LA-140	1.057E-01	7.933E-02	1.371E-01	0.000E+00	NOT IDENT.
CE-141	1.766E-02	5.688E-02	1.019E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.291E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.516E-02	2.051E-01	3.274E-01	0.000E+00	NOT IDENT.
PM-144	1.489E-02	2.953E-02	5.115E-02	0.000E+00	NOT IDENT.
PR-144	1.009E+00	2.002E+00	3.468E+00	0.000E+00	NOT IDENT.

PM-146	6.364E-03	3.847E-02	6.536E-02	0.000E+00	NOT IDENT.
ND-147	1.067E-01	5.021E-01	8.799E-01	0.000E+00	FAIL ABUN
PM-149	3.212E+01	1.164E+02	1.963E+02	0.000E+00	NOT IDENT.
EU-152	6.355E-02	9.927E-02	1.549E-01	0.000E+00	FAIL ABUN
GD-153	-7.622E-02	7.849E-02	1.133E-01	0.000E+00	NOT IDENT.
EU-154	-5.794E-02	9.773E-02	1.573E-01	0.000E+00	NOT IDENT.
EU-155	9.959E-02	9.788E-02	1.718E-01	0.000E+00	FAIL ABUN
TB-160	-6.750E-02	1.051E-01	1.701E-01	0.000E+00	FAIL ABUN
HO-166M	-3.302E-02	5.215E-02	8.397E-02	0.000E+00	FAIL ABUN
TM-171	-1.682E+01	2.573E+01	3.921E+01	0.000E+00	NOT IDENT.
LU-176	3.999E-03	2.436E-02	3.752E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.629E+00	2.118E+00	0.000E+00	FAIL ABUN
LU-177M	1.349E-01	1.667E-01	2.596E-01	0.000E+00	FAIL ABUN
HF-181	5.824E-03	3.769E-02	6.363E-02	0.000E+00	NOT IDENT.
W-181	-1.791E-01	3.389E-01	5.210E-01	0.000E+00	NOT IDENT.
TA-182	-4.343E-02	1.505E-01	2.507E-01	0.000E+00	FAIL ABUN
RE-183	-3.496E-02	1.047E-01	1.820E-01	0.000E+00	FAIL ABUN
RE-184	-1.289E-01	2.195E-01	3.603E-01	0.000E+00	NOT IDENT.
OS-185	4.992E-03	3.551E-02	6.082E-02	0.000E+00	NOT IDENT.
RE-188	1.230E-01	1.572E-01	2.838E-01	0.000E+00	NOT IDENT.
W-188	-3.916E+00	7.505E+00	1.115E+01	0.000E+00	FAIL ABUN
IR-192	1.285E-02	3.104E-02	5.508E-02	0.000E+00	FAIL ABUN
AU-195	3.441E-01	2.159E-01	3.512E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.384E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.567E+00	7.963E+00	1.421E+01	0.000E+00	NOT IDENT.
TL-202	5.613E-02	6.720E-02	1.180E-01	0.000E+00	NOT IDENT.
HG-203	-1.334E-02	3.947E-02	6.495E-02	0.000E+00	NOT IDENT.
BI-207	2.549E-02	4.221E-02	7.357E-02	0.000E+00	FAIL ABUN
TL-207	-1.020E+00	6.450E-01	9.966E-01	0.000E+00	FAIL ABUN
PO-209	1.373E+00	6.360E+00	1.098E+01	0.000E+00	NOT IDENT.
BI-210	2.095E+00	2.750E+00	4.996E+00	0.000E+00	NOT IDENT.
PB-210	2.095E+00	2.750E+00	4.996E+00	0.000E+00	NOT IDENT.
PO-210	2.095E+00	2.748E+00	4.996E+00	0.000E+00	NOT IDENT.
PB-211	-1.958E-01	9.782E-01	1.412E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.979E-01	5.549E-01	0.000E+00	FAIL ABUN
PO-215	-1.020E+00	6.450E-01	9.966E-01	0.000E+00	FAIL ABUN
RN-219	7.088E-02	3.966E-01	6.439E-01	0.000E+00	FAIL ABUN
RN-220	1.408E+01	2.197E+01	3.918E+01	0.000E+00	NOT IDENT.
RA-223	-1.020E+00	6.450E-01	9.966E-01	0.000E+00	FAIL ABUN
AC-227	1.010E-01	3.607E-01	6.145E-01	0.000E+00	FAIL ABUN
TH-227	1.010E-01	3.608E-01	6.145E-01	0.000E+00	FAIL ABUN
TH-229	-8.421E-02	4.622E-01	7.949E-01	0.000E+00	FAIL ABUN
PA-231	4.651E-02	1.436E+00	2.400E+00	0.000E+00	FAIL ABUN
TH-231	-1.020E+00	6.450E-01	9.966E-01	0.000E+00	FAIL ABUN
U-231	-3.510E-01	1.159E+00	1.740E+00	0.000E+00	FAIL ABUN
PA-233	-6.380E-03	5.586E-02	9.722E-02	0.000E+00	FAIL ABUN
PA-234	9.686E-02	2.480E-01	4.299E-01	0.000E+00	FAIL ABUN
PA-234M	5.681E-01	3.951E+00	6.704E+00	0.000E+00	NOT IDENT.
U-235	-3.642E-03	1.961E-01	3.412E-01	0.000E+00	FAIL ABUN
NP-236	-7.741E-03	7.730E-02	1.297E-01	0.000E+00	NOT IDENT.
NP-239	-3.616E-02	1.780E-01	2.970E-01	0.000E+00	FAIL ABUN
AM-241	6.070E-02	1.263E-01	2.056E-01	0.000E+00	NOT IDENT.
CM-243	-3.311E-02	8.777E-02	1.470E-01	0.000E+00	FAIL ABUN
AM-246	-7.254E-02	1.179E-01	1.889E-01	0.000E+00	NOT IDENT.
CM-247	-7.755E-03	3.875E-02	5.641E-02	0.000E+00	NOT IDENT.
CF-249	-9.414E-03	3.564E-02	6.024E-02	0.000E+00	NOT IDENT.
CF-251	-6.284E-02	1.177E-01	1.974E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630005.CNF;1
Sample date     : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:13:07.
Sample ID       : G243630005           Sample quantity  : 1.26270E+02 GRAM
Detector name   : GAM22                 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:02.05 0.0%
Energy tolerance: 1.50000 keV           Analyst Initials : MXR1
Abundance limit : 75.00000              Sensitivity       : 5.00000
Batch ID        : 937702                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	1470	10.67*	1.909E+00	2.145E+01	2.145E+01	10.90
CD-109	88.03	234	3.72*	7.479E+00	2.506E+00	2.566E+00	35.32
SN-126	64.28	152	9.60	4.329E+00	1.089E+00	1.089E+00	67.86
	86.94	234	8.90	7.479E+00	1.047E+00	1.047E+00	53.70
	87.57	234	37.00*	7.479E+00	2.519E-01	2.519E-01	35.32
BA-137M	661.65	281	89.98*	3.591E+00	2.584E-01	2.586E-01	25.46
CS-137	661.65	281	85.12*	3.591E+00	2.731E-01	2.734E-01	25.47
TL-208	277.35	-----	6.80	6.182E+00	-----	Line Not Found	-----
	510.84	202	21.60	4.300E+00	6.470E-01	6.470E-01	45.23
	583.14	556	84.20*	3.930E+00	4.998E-01	4.998E-01	17.32
	860.37	111	12.46	2.922E+00	9.065E-01	9.065E-01	43.09
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	916	12.94*	5.401E+00	3.897E+00	3.897E+00	15.18
PB-212	74.81	534	10.70	6.165E+00	2.406E+00	2.406E+00	22.51
	77.11	753	18.00	6.465E+00	1.923E+00	1.923E+00	15.41
	87.30	234	8.00	7.479E+00	1.165E+00	1.165E+00	36.71
	238.63	1595	44.60*	6.709E+00	1.585E+00	1.585E+00	14.59
	300.09	146	3.41	5.912E+00	2.151E+00	2.151E+00	49.61
PO-212	74.81	534	10.70	6.165E+00	2.406E+00	2.406E+00	22.51
	77.11	753	18.00	6.465E+00	1.923E+00	1.923E+00	15.41
	87.30	234	8.00	7.479E+00	1.165E+00	1.165E+00	36.71
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	1595	44.60*	6.709E+00	1.585E+00	1.585E+00	14.59
	300.09	146	3.41	5.912E+00	2.151E+00	2.151E+00	49.61
BI-214	609.31	717	46.30*	3.811E+00	1.207E+00	1.207E+00	16.86
	1120.29	211	15.10	2.344E+00	1.769E+00	1.769E+00	34.45
	1764.49	157	15.80	1.716E+00	1.716E+00	1.716E+00	24.83
PB-214	74.81	534	6.21	6.165E+00	4.146E+00	4.146E+00	21.78
	77.11	753	10.50	6.465E+00	3.297E+00	3.297E+00	17.19
	87.30	234	4.67	7.479E+00	1.996E+00	1.996E+00	36.16
	241.98	402	7.49	6.666E+00	2.396E+00	2.396E+00	24.12
	295.21	536	19.20	5.970E+00	1.390E+00	1.390E+00	21.42

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	916	37.20*	5.401E+00	1.355E+00	1.355E+00	16.05
	74.81	534	6.21	6.165E+00	4.146E+00	4.146E+00	21.78
	77.11	753	10.50	6.465E+00	3.297E+00	3.297E+00	17.19
	87.30	234	4.67	7.479E+00	1.996E+00	1.996E+00	36.16
	241.98	402	7.49	6.666E+00	2.396E+00	2.396E+00	24.12
PO-216	295.21	536	19.20	5.970E+00	1.390E+00	1.390E+00	21.42
	351.92	916	37.20*	5.401E+00	1.355E+00	1.355E+00	16.05
	74.81	534	10.70	6.165E+00	2.406E+00	2.406E+00	22.51
	77.11	753	18.00	6.465E+00	1.923E+00	1.923E+00	15.41
	87.30	234	8.00	7.479E+00	1.165E+00	1.165E+00	36.71
PO-218	238.63	1595	44.60*	6.709E+00	1.585E+00	1.585E+00	14.59
	300.09	146	3.41	5.912E+00	2.151E+00	2.151E+00	49.61
	74.81	534	6.21	6.165E+00	4.146E+00	4.146E+00	21.78
	77.11	753	10.50	6.465E+00	3.297E+00	3.297E+00	17.19
	87.30	234	4.67	7.479E+00	1.996E+00	1.996E+00	36.16
RA-224	241.98	402	7.49	6.666E+00	2.396E+00	2.396E+00	24.12
	295.21	536	19.20	5.970E+00	1.390E+00	1.390E+00	21.42
	351.92	916	37.20*	5.401E+00	1.355E+00	1.355E+00	16.05
	240.98	402	3.95*	6.666E+00	4.543E+00	4.543E+00	23.45
	609.31	717	46.30*	3.811E+00	1.207E+00	1.207E+00	16.86
AC-228	1120.29	211	15.10	2.344E+00	1.769E+00	1.769E+00	34.45
	1764.49	157	15.80	1.716E+00	1.716E+00	1.716E+00	24.83
	338.32	322	11.40	5.524E+00	1.520E+00	1.520E+00	48.17
	911.07	381	27.70*	2.788E+00	1.466E+00	1.466E+00	22.40
	969.11	246	16.60	2.649E+00	1.663E+00	1.663E+00	31.29
RA-228	338.32	322	11.40	5.524E+00	1.520E+00	1.520E+00	48.17
	911.07	381	27.70*	2.788E+00	1.466E+00	1.466E+00	22.40
	969.11	246	16.60	2.649E+00	1.663E+00	1.663E+00	31.29
	74.81	534	10.70	6.165E+00	2.406E+00	2.445E+00	20.51
	77.11	753	18.00	6.465E+00	1.923E+00	1.954E+00	15.41
TH-228	87.30	234	8.00	7.479E+00	1.165E+00	1.184E+00	35.32
	238.63	1595	44.60*	6.709E+00	1.585E+00	1.610E+00	14.59
	300.09	146	3.41	5.912E+00	2.151E+00	2.186E+00	76.59
	609.31	717	46.30*	3.811E+00	1.207E+00	1.207E+00	16.86
	1120.29	211	15.10	2.344E+00	1.769E+00	1.769E+00	34.45
TH-232	1764.49	157	15.80	1.716E+00	1.716E+00	1.716E+00	24.83
	338.32	322	11.40	5.524E+00	1.520E+00	1.520E+00	26.30
	911.07	381	27.70*	2.788E+00	1.466E+00	1.466E+00	22.40
	969.11	246	16.60	2.649E+00	1.663E+00	1.663E+00	31.29
	63.29	152	3.80*	4.329E+00	2.752E+00	2.752E+00	68.54
U-234	92.38	379	5.41	7.860E+00	2.649E+00	2.649E+00	30.58
	609.31	717	46.30*	3.811E+00	1.207E+00	1.207E+00	16.86
	1120.29	211	15.10	2.344E+00	1.769E+00	1.769E+00	34.45
	1764.49	157	15.80	1.716E+00	1.716E+00	1.716E+00	24.83
	86.50	234	12.60*	7.479E+00	7.397E-01	7.397E-01	40.91
NP-237	95.87	-----	2.60	8.032E+00	-----	Line Not Found	-----
U-238	63.29	152	3.80*	4.329E+00	2.752E+00	2.752E+00	68.54
	92.38	379	5.41	7.860E+00	2.649E+00	2.649E+00	26.12
AM-243	74.67	534	66.00*	6.165E+00	3.901E-01	3.901E-01	20.48

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	234	0.34	7.479E+00	2.774E+01	2.774E+01	35.32
	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
ANH-511	511.00	202	100.00*	4.300E+00	1.398E-01	1.398E-01	44.46

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 4
Number of lines tentatively identified by NID 32 88.89%

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	2.145E+01	2.145E+01	0.234E+01	10.90	
CD-109	464.00D	1.02	2.506E+00	2.566E+00	0.907E+00	35.32	
SN-126	1.00E+05Y	1.00	2.519E-01	2.519E-01	0.890E-01	35.32	
BA-137M	30.17Y	1.00	2.584E-01	2.586E-01	0.659E-01	25.46	
CS-137	30.17Y	1.00	2.731E-01	2.734E-01	0.696E-01	25.47	
TL-208	1.41E+10Y	1.00	4.998E-01	4.998E-01	0.866E-01	17.32	
BI-211	7.04E+08Y	1.00	3.897E+00	3.897E+00	0.591E+00	15.18	
PB-212	1.41E+10Y	1.00	1.585E+00	1.585E+00	0.231E+00	14.59	
PO-212	1.41E+10Y	1.00	1.585E+00	1.585E+00	0.231E+00	14.59	
BI-214	1600.00Y	1.00	1.207E+00	1.207E+00	0.203E+00	16.86	
PB-214	1600.00Y	1.00	1.355E+00	1.355E+00	0.218E+00	16.05	
PO-214	1600.00Y	1.00	1.355E+00	1.355E+00	0.218E+00	16.05	
PO-216	1.41E+10Y	1.00	1.585E+00	1.585E+00	0.231E+00	14.59	
PO-218	1600.00Y	1.00	1.355E+00	1.355E+00	0.218E+00	16.05	
RA-224	1.41E+10Y	1.00	4.543E+00	4.543E+00	1.065E+00	23.45	
RA-226	1600.00Y	1.00	1.207E+00	1.207E+00	0.203E+00	16.86	
AC-228	1.41E+10Y	1.00	1.466E+00	1.466E+00	0.328E+00	22.40	
RA-228	1.41E+10Y	1.00	1.466E+00	1.466E+00	0.328E+00	22.40	
TH-228	1.91Y	1.02	1.585E+00	1.610E+00	0.235E+00	14.59	
TH-230	4.47E+09Y	1.00	1.207E+00	1.207E+00	0.203E+00	16.86	
TH-232	1.41E+10Y	1.00	1.466E+00	1.466E+00	0.328E+00	22.40	
TH-234	4.47E+09Y	1.00	2.752E+00	2.752E+00	1.886E+00	68.54	
U-234	4.47E+09Y	1.00	1.207E+00	1.207E+00	0.203E+00	16.86	
NP-237	2.14E+06Y	1.00	7.397E-01	7.397E-01	3.026E-01	40.91	
U-238	4.47E+09Y	1.00	2.752E+00	2.752E+00	1.886E+00	68.54	
AM-243	7380.00Y	1.00	3.901E-01	3.901E-01	0.799E-01	20.48	
ANH-511	1.00E+09Y	1.00	1.398E-01	1.398E-01	0.621E-01	44.46	
Total Activity :			6.008E+01	6.017E+01			

Grand Total Activity : 6.008E+01 6.017E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.99	188	538	1.41	180.19	171	23	2.61E-02	45.3	7.69E+00	T
0	129.84	205	554	1.22	259.79	255	11	2.85E-02	46.6	8.52E+00	T
0	185.93	394	583	1.31	371.88	365	14	5.47E-02	28.8	7.61E+00	T
0	209.24	147	440	1.13	418.44	414	10	2.04E-02	55.9	7.18E+00	T
0	270.21	200	323	2.10	540.29	535	12	2.78E-02	38.6	6.27E+00	T
0	410.26	74	233	1.46	820.17	812	12	1.03E-02	86.3	4.93E+00	T
0	463.30	79	181	1.38	926.16	921	11	1.09E-02	70.4	4.58E+00	T
0	727.52	89	146	2.09	1454.30	1448	12	1.24E-02	59.2	3.34E+00	T
5	768.62	76	74	2.44	1536.47	1532	17	1.06E-02	45.3	3.20E+00	
5	772.60	46	63	1.98	1544.42	1532	17	6.37E-03	76.5	3.19E+00	
0	794.89	90	97	1.75	1588.98	1582	16	1.25E-02	54.5	3.12E+00	T
1	964.69	111	63	2.56	1928.46	1918	30	1.54E-02	41.3	2.66E+00	T
0	1238.71	98	73	1.94	2476.42	2470	16	1.36E-02	45.2	2.16E+00	T
0	1589.85	30	50	1.63	3178.78	3171	18	4.12E-03	****	1.81E+00	
0	1729.25	64	10	2.40	3457.67	3447	19	8.82E-03	34.2	1.73E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630005.CNF;1
* Acquisition date   : 7-JAN-2010 13:13:07.  Detector SN#      :
* Detector ID        : GAM22                      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 02:00:02.05           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630005           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.26270E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS 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	2.145E+01	2.339E+00	4.243E-01	3.887E-02	50.548
CD-109	2.566E+00	9.066E-01	1.110E+00	1.053E-01	2.313
SN-126	2.519E-01	8.898E-02	1.093E-01	1.033E-02	2.304
BA-137M	2.586E-01	6.586E-02	5.093E-02	5.371E-03	5.078
CS-137	2.734E-01	6.963E-02	5.384E-02	5.685E-03	5.078
TL-208	4.998E-01	8.658E-02	5.093E-02	5.523E-03	9.814
BI-211	3.897E+00	5.914E-01	2.783E-01	3.247E-02	14.000
PB-212	1.585E+00	2.311E-01	7.859E-02	1.038E-02	20.162
PO-212	1.585E+00	2.311E-01	7.859E-02	1.038E-02	20.162
BI-214	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
PB-214	1.355E+00	2.175E-01	9.754E-02	1.243E-02	13.896
PO-214	1.355E+00	2.175E-01	9.754E-02	1.243E-02	13.896
PO-216	1.585E+00	2.311E-01	7.859E-02	1.038E-02	20.162
PO-218	1.355E+00	2.175E-01	9.754E-02	1.243E-02	13.896
RA-224	4.543E+00	1.065E+00	8.935E-01	1.119E-01	5.084
RA-226	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
AC-228	1.466E+00	3.285E-01	1.835E-01	2.432E-02	7.989
RA-228	1.466E+00	3.285E-01	1.835E-01	2.432E-02	7.989

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.610E+00	2.348E-01	7.986E-02	1.055E-02	20.162
TH-230	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
TH-232	1.466E+00	3.285E-01	1.835E-01	2.432E-02	7.989
TH-234	2.752E+00	1.886E+00	1.639E+00	2.852E-01	1.680
U-234	1.207E+00	2.035E-01	9.506E-02	1.105E-02	12.700
NP-237	7.397E-01	3.026E-01	3.566E-01	8.074E-02	2.074
U-238	2.752E+00	1.886E+00	1.639E+00	2.852E-01	1.680
AM-243	3.901E-01	7.988E-02	7.447E-02	6.070E-03	5.238
ANH-511	1.398E-01	6.213E-02	3.870E-02	3.878E-03	3.611

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.017E-01		2.818E-01	4.646E-01	4.849E-02	0.219
NA-22	-2.127E-02		3.565E-02	5.611E-02	4.836E-03	-0.379
NA-24	-2.323E+00		9.618E-01	Half-Life	too short	
AL-26	-1.393E-02		2.327E-02	3.460E-02	2.830E-03	-0.403
TI-44	3.549E-01	+	5.470E-02	6.763E-02	5.734E-03	5.248
SC-46	-2.031E-02		3.295E-02	5.211E-02	5.834E-03	-0.390
V-48	-3.042E-03		5.879E-02	9.618E-02	1.009E-02	-0.032
CR-51	-1.503E-02		3.403E-01	5.683E-01	7.358E-02	-0.026
MN-52	1.549E-02		2.219E-01	3.655E-01	3.266E-02	0.042
MN-54	-9.727E-03		3.171E-02	5.187E-02	5.763E-03	-0.188
CO-56	-2.126E-02		3.463E-02	5.529E-02	6.154E-03	-0.385
CO-57	1.997E-03		2.485E-02	3.951E-02	3.258E-03	0.051
CO-58	-1.261E-02		3.151E-02	5.123E-02	5.673E-03	-0.246
FE-59	-2.795E-02		8.078E-02	1.278E-01	1.252E-02	-0.219
CO-60	7.243E-03		3.095E-02	5.210E-02	4.646E-03	0.139
ZN-65	5.243E-02		9.246E-02	1.346E-01	1.201E-02	0.390
GE-68	-7.737E-02		1.035E+00	1.675E+00	1.579E-01	-0.046
AS-73	8.379E-01		6.935E-01	1.184E+00	8.950E-02	0.707
AS-74	-1.663E-02		8.390E-02	1.375E-01	1.425E-02	-0.121
SE-75	3.854E-02		4.667E-02	6.847E-02	9.215E-03	0.563
BR-77	1.039E+01		1.210E+01	2.034E+01	2.047E+00	0.511
SR-82	1.332E-01		3.930E-01	5.610E-01	6.152E-02	0.237
RB-83	5.106E-02		6.127E-02	1.029E-01	1.035E-02	0.496
RB-84	-8.471E-03		5.476E-02	8.982E-02	1.005E-02	-0.094
KR-85	2.482E+01		7.921E+00	1.279E+01	1.283E+00	1.940
SR-85	1.285E-01		4.101E-02	6.623E-02	6.646E-03	1.940
RB-86	2.044E-01		6.732E-01	1.121E+00	1.058E-01	0.182
Y-88	-1.888E-03		2.925E-02	4.761E-02	3.849E-03	-0.040
ZR-88	1.219E-02		2.925E-02	4.900E-02	4.563E-03	0.249
Y-91	-3.336E+00		1.543E+01	2.529E+01	2.080E+00	-0.132
NB-94	-2.312E-02		2.866E-02	4.420E-02	4.736E-03	-0.523
NB-95	6.816E-02		4.255E-02	6.643E-02	7.265E-03	1.026
NB-95M	1.779E-01		1.318E-01	1.973E-01	2.608E-02	0.902
ZR-95	3.146E-02		5.957E-02	9.990E-02	1.160E-02	0.315

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	5.096E-01		1.239E-01	Half-Life too short		
ZR-97	1.500E+01		2.425E+00	Half-Life too short		
MO-99	-6.483E+00		1.284E+01	2.007E+01	3.323E+00	-0.323
TC-99M	4.790E+10		2.312E+11	Half-Life too short		
RH-101	-4.185E-03		3.298E-02	5.189E-02	5.661E-03	-0.081
RH-102	-3.236E-02		2.644E-02	3.933E-02	3.867E-03	-0.823
RU-103	1.282E-02		3.661E-02	6.008E-02	9.017E-03	0.213
RH-106	1.835E-01		2.804E-01	4.784E-01	6.985E-02	0.384
RU-106	1.835E-01		2.798E-01	4.784E-01	4.996E-02	0.384
AG-108M	-1.619E-02		3.095E-02	4.901E-02	4.852E-03	-0.330
AG-110M	5.882E-02		3.451E-02	5.498E-02	5.909E-03	1.070
IN-111	3.433E-02		1.373E+00	1.944E+00	2.467E-01	0.018
IN-113M	-1.085E-02		4.165E-02	6.763E-02	6.458E-03	-0.161
SN-113	-1.085E-02		4.165E-02	6.763E-02	6.458E-03	-0.161
IN-114M	-7.269E-02		1.928E-01	2.737E-01	2.910E-02	-0.266
CD-115	-1.084E+00		1.283E+01	2.094E+01	2.114E+00	-0.052
SN-117M	-2.994E-02		5.729E-02	8.994E-02	8.530E-03	-0.333
SB-122	1.396E+00		2.377E+00	4.072E+00	4.174E-01	0.343
I-123	8.378E-02		9.251E+00	Half-Life too short		
TE-123M	1.275E-04		2.815E-02	4.502E-02	4.299E-03	0.003
I-124	-2.739E-01		7.883E-01	1.090E+00	1.133E-01	-0.251
SB-124	-1.094E-02		5.246E-02	8.402E-02	7.473E-03	-0.130
SB-125	4.921E-02		8.372E-02	1.406E-01	1.364E-02	0.350
TE-125M	1.200E+00		8.743E+00	1.405E+01	1.423E+00	0.085
I-126	-7.574E-03		1.841E-01	2.582E-01	2.728E-02	-0.029
SB-126	4.274E-02		1.557E-01	2.224E-01	2.399E-02	0.192
SB-127	-1.338E+00		1.378E+00	2.091E+00	2.766E-01	-0.640
XE-127	-7.869E-03		4.746E-02	7.480E-02	8.292E-03	-0.105
I-131	3.478E-02		1.138E-01	1.910E-01	2.118E-02	0.182
TE-132	-8.300E-02		7.934E-01	1.285E+00	2.310E-01	-0.065
BA-133	3.173E-03		4.224E-02	6.111E-02	9.132E-03	0.052
I-133	7.898E-03		5.508E-03	Half-Life too short		
CS-134	1.131E-01	+	6.285E-02	7.743E-02	8.571E-03	1.461
CS-135	2.581E-01		1.777E-01	2.640E-01	3.818E-02	0.978
I-135	1.142E+10		2.368E+10	Half-Life too short		
CS-136	3.625E-02		9.257E-02	1.555E-01	1.573E-02	0.233
CE-139	2.071E-02		2.864E-02	4.877E-02	4.783E-03	0.425
BA-140	-9.896E-02		2.256E-01	3.638E-01	1.221E-01	-0.272
LA-140	1.057E-01		8.094E-02	1.373E-01	1.204E-02	0.769
CE-141	1.766E-02		5.804E-02	9.862E-02	8.977E-03	0.179
CE-143	1.407E-03		2.189E-04	Half-Life too short		
CE-144	5.516E-02		2.092E-01	3.164E-01	4.912E-02	0.174
PM-144	1.489E-02		3.013E-02	5.061E-02	5.413E-03	0.294
PR-144	1.009E+00		2.043E+00	3.431E+00	3.669E-01	0.294
PM-146	6.364E-03		3.925E-02	6.428E-02	7.469E-03	0.099
ND-147	1.067E-01		5.123E-01	8.672E-01	1.375E-01	0.123
PM-149	3.212E+01		1.188E+02	1.918E+02	3.628E+01	0.168
EU-152	6.355E-02		1.013E-01	1.517E-01	1.824E-02	0.419

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-7.622E-02		8.009E-02	1.090E-01	9.582E-03	-0.699
EU-154	-5.794E-02		9.972E-02	1.570E-01	1.775E-02	-0.369
EU-155	9.959E-02		9.988E-02	1.655E-01	1.420E-02	0.602
TB-160	-6.750E-02		1.072E-01	1.689E-01	1.888E-02	-0.400
HO-166M	-3.302E-02		5.322E-02	8.312E-02	8.936E-03	-0.397
TM-171	-1.682E+01		2.625E+01	3.753E+01	2.836E+00	-0.448
LU-176	3.999E-03		2.486E-02	3.669E-02	4.814E-03	0.109
LU-177	2.915E+00	+	1.662E+00	2.059E+00	2.324E-01	1.415
LU-177M	1.349E-01		1.701E-01	2.549E-01	2.411E-02	0.529
HF-181	5.824E-03		3.846E-02	6.262E-02	6.182E-03	0.093
W-181	-1.791E-01		3.458E-01	4.985E-01	3.716E-02	-0.359
TA-182	-4.343E-02		1.536E-01	2.502E-01	2.080E-02	-0.174
RE-183	-3.496E-02		1.068E-01	1.764E-01	1.701E-02	-0.198
RE-184	-1.289E-01		2.240E-01	3.513E-01	4.559E-02	-0.367
OS-185	4.992E-03		3.623E-02	6.012E-02	6.319E-03	0.083
RE-188	1.230E-01		1.604E-01	2.749E-01	2.566E-02	0.447
W-188	-3.916E+00		7.659E+00	1.089E+01	1.488E+00	-0.359
IR-192	1.285E-02		3.168E-02	5.388E-02	6.887E-03	0.239
AU-195	3.441E-01		2.203E-01	3.380E-01	2.948E-02	1.018
TL-200	-6.900E-04		3.768E-04	Half-Life too short		
TL-201	4.567E+00		8.125E+00	1.378E+01	1.358E+00	0.331
TL-202	5.613E-02		6.857E-02	1.159E-01	1.116E-02	0.484
HG-203	-1.334E-02		4.028E-02	6.343E-02	8.978E-03	-0.210
BI-207	2.549E-02		4.307E-02	7.326E-02	7.033E-03	0.348
TL-207	-1.020E+00		6.582E-01	9.753E-01	1.938E-01	-1.046
PO-209	1.373E+00		6.490E+00	1.090E+01	1.221E+00	0.126
BI-210	2.095E+00		2.806E+00	4.758E+00	4.421E-01	0.440
PB-210	2.095E+00		2.806E+00	4.758E+00	4.421E-01	0.440
PO-210	2.095E+00		2.805E+00	4.758E+00	4.001E-01	0.440
PB-211	-1.958E-01		9.982E-01	1.387E+00	8.704E-01	-0.141
BI-212	6.719E-01	+	4.060E-01	5.495E-01	6.563E-02	1.223
PO-215	-1.020E+00		6.582E-01	9.753E-01	1.938E-01	-1.046
RN-219	7.088E-02		4.047E-01	6.321E-01	9.780E-02	0.112
RN-220	1.408E+01		2.242E+01	3.864E+01	3.938E+00	0.364
RA-223	-1.020E+00		6.582E-01	9.753E-01	1.938E-01	-1.046
AC-227	1.010E-01		3.680E-01	5.994E-01	1.094E-01	0.169
TH-227	1.010E-01		3.682E-01	5.994E-01	1.234E-01	0.169
TH-229	-8.421E-02		4.716E-01	7.722E-01	8.303E-02	-0.109
PA-231	4.651E-02		1.465E+00	2.344E+00	4.377E-01	0.020
TH-231	-1.020E+00		6.582E-01	9.753E-01	1.938E-01	-1.046
U-231	-3.510E-01		1.183E+00	1.674E+00	1.486E-01	-0.210
PA-233	-6.380E-03		5.700E-02	9.509E-02	1.246E-02	-0.067
PA-234	9.686E-02		2.530E-01	4.273E-01	8.493E-02	0.227
PA-234M	5.681E-01		4.031E+00	6.670E+00	7.644E-01	0.085
U-235	-3.642E-03		2.001E-01	3.300E-01	5.822E-02	-0.011
NP-236	-7.741E-03		7.888E-02	1.257E-01	1.202E-02	-0.062
NP-239	-3.616E-02		1.816E-01	2.865E-01	2.368E-02	-0.126
AM-241	6.070E-02		1.289E-01	1.965E-01	1.536E-02	0.309

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.311E-02		8.956E-02	1.416E-01	1.207E-02	-0.234
AM-246	-7.254E-02		1.203E-01	1.882E-01	1.770E-02	-0.385
CM-247	-7.755E-03		3.954E-02	5.537E-02	5.195E-03	-0.140
CF-249	-9.414E-03		3.637E-02	5.910E-02	5.617E-03	-0.159
CF-251	-6.284E-02		1.201E-01	1.915E-01	1.946E-02	-0.328

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]G243630005          *
* Acquisition date   : 7-JAN-2010 13:13:07 Detector SN#                   *
* Detector ID        : GAM22                                           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 02:00:02.05                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID           : G243630005                               Analyst initials: MXR1         *
* Batch Number        : 937702                                   Sample Quantity : 1.2627E+02 GRAM *
* Recovery             : 1.00000                                Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 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	2.145E+01	2.292E+00	2.122E-01	1.169E+00
CD-109	2.566E+00	8.884E-01	5.778E-01	4.533E-01
SN-126	2.519E-01	8.720E-02	5.694E-02	4.449E-02
BA-137M	2.586E-01	6.454E-02	2.577E-02	3.293E-02
CS-137	2.734E-01	6.824E-02	2.724E-02	3.482E-02
TL-208	4.998E-01	8.484E-02	2.582E-02	4.329E-02
BI-211	3.897E+00	5.795E-01	1.421E-01	2.957E-01
PB-212	1.585E+00	2.265E-01	4.036E-02	1.156E-01
PO-212	1.585E+00	2.265E-01	4.036E-02	1.156E-01
BI-214	1.207E+00	1.994E-01	4.815E-02	1.017E-01
PB-214	1.355E+00	2.132E-01	4.981E-02	1.088E-01
PO-214	1.355E+00	2.132E-01	4.981E-02	1.088E-01
PO-216	1.585E+00	2.265E-01	4.036E-02	1.156E-01
PO-218	1.355E+00	2.132E-01	4.981E-02	1.088E-01
RA-224	4.543E+00	1.044E+00	4.587E-01	5.327E-01
RA-226	1.207E+00	1.994E-01	4.815E-02	1.017E-01
AC-228	1.466E+00	3.219E-01	9.242E-02	1.642E-01
RA-228	1.466E+00	3.219E-01	9.242E-02	1.642E-01
TH-228	1.610E+00	2.302E-01	4.101E-02	1.174E-01
TH-230	1.207E+00	1.994E-01	4.815E-02	1.017E-01
TH-232	1.466E+00	3.219E-01	9.242E-02	1.642E-01
TH-234	2.752E+00	1.849E+00	8.571E-01	9.432E-01
U-234	1.207E+00	1.994E-01	4.815E-02	1.017E-01
NP-237	7.397E-01	2.966E-01	1.857E-01	1.513E-01
U-238	2.752E+00	1.849E+00	8.571E-01	9.432E-01
AM-243	3.901E-01	7.828E-02	3.887E-02	3.994E-02
ANH-511	1.398E-01	6.089E-02	1.966E-02	3.107E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.017E-01	2.761E-01	2.362E-01	1.409E-01	NOT IDENT.
NA-22	-2.127E-02	3.493E-02	2.812E-02	1.782E-02	NOT IDENT.
NA-24	-2.323E+06	1.885E+06	0.000E+00	9.618E+05	SHORT HLIF
AL-26	-1.393E-02	2.280E-02	1.725E-02	1.163E-02	NOT IDENT.
TI-44	3.549E-01	5.361E-02	3.527E-02	2.735E-02	FAIL ABUN
SC-46	-2.031E-02	3.229E-02	2.625E-02	1.648E-02	FAIL ABUN
V-48	-3.042E-03	5.762E-02	4.838E-02	2.940E-02	NOT IDENT.
CR-51	-1.503E-02	3.335E-01	2.906E-01	1.702E-01	NOT IDENT.
MN-52	1.549E-02	2.174E-01	1.828E-01	1.109E-01	NOT IDENT.
MN-54	-9.727E-03	3.107E-02	2.616E-02	1.585E-02	NOT IDENT.
CO-56	-2.126E-02	3.394E-02	2.787E-02	1.732E-02	FAIL ABUN
CO-57	1.997E-03	2.435E-02	2.048E-02	1.242E-02	NOT IDENT.
CO-58	-1.261E-02	3.088E-02	2.585E-02	1.576E-02	NOT IDENT.
FE-59	-2.795E-02	7.917E-02	6.416E-02	4.039E-02	NOT IDENT.
CO-60	7.243E-03	3.033E-02	2.609E-02	1.548E-02	NOT IDENT.
ZN-65	5.243E-02	9.061E-02	6.757E-02	4.623E-02	NOT IDENT.
GE-68	-7.737E-02	1.015E+00	8.416E-01	5.177E-01	NOT IDENT.
AS-73	8.379E-01	6.796E-01	6.210E-01	3.467E-01	NOT IDENT.
AS-74	-1.663E-02	8.222E-02	6.968E-02	4.195E-02	NOT IDENT.
SE-75	3.854E-02	4.574E-02	3.510E-02	2.334E-02	NOT IDENT.
BR-77	1.039E+01	1.186E+01	1.033E+01	6.050E+00	FAIL ABUN
SR-82	1.332E-01	3.852E-01	2.832E-01	1.965E-01	NOT IDENT.
RB-83	5.106E-02	6.005E-02	5.223E-02	3.064E-02	NOT IDENT.
RB-84	-8.471E-03	5.366E-02	4.525E-02	2.738E-02	NOT IDENT.
KR-85	2.482E+01	7.763E+00	6.496E+00	3.960E+00	NOT IDENT.
SR-85	1.285E-01	4.019E-02	3.363E-02	2.051E-02	NOT IDENT.
RB-86	2.044E-01	6.597E-01	5.632E-01	3.366E-01	NOT IDENT.
Y-88	-1.888E-03	2.867E-02	2.373E-02	1.463E-02	NOT IDENT.
ZR-88	1.219E-02	2.867E-02	2.498E-02	1.463E-02	NOT IDENT.
Y-91	-3.336E+00	1.512E+01	1.268E+01	7.713E+00	NOT IDENT.
NB-94	-2.312E-02	2.809E-02	2.234E-02	1.433E-02	NOT IDENT.
NB-95	6.816E-02	4.170E-02	3.354E-02	2.128E-02	NOT IDENT.
NB-95M	1.779E-01	1.291E-01	1.013E-01	6.589E-02	NOT IDENT.
ZR-95	3.146E-02	5.838E-02	5.045E-02	2.979E-02	NOT IDENT.
NB-97	5.096E+05	2.428E+05	0.000E+00	1.239E+05	SHORT HLIF
ZR-97	1.500E+07	4.754E+06	0.000E+00	2.425E+06	SHORT HLIF
MO-99	-6.483E+00	1.258E+01	1.014E+01	6.420E+00	NOT IDENT.
TC-99M	4.790E+16	4.531E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.185E-03	3.232E-02	2.672E-02	1.649E-02	NOT IDENT.
RH-102	-3.236E-02	2.591E-02	1.999E-02	1.322E-02	NOT IDENT.
RU-103	1.282E-02	3.588E-02	3.053E-02	1.830E-02	FAIL ABUN
RH-106	1.835E-01	2.748E-01	2.423E-01	1.402E-01	FAIL ABUN
RU-106	1.835E-01	2.742E-01	2.423E-01	1.399E-01	FAIL ABUN
AG-108M	-1.619E-02	3.033E-02	2.495E-02	1.548E-02	NOT IDENT.
AG-110M	5.882E-02	3.382E-02	2.782E-02	1.726E-02	NOT IDENT.
IN-111	3.433E-02	1.346E+00	9.978E-01	6.867E-01	NOT IDENT.
IN-113M	-1.085E-02	4.081E-02	3.448E-02	2.082E-02	NOT IDENT.
SN-113	-1.085E-02	4.081E-02	3.448E-02	2.082E-02	NOT IDENT.
IN-114M	-7.269E-02	1.889E-01	1.410E-01	9.638E-02	NOT IDENT.
CD-115	-1.084E+00	1.258E+01	1.063E+01	6.416E+00	NOT IDENT.
SN-117M	-2.994E-02	5.614E-02	4.645E-02	2.864E-02	NOT IDENT.
SB-122	1.396E+00	2.329E+00	2.065E+00	1.189E+00	NOT IDENT.
I-123	8.378E+04	1.813E+07	0.000E+00	9.251E+06	SHORT HLIF
TE-123M	1.275E-04	2.759E-02	2.325E-02	1.407E-02	NOT IDENT.
I-124	-2.739E-01	7.725E-01	5.524E-01	3.941E-01	NOT IDENT.
SB-124	-1.094E-02	5.141E-02	4.192E-02	2.623E-02	FAIL ABUN
SB-125	4.921E-02	8.204E-02	7.157E-02	4.186E-02	FAIL ABUN
TE-125M	1.200E+00	8.569E+00	7.292E+00	4.372E+00	NOT IDENT.
I-126	-7.574E-03	1.805E-01	1.306E-01	9.207E-02	NOT IDENT.
SB-126	4.274E-02	1.526E-01	1.124E-01	7.784E-02	FAIL ABUN
SB-127	-1.338E+00	1.350E+00	1.057E+00	6.890E-01	FAIL ABUN
XE-127	-7.869E-03	4.651E-02	3.850E-02	2.373E-02	NOT IDENT.
I-131	3.478E-02	1.116E-01	9.748E-02	5.692E-02	NOT IDENT.
TE-132	-8.300E-02	7.776E-01	6.605E-01	3.967E-01	NOT IDENT.
BA-133	3.173E-03	4.139E-02	3.120E-02	2.112E-02	NOT IDENT.
I-133	7.898E+03	1.080E+04	0.000E+00	5.508E+03	SHORT HLIF
CS-134	1.131E-01	6.160E-02	3.907E-02	3.143E-02	FAIL ABUN
CS-135	2.581E-01	1.741E-01	1.353E-01	8.884E-02	NOT IDENT.
I-135	1.142E+16	4.642E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.625E-02	9.072E-02	7.816E-02	4.628E-02	FAIL ABUN
CE-139	2.071E-02	2.807E-02	2.517E-02	1.432E-02	NOT IDENT.
BA-140	-9.896E-02	2.211E-01	1.847E-01	1.128E-01	NOT IDENT.
LA-140	1.057E-01	7.933E-02	6.858E-02	4.047E-02	NOT IDENT.
CE-141	1.766E-02	5.688E-02	5.099E-02	2.902E-02	NOT IDENT.
CE-143	1.407E+03	4.291E+02	0.000E+00	2.189E+02	SHORT HLIF
CE-144	5.516E-02	2.051E-01	1.638E-01	1.046E-01	NOT IDENT.
PM-144	1.489E-02	2.953E-02	2.559E-02	1.506E-02	NOT IDENT.
PR-144	1.009E+00	2.002E+00	1.735E+00	1.021E+00	NOT IDENT.

PM-146	6.364E-03	3.847E-02	3.270E-02	1.963E-02	NOT IDENT.
ND-147	1.067E-01	5.021E-01	4.402E-01	2.562E-01	FAIL ABUN
PM-149	3.212E+01	1.164E+02	9.820E+01	5.939E+01	NOT IDENT.
EU-152	6.355E-02	9.927E-02	7.750E-02	5.065E-02	FAIL ABUN
GD-153	-7.622E-02	7.849E-02	5.666E-02	4.004E-02	NOT IDENT.
EU-154	-5.794E-02	9.773E-02	7.869E-02	4.986E-02	NOT IDENT.
EU-155	9.959E-02	9.788E-02	8.594E-02	4.994E-02	FAIL ABUN
TB-160	-6.750E-02	1.051E-01	8.508E-02	5.361E-02	FAIL ABUN
HO-166M	-3.302E-02	5.215E-02	4.201E-02	2.661E-02	FAIL ABUN
TM-171	-1.682E+01	2.573E+01	1.962E+01	1.313E+01	NOT IDENT.
LU-176	3.999E-03	2.436E-02	1.877E-02	1.243E-02	FAIL ABUN
LU-177	2.915E+00	1.629E+00	1.059E+00	8.310E-01	FAIL ABUN
LU-177M	1.349E-01	1.667E-01	1.299E-01	8.507E-02	FAIL ABUN
HF-181	5.824E-03	3.769E-02	3.183E-02	1.923E-02	NOT IDENT.
W-181	-1.791E-01	3.389E-01	2.607E-01	1.729E-01	NOT IDENT.
TA-182	-4.343E-02	1.505E-01	1.254E-01	7.679E-02	FAIL ABUN
RE-183	-3.496E-02	1.047E-01	9.105E-02	5.339E-02	FAIL ABUN
RE-184	-1.289E-01	2.195E-01	1.803E-01	1.120E-01	NOT IDENT.
OS-185	4.992E-03	3.551E-02	3.043E-02	1.812E-02	NOT IDENT.
RE-188	1.230E-01	1.572E-01	1.420E-01	8.022E-02	NOT IDENT.
W-188	-3.916E+00	7.505E+00	5.578E+00	3.829E+00	FAIL ABUN
IR-192	1.285E-02	3.104E-02	2.756E-02	1.584E-02	FAIL ABUN
AU-195	3.441E-01	2.159E-01	1.757E-01	1.101E-01	FAIL ABUN
TL-200	-6.900E+02	7.384E+02	0.000E+00	3.768E+02	SHORT HLIF
TL-201	4.567E+00	7.963E+00	7.110E+00	4.063E+00	NOT IDENT.
TL-202	5.613E-02	6.720E-02	5.902E-02	3.429E-02	NOT IDENT.
HG-203	-1.334E-02	3.947E-02	3.250E-02	2.014E-02	NOT IDENT.
BI-207	2.549E-02	4.221E-02	3.681E-02	2.154E-02	FAIL ABUN
TL-207	-1.020E+00	6.450E-01	4.986E-01	3.291E-01	FAIL ABUN
PO-209	1.373E+00	6.360E+00	5.492E+00	3.245E+00	NOT IDENT.
BI-210	2.095E+00	2.750E+00	2.499E+00	1.403E+00	NOT IDENT.
PB-210	2.095E+00	2.750E+00	2.499E+00	1.403E+00	NOT IDENT.
PO-210	2.095E+00	2.748E+00	2.499E+00	1.402E+00	NOT IDENT.
PB-211	-1.958E-01	9.782E-01	7.066E-01	4.991E-01	NOT IDENT.
BI-212	6.719E-01	3.979E-01	2.776E-01	2.030E-01	FAIL ABUN
PO-215	-1.020E+00	6.450E-01	4.986E-01	3.291E-01	FAIL ABUN
RN-219	7.088E-02	3.966E-01	3.222E-01	2.024E-01	FAIL ABUN
RN-220	1.408E+01	2.197E+01	1.960E+01	1.121E+01	NOT IDENT.
RA-223	-1.020E+00	6.450E-01	4.986E-01	3.291E-01	FAIL ABUN
AC-227	1.010E-01	3.607E-01	3.074E-01	1.840E-01	FAIL ABUN
TH-227	1.010E-01	3.608E-01	3.074E-01	1.841E-01	FAIL ABUN
TH-229	-8.421E-02	4.622E-01	3.977E-01	2.358E-01	FAIL ABUN
PA-231	4.651E-02	1.436E+00	1.201E+00	7.325E-01	FAIL ABUN
TH-231	-1.020E+00	6.450E-01	4.986E-01	3.291E-01	FAIL ABUN
U-231	-3.510E-01	1.159E+00	8.706E-01	5.915E-01	FAIL ABUN
PA-233	-6.380E-03	5.586E-02	4.864E-02	2.850E-02	FAIL ABUN
PA-234	9.686E-02	2.480E-01	2.151E-01	1.265E-01	FAIL ABUN
PA-234M	5.681E-01	3.951E+00	3.354E+00	2.016E+00	NOT IDENT.
U-235	-3.642E-03	1.961E-01	1.707E-01	1.001E-01	FAIL ABUN
NP-236	-7.741E-03	7.730E-02	6.491E-02	3.944E-02	NOT IDENT.
NP-239	-3.616E-02	1.780E-01	1.486E-01	9.079E-02	FAIL ABUN
AM-241	6.070E-02	1.263E-01	1.029E-01	6.445E-02	NOT IDENT.
CM-243	-3.311E-02	8.777E-02	7.354E-02	4.478E-02	FAIL ABUN
AM-246	-7.254E-02	1.179E-01	9.453E-02	6.015E-02	NOT IDENT.
CM-247	-7.755E-03	3.875E-02	2.822E-02	1.977E-02	NOT IDENT.
CF-249	-9.414E-03	3.564E-02	3.014E-02	1.819E-02	NOT IDENT.
CF-251	-6.284E-02	1.177E-01	9.877E-02	6.006E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON, SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
--------	------------

46.50	269.1455
46.50	269.1455
46.50	269.1455
48.70	303.8679
49.72	312.6215
51.35	320.4536
52.39	320.9935
52.97	310.6430
53.15	284.8229
53.44	287.0424
54.07	292.4903
56.28	354.6362
56.28	354.6400
57.37	0.0000
57.53	338.4525
57.53	338.4553
57.60	330.0148
57.98	328.2451
57.98	328.2451
59.32	317.9851
59.32	317.9851
59.40	318.0859
59.54	318.2629
59.72	314.1868
60.01	314.5477
61.10	346.1874
61.14	346.2410
61.30	346.4566
63.00	380.6983
63.29	381.1190
63.29	381.1190
63.58	381.5378
64.28	433.6492
65.12	429.1540
65.20	460.0496
65.20	460.0496
66.05	446.7992
66.72	452.3163
66.83	452.4990
66.91	452.6325
67.20	456.0621
67.20	456.0621
67.75	461.4064
67.85	461.5742
68.90	424.7058
68.90	424.7058
69.30	459.5135
69.67	445.2288
70.82	463.4745
70.82	463.4745
70.83	463.4911
72.80	474.6865
72.87	474.8020
72.87	474.8020
74.67	477.7058
74.81	477.9295
74.81	477.9295
74.81	477.9295
74.81	477.9295
74.81	477.9295
74.81	477.9295
74.81	477.9295
74.97	478.1869
75.28	478.6825
75.70	479.3513
77.11	481.5863
77.11	481.5863

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77.11	481.5863
77.11	481.5863
77.11	481.5863
77.11	481.5863
78.38	496.8740
79.62	440.3530
79.80	440.6061
79.80	440.6061
80.11	450.2951
80.18	450.3954
80.30	450.5669
80.30	450.5669
80.57	450.9523
81.00	488.6823
81.07	488.7908
81.07	488.7908
81.07	488.7908
81.07	488.7908
82.60	492.6932
83.37	492.3083
83.78	496.0550
83.78	496.0550
83.78	496.0550
83.78	496.0550
84.21	470.1586
84.90	449.2367
85.43	459.3683
86.29	581.5972
86.50	581.9641
86.54	582.0347
86.59	582.1222
86.72	582.3508
86.79	481.7180
86.94	481.9374
87.30	482.4557
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87.30	482.4557
87.30	482.4557
87.30	482.4557
87.57	482.8432
87.88	483.2891
88.03	483.5039
88.36	483.9755
88.47	484.1342
89.95	486.2401
91.11	487.8813
92.29	489.5388
92.38	489.6649
92.38	489.6649
93.35	491.0166
94.00	491.9201
94.67	492.8423
94.67	492.8493
94.90	493.1668
94.90	493.1668
94.90	493.1668
94.90	493.1668
95.87	384.6128
95.87	384.6128
96.73	413.0696
97.43	426.8473
98.44	338.5142
98.44	338.5157
98.88	322.6262
99.55	343.4539
99.55	343.4539
99.86	349.6211
100.00	349.7533
100.10	366.1995
103.18	434.0323
103.76	406.0806
105.00	344.4619
105.31	367.9416
108.00	426.1120
109.28	395.1207

111.00	382.2479
111.00	382.2479
111.76	416.6598
112.95	405.4907
115.19	387.3175
116.30	379.2682
117.00	398.1008
117.00	398.1008
117.66	440.8766
121.11	367.5098
121.62	397.8398
121.78	397.9859
122.06	398.2428
122.32	398.4804
122.32	398.4804
122.32	398.4804
122.32	398.4804
123.07	402.6295
127.23	414.0005
129.76	382.9503
131.20	393.3212
133.02	392.0436
133.54	391.0663
135.34	362.7026
136.00	400.8536
136.25	401.0666
136.48	422.3949
140.51	421.4674
140.51	0.0000
142.18	415.7026
142.65	413.3922
143.76	409.8020
144.24	392.9946
144.24	392.9946
144.24	392.9946
144.24	392.9946
145.22	391.9581
145.44	400.3022
147.16	433.5576
152.43	405.8504
152.70	413.4286
153.22	406.4695
154.21	383.2335
154.21	383.2335
154.21	383.2335
154.21	383.2335
155.03	388.4596
156.02	395.6800
158.56	422.7224
159.00	0.0000
159.00	396.9764
160.31	405.4214
161.27	435.1535
162.32	438.8071
162.64	430.6242
163.35	424.6087
163.89	423.1453
165.85	394.4582
167.43	381.3883
171.28	385.9137
171.86	379.6292
172.10	379.7901
176.55	384.6619
176.60	384.6954
181.06	358.1656
184.41	404.4217
185.71	405.2924
186.00	405.4887
190.27	380.9728
192.34	363.2916
193.63	375.9151
197.04	402.8185
198.01	375.5388
198.60	353.9491
200.40	397.9393
201.83	402.8312
202.84	401.4496
205.31	390.0743

208.36	382.1633
208.81	375.7383
209.75	382.9613
209.75	382.9613
210.97	393.4125
215.65	351.9418
216.55	364.6968
218.09	367.5678
222.10	344.9115
223.80	346.7825
226.40	341.8239
227.00	334.8336
227.08	334.8705
227.20	344.2883
228.16	341.6258
228.18	341.6358
228.18	341.6358
231.56	0.0000
235.69	324.9831
236.00	304.9072
236.00	304.9072
238.63	289.5091
238.63	289.5091
238.63	289.5091
238.63	289.5091
239.00	289.6533
240.98	290.4226
241.98	295.4814
241.98	295.4814
241.98	295.4814
244.69	291.4306
245.39	286.5823
247.94	296.3138
248.90	293.4705
249.79	276.6524
252.40	290.4984
252.85	313.2726
252.85	313.2726
254.15	0.0000
256.20	297.3184
256.20	297.3184
260.50	332.6331
260.90	330.6260
262.80	329.2296
264.65	248.2539
268.24	282.7130
268.79	279.3913
269.46	276.1031
269.46	276.1031
269.46	276.1031
269.46	276.1031
271.23	303.1332
273.65	351.7432
276.40	228.7671
277.35	267.5767
277.60	274.1551
277.60	274.1551
278.00	280.9498
278.60	304.4872
279.20	312.4890
279.53	312.6091
280.46	320.7480
281.68	295.5573
283.67	272.7687
284.30	288.6320
285.00	283.2700
285.90	271.2382
286.10	260.0902
286.10	260.0902
287.40	260.4796
288.45	0.0000
290.67	287.0052
290.80	287.0479
291.72	296.3777
293.26	0.0000
293.70	259.3472
295.21	253.7500
295.21	253.7500

295.21	253.7500
295.96	226.7548
296.50	226.8921
297.23	227.0782
298.57	227.4200
299.80	227.7313
299.80	227.7313
300.09	227.8076
300.09	227.8076
300.09	227.8076
300.09	227.8076
300.12	227.8137
301.29	260.0451
302.84	242.2136
303.76	221.1108
303.91	221.1462
304.40	212.1113
304.40	212.1113
304.84	216.7932
306.84	232.5706
308.46	259.5500
311.98	240.9471
316.51	236.5536
318.01	231.3584
319.02	239.9759
319.41	254.0346
320.08	239.3124
323.87	315.9962
323.87	315.9962
323.87	315.9962
323.87	315.9962
325.23	268.6946
328.77	256.5273
333.44	272.2378
334.20	256.7004
334.20	256.7004
334.30	250.4269
338.28	284.6448
338.28	284.6448
338.28	284.6448
338.28	284.6448
338.32	284.6594
338.32	284.6594
338.32	284.6594
340.50	250.4142
340.57	250.4303
344.27	221.1297
345.85	261.3116
350.59	0.0000
351.07	198.5938
351.92	201.0018
351.92	201.0018
351.92	201.0018
355.39	0.0000
356.01	197.9381
364.48	207.3344
366.43	237.9476
367.43	234.2666
367.94	0.0000
369.80	170.2192
374.96	208.3925
383.85	203.1557
387.95	217.8317
388.63	227.9182
391.69	224.5496
391.69	224.5496
392.90	215.7996
398.62	229.9448
400.65	210.2348
401.10	222.5065
401.81	212.7147
402.60	219.9991
404.84	218.7429
410.95	197.9064
411.60	186.1688
413.65	157.6716
414.70	171.3889
415.30	164.6841

415.76	184.8879
417.63	0.0000
418.52	203.2657
423.70	200.0464
427.08	192.3781
427.89	178.0937
432.53	207.7082
433.93	211.0499
439.47	188.0990
439.56	179.7979
439.89	200.6380
443.98	188.7818
444.90	184.7459
445.03	184.7654
445.03	184.7654
445.03	184.7654
445.03	184.7654
453.90	174.5026
463.38	164.1464
468.07	154.1103
473.00	149.3550
475.06	191.2582
475.35	181.6833
476.78	166.9002
477.59	149.8728
477.96	152.0572
482.03	160.0386
484.57	177.5603
487.03	148.7745
490.36	0.0000
492.35	155.8529
497.08	149.8745
507.63	0.0000
510.53	0.0000
510.84	144.7811
511.00	144.7972
511.85	144.8834
511.85	144.8834
513.99	139.2406
513.99	139.2406
520.41	133.6111
520.65	133.6347
527.90	152.6230
528.96	0.0000
529.64	137.9869
529.87	0.0000
531.02	148.3170
537.32	145.2312
543.00	130.8370
546.56	0.0000
549.76	137.0621
552.65	146.7324
555.20	141.3269
563.23	166.6973
563.90	159.1919
568.70	173.9453
569.32	156.8964
569.50	155.0145
569.67	155.0311
573.80	170.6137
574.00	159.1905
574.64	161.4443
578.91	142.6949
579.30	0.0000
583.14	148.6962
585.48	149.8777
591.81	131.6651
592.07	137.6336
593.00	156.9037
595.88	158.5914
600.56	136.7458
602.52	0.0000
602.71	168.1408
602.71	168.1408
603.60	174.8950
604.41	179.9824
604.70	176.6790
609.31	147.2305

609.31	147.2305
609.31	147.2305
609.31	147.2305
610.33	130.4579
612.46	120.5784
614.37	155.9255
618.01	149.3800
621.84	130.6648
621.84	130.6648
631.29	148.1934
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633.10	138.4619
634.78	130.6787
635.90	130.7646
636.97	120.9352
645.85	129.5319
646.12	123.5736
656.30	118.5697
657.75	103.1899
657.90	0.0000
661.65	141.3379
661.65	141.3379
664.57	0.0000
666.33	129.6151
666.33	129.6151
675.00	141.8229
677.61	111.5934
685.20	139.5699
692.80	134.0117
695.00	123.9295
696.49	132.2308
696.49	132.2308
697.00	138.4195
697.49	143.5832
698.33	142.6226
698.50	142.6367
699.00	132.4092
702.63	147.0673
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706.58	0.0000
706.67	121.6203
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711.68	142.6129
713.82	142.7758
717.42	133.7189
720.50	129.9320
721.93	0.0000
722.20	130.0465
722.78	131.8693
722.78	131.8693
722.89	131.8770
722.95	131.8796
723.30	149.7305
724.18	140.8813
727.18	129.1944
733.00	109.2817
735.90	114.1779
739.58	128.9783
742.81	105.0354
744.21	110.3641
747.13	117.8971
751.79	123.4532
752.31	102.3777
753.82	111.9608
755.35	113.1041
756.15	102.5751
756.87	105.7861
763.93	105.5559
765.79	105.6530
766.42	103.8632
766.84	98.4174
776.49	111.7082
778.00	89.7986
778.57	97.1568
778.89	99.4634
783.80	120.0732
785.46	104.2915
792.07	153.1557

795.84	89.5029
796.30	86.9038
798.80	105.5212
801.93	120.5125
805.60	82.0062
810.29	104.2402
810.76	104.2637
815.85	97.9816
817.79	100.8733
818.51	104.6445
819.60	120.5888
826.30	120.9690
828.27	0.0000
831.60	138.1868
831.96	131.6284
834.83	127.0969
836.80	0.0000
846.75	124.0073
848.13	113.6656
856.28	0.0000
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860.37	90.4839
867.32	86.9454
867.82	81.9473
871.10	88.2080
873.19	83.3406
874.81	90.1101
875.33	0.0000
876.40	93.0519
879.36	89.3315
880.27	97.0547
880.51	98.9873
881.50	84.6085
883.24	84.6730
884.67	67.3962
889.25	105.1566
896.60	103.5574
898.02	122.0208
899.00	123.0401
903.28	108.7090
911.07	105.1768
911.07	105.1768
911.07	105.1768
919.63	90.6554
920.93	71.8799
925.00	107.7595
925.24	97.9736
926.50	109.7891
935.52	81.6698
937.48	97.4928
944.10	88.8731
946.00	89.9320
949.00	86.0852
962.29	67.9013
964.01	70.6855
966.15	70.7474
968.20	70.8056
969.11	70.8329
969.11	70.8329
969.11	70.8329
977.42	80.5786
980.50	70.1550
983.50	83.2837
989.30	82.4705
996.32	106.9058
1001.03	90.9370
1001.68	76.8111
1004.76	120.4153
1021.30	0.0000
1024.50	0.0000
1034.80	91.1108
1036.00	89.1028
1037.82	92.2381
1038.57	94.3167
1038.76	0.0000
1045.16	83.2459
1046.59	85.3477
1048.07	80.2525

1050.47	92.6807
1050.47	92.6807
1062.04	94.1167
1063.62	78.6507
1076.63	82.1493
1077.35	88.4122
1078.86	92.6256
1085.78	106.4219
1099.22	103.7995
1112.02	95.0304
1112.84	94.0344
1115.52	103.3525
1120.29	81.3425
1120.29	81.3425
1120.29	81.3425
1120.29	81.3425
1120.51	91.9156
1121.28	91.9399
1124.00	0.0000
1129.67	89.0332
1131.51	0.0000
1147.95	0.0000
1167.94	101.5038
1173.22	107.3342
1175.09	104.5774
1177.93	90.5332
1189.05	72.8878
1204.90	106.5825
1205.75	0.0000
1213.00	109.7322
1221.42	102.3828
1230.97	98.9701
1235.34	114.4911
1236.41	0.0000
1238.25	111.1792
1246.25	90.8867
1260.41	0.0000
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1274.45	86.6262
1274.54	86.6289
1291.56	78.2861
1298.22	0.0000
1312.09	47.2720
1325.50	49.4446
1325.50	49.4446
1332.49	53.5139
1333.61	49.5667
1360.21	58.9586
1362.66	0.0000
1365.15	65.0496
1368.21	70.1175
1368.53	0.0000
1376.25	51.2070
1384.27	100.6439
1394.10	55.5136
1395.20	63.6075
1407.95	58.7770
1434.06	46.9658
1436.60	31.6745
1457.56	0.0000
1460.81	39.0924
1489.15	41.4734
1509.49	33.3633
1596.49	25.6047
1620.62	28.6263
1678.03	0.0000
1691.02	21.3644
1691.02	21.3644
1706.46	0.0000
1750.46	0.0000
1764.49	26.6858
1764.49	26.6858
1764.49	26.6858
1764.49	26.6858
1770.23	21.3773
1771.40	21.3832
1791.20	0.0000
1808.65	25.9626

1836.01

28.1352

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630005

Total Uranium Activity	8.1864E+00	ug/g
Total Uranium Counting Unc.	5.5005E+00	ug/g
Total Uranium Tpu	2.8064E-06	ug/g
Total Uranium Mda	2.5510E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G243630005
*  ANALYST       : MXR1            DETECTOR    : GAM22
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:13:07.07  SAMPLE ALQT: 126.270 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.067E+00
GROSS GAMMA ERROR  (pCi/GRAM )  : 1.211E+00
GROSS GAMMA MDA    (pCi/GRAM )  : 2.587E+00
GROSS GAMMA DLC     (pCi/GRAM )  : 1.255E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:23:30.04

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630006.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:23:09.
Sample ID          : G243630006 Sample quantity : 1.34780E+02 GRAM
Detector name      : GAM10 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.00 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.60*	309	389	1.18	149.34	144	16	4.29E-02	12.5	1.93E+00
2	2	76.86	560	323	1.03	153.85	144	16	7.77E-02	6.7	
3	0	87.03	192	422	1.08	174.18	171	7	2.67E-02	19.1	
4	0	89.70	125	321	0.81	179.51	177	6	1.74E-02	24.5	
5	0	92.57*	155	350	1.59	185.24	183	7	2.15E-02	22.5	
6	0	129.07	73	289	0.82	258.19	255	8	1.02E-02	42.0	
7	0	185.95*	205	388	1.44	371.85	366	13	2.85E-02	21.5	
8	0	209.33	136	231	1.05	418.58	414	9	1.89E-02	22.0	
9	4	238.56*	1233	189	1.10	476.98	473	16	1.71E-01	3.5	9.95E-01
10	4	241.65	254	246	1.49	483.17	473	16	3.53E-02	13.1	
11	0	270.36	125	170	1.45	540.53	536	10	1.74E-02	21.5	
12	0	278.33	28	196	1.23	556.47	550	9	3.86E-03	93.1	
13	0	295.14*	352	243	1.15	590.07	584	12	4.88E-02	10.5	
14	0	300.22	88	146	0.87	600.22	596	8	1.22E-02	26.2	
15	0	338.34*	261	172	1.12	676.41	672	10	3.63E-02	11.5	
16	0	351.95*	596	150	1.20	703.60	699	9	8.28E-02	5.6	
17	0	463.05	137	117	1.81	925.68	917	18	1.90E-02	20.5	
18	0	511.18*	135	143	1.53	1021.87	1014	17	1.88E-02	24.5	
19	0	583.47*	379	111	1.39	1166.39	1160	12	5.27E-02	7.7	
20	0	609.46*	436	112	1.19	1218.35	1213	12	6.06E-02	7.0	
21	0	727.66*	88	74	1.53	1454.64	1449	13	1.23E-02	23.0	
22	0	861.24	59	55	1.64	1721.73	1715	14	8.20E-03	29.8	
23	0	911.68*	264	71	1.85	1822.60	1815	18	3.66E-02	9.9	
24	2	964.87	74	30	2.12	1928.96	1924	20	1.02E-02	18.9	1.27E+00
25	2	969.22*	139	32	1.61	1937.66	1924	20	1.93E-02	11.6	
26	0	1120.52*	110	86	2.18	2240.25	2232	18	1.52E-02	22.2	
27	0	1461.29*	893	16	2.26	2921.90	2911	21	1.24E-01	3.6	
28	0	1765.25*	73	18	1.85	3530.09	3522	18	1.01E-02	18.6	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630006.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:23:09
 Sample ID : G243630006 Sample quantity : 134.78 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA10 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.00 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	*	2.107E+01	2.354E+00	4.894E-01	4.215E-02	43.049
CD-109	+	88.03	*	2.802E+00	1.119E+00	1.245E+00	1.412E-01	2.250
SN-126		64.28		5.197E-01	6.214E-01	1.047E+00	1.791E-01	0.496
	+	86.94		1.143E+00	6.498E-01	5.548E-01	2.330E-01	2.061
	+	87.57	*	2.750E-01	1.098E-01	1.231E-01	1.393E-02	2.233
HG-203		70.83		6.861E-01	1.278E+00	1.942E+00	2.969E-01	0.353
		72.87		1.234E+00	7.975E-01	1.232E+00	1.831E-01	1.002
		82.60		-1.399E-01	1.197E+00	1.754E+00	2.698E-01	-0.080
	+	279.20	*	2.766E-02	5.156E-02	5.913E-02	3.990E-03	0.468
TL-208	+	277.35		2.475E-01	4.617E-01	5.079E-01	5.539E-02	0.487
	+	510.84		5.961E-01	2.990E-01	1.913E-01	2.011E-02	3.116
	+	583.14	*	4.779E-01	8.031E-02	5.255E-02	3.531E-03	9.093
	+	860.37		7.172E-01	4.337E-01	4.473E-01	4.368E-02	1.603
BI-211		72.87		6.119E+00	3.906E+00	6.107E+00	6.716E-01	1.002
	+	351.07	*	3.300E+00	4.430E-01	2.786E-01	2.031E-02	11.844
PB-212	+	74.81		2.083E+00	6.022E-01	5.676E-01	8.171E-02	3.669
	+	77.11		2.085E+00	3.614E-01	3.145E-01	3.439E-02	6.630
	+	87.30		1.272E+00	5.235E-01	5.720E-01	8.630E-02	2.224
	+	238.63	*	1.505E+00	1.546E-01	8.345E-02	6.330E-03	18.037
	+	300.09		1.645E+00	8.749E-01	1.093E+00	9.609E-02	1.505
PO-212	+	74.81		2.083E+00	6.022E-01	5.676E-01	8.171E-02	3.669
	+	77.11		2.085E+00	3.614E-01	3.145E-01	3.439E-02	6.630
	+	87.30		1.272E+00	5.235E-01	5.720E-01	8.630E-02	2.224
		115.19		4.820E-01	3.297E+00	5.391E+00	3.857E-01	0.089
	+	238.63	*	1.505E+00	1.546E-01	8.345E-02	6.330E-03	18.037
	+	300.09		1.645E+00	8.749E-01	1.093E+00	9.609E-02	1.505
BI-214	+	609.31	*	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
	+	1120.29		1.429E+00	6.501E-01	4.535E-01	4.432E-02	3.151
	+	1764.49		1.319E+00	4.981E-01	3.118E-01	2.082E-02	4.230
PB-214	+	74.81		3.589E+00	1.017E+00	9.780E-01	1.293E-01	3.669
	+	77.11		3.575E+00	6.768E-01	5.392E-01	7.185E-02	6.630
	+	87.30		2.179E+00	8.860E-01	9.798E-01	1.340E-01	2.224
	+	241.98		1.862E+00	5.109E-01	5.024E-01	4.180E-02	3.707
	+	295.21		1.157E+00	2.638E-01	1.925E-01	1.738E-02	6.008

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.148E+00	1.653E-01	1.035E-01	9.279E-03	11.094
	+	74.81		3.589E+00	1.017E+00	9.780E-01	1.293E-01	3.669
	+	77.11		3.575E+00	6.768E-01	5.392E-01	7.185E-02	6.630
	+	87.30		2.179E+00	8.860E-01	9.798E-01	1.340E-01	2.224
	+	241.98		1.862E+00	5.109E-01	5.024E-01	4.180E-02	3.707
PO-216	+	295.21		1.157E+00	2.638E-01	1.925E-01	1.738E-02	6.008
	+	351.92	*	1.148E+00	1.653E-01	1.035E-01	9.279E-03	11.094
	+	74.81		2.083E+00	6.022E-01	5.676E-01	8.171E-02	3.669
	+	77.11		2.085E+00	3.614E-01	3.145E-01	3.439E-02	6.630
	+	87.30		1.272E+00	5.235E-01	5.720E-01	8.630E-02	2.224
PO-218	+	238.63	*	1.505E+00	1.546E-01	8.345E-02	6.330E-03	18.037
	+	300.09		1.645E+00	8.749E-01	1.093E+00	9.609E-02	1.505
	+	74.81		3.589E+00	1.017E+00	9.780E-01	1.293E-01	3.669
	+	77.11		3.575E+00	6.768E-01	5.392E-01	7.185E-02	6.630
	+	87.30		2.179E+00	8.860E-01	9.798E-01	1.340E-01	2.224
RA-224	+	241.98		1.862E+00	5.109E-01	5.024E-01	4.180E-02	3.707
	+	295.21		1.157E+00	2.638E-01	1.925E-01	1.738E-02	6.008
	+	351.92	*	1.148E+00	1.653E-01	1.035E-01	9.279E-03	11.094
	+	240.98	*	3.531E+00	9.483E-01	9.496E-01	5.829E-02	3.719
	+	609.31	*	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
AC-228	+	1120.29		1.429E+00	6.501E-01	4.535E-01	4.432E-02	3.151
	+	1764.49		1.319E+00	4.981E-01	3.118E-01	2.082E-02	4.230
	+	338.32		1.596E+00	7.492E-01	3.273E-01	1.339E-01	4.876
	+	911.07	*	1.525E+00	3.549E-01	1.967E-01	2.427E-02	7.756
	+	969.11		1.426E+00	4.716E-01	3.623E-01	8.566E-02	3.936
RA-228	+	338.32		1.596E+00	7.492E-01	3.273E-01	1.339E-01	4.876
	+	911.07	*	1.525E+00	3.549E-01	1.967E-01	2.427E-02	7.756
	+	969.11		1.426E+00	4.716E-01	3.623E-01	8.566E-02	3.936
	+	74.81		2.116E+00	5.796E-01	5.768E-01	6.348E-02	3.669
	+	77.11		2.119E+00	3.672E-01	3.196E-01	3.494E-02	6.630
TH-228	+	87.30		1.292E+00	5.160E-01	5.812E-01	6.567E-02	2.224
	+	238.63	*	1.530E+00	1.571E-01	8.480E-02	6.433E-03	18.037
	+	300.09		1.672E+00	1.320E+00	1.111E+00	6.557E-01	1.505
	+	609.31	*	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
	+	1120.29		1.429E+00	6.501E-01	4.535E-01	4.432E-02	3.151
TH-230	+	1764.49		1.319E+00	4.981E-01	3.118E-01	2.082E-02	4.230
	+	338.32		1.596E+00	3.830E-01	3.273E-01	2.194E-02	4.876
	+	911.07	*	1.525E+00	3.549E-01	1.967E-01	2.427E-02	7.756
	+	969.11		1.426E+00	4.716E-01	3.623E-01	8.566E-02	3.936
	+	609.31	*	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
U-234	+	1120.29		1.429E+00	6.501E-01	4.535E-01	4.432E-02	3.151
	+	1764.49		1.319E+00	4.981E-01	3.118E-01	2.082E-02	4.230
	+	86.50	*	8.076E-01	3.629E-01	3.955E-01	9.295E-02	2.042
	+	95.87		-9.563E-01	1.042E+00	1.407E+00	3.515E-01	-0.680
	+	74.67	*	3.376E-01	9.240E-02	9.244E-02	1.012E-02	3.653
AM-243	+	86.72		3.028E+01	1.209E+01	1.475E+01	1.661E+00	2.053
	+	117.66		-9.508E-01	3.518E+00	5.640E+00	3.913E-01	-0.169
	+	142.18		1.978E+00	1.634E+01	2.628E+01	1.568E+00	0.075
	+	511.00	*	1.288E-01	6.368E-02	4.133E-02	2.648E-03	3.115
	+	511.00	*	1.288E-01	6.368E-02	4.133E-02	2.648E-03	3.115

---- 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	*		-1.756E-01	2.892E-01	4.436E-01	3.298E-02	-0.396
NA-22	1274.54	*		-4.791E-02	4.223E-02	6.128E-02	4.747E-03	-0.782
NA-24	1368.53	*		3.310E-01	4.223E-02	Half-Life too short		
AL-26	1129.67			-5.153E-02	1.846E+00	2.871E+00	2.014E-01	-0.018
	1808.65	*		2.126E-02	2.768E-02	5.180E-02	3.284E-03	0.410
TI-44	67.85			-4.965E-02	5.174E-02	8.212E-02	9.271E-03	-0.605
	78.38	*		1.970E-01	4.721E-02	7.432E-02	8.133E-03	2.650
SC-46	889.25	*		-1.354E-02	3.573E-02	5.606E-02	5.548E-03	-0.242
	1120.51	+		2.465E-01	1.110E-01	1.341E-01	9.631E-03	1.838
V-48	944.10			-1.191E-01	7.996E-01	1.279E+00	1.239E-01	-0.093
	983.50	*		2.344E-03	6.163E-02	1.004E-01	9.286E-03	0.023
	1312.09			-3.189E-02	7.735E-02	1.219E-01	1.018E-02	-0.262
CR-51	320.08	*		1.294E-02	3.411E-01	5.661E-01	4.089E-02	0.023
MN-52	744.21			-2.296E-01	2.420E-01	3.657E-01	2.386E-02	-0.628
	848.13			-6.367E-01	6.918E+00	1.125E+01	9.971E-01	-0.057
	935.52			4.524E-01	2.935E-01	5.357E-01	5.237E-02	0.844
	1246.25			5.080E+00	8.115E+00	1.424E+01	1.037E+00	0.357
	1333.61			-1.981E+00	4.651E+00	7.229E+00	6.281E-01	-0.274
	1434.06	*		-4.270E-02	2.279E-01	3.642E-01	3.078E-02	-0.117
MN-54	834.83	*		3.492E-02	3.636E-02	6.417E-02	5.483E-03	0.544
CO-56	846.75	*		-2.747E-03	3.662E-02	5.965E-02	5.268E-03	-0.046
	977.42			9.744E-02	2.846E+00	4.636E+00	4.321E-01	0.021
	1037.82			2.057E-01	3.198E-01	5.482E-01	4.929E-02	0.375
	1175.09			5.788E-02	2.075E+00	3.483E+00	2.158E-01	0.017
	1238.25			1.656E-01	9.083E-02	1.703E-01	1.270E-02	0.972
	1360.21			1.661E-01	8.335E-01	1.419E+00	1.226E-01	0.117
	1771.40			-1.236E-01	2.437E-01	2.877E-01	1.906E-02	-0.430
CO-57	122.06	*		1.748E-02	2.387E-02	3.988E-02	2.630E-03	0.438
	136.48			4.881E-02	1.897E-01	3.093E-01	2.163E-02	0.158
CO-58	810.76	*		1.535E-02	3.237E-02	5.580E-02	4.465E-03	0.275
FE-59	142.65			-4.556E-01	2.572E+00	4.080E+00	2.431E-01	-0.112
	192.34			-7.165E-02	9.025E-01	1.352E+00	1.589E-01	-0.053
	1099.22	*		-2.059E-03	8.573E-02	1.375E-01	1.147E-02	-0.015
	1291.56			-7.418E-03	1.197E-01	1.975E-01	1.828E-02	-0.038
CO-60	1173.22			2.532E-02	4.070E-02	7.199E-02	4.440E-03	0.352
	1332.49	*		-8.257E-04	3.338E-02	5.515E-02	4.793E-03	-0.015
ZN-65	1115.52	*		-6.139E-03	9.495E-02	1.300E-01	9.465E-03	-0.047
GE-68	1077.35	*		6.219E-01	1.104E+00	1.890E+00	1.497E-01	0.329
AS-73	53.44	*		-7.640E-02	1.452E+00	2.365E+00	3.130E-01	-0.032
AS-74	595.88	*		-6.392E-02	7.784E-02	1.220E-01	6.968E-03	-0.524
	634.78			7.006E-02	3.208E-01	5.467E-01	2.885E-02	0.128
SE-75	66.05			-5.439E+00	5.642E+00	8.947E+00	1.153E+00	-0.608
	96.73			-1.216E+00	8.687E-01	1.137E+00	1.610E-01	-1.069
	121.11			-2.385E-02	1.291E-01	2.075E-01	2.033E-02	-0.115
	136.00			-8.538E-03	3.601E-02	5.741E-02	3.565E-03	-0.149
	198.60			5.687E-01	1.747E+00	2.738E+00	1.939E-01	0.208
	264.65	*		-2.204E-02	4.070E-02	6.094E-02	3.887E-03	-0.362
	279.53	+		7.331E-02	1.366E-01	1.606E-01	1.100E-02	0.456
	303.91			1.081E+00	2.054E+00	3.120E+00	3.128E-01	0.346

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA	
BR-77	+	400.65		-1.268E-01	2.276E-01	3.569E-01	3.485E-02	-0.355	
		87.88		7.954E+02	3.176E+02	4.519E+02	5.124E+01	1.760	
	+	200.40		2.136E+02	2.027E+02	3.363E+02	1.940E+01	0.635	
		239.00		3.180E+02	2.939E+01	4.635E+01	2.837E+00	6.861	
	249.79		3.087E+01	7.532E+01	1.290E+02	8.013E+00	0.239		
	281.68		-8.884E+01	1.229E+02	1.706E+02	1.098E+01	-0.521		
	297.23		2.009E+02	1.006E+02	1.300E+02	8.488E+00	1.545		
	303.76		1.088E+02	2.306E+02	3.491E+02	2.291E+01	0.312		
	439.47		6.944E+01	1.580E+02	2.653E+02	1.783E+01	0.262		
	484.57		-4.264E+01	2.654E+02	4.226E+02	2.769E+01	-0.101		
	520.65	*	-4.562E+00	1.326E+01	2.070E+01	1.313E+00	-0.220		
	574.64		7.419E+01	2.413E+02	4.156E+02	2.460E+01	0.179		
	578.91		-6.932E+01	1.205E+02	1.666E+02	9.795E+00	-0.416		
	585.48		1.700E+03	3.166E+02	5.990E+02	3.484E+01	2.839		
	755.35		2.178E+02	1.853E+02	3.373E+02	2.279E+01	0.646		
	SR-82		817.79		4.667E+01	1.499E+02	2.541E+02	2.069E+01	0.184
		698.33		-4.055E+01	3.375E+01	5.086E+01	2.854E+00	-0.797	
		776.49	*	3.662E-02	3.462E-01	5.772E-01	4.161E-02	0.063	
		1395.20		-6.933E+00	9.081E+00	1.300E+01	1.113E+00	-0.533	
RB-83		520.41	*	-2.195E-02	6.721E-02	1.051E-01	6.669E-03	-0.209	
		529.64		-8.911E-02	9.220E-02	1.344E-01	8.444E-03	-0.663	
		552.65		-9.843E-02	1.823E-01	2.773E-01	1.694E-02	-0.355	
RB-84		881.50	*	3.275E-02	6.191E-02	1.067E-01	1.034E-02	0.307	
KR-85		513.99	*	8.131E+00	7.114E+00	1.112E+01	7.103E-01	0.731	
SR-85		513.99	*	4.210E-02	3.684E-02	5.758E-02	3.678E-03	0.731	
RB-86		1076.63	*	1.189E-01	7.199E-01	1.182E+00	9.375E-02	0.101	
Y-88		898.02		-1.382E-02	3.843E-02	6.044E-02	6.141E-03	-0.229	
		1836.01	*	2.329E-02	2.945E-02	5.568E-02	3.416E-03	0.418	
		392.90	*	-1.170E-02	2.684E-02	4.253E-02	2.890E-03	-0.275	
Y-91		1204.90	*	4.788E+00	1.689E+01	2.896E+01	1.924E+00	0.165	
NB-94		702.63	*	2.554E-02	3.072E-02	5.423E-02	3.087E-03	0.471	
		871.10		5.816E-03	2.937E-02	4.907E-02	4.629E-03	0.119	
NB-95		765.79	*	3.672E-02	4.376E-02	7.648E-02	5.337E-03	0.480	
NB-95M		235.69	*	8.806E-02	1.210E-01	1.874E-01	1.454E-02	0.470	
ZR-95		724.18		7.448E-02	8.954E-02	1.416E-01	1.009E-02	0.526	
		756.15	*	4.881E-02	5.976E-02	1.060E-01	8.325E-03	0.461	
NB-97		657.90	*	-8.204E-02	5.976E-02	Half-Life	too short		
		1024.50		-1.830E+01	5.976E-02	Half-Life	too short		
ZR-97		254.15		-2.540E+00	5.976E-02	Half-Life	too short		
		355.39		-5.358E+00	5.976E-02	Half-Life	too short		
		507.63	*	3.018E+00	5.976E-02	Half-Life	too short		
		602.52		-8.308E-01	5.976E-02	Half-Life	too short		
		1021.30		1.038E+01	5.976E-02	Half-Life	too short		
		1147.95		-1.721E+00	5.976E-02	Half-Life	too short		
		1362.66		-1.188E+01	5.976E-02	Half-Life	too short		
		1750.46		1.387E+00	5.976E-02	Half-Life	too short		
	MO-99		140.51		-3.319E+01	3.337E+01	4.873E+01	1.315E+01	-0.681
			181.06		-3.820E-01	2.166E+01	3.054E+01	5.213E+00	-0.013
			366.43		1.207E+02	9.386E+01	1.663E+02	1.126E+01	0.726

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		6.408E+00	1.316E+01	2.217E+01	3.117E+00	0.289
	778.00			-1.158E+01	3.864E+01	6.205E+01	4.495E+00	-0.187
TC-99M	140.51	*		-5.123E+11	3.864E+01	Half-Life too short		
RH-101	127.23			-3.766E-03	3.269E-02	4.680E-02	2.991E-03	-0.080
	198.01	*		-3.516E-03	3.223E-02	4.946E-02	2.841E-03	-0.071
	325.23			-1.302E-01	2.128E-01	3.401E-01	2.265E-02	-0.383
RH-102	418.52			1.042E-01	2.629E-01	4.397E-01	2.977E-02	0.237
	475.06	*		8.299E-03	2.591E-02	4.290E-02	2.830E-03	0.193
	631.29			-2.222E-02	4.859E-02	7.842E-02	4.172E-03	-0.283
	697.49			-4.745E-02	7.293E-02	1.152E-01	6.447E-03	-0.412
	766.84			1.810E-01	1.112E-01	2.028E-01	1.420E-02	0.892
	1046.59			-3.075E-02	1.064E-01	1.661E-01	1.396E-02	-0.185
	1112.84			5.574E-02	2.411E-01	3.453E-01	2.528E-02	0.161
RU-103	497.08	*		-2.607E-03	3.827E-02	6.057E-02	7.858E-03	-0.043
	610.33	+		1.138E+01	2.361E+00	2.805E+00	4.301E-01	4.057
RH-106	511.85	+		6.443E-01	3.187E-01	3.833E-01	2.454E-02	1.681
	621.84	*		-1.157E-01	2.798E-01	4.534E-01	5.241E-02	-0.255
	1050.47			7.297E-01	2.130E+00	3.565E+00	2.974E-01	0.205
RU-106	511.85	+		6.443E-01	3.187E-01	3.833E-01	2.454E-02	1.681
	621.84	*		-1.157E-01	2.796E-01	4.534E-01	2.463E-02	-0.255
	1050.47			7.297E-01	2.130E+00	3.565E+00	2.974E-01	0.205
AG-108M	433.93	*		-1.165E-02	2.895E-02	4.560E-02	3.270E-03	-0.255
	614.37			-3.878E-02	3.868E-02	4.998E-02	3.014E-03	-0.776
	722.95			-1.042E-02	4.156E-02	5.804E-02	3.808E-03	-0.180
AG-110M	657.75	*		-1.168E-02	3.082E-02	4.991E-02	2.704E-03	-0.234
	677.61			1.199E-01	2.750E-01	4.743E-01	2.663E-02	0.253
	706.67			-1.727E-02	1.898E-01	3.133E-01	1.917E-02	-0.055
	763.93			-6.877E-02	1.675E-01	2.683E-01	1.942E-02	-0.256
	884.67			-3.366E-02	4.363E-02	6.510E-02	6.525E-03	-0.517
	937.48			-4.077E-02	1.156E-01	1.821E-01	1.827E-02	-0.224
	1384.27			-9.795E-02	1.662E-01	2.538E-01	2.241E-02	-0.386
IN-111	171.28			-1.500E-01	1.146E+00	1.814E+00	9.978E-02	-0.083
	245.39	*		3.007E-01	1.290E+00	1.943E+00	1.199E-01	0.155
IN-113M	391.69	*		-1.081E-02	3.926E-02	6.300E-02	4.492E-03	-0.172
SN-113	391.69	*		-1.081E-02	3.926E-02	6.300E-02	4.492E-03	-0.172
IN-114M	190.27	*		1.186E-01	1.785E-01	2.628E-01	1.490E-02	0.451
CD-115	260.90			1.680E+01	1.502E+02	2.530E+02	1.593E+01	0.066
	492.35			-4.809E+00	4.441E+01	7.096E+01	4.621E+00	-0.068
	527.90	*		-7.822E+00	1.275E+01	1.930E+01	1.215E+00	-0.405
SN-117M	156.02			-1.878E+00	2.247E+00	3.453E+00	1.955E-01	-0.544
	158.56	*		4.469E-04	5.242E-02	8.390E-02	4.705E-03	0.005
SB-122	563.90	*		1.729E+00	2.402E+00	4.058E+00	2.441E-01	0.426
	692.80			8.981E+00	5.066E+01	8.392E+01	4.620E+00	0.107
I-123	159.00	*		3.911E+00	5.066E+01	Half-Life too short		
	528.96			-1.063E+03	5.066E+01	Half-Life too short		
TE-123M	159.00	*		5.898E-03	2.591E-02	4.189E-02	2.379E-03	0.141
I-124	602.71	*		-4.721E-02	7.336E-01	1.159E+00	6.539E-02	-0.041
	722.78			-1.466E+00	5.060E+00	7.030E+00	4.280E-01	-0.209
	1325.50			-3.828E+00	3.895E+01	6.384E+01	5.473E+00	-0.060

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	1376.25			5.108E+01	3.972E+01	7.365E+01	6.338E+00	0.694
	1509.49			1.514E+01	1.783E+01	3.259E+01	2.665E+00	0.465
	1691.02			-8.953E-01	3.680E+00	5.641E+00	4.057E-01	-0.159
	602.71			-2.373E-03	3.687E-02	5.826E-02	3.288E-03	-0.041
	645.85			-8.248E-02	4.358E-01	7.176E-01	4.282E-02	-0.115
	709.31			1.231E+00	2.377E+00	4.122E+00	2.400E-01	0.299
	713.82			-3.094E-01	1.398E+00	2.277E+00	2.340E-01	-0.136
	722.78			-1.069E-01	3.687E-01	5.122E-01	3.252E-02	-0.209
	+	968.20		1.484E+01	3.706E+00	6.861E+00	6.467E-01	2.163
		1045.16		-1.321E+00	2.356E+00	3.560E+00	2.998E-01	-0.371
		1325.50		-2.980E-01	3.031E+00	4.968E+00	4.259E-01	-0.060
		1368.21		3.527E-01	1.753E+00	2.972E+00	4.006E-01	0.119
SB-125	1436.60			1.051E+00	3.295E+00	5.694E+00	4.808E-01	0.185
	1691.02	*		-1.539E-02	6.325E-02	9.695E-02	7.366E-03	-0.159
	427.89	*		-6.219E-02	8.419E-02	1.294E-01	9.012E-03	-0.481
	+	463.38		1.174E+00	4.883E-01	5.232E-01	3.924E-02	2.243
		600.56		9.929E-02	1.525E-01	2.682E-01	1.768E-02	0.370
TE-125M	635.90			-1.865E-02	2.362E-01	3.930E-01	2.492E-02	-0.047
	109.28	*		4.157E-01	8.328E+00	1.359E+01	1.305E+00	0.031
	I-126			388.63	7.640E-02	1.887E-01	2.155E-02	0.241
SB-126	666.33	*		-1.228E-01	1.711E-01	2.691E-01	1.350E-02	-0.456
	753.82			-4.075E-02	1.359E+00	2.244E+00	1.509E-01	-0.018
	223.80			-6.428E-02	3.676E+00	6.203E+00	3.714E-01	-0.010
	+	278.60		1.725E+00	3.214E+00	4.010E+00	2.574E-01	0.430
	+	296.50		1.214E+01	2.662E+00	3.493E+00	2.279E-01	3.475
		414.70		-2.444E-03	7.185E-02	1.168E-01	7.917E-03	-0.021
		415.30		3.800E+00	5.902E+00	1.003E+01	6.798E-01	0.379
		555.20		-1.419E+00	3.995E+00	6.192E+00	3.770E-01	-0.229
		573.80		4.727E-01	9.603E-01	1.675E+00	9.926E-02	0.282
		593.00		-6.852E-01	7.997E-01	1.225E+00	7.034E-02	-0.559
		656.30		2.851E-01	2.995E+00	5.044E+00	2.525E-01	0.057
		666.33		-5.143E-02	7.165E-02	1.127E-01	5.654E-03	-0.456
		675.00		-8.799E-01	1.951E+00	3.137E+00	1.623E-01	-0.280
		695.00		2.991E-02	7.764E-02	1.307E-01	7.250E-03	0.229
		697.00		3.505E-02	2.592E-01	4.358E-01	2.434E-02	0.080
SB-127	720.50	*		8.829E-03	1.390E-01	2.193E-01	1.325E-02	0.040
		856.80		4.786E-01	4.928E-01	7.885E-01	7.157E-02	0.607
		989.30		1.235E+00	1.192E+00	2.137E+00	1.961E-01	0.578
	1034.80			-7.399E+00	9.765E+00	1.452E+01	1.245E+00	-0.509
	1213.00			9.069E-01	4.271E+00	7.213E+00	4.881E-01	0.126
	61.10			-9.638E+01	9.034E+01	1.424E+02	2.034E+01	-0.677
	252.40			-2.012E+00	4.519E+00	7.281E+00	3.035E+00	-0.276
	290.80			-1.728E+01	2.511E+01	3.474E+01	3.454E+00	-0.497
	411.60			1.650E-01	1.329E+01	2.169E+01	3.257E+00	0.008
	444.90			7.059E+00	1.011E+01	1.722E+01	1.994E+00	0.410
	473.00			1.092E+00	1.772E+00	2.992E+00	3.556E-01	0.365
	543.00			-4.854E+00	1.669E+01	2.598E+01	3.462E+00	-0.187
	603.60			-8.501E+00	1.434E+01	1.966E+01	2.157E+00	-0.432
	685.20	*		7.763E-01	1.379E+00	2.402E+00	2.285E-01	0.323

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	698.50			-1.609E+01	1.727E+01	2.640E+01	3.861E+00	-0.609
	722.20			-1.228E+01	3.508E+01	4.833E+01	4.676E+00	-0.254
	783.80			2.445E+00	4.180E+00	7.199E+00	8.537E-01	0.340
	57.60			1.764E+00	8.941E+00	1.504E+01	1.912E+00	0.117
	145.22			4.587E-02	6.409E-01	1.033E+00	6.093E-02	0.044
	172.10			7.070E-02	1.102E-01	1.811E-01	9.971E-03	0.390
I-131	202.84	*		-5.024E-02	4.169E-02	6.698E-02	3.879E-03	-0.750
	374.96			1.007E-01	1.855E-01	3.145E-01	2.133E-02	0.320
	80.18			-3.468E-01	5.161E+00	7.591E+00	8.368E-01	-0.046
	284.30			7.672E-01	1.461E+00	2.502E+00	1.764E-01	0.307
	364.48	*		5.164E-02	1.126E-01	1.904E-01	1.402E-02	0.271
	636.97			4.153E-01	1.469E+00	2.514E+00	1.514E-01	0.165
TE-132	722.89			-2.006E+00	7.583E+00	1.057E+01	6.531E-01	-0.190
	49.72			-1.313E+01	4.563E+01	7.554E+01	1.093E+01	-0.174
	111.76			-2.962E+01	3.337E+01	5.189E+01	5.318E+00	-0.571
	116.30			-8.459E+00	3.109E+01	4.985E+01	4.957E+00	-0.170
BA-133	228.16	*		-2.341E-01	7.263E-01	1.206E+00	1.766E-01	-0.194
	53.15			1.740E+00	6.327E+00	1.044E+01	1.383E+00	0.167
	79.62			6.916E-01	1.349E+00	2.039E+00	3.398E-01	0.339
	81.00			-8.212E-02	1.051E-01	1.473E-01	2.545E-02	-0.558
	276.40			4.500E-01	3.875E-01	5.755E-01	7.623E-02	0.782
	302.84			1.146E-01	1.392E-01	2.154E-01	2.596E-01	0.532
I-133	356.01	*		3.660E-02	4.284E-02	6.613E-02	7.979E-03	0.553
	383.85			1.004E-01	2.685E-01	4.502E-01	5.147E-02	0.223
	510.53	+		2.780E+00	2.685E-01	Half-Life	too short	
	529.87	*		-1.136E-02	2.685E-01	Half-Life	too short	
	706.58			-7.812E-02	2.685E-01	Half-Life	too short	
	856.28			5.343E-01	2.685E-01	Half-Life	too short	
	875.33			1.236E-01	2.685E-01	Half-Life	too short	
	1236.41			1.812E+00	2.685E-01	Half-Life	too short	
	1298.22			3.765E-01	2.685E-01	Half-Life	too short	
	475.35			3.294E-01	1.699E+00	2.786E+00	1.837E-01	0.118
CS-134	563.23			1.582E-01	3.411E-01	5.607E-01	3.442E-02	0.282
	569.32			-1.862E-02	1.799E-01	2.797E-01	1.716E-02	-0.067
	604.70			2.012E-04	3.427E-02	5.019E-02	2.838E-03	0.004
	795.84	*		4.979E-02	4.567E-02	8.136E-02	6.272E-03	0.612
	801.93			1.164E-01	3.444E-01	5.850E-01	4.581E-02	0.199
	1038.57			3.514E+00	3.818E+00	6.714E+00	5.718E-01	0.523
CS-135	1167.94			-3.187E-01	2.174E+00	3.587E+00	2.250E-01	-0.089
	1365.15			-3.810E-01	1.111E+00	1.748E+00	1.577E-01	-0.218
	268.24	*		1.611E-01	1.574E-01	2.472E-01	1.997E-02	0.652
	288.45			-1.065E+11	1.574E-01	Half-Life	too short	
	417.63			1.932E+11	1.574E-01	Half-Life	too short	
	546.56			1.040E+10	1.574E-01	Half-Life	too short	
	836.80			1.083E+11	1.574E-01	Half-Life	too short	
	1038.76			1.833E+11	1.574E-01	Half-Life	too short	
	1124.00			7.680E+11	1.574E-01	Half-Life	too short	
	1131.51			2.285E+10	1.574E-01	Half-Life	too short	
I-135	1260.41	*		-1.514E+10	1.574E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1457.56	2.224E+12	1.574E-01	Half-Life	too short	
		1678.03	-4.556E+10	1.574E-01	Half-Life	too short	
		1706.46	2.756E+11	1.574E-01	Half-Life	too short	
		1791.20	7.615E+10	1.574E-01	Half-Life	too short	
CS-136		66.91	-2.483E-01	9.138E-01	1.500E+00	2.568E-01	-0.166
	+	86.29	3.771E+00	1.548E+00	2.184E+00	3.217E-01	1.727
		153.22	3.638E-01	6.446E-01	1.059E+00	7.580E-02	0.344
		163.89	-3.174E-01	1.038E+00	1.632E+00	1.145E-01	-0.194
		176.55	1.081E-03	3.590E-01	5.712E-01	3.595E-02	0.002
		273.65	-1.264E-02	5.879E-01	6.257E-01	4.464E-02	-0.020
		340.57	3.067E-01	1.397E-01	2.316E-01	1.629E-02	1.324
		818.51	2.285E-02	6.563E-02	1.117E-01	9.124E-03	0.205
		1048.07 *	6.204E-02	1.024E-01	1.760E-01	1.541E-02	0.352
		1235.34	-1.862E-01	6.065E-01	9.858E-01	1.065E-01	-0.189
BA-137M		661.65 *	-2.195E-03	3.054E-02	5.070E-02	2.502E-03	-0.043
CS-137		661.65 *	-2.320E-03	3.228E-02	5.360E-02	2.660E-03	-0.043
CE-139		165.85 *	1.730E-02	2.738E-02	4.501E-02	2.458E-03	0.384
BA-140		162.64	-2.600E-01	7.252E-01	1.138E+00	7.148E-02	-0.228
		304.84	4.330E-01	1.265E+00	1.986E+00	5.455E-01	0.218
		423.70	1.835E-02	1.774E+00	2.890E+00	9.241E-01	0.006
		537.32 *	-1.784E-02	2.392E-01	3.805E-01	1.240E-01	-0.047
LA-140		328.77	2.338E-01	2.883E-01	4.964E-01	3.616E-02	0.471
		432.53	1.818E+00	1.917E+00	3.321E+00	2.414E-01	0.547
		487.03	1.977E-02	1.280E-01	2.090E-01	1.510E-02	0.095
		751.79	-8.067E-01	1.606E+00	2.537E+00	1.987E-01	-0.318
		815.85	-7.455E-03	2.730E-01	4.478E-01	4.096E-02	-0.017
		867.82	-5.602E-01	1.468E+00	1.957E+00	1.912E-01	-0.286
		919.63	1.427E+00	2.808E+00	4.270E+00	5.010E-01	0.334
		925.24	-1.894E-01	1.024E+00	1.634E+00	1.692E-01	-0.116
		1596.49 *	-1.852E-02	8.623E-02	1.359E-01	1.054E-02	-0.136
CE-141		145.44 *	-4.025E-02	5.974E-02	9.297E-02	5.690E-03	-0.433
CE-143		57.37	1.325E-03	5.974E-02	Half-Life	too short	
		231.56	-1.824E-03	5.974E-02	Half-Life	too short	
		293.26 *	9.795E-04	5.974E-02	Half-Life	too short	
	+	350.59	4.203E-02	5.974E-02	Half-Life	too short	
		490.36	6.834E-04	5.974E-02	Half-Life	too short	
		664.57	7.061E-04	5.974E-02	Half-Life	too short	
		721.93	-3.276E-04	5.974E-02	Half-Life	too short	
CE-144		80.11	-5.322E-02	2.201E+00	3.245E+00	3.560E-01	-0.016
		133.54 *	1.036E-01	2.035E-01	3.011E-01	4.325E-02	0.344
PM-144		476.78	-1.695E-02	5.841E-02	9.207E-02	7.011E-03	-0.184
		618.01	1.960E-02	2.712E-02	4.799E-02	2.804E-03	0.408
		696.49 *	1.227E-02	3.172E-02	5.434E-02	3.032E-03	0.226
		778.57	-1.026E+00	2.003E+00	3.145E+00	2.283E-01	-0.326
PR-144		696.49 *	8.320E-01	2.151E+00	3.684E+00	2.054E-01	0.226
		1489.15	-4.317E+00	1.022E+01	1.551E+01	1.281E+00	-0.278
PM-146		453.90 *	3.750E-03	3.652E-02	5.967E-02	5.511E-03	0.063
		633.02	2.914E-01	1.193E+00	2.029E+00	7.456E-01	0.144
		735.90	-1.248E-01	1.405E-01	1.999E-01	5.597E-02	-0.625

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		1.129E-02	7.996E-02	1.341E-01	1.728E-02	0.084
		91.11		6.264E-01	3.156E-01	4.976E-01	5.547E-02	1.259
		319.41		1.534E-01	3.123E+00	5.188E+00	3.443E-01	0.030
		439.89		1.563E+00	5.262E+00	8.738E+00	5.876E-01	0.179
		531.02	*	-1.077E-01	5.075E-01	7.975E-01	1.095E-01	-0.135
PM-149		285.90	*	2.317E+01	1.098E+02	1.849E+02	2.675E+01	0.125
EU-152		121.78		2.505E-02	6.987E-02	1.150E-01	9.474E-03	0.218
		244.69		1.858E-01	3.156E-01	4.860E-01	2.998E-02	0.382
		344.27	*	1.813E-02	8.949E-02	1.388E-01	1.023E-02	0.131
		443.98		6.718E-01	8.544E-01	1.464E+00	9.825E-02	0.459
		778.89		-1.395E-01	2.309E-01	3.590E-01	2.607E-02	-0.389
	+	867.32		3.774E-01	7.404E-01	1.134E+00	1.059E-01	0.333
		964.01		8.686E-01	3.385E-01	5.545E-01	5.253E-02	1.566
		1085.78		2.020E-01	3.244E-01	5.617E-01	4.373E-02	0.360
		1112.02		1.070E-01	3.221E-01	4.893E-01	3.589E-02	0.219
		1407.95		3.078E-01	1.896E-01	3.675E-01	3.133E-02	0.838
GD-153		69.67		2.780E-02	2.016E+00	2.997E+00	3.342E-01	0.009
		83.37		1.094E+01	1.577E+01	2.391E+01	2.650E+00	0.458
		97.43	*	-2.054E-02	7.916E-02	1.206E-01	1.123E-02	-0.170
		103.18		-5.289E-02	9.474E-02	1.505E-01	1.273E-02	-0.351
		123.07		2.587E-02	4.918E-02	8.138E-02	8.042E-03	0.318
EU-154		247.94		7.047E-02	3.222E-01	5.300E-01	5.186E-02	0.133
		591.81		-3.165E-01	5.025E-01	7.856E-01	7.657E-02	-0.403
		723.30		1.082E-02	1.654E-01	2.403E-01	1.760E-02	0.045
		756.87		2.359E-01	6.324E-01	1.082E+00	1.161E-01	0.218
		873.19		1.089E-01	2.633E-01	4.485E-01	5.772E-02	0.243
		996.32		-4.206E-02	3.258E-01	5.202E-01	9.363E-02	-0.081
		1004.76		2.359E-02	1.876E-01	3.081E-01	3.669E-02	0.077
		1274.45	*	-1.311E-01	1.173E-01	1.697E-01	1.808E-02	-0.772
		48.70		-2.114E+00	4.990E+00	8.217E+00	9.870E-01	-0.257
		60.01		-2.457E+00	6.739E+00	1.106E+01	1.362E+00	-0.222
EU-155	+	86.54		3.313E-01	1.323E-01	1.908E-01	2.160E-02	1.736
		105.31	*	4.246E-02	9.688E-02	1.610E-01	1.336E-02	0.264
		86.79		8.928E-01	3.564E-01	5.124E-01	5.773E-02	1.742
		197.04		-6.393E-01	5.543E-01	8.021E-01	4.600E-02	-0.797
		215.65		9.055E-02	6.526E-01	1.111E+00	6.568E-02	0.082
TB-160	+	298.57		1.366E-01	1.575E-01	1.848E-01	1.208E-02	0.739
		879.36	*	-1.528E-02	1.229E-01	1.985E-01	1.914E-02	-0.077
		962.29		3.809E-01	5.739E-01	8.721E-01	8.279E-02	0.437
		966.15		6.017E-01	2.345E-01	4.353E-01	4.113E-02	1.382
		1177.93		2.768E-02	3.356E-01	5.660E-01	3.530E-02	0.049
HO-166M		1271.85		1.114E-01	6.450E-01	1.093E+00	8.410E-02	0.102
		80.57		-7.362E-02	2.829E-01	4.115E-01	4.521E-02	-0.179
		184.41		4.354E-02	3.689E-02	5.673E-02	3.186E-03	0.768
		280.46		-3.676E-02	8.350E-02	1.185E-01	7.619E-03	-0.310
		410.95		1.415E-01	2.282E-01	3.865E-01	2.621E-02	0.366
	*	711.68		-4.677E-02	5.215E-02	7.958E-02	4.670E-03	-0.588
		752.31		-1.816E-01	2.559E-01	3.971E-01	2.658E-02	-0.457
		810.29		2.178E-02	4.867E-02	8.367E-02	6.666E-03	0.260

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		-2.020E-02	5.518E+01	9.246E+01	1.216E+01	0.000
		52.39		1.759E+01	2.876E+01	4.802E+01	6.360E+00	0.366
		59.40		-1.705E+00	3.616E+01	6.019E+01	7.478E+00	-0.028
		66.72	*	6.078E+00	3.149E+01	5.268E+01	6.002E+00	0.115
LU-176	+	88.36		6.523E-01	2.604E-01	3.667E-01	4.124E-02	1.779
		201.83		-7.621E-03	2.522E-02	4.228E-02	2.444E-03	-0.180
		306.84	*	-7.511E-03	2.182E-02	3.550E-02	2.335E-03	-0.212
		401.10		-4.529E+00	5.998E+00	9.271E+00	6.296E-01	-0.488
LU-177		112.95		1.280E+00	1.614E+00	2.712E+00	1.996E-01	0.472
LU-177M	+	208.36	*	3.261E+00	1.446E+00	1.949E+00	1.139E-01	1.673
		52.97		4.128E-01	2.935E+00	4.823E+00	6.389E-01	0.086
		54.07		-5.843E-01	1.469E+00	2.355E+00	3.106E-01	-0.248
		61.30		-1.553E+00	1.952E+00	3.135E+00	3.793E-01	-0.495
		121.62		8.364E-02	3.592E-01	5.880E-01	3.890E-02	0.142
		147.16		1.231E-02	6.013E-01	9.665E-01	5.657E-02	0.013
		171.86		7.613E-02	4.433E-01	7.122E-01	3.921E-02	0.107
		218.09		-5.439E-01	7.383E-01	1.206E+00	7.157E-02	-0.451
		268.79		1.345E+00	8.250E-01	1.336E+00	8.489E-02	1.007
		319.02		-6.454E-02	2.306E-01	3.757E-01	2.492E-02	-0.172
		367.43		3.322E-01	7.873E-01	1.329E+00	9.000E-02	0.250
		413.65	*	-1.796E-01	1.638E-01	2.459E-01	1.667E-02	-0.730
HF-181		56.28		-3.279E-01	1.476E+00	2.442E+00	3.155E-01	-0.134
		57.53		4.105E-01	7.419E-01	1.263E+00	1.607E-01	0.325
		65.20		-7.718E-01	1.141E+00	1.841E+00	2.127E-01	-0.419
		133.02		5.049E-02	6.493E-02	9.782E-02	6.075E-03	0.516
		136.25		1.274E-02	4.238E-01	6.841E-01	4.187E-02	0.019
		345.85		-1.207E-01	1.780E-01	2.699E-01	1.815E-02	-0.447
		482.03	*	-1.051E-02	3.782E-02	5.964E-02	3.915E-03	-0.176
		56.28		-1.261E-01	5.720E-01	9.466E-01	1.223E-01	-0.133
W-181		57.53		1.592E-01	2.878E-01	4.900E-01	6.235E-02	0.325
		65.20	*	-2.970E-01	4.389E-01	7.082E-01	8.183E-02	-0.419
		67.75		-1.254E-01	1.243E-01	1.967E-01	2.222E-02	-0.638
TA-182		100.10		1.854E-01	1.677E-01	2.856E-01	2.538E-02	0.649
		152.43		1.181E-01	3.200E-01	5.213E-01	2.991E-02	0.226
		222.10		-7.310E-03	3.038E-01	5.127E-01	3.062E-02	-0.014
		1001.68		1.054E+00	1.818E+00	3.051E+00	2.753E-01	0.345
	+	1121.28		6.794E-01	3.058E-01	3.681E-01	2.639E-02	1.845
		1189.05		-2.234E-01	2.991E-01	4.656E-01	2.981E-02	-0.480
RE-183		1221.42	*	1.218E-01	1.820E-01	3.212E-01	2.215E-02	0.379
		1230.97		7.254E-02	4.333E-01	7.335E-01	5.167E-02	0.099
		57.98		1.386E-01	2.889E-01	4.905E-01	6.205E-02	0.283
		59.32		-9.639E-03	1.503E-01	2.499E-01	3.108E-02	-0.039
		67.20		-1.430E-01	2.244E-01	3.622E-01	4.110E-02	-0.395
	+	162.32	*	-1.452E-02	1.006E-01	1.596E-01	8.826E-03	-0.091
208.81			2.685E+00	1.191E+00	1.624E+00	9.499E-02	1.653	
291.72			-4.608E-01	9.417E-01	1.327E+00	8.625E-02	-0.347	
57.98			5.080E-01	1.059E+00	1.798E+00	2.274E-01	0.283	
RE-184		59.32		-3.529E-02	5.502E-01	9.151E-01	1.138E-01	-0.039
		67.20		-5.240E-01	8.221E-01	1.327E+00	1.506E-01	-0.395

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		2.567E-02	3.209E-01	5.150E-01	2.860E-02	0.050
		216.55		-1.090E-01	2.295E-01	3.799E-01	2.249E-02	-0.287
		252.85	*	-5.802E-02	2.007E-01	3.318E-01	2.068E-02	-0.175
		318.01		-1.068E-01	3.961E-01	6.457E-01	4.280E-02	-0.165
		792.07		-1.265E+00	1.055E+00	1.569E+00	1.186E-01	-0.806
		903.28		1.666E-01	9.887E-01	1.550E+00	1.562E-01	0.108
		920.93		6.524E-02	4.243E-01	6.642E-01	6.588E-02	0.098
		59.72		-3.591E-02	4.009E-01	6.659E-01	8.236E-02	-0.054
		61.14		-2.286E-01	2.176E-01	3.446E-01	4.178E-02	-0.663
		69.30		1.683E-01	3.561E-01	5.414E-01	6.052E-02	0.311
		592.07		-1.539E+00	2.042E+00	3.155E+00	1.814E-01	-0.488
		646.12	*	-1.564E-03	3.792E-02	6.322E-02	3.248E-03	-0.025
		717.42		5.734E-01	7.760E-01	1.368E+00	8.182E-02	0.419
		874.81		1.440E-01	5.296E-01	8.903E-01	8.482E-02	0.162
		880.27		-2.379E-02	6.754E-01	1.101E+00	1.064E-01	-0.022
RE-188		155.03	*	5.061E-02	1.617E-01	2.626E-01	1.492E-02	0.193
		477.96		-1.233E+00	2.711E+00	4.212E+00	2.773E-01	-0.293
		633.10		6.792E-01	2.431E+00	4.162E+00	2.205E-01	0.163
W-188		63.58		1.855E+01	6.634E+01	1.107E+02	1.301E+01	0.168
		227.08		-1.990E+00	1.101E+01	1.843E+01	1.109E+00	-0.108
IR-192	+	290.67	*	-2.433E+00	7.210E+00	1.028E+01	6.675E-01	-0.237
		295.96		8.897E-01	1.954E-01	2.676E-01	1.767E-02	3.325
		308.46		-2.829E-03	8.340E-02	1.382E-01	9.180E-03	-0.020
		316.51	*	-7.848E-03	3.027E-02	4.938E-02	3.283E-03	-0.159
AU-195		468.07		-2.041E-02	6.454E-02	8.784E-02	6.513E-03	-0.232
		604.41		-1.523E-02	4.659E-01	6.796E-01	7.653E-02	-0.022
		612.46		1.253E+00	7.716E-01	1.284E+00	9.467E-02	0.976
		65.12		-1.305E-01	2.035E-01	3.290E-01	3.805E-02	-0.397
		66.83		-2.240E-02	1.052E-01	1.732E-01	1.971E-02	-0.129
	+	75.70		1.097E+00	3.001E-01	5.102E-01	5.580E-02	2.149
	+	98.88	*	5.245E-02	2.210E-01	3.606E-01	3.272E-02	0.145
TL-200	+	129.76		3.960E+00	3.337E+00	4.398E+00	2.775E-01	0.900
		367.94	*	-5.018E-04	3.337E+00	Half-Life	too short	
		579.30		-3.388E-03	3.337E+00	Half-Life	too short	
		828.27		-1.273E-03	3.337E+00	Half-Life	too short	
		1205.75		2.913E-04	3.337E+00	Half-Life	too short	
TL-201		68.90		3.638E-01	6.770E+00	1.074E+01	1.204E+00	0.034
		70.82		2.136E+00	4.011E+00	6.103E+00	6.765E-01	0.350
		80.30		-1.817E+00	6.492E+00	9.436E+00	1.036E+00	-0.193
		135.34		-4.109E+01	2.912E+01	4.367E+01	2.683E+00	-0.941
		167.43	*	2.456E+00	7.841E+00	1.270E+01	6.946E-01	0.193
TL-202		68.90		2.786E-02	5.184E-01	8.226E-01	9.218E-02	0.034
		70.82		1.631E-01	3.063E-01	4.660E-01	5.166E-02	0.350
		80.30		-1.388E-01	4.959E-01	7.208E-01	7.912E-02	-0.193
		439.56	*	1.936E-02	6.186E-02	1.029E-01	6.915E-03	0.188
BI-207		72.80		2.998E-01	2.255E-01	3.507E-01	3.858E-02	0.855
	+	74.97		6.061E-01	1.659E-01	2.501E-01	2.737E-02	2.424
		84.90		1.250E-01	2.092E-01	3.154E-01	3.519E-02	0.396
		569.67		8.242E-04	2.832E-02	4.455E-02	2.657E-03	0.019

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207	1063.62	*		4.523E-02	5.094E-02	8.931E-02	7.271E-03	0.506
	1770.23			4.089E-01	4.206E-01	7.590E-01	5.036E-02	0.539
	81.07			-1.850E-01	2.304E-01	3.242E-01	3.566E-02	-0.571
	83.78			1.090E-02	1.384E-01	2.042E-01	2.267E-02	0.053
	94.90			1.772E-01	2.316E-01	3.524E-01	3.441E-02	0.503
	122.32			1.062E+00	1.653E+00	2.750E+00	2.030E-01	0.386
	144.24			4.250E-01	6.259E-01	1.029E+00	7.545E-02	0.413
	154.21			3.403E-01	3.710E-01	6.176E-01	4.280E-02	0.551
	269.46	+		5.470E-01	2.380E-01	3.214E-01	2.121E-02	1.702
	323.87	*		7.700E-02	6.254E-01	1.042E+00	1.754E-01	0.074
PO-209	338.28	+		6.664E+00	1.703E+00	2.412E+00	2.667E-01	2.762
	445.03			1.275E+00	1.979E+00	3.359E+00	3.631E-01	0.379
	260.50			1.019E+00	8.345E+00	1.407E+01	8.854E-01	0.072
	262.80			-1.799E+01	2.267E+01	3.628E+01	2.289E+00	-0.496
	896.60	*		1.314E-01	6.707E+00	1.098E+01	1.108E+00	0.012
BI-210	46.50	*		-2.781E+00	8.588E+00	1.400E+01	1.374E+00	-0.199
PB-210	46.50	*		-2.781E+00	8.588E+00	1.400E+01	1.374E+00	-0.199
PO-210	46.50	*		-2.781E+00	8.587E+00	1.400E+01	1.257E+00	-0.199
PB-211	404.84	*		5.812E-01	9.063E-01	1.419E+00	8.858E-01	0.410
BI-212	427.08			-5.843E-01	1.907E+00	2.977E+00	1.843E+00	-0.196
	831.96			-8.056E-01	1.291E+00	1.837E+00	1.151E+00	-0.439
	727.18	+		9.651E-01	4.508E-01	6.216E-01	4.972E-02	1.553
	785.46			2.418E+00	1.764E+00	3.195E+00	2.367E-01	0.757
	1620.62			9.430E-01	1.267E+00	2.297E+00	1.752E-01	0.410
PO-215	81.07			-1.850E-01	2.304E-01	3.242E-01	3.566E-02	-0.571
	83.78			1.090E-02	1.384E-01	2.042E-01	2.267E-02	0.053
	94.90			1.772E-01	2.316E-01	3.524E-01	3.441E-02	0.503
	122.32			1.062E+00	1.653E+00	2.750E+00	2.030E-01	0.386
	144.24			4.250E-01	6.259E-01	1.029E+00	7.545E-02	0.413
	154.21			3.403E-01	3.710E-01	6.176E-01	4.280E-02	0.551
	269.46	+		5.470E-01	2.380E-01	3.214E-01	2.121E-02	1.702
	323.87	*		7.700E-02	6.254E-01	1.042E+00	1.754E-01	0.074
	338.28	+		6.664E+00	1.703E+00	2.412E+00	2.667E-01	2.762
	445.03			1.275E+00	1.979E+00	3.359E+00	3.631E-01	0.379
RN-219	271.23	+		7.018E-01	3.076E-01	4.023E-01	3.428E-02	1.744
RN-220	401.81	*		-2.967E-01	3.704E-01	5.674E-01	7.976E-02	-0.523
	549.76	*		2.260E+00	2.455E+01	3.956E+01	2.426E+00	0.057
RA-223	81.07			-1.850E-01	2.304E-01	3.242E-01	3.566E-02	-0.571
	83.78			1.090E-02	1.384E-01	2.042E-01	2.267E-02	0.053
	94.90			1.772E-01	2.316E-01	3.524E-01	3.441E-02	0.503
	122.32			1.062E+00	1.653E+00	2.750E+00	2.030E-01	0.386
	144.24			4.250E-01	6.259E-01	1.029E+00	7.545E-02	0.413
	154.21			3.403E-01	3.710E-01	6.176E-01	4.280E-02	0.551
	269.46	+		5.470E-01	2.380E-01	3.214E-01	2.121E-02	1.702
	323.87	*		7.700E-02	6.254E-01	1.042E+00	1.754E-01	0.074
	338.28	+		6.664E+00	1.703E+00	2.412E+00	2.667E-01	2.762
	445.03			1.275E+00	1.979E+00	3.359E+00	3.631E-01	0.379
AC-227	79.80			3.221E-01	1.720E+00	2.563E+00	5.778E-01	0.126
	236.00			3.330E-01	2.308E-01	3.673E-01	3.900E-02	0.907

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		256.20	*	-4.736E-02	3.409E-01	5.677E-01	8.038E-02	-0.083
		286.10		1.222E-01	1.364E+00	2.284E+00	2.720E-01	0.053
	+	299.80		3.049E+00	1.677E+00	2.438E+00	4.038E-01	1.251
		304.40		8.217E-01	1.838E+00	2.770E+00	4.867E-01	0.297
		334.20		-7.144E-03	2.208E+00	3.202E+00	5.967E-01	-0.002
		79.80		3.221E-01	1.720E+00	2.563E+00	5.845E-01	0.126
	+	94.00		5.399E+00	2.715E+00	3.334E+00	7.446E-01	1.620
		236.00		3.330E-01	2.302E-01	3.673E-01	3.397E-02	0.907
		256.20	*	-4.736E-02	3.409E-01	5.677E-01	9.687E-02	-0.083
		286.10		1.222E-01	1.369E+00	2.284E+00	2.289E+00	0.053
TH-229	+	299.80		3.049E+00	1.677E+00	2.438E+00	4.038E-01	1.251
		304.40		8.217E-01	1.838E+00	2.770E+00	4.867E-01	0.297
		334.20		-7.144E-03	2.208E+00	3.202E+00	5.967E-01	-0.002
		85.43		2.768E-01	2.144E-01	3.300E-01	3.691E-02	0.839
	+	88.47		2.343E-01	1.177E-01	2.082E-01	2.336E-02	1.125
		100.00		1.906E-01	1.731E-01	2.948E-01	2.624E-02	0.647
		193.63	*	-5.697E-02	4.547E-01	7.150E-01	4.077E-02	-0.080
		210.97		4.141E-01	7.352E-01	1.136E+00	6.664E-02	0.365
	PA-231	283.67	*	1.393E+00	1.376E+00	2.392E+00	3.364E-01	0.582
	+	301.29		1.220E+00	6.533E-01	9.642E-01	1.050E-01	1.265
TH-231		81.07		-1.850E-01	2.304E-01	3.242E-01	3.566E-02	-0.571
		83.78		1.090E-02	1.384E-01	2.042E-01	2.267E-02	0.053
		94.90		1.772E-01	2.316E-01	3.524E-01	3.441E-02	0.503
		122.32		1.062E+00	1.653E+00	2.750E+00	2.030E-01	0.386
		144.24		4.250E-01	6.259E-01	1.029E+00	7.545E-02	0.413
		154.21		3.403E-01	3.710E-01	6.176E-01	4.280E-02	0.551
	+	269.46		5.470E-01	2.380E-01	3.214E-01	2.121E-02	1.702
		323.87	*	7.700E-02	6.254E-01	1.042E+00	1.754E-01	0.074
	+	338.28		6.664E+00	1.703E+00	2.412E+00	2.667E-01	2.762
		445.03		1.275E+00	1.979E+00	3.359E+00	3.631E-01	0.379
U-231		84.21		2.363E+00	6.830E+00	1.020E+01	1.134E+00	0.232
	+	92.29		6.228E+00	2.874E+00	4.277E+00	4.403E-01	1.456
		95.87	*	-1.266E+00	1.348E+00	1.862E+00	1.784E-01	-0.680
		108.00		1.934E-01	2.163E+00	3.537E+00	2.784E-01	0.055
	PA-233	75.28		1.769E+01	5.336E+00	7.625E+00	1.278E+00	2.320
	+	86.59		5.384E+00	2.548E+00	3.098E+00	8.605E-01	1.738
	+	300.12		8.501E-01	4.609E-01	6.745E-01	9.291E-02	1.260
		311.98	*	-3.323E-03	5.423E-02	8.962E-02	6.202E-03	-0.037
		340.50		1.620E+00	7.483E-01	1.101E+00	2.555E-01	1.472
		398.62		1.250E+00	1.860E+00	3.131E+00	8.170E-01	0.399
PA-234		415.76		8.391E-02	1.508E+00	2.467E+00	5.151E-01	0.034
		63.00		9.396E-01	1.973E+00	3.307E+00	5.786E-01	0.284
		94.67		2.022E-01	1.692E-01	2.605E-01	3.453E-02	0.776
		98.44		4.864E-02	9.289E-02	1.468E-01	8.203E-02	0.331
		99.86		4.802E-01	4.384E-01	7.465E-01	6.661E-02	0.643
		111.00		-1.541E-01	1.681E-01	2.606E-01	2.959E-02	-0.591
		131.20		3.832E-02	1.043E-01	1.536E-01	9.619E-03	0.250
		152.70		5.493E-02	3.100E-01	5.006E-01	7.902E-02	0.110
	+	186.00		4.782E+00	2.521E+00	2.251E+00	6.871E-01	2.124

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		226.40		5.104E-02	3.457E-01	5.873E-01	6.853E-02	0.087
		227.20		-3.534E-02	3.676E-01	6.177E-01	3.717E-02	-0.057
		248.90		-1.331E-02	7.107E-01	1.193E+00	2.576E-01	-0.011
	+	293.70		5.551E+00	1.475E+00	1.553E+00	2.540E-01	3.574
		369.80		-7.740E-01	7.731E-01	1.154E+00	2.437E-01	-0.671
		568.70		7.714E-02	8.878E-01	1.427E+00	8.522E-02	0.054
		569.50		-8.735E-03	2.500E-01	3.911E-01	2.333E-02	-0.022
		574.00		6.023E-01	1.305E+00	2.272E+00	1.346E-01	0.265
		699.00		-5.781E-01	6.892E-01	1.060E+00	1.901E-01	-0.545
		706.10		-2.743E-01	9.675E-01	1.560E+00	6.884E-01	-0.176
		733.00		-2.634E-02	3.805E-01	5.427E-01	1.162E-01	-0.049
		742.81		9.793E-02	1.203E+00	2.004E+00	1.342E+00	0.049
		796.30		9.490E-01	9.185E-01	1.576E+00	4.218E-01	0.602
		805.60		-2.473E-01	8.821E-01	1.409E+00	4.288E-01	-0.176
		819.60		1.052E-01	1.024E+00	1.702E+00	6.454E-01	0.062
		826.30		1.948E-01	7.544E-01	1.262E+00	5.639E-01	0.154
		831.60		-3.662E-01	6.114E-01	9.346E-01	2.785E-01	-0.392
		876.40		-2.331E-01	7.763E-01	1.168E+00	1.202E+00	-0.200
		880.51		-2.068E-02	2.413E-01	3.911E-01	3.782E-02	-0.053
		883.24		5.069E-02	2.540E-01	4.203E-01	2.832E-01	0.121
		899.00		-5.450E-01	8.182E-01	1.187E+00	5.225E-01	-0.459
		925.00		1.464E-01	9.978E-01	1.653E+00	1.633E-01	0.089
		926.50		-6.690E-02	1.527E-01	2.349E-01	6.045E-02	-0.285
		946.00	*	4.964E-02	2.482E-01	4.128E-01	7.954E-02	0.120
		949.00		-1.661E-01	3.830E-01	5.917E-01	5.703E-02	-0.281
		980.50		-1.964E-01	6.597E-01	1.034E+00	9.602E-02	-0.190
		1394.10		-4.579E-01	9.195E-01	1.297E+00	8.440E-01	-0.353
PA-234M		766.42		1.400E+01	1.358E+01	2.076E+01	1.048E+01	0.675
		1001.03	*	1.268E+00	4.030E+00	6.586E+00	6.797E-01	0.193
TH-234		63.29	*	6.151E-01	1.673E+00	2.795E+00	5.509E-01	0.220
	+	92.38		1.397E+00	6.819E-01	9.599E-01	1.817E-01	1.456
U-235	+	89.95		2.351E+00	1.371E+00	1.835E+00	5.790E-01	1.281
	+	93.35		1.680E+00	8.953E-01	1.128E+00	3.215E-01	1.490
		105.00		3.409E-01	9.576E-01	1.578E+00	4.692E-01	0.216
		143.76	*	-8.874E-03	1.970E-01	3.142E-01	5.138E-02	-0.028
		163.35		-3.870E-02	4.314E-01	6.861E-01	1.228E-01	-0.056
	+	185.71		1.771E-01	7.676E-02	8.317E-02	4.681E-03	2.129
		205.31		-7.104E-02	4.937E-01	7.334E-01	1.319E-01	-0.097
NP-236		94.67		1.550E-01	1.277E-01	1.978E-01	1.940E-02	0.784
		98.44		3.676E-02	6.723E-02	1.110E-01	1.015E-02	0.331
		111.00		-1.166E-01	1.268E-01	1.971E-01	1.489E-02	-0.591
		160.31	*	-6.759E-03	7.235E-02	1.152E-01	6.417E-03	-0.059
U-238		63.29	*	6.151E-01	1.673E+00	2.795E+00	5.509E-01	0.220
	+	92.38		1.397E+00	6.448E-01	9.599E-01	9.863E-02	1.456
NP-239		99.55		1.064E-01	1.478E-01	2.485E-01	2.229E-02	0.428
		117.00	*	-7.523E-03	1.746E-01	2.829E-01	1.979E-02	-0.027
	+	209.75		2.099E+00	9.306E-01	1.247E+00	7.304E-02	1.683
		228.18		-6.406E-02	1.942E-01	3.227E-01	1.945E-02	-0.199
	+	277.60		1.194E-01	2.224E-01	2.782E-01	1.784E-02	0.429

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-3.796E-02	1.249E+00	1.808E+00	1.209E-01	-0.021
AM-241		59.54	*	-3.645E-03	2.092E-01	3.486E-01	4.477E-02	-0.010
CM-243		99.55		1.095E-01	1.521E-01	2.557E-01	2.294E-02	0.428
		103.76	*	-8.275E-02	8.879E-02	1.383E-01	1.159E-02	-0.598
		117.00		-7.741E-03	1.797E-01	2.911E-01	2.036E-02	-0.027
	+	209.75		2.069E+00	9.175E-01	1.230E+00	7.201E-02	1.683
		228.18		-6.473E-02	1.963E-01	3.261E-01	1.965E-02	-0.199
	+	277.60		1.203E-01	2.243E-01	2.805E-01	1.799E-02	0.429
AM-246		798.80		-2.421E-01	1.378E-01	1.893E-01	1.459E-02	-1.279
		1036.00		-2.482E-01	3.062E-01	4.514E-01	3.862E-02	-0.550
		1062.04		1.317E-02	2.370E-01	3.843E-01	3.138E-02	0.034
		1078.86	*	7.854E-03	1.305E-01	2.116E-01	1.671E-02	0.037
CM-247	+	278.00		4.950E-01	9.225E-01	1.163E+00	7.461E-02	0.426
		287.40		-3.894E-01	1.078E+00	1.760E+00	1.139E-01	-0.221
		402.60	*	-2.177E-02	3.307E-02	5.149E-02	3.496E-03	-0.423
CF-249		252.85		-2.169E-01	7.502E-01	1.240E+00	7.732E-02	-0.175
		333.44		-1.876E-02	1.683E-01	2.419E-01	1.618E-02	-0.078
		387.95	*	-1.261E-03	3.512E-02	5.735E-02	3.897E-03	-0.022
CF-251		176.60	*	1.484E-02	1.174E-01	1.879E-01	1.042E-02	0.079
		227.00		-1.625E-01	3.323E-01	5.481E-01	3.298E-02	-0.296
		285.00		2.378E-01	1.559E+00	2.620E+00	1.692E-01	0.091

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]G243630006      *
* Acquisition date   : 7-JAN-2010 13:23:09 Detector SN# :                    *
* Detector ID        : GAM10 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 02:00:01.00 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630006 Analyst initials: MXR1                 *
* Batch Number       : 937702 Sample Quantity : 1.3478E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08 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	2.107E+01	2.307E+00	4.905E-01	0.000E+00
CD-109	2.802E+00	1.096E+00	1.313E+00	0.000E+00
SN-126	2.750E-01	1.076E-01	1.298E-01	0.000E+00
HG-203	2.766E-02	5.052E-02	6.109E-02	0.000E+00
TL-208	4.779E-01	7.871E-02	5.357E-02	0.000E+00
BI-211	3.300E+00	4.341E-01	2.866E-01	0.000E+00
PB-212	1.505E+00	1.515E-01	8.645E-02	0.000E+00
PO-212	1.505E+00	1.515E-01	8.645E-02	0.000E+00
BI-214	1.037E+00	1.617E-01	1.022E-01	0.000E+00
PB-214	1.148E+00	1.620E-01	1.065E-01	0.000E+00
PO-214	1.148E+00	1.620E-01	1.065E-01	0.000E+00
PO-216	1.505E+00	1.515E-01	8.645E-02	0.000E+00
PO-218	1.148E+00	1.620E-01	1.065E-01	0.000E+00
RA-224	3.531E+00	9.293E-01	9.835E-01	0.000E+00
RA-226	1.037E+00	1.617E-01	1.022E-01	0.000E+00
AC-228	1.525E+00	3.478E-01	1.988E-01	0.000E+00
RA-228	1.525E+00	3.478E-01	1.988E-01	0.000E+00
TH-228	1.530E+00	1.540E-01	8.785E-02	0.000E+00
TH-230	1.037E+00	1.617E-01	1.022E-01	0.000E+00
TH-232	1.525E+00	3.478E-01	1.988E-01	0.000E+00
U-234	1.037E+00	1.617E-01	1.022E-01	0.000E+00
NP-237	8.076E-01	3.557E-01	4.170E-01	0.000E+00
AM-243	3.376E-01	9.055E-02	9.772E-02	0.000E+00
ANH-511	1.288E-01	6.241E-02	4.224E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.756E-01	2.834E-01	4.538E-01	0.000E+00 NOT IDENT.
NA-22	-4.791E-02	4.138E-02	6.157E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.023E+06	0.000E+00	0.000E+00 SHORT HLIF

AL-26	2.126E-02	2.713E-02	5.170E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.627E-02	7.850E-02	0.000E+00	NOT IDENT.
SC-46	-1.354E-02	3.501E-02	5.671E-02	0.000E+00	FAIL ABUN
V-48	2.344E-03	6.040E-02	1.014E-01	0.000E+00	NOT IDENT.
CR-51	1.294E-02	3.342E-01	5.834E-01	0.000E+00	NOT IDENT.
MN-52	-4.270E-02	2.234E-01	3.651E-01	0.000E+00	NOT IDENT.
MN-54	3.492E-02	3.563E-02	6.499E-02	0.000E+00	NOT IDENT.
CO-56	-2.747E-03	3.588E-02	6.040E-02	0.000E+00	NOT IDENT.
CO-57	1.748E-02	2.339E-02	4.180E-02	0.000E+00	NOT IDENT.
CO-58	1.535E-02	3.172E-02	5.654E-02	0.000E+00	NOT IDENT.
FE-59	-2.059E-03	8.402E-02	1.385E-01	0.000E+00	NOT IDENT.
CO-60	-8.257E-04	3.271E-02	5.537E-02	0.000E+00	NOT IDENT.
ZN-65	-6.139E-03	9.305E-02	1.309E-01	0.000E+00	NOT IDENT.
GE-68	6.219E-01	1.082E+00	1.905E+00	0.000E+00	NOT IDENT.
AS-73	-7.640E-02	1.423E+00	2.514E+00	0.000E+00	NOT IDENT.
AS-74	-6.392E-02	7.629E-02	1.243E-01	0.000E+00	NOT IDENT.
SE-75	-2.204E-02	3.989E-02	6.302E-02	0.000E+00	FAIL ABUN
BR-77	-4.562E+00	1.300E+01	2.115E+01	0.000E+00	FAIL ABUN
SR-82	3.662E-02	3.393E-01	5.853E-01	0.000E+00	NOT IDENT.
RB-83	-2.195E-02	6.587E-02	1.074E-01	0.000E+00	NOT IDENT.
RB-84	3.275E-02	6.067E-02	1.079E-01	0.000E+00	NOT IDENT.
KR-85	8.131E+00	6.972E+00	1.136E+01	0.000E+00	NOT IDENT.
SR-85	4.210E-02	3.610E-02	5.884E-02	0.000E+00	NOT IDENT.
RB-86	1.189E-01	7.055E-01	1.191E+00	0.000E+00	NOT IDENT.
Y-88	2.329E-02	2.887E-02	5.556E-02	0.000E+00	NOT IDENT.
ZR-88	-1.170E-02	2.630E-02	4.367E-02	0.000E+00	NOT IDENT.
Y-91	4.788E+00	1.655E+01	2.913E+01	0.000E+00	NOT IDENT.
NB-94	2.554E-02	3.010E-02	5.510E-02	0.000E+00	NOT IDENT.
NB-95	3.672E-02	4.289E-02	7.757E-02	0.000E+00	NOT IDENT.
NB-95M	8.806E-02	1.186E-01	1.942E-01	0.000E+00	NOT IDENT.
ZR-95	4.881E-02	5.856E-02	1.075E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.120E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.587E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	6.408E+00	1.290E+01	2.250E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.093E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.516E-03	3.159E-02	5.141E-02	0.000E+00	NOT IDENT.
RH-102	8.299E-03	2.539E-02	4.389E-02	0.000E+00	NOT IDENT.
RU-103	-2.607E-03	3.751E-02	6.193E-02	0.000E+00	FAIL ABUN
RH-106	-1.157E-01	2.742E-01	4.617E-01	0.000E+00	FAIL ABUN
RU-106	-1.157E-01	2.740E-01	4.617E-01	0.000E+00	FAIL ABUN
AG-108M	-1.165E-02	2.837E-02	4.674E-02	0.000E+00	NOT IDENT.
AG-110M	-1.168E-02	3.020E-02	5.076E-02	0.000E+00	NOT IDENT.
IN-111	3.007E-01	1.264E+00	2.011E+00	0.000E+00	NOT IDENT.
IN-113M	-1.081E-02	3.847E-02	6.469E-02	0.000E+00	NOT IDENT.
SN-113	-1.081E-02	3.847E-02	6.469E-02	0.000E+00	NOT IDENT.
IN-114M	1.186E-01	1.749E-01	2.733E-01	0.000E+00	NOT IDENT.
CD-115	-7.822E+00	1.249E+01	1.971E+01	0.000E+00	NOT IDENT.
SN-117M	4.469E-04	5.137E-02	8.754E-02	0.000E+00	NOT IDENT.
SB-122	1.729E+00	2.354E+00	4.140E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.684E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.898E-03	2.539E-02	4.371E-02	0.000E+00	NOT IDENT.
I-124	-4.721E-02	7.189E-01	1.181E+00	0.000E+00	NOT IDENT.
SB-124	-1.539E-02	6.198E-02	9.689E-02	0.000E+00	FAIL ABUN
SB-125	-6.219E-02	8.250E-02	1.327E-01	0.000E+00	FAIL ABUN
TE-125M	4.157E-01	8.161E+00	1.427E+01	0.000E+00	NOT IDENT.
I-126	-1.228E-01	1.677E-01	2.737E-01	0.000E+00	NOT IDENT.
SB-126	8.829E-03	1.363E-01	2.227E-01	0.000E+00	FAIL ABUN
SB-127	7.763E-01	1.352E+00	2.442E+00	0.000E+00	NOT IDENT.
XE-127	-5.024E-02	4.086E-02	6.959E-02	0.000E+00	NOT IDENT.
I-131	5.164E-02	1.104E-01	1.957E-01	0.000E+00	NOT IDENT.
TE-132	-2.341E-01	7.118E-01	1.250E+00	0.000E+00	NOT IDENT.
BA-133	3.660E-02	4.199E-02	6.802E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.102E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.979E-02	4.475E-02	8.246E-02	0.000E+00	NOT IDENT.
CS-135	1.611E-01	1.542E-01	2.555E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.158E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.204E-02	1.003E-01	1.775E-01	0.000E+00	FAIL ABUN
BA-137M	-2.195E-03	2.993E-02	5.157E-02	0.000E+00	NOT IDENT.
CS-137	-2.320E-03	3.163E-02	5.451E-02	0.000E+00	NOT IDENT.
CE-139	1.730E-02	2.684E-02	4.692E-02	0.000E+00	NOT IDENT.
BA-140	-1.784E-02	2.344E-01	3.884E-01	0.000E+00	NOT IDENT.
LA-140	-1.852E-02	8.451E-02	1.359E-01	0.000E+00	NOT IDENT.
CE-141	-4.025E-02	5.855E-02	9.716E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.195E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.036E-01	1.994E-01	3.151E-01	0.000E+00	NOT IDENT.
PM-144	1.227E-02	3.109E-02	5.521E-02	0.000E+00	NOT IDENT.
PR-144	8.320E-01	2.108E+00	3.743E+00	0.000E+00	NOT IDENT.
PM-146	3.750E-03	3.579E-02	6.111E-02	0.000E+00	NOT IDENT.

ND-147	-1.077E-01	4.974E-01	8.144E-01	0.000E+00	FAIL ABUN
PM-149	2.317E+01	1.076E+02	1.910E+02	0.000E+00	NOT IDENT.
EU-152	1.813E-02	8.770E-02	1.429E-01	0.000E+00	FAIL ABUN
GD-153	-2.054E-02	7.757E-02	1.269E-01	0.000E+00	NOT IDENT.
EU-154	-1.311E-01	1.149E-01	1.706E-01	0.000E+00	NOT IDENT.
EU-155	4.246E-02	9.494E-02	1.692E-01	0.000E+00	FAIL ABUN
TB-160	-1.528E-02	1.205E-01	2.008E-01	0.000E+00	FAIL ABUN
HO-166M	-4.677E-02	5.110E-02	8.083E-02	0.000E+00	NOT IDENT.
TM-171	6.078E+00	3.086E+01	5.580E+01	0.000E+00	NOT IDENT.
LU-176	-7.511E-03	2.138E-02	3.661E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.417E+00	2.024E+00	0.000E+00	FAIL ABUN
LU-177M	-1.796E-01	1.605E-01	2.522E-01	0.000E+00	NOT IDENT.
HF-181	-1.051E-02	3.707E-02	6.101E-02	0.000E+00	NOT IDENT.
W-181	-2.970E-01	4.301E-01	7.504E-01	0.000E+00	NOT IDENT.
TA-182	1.218E-01	1.783E-01	3.230E-01	0.000E+00	FAIL ABUN
RE-183	-1.452E-02	9.856E-02	1.664E-01	0.000E+00	FAIL ABUN
RE-184	-5.802E-02	1.967E-01	3.433E-01	0.000E+00	NOT IDENT.
OS-185	-1.564E-03	3.716E-02	6.433E-02	0.000E+00	NOT IDENT.
RE-188	5.061E-02	1.585E-01	2.741E-01	0.000E+00	NOT IDENT.
W-188	-2.433E+00	7.065E+00	1.061E+01	0.000E+00	NOT IDENT.
IR-192	-7.848E-03	2.966E-02	5.090E-02	0.000E+00	FAIL ABUN
AU-195	5.245E-02	2.166E-01	3.793E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.197E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.456E+00	7.684E+00	1.324E+01	0.000E+00	NOT IDENT.
TL-202	1.936E-02	6.062E-02	1.054E-01	0.000E+00	NOT IDENT.
BI-207	4.523E-02	4.992E-02	9.004E-02	0.000E+00	FAIL ABUN
TL-207	7.700E-02	6.129E-01	1.073E+00	0.000E+00	FAIL ABUN
PO-209	1.314E-01	6.573E+00	1.111E+01	0.000E+00	NOT IDENT.
BI-210	-2.781E+00	8.416E+00	1.492E+01	0.000E+00	NOT IDENT.
PB-210	-2.781E+00	8.416E+00	1.492E+01	0.000E+00	NOT IDENT.
PO-210	-2.781E+00	8.415E+00	1.492E+01	0.000E+00	NOT IDENT.
PB-211	5.812E-01	8.882E-01	1.456E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.418E-01	6.311E-01	0.000E+00	FAIL ABUN
PO-215	7.700E-02	6.129E-01	1.073E+00	0.000E+00	FAIL ABUN
RN-219	-2.967E-01	3.630E-01	5.823E-01	0.000E+00	FAIL ABUN
RN-220	2.260E+00	2.406E+01	4.037E+01	0.000E+00	NOT IDENT.
RA-223	7.700E-02	6.129E-01	1.073E+00	0.000E+00	FAIL ABUN
AC-227	-4.736E-02	3.341E-01	5.874E-01	0.000E+00	FAIL ABUN
TH-227	-4.736E-02	3.341E-01	5.874E-01	0.000E+00	FAIL ABUN
TH-229	-5.697E-02	4.456E-01	7.434E-01	0.000E+00	FAIL ABUN
PA-231	1.393E+00	1.348E+00	2.470E+00	0.000E+00	FAIL ABUN
TH-231	7.700E-02	6.129E-01	1.073E+00	0.000E+00	FAIL ABUN
U-231	-1.266E+00	1.321E+00	1.959E+00	0.000E+00	FAIL ABUN
PA-233	-3.323E-03	5.314E-02	9.240E-02	0.000E+00	FAIL ABUN
PA-234	4.964E-02	2.432E-01	4.171E-01	0.000E+00	FAIL ABUN
PA-234M	1.268E+00	3.949E+00	6.647E+00	0.000E+00	NOT IDENT.
TH-234	6.151E-01	1.640E+00	2.963E+00	0.000E+00	FAIL ABUN
U-235	-8.874E-03	1.930E-01	3.284E-01	0.000E+00	FAIL ABUN
NP-236	-6.759E-03	7.090E-02	1.201E-01	0.000E+00	NOT IDENT.
U-238	6.151E-01	1.640E+00	2.963E+00	0.000E+00	FAIL ABUN
NP-239	-7.523E-03	1.711E-01	2.968E-01	0.000E+00	FAIL ABUN
AM-241	-3.645E-03	2.050E-01	3.699E-01	0.000E+00	NOT IDENT.
CM-243	-8.275E-02	8.701E-02	1.454E-01	0.000E+00	FAIL ABUN
AM-246	7.854E-03	1.279E-01	2.133E-01	0.000E+00	NOT IDENT.
CM-247	-2.177E-02	3.241E-02	5.284E-02	0.000E+00	FAIL ABUN
CF-249	-1.261E-03	3.442E-02	5.890E-02	0.000E+00	NOT IDENT.
CF-251	1.484E-02	1.150E-01	1.957E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630006.CNF;1
Sample date     : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:23:09.
Sample ID      : G243630006           Sample quantity  : 1.34780E+02 GRAM
Detector name   : GAM10               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:01.00  0.0%
Energy tolerance: 1.50000 keV         Analyst Initials : MXR1
Abundance limit : 75.00000           Sensitivity     : 5.00000
Batch ID       : 937702              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	893	10.67*	1.107E+00	2.107E+01	2.107E+01	11.17
CD-109	88.03	192	3.72*	5.256E+00	2.735E+00	2.802E+00	39.92
SN-126	64.28	-----	9.60	2.419E+00	-----	Line Not Found	-----
	86.94	192	8.90	5.256E+00	1.143E+00	1.143E+00	56.83
	87.57	192	37.00*	5.256E+00	2.750E-01	2.750E-01	39.92
HG-203	70.83	-----	4.75	3.353E+00	-----	Line Not Found	-----
	72.87	-----	8.00	3.633E+00	-----	Line Not Found	-----
	82.60	-----	3.55	4.818E+00	-----	Line Not Found	-----
	279.20	28	77.30*	4.598E+00	2.177E-02	2.766E-02	186.37
TL-208	277.35	28	6.80	4.598E+00	2.475E-01	2.475E-01	186.56
	510.84	135	21.60	2.928E+00	5.961E-01	5.961E-01	50.16
	583.14	379	84.20*	2.626E+00	4.779E-01	4.779E-01	16.81
	860.37	59	12.46	1.839E+00	7.172E-01	7.172E-01	60.47
BI-211	72.87	-----	1.27	3.633E+00	-----	Line Not Found	-----
	351.07	596	12.94*	3.887E+00	3.300E+00	3.300E+00	13.42
PB-212	74.81	309	10.70	3.864E+00	2.083E+00	2.083E+00	28.92
	77.11	560	18.00	4.152E+00	2.085E+00	2.085E+00	17.33
	87.30	192	8.00	5.256E+00	1.272E+00	1.272E+00	41.16
	238.63	1233	44.60*	5.115E+00	1.505E+00	1.505E+00	10.27
	300.09	88	3.41	4.358E+00	1.645E+00	1.645E+00	53.18
PO-212	74.81	309	10.70	3.864E+00	2.083E+00	2.083E+00	28.92
	77.11	560	18.00	4.152E+00	2.085E+00	2.085E+00	17.33
	87.30	192	8.00	5.256E+00	1.272E+00	1.272E+00	41.16
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1233	44.60*	5.115E+00	1.505E+00	1.505E+00	10.27
	300.09	88	3.41	4.358E+00	1.645E+00	1.645E+00	53.18
BI-214	609.31	436	46.30*	2.530E+00	1.037E+00	1.037E+00	15.91
	1120.29	110	15.10	1.415E+00	1.429E+00	1.429E+00	45.50
	1764.49	73	15.80	9.762E-01	1.319E+00	1.319E+00	37.77
PB-214	74.81	309	6.21	3.864E+00	3.588E+00	3.589E+00	28.35
	77.11	560	10.50	4.152E+00	3.575E+00	3.575E+00	18.93
	87.30	192	4.67	5.256E+00	2.179E+00	2.179E+00	40.66

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	254	7.49	5.070E+00	1.862E+00	1.862E+00	27.43
	295.21	352	19.20	4.411E+00	1.157E+00	1.157E+00	22.81
	351.92	596	37.20*	3.887E+00	1.148E+00	1.148E+00	14.40
	74.81	309	6.21	3.864E+00	3.588E+00	3.589E+00	28.35
	77.11	560	10.50	4.152E+00	3.575E+00	3.575E+00	18.93
	87.30	192	4.67	5.256E+00	2.179E+00	2.179E+00	40.66
	241.98	254	7.49	5.070E+00	1.862E+00	1.862E+00	27.43
PO-216	295.21	352	19.20	4.411E+00	1.157E+00	1.157E+00	22.81
	351.92	596	37.20*	3.887E+00	1.148E+00	1.148E+00	14.40
	74.81	309	10.70	3.864E+00	2.083E+00	2.083E+00	28.92
	77.11	560	18.00	4.152E+00	2.085E+00	2.085E+00	17.33
	87.30	192	8.00	5.256E+00	1.272E+00	1.272E+00	41.16
	238.63	1233	44.60*	5.115E+00	1.505E+00	1.505E+00	10.27
	300.09	88	3.41	4.358E+00	1.645E+00	1.645E+00	53.18
PO-218	74.81	309	6.21	3.864E+00	3.588E+00	3.589E+00	28.35
	77.11	560	10.50	4.152E+00	3.575E+00	3.575E+00	18.93
	87.30	192	4.67	5.256E+00	2.179E+00	2.179E+00	40.66
	241.98	254	7.49	5.070E+00	1.862E+00	1.862E+00	27.43
	295.21	352	19.20	4.411E+00	1.157E+00	1.157E+00	22.81
	351.92	596	37.20*	3.887E+00	1.148E+00	1.148E+00	14.40
	240.98	254	3.95*	5.070E+00	3.531E+00	3.531E+00	26.85
RA-224	609.31	436	46.30*	2.530E+00	1.037E+00	1.037E+00	15.91
RA-226	1120.29	110	15.10	1.415E+00	1.429E+00	1.429E+00	45.50
	1764.49	73	15.80	9.762E-01	1.319E+00	1.319E+00	37.77
	338.32	261	11.40	4.000E+00	1.596E+00	1.596E+00	46.95
AC-228	911.07	264	27.70*	1.739E+00	1.525E+00	1.525E+00	23.27
	969.11	139	16.60	1.636E+00	1.426E+00	1.426E+00	33.08
	338.32	261	11.40	4.000E+00	1.596E+00	1.596E+00	46.95
RA-228	911.07	264	27.70*	1.739E+00	1.525E+00	1.525E+00	23.27
	969.11	139	16.60	1.636E+00	1.426E+00	1.426E+00	33.08
	338.32	261	11.40	4.000E+00	1.596E+00	1.596E+00	46.95
TH-228	74.81	309	10.70	3.864E+00	2.083E+00	2.116E+00	27.39
	77.11	560	18.00	4.152E+00	2.085E+00	2.119E+00	17.33
	87.30	192	8.00	5.256E+00	1.272E+00	1.292E+00	39.92
TH-230	238.63	1233	44.60*	5.115E+00	1.505E+00	1.530E+00	10.27
	300.09	88	3.41	4.358E+00	1.645E+00	1.672E+00	78.95
	609.31	436	46.30*	2.530E+00	1.037E+00	1.037E+00	15.91
TH-232	1120.29	110	15.10	1.415E+00	1.429E+00	1.429E+00	45.50
	1764.49	73	15.80	9.762E-01	1.319E+00	1.319E+00	37.77
	338.32	261	11.40	4.000E+00	1.596E+00	1.596E+00	24.00
U-234	911.07	264	27.70*	1.739E+00	1.525E+00	1.525E+00	23.27
	969.11	139	16.60	1.636E+00	1.426E+00	1.426E+00	33.08
	609.31	436	46.30*	2.530E+00	1.037E+00	1.037E+00	15.91
NP-237	1120.29	110	15.10	1.415E+00	1.429E+00	1.429E+00	45.50
	1764.49	73	15.80	9.762E-01	1.319E+00	1.319E+00	37.77
	86.50	192	12.60*	5.256E+00	8.076E-01	8.076E-01	44.94
AM-243	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
	74.67	309	66.00*	3.864E+00	3.376E-01	3.376E-01	27.37
	86.72	192	0.34	5.256E+00	3.028E+01	3.028E+01	39.92
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	6.676E+00	-----	Line Not Found	-----
ANH-511	511.00	135	100.00*	2.928E+00	1.288E-01	1.288E-01	49.46

Flag: "*" = Keyline

Total number of lines in spectrum 28
Number of unidentified lines 0
Number of lines tentatively identified by NID 28 100.00%

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	2.107E+01	2.107E+01	0.235E+01	11.17	
CD-109	464.00D	1.02	2.735E+00	2.802E+00	1.119E+00	39.92	
SN-126	1.00E+05Y	1.00	2.750E-01	2.750E-01	1.098E-01	39.92	
HG-203	46.60D	1.27	2.177E-02	2.766E-02	5.156E-02	186.37	
TL-208	1.41E+10Y	1.00	4.779E-01	4.779E-01	0.803E-01	16.81	
BI-211	7.04E+08Y	1.00	3.300E+00	3.300E+00	0.443E+00	13.42	
PB-212	1.41E+10Y	1.00	1.505E+00	1.505E+00	0.155E+00	10.27	
PO-212	1.41E+10Y	1.00	1.505E+00	1.505E+00	0.155E+00	10.27	
BI-214	1600.00Y	1.00	1.037E+00	1.037E+00	0.165E+00	15.91	
PB-214	1600.00Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.40	
PO-214	1600.00Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.40	
PO-216	1.41E+10Y	1.00	1.505E+00	1.505E+00	0.155E+00	10.27	
PO-218	1600.00Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.40	
RA-224	1.41E+10Y	1.00	3.531E+00	3.531E+00	0.948E+00	26.85	
RA-226	1600.00Y	1.00	1.037E+00	1.037E+00	0.165E+00	15.91	
AC-228	1.41E+10Y	1.00	1.525E+00	1.525E+00	0.355E+00	23.27	
RA-228	1.41E+10Y	1.00	1.525E+00	1.525E+00	0.355E+00	23.27	
TH-228	1.91Y	1.02	1.505E+00	1.530E+00	0.157E+00	10.27	
TH-230	4.47E+09Y	1.00	1.037E+00	1.037E+00	0.165E+00	15.91	
TH-232	1.41E+10Y	1.00	1.525E+00	1.525E+00	0.355E+00	23.27	
U-234	4.47E+09Y	1.00	1.037E+00	1.037E+00	0.165E+00	15.91	
NP-237	2.14E+06Y	1.00	8.076E-01	8.076E-01	3.629E-01	44.94	
AM-243	7380.00Y	1.00	3.376E-01	3.376E-01	0.924E-01	27.37	
ANH-511	1.00E+09Y	1.00	1.288E-01	1.288E-01	0.637E-01	49.46	
Total Activity :			5.087E+01	5.097E+01			

Grand Total Activity : 5.087E+01 5.097E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	89.70	125	321	0.81	179.51	177	6	1.74E-02	49.0	5.49E+00	T
0	92.57	155	350	1.59	185.24	183	7	2.15E-02	45.0	5.71E+00	T
0	129.07	73	289	0.82	258.19	255	8	1.02E-02	84.0	6.76E+00	T
0	185.95	205	388	1.44	371.85	366	13	2.85E-02	43.0	5.98E+00	T
0	209.33	136	231	1.05	418.58	414	9	1.89E-02	44.0	5.57E+00	T
0	270.36	125	170	1.45	540.53	536	10	1.74E-02	43.0	4.69E+00	T
0	463.05	137	117	1.81	925.68	917	18	1.90E-02	40.9	3.16E+00	T
0	727.66	88	74	1.53	1454.64	1449	13	1.23E-02	46.0	2.16E+00	T
2	964.87	74	30	2.12	1928.96	1924	20	1.02E-02	37.8	1.64E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630006.CNF;1
* Acquisition date   : 7-JAN-2010 13:23:09.  Detector SN#      :
* Detector ID        : GAM10                      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 02:00:01.00             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630006             Analyst initials: MXR1
* Batch Number       : 937702                 Sample Quantity : 1.34780E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08.8MS 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	2.107E+01	2.354E+00	4.894E-01	4.215E-02	43.049
CD-109	2.802E+00	1.119E+00	1.245E+00	1.412E-01	2.250
SN-126	2.750E-01	1.098E-01	1.231E-01	1.393E-02	2.233
HG-203	2.766E-02	5.156E-02	5.913E-02	3.990E-03	0.468
TL-208	4.779E-01	8.031E-02	5.255E-02	3.531E-03	9.093
BI-211	3.300E+00	4.430E-01	2.786E-01	2.031E-02	11.844
PB-212	1.505E+00	1.546E-01	8.345E-02	6.330E-03	18.037
PO-212	1.505E+00	1.546E-01	8.345E-02	6.330E-03	18.037
BI-214	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
PB-214	1.148E+00	1.653E-01	1.035E-01	9.279E-03	11.094
PO-214	1.148E+00	1.653E-01	1.035E-01	9.279E-03	11.094
PO-216	1.505E+00	1.546E-01	8.345E-02	6.330E-03	18.037
PO-218	1.148E+00	1.653E-01	1.035E-01	9.279E-03	11.094
RA-224	3.531E+00	9.483E-01	9.496E-01	5.829E-02	3.719
RA-226	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
AC-228	1.525E+00	3.549E-01	1.967E-01	2.427E-02	7.756
RA-228	1.525E+00	3.549E-01	1.967E-01	2.427E-02	7.756
TH-228	1.530E+00	1.571E-01	8.480E-02	6.433E-03	18.037

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
TH-232	1.525E+00	3.549E-01	1.967E-01	2.427E-02	7.756
U-234	1.037E+00	1.650E-01	1.004E-01	7.638E-03	10.328
NP-237	8.076E-01	3.629E-01	3.955E-01	9.295E-02	2.042
AM-243	3.376E-01	9.240E-02	9.244E-02	1.012E-02	3.653
ANH-511	1.288E-01	6.368E-02	4.133E-02	2.648E-03	3.115

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.756E-01		2.892E-01	4.436E-01	3.298E-02	-0.396
NA-22	-4.791E-02		4.223E-02	6.128E-02	4.747E-03	-0.782
NA-24	3.310E-01		1.032E+00	Half-Life too short		
AL-26	2.126E-02		2.768E-02	5.180E-02	3.284E-03	0.410
TI-44	1.970E-01		4.721E-02	7.432E-02	8.133E-03	2.650
SC-46	-1.354E-02		3.573E-02	5.606E-02	5.548E-03	-0.242
V-48	2.344E-03		6.163E-02	1.004E-01	9.286E-03	0.023
CR-51	1.294E-02		3.411E-01	5.661E-01	4.089E-02	0.023
MN-52	-4.270E-02		2.279E-01	3.642E-01	3.078E-02	-0.117
MN-54	3.492E-02		3.636E-02	6.417E-02	5.483E-03	0.544
CO-56	-2.747E-03		3.662E-02	5.965E-02	5.268E-03	-0.046
CO-57	1.748E-02		2.387E-02	3.988E-02	2.630E-03	0.438
CO-58	1.535E-02		3.237E-02	5.580E-02	4.465E-03	0.275
FE-59	-2.059E-03		8.573E-02	1.375E-01	1.147E-02	-0.015
CO-60	-8.257E-04		3.338E-02	5.515E-02	4.793E-03	-0.015
ZN-65	-6.139E-03		9.495E-02	1.300E-01	9.465E-03	-0.047
GE-68	6.219E-01		1.104E+00	1.890E+00	1.497E-01	0.329
AS-73	-7.640E-02		1.452E+00	2.365E+00	3.130E-01	-0.032
AS-74	-6.392E-02		7.784E-02	1.220E-01	6.968E-03	-0.524
SE-75	-2.204E-02		4.070E-02	6.094E-02	3.887E-03	-0.362
BR-77	-4.562E+00		1.326E+01	2.070E+01	1.313E+00	-0.220
SR-82	3.662E-02		3.462E-01	5.772E-01	4.161E-02	0.063
RB-83	-2.195E-02		6.721E-02	1.051E-01	6.669E-03	-0.209
RB-84	3.275E-02		6.191E-02	1.067E-01	1.034E-02	0.307
KR-85	8.131E+00		7.114E+00	1.112E+01	7.103E-01	0.731
SR-85	4.210E-02		3.684E-02	5.758E-02	3.678E-03	0.731
RB-86	1.189E-01		7.199E-01	1.182E+00	9.375E-02	0.101
Y-88	2.329E-02		2.945E-02	5.568E-02	3.416E-03	0.418
ZR-88	-1.170E-02		2.684E-02	4.253E-02	2.890E-03	-0.275
Y-91	4.788E+00		1.689E+01	2.896E+01	1.924E+00	0.165
NB-94	2.554E-02		3.072E-02	5.423E-02	3.087E-03	0.471
NB-95	3.672E-02		4.376E-02	7.648E-02	5.337E-03	0.480
NB-95M	8.806E-02		1.210E-01	1.874E-01	1.454E-02	0.470
ZR-95	4.881E-02		5.976E-02	1.060E-01	8.325E-03	0.461
NB-97	-8.204E-02		1.082E-01	Half-Life too short		
ZR-97	3.018E+00		2.340E+00	Half-Life too short		
MO-99	6.408E+00		1.316E+01	2.217E+01	3.117E+00	0.289

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	-5.123E+11		2.599E+11	Half-Life too short		
RH-101	-3.516E-03		3.223E-02	4.946E-02	2.841E-03	-0.071
RH-102	8.299E-03		2.591E-02	4.290E-02	2.830E-03	0.193
RU-103	-2.607E-03		3.827E-02	6.057E-02	7.858E-03	-0.043
RH-106	-1.157E-01		2.798E-01	4.534E-01	5.241E-02	-0.255
RU-106	-1.157E-01		2.796E-01	4.534E-01	2.463E-02	-0.255
AG-108M	-1.165E-02		2.895E-02	4.560E-02	3.270E-03	-0.255
AG-110M	-1.168E-02		3.082E-02	4.991E-02	2.704E-03	-0.234
IN-111	3.007E-01		1.290E+00	1.943E+00	1.199E-01	0.155
IN-113M	-1.081E-02		3.926E-02	6.300E-02	4.492E-03	-0.172
SN-113	-1.081E-02		3.926E-02	6.300E-02	4.492E-03	-0.172
IN-114M	1.186E-01		1.785E-01	2.628E-01	1.490E-02	0.451
CD-115	-7.822E+00		1.275E+01	1.930E+01	1.215E+00	-0.405
SN-117M	4.469E-04		5.242E-02	8.390E-02	4.705E-03	0.005
SB-122	1.729E+00		2.402E+00	4.058E+00	2.441E-01	0.426
I-123	3.911E+00		8.589E+00	Half-Life too short		
TE-123M	5.898E-03		2.591E-02	4.189E-02	2.379E-03	0.141
I-124	-4.721E-02		7.336E-01	1.159E+00	6.539E-02	-0.041
SB-124	-1.539E-02		6.325E-02	9.695E-02	7.366E-03	-0.159
SB-125	-6.219E-02		8.419E-02	1.294E-01	9.012E-03	-0.481
TE-125M	4.157E-01		8.328E+00	1.359E+01	1.305E+00	0.031
I-126	-1.228E-01		1.711E-01	2.691E-01	1.350E-02	-0.456
SB-126	8.829E-03		1.390E-01	2.193E-01	1.325E-02	0.040
SB-127	7.763E-01		1.379E+00	2.402E+00	2.285E-01	0.323
XE-127	-5.024E-02		4.169E-02	6.698E-02	3.879E-03	-0.750
I-131	5.164E-02		1.126E-01	1.904E-01	1.402E-02	0.271
TE-132	-2.341E-01		7.263E-01	1.206E+00	1.766E-01	-0.194
BA-133	3.660E-02		4.284E-02	6.613E-02	7.979E-03	0.553
I-133	-1.136E-02		5.622E-03	Half-Life too short		
CS-134	4.979E-02		4.567E-02	8.136E-02	6.272E-03	0.612
CS-135	1.611E-01		1.574E-01	2.472E-01	1.997E-02	0.652
I-135	-1.514E+10		2.631E+10	Half-Life too short		
CS-136	6.204E-02		1.024E-01	1.760E-01	1.541E-02	0.352
BA-137M	-2.195E-03		3.054E-02	5.070E-02	2.502E-03	-0.043
CS-137	-2.320E-03		3.228E-02	5.360E-02	2.660E-03	-0.043
CE-139	1.730E-02		2.738E-02	4.501E-02	2.458E-03	0.384
BA-140	-1.784E-02		2.392E-01	3.805E-01	1.240E-01	-0.047
LA-140	-1.852E-02		8.623E-02	1.359E-01	1.054E-02	-0.136
CE-141	-4.025E-02		5.974E-02	9.297E-02	5.690E-03	-0.433
CE-143	9.795E-04		1.630E-04	Half-Life too short		
CE-144	1.036E-01		2.035E-01	3.011E-01	4.325E-02	0.344
PM-144	1.227E-02		3.172E-02	5.434E-02	3.032E-03	0.226
PR-144	8.320E-01		2.151E+00	3.684E+00	2.054E-01	0.226
PM-146	3.750E-03		3.652E-02	5.967E-02	5.511E-03	0.063
ND-147	-1.077E-01		5.075E-01	7.975E-01	1.095E-01	-0.135
PM-149	2.317E+01		1.098E+02	1.849E+02	2.675E+01	0.125
EU-152	1.813E-02		8.949E-02	1.388E-01	1.023E-02	0.131
GD-153	-2.054E-02		7.916E-02	1.206E-01	1.123E-02	-0.170

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-1.311E-01		1.173E-01	1.697E-01	1.808E-02	-0.772
EU-155	4.246E-02		9.688E-02	1.610E-01	1.336E-02	0.264
TB-160	-1.528E-02		1.229E-01	1.985E-01	1.914E-02	-0.077
HO-166M	-4.677E-02		5.215E-02	7.958E-02	4.670E-03	-0.588
TM-171	6.078E+00		3.149E+01	5.268E+01	6.002E+00	0.115
LU-176	-7.511E-03		2.182E-02	3.550E-02	2.335E-03	-0.212
LU-177	3.261E+00	+	1.446E+00	1.949E+00	1.139E-01	1.673
LU-177M	-1.796E-01		1.638E-01	2.459E-01	1.667E-02	-0.730
HF-181	-1.051E-02		3.782E-02	5.964E-02	3.915E-03	-0.176
W-181	-2.970E-01		4.389E-01	7.082E-01	8.183E-02	-0.419
TA-182	1.218E-01		1.820E-01	3.212E-01	2.215E-02	0.379
RE-183	-1.452E-02		1.006E-01	1.596E-01	8.826E-03	-0.091
RE-184	-5.802E-02		2.007E-01	3.318E-01	2.068E-02	-0.175
OS-185	-1.564E-03		3.792E-02	6.322E-02	3.248E-03	-0.025
RE-188	5.061E-02		1.617E-01	2.626E-01	1.492E-02	0.193
W-188	-2.433E+00		7.210E+00	1.028E+01	6.675E-01	-0.237
IR-192	-7.848E-03		3.027E-02	4.938E-02	3.283E-03	-0.159
AU-195	5.245E-02		2.210E-01	3.606E-01	3.272E-02	0.145
TL-200	-5.018E-04		3.672E-04	Half-Life too short		
TL-201	2.456E+00		7.841E+00	1.270E+01	6.946E-01	0.193
TL-202	1.936E-02		6.186E-02	1.029E-01	6.915E-03	0.188
BI-207	4.523E-02		5.094E-02	8.931E-02	7.271E-03	0.506
TL-207	7.700E-02		6.254E-01	1.042E+00	1.754E-01	0.074
PO-209	1.314E-01		6.707E+00	1.098E+01	1.108E+00	0.012
BI-210	-2.781E+00		8.588E+00	1.400E+01	1.374E+00	-0.199
PB-210	-2.781E+00		8.588E+00	1.400E+01	1.374E+00	-0.199
PO-210	-2.781E+00		8.587E+00	1.400E+01	1.257E+00	-0.199
PB-211	5.812E-01		9.063E-01	1.419E+00	8.858E-01	0.410
BI-212	9.651E-01	+	4.508E-01	6.216E-01	4.972E-02	1.553
PO-215	7.700E-02		6.254E-01	1.042E+00	1.754E-01	0.074
RN-219	-2.967E-01		3.704E-01	5.674E-01	7.976E-02	-0.523
RN-220	2.260E+00		2.455E+01	3.956E+01	2.426E+00	0.057
RA-223	7.700E-02		6.254E-01	1.042E+00	1.754E-01	0.074
AC-227	-4.736E-02		3.409E-01	5.677E-01	8.038E-02	-0.083
TH-227	-4.736E-02		3.409E-01	5.677E-01	9.687E-02	-0.083
TH-229	-5.697E-02		4.547E-01	7.150E-01	4.077E-02	-0.080
PA-231	1.393E+00		1.376E+00	2.392E+00	3.364E-01	0.582
TH-231	7.700E-02		6.254E-01	1.042E+00	1.754E-01	0.074
U-231	-1.266E+00		1.348E+00	1.862E+00	1.784E-01	-0.680
PA-233	-3.323E-03		5.423E-02	8.962E-02	6.202E-03	-0.037
PA-234	4.964E-02		2.482E-01	4.128E-01	7.954E-02	0.120
PA-234M	1.268E+00		4.030E+00	6.586E+00	6.797E-01	0.193
TH-234	6.151E-01		1.673E+00	2.795E+00	5.509E-01	0.220
U-235	-8.874E-03		1.970E-01	3.142E-01	5.138E-02	-0.028
NP-236	-6.759E-03		7.235E-02	1.152E-01	6.417E-03	-0.059
U-238	6.151E-01		1.673E+00	2.795E+00	5.509E-01	0.220
NP-239	-7.523E-03		1.746E-01	2.829E-01	1.979E-02	-0.027
AM-241	-3.645E-03		2.092E-01	3.486E-01	4.477E-02	-0.010

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-8.275E-02		8.879E-02	1.383E-01	1.159E-02	-0.598
AM-246	7.854E-03		1.305E-01	2.116E-01	1.671E-02	0.037
CM-247	-2.177E-02		3.307E-02	5.149E-02	3.496E-03	-0.423
CF-249	-1.261E-03		3.512E-02	5.735E-02	3.897E-03	-0.022
CF-251	1.484E-02		1.174E-01	1.879E-01	1.042E-02	0.079

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]G243630006          *
* Acquisition date   : 7-JAN-2010 13:23:09 Detector SN# :                  *
* Detector ID        : GAM10 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 02:00:01.00 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630006 Analyst initials: MXR1                 *
* Batch Number       : 937702 Sample Quantity : 1.3478E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08 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	2.107E+01	2.307E+00	2.454E-01	1.177E+00
CD-109	2.802E+00	1.096E+00	6.568E-01	5.593E-01
SN-126	2.750E-01	1.076E-01	6.494E-02	5.490E-02
HG-203	2.766E-02	5.052E-02	3.056E-02	2.578E-02
TL-208	4.779E-01	7.871E-02	2.680E-02	4.016E-02
BI-211	3.300E+00	4.341E-01	1.434E-01	2.215E-01
PB-212	1.505E+00	1.515E-01	4.325E-02	7.731E-02
PO-212	1.505E+00	1.515E-01	4.325E-02	7.731E-02
BI-214	1.037E+00	1.617E-01	5.115E-02	8.248E-02
PB-214	1.148E+00	1.620E-01	5.326E-02	8.266E-02
PO-214	1.148E+00	1.620E-01	5.326E-02	8.266E-02
PO-216	1.505E+00	1.515E-01	4.325E-02	7.731E-02
PO-218	1.148E+00	1.620E-01	5.326E-02	8.266E-02
RA-224	3.531E+00	9.293E-01	4.921E-01	4.742E-01
RA-226	1.037E+00	1.617E-01	5.115E-02	8.248E-02
AC-228	1.525E+00	3.478E-01	9.948E-02	1.775E-01
RA-228	1.525E+00	3.478E-01	9.948E-02	1.775E-01
TH-228	1.530E+00	1.540E-01	4.395E-02	7.856E-02
TH-230	1.037E+00	1.617E-01	5.115E-02	8.248E-02
TH-232	1.525E+00	3.478E-01	9.948E-02	1.775E-01
U-234	1.037E+00	1.617E-01	5.115E-02	8.248E-02
NP-237	8.076E-01	3.557E-01	2.086E-01	1.815E-01
AM-243	3.376E-01	9.055E-02	4.889E-02	4.620E-02
ANH-511	1.288E-01	6.241E-02	2.113E-02	3.184E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.756E-01	2.834E-01	2.270E-01	1.446E-01 NOT IDENT.
NA-22	-4.791E-02	4.138E-02	3.081E-02	2.111E-02 NOT IDENT.
NA-24	3.310E+05	2.023E+06	0.000E+00	1.032E+06 SHORT HLIF

AL-26	2.126E-02	2.713E-02	2.587E-02	1.384E-02	NOT IDENT.
TI-44	1.970E-01	4.627E-02	3.927E-02	2.361E-02	NOT IDENT.
SC-46	-1.354E-02	3.501E-02	2.837E-02	1.786E-02	FAIL ABUN
V-48	2.344E-03	6.040E-02	5.073E-02	3.081E-02	NOT IDENT.
CR-51	1.294E-02	3.342E-01	2.919E-01	1.705E-01	NOT IDENT.
MN-52	-4.270E-02	2.234E-01	1.827E-01	1.140E-01	NOT IDENT.
MN-54	3.492E-02	3.563E-02	3.251E-02	1.818E-02	NOT IDENT.
CO-56	-2.747E-03	3.588E-02	3.022E-02	1.831E-02	NOT IDENT.
CO-57	1.748E-02	2.339E-02	2.091E-02	1.194E-02	NOT IDENT.
CO-58	1.535E-02	3.172E-02	2.829E-02	1.618E-02	NOT IDENT.
FE-59	-2.059E-03	8.402E-02	6.929E-02	4.287E-02	NOT IDENT.
CO-60	-8.257E-04	3.271E-02	2.770E-02	1.669E-02	NOT IDENT.
ZN-65	-6.139E-03	9.305E-02	6.549E-02	4.747E-02	NOT IDENT.
GE-68	6.219E-01	1.082E+00	9.531E-01	5.519E-01	NOT IDENT.
AS-73	-7.640E-02	1.423E+00	1.258E+00	7.261E-01	NOT IDENT.
AS-74	-6.392E-02	7.629E-02	6.219E-02	3.892E-02	NOT IDENT.
SE-75	-2.204E-02	3.989E-02	3.153E-02	2.035E-02	FAIL ABUN
BR-77	-4.562E+00	1.300E+01	1.058E+01	6.630E+00	FAIL ABUN
SR-82	3.662E-02	3.393E-01	2.928E-01	1.731E-01	NOT IDENT.
RB-83	-2.195E-02	6.587E-02	5.371E-02	3.361E-02	NOT IDENT.
RB-84	3.275E-02	6.067E-02	5.399E-02	3.095E-02	NOT IDENT.
KR-85	8.131E+00	6.972E+00	5.685E+00	3.557E+00	NOT IDENT.
SR-85	4.210E-02	3.610E-02	2.944E-02	1.842E-02	NOT IDENT.
RB-86	1.189E-01	7.055E-01	5.958E-01	3.599E-01	NOT IDENT.
Y-88	2.329E-02	2.887E-02	2.779E-02	1.473E-02	NOT IDENT.
ZR-88	-1.170E-02	2.630E-02	2.185E-02	1.342E-02	NOT IDENT.
Y-91	4.788E+00	1.655E+01	1.457E+01	8.445E+00	NOT IDENT.
NB-94	2.554E-02	3.010E-02	2.756E-02	1.536E-02	NOT IDENT.
NB-95	3.672E-02	4.289E-02	3.881E-02	2.188E-02	NOT IDENT.
NB-95M	8.806E-02	1.186E-01	9.717E-02	6.051E-02	NOT IDENT.
ZR-95	4.881E-02	5.856E-02	5.380E-02	2.988E-02	NOT IDENT.
NB-97	-8.204E+04	2.120E+05	0.000E+00	1.082E+05	SHORT HLIF
ZR-97	3.018E+06	4.587E+06	0.000E+00	2.340E+06	SHORT HLIF
MO-99	6.408E+00	1.290E+01	1.126E+01	6.582E+00	NOT IDENT.
TC-99M	-5.123E+17	5.093E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.516E-03	3.159E-02	2.572E-02	1.612E-02	NOT IDENT.
RH-102	8.299E-03	2.539E-02	2.196E-02	1.296E-02	NOT IDENT.
RU-103	-2.607E-03	3.751E-02	3.098E-02	1.914E-02	FAIL ABUN
RH-106	-1.157E-01	2.742E-01	2.310E-01	1.399E-01	FAIL ABUN
RU-106	-1.157E-01	2.740E-01	2.310E-01	1.398E-01	FAIL ABUN
AG-108M	-1.165E-02	2.837E-02	2.338E-02	1.447E-02	NOT IDENT.
AG-110M	-1.168E-02	3.020E-02	2.540E-02	1.541E-02	NOT IDENT.
IN-111	3.007E-01	1.264E+00	1.006E+00	6.451E-01	NOT IDENT.
IN-113M	-1.081E-02	3.847E-02	3.236E-02	1.963E-02	NOT IDENT.
SN-113	-1.081E-02	3.847E-02	3.236E-02	1.963E-02	NOT IDENT.
IN-114M	1.186E-01	1.749E-01	1.367E-01	8.925E-02	NOT IDENT.
CD-115	-7.822E+00	1.249E+01	9.863E+00	6.373E+00	NOT IDENT.
SN-117M	4.469E-04	5.137E-02	4.380E-02	2.621E-02	NOT IDENT.
SB-122	1.729E+00	2.354E+00	2.071E+00	1.201E+00	NOT IDENT.
I-123	3.911E+06	1.684E+07	0.000E+00	8.589E+06	SHORT HLIF
TE-123M	5.898E-03	2.539E-02	2.187E-02	1.295E-02	NOT IDENT.
I-124	-4.721E-02	7.189E-01	5.908E-01	3.668E-01	NOT IDENT.
SB-124	-1.539E-02	6.198E-02	4.847E-02	3.162E-02	FAIL ABUN
SB-125	-6.219E-02	8.250E-02	6.637E-02	4.209E-02	FAIL ABUN
TE-125M	4.157E-01	8.161E+00	7.141E+00	4.164E+00	NOT IDENT.
I-126	-1.228E-01	1.677E-01	1.369E-01	8.555E-02	NOT IDENT.
SB-126	8.829E-03	1.363E-01	1.114E-01	6.952E-02	FAIL ABUN
SB-127	7.763E-01	1.352E+00	1.222E+00	6.895E-01	NOT IDENT.
XE-127	-5.024E-02	4.086E-02	3.481E-02	2.085E-02	NOT IDENT.
I-131	5.164E-02	1.104E-01	9.793E-02	5.631E-02	NOT IDENT.
TE-132	-2.341E-01	7.118E-01	6.255E-01	3.632E-01	NOT IDENT.
BA-133	3.660E-02	4.199E-02	3.403E-02	2.142E-02	NOT IDENT.
I-133	-1.136E+04	1.102E+04	0.000E+00	5.622E+03	SHORT HLIF
CS-134	4.979E-02	4.475E-02	4.126E-02	2.283E-02	NOT IDENT.
CS-135	1.611E-01	1.542E-01	1.278E-01	7.870E-02	NOT IDENT.
I-135	-1.514E+16	5.158E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.204E-02	1.003E-01	8.881E-02	5.119E-02	FAIL ABUN
BA-137M	-2.195E-03	2.993E-02	2.580E-02	1.527E-02	NOT IDENT.
CS-137	-2.320E-03	3.163E-02	2.727E-02	1.614E-02	NOT IDENT.
CE-139	1.730E-02	2.684E-02	2.348E-02	1.369E-02	NOT IDENT.
BA-140	-1.784E-02	2.344E-01	1.943E-01	1.196E-01	NOT IDENT.
LA-140	-1.852E-02	8.451E-02	6.801E-02	4.312E-02	NOT IDENT.
CE-141	-4.025E-02	5.855E-02	4.861E-02	2.987E-02	NOT IDENT.
CE-143	9.795E+02	3.195E+02	0.000E+00	1.630E+02	SHORT HLIF
CE-144	1.036E-01	1.994E-01	1.576E-01	1.017E-01	NOT IDENT.
PM-144	1.227E-02	3.109E-02	2.762E-02	1.586E-02	NOT IDENT.
PR-144	8.320E-01	2.108E+00	1.873E+00	1.075E+00	NOT IDENT.
PM-146	3.750E-03	3.579E-02	3.057E-02	1.826E-02	NOT IDENT.

ND-147	-1.077E-01	4.974E-01	4.075E-01	2.538E-01	FAIL ABUN
PM-149	2.317E+01	1.076E+02	9.555E+01	5.488E+01	NOT IDENT.
EU-152	1.813E-02	8.770E-02	7.148E-02	4.474E-02	FAIL ABUN
GD-153	-2.054E-02	7.757E-02	6.349E-02	3.958E-02	NOT IDENT.
EU-154	-1.311E-01	1.149E-01	8.533E-02	5.864E-02	NOT IDENT.
EU-155	4.246E-02	9.494E-02	8.465E-02	4.844E-02	FAIL ABUN
TB-160	-1.528E-02	1.205E-01	1.005E-01	6.146E-02	FAIL ABUN
HO-166M	-4.677E-02	5.110E-02	4.044E-02	2.607E-02	NOT IDENT.
TM-171	6.078E+00	3.086E+01	2.791E+01	1.575E+01	NOT IDENT.
LU-176	-7.511E-03	2.138E-02	1.832E-02	1.091E-02	FAIL ABUN
LU-177	3.261E+00	1.417E+00	1.013E+00	7.231E-01	FAIL ABUN
LU-177M	-1.796E-01	1.605E-01	1.262E-01	8.188E-02	NOT IDENT.
HF-181	-1.051E-02	3.707E-02	3.052E-02	1.891E-02	NOT IDENT.
W-181	-2.970E-01	4.301E-01	3.754E-01	2.194E-01	NOT IDENT.
TA-182	1.218E-01	1.783E-01	1.616E-01	9.098E-02	FAIL ABUN
RE-183	-1.452E-02	9.856E-02	8.327E-02	5.029E-02	FAIL ABUN
RE-184	-5.802E-02	1.967E-01	1.718E-01	1.003E-01	NOT IDENT.
OS-185	-1.564E-03	3.716E-02	3.218E-02	1.896E-02	NOT IDENT.
RE-188	5.061E-02	1.585E-01	1.372E-01	8.084E-02	NOT IDENT.
W-188	-2.433E+00	7.065E+00	5.310E+00	3.605E+00	NOT IDENT.
IR-192	-7.848E-03	2.966E-02	2.546E-02	1.513E-02	FAIL ABUN
AU-195	5.245E-02	2.166E-01	1.898E-01	1.105E-01	FAIL ABUN
TL-200	-5.018E+02	7.197E+02	0.000E+00	3.672E+02	SHORT HLIF
TL-201	2.456E+00	7.684E+00	6.623E+00	3.920E+00	NOT IDENT.
TL-202	1.936E-02	6.062E-02	5.273E-02	3.093E-02	NOT IDENT.
BI-207	4.523E-02	4.992E-02	4.505E-02	2.547E-02	FAIL ABUN
TL-207	7.700E-02	6.129E-01	5.370E-01	3.127E-01	FAIL ABUN
PO-209	1.314E-01	6.573E+00	5.556E+00	3.354E+00	NOT IDENT.
BI-210	-2.781E+00	8.416E+00	7.466E+00	4.294E+00	NOT IDENT.
PB-210	-2.781E+00	8.416E+00	7.466E+00	4.294E+00	NOT IDENT.
PO-210	-2.781E+00	8.415E+00	7.466E+00	4.294E+00	NOT IDENT.
PB-211	5.812E-01	8.882E-01	7.284E-01	4.531E-01	NOT IDENT.
BI-212	9.651E-01	4.418E-01	3.157E-01	2.254E-01	FAIL ABUN
PO-215	7.700E-02	6.129E-01	5.370E-01	3.127E-01	FAIL ABUN
RN-219	-2.967E-01	3.630E-01	2.913E-01	1.852E-01	FAIL ABUN
RN-220	2.260E+00	2.406E+01	2.020E+01	1.228E+01	NOT IDENT.
RA-223	7.700E-02	6.129E-01	5.370E-01	3.127E-01	FAIL ABUN
AC-227	-4.736E-02	3.341E-01	2.939E-01	1.705E-01	FAIL ABUN
TH-227	-4.736E-02	3.341E-01	2.939E-01	1.705E-01	FAIL ABUN
TH-229	-5.697E-02	4.456E-01	3.719E-01	2.274E-01	FAIL ABUN
PA-231	1.393E+00	1.348E+00	1.236E+00	6.880E-01	FAIL ABUN
TH-231	7.700E-02	6.129E-01	5.370E-01	3.127E-01	FAIL ABUN
U-231	-1.266E+00	1.321E+00	9.803E-01	6.739E-01	FAIL ABUN
PA-233	-3.323E-03	5.314E-02	4.623E-02	2.711E-02	FAIL ABUN
PA-234	4.964E-02	2.432E-01	2.087E-01	1.241E-01	FAIL ABUN
PA-234M	1.268E+00	3.949E+00	3.325E+00	2.015E+00	NOT IDENT.
TH-234	6.151E-01	1.640E+00	1.482E+00	8.367E-01	FAIL ABUN
U-235	-8.874E-03	1.930E-01	1.643E-01	9.848E-02	FAIL ABUN
NP-236	-6.759E-03	7.090E-02	6.011E-02	3.618E-02	NOT IDENT.
U-238	6.151E-01	1.640E+00	1.482E+00	8.367E-01	FAIL ABUN
NP-239	-7.523E-03	1.711E-01	1.485E-01	8.730E-02	FAIL ABUN
AM-241	-3.645E-03	2.050E-01	1.851E-01	1.046E-01	NOT IDENT.
CM-243	-8.275E-02	8.701E-02	7.275E-02	4.439E-02	FAIL ABUN
AM-246	7.854E-03	1.279E-01	1.067E-01	6.527E-02	NOT IDENT.
CM-247	-2.177E-02	3.241E-02	2.644E-02	1.653E-02	FAIL ABUN
CF-249	-1.261E-03	3.442E-02	2.947E-02	1.756E-02	NOT IDENT.
CF-251	1.484E-02	1.150E-01	9.789E-02	5.868E-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	282.2622
46.50	282.2622
46.50	282.2622
48.70	268.3335
49.72	258.0061
51.35	252.6314
52.39	237.5352
52.97	258.3301
53.15	247.2921
53.44	253.0555
54.07	268.3667
56.28	284.8284
56.28	284.8307
57.37	0.0000
57.53	254.6835
57.53	254.6845
57.60	271.6453
57.98	269.0713
57.98	269.0713
59.32	287.8634
59.32	287.8634
59.40	287.9178
59.54	288.0132
59.72	294.7487
60.01	311.0204
61.10	340.2455
61.14	340.2765
61.30	332.8170
63.00	296.0418
63.29	303.8571
63.29	303.8571
63.58	304.0566
64.28	283.5343
65.12	342.4114
65.20	342.4720
65.20	342.4720
66.05	343.1180
66.72	297.5500
66.83	313.9438
66.91	313.9987
67.20	324.7676
67.20	324.7676
67.75	339.5862
67.85	339.6598
68.90	318.2491
68.90	318.2491
69.30	299.7009
69.67	327.4700
70.82	322.4566
70.82	322.4566
70.83	322.4633
72.80	371.9262
72.87	371.9807
72.87	371.9807
74.67	332.8500
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74.81	332.9454
74.81	332.9454
74.81	332.9454
74.81	332.9454
74.81	332.9454
74.81	332.9454
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75.70	333.5455
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77.11	334.4907

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77.11	334.4907
77.11	334.4907
77.11	334.4907
77.11	334.4907
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79.80	307.6725
79.80	307.6725
80.11	307.8597
80.18	307.9010
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80.30	319.8175
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81.07	346.9867
81.07	346.9867
81.07	346.9867
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83.78	342.8259
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84.90	342.0551
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86.79	400.2169
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87.30	348.0832
87.30	348.0832
87.30	348.0832
87.30	348.0832
87.30	348.0832
87.57	348.2549
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88.03	348.5487
88.36	348.7593
88.47	348.8284
89.95	334.6903
91.11	287.0439
92.29	287.6469
92.38	287.6933
92.38	287.6933
93.35	294.2533
94.00	283.9597
94.67	275.1677
94.67	275.1705
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94.90	278.3228
94.90	278.3228
94.90	278.3228
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95.87	333.6345
96.73	340.2336
97.43	287.1765
98.44	272.3697
98.44	272.3697
98.88	284.8239
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99.55	265.7274
99.86	250.5278
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100.10	250.6313
103.18	267.3381
103.76	285.0899
105.00	250.6036
105.31	247.6355
108.00	261.1452
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111.00	286.3338
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112.95	245.4299
115.19	271.4291
116.30	276.0866
117.00	264.8199
117.00	264.8199
117.66	273.4993
121.11	278.0824
121.62	271.9435
121.78	269.8908
122.06	255.1775
122.32	259.5112
122.32	259.5112
122.32	259.5112
122.32	259.5112
123.07	267.2206
127.23	276.8321
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131.20	247.8156
133.02	227.4705
133.54	238.9350
135.34	304.2636
136.00	269.9814
136.25	263.5912
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144.24	250.0425
144.24	250.0425
144.24	250.0425
144.24	250.0425
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145.44	300.7421
147.16	274.0123
152.43	275.8636
152.70	286.9960
153.22	263.9882
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154.21	256.5726
154.21	256.5726
154.21	256.5726
155.03	269.0145
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159.00	0.0000
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161.27	244.3121
162.32	253.5600
162.64	263.7139
163.35	256.1108
163.89	265.2291
165.85	236.6860
167.43	236.0065
171.28	239.3324
171.86	237.2348
172.10	221.4810
176.55	247.6029
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181.06	236.3094
184.41	240.6293
185.71	239.8257
186.00	239.9022
190.27	198.9285
192.34	223.2971
193.63	224.5315
197.04	267.1611
198.01	244.1776
198.60	228.0406
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201.83	253.0338
202.84	268.1982
205.31	231.9749

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208.81	220.4571
209.75	206.1911
209.75	206.1911
210.97	224.8262
215.65	216.6423
216.55	225.7227
218.09	229.6238
222.10	215.3338
223.80	209.4221
226.40	201.8703
227.00	218.1442
227.08	205.5919
227.20	202.9227
228.16	210.2969
228.18	210.3004
228.18	210.3004
231.56	0.0000
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236.00	211.4879
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238.63	215.9944
238.63	215.9944
238.63	215.9944
239.00	216.0670
240.98	216.4592
241.98	216.6571
241.98	216.6571
241.98	216.6571
244.69	173.7528
245.39	178.2448
247.94	171.5402
248.90	176.7910
249.79	165.9314
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252.85	175.5739
254.15	0.0000
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256.20	186.2311
260.50	166.5692
260.90	162.9241
262.80	173.3893
264.65	169.6418
268.24	163.9473
268.79	165.5163
269.46	186.4960
269.46	186.4960
269.46	186.4960
269.46	186.4960
271.23	147.5512
273.65	149.7217
276.40	148.1877
277.35	151.1193
277.60	151.7145
277.60	151.7145
278.00	163.7847
278.60	154.8470
279.20	162.4430
279.53	160.9833
280.46	168.6344
281.68	188.3942
283.67	143.4115
284.30	155.7575
285.00	158.6792
285.90	157.8493
286.10	158.8202
286.10	158.8202
287.40	161.8233
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290.67	157.8840
290.80	171.5636
291.72	171.6905
293.26	0.0000
293.70	152.1777
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295.21	158.4527

295.21	158.4527
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296.50	160.1378
297.23	160.2301
298.57	160.3993
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300.09	157.5302
300.09	157.5302
300.12	157.5327
301.29	165.3302
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303.91	136.5224
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304.40	138.1069
304.84	141.9929
306.84	149.8967
308.46	136.6135
311.98	130.2271
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319.02	144.4938
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323.87	161.5572
323.87	161.5572
323.87	161.5572
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334.30	131.7996
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338.28	132.7650
338.28	132.7650
338.28	132.7650
338.32	132.7691
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338.32	132.7691
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340.57	127.6620
344.27	118.5150
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351.92	133.4484
351.92	133.4484
355.39	0.0000
356.01	108.3335
364.48	113.1655
366.43	93.2597
367.43	104.3602
367.94	0.0000
369.80	131.6616
374.96	115.9774
383.85	109.5524
387.95	112.8953
388.63	105.8218
391.69	114.1858
391.69	114.1858
392.90	113.2527
398.62	98.3042
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401.10	125.1237
401.81	125.1796
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411.60	119.7489
413.65	134.3700
414.70	111.7029
415.30	98.2935

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433.93	102.5384
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439.89	85.0490
443.98	85.2529
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445.03	82.1454
445.03	82.1454
445.03	82.1454
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511.85	87.4030
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602.71	89.0901
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609.31	82.4875
609.31	82.4875
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621.84	78.3469
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661.65	70.3455
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666.33	85.5213
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695.00	67.5315
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696.49	73.2816
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722.89	70.5422
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969.11	57.7205
969.11	57.7205
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1048.07	37.6284

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1078.86	43.3945
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1175.09	51.0769
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1368.53	0.0000
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1395.20	23.5557
1407.95	18.7039
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1436.60	17.8367
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1750.46	0.0000
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1764.49	13.7987
1764.49	13.7987
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1771.40	12.7544
1791.20	0.0000
1808.65	7.4930

1836.01

6.4556

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630006

Total Uranium Activity	1.8259E+00	ug/g
Total Uranium Counting Unc.	4.8794E+00	ug/g
Total Uranium Tpu	2.4895E-06	ug/g
Total Uranium Mda	4.4104E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937702                          SAMPLE ID   : G243630006
*  ANALYST       : MXR1                             DETECTOR    : GAM10
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 7-JAN-2010 13:23:09.64          SAMPLE ALQT  : 134.780 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.613E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.092E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.288E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.106E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:24:24.44

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630007.CNF;1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:23:35.
Sample ID        : G243630007 Sample quantity : 1.20950E+02 GRAM
Detector name    : GAM11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.66 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 937702 Detector SN# :
Matrix Spike ID  : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.52*	46	413	0.89	91.89	88	9	6.44E-03	82.5	
2	0	63.01*	95	344	0.81	124.90	122	6	1.31E-02	34.0	
3	2	74.68	456	376	0.90	148.25	143	14	6.34E-02	7.9	1.33E+00
4	2	76.96	736	363	0.86	152.82	143	14	1.02E-01	5.4	
5	6	84.12	144	434	1.43	167.15	163	29	2.00E-02	27.4	3.01E+00
6	6	87.04	344	325	1.18	173.00	163	29	4.78E-02	10.3	
7	6	89.67	259	354	1.40	178.26	163	29	3.60E-02	14.6	
8	6	92.65*	377	375	1.46	184.22	163	29	5.24E-02	11.5	
9	0	128.45	70	354	0.97	255.87	253	8	9.77E-03	47.8	
10	0	153.71	76	285	1.87	306.45	303	8	1.05E-02	40.3	
11	0	185.90*	228	288	1.18	370.87	367	10	3.17E-02	16.2	
12	0	208.79*	145	193	1.13	416.68	413	7	2.02E-02	18.2	
13	2	238.33*	1343	160	1.01	475.80	469	19	1.86E-01	3.2	2.75E+00
14	2	240.64	173	171	1.25	480.43	469	19	2.40E-02	19.0	
15	2	241.72	201	145	1.05	482.58	469	19	2.79E-02	13.4	
16	0	270.06	109	264	1.11	539.30	533	12	1.51E-02	31.4	
17	0	277.23	83	185	1.05	553.66	549	10	1.15E-02	32.9	
18	2	294.84*	405	126	1.09	588.90	582	24	5.63E-02	6.8	2.73E+00
19	2	299.68	116	118	1.32	598.59	582	24	1.62E-02	19.9	
20	2	327.70	98	102	1.36	654.67	648	32	1.37E-02	21.2	1.92E+00
21	2	337.88*	278	105	1.20	675.04	648	32	3.86E-02	8.7	
22	0	351.52*	740	163	1.13	702.33	698	11	1.03E-01	5.0	
23	0	462.29	77	173	1.71	924.01	920	15	1.07E-02	38.5	
24	0	510.25*	100	136	1.39	1020.01	1013	15	1.39E-02	31.1	
25	0	582.64*	350	101	1.12	1164.87	1160	12	4.86E-02	8.1	
26	0	608.73*	538	128	1.43	1217.08	1209	16	7.48E-02	6.4	
27	0	661.04	182	45	1.31	1321.75	1317	10	2.53E-02	10.1	
28	0	726.77	126	52	1.18	1453.28	1447	13	1.75E-02	14.8	
29	0	767.99	14	51	1.08	1535.77	1535	6	1.92E-03	97.6	
30	0	785.69*	59	48	1.52	1571.17	1565	14	8.19E-03	28.8	
31	0	794.89	33	58	0.99	1589.59	1584	10	4.56E-03	47.3	
32	0	859.92	64	30	1.33	1719.70	1715	10	8.89E-03	20.3	
33	0	910.57*	279	76	1.39	1821.05	1813	16	3.87E-02	9.3	
34	0	933.36	36	27	1.51	1866.66	1863	8	5.04E-03	29.6	
35	7	963.87	50	71	2.26	1927.70	1923	27	7.01E-03	32.5	1.93E+00
36	7	968.09*	152	53	1.48	1936.14	1923	27	2.11E-02	12.2	
37	0	1119.40*	88	32	1.92	2238.89	2233	12	1.22E-02	17.5	
38	0	1459.56*	865	13	1.93	2919.41	2911	17	1.20E-01	3.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1586.78	37	12	2.27	3173.90	3169	10	5.09E-03	24.4	
40	0	1629.45*	16	11	1.87	3259.25	3250	13	2.21E-03	49.8	
41	0	1728.40	37	6	2.05	3457.18	3451	13	5.17E-03	21.5	
42	0	1763.24*	83	14	1.74	3526.87	3517	17	1.15E-02	15.2	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630007.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:23:35
 Sample ID : G243630007 Sample quantity : 120.95 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA11 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.66 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	*	2.051E+01	2.296E+00	5.171E-01	4.471E-02	39.662
CD-109	+	88.03	*	4.341E+00	9.852E-01	9.136E-01	8.664E-02	4.751
SN-126	+	64.28		7.214E-01	5.018E-01	6.057E-01	8.786E-02	1.191
	+	86.94		1.771E+00	8.216E-01	3.757E-01	1.560E-01	4.715
	+	87.57	*	4.261E-01	9.670E-02	8.996E-02	8.486E-03	4.736
BA-137M	+	661.65	*	2.619E-01	5.843E-02	5.914E-02	5.596E-03	4.429
CS-137	+	661.65	*	2.769E-01	6.178E-02	6.252E-02	5.925E-03	4.429
RE-188	+	155.03	*	2.689E-01	2.182E-01	2.440E-01	2.276E-02	1.102
		477.96		-3.412E-01	2.729E+00	4.510E+00	4.861E-01	-0.076
		633.10		1.834E-01	2.503E+00	4.115E+00	4.033E-01	0.045
TL-208	+	277.35		8.085E-01	5.509E-01	5.477E-01	9.711E-02	1.476
	+	510.84		4.860E-01	3.096E-01	1.906E-01	2.584E-02	2.549
	+	583.14	*	4.845E-01	9.405E-02	5.312E-02	5.737E-03	9.121
	+	860.37		8.269E-01	3.468E-01	3.846E-01	4.006E-02	2.150
BI-210	+	46.50	*	2.352E+00	3.886E+00	3.242E+00	3.018E-01	0.726
PB-210	+	46.50	*	2.352E+00	3.886E+00	3.242E+00	3.018E-01	0.726
PO-210	+	46.50	*	2.352E+00	3.885E+00	3.242E+00	2.733E-01	0.726
BI-211		72.87		6.804E-01	2.779E+00	4.078E+00	3.239E-01	0.167
	+	351.07	*	4.524E+00	7.485E-01	2.960E-01	3.905E-02	15.286
BI-212	+	727.18	*	1.490E+00	4.698E-01	3.911E-01	4.274E-02	3.810
	+	785.46		4.459E+00	2.603E+00	2.637E+00	2.583E-01	1.691
		1620.62		2.759E-01	1.272E+00	1.989E+00	1.670E-01	0.139
PB-212	+	74.81		2.292E+00	4.589E-01	4.427E-01	5.476E-02	5.176
	+	77.11		2.112E+00	2.885E-01	2.537E-01	2.109E-02	8.322
	+	87.30		1.971E+00	4.887E-01	4.169E-01	5.721E-02	4.727
	+	238.63	*	1.792E+00	2.749E-01	8.090E-02	1.133E-02	22.145
	+	300.09		2.399E+00	1.029E+00	1.071E+00	1.717E-01	2.240
PO-212	+	74.81		2.292E+00	4.589E-01	4.427E-01	5.476E-02	5.176
	+	77.11		2.112E+00	2.885E-01	2.537E-01	2.109E-02	8.322
	+	87.30		1.971E+00	4.887E-01	4.169E-01	5.721E-02	4.727
		115.19		2.538E+00	2.932E+00	5.156E+00	4.369E-01	0.492
	+	238.63	*	1.792E+00	2.749E-01	8.090E-02	1.133E-02	22.145
	+	300.09		2.399E+00	1.029E+00	1.071E+00	1.717E-01	2.240
BI-214	+	609.31	*	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-214	+	1120.29		1.176E+00	4.303E-01	3.775E-01	4.076E-02	3.117
	+	1764.49		1.521E+00	4.802E-01	2.473E-01	2.038E-02	6.150
	+	74.81		3.949E+00	7.580E-01	7.628E-01	8.375E-02	5.176
	+	77.11		3.620E+00	5.663E-01	4.350E-01	4.904E-02	8.322
	+	87.30		3.376E+00	8.092E-01	7.141E-01	8.682E-02	4.727
PO-214	+	241.98		1.612E+00	4.908E-01	4.874E-01	7.101E-02	3.307
	+	295.21		1.465E+00	3.110E-01	1.875E-01	3.058E-02	7.812
	+	351.92	*	1.574E+00	2.730E-01	1.032E-01	1.460E-02	15.253
	+	74.81		3.949E+00	7.580E-01	7.628E-01	8.375E-02	5.176
	+	77.11		3.620E+00	5.663E-01	4.350E-01	4.904E-02	8.322
PO-216	+	87.30		3.376E+00	8.092E-01	7.141E-01	8.682E-02	4.727
	+	241.98		1.612E+00	4.908E-01	4.874E-01	7.101E-02	3.307
	+	295.21		1.465E+00	3.110E-01	1.875E-01	3.058E-02	7.812
	+	351.92	*	1.574E+00	2.730E-01	1.032E-01	1.460E-02	15.253
	+	74.81		2.292E+00	4.589E-01	4.427E-01	5.476E-02	5.176
PO-218	+	77.11		2.112E+00	2.885E-01	2.537E-01	2.109E-02	8.322
	+	87.30		1.971E+00	4.887E-01	4.169E-01	5.721E-02	4.727
	+	238.63	*	1.792E+00	2.749E-01	8.090E-02	1.133E-02	22.145
	+	300.09		2.399E+00	1.029E+00	1.071E+00	1.717E-01	2.240
	+	74.81		3.949E+00	7.580E-01	7.628E-01	8.375E-02	5.176
RA-224	+	77.11		3.620E+00	5.663E-01	4.350E-01	4.904E-02	8.322
	+	87.30		3.376E+00	8.092E-01	7.141E-01	8.682E-02	4.727
	+	241.98		1.612E+00	4.908E-01	4.874E-01	7.101E-02	3.307
	+	295.21		1.465E+00	3.110E-01	1.875E-01	3.058E-02	7.812
	+	351.92	*	1.574E+00	2.730E-01	1.032E-01	1.460E-02	15.253
RA-226	+	240.98	*	2.621E+00	1.057E+00	9.210E-01	1.233E-01	2.845
AC-228	+	609.31	*	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
	+	1120.29		1.176E+00	4.303E-01	3.775E-01	4.076E-02	3.117
	+	1764.49		1.521E+00	4.802E-01	2.473E-01	2.038E-02	6.150
	+	338.32		1.874E+00	8.614E-01	3.466E-01	1.475E-01	5.407
	+	911.07	*	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
RA-228	+	969.11		1.635E+00	5.569E-01	3.677E-01	8.714E-02	4.447
	+	338.32		1.874E+00	8.614E-01	3.466E-01	1.475E-01	5.407
	+	911.07	*	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
	+	969.11		1.635E+00	5.569E-01	3.677E-01	8.714E-02	4.447
	+	74.81		2.329E+00	4.132E-01	4.498E-01	3.680E-02	5.176
TH-228	+	77.11		2.146E+00	2.932E-01	2.578E-01	2.143E-02	8.322
	+	87.30		2.002E+00	4.545E-01	4.236E-01	3.982E-02	4.727
	+	238.63	*	1.820E+00	2.793E-01	8.220E-02	1.151E-02	22.145
	+	300.09		2.437E+00	1.766E+00	1.088E+00	6.586E-01	2.240
	+	609.31	*	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
TH-230	+	1120.29		1.176E+00	4.303E-01	3.774E-01	4.076E-02	3.117
	+	1764.49		1.521E+00	4.802E-01	2.473E-01	2.038E-02	6.150
	+	338.32		1.874E+00	4.126E-01	3.466E-01	4.674E-02	5.407
	+	911.07	*	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
	+	969.11		1.635E+00	5.569E-01	3.677E-01	8.714E-02	4.447
TH-232	+	63.29	*	1.823E+00	1.280E+00	1.563E+00	2.719E-01	1.166
	+	92.38		3.068E+00	9.038E-01	5.982E-01	1.097E-01	5.129
	+	609.31	*	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
	+	1120.29		1.176E+00	4.303E-01	3.775E-01	4.076E-02	3.117
	+	1764.49		1.521E+00	4.802E-01	2.473E-01	2.038E-02	6.150
U-234	+	338.32		1.874E+00	8.614E-01	3.466E-01	1.475E-01	5.407
	+	911.07	*	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
	+	969.11		1.635E+00	5.569E-01	3.677E-01	8.714E-02	4.447
	+	63.29	*	1.823E+00	1.280E+00	1.563E+00	2.719E-01	1.166
	+	92.38		3.068E+00	9.038E-01	5.982E-01	1.097E-01	5.129

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1120.29		1.176E+00	4.303E-01	3.774E-01	4.076E-02	3.117
	+	1764.49		1.521E+00	4.802E-01	2.473E-01	2.038E-02	6.150
NP-237	+	86.50	*	1.251E+00	3.838E-01	2.663E-01	6.027E-02	4.699
		95.87		5.524E-01	8.106E-01	1.192E+00	2.952E-01	0.463
U-238	+	63.29	*	1.823E+00	1.280E+00	1.563E+00	2.719E-01	1.166
	+	92.38		3.068E+00	7.610E-01	5.982E-01	5.477E-02	5.129
AM-243	+	74.67	*	3.715E-01	6.579E-02	7.194E-02	5.822E-03	5.164
	+	86.72		4.692E+01	1.065E+01	9.968E+00	9.301E-01	4.707
		117.66		-1.845E+00	2.976E+00	4.916E+00	4.158E-01	-0.375
		142.18		-1.610E+00	1.511E+01	2.535E+01	2.260E+00	-0.064
ANH-511	+	511.00	*	1.050E-01	6.629E-02	4.119E-02	4.404E-03	2.549

---- 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	*	-1.855E-01	2.881E-01	4.552E-01	5.151E-02	-0.408
NA-22		1274.54	*	-9.037E-03	3.619E-02	5.685E-02	4.669E-03	-0.159
NA-24		1368.53	*	-3.100E-01	3.619E-02	Half-Life too short		
AL-26		1129.67		-3.266E-01	1.461E+00	2.341E+00	1.978E-01	-0.139
		1808.65	*	8.445E-03	2.803E-02	4.900E-02	4.000E-03	0.172
TI-44		67.85		-4.331E-02	3.592E-02	5.343E-02	4.049E-03	-0.811
	+	78.38	*	3.897E-01	5.325E-02	5.590E-02	4.712E-03	6.971
SC-46		889.25	*	-1.680E-02	3.668E-02	5.873E-02	5.785E-03	-0.286
	+	1120.51		2.030E-01	7.301E-02	1.164E-01	9.928E-03	1.743
V-48		944.10		-1.955E-01	8.252E-01	1.343E+00	1.299E-01	-0.146
		983.50	*	2.844E-02	6.678E-02	1.158E-01	1.099E-02	0.246
		1312.09		1.868E-02	7.569E-02	1.267E-01	1.045E-02	0.147
CR-51		320.08	*	1.689E-01	3.677E-01	6.048E-01	8.778E-02	0.279
MN-52		744.21		-1.036E-01	2.501E-01	3.854E-01	3.744E-02	-0.269
		848.13		-3.328E+00	6.528E+00	1.042E+01	1.026E+00	-0.319
		935.52		1.929E-01	3.036E-01	4.776E-01	4.637E-02	0.404
		1246.25		-1.042E+00	7.288E+00	1.169E+01	9.540E-01	-0.089
		1333.61		-7.148E+00	5.188E+00	6.642E+00	5.490E-01	-1.076
		1434.06	*	1.057E-01	2.256E-01	3.915E-01	3.280E-02	0.270
MN-54		834.83	*	-2.206E-04	3.404E-02	5.737E-02	5.649E-03	-0.004
CO-56		846.75	*	-1.684E-02	3.687E-02	5.943E-02	5.856E-03	-0.283
		977.42		-2.858E-01	3.100E+00	4.421E+00	4.207E-01	-0.065
		1037.82		5.219E-02	2.850E-01	4.810E-01	4.615E-02	0.109
		1175.09		-6.132E-01	1.911E+00	3.014E+00	2.423E-01	-0.203
		1238.25		1.487E-01	8.946E-02	1.645E-01	1.384E-02	0.904
		1360.21		-6.654E-02	1.056E+00	1.686E+00	1.400E-01	-0.039
		1771.40		-2.675E-02	1.844E-01	2.941E-01	2.420E-02	-0.091
CO-57		122.06	*	-3.798E-03	2.042E-02	3.440E-02	2.910E-03	-0.110
		136.48		-6.408E-02	1.777E-01	2.951E-01	2.772E-02	-0.217
CO-58		810.76	*	1.028E-03	3.555E-02	5.702E-02	5.614E-03	0.018
FE-59		142.65		7.205E-01	2.405E+00	4.031E+00	3.600E-01	0.179
		192.34		3.389E-01	8.437E-01	1.421E+00	2.132E-01	0.238
		1099.22	*	-5.814E-02	8.969E-02	1.376E-01	1.293E-02	-0.423

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.56			-1.276E-02	1.114E-01	1.782E-01	1.682E-02	-0.072
	1173.22			-2.997E-02	3.941E-02	5.883E-02	4.727E-03	-0.509
	1332.49	*		-4.568E-02	3.570E-02	4.670E-02	3.859E-03	-0.978
ZN-65	1115.52	*		2.988E-02	9.688E-02	1.440E-01	1.236E-02	0.207
GE-68	1077.35	*		1.246E+00	1.195E+00	2.164E+00	1.922E-01	0.576
AS-73	53.44	*		-5.007E-01	5.680E-01	8.429E-01	6.330E-02	-0.594
AS-74	595.88	*		-3.500E-02	8.861E-02	1.403E-01	1.427E-02	-0.249
SE-75	634.78			1.591E-01	3.317E-01	5.648E-01	5.525E-02	0.282
	66.05			-6.545E-01	4.043E+00	5.836E+00	5.546E-01	-0.112
	96.73			-8.267E-01	7.162E-01	9.274E-01	1.282E-01	-0.891
BR-77	121.11			1.743E-02	1.058E-01	1.811E-01	2.009E-02	0.096
	136.00			3.952E-04	3.245E-02	5.483E-02	4.827E-03	0.007
	198.60			-1.745E+00	1.630E+00	2.472E+00	2.956E-01	-0.706
	264.65	*		-3.355E-02	4.502E-02	6.051E-02	8.895E-03	-0.554
	279.53			1.415E-03	1.073E-01	1.547E-01	2.421E-02	0.009
	303.91			5.540E-02	1.991E+00	2.852E+00	4.741E-01	0.019
	400.65			6.668E-02	2.338E-01	4.022E-01	5.145E-02	0.166
	87.88	+		1.232E+03	2.797E+02	3.806E+02	3.605E+01	3.238
	200.40			-2.213E+01	1.800E+02	2.952E+02	3.339E+01	-0.075
	239.00	+		3.786E+02	5.555E+01	5.189E+01	6.895E+00	7.296
	249.79			-2.816E+01	7.611E+01	1.208E+02	1.675E+01	-0.233
	281.68			6.615E+01	1.211E+02	1.815E+02	2.799E+01	0.364
	297.23			6.665E+01	6.405E+01	1.083E+02	1.624E+01	0.615
	303.76			2.619E+01	2.231E+02	3.224E+02	4.772E+01	0.081
	439.47			1.593E+02	1.873E+02	3.300E+02	3.559E+01	0.483
	484.57			-1.682E+02	2.761E+02	4.315E+02	4.646E+01	-0.390
	520.65	*		-1.460E-01	1.330E+01	2.204E+01	2.348E+00	-0.007
	574.64			-4.228E+01	2.447E+02	3.966E+02	4.101E+01	-0.107
	578.91			8.641E+00	1.191E+02	1.732E+02	1.785E+01	0.050
	585.48			5.205E+01	2.122E+02	3.148E+02	3.228E+01	0.165
SR-82	755.35			2.055E+02	1.975E+02	3.490E+02	3.400E+01	0.589
	817.79			6.744E+01	1.551E+02	2.598E+02	2.555E+01	0.260
	698.33			2.072E+00	3.292E+01	5.363E+01	5.143E+00	0.039
RB-83	776.49	*		5.489E-02	3.719E-01	6.056E-01	5.923E-02	0.091
	1395.20			-1.547E+01	1.167E+01	1.482E+01	1.237E+00	-1.044
	520.41	*		-2.335E-02	6.795E-02	1.097E-01	1.169E-02	-0.213
RB-84	529.64			-9.141E-02	9.327E-02	1.402E-01	1.488E-02	-0.652
	552.65			1.695E-01	1.973E-01	3.453E-01	3.623E-02	0.491
	881.50	*		1.846E-02	6.275E-02	1.084E-01	1.068E-02	0.170
KR-85	513.99	*		2.201E+00	6.978E+00	1.052E+01	1.123E+00	0.209
SR-85	513.99	*		1.139E-02	3.613E-02	5.446E-02	5.817E-03	0.209
RB-86	1076.63	*		7.964E-01	7.803E-01	1.411E+00	1.254E-01	0.564
Y-88	898.02			5.199E-03	4.182E-02	6.966E-02	6.883E-03	0.075
ZR-88	1836.01	*		6.267E-03	3.095E-02	5.308E-02	4.309E-03	0.118
	392.90	*		8.141E-03	2.788E-02	4.804E-02	5.124E-03	0.169
	1204.90	*		-1.110E+01	1.718E+01	2.609E+01	2.112E+00	-0.425
Y-91	702.63	*		8.511E-03	3.110E-02	5.159E-02	4.955E-03	0.165
NB-94	871.10			1.319E-02	2.814E-02	4.954E-02	4.882E-03	0.266
NB-95	765.79	*		3.500E-02	4.849E-02	7.373E-02	7.197E-03	0.475

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	235.69	*		2.784E-02	1.230E-01	1.823E-01	2.545E-02	0.153
ZR-95	724.18			5.137E-02	1.023E-01	1.530E-01	1.582E-02	0.336
	756.15	*		5.631E-02	6.311E-02	1.104E-01	1.162E-02	0.510
NB-97	657.90	*		1.245E-01	6.311E-02	Half-Life	too short	
	1024.50			-3.127E+00	6.311E-02	Half-Life	too short	
ZR-97	254.15			-5.647E+00	6.311E-02	Half-Life	too short	
	355.39			2.338E+00	6.311E-02	Half-Life	too short	
	507.63	*		2.158E+00	6.311E-02	Half-Life	too short	
	602.52			7.481E+00	6.311E-02	Half-Life	too short	
	1021.30			-1.258E+01	6.311E-02	Half-Life	too short	
	1147.95			-3.396E+00	6.311E-02	Half-Life	too short	
	1362.66			7.403E+00	6.311E-02	Half-Life	too short	
	1750.46			3.857E+00	6.311E-02	Half-Life	too short	
MO-99	140.51			-6.598E-01	2.948E+01	4.851E+01	1.347E+01	-0.014
	181.06			-6.799E+00	2.035E+01	3.164E+01	6.070E+00	-0.215
	366.43			-2.411E+01	1.022E+02	1.587E+02	1.923E+01	-0.152
	739.58	*		1.253E+00	1.327E+01	2.159E+01	3.418E+00	0.058
	778.00			-6.963E+00	3.971E+01	6.253E+01	6.117E+00	-0.111
TC-99M	140.51	*		-1.019E+10	3.971E+01	Half-Life	too short	
RH-101	+	127.23		4.441E-02	4.260E-02	4.717E-02	4.029E-03	0.942
	198.01	*		1.236E-03	2.976E-02	4.833E-02	5.409E-03	0.026
	325.23			3.081E-02	2.218E-01	3.192E-01	4.479E-02	0.097
RH-102	418.52			6.712E-02	2.692E-01	4.607E-01	4.953E-02	0.146
	475.06	*		-2.549E-02	2.463E-02	3.727E-02	4.018E-03	-0.684
	631.29			-1.066E-02	4.743E-02	7.573E-02	7.437E-03	-0.141
	697.49			1.121E-02	7.307E-02	1.200E-01	1.150E-02	0.093
	+	766.84		6.005E-02	1.174E-01	1.929E-01	1.884E-02	0.311
	1046.59			-3.293E-04	1.020E-01	1.687E-01	1.536E-02	-0.002
	1112.84			6.359E-02	2.600E-01	3.828E-01	3.290E-02	0.166
RU-103	497.08	*		-2.412E-02	3.534E-02	5.504E-02	8.553E-03	-0.438
	610.33			1.162E+01	2.424E+00	2.891E+00	5.048E-01	4.018
RH-106	511.85			1.067E-01	2.071E-01	3.942E-01	4.214E-02	0.271
	621.84	*		7.331E-02	2.895E-01	4.838E-01	6.886E-02	0.152
	1050.47			-2.224E-02	2.001E+00	3.307E+00	3.002E-01	-0.007
RU-106	511.85			1.067E-01	2.071E-01	3.942E-01	4.214E-02	0.271
	621.84	*		7.331E-02	2.894E-01	4.838E-01	4.800E-02	0.152
	1050.47			-2.224E-02	2.001E+00	3.307E+00	3.002E-01	-0.007
AG-108M	433.93	*		-3.048E-02	3.053E-02	4.705E-02	5.202E-03	-0.648
	614.37			1.084E-02	3.290E-02	4.939E-02	5.081E-03	0.220
	722.95			-4.248E-03	3.970E-02	5.511E-02	5.492E-03	-0.077
AG-110M	657.75	*		1.253E-02	3.230E-02	4.852E-02	4.728E-03	0.258
	677.61			1.399E-01	2.935E-01	4.966E-01	4.838E-02	0.282
	706.67			5.552E-02	1.914E-01	3.179E-01	3.125E-02	0.175
	763.93			-8.930E-02	1.664E-01	2.301E-01	2.295E-02	-0.388
	884.67			-1.821E-02	4.220E-02	6.752E-02	6.816E-03	-0.270
	937.48			5.033E-03	1.066E-01	1.560E-01	1.557E-02	0.032
	1384.27			2.819E-02	1.569E-01	2.597E-01	2.228E-02	0.109
IN-111	171.28			-2.236E-01	1.053E+00	1.736E+00	1.728E-01	-0.129
	245.39	*		-9.545E-01	1.320E+00	1.798E+00	2.451E-01	-0.531

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IN-113M	391.69	*		-3.207E-02	4.030E-02	6.440E-02	7.004E-03	-0.498
SN-113	391.69	*		-3.207E-02	4.030E-02	6.440E-02	7.004E-03	-0.498
IN-114M	190.27	*		-1.864E-01	1.769E-01	2.416E-01	2.614E-02	-0.771
CD-115	260.90			-4.651E+01	1.605E+02	2.556E+02	3.698E+01	-0.182
	492.35			2.647E+01	4.135E+01	7.225E+01	7.766E+00	0.366
	527.90	*		-1.230E+01	1.312E+01	1.988E+01	2.112E+00	-0.619
SN-117M	156.02			-5.960E-01	2.255E+00	3.339E+00	3.126E-01	-0.179
	158.56	*		1.205E-03	5.146E-02	8.241E-02	7.788E-03	0.015
SB-122	563.90	*		1.682E+00	2.371E+00	4.123E+00	4.295E-01	0.408
	692.80			1.858E+01	4.804E+01	8.075E+01	7.730E+00	0.230
I-123	159.00	*		1.831E+00	4.804E+01	Half-Life	too short	
	528.96			-9.485E+02	4.804E+01	Half-Life	too short	
TE-123M	159.00	*		2.760E-03	2.417E-02	4.068E-02	3.870E-03	0.068
I-124	602.71	*		3.670E-01	7.912E-01	1.197E+00	1.210E-01	0.307
	722.78			-4.490E-01	4.853E+00	6.752E+00	6.524E-01	-0.067
	1325.50			-6.181E+00	3.331E+01	5.240E+01	4.327E+00	-0.118
	1376.25			5.062E+01	4.259E+01	7.682E+01	6.393E+00	0.659
	1509.49			3.329E+01	1.921E+01	3.820E+01	3.215E+00	0.871
	1691.02			-1.281E+00	3.569E+00	5.433E+00	4.530E-01	-0.236
SB-124	602.71			1.845E-02	3.977E-02	6.018E-02	6.083E-03	0.307
	645.85			2.834E-01	4.702E-01	8.067E-01	8.164E-02	0.351
	709.31			-8.268E-01	2.548E+00	3.987E+00	3.837E-01	-0.207
	713.82			-1.962E-02	1.460E+00	2.357E+00	3.014E-01	-0.008
	722.78			-3.272E-02	3.536E-01	4.920E-01	4.835E-02	-0.067
	968.20	+		1.702E+01	4.469E+00	7.561E+00	7.231E-01	2.251
	1045.16			-6.972E-01	2.272E+00	3.635E+00	3.313E-01	-0.192
	1325.50			-4.810E-01	2.592E+00	4.078E+00	3.367E-01	-0.118
	1368.21			-4.695E-01	1.689E+00	2.613E+00	3.470E-01	-0.180
	1436.60			-2.662E+00	3.349E+00	4.576E+00	3.835E-01	-0.582
	1691.02	*		-2.202E-02	6.135E-02	9.338E-02	8.115E-03	-0.236
SB-125	427.89	*		-4.231E-02	8.229E-02	1.332E-01	1.452E-02	-0.318
	463.38	+		7.338E-01	5.707E-01	5.720E-01	6.486E-02	1.283
	600.56			6.977E-03	1.649E-01	2.622E-01	2.798E-02	0.027
	635.90			-4.592E-02	2.501E-01	4.011E-01	4.167E-02	-0.114
TE-125M	109.28	*		5.370E+00	7.426E+00	1.302E+01	1.337E+00	0.412
I-126	388.63			4.652E-02	1.956E-01	3.361E-01	3.646E-02	0.138
	666.33	*		1.844E-01	1.987E-01	3.136E-01	2.973E-02	0.588
	753.82			4.436E-01	1.467E+00	2.430E+00	2.366E-01	0.183
SB-126	223.80			4.777E-01	3.752E+00	6.193E+00	7.735E-01	0.077
	278.60	+		5.634E+00	3.807E+00	4.008E+00	6.192E-01	1.406
	296.50			7.378E+00	1.999E+00	3.201E+00	4.808E-01	2.305
	414.70			-3.883E-02	7.316E-02	1.188E-01	1.276E-02	-0.327
	415.30			2.268E+00	5.976E+00	1.032E+01	1.108E+00	0.220
	555.20			-2.758E+00	4.077E+00	6.341E+00	6.642E-01	-0.435
	573.80			-4.186E-01	1.005E+00	1.593E+00	1.649E-01	-0.263
	593.00			2.480E-01	9.028E-01	1.516E+00	1.545E-01	0.164
	656.30			-1.232E+00	3.489E+00	4.721E+00	4.499E-01	-0.261
	666.33			7.723E-02	8.320E-02	1.313E-01	1.245E-02	0.588
	675.00			1.945E+00	2.077E+00	3.629E+00	3.451E-01	0.536

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SB-127		695.00		1.590E-02	7.736E-02	1.276E-01	1.223E-02	0.125
		697.00		1.234E-01	2.575E-01	4.350E-01	4.170E-02	0.284
		720.50	*	1.096E-01	1.494E-01	2.317E-01	2.237E-02	0.473
		856.80		4.079E-01	4.547E-01	7.484E-01	7.375E-02	0.545
		989.30		1.035E-01	1.134E+00	1.905E+00	1.801E-01	0.054
		1034.80		2.679E+00	8.238E+00	1.412E+01	1.296E+00	0.190
		1213.00		-3.024E+00	4.805E+00	7.352E+00	5.962E-01	-0.411
		61.10		3.429E+00	5.170E+01	7.601E+01	7.913E+00	0.045
		252.40		1.106E+00	4.421E+00	7.261E+00	3.161E+00	0.152
		290.80		-1.006E+01	2.672E+01	3.702E+01	6.275E+00	-0.272
		411.60		-1.116E+01	1.351E+01	2.135E+01	3.664E+00	-0.523
		444.90		2.006E+00	1.003E+01	1.707E+01	2.448E+00	0.117
		473.00		2.123E-01	1.673E+00	2.823E+00	4.129E-01	0.075
		543.00		-1.788E+01	1.720E+01	2.534E+01	4.011E+00	-0.706
		603.60		1.254E+01	1.357E+01	2.144E+01	2.960E+00	0.585
		685.20	*	1.094E+00	1.405E+00	2.443E+00	3.020E-01	0.448
		698.50		2.785E+00	1.708E+01	2.805E+01	4.645E+00	0.099
		722.20		-1.001E+00	3.396E+01	4.771E+01	5.843E+00	-0.021
XE-127		783.80		4.848E+00	4.993E+00	7.836E+00	1.058E+00	0.619
		57.60		-3.770E-01	4.438E+00	7.044E+00	5.070E-01	-0.054
		145.22		-3.843E-01	6.055E-01	9.702E-01	8.739E-02	-0.396
		172.10		-7.226E-02	1.045E-01	1.679E-01	1.677E-02	-0.430
I-131		202.84	*	1.648E-02	4.159E-02	6.991E-02	7.990E-03	0.236
		374.96		-1.836E-01	1.897E-01	2.736E-01	3.187E-02	-0.671
		80.18		4.201E+00	4.629E+00	6.220E+00	5.392E-01	0.675
		284.30		9.438E-01	1.566E+00	2.607E+00	4.072E-01	0.362
TE-132		364.48	*	5.282E-02	1.212E-01	1.978E-01	2.485E-02	0.267
		636.97		1.178E-02	1.509E+00	2.465E+00	2.512E-01	0.005
		722.89		-7.390E-01	7.254E+00	1.008E+01	9.794E-01	-0.073
		49.72		-3.407E+00	1.583E+01	2.308E+01	2.445E+00	-0.148
BA-133		111.76		-1.450E+01	2.888E+01	4.816E+01	5.307E+00	-0.301
		116.30		-2.177E+00	2.696E+01	4.575E+01	5.028E+00	-0.048
		228.16	*	-4.015E-01	7.577E-01	1.182E+00	2.179E-01	-0.340
		53.15		-1.820E+00	2.425E+00	3.629E+00	2.736E-01	-0.501
I-133		79.62		1.797E-01	1.286E+00	1.639E+00	2.488E-01	0.110
		81.00		-5.318E-02	8.376E-02	1.156E-01	1.840E-02	-0.460
	+	276.40		7.991E-01	5.478E-01	6.278E-01	1.206E-01	1.273
		302.84		1.069E-01	1.347E-01	2.051E-01	3.681E-02	0.521
CS-134		356.01	*	5.921E-03	4.476E-02	6.391E-02	1.031E-02	0.093
		383.85		5.334E-02	2.633E-01	4.521E-01	6.528E-02	0.118
	+	510.53		2.267E+00	2.633E-01	Half-Life	too short	
		529.87	*	-1.035E-02	2.633E-01	Half-Life	too short	
		706.58		2.452E-01	2.633E-01	Half-Life	too short	
		856.28		1.145E+00	2.633E-01	Half-Life	too short	
		875.33		-7.410E-02	2.633E-01	Half-Life	too short	
		1236.41		4.722E-01	2.633E-01	Half-Life	too short	
		1298.22		-2.472E-03	2.633E-01	Half-Life	too short	
		475.35		-1.089E+00	1.611E+00	2.532E+00	2.730E-01	-0.430
		563.23		4.143E-01	3.216E-01	5.806E-01	6.091E-02	0.713

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CS-135 I-135		569.32		5.023E-02	1.893E-01	3.176E-01	3.328E-02	0.158
		604.70		2.712E-03	3.470E-02	5.029E-02	5.083E-03	0.054
	+	795.84	*	6.524E-02	6.204E-02	8.151E-02	8.041E-03	0.800
		801.93		2.700E-02	4.012E-01	6.487E-01	6.396E-02	0.042
		1038.57		3.583E-01	3.533E+00	5.913E+00	5.415E-01	0.061
		1167.94		1.719E+00	2.446E+00	4.270E+00	3.453E-01	0.402
		1365.15		-1.251E+00	1.196E+00	1.607E+00	1.401E-01	-0.779
		268.24	*	2.545E-01	1.621E-01	2.553E-01	4.005E-02	0.997
		288.45		2.532E+11	1.621E-01	Half-Life	too short	
		417.63		-7.639E+09	1.621E-01	Half-Life	too short	
		546.56		-5.616E+10	1.621E-01	Half-Life	too short	
		836.80		3.145E+10	1.621E-01	Half-Life	too short	
		1038.76		2.887E+10	1.621E-01	Half-Life	too short	
		1124.00		-1.172E+11	1.621E-01	Half-Life	too short	
		1131.51		-2.368E+10	1.621E-01	Half-Life	too short	
		1260.41	*	2.869E+09	1.621E-01	Half-Life	too short	
		1457.56		7.975E+12	1.621E-01	Half-Life	too short	
		1678.03		2.632E+10	1.621E-01	Half-Life	too short	
		1706.46		-9.702E+10	1.621E-01	Half-Life	too short	
CS-136		1791.20		-6.097E+10	1.621E-01	Half-Life	too short	
		66.91		7.820E-02	6.184E-01	9.790E-01	1.454E-01	0.080
	+	86.29		5.843E+00	1.438E+00	1.855E+00	2.467E-01	3.150
	+	153.22		1.075E+00	8.735E-01	1.088E+00	1.112E-01	0.988
		163.89		-1.698E-01	9.933E-01	1.620E+00	1.714E-01	-0.105
		176.55		-1.234E-01	3.400E-01	5.556E-01	5.895E-02	-0.222
		273.65		9.691E-03	5.967E-01	6.783E-01	1.052E-01	0.014
		340.57		-3.701E-02	1.371E-01	1.889E-01	2.559E-02	-0.196
		818.51		7.273E-02	6.849E-02	1.218E-01	1.199E-02	0.597
		1048.07	*	2.327E-02	9.861E-02	1.674E-01	1.580E-02	0.139
CE-139 BA-140		1235.34		1.857E-01	6.175E-01	1.033E+00	1.188E-01	0.180
		165.85	*	-3.274E-03	2.578E-02	4.279E-02	4.159E-03	-0.077
		162.64		-2.162E-01	6.952E-01	1.126E+00	1.132E-01	-0.192
		304.84		-1.045E-01	1.279E+00	1.811E+00	5.522E-01	-0.058
		423.70		-5.164E-01	1.856E+00	3.053E+00	1.009E+00	-0.169
LA-140		537.32	*	6.256E-02	2.607E-01	4.380E-01	1.476E-01	0.143
	+	328.77		8.623E-01	3.859E-01	5.582E-01	7.923E-02	1.545
		432.53		3.488E-01	1.917E+00	3.244E+00	3.606E-01	0.108
		487.03		5.078E-02	1.254E-01	2.155E-01	2.412E-02	0.236
		751.79		-1.115E+00	1.775E+00	2.673E+00	2.822E-01	-0.417
		815.85		-3.399E-01	3.247E-01	4.528E-01	4.852E-02	-0.751
		867.82		-5.554E-01	1.202E+00	1.917E+00	1.967E-01	-0.290
		919.63		7.394E-01	2.432E+00	4.200E+00	4.871E-01	0.176
		925.24		-3.311E-02	9.793E-01	1.632E+00	1.669E-01	-0.020
		1596.49	*	-8.100E-02	8.758E-02	1.242E-01	1.044E-02	-0.652
CE-141 CE-143		145.44	*	-1.401E-02	5.225E-02	8.683E-02	7.958E-03	-0.161
		57.37		2.766E-04	5.225E-02	Half-Life	too short	
		231.56		1.171E-03	5.225E-02	Half-Life	too short	
		293.26	*	1.269E-03	5.225E-02	Half-Life	too short	
	+	350.59		5.763E-02	5.225E-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
		490.36		-1.456E-03	5.225E-02	Half-Life	too short	
		664.57		3.519E-04	5.225E-02	Half-Life	too short	
		721.93		1.161E-03	5.225E-02	Half-Life	too short	
CE-144		80.11		1.886E+00	1.973E+00	2.659E+00	2.287E-01	0.709
		133.54	*	4.263E-03	1.801E-01	2.913E-01	4.546E-02	0.015
PM-144		476.78		-5.380E-02	5.898E-02	9.062E-02	1.036E-02	-0.594
		618.01		-5.930E-03	2.714E-02	4.344E-02	4.417E-03	-0.136
		696.49	*	1.294E-02	3.231E-02	5.420E-02	5.196E-03	0.239
		778.57		-1.462E+00	2.309E+00	3.308E+00	3.237E-01	-0.442
PR-144		696.49	*	8.776E-01	2.191E+00	3.674E+00	3.522E-01	0.239
		1489.15		3.435E+00	8.933E+00	1.600E+01	1.346E+00	0.215
PM-146		453.90	*	-6.227E-03	4.143E-02	6.869E-02	8.612E-03	-0.091
		633.02		9.906E-02	1.229E+00	2.020E+00	7.609E-01	0.049
		735.90		2.455E-02	1.349E-01	2.213E-01	6.407E-02	0.111
		747.13		-1.372E-02	8.669E-02	1.373E-01	2.025E-02	-0.100
ND-147	+	91.11		1.148E+00	3.547E-01	4.352E-01	4.313E-02	2.637
		319.41		-2.900E-01	3.413E+00	5.427E+00	7.737E-01	-0.053
		439.89		3.841E+00	6.228E+00	1.084E+01	1.169E+00	0.354
		531.02	*	1.072E-01	5.195E-01	8.748E-01	1.415E-01	0.123
PM-149		285.90	*	-7.408E+01	1.221E+02	1.879E+02	3.768E+01	-0.394
EU-152		121.78		-1.332E-03	5.884E-02	9.985E-02	9.767E-03	-0.013
		244.69		-1.633E-01	3.189E-01	4.436E-01	6.029E-02	-0.368
		344.27	*	7.929E-03	9.326E-02	1.492E-01	2.023E-02	0.053
		443.98		-3.041E-01	8.573E-01	1.400E+00	1.511E-01	-0.217
		778.89		-1.660E-01	2.806E-01	3.837E-01	3.754E-02	-0.433
		867.32		-3.969E-02	6.880E-01	1.150E+00	1.133E-01	-0.035
	+	964.01		6.246E-01	4.104E-01	6.039E-01	5.788E-02	1.034
		1085.78		1.774E-01	3.709E-01	6.245E-01	5.506E-02	0.284
		1112.02		4.738E-02	3.290E-01	5.190E-01	4.464E-02	0.091
		1407.95		1.025E-01	1.747E-01	3.046E-01	2.545E-02	0.336
GD-153		69.67		-3.323E-01	1.439E+00	2.066E+00	1.591E-01	-0.161
	+	83.37		3.218E+01	1.788E+01	2.028E+01	1.814E+00	1.587
		97.43	*	-9.583E-02	7.688E-02	9.898E-02	8.793E-03	-0.968
		103.18		-6.903E-02	8.275E-02	1.365E-01	1.184E-02	-0.506
EU-154		123.07		-1.891E-03	4.200E-02	7.117E-02	8.006E-03	-0.027
		247.94		1.563E-01	3.086E-01	5.166E-01	8.117E-02	0.303
		591.81		1.355E-01	5.732E-01	9.597E-01	1.236E-01	0.141
		723.30		-9.714E-02	1.814E-01	2.363E-01	2.477E-02	-0.411
		756.87		4.273E-02	6.815E-01	1.104E+00	1.413E-01	0.039
		873.19		5.850E-02	2.566E-01	4.408E-01	5.793E-02	0.133
		996.32		-3.791E-01	3.437E-01	4.917E-01	8.932E-02	-0.771
		1004.76		-2.136E-01	1.855E-01	2.640E-01	3.222E-02	-0.809
		1274.45	*	-2.638E-02	1.009E-01	1.582E-01	1.740E-02	-0.167
EU-155		48.70		5.792E-02	1.574E+00	2.338E+00	1.891E-01	0.025
		60.01		1.127E+00	3.741E+00	5.582E+00	3.983E-01	0.202
	+	86.54		5.133E-01	1.167E-01	1.676E-01	1.574E-02	3.062
		105.31	*	5.030E-02	8.556E-02	1.497E-01	1.306E-02	0.336
TB-160	+	86.79		1.383E+00	3.139E-01	4.516E-01	4.217E-02	3.063
		197.04		2.628E-01	5.078E-01	8.427E-01	9.392E-02	0.312

---- Non-Identified Nuclides ----

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HO-166M		215.65		1.223E-01	6.590E-01	1.093E+00	1.320E-01	0.112
	+	298.57		3.522E-01	1.497E-01	2.130E-01	3.188E-02	1.653
		879.36	*	8.904E-02	1.244E-01	2.228E-01	2.195E-02	0.400
		962.29		1.375E+00	6.340E-01	1.107E+00	1.062E-01	1.242
		966.15		1.392E+00	3.108E-01	5.870E-01	5.619E-02	2.372
		1177.93		-6.536E-02	3.186E-01	5.099E-01	4.102E-02	-0.128
		1271.85		-2.638E-01	5.693E-01	8.640E-01	7.084E-02	-0.305
		80.57		3.680E-02	2.588E-01	3.297E-01	2.851E-02	0.112
	+	184.41		1.597E-01	5.431E-02	6.046E-02	6.375E-03	2.641
		280.46		-1.065E-01	9.112E-02	1.157E-01	1.788E-02	-0.921
		410.95		3.996E-02	2.243E-01	3.827E-01	4.107E-02	0.104
		711.68	*	1.933E-02	5.353E-02	8.961E-02	8.630E-03	0.216
TM-171		752.31		-1.851E-01	2.662E-01	3.974E-01	3.868E-02	-0.466
		810.29		-3.371E-02	5.528E-02	8.216E-02	8.074E-03	-0.410
		51.35		1.364E+01	1.931E+01	3.205E+01	2.479E+00	0.426
		52.39		-3.888E-01	1.061E+01	1.657E+01	1.262E+00	-0.023
		59.40		-6.680E-01	2.029E+01	2.970E+01	2.113E+00	-0.022
LU-176		66.72	*	3.499E+00	2.143E+01	3.399E+01	2.551E+00	0.103
	+	88.36		7.454E-01	2.289E-01	2.931E-01	2.771E-02	2.543
		201.83		-5.438E-03	2.527E-02	4.124E-02	4.692E-03	-0.132
		306.84	*	9.193E-03	2.196E-02	3.619E-02	5.320E-03	0.254
LU-177		401.10		1.830E+00	6.110E+00	1.052E+01	1.125E+00	0.174
		112.95		-1.686E-01	1.434E+00	2.433E+00	2.066E-01	-0.069
LU-177M	+	208.36	*	3.783E+00	1.450E+00	2.156E+00	2.523E-01	1.755
		52.97		-7.256E-01	1.105E+00	1.664E+00	1.257E-01	-0.436
HF-181		54.07		-5.781E-01	5.926E-01	8.751E-01	6.520E-02	-0.661
		61.30		3.106E-01	1.142E+00	1.698E+00	1.223E-01	0.183
		121.62		7.881E-03	3.036E-01	5.164E-01	4.363E-02	0.015
		147.16		-2.918E-01	5.335E-01	8.735E-01	7.921E-02	-0.334
		171.86		-2.870E-01	4.154E-01	6.672E-01	6.656E-02	-0.430
		218.09		1.267E-01	7.682E-01	1.272E+00	1.551E-01	0.100
	+	268.79		2.233E+00	1.441E+00	1.408E+00	2.098E-01	1.586
		319.02		-1.721E-01	2.568E-01	3.901E-01	5.567E-02	-0.441
		367.43		-1.952E-01	8.236E-01	1.277E+00	1.540E-01	-0.153
		413.65	*	-1.311E-02	1.608E-01	2.697E-01	2.896E-02	-0.049
		56.28		4.309E-01	6.698E-01	1.102E+00	8.018E-02	0.391
		57.53		-1.853E-02	3.730E-01	5.930E-01	4.271E-02	-0.031
W-181		65.20		2.177E-01	7.806E-01	1.155E+00	8.560E-02	0.189
		133.02		-9.044E-04	6.279E-02	9.543E-02	8.274E-03	-0.009
		136.25		-6.069E-03	3.858E-01	6.511E-01	5.698E-02	-0.009
		345.85		-1.064E-01	1.951E-01	2.950E-01	3.878E-02	-0.361
		482.03	*	2.859E-03	3.939E-02	6.606E-02	7.115E-03	0.043
		56.28		1.675E-01	2.596E-01	4.270E-01	3.108E-02	0.392
TA-182		57.53		-7.039E-03	1.447E-01	2.300E-01	1.657E-02	-0.031
		65.20	*	8.378E-02	3.004E-01	4.443E-01	3.294E-02	0.189
		67.75		-1.043E-01	8.619E-02	1.282E-01	9.704E-03	-0.813
		100.10		8.828E-02	1.378E-01	2.420E-01	2.124E-02	0.365
	+	152.43		5.279E-01	4.284E-01	5.006E-01	4.625E-02	1.055
		222.10		-1.388E-01	3.124E-01	4.994E-01	6.193E-02	-0.278

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RE-183	1001.68			1.208E+00	1.928E+00	3.362E+00	3.156E-01	0.359
	1121.28			3.517E-01	1.672E-01	2.920E-01	2.488E-02	1.205
	1189.05			-1.669E-01	2.567E-01	3.870E-01	3.121E-02	-0.431
	1221.42	*		-1.243E-01	1.911E-01	2.914E-01	2.367E-02	-0.427
	1230.97			-6.370E-02	4.615E-01	7.309E-01	5.949E-02	-0.087
	57.98			-7.380E-02	1.445E-01	2.242E-01	1.609E-02	-0.329
	59.32			-7.071E-03	8.396E-02	1.225E-01	8.720E-03	-0.058
	67.20			-7.652E-02	1.550E-01	2.383E-01	1.796E-02	-0.321
	162.32	*		5.130E-03	9.386E-02	1.574E-01	1.508E-02	0.033
	208.81	+		3.115E+00	1.194E+00	1.775E+00	2.081E-01	1.755
RE-184	291.72			-3.445E-01	9.896E-01	1.375E+00	2.085E-01	-0.251
	57.98			-2.705E-01	5.294E-01	8.217E-01	5.898E-02	-0.329
	59.32			-2.589E-02	3.074E-01	4.487E-01	3.193E-02	-0.058
	67.20			-2.803E-01	5.678E-01	8.732E-01	6.579E-02	-0.321
	161.27			-1.310E-01	3.041E-01	4.981E-01	4.755E-02	-0.263
	216.55			-5.440E-02	2.374E-01	3.852E-01	4.667E-02	-0.141
	252.85	*		3.118E-02	2.031E-01	3.333E-01	4.676E-02	0.094
	318.01			-2.890E-01	4.364E-01	6.628E-01	9.484E-02	-0.436
	792.07			9.772E-01	1.503E+00	1.724E+00	1.691E-01	0.567
	903.28			4.282E-01	1.075E+00	1.648E+00	1.619E-01	0.260
OS-185	920.93			-4.140E-02	3.681E-01	6.080E-01	5.938E-02	-0.068
	59.72			8.978E-03	2.271E-01	3.338E-01	2.377E-02	0.027
	61.14			1.160E-02	1.251E-01	1.843E-01	1.325E-02	0.063
	69.30			-6.067E-02	2.322E-01	3.624E-01	2.782E-02	-0.167
	592.07			-1.226E-01	2.401E+00	3.924E+00	4.003E-01	-0.031
	646.12	*		3.014E-02	3.909E-02	6.803E-02	6.567E-03	0.443
	717.42			-6.490E-01	8.154E-01	1.204E+00	1.161E-01	-0.539
	874.81			-7.345E-02	5.277E-01	8.657E-01	8.531E-02	-0.085
	880.27			2.077E-01	7.025E-01	1.213E+00	1.195E-01	0.171
	63.58	+		7.395E+01	5.059E+01	7.106E+01	5.202E+00	1.041
W-188	227.08			1.420E+00	1.142E+01	1.858E+01	2.353E+00	0.076
	290.67	*		-2.563E+00	7.853E+00	1.094E+01	1.662E+00	-0.234
	295.96	+		1.127E+00	2.289E-01	2.790E-01	4.206E-02	4.039
	308.46			1.407E-02	8.782E-02	1.424E-01	2.089E-02	0.099
	316.51	*		7.516E-03	3.255E-02	5.290E-02	7.604E-03	0.142
	468.07			1.897E-02	6.624E-02	1.004E-01	1.134E-02	0.189
	604.41			2.117E-01	4.602E-01	6.953E-01	9.759E-02	0.304
	612.46			2.095E-01	6.356E-01	9.510E-01	1.059E-01	0.220
	65.12			3.878E-02	1.382E-01	2.044E-01	1.514E-02	0.190
	66.83			1.007E-02	7.099E-02	1.125E-01	8.449E-03	0.090
AU-195	75.70	+		1.207E+00	2.137E-01	3.723E-01	3.046E-02	3.241
	98.88	*		1.238E-01	1.887E-01	3.135E-01	2.766E-02	0.395
	129.76	+		3.926E+00	3.766E+00	4.486E+00	3.856E-01	0.875
	367.94	*		-3.365E-04	3.766E+00	Half-Life	too short	
	579.30			3.855E-03	3.766E+00	Half-Life	too short	
	828.27			6.856E-03	3.766E+00	Half-Life	too short	
	1205.75			-1.057E-03	3.766E+00	Half-Life	too short	
	68.90			-1.398E+00	4.535E+00	7.063E+00	5.402E-01	-0.198
	70.82			2.373E+00	2.898E+00	4.379E+00	3.409E-01	0.542

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TL-202		80.30		4.736E+00	5.744E+00	7.678E+00	6.619E-01	0.617
		135.34		-1.120E+01	2.626E+01	4.351E+01	3.798E+00	-0.257
		167.43	*	1.137E+00	7.248E+00	1.219E+01	1.192E+00	0.093
		68.90		-1.070E-01	3.472E-01	5.408E-01	4.136E-02	-0.198
		70.82		1.812E-01	2.213E-01	3.343E-01	2.603E-02	0.542
HG-203		80.30		3.617E-01	4.387E-01	5.865E-01	5.055E-02	0.617
		439.56	*	6.227E-02	7.270E-02	1.281E-01	1.382E-02	0.486
		70.83		7.547E-01	9.253E-01	1.393E+00	1.824E-01	0.542
		72.87		1.372E-01	5.607E-01	8.225E-01	1.050E-01	0.167
BI-207		82.60		5.115E-01	9.497E-01	1.405E+00	1.953E-01	0.364
		279.20	*	2.997E-03	4.060E-02	5.880E-02	9.185E-03	0.051
		72.80		2.677E-02	1.618E-01	2.366E-01	1.878E-02	0.113
	+	74.97		6.669E-01	1.181E-01	1.940E-01	1.575E-02	3.437
	+	84.90		4.152E-01	2.307E-01	2.594E-01	2.365E-02	1.600
TL-207		569.67		1.482E-02	2.878E-02	4.919E-02	5.104E-03	0.301
		1063.62	*	-1.661E-02	4.924E-02	7.649E-02	6.871E-03	-0.217
		1770.23		-5.122E-01	4.583E-01	5.786E-01	4.762E-02	-0.885
		81.07		-1.297E-01	1.838E-01	2.534E-01	2.205E-02	-0.512
	+	83.78		2.737E-01	1.521E-01	1.751E-01	1.574E-02	1.564
PO-209		94.90		1.272E-01	1.897E-01	3.040E-01	2.739E-02	0.419
		122.32		-1.540E-01	1.414E+00	2.391E+00	2.175E-01	-0.064
		144.24		9.617E-02	5.951E-01	9.911E-01	9.875E-02	0.097
	+	154.21		6.155E-01	5.001E-01	6.300E-01	6.364E-02	0.977
	+	269.46		5.206E-01	3.360E-01	3.436E-01	5.169E-02	1.515
PB-211		323.87	*	-2.392E-01	6.923E-01	9.491E-01	1.985E-01	-0.252
	+	338.28		7.826E+00	1.855E+00	2.561E+00	4.123E-01	3.056
		445.03		3.735E-01	1.970E+00	3.351E+00	4.598E-01	0.111
		260.50		-7.708E-01	8.815E+00	1.423E+01	2.055E+00	-0.054
		262.80		2.208E+01	2.314E+01	3.944E+01	5.748E+00	0.560
PO-215		896.60	*	-1.693E+00	7.532E+00	1.238E+01	1.218E+00	-0.137
		404.84	*	-6.693E-01	9.489E-01	1.362E+00	8.578E-01	-0.492
		427.08		5.493E-02	1.942E+00	3.190E+00	1.993E+00	0.017
RN-219		831.96		-5.805E-01	1.229E+00	1.774E+00	1.115E+00	-0.327
		81.07		-1.297E-01	1.838E-01	2.534E-01	2.205E-02	-0.512
	+	83.78		2.737E-01	1.521E-01	1.751E-01	1.574E-02	1.564
		94.90		1.272E-01	1.897E-01	3.040E-01	2.739E-02	0.419
		122.32		-1.540E-01	1.414E+00	2.391E+00	2.175E-01	-0.064
RN-220		144.24		9.617E-02	5.951E-01	9.911E-01	9.875E-02	0.097
	+	154.21		6.155E-01	5.001E-01	6.300E-01	6.364E-02	0.977
	+	269.46		5.206E-01	3.360E-01	3.436E-01	5.169E-02	1.515
		323.87	*	-2.392E-01	6.923E-01	9.491E-01	1.985E-01	-0.252
	+	338.28		7.826E+00	1.855E+00	2.561E+00	4.123E-01	3.056
RA-223		445.03		3.735E-01	1.970E+00	3.351E+00	4.598E-01	0.111
	+	271.23		6.680E-01	4.326E-01	4.226E-01	6.790E-02	1.581
RA-223		401.81	*	2.646E-02	3.768E-01	6.397E-01	1.043E-01	0.041
		549.76	*	-4.528E+00	2.521E+01	4.103E+01	4.311E+00	-0.110
		81.07		-1.297E-01	1.838E-01	2.534E-01	2.205E-02	-0.512
RA-223	+	83.78		2.737E-01	1.521E-01	1.751E-01	1.574E-02	1.564
		94.90		1.272E-01	1.897E-01	3.040E-01	2.739E-02	0.419

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-1.540E-01	1.414E+00	2.391E+00	2.175E-01	-0.064
		144.24		9.617E-02	5.951E-01	9.911E-01	9.875E-02	0.097
	+	154.21		6.155E-01	5.001E-01	6.300E-01	6.364E-02	0.977
	+	269.46		5.206E-01	3.360E-01	3.436E-01	5.169E-02	1.515
		323.87	*	-2.392E-01	6.923E-01	9.491E-01	1.985E-01	-0.252
	+	338.28		7.826E+00	1.855E+00	2.561E+00	4.123E-01	3.056
		445.03		3.735E-01	1.970E+00	3.351E+00	4.598E-01	0.111
		79.80		1.830E-01	1.630E+00	2.073E+00	4.453E-01	0.088
		236.00		1.911E-01	2.366E-01	3.608E-01	5.681E-02	0.530
		256.20	*	-2.053E-01	3.583E-01	5.589E-01	1.065E-01	-0.367
		286.10		-8.707E-01	1.518E+00	2.347E+00	4.292E-01	-0.371
	+	299.80		4.445E+00	2.007E+00	2.651E+00	5.650E-01	1.677
TH-227		304.40		-7.340E-01	1.805E+00	2.465E+00	5.423E-01	-0.298
		334.20		-2.316E-01	2.119E+00	3.349E+00	7.408E-01	-0.069
		79.80		1.830E-01	1.630E+00	2.073E+00	4.510E-01	0.088
	+	94.00		1.185E+01	3.777E+00	3.102E+00	6.811E-01	3.821
		236.00		1.911E-01	2.364E-01	3.608E-01	5.360E-02	0.530
		256.20	*	-2.053E-01	3.589E-01	5.589E-01	1.191E-01	-0.367
		286.10		-8.707E-01	1.748E+00	2.347E+00	2.374E+00	-0.371
	+	299.80		4.445E+00	2.007E+00	2.651E+00	5.650E-01	1.677
		304.40		-7.340E-01	1.805E+00	2.465E+00	5.423E-01	-0.298
		334.20		-2.316E-01	2.119E+00	3.349E+00	7.408E-01	-0.069
	+	85.43		4.098E-01	2.277E-01	2.609E-01	2.394E-02	1.571
	+	88.47		4.291E-01	1.318E-01	1.658E-01	1.566E-02	2.589
TH-229		100.00		8.228E-02	1.432E-01	2.510E-01	2.204E-02	0.328
		193.63	*	2.217E-01	4.463E-01	7.552E-01	8.292E-02	0.294
		210.97		1.142E-01	7.320E-01	1.078E+00	1.276E-01	0.106
		283.67	*	1.229E+00	1.486E+00	2.485E+00	4.924E-01	0.494
PA-231		301.29		8.425E-01	5.646E-01	9.561E-01	1.648E-01	0.881
TH-231		81.07		-1.297E-01	1.838E-01	2.534E-01	2.205E-02	-0.512
	+	83.78		2.737E-01	1.521E-01	1.751E-01	1.574E-02	1.564
		94.90		1.272E-01	1.897E-01	3.040E-01	2.739E-02	0.419
		122.32		-1.540E-01	1.414E+00	2.391E+00	2.175E-01	-0.064
U-231		144.24		9.617E-02	5.951E-01	9.911E-01	9.875E-02	0.097
	+	154.21		6.155E-01	5.001E-01	6.300E-01	6.364E-02	0.977
	+	269.46		5.206E-01	3.360E-01	3.436E-01	5.169E-02	1.515
		323.87	*	-2.392E-01	6.923E-01	9.491E-01	1.985E-01	-0.252
	+	338.28		7.826E+00	1.855E+00	2.561E+00	4.123E-01	3.056
		445.03		3.735E-01	1.970E+00	3.351E+00	4.598E-01	0.111
	+	84.21		1.377E+01	7.649E+00	8.799E+00	7.953E-01	1.565
	+	92.29		1.367E+01	3.392E+00	4.305E+00	3.944E-01	3.177
		95.87	*	7.311E-01	1.060E+00	1.578E+00	1.414E-01	0.463
		108.00		3.371E-01	1.941E+00	3.340E+00	2.860E-01	0.101
	+	75.28		1.946E+01	4.241E+00	5.784E+00	8.726E-01	3.365
	+	86.59		8.341E+00	2.841E+00	2.731E+00	7.388E-01	3.054
	+	300.12		1.239E+00	5.479E-01	7.290E-01	1.401E-01	1.700
PA-233		311.98	*	5.233E-02	5.774E-02	9.757E-02	1.431E-02	0.536
		340.50		-1.036E-01	6.363E-01	8.858E-01	2.298E-01	-0.117
		398.62		-1.054E+00	1.949E+00	3.145E+00	8.607E-01	-0.335

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		7.124E-01	1.560E+00	2.693E+00	6.054E-01	0.265
		63.00		2.124E+00	1.479E+00	2.097E+00	3.103E-01	1.013
		94.67		1.750E-01	1.404E-01	2.284E-01	2.897E-02	0.766
		98.44		6.923E-02	8.728E-02	1.253E-01	6.997E-02	0.552
		99.86		2.718E-01	3.659E-01	6.448E-01	5.664E-02	0.421
		111.00		-1.140E-01	1.460E-01	2.398E-01	2.881E-02	-0.475
		131.20		4.010E-02	9.762E-02	1.520E-01	1.311E-02	0.264
	+	152.70		5.050E-01	4.165E-01	4.876E-01	8.471E-02	1.036
	+	186.00		5.748E+00	2.607E+00	2.476E+00	7.880E-01	2.321
		226.40		2.774E-02	3.588E-01	5.827E-01	9.385E-02	0.048
		227.20		1.410E-02	3.825E-01	6.196E-01	7.848E-02	0.023
		248.90		-3.826E-02	7.141E-01	1.159E+00	2.882E-01	-0.033
	+	293.70		7.031E+00	1.774E+00	1.767E+00	3.763E-01	3.978
		369.80		-3.930E-01	8.016E-01	1.209E+00	2.815E-01	-0.325
		568.70		1.097E-01	9.585E-01	1.590E+00	1.651E-01	0.069
		569.50		1.491E-01	2.569E-01	4.410E-01	4.576E-02	0.338
		574.00		-3.979E-01	1.344E+00	2.155E+00	2.229E-01	-0.185
		699.00		7.838E-02	6.546E-01	1.072E+00	2.094E-01	0.073
		706.10		6.016E-01	9.859E-01	1.625E+00	7.279E-01	0.370
		733.00		2.552E-01	3.735E-01	5.709E-01	1.292E-01	0.447
		742.81		-1.401E-02	1.205E+00	1.939E+00	1.306E+00	-0.007
	+	796.30		1.267E+00	1.248E+00	1.493E+00	4.100E-01	0.848
		805.60		5.372E-01	9.858E-01	1.640E+00	5.086E-01	0.328
		819.60		3.604E-01	1.132E+00	1.859E+00	7.123E-01	0.194
		826.30		-8.845E-01	8.585E-01	1.044E+00	4.698E-01	-0.847
		831.60		-3.006E-01	6.141E-01	9.180E-01	2.774E-01	-0.327
		876.40		-4.027E-01	8.797E-01	1.226E+00	1.262E+00	-0.329
		880.51		6.166E-02	2.508E-01	4.311E-01	4.248E-02	0.143
		883.24		-1.666E-01	2.741E-01	3.906E-01	2.632E-01	-0.426
		899.00		-1.946E-01	8.414E-01	1.349E+00	5.932E-01	-0.144
		925.00		-1.921E-01	9.846E-01	1.611E+00	1.571E-01	-0.119
		926.50		-5.014E-02	1.451E-01	2.253E-01	5.785E-02	-0.223
		946.00	*	-2.914E-02	2.753E-01	4.545E-01	8.757E-02	-0.064
		949.00		1.739E-01	4.249E-01	7.357E-01	7.101E-02	0.236
		980.50		2.767E-01	6.464E-01	1.123E+00	1.067E-01	0.246
		1394.10		-8.543E-01	1.285E+00	1.654E+00	1.076E+00	-0.516
PA-234M		766.42		7.519E+00	1.402E+01	2.012E+01	1.025E+01	0.374
		1001.03	*	4.074E+00	4.376E+00	7.807E+00	8.305E-01	0.522
U-235	+	89.95		4.307E+00	1.838E+00	1.664E+00	5.170E-01	2.588
	+	93.35		3.688E+00	1.343E+00	1.132E+00	3.189E-01	3.258
		105.00		6.785E-01	8.568E-01	1.471E+00	4.391E-01	0.461
		143.76	*	3.908E-02	1.832E-01	3.056E-01	5.402E-02	0.128
		163.35		-1.539E-01	4.219E-01	6.808E-01	1.331E-01	-0.226
	+	185.71		2.129E-01	7.241E-02	9.163E-02	9.717E-03	2.323
		205.31		3.711E-01	5.000E-01	7.657E-01	1.575E-01	0.485
NP-236		94.67		1.341E-01	1.059E-01	1.734E-01	1.564E-02	0.773
		98.44		5.229E-02	5.934E-02	9.474E-02	8.376E-03	0.552
		111.00		-8.623E-02	1.102E-01	1.814E-01	1.545E-02	-0.475
		160.31	*	-5.211E-03	6.758E-02	1.127E-01	1.072E-02	-0.046

---- 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		1.113E-01	1.279E-01	2.218E-01	1.951E-02	0.502
		117.00	*	-6.018E-02	1.543E-01	2.582E-01	2.185E-02	-0.233
	+	209.75		2.434E+00	9.330E-01	1.380E+00	1.625E-01	1.764
		228.18		-1.742E-01	2.066E-01	3.163E-01	4.023E-02	-0.551
	+	277.60		3.899E-01	2.634E-01	3.104E-01	4.777E-02	1.256
AM-241		334.30		-1.763E-01	1.198E+00	1.888E+00	2.579E-01	-0.093
		59.54	*	4.486E-03	1.181E-01	1.736E-01	1.364E-02	0.026
CM-243		99.55		1.145E-01	1.316E-01	2.283E-01	2.008E-02	0.502
		103.76	*	-1.551E-02	7.487E-02	1.271E-01	1.100E-02	-0.122
		117.00		-6.192E-02	1.588E-01	2.657E-01	2.248E-02	-0.233
	+	209.75		2.400E+00	9.198E-01	1.361E+00	1.602E-01	1.764
		228.18		-1.761E-01	2.088E-01	3.196E-01	4.065E-02	-0.551
AM-246	+	277.60		3.931E-01	2.656E-01	3.129E-01	4.816E-02	1.256
		798.80		-1.083E-01	1.613E-01	2.032E-01	1.995E-02	-0.533
		1036.00		-1.993E-01	2.709E-01	4.109E-01	3.769E-02	-0.485
		1062.04		-1.291E-01	2.163E-01	3.256E-01	2.928E-02	-0.397
		1078.86	*	6.827E-02	1.381E-01	2.388E-01	2.118E-02	0.286
CM-247	+	278.00		1.617E+00	1.093E+00	1.240E+00	1.912E-01	1.304
		287.40		6.871E-02	1.178E+00	1.905E+00	2.911E-01	0.036
CF-249		402.60	*	1.642E-02	3.339E-02	5.811E-02	6.220E-03	0.283
		252.85		1.166E-01	7.590E-01	1.246E+00	1.748E-01	0.094
		333.44		5.109E-03	1.582E-01	2.527E-01	3.461E-02	0.020
CF-251		387.95	*	1.834E-02	3.598E-02	6.281E-02	6.840E-03	0.292
		176.60	*	-3.718E-02	1.117E-01	1.829E-01	1.863E-02	-0.203
		227.00		4.821E-02	3.397E-01	5.534E-01	7.004E-02	0.087
		285.00		-1.096E+00	1.727E+00	2.663E+00	4.085E-01	-0.412

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]G243630007      *
* Acquisition date   : 7-JAN-2010 13:23:35 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 02:00:01.66 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243630007 Analyst initials: MXR1                 *
* Batch Number      : 937702 Sample Quantity : 1.2095E+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	2.051E+01	2.251E+00	5.160E-01	0.000E+00
CD-109	4.341E+00	9.655E-01	9.432E-01	0.000E+00
SN-126	4.261E-01	9.477E-02	9.288E-02	0.000E+00
BA-137M	2.619E-01	5.726E-02	5.959E-02	0.000E+00
CS-137	2.769E-01	6.054E-02	6.300E-02	0.000E+00
RE-188	2.689E-01	2.138E-01	2.502E-01	0.000E+00
TL-208	4.845E-01	9.217E-02	5.361E-02	0.000E+00
BI-210	2.352E+00	3.808E+00	3.372E+00	0.000E+00
PB-210	2.352E+00	3.808E+00	3.372E+00	0.000E+00
PO-210	2.352E+00	3.807E+00	3.372E+00	0.000E+00
BI-211	4.524E+00	7.336E-01	3.005E-01	0.000E+00
BI-212	1.490E+00	4.604E-01	3.936E-01	0.000E+00
PB-212	1.792E+00	2.694E-01	8.254E-02	0.000E+00
PO-212	1.792E+00	2.694E-01	8.254E-02	0.000E+00
BI-214	1.403E+00	2.357E-01	9.861E-02	0.000E+00
PB-214	1.574E+00	2.676E-01	1.048E-01	0.000E+00
PO-214	1.574E+00	2.676E-01	1.048E-01	0.000E+00
PO-216	1.792E+00	2.694E-01	8.254E-02	0.000E+00
PO-218	1.574E+00	2.676E-01	1.048E-01	0.000E+00
RA-224	2.621E+00	1.036E+00	9.395E-01	0.000E+00
RA-226	1.403E+00	2.357E-01	9.861E-02	0.000E+00
AC-228	1.703E+00	3.724E-01	1.962E-01	0.000E+00
RA-228	1.703E+00	3.724E-01	1.962E-01	0.000E+00
TH-228	1.820E+00	2.737E-01	8.387E-02	0.000E+00
TH-230	1.403E+00	2.357E-01	9.861E-02	0.000E+00
TH-232	1.703E+00	3.724E-01	1.962E-01	0.000E+00
TH-234	1.823E+00	1.254E+00	1.620E+00	0.000E+00
U-234	1.403E+00	2.357E-01	9.861E-02	0.000E+00
NP-237	1.251E+00	3.761E-01	2.749E-01	0.000E+00
U-238	1.823E+00	1.254E+00	1.620E+00	0.000E+00
AM-243	3.715E-01	6.448E-02	7.442E-02	0.000E+00
ANH-511	1.050E-01	6.496E-02	4.164E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.855E-01	2.824E-01	4.605E-01	0.000E+00	NOT IDENT.
NA-22	-9.037E-03	3.546E-02	5.683E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.992E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	8.445E-03	2.747E-02	4.876E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.218E-02	5.779E-02	0.000E+00	FAIL ABUN
SC-46	-1.680E-02	3.594E-02	5.897E-02	0.000E+00	FAIL ABUN
V-48	2.844E-02	6.545E-02	1.162E-01	0.000E+00	NOT IDENT.
CR-51	1.689E-01	3.604E-01	6.149E-01	0.000E+00	NOT IDENT.
MN-52	1.057E-01	2.211E-01	3.908E-01	0.000E+00	NOT IDENT.
MN-54	-2.206E-04	3.336E-02	5.764E-02	0.000E+00	NOT IDENT.
CO-56	-1.684E-02	3.613E-02	5.971E-02	0.000E+00	NOT IDENT.
CO-57	-3.798E-03	2.001E-02	3.537E-02	0.000E+00	NOT IDENT.
CO-58	1.028E-03	3.484E-02	5.732E-02	0.000E+00	NOT IDENT.
FE-59	-5.814E-02	8.789E-02	1.378E-01	0.000E+00	NOT IDENT.
CO-60	-4.568E-02	3.499E-02	4.666E-02	0.000E+00	NOT IDENT.
ZN-65	2.988E-02	9.494E-02	1.442E-01	0.000E+00	NOT IDENT.
GE-68	1.246E+00	1.171E+00	2.167E+00	0.000E+00	NOT IDENT.
AS-73	-5.007E-01	5.566E-01	8.753E-01	0.000E+00	NOT IDENT.
AS-74	-3.500E-02	8.684E-02	1.416E-01	0.000E+00	NOT IDENT.
SE-75	-3.355E-02	4.412E-02	6.166E-02	0.000E+00	NOT IDENT.
BR-77	-1.460E-01	1.304E+01	2.227E+01	0.000E+00	FAIL ABUN
SR-82	5.489E-02	3.644E-01	6.090E-01	0.000E+00	NOT IDENT.
RB-83	-2.335E-02	6.659E-02	1.108E-01	0.000E+00	NOT IDENT.
RB-84	1.846E-02	6.150E-02	1.088E-01	0.000E+00	NOT IDENT.
KR-85	2.201E+00	6.839E+00	1.063E+01	0.000E+00	NOT IDENT.
SR-85	1.139E-02	3.541E-02	5.505E-02	0.000E+00	NOT IDENT.
RB-86	7.964E-01	7.647E-01	1.414E+00	0.000E+00	NOT IDENT.
Y-88	6.267E-03	3.033E-02	5.281E-02	0.000E+00	NOT IDENT.
ZR-88	8.141E-03	2.732E-02	4.872E-02	0.000E+00	NOT IDENT.
Y-91	-1.110E+01	1.683E+01	2.609E+01	0.000E+00	NOT IDENT.
NB-94	8.511E-03	3.048E-02	5.195E-02	0.000E+00	NOT IDENT.
NB-95	3.500E-02	4.752E-02	7.417E-02	0.000E+00	NOT IDENT.
NB-95M	2.784E-02	1.206E-01	1.860E-01	0.000E+00	NOT IDENT.
ZR-95	5.631E-02	6.184E-02	1.111E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.256E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.644E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.253E+00	1.300E+01	2.173E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.462E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.236E-03	2.916E-02	4.942E-02	0.000E+00	FAIL ABUN
RH-102	-2.549E-02	2.414E-02	3.771E-02	0.000E+00	FAIL ABUN
RU-103	-2.412E-02	3.463E-02	5.566E-02	0.000E+00	NOT IDENT.
RH-106	7.331E-02	2.837E-01	4.880E-01	0.000E+00	NOT IDENT.
RU-106	7.331E-02	2.836E-01	4.880E-01	0.000E+00	NOT IDENT.
AG-108M	-3.048E-02	2.992E-02	4.766E-02	0.000E+00	NOT IDENT.
AG-110M	1.253E-02	3.165E-02	4.890E-02	0.000E+00	NOT IDENT.
IN-111	-9.545E-01	1.294E+00	1.834E+00	0.000E+00	NOT IDENT.
IN-113M	-3.207E-02	3.950E-02	6.531E-02	0.000E+00	NOT IDENT.
SN-113	-3.207E-02	3.950E-02	6.531E-02	0.000E+00	NOT IDENT.
IN-114M	-1.864E-01	1.734E-01	2.472E-01	0.000E+00	NOT IDENT.
CD-115	-1.230E+01	1.286E+01	2.009E+01	0.000E+00	NOT IDENT.
SN-117M	1.205E-03	5.044E-02	8.449E-02	0.000E+00	NOT IDENT.
SB-122	1.682E+00	2.324E+00	4.163E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.571E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.760E-03	2.369E-02	4.170E-02	0.000E+00	NOT IDENT.
I-124	3.670E-01	7.754E-01	1.208E+00	0.000E+00	NOT IDENT.
SB-124	-2.202E-02	6.012E-02	9.301E-02	0.000E+00	FAIL ABUN
SB-125	-4.231E-02	8.065E-02	1.349E-01	0.000E+00	FAIL ABUN
TE-125M	5.370E+00	7.278E+00	1.341E+01	0.000E+00	NOT IDENT.
I-126	1.844E-01	1.947E-01	3.160E-01	0.000E+00	NOT IDENT.
SB-126	1.096E-01	1.464E-01	2.332E-01	0.000E+00	FAIL ABUN
SB-127	1.094E+00	1.377E+00	2.461E+00	0.000E+00	NOT IDENT.
XE-127	1.648E-02	4.076E-02	7.146E-02	0.000E+00	NOT IDENT.
I-131	5.282E-02	1.187E-01	2.008E-01	0.000E+00	NOT IDENT.
TE-132	-4.015E-01	7.425E-01	1.207E+00	0.000E+00	NOT IDENT.
BA-133	5.921E-03	4.387E-02	6.489E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.115E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.524E-02	6.080E-02	8.196E-02	0.000E+00	FAIL ABUN
CS-135	2.545E-01	1.588E-01	2.601E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.034E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.327E-02	9.664E-02	1.677E-01	0.000E+00	FAIL ABUN
CE-139	-3.274E-03	2.526E-02	4.385E-02	0.000E+00	NOT IDENT.
BA-140	6.256E-02	2.555E-01	4.425E-01	0.000E+00	NOT IDENT.
LA-140	-8.100E-02	8.583E-02	1.238E-01	0.000E+00	FAIL ABUN

CE-141	-1.401E-02	5.121E-02	8.911E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.043E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.263E-03	1.765E-01	2.993E-01	0.000E+00	NOT IDENT.
PM-144	1.294E-02	3.167E-02	5.458E-02	0.000E+00	NOT IDENT.
PR-144	8.776E-01	2.147E+00	3.700E+00	0.000E+00	NOT IDENT.
PM-146	-6.227E-03	4.061E-02	6.954E-02	0.000E+00	NOT IDENT.
ND-147	1.072E-01	5.091E-01	8.840E-01	0.000E+00	FAIL ABUN
PM-149	-7.408E+01	1.196E+02	1.913E+02	0.000E+00	NOT IDENT.
EU-152	7.929E-03	9.139E-02	1.515E-01	0.000E+00	FAIL ABUN
GD-153	-9.583E-02	7.534E-02	1.021E-01	0.000E+00	FAIL ABUN
EU-154	-2.638E-02	9.888E-02	1.582E-01	0.000E+00	NOT IDENT.
EU-155	5.030E-02	8.385E-02	1.542E-01	0.000E+00	FAIL ABUN
TB-160	8.904E-02	1.219E-01	2.237E-01	0.000E+00	FAIL ABUN
HO-166M	1.933E-02	5.246E-02	9.022E-02	0.000E+00	FAIL ABUN
TM-171	3.499E+00	2.100E+01	3.520E+01	0.000E+00	NOT IDENT.
LU-176	9.193E-03	2.152E-02	3.681E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.421E+00	2.203E+00	0.000E+00	FAIL ABUN
LU-177M	-1.311E-02	1.576E-01	2.734E-01	0.000E+00	FAIL ABUN
HF-181	2.859E-03	3.860E-02	6.683E-02	0.000E+00	NOT IDENT.
W-181	8.378E-02	2.943E-01	4.603E-01	0.000E+00	NOT IDENT.
TA-182	-1.243E-01	1.872E-01	2.914E-01	0.000E+00	FAIL ABUN
RE-183	5.130E-03	9.199E-02	1.613E-01	0.000E+00	FAIL ABUN
RE-184	3.118E-02	1.990E-01	3.398E-01	0.000E+00	NOT IDENT.
OS-185	3.014E-02	3.831E-02	6.857E-02	0.000E+00	NOT IDENT.
W-188	-2.563E+00	7.696E+00	1.113E+01	0.000E+00	FAIL ABUN
IR-192	7.516E-03	3.190E-02	5.379E-02	0.000E+00	FAIL ABUN
AU-195	1.238E-01	1.850E-01	3.232E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.587E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.137E+00	7.103E+00	1.249E+01	0.000E+00	NOT IDENT.
TL-202	6.227E-02	7.125E-02	1.298E-01	0.000E+00	NOT IDENT.
HG-203	2.997E-03	3.978E-02	5.988E-02	0.000E+00	NOT IDENT.
BI-207	-1.661E-02	4.826E-02	7.663E-02	0.000E+00	FAIL ABUN
TL-207	-2.392E-01	6.785E-01	9.647E-01	0.000E+00	FAIL ABUN
PO-209	-1.693E+00	7.381E+00	1.242E+01	0.000E+00	NOT IDENT.
PB-211	-6.693E-01	9.299E-01	1.381E+00	0.000E+00	NOT IDENT.
PO-215	-2.392E-01	6.785E-01	9.647E-01	0.000E+00	FAIL ABUN
RN-219	2.646E-02	3.693E-01	6.485E-01	0.000E+00	FAIL ABUN
RN-220	-4.528E+00	2.470E+01	4.144E+01	0.000E+00	NOT IDENT.
RA-223	-2.392E-01	6.785E-01	9.647E-01	0.000E+00	FAIL ABUN
AC-227	-2.053E-01	3.512E-01	5.697E-01	0.000E+00	FAIL ABUN
TH-227	-2.053E-01	3.517E-01	5.697E-01	0.000E+00	FAIL ABUN
TH-229	2.217E-01	4.374E-01	7.724E-01	0.000E+00	FAIL ABUN
PA-231	1.229E+00	1.456E+00	2.530E+00	0.000E+00	NOT IDENT.
TH-231	-2.392E-01	6.785E-01	9.647E-01	0.000E+00	FAIL ABUN
U-231	7.311E-01	1.038E+00	1.628E+00	0.000E+00	FAIL ABUN
PA-233	5.233E-02	5.659E-02	9.922E-02	0.000E+00	FAIL ABUN
PA-234	-2.914E-02	2.698E-01	4.560E-01	0.000E+00	FAIL ABUN
PA-234M	4.074E+00	4.288E+00	7.827E+00	0.000E+00	NOT IDENT.
U-235	3.908E-02	1.795E-01	3.137E-01	0.000E+00	FAIL ABUN
NP-236	-5.211E-03	6.623E-02	1.155E-01	0.000E+00	NOT IDENT.
NP-239	-6.018E-02	1.513E-01	2.657E-01	0.000E+00	FAIL ABUN
AM-241	4.486E-03	1.158E-01	1.801E-01	0.000E+00	NOT IDENT.
CM-243	-1.551E-02	7.337E-02	1.309E-01	0.000E+00	FAIL ABUN
AM-246	6.827E-02	1.353E-01	2.392E-01	0.000E+00	NOT IDENT.
CM-247	1.642E-02	3.272E-02	5.892E-02	0.000E+00	FAIL ABUN
CF-249	1.834E-02	3.526E-02	6.371E-02	0.000E+00	NOT IDENT.
CF-251	-3.718E-02	1.095E-01	1.873E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630007.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:23:35.
Sample ID          : G243630007 Sample quantity : 1.20950E+02 GRAM
Detector name      : GAM11 Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00 Elapsed real time: 0 02:00:01.66 0.0%
Energy tolerance    : 1.50000 keV Analyst Initials : MXR1
Abundance limit     : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 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	865	10.67*	1.226E+00	2.051E+01	2.051E+01	11.20
CD-109	88.03	344	3.72*	6.780E+00	4.238E+00	4.341E+00	22.70
SN-126	64.28	95	9.60	4.240E+00	7.214E-01	7.214E-01	69.55
	86.94	344	8.90	6.780E+00	1.771E+00	1.771E+00	46.38
	87.57	344	37.00*	6.780E+00	4.261E-01	4.261E-01	22.70
BA-137M	661.65	182	89.98*	2.405E+00	2.617E-01	2.619E-01	22.31
CS-137	661.65	182	85.12*	2.405E+00	2.766E-01	2.769E-01	22.31
RE-188	155.03	76	15.00*	6.833E+00	2.290E-01	2.689E-01	81.15
	477.96	-----	1.04	3.110E+00	-----	Line Not Found	-----
	633.10	-----	1.26	2.491E+00	-----	Line Not Found	-----
TL-208	277.35	83	6.80	4.678E+00	8.085E-01	8.085E-01	68.14
	510.84	100	21.60	2.957E+00	4.860E-01	4.860E-01	63.70
	583.14	350	84.20*	2.663E+00	4.845E-01	4.845E-01	19.41
	860.37	64	12.46	1.928E+00	8.269E-01	8.269E-01	41.94
BI-210	46.50	46	4.05*	1.512E+00	2.349E+00	2.352E+00	165.20
PB-210	46.50	46	4.05*	1.512E+00	2.349E+00	2.352E+00	165.20
PO-210	46.50	46	4.05*	1.512E+00	2.349E+00	2.352E+00	165.15
BI-211	72.87	-----	1.27	5.576E+00	-----	Line Not Found	-----
	351.07	740	12.94*	3.925E+00	4.524E+00	4.524E+00	16.55
BI-212	727.18	126	11.80*	2.224E+00	1.490E+00	1.490E+00	31.52
	785.46	59	1.97	2.083E+00	4.459E+00	4.459E+00	58.37
	1620.62	-----	2.75	1.134E+00	-----	Line Not Found	-----
PB-212	74.81	456	10.70	5.776E+00	2.292E+00	2.292E+00	20.02
	77.11	736	18.00	6.008E+00	2.112E+00	2.112E+00	13.66
	87.30	344	8.00	6.780E+00	1.971E+00	1.971E+00	24.80
	238.63	1343	44.60*	5.215E+00	1.792E+00	1.792E+00	15.34
	300.09	116	3.41	4.418E+00	2.399E+00	2.399E+00	42.91
PO-212	74.81	456	10.70	5.776E+00	2.292E+00	2.292E+00	20.02
	77.11	736	18.00	6.008E+00	2.112E+00	2.112E+00	13.66
	87.30	344	8.00	6.780E+00	1.971E+00	1.971E+00	24.80
	115.19	-----	0.60	7.407E+00	-----	Line Not Found	-----
	238.63	1343	44.60*	5.215E+00	1.792E+00	1.792E+00	15.34

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BI-214	300.09	116	3.41	4.418E+00	2.399E+00	2.399E+00	42.91
	609.31	538	46.30*	2.572E+00	1.403E+00	1.403E+00	17.14
	1120.29	88	15.10	1.532E+00	1.176E+00	1.176E+00	36.58
	1764.49	83	15.80	1.071E+00	1.521E+00	1.521E+00	31.57
PB-214	74.81	456	6.21	5.776E+00	3.948E+00	3.949E+00	19.20
	77.11	736	10.50	6.008E+00	3.620E+00	3.620E+00	15.64
	87.30	344	4.67	6.780E+00	3.376E+00	3.376E+00	23.97
	241.98	201	7.49	5.163E+00	1.612E+00	1.612E+00	30.45
PO-214	295.21	405	19.20	4.471E+00	1.465E+00	1.465E+00	21.23
	351.92	740	37.20*	3.925E+00	1.574E+00	1.574E+00	17.35
	74.81	456	6.21	5.776E+00	3.948E+00	3.949E+00	19.20
	77.11	736	10.50	6.008E+00	3.620E+00	3.620E+00	15.64
PO-216	87.30	344	4.67	6.780E+00	3.376E+00	3.376E+00	23.97
	241.98	201	7.49	5.163E+00	1.612E+00	1.612E+00	30.45
	295.21	405	19.20	4.471E+00	1.465E+00	1.465E+00	21.23
	351.92	740	37.20*	3.925E+00	1.574E+00	1.574E+00	17.35
PO-218	74.81	456	10.70	5.776E+00	2.292E+00	2.292E+00	20.02
	77.11	736	18.00	6.008E+00	2.112E+00	2.112E+00	13.66
	87.30	344	8.00	6.780E+00	1.971E+00	1.971E+00	24.80
	238.63	1343	44.60*	5.215E+00	1.792E+00	1.792E+00	15.34
RA-224	300.09	116	3.41	4.418E+00	2.399E+00	2.399E+00	42.91
	74.81	456	6.21	5.776E+00	3.948E+00	3.949E+00	19.20
	77.11	736	10.50	6.008E+00	3.620E+00	3.620E+00	15.64
	87.30	344	4.67	6.780E+00	3.376E+00	3.376E+00	23.97
RA-226	241.98	201	7.49	5.163E+00	1.612E+00	1.612E+00	30.45
	295.21	405	19.20	4.471E+00	1.465E+00	1.465E+00	21.23
	351.92	740	37.20*	3.925E+00	1.574E+00	1.574E+00	17.35
	240.98	173	3.95*	5.179E+00	2.621E+00	2.621E+00	40.34
AC-228	609.31	538	46.30*	2.572E+00	1.403E+00	1.403E+00	17.14
	1120.29	88	15.10	1.532E+00	1.176E+00	1.176E+00	36.58
	1764.49	83	15.80	1.071E+00	1.521E+00	1.521E+00	31.57
	338.32	278	11.40	4.042E+00	1.874E+00	1.874E+00	45.97
RA-228	911.07	279	27.70*	1.835E+00	1.703E+00	1.703E+00	22.31
	969.11	152	16.60	1.739E+00	1.635E+00	1.635E+00	34.06
	338.32	278	11.40	4.042E+00	1.874E+00	1.874E+00	45.97
	911.07	279	27.70*	1.835E+00	1.703E+00	1.703E+00	22.31
TH-228	969.11	152	16.60	1.739E+00	1.635E+00	1.635E+00	34.06
	74.81	456	10.70	5.776E+00	2.292E+00	2.329E+00	17.74
	77.11	736	18.00	6.008E+00	2.112E+00	2.146E+00	13.66
	87.30	344	8.00	6.780E+00	1.971E+00	2.002E+00	22.70
TH-230	238.63	1343	44.60*	5.215E+00	1.792E+00	1.820E+00	15.34
	300.09	116	3.41	4.418E+00	2.399E+00	2.437E+00	72.44
	609.31	538	46.30*	2.572E+00	1.403E+00	1.403E+00	17.14
	1120.29	88	15.10	1.532E+00	1.176E+00	1.176E+00	36.58
TH-232	1764.49	83	15.80	1.071E+00	1.521E+00	1.521E+00	31.57
	338.32	278	11.40	4.042E+00	1.874E+00	1.874E+00	22.01
	911.07	279	27.70*	1.835E+00	1.703E+00	1.703E+00	22.31
	969.11	152	16.60	1.739E+00	1.635E+00	1.635E+00	34.06
TH-234	63.29	95	3.80*	4.240E+00	1.823E+00	1.823E+00	70.22

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-234	92.38	377	5.41	7.054E+00	3.068E+00	3.068E+00	29.46
	609.31	538	46.30*	2.572E+00	1.403E+00	1.403E+00	17.14
	1120.29	88	15.10	1.532E+00	1.176E+00	1.176E+00	36.58
NP-237	1764.49	83	15.80	1.071E+00	1.521E+00	1.521E+00	31.57
	86.50	344	12.60*	6.780E+00	1.251E+00	1.251E+00	30.67
	95.87	-----	2.60	7.169E+00	-----	Line Not Found	-----
U-238	63.29	95	3.80*	4.240E+00	1.823E+00	1.823E+00	70.22
	92.38	377	5.41	7.054E+00	3.068E+00	3.068E+00	24.80
AM-243	74.67	456	66.00*	5.776E+00	3.715E-01	3.715E-01	17.71
	86.72	344	0.34	6.780E+00	4.692E+01	4.692E+01	22.70
	117.66	-----	0.55	7.397E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	7.065E+00	-----	Line Not Found	-----
	511.00	100	100.00*	2.957E+00	1.050E-01	1.050E-01	63.15

Flag: "*" = Keyline

Total number of lines in spectrum 42
Number of unidentified lines 4
Number of lines tentatively identified by NID 38 90.48%

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	2.051E+01	2.051E+01	0.230E+01	11.20	
CD-109	464.00D	1.02	4.238E+00	4.341E+00	0.985E+00	22.70	
SN-126	1.00E+05Y	1.00	4.261E-01	4.261E-01	0.967E-01	22.70	
BA-137M	30.17Y	1.00	2.617E-01	2.619E-01	0.584E-01	22.31	
CS-137	30.17Y	1.00	2.766E-01	2.769E-01	0.618E-01	22.31	
RE-188	69.40D	1.17	2.290E-01	2.689E-01	2.182E-01	81.15	
TL-208	1.41E+10Y	1.00	4.845E-01	4.845E-01	0.940E-01	19.41	
BI-210	22.26Y	1.00	2.349E+00	2.352E+00	3.886E+00	165.20	
PB-210	22.26Y	1.00	2.349E+00	2.352E+00	3.886E+00	165.20	
PO-210	22.26Y	1.00	2.349E+00	2.352E+00	3.885E+00	165.15	
BI-211	7.04E+08Y	1.00	4.524E+00	4.524E+00	0.749E+00	16.55	
BI-212	1.41E+10Y	1.00	1.490E+00	1.490E+00	0.470E+00	31.52	
PB-212	1.41E+10Y	1.00	1.792E+00	1.792E+00	0.275E+00	15.34	
PO-212	1.41E+10Y	1.00	1.792E+00	1.792E+00	0.275E+00	15.34	
BI-214	1600.00Y	1.00	1.403E+00	1.403E+00	0.241E+00	17.14	
PB-214	1600.00Y	1.00	1.574E+00	1.574E+00	0.273E+00	17.35	
PO-214	1600.00Y	1.00	1.574E+00	1.574E+00	0.273E+00	17.35	
PO-216	1.41E+10Y	1.00	1.792E+00	1.792E+00	0.275E+00	15.34	
PO-218	1600.00Y	1.00	1.574E+00	1.574E+00	0.273E+00	17.35	
RA-224	1.41E+10Y	1.00	2.621E+00	2.621E+00	1.057E+00	40.34	
RA-226	1600.00Y	1.00	1.403E+00	1.403E+00	0.241E+00	17.14	
AC-228	1.41E+10Y	1.00	1.703E+00	1.703E+00	0.380E+00	22.31	
RA-228	1.41E+10Y	1.00	1.703E+00	1.703E+00	0.380E+00	22.31	
TH-228	1.91Y	1.02	1.792E+00	1.820E+00	0.279E+00	15.34	
TH-230	4.47E+09Y	1.00	1.403E+00	1.403E+00	0.241E+00	17.14	
TH-232	1.41E+10Y	1.00	1.703E+00	1.703E+00	0.380E+00	22.31	
TH-234	4.47E+09Y	1.00	1.823E+00	1.823E+00	1.280E+00	70.22	
U-234	4.47E+09Y	1.00	1.403E+00	1.403E+00	0.241E+00	17.14	
NP-237	2.14E+06Y	1.00	1.251E+00	1.251E+00	0.384E+00	30.67	
U-238	4.47E+09Y	1.00	1.823E+00	1.823E+00	1.280E+00	70.22	
AM-243	7380.00Y	1.00	3.715E-01	3.715E-01	0.658E-01	17.71	
ANH-511	1.00E+09Y	1.00	1.050E-01	1.050E-01	0.663E-01	63.15	

Total Activity : 7.009E+01 7.027E+01

Grand Total Activity : 7.009E+01 7.027E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	84.12	144	434	1.43	167.15	163	29	2.00E-02	54.8	6.60E+00	T
6	89.67	259	354	1.40	178.26	163	29	3.60E-02	29.2	6.92E+00	T
0	128.45	70	354	0.97	255.87	253	8	9.77E-03	95.5	7.29E+00	T
0	185.90	228	288	1.18	370.87	367	10	3.17E-02	32.3	6.16E+00	T
0	208.79	145	193	1.13	416.68	413	7	2.02E-02	36.5	5.71E+00	T
0	270.06	109	264	1.11	539.30	533	12	1.51E-02	62.8	4.77E+00	T
2	327.70	98	102	1.36	654.67	648	32	1.37E-02	42.4	4.14E+00	T
0	462.29	77	173	1.71	924.01	920	15	1.07E-02	76.9	3.19E+00	T
0	767.99	14	51	1.08	1535.77	1535	6	1.92E-03	****	2.12E+00	T
0	794.89	33	58	0.99	1589.59	1584	10	4.56E-03	94.6	2.06E+00	T
0	933.36	36	27	1.51	1866.66	1863	8	5.04E-03	59.1	1.80E+00	
7	963.87	50	71	2.26	1927.70	1923	27	7.01E-03	65.0	1.75E+00	T
0	1586.78	37	12	2.27	3173.90	3169	10	5.09E-03	48.9	1.15E+00	
0	1629.45	16	11	1.87	3259.25	3250	13	2.21E-03	99.6	1.13E+00	
0	1728.40	37	6	2.05	3457.18	3451	13	5.17E-03	43.0	1.09E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630007.CNF;1
* Acquisition date   : 7-JAN-2010 13:23:35.  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 02:00:01.66           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G243630007           Analyst initials: MXR1
* Batch Number       : 937702               Sample Quantity  : 1.20950E+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	2.051E+01	2.296E+00	5.171E-01	4.471E-02	39.662
CD-109	4.341E+00	9.852E-01	9.136E-01	8.664E-02	4.751
SN-126	4.261E-01	9.670E-02	8.996E-02	8.486E-03	4.736
BA-137M	2.619E-01	5.843E-02	5.914E-02	5.596E-03	4.429
CS-137	2.769E-01	6.178E-02	6.252E-02	5.925E-03	4.429
RE-188	2.689E-01	2.182E-01	2.440E-01	2.276E-02	1.102
TL-208	4.845E-01	9.405E-02	5.312E-02	5.737E-03	9.121
BI-210	2.352E+00	3.886E+00	3.242E+00	3.018E-01	0.726
PB-210	2.352E+00	3.886E+00	3.242E+00	3.018E-01	0.726
PO-210	2.352E+00	3.885E+00	3.242E+00	2.733E-01	0.726
BI-211	4.524E+00	7.485E-01	2.960E-01	3.905E-02	15.286
BI-212	1.490E+00	4.698E-01	3.911E-01	4.274E-02	3.810
PB-212	1.792E+00	2.749E-01	8.090E-02	1.133E-02	22.145
PO-212	1.792E+00	2.749E-01	8.090E-02	1.133E-02	22.145
BI-214	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
PB-214	1.574E+00	2.730E-01	1.032E-01	1.460E-02	15.253
PO-214	1.574E+00	2.730E-01	1.032E-01	1.460E-02	15.253
PO-216	1.792E+00	2.749E-01	8.090E-02	1.133E-02	22.145

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	1.574E+00	2.730E-01	1.032E-01	1.460E-02	15.253
RA-224	2.621E+00	1.057E+00	9.210E-01	1.233E-01	2.845
RA-226	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
AC-228	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
RA-228	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
TH-228	1.820E+00	2.793E-01	8.220E-02	1.151E-02	22.145
TH-230	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
TH-232	1.703E+00	3.800E-01	1.954E-01	2.379E-02	8.714
TH-234	1.823E+00	1.280E+00	1.563E+00	2.719E-01	1.166
U-234	1.403E+00	2.405E-01	9.776E-02	1.105E-02	14.352
NP-237	1.251E+00	3.838E-01	2.663E-01	6.027E-02	4.699
U-238	1.823E+00	1.280E+00	1.563E+00	2.719E-01	1.166
AM-243	3.715E-01	6.579E-02	7.194E-02	5.822E-03	5.164
ANH-511	1.050E-01	6.629E-02	4.119E-02	4.404E-03	2.549

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.855E-01		2.881E-01	4.552E-01	5.151E-02	-0.408
NA-22	-9.037E-03		3.619E-02	5.685E-02	4.669E-03	-0.159
NA-24	-3.100E-01		1.016E+00	Half-Life	too short	
AL-26	8.445E-03		2.803E-02	4.900E-02	4.000E-03	0.172
TI-44	3.897E-01	+	5.325E-02	5.590E-02	4.712E-03	6.971
SC-46	-1.680E-02		3.668E-02	5.873E-02	5.785E-03	-0.286
V-48	2.844E-02		6.678E-02	1.158E-01	1.099E-02	0.246
CR-51	1.689E-01		3.677E-01	6.048E-01	8.778E-02	0.279
MN-52	1.057E-01		2.256E-01	3.915E-01	3.280E-02	0.270
MN-54	-2.206E-04		3.404E-02	5.737E-02	5.649E-03	-0.004
CO-56	-1.684E-02		3.687E-02	5.943E-02	5.856E-03	-0.283
CO-57	-3.798E-03		2.042E-02	3.440E-02	2.910E-03	-0.110
CO-58	1.028E-03		3.555E-02	5.702E-02	5.614E-03	0.018
FE-59	-5.814E-02		8.969E-02	1.376E-01	1.293E-02	-0.423
CO-60	-4.568E-02		3.570E-02	4.670E-02	3.859E-03	-0.978
ZN-65	2.988E-02		9.688E-02	1.440E-01	1.236E-02	0.207
GE-68	1.246E+00		1.195E+00	2.164E+00	1.922E-01	0.576
AS-73	-5.007E-01		5.680E-01	8.429E-01	6.330E-02	-0.594
AS-74	-3.500E-02		8.861E-02	1.403E-01	1.427E-02	-0.249
SE-75	-3.355E-02		4.502E-02	6.051E-02	8.895E-03	-0.554
BR-77	-1.460E-01		1.330E+01	2.204E+01	2.348E+00	-0.007
SR-82	5.489E-02		3.719E-01	6.056E-01	5.923E-02	0.091
RB-83	-2.335E-02		6.795E-02	1.097E-01	1.169E-02	-0.213
RB-84	1.846E-02		6.275E-02	1.084E-01	1.068E-02	0.170
KR-85	2.201E+00		6.978E+00	1.052E+01	1.123E+00	0.209
SR-85	1.139E-02		3.613E-02	5.446E-02	5.817E-03	0.209
RB-86	7.964E-01		7.803E-01	1.411E+00	1.254E-01	0.564
Y-88	6.267E-03		3.095E-02	5.308E-02	4.309E-03	0.118
ZR-88	8.141E-03		2.788E-02	4.804E-02	5.124E-03	0.169

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-1.110E+01		1.718E+01	2.609E+01	2.112E+00	-0.425
NB-94	8.511E-03		3.110E-02	5.159E-02	4.955E-03	0.165
NB-95	3.500E-02		4.849E-02	7.373E-02	7.197E-03	0.475
NB-95M	2.784E-02		1.230E-01	1.823E-01	2.545E-02	0.153
ZR-95	5.631E-02		6.311E-02	1.104E-01	1.162E-02	0.510
NB-97	1.245E-01		1.151E-01	Half-Life	too short	
ZR-97	2.158E+00		2.369E+00	Half-Life	too short	
MO-99	1.253E+00		1.327E+01	2.159E+01	3.418E+00	0.058
TC-99M	-1.019E+10		2.277E+11	Half-Life	too short	
RH-101	1.236E-03		2.976E-02	4.833E-02	5.409E-03	0.026
RH-102	-2.549E-02		2.463E-02	3.727E-02	4.018E-03	-0.684
RU-103	-2.412E-02		3.534E-02	5.504E-02	8.553E-03	-0.438
RH-106	7.331E-02		2.895E-01	4.838E-01	6.886E-02	0.152
RU-106	7.331E-02		2.894E-01	4.838E-01	4.800E-02	0.152
AG-108M	-3.048E-02		3.053E-02	4.705E-02	5.202E-03	-0.648
AG-110M	1.253E-02		3.230E-02	4.852E-02	4.728E-03	0.258
IN-111	-9.545E-01		1.320E+00	1.798E+00	2.451E-01	-0.531
IN-113M	-3.207E-02		4.030E-02	6.440E-02	7.004E-03	-0.498
SN-113	-3.207E-02		4.030E-02	6.440E-02	7.004E-03	-0.498
IN-114M	-1.864E-01		1.769E-01	2.416E-01	2.614E-02	-0.771
CD-115	-1.230E+01		1.312E+01	1.988E+01	2.112E+00	-0.619
SN-117M	1.205E-03		5.146E-02	8.241E-02	7.788E-03	0.015
SB-122	1.682E+00		2.371E+00	4.123E+00	4.295E-01	0.408
I-123	1.831E+00		8.017E+00	Half-Life	too short	
TE-123M	2.760E-03		2.417E-02	4.068E-02	3.870E-03	0.068
I-124	3.670E-01		7.912E-01	1.197E+00	1.210E-01	0.307
SB-124	-2.202E-02		6.135E-02	9.338E-02	8.115E-03	-0.236
SB-125	-4.231E-02		8.229E-02	1.332E-01	1.452E-02	-0.318
TE-125M	5.370E+00		7.426E+00	1.302E+01	1.337E+00	0.412
I-126	1.844E-01		1.987E-01	3.136E-01	2.973E-02	0.588
SB-126	1.096E-01		1.494E-01	2.317E-01	2.237E-02	0.473
SB-127	1.094E+00		1.405E+00	2.443E+00	3.020E-01	0.448
XE-127	1.648E-02		4.159E-02	6.991E-02	7.990E-03	0.236
I-131	5.282E-02		1.212E-01	1.978E-01	2.485E-02	0.267
TE-132	-4.015E-01		7.577E-01	1.182E+00	2.179E-01	-0.340
BA-133	5.921E-03		4.476E-02	6.391E-02	1.031E-02	0.093
I-133	-1.035E-02		5.688E-03	Half-Life	too short	
CS-134	6.524E-02	+	6.204E-02	8.151E-02	8.041E-03	0.800
CS-135	2.545E-01		1.621E-01	2.553E-01	4.005E-02	0.997
I-135	2.869E+09		2.568E+10	Half-Life	too short	
CS-136	2.327E-02		9.861E-02	1.674E-01	1.580E-02	0.139
CE-139	-3.274E-03		2.578E-02	4.279E-02	4.159E-03	-0.077
BA-140	6.256E-02		2.607E-01	4.380E-01	1.476E-01	0.143
LA-140	-8.100E-02		8.758E-02	1.242E-01	1.044E-02	-0.652
CE-141	-1.401E-02		5.225E-02	8.683E-02	7.958E-03	-0.161
CE-143	1.269E-03		2.063E-04	Half-Life	too short	
CE-144	4.263E-03		1.801E-01	2.913E-01	4.546E-02	0.015
PM-144	1.294E-02		3.231E-02	5.420E-02	5.196E-03	0.239

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	8.776E-01		2.191E+00	3.674E+00	3.522E-01	0.239
PM-146	-6.227E-03		4.143E-02	6.869E-02	8.612E-03	-0.091
ND-147	1.072E-01		5.195E-01	8.748E-01	1.415E-01	0.123
PM-149	-7.408E+01		1.221E+02	1.879E+02	3.768E+01	-0.394
EU-152	7.929E-03		9.326E-02	1.492E-01	2.023E-02	0.053
GD-153	-9.583E-02		7.688E-02	9.898E-02	8.793E-03	-0.968
EU-154	-2.638E-02		1.009E-01	1.582E-01	1.740E-02	-0.167
EU-155	5.030E-02		8.556E-02	1.497E-01	1.306E-02	0.336
TB-160	8.904E-02		1.244E-01	2.228E-01	2.195E-02	0.400
HO-166M	1.933E-02		5.353E-02	8.961E-02	8.630E-03	0.216
TM-171	3.499E+00		2.143E+01	3.399E+01	2.551E+00	0.103
LU-176	9.193E-03		2.196E-02	3.619E-02	5.320E-03	0.254
LU-177	3.783E+00	+	1.450E+00	2.156E+00	2.523E-01	1.755
LU-177M	-1.311E-02		1.608E-01	2.697E-01	2.896E-02	-0.049
HF-181	2.859E-03		3.939E-02	6.606E-02	7.115E-03	0.043
W-181	8.378E-02		3.004E-01	4.443E-01	3.294E-02	0.189
TA-182	-1.243E-01		1.911E-01	2.914E-01	2.367E-02	-0.427
RE-183	5.130E-03		9.386E-02	1.574E-01	1.508E-02	0.033
RE-184	3.118E-02		2.031E-01	3.333E-01	4.676E-02	0.094
OS-185	3.014E-02		3.909E-02	6.803E-02	6.567E-03	0.443
W-188	-2.563E+00		7.853E+00	1.094E+01	1.662E+00	-0.234
IR-192	7.516E-03		3.255E-02	5.290E-02	7.604E-03	0.142
AU-195	1.238E-01		1.887E-01	3.135E-01	2.766E-02	0.395
TL-200	-3.365E-04		3.871E-04	Half-Life too short		
TL-201	1.137E+00		7.248E+00	1.219E+01	1.192E+00	0.093
TL-202	6.227E-02		7.270E-02	1.281E-01	1.382E-02	0.486
HG-203	2.997E-03		4.060E-02	5.880E-02	9.185E-03	0.051
BI-207	-1.661E-02		4.924E-02	7.649E-02	6.871E-03	-0.217
TL-207	-2.392E-01		6.923E-01	9.491E-01	1.985E-01	-0.252
PO-209	-1.693E+00		7.532E+00	1.238E+01	1.218E+00	-0.137
PB-211	-6.693E-01		9.489E-01	1.362E+00	8.578E-01	-0.492
PO-215	-2.392E-01		6.923E-01	9.491E-01	1.985E-01	-0.252
RN-219	2.646E-02		3.768E-01	6.397E-01	1.043E-01	0.041
RN-220	-4.528E+00		2.521E+01	4.103E+01	4.311E+00	-0.110
RA-223	-2.392E-01		6.923E-01	9.491E-01	1.985E-01	-0.252
AC-227	-2.053E-01		3.583E-01	5.589E-01	1.065E-01	-0.367
TH-227	-2.053E-01		3.589E-01	5.589E-01	1.191E-01	-0.367
TH-229	2.217E-01		4.463E-01	7.552E-01	8.292E-02	0.294
PA-231	1.229E+00		1.486E+00	2.485E+00	4.924E-01	0.494
TH-231	-2.392E-01		6.923E-01	9.491E-01	1.985E-01	-0.252
U-231	7.311E-01		1.060E+00	1.578E+00	1.414E-01	0.463
PA-233	5.233E-02		5.774E-02	9.757E-02	1.431E-02	0.536
PA-234	-2.914E-02		2.753E-01	4.545E-01	8.757E-02	-0.064
PA-234M	4.074E+00		4.376E+00	7.807E+00	8.305E-01	0.522
U-235	3.908E-02		1.832E-01	3.056E-01	5.402E-02	0.128
NP-236	-5.211E-03		6.758E-02	1.127E-01	1.072E-02	-0.046
NP-239	-6.018E-02		1.543E-01	2.582E-01	2.185E-02	-0.233
AM-241	4.486E-03		1.181E-01	1.736E-01	1.364E-02	0.026

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.551E-02		7.487E-02	1.271E-01	1.100E-02	-0.122
AM-246	6.827E-02		1.381E-01	2.388E-01	2.118E-02	0.286
CM-247	1.642E-02		3.339E-02	5.811E-02	6.220E-03	0.283
CF-249	1.834E-02		3.598E-02	6.281E-02	6.840E-03	0.292
CF-251	-3.718E-02		1.117E-01	1.829E-01	1.863E-02	-0.203

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243630007          *
* Acquisition date   : 7-JAN-2010 13:23:35 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 02:00:01.66 Half life ratio : 8.000    *
*****
*
*                                     SAMPLE DATA                          *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630007 Analyst initials: MXR1         *
* Batch Number       : 937702 Sample Quantity : 1.2095E+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	2.051E+01	2.251E+00	2.581E-01	1.148E+00
CD-109	4.341E+00	9.655E-01	4.719E-01	4.926E-01
SN-126	4.261E-01	9.477E-02	4.647E-02	4.835E-02
BA-137M	2.619E-01	5.726E-02	2.981E-02	2.921E-02
CS-137	2.769E-01	6.054E-02	3.152E-02	3.089E-02
RE-188	2.689E-01	2.138E-01	1.252E-01	1.091E-01
TL-208	4.845E-01	9.217E-02	2.682E-02	4.702E-02
BI-210	2.352E+00	3.808E+00	1.687E+00	1.943E+00
PB-210	2.352E+00	3.808E+00	1.687E+00	1.943E+00
PO-210	2.352E+00	3.807E+00	1.687E+00	1.942E+00
BI-211	4.524E+00	7.336E-01	1.504E-01	3.743E-01
BI-212	1.490E+00	4.604E-01	1.969E-01	2.349E-01
PB-212	1.792E+00	2.694E-01	4.129E-02	1.374E-01
PO-212	1.792E+00	2.694E-01	4.129E-02	1.374E-01
BI-214	1.403E+00	2.357E-01	4.934E-02	1.203E-01
PB-214	1.574E+00	2.676E-01	5.242E-02	1.365E-01
PO-214	1.574E+00	2.676E-01	5.242E-02	1.365E-01
PO-216	1.792E+00	2.694E-01	4.129E-02	1.374E-01
PO-218	1.574E+00	2.676E-01	5.242E-02	1.365E-01
RA-224	2.621E+00	1.036E+00	4.700E-01	5.286E-01
RA-226	1.403E+00	2.357E-01	4.934E-02	1.203E-01
AC-228	1.703E+00	3.724E-01	9.814E-02	1.900E-01
RA-228	1.703E+00	3.724E-01	9.814E-02	1.900E-01
TH-228	1.820E+00	2.737E-01	4.196E-02	1.397E-01
TH-230	1.403E+00	2.357E-01	4.933E-02	1.203E-01
TH-232	1.703E+00	3.724E-01	9.814E-02	1.900E-01
TH-234	1.823E+00	1.254E+00	8.102E-01	6.399E-01
U-234	1.403E+00	2.357E-01	4.933E-02	1.203E-01
NP-237	1.251E+00	3.761E-01	1.376E-01	1.919E-01
U-238	1.823E+00	1.254E+00	8.102E-01	6.399E-01
AM-243	3.715E-01	6.448E-02	3.723E-02	3.290E-02
ANH-511	1.050E-01	6.496E-02	2.083E-02	3.315E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.855E-01	2.824E-01	2.304E-01	1.441E-01 NOT IDENT.
NA-22	-9.037E-03	3.546E-02	2.843E-02	1.809E-02 NOT IDENT.
NA-24	-3.100E+05	1.992E+06	0.000E+00	1.016E+06 SHORT HLIF
AL-26	8.445E-03	2.747E-02	2.440E-02	1.402E-02 NOT IDENT.
TI-44	3.897E-01	5.218E-02	2.891E-02	2.662E-02 FAIL ABUN
SC-46	-1.680E-02	3.594E-02	2.950E-02	1.834E-02 FAIL ABUN
V-48	2.844E-02	6.545E-02	5.812E-02	3.339E-02 NOT IDENT.
CR-51	1.689E-01	3.604E-01	3.076E-01	1.839E-01 NOT IDENT.
MN-52	1.057E-01	2.211E-01	1.955E-01	1.128E-01 NOT IDENT.
MN-54	-2.206E-04	3.336E-02	2.884E-02	1.702E-02 NOT IDENT.
CO-56	-1.684E-02	3.613E-02	2.987E-02	1.843E-02 NOT IDENT.
CO-57	-3.798E-03	2.001E-02	1.770E-02	1.021E-02 NOT IDENT.
CO-58	1.028E-03	3.484E-02	2.868E-02	1.778E-02 NOT IDENT.
FE-59	-5.814E-02	8.789E-02	6.893E-02	4.484E-02 NOT IDENT.
CO-60	-4.568E-02	3.499E-02	2.334E-02	1.785E-02 NOT IDENT.
ZN-65	2.988E-02	9.494E-02	7.214E-02	4.844E-02 NOT IDENT.
GE-68	1.246E+00	1.171E+00	1.084E+00	5.973E-01 NOT IDENT.
AS-73	-5.007E-01	5.566E-01	4.379E-01	2.840E-01 NOT IDENT.
AS-74	-3.500E-02	8.684E-02	7.085E-02	4.431E-02 NOT IDENT.
SE-75	-3.355E-02	4.412E-02	3.085E-02	2.251E-02 NOT IDENT.
BR-77	-1.460E-01	1.304E+01	1.114E+01	6.651E+00 FAIL ABUN
SR-82	5.489E-02	3.644E-01	3.047E-01	1.859E-01 NOT IDENT.
RB-83	-2.335E-02	6.659E-02	5.546E-02	3.398E-02 NOT IDENT.
RB-84	1.846E-02	6.150E-02	5.444E-02	3.138E-02 NOT IDENT.
KR-85	2.201E+00	6.839E+00	5.318E+00	3.489E+00 NOT IDENT.
SR-85	1.139E-02	3.541E-02	2.754E-02	1.807E-02 NOT IDENT.
RB-86	7.964E-01	7.647E-01	7.073E-01	3.901E-01 NOT IDENT.
Y-88	6.267E-03	3.033E-02	2.642E-02	1.547E-02 NOT IDENT.
ZR-88	8.141E-03	2.732E-02	2.438E-02	1.394E-02 NOT IDENT.
Y-91	-1.110E+01	1.683E+01	1.305E+01	8.589E+00 NOT IDENT.
NB-94	8.511E-03	3.048E-02	2.599E-02	1.555E-02 NOT IDENT.
NB-95	3.500E-02	4.752E-02	3.711E-02	2.424E-02 NOT IDENT.
NB-95M	2.784E-02	1.206E-01	9.306E-02	6.151E-02 NOT IDENT.
ZR-95	5.631E-02	6.184E-02	5.556E-02	3.155E-02 NOT IDENT.
NB-97	1.245E+05	2.256E+05	0.000E+00	1.151E+05 SHORT HLIF
ZR-97	2.158E+06	4.644E+06	0.000E+00	2.369E+06 SHORT HLIF
MO-99	1.253E+00	1.300E+01	1.087E+01	6.635E+00 NOT IDENT.
TC-99M	-1.019E+16	4.462E+17	0.000E+00	0.000E+00 SHORT HLIF
RH-101	1.236E-03	2.916E-02	2.472E-02	1.488E-02 FAIL ABUN
RH-102	-2.549E-02	2.414E-02	1.886E-02	1.232E-02 FAIL ABUN
RU-103	-2.412E-02	3.463E-02	2.784E-02	1.767E-02 NOT IDENT.
RH-106	7.331E-02	2.837E-01	2.441E-01	1.447E-01 NOT IDENT.
RU-106	7.331E-02	2.836E-01	2.441E-01	1.447E-01 NOT IDENT.
AG-108M	-3.048E-02	2.992E-02	2.384E-02	1.527E-02 NOT IDENT.
AG-110M	1.253E-02	3.165E-02	2.447E-02	1.615E-02 NOT IDENT.
IN-111	-9.545E-01	1.294E+00	9.177E-01	6.601E-01 NOT IDENT.
IN-113M	-3.207E-02	3.950E-02	3.267E-02	2.015E-02 NOT IDENT.
SN-113	-3.207E-02	3.950E-02	3.267E-02	2.015E-02 NOT IDENT.
IN-114M	-1.864E-01	1.734E-01	1.237E-01	8.846E-02 NOT IDENT.
CD-115	-1.230E+01	1.286E+01	1.005E+01	6.562E+00 NOT IDENT.
SN-117M	1.205E-03	5.044E-02	4.227E-02	2.573E-02 NOT IDENT.
SB-122	1.682E+00	2.324E+00	2.083E+00	1.186E+00 NOT IDENT.
I-123	1.831E+06	1.571E+07	0.000E+00	8.017E+06 SHORT HLIF
TE-123M	2.760E-03	2.369E-02	2.086E-02	1.209E-02 NOT IDENT.
I-124	3.670E-01	7.754E-01	6.043E-01	3.956E-01 NOT IDENT.
SB-124	-2.202E-02	6.012E-02	4.653E-02	3.067E-02 FAIL ABUN
SB-125	-4.231E-02	8.065E-02	6.750E-02	4.115E-02 FAIL ABUN
TE-125M	5.370E+00	7.278E+00	6.710E+00	3.713E+00 NOT IDENT.
I-126	1.844E-01	1.947E-01	1.581E-01	9.934E-02 NOT IDENT.
SB-126	1.096E-01	1.464E-01	1.167E-01	7.469E-02 FAIL ABUN
SB-127	1.094E+00	1.377E+00	1.231E+00	7.025E-01 NOT IDENT.
XE-127	1.648E-02	4.076E-02	3.575E-02	2.080E-02 NOT IDENT.
I-131	5.282E-02	1.187E-01	1.005E-01	6.058E-02 NOT IDENT.
TE-132	-4.015E-01	7.425E-01	6.037E-01	3.788E-01 NOT IDENT.
BA-133	5.921E-03	4.387E-02	3.246E-02	2.238E-02 FAIL ABUN
I-133	-1.035E+04	1.115E+04	0.000E+00	5.688E+03 SHORT HLIF
CS-134	6.524E-02	6.080E-02	4.100E-02	3.102E-02 FAIL ABUN
CS-135	2.545E-01	1.588E-01	1.301E-01	8.104E-02 NOT IDENT.
I-135	2.869E+15	5.034E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	2.327E-02	9.664E-02	8.390E-02	4.931E-02 FAIL ABUN
CE-139	-3.274E-03	2.526E-02	2.194E-02	1.289E-02 NOT IDENT.
BA-140	6.256E-02	2.555E-01	2.214E-01	1.304E-01 NOT IDENT.
LA-140	-8.100E-02	8.583E-02	6.191E-02	4.379E-02 FAIL ABUN

CE-141	-1.401E-02	5.121E-02	4.458E-02	2.613E-02	NOT IDENT.
CE-143	1.269E+03	4.043E+02	0.000E+00	2.063E+02	SHORT HLIF
CE-144	4.263E-03	1.765E-01	1.497E-01	9.004E-02	NOT IDENT.
PM-144	1.294E-02	3.167E-02	2.731E-02	1.616E-02	NOT IDENT.
PR-144	8.776E-01	2.147E+00	1.851E+00	1.095E+00	NOT IDENT.
PM-146	-6.227E-03	4.061E-02	3.479E-02	2.072E-02	NOT IDENT.
ND-147	1.072E-01	5.091E-01	4.422E-01	2.598E-01	FAIL ABUN
PM-149	-7.408E+01	1.196E+02	9.572E+01	6.103E+01	NOT IDENT.
EU-152	7.929E-03	9.139E-02	7.582E-02	4.663E-02	FAIL ABUN
GD-153	-9.583E-02	7.534E-02	5.106E-02	3.844E-02	FAIL ABUN
EU-154	-2.638E-02	9.888E-02	7.912E-02	5.045E-02	NOT IDENT.
EU-155	5.030E-02	8.385E-02	7.714E-02	4.278E-02	FAIL ABUN
TB-160	8.904E-02	1.219E-01	1.119E-01	6.221E-02	FAIL ABUN
HO-166M	1.933E-02	5.246E-02	4.514E-02	2.676E-02	FAIL ABUN
TM-171	3.499E+00	2.100E+01	1.761E+01	1.072E+01	NOT IDENT.
LU-176	9.193E-03	2.152E-02	1.842E-02	1.098E-02	FAIL ABUN
LU-177	3.783E+00	1.421E+00	1.102E+00	7.249E-01	FAIL ABUN
LU-177M	-1.311E-02	1.576E-01	1.368E-01	8.040E-02	FAIL ABUN
HF-181	2.859E-03	3.860E-02	3.343E-02	1.969E-02	NOT IDENT.
W-181	8.378E-02	2.943E-01	2.303E-01	1.502E-01	NOT IDENT.
TA-182	-1.243E-01	1.872E-01	1.458E-01	9.553E-02	FAIL ABUN
RE-183	5.130E-03	9.199E-02	8.069E-02	4.693E-02	FAIL ABUN
RE-184	3.118E-02	1.990E-01	1.700E-01	1.015E-01	NOT IDENT.
OS-185	3.014E-02	3.831E-02	3.431E-02	1.955E-02	NOT IDENT.
W-188	-2.563E+00	7.696E+00	5.570E+00	3.927E+00	FAIL ABUN
IR-192	7.516E-03	3.190E-02	2.691E-02	1.628E-02	FAIL ABUN
AU-195	1.238E-01	1.850E-01	1.617E-01	9.437E-02	FAIL ABUN
TL-200	-3.365E+02	7.587E+02	0.000E+00	3.871E+02	SHORT HLIF
TL-201	1.137E+00	7.103E+00	6.248E+00	3.624E+00	NOT IDENT.
TL-202	6.227E-02	7.125E-02	6.493E-02	3.635E-02	NOT IDENT.
HG-203	2.997E-03	3.978E-02	2.996E-02	2.030E-02	NOT IDENT.
BI-207	-1.661E-02	4.826E-02	3.834E-02	2.462E-02	FAIL ABUN
TL-207	-2.392E-01	6.785E-01	4.826E-01	3.462E-01	FAIL ABUN
PO-209	-1.693E+00	7.381E+00	6.216E+00	3.766E+00	NOT IDENT.
PB-211	-6.693E-01	9.299E-01	6.907E-01	4.744E-01	NOT IDENT.
PO-215	-2.392E-01	6.785E-01	4.826E-01	3.462E-01	FAIL ABUN
RN-219	2.646E-02	3.693E-01	3.245E-01	1.884E-01	FAIL ABUN
RN-220	-4.528E+00	2.470E+01	2.073E+01	1.260E+01	NOT IDENT.
RA-223	-2.392E-01	6.785E-01	4.826E-01	3.462E-01	FAIL ABUN
AC-227	-2.053E-01	3.512E-01	2.850E-01	1.792E-01	FAIL ABUN
TH-227	-2.053E-01	3.517E-01	2.850E-01	1.794E-01	FAIL ABUN
TH-229	2.217E-01	4.374E-01	3.864E-01	2.231E-01	FAIL ABUN
PA-231	1.229E+00	1.456E+00	1.266E+00	7.431E-01	NOT IDENT.
TH-231	-2.392E-01	6.785E-01	4.826E-01	3.462E-01	FAIL ABUN
U-231	7.311E-01	1.038E+00	8.143E-01	5.298E-01	FAIL ABUN
PA-233	5.233E-02	5.659E-02	4.964E-02	2.887E-02	FAIL ABUN
PA-234	-2.914E-02	2.698E-01	2.281E-01	1.376E-01	FAIL ABUN
PA-234M	4.074E+00	4.288E+00	3.916E+00	2.188E+00	NOT IDENT.
U-235	3.908E-02	1.795E-01	1.569E-01	9.158E-02	FAIL ABUN
NP-236	-5.211E-03	6.623E-02	5.779E-02	3.379E-02	NOT IDENT.
NP-239	-6.018E-02	1.513E-01	1.329E-01	7.717E-02	FAIL ABUN
AM-241	4.486E-03	1.158E-01	9.009E-02	5.906E-02	NOT IDENT.
CM-243	-1.551E-02	7.337E-02	6.551E-02	3.743E-02	FAIL ABUN
AM-246	6.827E-02	1.353E-01	1.197E-01	6.904E-02	NOT IDENT.
CM-247	1.642E-02	3.272E-02	2.948E-02	1.670E-02	FAIL ABUN
CF-249	1.834E-02	3.526E-02	3.187E-02	1.799E-02	NOT IDENT.
CF-251	-3.718E-02	1.095E-01	9.369E-02	5.587E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	188.1345
46.50	188.1345
46.50	188.1345
48.70	187.0319
49.72	199.4166
51.35	182.4521
52.39	203.0526
52.97	217.8906
53.15	218.0184
53.44	221.5635
54.07	230.9396
56.28	221.3267
56.28	221.3289
57.37	0.0000
57.53	253.7696
57.53	253.7713
57.60	253.8245
57.98	264.2863
57.98	264.2863
59.32	251.0010
59.32	251.0010
59.40	251.0618
59.54	251.1674
59.72	254.3311
60.01	242.4312
61.10	259.9407
61.14	259.9712
61.30	260.0938
63.00	286.6125
63.29	310.5660
63.29	310.5660
63.58	310.8262
64.28	319.1226
65.12	282.9760
65.20	286.1166
65.20	286.1166
66.05	308.3903
66.72	287.3384
66.83	287.4293
66.91	287.4917
67.20	313.2484
67.20	313.2484
67.75	346.2586
67.85	346.3541
68.90	320.5431
68.90	320.5431
69.30	329.0595
69.67	345.7458
70.82	321.8184
70.82	321.8184
70.83	321.8268
72.80	384.7589
72.87	384.8287
72.87	384.8287
74.67	360.9891
74.81	361.1194
74.81	361.1194
74.81	361.1194
74.81	361.1194
74.81	361.1194
74.81	361.1194
74.81	361.1194
74.97	361.2683
75.28	361.5569
75.70	361.9455
77.11	363.2416
77.11	363.2416

77.11	363.2416
77.11	363.2416
77.11	363.2416
77.11	363.2416
77.11	363.2416
78.38	332.9385
79.62	316.3863
79.80	316.5273
79.80	316.5273
80.11	259.1746
80.18	259.2191
80.30	259.2949
80.30	259.2949
80.57	290.6984
81.00	317.4598
81.07	317.5142
81.07	317.5142
81.07	317.5142
81.07	317.5142
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83.78	244.5354
83.78	244.5354
83.78	244.5354
84.21	244.7851
84.90	245.1858
85.43	245.4909
86.29	245.9856
86.50	246.1058
86.54	246.1289
86.59	246.1582
86.72	246.2322
86.79	246.2707
86.94	246.3570
87.30	246.5635
87.30	246.5635
87.30	246.5635
87.30	246.5635
87.30	246.5635
87.30	246.5635
87.57	246.7161
87.88	246.8933
88.03	246.9781
88.36	247.1661
88.47	247.2278
89.95	248.0631
91.11	248.7119
92.29	249.3684
92.38	249.4177
92.38	249.4177
93.35	249.9540
94.00	250.3116
94.67	250.6768
94.67	250.6799
94.90	250.8047
94.90	250.8047
94.90	250.8047
94.90	250.8047
95.87	204.0541
95.87	204.0541
96.73	265.9310
97.43	276.3154
98.44	205.1802
98.44	205.1814
98.88	222.4038
99.55	222.3837
99.55	222.3837
99.86	222.5298
100.00	222.5948
100.10	217.6215
103.18	251.0252
103.76	229.3976
105.00	214.7582
105.31	222.5082
108.00	239.8738
109.28	213.1933

111.00	243.0066
111.00	243.0066
111.76	242.5093
112.95	234.4789
115.19	217.3700
116.30	223.0139
117.00	231.9632
117.00	231.9632
117.66	219.2517
121.11	191.8745
121.62	209.5129
121.78	209.5740
122.06	214.9234
122.32	215.0248
122.32	215.0248
122.32	215.0248
122.32	215.0248
123.07	216.1928
127.23	239.4116
129.76	263.0632
131.20	223.7633
133.02	235.1545
133.54	227.8752
135.34	233.4010
136.00	215.7561
136.25	220.3250
136.48	237.4336
140.51	235.4214
140.51	0.0000
142.18	245.1086
142.65	219.0491
143.76	217.6294
144.24	219.6128
144.24	219.6128
144.24	219.6128
144.24	219.6128
145.22	225.4135
145.44	220.0363
147.16	222.4653
152.43	238.5613
152.70	253.8367
153.22	235.6328
154.21	235.9896
154.21	235.9896
154.21	235.9896
154.21	235.9896
155.03	215.9818
156.02	224.6287
158.56	212.6880
159.00	0.0000
159.00	206.1422
160.31	211.1984
161.27	219.8864
162.32	207.1652
162.64	203.5279
163.35	211.2175
163.89	202.0320
165.85	213.8683
167.43	193.6740
171.28	192.8562
171.86	212.8830
172.10	212.9562
176.55	216.1931
176.60	216.2093
181.06	231.1476
184.41	213.7143
185.71	198.6593
186.00	198.7348
190.27	212.4748
192.34	190.6765
193.63	188.0721
197.04	174.2192
198.01	187.1743
198.60	205.9476
200.40	180.8629
201.83	201.8678
202.84	184.3768
205.31	175.0554

208.36	185.6418
208.81	183.2613
209.75	168.5551
209.75	168.5551
210.97	177.7701
215.65	174.2673
216.55	187.4889
218.09	180.8020
222.10	187.7123
223.80	169.8833
226.40	157.2090
227.00	153.2580
227.08	153.2718
227.20	155.3237
228.16	167.6906
228.18	179.8899
228.18	179.8899
231.56	0.0000
235.69	184.4989
236.00	190.7151
236.00	190.7151
238.63	169.6779
238.63	169.6779
238.63	169.6779
238.63	169.6779
239.00	169.7467
240.98	170.1176
241.98	170.3056
241.98	170.3056
241.98	170.3056
244.69	158.3867
245.39	163.1685
247.94	125.7007
248.90	140.3888
249.79	144.6856
252.40	127.3440
252.85	133.6706
252.85	133.6706
254.15	0.0000
256.20	166.6310
256.20	166.6310
260.50	148.4298
260.90	151.6494
262.80	111.8508
264.65	150.6496
268.24	120.9603
268.79	128.4591
269.46	128.5477
269.46	128.5477
269.46	128.5477
269.46	128.5477
271.23	145.2729
273.65	144.0225
276.40	145.4878
277.35	145.6234
277.60	145.6593
277.60	145.6593
278.00	145.7174
278.60	125.4337
279.20	130.3347
279.53	130.3767
280.46	165.9385
281.68	127.4251
283.67	131.4419
284.30	135.8335
285.00	162.8952
285.90	163.0365
286.10	161.9873
286.10	161.9873
287.40	142.7288
288.45	0.0000
290.67	148.0555
290.80	149.7021
291.72	148.2027
293.26	0.0000
293.70	124.0056
295.21	124.1819
295.21	124.1819

295.21	124.1819
295.96	124.2700
296.50	124.3326
297.23	124.4185
298.57	124.5739
299.80	124.7153
299.80	124.7153
300.09	124.7501
300.09	124.7501
300.09	124.7501
300.09	124.7501
300.12	124.7524
301.29	124.8870
302.84	95.4448
303.76	107.0552
303.91	107.0691
304.40	115.3586
304.40	115.3586
304.84	108.8110
306.84	105.7051
308.46	113.5804
311.98	97.3493
316.51	115.5168
318.01	136.8010
319.02	142.4896
319.41	129.1760
320.08	119.2234
323.87	125.7706
323.87	125.7706
323.87	125.7706
323.87	125.7706
325.23	110.8090
328.77	121.2539
333.44	121.7417
334.20	121.8208
334.20	121.8208
334.30	121.8318
338.28	122.2427
338.28	122.2427
338.28	122.2427
338.28	122.2427
338.32	122.2471
338.32	122.2471
338.32	122.2471
340.50	129.2751
340.57	129.2844
344.27	116.0345
345.85	125.2987
350.59	0.0000
351.07	108.6802
351.92	108.7556
351.92	108.7556
351.92	108.7556
355.39	0.0000
356.01	101.6529
364.48	99.4550
366.43	105.4002
367.43	95.0511
367.94	0.0000
369.80	104.5203
374.96	110.7734
383.85	94.2193
387.95	95.3965
388.63	101.6322
391.69	112.4970
391.69	112.4970
392.90	96.6390
398.62	113.0803
400.65	98.0896
401.10	99.0152
401.81	102.6377
402.60	93.7672
404.84	115.3886
410.95	102.4254
411.60	118.6542
413.65	100.8250
414.70	108.1091
415.30	91.0304

415.76	96.4708
417.63	0.0000
418.52	97.5652
423.70	100.6446
427.08	92.7036
427.89	95.4847
432.53	76.6351
433.93	101.3661
439.47	92.5885
439.56	92.5931
439.89	99.0335
443.98	89.1954
444.90	76.3700
445.03	76.3763
445.03	76.3763
445.03	76.3763
445.03	76.3763
453.90	96.2749
463.38	87.5656
468.07	74.7534
473.00	68.4308
475.06	81.6634
475.35	77.9227
476.78	85.5125
477.59	84.6167
477.96	77.1140
482.03	79.1999
484.57	78.3837
487.03	66.2093
490.36	0.0000
492.35	59.7883
497.08	75.1944
507.63	0.0000
510.53	0.0000
510.84	71.0332
511.00	71.0399
511.85	71.0772
511.85	71.0772
513.99	76.9391
513.99	76.9391
520.41	88.8218
520.65	83.0422
527.90	81.4622
528.96	0.0000
529.64	77.6611
529.87	0.0000
531.02	63.1512
537.32	75.0872
543.00	75.3363
546.56	0.0000
549.76	80.5411
552.65	69.8516
555.20	86.7029
563.23	52.4549
563.90	61.3851
568.70	68.5009
569.32	66.5379
569.50	59.5917
569.67	59.5972
573.80	75.6637
574.00	71.6880
574.64	68.7263
578.91	73.4810
579.30	0.0000
583.14	68.0477
585.48	62.5219
591.81	65.3511
592.07	71.3943
593.00	64.3867
595.88	75.5699
600.56	68.1117
602.52	0.0000
602.71	64.7227
602.71	64.7227
603.60	56.6580
604.41	64.7813
604.70	72.8899
609.31	64.9492

609.31	64.9492
609.31	64.9492
609.31	64.9492
610.33	64.9824
612.46	52.0453
614.37	43.9567
618.01	58.1081
621.84	59.2461
621.84	59.2461
631.29	57.4817
633.02	56.5056
633.10	56.5073
634.78	53.4711
635.90	63.7899
636.97	58.6769
645.85	54.8051
646.12	50.6748
656.30	58.2097
657.75	44.9363
657.90	0.0000
661.65	78.3739
661.65	78.3739
664.57	0.0000
666.33	53.4828
666.33	53.4828
675.00	57.6956
677.61	57.7678
685.20	44.2751
692.80	50.7832
695.00	63.5449
696.49	60.4094
696.49	60.4094
697.00	56.1847
697.49	65.7407
698.33	65.7672
698.50	65.7709
699.00	61.5418
702.63	60.5851
706.10	53.2303
706.58	0.0000
706.67	57.5035
709.31	61.8392
711.68	50.1670
713.82	53.4210
717.42	63.1430
720.50	44.5834
721.93	0.0000
722.20	51.4834
722.78	51.4966
722.78	51.4966
722.89	51.4995
722.95	51.5010
723.30	65.2438
724.18	61.8346
727.18	50.5241
733.00	43.1128
735.90	50.7249
739.58	50.8081
742.81	49.8001
744.21	59.5805
747.13	58.5731
751.79	68.4756
752.31	67.4057
753.82	54.3945
755.35	41.3677
756.15	40.2937
756.87	49.0210
763.93	65.5646
765.79	62.9930
766.42	73.5123
766.84	77.0258
776.49	54.9347
778.00	53.8719
778.57	64.0969
778.89	64.5247
783.80	52.9043
785.46	56.2497
792.07	53.0903

795.84	63.8103
796.30	62.0498
798.80	69.2136
801.93	53.3115
805.60	50.0565
810.29	55.7266
810.76	45.7046
815.85	60.3232
817.79	39.1293
818.51	32.4312
819.60	42.5157
826.30	58.3397
828.27	0.0000
831.60	60.7137
831.96	60.7236
834.83	57.6422
836.80	0.0000
846.75	57.9188
848.13	49.8021
856.28	0.0000
856.80	33.3160
860.37	40.9460
867.32	41.0581
867.82	43.8035
871.10	34.7223
873.19	40.2381
874.81	43.9230
875.33	0.0000
876.40	51.2764
879.36	37.5847
880.27	43.0998
880.51	43.1038
881.50	41.2855
883.24	49.5756
884.67	45.0104
889.25	53.3710
896.60	60.9050
898.02	51.7043
899.00	55.4180
903.28	47.7992
911.07	47.3219
911.07	47.3219
911.07	47.3219
919.63	35.3727
920.93	37.2520
925.00	40.1067
925.24	37.3125
926.50	38.3670
935.52	43.6964
937.48	39.0432
944.10	45.0867
946.00	46.9983
949.00	46.1086
962.29	47.2766
964.01	53.9287
966.15	53.9691
968.20	54.0094
969.11	54.0275
969.11	54.0275
969.11	54.0275
977.42	44.3641
980.50	37.1157
983.50	39.0611
989.30	37.2309
996.32	56.4634
1001.03	33.5499
1001.68	36.4340
1004.76	50.8702
1021.30	0.0000
1024.50	0.0000
1034.80	36.8496
1036.00	48.5059
1037.82	40.7695
1038.57	41.7507
1038.76	0.0000
1045.16	45.7378
1046.59	40.8905
1048.07	37.0147

1050.47	38.9941
1050.47	38.9941
1062.04	45.0162
1063.62	42.1014
1076.63	36.3821
1077.35	36.3912
1078.86	43.2975
1085.78	33.5318
1099.22	55.4695
1112.02	50.9722
1112.84	53.0599
1115.52	48.1257
1120.29	36.5646
1120.29	36.5646
1120.29	36.5646
1120.29	36.5646
1120.51	36.5664
1121.28	41.5629
1124.00	0.0000
1129.67	42.0061
1131.51	0.0000
1147.95	0.0000
1167.94	45.5427
1173.22	49.6699
1175.09	42.5988
1177.93	44.6660
1189.05	44.8164
1204.90	54.2396
1205.75	0.0000
1213.00	63.6015
1221.42	63.7589
1230.97	54.6563
1235.34	65.0518
1236.41	0.0000
1238.25	47.5386
1246.25	44.5411
1260.41	0.0000
1271.85	31.3037
1274.45	32.3714
1274.54	32.3714
1291.56	33.5766
1298.22	0.0000
1312.09	28.4924
1325.50	24.3611
1325.50	24.3611
1332.49	29.7131
1333.61	30.7842
1360.21	31.0051
1362.66	0.0000
1365.15	34.2578
1368.21	27.8573
1368.53	0.0000
1376.25	35.4331
1384.27	25.8234
1394.10	31.2840
1395.20	38.8477
1407.95	21.6533
1434.06	15.2599
1436.60	23.9948
1457.56	0.0000
1460.81	21.9482
1489.15	11.0518
1509.49	14.8099
1596.49	27.4058
1620.62	15.6802
1678.03	0.0000
1691.02	11.5859
1691.02	11.5859
1706.46	0.0000
1750.46	0.0000
1764.49	8.4089
1764.49	8.4089
1764.49	8.4089
1764.49	8.4089
1770.23	20.6274
1771.40	9.8250
1791.20	0.0000
1808.65	9.9023

1836.01

9.9585

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630007

Total Uranium Activity	5.4403E+00	ug/g
Total Uranium Counting Unc.	3.7321E+00	ug/g
Total Uranium Tpu	1.9041E-06	ug/g
Total Uranium Mda	2.4116E+00	ug/g

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*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
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*
*  BATCH ID      : 937702          SAMPLE ID : G243630007
*  ANALYST       : MXR1            DETECTOR  : GAM11
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 7-JAN-2010 13:23:35.57  SAMPLE ALQT: 120.950 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.601E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.517E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.935E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.901E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:25:20.46

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630008.CNF;1
Sample date   : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:24:02.
Sample ID    : G243630008 Sample quantity : 1.23170E+02 GRAM
Detector name : GAM12 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 937702 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.94*	96	463	1.10	125.35	121	9	1.34E-02	42.7	
2	3	74.72*	368	397	0.92	148.93	142	17	5.11E-02	10.1	6.80E-01
3	3	76.97	674	409	1.09	153.44	142	17	9.37E-02	6.5	
4	6	83.92*	111	340	1.48	167.34	164	28	1.54E-02	28.6	2.53E+00
5	6	87.10*	285	406	1.55	173.70	164	28	3.96E-02	14.0	
6	6	89.74	222	332	1.34	178.99	164	28	3.08E-02	16.3	
7	6	92.78*	281	375	1.67	185.07	164	28	3.90E-02	15.8	
8	0	105.56	83	270	1.40	210.63	207	8	1.15E-02	36.5	
9	0	185.72*	179	307	1.26	371.04	366	10	2.48E-02	20.8	
10	0	208.91*	143	328	1.24	417.44	412	12	1.98E-02	26.8	
11	5	238.36*	1288	160	1.07	476.36	469	19	1.79E-01	3.3	1.60E+00
12	5	241.37*	244	235	1.48	482.39	469	19	3.39E-02	14.0	
13	0	270.06	116	160	1.07	539.81	535	10	1.61E-02	22.5	
14	0	294.83*	414	177	1.23	589.36	584	11	5.76E-02	8.0	
15	0	300.44	47	205	0.86	600.59	596	10	6.54E-03	59.2	
16	0	327.52	73	204	0.73	654.77	649	13	1.01E-02	42.3	
17	0	338.02*	246	176	1.13	675.77	670	12	3.42E-02	12.7	
18	0	351.55*	670	161	1.34	702.85	697	13	9.31E-02	5.6	
19	0	462.66	97	102	1.41	925.14	918	14	1.35E-02	24.2	
20	0	510.65*	155	128	1.65	1021.16	1015	14	2.15E-02	20.0	
21	0	582.80*	385	124	1.52	1165.51	1160	14	5.34E-02	8.1	
22	0	608.89*	497	111	1.32	1217.70	1212	14	6.90E-02	6.5	
23	0	726.64*	102	70	1.81	1453.25	1446	14	1.41E-02	20.4	
24	0	769.42	24	111	0.98	1538.83	1531	12	3.29E-03	91.3	
25	0	910.48*	241	48	1.89	1820.99	1815	12	3.34E-02	8.9	
26	0	933.44	31	38	1.62	1866.92	1863	12	4.33E-03	42.7	
27	2	963.86	50	35	2.19	1927.76	1920	23	6.99E-03	30.5	1.72E+00
28	2	968.32*	162	38	2.01	1936.68	1920	23	2.25E-02	11.4	
29	0	1119.85	132	42	2.24	2239.77	2233	19	1.83E-02	15.1	
30	0	1237.46	77	46	1.87	2474.99	2465	18	1.07E-02	24.1	
31	0	1376.86	43	14	1.78	2753.75	2747	15	5.99E-03	24.7	
32	0	1459.75*	790	13	2.24	2919.52	2909	18	1.10E-01	3.8	
33	0	1763.08*	95	0	1.68	3526.05	3519	15	1.31E-02	11.1	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630008.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:24:02
 Sample ID : G243630008 Sample quantity : 123.17 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA12 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 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
K-40	+	1460.81	*	1.983E+01	2.055E+00	4.148E-01	2.957E-02	47.797
CD-109	+	88.03	*	4.236E+00	1.226E+00	1.113E+00	8.518E-02	3.805
SN-126	+	64.28		9.663E-01	8.370E-01	7.904E-01	1.110E-01	1.223
	+	86.94		1.729E+00	8.597E-01	4.595E-01	1.891E-01	3.762
	+	87.57	*	4.158E-01	1.203E-01	1.098E-01	8.367E-03	3.788
EU-155		48.70		-1.429E+00	2.154E+00	3.571E+00	2.333E-01	-0.400
		60.01		3.553E+00	4.995E+00	7.890E+00	4.958E-01	0.450
	+	86.54		5.010E-01	1.451E-01	1.337E-01	1.022E-02	3.746
	+	105.31	*	1.896E-01	1.391E-01	1.681E-01	1.133E-02	1.128
TL-208		277.35		4.039E-01	3.617E-01	6.351E-01	6.651E-02	0.636
	+	510.84		7.824E-01	3.238E-01	2.358E-01	2.435E-02	3.318
	+	583.14	*	5.557E-01	9.796E-02	6.093E-02	4.359E-03	9.120
		860.37		4.857E-01	3.238E-01	5.875E-01	5.134E-02	0.827
BI-211		72.87		6.209E+00	3.032E+00	5.354E+00	3.592E-01	1.160
	+	351.07	*	4.194E+00	5.352E-01	3.198E-01	2.010E-02	13.115
PB-212	+	74.81		2.284E+00	5.310E-01	5.187E-01	5.995E-02	4.403
	+	77.11		2.372E+00	3.503E-01	2.943E-01	2.038E-02	8.058
	+	87.30		1.923E+00	5.887E-01	5.092E-01	6.395E-02	3.777
	+	238.63	*	1.754E+00	1.689E-01	8.703E-02	6.179E-03	20.153
	+	300.09		9.914E-01	1.177E+00	1.138E+00	9.288E-02	0.871
PO-212	+	74.81		2.284E+00	5.310E-01	5.187E-01	5.995E-02	4.403
	+	77.11		2.372E+00	3.503E-01	2.943E-01	2.038E-02	8.058
	+	87.30		1.923E+00	5.887E-01	5.092E-01	6.395E-02	3.777
		115.19		2.529E+00	3.524E+00	5.962E+00	3.782E-01	0.424
	+	238.63	*	1.754E+00	1.689E-01	8.703E-02	6.179E-03	20.153
	+	300.09		9.914E-01	1.177E+00	1.138E+00	9.288E-02	0.871
BI-214	+	609.31	*	1.355E+00	2.084E-01	1.177E-01	9.689E-03	11.512
	+	1120.29		1.872E+00	5.920E-01	3.976E-01	3.612E-02	4.708
	+	1764.49		1.842E+00	4.245E-01	2.355E-01	1.396E-02	7.821
PB-214	+	74.81		3.935E+00	8.871E-01	8.937E-01	8.987E-02	4.403
	+	77.11		4.066E+00	6.757E-01	5.046E-01	5.194E-02	8.058
	+	87.30		3.294E+00	9.864E-01	8.723E-01	9.443E-02	3.777
	+	241.98		1.994E+00	5.791E-01	5.242E-01	4.125E-02	3.805
	+	295.21		1.528E+00	2.767E-01	1.980E-01	1.672E-02	7.716

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.459E+00	2.011E-01	1.115E-01	9.107E-03	13.085
	+	74.81		3.935E+00	8.871E-01	8.937E-01	8.987E-02	4.403
	+	77.11		4.066E+00	6.757E-01	5.046E-01	5.194E-02	8.058
	+	87.30		3.294E+00	9.864E-01	8.723E-01	9.443E-02	3.777
	+	241.98		1.994E+00	5.791E-01	5.242E-01	4.125E-02	3.805
PO-216	+	295.21		1.528E+00	2.767E-01	1.980E-01	1.672E-02	7.716
	+	351.92	*	1.459E+00	2.011E-01	1.115E-01	9.107E-03	13.085
	+	74.81		2.284E+00	5.310E-01	5.187E-01	5.995E-02	4.403
	+	77.11		2.372E+00	3.503E-01	2.943E-01	2.038E-02	8.058
	+	87.30		1.923E+00	5.887E-01	5.092E-01	6.395E-02	3.777
PO-218	+	238.63	*	1.754E+00	1.689E-01	8.703E-02	6.179E-03	20.153
	+	300.09		9.914E-01	1.177E+00	1.138E+00	9.288E-02	0.871
	+	74.81		3.935E+00	8.871E-01	8.937E-01	8.987E-02	4.403
	+	77.11		4.066E+00	6.757E-01	5.046E-01	5.194E-02	8.058
	+	87.30		3.294E+00	9.864E-01	8.723E-01	9.443E-02	3.777
RA-224	+	241.98		1.994E+00	5.791E-01	5.242E-01	4.125E-02	3.805
	+	295.21		1.528E+00	2.767E-01	1.980E-01	1.672E-02	7.716
	+	351.92	*	1.459E+00	2.011E-01	1.115E-01	9.107E-03	13.085
	+	240.98	*	3.782E+00	1.077E+00	9.905E-01	5.464E-02	3.818
	+	609.31	*	1.355E+00	2.084E-01	1.177E-01	9.689E-03	11.512
AC-228	+	1120.29		1.872E+00	5.920E-01	3.976E-01	3.612E-02	4.708
	+	1764.49		1.842E+00	4.245E-01	2.355E-01	1.396E-02	7.821
	+	338.32		1.696E+00	8.147E-01	3.650E-01	1.487E-01	4.647
	+	911.07	*	1.551E+00	3.233E-01	1.918E-01	2.106E-02	8.082
	+	969.11		1.838E+00	5.960E-01	3.416E-01	7.876E-02	5.380
RA-228	+	338.32		1.696E+00	8.147E-01	3.650E-01	1.487E-01	4.647
	+	911.07	*	1.551E+00	3.233E-01	1.918E-01	2.106E-02	8.082
	+	969.11		1.838E+00	5.960E-01	3.416E-01	7.876E-02	5.380
	+	74.81		2.320E+00	4.948E-01	5.270E-01	3.633E-02	4.403
	+	77.11		2.410E+00	3.559E-01	2.991E-01	2.070E-02	8.058
TH-228	+	87.30		1.954E+00	5.654E-01	5.174E-01	3.932E-02	3.777
	+	238.63	*	1.782E+00	1.717E-01	8.843E-02	6.279E-03	20.153
	+	300.09		1.007E+00	1.332E+00	1.156E+00	6.812E-01	0.871
	+	609.31	*	1.355E+00	2.084E-01	1.177E-01	9.688E-03	11.512
	+	1120.29		1.872E+00	5.920E-01	3.976E-01	3.612E-02	4.708
TH-230	+	1764.49		1.842E+00	4.245E-01	2.355E-01	1.396E-02	7.821
	+	338.32		1.696E+00	4.420E-01	3.650E-01	2.068E-02	4.647
	+	911.07	*	1.551E+00	3.233E-01	1.918E-01	2.106E-02	8.082
	+	969.11		1.838E+00	5.960E-01	3.416E-01	7.876E-02	5.380
	+	63.29	*	2.441E+00	2.128E+00	2.050E+00	3.490E-01	1.191
TH-234	+	92.38		2.649E+00	9.579E-01	7.191E-01	1.257E-01	3.684
	+	609.31	*	1.355E+00	2.084E-01	1.177E-01	9.688E-03	11.512
	+	1120.29		1.872E+00	5.920E-01	3.976E-01	3.612E-02	4.708
	+	1764.49		1.842E+00	4.245E-01	2.355E-01	1.396E-02	7.821
	+	89.95		4.306E+00	1.924E+00	1.470E+00	4.493E-01	2.929
U-234	+	93.35		3.184E+00	1.338E+00	8.582E-01	2.371E-01	3.711
	+	105.00		1.858E+00	1.463E+00	1.648E+00	4.834E-01	1.127
	+	143.76	*	1.898E-01	2.109E-01	3.516E-01	5.710E-02	0.540
	+	163.35		8.236E-02	4.463E-01	7.250E-01	1.290E-01	0.114

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	185.71		1.719E-01	7.199E-02	6.528E-02	3.408E-03	2.634
		205.31		-1.473E-01	5.910E-01	8.159E-01	1.455E-01	-0.181
NP-237	+	86.50	*	1.221E+00	4.339E-01	3.261E-01	7.164E-02	3.744
		95.87		-4.619E-01	9.579E-01	1.373E+00	3.313E-01	-0.336
U-238	+	63.29	*	2.441E+00	2.128E+00	2.050E+00	3.490E-01	1.191
	+	92.38		2.649E+00	8.604E-01	7.191E-01	5.235E-02	3.684
AM-243	+	74.67	*	3.702E-01	7.883E-02	8.434E-02	5.731E-03	4.389
	+	86.72		4.579E+01	1.325E+01	1.220E+01	9.217E-01	3.753
		117.66		-1.692E+00	3.811E+00	6.127E+00	3.860E-01	-0.276
		142.18		1.076E+01	1.724E+01	2.876E+01	1.628E+00	0.374
ANH-511	+	511.00	*	1.690E-01	6.850E-02	5.095E-02	3.106E-03	3.317

---- 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	*	1.328E-01	3.512E-01	5.653E-01	3.890E-02	0.235
NA-22		1274.54	*	-5.670E-02	4.530E-02	6.342E-02	4.084E-03	-0.894
NA-24		1368.53	*	7.735E-01	4.530E-02	Half-Life too short		
AL-26		1129.67		2.764E-01	1.738E+00	2.646E+00	1.613E-01	0.104
		1808.65	*	-1.262E-02	2.874E-02	4.286E-02	2.459E-03	-0.294
TI-44		67.85		-2.995E-02	4.643E-02	7.272E-02	4.734E-03	-0.412
	+	78.38	*	4.377E-01	6.464E-02	7.392E-02	5.170E-03	5.921
SC-46		889.25	*	2.153E-02	3.734E-02	6.426E-02	5.326E-03	0.335
	+	1120.51		3.230E-01	9.987E-02	1.415E-01	8.794E-03	2.282
V-48		944.10		5.399E-01	9.410E-01	1.608E+00	1.291E-01	0.336
		983.50	*	6.532E-02	7.143E-02	1.262E-01	9.723E-03	0.518
		1312.09		-5.219E-02	7.639E-02	1.130E-01	7.671E-03	-0.462
CR-51		320.08	*	-3.029E-01	3.528E-01	5.515E-01	3.506E-02	-0.549
MN-52		744.21		2.028E-01	2.667E-01	4.676E-01	3.340E-02	0.434
		848.13		-6.534E+00	8.326E+00	1.246E+01	9.925E-01	-0.524
		935.52		1.188E-01	3.418E-01	4.992E-01	4.041E-02	0.238
		1246.25		4.276E+00	8.183E+00	1.363E+01	8.396E-01	0.314
		1333.61		2.745E+00	5.040E+00	8.877E+00	6.199E-01	0.309
		1434.06	*	-1.489E-01	2.749E-01	4.094E-01	2.813E-02	-0.364
MN-54		834.83	*	-1.156E-02	4.136E-02	6.572E-02	5.166E-03	-0.176
CO-56		846.75	*	-2.899E-02	4.062E-02	6.097E-02	4.850E-03	-0.475
		977.42		-1.598E+00	3.009E+00	4.532E+00	3.516E-01	-0.353
		1037.82		-1.010E-01	3.107E-01	5.028E-01	3.884E-02	-0.201
		1175.09		-1.117E-01	2.328E+00	3.837E+00	2.115E-01	-0.029
	+	1238.25		3.097E-01	1.507E-01	1.792E-01	1.153E-02	1.729
		1360.21		5.448E-01	9.429E-01	1.663E+00	1.158E-01	0.328
		1771.40		-1.814E-01	2.085E-01	2.737E-01	1.614E-02	-0.663
CO-57		122.06	*	7.920E-03	2.532E-02	4.134E-02	2.585E-03	0.192
		136.48		-6.407E-02	1.982E-01	3.174E-01	2.135E-02	-0.202
CO-58		810.76	*	1.899E-03	3.487E-02	5.729E-02	4.408E-03	0.033
FE-59		142.65		2.070E+00	2.740E+00	4.584E+00	2.590E-01	0.452
		192.34		4.922E-01	9.330E-01	1.525E+00	1.762E-01	0.323
		1099.22	*	-2.488E-02	9.142E-02	1.480E-01	1.093E-02	-0.168

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.56			-4.257E-02	1.140E-01	1.780E-01	1.433E-02	-0.239
	1173.22			-4.150E-03	4.730E-02	7.769E-02	4.270E-03	-0.053
	1332.49		*	1.106E-02	3.447E-02	5.903E-02	4.123E-03	0.187
ZN-65	1115.52		*	4.304E-02	9.896E-02	1.504E-01	9.458E-03	0.286
GE-68	1077.35		*	-3.026E-01	1.233E+00	2.005E+00	1.352E-01	-0.151
AS-73	53.44		*	-1.588E-01	7.979E-01	1.329E+00	8.583E-02	-0.119
AS-74	595.88		*	-2.436E-03	9.092E-02	1.518E-01	9.666E-03	-0.016
SE-75	634.78			3.254E-02	3.772E-01	6.325E-01	4.076E-02	0.051
	66.05			-1.580E+00	5.073E+00	7.548E+00	6.590E-01	-0.209
	96.73			-1.486E+00	8.312E-01	1.069E+00	1.354E-01	-1.391
BR-77	121.11			-3.528E-04	1.405E-01	2.264E-01	2.156E-02	-0.002
	136.00			5.846E-03	3.672E-02	6.023E-02	3.556E-03	0.097
	198.60			2.559E-01	1.801E+00	2.885E+00	1.939E-01	0.089
+ 239.00	264.65		*	1.668E-02	4.660E-02	7.078E-02	4.012E-03	0.236
	279.53			-3.754E-02	1.028E-01	1.685E-01	1.033E-02	-0.223
	303.91			2.234E+00	2.066E+00	3.287E+00	3.112E-01	0.680
+ 249.79	400.65			2.455E-02	2.565E-01	4.213E-01	3.765E-02	0.058
	87.88			1.203E+03	3.480E+02	4.487E+02	3.430E+01	2.681
	200.40			-9.523E+00	2.155E+02	3.417E+02	1.812E+01	-0.028
281.68	297.23			3.706E+02	3.160E+01	5.299E+01	2.919E+00	6.994
	303.76			-3.123E+01	8.396E+01	1.377E+02	7.649E+00	-0.227
	439.47			-1.245E+02	1.114E+02	1.740E+02	9.835E+00	-0.716
520.65	484.57			8.275E+01	1.135E+02	1.310E+02	7.437E+00	0.632
	574.64		*	2.569E+02	2.301E+02	3.680E+02	2.091E+01	0.698
	578.91			7.767E+01	1.848E+02	3.090E+02	1.780E+01	0.251
755.35	585.48			-1.351E+01	3.193E+02	5.118E+02	3.062E+01	-0.026
	817.79			7.114E-01	1.315E+01	2.113E+01	1.296E+00	0.034
	881.50		*	-3.239E+02	2.769E+02	4.216E+02	2.660E+01	-0.768
SR-82	776.49			1.353E+01	1.258E+02	1.858E+02	1.175E+01	0.073
	1395.20			1.035E+03	2.954E+02	5.404E+02	3.426E+01	1.916
	529.64			2.375E+02	2.241E+02	4.004E+02	2.895E+01	0.593
RB-83	552.65			3.523E+01	1.524E+02	2.552E+02	1.972E+01	0.138
	520.41		*	-3.859E+01	3.700E+01	5.522E+01	3.742E+00	-0.699
	529.64			-3.676E-02	4.008E-01	6.514E-01	4.820E-02	-0.056
RB-84	513.99		*	1.452E+00	1.259E+01	2.022E+01	1.400E+00	-0.072
	513.99		*	-2.682E-02	6.881E-02	1.061E-01	6.507E-03	-0.253
	513.99		*	1.262E-02	1.035E-01	1.671E-01	1.030E-02	0.076
KR-85	513.99		*	1.375E-01	1.902E-01	3.372E-01	2.106E-02	0.408
	513.99		*	3.938E-02	6.801E-02	1.171E-01	9.632E-03	0.336
	513.99		*	1.451E+01	8.132E+00	1.334E+01	8.149E-01	1.087
Y-88	513.99		*	7.512E-02	4.211E-02	6.910E-02	4.220E-03	1.087
	513.99		*	5.093E-02	7.837E-01	1.316E+00	8.883E-02	0.039
	513.99		*	-5.080E-03	4.297E-02	6.870E-02	5.771E-03	-0.074
Y-91	513.99		*	-1.161E-02	3.448E-02	5.297E-02	2.982E-03	-0.219
	513.99		*	7.152E-03	2.949E-02	4.902E-02	2.689E-03	0.146
	513.99		*	1.379E+01	1.900E+01	3.346E+01	1.934E+00	0.412
NB-94	513.99		*	3.315E-02	3.490E-02	6.178E-02	4.208E-03	0.537
	513.99		*	-8.183E-03	3.378E-02	5.337E-02	4.347E-03	-0.153
	513.99		*	7.014E-02	5.543E-02	8.879E-02	6.495E-03	0.790

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	235.69	*		2.068E-02	1.380E-01	2.078E-01	1.515E-02	0.100
ZR-95	724.18			1.982E-01	1.157E-01	1.935E-01	1.525E-02	1.024
	756.15	*		8.207E-02	7.298E-02	1.309E-01	1.081E-02	0.627
NB-97	657.90	*		-7.993E-02	7.298E-02	Half-Life	too short	
	1024.50			-7.039E+00	7.298E-02	Half-Life	too short	
ZR-97	254.15			6.850E+00	7.298E-02	Half-Life	too short	
	355.39			-1.864E+00	7.298E-02	Half-Life	too short	
	507.63	*		1.470E+01	7.298E-02	Half-Life	too short	
	602.52			-2.458E+00	7.298E-02	Half-Life	too short	
	1021.30			1.028E+01	7.298E-02	Half-Life	too short	
	1147.95			-1.268E+01	7.298E-02	Half-Life	too short	
	1362.66			-9.555E+00	7.298E-02	Half-Life	too short	
	1750.46			-1.589E-01	7.298E-02	Half-Life	too short	
MO-99	140.51			-2.904E+01	3.400E+01	5.160E+01	1.390E+01	-0.563
	181.06			2.272E+00	2.319E+01	3.322E+01	5.629E+00	0.068
	366.43			5.098E+00	1.034E+02	1.704E+02	9.528E+00	0.030
	739.58	*		-2.282E+00	1.497E+01	2.429E+01	3.492E+00	-0.094
	778.00			9.054E+00	4.279E+01	7.150E+01	5.300E+00	0.127
TC-99M	140.51	*		-4.489E+11	4.279E+01	Half-Life	too short	
RH-101	127.23			-6.435E-03	3.180E-02	5.148E-02	3.124E-03	-0.125
	198.01	*		2.016E-02	3.214E-02	5.276E-02	2.791E-03	0.382
	325.23			1.513E-01	2.409E-01	3.683E-01	2.092E-02	0.411
RH-102	418.52			1.338E-01	2.742E-01	4.620E-01	2.606E-02	0.290
	475.06	*		1.122E-02	3.042E-02	5.037E-02	2.991E-03	0.223
	631.29			2.131E-03	5.390E-02	9.010E-02	5.801E-03	0.024
	697.49			-7.457E-02	7.972E-02	1.200E-01	8.124E-03	-0.621
	766.84			1.703E-01	1.434E-01	2.273E-01	1.664E-02	0.749
	1046.59			3.359E-02	1.239E-01	2.122E-01	1.504E-02	0.158
	1112.84			-7.580E-02	2.638E-01	3.621E-01	2.286E-02	-0.209
RU-103	497.08	*		1.086E-02	4.160E-02	6.818E-02	8.697E-03	0.159
	610.33	+		1.487E+01	3.026E+00	3.239E+00	5.070E-01	4.592
RH-106	511.85	+		8.456E-01	3.428E-01	4.703E-01	2.868E-02	1.798
	621.84	*		1.045E-01	3.130E-01	5.358E-01	6.460E-02	0.195
	1050.47			9.848E-01	2.440E+00	4.227E+00	2.977E-01	0.233
RU-106	511.85	+		8.456E-01	3.428E-01	4.703E-01	2.868E-02	1.798
	621.84	*		1.045E-01	3.129E-01	5.358E-01	3.440E-02	0.195
	1050.47			9.848E-01	2.440E+00	4.227E+00	2.977E-01	0.233
AG-108M	433.93	*		1.688E-02	3.103E-02	5.243E-02	3.267E-03	0.322
	614.37			2.344E-02	4.067E-02	6.293E-02	4.314E-03	0.372
	722.95			1.519E-02	4.642E-02	6.898E-02	5.096E-03	0.220
AG-110M	657.75	*		-3.174E-03	3.610E-02	5.954E-02	4.058E-03	-0.053
	677.61			-1.946E-01	3.002E-01	4.678E-01	3.239E-02	-0.416
	706.67			-1.663E-01	2.250E-01	3.488E-01	2.490E-02	-0.477
	763.93			1.368E-01	1.863E-01	2.883E-01	2.187E-02	0.474
	884.67			4.638E-03	4.610E-02	7.558E-02	6.456E-03	0.061
	937.48			1.120E-02	1.241E-01	1.750E-01	1.472E-02	0.064
	1384.27			-3.617E-02	1.915E-01	2.571E-01	1.861E-02	-0.141
IN-111	171.28			-5.802E-02	1.246E+00	1.996E+00	1.027E-01	-0.029
	245.39	*		-1.186E+00	1.446E+00	2.027E+00	1.122E-01	-0.585

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-113M		391.69	*	-3.923E-03	4.323E-02	7.019E-02	4.132E-03	-0.056
SN-113		391.69	*	-3.923E-03	4.323E-02	7.019E-02	4.132E-03	-0.056
IN-114M		190.27	*	6.308E-02	1.957E-01	2.838E-01	1.489E-02	0.222
CD-115		260.90		-3.603E+01	1.671E+02	2.776E+02	1.553E+01	-0.130
		492.35		2.932E+00	4.955E+01	7.996E+01	4.811E+00	0.037
		527.90	*	-2.332E+00	1.415E+01	2.225E+01	1.371E+00	-0.105
SN-117M		156.02		-9.828E-01	2.253E+00	3.557E+00	1.899E-01	-0.276
		158.56	*	5.790E-02	5.518E-02	9.339E-02	4.933E-03	0.620
SB-122		563.90	*	2.481E+00	2.637E+00	4.716E+00	2.962E-01	0.526
		692.80		1.449E+01	5.112E+01	8.668E+01	5.836E+00	0.167
I-123		159.00	*	1.109E+01	5.112E+01	Half-Life	too short	
		528.96		4.956E+02	5.112E+01	Half-Life	too short	
TE-123M		159.00	*	1.671E-02	2.769E-02	4.594E-02	2.462E-03	0.364
I-124		602.71	*	-1.720E-03	8.542E-01	1.242E+00	7.926E-02	-0.001
		722.78		1.185E+00	5.616E+00	8.234E+00	5.741E-01	0.144
		1325.50		-9.111E+00	3.595E+01	5.669E+01	3.921E+00	-0.161
+		1376.25		9.815E+01	4.893E+01	7.810E+01	5.425E+00	1.257
		1509.49		2.480E+01	2.118E+01	3.931E+01	2.645E+00	0.631
		1691.02		-5.698E+00	5.062E+00	6.708E+00	4.164E-01	-0.849
SB-124		602.71		-8.646E-05	4.294E-02	6.243E-02	3.985E-03	-0.001
		645.85		1.836E-02	4.879E-01	8.088E-01	5.772E-02	0.023
		709.31		-1.118E+00	2.951E+00	4.718E+00	3.239E-01	-0.237
		713.82		-1.475E-01	1.709E+00	2.799E+00	3.043E-01	-0.053
		722.78		8.632E-02	4.092E-01	6.000E-01	4.320E-02	0.144
+		968.20		1.913E+01	4.611E+00	8.133E+00	6.374E-01	2.352
		1045.16		2.159E-01	2.712E+00	4.568E+00	3.243E-01	0.047
		1325.50		-7.090E-01	2.798E+00	4.412E+00	3.051E-01	-0.161
		1368.21		3.543E-01	1.750E+00	2.743E+00	3.423E-01	0.129
		1436.60		3.782E+00	3.505E+00	6.630E+00	4.552E-01	0.570
		1691.02	*	-9.792E-02	8.702E-02	1.153E-01	7.692E-03	-0.849
SB-125		427.89	*	4.037E-02	9.217E-02	1.544E-01	9.177E-03	0.261
+		463.38		9.570E-01	4.675E-01	5.661E-01	3.868E-02	1.691
		600.56		-7.682E-02	1.723E-01	2.779E-01	2.005E-02	-0.276
		635.90		1.408E-02	2.729E-01	4.564E-01	3.355E-02	0.031
TE-125M		109.28	*	5.273E+00	9.539E+00	1.452E+01	1.252E+00	0.363
I-126		388.63		-8.394E-03	2.125E-01	3.466E-01	1.904E-02	-0.024
		666.33	*	9.737E-02	1.932E-01	3.330E-01	2.171E-02	0.292
		753.82		7.552E-01	1.600E+00	2.735E+00	1.974E-01	0.276
SB-126		223.80		-2.318E+00	4.012E+00	6.622E+00	3.598E-01	-0.350
		278.60		3.133E+00	2.488E+00	4.418E+00	2.494E-01	0.709
		296.50		9.638E+00	2.686E+00	3.776E+00	2.143E-01	2.552
		414.70		-2.551E-02	7.301E-02	1.155E-01	6.491E-03	-0.221
		415.30		-2.592E+00	6.093E+00	9.578E+00	5.385E-01	-0.271
		555.20		7.318E-01	3.945E+00	6.733E+00	4.210E-01	0.109
		573.80		-6.554E-01	1.084E+00	1.733E+00	1.093E-01	-0.378
		593.00		-2.727E-02	9.166E-01	1.531E+00	9.734E-02	-0.018
		656.30		-2.132E+00	3.691E+00	5.843E+00	3.784E-01	-0.365
		666.33		4.078E-02	8.089E-02	1.395E-01	9.093E-03	0.292
		675.00		-4.486E-02	1.968E+00	3.255E+00	2.145E-01	-0.014

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SB-127		695.00		3.982E-02	7.687E-02	1.327E-01	8.960E-03	0.300
		697.00		-1.008E-01	2.786E-01	4.461E-01	3.018E-02	-0.226
		720.50	*	-5.049E-02	1.719E-01	2.362E-01	1.643E-02	-0.214
		856.80		-3.798E-01	5.652E-01	8.614E-01	6.920E-02	-0.441
		989.30		1.250E-01	1.331E+00	2.158E+00	1.651E-01	0.058
		1034.80		-5.887E-01	8.567E+00	1.423E+01	1.026E+00	-0.041
		1213.00		-1.741E-01	5.062E+00	8.273E+00	4.844E-01	-0.021
		61.10		5.020E+01	6.914E+01	1.089E+02	1.070E+01	0.461
		252.40		-2.080E+00	5.111E+00	8.307E+00	3.455E+00	-0.250
		290.80		-1.248E+01	2.681E+01	3.787E+01	3.569E+00	-0.329
		411.60		-8.646E-02	1.411E+01	2.296E+01	3.334E+00	-0.004
		444.90		-1.072E+01	1.136E+01	1.686E+01	1.868E+00	-0.636
		473.00		-9.300E-02	2.028E+00	3.256E+00	3.752E-01	-0.029
		543.00		-1.922E+01	1.877E+01	2.874E+01	3.834E+00	-0.669
		603.60		-8.935E-01	1.532E+01	2.214E+01	2.518E+00	-0.040
		685.20	*	-6.685E-01	1.573E+00	2.503E+00	2.579E-01	-0.267
		698.50		-1.932E+01	1.924E+01	2.854E+01	4.311E+00	-0.677
		722.20		-2.294E+00	3.878E+01	5.499E+01	5.641E+00	-0.042
		783.80		1.555E+00	4.392E+00	7.410E+00	8.828E-01	0.210
		57.60		4.865E-02	5.607E+00	9.517E+00	6.014E-01	0.005
XE-127		145.22		-1.715E-01	6.816E-01	1.089E+00	6.081E-02	-0.158
		172.10		1.828E-02	1.190E-01	1.925E-01	9.908E-03	0.095
		202.84	*	4.989E-02	4.942E-02	7.893E-02	4.197E-03	0.632
		374.96		9.384E-03	1.931E-01	3.176E-01	1.765E-02	0.030
I-131		80.18		5.330E+00	5.698E+00	7.332E+00	5.263E-01	0.727
		284.30		3.747E-01	1.557E+00	2.635E+00	1.668E-01	0.142
		364.48	*	8.515E-02	1.202E-01	2.067E-01	1.303E-02	0.412
		636.97		6.023E-01	1.630E+00	2.796E+00	1.982E-01	0.215
TE-132		722.89		2.423E+00	8.452E+00	1.250E+01	8.813E-01	0.194
		49.72		-2.368E+01	2.174E+01	3.520E+01	3.374E+00	-0.673
		111.76		-1.348E+01	3.409E+01	5.504E+01	5.230E+00	-0.245
		116.30		5.492E+00	3.346E+01	5.533E+01	5.222E+00	0.099
BA-133		228.16	*	-6.409E-01	8.024E-01	1.300E+00	1.875E-01	-0.493
		53.15		2.914E+00	3.370E+00	5.850E+00	3.782E-01	0.498
		79.62		2.579E-01	1.557E+00	1.885E+00	2.715E-01	0.137
		81.00		-8.805E-02	1.260E-01	1.408E-01	2.131E-02	-0.625
I-133		276.40		4.241E-01	3.596E-01	6.303E-01	8.126E-02	0.673
		302.84		6.602E-02	1.458E-01	2.212E-01	2.565E-02	0.299
		356.01	*	-1.607E-02	4.790E-02	6.695E-02	7.681E-03	-0.240
		383.85		-1.097E-01	2.948E-01	4.696E-01	5.035E-02	-0.234
	+	510.53		3.651E+00	2.948E-01	Half-Life	too short	
		529.87	*	2.458E-03	2.948E-01	Half-Life	too short	
		706.58		-6.824E-01	2.948E-01	Half-Life	too short	
		856.28		-1.738E+00	2.948E-01	Half-Life	too short	
CS-134		875.33		1.003E-01	2.948E-01	Half-Life	too short	
	+	1236.41		4.726E+00	2.948E-01	Half-Life	too short	
		1298.22		1.562E-01	2.948E-01	Half-Life	too short	
		475.35		8.650E-01	1.987E+00	3.306E+00	1.964E-01	0.262
		563.23		3.387E-01	3.629E-01	6.487E-01	4.145E-02	0.522

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CS-135 I-135	569.32			-2.882E-02	2.039E-01	3.325E-01	2.146E-02	-0.087
	604.70			8.195E-05	3.682E-02	5.354E-02	3.435E-03	0.002
	795.84	*		7.175E-02	4.831E-02	8.834E-02	6.735E-03	0.812
	801.93			-3.532E-02	3.939E-01	6.228E-01	4.768E-02	-0.057
	1038.57			-6.193E-01	3.908E+00	6.437E+00	4.616E-01	-0.096
	1167.94			-2.619E-01	2.471E+00	4.050E+00	2.257E-01	-0.065
	1365.15			-1.886E+00	1.211E+00	1.454E+00	1.081E-01	-1.297
	268.24	*		1.431E-01	1.727E-01	2.692E-01	2.025E-02	0.531
	288.45			2.797E+11	1.727E-01	Half-Life	too short	
	417.63			2.838E+11	1.727E-01	Half-Life	too short	
	546.56			1.770E+09	1.727E-01	Half-Life	too short	
	836.80			2.339E+11	1.727E-01	Half-Life	too short	
	1038.76			-1.529E+10	1.727E-01	Half-Life	too short	
	1124.00			-2.092E+10	1.727E-01	Half-Life	too short	
	1131.51			9.209E+10	1.727E-01	Half-Life	too short	
	1260.41	*		2.567E+10	1.727E-01	Half-Life	too short	
	1457.56			8.120E+12	1.727E-01	Half-Life	too short	
	1678.03			-1.237E+10	1.727E-01	Half-Life	too short	
	1706.46			-2.287E+11	1.727E-01	Half-Life	too short	
	1791.20			-4.875E+10	1.727E-01	Half-Life	too short	
CS-136 +	66.91			-2.191E-01	8.684E-01	1.295E+00	1.859E-01	-0.169
	86.29			5.702E+00	1.737E+00	2.055E+00	2.496E-01	2.774
	153.22			4.225E-01	6.511E-01	1.084E+00	7.492E-02	0.390
	163.89			3.364E-01	1.055E+00	1.726E+00	1.166E-01	0.195
	176.55			-1.162E-02	3.757E-01	6.010E-01	3.585E-02	-0.019
	273.65			-5.309E-01	5.146E-01	6.996E-01	4.526E-02	-0.759
	340.57			1.006E-01	1.401E-01	2.149E-01	1.297E-02	0.468
	818.51			3.368E-02	6.991E-02	1.200E-01	9.291E-03	0.281
	1048.07	*		-3.837E-02	1.218E-01	1.977E-01	1.485E-02	-0.194
	1235.34			1.397E+00	6.672E-01	1.253E+00	1.271E-01	1.115
BA-137M	661.65	*		-1.911E-02	3.707E-02	5.897E-02	3.823E-03	-0.324
CS-137	661.65	*		-2.020E-02	3.918E-02	6.234E-02	4.055E-03	-0.324
CE-139	165.85	*		-4.010E-03	2.876E-02	4.594E-02	2.354E-03	-0.087
BA-140	162.64			-2.658E-03	7.604E-01	1.224E+00	7.334E-02	-0.002
	304.84			5.283E-01	1.326E+00	1.995E+00	5.441E-01	0.265
LA-140 +	423.70			-8.886E-01	2.085E+00	3.252E+00	1.033E+00	-0.273
	537.32	*		2.379E-01	2.749E-01	4.737E-01	1.544E-01	0.502
	328.77			6.492E-01	5.510E-01	5.782E-01	3.693E-02	1.123
	432.53			-7.747E-01	2.074E+00	3.262E+00	2.067E-01	-0.237
	487.03			1.626E-01	1.458E-01	2.544E-01	1.714E-02	0.639
	751.79			2.863E-01	1.813E+00	3.021E+00	2.503E-01	0.095
	815.85			2.814E-02	2.973E-01	4.904E-01	4.319E-02	0.057
	867.82			5.536E-01	1.377E+00	2.332E+00	2.006E-01	0.237
	919.63			-1.026E+00	2.990E+00	4.645E+00	4.794E-01	-0.221
	925.24			7.594E-01	1.260E+00	2.155E+00	1.884E-01	0.352
CE-141	1596.49	*		-8.524E-02	8.935E-02	1.260E-01	8.207E-03	-0.676
CE-143	145.44	*		-3.500E-02	6.142E-02	9.650E-02	5.618E-03	-0.363
	57.37			-6.968E-05	6.142E-02	Half-Life	too short	
	231.56			3.957E-03	6.142E-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
		293.26	*	1.385E-03	6.142E-02	Half-Life	too short	
	+	350.59		5.344E-02	6.142E-02	Half-Life	too short	
		490.36		-5.272E-03	6.142E-02	Half-Life	too short	
		664.57		1.231E-03	6.142E-02	Half-Life	too short	
		721.93		-1.453E-04	6.142E-02	Half-Life	too short	
CE-144		80.11		2.262E+00	2.424E+00	3.119E+00	2.214E-01	0.725
		133.54	*	-2.494E-02	1.884E-01	3.049E-01	4.340E-02	-0.082
PM-144		476.78		2.628E-02	7.132E-02	1.180E-01	8.339E-03	0.223
		618.01		-4.394E-03	3.213E-02	5.305E-02	3.571E-03	-0.083
		696.49	*	-8.704E-04	3.353E-02	5.531E-02	3.742E-03	-0.016
		778.57		1.121E-01	2.283E+00	3.758E+00	2.788E-01	0.030
PR-144		696.49	*	-5.901E-02	2.273E+00	3.750E+00	2.535E-01	-0.016
		1489.15		-5.616E+00	1.223E+01	1.826E+01	1.237E+00	-0.308
PM-146		453.90	*	7.999E-03	4.393E-02	7.198E-02	6.223E-03	0.111
		633.02		9.917E-01	1.413E+00	2.406E+00	8.885E-01	0.412
		735.90		1.128E-01	1.493E-01	2.567E-01	7.233E-02	0.439
		747.13		2.092E-02	9.131E-02	1.532E-01	2.021E-02	0.137
ND-147	+	91.11		1.147E+00	3.859E-01	5.196E-01	4.261E-02	2.208
		319.41		-1.715E+00	3.223E+00	5.158E+00	2.933E-01	-0.333
		439.89		3.512E+00	5.928E+00	1.004E+01	5.788E-01	0.350
		531.02	*	1.652E-01	5.817E-01	9.517E-01	1.302E-01	0.174
PM-149		285.90	*	2.336E+01	1.211E+02	2.043E+02	2.885E+01	0.114
EU-152		121.78		-2.542E-03	7.422E-02	1.193E-01	9.493E-03	-0.021
		244.69		-2.550E-01	3.530E-01	4.991E-01	2.761E-02	-0.511
		344.27	*	1.229E-02	1.005E-01	1.551E-01	9.938E-03	0.079
		443.98		-3.300E-01	9.292E-01	1.461E+00	8.449E-02	-0.226
		778.89		-2.521E-02	2.666E-01	4.328E-01	3.211E-02	-0.058
		867.32		3.819E-01	7.874E-01	1.344E+00	1.091E-01	0.284
	+	964.01		6.571E-01	4.036E-01	6.106E-01	4.807E-02	1.076
		1085.78		2.563E-01	4.232E-01	7.436E-01	4.940E-02	0.345
		1112.02		-9.472E-02	3.604E-01	5.191E-01	3.282E-02	-0.182
		1407.95		6.334E-02	1.977E-01	3.338E-01	2.306E-02	0.190
GD-153		69.67		4.189E-01	1.800E+00	2.739E+00	1.801E-01	0.153
	+	83.37		2.976E+01	1.719E+01	2.446E+01	1.789E+00	1.217
		97.43	*	-7.882E-02	8.511E-02	1.187E-01	8.255E-03	-0.664
		103.18		-2.869E-02	1.124E-01	1.637E-01	1.094E-02	-0.175
EU-154		123.07		-7.023E-03	5.119E-02	8.326E-02	8.045E-03	-0.084
		247.94		-4.376E-02	3.368E-01	5.639E-01	5.294E-02	-0.078
		591.81		-1.697E-01	5.944E-01	9.718E-01	9.829E-02	-0.175
		723.30		1.465E-01	1.933E-01	3.011E-01	2.430E-02	0.487
		756.87		3.386E-01	7.984E-01	1.358E+00	1.498E-01	0.249
		873.19		6.244E-02	2.893E-01	4.803E-01	5.728E-02	0.130
		996.32		-3.915E-01	3.498E-01	5.056E-01	8.741E-02	-0.774
		1004.76		-1.022E-01	1.878E-01	2.955E-01	3.204E-02	-0.346
		1274.45	*	-1.595E-01	1.269E-01	1.766E-01	1.720E-02	-0.903
TB-160	+	86.79		1.350E+00	3.905E-01	4.961E-01	3.751E-02	2.721
		197.04		2.599E-01	5.645E-01	9.189E-01	4.856E-02	0.283
		215.65		6.843E-01	7.799E-01	1.288E+00	6.944E-02	0.531
		298.57		5.966E-02	1.839E-01	2.031E-01	1.153E-02	0.294

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		879.36	*	-5.683E-03	1.411E-01	2.278E-01	1.870E-02	-0.025
		962.29		9.797E-01	6.053E-01	1.012E+00	7.980E-02	0.968
		966.15		1.488E+00	3.136E-01	6.092E-01	4.785E-02	2.442
		1177.93		2.376E-01	3.791E-01	6.627E-01	3.670E-02	0.358
		1271.85		-4.587E-01	6.791E-01	1.023E+00	6.549E-02	-0.448
		80.57		2.851E-01	3.093E-01	3.975E-01	2.833E-02	0.717
	+	184.41		1.290E-01	5.399E-02	6.690E-02	3.487E-03	1.928
		280.46		-1.259E-01	8.164E-02	1.243E-01	7.021E-03	-1.013
		410.95		2.593E-01	2.298E-01	4.035E-01	2.258E-02	0.643
		711.68	*	3.180E-02	6.279E-02	1.079E-01	7.425E-03	0.295
TM-171		752.31		1.292E-01	2.813E-01	4.805E-01	3.463E-02	0.269
		810.29		1.626E-02	5.155E-02	8.710E-02	6.678E-03	0.187
		51.35		2.031E+01	2.832E+01	4.962E+01	3.234E+00	0.409
		52.39		1.471E+01	1.502E+01	2.619E+01	1.699E+00	0.562
LU-176		59.40		8.082E+00	2.694E+01	4.174E+01	2.618E+00	0.194
	+	66.72	*	8.061E-01	2.969E+01	4.493E+01	2.908E+00	0.018
		88.36		9.862E-01	2.853E-01	3.641E-01	2.774E-02	2.709
		201.83		-9.714E-03	2.918E-02	4.555E-02	2.419E-03	-0.213
LU-177		306.84	*	-1.915E-02	2.268E-02	3.564E-02	2.026E-03	-0.537
		401.10		-2.167E+00	6.702E+00	1.069E+01	5.916E-01	-0.203
		112.95		-8.148E-01	1.732E+00	2.787E+00	1.781E-01	-0.292
LU-177M	+	208.36	*	3.815E+00	2.057E+00	2.216E+00	1.185E-01	1.721
		52.97		1.555E+00	1.543E+00	2.692E+00	1.742E-01	0.578
		54.07		-3.094E-01	7.996E-01	1.320E+00	8.492E-02	-0.234
		61.30		1.360E+00	1.522E+00	2.417E+00	1.527E-01	0.563
HF-181		121.62		-1.832E-02	3.819E-01	6.137E-01	3.832E-02	-0.030
		147.16		-4.386E-01	6.071E-01	9.474E-01	5.250E-02	-0.463
		171.86		9.368E-02	4.739E-01	7.682E-01	3.954E-02	0.122
		218.09		-6.825E-01	8.908E-01	1.348E+00	7.281E-02	-0.506
	+	268.79		2.424E+00	1.102E+00	1.445E+00	8.119E-02	1.678
		319.02		-1.381E-01	2.389E-01	3.812E-01	2.167E-02	-0.362
		367.43		1.547E-01	8.487E-01	1.411E+00	7.884E-02	0.110
		413.65	*	-1.441E-01	1.671E-01	2.535E-01	1.423E-02	-0.568
		56.28		-3.513E-01	8.795E-01	1.469E+00	9.342E-02	-0.239
		57.53		-3.363E-03	4.703E-01	7.979E-01	5.044E-02	-0.004
W-181		65.20		-9.185E-02	1.004E+00	1.512E+00	9.717E-02	-0.061
		133.02		-3.622E-02	6.208E-02	9.824E-02	5.795E-03	-0.369
		136.25		-5.698E-02	4.377E-01	7.079E-01	4.114E-02	-0.080
		345.85		1.440E-01	2.115E-01	3.242E-01	1.832E-02	0.444
		482.03	*	-3.537E-02	4.511E-02	6.784E-02	4.051E-03	-0.521
TA-182		56.28		-1.352E-01	3.409E-01	5.693E-01	3.621E-02	-0.238
		57.53		-1.389E-03	1.824E-01	3.094E-01	1.956E-02	-0.004
		65.20	*	-3.534E-02	3.864E-01	5.819E-01	3.739E-02	-0.061
		67.75		-6.938E-02	1.116E-01	1.749E-01	1.138E-02	-0.397
		100.10		1.644E-01	1.735E-01	2.979E-01	2.030E-02	0.552
		152.43		2.235E-01	3.196E-01	5.338E-01	2.893E-02	0.419
		222.10		5.393E-02	3.205E-01	5.480E-01	2.972E-02	0.098
		1001.68		-8.026E-02	2.015E+00	3.162E+00	2.383E-01	-0.025
	+	1121.28		8.902E-01	2.752E-01	3.728E-01	2.313E-02	2.388

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	1189.05			1.768E-01	3.087E-01	5.378E-01	3.032E-02	0.329
	1221.42	*		1.919E-02	1.896E-01	3.158E-01	1.874E-02	0.061
	1230.97			1.942E-01	5.208E-01	7.763E-01	4.674E-02	0.250
	57.98			4.347E-02	1.917E-01	3.142E-01	1.982E-02	0.138
	59.32			4.403E-02	1.108E-01	1.725E-01	1.082E-02	0.255
	67.20			-1.130E-01	2.157E-01	3.174E-01	2.059E-02	-0.356
	162.32	*		2.428E-02	1.057E-01	1.722E-01	8.952E-03	0.141
	208.81	+		3.141E+00	1.694E+00	1.818E+00	9.730E-02	1.727
	291.72			-5.894E-01	1.001E+00	1.400E+00	7.934E-02	-0.421
	57.98			1.593E-01	7.026E-01	1.152E+00	7.265E-02	0.138
RE-184	59.32			1.612E-01	4.057E-01	6.318E-01	3.964E-02	0.255
	67.20			-4.140E-01	7.903E-01	1.163E+00	7.543E-02	-0.356
	161.27			5.295E-02	3.405E-01	5.529E-01	2.887E-02	0.096
	216.55			1.595E-01	2.736E-01	4.457E-01	2.404E-02	0.358
	252.85	*		1.894E-03	2.292E-01	3.859E-01	2.148E-02	0.005
	318.01			-2.289E-01	4.082E-01	6.518E-01	3.705E-02	-0.351
	792.07			-1.599E-01	1.085E+00	1.752E+00	1.318E-01	-0.091
	903.28			4.722E-01	1.236E+00	1.892E+00	1.574E-01	0.250
	920.93			-1.022E-02	4.783E-01	7.708E-01	6.322E-02	-0.013
	59.72			1.433E-01	3.005E-01	4.695E-01	2.947E-02	0.305
OS-185	61.14			1.242E-01	1.670E-01	2.637E-01	1.665E-02	0.471
	69.30			-9.736E-03	3.215E-01	4.833E-01	3.171E-02	-0.020
	592.07			-3.058E-01	2.427E+00	4.022E+00	2.557E-01	-0.076
	646.12	*		1.089E-02	4.076E-02	6.934E-02	4.481E-03	0.157
	717.42			1.473E-01	9.172E-01	1.534E+00	1.063E-01	0.096
	874.81			3.455E-01	5.825E-01	1.002E+00	8.195E-02	0.345
	880.27			1.585E-01	7.697E-01	1.275E+00	1.048E-01	0.124
	155.03	*		-1.020E-01	1.676E-01	2.625E-01	1.407E-02	-0.389
	477.96			-1.643E-01	3.384E+00	5.273E+00	3.139E-01	-0.031
	633.10			1.984E+00	2.783E+00	4.897E+00	3.154E-01	0.405
W-188	63.58	+		9.905E+01	8.489E+01	9.248E+01	5.899E+00	1.071
	227.08			2.939E+00	1.196E+01	2.050E+01	1.117E+00	0.143
IR-192	290.67	*		-4.970E+00	8.003E+00	1.116E+01	6.327E-01	-0.445
	295.96	+		1.175E+00	2.001E-01	2.999E-01	1.730E-02	3.919
	308.46			-2.406E-02	8.905E-02	1.455E-01	8.368E-03	-0.165
	316.51	*		5.590E-03	3.197E-02	5.361E-02	3.064E-03	0.104
AU-195	468.07			2.746E-03	7.247E-02	1.025E-01	6.947E-03	0.027
	604.41			1.003E-02	4.922E-01	7.174E-01	8.365E-02	0.014
	612.46			5.221E-01	7.647E-01	1.191E+00	9.583E-02	0.438
	65.12			2.978E-03	1.783E-01	2.700E-01	1.734E-02	0.011
	66.83			2.266E-03	9.837E-02	1.488E-01	9.635E-03	0.015
	75.70	+		1.202E+00	2.560E-01	4.831E-01	3.307E-02	2.489
	98.88	*		2.446E-01	2.282E-01	3.753E-01	2.581E-02	0.652
TL-200	129.76			5.962E+00	2.792E+00	4.936E+00	2.957E-01	1.208
	367.94	*		-2.669E-04	2.792E+00	Half-Life too short		
	579.30			6.094E-03	2.792E+00	Half-Life too short		
TL-201	828.27			7.651E-03	2.792E+00	Half-Life too short		
	1205.75			4.721E-03	2.792E+00	Half-Life too short		
	68.90			-2.798E+00	6.395E+00	9.423E+00	6.169E-01	-0.297

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		70.82		1.133E+00	3.642E+00	5.566E+00	3.685E-01	0.204
		80.30		6.662E+00	7.092E+00	9.128E+00	6.490E-01	0.730
		135.34		1.728E+00	2.883E+01	4.707E+01	2.747E+00	0.037
		167.43	*	1.711E+00	8.329E+00	1.353E+01	6.935E-01	0.126
		68.90		-2.142E-01	4.896E-01	7.214E-01	4.723E-02	-0.297
		70.82		8.654E-02	2.781E-01	4.249E-01	2.813E-02	0.204
HG-203		80.30		5.089E-01	5.417E-01	6.972E-01	4.957E-02	0.730
		439.56	*	2.824E-02	7.157E-02	1.194E-01	6.879E-03	0.236
		70.83		3.637E-01	1.159E+00	1.771E+00	2.202E-01	0.205
BI-207		72.87		1.252E+00	6.242E-01	1.080E+00	1.300E-01	1.160
	+	82.60		2.238E+00	1.315E+00	1.818E+00	2.352E-01	1.231
		279.20	*	1.150E-02	3.860E-02	6.559E-02	3.944E-03	0.175
		72.80		3.164E-01	1.750E-01	3.075E-01	2.062E-02	1.029
	+	74.97		6.646E-01	1.415E-01	2.376E-01	1.618E-02	2.798
	+	84.90		3.839E-01	2.218E-01	3.069E-01	2.277E-02	1.251
TL-207		569.67		1.525E-02	3.081E-02	5.255E-02	3.309E-03	0.290
		1063.62	*	4.028E-02	5.334E-02	9.521E-02	6.568E-03	0.423
		1770.23		-1.955E+00	6.714E-01	5.141E-01	3.034E-02	-3.802
		81.07		-1.943E-01	2.768E-01	3.106E-01	2.224E-02	-0.626
	+	83.78		2.531E-01	1.462E-01	2.093E-01	1.536E-02	1.209
		94.90		4.419E-01	2.229E-01	3.645E-01	2.590E-02	1.212
PO-209		122.32		5.266E-01	1.746E+00	2.848E+00	2.017E-01	0.185
		144.24		5.045E-01	6.693E-01	1.119E+00	7.923E-02	0.451
		154.21		-3.196E-02	3.767E-01	6.062E-01	4.043E-02	-0.053
	+	269.46		5.653E-01	2.570E-01	3.426E-01	2.019E-02	1.650
		323.87	*	6.472E-01	7.240E-01	1.119E+00	1.844E-01	0.578
	+	338.28		7.082E+00	1.948E+00	2.568E+00	2.686E-01	2.758
BI-210		445.03		-1.859E+00	2.222E+00	3.336E+00	3.424E-01	-0.557
		260.50		-4.203E-01	9.236E+00	1.548E+01	8.660E-01	-0.027
		262.80		-7.596E+00	2.536E+01	4.191E+01	2.347E+00	-0.181
PB-210		896.60	*	-1.523E+00	7.457E+00	1.180E+01	9.851E-01	-0.129
		46.50	*	8.650E-01	3.162E+00	5.387E+00	4.058E-01	0.161
		46.50	*	8.650E-01	3.162E+00	5.387E+00	4.058E-01	0.161
PB-211		46.50	*	8.650E-01	3.161E+00	5.387E+00	3.455E-01	0.161
		404.84	*	-6.102E-01	1.005E+00	1.445E+00	9.008E-01	-0.422
		427.08		1.297E+00	2.259E+00	3.579E+00	2.212E+00	0.362
BI-212		831.96		-4.666E-01	1.324E+00	2.033E+00	1.272E+00	-0.229
	+	727.18	*	1.262E+00	5.263E-01	7.089E-01	6.137E-02	1.780
		785.46		2.056E+00	1.810E+00	3.241E+00	2.421E-01	0.634
PO-215		1620.62		1.043E+00	1.317E+00	2.446E+00	1.575E-01	0.426
		81.07		-1.943E-01	2.768E-01	3.106E-01	2.224E-02	-0.626
	+	83.78		2.531E-01	1.462E-01	2.093E-01	1.536E-02	1.209
		94.90		4.419E-01	2.229E-01	3.645E-01	2.590E-02	1.212
		122.32		5.266E-01	1.746E+00	2.848E+00	2.017E-01	0.185
		144.24		5.045E-01	6.693E-01	1.119E+00	7.923E-02	0.451
		154.21		-3.196E-02	3.767E-01	6.062E-01	4.043E-02	-0.053
	+	269.46		5.653E-01	2.570E-01	3.426E-01	2.019E-02	1.650
		323.87	*	6.472E-01	7.240E-01	1.119E+00	1.844E-01	0.578
	+	338.28		7.082E+00	1.948E+00	2.568E+00	2.686E-01	2.758

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		-1.859E+00	2.222E+00	3.336E+00	3.424E-01	-0.557
		271.23		7.253E-01	3.321E-01	4.188E-01	3.343E-02	1.732
		401.81	*	1.008E-01	4.076E-01	6.760E-01	9.124E-02	0.149
		549.76	*	-1.158E+01	2.653E+01	4.323E+01	2.695E+00	-0.268
RN-220		81.07		-1.943E-01	2.768E-01	3.106E-01	2.224E-02	-0.626
RA-223	+	83.78		2.531E-01	1.462E-01	2.093E-01	1.536E-02	1.209
		94.90		4.419E-01	2.229E-01	3.645E-01	2.590E-02	1.212
		122.32		5.266E-01	1.746E+00	2.848E+00	2.017E-01	0.185
		144.24		5.045E-01	6.693E-01	1.119E+00	7.923E-02	0.451
AC-227	+	154.21		-3.196E-02	3.767E-01	6.062E-01	4.043E-02	-0.053
		269.46		5.653E-01	2.570E-01	3.426E-01	2.019E-02	1.650
		323.87	*	6.472E-01	7.240E-01	1.119E+00	1.844E-01	0.578
		338.28		7.082E+00	1.948E+00	2.568E+00	2.686E-01	2.758
		445.03		-1.859E+00	2.222E+00	3.336E+00	3.424E-01	-0.557
		79.80		3.923E-01	1.978E+00	2.398E+00	5.020E-01	0.164
		236.00		7.736E-01	2.816E-01	4.628E-01	4.760E-02	1.672
		256.20	*	-4.360E-02	3.891E-01	6.509E-01	9.027E-02	-0.067
	+	286.10		6.379E-01	1.505E+00	2.568E+00	2.950E-01	0.248
		299.80		1.837E+00	2.196E+00	2.577E+00	4.185E-01	0.713
		304.40		1.637E+00	1.823E+00	2.844E+00	4.908E-01	0.576
		334.20		6.791E-01	3.001E+00	3.766E+00	6.890E-01	0.180
TH-227	+	79.80		3.923E-01	1.978E+00	2.398E+00	5.087E-01	0.164
		94.00		1.024E+01	3.904E+00	3.738E+00	7.941E-01	2.738
		236.00		7.736E-01	2.787E-01	4.628E-01	4.102E-02	1.672
		256.20	*	-4.360E-02	3.891E-01	6.509E-01	1.095E-01	-0.067
	+	286.10		6.379E-01	1.633E+00	2.568E+00	2.572E+00	0.248
		299.80		1.837E+00	2.196E+00	2.577E+00	4.185E-01	0.713
		304.40		1.637E+00	1.823E+00	2.844E+00	4.908E-01	0.576
		334.20		6.791E-01	3.001E+00	3.766E+00	6.890E-01	0.180
TH-229	+	85.43		3.386E-01	1.755E-01	3.045E-01	2.271E-02	1.112
		88.47		4.290E-01	1.435E-01	2.095E-01	1.594E-02	2.048
		100.00		2.035E-01	1.791E-01	3.095E-01	2.111E-02	0.658
		193.63	*	-3.983E-01	5.115E-01	7.809E-01	4.112E-02	-0.510
PA-231	+	210.97		3.812E-01	8.509E-01	1.234E+00	6.616E-02	0.309
		283.67	*	-7.366E-02	1.436E+00	2.393E+00	3.283E-01	-0.031
TH-231	+	301.29		7.349E-01	8.735E-01	1.031E+00	1.071E-01	0.713
		81.07		-1.943E-01	2.768E-01	3.106E-01	2.224E-02	-0.626
		83.78		2.531E-01	1.462E-01	2.093E-01	1.536E-02	1.209
		94.90		4.419E-01	2.229E-01	3.645E-01	2.590E-02	1.212
	+	122.32		5.266E-01	1.746E+00	2.848E+00	2.017E-01	0.185
		144.24		5.045E-01	6.693E-01	1.119E+00	7.923E-02	0.451
		154.21		-3.196E-02	3.767E-01	6.062E-01	4.043E-02	-0.053
		269.46		5.653E-01	2.570E-01	3.426E-01	2.019E-02	1.650
U-231	+	323.87	*	6.472E-01	7.240E-01	1.119E+00	1.844E-01	0.578
		338.28		7.082E+00	1.948E+00	2.568E+00	2.686E-01	2.758
		445.03		-1.859E+00	2.222E+00	3.336E+00	3.424E-01	-0.557
		84.21		1.273E+01	7.354E+00	1.045E+01	7.704E-01	1.218
	+	92.29		1.181E+01	3.835E+00	4.695E+00	3.421E-01	2.515
		95.87	*	-6.114E-01	1.260E+00	1.817E+00	1.280E-01	-0.336

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		8.558E-02	2.403E+00	3.553E+00	2.315E-01	0.024
	+	75.28		1.939E+01	4.808E+00	7.301E+00	1.052E+00	2.656
	+	86.59		8.140E+00	3.134E+00	2.982E+00	7.899E-01	2.730
	+	300.12		5.122E-01	6.103E-01	7.112E-01	9.520E-02	0.720
		311.98	*	-1.098E-02	6.032E-02	9.905E-02	5.993E-03	-0.111
		340.50		5.747E-01	6.650E-01	1.013E+00	2.322E-01	0.567
PA-234		398.62		1.586E+00	2.052E+00	3.463E+00	8.934E-01	0.458
		415.76		-6.139E-01	1.538E+00	2.416E+00	4.962E-01	-0.254
	+	63.00		2.846E+00	2.466E+00	2.781E+00	3.995E-01	1.023
		94.67		4.317E-01	1.696E-01	2.754E-01	3.143E-02	1.568
		98.44		5.310E-02	1.028E-01	1.498E-01	8.322E-02	0.354
		99.86		6.249E-01	4.488E-01	7.828E-01	5.345E-02	0.798
		111.00		-5.456E-02	1.740E-01	2.821E-01	3.002E-02	-0.193
		131.20		-1.126E-01	1.055E-01	1.635E-01	9.727E-03	-0.689
		152.70		2.931E-01	3.072E-01	5.139E-01	8.053E-02	0.570
	+	186.00		4.643E+00	2.391E+00	2.606E+00	7.936E-01	1.781
		226.40		1.732E-01	3.755E-01	6.489E-01	7.389E-02	0.267
		227.20		4.407E-02	4.019E-01	6.845E-01	3.731E-02	0.064
		248.90		9.181E-02	7.865E-01	1.323E+00	2.834E-01	0.069
	+	293.70		7.335E+00	1.662E+00	1.831E+00	2.937E-01	4.005
		369.80		-7.489E-01	8.395E-01	1.267E+00	2.630E-01	-0.591
		568.70		-3.781E-01	1.025E+00	1.642E+00	1.034E-01	-0.230
		569.50		-3.207E-02	2.825E-01	4.617E-01	2.907E-02	-0.069
		574.00		-8.450E-01	1.480E+00	2.375E+00	1.498E-01	-0.356
		699.00		-5.334E-01	7.487E-01	1.143E+00	2.094E-01	-0.467
		706.10		-4.126E-01	1.111E+00	1.755E+00	7.771E-01	-0.235
		733.00		-1.141E-01	4.374E-01	6.019E-01	1.302E-01	-0.190
		742.81		6.706E-01	1.428E+00	2.328E+00	1.561E+00	0.288
		796.30		1.070E+00	9.552E-01	1.642E+00	4.390E-01	0.652
		805.60		-1.654E-01	9.841E-01	1.579E+00	4.798E-01	-0.105
		819.60		8.671E-01	1.149E+00	1.950E+00	7.379E-01	0.445
		826.30		-3.269E-01	8.575E-01	1.324E+00	5.905E-01	-0.247
		831.60		-3.177E-01	6.738E-01	1.039E+00	3.077E-01	-0.306
		876.40		1.647E-01	8.556E-01	1.388E+00	1.427E+00	0.119
		880.51		7.043E-02	2.746E-01	4.574E-01	3.760E-02	0.154
		883.24		-1.733E-01	3.048E-01	4.250E-01	2.855E-01	-0.408
		899.00		2.665E-01	8.871E-01	1.467E+00	6.404E-01	0.182
		925.00		1.026E+00	1.232E+00	2.153E+00	1.759E-01	0.476
		926.50		2.624E-02	1.973E-01	3.140E-01	7.890E-02	0.084
		946.00	*	9.153E-02	2.949E-01	4.908E-01	9.076E-02	0.187
		949.00		-2.118E-01	4.253E-01	6.438E-01	5.146E-02	-0.329
		980.50		-5.152E-02	7.430E-01	1.184E+00	9.153E-02	-0.044
		1394.10		-1.068E+00	1.510E+00	1.951E+00	1.266E+00	-0.548
PA-234M		766.42		1.676E+01	1.717E+01	2.364E+01	1.194E+01	0.709
NP-236		1001.03	*	1.505E+00	4.553E+00	7.420E+00	6.715E-01	0.203
		94.67		3.294E-01	1.254E-01	2.091E-01	1.489E-02	1.575
		98.44		4.011E-02	7.446E-02	1.132E-01	7.813E-03	0.354
		111.00		-4.127E-02	1.316E-01	2.134E-01	1.373E-02	-0.193
		160.31	*	-8.214E-02	7.968E-02	1.218E-01	6.385E-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		1.624E-01	1.516E-01	2.591E-01	1.773E-02	0.627
		117.00	*	8.135E-03	1.894E-01	3.114E-01	1.965E-02	0.026
	+	209.75		2.455E+00	1.324E+00	1.418E+00	7.595E-02	1.731
		228.18		-1.916E-01	2.145E-01	3.479E-01	1.898E-02	-0.551
		277.60		2.040E-01	1.743E-01	3.081E-01	1.738E-02	0.662
		334.30		3.388E-01	1.697E+00	2.125E+00	1.205E-01	0.159
AM-241		59.54	*	5.921E-02	1.568E-01	2.438E-01	1.732E-02	0.243
CM-243		99.55		1.671E-01	1.560E-01	2.666E-01	1.824E-02	0.627
		103.76	*	3.672E-02	1.043E-01	1.573E-01	1.048E-02	0.233
		117.00		8.370E-03	1.948E-01	3.204E-01	2.022E-02	0.026
	+	209.75		2.420E+00	1.305E+00	1.398E+00	7.488E-02	1.731
		228.18		-1.936E-01	2.168E-01	3.516E-01	1.918E-02	-0.551
		277.60		2.057E-01	1.757E-01	3.106E-01	1.752E-02	0.662
AM-246		798.80		-2.133E-01	1.484E-01	2.079E-01	1.575E-02	-1.026
		1036.00		9.867E-03	2.842E-01	4.774E-01	3.436E-02	0.021
		1062.04		1.457E-01	2.252E-01	3.993E-01	2.762E-02	0.365
		1078.86	*	4.479E-02	1.418E-01	2.437E-01	1.639E-02	0.184
CM-247		278.00		9.781E-01	7.196E-01	1.282E+00	7.237E-02	0.763
		287.40		7.871E-01	1.210E+00	2.088E+00	1.183E-01	0.377
		402.60	*	2.635E-03	3.629E-02	5.949E-02	3.299E-03	0.044
CF-249		252.85		7.079E-03	8.565E-01	1.443E+00	8.028E-02	0.005
		333.44		7.999E-02	2.595E-01	2.846E-01	1.614E-02	0.281
		387.95	*	1.855E-02	3.991E-02	6.727E-02	3.698E-03	0.276
CF-251		176.60	*	-3.528E-03	1.233E-01	1.973E-01	1.020E-02	-0.018
		227.00		9.350E-02	3.558E-01	6.103E-01	3.326E-02	0.153
		285.00		9.708E-02	1.696E+00	2.843E+00	1.608E-01	0.034

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]G243630008      *
* Acquisition date   : 7-JAN-2010 13:24:02 Detector SN#      :              *
* Detector ID        : GAM12                      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 02:00:01.42             Half life ratio  : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630008                      Analyst initials: MXR1     *
* Batch Number       : 937702                          Sample Quantity : 1.2317E+02 GRAM *
* Recovery           : 1.00000                          Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                                                *
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 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	1.983E+01	2.014E+00	4.142E-01	0.000E+00
CD-109	4.236E+00	1.201E+00	1.153E+00	0.000E+00
SN-126	4.158E-01	1.179E-01	1.137E-01	0.000E+00
EU-155	1.896E-01	1.364E-01	1.737E-01	0.000E+00
TL-208	5.557E-01	9.600E-02	6.160E-02	0.000E+00
BI-211	4.194E+00	5.245E-01	3.254E-01	0.000E+00
PB-212	1.754E+00	1.656E-01	8.901E-02	0.000E+00
PO-212	1.754E+00	1.656E-01	8.901E-02	0.000E+00
BI-214	1.355E+00	2.042E-01	1.189E-01	0.000E+00
PB-214	1.459E+00	1.971E-01	1.135E-01	0.000E+00
PO-214	1.459E+00	1.971E-01	1.135E-01	0.000E+00
PO-216	1.754E+00	1.656E-01	8.901E-02	0.000E+00
PO-218	1.459E+00	1.971E-01	1.135E-01	0.000E+00
RA-224	3.782E+00	1.056E+00	1.013E+00	0.000E+00
RA-226	1.355E+00	2.042E-01	1.189E-01	0.000E+00
AC-228	1.551E+00	3.168E-01	1.928E-01	0.000E+00
RA-228	1.551E+00	3.168E-01	1.928E-01	0.000E+00
TH-228	1.782E+00	1.682E-01	9.044E-02	0.000E+00
TH-230	1.355E+00	2.042E-01	1.189E-01	0.000E+00
TH-232	1.551E+00	3.168E-01	1.928E-01	0.000E+00
TH-234	2.441E+00	2.085E+00	2.132E+00	0.000E+00
U-234	1.355E+00	2.042E-01	1.189E-01	0.000E+00
U-235	1.898E-01	2.067E-01	3.619E-01	0.000E+00
NP-237	1.221E+00	4.252E-01	3.379E-01	0.000E+00
U-238	2.441E+00	2.085E+00	2.132E+00	0.000E+00
AM-243	3.702E-01	7.725E-02	8.755E-02	0.000E+00
ANH-511	1.690E-01	6.713E-02	5.160E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	1.328E-01	3.442E-01	5.730E-01	0.000E+00	NOT IDENT.
NA-22	-5.670E-02	4.440E-02	6.345E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.018E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.262E-02	2.816E-02	4.267E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.335E-02	7.668E-02	0.000E+00	FAIL ABUN
SC-46	2.153E-02	3.659E-02	6.460E-02	0.000E+00	FAIL ABUN
V-48	6.532E-02	7.000E-02	1.267E-01	0.000E+00	NOT IDENT.
CR-51	-3.029E-01	3.458E-01	5.619E-01	0.000E+00	NOT IDENT.
MN-52	-1.489E-01	2.694E-01	4.090E-01	0.000E+00	NOT IDENT.
MN-54	-1.156E-02	4.054E-02	6.612E-02	0.000E+00	NOT IDENT.
CO-56	-2.899E-02	3.981E-02	6.133E-02	0.000E+00	FAIL ABUN
CO-57	7.920E-03	2.482E-02	4.265E-02	0.000E+00	NOT IDENT.
CO-58	1.899E-03	3.417E-02	5.766E-02	0.000E+00	NOT IDENT.
FE-59	-2.488E-02	8.959E-02	1.484E-01	0.000E+00	NOT IDENT.
CO-60	1.106E-02	3.378E-02	5.902E-02	0.000E+00	NOT IDENT.
ZN-65	4.304E-02	9.698E-02	1.507E-01	0.000E+00	NOT IDENT.
GE-68	-3.026E-01	1.208E+00	2.011E+00	0.000E+00	NOT IDENT.
AS-73	-1.588E-01	7.820E-01	1.386E+00	0.000E+00	NOT IDENT.
AS-74	-2.436E-03	8.911E-02	1.535E-01	0.000E+00	NOT IDENT.
SE-75	1.668E-02	4.567E-02	7.229E-02	0.000E+00	NOT IDENT.
BR-77	7.114E-01	1.289E+01	2.139E+01	0.000E+00	FAIL ABUN
SR-82	-3.676E-02	3.928E-01	6.560E-01	0.000E+00	NOT IDENT.
RB-83	-2.682E-02	6.744E-02	1.074E-01	0.000E+00	NOT IDENT.
RB-84	3.938E-02	6.665E-02	1.177E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.970E+00	1.351E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.127E-02	6.997E-02	0.000E+00	NOT IDENT.
RB-86	5.093E-02	7.680E-01	1.319E+00	0.000E+00	NOT IDENT.
Y-88	-1.161E-02	3.379E-02	5.272E-02	0.000E+00	NOT IDENT.
ZR-88	7.152E-03	2.890E-02	4.982E-02	0.000E+00	NOT IDENT.
Y-91	1.379E+01	1.862E+01	3.349E+01	0.000E+00	NOT IDENT.
NB-94	3.315E-02	3.420E-02	6.230E-02	0.000E+00	NOT IDENT.
NB-95	7.014E-02	5.433E-02	8.944E-02	0.000E+00	NOT IDENT.
NB-95M	2.068E-02	1.352E-01	2.125E-01	0.000E+00	NOT IDENT.
ZR-95	8.207E-02	7.152E-02	1.319E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.550E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.113E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.282E+00	1.467E+01	2.448E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.185E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.016E-02	3.150E-02	5.409E-02	0.000E+00	NOT IDENT.
RH-102	1.122E-02	2.981E-02	5.106E-02	0.000E+00	NOT IDENT.
RU-103	1.086E-02	4.077E-02	6.907E-02	0.000E+00	FAIL ABUN
RH-106	1.045E-01	3.068E-01	5.412E-01	0.000E+00	FAIL ABUN
RU-106	1.045E-01	3.066E-01	5.412E-01	0.000E+00	FAIL ABUN
AG-108M	1.688E-02	3.041E-02	5.321E-02	0.000E+00	NOT IDENT.
AG-110M	-3.174E-03	3.538E-02	6.009E-02	0.000E+00	NOT IDENT.
IN-111	-1.186E+00	1.417E+00	2.073E+00	0.000E+00	NOT IDENT.
IN-113M	-3.923E-03	4.237E-02	7.133E-02	0.000E+00	NOT IDENT.
SN-113	-3.923E-03	4.237E-02	7.133E-02	0.000E+00	NOT IDENT.
IN-114M	6.308E-02	1.918E-01	2.911E-01	0.000E+00	NOT IDENT.
CD-115	-2.332E+00	1.387E+01	2.252E+01	0.000E+00	NOT IDENT.
SN-117M	5.790E-02	5.407E-02	9.602E-02	0.000E+00	NOT IDENT.
SB-122	2.481E+00	2.584E+00	4.770E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.801E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.671E-02	2.714E-02	4.724E-02	0.000E+00	NOT IDENT.
I-124	-1.720E-03	8.371E-01	1.255E+00	0.000E+00	FAIL ABUN
SB-124	-9.792E-02	8.528E-02	1.149E-01	0.000E+00	FAIL ABUN
SB-125	4.037E-02	9.032E-02	1.567E-01	0.000E+00	FAIL ABUN
TE-125M	5.273E+00	9.348E+00	1.500E+01	0.000E+00	NOT IDENT.
I-126	9.737E-02	1.893E-01	3.361E-01	0.000E+00	NOT IDENT.
SB-126	-5.049E-02	1.685E-01	2.382E-01	0.000E+00	NOT IDENT.
SB-127	-6.685E-01	1.541E+00	2.524E+00	0.000E+00	NOT IDENT.
XE-127	4.989E-02	4.843E-02	8.090E-02	0.000E+00	NOT IDENT.
I-131	8.515E-02	1.178E-01	2.102E-01	0.000E+00	NOT IDENT.
TE-132	-6.409E-01	7.864E-01	1.330E+00	0.000E+00	NOT IDENT.
BA-133	-1.607E-02	4.694E-02	6.812E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.232E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.175E-02	4.734E-02	8.893E-02	0.000E+00	NOT IDENT.
CS-135	1.431E-01	1.692E-01	2.750E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.734E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.837E-02	1.194E-01	1.983E-01	0.000E+00	FAIL ABUN
BA-137M	-1.911E-02	3.633E-02	5.951E-02	0.000E+00	NOT IDENT.
CS-137	-2.020E-02	3.840E-02	6.291E-02	0.000E+00	NOT IDENT.
CE-139	-4.010E-03	2.818E-02	4.721E-02	0.000E+00	NOT IDENT.
BA-140	2.379E-01	2.694E-01	4.793E-01	0.000E+00	NOT IDENT.
LA-140	-8.524E-02	8.757E-02	1.257E-01	0.000E+00	FAIL ABUN
CE-141	-3.500E-02	6.019E-02	9.933E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.074E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.494E-02	1.846E-01	3.142E-01	0.000E+00	NOT IDENT.

PM-144	-8.704E-04	3.285E-02	5.578E-02	0.000E+00	NOT IDENT.
PR-144	-5.901E-02	2.227E+00	3.782E+00	0.000E+00	NOT IDENT.
PM-146	7.999E-03	4.305E-02	7.301E-02	0.000E+00	NOT IDENT.
ND-147	1.652E-01	5.700E-01	9.632E-01	0.000E+00	FAIL ABUN
PM-149	2.336E+01	1.187E+02	2.084E+02	0.000E+00	NOT IDENT.
EU-152	1.229E-02	9.852E-02	1.578E-01	0.000E+00	FAIL ABUN
GD-153	-7.882E-02	8.341E-02	1.228E-01	0.000E+00	FAIL ABUN
EU-154	-1.595E-01	1.243E-01	1.766E-01	0.000E+00	NOT IDENT.
TB-160	-5.683E-03	1.382E-01	2.290E-01	0.000E+00	FAIL ABUN
HO-166M	3.180E-02	6.153E-02	1.088E-01	0.000E+00	FAIL ABUN
TM-171	8.061E-01	2.910E+01	4.670E+01	0.000E+00	NOT IDENT.
LU-176	-1.915E-02	2.222E-02	3.634E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.016E+00	2.271E+00	0.000E+00	FAIL ABUN
LU-177M	-1.441E-01	1.638E-01	2.575E-01	0.000E+00	FAIL ABUN
HF-181	-3.537E-02	4.421E-02	6.876E-02	0.000E+00	NOT IDENT.
W-181	-3.534E-02	3.787E-01	6.051E-01	0.000E+00	NOT IDENT.
TA-182	1.919E-02	1.858E-01	3.161E-01	0.000E+00	FAIL ABUN
RE-183	2.428E-02	1.036E-01	1.770E-01	0.000E+00	FAIL ABUN
RE-184	1.894E-03	2.246E-01	3.944E-01	0.000E+00	NOT IDENT.
OS-185	1.089E-02	3.994E-02	7.000E-02	0.000E+00	NOT IDENT.
RE-188	-1.020E-01	1.642E-01	2.700E-01	0.000E+00	NOT IDENT.
W-188	-4.970E+00	7.843E+00	1.139E+01	0.000E+00	FAIL ABUN
IR-192	5.590E-03	3.133E-02	5.463E-02	0.000E+00	FAIL ABUN
AU-195	2.446E-01	2.236E-01	3.882E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.663E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.711E+00	8.163E+00	1.390E+01	0.000E+00	NOT IDENT.
TL-202	2.824E-02	7.014E-02	1.212E-01	0.000E+00	NOT IDENT.
HG-203	1.150E-02	3.783E-02	6.695E-02	0.000E+00	FAIL ABUN
BI-207	4.028E-02	5.228E-02	9.548E-02	0.000E+00	FAIL ABUN
TL-207	6.472E-01	7.095E-01	1.140E+00	0.000E+00	FAIL ABUN
PO-209	-1.523E+00	7.307E+00	1.186E+01	0.000E+00	NOT IDENT.
BI-210	8.650E-01	3.098E+00	5.625E+00	0.000E+00	NOT IDENT.
PB-210	8.650E-01	3.098E+00	5.625E+00	0.000E+00	NOT IDENT.
PO-210	8.650E-01	3.098E+00	5.625E+00	0.000E+00	NOT IDENT.
PB-211	-6.102E-01	9.846E-01	1.468E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.158E-01	7.145E-01	0.000E+00	FAIL ABUN
PO-215	6.472E-01	7.095E-01	1.140E+00	0.000E+00	FAIL ABUN
RN-219	1.008E-01	3.995E-01	6.867E-01	0.000E+00	FAIL ABUN
RN-220	-1.158E+01	2.600E+01	4.373E+01	0.000E+00	NOT IDENT.
RA-223	6.472E-01	7.095E-01	1.140E+00	0.000E+00	FAIL ABUN
AC-227	-4.360E-02	3.813E-01	6.651E-01	0.000E+00	FAIL ABUN
TH-227	-4.360E-02	3.813E-01	6.651E-01	0.000E+00	FAIL ABUN
TH-229	-3.983E-01	5.013E-01	8.009E-01	0.000E+00	FAIL ABUN
PA-231	-7.366E-02	1.407E+00	2.442E+00	0.000E+00	FAIL ABUN
TH-231	6.472E-01	7.095E-01	1.140E+00	0.000E+00	FAIL ABUN
U-231	-6.114E-01	1.235E+00	1.881E+00	0.000E+00	FAIL ABUN
PA-233	-1.098E-02	5.911E-02	1.010E-01	0.000E+00	FAIL ABUN
PA-234	9.153E-02	2.890E-01	4.929E-01	0.000E+00	FAIL ABUN
PA-234M	1.505E+00	4.462E+00	7.447E+00	0.000E+00	NOT IDENT.
NP-236	-8.214E-02	7.808E-02	1.252E-01	0.000E+00	NOT IDENT.
NP-239	8.135E-03	1.856E-01	3.214E-01	0.000E+00	FAIL ABUN
AM-241	5.921E-02	1.536E-01	2.538E-01	0.000E+00	NOT IDENT.
CM-243	3.672E-02	1.022E-01	1.626E-01	0.000E+00	FAIL ABUN
AM-246	4.479E-02	1.389E-01	2.443E-01	0.000E+00	NOT IDENT.
CM-247	2.635E-03	3.556E-02	6.043E-02	0.000E+00	NOT IDENT.
CF-249	1.855E-02	3.911E-02	6.837E-02	0.000E+00	NOT IDENT.
CF-251	-3.528E-03	1.208E-01	2.026E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630008.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:24:02.
Sample ID          : G243630008 Sample quantity : 1.23170E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 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	790	10.67*	1.138E+00	1.983E+01	1.983E+01	10.37
CD-109	88.03	285	3.72*	5.643E+00	4.136E+00	4.236E+00	28.93
SN-126	64.28	96	9.60	3.159E+00	9.663E-01	9.663E-01	86.62
	86.94	285	8.90	5.643E+00	1.729E+00	1.729E+00	49.73
	87.57	285	37.00*	5.643E+00	4.158E-01	4.158E-01	28.93
EU-155	48.70	-----	4.60	1.254E+00	-----	Line Not Found	-----
	60.01	-----	1.11	2.760E+00	-----	Line Not Found	-----
	86.54	285	30.90	5.643E+00	4.979E-01	5.010E-01	28.96
	105.31	83	20.70*	6.447E+00	1.885E-01	1.896E-01	73.38
TL-208	277.35	-----	6.80	4.505E+00	-----	Line Not Found	-----
	510.84	155	21.60	2.795E+00	7.824E-01	7.824E-01	41.38
	583.14	385	84.20*	2.506E+00	5.557E-01	5.557E-01	17.63
	860.37	-----	12.46	1.795E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	670	12.94*	3.764E+00	4.194E+00	4.194E+00	12.76
PB-212	74.81	368	10.70	4.585E+00	2.284E+00	2.284E+00	23.25
	77.11	674	18.00	4.814E+00	2.372E+00	2.372E+00	14.77
	87.30	285	8.00	5.643E+00	1.923E+00	1.923E+00	30.61
	238.63	1288	44.60*	5.018E+00	1.754E+00	1.754E+00	9.63
	300.09	47	3.41	4.245E+00	9.914E-01	9.914E-01	118.69
PO-212	74.81	368	10.70	4.585E+00	2.284E+00	2.284E+00	23.25
	77.11	674	18.00	4.814E+00	2.372E+00	2.372E+00	14.77
	87.30	285	8.00	5.643E+00	1.923E+00	1.923E+00	30.61
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	1288	44.60*	5.018E+00	1.754E+00	1.754E+00	9.63
	300.09	47	3.41	4.245E+00	9.914E-01	9.914E-01	118.69
BI-214	609.31	497	46.30*	2.416E+00	1.355E+00	1.355E+00	15.38
	1120.29	132	15.10	1.423E+00	1.872E+00	1.872E+00	31.62
	1764.49	95	15.80	9.906E-01	1.842E+00	1.842E+00	23.04
PB-214	74.81	368	6.21	4.585E+00	3.935E+00	3.935E+00	22.54
	77.11	674	10.50	4.814E+00	4.066E+00	4.066E+00	16.62
	87.30	285	4.67	5.643E+00	3.294E+00	3.294E+00	29.94

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	244	7.49	4.975E+00	1.994E+00	1.994E+00	29.04
	295.21	414	19.20	4.305E+00	1.528E+00	1.528E+00	18.11
	351.92	670	37.20*	3.764E+00	1.459E+00	1.459E+00	13.79
	74.81	368	6.21	4.585E+00	3.935E+00	3.935E+00	22.54
	77.11	674	10.50	4.814E+00	4.066E+00	4.066E+00	16.62
	87.30	285	4.67	5.643E+00	3.294E+00	3.294E+00	29.94
PO-216	241.98	244	7.49	4.975E+00	1.994E+00	1.994E+00	29.04
	295.21	414	19.20	4.305E+00	1.528E+00	1.528E+00	18.11
	351.92	670	37.20*	3.764E+00	1.459E+00	1.459E+00	13.79
	74.81	368	10.70	4.585E+00	2.284E+00	2.284E+00	23.25
	77.11	674	18.00	4.814E+00	2.372E+00	2.372E+00	14.77
	87.30	285	8.00	5.643E+00	1.923E+00	1.923E+00	30.61
PO-218	238.63	1288	44.60*	5.018E+00	1.754E+00	1.754E+00	9.63
	300.09	47	3.41	4.245E+00	9.914E-01	9.914E-01	118.69
	74.81	368	6.21	4.585E+00	3.935E+00	3.935E+00	22.54
	77.11	674	10.50	4.814E+00	4.066E+00	4.066E+00	16.62
	87.30	285	4.67	5.643E+00	3.294E+00	3.294E+00	29.94
	241.98	244	7.49	4.975E+00	1.994E+00	1.994E+00	29.04
RA-224	295.21	414	19.20	4.305E+00	1.528E+00	1.528E+00	18.11
	351.92	670	37.20*	3.764E+00	1.459E+00	1.459E+00	13.79
	240.98	244	3.95*	4.975E+00	3.782E+00	3.782E+00	28.49
RA-226	609.31	497	46.30*	2.416E+00	1.355E+00	1.355E+00	15.38
	1120.29	132	15.10	1.423E+00	1.872E+00	1.872E+00	31.62
	1764.49	95	15.80	9.906E-01	1.842E+00	1.842E+00	23.04
AC-228	338.32	246	11.40	3.880E+00	1.696E+00	1.696E+00	48.03
	911.07	241	27.70*	1.708E+00	1.551E+00	1.551E+00	20.85
	969.11	162	16.60	1.617E+00	1.838E+00	1.838E+00	32.43
RA-228	338.32	246	11.40	3.880E+00	1.696E+00	1.696E+00	48.03
	911.07	241	27.70*	1.708E+00	1.551E+00	1.551E+00	20.85
	969.11	162	16.60	1.617E+00	1.838E+00	1.838E+00	32.43
TH-228	74.81	368	10.70	4.585E+00	2.284E+00	2.320E+00	21.32
	77.11	674	18.00	4.814E+00	2.372E+00	2.410E+00	14.77
	87.30	285	8.00	5.643E+00	1.923E+00	1.954E+00	28.93
TH-230	238.63	1288	44.60*	5.018E+00	1.754E+00	1.782E+00	9.63
	300.09	47	3.41	4.245E+00	9.914E-01	1.007E+00	132.26
	609.31	497	46.30*	2.416E+00	1.355E+00	1.355E+00	15.38
TH-232	1120.29	132	15.10	1.423E+00	1.872E+00	1.872E+00	31.62
	1764.49	95	15.80	9.906E-01	1.842E+00	1.842E+00	23.04
	338.32	246	11.40	3.880E+00	1.696E+00	1.696E+00	26.06
TH-234	911.07	241	27.70*	1.708E+00	1.551E+00	1.551E+00	20.85
	969.11	162	16.60	1.617E+00	1.838E+00	1.838E+00	32.43
	63.29	96	3.80*	3.159E+00	2.441E+00	2.441E+00	87.16
U-234	92.38	281	5.41	5.978E+00	2.649E+00	2.649E+00	36.16
	609.31	497	46.30*	2.416E+00	1.355E+00	1.355E+00	15.38
	1120.29	132	15.10	1.423E+00	1.872E+00	1.872E+00	31.62
U-235	1764.49	95	15.80	9.906E-01	1.842E+00	1.842E+00	23.04
	89.95	222	2.70	5.810E+00	4.306E+00	4.306E+00	44.69
	93.35	281	4.50	5.978E+00	3.184E+00	3.184E+00	42.03
	105.00	83	2.10	6.447E+00	1.858E+00	1.858E+00	78.73

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	143.76	-----	10.50*	6.516E+00	-----	Line Not Found	-----
	163.35	-----	4.70	6.238E+00	-----	Line Not Found	-----
	185.71	179	54.00	5.861E+00	1.719E-01	1.719E-01	41.87
	205.31	-----	4.70	5.531E+00	-----	Line Not Found	-----
NP-237	86.50	285	12.60*	5.643E+00	1.221E+00	1.221E+00	35.54
	95.87	-----	2.60	6.124E+00	-----	Line Not Found	-----
U-238	63.29	96	3.80*	3.159E+00	2.441E+00	2.441E+00	87.16
	92.38	281	5.41	5.978E+00	2.649E+00	2.649E+00	32.48
AM-243	74.67	368	66.00*	4.585E+00	3.702E-01	3.702E-01	21.29
	86.72	285	0.34	5.643E+00	4.579E+01	4.579E+01	28.93
	117.66	-----	0.55	6.624E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.534E+00	-----	Line Not Found	-----
ANH-511	511.00	155	100.00*	2.795E+00	1.690E-01	1.690E-01	40.53

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 2
Number of lines tentatively identified by NID 31 93.94%

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	1.983E+01	1.983E+01	0.206E+01	10.37	
CD-109	464.00D	1.02	4.136E+00	4.236E+00	1.226E+00	28.93	
SN-126	1.00E+05Y	1.00	4.158E-01	4.158E-01	1.203E-01	28.93	
EU-155	4.96Y	1.01	1.885E-01	1.896E-01	1.391E-01	73.38	
TL-208	1.41E+10Y	1.00	5.557E-01	5.557E-01	0.980E-01	17.63	
BI-211	7.04E+08Y	1.00	4.194E+00	4.194E+00	0.535E+00	12.76	
PB-212	1.41E+10Y	1.00	1.754E+00	1.754E+00	0.169E+00	9.63	
PO-212	1.41E+10Y	1.00	1.754E+00	1.754E+00	0.169E+00	9.63	
BI-214	1600.00Y	1.00	1.355E+00	1.355E+00	0.208E+00	15.38	
PB-214	1600.00Y	1.00	1.459E+00	1.459E+00	0.201E+00	13.79	
PO-214	1600.00Y	1.00	1.459E+00	1.459E+00	0.201E+00	13.79	
PO-216	1.41E+10Y	1.00	1.754E+00	1.754E+00	0.169E+00	9.63	
PO-218	1600.00Y	1.00	1.459E+00	1.459E+00	0.201E+00	13.79	
RA-224	1.41E+10Y	1.00	3.782E+00	3.782E+00	1.077E+00	28.49	
RA-226	1600.00Y	1.00	1.355E+00	1.355E+00	0.208E+00	15.38	
AC-228	1.41E+10Y	1.00	1.551E+00	1.551E+00	0.323E+00	20.85	
RA-228	1.41E+10Y	1.00	1.551E+00	1.551E+00	0.323E+00	20.85	
TH-228	1.91Y	1.02	1.754E+00	1.782E+00	0.172E+00	9.63	
TH-230	4.47E+09Y	1.00	1.355E+00	1.355E+00	0.208E+00	15.38	
TH-232	1.41E+10Y	1.00	1.551E+00	1.551E+00	0.323E+00	20.85	
TH-234	4.47E+09Y	1.00	2.441E+00	2.441E+00	2.128E+00	87.16	
U-234	4.47E+09Y	1.00	1.355E+00	1.355E+00	0.208E+00	15.38	
U-235	7.04E+08Y	1.00	1.719E-01	1.719E-01	0.720E-01	41.87	K
NP-237	2.14E+06Y	1.00	1.221E+00	1.221E+00	0.434E+00	35.54	
U-238	4.47E+09Y	1.00	2.441E+00	2.441E+00	2.128E+00	87.16	
AM-243	7380.00Y	1.00	3.702E-01	3.702E-01	0.788E-01	21.29	
ANH-511	1.00E+09Y	1.00	1.690E-01	1.690E-01	0.685E-01	40.53	
Total Activity :			6.137E+01	6.150E+01			

Grand Total Activity : 6.137E+01 6.150E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	83.92	111	340	1.48	167.34	164	28	1.54E-02	57.3	5.42E+00	T
0	208.91	143	328	1.24	417.44	412	12	1.98E-02	53.7	5.47E+00	T
0	270.06	116	160	1.07	539.81	535	10	1.61E-02	45.1	4.59E+00	T
0	327.52	73	204	0.73	654.77	649	13	1.01E-02	84.6	3.98E+00	T
0	462.66	97	102	1.41	925.14	918	14	1.35E-02	48.4	3.03E+00	T
0	726.64	102	70	1.81	1453.25	1446	14	1.41E-02	40.8	2.08E+00	T
0	769.42	24	111	0.98	1538.83	1531	12	3.29E-03	****	1.98E+00	
0	933.44	31	38	1.62	1866.92	1863	12	4.33E-03	85.4	1.67E+00	
2	963.86	50	35	2.19	1927.76	1920	23	6.99E-03	60.9	1.62E+00	T
0	1237.46	77	46	1.87	2474.99	2465	18	1.07E-02	48.2	1.31E+00	T
0	1376.86	43	14	1.78	2753.75	2747	15	5.99E-03	49.4	1.19E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630008.CNF;1
* Acquisition date   : 7-JAN-2010 13:24:02.  Detector SN#      :
* Detector ID        : GAM12              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 02:00:01.42       Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630008           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.23170E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24.5MS 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	1.983E+01	2.055E+00	4.148E-01	2.957E-02	47.797
CD-109	4.236E+00	1.226E+00	1.113E+00	8.518E-02	3.805
SN-126	4.158E-01	1.203E-01	1.098E-01	8.367E-03	3.788
EU-155	1.896E-01	1.391E-01	1.681E-01	1.133E-02	1.128
TL-208	5.557E-01	9.796E-02	6.093E-02	4.359E-03	9.120
BI-211	4.194E+00	5.352E-01	3.198E-01	2.010E-02	13.115
PB-212	1.754E+00	1.689E-01	8.703E-02	6.179E-03	20.153
PO-212	1.754E+00	1.689E-01	8.703E-02	6.179E-03	20.153
BI-214	1.355E+00	2.084E-01	1.177E-01	9.689E-03	11.512
PB-214	1.459E+00	2.011E-01	1.115E-01	9.107E-03	13.085
PO-214	1.459E+00	2.011E-01	1.115E-01	9.107E-03	13.085
PO-216	1.754E+00	1.689E-01	8.703E-02	6.179E-03	20.153
PO-218	1.459E+00	2.011E-01	1.115E-01	9.107E-03	13.085
RA-224	3.782E+00	1.077E+00	9.905E-01	5.464E-02	3.818
RA-226	1.355E+00	2.084E-01	1.177E-01	9.689E-03	11.512
AC-228	1.551E+00	3.233E-01	1.918E-01	2.106E-02	8.082
RA-228	1.551E+00	3.233E-01	1.918E-01	2.106E-02	8.082
TH-228	1.782E+00	1.717E-01	8.843E-02	6.279E-03	20.153

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.355E+00	2.084E-01	1.177E-01	9.688E-03	11.512
TH-232	1.551E+00	3.233E-01	1.918E-01	2.106E-02	8.082
TH-234	2.441E+00	2.128E+00	2.050E+00	3.490E-01	1.191
U-234	1.355E+00	2.084E-01	1.177E-01	9.688E-03	11.512
U-235	1.719E-01	7.199E-02	3.516E-01	5.710E-02	0.489
NP-237	1.221E+00	4.339E-01	3.261E-01	7.164E-02	3.744
U-238	2.441E+00	2.128E+00	2.050E+00	3.490E-01	1.191
AM-243	3.702E-01	7.883E-02	8.434E-02	5.731E-03	4.389
ANH-511	1.690E-01	6.850E-02	5.095E-02	3.106E-03	3.317

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.328E-01		3.512E-01	5.653E-01	3.890E-02	0.235
NA-22	-5.670E-02		4.530E-02	6.342E-02	4.084E-03	-0.894
NA-24	7.735E-01		1.030E+00	Half-Life too short		
AL-26	-1.262E-02		2.874E-02	4.286E-02	2.459E-03	-0.294
TI-44	4.377E-01	+	6.464E-02	7.392E-02	5.170E-03	5.921
SC-46	2.153E-02		3.734E-02	6.426E-02	5.326E-03	0.335
V-48	6.532E-02		7.143E-02	1.262E-01	9.723E-03	0.518
CR-51	-3.029E-01		3.528E-01	5.515E-01	3.506E-02	-0.549
MN-52	-1.489E-01		2.749E-01	4.094E-01	2.813E-02	-0.364
MN-54	-1.156E-02		4.136E-02	6.572E-02	5.166E-03	-0.176
CO-56	-2.899E-02		4.062E-02	6.097E-02	4.850E-03	-0.475
CO-57	7.920E-03		2.532E-02	4.134E-02	2.585E-03	0.192
CO-58	1.899E-03		3.487E-02	5.729E-02	4.408E-03	0.033
FE-59	-2.488E-02		9.142E-02	1.480E-01	1.093E-02	-0.168
CO-60	1.106E-02		3.447E-02	5.903E-02	4.123E-03	0.187
ZN-65	4.304E-02		9.896E-02	1.504E-01	9.458E-03	0.286
GE-68	-3.026E-01		1.233E+00	2.005E+00	1.352E-01	-0.151
AS-73	-1.588E-01		7.979E-01	1.329E+00	8.583E-02	-0.119
AS-74	-2.436E-03		9.092E-02	1.518E-01	9.666E-03	-0.016
SE-75	1.668E-02		4.660E-02	7.078E-02	4.012E-03	0.236
BR-77	7.114E-01		1.315E+01	2.113E+01	1.296E+00	0.034
SR-82	-3.676E-02		4.008E-01	6.514E-01	4.820E-02	-0.056
RB-83	-2.682E-02		6.881E-02	1.061E-01	6.507E-03	-0.253
RB-84	3.938E-02		6.801E-02	1.171E-01	9.632E-03	0.336
KR-85	1.451E+01		8.132E+00	1.334E+01	8.149E-01	1.087
SR-85	7.512E-02		4.211E-02	6.910E-02	4.220E-03	1.087
RB-86	5.093E-02		7.837E-01	1.316E+00	8.883E-02	0.039
Y-88	-1.161E-02		3.448E-02	5.297E-02	2.982E-03	-0.219
ZR-88	7.152E-03		2.949E-02	4.902E-02	2.689E-03	0.146
Y-91	1.379E+01		1.900E+01	3.346E+01	1.934E+00	0.412
NB-94	3.315E-02		3.490E-02	6.178E-02	4.208E-03	0.537
NB-95	7.014E-02		5.543E-02	8.879E-02	6.495E-03	0.790
NB-95M	2.068E-02		1.380E-01	2.078E-01	1.515E-02	0.100
ZR-95	8.207E-02		7.298E-02	1.309E-01	1.081E-02	0.627

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	-7.993E-02		1.301E-01	Half-Life too short		
ZR-97	1.470E+01		2.609E+00	Half-Life too short		
MO-99	-2.282E+00		1.497E+01	2.429E+01	3.492E+00	-0.094
TC-99M	-4.489E+11		2.646E+11	Half-Life too short		
RH-101	2.016E-02		3.214E-02	5.276E-02	2.791E-03	0.382
RH-102	1.122E-02		3.042E-02	5.037E-02	2.991E-03	0.223
RU-103	1.086E-02		4.160E-02	6.818E-02	8.697E-03	0.159
RH-106	1.045E-01		3.130E-01	5.358E-01	6.460E-02	0.195
RU-106	1.045E-01		3.129E-01	5.358E-01	3.440E-02	0.195
AG-108M	1.688E-02		3.103E-02	5.243E-02	3.267E-03	0.322
AG-110M	-3.174E-03		3.610E-02	5.954E-02	4.058E-03	-0.053
IN-111	-1.186E+00		1.446E+00	2.027E+00	1.122E-01	-0.585
IN-113M	-3.923E-03		4.323E-02	7.019E-02	4.132E-03	-0.056
SN-113	-3.923E-03		4.323E-02	7.019E-02	4.132E-03	-0.056
IN-114M	6.308E-02		1.957E-01	2.838E-01	1.489E-02	0.222
CD-115	-2.332E+00		1.415E+01	2.225E+01	1.371E+00	-0.105
SN-117M	5.790E-02		5.518E-02	9.339E-02	4.933E-03	0.620
SB-122	2.481E+00		2.637E+00	4.716E+00	2.962E-01	0.526
I-123	1.109E+01		9.188E+00	Half-Life too short		
TE-123M	1.671E-02		2.769E-02	4.594E-02	2.462E-03	0.364
I-124	-1.720E-03		8.542E-01	1.242E+00	7.926E-02	-0.001
SB-124	-9.792E-02		8.702E-02	1.153E-01	7.692E-03	-0.849
SB-125	4.037E-02		9.217E-02	1.544E-01	9.177E-03	0.261
TE-125M	5.273E+00		9.539E+00	1.452E+01	1.252E+00	0.363
I-126	9.737E-02		1.932E-01	3.330E-01	2.171E-02	0.292
SB-126	-5.049E-02		1.719E-01	2.362E-01	1.643E-02	-0.214
SB-127	-6.685E-01		1.573E+00	2.503E+00	2.579E-01	-0.267
XE-127	4.989E-02		4.942E-02	7.893E-02	4.197E-03	0.632
I-131	8.515E-02		1.202E-01	2.067E-01	1.303E-02	0.412
TE-132	-6.409E-01		8.024E-01	1.300E+00	1.875E-01	-0.493
BA-133	-1.607E-02		4.790E-02	6.695E-02	7.681E-03	-0.240
I-133	2.458E-03		6.284E-03	Half-Life too short		
CS-134	7.175E-02		4.831E-02	8.834E-02	6.735E-03	0.812
CS-135	1.431E-01		1.727E-01	2.692E-01	2.025E-02	0.531
I-135	2.567E+10		2.926E+10	Half-Life too short		
CS-136	-3.837E-02		1.218E-01	1.977E-01	1.485E-02	-0.194
BA-137M	-1.911E-02		3.707E-02	5.897E-02	3.823E-03	-0.324
CS-137	-2.020E-02		3.918E-02	6.234E-02	4.055E-03	-0.324
CE-139	-4.010E-03		2.876E-02	4.594E-02	2.354E-03	-0.087
BA-140	2.379E-01		2.749E-01	4.737E-01	1.544E-01	0.502
LA-140	-8.524E-02		8.935E-02	1.260E-01	8.207E-03	-0.676
CE-141	-3.500E-02		6.142E-02	9.650E-02	5.618E-03	-0.363
CE-143	1.385E-03		2.079E-04	Half-Life too short		
CE-144	-2.494E-02		1.884E-01	3.049E-01	4.340E-02	-0.082
PM-144	-8.704E-04		3.353E-02	5.531E-02	3.742E-03	-0.016
PR-144	-5.901E-02		2.273E+00	3.750E+00	2.535E-01	-0.016
PM-146	7.999E-03		4.393E-02	7.198E-02	6.223E-03	0.111
ND-147	1.652E-01		5.817E-01	9.517E-01	1.302E-01	0.174

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	2.336E+01		1.211E+02	2.043E+02	2.885E+01	0.114
EU-152	1.229E-02		1.005E-01	1.551E-01	9.938E-03	0.079
GD-153	-7.882E-02		8.511E-02	1.187E-01	8.255E-03	-0.664
EU-154	-1.595E-01		1.269E-01	1.766E-01	1.720E-02	-0.903
TB-160	-5.683E-03		1.411E-01	2.278E-01	1.870E-02	-0.025
HO-166M	3.180E-02		6.279E-02	1.079E-01	7.425E-03	0.295
TM-171	8.061E-01		2.969E+01	4.493E+01	2.908E+00	0.018
LU-176	-1.915E-02		2.268E-02	3.564E-02	2.026E-03	-0.537
LU-177	3.815E+00	+	2.057E+00	2.216E+00	1.185E-01	1.721
LU-177M	-1.441E-01		1.671E-01	2.535E-01	1.423E-02	-0.568
HF-181	-3.537E-02		4.511E-02	6.784E-02	4.051E-03	-0.521
W-181	-3.534E-02		3.864E-01	5.819E-01	3.739E-02	-0.061
TA-182	1.919E-02		1.896E-01	3.158E-01	1.874E-02	0.061
RE-183	2.428E-02		1.057E-01	1.722E-01	8.952E-03	0.141
RE-184	1.894E-03		2.292E-01	3.859E-01	2.148E-02	0.005
OS-185	1.089E-02		4.076E-02	6.934E-02	4.481E-03	0.157
RE-188	-1.020E-01		1.676E-01	2.625E-01	1.407E-02	-0.389
W-188	-4.970E+00		8.003E+00	1.116E+01	6.327E-01	-0.445
IR-192	5.590E-03		3.197E-02	5.361E-02	3.064E-03	0.104
AU-195	2.446E-01		2.282E-01	3.753E-01	2.581E-02	0.652
TL-200	-2.669E-04		3.910E-04	Half-Life too short		
TL-201	1.711E+00		8.329E+00	1.353E+01	6.935E-01	0.126
TL-202	2.824E-02		7.157E-02	1.194E-01	6.879E-03	0.236
HG-203	1.150E-02		3.860E-02	6.559E-02	3.944E-03	0.175
BI-207	4.028E-02		5.334E-02	9.521E-02	6.568E-03	0.423
TL-207	6.472E-01		7.240E-01	1.119E+00	1.844E-01	0.578
PO-209	-1.523E+00		7.457E+00	1.180E+01	9.851E-01	-0.129
BI-210	8.650E-01		3.162E+00	5.387E+00	4.058E-01	0.161
PB-210	8.650E-01		3.162E+00	5.387E+00	4.058E-01	0.161
PO-210	8.650E-01		3.161E+00	5.387E+00	3.455E-01	0.161
PB-211	-6.102E-01		1.005E+00	1.445E+00	9.008E-01	-0.422
BI-212	1.262E+00	+	5.263E-01	7.089E-01	6.137E-02	1.780
PO-215	6.472E-01		7.240E-01	1.119E+00	1.844E-01	0.578
RN-219	1.008E-01		4.076E-01	6.760E-01	9.124E-02	0.149
RN-220	-1.158E+01		2.653E+01	4.323E+01	2.695E+00	-0.268
RA-223	6.472E-01		7.240E-01	1.119E+00	1.844E-01	0.578
AC-227	-4.360E-02		3.891E-01	6.509E-01	9.027E-02	-0.067
TH-227	-4.360E-02		3.891E-01	6.509E-01	1.095E-01	-0.067
TH-229	-3.983E-01		5.115E-01	7.809E-01	4.112E-02	-0.510
PA-231	-7.366E-02		1.436E+00	2.393E+00	3.283E-01	-0.031
TH-231	6.472E-01		7.240E-01	1.119E+00	1.844E-01	0.578
U-231	-6.114E-01		1.260E+00	1.817E+00	1.280E-01	-0.336
PA-233	-1.098E-02		6.032E-02	9.905E-02	5.993E-03	-0.111
PA-234	9.153E-02		2.949E-01	4.908E-01	9.076E-02	0.187
PA-234M	1.505E+00		4.553E+00	7.420E+00	6.715E-01	0.203
NP-236	-8.214E-02		7.968E-02	1.218E-01	6.385E-03	-0.675
NP-239	8.135E-03		1.894E-01	3.114E-01	1.965E-02	0.026
AM-241	5.921E-02		1.568E-01	2.438E-01	1.732E-02	0.243

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.672E-02		1.043E-01	1.573E-01	1.048E-02	0.233
AM-246	4.479E-02		1.418E-01	2.437E-01	1.639E-02	0.184
CM-247	2.635E-03		3.629E-02	5.949E-02	3.299E-03	0.044
CF-249	1.855E-02		3.991E-02	6.727E-02	3.698E-03	0.276
CF-251	-3.528E-03		1.233E-01	1.973E-01	1.020E-02	-0.018

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]G243630008          *
* Acquisition date   : 7-JAN-2010 13:24:02 Detector SN#                   *
* Detector ID        : GAM12 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 02:00:01.42 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630008 Analyst initials: MXR1                  *
* Batch Number       : 937702 Sample Quantity : 1.2317E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 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	1.983E+01	2.014E+00	2.072E-01	1.028E+00
CD-109	4.236E+00	1.201E+00	5.769E-01	6.128E-01
SN-126	4.158E-01	1.179E-01	5.690E-02	6.015E-02
EU-155	1.896E-01	1.364E-01	8.693E-02	6.957E-02
TL-208	5.557E-01	9.600E-02	3.082E-02	4.898E-02
BI-211	4.194E+00	5.245E-01	1.628E-01	2.676E-01
PB-212	1.754E+00	1.656E-01	4.453E-02	8.447E-02
PO-212	1.754E+00	1.656E-01	4.453E-02	8.447E-02
BI-214	1.355E+00	2.042E-01	5.948E-02	1.042E-01
PB-214	1.459E+00	1.971E-01	5.676E-02	1.006E-01
PO-214	1.459E+00	1.971E-01	5.676E-02	1.006E-01
PO-216	1.754E+00	1.656E-01	4.453E-02	8.447E-02
PO-218	1.459E+00	1.971E-01	5.676E-02	1.006E-01
RA-224	3.782E+00	1.056E+00	5.068E-01	5.387E-01
RA-226	1.355E+00	2.042E-01	5.948E-02	1.042E-01
AC-228	1.551E+00	3.168E-01	9.645E-02	1.617E-01
RA-228	1.551E+00	3.168E-01	9.645E-02	1.617E-01
TH-228	1.782E+00	1.682E-01	4.525E-02	8.584E-02
TH-230	1.355E+00	2.042E-01	5.948E-02	1.042E-01
TH-232	1.551E+00	3.168E-01	9.645E-02	1.617E-01
TH-234	2.441E+00	2.085E+00	1.067E+00	1.064E+00
U-234	1.355E+00	2.042E-01	5.948E-02	1.042E-01
U-235	1.898E-01	2.067E-01	1.811E-01	1.055E-01
NP-237	1.221E+00	4.252E-01	1.690E-01	2.170E-01
U-238	2.441E+00	2.085E+00	1.067E+00	1.064E+00
AM-243	3.702E-01	7.725E-02	4.380E-02	3.941E-02
ANH-511	1.690E-01	6.713E-02	2.582E-02	3.425E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.328E-01	3.442E-01	2.867E-01	1.756E-01	NOT IDENT.
NA-22	-5.670E-02	4.440E-02	3.174E-02	2.265E-02	NOT IDENT.
NA-24	7.735E+05	2.018E+06	0.000E+00	1.030E+06	SHORT HLIF
AL-26	-1.262E-02	2.816E-02	2.135E-02	1.437E-02	NOT IDENT.
TI-44	4.377E-01	6.335E-02	3.836E-02	3.232E-02	FAIL ABUN
SC-46	2.153E-02	3.659E-02	3.232E-02	1.867E-02	FAIL ABUN
V-48	6.532E-02	7.000E-02	6.339E-02	3.572E-02	NOT IDENT.
CR-51	-3.029E-01	3.458E-01	2.811E-01	1.764E-01	NOT IDENT.
MN-52	-1.489E-01	2.694E-01	2.046E-01	1.375E-01	NOT IDENT.
MN-54	-1.156E-02	4.054E-02	3.308E-02	2.068E-02	NOT IDENT.
CO-56	-2.899E-02	3.981E-02	3.068E-02	2.031E-02	FAIL ABUN
CO-57	7.920E-03	2.482E-02	2.134E-02	1.266E-02	NOT IDENT.
CO-58	1.899E-03	3.417E-02	2.885E-02	1.744E-02	NOT IDENT.
FE-59	-2.488E-02	8.959E-02	7.423E-02	4.571E-02	NOT IDENT.
CO-60	1.106E-02	3.378E-02	2.953E-02	1.723E-02	NOT IDENT.
ZN-65	4.304E-02	9.698E-02	7.539E-02	4.948E-02	NOT IDENT.
GE-68	-3.026E-01	1.208E+00	1.006E+00	6.165E-01	NOT IDENT.
AS-73	-1.588E-01	7.820E-01	6.933E-01	3.990E-01	NOT IDENT.
AS-74	-2.436E-03	8.911E-02	7.677E-02	4.546E-02	NOT IDENT.
SE-75	1.668E-02	4.567E-02	3.617E-02	2.330E-02	NOT IDENT.
BR-77	7.114E-01	1.289E+01	1.070E+01	6.574E+00	FAIL ABUN
SR-82	-3.676E-02	3.928E-01	3.282E-01	2.004E-01	NOT IDENT.
RB-83	-2.682E-02	6.744E-02	5.375E-02	3.441E-02	NOT IDENT.
RB-84	3.938E-02	6.665E-02	5.888E-02	3.401E-02	NOT IDENT.
KR-85	1.451E+01	7.970E+00	6.760E+00	4.066E+00	NOT IDENT.
SR-85	7.512E-02	4.127E-02	3.501E-02	2.106E-02	NOT IDENT.
RB-86	5.093E-02	7.680E-01	6.601E-01	3.919E-01	NOT IDENT.
Y-88	-1.161E-02	3.379E-02	2.638E-02	1.724E-02	NOT IDENT.
ZR-88	7.152E-03	2.890E-02	2.492E-02	1.475E-02	NOT IDENT.
Y-91	1.379E+01	1.862E+01	1.676E+01	9.500E+00	NOT IDENT.
NB-94	3.315E-02	3.420E-02	3.117E-02	1.745E-02	NOT IDENT.
NB-95	7.014E-02	5.433E-02	4.474E-02	2.772E-02	NOT IDENT.
NB-95M	2.068E-02	1.352E-01	1.063E-01	6.898E-02	NOT IDENT.
ZR-95	8.207E-02	7.152E-02	6.600E-02	3.649E-02	NOT IDENT.
NB-97	-7.993E+04	2.550E+05	0.000E+00	1.301E+05	SHORT HLIF
ZR-97	1.470E+07	5.113E+06	0.000E+00	2.609E+06	SHORT HLIF
MO-99	-2.282E+00	1.467E+01	1.225E+01	7.485E+00	NOT IDENT.
TC-99M	-4.489E+17	5.185E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.016E-02	3.150E-02	2.706E-02	1.607E-02	NOT IDENT.
RH-102	1.122E-02	2.981E-02	2.554E-02	1.521E-02	NOT IDENT.
RU-103	1.086E-02	4.077E-02	3.455E-02	2.080E-02	FAIL ABUN
RH-106	1.045E-01	3.068E-01	2.707E-01	1.565E-01	FAIL ABUN
RU-106	1.045E-01	3.066E-01	2.707E-01	1.564E-01	FAIL ABUN
AG-108M	1.688E-02	3.041E-02	2.662E-02	1.551E-02	NOT IDENT.
AG-110M	-3.174E-03	3.538E-02	3.006E-02	1.805E-02	NOT IDENT.
IN-111	-1.186E+00	1.417E+00	1.037E+00	7.228E-01	NOT IDENT.
IN-113M	-3.923E-03	4.237E-02	3.569E-02	2.162E-02	NOT IDENT.
SN-113	-3.923E-03	4.237E-02	3.569E-02	2.162E-02	NOT IDENT.
IN-114M	6.308E-02	1.918E-01	1.456E-01	9.785E-02	NOT IDENT.
CD-115	-2.332E+00	1.387E+01	1.127E+01	7.074E+00	NOT IDENT.
SN-117M	5.790E-02	5.407E-02	4.804E-02	2.759E-02	NOT IDENT.
SB-122	2.481E+00	2.584E+00	2.386E+00	1.318E+00	NOT IDENT.
I-123	1.109E+07	1.801E+07	0.000E+00	9.188E+06	SHORT HLIF
TE-123M	1.671E-02	2.714E-02	2.363E-02	1.385E-02	NOT IDENT.
I-124	-1.720E-03	8.371E-01	6.279E-01	4.271E-01	FAIL ABUN
SB-124	-9.792E-02	8.528E-02	5.747E-02	4.351E-02	FAIL ABUN
SB-125	4.037E-02	9.032E-02	7.840E-02	4.608E-02	FAIL ABUN
TE-125M	5.273E+00	9.348E+00	7.505E+00	4.769E+00	NOT IDENT.
I-126	9.737E-02	1.893E-01	1.681E-01	9.658E-02	NOT IDENT.
SB-126	-5.049E-02	1.685E-01	1.191E-01	8.596E-02	NOT IDENT.
SB-127	-6.685E-01	1.541E+00	1.263E+00	7.865E-01	NOT IDENT.
XE-127	4.989E-02	4.843E-02	4.047E-02	2.471E-02	NOT IDENT.
I-131	8.515E-02	1.178E-01	1.052E-01	6.011E-02	NOT IDENT.
TE-132	-6.409E-01	7.864E-01	6.655E-01	4.012E-01	NOT IDENT.
BA-133	-1.607E-02	4.694E-02	3.408E-02	2.395E-02	NOT IDENT.
I-133	2.458E+03	1.232E+04	0.000E+00	6.284E+03	SHORT HLIF
CS-134	7.175E-02	4.734E-02	4.449E-02	2.415E-02	NOT IDENT.
CS-135	1.431E-01	1.692E-01	1.376E-01	8.634E-02	NOT IDENT.
I-135	2.567E+16	5.734E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.837E-02	1.194E-01	9.919E-02	6.091E-02	FAIL ABUN
BA-137M	-1.911E-02	3.633E-02	2.977E-02	1.853E-02	NOT IDENT.
CS-137	-2.020E-02	3.840E-02	3.147E-02	1.959E-02	NOT IDENT.
CE-139	-4.010E-03	2.818E-02	2.362E-02	1.438E-02	NOT IDENT.
BA-140	2.379E-01	2.694E-01	2.398E-01	1.374E-01	NOT IDENT.
LA-140	-8.524E-02	8.757E-02	6.288E-02	4.468E-02	FAIL ABUN
CE-141	-3.500E-02	6.019E-02	4.969E-02	3.071E-02	NOT IDENT.
CE-143	1.385E+03	4.074E+02	0.000E+00	2.079E+02	SHORT HLIF
CE-144	-2.494E-02	1.846E-01	1.572E-01	9.418E-02	NOT IDENT.

PM-144	-8.704E-04	3.285E-02	2.791E-02	1.676E-02	NOT IDENT.
PR-144	-5.901E-02	2.227E+00	1.892E+00	1.136E+00	NOT IDENT.
PM-146	7.999E-03	4.305E-02	3.653E-02	2.196E-02	NOT IDENT.
ND-147	1.652E-01	5.700E-01	4.819E-01	2.908E-01	FAIL ABUN
PM-149	2.336E+01	1.187E+02	1.043E+02	6.055E+01	NOT IDENT.
EU-152	1.229E-02	9.852E-02	7.897E-02	5.027E-02	FAIL ABUN
GD-153	-7.882E-02	8.341E-02	6.144E-02	4.256E-02	FAIL ABUN
EU-154	-1.595E-01	1.243E-01	8.837E-02	6.344E-02	NOT IDENT.
TB-160	-5.683E-03	1.382E-01	1.146E-01	7.053E-02	FAIL ABUN
HO-166M	3.180E-02	6.153E-02	5.441E-02	3.139E-02	FAIL ABUN
TM-171	8.061E-01	2.910E+01	2.336E+01	1.485E+01	NOT IDENT.
LU-176	-1.915E-02	2.222E-02	1.818E-02	1.134E-02	FAIL ABUN
LU-177	3.815E+00	2.016E+00	1.136E+00	1.029E+00	FAIL ABUN
LU-177M	-1.441E-01	1.638E-01	1.288E-01	8.357E-02	FAIL ABUN
HF-181	-3.537E-02	4.421E-02	3.440E-02	2.255E-02	NOT IDENT.
W-181	-3.534E-02	3.787E-01	3.027E-01	1.932E-01	NOT IDENT.
TA-182	1.919E-02	1.858E-01	1.582E-01	9.478E-02	FAIL ABUN
RE-183	2.428E-02	1.036E-01	8.855E-02	5.285E-02	FAIL ABUN
RE-184	1.894E-03	2.246E-01	1.973E-01	1.146E-01	NOT IDENT.
OS-185	1.089E-02	3.994E-02	3.502E-02	2.038E-02	NOT IDENT.
RE-188	-1.020E-01	1.642E-01	1.351E-01	8.378E-02	NOT IDENT.
W-188	-4.970E+00	7.843E+00	5.698E+00	4.002E+00	FAIL ABUN
IR-192	5.590E-03	3.133E-02	2.733E-02	1.598E-02	FAIL ABUN
AU-195	2.446E-01	2.236E-01	1.942E-01	1.141E-01	FAIL ABUN
TL-200	-2.669E+02	7.663E+02	0.000E+00	3.910E+02	SHORT HLIF
TL-201	1.711E+00	8.163E+00	6.954E+00	4.165E+00	NOT IDENT.
TL-202	2.824E-02	7.014E-02	6.064E-02	3.579E-02	NOT IDENT.
HG-203	1.150E-02	3.783E-02	3.350E-02	1.930E-02	FAIL ABUN
BI-207	4.028E-02	5.228E-02	4.777E-02	2.667E-02	FAIL ABUN
TL-207	6.472E-01	7.095E-01	5.705E-01	3.620E-01	FAIL ABUN
PO-209	-1.523E+00	7.307E+00	5.935E+00	3.728E+00	NOT IDENT.
BI-210	8.650E-01	3.098E+00	2.814E+00	1.581E+00	NOT IDENT.
PB-210	8.650E-01	3.098E+00	2.814E+00	1.581E+00	NOT IDENT.
PO-210	8.650E-01	3.098E+00	2.814E+00	1.581E+00	NOT IDENT.
PB-211	-6.102E-01	9.846E-01	7.346E-01	5.023E-01	NOT IDENT.
BI-212	1.262E+00	5.158E-01	3.575E-01	2.632E-01	FAIL ABUN
PO-215	6.472E-01	7.095E-01	5.705E-01	3.620E-01	FAIL ABUN
RN-219	1.008E-01	3.995E-01	3.436E-01	2.038E-01	FAIL ABUN
RN-220	-1.158E+01	2.600E+01	2.188E+01	1.327E+01	NOT IDENT.
RA-223	6.472E-01	7.095E-01	5.705E-01	3.620E-01	FAIL ABUN
AC-227	-4.360E-02	3.813E-01	3.327E-01	1.945E-01	FAIL ABUN
TH-227	-4.360E-02	3.813E-01	3.327E-01	1.945E-01	FAIL ABUN
TH-229	-3.983E-01	5.013E-01	4.007E-01	2.558E-01	FAIL ABUN
PA-231	-7.366E-02	1.407E+00	1.222E+00	7.181E-01	FAIL ABUN
TH-231	6.472E-01	7.095E-01	5.705E-01	3.620E-01	FAIL ABUN
U-231	-6.114E-01	1.235E+00	9.409E-01	6.300E-01	FAIL ABUN
PA-233	-1.098E-02	5.911E-02	5.051E-02	3.016E-02	FAIL ABUN
PA-234	9.153E-02	2.890E-01	2.466E-01	1.474E-01	FAIL ABUN
PA-234M	1.505E+00	4.462E+00	3.726E+00	2.276E+00	NOT IDENT.
NP-236	-8.214E-02	7.808E-02	6.263E-02	3.984E-02	NOT IDENT.
NP-239	8.135E-03	1.856E-01	1.608E-01	9.468E-02	FAIL ABUN
AM-241	5.921E-02	1.536E-01	1.270E-01	7.838E-02	NOT IDENT.
CM-243	3.672E-02	1.022E-01	8.135E-02	5.214E-02	FAIL ABUN
AM-246	4.479E-02	1.389E-01	1.222E-01	7.089E-02	NOT IDENT.
CM-247	2.635E-03	3.556E-02	3.023E-02	1.814E-02	NOT IDENT.
CF-249	1.855E-02	3.911E-02	3.420E-02	1.995E-02	NOT IDENT.
CF-251	-3.528E-03	1.208E-01	1.013E-01	6.165E-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

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46.50	212.5262
46.50	212.5262
46.50	212.5262
48.70	235.4531
49.72	258.5113
51.35	220.3086
52.39	215.8667
52.97	213.6708
53.15	213.7927
53.44	246.9100
54.07	241.3234
56.28	253.4624
56.28	253.4646
57.37	0.0000
57.53	246.5289
57.53	246.5303
57.60	246.5810
57.98	246.6862
57.98	246.6862
59.32	251.3725
59.32	251.3725
59.40	258.0479
59.54	258.1542
59.72	258.2903
60.01	251.8813
61.10	268.6376
61.14	268.6689
61.30	268.7921
63.00	310.2123
63.29	310.4654
63.29	310.4654
63.58	310.7190
64.28	319.3799
65.12	309.3643
65.20	313.4688
65.20	313.4688
66.05	318.2467
66.72	312.0717
66.83	312.1669
66.91	327.1040
67.20	340.8879
67.20	340.8879
67.75	354.3970
67.85	354.4948
68.90	351.9576
68.90	351.9576
69.30	341.4482
69.67	341.7834
70.82	351.0084
70.82	351.0084
70.83	351.0182
72.80	322.1493
72.87	322.2083
72.87	322.2083
74.67	323.6818
74.81	323.7964
74.81	323.7964
74.81	323.7964
74.81	323.7964
74.81	323.7964
74.81	323.7964
74.81	323.7964
74.97	323.9262
75.28	324.1777
75.70	324.5179
77.11	325.6530
77.11	325.6530

77.11	325.6530
77.11	325.6530
77.11	325.6530
77.11	325.6530
77.11	325.6530
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79.62	282.0374
79.80	282.1592
79.80	282.1592
80.11	240.4341
80.18	240.4735
80.30	240.5431
80.30	240.5431
80.57	240.6979
81.00	336.2018
81.07	336.2585
81.07	336.2585
81.07	336.2585
81.07	336.2585
82.60	279.8225
83.37	307.0898
83.78	262.2650
83.78	262.2650
83.78	262.2650
83.78	262.2650
84.21	262.5261
84.90	262.9447
85.43	263.2654
86.29	263.7819
86.50	263.9082
86.54	263.9323
86.59	263.9622
86.72	264.0402
86.79	264.0814
86.94	264.1722
87.30	264.3864
87.30	264.3864
87.30	264.3864
87.30	264.3864
87.30	264.3864
87.30	264.3864
87.57	264.5482
87.88	264.7327
88.03	264.8221
88.36	265.0179
88.47	265.0832
89.95	265.9559
91.11	266.6371
92.29	267.3239
92.38	267.3764
92.38	267.3764
93.35	267.9370
94.00	268.3116
94.67	208.0206
94.67	208.0228
94.90	208.1250
94.90	208.1250
94.90	208.1250
94.90	208.1250
95.87	262.1401
95.87	262.1401
96.73	301.7930
97.43	278.9854
98.44	243.1688
98.44	243.1701
98.88	227.3600
99.55	225.7282
99.55	225.7282
99.86	225.8722
100.00	237.6235
100.10	242.5448
103.18	257.2956
103.76	248.7629
105.00	246.9185
105.31	247.0705
108.00	222.6482
109.28	217.2490

111.00	250.8105
111.00	250.8105
111.76	253.1667
112.95	267.7219
115.19	246.7758
116.30	258.3412
117.00	258.6732
117.00	258.6732
117.66	272.0874
121.11	255.5376
121.62	247.6512
121.78	247.7219
122.06	233.6253
122.32	233.7330
122.32	233.7330
122.32	233.7330
122.32	233.7330
123.07	254.3958
127.23	273.6795
129.76	211.0434
131.20	293.0888
133.02	241.1938
133.54	223.7893
135.34	218.2245
136.00	221.5825
136.25	233.1237
136.48	239.4570
140.51	287.1420
140.51	0.0000
142.18	245.8804
142.65	231.3420
143.76	225.4310
144.24	222.4382
144.24	222.4382
144.24	222.4382
144.24	222.4382
145.22	248.1217
145.44	250.3202
147.16	242.5228
152.43	215.6668
152.70	207.2104
153.22	215.9237
154.21	235.5158
154.21	235.5158
154.21	235.5158
154.21	235.5158
155.03	254.0281
156.02	238.3027
158.56	204.7220
159.00	0.0000
159.00	218.8697
160.31	268.9825
161.27	221.7622
162.32	219.9332
162.64	228.7057
163.35	217.0044
163.89	210.6581
165.85	227.5839
167.43	218.2739
171.28	228.2342
171.86	219.6330
172.10	219.7062
176.55	221.0531
176.60	221.0683
181.06	218.5099
184.41	226.1852
185.71	212.5845
186.00	212.6657
190.27	200.9051
192.34	202.0032
193.63	244.1580
197.04	217.9668
198.01	204.5911
198.60	224.0779
200.40	225.7209
201.83	238.6819
202.84	196.2148
205.31	227.0845

208.36	208.3551
208.81	208.4674
209.75	208.7031
209.75	208.7031
210.97	216.5127
215.65	202.0389
216.55	203.4136
218.09	234.0543
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223.80	213.6206
226.40	186.0384
227.00	187.9286
227.08	187.9464
227.20	192.3833
228.16	215.5608
228.18	219.1002
228.18	219.1002
231.56	0.0000
235.69	235.1854
236.00	212.4523
236.00	212.4523
238.63	188.5755
238.63	188.5755
238.63	188.5755
238.63	188.5755
239.00	188.6495
240.98	189.0552
241.98	189.2580
241.98	189.2580
241.98	189.2580
244.69	184.2297
245.39	184.3672
247.94	167.8955
248.90	164.4515
249.79	173.6499
252.40	185.9126
252.85	178.7417
252.85	178.7417
254.15	0.0000
256.20	194.8387
256.20	194.8387
260.50	167.3488
260.90	168.3307
262.80	165.9065
264.65	146.9312
268.24	162.2043
268.79	156.3914
269.46	144.8685
269.46	144.8685
269.46	144.8685
269.46	144.8685
271.23	147.8955
273.65	191.2387
276.40	147.7136
277.35	147.8519
277.60	147.8858
277.60	147.8858
278.00	142.3613
278.60	141.5120
279.20	149.0479
279.53	162.1400
280.46	186.5356
281.68	169.0108
283.67	145.0074
284.30	146.0310
285.00	151.7489
285.90	153.7525
286.10	148.1563
286.10	148.1563
287.40	144.5818
288.45	0.0000
290.67	159.7169
290.80	153.7097
291.72	156.8582
293.26	0.0000
293.70	129.9469
295.21	133.1559
295.21	133.1559

295.21	133.1559
295.96	185.4876
296.50	181.7900
297.23	181.9131
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300.09	135.2730
300.09	135.2730
300.12	135.2752
301.29	127.8129
302.84	120.3728
303.76	100.6484
303.91	100.6613
304.40	99.1805
304.40	99.1805
304.84	109.9055
306.84	136.6722
308.46	127.2994
311.98	129.6174
316.51	115.6750
318.01	123.5488
319.02	127.5225
319.41	125.6320
320.08	133.4411
323.87	117.9670
323.87	117.9670
323.87	117.9670
323.87	117.9670
325.23	124.3223
328.77	153.9232
333.44	133.0138
334.20	133.0989
334.20	133.0989
334.30	133.1093
338.28	129.6233
338.28	129.6233
338.28	129.6233
338.28	129.6233
338.32	129.6293
338.32	129.6293
338.32	129.6293
340.50	121.2054
340.57	121.2111
344.27	118.4235
345.85	109.0894
350.59	0.0000
351.07	121.0636
351.92	121.1474
351.92	121.1474
351.92	121.1474
355.39	0.0000
356.01	122.7394
364.48	96.2842
366.43	106.4755
367.43	97.5106
367.94	0.0000
369.80	120.8533
374.96	104.1457
383.85	112.9935
387.95	105.1736
388.63	110.3351
391.69	104.4420
391.69	104.4420
392.90	96.3365
398.62	89.5369
400.65	107.1913
401.10	114.4433
401.81	103.1555
402.60	104.2456
404.84	118.8885
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411.60	103.8834
413.65	106.1151
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415.30	93.7395

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427.08	94.5140
427.89	91.4153
432.53	91.7074
433.93	78.0774
439.47	84.7266
439.56	84.7314
439.89	78.3947
443.98	91.3579
444.90	99.9180
445.03	97.8005
445.03	97.8005
445.03	97.8005
445.03	97.8005
453.90	89.8229
463.38	81.7728
468.07	79.4297
473.00	89.8567
475.06	87.8064
475.35	86.7383
476.78	90.0733
477.59	86.8616
477.96	94.4845
482.03	101.2590
484.57	93.7869
487.03	68.8096
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492.35	83.2827
497.08	78.0300
507.63	0.0000
510.53	0.0000
510.84	100.8462
511.00	100.8559
511.85	100.9073
511.85	100.9073
513.99	71.0581
513.99	71.0581
520.41	79.1296
520.65	69.1105
527.90	72.7620
528.96	0.0000
529.64	69.4738
529.87	0.0000
531.02	67.2876
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543.00	85.8201
546.56	0.0000
549.76	88.8699
552.65	63.5811
555.20	68.2196
563.23	71.2664
563.90	70.3791
568.70	84.3116
569.32	82.5073
569.50	82.5161
569.67	68.7689
573.80	86.3854
574.00	86.3946
574.64	96.5380
578.91	76.7944
579.30	0.0000
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591.81	73.3064
592.07	70.5338
593.00	66.8531
595.88	71.6047
600.56	82.0359
602.52	0.0000
602.71	76.2176
602.71	76.2176
603.60	80.9220
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604.70	77.8544
609.31	86.1579

609.31	86.1579
609.31	86.1579
609.31	86.1579
610.33	86.2028
612.46	67.2260
614.37	61.0327
618.01	76.1985
621.84	65.0362
621.84	65.0362
631.29	67.2437
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633.10	58.7729
634.78	71.1566
635.90	69.2983
636.97	60.7859
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646.12	58.2017
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657.75	75.8080
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661.65	83.6419
661.65	83.6419
664.57	0.0000
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666.33	67.4502
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677.61	69.7535
685.20	67.0880
692.80	55.6181
695.00	55.6752
696.49	66.4660
696.49	66.4660
697.00	72.3469
697.49	81.1641
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698.50	86.0943
699.00	79.2657
702.63	63.7146
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706.58	0.0000
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713.82	69.9530
717.42	64.1478
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721.93	0.0000
722.20	62.6375
722.78	61.0057
722.78	61.0057
722.89	61.0087
722.95	61.0103
723.30	56.0718
724.18	59.3936
727.18	56.5004
733.00	66.2549
735.90	49.7546
739.58	63.7906
742.81	53.8998
744.21	50.9365
747.13	57.0028
751.79	59.1224
752.31	58.1345
753.82	59.1757
755.35	51.1855
756.15	49.1950
756.87	59.2535
763.93	55.4055
765.79	70.5725
766.42	77.3143
766.84	77.3293
776.49	62.7932
778.00	54.7264
778.57	56.7670
778.89	59.8167
783.80	59.9406
785.46	50.8325
792.07	74.4222

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805.60	55.3619
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810.76	41.0957
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817.79	37.0925
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828.27	0.0000
831.60	68.3832
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848.13	61.5337
856.28	0.0000
856.80	77.4417
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867.82	39.9380
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873.19	43.1811
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875.33	0.0000
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881.50	38.0364
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884.67	40.1978
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903.28	57.8310
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911.07	40.9556
911.07	40.9556
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920.93	51.4711
925.00	41.8831
925.24	45.1090
926.50	53.7256
935.52	48.5123
937.48	43.1533
944.10	41.0940
946.00	41.1218
949.00	46.5830
962.29	39.9108
964.01	44.6546
966.15	44.6886
968.20	44.7206
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969.11	41.8260
969.11	41.8260
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980.50	46.0103
983.50	32.8989
989.30	42.8553
996.32	54.1578
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1001.68	34.9454
1004.76	43.2679
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1036.00	41.8671
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1038.76	0.0000
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1046.59	52.2835
1048.07	57.9156

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1050.47	48.6125
1062.04	39.4126
1063.62	41.3109
1076.63	42.4292
1077.35	48.0968
1078.86	43.4020
1085.78	46.3363
1099.22	49.3848
1112.02	54.3536
1112.84	53.9588
1115.52	44.1839
1120.29	36.3285
1120.29	36.3285
1120.29	36.3285
1120.29	36.3285
1120.51	36.3316
1121.28	36.3409
1124.00	0.0000
1129.67	40.2705
1131.51	0.0000
1147.95	0.0000
1167.94	50.4448
1173.22	57.3267
1175.09	54.4437
1177.93	48.6511
1189.05	45.8831
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1205.75	0.0000
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1230.97	47.4375
1235.34	44.5294
1236.41	0.0000
1238.25	39.0483
1246.25	40.4995
1260.41	0.0000
1271.85	41.9932
1274.45	55.0313
1274.54	55.0336
1291.56	34.1812
1298.22	0.0000
1312.09	33.3639
1325.50	26.3830
1325.50	26.3830
1332.49	21.3495
1333.61	20.3385
1360.21	15.3625
1362.66	0.0000
1365.15	35.8929
1368.21	20.5273
1368.53	0.0000
1376.25	31.7373
1384.27	28.2701
1394.10	38.2330
1395.20	32.0419
1407.95	24.8887
1434.06	28.1865
1436.60	12.5352
1457.56	0.0000
1460.81	12.6113
1489.15	23.2837
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1596.49	26.0557
1620.62	14.9715
1678.03	0.0000
1691.02	24.7141
1691.02	24.7141
1706.46	0.0000
1750.46	0.0000
1764.49	6.7598
1764.49	6.7598
1764.49	6.7598
1764.49	6.7598
1770.23	49.3084
1771.40	14.5061
1791.20	0.0000
1808.65	12.6699

1836.01

13.7217

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630008

Total Uranium Activity	7.3505E+00	ug/g
Total Uranium Counting Unc.	6.2039E+00	ug/g
Total Uranium Tpu	3.1653E-06	ug/g
Total Uranium Mda	3.1743E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937702                          SAMPLE ID   : G243630008
*  ANALYST       : MXR1                             DETECTOR    : GAM12
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 7-JAN-2010 13:24:02.02          SAMPLE ALQT  : 123.170 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.991E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.380E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.054E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.475E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:26:12.87

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630009.CNF;1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:24:31.
Sample ID        : G243630009 Sample quantity   : 1.36430E+02 GRAM
Detector name    : GAM16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.84 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 937702 Detector SN#       :
Matrix Spike ID  : LCS ID                   : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.04*	57	454	1.11	126.26	123	8	7.91E-03	67.9	
2	2	74.79*	372	298	0.82	149.78	144	16	5.17E-02	8.9	5.59E-01
3	2	77.06*	638	357	0.92	154.31	144	16	8.87E-02	6.2	
4	2	84.09	79	369	1.04	168.36	164	27	1.10E-02	38.7	2.05E+00
5	2	87.23	245	349	1.05	174.65	164	27	3.41E-02	13.3	
6	2	89.89*	159	327	1.06	179.96	164	27	2.20E-02	19.9	
7	2	92.59*	178	308	1.06	185.37	164	27	2.47E-02	19.1	
8	2	93.72*	86	299	1.07	187.63	164	27	1.19E-02	40.0	
9	0	185.66*	258	336	1.24	371.51	367	10	3.59E-02	15.2	
10	0	209.14	127	243	1.00	418.47	415	8	1.76E-02	23.0	
11	4	238.37*	1383	150	1.00	476.94	470	19	1.92E-01	3.1	1.95E+00
12	4	241.36	317	215	1.58	482.92	470	19	4.40E-02	11.7	
13	0	269.95	152	273	1.65	540.09	533	14	2.11E-02	24.5	
14	0	294.83*	390	182	1.04	589.86	586	10	5.42E-02	8.3	
15	0	299.91	77	125	0.94	600.01	597	7	1.06E-02	26.9	
16	0	327.69	49	195	1.51	655.56	648	12	6.80E-03	58.8	
17	0	337.90*	267	195	1.05	675.98	670	12	3.72E-02	12.2	
18	0	351.66*	724	138	1.22	703.50	699	9	1.01E-01	4.8	
19	0	462.72	50	122	0.94	925.61	920	11	6.95E-03	45.2	
20	0	510.34*	208	128	1.74	1020.83	1013	16	2.89E-02	15.5	
21	0	582.76*	393	108	1.21	1165.66	1160	13	5.45E-02	7.6	
22	0	608.87*	489	104	1.42	1217.88	1212	14	6.78E-02	6.4	
23	0	727.06	115	69	1.06	1454.21	1449	11	1.60E-02	16.9	
24	0	768.60	19	73	0.98	1537.27	1533	8	2.67E-03	80.6	
25	0	794.71	48	50	0.84	1589.48	1585	9	6.69E-03	30.1	
26	0	860.12	29	38	1.57	1720.28	1715	9	4.05E-03	42.5	
27	0	910.71*	300	34	1.42	1821.43	1816	13	4.16E-02	7.3	
28	0	933.59	30	51	2.24	1867.16	1863	13	4.18E-03	51.4	
29	1	964.15	52	32	1.76	1928.27	1924	21	7.22E-03	23.4	1.23E+00
30	1	968.38	158	27	1.77	1936.74	1924	21	2.20E-02	10.6	
31	0	1119.71*	98	63	1.87	2239.29	2233	13	1.36E-02	20.2	
32	0	1237.19	66	78	1.73	2474.18	2467	17	9.17E-03	32.8	
33	0	1377.36	31	26	1.23	2754.40	2747	14	4.33E-03	39.9	
34	0	1459.79*	964	11	1.92	2919.18	2912	14	1.34E-01	3.3	
35	0	1728.53	26	3	1.08	3456.38	3449	13	3.55E-03	24.6	
36	0	1763.41*	76	10	2.63	3526.09	3519	13	1.05E-02	15.3	

Flag: "*" = Peak area was modified by background subtraction


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:24:31
Sample ID         : G243630009 Sample quantity : 136.43 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA16 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.84 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

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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	*	2.056E+01	2.269E+00	3.745E-01	3.292E-02	54.904
CD-109	+	88.03	*	2.971E+00	8.413E-01	9.558E-01	9.210E-02	3.109
SN-126	+	64.28		4.675E-01	6.383E-01	6.322E-01	9.211E-02	0.739
	+	86.94		1.212E+00	5.986E-01	3.943E-01	1.638E-01	3.075
	+	87.57	*	2.916E-01	8.258E-02	9.424E-02	9.036E-03	3.095
TL-208		277.35		4.327E-01	3.342E-01	5.633E-01	8.373E-02	0.768
	+	510.84		8.950E-01	3.003E-01	1.685E-01	2.131E-02	5.311
	+	583.14	*	4.807E-01	8.734E-02	4.618E-02	4.577E-03	10.411
	+	860.37		3.352E-01	2.865E-01	4.098E-01	4.103E-02	0.818
BI-211		72.87		7.887E-01	2.440E+00	3.825E+00	3.110E-01	0.206
	+	351.07	*	3.907E+00	5.682E-01	2.663E-01	2.912E-02	14.669
PB-212	+	74.81		1.874E+00	4.066E-01	4.154E-01	5.190E-02	4.512
	+	77.11		1.821E+00	2.750E-01	2.357E-01	2.002E-02	7.728
	+	87.30		1.349E+00	4.050E-01	4.370E-01	6.045E-02	3.086
	+	238.63	*	1.631E+00	2.180E-01	7.489E-02	8.867E-03	21.782
	+	300.09		1.392E+00	7.699E-01	1.073E+00	1.405E-01	1.298
PO-212	+	74.81		1.874E+00	4.066E-01	4.154E-01	5.190E-02	4.512
	+	77.11		1.821E+00	2.750E-01	2.357E-01	2.002E-02	7.728
	+	87.30		1.349E+00	4.050E-01	4.370E-01	6.045E-02	3.086
		115.19		5.999E-02	2.825E+00	4.750E+00	3.963E-01	0.013
	+	238.63	*	1.631E+00	2.180E-01	7.489E-02	8.867E-03	21.782
	+	300.09		1.392E+00	7.699E-01	1.073E+00	1.405E-01	1.298
BI-214	+	609.31	*	1.127E+00	1.876E-01	8.411E-02	8.893E-03	13.400
	+	1120.29		1.172E+00	4.896E-01	3.973E-01	4.265E-02	2.951
	+	1764.49		1.247E+00	3.964E-01	2.443E-01	2.022E-02	5.107
PB-214	+	74.81		3.229E+00	6.761E-01	7.158E-01	7.958E-02	4.512
	+	77.11		3.123E+00	5.280E-01	4.040E-01	4.610E-02	7.728
	+	87.30		2.311E+00	6.781E-01	7.487E-01	9.192E-02	3.086
	+	241.98		2.245E+00	5.947E-01	4.511E-01	5.588E-02	4.976
	+	295.21		1.245E+00	2.648E-01	1.711E-01	2.284E-02	7.274
	+	351.92	*	1.359E+00	2.100E-01	8.903E-02	1.077E-02	15.264
PO-214	+	74.81		3.229E+00	6.761E-01	7.158E-01	7.958E-02	4.512
	+	77.11		3.123E+00	5.280E-01	4.040E-01	4.610E-02	7.728
	+	87.30		2.311E+00	6.781E-01	7.487E-01	9.192E-02	3.086

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.245E+00	5.947E-01	4.511E-01	5.588E-02	4.976
	+	295.21		1.245E+00	2.648E-01	1.711E-01	2.284E-02	7.274
	+	351.92	*	1.359E+00	2.100E-01	8.903E-02	1.077E-02	15.264
	+	74.81		1.874E+00	4.066E-01	4.154E-01	5.190E-02	4.512
	+	77.11		1.821E+00	2.750E-01	2.357E-01	2.002E-02	7.728
PO-218	+	87.30		1.349E+00	4.050E-01	4.370E-01	6.045E-02	3.086
	+	238.63	*	1.631E+00	2.180E-01	7.489E-02	8.867E-03	21.782
	+	300.09		1.392E+00	7.699E-01	1.073E+00	1.405E-01	1.298
	+	74.81		3.229E+00	6.761E-01	7.158E-01	7.958E-02	4.512
	+	77.11		3.123E+00	5.280E-01	4.040E-01	4.610E-02	7.728
RA-224	+	87.30		2.311E+00	6.781E-01	7.487E-01	9.192E-02	3.086
	+	241.98		2.245E+00	5.947E-01	4.511E-01	5.588E-02	4.976
	+	295.21		1.245E+00	2.648E-01	1.711E-01	2.284E-02	7.274
	+	351.92	*	1.359E+00	2.100E-01	8.903E-02	1.077E-02	15.264
	+	240.98	*	4.256E+00	1.102E+00	8.524E-01	9.394E-02	4.993
RA-226	+	609.31	*	1.127E+00	1.876E-01	8.411E-02	8.893E-03	13.400
	+	1120.29		1.172E+00	4.896E-01	3.973E-01	4.265E-02	2.951
	+	1764.49		1.247E+00	3.964E-01	2.443E-01	2.022E-02	5.107
	+	338.32		1.590E+00	7.698E-01	2.983E-01	1.247E-01	5.329
	+	911.07	*	1.631E+00	3.077E-01	1.774E-01	2.107E-02	9.194
RA-228	+	969.11		1.519E+00	4.814E-01	2.873E-01	6.775E-02	5.287
	+	338.32		1.590E+00	7.698E-01	2.983E-01	1.247E-01	5.329
	+	911.07	*	1.631E+00	3.077E-01	1.774E-01	2.107E-02	9.194
	+	969.11		1.519E+00	4.814E-01	2.873E-01	6.775E-02	5.287
	+	74.81		1.904E+00	3.735E-01	4.221E-01	3.531E-02	4.512
TH-228	+	77.11		1.851E+00	2.794E-01	2.395E-01	2.034E-02	7.728
	+	87.30		1.371E+00	3.881E-01	4.441E-01	4.244E-02	3.086
	+	238.63	*	1.658E+00	2.215E-01	7.610E-02	9.010E-03	21.782
	+	300.09		1.415E+00	1.137E+00	1.090E+00	6.518E-01	1.298
	+	609.31	*	1.127E+00	1.876E-01	8.411E-02	8.893E-03	13.400
TH-230	+	1120.29		1.172E+00	4.896E-01	3.973E-01	4.265E-02	2.951
	+	1764.49		1.247E+00	3.964E-01	2.443E-01	2.022E-02	5.107
	+	338.32		1.590E+00	4.255E-01	2.983E-01	3.257E-02	5.329
	+	911.07	*	1.631E+00	3.077E-01	1.774E-01	2.107E-02	9.194
	+	969.11		1.519E+00	4.814E-01	2.873E-01	6.775E-02	5.287
TH-234	+	63.29	*	1.181E+00	1.616E+00	1.637E+00	2.856E-01	0.721
	+	92.38		1.376E+00	5.840E-01	6.188E-01	1.137E-01	2.224
	+	609.31	*	1.127E+00	1.876E-01	8.411E-02	8.893E-03	13.400
	+	1120.29		1.172E+00	4.896E-01	3.973E-01	4.265E-02	2.951
	+	1764.49		1.247E+00	3.964E-01	2.443E-01	2.022E-02	5.107
NP-237	+	86.50	*	8.564E-01	3.000E-01	2.798E-01	6.352E-02	3.061
	+	95.87		-7.267E-01	8.157E-01	1.141E+00	2.825E-01	-0.637
	+	63.29	*	1.181E+00	1.616E+00	1.637E+00	2.856E-01	0.721
	+	92.38		1.376E+00	5.415E-01	6.188E-01	5.710E-02	2.224
	+	74.67	*	3.038E-01	5.950E-02	6.755E-02	5.592E-03	4.498
AM-243	+	86.72		3.211E+01	9.093E+00	1.047E+01	9.932E-01	3.068
	+	117.66		-4.460E-01	2.940E+00	4.901E+00	4.078E-01	-0.091
	+	142.18		6.642E+00	1.406E+01	2.382E+01	2.031E+00	0.279
	+	511.00	*	1.933E-01	6.283E-02	3.641E-02	3.463E-03	5.309
	+	511.00	*	1.933E-01	6.283E-02	3.641E-02	3.463E-03	5.309

---- 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	*	-1.657E-01	2.589E-01	4.061E-01	4.108E-02	-0.408
NA-22		1274.54	*	2.139E-02	3.733E-02	6.438E-02	5.357E-03	0.332
NA-24		1368.53	*	1.513E+00	3.733E-02	Half-Life too short		
AL-26		1129.67		4.990E-01	1.423E+00	2.414E+00	2.024E-01	0.207
		1808.65	*	1.840E-02	2.944E-02	5.356E-02	4.380E-03	0.344
TI-44		67.85		-5.672E-03	3.788E-02	5.834E-02	4.518E-03	-0.097
	+	78.38	*	3.361E-01	5.075E-02	5.886E-02	5.068E-03	5.711
SC-46		889.25	*	-1.538E-03	2.961E-02	4.920E-02	4.651E-03	-0.031
	+	1120.51		2.022E-01	8.340E-02	1.182E-01	9.983E-03	1.712
V-48		944.10		-9.949E-04	7.060E-01	1.174E+00	1.097E-01	-0.001
		983.50	*	1.069E-02	5.929E-02	1.001E-01	9.215E-03	0.107
		1312.09		-9.998E-03	6.377E-02	1.008E-01	8.460E-03	-0.099
CR-51		320.08	*	-2.253E-01	3.279E-01	4.916E-01	5.748E-02	-0.458
MN-52		744.21		1.056E-01	2.241E-01	3.756E-01	3.448E-02	0.281
		848.13		7.837E-01	5.993E+00	1.017E+01	9.576E-01	0.077
		935.52		1.777E-01	2.744E-01	4.303E-01	4.031E-02	0.413
		1246.25		1.069E+00	7.073E+00	1.103E+01	9.090E-01	0.097
		1333.61		3.130E+00	4.451E+00	7.889E+00	6.656E-01	0.397
		1434.06	*	-6.926E-02	1.957E-01	2.925E-01	2.496E-02	-0.237
MN-54		834.83	*	2.039E-02	3.125E-02	5.521E-02	5.185E-03	0.369
CO-56		846.75	*	-1.132E-02	3.162E-02	5.116E-02	4.814E-03	-0.221
		977.42		1.657E-01	2.204E+00	3.686E+00	3.402E-01	0.045
		1037.82		-1.511E-01	2.599E-01	4.010E-01	3.770E-02	-0.377
		1175.09		-1.339E+00	1.922E+00	2.901E+00	2.334E-01	-0.461
	+	1238.25		2.250E-01	1.488E-01	1.614E-01	1.369E-02	1.394
		1360.21		3.643E-01	8.794E-01	1.498E+00	1.269E-01	0.243
		1771.40		-6.815E-02	1.651E-01	2.447E-01	2.021E-02	-0.279
CO-57		122.06	*	4.020E-03	1.963E-02	3.317E-02	2.757E-03	0.121
		136.48		-1.580E-02	1.625E-01	2.695E-01	2.450E-02	-0.059
CO-58		810.76	*	2.197E-02	3.462E-02	5.953E-02	5.577E-03	0.369
FE-59		142.65		3.166E+00	2.193E+00	3.838E+00	3.276E-01	0.825
		192.34		4.649E-01	8.035E-01	1.346E+00	1.905E-01	0.346
		1099.22	*	2.296E-03	8.077E-02	1.330E-01	1.237E-02	0.017
		1291.56		4.478E-02	1.045E-01	1.778E-01	1.698E-02	0.252
CO-60		1173.22		2.508E-02	3.533E-02	6.198E-02	4.983E-03	0.405
		1332.49	*	3.703E-02	2.976E-02	5.626E-02	4.746E-03	0.658
ZN-65		1115.52	*	2.698E-02	8.621E-02	1.278E-01	1.085E-02	0.211
GE-68		1077.35	*	9.282E-01	1.102E+00	1.955E+00	1.707E-01	0.475
AS-73		53.44	*	-6.475E-01	7.072E-01	1.051E+00	8.017E-02	-0.616
AS-74		595.88	*	9.250E-03	7.147E-02	1.179E-01	1.095E-02	0.078
		634.78		-3.013E-01	2.964E-01	4.294E-01	3.892E-02	-0.702
SE-75		66.05		-5.270E+00	4.529E+00	5.976E+00	5.750E-01	-0.882
		96.73		-4.307E-01	6.516E-01	9.529E-01	1.317E-01	-0.452
		121.11		4.459E-02	1.054E-01	1.797E-01	1.973E-02	0.248
		136.00		-1.478E-03	3.049E-02	5.068E-02	4.301E-03	-0.029
		198.60		-3.848E-01	1.496E+00	2.352E+00	2.521E-01	-0.164
		264.65	*	-1.298E-02	4.165E-02	5.784E-02	6.750E-03	-0.224
		279.53		-1.061E-01	9.558E-02	1.406E-01	1.721E-02	-0.754
		303.91		1.122E+00	1.999E+00	2.951E+00	4.101E-01	0.380

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		9.956E-02	2.215E-01	3.811E-01	4.437E-02	0.261
		87.88		8.437E+02	2.389E+02	3.629E+02	3.493E+01	2.325
	+	200.40		-3.919E+01	1.744E+02	2.812E+02	2.794E+01	-0.139
		239.00		3.448E+02	4.339E+01	4.663E+01	5.114E+00	7.394
		249.79		-1.401E+01	7.070E+01	1.124E+02	1.264E+01	-0.125
		281.68		-6.326E+01	9.818E+01	1.496E+02	1.792E+01	-0.423
		297.23		-4.151E+01	9.105E+01	9.493E+01	1.117E+01	-0.437
		303.76		1.792E+02	2.189E+02	3.299E+02	3.844E+01	0.543
		439.47		6.658E+01	1.576E+02	2.701E+02	2.549E+01	0.246
		484.57		-2.800E+01	2.439E+02	4.001E+02	3.806E+01	-0.070
		520.65	*	9.974E-01	1.115E+01	1.850E+01	1.758E+00	0.054
		574.64		6.645E+01	2.264E+02	3.791E+02	3.552E+01	0.175
		578.91		-6.049E+01	1.098E+02	1.468E+02	1.373E+01	-0.412
		585.48		3.626E+02	2.059E+02	3.457E+02	3.225E+01	1.049
		755.35		-7.893E+01	1.837E+02	2.805E+02	2.585E+01	-0.281
		817.79		-2.014E+01	1.418E+02	2.353E+02	2.203E+01	-0.086
SR-82		698.33		-2.077E+01	2.902E+01	4.340E+01	3.916E+00	-0.479
		776.49	*	-1.638E-01	3.017E-01	4.504E-01	4.176E-02	-0.364
RB-83		1395.20		-6.265E+00	9.512E+00	1.363E+01	1.159E+00	-0.460
		520.41	*	5.057E-03	5.645E-02	9.364E-02	8.898E-03	0.054
		529.64		-6.112E-02	8.880E-02	1.374E-01	1.304E-02	-0.445
RB-84		552.65		2.201E-03	1.614E-01	2.649E-01	2.501E-02	0.008
		881.50	*	3.109E-03	5.263E-02	8.855E-02	8.366E-03	0.035
KR-85		513.99	*	6.496E+00	6.156E+00	9.852E+00	9.368E-01	0.659
SR-85		513.99	*	3.364E-02	3.188E-02	5.102E-02	4.851E-03	0.659
RB-86		1076.63	*	-4.785E-02	7.192E-01	1.175E+00	1.027E-01	-0.041
Y-88		898.02		2.039E-02	3.293E-02	5.822E-02	5.530E-03	0.350
		1836.01	*	-5.129E-03	3.056E-02	4.856E-02	3.943E-03	-0.106
ZR-88		392.90	*	-2.687E-03	2.460E-02	4.100E-02	3.792E-03	-0.066
Y-91		1204.90	*	-2.860E+00	1.608E+01	2.573E+01	2.092E+00	-0.111
NB-94		702.63	*	7.343E-03	2.893E-02	4.760E-02	4.303E-03	0.154
		871.10		2.318E-03	2.632E-02	4.443E-02	4.194E-03	0.052
NB-95		765.79	*	1.739E-02	4.639E-02	6.739E-02	6.230E-03	0.258
NB-95M		235.69	*	1.483E-02	1.150E-01	1.670E-01	1.986E-02	0.089
ZR-95		724.18		9.832E-02	9.863E-02	1.531E-01	1.505E-02	0.642
		756.15	*	-1.324E-02	6.128E-02	9.248E-02	9.283E-03	-0.143
NB-97		657.90	*	-2.528E-01	6.128E-02	Half-Life too short		
		1024.50		7.171E+00	6.128E-02	Half-Life too short		
ZR-97		254.15		8.805E+00	6.128E-02	Half-Life too short		
		355.39		1.379E+00	6.128E-02	Half-Life too short		
		507.63	*	1.127E+01	6.128E-02	Half-Life too short		
		602.52		1.811E+00	6.128E-02	Half-Life too short		
		1021.30		-8.743E-01	6.128E-02	Half-Life too short		
		1147.95		-1.058E+00	6.128E-02	Half-Life too short		
		1362.66		-8.021E+00	6.128E-02	Half-Life too short		
		1750.46		3.761E+00	6.128E-02	Half-Life too short		
MO-99		140.51		-1.686E+01	2.687E+01	4.198E+01	1.161E+01	-0.402
		181.06		1.756E+00	2.041E+01	3.009E+01	5.622E+00	0.058
		366.43		1.100E+01	8.298E+01	1.412E+02	1.428E+01	0.078

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		-4.886E+00	1.167E+01	1.780E+01	2.759E+00	-0.275
	778.00			-2.086E+01	3.247E+01	4.768E+01	4.423E+00	-0.437
TC-99M	140.51	*		-2.609E+11	3.247E+01	Half-Life too short		
RH-101	127.23			-1.322E-02	2.643E-02	4.324E-02	3.600E-03	-0.306
	198.01	*		-1.259E-02	2.739E-02	4.260E-02	4.205E-03	-0.296
	325.23			-1.317E-01	2.084E-01	2.737E-01	3.073E-02	-0.481
RH-102	418.52			-6.589E-02	2.420E-01	3.971E-01	3.720E-02	-0.166
	475.06	*		-9.060E-05	2.153E-02	3.568E-02	3.391E-03	-0.003
	631.29			3.687E-02	4.284E-02	7.495E-02	6.811E-03	0.492
	697.49			-2.580E-02	6.550E-02	1.016E-01	9.162E-03	-0.254
	766.84			9.051E-02	1.216E-01	1.826E-01	1.689E-02	0.496
	1046.59			-4.953E-03	9.164E-02	1.502E-01	1.339E-02	-0.033
	1112.84			-1.499E-01	2.217E-01	2.816E-01	2.395E-02	-0.532
RU-103	497.08	*		1.468E-02	3.066E-02	5.260E-02	7.745E-03	0.279
	610.33	+		1.237E+01	2.637E+00	2.608E+00	4.433E-01	4.744
RH-106	511.85			4.027E-01	1.964E-01	3.732E-01	3.549E-02	1.079
	621.84	*		-5.917E-03	2.566E-01	4.160E-01	5.700E-02	-0.014
	1050.47			8.723E-01	1.752E+00	3.046E+00	2.708E-01	0.286
RU-106	511.85			4.027E-01	1.964E-01	3.732E-01	3.549E-02	1.079
	621.84	*		-5.917E-03	2.566E-01	4.160E-01	3.804E-02	-0.014
	1050.47			8.723E-01	1.752E+00	3.046E+00	2.708E-01	0.286
AG-108M	433.93	*		1.574E-03	2.561E-02	4.290E-02	4.177E-03	0.037
	614.37			-2.118E-02	3.527E-02	4.621E-02	4.393E-03	-0.458
	722.95			-3.088E-03	4.206E-02	5.838E-02	5.507E-03	-0.053
AG-110M	657.75	*		-2.981E-02	3.124E-02	4.601E-02	4.211E-03	-0.648
	677.61			-2.543E-01	2.496E-01	3.582E-01	3.287E-02	-0.710
	706.67			5.587E-02	1.806E-01	2.913E-01	2.703E-02	0.192
	763.93			6.499E-02	1.582E-01	2.323E-01	2.199E-02	0.280
	884.67			-5.799E-03	3.711E-02	6.098E-02	5.917E-03	-0.095
	937.48			6.892E-02	9.845E-02	1.548E-01	1.494E-02	0.445
	1384.27			9.039E-02	1.267E-01	2.122E-01	1.855E-02	0.426
IN-111	171.28			3.903E-01	9.907E-01	1.661E+00	1.527E-01	0.235
	245.39	*		7.515E-01	1.157E+00	1.744E+00	1.942E-01	0.431
IN-113M	391.69	*		-2.827E-02	3.670E-02	5.833E-02	5.537E-03	-0.485
SN-113	391.69	*		-2.827E-02	3.670E-02	5.833E-02	5.537E-03	-0.485
IN-114M	190.27	*		-1.474E-02	1.682E-01	2.445E-01	2.365E-02	-0.060
CD-115	260.90			-1.434E+01	1.454E+02	2.319E+02	2.676E+01	-0.062
	492.35			1.453E+01	3.825E+01	6.513E+01	6.197E+00	0.223
	527.90	*		-1.213E+00	1.190E+01	1.941E+01	1.842E+00	-0.063
SN-117M	156.02			4.767E-01	1.985E+00	3.317E+00	2.926E-01	0.144
	158.56	*		7.668E-03	4.638E-02	7.723E-02	6.859E-03	0.099
SB-122	563.90	*		-1.757E-01	2.171E+00	3.531E+00	3.321E-01	-0.050
	692.80			1.741E+01	5.224E+01	8.489E+01	7.642E+00	0.205
I-123	159.00	*		-2.283E+00	5.224E+01	Half-Life too short		
	528.96			-8.140E+02	5.224E+01	Half-Life too short		
TE-123M	159.00	*		-3.439E-03	2.316E-02	3.801E-02	3.400E-03	-0.090
I-124	602.71	*		-1.319E-01	7.047E-01	9.813E-01	9.076E-02	-0.134
	722.78			-1.539E+00	5.306E+00	7.164E+00	6.527E-01	-0.215
	1325.50			9.609E+00	3.417E+01	5.727E+01	4.823E+00	0.168

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	+	1376.25		6.033E+01	4.846E+01	6.628E+01	5.626E+00	0.910
		1509.49		2.512E+01	1.633E+01	3.220E+01	2.754E+00	0.780
		1691.02		2.838E-01	2.732E+00	4.642E+00	3.904E-01	0.061
		602.71		-6.630E-03	3.542E-02	4.932E-02	4.562E-03	-0.134
		645.85		-2.333E-01	4.474E-01	6.899E-01	6.546E-02	-0.338
		709.31		-2.183E+00	2.326E+00	3.253E+00	2.948E-01	-0.671
		713.82		3.137E-01	1.282E+00	2.112E+00	2.613E-01	0.149
		722.78		-1.121E-01	3.865E-01	5.219E-01	4.848E-02	-0.215
	+	968.20		1.581E+01	3.654E+00	6.389E+00	5.918E-01	2.474
		1045.16		-1.213E-01	1.991E+00	3.261E+00	2.908E-01	-0.037
SB-125		1325.50		7.477E-01	2.659E+00	4.456E+00	3.753E-01	0.168
		1368.21		1.143E+00	1.405E+00	2.487E+00	3.329E-01	0.460
		1436.60		-3.093E-01	2.459E+00	4.035E+00	3.444E-01	-0.077
		1691.02	*	4.877E-03	4.694E-02	7.978E-02	6.987E-03	0.061
		427.89	*	3.406E-02	7.602E-02	1.307E-01	1.248E-02	0.261
	+	463.38		4.202E-01	3.824E-01	4.486E-01	4.534E-02	0.937
		600.56		4.318E-02	1.453E-01	2.426E-01	2.390E-02	0.178
		635.90		-8.869E-02	2.196E-01	3.420E-01	3.325E-02	-0.259
	TE-125M	109.28	*	8.346E+00	7.484E+00	1.308E+01	1.331E+00	0.638
	I-126	388.63		1.392E-01	1.767E-01	3.106E-01	2.906E-02	0.448
SB-126		666.33	*	1.682E-01	1.734E-01	3.011E-01	2.678E-02	0.559
		753.82		7.646E-01	1.268E+00	2.150E+00	1.980E-01	0.356
		223.80		-1.695E+00	3.540E+00	5.580E+00	5.894E-01	-0.304
		278.60		9.271E-01	2.231E+00	3.649E+00	4.377E-01	0.254
		296.50		5.868E+00	2.243E+00	2.982E+00	3.511E-01	1.968
		414.70		-7.269E-03	6.920E-02	1.150E-01	1.075E-02	-0.063
		415.30		2.531E+00	5.657E+00	9.723E+00	9.095E-01	0.260
		555.20		9.553E-01	3.478E+00	5.828E+00	5.498E-01	0.164
		573.80		1.984E-01	8.900E-01	1.482E+00	1.390E-01	0.134
		593.00		-8.872E-01	7.779E-01	1.121E+00	1.042E-01	-0.791
SB-127		656.30		2.655E-01	3.072E+00	5.009E+00	4.466E-01	0.053
		666.33		7.045E-02	7.260E-02	1.261E-01	1.122E-02	0.559
		675.00		-4.417E-01	1.687E+00	2.652E+00	2.368E-01	-0.167
		695.00		6.048E-02	7.265E-02	1.250E-01	1.126E-02	0.484
		697.00		-1.189E-01	2.455E-01	3.775E-01	3.404E-02	-0.315
		720.50	*	8.845E-02	1.370E-01	2.256E-01	2.054E-02	0.392
		856.80		-9.294E-02	4.170E-01	5.875E-01	5.536E-02	-0.158
		989.30		-8.364E-01	1.133E+00	1.728E+00	1.587E-01	-0.484
		1034.80		6.537E+00	7.558E+00	1.356E+01	1.216E+00	0.482
		1213.00		-1.344E+00	4.358E+00	6.883E+00	5.613E-01	-0.195
SB-127		61.10		-2.074E+01	6.187E+01	8.682E+01	9.067E+00	-0.239
		252.40		2.104E+00	4.310E+00	6.983E+00	2.985E+00	0.301
		290.80		-3.690E+01	2.682E+01	3.296E+01	4.629E+00	-1.120
		411.60		6.917E-01	1.298E+01	2.180E+01	3.559E+00	0.032
		444.90		-1.886E+00	9.659E+00	1.569E+01	2.096E+00	-0.120
		473.00		-9.425E-01	1.552E+00	2.438E+00	3.342E-01	-0.387
		543.00		-1.189E+01	1.626E+01	2.485E+01	3.760E+00	-0.478
		603.60		-2.629E+00	1.200E+01	1.662E+01	2.193E+00	-0.158
		685.20	*	4.200E-01	1.380E+00	2.286E+00	2.726E-01	0.184

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		-9.991E+00	1.479E+01	2.209E+01	3.587E+00	-0.452
		722.20		-7.182E+00	3.675E+01	5.023E+01	5.937E+00	-0.143
		783.80		5.224E+00	3.645E+00	6.509E+00	8.551E-01	0.803
		57.60		-3.765E+00	5.286E+00	7.949E+00	5.746E-01	-0.474
		145.22		-5.329E-01	5.978E-01	9.306E-01	7.989E-02	-0.573
		172.10		5.481E-02	9.787E-02	1.651E-01	1.521E-02	0.332
I-131		202.84	*	1.259E-03	3.874E-02	6.324E-02	6.325E-03	0.020
		374.96		-4.126E-02	1.611E-01	2.667E-01	2.623E-02	-0.155
		80.18		1.548E+00	4.863E+00	6.131E+00	5.423E-01	0.253
		284.30		2.485E-01	1.443E+00	2.326E+00	2.856E-01	0.107
		364.48	*	-1.769E-02	9.701E-02	1.617E-01	1.711E-02	-0.109
		636.97		2.424E-01	1.358E+00	2.239E+00	2.131E-01	0.108
TE-132		722.89		-2.423E+00	7.928E+00	1.068E+01	9.797E-01	-0.227
		49.72		-1.463E+01	1.945E+01	2.919E+01	3.124E+00	-0.501
		111.76		-1.147E+01	2.886E+01	4.771E+01	5.216E+00	-0.240
		116.30		1.010E+01	2.614E+01	4.457E+01	4.852E+00	0.227
BA-133		228.16	*	-6.823E-02	6.709E-01	1.079E+00	1.845E-01	-0.063
		53.15		-1.322E+00	3.018E+00	4.617E+00	3.538E-01	-0.286
		79.62		-4.527E-02	1.295E+00	1.590E+00	2.431E-01	-0.028
		81.00		-3.577E-02	1.000E-01	1.195E-01	1.913E-02	-0.299
		276.40		5.449E-01	3.335E-01	5.622E-01	9.356E-02	0.969
		302.84		-5.919E-02	1.405E-01	1.906E-01	2.944E-02	-0.311
I-133		356.01	*	6.076E-03	3.864E-02	5.840E-02	8.440E-03	0.104
		383.85		-1.933E-01	2.383E-01	3.763E-01	4.984E-02	-0.514
	+	510.53		4.177E+00	2.383E-01	Half-Life	too short	
		529.87	*	-1.012E-02	2.383E-01	Half-Life	too short	
		706.58		2.795E-01	2.383E-01	Half-Life	too short	
		856.28		-1.623E-01	2.383E-01	Half-Life	too short	
		875.33		-4.328E-02	2.383E-01	Half-Life	too short	
	+	1236.41		3.434E+00	2.383E-01	Half-Life	too short	
		1298.22		-2.807E-02	2.383E-01	Half-Life	too short	
		475.35		7.294E-02	1.425E+00	2.371E+00	2.254E-01	0.031
CS-134		563.23		5.467E-02	2.996E-01	4.979E-01	4.722E-02	0.110
		569.32		-1.432E-02	1.631E-01	2.649E-01	2.516E-02	-0.054
		604.70		-2.110E-02	3.076E-02	4.000E-02	3.703E-03	-0.528
	+	795.84	*	8.500E-02	5.171E-02	8.169E-02	7.659E-03	1.041
		801.93		-5.246E-02	3.337E-01	5.465E-01	5.124E-02	-0.096
		1038.57		-8.458E-01	3.176E+00	5.088E+00	4.555E-01	-0.166
		1167.94		1.008E-01	1.946E+00	3.198E+00	2.585E-01	0.032
		1365.15		-6.302E-01	1.039E+00	1.511E+00	1.341E-01	-0.417
		268.24	*	2.281E-01	1.375E-01	2.358E-01	3.007E-02	0.968
		288.45		2.571E+11	1.375E-01	Half-Life	too short	
I-135		417.63		-6.662E+10	1.375E-01	Half-Life	too short	
		546.56		2.238E+10	1.375E-01	Half-Life	too short	
		836.80		-7.441E+10	1.375E-01	Half-Life	too short	
		1038.76		5.950E+09	1.375E-01	Half-Life	too short	
		1124.00		-1.664E+11	1.375E-01	Half-Life	too short	
		1131.51		-4.323E+10	1.375E-01	Half-Life	too short	
		1260.41	*	-1.065E+10	1.375E-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
CS-136		1457.56		7.545E+12	1.375E-01	Half-Life	too short	
		1678.03		5.344E+10	1.375E-01	Half-Life	too short	
		1706.46		-1.358E+11	1.375E-01	Half-Life	too short	
		1791.20		-2.901E+10	1.375E-01	Half-Life	too short	
		66.91		4.105E-02	7.276E-01	1.038E+00	1.550E-01	0.040
	+	86.29		3.999E+00	1.195E+00	1.693E+00	2.271E-01	2.363
		153.22		5.186E-01	5.652E-01	9.691E-01	9.455E-02	0.535
		163.89		-2.730E-01	9.394E-01	1.495E+00	1.497E-01	-0.183
		176.55		1.980E-02	3.191E-01	5.259E-01	5.146E-02	0.038
		273.65		-6.360E-01	4.795E-01	6.011E-01	7.387E-02	-1.058
		340.57		-2.531E-02	1.179E-01	1.735E-01	1.919E-02	-0.146
		818.51		1.129E-03	6.248E-02	1.052E-01	9.862E-03	0.011
		1048.07	*	-9.960E-02	9.148E-02	1.310E-01	1.212E-02	-0.761
		1235.34		1.076E+00	6.568E-01	1.080E+00	1.249E-01	0.996
BA-137M		661.65	*	1.648E-02	3.274E-02	5.506E-02	4.886E-03	0.299
CS-137		661.65	*	1.742E-02	3.461E-02	5.820E-02	5.174E-03	0.299
CE-139		165.85	*	1.062E-02	2.425E-02	4.075E-02	3.696E-03	0.261
BA-140		162.64		-4.000E-01	6.650E-01	1.042E+00	9.868E-02	-0.384
		304.84		-4.189E-01	1.230E+00	1.799E+00	5.234E-01	-0.233
		423.70		8.934E-01	1.685E+00	2.872E+00	9.372E-01	0.311
LA-140		537.32	*	4.008E-02	2.305E-01	3.834E-01	1.280E-01	0.105
	+	328.77		3.787E-01	4.474E-01	4.727E-01	5.447E-02	0.801
		432.53		-6.506E-01	1.768E+00	2.869E+00	2.812E-01	-0.227
		487.03		-4.034E-02	1.318E-01	1.956E-01	1.955E-02	-0.206
		751.79		-1.190E-01	1.577E+00	2.506E+00	2.524E-01	-0.048
		815.85		1.019E-02	2.834E-01	4.782E-01	4.916E-02	0.021
		867.82		-2.669E-01	1.181E+00	1.933E+00	1.905E-01	-0.138
		919.63		6.509E-01	2.348E+00	4.020E+00	4.541E-01	0.162
		925.24		-1.378E-01	9.880E-01	1.622E+00	1.605E-01	-0.085
		1596.49	*	-1.300E-02	7.784E-02	1.263E-01	1.075E-02	-0.103
CE-141		145.44	*	-5.201E-02	5.425E-02	8.411E-02	7.357E-03	-0.618
CE-143		57.37		-8.675E-04	5.425E-02	Half-Life	too short	
		231.56		1.321E-03	5.425E-02	Half-Life	too short	
		293.26	*	9.353E-04	5.425E-02	Half-Life	too short	
	+	350.59		4.979E-02	5.425E-02	Half-Life	too short	
		490.36		3.132E-04	5.425E-02	Half-Life	too short	
		664.57		1.814E-04	5.425E-02	Half-Life	too short	
CE-144		721.93		-2.823E-04	5.425E-02	Half-Life	too short	
		80.11		6.498E-01	2.069E+00	2.607E+00	2.289E-01	0.249
		133.54	*	-1.313E-01	1.614E-01	2.572E-01	3.972E-02	-0.510
PM-144		476.78		-1.829E-02	5.322E-02	8.572E-02	8.782E-03	-0.213
		618.01		7.457E-03	2.564E-02	4.277E-02	4.017E-03	0.174
		696.49	*	2.069E-03	2.971E-02	4.814E-02	4.342E-03	0.043
PR-144		778.57		-1.178E+00	1.765E+00	2.588E+00	2.402E-01	-0.455
		696.49	*	1.403E-01	2.014E+00	3.264E+00	2.943E-01	0.043
		1489.15		-3.024E+00	8.560E+00	1.341E+01	1.147E+00	-0.225
PM-146		453.90	*	-1.443E-02	3.664E-02	5.915E-02	6.755E-03	-0.244
		633.02		-3.363E-01	1.115E+00	1.745E+00	6.540E-01	-0.193
		735.90		3.768E-03	1.159E-01	1.865E-01	5.365E-02	0.020

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		3.328E-03	7.960E-02	1.280E-01	1.842E-02	0.026
		91.11		6.692E-01	2.752E-01	4.152E-01	4.150E-02	1.612
		319.41		-2.980E+00	3.136E+00	4.604E+00	5.227E-01	-0.647
		439.89		3.088E+00	5.222E+00	9.037E+00	8.531E-01	0.342
		531.02	*	2.039E-02	4.958E-01	8.180E-01	1.265E-01	0.025
PM-149		285.90	*	-5.080E+01	1.159E+02	1.795E+02	3.159E+01	-0.283
EU-152		121.78		2.231E-02	5.667E-02	9.650E-02	9.316E-03	0.231
		244.69		1.336E-01	2.894E-01	4.301E-01	4.782E-02	0.311
		344.27	*	5.968E-02	8.057E-02	1.379E-01	1.541E-02	0.433
		443.98		-8.645E-02	7.984E-01	1.306E+00	1.234E-01	-0.066
		778.89		-1.490E-01	2.022E-01	2.932E-01	2.721E-02	-0.508
	+	867.32		1.630E-02	6.733E-01	1.130E+00	1.066E-01	0.014
		964.01		5.742E-01	2.736E-01	5.005E-01	4.643E-02	1.147
		1085.78		-7.067E-02	3.431E-01	5.518E-01	4.790E-02	-0.128
		1112.02		-4.982E-02	2.816E-01	4.260E-01	3.624E-02	-0.117
		1407.95		1.484E-01	1.526E-01	2.787E-01	2.373E-02	0.532
GD-153	+	69.67		1.609E-02	1.345E+00	2.085E+00	1.643E-01	0.008
		83.37		1.727E+01	1.345E+01	2.008E+01	1.830E+00	0.860
		97.43	*	-8.289E-02	6.848E-02	9.576E-02	8.507E-03	-0.866
		103.18		-7.786E-03	8.352E-02	1.405E-01	1.210E-02	-0.055
		123.07		-4.156E-02	4.125E-02	6.557E-02	7.296E-03	-0.634
EU-154		247.94		-1.722E-01	2.935E-01	4.538E-01	6.137E-02	-0.380
		591.81		2.874E-01	4.725E-01	8.119E-01	9.891E-02	0.354
		723.30		7.363E-03	1.774E-01	2.497E-01	2.492E-02	0.029
		756.87		-7.082E-02	6.668E-01	1.019E+00	1.266E-01	-0.069
		873.19		1.459E-02	2.271E-01	3.824E-01	4.909E-02	0.038
		996.32		-4.219E-01	3.183E-01	4.361E-01	7.863E-02	-0.967
		1004.76		-7.545E-02	1.790E-01	2.830E-01	3.399E-02	-0.267
		1274.45	*	5.298E-02	1.049E-01	1.795E-01	1.988E-02	0.295
		48.70		-3.333E+00	2.046E+00	2.894E+00	2.378E-01	-1.152
		60.01		3.508E+00	4.347E+00	6.527E+00	4.662E-01	0.538
EU-155	+	86.54		3.514E-01	9.958E-02	1.516E-01	1.447E-02	2.318
		105.31	*	9.636E-02	8.893E-02	1.555E-01	1.345E-02	0.620
		86.79		9.467E-01	2.681E-01	4.139E-01	3.931E-02	2.287
		197.04		-2.933E-01	4.742E-01	7.314E-01	7.202E-02	-0.401
		215.65		-8.058E-02	6.440E-01	1.039E+00	1.075E-01	-0.078
TB-160	+	298.57		2.044E-01	1.124E-01	1.731E-01	2.033E-02	1.181
		879.36	*	-4.388E-03	1.061E-01	1.767E-01	1.669E-02	-0.025
		962.29		7.572E-01	5.468E-01	9.044E-01	8.396E-02	0.837
		966.15		1.051E+00	2.465E-01	4.761E-01	4.413E-02	2.207
		1177.93		-2.845E-01	3.121E-01	4.585E-01	3.693E-02	-0.621
HO-166M		1271.85		-2.167E-01	6.308E-01	9.820E-01	8.155E-02	-0.221
		80.57		-1.391E-02	2.710E-01	3.322E-01	2.932E-02	-0.042
		184.41	+	1.606E-01	5.133E-02	5.852E-02	5.570E-03	2.745
		280.46		-6.030E-02	7.168E-02	1.076E-01	1.291E-02	-0.560
		410.95		1.000E-01	2.149E-01	3.694E-01	3.449E-02	0.271
	+	711.68	*	-2.660E-02	4.653E-02	7.005E-02	6.356E-03	-0.380
		752.31		1.292E-02	2.316E-01	3.727E-01	3.431E-02	0.035
		810.29		4.614E-02	5.180E-02	9.076E-02	8.484E-03	0.508

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		1.797E+01	2.525E+01	4.108E+01	3.237E+00	0.437
		52.39		8.603E+00	1.303E+01	2.114E+01	1.639E+00	0.407
		59.40		6.263E+00	2.381E+01	3.469E+01	2.464E+00	0.181
		66.72	*	1.455E+01	2.426E+01	3.570E+01	2.735E+00	0.408
LU-176	+	88.36		6.917E-01	1.959E-01	2.838E-01	2.724E-02	2.438
		201.83		-1.242E-03	2.341E-02	3.806E-02	3.796E-03	-0.033
		306.84	*	-2.066E-03	2.043E-02	3.219E-02	3.734E-03	-0.064
		401.10		2.435E+00	5.767E+00	9.911E+00	9.208E-01	0.246
LU-177		112.95		-7.074E-01	1.436E+00	2.364E+00	1.979E-01	-0.299
	+	208.36	*	2.931E+00	1.383E+00	1.882E+00	1.910E-01	1.557
LU-177M		52.97		-3.834E-01	1.381E+00	2.134E+00	1.639E-01	-0.180
		54.07		-5.771E-01	7.170E-01	1.072E+00	8.106E-02	-0.538
		61.30		-3.669E-01	1.356E+00	1.910E+00	1.386E-01	-0.192
		121.62		1.528E-01	2.924E-01	5.006E-01	4.156E-02	0.305
		147.16		2.694E-01	5.221E-01	8.849E-01	7.631E-02	0.304
		171.86		2.269E-01	3.894E-01	6.576E-01	6.055E-02	0.345
		218.09		4.869E-01	7.605E-01	1.270E+00	1.322E-01	0.383
	+	268.79		2.750E+00	1.385E+00	1.291E+00	1.516E-01	2.130
		319.02		-1.405E-01	2.292E-01	3.465E-01	3.936E-02	-0.406
		367.43		-4.526E-02	7.139E-01	1.199E+00	1.209E-01	-0.038
		413.65	*	-3.849E-02	1.569E-01	2.586E-01	2.417E-02	-0.149
HF-181		56.28		8.572E-01	7.912E-01	1.302E+00	9.558E-02	0.658
		57.53		-3.310E-01	4.432E-01	6.652E-01	4.813E-02	-0.498
		65.20		-3.288E-01	8.507E-01	1.184E+00	8.938E-02	-0.278
		133.02		-1.823E-02	5.182E-02	8.505E-02	7.132E-03	-0.214
		136.25		-3.502E-02	3.606E-01	5.982E-01	5.042E-02	-0.059
		345.85		-5.903E-02	1.636E-01	2.615E-01	2.803E-02	-0.226
		482.03	*	2.694E-02	3.419E-02	5.990E-02	5.697E-03	0.450
W-181		56.28		3.326E-01	3.066E-01	5.047E-01	3.704E-02	0.659
		57.53		-1.286E-01	1.719E-01	2.580E-01	1.866E-02	-0.498
		65.20	*	-1.265E-01	3.273E-01	4.554E-01	3.439E-02	-0.278
TA-182		67.75		-8.416E-03	9.116E-02	1.408E-01	1.089E-02	-0.060
		100.10		6.124E-02	1.421E-01	2.405E-01	2.103E-02	0.255
		152.43		2.839E-02	2.768E-01	4.604E-01	4.023E-02	0.062
		222.10		1.438E-01	2.952E-01	4.900E-01	5.153E-02	0.293
		1001.68		1.648E+00	1.744E+00	3.127E+00	2.854E-01	0.527
		1121.28		4.569E-01	1.723E-01	3.037E-01	2.564E-02	1.504
		1189.05		-2.149E-01	2.778E-01	4.185E-01	3.384E-02	-0.513
		1221.42	*	-1.117E-02	1.631E-01	2.636E-01	2.156E-02	-0.042
		1230.97		1.611E-02	4.753E-01	6.709E-01	5.503E-02	0.024
RE-183		57.98		-4.528E-02	1.697E-01	2.614E-01	1.882E-02	-0.173
		59.32		2.037E-03	9.998E-02	1.436E-01	1.020E-02	0.014
		67.20		1.792E-02	1.800E-01	2.575E-01	1.982E-02	0.070
		162.32	*	-6.928E-02	9.431E-02	1.469E-01	1.319E-02	-0.472
	+	208.81		2.413E+00	1.139E+00	1.566E+00	1.591E-01	1.541
		291.72		-8.813E-02	8.612E-01	1.208E+00	1.431E-01	-0.073
RE-184		57.98		-1.659E-01	6.219E-01	9.580E-01	6.898E-02	-0.173
		59.32		7.459E-03	3.661E-01	5.258E-01	3.737E-02	0.014
		67.20		6.564E-02	6.596E-01	9.435E-01	7.262E-02	0.070

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	161.27			3.692E-02	2.874E-01	4.774E-01	4.272E-02	0.077
	216.55			1.227E-01	2.311E-01	3.845E-01	3.986E-02	0.319
	252.85	*		-4.456E-02	1.945E-01	3.082E-01	3.493E-02	-0.145
	318.01			2.351E-01	3.732E-01	6.160E-01	7.011E-02	0.382
	792.07			4.485E-01	9.068E-01	1.411E+00	1.314E-01	0.318
	903.28			2.048E-01	8.772E-01	1.458E+00	1.378E-01	0.140
	920.93			2.064E-01	3.565E-01	6.279E-01	5.906E-02	0.329
	59.72			1.481E-01	2.633E-01	3.902E-01	2.776E-02	0.380
	61.14			-4.821E-02	1.496E-01	2.101E-01	1.521E-02	-0.229
	69.30			9.974E-02	2.260E-01	3.778E-01	2.966E-02	0.264
	592.07			7.644E-01	1.899E+00	3.214E+00	2.989E-01	0.238
	646.12	*		-9.667E-03	3.787E-02	5.995E-02	5.389E-03	-0.161
	717.42			3.954E-01	7.467E-01	1.260E+00	1.146E-01	0.314
	874.81			-7.880E-02	4.423E-01	7.257E-01	6.852E-02	-0.109
RE-188	880.27			-1.827E-01	5.798E-01	9.356E-01	8.838E-02	-0.195
	155.03	*		7.819E-02	1.445E-01	2.444E-01	2.150E-02	0.320
	477.96			-4.528E-01	2.423E+00	3.953E+00	3.758E-01	-0.115
	633.10			-1.422E+00	2.337E+00	3.566E+00	3.237E-01	-0.399
W-188	63.58	+		4.792E+01	6.515E+01	7.504E+01	5.577E+00	0.639
	227.08			-2.454E+00	1.030E+01	1.645E+01	1.752E+00	-0.149
IR-192	290.67	*		-1.061E+01	7.879E+00	9.779E+00	1.160E+00	-1.085
	295.96			9.574E-01	1.950E-01	2.516E-01	2.976E-02	3.805
	308.46			-3.006E-02	8.177E-02	1.263E-01	1.465E-02	-0.238
	316.51	*		3.351E-02	2.810E-02	4.791E-02	5.476E-03	0.699
AU-195	468.07			2.897E-02	5.905E-02	9.052E-02	9.109E-03	0.320
	604.41			-3.141E-01	4.186E-01	5.371E-01	7.218E-02	-0.585
	612.46			2.184E-01	5.927E-01	8.831E-01	9.191E-02	0.247
	65.12			-5.389E-02	1.516E-01	2.113E-01	1.594E-02	-0.255
	66.83			5.215E-02	8.054E-02	1.188E-01	9.112E-03	0.439
	75.70	+		9.868E-01	1.932E-01	3.633E-01	3.040E-02	2.716
	98.88	*		2.059E-01	1.808E-01	3.130E-01	2.756E-02	0.658
TL-200	129.76			3.705E+00	2.345E+00	4.127E+00	3.445E-01	0.898
	367.94	*		7.900E-05	2.345E+00	Half-Life	too short	
	579.30			-1.842E-03	2.345E+00	Half-Life	too short	
	828.27			3.954E-03	2.345E+00	Half-Life	too short	
TL-201	1205.75			1.308E-03	2.345E+00	Half-Life	too short	
	68.90			1.015E+00	4.358E+00	7.541E+00	5.898E-01	0.135
	70.82			4.534E-01	2.684E+00	4.186E+00	3.335E-01	0.108
	80.30			1.972E+00	6.054E+00	7.636E+00	6.718E-01	0.258
	135.34			5.863E+00	2.399E+01	4.042E+01	3.402E+00	0.145
TL-202	167.43	*		-8.017E-01	6.972E+00	1.143E+01	1.040E+00	-0.070
	68.90			7.774E-02	3.336E-01	5.773E-01	4.516E-02	0.135
	70.82			3.462E-02	2.049E-01	3.196E-01	2.546E-02	0.108
	80.30			1.506E-01	4.624E-01	5.832E-01	5.130E-02	0.258
HG-203	439.56	*		2.108E-02	6.170E-02	1.052E-01	9.925E-03	0.200
	70.83			1.420E-01	8.537E-01	1.331E+00	1.758E-01	0.107
	72.87			1.591E-01	4.924E-01	7.716E-01	9.944E-02	0.206
	82.60	+		1.298E+00	1.021E+00	1.437E+00	2.012E-01	0.904
	279.20	*		-2.355E-02	3.558E-02	5.432E-02	6.619E-03	-0.434

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		4.098E-02	1.423E-01	2.228E-01	1.810E-02	0.184
	+	74.97		5.454E-01	1.068E-01	1.816E-01	1.508E-02	3.003
	+	84.90		2.227E-01	1.736E-01	2.456E-01	2.280E-02	0.907
		569.67		-2.551E-04	2.541E-02	4.153E-02	3.899E-03	-0.006
		1063.62	*	-1.390E-02	4.419E-02	7.031E-02	6.198E-03	-0.198
TL-207		1770.23		-7.070E-01	4.526E-01	5.075E-01	4.194E-02	-1.393
		81.07		-7.849E-02	2.204E-01	2.636E-01	2.339E-02	-0.298
	+	83.78		1.469E-01	1.144E-01	1.712E-01	1.568E-02	0.858
	+	94.90		3.177E-01	2.560E-01	2.987E-01	2.700E-02	1.064
		122.32		2.170E-01	1.346E+00	2.270E+00	2.032E-01	0.096
		144.24		-1.999E-01	5.779E-01	9.253E-01	8.877E-02	-0.216
		154.21		3.772E-01	3.358E-01	5.785E-01	5.567E-02	0.652
	+	269.46		6.413E-01	3.232E-01	3.157E-01	3.755E-02	2.032
		323.87	*	1.622E-01	6.018E-01	8.659E-01	1.656E-01	0.187
	+	338.28		6.639E+00	1.870E+00	2.242E+00	3.142E-01	2.961
PO-209		445.03		-3.341E-01	1.902E+00	3.094E+00	3.928E-01	-0.108
		260.50		3.915E+00	7.793E+00	1.288E+01	1.485E+00	0.304
		262.80		1.827E+01	2.147E+01	3.611E+01	4.186E+00	0.506
		896.60	*	-2.845E+00	5.675E+00	8.953E+00	8.468E-01	-0.318
BI-210		46.50	*	2.930E+00	3.066E+00	5.048E+00	4.708E-01	0.580
PB-210		46.50	*	2.930E+00	3.066E+00	5.048E+00	4.708E-01	0.580
PO-210		46.50	*	2.930E+00	3.064E+00	5.048E+00	4.264E-01	0.580
PB-211		404.84	*	-2.716E-01	8.297E-01	1.333E+00	8.364E-01	-0.204
BI-212		427.08		4.319E-01	1.730E+00	2.903E+00	1.807E+00	0.149
		831.96		4.009E-01	1.047E+00	1.763E+00	1.107E+00	0.227
	+	727.18	*	1.210E+00	4.286E-01	6.386E-01	6.671E-02	1.894
		785.46		4.648E-01	1.503E+00	2.596E+00	2.412E-01	0.179
		1620.62		1.374E-01	1.006E+00	1.710E+00	1.452E-01	0.080
PO-215		81.07		-7.849E-02	2.204E-01	2.636E-01	2.339E-02	-0.298
	+	83.78		1.469E-01	1.144E-01	1.712E-01	1.568E-02	0.858
	+	94.90		3.177E-01	2.560E-01	2.987E-01	2.700E-02	1.064
		122.32		2.170E-01	1.346E+00	2.270E+00	2.032E-01	0.096
		144.24		-1.999E-01	5.779E-01	9.253E-01	8.877E-02	-0.216
		154.21		3.772E-01	3.358E-01	5.785E-01	5.567E-02	0.652
	+	269.46		6.413E-01	3.232E-01	3.157E-01	3.755E-02	2.032
		323.87	*	1.622E-01	6.018E-01	8.659E-01	1.656E-01	0.187
	+	338.28		6.639E+00	1.870E+00	2.242E+00	3.142E-01	2.961
		445.03		-3.341E-01	1.902E+00	3.094E+00	3.928E-01	-0.108
RN-219	+	271.23		8.228E-01	4.170E-01	3.881E-01	5.082E-02	2.120
		401.81	*	-4.678E-02	3.548E-01	5.899E-01	9.098E-02	-0.079
RN-220		549.76	*	4.362E+00	2.060E+01	3.441E+01	3.251E+00	0.127
RA-223		81.07		-7.849E-02	2.204E-01	2.636E-01	2.339E-02	-0.298
	+	83.78		1.469E-01	1.144E-01	1.712E-01	1.568E-02	0.858
	+	94.90		3.177E-01	2.560E-01	2.987E-01	2.700E-02	1.064
		122.32		2.170E-01	1.346E+00	2.270E+00	2.032E-01	0.096
		144.24		-1.999E-01	5.779E-01	9.253E-01	8.877E-02	-0.216
		154.21		3.772E-01	3.358E-01	5.785E-01	5.567E-02	0.652
	+	269.46		6.413E-01	3.232E-01	3.157E-01	3.755E-02	2.032
		323.87	*	1.622E-01	6.018E-01	8.659E-01	1.656E-01	0.187

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		6.639E+00	1.870E+00	2.242E+00	3.142E-01	2.961
		445.03		-3.341E-01	1.902E+00	3.094E+00	3.928E-01	-0.108
		79.80		-8.375E-02	1.641E+00	2.013E+00	4.338E-01	-0.042
		236.00		7.459E-02	2.189E-01	3.218E-01	4.485E-02	0.232
		256.20	*	-2.070E-01	3.198E-01	4.901E-01	8.371E-02	-0.422
TH-227		286.10		5.724E-01	1.395E+00	2.275E+00	3.540E-01	0.252
	+	299.80		2.580E+00	1.472E+00	2.222E+00	4.268E-01	1.161
		304.40		9.382E-02	1.681E+00	2.549E+00	5.105E-01	0.037
		334.20		2.095E-01	2.005E+00	3.031E+00	6.241E-01	0.069
		79.80		-8.375E-02	1.641E+00	2.013E+00	4.393E-01	-0.042
TH-229	+	94.00		2.541E+00	2.110E+00	2.920E+00	6.416E-01	0.870
		236.00		7.459E-02	2.189E-01	3.218E-01	4.158E-02	0.232
		256.20	*	-2.070E-01	3.204E-01	4.901E-01	9.584E-02	-0.422
		286.10		5.724E-01	1.507E+00	2.275E+00	2.291E+00	0.252
	+	299.80		2.580E+00	1.472E+00	2.222E+00	4.268E-01	1.161
PA-231		304.40		9.382E-02	1.681E+00	2.549E+00	5.105E-01	0.037
		334.20		2.095E-01	2.005E+00	3.031E+00	6.241E-01	0.069
	+	85.43		2.198E-01	1.713E-01	2.383E-01	2.226E-02	0.923
	+	88.47		3.982E-01	1.127E-01	1.627E-01	1.560E-02	2.448
		100.00		7.927E-02	1.475E-01	2.504E-01	2.191E-02	0.317
TH-231		193.63	*	3.374E-01	4.215E-01	7.132E-01	6.959E-02	0.473
		210.97		9.413E-01	6.691E-01	1.053E+00	1.076E-01	0.894
		283.67	*	2.240E-01	1.314E+00	2.118E+00	3.664E-01	0.106
	+	301.29		1.032E+00	5.746E-01	8.767E-01	1.278E-01	1.177
		81.07		-7.849E-02	2.204E-01	2.636E-01	2.339E-02	-0.298
U-231	+	83.78		1.469E-01	1.144E-01	1.712E-01	1.568E-02	0.858
	+	94.90		3.177E-01	2.560E-01	2.987E-01	2.700E-02	1.064
		122.32		2.170E-01	1.346E+00	2.270E+00	2.032E-01	0.096
		144.24		-1.999E-01	5.779E-01	9.253E-01	8.877E-02	-0.216
		154.21		3.772E-01	3.358E-01	5.785E-01	5.567E-02	0.652
PA-233	+	269.46		6.413E-01	3.232E-01	3.157E-01	3.755E-02	2.032
		323.87	*	1.622E-01	6.018E-01	8.659E-01	1.656E-01	0.187
	+	338.28		6.639E+00	1.870E+00	2.242E+00	3.142E-01	2.961
		445.03		-3.341E-01	1.902E+00	3.094E+00	3.928E-01	-0.108
	+	84.21		7.387E+00	5.756E+00	8.467E+00	7.794E-01	0.872
PA-234	+	92.29		6.135E+00	2.414E+00	3.866E+00	3.570E-01	1.587
		95.87	*	-9.620E-01	1.057E+00	1.510E+00	1.355E-01	-0.637
		108.00		-2.024E+00	1.956E+00	3.146E+00	2.665E-01	-0.643
	+	75.28		1.592E+01	3.714E+00	5.424E+00	8.238E-01	2.934
	+	86.59		5.709E+00	2.172E+00	2.470E+00	6.694E-01	2.312
PA-234	+	300.12		7.194E-01	4.050E-01	6.244E-01	1.053E-01	1.152
		311.98	*	2.400E-02	5.260E-02	8.600E-02	1.005E-02	0.279
		340.50		-7.018E-02	5.470E-01	8.101E-01	2.004E-01	-0.087
		398.62		5.034E-01	1.792E+00	3.050E+00	8.188E-01	0.165
		415.76		4.821E-01	1.413E+00	2.409E+00	5.265E-01	0.200
PA-234	+	63.00		1.377E+00	1.880E+00	2.237E+00	3.322E-01	0.616
	+	94.67		2.266E-01	1.838E-01	2.209E-01	2.808E-02	1.026
		98.44		5.023E-02	7.717E-02	1.231E-01	6.869E-02	0.408
		99.86		2.431E-01	3.736E-01	6.370E-01	5.578E-02	0.382

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-8.712E-02	1.477E-01	2.420E-01	2.889E-02	-0.360
		131.20		-1.094E-01	8.720E-02	1.370E-01	1.146E-02	-0.799
		152.70		1.432E-01	2.688E-01	4.534E-01	7.758E-02	0.316
	+	186.00		5.783E+00	2.535E+00	2.363E+00	7.440E-01	2.447
		226.40		-9.459E-02	3.190E-01	5.074E-01	7.406E-02	-0.186
		227.20		-5.422E-02	3.461E-01	5.554E-01	5.916E-02	-0.098
		248.90		-2.596E-01	6.545E-01	1.023E+00	2.407E-01	-0.254
	+	293.70		5.974E+00	1.510E+00	1.523E+00	2.908E-01	3.922
		369.80		-7.328E-02	6.739E-01	1.128E+00	2.522E-01	-0.065
		568.70		2.066E-01	8.090E-01	1.352E+00	1.269E-01	0.153
		569.50		-1.650E-02	2.258E-01	3.672E-01	3.447E-02	-0.045
		574.00		2.704E-01	1.213E+00	2.020E+00	1.893E-01	0.134
		699.00		-4.985E-01	5.935E-01	8.639E-01	1.664E-01	-0.577
		706.10		5.589E-01	9.341E-01	1.528E+00	6.827E-01	0.366
		733.00		-2.348E-02	3.307E-01	4.849E-01	1.086E-01	-0.048
		742.81		-4.162E-01	1.175E+00	1.759E+00	1.184E+00	-0.237
		796.30		1.622E+00	9.945E-01	1.560E+00	4.257E-01	1.040
		805.60		-1.125E+00	8.926E-01	1.207E+00	3.724E-01	-0.932
		819.60		5.079E-02	1.002E+00	1.692E+00	6.465E-01	0.030
		826.30		-2.368E-01	6.768E-01	1.086E+00	4.873E-01	-0.218
		831.60		1.700E-01	5.371E-01	9.218E-01	2.772E-01	0.184
		876.40		9.889E-02	6.376E-01	1.070E+00	1.101E+00	0.092
		880.51		-1.241E-02	2.067E-01	3.434E-01	3.244E-02	-0.036
		883.24		-1.756E-01	2.438E-01	3.234E-01	2.178E-01	-0.543
		899.00		2.936E-01	6.867E-01	1.173E+00	5.150E-01	0.250
		925.00		-1.600E-01	9.828E-01	1.610E+00	1.513E-01	-0.099
		926.50		-1.336E-01	1.517E-01	2.150E-01	5.493E-02	-0.622
		946.00	*	5.750E-02	2.396E-01	4.077E-01	7.789E-02	0.141
		949.00		1.446E-01	3.675E-01	6.339E-01	5.913E-02	0.228
		980.50		-3.008E-01	5.838E-01	9.119E-01	8.404E-02	-0.330
		1394.10		-5.841E-01	9.674E-01	1.258E+00	8.185E-01	-0.464
PA-234M		766.42		7.503E+00	1.330E+01	1.890E+01	9.608E+00	0.397
		1001.03	*	3.351E+00	4.189E+00	7.391E+00	7.695E-01	0.453
U-235	+	89.95		2.512E+00	1.270E+00	1.518E+00	4.722E-01	1.654
	+	93.35		7.906E-01	6.712E-01	1.043E+00	2.941E-01	0.758
		105.00		1.208E+00	9.236E-01	1.513E+00	4.512E-01	0.799
		143.76	*	1.181E-02	1.781E-01	2.904E-01	5.075E-02	0.041
		163.35		-7.178E-02	3.934E-01	6.294E-01	1.212E-01	-0.114
	+	185.71		2.142E-01	6.844E-02	8.797E-02	8.403E-03	2.435
		205.31		2.840E-02	4.705E-01	6.796E-01	1.344E-01	0.042
NP-236	+	94.67		1.719E-01	1.385E-01	1.677E-01	1.519E-02	1.025
		98.44		3.792E-02	5.445E-02	9.302E-02	8.212E-03	0.408
		111.00		-6.590E-02	1.116E-01	1.831E-01	1.539E-02	-0.360
		160.31	*	4.373E-02	6.437E-02	1.094E-01	9.763E-03	0.400
NP-239		99.55		8.824E-02	1.236E-01	2.112E-01	1.853E-02	0.418
		117.00	*	6.099E-03	1.463E-01	2.459E-01	2.047E-02	0.025
	+	209.75		1.886E+00	8.900E-01	1.229E+00	1.252E-01	1.535
		228.18		-1.845E-02	1.796E-01	2.889E-01	3.086E-02	-0.064
		277.60		1.950E-01	1.583E-01	2.680E-01	3.208E-02	0.728

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241		334.30		1.387E-01	1.137E+00	1.722E+00	1.897E-01	0.081
		59.54	*	6.361E-02	1.375E-01	2.026E-01	1.589E-02	0.314
CM-243		99.55		9.080E-02	1.272E-01	2.174E-01	1.907E-02	0.418
		103.76	*	-1.919E-02	7.798E-02	1.303E-01	1.120E-02	-0.147
		117.00		6.275E-03	1.505E-01	2.530E-01	2.107E-02	0.025
	+	209.75		1.859E+00	8.774E-01	1.211E+00	1.234E-01	1.535
		228.18		-1.864E-02	1.815E-01	2.920E-01	3.118E-02	-0.064
		277.60		1.966E-01	1.596E-01	2.702E-01	3.234E-02	0.728
AM-246		798.80		-1.101E-01	1.363E-01	1.791E-01	1.670E-02	-0.615
		1036.00		-3.275E-02	2.492E-01	4.054E-01	3.635E-02	-0.081
		1062.04		8.500E-02	1.895E-01	3.263E-01	2.880E-02	0.260
		1078.86	*	7.207E-02	1.284E-01	2.222E-01	1.939E-02	0.324
CM-247		278.00		6.250E-01	6.553E-01	1.098E+00	1.315E-01	0.569
		287.40		7.622E-01	1.146E+00	1.892E+00	2.252E-01	0.403
		402.60	*	-9.607E-03	3.198E-02	5.258E-02	4.889E-03	-0.183
		252.85		-1.666E-01	7.268E-01	1.152E+00	1.306E-01	-0.145
CF-249		333.44		6.758E-02	1.500E-01	2.327E-01	2.568E-02	0.290
		387.95	*	4.252E-02	3.328E-02	5.986E-02	5.616E-03	0.710
CF-251		176.60	*	5.763E-03	1.047E-01	1.725E-01	1.608E-02	0.033
		227.00		-7.963E-02	3.059E-01	4.877E-01	5.193E-02	-0.163
		285.00		-4.779E-01	1.597E+00	2.500E+00	2.984E-01	-0.191

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]G243630009      *
* Acquisition date   : 7-JAN-2010 13:24:31 Detector SN#                   *
* Detector ID        : GAM16 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 02:00:01.84 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243630009 Analyst initials: MXR1                  *
* Batch Number      : 937702 Sample Quantity : 1.3643E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME : 16-NOV-2009 11:22:16 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	2.056E+01	2.223E+00	3.755E-01	0.000E+00
CD-109	2.971E+00	8.245E-01	1.010E+00	0.000E+00
SN-126	2.916E-01	8.092E-02	9.959E-02	0.000E+00
TL-208	4.807E-01	8.559E-02	4.713E-02	0.000E+00
BI-211	3.907E+00	5.568E-01	2.744E-01	0.000E+00
PB-212	1.631E+00	2.136E-01	7.772E-02	0.000E+00
PO-212	1.631E+00	2.136E-01	7.772E-02	0.000E+00
BI-214	1.127E+00	1.838E-01	8.577E-02	0.000E+00
PB-214	1.359E+00	2.058E-01	9.174E-02	0.000E+00
PO-214	1.359E+00	2.058E-01	9.174E-02	0.000E+00
PO-216	1.631E+00	2.136E-01	7.772E-02	0.000E+00
PO-218	1.359E+00	2.058E-01	9.174E-02	0.000E+00
RA-224	4.256E+00	1.080E+00	8.845E-01	0.000E+00
RA-226	1.127E+00	1.838E-01	8.577E-02	0.000E+00
AC-228	1.631E+00	3.016E-01	1.795E-01	0.000E+00
RA-228	1.631E+00	3.016E-01	1.795E-01	0.000E+00
TH-228	1.658E+00	2.170E-01	7.898E-02	0.000E+00
TH-230	1.127E+00	1.838E-01	8.577E-02	0.000E+00
TH-232	1.631E+00	3.016E-01	1.795E-01	0.000E+00
TH-234	1.181E+00	1.584E+00	1.740E+00	0.000E+00
U-234	1.127E+00	1.838E-01	8.577E-02	0.000E+00
NP-237	8.564E-01	2.940E-01	2.957E-01	0.000E+00
U-238	1.181E+00	1.584E+00	1.740E+00	0.000E+00
AM-243	3.038E-01	5.831E-02	7.159E-02	0.000E+00
ANH-511	1.933E-01	6.157E-02	3.725E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.657E-01	2.537E-01	4.160E-01	0.000E+00 NOT IDENT.
NA-22	2.139E-02	3.658E-02	6.472E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	1.656E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.840E-02	2.886E-02	5.348E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.973E-02	6.232E-02	0.000E+00	FAIL ABUN
SC-46	-1.538E-03	2.902E-02	4.981E-02	0.000E+00	FAIL ABUN
V-48	1.069E-02	5.811E-02	1.012E-01	0.000E+00	NOT IDENT.
CR-51	-2.253E-01	3.213E-01	5.074E-01	0.000E+00	NOT IDENT.
MN-52	-6.926E-02	1.918E-01	2.934E-01	0.000E+00	NOT IDENT.
MN-54	2.039E-02	3.063E-02	5.596E-02	0.000E+00	NOT IDENT.
CO-56	-1.132E-02	3.099E-02	5.185E-02	0.000E+00	FAIL ABUN
CO-57	4.020E-03	1.924E-02	3.485E-02	0.000E+00	NOT IDENT.
CO-58	2.197E-02	3.393E-02	6.038E-02	0.000E+00	NOT IDENT.
FE-59	2.296E-03	7.916E-02	1.341E-01	0.000E+00	NOT IDENT.
CO-60	3.703E-02	2.917E-02	5.652E-02	0.000E+00	NOT IDENT.
ZN-65	2.698E-02	8.449E-02	1.288E-01	0.000E+00	NOT IDENT.
GE-68	9.282E-01	1.080E+00	1.972E+00	0.000E+00	NOT IDENT.
AS-73	-6.475E-01	6.930E-01	1.120E+00	0.000E+00	NOT IDENT.
AS-74	9.250E-03	7.004E-02	1.203E-01	0.000E+00	NOT IDENT.
SE-75	-1.298E-02	4.082E-02	5.992E-02	0.000E+00	NOT IDENT.
BR-77	9.974E-01	1.093E+01	1.892E+01	0.000E+00	FAIL ABUN
SR-82	-1.638E-01	2.956E-01	4.572E-01	0.000E+00	NOT IDENT.
RB-83	5.057E-03	5.532E-02	9.578E-02	0.000E+00	NOT IDENT.
RB-84	3.109E-03	5.158E-02	8.966E-02	0.000E+00	NOT IDENT.
KR-85	6.496E+00	6.033E+00	1.008E+01	0.000E+00	NOT IDENT.
SR-85	3.364E-02	3.124E-02	5.219E-02	0.000E+00	NOT IDENT.
RB-86	-4.785E-02	7.049E-01	1.185E+00	0.000E+00	NOT IDENT.
Y-88	-5.129E-03	2.995E-02	4.847E-02	0.000E+00	NOT IDENT.
ZR-88	-2.687E-03	2.411E-02	4.216E-02	0.000E+00	NOT IDENT.
Y-91	-2.860E+00	1.576E+01	2.589E+01	0.000E+00	NOT IDENT.
NB-94	7.343E-03	2.835E-02	4.841E-02	0.000E+00	NOT IDENT.
NB-95	1.739E-02	4.546E-02	6.843E-02	0.000E+00	NOT IDENT.
NB-95M	1.483E-02	1.127E-01	1.733E-01	0.000E+00	NOT IDENT.
ZR-95	-1.324E-02	6.006E-02	9.392E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.212E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.201E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.886E+00	1.143E+01	1.808E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.089E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.259E-02	2.684E-02	4.436E-02	0.000E+00	NOT IDENT.
RH-102	-9.060E-05	2.110E-02	3.655E-02	0.000E+00	NOT IDENT.
RU-103	1.468E-02	3.005E-02	5.385E-02	0.000E+00	FAIL ABUN
RH-106	-5.917E-03	2.514E-01	4.241E-01	0.000E+00	NOT IDENT.
RU-106	-5.917E-03	2.514E-01	4.241E-01	0.000E+00	NOT IDENT.
AG-108M	1.574E-03	2.509E-02	4.404E-02	0.000E+00	NOT IDENT.
AG-110M	-2.981E-02	3.062E-02	4.685E-02	0.000E+00	NOT IDENT.
IN-111	7.515E-01	1.134E+00	1.809E+00	0.000E+00	NOT IDENT.
IN-113M	-2.827E-02	3.597E-02	5.999E-02	0.000E+00	NOT IDENT.
SN-113	-2.827E-02	3.597E-02	5.999E-02	0.000E+00	NOT IDENT.
IN-114M	-1.474E-02	1.649E-01	2.548E-01	0.000E+00	NOT IDENT.
CD-115	-1.213E+00	1.166E+01	1.984E+01	0.000E+00	NOT IDENT.
SN-117M	7.668E-03	4.545E-02	8.075E-02	0.000E+00	NOT IDENT.
SB-122	-1.757E-01	2.128E+00	3.606E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.507E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.439E-03	2.270E-02	3.974E-02	0.000E+00	NOT IDENT.
I-124	-1.319E-01	6.906E-01	1.001E+00	0.000E+00	FAIL ABUN
SB-124	4.877E-03	4.600E-02	7.976E-02	0.000E+00	FAIL ABUN
SB-125	3.406E-02	7.450E-02	1.341E-01	0.000E+00	FAIL ABUN
TE-125M	8.346E+00	7.334E+00	1.376E+01	0.000E+00	NOT IDENT.
I-126	1.682E-01	1.699E-01	3.066E-01	0.000E+00	NOT IDENT.
SB-126	8.845E-02	1.343E-01	2.293E-01	0.000E+00	NOT IDENT.
SB-127	4.200E-01	1.352E+00	2.326E+00	0.000E+00	NOT IDENT.
XE-127	1.259E-03	3.796E-02	6.583E-02	0.000E+00	NOT IDENT.
I-131	-1.769E-02	9.507E-02	1.665E-01	0.000E+00	NOT IDENT.
TE-132	-6.823E-02	6.575E-01	1.121E+00	0.000E+00	NOT IDENT.
BA-133	6.076E-03	3.786E-02	6.016E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.078E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.068E-02	8.288E-02	0.000E+00	FAIL ABUN
CS-135	2.281E-01	1.347E-01	2.441E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.481E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.960E-02	8.965E-02	1.322E-01	0.000E+00	FAIL ABUN
BA-137M	1.648E-02	3.208E-02	5.606E-02	0.000E+00	NOT IDENT.
CS-137	1.742E-02	3.392E-02	5.926E-02	0.000E+00	NOT IDENT.
CE-139	1.062E-02	2.376E-02	4.258E-02	0.000E+00	NOT IDENT.
BA-140	4.008E-02	2.259E-01	3.919E-01	0.000E+00	NOT IDENT.
LA-140	-1.300E-02	7.629E-02	1.264E-01	0.000E+00	FAIL ABUN
CE-141	-5.201E-02	5.317E-02	8.808E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.226E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.313E-01	1.582E-01	2.697E-01	0.000E+00	NOT IDENT.
PM-144	2.069E-03	2.911E-02	4.897E-02	0.000E+00	NOT IDENT.
PR-144	1.403E-01	1.974E+00	3.320E+00	0.000E+00	NOT IDENT.

PM-146	-1.443E-02	3.591E-02	6.065E-02	0.000E+00	NOT IDENT.
ND-147	2.039E-02	4.859E-01	8.363E-01	0.000E+00	FAIL ABUN
PM-149	-5.080E+01	1.136E+02	1.857E+02	0.000E+00	NOT IDENT.
EU-152	5.968E-02	7.896E-02	1.421E-01	0.000E+00	FAIL ABUN
GD-153	-8.289E-02	6.711E-02	1.010E-01	0.000E+00	FAIL ABUN
EU-154	5.298E-02	1.028E-01	1.805E-01	0.000E+00	NOT IDENT.
EU-155	9.636E-02	8.715E-02	1.638E-01	0.000E+00	FAIL ABUN
TB-160	-4.388E-03	1.040E-01	1.789E-01	0.000E+00	FAIL ABUN
HO-166M	-2.660E-02	4.560E-02	7.123E-02	0.000E+00	FAIL ABUN
TM-171	1.455E+01	2.378E+01	3.791E+01	0.000E+00	NOT IDENT.
LU-176	-2.066E-03	2.002E-02	3.326E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.355E+00	1.958E+00	0.000E+00	FAIL ABUN
LU-177M	-3.849E-02	1.538E-01	2.656E-01	0.000E+00	FAIL ABUN
HF-181	2.694E-02	3.351E-02	6.135E-02	0.000E+00	NOT IDENT.
W-181	-1.265E-01	3.208E-01	4.838E-01	0.000E+00	NOT IDENT.
TA-182	-1.117E-02	1.599E-01	2.653E-01	0.000E+00	NOT IDENT.
RE-183	-6.928E-02	9.242E-02	1.535E-01	0.000E+00	FAIL ABUN
RE-184	-4.456E-02	1.906E-01	3.195E-01	0.000E+00	NOT IDENT.
OS-185	-9.667E-03	3.712E-02	6.107E-02	0.000E+00	NOT IDENT.
RE-188	7.819E-02	1.416E-01	2.557E-01	0.000E+00	NOT IDENT.
W-188	-1.061E+01	7.721E+00	1.011E+01	0.000E+00	FAIL ABUN
IR-192	3.351E-02	2.753E-02	4.947E-02	0.000E+00	FAIL ABUN
AU-195	2.059E-01	1.772E-01	3.301E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.251E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-8.017E-01	6.832E+00	1.193E+01	0.000E+00	NOT IDENT.
TL-202	2.108E-02	6.047E-02	1.079E-01	0.000E+00	NOT IDENT.
HG-203	-2.355E-02	3.487E-02	5.621E-02	0.000E+00	FAIL ABUN
BI-207	-1.390E-02	4.330E-02	7.094E-02	0.000E+00	FAIL ABUN
TL-207	1.622E-01	5.898E-01	8.936E-01	0.000E+00	FAIL ABUN
PO-209	-2.845E+00	5.562E+00	9.063E+00	0.000E+00	NOT IDENT.
BI-210	2.930E+00	3.005E+00	5.394E+00	0.000E+00	NOT IDENT.
PB-210	2.930E+00	3.005E+00	5.394E+00	0.000E+00	NOT IDENT.
PO-210	2.930E+00	3.003E+00	5.394E+00	0.000E+00	NOT IDENT.
PB-211	-2.716E-01	8.131E-01	1.370E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.200E-01	6.490E-01	0.000E+00	FAIL ABUN
PO-215	1.622E-01	5.898E-01	8.936E-01	0.000E+00	FAIL ABUN
RN-219	-4.678E-02	3.477E-01	6.063E-01	0.000E+00	FAIL ABUN
RN-220	4.362E+00	2.019E+01	3.516E+01	0.000E+00	NOT IDENT.
RA-223	1.622E-01	5.898E-01	8.936E-01	0.000E+00	FAIL ABUN
AC-227	-2.070E-01	3.134E-01	5.080E-01	0.000E+00	FAIL ABUN
TH-227	-2.070E-01	3.140E-01	5.080E-01	0.000E+00	FAIL ABUN
TH-229	3.374E-01	4.131E-01	7.430E-01	0.000E+00	FAIL ABUN
PA-231	2.240E-01	1.287E+00	2.191E+00	0.000E+00	FAIL ABUN
TH-231	1.622E-01	5.898E-01	8.936E-01	0.000E+00	FAIL ABUN
U-231	-9.620E-01	1.036E+00	1.593E+00	0.000E+00	FAIL ABUN
PA-233	2.400E-02	5.155E-02	8.881E-02	0.000E+00	FAIL ABUN
PA-234	5.750E-02	2.348E-01	4.123E-01	0.000E+00	FAIL ABUN
PA-234M	3.351E+00	4.106E+00	7.466E+00	0.000E+00	NOT IDENT.
U-235	1.181E-02	1.745E-01	3.041E-01	0.000E+00	FAIL ABUN
NP-236	4.373E-02	6.308E-02	1.144E-01	0.000E+00	FAIL ABUN
NP-239	6.099E-03	1.433E-01	2.585E-01	0.000E+00	FAIL ABUN
AM-241	6.361E-02	1.347E-01	2.155E-01	0.000E+00	NOT IDENT.
CM-243	-1.919E-02	7.642E-02	1.373E-01	0.000E+00	FAIL ABUN
AM-246	7.207E-02	1.258E-01	2.241E-01	0.000E+00	NOT IDENT.
CM-247	-9.607E-03	3.134E-02	5.404E-02	0.000E+00	NOT IDENT.
CF-249	4.252E-02	3.262E-02	6.157E-02	0.000E+00	NOT IDENT.
CF-251	5.763E-03	1.026E-01	1.800E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630009.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:24:31.
Sample ID          : G243630009          Sample quantity  : 1.36430E+02 GRAM
Detector name      : GAM16               Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00       Elapsed real time: 0 02:00:01.84 0.0%
Energy tolerance   : 1.50000 keV         Analyst Initials : MXR1
Abundance limit    : 75.00000            Sensitivity       : 5.00000
Batch ID           : 937702              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	964	10.67*	1.209E+00	2.056E+01	2.056E+01	11.03
CD-109	88.03	245	3.72*	6.257E+00	2.901E+00	2.971E+00	28.32
SN-126	64.28	57	9.60	3.491E+00	4.675E-01	4.675E-01	136.52
	86.94	245	8.90	6.257E+00	1.212E+00	1.212E+00	49.38
	87.57	245	37.00*	6.257E+00	2.916E-01	2.916E-01	28.32
TL-208	277.35	-----	6.80	4.695E+00	-----	Line Not Found	-----
	510.84	208	21.60	2.967E+00	8.950E-01	8.950E-01	33.55
	583.14	393	84.20*	2.669E+00	4.807E-01	4.807E-01	18.17
	860.37	29	12.46	1.920E+00	3.352E-01	3.352E-01	85.50
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	724	12.94*	3.942E+00	3.907E+00	3.907E+00	14.54
PB-212	74.81	372	10.70	5.103E+00	1.874E+00	1.874E+00	21.70
	77.11	638	18.00	5.357E+00	1.821E+00	1.821E+00	15.10
	87.30	245	8.00	6.257E+00	1.349E+00	1.349E+00	30.03
	238.63	1383	44.60*	5.228E+00	1.631E+00	1.631E+00	13.36
	300.09	77	3.41	4.435E+00	1.392E+00	1.392E+00	55.30
PO-212	74.81	372	10.70	5.103E+00	1.874E+00	1.874E+00	21.70
	77.11	638	18.00	5.357E+00	1.821E+00	1.821E+00	15.10
	87.30	245	8.00	6.257E+00	1.349E+00	1.349E+00	30.03
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	1383	44.60*	5.228E+00	1.631E+00	1.631E+00	13.36
	300.09	77	3.41	4.435E+00	1.392E+00	1.392E+00	55.30
BI-214	609.31	489	46.30*	2.576E+00	1.127E+00	1.127E+00	16.64
	1120.29	98	15.10	1.517E+00	1.172E+00	1.172E+00	41.76
	1764.49	76	15.80	1.056E+00	1.247E+00	1.247E+00	31.78
PB-214	74.81	372	6.21	5.103E+00	3.229E+00	3.229E+00	20.94
	77.11	638	10.50	5.357E+00	3.123E+00	3.123E+00	16.91
	87.30	245	4.67	6.257E+00	2.311E+00	2.311E+00	29.35
	241.98	317	7.49	5.183E+00	2.245E+00	2.245E+00	26.49
	295.21	390	19.20	4.490E+00	1.245E+00	1.245E+00	21.28
	351.92	724	37.20*	3.942E+00	1.359E+00	1.359E+00	15.45
PO-214	74.81	372	6.21	5.103E+00	3.229E+00	3.229E+00	20.94

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	638	10.50	5.357E+00	3.123E+00	3.123E+00	16.91
	87.30	245	4.67	6.257E+00	2.311E+00	2.311E+00	29.35
	241.98	317	7.49	5.183E+00	2.245E+00	2.245E+00	26.49
	295.21	390	19.20	4.490E+00	1.245E+00	1.245E+00	21.28
	351.92	724	37.20*	3.942E+00	1.359E+00	1.359E+00	15.45
	74.81	372	10.70	5.103E+00	1.874E+00	1.874E+00	21.70
	77.11	638	18.00	5.357E+00	1.821E+00	1.821E+00	15.10
	87.30	245	8.00	6.257E+00	1.349E+00	1.349E+00	30.03
	238.63	1383	44.60*	5.228E+00	1.631E+00	1.631E+00	13.36
	300.09	77	3.41	4.435E+00	1.392E+00	1.392E+00	55.30
PO-218	74.81	372	6.21	5.103E+00	3.229E+00	3.229E+00	20.94
	77.11	638	10.50	5.357E+00	3.123E+00	3.123E+00	16.91
	87.30	245	4.67	6.257E+00	2.311E+00	2.311E+00	29.35
	241.98	317	7.49	5.183E+00	2.245E+00	2.245E+00	26.49
	295.21	390	19.20	4.490E+00	1.245E+00	1.245E+00	21.28
	351.92	724	37.20*	3.942E+00	1.359E+00	1.359E+00	15.45
RA-224	240.98	317	3.95*	5.183E+00	4.256E+00	4.256E+00	25.89
RA-226	609.31	489	46.30*	2.576E+00	1.127E+00	1.127E+00	16.64
	1120.29	98	15.10	1.517E+00	1.172E+00	1.172E+00	41.76
AC-228	1764.49	76	15.80	1.056E+00	1.247E+00	1.247E+00	31.78
	338.32	267	11.40	4.061E+00	1.590E+00	1.590E+00	48.42
	911.07	300	27.70*	1.825E+00	1.631E+00	1.631E+00	18.87
	969.11	158	16.60	1.728E+00	1.519E+00	1.519E+00	31.70
	338.32	267	11.40	4.061E+00	1.590E+00	1.590E+00	48.42
RA-228	911.07	300	27.70*	1.825E+00	1.631E+00	1.631E+00	18.87
	969.11	158	16.60	1.728E+00	1.519E+00	1.519E+00	31.70
	74.81	372	10.70	5.103E+00	1.874E+00	1.904E+00	19.61
TH-228	77.11	638	18.00	5.357E+00	1.821E+00	1.851E+00	15.10
	87.30	245	8.00	6.257E+00	1.349E+00	1.371E+00	28.32
	238.63	1383	44.60*	5.228E+00	1.631E+00	1.658E+00	13.36
	300.09	77	3.41	4.435E+00	1.392E+00	1.415E+00	80.40
TH-230	609.31	489	46.30*	2.576E+00	1.127E+00	1.127E+00	16.64
	1120.29	98	15.10	1.517E+00	1.172E+00	1.172E+00	41.76
	1764.49	76	15.80	1.056E+00	1.247E+00	1.247E+00	31.78
	338.32	267	11.40	4.061E+00	1.590E+00	1.590E+00	26.77
TH-232	911.07	300	27.70*	1.825E+00	1.631E+00	1.631E+00	18.87
	969.11	158	16.60	1.728E+00	1.519E+00	1.519E+00	31.70
	63.29	57	3.80*	3.491E+00	1.181E+00	1.181E+00	136.86
TH-234	92.38	178	5.41	6.585E+00	1.376E+00	1.376E+00	42.44
	609.31	489	46.30*	2.576E+00	1.127E+00	1.127E+00	16.64
U-234	1120.29	98	15.10	1.517E+00	1.172E+00	1.172E+00	41.76
	1764.49	76	15.80	1.056E+00	1.247E+00	1.247E+00	31.78
	86.50	245	12.60*	6.257E+00	8.564E-01	8.564E-01	35.04
NP-237	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
U-238	63.29	57	3.80*	3.491E+00	1.181E+00	1.181E+00	136.86
	92.38	178	5.41	6.585E+00	1.376E+00	1.376E+00	39.35
AM-243	74.67	372	66.00*	5.103E+00	3.038E-01	3.038E-01	19.58
	86.72	245	0.34	6.257E+00	3.211E+01	3.211E+01	28.32
	117.66	-----	0.55	7.175E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	6.968E+00	-----	Line Not Found	-----
ANH-511	511.00	208	100.00*	2.967E+00	1.933E-01	1.933E-01	32.50

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 3
Number of lines tentatively identified by NID 33 91.67%

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	2.056E+01	2.056E+01	0.227E+01	11.03	
CD-109	464.00D	1.02	2.901E+00	2.971E+00	0.841E+00	28.32	
SN-126	1.00E+05Y	1.00	2.916E-01	2.916E-01	0.826E-01	28.32	
TL-208	1.41E+10Y	1.00	4.807E-01	4.807E-01	0.873E-01	18.17	
BI-211	7.04E+08Y	1.00	3.907E+00	3.907E+00	0.568E+00	14.54	
PB-212	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.218E+00	13.36	
PO-212	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.218E+00	13.36	
BI-214	1600.00Y	1.00	1.127E+00	1.127E+00	0.188E+00	16.64	
PB-214	1600.00Y	1.00	1.359E+00	1.359E+00	0.210E+00	15.45	
PO-214	1600.00Y	1.00	1.359E+00	1.359E+00	0.210E+00	15.45	
PO-216	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.218E+00	13.36	
PO-218	1600.00Y	1.00	1.359E+00	1.359E+00	0.210E+00	15.45	
RA-224	1.41E+10Y	1.00	4.256E+00	4.256E+00	1.102E+00	25.89	
RA-226	1600.00Y	1.00	1.127E+00	1.127E+00	0.188E+00	16.64	
AC-228	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.308E+00	18.87	
RA-228	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.308E+00	18.87	
TH-228	1.91Y	1.02	1.631E+00	1.658E+00	0.221E+00	13.36	
TH-230	4.47E+09Y	1.00	1.127E+00	1.127E+00	0.188E+00	16.64	
TH-232	1.41E+10Y	1.00	1.631E+00	1.631E+00	0.308E+00	18.87	
TH-234	4.47E+09Y	1.00	1.181E+00	1.181E+00	1.616E+00	136.86	
U-234	4.47E+09Y	1.00	1.127E+00	1.127E+00	0.188E+00	16.64	
NP-237	2.14E+06Y	1.00	8.564E-01	8.564E-01	3.000E-01	35.04	
U-238	4.47E+09Y	1.00	1.181E+00	1.181E+00	1.616E+00	136.86	
AM-243	7380.00Y	1.00	3.038E-01	3.038E-01	0.595E-01	19.58	
ANH-511	1.00E+09Y	1.00	1.933E-01	1.933E-01	0.628E-01	32.50	
Total Activity :			5.612E+01	5.621E+01			

Grand Total Activity : 5.612E+01 5.621E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	84.09	79	369	1.04	168.36	164	27	1.10E-02	77.4	6.02E+00	T
2	89.89	159	327	1.06	179.96	164	27	2.20E-02	39.9	6.43E+00	T
2	93.72	86	299	1.07	187.63	164	27	1.19E-02	80.1	6.64E+00	T
0	185.66	258	336	1.24	371.51	367	10	3.59E-02	30.5	6.15E+00	T
0	209.14	127	243	1.00	418.47	415	8	1.76E-02	46.1	5.71E+00	T
0	269.95	152	273	1.65	540.09	533	14	2.11E-02	49.0	4.79E+00	T
0	327.69	49	195	1.51	655.56	648	12	6.80E-03	****	4.15E+00	T
0	462.72	50	122	0.94	925.61	920	11	6.95E-03	90.4	3.20E+00	T
0	727.06	115	69	1.06	1454.21	1449	11	1.60E-02	33.9	2.22E+00	T
0	768.60	19	73	0.98	1537.27	1533	8	2.67E-03	****	2.12E+00	
0	794.71	48	50	0.84	1589.48	1585	9	6.69E-03	60.1	2.06E+00	T
0	933.59	30	51	2.24	1867.16	1863	13	4.18E-03	****	1.79E+00	
1	964.15	52	32	1.76	1928.27	1924	21	7.22E-03	46.7	1.73E+00	T
0	1237.19	66	78	1.73	2474.18	2467	17	9.17E-03	65.6	1.39E+00	T
0	1377.36	31	26	1.23	2754.40	2747	14	4.33E-03	79.9	1.27E+00	T
0	1728.53	26	3	1.08	3456.38	3449	13	3.55E-03	49.2	1.07E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630009.CNF;1
* Acquisition date   : 7-JAN-2010 13:24:31.  Detector SN#      :
* Detector ID        : GAM16                      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 02:00:01.84             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630009           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.36430E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16.1MS 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	2.056E+01	2.269E+00	3.745E-01	3.292E-02	54.904
CD-109	2.971E+00	8.413E-01	9.558E-01	9.210E-02	3.109
SN-126	2.916E-01	8.258E-02	9.424E-02	9.036E-03	3.095
TL-208	4.807E-01	8.734E-02	4.618E-02	4.577E-03	10.411
BI-211	3.907E+00	5.682E-01	2.663E-01	2.912E-02	14.669
PB-212	1.631E+00	2.180E-01	7.489E-02	8.867E-03	21.782
PO-212	1.631E+00	2.180E-01	7.489E-02	8.867E-03	21.782
BI-214	1.127E+00	1.876E-01	8.411E-02	8.893E-03	13.400
PB-214	1.359E+00	2.100E-01	8.903E-02	1.077E-02	15.264
PO-214	1.359E+00	2.100E-01	8.903E-02	1.077E-02	15.264
PO-216	1.631E+00	2.180E-01	7.489E-02	8.867E-03	21.782
PO-218	1.359E+00	2.100E-01	8.903E-02	1.077E-02	15.264
RA-224	4.256E+00	1.102E+00	8.524E-01	9.394E-02	4.993
RA-226	1.127E+00	1.876E-01	8.411E-02	8.893E-03	13.400
AC-228	1.631E+00	3.077E-01	1.774E-01	2.107E-02	9.194
RA-228	1.631E+00	3.077E-01	1.774E-01	2.107E-02	9.194
TH-228	1.658E+00	2.215E-01	7.610E-02	9.010E-03	21.782
TH-230	1.127E+00	1.876E-01	8.411E-02	8.892E-03	13.400

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.631E+00	3.077E-01	1.774E-01	2.107E-02	9.194
TH-234	1.181E+00	1.616E+00	1.637E+00	2.856E-01	0.721
U-234	1.127E+00	1.876E-01	8.411E-02	8.892E-03	13.400
NP-237	8.564E-01	3.000E-01	2.798E-01	6.352E-02	3.061
U-238	1.181E+00	1.616E+00	1.637E+00	2.856E-01	0.721
AM-243	3.038E-01	5.950E-02	6.755E-02	5.592E-03	4.498
ANH-511	1.933E-01	6.283E-02	3.641E-02	3.463E-03	5.309

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.657E-01		2.589E-01	4.061E-01	4.108E-02	-0.408
NA-22	2.139E-02		3.733E-02	6.438E-02	5.357E-03	0.332
NA-24	1.513E+00		8.447E-01	Half-Life too short		
AL-26	1.840E-02		2.944E-02	5.356E-02	4.380E-03	0.344
TI-44	3.361E-01	+	5.075E-02	5.886E-02	5.068E-03	5.711
SC-46	-1.538E-03		2.961E-02	4.920E-02	4.651E-03	-0.031
V-48	1.069E-02		5.929E-02	1.001E-01	9.215E-03	0.107
CR-51	-2.253E-01		3.279E-01	4.916E-01	5.748E-02	-0.458
MN-52	-6.926E-02		1.957E-01	2.925E-01	2.496E-02	-0.237
MN-54	2.039E-02		3.125E-02	5.521E-02	5.185E-03	0.369
CO-56	-1.132E-02		3.162E-02	5.116E-02	4.814E-03	-0.221
CO-57	4.020E-03		1.963E-02	3.317E-02	2.757E-03	0.121
CO-58	2.197E-02		3.462E-02	5.953E-02	5.577E-03	0.369
FE-59	2.296E-03		8.077E-02	1.330E-01	1.237E-02	0.017
CO-60	3.703E-02		2.976E-02	5.626E-02	4.746E-03	0.658
ZN-65	2.698E-02		8.621E-02	1.278E-01	1.085E-02	0.211
GE-68	9.282E-01		1.102E+00	1.955E+00	1.707E-01	0.475
AS-73	-6.475E-01		7.072E-01	1.051E+00	8.017E-02	-0.616
AS-74	9.250E-03		7.147E-02	1.179E-01	1.095E-02	0.078
SE-75	-1.298E-02		4.165E-02	5.784E-02	6.750E-03	-0.224
BR-77	9.974E-01		1.115E+01	1.850E+01	1.758E+00	0.054
SR-82	-1.638E-01		3.017E-01	4.504E-01	4.176E-02	-0.364
RB-83	5.057E-03		5.645E-02	9.364E-02	8.898E-03	0.054
RB-84	3.109E-03		5.263E-02	8.855E-02	8.366E-03	0.035
KR-85	6.496E+00		6.156E+00	9.852E+00	9.368E-01	0.659
SR-85	3.364E-02		3.188E-02	5.102E-02	4.851E-03	0.659
RB-86	-4.785E-02		7.192E-01	1.175E+00	1.027E-01	-0.041
Y-88	-5.129E-03		3.056E-02	4.856E-02	3.943E-03	-0.106
ZR-88	-2.687E-03		2.460E-02	4.100E-02	3.792E-03	-0.066
Y-91	-2.860E+00		1.608E+01	2.573E+01	2.092E+00	-0.111
NB-94	7.343E-03		2.893E-02	4.760E-02	4.303E-03	0.154
NB-95	1.739E-02		4.639E-02	6.739E-02	6.230E-03	0.258
NB-95M	1.483E-02		1.150E-01	1.670E-01	1.986E-02	0.089
ZR-95	-1.324E-02		6.128E-02	9.248E-02	9.283E-03	-0.143
NB-97	-2.528E-01		1.129E-01	Half-Life too short		
ZR-97	1.127E+01		2.143E+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	-4.886E+00		1.167E+01	1.780E+01	2.759E+00	-0.275
TC-99M	-2.609E+11		2.086E+11	Half-Life too short		
RH-101	-1.259E-02		2.739E-02	4.260E-02	4.205E-03	-0.296
RH-102	-9.060E-05		2.153E-02	3.568E-02	3.391E-03	-0.003
RU-103	1.468E-02		3.066E-02	5.260E-02	7.745E-03	0.279
RH-106	-5.917E-03		2.566E-01	4.160E-01	5.700E-02	-0.014
RU-106	-5.917E-03		2.566E-01	4.160E-01	3.804E-02	-0.014
AG-108M	1.574E-03		2.561E-02	4.290E-02	4.177E-03	0.037
AG-110M	-2.981E-02		3.124E-02	4.601E-02	4.211E-03	-0.648
IN-111	7.515E-01		1.157E+00	1.744E+00	1.942E-01	0.431
IN-113M	-2.827E-02		3.670E-02	5.833E-02	5.537E-03	-0.485
SN-113	-2.827E-02		3.670E-02	5.833E-02	5.537E-03	-0.485
IN-114M	-1.474E-02		1.682E-01	2.445E-01	2.365E-02	-0.060
CD-115	-1.213E+00		1.190E+01	1.941E+01	1.842E+00	-0.063
SN-117M	7.668E-03		4.638E-02	7.723E-02	6.859E-03	0.099
SB-122	-1.757E-01		2.171E+00	3.531E+00	3.321E-01	-0.050
I-123	-2.283E+00		7.688E+00	Half-Life too short		
TE-123M	-3.439E-03		2.316E-02	3.801E-02	3.400E-03	-0.090
I-124	-1.319E-01		7.047E-01	9.813E-01	9.076E-02	-0.134
SB-124	4.877E-03		4.694E-02	7.978E-02	6.987E-03	0.061
SB-125	3.406E-02		7.602E-02	1.307E-01	1.248E-02	0.261
TE-125M	8.346E+00		7.484E+00	1.308E+01	1.331E+00	0.638
I-126	1.682E-01		1.734E-01	3.011E-01	2.678E-02	0.559
SB-126	8.845E-02		1.370E-01	2.256E-01	2.054E-02	0.392
SB-127	4.200E-01		1.380E+00	2.286E+00	2.726E-01	0.184
XE-127	1.259E-03		3.874E-02	6.324E-02	6.325E-03	0.020
I-131	-1.769E-02		9.701E-02	1.617E-01	1.711E-02	-0.109
TE-132	-6.823E-02		6.709E-01	1.079E+00	1.845E-01	-0.063
BA-133	6.076E-03		3.864E-02	5.840E-02	8.440E-03	0.104
I-133	-1.012E-02		5.502E-03	Half-Life too short		
CS-134	8.500E-02	+	5.171E-02	8.169E-02	7.659E-03	1.041
CS-135	2.281E-01		1.375E-01	2.358E-01	3.007E-02	0.968
I-135	-1.065E+10		2.286E+10	Half-Life too short		
CS-136	-9.960E-02		9.148E-02	1.310E-01	1.212E-02	-0.761
BA-137M	1.648E-02		3.274E-02	5.506E-02	4.886E-03	0.299
CS-137	1.742E-02		3.461E-02	5.820E-02	5.174E-03	0.299
CE-139	1.062E-02		2.425E-02	4.075E-02	3.696E-03	0.261
BA-140	4.008E-02		2.305E-01	3.834E-01	1.280E-01	0.105
LA-140	-1.300E-02		7.784E-02	1.263E-01	1.075E-02	-0.103
CE-141	-5.201E-02		5.425E-02	8.411E-02	7.357E-03	-0.618
CE-143	9.353E-04		1.646E-04	Half-Life too short		
CE-144	-1.313E-01		1.614E-01	2.572E-01	3.972E-02	-0.510
PM-144	2.069E-03		2.971E-02	4.814E-02	4.342E-03	0.043
PR-144	1.403E-01		2.014E+00	3.264E+00	2.943E-01	0.043
PM-146	-1.443E-02		3.664E-02	5.915E-02	6.755E-03	-0.244
ND-147	2.039E-02		4.958E-01	8.180E-01	1.265E-01	0.025
PM-149	-5.080E+01		1.159E+02	1.795E+02	3.159E+01	-0.283
EU-152	5.968E-02		8.057E-02	1.379E-01	1.541E-02	0.433

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-8.289E-02		6.848E-02	9.576E-02	8.507E-03	-0.866
EU-154	5.298E-02		1.049E-01	1.795E-01	1.988E-02	0.295
EU-155	9.636E-02		8.893E-02	1.555E-01	1.345E-02	0.620
TB-160	-4.388E-03		1.061E-01	1.767E-01	1.669E-02	-0.025
HO-166M	-2.660E-02		4.653E-02	7.005E-02	6.356E-03	-0.380
TM-171	1.455E+01		2.426E+01	3.570E+01	2.735E+00	0.408
LU-176	-2.066E-03		2.043E-02	3.219E-02	3.734E-03	-0.064
LU-177	2.931E+00	+	1.383E+00	1.882E+00	1.910E-01	1.557
LU-177M	-3.849E-02		1.569E-01	2.586E-01	2.417E-02	-0.149
HF-181	2.694E-02		3.419E-02	5.990E-02	5.697E-03	0.450
W-181	-1.265E-01		3.273E-01	4.554E-01	3.439E-02	-0.278
TA-182	-1.117E-02		1.631E-01	2.636E-01	2.156E-02	-0.042
RE-183	-6.928E-02		9.431E-02	1.469E-01	1.319E-02	-0.472
RE-184	-4.456E-02		1.945E-01	3.082E-01	3.493E-02	-0.145
OS-185	-9.667E-03		3.787E-02	5.995E-02	5.389E-03	-0.161
RE-188	7.819E-02		1.445E-01	2.444E-01	2.150E-02	0.320
W-188	-1.061E+01		7.879E+00	9.779E+00	1.160E+00	-1.085
IR-192	3.351E-02		2.810E-02	4.791E-02	5.476E-03	0.699
AU-195	2.059E-01		1.808E-01	3.130E-01	2.756E-02	0.658
TL-200	7.900E-05		3.189E-04	Half-Life too short		
TL-201	-8.017E-01		6.972E+00	1.143E+01	1.040E+00	-0.070
TL-202	2.108E-02		6.170E-02	1.052E-01	9.925E-03	0.200
HG-203	-2.355E-02		3.558E-02	5.432E-02	6.619E-03	-0.434
BI-207	-1.390E-02		4.419E-02	7.031E-02	6.198E-03	-0.198
TL-207	1.622E-01		6.018E-01	8.659E-01	1.656E-01	0.187
PO-209	-2.845E+00		5.675E+00	8.953E+00	8.468E-01	-0.318
BI-210	2.930E+00		3.066E+00	5.048E+00	4.708E-01	0.580
PB-210	2.930E+00		3.066E+00	5.048E+00	4.708E-01	0.580
PO-210	2.930E+00		3.064E+00	5.048E+00	4.264E-01	0.580
PB-211	-2.716E-01		8.297E-01	1.333E+00	8.364E-01	-0.204
BI-212	1.210E+00	+	4.286E-01	6.386E-01	6.671E-02	1.894
PO-215	1.622E-01		6.018E-01	8.659E-01	1.656E-01	0.187
RN-219	-4.678E-02		3.548E-01	5.899E-01	9.098E-02	-0.079
RN-220	4.362E+00		2.060E+01	3.441E+01	3.251E+00	0.127
RA-223	1.622E-01		6.018E-01	8.659E-01	1.656E-01	0.187
AC-227	-2.070E-01		3.198E-01	4.901E-01	8.371E-02	-0.422
TH-227	-2.070E-01		3.204E-01	4.901E-01	9.584E-02	-0.422
TH-229	3.374E-01		4.215E-01	7.132E-01	6.959E-02	0.473
PA-231	2.240E-01		1.314E+00	2.118E+00	3.664E-01	0.106
TH-231	1.622E-01		6.018E-01	8.659E-01	1.656E-01	0.187
U-231	-9.620E-01		1.057E+00	1.510E+00	1.355E-01	-0.637
PA-233	2.400E-02		5.260E-02	8.600E-02	1.005E-02	0.279
PA-234	5.750E-02		2.396E-01	4.077E-01	7.789E-02	0.141
PA-234M	3.351E+00		4.189E+00	7.391E+00	7.695E-01	0.453
U-235	1.181E-02		1.781E-01	2.904E-01	5.075E-02	0.041
NP-236	4.373E-02		6.437E-02	1.094E-01	9.763E-03	0.400
NP-239	6.099E-03		1.463E-01	2.459E-01	2.047E-02	0.025
AM-241	6.361E-02		1.375E-01	2.026E-01	1.589E-02	0.314

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.919E-02		7.798E-02	1.303E-01	1.120E-02	-0.147
AM-246	7.207E-02		1.284E-01	2.222E-01	1.939E-02	0.324
CM-247	-9.607E-03		3.198E-02	5.258E-02	4.889E-03	-0.183
CF-249	4.252E-02		3.328E-02	5.986E-02	5.616E-03	0.710
CF-251	5.763E-03		1.047E-01	1.725E-01	1.608E-02	0.033

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]G243630009          *
* Acquisition date   : 7-JAN-2010 13:24:31 Detector SN#                   *
* Detector ID        : GAM16                                           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 02:00:01.84                               Half life ratio  : 8.000     *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630009                               Analyst initials: MXR1        *
* Batch Number       : 937702                                   Sample Quantity : 1.3643E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000      *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 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	2.056E+01	2.223E+00	1.879E-01	1.134E+00
CD-109	2.971E+00	8.245E-01	5.053E-01	4.207E-01
SN-126	2.916E-01	8.092E-02	4.982E-02	4.129E-02
TL-208	4.807E-01	8.559E-02	2.358E-02	4.367E-02
BI-211	3.907E+00	5.568E-01	1.373E-01	2.841E-01
PB-212	1.631E+00	2.136E-01	3.888E-02	1.090E-01
PO-212	1.631E+00	2.136E-01	3.888E-02	1.090E-01
BI-214	1.127E+00	1.838E-01	4.291E-02	9.379E-02
PB-214	1.359E+00	2.058E-01	4.590E-02	1.050E-01
PO-214	1.359E+00	2.058E-01	4.590E-02	1.050E-01
PO-216	1.631E+00	2.136E-01	3.888E-02	1.090E-01
PO-218	1.359E+00	2.058E-01	4.590E-02	1.050E-01
RA-224	4.256E+00	1.080E+00	4.425E-01	5.511E-01
RA-226	1.127E+00	1.838E-01	4.291E-02	9.379E-02
AC-228	1.631E+00	3.016E-01	8.980E-02	1.539E-01
RA-228	1.631E+00	3.016E-01	8.980E-02	1.539E-01
TH-228	1.658E+00	2.170E-01	3.951E-02	1.107E-01
TH-230	1.127E+00	1.838E-01	4.291E-02	9.379E-02
TH-232	1.631E+00	3.016E-01	8.980E-02	1.539E-01
TH-234	1.181E+00	1.584E+00	8.706E-01	8.082E-01
U-234	1.127E+00	1.838E-01	4.291E-02	9.379E-02
NP-237	8.564E-01	2.940E-01	1.480E-01	1.500E-01
U-238	1.181E+00	1.584E+00	8.706E-01	8.082E-01
AM-243	3.038E-01	5.831E-02	3.581E-02	2.975E-02
ANH-511	1.933E-01	6.157E-02	1.864E-02	3.141E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.657E-01	2.537E-01	2.081E-01	1.295E-01 NOT IDENT.
NA-22	2.139E-02	3.658E-02	3.238E-02	1.866E-02 NOT IDENT.

NA-24	1.513E+06	1.656E+06	0.000E+00	8.447E+05	SHORT HLIF
AL-26	1.840E-02	2.886E-02	2.675E-02	1.472E-02	NOT IDENT.
TI-44	3.361E-01	4.973E-02	3.118E-02	2.537E-02	FAIL ABUN
SC-46	-1.538E-03	2.902E-02	2.492E-02	1.481E-02	FAIL ABUN
V-48	1.069E-02	5.811E-02	5.061E-02	2.965E-02	NOT IDENT.
CR-51	-2.253E-01	3.213E-01	2.539E-01	1.639E-01	NOT IDENT.
MN-52	-6.926E-02	1.918E-01	1.468E-01	9.787E-02	NOT IDENT.
MN-54	2.039E-02	3.063E-02	2.800E-02	1.563E-02	NOT IDENT.
CO-56	-1.132E-02	3.099E-02	2.594E-02	1.581E-02	FAIL ABUN
CO-57	4.020E-03	1.924E-02	1.743E-02	9.814E-03	NOT IDENT.
CO-58	2.197E-02	3.393E-02	3.021E-02	1.731E-02	NOT IDENT.
FE-59	2.296E-03	7.916E-02	6.710E-02	4.039E-02	NOT IDENT.
CO-60	3.703E-02	2.917E-02	2.827E-02	1.488E-02	NOT IDENT.
ZN-65	2.698E-02	8.449E-02	6.445E-02	4.311E-02	NOT IDENT.
GE-68	9.282E-01	1.080E+00	9.866E-01	5.509E-01	NOT IDENT.
AS-73	-6.475E-01	6.930E-01	5.605E-01	3.536E-01	NOT IDENT.
AS-74	9.250E-03	7.004E-02	6.020E-02	3.574E-02	NOT IDENT.
SE-75	-1.298E-02	4.082E-02	2.998E-02	2.082E-02	NOT IDENT.
BR-77	9.974E-01	1.093E+01	9.468E+00	5.577E+00	FAIL ABUN
SR-82	-1.638E-01	2.956E-01	2.287E-01	1.508E-01	NOT IDENT.
RB-83	5.057E-03	5.532E-02	4.792E-02	2.823E-02	NOT IDENT.
RB-84	3.109E-03	5.158E-02	4.486E-02	2.632E-02	NOT IDENT.
KR-85	6.496E+00	6.033E+00	5.043E+00	3.078E+00	NOT IDENT.
SR-85	3.364E-02	3.124E-02	2.611E-02	1.594E-02	NOT IDENT.
RB-86	-4.785E-02	7.049E-01	5.931E-01	3.596E-01	NOT IDENT.
Y-88	-5.129E-03	2.995E-02	2.425E-02	1.528E-02	NOT IDENT.
ZR-88	-2.687E-03	2.411E-02	2.109E-02	1.230E-02	NOT IDENT.
Y-91	-2.860E+00	1.576E+01	1.295E+01	8.040E+00	NOT IDENT.
NB-94	7.343E-03	2.835E-02	2.422E-02	1.446E-02	NOT IDENT.
NB-95	1.739E-02	4.546E-02	3.423E-02	2.319E-02	NOT IDENT.
NB-95M	1.483E-02	1.127E-01	8.671E-02	5.748E-02	NOT IDENT.
ZR-95	-1.324E-02	6.006E-02	4.699E-02	3.064E-02	NOT IDENT.
NB-97	-2.528E+05	2.212E+05	0.000E+00	1.129E+05	SHORT HLIF
ZR-97	1.127E+07	4.201E+06	0.000E+00	2.143E+06	SHORT HLIF
MO-99	-4.886E+00	1.143E+01	9.047E+00	5.834E+00	NOT IDENT.
TC-99M	-2.609E+17	4.089E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.259E-02	2.684E-02	2.219E-02	1.369E-02	NOT IDENT.
RH-102	-9.060E-05	2.110E-02	1.829E-02	1.077E-02	NOT IDENT.
RU-103	1.468E-02	3.005E-02	2.694E-02	1.533E-02	FAIL ABUN
RH-106	-5.917E-03	2.514E-01	2.122E-01	1.283E-01	NOT IDENT.
RU-106	-5.917E-03	2.514E-01	2.122E-01	1.283E-01	NOT IDENT.
AG-108M	1.574E-03	2.509E-02	2.203E-02	1.280E-02	NOT IDENT.
AG-110M	-2.981E-02	3.062E-02	2.344E-02	1.562E-02	NOT IDENT.
IN-111	7.515E-01	1.134E+00	9.051E-01	5.787E-01	NOT IDENT.
IN-113M	-2.827E-02	3.597E-02	3.001E-02	1.835E-02	NOT IDENT.
SN-113	-2.827E-02	3.597E-02	3.001E-02	1.835E-02	NOT IDENT.
IN-114M	-1.474E-02	1.649E-01	1.275E-01	8.411E-02	NOT IDENT.
CD-115	-1.213E+00	1.166E+01	9.927E+00	5.948E+00	NOT IDENT.
SN-117M	7.668E-03	4.545E-02	4.040E-02	2.319E-02	NOT IDENT.
SB-122	-1.757E-01	2.128E+00	1.804E+00	1.086E+00	NOT IDENT.
I-123	-2.283E+06	1.507E+07	0.000E+00	7.688E+06	SHORT HLIF
TE-123M	-3.439E-03	2.270E-02	1.988E-02	1.158E-02	NOT IDENT.
I-124	-1.319E-01	6.906E-01	5.008E-01	3.524E-01	FAIL ABUN
SB-124	4.877E-03	4.600E-02	3.990E-02	2.347E-02	FAIL ABUN
SB-125	3.406E-02	7.450E-02	6.711E-02	3.801E-02	FAIL ABUN
TE-125M	8.346E+00	7.334E+00	6.886E+00	3.742E+00	NOT IDENT.
I-126	1.682E-01	1.699E-01	1.534E-01	8.668E-02	NOT IDENT.
SB-126	8.845E-02	1.343E-01	1.147E-01	6.852E-02	NOT IDENT.
SB-127	4.200E-01	1.352E+00	1.164E+00	6.899E-01	NOT IDENT.
XE-127	1.259E-03	3.796E-02	3.294E-02	1.937E-02	NOT IDENT.
I-131	-1.769E-02	9.507E-02	8.329E-02	4.850E-02	NOT IDENT.
TE-132	-6.823E-02	6.575E-01	5.609E-01	3.355E-01	NOT IDENT.
BA-133	6.076E-03	3.786E-02	3.010E-02	1.932E-02	NOT IDENT.
I-133	-1.012E+04	1.078E+04	0.000E+00	5.502E+03	SHORT HLIF
CS-134	8.500E-02	5.068E-02	4.146E-02	2.586E-02	FAIL ABUN
CS-135	2.281E-01	1.347E-01	1.221E-01	6.873E-02	NOT IDENT.
I-135	-1.065E+16	4.481E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.960E-02	8.965E-02	6.612E-02	4.574E-02	FAIL ABUN
BA-137M	1.648E-02	3.208E-02	2.805E-02	1.637E-02	NOT IDENT.
CS-137	1.742E-02	3.392E-02	2.965E-02	1.730E-02	NOT IDENT.
CE-139	1.062E-02	2.376E-02	2.130E-02	1.212E-02	NOT IDENT.
BA-140	4.008E-02	2.259E-01	1.961E-01	1.153E-01	NOT IDENT.
LA-140	-1.300E-02	7.629E-02	6.322E-02	3.892E-02	FAIL ABUN
CE-141	-5.201E-02	5.317E-02	4.407E-02	2.713E-02	NOT IDENT.
CE-143	9.353E+02	3.226E+02	0.000E+00	1.646E+02	SHORT HLIF
CE-144	-1.313E-01	1.582E-01	1.350E-01	8.070E-02	NOT IDENT.
PM-144	2.069E-03	2.911E-02	2.450E-02	1.485E-02	NOT IDENT.
PR-144	1.403E-01	1.974E+00	1.661E+00	1.007E+00	NOT IDENT.

PM-146	-1.443E-02	3.591E-02	3.034E-02	1.832E-02	NOT IDENT.
ND-147	2.039E-02	4.859E-01	4.184E-01	2.479E-01	FAIL ABUN
PM-149	-5.080E+01	1.136E+02	9.291E+01	5.796E+01	NOT IDENT.
EU-152	5.968E-02	7.896E-02	7.110E-02	4.029E-02	FAIL ABUN
GD-153	-8.289E-02	6.711E-02	5.053E-02	3.424E-02	FAIL ABUN
EU-154	5.298E-02	1.028E-01	9.028E-02	5.245E-02	NOT IDENT.
EU-155	9.636E-02	8.715E-02	8.194E-02	4.447E-02	FAIL ABUN
TB-160	-4.388E-03	1.040E-01	8.952E-02	5.307E-02	FAIL ABUN
HO-166M	-2.660E-02	4.560E-02	3.563E-02	2.327E-02	FAIL ABUN
TM-171	1.455E+01	2.378E+01	1.897E+01	1.213E+01	NOT IDENT.
LU-176	-2.066E-03	2.002E-02	1.664E-02	1.021E-02	FAIL ABUN
LU-177	2.931E+00	1.355E+00	9.795E-01	6.915E-01	FAIL ABUN
LU-177M	-3.849E-02	1.538E-01	1.329E-01	7.847E-02	FAIL ABUN
HF-181	2.694E-02	3.351E-02	3.069E-02	1.710E-02	NOT IDENT.
W-181	-1.265E-01	3.208E-01	2.420E-01	1.637E-01	NOT IDENT.
TA-182	-1.117E-02	1.599E-01	1.327E-01	8.156E-02	NOT IDENT.
RE-183	-6.928E-02	9.242E-02	7.682E-02	4.715E-02	FAIL ABUN
RE-184	-4.456E-02	1.906E-01	1.599E-01	9.723E-02	NOT IDENT.
OS-185	-9.667E-03	3.712E-02	3.055E-02	1.894E-02	NOT IDENT.
RE-188	7.819E-02	1.416E-01	1.279E-01	7.226E-02	NOT IDENT.
W-188	-1.061E+01	7.721E+00	5.059E+00	3.939E+00	FAIL ABUN
IR-192	3.351E-02	2.753E-02	2.475E-02	1.405E-02	FAIL ABUN
AU-195	2.059E-01	1.772E-01	1.651E-01	9.040E-02	FAIL ABUN
TL-200	7.900E+01	6.251E+02	0.000E+00	3.189E+02	SHORT HLIF
TL-201	-8.017E-01	6.832E+00	5.971E+00	3.486E+00	NOT IDENT.
TL-202	2.108E-02	6.047E-02	5.399E-02	3.085E-02	NOT IDENT.
HG-203	-2.355E-02	3.487E-02	2.812E-02	1.779E-02	FAIL ABUN
BI-207	-1.390E-02	4.330E-02	3.549E-02	2.209E-02	FAIL ABUN
TL-207	1.622E-01	5.898E-01	4.471E-01	3.009E-01	FAIL ABUN
PO-209	-2.845E+00	5.562E+00	4.534E+00	2.838E+00	NOT IDENT.
BI-210	2.930E+00	3.005E+00	2.699E+00	1.533E+00	NOT IDENT.
PB-210	2.930E+00	3.005E+00	2.699E+00	1.533E+00	NOT IDENT.
PO-210	2.930E+00	3.003E+00	2.699E+00	1.532E+00	NOT IDENT.
PB-211	-2.716E-01	8.131E-01	6.852E-01	4.148E-01	NOT IDENT.
BI-212	1.210E+00	4.200E-01	3.247E-01	2.143E-01	FAIL ABUN
PO-215	1.622E-01	5.898E-01	4.471E-01	3.009E-01	FAIL ABUN
RN-219	-4.678E-02	3.477E-01	3.033E-01	1.774E-01	FAIL ABUN
RN-220	4.362E+00	2.019E+01	1.759E+01	1.030E+01	NOT IDENT.
RA-223	1.622E-01	5.898E-01	4.471E-01	3.009E-01	FAIL ABUN
AC-227	-2.070E-01	3.134E-01	2.542E-01	1.599E-01	FAIL ABUN
TH-227	-2.070E-01	3.140E-01	2.542E-01	1.602E-01	FAIL ABUN
TH-229	3.374E-01	4.131E-01	3.717E-01	2.108E-01	FAIL ABUN
PA-231	2.240E-01	1.287E+00	1.096E+00	6.569E-01	FAIL ABUN
TH-231	1.622E-01	5.898E-01	4.471E-01	3.009E-01	FAIL ABUN
U-231	-9.620E-01	1.036E+00	7.970E-01	5.284E-01	FAIL ABUN
PA-233	2.400E-02	5.155E-02	4.443E-02	2.630E-02	FAIL ABUN
PA-234	5.750E-02	2.348E-01	2.063E-01	1.198E-01	FAIL ABUN
PA-234M	3.351E+00	4.106E+00	3.735E+00	2.095E+00	NOT IDENT.
U-235	1.181E-02	1.745E-01	1.522E-01	8.904E-02	FAIL ABUN
NP-236	4.373E-02	6.308E-02	5.721E-02	3.218E-02	FAIL ABUN
NP-239	6.099E-03	1.433E-01	1.293E-01	7.313E-02	FAIL ABUN
AM-241	6.361E-02	1.347E-01	1.078E-01	6.873E-02	NOT IDENT.
CM-243	-1.919E-02	7.642E-02	6.869E-02	3.899E-02	FAIL ABUN
AM-246	7.207E-02	1.258E-01	1.121E-01	6.418E-02	NOT IDENT.
CM-247	-9.607E-03	3.134E-02	2.704E-02	1.599E-02	NOT IDENT.
CF-249	4.252E-02	3.262E-02	3.080E-02	1.664E-02	NOT IDENT.
CF-251	5.763E-03	1.026E-01	9.004E-02	5.235E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	198.6555
46.50	198.6555
46.50	198.6555
48.70	253.2817
49.72	229.1389
51.35	204.0136
52.39	209.4260
52.97	243.3458
53.15	243.4732
53.44	255.6814
54.07	251.3351
56.28	216.6069
56.28	216.6083
57.37	0.0000
57.53	284.1471
57.53	284.1485
57.60	284.2020
57.98	271.1245
57.98	271.1245
59.32	273.3341
59.32	273.3341
59.40	262.0017
59.54	255.5889
59.72	255.7123
60.01	246.1315
61.10	305.6974
61.14	305.7292
61.30	305.8581
63.00	294.4891
63.29	294.7107
63.29	294.7107
63.58	294.9313
64.28	304.9388
65.12	303.9409
65.20	304.0013
65.20	304.0013
66.05	352.6707
66.72	263.7028
66.83	263.7756
66.91	298.6743
67.20	302.2095
67.20	302.2095
67.75	318.0010
67.85	318.0807
68.90	311.8150
68.90	311.8150
69.30	298.4329
69.67	316.9951
70.82	312.8477
70.82	312.8477
70.83	312.8553
72.80	324.4225
72.87	324.4754
72.87	324.4754
74.67	314.4313
74.81	314.5316
74.81	314.5316
74.81	314.5316
74.81	314.5316
74.81	314.5316
74.81	314.5316
74.81	314.5316
74.97	314.6489
75.28	314.8740
75.70	315.1768
77.11	316.1909
77.11	316.1909

77.11	316.1909
77.11	316.1909
77.11	316.1909
77.11	316.1909
77.11	316.1909
78.38	313.2614
79.62	317.9752
79.80	318.1019
79.80	318.1019
80.11	295.2157
80.18	295.2613
80.30	295.3385
80.30	295.3385
80.57	318.6412
81.00	336.9468
81.07	336.9988
81.07	336.9988
81.07	336.9988
81.07	336.9988
82.60	316.1830
83.37	290.4218
83.78	290.6790
83.78	290.6790
83.78	290.6790
83.78	290.6790
84.21	290.9464
84.90	291.3732
85.43	291.7006
86.29	292.2302
86.50	292.3588
86.54	292.3828
86.59	292.4136
86.72	292.4925
86.79	292.5336
86.94	292.6279
87.30	292.8473
87.30	292.8473
87.30	292.8473
87.30	292.8473
87.30	292.8473
87.30	292.8473
87.30	292.8473
87.57	293.0118
87.88	293.2003
88.03	293.2912
88.36	293.4918
88.47	293.5586
89.95	294.4499
91.11	295.1441
92.29	295.8469
92.38	295.9000
92.38	295.9000
93.35	296.4725
94.00	247.0868
94.67	216.9804
94.67	216.9829
94.90	247.5248
94.90	247.5248
94.90	247.5248
94.90	247.5248
95.87	279.8239
95.87	279.8239
96.73	278.9671
97.43	283.3343
98.44	238.1245
98.44	238.1259
98.88	233.8799
99.55	236.8501
99.55	236.8501
99.86	243.2267
100.00	245.9641
100.10	246.0132
103.18	268.9514
103.76	280.0110
105.00	240.1721
105.31	259.2100
108.00	304.7943
109.28	237.5068

111.00	280.0587
111.00	280.0587
111.76	274.9701
112.95	279.1926
115.19	255.5471
116.30	232.1740
117.00	232.4520
117.00	232.4520
117.66	238.2308
121.11	217.4092
121.62	216.6673
121.78	218.5768
122.06	224.2385
122.32	222.4805
122.32	222.4805
122.32	222.4805
122.32	222.4805
123.07	263.5936
127.23	287.8054
129.76	233.6123
131.20	299.0275
133.02	243.2975
133.54	253.8731
135.34	218.6163
136.00	229.2604
136.25	232.1897
136.48	232.2720
140.51	249.9053
140.51	0.0000
142.18	241.9204
142.65	216.2546
143.76	249.1958
144.24	258.9615
144.24	258.9615
144.24	258.9615
144.24	258.9615
145.22	267.0190
145.44	267.1039
147.16	233.0958
152.43	248.4453
152.70	243.6848
153.22	228.3184
154.21	239.3360
154.21	239.3360
154.21	239.3360
154.21	239.3360
155.03	246.4295
156.02	251.6461
158.56	228.0605
159.00	0.0000
159.00	237.0100
160.31	216.8320
161.27	227.9219
162.32	255.7920
162.64	247.0424
163.35	233.4873
163.89	236.6138
165.85	219.4413
167.43	225.8430
171.28	197.1158
171.86	203.2426
172.10	203.3048
176.55	225.5150
176.60	225.5310
181.06	243.4309
184.41	253.5528
185.71	233.1726
186.00	233.2568
190.27	220.1946
192.34	210.5222
193.63	201.6332
197.04	219.9147
198.01	212.9634
198.60	206.9316
200.40	212.5234
201.83	211.8421
202.84	206.9153
205.31	197.6430

208.36	190.5170
208.81	195.8219
209.75	179.8665
209.75	179.8665
210.97	169.1488
215.65	214.1062
216.55	204.8627
218.09	210.4696
222.10	190.2448
223.80	200.1204
226.40	177.3152
227.00	178.4897
227.08	178.5051
227.20	178.5273
228.16	173.3898
228.18	173.3931
228.18	173.3931
231.56	0.0000
235.69	202.6255
236.00	215.5602
236.00	215.5602
238.63	186.0317
238.63	186.0317
238.63	186.0317
238.63	186.0317
239.00	186.1003
240.98	186.4752
241.98	186.6635
241.98	186.6635
241.98	186.6635
244.69	147.6806
245.39	136.4167
247.94	161.7259
248.90	152.1010
249.79	153.3223
252.40	142.8135
252.85	160.3267
252.85	160.3267
254.15	0.0000
256.20	167.4130
256.20	167.4130
260.50	135.1443
260.90	152.7807
262.80	124.4283
264.65	155.5297
268.24	137.2396
268.79	137.3102
269.46	137.3960
269.46	137.3960
269.46	137.3960
269.46	137.3960
271.23	137.6205
273.65	205.2240
276.40	138.2764
277.35	147.3237
277.60	145.1259
277.60	145.1259
278.00	150.7626
278.60	154.1971
279.20	169.9300
279.53	180.0473
280.46	162.2901
281.68	151.2625
283.67	143.6771
284.30	153.8658
285.00	169.6937
285.90	182.2039
286.10	155.2360
286.10	155.2360
287.40	157.6681
288.45	0.0000
290.67	198.2195
290.80	198.2409
291.72	137.3549
293.26	0.0000
293.70	140.9896
295.21	132.6700
295.21	132.6700

295.21	132.6700
295.96	125.9500
296.50	183.9045
297.23	184.0199
298.57	184.2308
299.80	138.3190
299.80	138.3190
300.09	160.5585
300.09	160.5585
300.09	160.5585
300.09	160.5585
300.12	160.5642
301.29	123.1084
302.84	152.3766
303.76	118.2274
303.91	126.8104
304.40	137.1484
304.40	137.1484
304.84	146.8037
306.84	123.6885
308.46	131.8855
311.98	110.4199
316.51	92.3616
318.01	107.5029
319.02	142.2988
319.41	149.2875
320.08	136.6320
323.87	111.5020
323.87	111.5020
323.87	111.5020
323.87	111.5020
325.23	132.5547
328.77	136.4286
333.44	117.9773
334.20	120.8577
334.20	120.8577
334.30	120.8682
338.28	116.3117
338.28	116.3117
338.28	116.3117
338.28	116.3117
338.32	116.3157
338.32	116.3157
338.32	116.3157
340.50	136.9912
340.57	136.9983
344.27	107.2422
345.85	127.6326
350.59	0.0000
351.07	113.0144
351.92	104.0054
351.92	104.0054
351.92	104.0054
355.39	0.0000
356.01	108.6145
364.48	101.5717
366.43	96.3173
367.43	101.7924
367.94	0.0000
369.80	103.7748
374.96	107.7875
383.85	111.2103
387.95	90.5073
388.63	96.0374
391.69	117.3262
391.69	117.3262
392.90	100.9128
398.62	109.6033
400.65	108.8335
401.10	109.7903
401.81	118.1504
402.60	121.9091
404.84	124.8692
410.95	114.2427
411.60	125.4419
413.65	123.7540
414.70	115.4610
415.30	102.4654

415.76	102.4973
417.63	0.0000
418.52	107.3528
423.70	90.8605
427.08	93.8782
427.89	89.2321
432.53	96.0966
433.93	82.9807
439.47	88.9555
439.56	91.7989
439.89	88.0318
443.98	87.3127
444.90	88.3128
445.03	88.3213
445.03	88.3213
445.03	88.3213
445.03	88.3213
453.90	98.3636
463.38	87.6069
468.07	72.4438
473.00	83.0960
475.06	67.7206
475.35	68.7000
476.78	81.3481
477.59	86.2323
477.96	77.5293
482.03	66.0597
484.57	80.7533
487.03	74.0506
490.36	0.0000
492.35	68.4181
497.08	58.8062
507.63	0.0000
510.53	0.0000
510.84	71.1266
511.00	71.1332
511.85	71.1667
511.85	71.1667
513.99	66.5027
513.99	66.5027
520.41	72.5032
520.65	72.5143
527.90	74.8009
528.96	0.0000
529.64	84.8573
529.87	0.0000
531.02	74.9313
537.32	75.1900
543.00	81.4548
546.56	0.0000
549.76	63.5864
552.65	68.7388
555.20	68.8322
563.23	73.1909
563.90	75.2488
568.70	68.3025
569.32	75.4634
569.50	75.4702
569.67	74.4570
573.80	67.4623
574.00	67.4683
574.64	68.5131
578.91	85.2668
579.30	0.0000
583.14	65.7324
585.48	55.9390
591.81	51.5808
592.07	51.5869
593.00	75.3525
595.88	56.8547
600.56	68.3868
602.52	0.0000
602.71	71.3636
602.71	71.3636
603.60	68.0744
604.41	79.7297
604.70	79.7414
609.31	61.3983

609.31	61.3983
609.31	61.3983
609.31	61.3983
610.33	61.4289
612.46	56.6993
614.37	73.4443
618.01	59.5710
621.84	61.7764
621.84	61.7764
631.29	47.3332
633.02	62.1113
633.10	69.4825
634.78	69.5389
635.90	64.3043
636.97	58.0095
645.85	76.2583
646.12	73.0914
656.30	69.1815
657.75	85.2051
657.90	0.0000
661.65	73.6220
661.65	73.6220
664.57	0.0000
666.33	66.2950
666.33	66.2950
675.00	60.1169
677.61	67.7123
685.20	60.3955
692.80	70.3400
695.00	62.8268
696.49	68.2872
696.49	68.2872
697.00	75.8917
697.49	72.6556
698.33	72.6822
698.50	70.5185
699.00	72.7047
702.63	66.2999
706.10	60.9578
706.58	0.0000
706.67	57.7067
709.31	64.3134
711.68	56.7417
713.82	49.1487
717.42	52.5073
720.50	58.8369
721.93	0.0000
722.20	77.1697
722.78	78.9434
722.78	78.9434
722.89	78.9478
722.95	71.9322
723.30	71.9422
724.18	66.7041
727.18	71.4032
733.00	55.7970
735.90	48.5144
739.58	54.1111
742.81	59.7151
744.21	50.8979
747.13	59.8222
751.79	62.1592
752.31	56.6217
753.82	47.7701
755.35	61.1398
756.15	54.4880
756.87	54.5044
763.93	57.1172
765.79	76.8100
766.42	82.1913
766.84	80.4177
776.49	51.5801
778.00	49.3684
778.57	51.6237
778.89	51.6307
783.80	41.6115
785.46	62.1219
792.07	52.6567

795.84	52.7364
796.30	48.2253
798.80	70.8997
801.93	53.4673
805.60	70.7884
810.29	47.2799
810.76	50.0170
815.85	53.7612
817.79	51.9777
818.51	49.2552
819.60	50.1888
826.30	54.8936
828.27	0.0000
831.60	56.8399
831.96	54.0968
834.83	53.2379
836.80	0.0000
846.75	52.5580
848.13	46.1279
856.28	0.0000
856.80	44.7355
860.37	58.6978
867.32	48.3184
867.82	50.1860
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873.19	40.9729
874.81	41.9293
875.33	0.0000
876.40	39.1566
879.36	41.0663
880.27	42.0139
880.51	39.2161
881.50	38.2964
883.24	46.7322
884.67	41.1458
889.25	40.2779
896.60	46.0200
898.02	38.5266
899.00	42.3007
903.28	51.2570
911.07	49.0915
911.07	49.0915
911.07	49.0915
919.63	41.6657
920.93	36.9481
925.00	49.3340
925.24	48.3890
926.50	54.8452
935.52	44.4370
937.48	28.5864
944.10	39.1582
946.00	41.0946
949.00	43.0510
962.29	52.8569
964.01	46.4772
966.15	41.3791
968.20	41.4074
969.11	41.4211
969.11	41.4211
969.11	41.4211
977.42	35.7408
980.50	46.4145
983.50	40.6537
989.30	54.3102
996.32	61.2404
1001.03	42.8377
1001.68	35.0569
1004.76	51.6634
1021.30	0.0000
1024.50	0.0000
1034.80	33.4671
1036.00	45.2970
1037.82	49.2627
1038.57	45.3329
1038.76	0.0000
1045.16	41.4791
1046.59	41.4976
1048.07	51.4008

1050.47	32.6455
1050.47	32.6455
1062.04	39.7148
1063.62	48.6746
1076.63	49.8682
1077.35	40.9019
1078.86	45.9102
1085.78	49.0096
1099.22	49.2105
1112.02	49.1499
1112.84	55.4673
1115.52	47.0996
1120.29	50.5371
1120.29	50.5371
1120.29	50.5371
1120.29	50.5371
1120.51	50.5396
1121.28	50.5518
1124.00	0.0000
1129.67	43.5837
1131.51	0.0000
1147.95	0.0000
1167.94	41.0000
1173.22	35.9297
1175.09	56.4932
1177.93	59.6228
1189.05	62.9063
1204.90	53.8662
1205.75	0.0000
1213.00	61.2586
1221.42	52.0361
1230.97	57.3901
1235.34	52.2363
1236.41	0.0000
1238.25	47.0500
1246.25	43.2259
1260.41	0.0000
1271.85	45.3726
1274.45	35.9025
1274.54	34.8466
1291.56	31.8237
1298.22	0.0000
1312.09	27.7304
1325.50	27.8281
1325.50	27.8281
1332.49	15.0110
1333.61	20.3786
1360.21	24.8373
1362.66	0.0000
1365.15	25.9500
1368.21	15.6300
1368.53	0.0000
1376.25	22.7698
1384.27	13.9690
1394.10	22.8724
1395.20	28.3258
1407.95	17.4867
1434.06	18.6992
1436.60	14.6751
1457.56	0.0000
1460.81	14.2339
1489.15	16.7183
1509.49	13.9984
1596.49	21.8938
1620.62	15.3118
1678.03	0.0000
1691.02	6.8012
1691.02	6.8012
1706.46	0.0000
1750.46	0.0000
1764.49	10.1472
1764.49	10.1472
1764.49	10.1472
1764.49	10.1472
1770.23	26.6671
1771.40	10.8671
1791.20	0.0000
1808.65	11.9443

1836.01

14.0108

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630009

Total Uranium Activity	3.5192E+00	ug/g
Total Uranium Counting Unc.	4.7136E+00	ug/g
Total Uranium Tpu	2.4049E-06	ug/g
Total Uranium Mda	2.5909E+00	ug/g

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*****
*
*                               GEL Laboratories LLC
*                               2040 SAVAGE ROAD
*                               CHARLESTON ,SC 29417
*                               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G243630009
*  ANALYST       : MXR1            DETECTOR    : GAM16
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:24:31.77  SAMPLE ALQT: 136.430 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.163E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.275E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.051E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.474E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:28:35.56

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630010.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:28:07.
Sample ID          : G243630010 Sample quantity : 1.17790E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.53 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	64.18*	123	432	1.02	127.49	123	9	1.71E-02	32.6	
2	4	75.22*	341	390	1.01	149.56	145	13	4.74E-02	10.9	8.18E-01
3	4	77.45	595	380	1.03	154.01	145	13	8.27E-02	6.7	
4	0	87.56	203	429	1.37	174.22	171	7	2.81E-02	18.3	
5	4	90.40	127	177	0.91	179.90	178	13	1.77E-02	15.5	2.48E+00
6	4	93.25*	317	429	1.51	185.61	178	13	4.40E-02	14.1	
7	0	129.31	69	327	1.11	257.70	254	8	9.54E-03	47.1	
8	0	144.14*	96	288	1.43	287.35	284	8	1.34E-02	32.8	
9	0	186.17*	247	419	1.08	371.38	366	11	3.43E-02	17.9	
10	0	209.17	201	378	0.90	417.35	411	12	2.79E-02	20.6	
11	0	238.89*	1396	479	1.29	476.78	470	11	1.94E-01	4.1	
12	0	242.14	219	267	1.61	483.28	481	7	3.04E-02	14.5	
13	0	270.77	142	247	1.35	540.53	535	11	1.98E-02	23.0	
14	0	295.51*	482	224	1.10	589.97	585	11	6.69E-02	7.7	
15	0	300.52	75	221	1.24	600.01	596	10	1.05E-02	38.6	
16	0	338.56*	284	155	1.31	676.06	671	9	3.94E-02	10.1	
17	0	352.29*	889	222	1.38	703.51	698	13	1.23E-01	4.9	
18	0	463.21	100	144	1.49	925.29	920	12	1.39E-02	26.2	
19	0	511.12*	128	192	1.33	1021.07	1014	15	1.77E-02	29.3	
20	0	583.50*	507	142	1.49	1165.80	1160	14	7.03E-02	6.9	
21	0	609.52*	625	161	1.66	1217.83	1211	14	8.67E-02	6.0	
22	0	661.78	197	75	1.81	1322.31	1318	10	2.74E-02	10.8	
23	0	728.03	129	106	1.81	1454.78	1448	14	1.79E-02	19.5	
24	0	768.54	50	101	1.88	1535.78	1529	12	6.95E-03	42.7	
25	0	860.39	73	66	2.09	1719.44	1711	14	1.02E-02	26.3	
26	0	911.37*	380	93	1.72	1821.38	1814	15	5.27E-02	7.7	
27	0	969.16*	223	158	1.41	1936.94	1927	16	3.10E-02	14.5	
28	0	1121.05*	168	58	2.53	2240.68	2231	22	2.33E-02	14.5	
29	0	1377.75	51	37	0.84	2754.00	2744	21	7.06E-03	33.0	
30	0	1460.76*	1367	42	2.25	2920.01	2908	24	1.90E-01	3.0	
31	0	1731.76	16	23	1.48	3461.97	3456	13	2.23E-03	74.7	
32	0	1764.67*	125	9	2.39	3527.79	3518	17	1.74E-02	11.2	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:28:07
Sample ID        : G243630010 Sample quantity : 117.79 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.53 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

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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	*	2.156E+01	2.086E+00	4.067E-01	3.086E-02	53.023
CD-109	+	88.03	*	2.747E+00	1.039E+00	1.216E+00	1.125E-01	2.258
SN-126	+	64.28		1.267E+00	8.464E-01	8.394E-01	1.241E-01	1.510
	+	86.94		1.121E+00	6.208E-01	5.717E-01	2.371E-01	1.961
	+	87.57	*	2.696E-01	1.020E-01	1.328E-01	1.224E-02	2.030
BA-137M	+	661.65	*	1.947E-01	4.463E-02	4.988E-02	3.802E-03	3.904
CS-137	+	661.65	*	2.058E-01	4.719E-02	5.273E-02	4.029E-03	3.904
CE-141	+	145.44	*	1.089E-01	7.162E-02	8.846E-02	5.050E-03	1.231
TL-208		277.35		2.435E-01	3.122E-01	5.264E-01	5.528E-02	0.463
	+	510.84		4.373E-01	2.602E-01	1.647E-01	1.751E-02	2.655
	+	583.14	*	4.876E-01	7.727E-02	4.713E-02	3.694E-03	10.346
	+	860.37		6.425E-01	3.459E-01	3.604E-01	4.031E-02	1.783
BI-211		72.87		1.333E+00	3.387E+00	5.110E+00	4.220E-01	0.261
	+	351.07	*	4.018E+00	4.738E-01	2.953E-01	1.896E-02	13.605
PB-212	+	74.81		2.047E+00	5.135E-01	5.609E-01	7.030E-02	3.649
	+	77.11		1.996E+00	3.171E-01	3.138E-01	2.660E-02	6.359
	+	87.30		1.247E+00	4.880E-01	6.166E-01	8.375E-02	2.022
	+	238.63	*	1.469E+00	1.609E-01	8.195E-02	5.854E-03	17.924
	+	300.09		1.179E+00	9.143E-01	9.816E-01	8.060E-02	1.201
PO-212	+	74.81		2.047E+00	5.135E-01	5.609E-01	7.030E-02	3.649
	+	77.11		1.996E+00	3.171E-01	3.138E-01	2.660E-02	6.359
	+	87.30		1.247E+00	4.880E-01	6.166E-01	8.375E-02	2.022
		115.19		-9.565E-01	3.224E+00	5.123E+00	3.227E-01	-0.187
	+	238.63	*	1.469E+00	1.609E-01	8.195E-02	5.854E-03	17.924
	+	300.09		1.179E+00	9.143E-01	9.816E-01	8.060E-02	1.201
BI-214	+	609.31	*	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
	+	1120.29		1.519E+00	4.648E-01	3.391E-01	3.247E-02	4.480
	+	1764.49		1.489E+00	3.449E-01	2.555E-01	1.553E-02	5.829
PB-214	+	74.81		3.527E+00	8.616E-01	9.665E-01	1.079E-01	3.649
	+	77.11		3.421E+00	6.028E-01	5.380E-01	6.131E-02	6.359
	+	87.30		2.136E+00	8.249E-01	1.056E+00	1.267E-01	2.022
	+	241.98		1.383E+00	4.169E-01	4.954E-01	3.917E-02	2.792
	+	295.21		1.325E+00	2.327E-01	1.766E-01	1.498E-02	7.501
	+	351.92	*	1.398E+00	1.802E-01	9.521E-02	7.876E-03	14.680

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.527E+00	8.616E-01	9.665E-01	1.079E-01	3.649
	+	77.11		3.421E+00	6.028E-01	5.380E-01	6.131E-02	6.359
	+	87.30		2.136E+00	8.249E-01	1.056E+00	1.267E-01	2.022
	+	241.98		1.383E+00	4.169E-01	4.954E-01	3.917E-02	2.792
	+	295.21		1.325E+00	2.327E-01	1.766E-01	1.498E-02	7.501
PO-216	+	351.92	*	1.398E+00	1.802E-01	9.521E-02	7.876E-03	14.680
	+	74.81		2.047E+00	5.135E-01	5.609E-01	7.030E-02	3.649
	+	77.11		1.996E+00	3.171E-01	3.138E-01	2.660E-02	6.359
	+	87.30		1.247E+00	4.880E-01	6.166E-01	8.375E-02	2.022
	+	238.63	*	1.469E+00	1.609E-01	8.195E-02	5.854E-03	17.924
PO-218	+	300.09		1.179E+00	9.143E-01	9.816E-01	8.060E-02	1.201
	+	74.81		3.527E+00	8.616E-01	9.665E-01	1.079E-01	3.649
	+	77.11		3.421E+00	6.028E-01	5.380E-01	6.131E-02	6.359
	+	87.30		2.136E+00	8.249E-01	1.056E+00	1.267E-01	2.022
	+	241.98		1.383E+00	4.169E-01	4.954E-01	3.917E-02	2.792
RA-224	+	295.21		1.325E+00	2.327E-01	1.766E-01	1.498E-02	7.501
	+	351.92	*	1.398E+00	1.802E-01	9.521E-02	7.876E-03	14.680
	+	240.98	*	2.622E+00	7.768E-01	1.208E+00	6.727E-02	2.171
	+	609.31	*	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
	+	1120.29		1.519E+00	4.648E-01	3.391E-01	3.247E-02	4.480
AC-228	+	1764.49		1.489E+00	3.449E-01	2.555E-01	1.553E-02	5.829
	+	338.32		1.422E+00	6.471E-01	3.094E-01	1.261E-01	4.596
	+	911.07	*	1.572E+00	3.194E-01	1.728E-01	2.289E-02	9.101
	+	969.11		1.624E+00	6.117E-01	2.951E-01	7.067E-02	5.501
	+	338.32		1.422E+00	6.471E-01	3.094E-01	1.261E-01	4.596
RA-228	+	911.07	*	1.572E+00	3.194E-01	1.728E-01	2.289E-02	9.101
	+	969.11		1.624E+00	6.117E-01	2.951E-01	7.067E-02	5.501
	+	74.81		2.080E+00	4.848E-01	5.700E-01	4.803E-02	3.649
	+	77.11		2.028E+00	3.222E-01	3.189E-01	2.703E-02	6.359
	+	87.30		1.267E+00	4.794E-01	6.266E-01	5.759E-02	2.022
TH-228	+	238.63	*	1.492E+00	1.634E-01	8.327E-02	5.949E-03	17.924
	+	300.09		1.198E+00	1.163E+00	9.974E-01	5.878E-01	1.201
	+	609.31	*	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
	+	1120.29		1.519E+00	4.648E-01	3.391E-01	3.247E-02	4.480
	+	1764.49		1.489E+00	3.449E-01	2.555E-01	1.553E-02	5.829
TH-232	+	338.32		1.422E+00	2.989E-01	3.094E-01	1.790E-02	4.596
	+	911.07	*	1.572E+00	3.194E-01	1.728E-01	2.289E-02	9.101
	+	969.11		1.624E+00	6.117E-01	2.951E-01	7.067E-02	5.501
	+	63.29	*	3.202E+00	2.160E+00	2.230E+00	3.932E-01	1.436
	+	92.38		2.675E+00	8.935E-01	6.507E-01	1.173E-01	4.111
U-234	+	609.31	*	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
	+	1120.29		1.519E+00	4.648E-01	3.391E-01	3.247E-02	4.480
	+	1764.49		1.489E+00	3.449E-01	2.555E-01	1.553E-02	5.829
	+	89.95		2.229E+00	9.763E-01	1.596E+00	4.937E-01	1.396
	+	93.35		3.216E+00	1.276E+00	7.744E-01	2.164E-01	4.153
U-235	+	105.00		8.585E-01	9.933E-01	1.616E+00	4.755E-01	0.531
	+	143.76	*	3.560E-01	2.403E-01	3.029E-01	4.906E-02	1.175
	+	163.35		1.051E-01	4.075E-01	6.873E-01	1.225E-01	0.153
	+	185.71		1.906E-01	6.896E-02	6.025E-02	3.204E-03	3.164

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	205.31			5.315E-01	4.564E-01	7.014E-01	1.253E-01	0.758
NP-237	+	86.50	*	7.917E-01	3.412E-01	4.083E-01	9.213E-02	1.939
	95.87			-4.173E-01	9.403E-01	1.325E+00	3.237E-01	-0.315
U-238	+	63.29	*	3.202E+00	2.160E+00	2.230E+00	3.932E-01	1.436
	92.38			2.675E+00	7.858E-01	6.507E-01	5.531E-02	4.111
AM-243	+	74.67	*	3.318E-01	7.725E-02	9.130E-02	7.618E-03	3.635
	86.72			2.969E+01	1.123E+01	1.519E+01	1.389E+00	1.954
	117.66			-3.318E+00	3.485E+00	5.354E+00	3.293E-01	-0.620
	142.18			-1.955E+00	1.846E+01	2.556E+01	1.408E+00	-0.077
ANH-511	+	511.00	*	9.445E-02	5.565E-02	3.558E-02	2.350E-03	2.654

---- 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	*	-1.473E-01	2.642E-01	4.200E-01	3.043E-02	-0.351
NA-22		1274.54	*	-1.670E-02	3.590E-02	5.651E-02	3.845E-03	-0.296
NA-24		1368.53	*	8.494E-01	3.590E-02	Half-Life too short		
AL-26		1129.67		-1.023E-01	1.352E+00	1.901E+00	1.269E-01	-0.054
		1808.65	*	1.946E-02	2.241E-02	4.185E-02	2.443E-03	0.465
TI-44		67.85		-2.453E-02	5.388E-02	7.743E-02	6.227E-03	-0.317
	+	78.38	*	3.683E-01	5.851E-02	8.368E-02	7.155E-03	4.401
SC-46		889.25	*	1.718E-03	3.017E-02	4.956E-02	5.527E-03	0.035
	+	1120.51		2.621E-01	7.828E-02	1.003E-01	6.926E-03	2.615
V-48		944.10		-8.621E-01	7.166E-01	1.021E+00	1.081E-01	-0.844
		983.50	*	1.044E-02	5.960E-02	9.795E-02	9.688E-03	0.107
		1312.09		-7.833E-02	6.896E-02	9.963E-02	7.257E-03	-0.786
CR-51		320.08	*	-1.410E-01	3.186E-01	4.997E-01	3.217E-02	-0.282
MN-52		744.21		5.447E-02	2.043E-01	3.459E-01	3.050E-02	0.157
		848.13		-1.532E-01	6.190E+00	1.014E+01	1.061E+00	-0.015
		935.52		2.641E-01	2.454E-01	4.288E-01	4.599E-02	0.616
		1246.25		-2.950E+00	7.070E+00	1.127E+01	7.245E-01	-0.262
		1333.61		-7.852E-02	4.148E+00	6.767E+00	5.112E-01	-0.012
		1434.06	*	9.607E-02	1.958E-01	3.375E-01	2.487E-02	0.285
MN-54		834.83	*	1.032E-02	3.171E-02	5.327E-02	5.457E-03	0.194
CO-56		846.75	*	-2.040E-02	3.355E-02	5.242E-02	5.472E-03	-0.389
		977.42		-8.296E-01	2.538E+00	3.783E+00	3.784E-01	-0.219
		1037.82		-6.621E-02	2.512E-01	3.987E-01	3.694E-02	-0.166
		1175.09		3.100E-01	1.839E+00	3.082E+00	1.710E-01	0.101
		1238.25		1.472E-01	7.568E-02	1.369E-01	9.126E-03	1.075
		1360.21		-6.698E-01	8.392E-01	1.246E+00	9.366E-02	-0.538
		1771.40		1.065E-01	1.592E-01	2.644E-01	1.598E-02	0.403
CO-57		122.06	*	-7.516E-03	2.366E-02	3.742E-02	2.217E-03	-0.201
		136.48		-1.313E-01	1.987E-01	3.070E-01	2.009E-02	-0.428
CO-58		810.76	*	-6.221E-03	3.201E-02	5.197E-02	5.130E-03	-0.120
FE-59	+	142.65		4.661E+00	3.065E+00	4.120E+00	2.267E-01	1.131
		192.34		-6.803E-01	8.651E-01	1.346E+00	1.561E-01	-0.506
		1099.22	*	-5.156E-02	7.533E-02	1.184E-01	9.748E-03	-0.435
		1291.56		-3.840E-02	1.047E-01	1.660E-01	1.396E-02	-0.231

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1173.22			1.103E-03	3.762E-02	6.240E-02	3.449E-03	0.018
	1332.49	*		-1.932E-03	2.782E-02	4.512E-02	3.409E-03	-0.043
ZN-65	1115.52	*		-5.985E-02	8.661E-02	1.135E-01	7.992E-03	-0.527
GE-68	1077.35	*		2.559E-01	9.341E-01	1.593E+00	1.266E-01	0.161
AS-73	53.44	*		-3.710E-01	1.065E+00	1.715E+00	1.360E-01	-0.216
AS-74	595.88	*		1.960E-02	8.059E-02	1.325E-01	9.522E-03	0.148
	634.78			2.346E-01	3.018E-01	5.125E-01	3.816E-02	0.458
SE-75	66.05			3.403E-01	5.518E+00	8.151E+00	8.073E-01	0.042
	96.73			-8.309E-01	7.837E-01	1.057E+00	1.394E-01	-0.786
	121.11			9.012E-02	1.253E-01	2.071E-01	1.933E-02	0.435
	136.00			8.916E-03	3.645E-02	5.868E-02	3.342E-03	0.152
	198.60			4.441E-01	1.628E+00	2.685E+00	1.822E-01	0.165
	264.65	*		1.757E-02	4.057E-02	6.295E-02	3.600E-03	0.279
	279.53			6.303E-02	9.075E-02	1.528E-01	9.438E-03	0.413
	303.91			-8.471E-01	2.074E+00	2.840E+00	2.702E-01	-0.298
	400.65			-8.841E-02	2.230E-01	3.553E-01	3.237E-02	-0.249
BR-77	87.88	+		7.806E+02	2.953E+02	4.289E+02	3.963E+01	1.820
	200.40			3.821E+01	1.815E+02	3.053E+02	1.645E+01	0.125
	239.00	+		3.106E+02	3.104E+01	4.410E+01	2.453E+00	7.044
	249.79			-6.672E+00	7.131E+01	1.165E+02	6.533E+00	-0.057
	281.68			-1.178E+02	1.017E+02	1.551E+02	8.853E+00	-0.760
	297.23			5.265E+02	1.062E+02	1.534E+02	8.808E+00	3.432
	303.76			-9.689E+01	2.313E+02	3.165E+02	1.821E+01	-0.306
	439.47			-5.387E+01	1.585E+02	2.533E+02	1.544E+01	-0.213
	484.57			1.256E+02	2.500E+02	4.242E+02	2.723E+01	0.296
	520.65	*		6.680E+00	1.130E+01	1.919E+01	1.280E+00	0.348
	574.64			2.434E+01	2.496E+02	4.076E+02	2.870E+01	0.060
	578.91			5.422E+01	1.105E+02	1.617E+02	1.143E+01	0.335
	585.48			2.456E+03	3.509E+02	6.081E+02	4.326E+01	4.039
	755.35			2.853E+02	1.842E+02	3.333E+02	2.995E+01	0.856
	817.79			-4.656E+01	1.289E+02	2.055E+02	2.048E+01	-0.227
SR-82	698.33			-1.056E+00	2.900E+01	4.832E+01	3.934E+00	-0.022
	776.49	*		-3.288E-01	3.270E-01	4.848E-01	4.515E-02	-0.678
	1395.20			-1.120E+01	9.171E+00	1.262E+01	9.407E-01	-0.887
RB-83	520.41	*		3.024E-02	5.690E-02	9.634E-02	6.425E-03	0.314
	529.64			-7.341E-03	9.143E-02	1.487E-01	1.001E-02	-0.049
	552.65			1.212E-01	1.635E-01	2.793E-01	1.925E-02	0.434
RB-84	881.50	*		1.683E-02	5.381E-02	9.034E-02	9.957E-03	0.186
KR-85	513.99	*		2.210E+01	7.641E+00	1.283E+01	8.500E-01	1.722
SR-85	513.99	*		1.144E-01	3.957E-02	6.644E-02	4.402E-03	1.722
RB-86	1076.63	*		-6.628E-03	6.141E-01	1.024E+00	8.149E-02	-0.006
Y-88	898.02			5.489E-03	3.659E-02	5.860E-02	6.642E-03	0.094
	1836.01	*		-2.375E-02	2.772E-02	3.878E-02	2.209E-03	-0.612
ZR-88	392.90	*		-6.405E-03	2.504E-02	4.136E-02	2.379E-03	-0.155
Y-91	1204.90	*		9.580E+00	1.430E+01	2.483E+01	1.468E+00	0.386
NB-94	702.63	*		9.771E-03	2.692E-02	4.596E-02	3.770E-03	0.213
	871.10			2.743E-02	2.569E-02	4.556E-02	4.941E-03	0.602
NB-95	765.79	*		8.007E-02	4.036E-02	6.695E-02	6.124E-03	1.196
NB-95M	235.69	*		3.423E-02	1.154E-01	1.700E-01	1.247E-02	0.201

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	724.18			6.733E-02	9.069E-02	1.385E-01	1.284E-02	0.486
	756.15	*		8.419E-02	6.067E-02	1.088E-01	1.070E-02	0.774
NB-97	657.90	*		-7.828E-02	6.067E-02	Half-Life	too short	
	1024.50			1.954E+01	6.067E-02	Half-Life	too short	
ZR-97	254.15			9.739E-01	6.067E-02	Half-Life	too short	
	355.39			4.961E+00	6.067E-02	Half-Life	too short	
	507.63	*		4.101E+00	6.067E-02	Half-Life	too short	
	602.52			6.548E+00	6.067E-02	Half-Life	too short	
	1021.30			8.292E+00	6.067E-02	Half-Life	too short	
	1147.95			-1.480E+00	6.067E-02	Half-Life	too short	
	1362.66			-6.357E+00	6.067E-02	Half-Life	too short	
	1750.46			-6.411E+00	6.067E-02	Half-Life	too short	
MO-99	140.51			6.594E+00	3.477E+01	4.915E+01	1.322E+01	0.134
	181.06			1.475E+00	2.042E+01	3.036E+01	5.154E+00	0.049
	366.43			-1.567E+01	8.514E+01	1.420E+02	8.203E+00	-0.110
	739.58	*		-1.933E+00	1.108E+01	1.816E+01	2.772E+00	-0.106
	778.00			-2.975E+01	3.514E+01	5.429E+01	5.069E+00	-0.548
TC-99M	140.51	*		1.027E+11	3.514E+01	Half-Life	too short	
RH-101	127.23			-1.633E-02	3.118E-02	4.292E-02	2.479E-03	-0.381
	198.01	*		2.363E-02	2.959E-02	4.974E-02	2.674E-03	0.475
	325.23			-1.851E-01	1.993E-01	3.041E-01	1.757E-02	-0.609
RH-102	418.52			3.763E-02	2.335E-01	3.928E-01	2.334E-02	0.096
	475.06	*		-6.217E-03	2.257E-02	3.655E-02	2.322E-03	-0.170
	631.29			-3.776E-02	4.510E-02	6.776E-02	5.029E-03	-0.557
	697.49			4.520E-02	6.404E-02	1.114E-01	9.056E-03	0.406
	766.84			1.427E-01	1.064E-01	1.684E-01	1.543E-02	0.848
	1046.59			-3.177E-02	9.053E-02	1.471E-01	1.269E-02	-0.216
	1112.84			9.017E-02	2.065E-01	3.083E-01	2.189E-02	0.292
RU-103	497.08	*		-3.252E-02	3.214E-02	4.859E-02	6.310E-03	-0.669
	610.33	+		1.239E+01	2.482E+00	2.551E+00	4.090E-01	4.855
RH-106	511.85	+		4.726E-01	2.785E-01	3.907E-01	2.583E-02	1.210
	621.84	*		-3.397E-01	2.827E-01	4.110E-01	5.171E-02	-0.826
	1050.47			-7.783E-01	1.701E+00	2.730E+00	2.332E-01	-0.285
RU-106	511.85	+		4.726E-01	2.785E-01	3.907E-01	2.583E-02	1.210
	621.84	*		-3.397E-01	2.806E-01	4.110E-01	3.025E-02	-0.826
	1050.47			-7.783E-01	1.701E+00	2.730E+00	2.332E-01	-0.285
AG-108M	433.93	*		2.733E-03	2.820E-02	4.713E-02	3.079E-03	0.058
	614.37			4.465E-03	3.839E-02	5.400E-02	4.161E-03	0.083
	722.95			1.365E-02	3.737E-02	5.552E-02	4.909E-03	0.246
AG-110M	657.75	*		-1.465E-02	3.262E-02	4.519E-02	3.564E-03	-0.324
	677.61			1.626E-02	2.393E-01	4.026E-01	3.266E-02	0.040
	706.67			3.311E-03	1.664E-01	2.779E-01	2.365E-02	0.012
	763.93			9.414E-02	1.463E-01	2.219E-01	2.075E-02	0.424
	884.67			1.820E-02	3.696E-02	6.294E-02	7.108E-03	0.289
	937.48			1.483E-01	9.130E-02	1.650E-01	1.806E-02	0.899
	1384.27			7.771E-02	1.487E-01	2.235E-01	1.733E-02	0.348
IN-111	171.28			4.653E-01	1.102E+00	1.887E+00	9.929E-02	0.247
	245.39	*		3.924E-02	1.268E+00	1.832E+00	1.024E-01	0.021
IN-113M	391.69	*		-7.098E-04	3.669E-02	6.143E-02	3.768E-03	-0.012

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SN-113		391.69	*	-7.098E-04	3.669E-02	6.143E-02	3.768E-03	-0.012
IN-114M		190.27	*	4.603E-02	1.746E-01	2.612E-01	1.395E-02	0.176
CD-115		260.90		-4.316E+01	1.548E+02	2.463E+02	1.390E+01	-0.175
		492.35		3.190E+01	3.734E+01	6.481E+01	4.196E+00	0.492
		527.90	*	-2.748E+00	1.245E+01	2.007E+01	1.349E+00	-0.137
SN-117M		156.02		-9.312E-01	2.040E+00	3.401E+00	1.816E-01	-0.274
		158.56	*	-2.013E-03	4.798E-02	8.116E-02	4.314E-03	-0.025
SB-122		563.90	*	2.338E+00	2.128E+00	3.702E+00	2.580E-01	0.632
		692.80		2.139E+01	4.571E+01	7.857E+01	6.335E+00	0.272
I-123		159.00	*	-1.426E+00	4.571E+01	Half-Life	too short	
		528.96		2.217E+02	4.571E+01	Half-Life	too short	
TE-123M		159.00	*	-2.142E-03	2.424E-02	4.092E-02	2.208E-03	-0.052
I-124		602.71	*	7.937E-02	8.226E-01	1.156E+00	8.362E-02	0.069
		722.78		1.957E+00	4.584E+00	6.847E+00	5.819E-01	0.286
		1325.50		7.800E+00	3.124E+01	5.243E+01	3.913E+00	0.149
		1376.25		4.067E+01	3.093E+01	5.621E+01	4.209E+00	0.724
		1509.49		1.754E+01	1.557E+01	2.878E+01	2.062E+00	0.610
		1691.02		2.004E+00	3.444E+00	6.161E+00	3.974E-01	0.325
SB-124		602.71		3.987E-03	4.133E-02	5.810E-02	4.202E-03	0.069
		645.85		-3.374E-02	4.040E-01	6.446E-01	5.226E-02	-0.052
		709.31		-3.912E-01	2.289E+00	3.774E+00	3.133E-01	-0.104
		713.82		2.146E-01	1.357E+00	2.286E+00	2.710E-01	0.094
		722.78		1.425E-01	3.339E-01	4.986E-01	4.332E-02	0.286
	+	968.20		1.690E+01	5.206E+00	6.600E+00	6.712E-01	2.560
		1045.16		2.875E-01	1.961E+00	3.318E+00	2.873E-01	0.087
		1325.50		6.067E-01	2.430E+00	4.078E+00	3.043E-01	0.149
		1368.21		7.908E-01	1.593E+00	2.390E+00	3.057E-01	0.331
		1436.60		5.939E-01	2.808E+00	4.682E+00	3.447E-01	0.127
		1691.02	*	3.442E-02	5.916E-02	1.058E-01	7.301E-03	0.325
SB-125		427.89	*	-7.207E-03	7.816E-02	1.294E-01	8.086E-03	-0.056
	+	463.38		6.755E-01	3.578E-01	4.665E-01	3.344E-02	1.448
		600.56		-2.693E-02	1.619E-01	2.591E-01	2.063E-02	-0.104
		635.90		1.649E-01	2.202E-01	3.732E-01	3.078E-02	0.442
TE-125M		109.28	*	-1.568E+00	8.850E+00	1.419E+01	1.248E+00	-0.110
I-126		388.63		1.985E-01	1.740E-01	3.085E-01	1.773E-02	0.643
		666.33	*	1.340E-01	1.774E-01	2.739E-01	2.106E-02	0.489
		753.82		2.236E+00	1.308E+00	2.384E+00	2.137E-01	0.938
SB-126		223.80		-8.215E-01	3.600E+00	5.899E+00	3.242E-01	-0.139
		278.60		2.409E+00	2.151E+00	3.689E+00	2.102E-01	0.653
	+	296.50		1.390E+01	2.283E+00	3.445E+00	1.977E-01	4.036
		414.70		-7.520E-02	6.774E-02	1.059E-01	6.263E-03	-0.710
		415.30		-5.035E+00	5.534E+00	8.750E+00	5.179E-01	-0.575
		555.20		1.018E+00	3.370E+00	5.601E+00	3.870E-01	0.182
		573.80		2.189E-01	9.863E-01	1.623E+00	1.142E-01	0.135
		593.00		-7.479E-01	7.914E-01	1.187E+00	8.508E-02	-0.630
		656.30		5.568E-01	3.203E+00	4.720E+00	3.581E-01	0.118
		666.33		5.613E-02	7.430E-02	1.147E-01	8.819E-03	0.489
		675.00		-6.556E-01	1.610E+00	2.619E+00	2.045E-01	-0.250
		695.00		5.636E-02	6.753E-02	1.184E-01	9.581E-03	0.476

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SB-127		697.00		9.894E-02	2.363E-01	4.047E-01	3.287E-02	0.245
		720.50	*	2.197E-02	1.361E-01	2.062E-01	1.746E-02	0.107
		856.80		-1.191E-01	4.559E-01	6.214E-01	6.591E-02	-0.192
		989.30		3.061E-01	1.065E+00	1.765E+00	1.727E-01	0.173
		1034.80		-2.199E+00	7.426E+00	1.163E+01	1.032E+00	-0.189
		1213.00		-6.536E-01	3.846E+00	6.262E+00	3.765E-01	-0.104
		61.10		-3.284E+01	8.139E+01	1.193E+02	1.286E+01	-0.275
		252.40		-5.178E+00	4.826E+00	6.659E+00	2.770E+00	-0.778
		290.80		1.327E+01	2.378E+01	3.507E+01	3.318E+00	0.378
		411.60		2.173E+01	1.233E+01	2.175E+01	3.184E+00	0.999
		444.90		-3.772E+00	9.536E+00	1.543E+01	1.738E+00	-0.244
		473.00		-1.073E+00	1.556E+00	2.443E+00	2.868E-01	-0.439
		543.00		1.245E+00	1.551E+01	2.544E+01	3.469E+00	0.049
		603.60		9.842E+00	1.370E+01	2.025E+01	2.405E+00	0.486
		685.20	*	8.565E-01	1.305E+00	2.270E+00	2.538E-01	0.377
		698.50		-1.890E+00	1.483E+01	2.456E+01	3.873E+00	-0.077
		722.20		1.982E+01	3.184E+01	4.834E+01	5.485E+00	0.410
		783.80		3.033E+00	3.530E+00	6.139E+00	8.125E-01	0.494
		57.60		2.481E+00	7.198E+00	1.222E+01	9.419E-01	0.203
	+	145.22		1.198E+00	7.878E-01	1.066E+00	5.826E-02	1.124
XE-127		172.10		1.235E-01	1.053E-01	1.850E-01	9.738E-03	0.668
		202.84	*	-5.296E-02	4.249E-02	6.121E-02	3.304E-03	-0.865
		374.96		1.335E-02	1.660E-01	2.802E-01	1.616E-02	0.048
		80.18		-6.416E-01	5.258E+00	7.699E+00	6.717E-01	-0.083
I-131		284.30		3.576E-02	1.380E+00	2.247E+00	1.434E-01	0.016
		364.48	*	-2.470E-02	9.471E-02	1.572E-01	1.016E-02	-0.157
		636.97		6.027E-01	1.362E+00	2.263E+00	1.815E-01	0.266
		722.89		2.647E+00	6.838E+00	1.018E+01	8.715E-01	0.260
TE-132		49.72		-1.529E+01	3.217E+01	5.317E+01	5.569E+00	-0.288
		111.76		-6.076E+00	3.360E+01	5.379E+01	5.151E+00	-0.113
		116.30		-2.154E+01	3.015E+01	4.683E+01	4.392E+00	-0.460
		228.16	*	-6.310E-03	7.384E-01	1.220E+00	1.763E-01	-0.005
BA-133		53.15		-1.693E+00	4.576E+00	7.360E+00	5.841E-01	-0.230
		79.62		2.921E-01	1.407E+00	2.094E+00	3.188E-01	0.140
		81.00		-3.951E-02	1.054E-01	1.520E-01	2.421E-02	-0.260
		276.40		-5.174E-02	3.737E-01	5.143E-01	6.643E-02	-0.101
		302.84		5.058E-02	1.430E-01	2.070E-01	2.409E-02	0.244
		356.01	*	-8.885E-03	3.970E-02	5.410E-02	6.250E-03	-0.164
		383.85		-1.779E-01	2.377E-01	3.808E-01	4.131E-02	-0.467
		510.53		2.045E+00	2.377E-01	Half-Life too short		
I-133	+	529.87	*	1.525E-03	2.377E-01	Half-Life too short		
		706.58		5.039E-03	2.377E-01	Half-Life too short		
		856.28		-4.799E-01	2.377E-01	Half-Life too short		
		875.33		-1.183E-01	2.377E-01	Half-Life too short		
		1236.41		1.888E+00	2.377E-01	Half-Life too short		
		1298.22		-3.169E-01	2.377E-01	Half-Life too short		
		475.35		-1.336E-01	1.462E+00	2.397E+00	1.523E-01	-0.056
		563.23		1.369E-01	2.932E-01	4.915E-01	3.472E-02	0.279
CS-134		569.32		-1.377E-01	1.778E-01	2.671E-01	1.910E-02	-0.515

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135	604.70			1.943E-02	3.329E-02	4.880E-02	3.548E-03	0.398
	795.84	*		7.415E-02	4.190E-02	7.564E-02	7.316E-03	0.980
	801.93			-8.434E-02	3.399E-01	5.509E-01	5.374E-02	-0.153
	1038.57			-4.007E-01	3.198E+00	5.148E+00	4.530E-01	-0.078
	1167.94			3.964E-01	2.042E+00	3.430E+00	1.945E-01	0.116
	1365.15			8.437E-01	9.512E-01	1.700E+00	1.353E-01	0.496
	268.24	*		7.386E-02	1.505E-01	2.221E-01	1.679E-02	0.333
	288.45			9.835E+10	1.505E-01	Half-Life	too short	
	417.63			-2.370E+10	1.505E-01	Half-Life	too short	
	546.56			-1.368E+11	1.505E-01	Half-Life	too short	
	836.80			4.671E+10	1.505E-01	Half-Life	too short	
	1038.76			1.129E+10	1.505E-01	Half-Life	too short	
	1124.00			9.148E+11	1.505E-01	Half-Life	too short	
	1131.51			-6.831E+10	1.505E-01	Half-Life	too short	
	1260.41	*		-5.269E+10	1.505E-01	Half-Life	too short	
	1457.56			6.872E+12	1.505E-01	Half-Life	too short	
	1678.03			3.237E+10	1.505E-01	Half-Life	too short	
	1706.46			1.353E+11	1.505E-01	Half-Life	too short	
	1791.20			-6.871E+10	1.505E-01	Half-Life	too short	
CS-136 +	66.91			-5.443E-01	9.526E-01	1.357E+00	2.049E-01	-0.401
	86.29			3.698E+00	1.443E+00	1.978E+00	2.608E-01	1.870
	153.22			4.460E-01	5.979E-01	1.041E+00	7.165E-02	0.429
	163.89			1.973E-01	9.814E-01	1.653E+00	1.129E-01	0.119
	176.55			-1.246E-01	3.285E-01	5.443E-01	3.299E-02	-0.229
	273.65			-1.000E-01	4.494E-01	6.317E-01	4.116E-02	-0.158
	340.57			5.567E-01	1.481E-01	2.486E-01	1.530E-02	2.239
	818.51			-1.206E-02	5.851E-02	9.467E-02	9.453E-03	-0.127
	1048.07	*		-2.563E-02	8.706E-02	1.420E-01	1.273E-02	-0.180
	1235.34			2.809E-01	5.142E-01	8.764E-01	9.011E-02	0.321
CE-139 BA-140	165.85	*		1.078E-02	2.567E-02	4.404E-02	2.312E-03	0.245
	162.64			-5.165E-02	6.845E-01	1.142E+00	6.920E-02	-0.045
	304.84			-2.790E-01	1.303E+00	1.807E+00	4.930E-01	-0.154
	423.70			-2.334E-01	1.673E+00	2.762E+00	8.788E-01	-0.085
LA-140	537.32	*		-3.324E-02	2.258E-01	3.647E-01	1.193E-01	-0.091
	328.77			1.792E-01	2.813E-01	4.662E-01	3.021E-02	0.384
	432.53			4.041E-01	1.856E+00	3.123E+00	2.070E-01	0.129
	487.03			-2.958E-02	1.196E-01	1.938E-01	1.382E-02	-0.153
	751.79			-1.948E-01	1.489E+00	2.448E+00	2.405E-01	-0.080
	815.85			-5.489E-02	2.533E-01	4.095E-01	4.426E-02	-0.134
	867.82			-1.275E+00	1.285E+00	1.733E+00	1.934E-01	-0.736
	919.63			-1.871E+00	2.668E+00	3.582E+00	4.525E-01	-0.522
	925.24			3.622E-01	9.717E-01	1.630E+00	1.845E-01	0.222
	1596.49	*		-8.275E-02	7.891E-02	1.147E-01	7.872E-03	-0.721
CE-143	57.37			7.811E-04	7.891E-02	Half-Life	too short	
	231.56			1.079E-04	7.891E-02	Half-Life	too short	
	293.26	*		5.924E-04	7.891E-02	Half-Life	too short	
	350.59			4.605E-02	7.891E-02	Half-Life	too short	
	490.36			-1.135E-03	7.891E-02	Half-Life	too short	
	664.57			7.320E-03	7.891E-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			1.280E-03	7.891E-02	Half-Life too short		
CE-144	80.11			-1.962E-01	2.240E+00	3.285E+00	2.845E-01	-0.060
	133.54	*		-8.341E-02	2.197E-01	3.043E-01	4.303E-02	-0.274
PM-144	476.78			-9.158E-03	5.305E-02	8.652E-02	6.420E-03	-0.106
	618.01			1.364E-02	2.765E-02	4.494E-02	3.421E-03	0.304
	696.49	*		5.361E-03	2.909E-02	4.913E-02	3.989E-03	0.109
	778.57			-1.043E+00	1.876E+00	2.973E+00	2.779E-01	-0.351
PR-144	696.49	*		3.635E-01	1.972E+00	3.331E+00	2.703E-01	0.109
	1489.15			-6.852E+00	9.270E+00	1.337E+01	9.661E-01	-0.512
PM-146	453.90	*		1.766E-02	3.638E-02	6.189E-02	5.506E-03	0.285
	633.02			3.058E-01	1.119E+00	1.829E+00	6.788E-01	0.167
	735.90			-2.832E-02	1.201E-01	1.806E-01	5.168E-02	-0.157
	747.13			2.679E-03	6.899E-02	1.149E-01	1.630E-02	0.023
ND-147	91.11	+		5.939E-01	1.928E-01	4.977E-01	4.681E-02	1.193
	319.41			1.463E-01	2.863E+00	4.625E+00	2.672E-01	0.032
	439.89			-1.807E+00	5.268E+00	8.425E+00	5.141E-01	-0.215
	531.02	*		2.955E-01	5.125E-01	8.655E-01	1.208E-01	0.341
PM-149	285.90	*		-1.477E+01	1.052E+02	1.697E+02	2.401E+01	-0.087
EU-152	121.78			2.230E-03	6.858E-02	1.102E-01	8.493E-03	0.020
	244.69			3.453E-01	3.192E-01	4.903E-01	2.739E-02	0.704
	344.27	*		-3.716E-02	8.823E-02	1.325E-01	8.648E-03	-0.280
	443.98			-1.164E-01	7.900E-01	1.299E+00	7.963E-02	-0.090
	778.89			-5.747E-02	2.138E-01	3.467E-01	3.241E-02	-0.166
	867.32			-7.564E-01	7.646E-01	9.886E-01	1.066E-01	-0.765
	964.01			5.388E-01	2.989E-01	4.785E-01	4.901E-02	1.126
	1085.78			-1.190E-01	2.941E-01	4.728E-01	3.663E-02	-0.252
	1112.02			2.559E-01	2.857E-01	4.472E-01	3.184E-02	0.572
	1407.95			7.696E-02	1.634E-01	2.779E-01	2.064E-02	0.277
GD-153	69.67			-2.401E-01	1.705E+00	2.815E+00	2.285E-01	-0.085
	83.37			1.481E+01	1.625E+01	2.452E+01	2.178E+00	0.604
	97.43	*		-4.424E-02	8.036E-02	1.129E-01	8.831E-03	-0.392
	103.18			-7.467E-02	9.980E-02	1.565E-01	1.129E-02	-0.477
EU-154	123.07			-1.651E-02	4.699E-02	7.411E-02	7.009E-03	-0.223
	247.94			1.135E-01	3.101E-01	5.015E-01	4.724E-02	0.226
	591.81			-5.966E-01	5.240E-01	7.093E-01	7.545E-02	-0.841
	723.30			4.820E-02	1.583E-01	2.337E-01	2.203E-02	0.206
	756.87			7.220E-01	6.528E-01	1.151E+00	1.412E-01	0.627
	873.19			1.285E-01	2.313E-01	3.950E-01	5.502E-02	0.325
	996.32			-4.491E-01	3.149E-01	4.257E-01	7.784E-02	-1.055
	1004.76			2.551E-01	1.869E-01	3.294E-01	4.050E-02	0.775
	1274.45	*		-1.552E-02	9.764E-02	1.580E-01	1.579E-02	-0.098
EU-155	48.70			-5.880E-01	3.382E+00	5.673E+00	4.303E-01	-0.104
	60.01			2.537E+00	5.942E+00	9.116E+00	6.957E-01	0.278
	86.54	+		3.248E-01	1.230E-01	1.768E-01	1.628E-02	1.837
	105.31	*		6.950E-02	9.875E-02	1.645E-01	1.176E-02	0.422
TB-160	86.79	+		8.753E-01	3.312E-01	4.817E-01	4.407E-02	1.817
	197.04			4.495E-01	4.960E-01	8.558E-01	4.596E-02	0.525
	215.65			3.542E-02	6.489E-01	1.044E+00	5.698E-02	0.034
	298.57			1.688E-01	1.471E-01	1.702E-01	9.775E-03	0.992

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	879.36	*		1.254E-02	1.033E-01	1.708E-01	1.876E-02	0.073
	962.29			4.784E-01	5.598E-01	8.410E-01	8.640E-02	0.569
	966.15			1.103E+00	2.760E-01	4.592E-01	4.686E-02	2.402
	1177.93			2.090E-01	2.927E-01	5.098E-01	2.846E-02	0.410
	1271.85			-5.580E-01	5.794E-01	8.654E-01	5.848E-02	-0.645
	80.57			-1.001E-02	2.891E-01	4.251E-01	3.693E-02	-0.024
	184.41			7.327E-02	3.404E-02	5.517E-02	2.931E-03	1.328
	280.46			-9.068E-02	7.310E-02	1.111E-01	6.336E-03	-0.816
	410.95			3.566E-01	2.066E-01	3.730E-01	2.196E-02	0.956
	711.68	*		2.141E-02	4.909E-02	8.414E-02	7.014E-03	0.254
TM-171	752.31			8.811E-02	2.261E-01	3.850E-01	3.442E-02	0.229
	810.29			-1.250E-02	4.804E-02	7.760E-02	7.640E-03	-0.161
	51.35			4.086E+00	3.943E+01	6.672E+01	5.288E+00	0.061
	52.39			-5.196E+00	2.033E+01	3.286E+01	2.611E+00	-0.158
LU-176	59.40			6.294E+00	3.338E+01	5.062E+01	3.843E+00	0.124
	66.72	*		-1.004E+01	3.258E+01	4.719E+01	3.773E+00	-0.213
	88.36			6.395E-01	2.420E-01	3.466E-01	3.182E-02	1.845
LU-177	201.83			-2.973E-02	2.371E-02	3.734E-02	2.014E-03	-0.796
	306.84	*		3.310E-03	2.295E-02	3.458E-02	1.991E-03	0.096
	401.10			-1.942E+00	5.764E+00	9.217E+00	5.358E-01	-0.211
LU-177M	112.95			6.265E-01	1.636E+00	2.681E+00	1.728E-01	0.234
	208.36	*		4.229E+00	1.758E+00	1.969E+00	1.068E-01	2.148
	52.97			-8.155E-01	2.082E+00	3.345E+00	2.656E-01	-0.244
HF-181	54.07			-7.463E-01	1.069E+00	1.691E+00	1.337E-01	-0.441
	61.30			-8.442E-01	1.770E+00	2.585E+00	1.997E-01	-0.327
	121.62			4.775E-02	3.546E-01	5.724E-01	3.395E-02	0.083
	147.16			2.744E-03	6.471E-01	9.106E-01	4.955E-02	0.003
	171.86			2.812E-01	4.234E-01	7.309E-01	3.847E-02	0.385
	218.09			-1.848E-01	7.355E-01	1.207E+00	6.601E-02	-0.153
	268.79			6.980E-01	7.881E-01	1.189E+00	6.745E-02	0.587
	319.02			1.557E-01	2.093E-01	3.515E-01	2.029E-02	0.443
	367.43			5.913E-02	7.295E-01	1.234E+00	7.125E-02	0.048
	413.65	*		-1.080E-01	1.531E-01	2.458E-01	1.452E-02	-0.439
W-181	56.28			-2.468E-02	1.132E+00	1.897E+00	1.478E-01	-0.013
	57.53			2.398E-01	6.034E-01	1.027E+00	7.916E-02	0.234
	65.20			2.513E+00	1.649E+00	1.699E+00	1.348E-01	1.479
	133.02			4.860E-02	6.823E-02	1.007E-01	5.699E-03	0.482
TA-182	136.25			-6.208E-02	4.324E-01	6.842E-01	3.831E-02	-0.091
	345.85			-2.051E-01	1.904E-01	2.590E-01	1.498E-02	-0.792
	482.03	*		1.439E-03	3.697E-02	6.106E-02	3.909E-03	0.024
	56.28			-8.640E-03	4.386E-01	7.352E-01	5.727E-02	-0.012
TA-182	57.53			9.300E-02	2.340E-01	3.981E-01	3.070E-02	0.234
	65.20	*		9.669E-01	6.343E-01	6.537E-01	5.185E-02	1.479
	67.75			-9.946E-02	1.306E-01	1.845E-01	1.483E-02	-0.539
	100.10			1.469E-01	1.657E-01	2.786E-01	2.094E-02	0.527
	152.43			1.399E-01	3.131E-01	5.043E-01	2.713E-02	0.277
TA-182	222.10			-1.855E-01	2.972E-01	4.785E-01	2.627E-02	-0.388
	1001.68			1.593E+00	1.823E+00	3.116E+00	2.975E-01	0.511
	1121.28			7.224E-01	2.158E-01	2.749E-01	1.894E-02	2.628

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	1189.05			3.372E-02	2.351E-01	3.930E-01	2.247E-02	0.086
	1221.42	*		1.059E-01	1.571E-01	2.716E-01	1.662E-02	0.390
	1230.97			-2.519E-01	3.859E-01	6.042E-01	3.768E-02	-0.417
	57.98			9.851E-02	2.325E-01	3.958E-01	3.041E-02	0.249
	59.32			2.327E-02	1.385E-01	2.099E-01	1.595E-02	0.111
	67.20			-1.290E-01	2.330E-01	3.331E-01	2.670E-02	-0.387
	162.32	*		-1.666E-02	9.571E-02	1.590E-01	8.394E-03	-0.105
	208.81	+		3.481E+00	1.447E+00	1.627E+00	8.829E-02	2.140
	291.72			-7.993E-03	8.993E-01	1.275E+00	7.307E-02	-0.006
	57.98			3.610E-01	8.522E-01	1.451E+00	1.114E-01	0.249
RE-184	59.32			8.522E-02	5.073E-01	7.685E-01	5.839E-02	0.111
	67.20			-4.727E-01	8.538E-01	1.220E+00	9.781E-02	-0.387
	161.27			-3.073E-01	3.020E-01	4.904E-01	2.593E-02	-0.627
	216.55			8.982E-02	2.219E-01	3.745E-01	2.046E-02	0.240
	252.85	*		-2.212E-01	1.969E-01	3.042E-01	1.709E-02	-0.727
	318.01			-2.518E-02	3.688E-01	5.919E-01	3.416E-02	-0.043
	792.07			-1.521E-01	8.932E-01	1.459E+00	1.394E-01	-0.104
	903.28			1.546E-01	9.383E-01	1.391E+00	1.561E-01	0.111
	920.93			-1.730E-01	3.710E-01	5.644E-01	6.185E-02	-0.306
	59.72			7.404E-02	3.663E-01	5.557E-01	4.227E-02	0.133
OS-185	61.14			-8.219E-02	1.964E-01	2.878E-01	2.221E-02	-0.286
	69.30			1.942E-02	3.046E-01	5.068E-01	4.105E-02	0.038
	592.07			-2.293E+00	2.065E+00	2.938E+00	2.103E-01	-0.781
	646.12	*		-6.164E-03	3.501E-02	5.546E-02	4.171E-03	-0.111
	717.42			-4.678E-01	7.486E-01	1.193E+00	1.004E-01	-0.392
	874.81			-1.186E-01	4.514E-01	7.216E-01	7.871E-02	-0.164
	880.27			3.290E-01	5.849E-01	1.002E+00	1.102E-01	0.329
	155.03	*		4.871E-02	1.514E-01	2.598E-01	1.390E-02	0.187
	477.96			-5.298E-01	2.479E+00	4.032E+00	2.569E-01	-0.131
	633.10			8.082E-01	2.272E+00	3.753E+00	2.790E-01	0.215
W-188	63.58	+		1.299E+02	8.522E+01	1.015E+02	7.975E+00	1.280
	227.08			5.281E+00	1.116E+01	1.881E+01	1.037E+00	0.281
IR-192	290.67	*		4.316E+00	7.026E+00	1.041E+01	5.962E-01	0.415
	295.96	+		1.019E+00	1.676E-01	2.551E-01	1.488E-02	3.994
AU-195	308.46			4.444E-02	8.249E-02	1.371E-01	7.988E-03	0.324
	316.51	*		-3.128E-02	2.946E-02	4.445E-02	2.578E-03	-0.704
	468.07			3.088E-02	5.996E-02	8.982E-02	6.401E-03	0.344
	604.41			1.838E-01	4.588E-01	6.617E-01	8.040E-02	0.278
	612.46			4.508E+00	9.798E-01	1.643E+00	1.441E-01	2.744
	65.12	+		4.459E-01	2.925E-01	3.064E-01	2.429E-02	1.455
	66.83			-6.165E-02	1.091E-01	1.560E-01	1.248E-02	-0.395
	75.70	+		1.078E+00	2.509E-01	4.313E-01	3.622E-02	2.499
	98.88	*		2.566E-01	2.051E-01	3.495E-01	2.674E-02	0.734
	129.76	+		3.482E+00	3.283E+00	4.456E+00	2.550E-01	0.781
TL-200	367.94	*		2.610E-04	3.283E+00	Half-Life	too short	
	579.30			1.559E-03	3.283E+00	Half-Life	too short	
	828.27			-5.453E-03	3.283E+00	Half-Life	too short	
TL-201	1205.75			2.402E-04	3.283E+00	Half-Life	too short	
	68.90			1.059E+00	6.345E+00	1.012E+01	8.183E-01	0.105

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		70.82		2.918E+00	3.734E+00	5.741E+00	4.687E-01	0.508
		80.30		-1.332E+00	6.604E+00	9.631E+00	8.350E-01	-0.138
		135.34		1.716E+00	2.931E+01	4.682E+01	2.629E+00	0.037
	*	167.43		-2.724E+00	7.487E+00	1.246E+01	6.543E-01	-0.219
		68.90		8.101E-02	4.856E-01	7.746E-01	6.262E-02	0.105
HG-203		70.82		2.227E-01	2.849E-01	4.381E-01	3.577E-02	0.508
		80.30		-1.017E-01	5.042E-01	7.352E-01	6.375E-02	-0.138
	*	439.56		-1.990E-02	6.150E-02	9.842E-02	6.000E-03	-0.202
		70.83		9.254E-01	1.191E+00	1.825E+00	2.431E-01	0.507
		72.87		2.690E-01	6.837E-01	1.031E+00	1.337E-01	0.261
BI-207		82.60		-7.324E-01	1.115E+00	1.783E+00	2.474E-01	-0.411
	*	279.20		3.419E-02	3.415E-02	5.828E-02	3.534E-03	0.587
		72.80		6.496E-02	1.975E-01	2.971E-01	2.453E-02	0.219
	+	74.97		5.957E-01	1.387E-01	2.238E-01	1.871E-02	2.662
		84.90		2.332E-01	2.063E-01	3.132E-01	2.819E-02	0.744
TL-207		569.67		-2.529E-02	2.801E-02	4.171E-02	2.923E-03	-0.606
	*	1063.62		4.425E-02	4.603E-02	8.174E-02	6.748E-03	0.541
		1770.23		4.747E-01	3.580E-01	6.549E-01	3.962E-02	0.725
		81.07		-9.650E-02	2.318E-01	3.341E-01	2.914E-02	-0.289
		83.78		1.365E-01	1.375E-01	2.079E-01	1.853E-02	0.657
PO-209		94.90		6.513E-01	2.399E-01	3.877E-01	3.156E-02	1.680
		122.32		-7.552E-01	1.622E+00	2.547E+00	1.730E-01	-0.296
	+	144.24		1.154E+00	7.603E-01	1.040E+00	7.260E-02	1.109
		154.21		3.228E-01	3.419E-01	5.985E-01	3.983E-02	0.539
	+	269.46		5.254E-01	2.436E-01	3.009E-01	1.787E-02	1.746
BI-210		323.87	*	-1.037E-01	5.736E-01	9.134E-01	1.508E-01	-0.114
	+	338.28		5.939E+00	1.353E+00	2.063E+00	2.171E-01	2.879
		445.03		-7.805E-01	1.878E+00	3.036E+00	3.177E-01	-0.257
		260.50		-9.870E-01	8.502E+00	1.364E+01	7.697E-01	-0.072
		262.80		-3.322E+00	2.333E+01	3.732E+01	2.109E+00	-0.089
PB-210	*	896.60		1.024E+00	6.139E+00	1.016E+01	1.146E+00	0.101
	*	46.50		6.415E-01	5.161E+00	8.781E+00	6.794E-01	0.073
	*	46.50		6.415E-01	5.161E+00	8.781E+00	6.794E-01	0.073
	*	46.50		6.415E-01	5.161E+00	8.781E+00	5.841E-01	0.073
	*	404.84		-2.069E-01	7.845E-01	1.275E+00	7.949E-01	-0.162
BI-212		427.08		6.490E-01	1.801E+00	2.980E+00	1.843E+00	0.218
		831.96		2.177E-01	1.009E+00	1.670E+00	1.050E+00	0.130
	+	727.18	*	1.042E+00	4.187E-01	5.553E-01	5.531E-02	1.876
		785.46		6.942E-01	1.582E+00	2.574E+00	2.433E-01	0.270
		1620.62		7.716E-01	1.041E+00	1.873E+00	1.266E-01	0.412
PO-215		81.07		-9.650E-02	2.318E-01	3.341E-01	2.914E-02	-0.289
		83.78		1.365E-01	1.375E-01	2.079E-01	1.853E-02	0.657
		94.90		6.513E-01	2.399E-01	3.877E-01	3.156E-02	1.680
		122.32		-7.552E-01	1.622E+00	2.547E+00	1.730E-01	-0.296
	+	144.24		1.154E+00	7.603E-01	1.040E+00	7.260E-02	1.109
PO-215		154.21		3.228E-01	3.419E-01	5.985E-01	3.983E-02	0.539
	+	269.46		5.254E-01	2.436E-01	3.009E-01	1.787E-02	1.746
	*	323.87		-1.037E-01	5.736E-01	9.134E-01	1.508E-01	-0.114
	+	338.28		5.939E+00	1.353E+00	2.063E+00	2.171E-01	2.879

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		-7.805E-01	1.878E+00	3.036E+00	3.177E-01	-0.257
		271.23		6.741E-01	3.147E-01	3.992E-01	3.201E-02	1.689
		401.81	*	9.799E-02	3.500E-01	5.779E-01	7.868E-02	0.170
RN-220		549.76	*	-4.182E+00	2.174E+01	3.496E+01	2.402E+00	-0.120
RA-223		81.07		-9.650E-02	2.318E-01	3.341E-01	2.914E-02	-0.289
		83.78		1.365E-01	1.375E-01	2.079E-01	1.853E-02	0.657
		94.90		6.513E-01	2.399E-01	3.877E-01	3.156E-02	1.680
		122.32		-7.552E-01	1.622E+00	2.547E+00	1.730E-01	-0.296
		144.24	+	1.154E+00	7.603E-01	1.040E+00	7.260E-02	1.109
		154.21		3.228E-01	3.419E-01	5.985E-01	3.983E-02	0.539
		269.46	+	5.254E-01	2.436E-01	3.009E-01	1.787E-02	1.746
		323.87	*	-1.037E-01	5.736E-01	9.134E-01	1.508E-01	-0.114
		338.28	+	5.939E+00	1.353E+00	2.063E+00	2.171E-01	2.879
		445.03		-7.805E-01	1.878E+00	3.036E+00	3.177E-01	-0.257
		79.80		1.116E-01	1.743E+00	2.576E+00	5.540E-01	0.043
		236.00		2.862E-01	2.232E-01	3.433E-01	3.542E-02	0.834
		256.20	*	2.429E-02	3.294E-01	5.418E-01	7.526E-02	0.045
		286.10		-1.968E-01	1.311E+00	2.114E+00	2.435E-01	-0.093
		299.80	+	2.184E+00	1.722E+00	2.164E+00	3.519E-01	1.009
		304.40		-1.059E+00	1.861E+00	2.504E+00	4.328E-01	-0.423
		334.20		2.654E-01	2.184E+00	3.086E+00	5.655E-01	0.086
		79.80		1.116E-01	1.743E+00	2.576E+00	5.611E-01	0.043
		94.00	+	1.034E+01	3.674E+00	3.838E+00	8.304E-01	2.694
		236.00		2.862E-01	2.227E-01	3.433E-01	3.055E-02	0.834
		256.20	*	2.429E-02	3.294E-01	5.418E-01	9.125E-02	0.045
		286.10		-1.968E-01	1.326E+00	2.114E+00	2.117E+00	-0.093
		299.80	+	2.184E+00	1.722E+00	2.164E+00	3.519E-01	1.009
		304.40		-1.059E+00	1.861E+00	2.504E+00	4.328E-01	-0.423
		334.20		2.654E-01	2.184E+00	3.086E+00	5.655E-01	0.086
		85.43		2.282E-01	2.041E-01	3.096E-01	2.798E-02	0.737
		88.47	+	3.681E-01	1.393E-01	1.989E-01	1.822E-02	1.851
TH-229		100.00		1.538E-01	1.711E-01	2.879E-01	2.167E-02	0.534
		193.63	*	-2.048E-01	4.395E-01	7.211E-01	3.861E-02	-0.284
		210.97		1.626E+00	7.551E-01	1.220E+00	6.633E-02	1.332
PA-231		283.67	*	5.687E-01	1.267E+00	2.105E+00	2.893E-01	0.270
TH-231	+	301.29		8.737E-01	6.801E-01	8.777E-01	9.150E-02	0.995
		81.07		-9.650E-02	2.318E-01	3.341E-01	2.914E-02	-0.289
		83.78		1.365E-01	1.375E-01	2.079E-01	1.853E-02	0.657
		94.90		6.513E-01	2.399E-01	3.877E-01	3.156E-02	1.680
		122.32		-7.552E-01	1.622E+00	2.547E+00	1.730E-01	-0.296
		144.24	+	1.154E+00	7.603E-01	1.040E+00	7.260E-02	1.109
		154.21		3.228E-01	3.419E-01	5.985E-01	3.983E-02	0.539
		269.46	+	5.254E-01	2.436E-01	3.009E-01	1.787E-02	1.746
		323.87	*	-1.037E-01	5.736E-01	9.134E-01	1.508E-01	-0.114
		338.28	+	5.939E+00	1.353E+00	2.063E+00	2.171E-01	2.879
		445.03		-7.805E-01	1.878E+00	3.036E+00	3.177E-01	-0.257
		84.21		6.345E+00	6.974E+00	1.051E+01	9.400E-01	0.604
		92.29	+	1.193E+01	3.505E+00	4.595E+00	3.912E-01	2.596
		95.87	*	-5.526E-01	1.239E+00	1.755E+00	1.406E-01	-0.315

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-6.898E-01	2.204E+00	3.516E+00	2.391E-01	-0.196
	+	75.28		1.738E+01	4.609E+00	6.573E+00	9.998E-01	2.644
	+	86.59		5.278E+00	2.405E+00	2.882E+00	7.779E-01	1.831
	+	300.12		6.089E-01	4.768E-01	6.059E-01	8.127E-02	1.005
		311.98	*	3.641E-02	5.362E-02	8.974E-02	5.497E-03	0.406
		340.50		2.763E+00	9.244E-01	1.170E+00	2.687E-01	2.361
		398.62		-5.761E-01	1.671E+00	2.731E+00	7.062E-01	-0.211
PA-234		415.76		-2.980E-01	1.369E+00	2.254E+00	4.648E-01	-0.132
	+	63.00		3.732E+00	2.495E+00	2.944E+00	4.438E-01	1.268
	+	94.67		9.218E-01	2.830E-01	2.947E-01	3.564E-02	3.128
		98.44		3.173E-02	8.967E-02	1.386E-01	7.713E-02	0.229
		99.86		3.970E-01	4.338E-01	7.301E-01	5.508E-02	0.544
		111.00		-4.816E-04	1.707E-01	2.756E-01	2.957E-02	-0.002
		131.20		3.477E-03	1.137E-01	1.618E-01	9.207E-03	0.021
		152.70		1.749E-01	3.024E-01	4.880E-01	7.641E-02	0.358
	+	186.00		5.146E+00	2.419E+00	2.382E+00	7.257E-01	2.161
		226.40		2.523E-01	3.427E-01	5.827E-01	6.653E-02	0.433
		227.20		1.804E-01	3.741E-01	6.310E-01	3.478E-02	0.286
		248.90		-1.574E-01	6.845E-01	1.110E+00	2.380E-01	-0.142
		293.70		4.045E+00	1.023E+00	1.406E+00	2.258E-01	2.877
		369.80		3.920E-01	7.062E-01	1.215E+00	2.529E-01	0.323
		568.70		-7.557E-02	8.502E-01	1.373E+00	9.614E-02	-0.055
		569.50		-2.367E-01	2.479E-01	3.675E-01	2.575E-02	-0.644
		574.00		4.492E-01	1.337E+00	2.216E+00	1.559E-01	0.203
		699.00		-2.929E-01	6.011E-01	9.690E-01	1.829E-01	-0.302
		706.10		-1.629E-01	8.489E-01	1.393E+00	6.204E-01	-0.117
		733.00		9.227E-02	3.115E-01	4.600E-01	1.022E-01	0.201
		742.81		2.017E-01	1.041E+00	1.740E+00	1.170E+00	0.116
		796.30		1.313E+00	8.836E-01	1.465E+00	4.012E-01	0.896
		805.60		6.914E-01	9.531E-01	1.510E+00	4.679E-01	0.458
		819.60		-4.185E-01	9.146E-01	1.422E+00	5.456E-01	-0.294
		826.30		-3.797E-01	6.555E-01	9.891E-01	4.456E-01	-0.384
		831.60		1.001E-01	5.089E-01	8.475E-01	2.571E-01	0.118
		876.40		-6.089E-01	9.098E-01	9.916E-01	1.022E+00	-0.614
		880.51		1.489E-01	2.113E-01	3.654E-01	4.021E-02	0.408
		883.24		6.753E-02	2.180E-01	3.584E-01	2.422E-01	0.188
		899.00		-2.994E-01	7.484E-01	1.127E+00	4.996E-01	-0.266
		925.00		3.358E-01	9.639E-01	1.613E+00	1.758E-01	0.208
		926.50		1.326E-01	1.472E-01	2.504E-01	6.543E-02	0.530
		946.00	*	-1.486E-01	2.364E-01	3.593E-01	7.088E-02	-0.413
		949.00		1.619E-01	3.550E-01	5.981E-01	6.282E-02	0.271
		980.50		3.515E-02	5.848E-01	9.521E-01	9.469E-02	0.037
		1394.10		-8.106E-01	1.044E+00	1.298E+00	8.428E-01	-0.625
PA-234M		766.42		1.946E+01	1.453E+01	1.766E+01	8.975E+00	1.102
		1001.03	*	1.542E+00	4.070E+00	6.737E+00	7.268E-01	0.229
NP-236	+	94.67		6.991E-01	2.054E-01	2.239E-01	1.829E-02	3.123
		98.44		2.395E-02	6.648E-02	1.048E-01	8.068E-03	0.229
		111.00		-3.643E-04	1.291E-01	2.085E-01	1.371E-02	-0.002
		160.31	*	-4.243E-02	6.725E-02	1.110E-01	5.883E-03	-0.382

---- 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		1.623E-01	1.442E-01	2.446E-01	1.853E-02	0.664
		117.00	*	-1.151E-01	1.703E-01	2.653E-01	1.642E-02	-0.434
	+	209.75		2.721E+00	1.131E+00	1.272E+00	6.905E-02	2.140
		228.18		-3.058E-03	1.975E-01	3.263E-01	1.800E-02	-0.009
		277.60		1.175E-01	1.503E-01	2.540E-01	1.447E-02	0.463
AM-241		334.30		1.168E-01	1.235E+00	1.743E+00	1.008E-01	0.067
		59.54	*	4.342E-02	1.935E-01	2.939E-01	2.437E-02	0.148
CM-243		99.55		1.671E-01	1.484E-01	2.517E-01	1.907E-02	0.664
		103.76	*	-3.990E-02	9.117E-02	1.450E-01	1.038E-02	-0.275
		117.00		-1.184E-01	1.753E-01	2.730E-01	1.690E-02	-0.434
	+	209.75		2.682E+00	1.115E+00	1.254E+00	6.808E-02	2.140
		228.18		-3.090E-03	1.996E-01	3.297E-01	1.819E-02	-0.009
AM-246		277.60		1.185E-01	1.516E-01	2.561E-01	1.459E-02	0.463
		798.80		-1.811E-01	1.281E-01	1.892E-01	1.828E-02	-0.958
		1036.00		-1.498E-01	2.285E-01	3.607E-01	3.193E-02	-0.415
		1062.04		8.273E-02	1.942E-01	3.342E-01	2.770E-02	0.248
		1078.86	*	5.346E-02	1.048E-01	1.822E-01	1.441E-02	0.293
CM-247		278.00		6.710E-01	6.182E-01	1.059E+00	6.031E-02	0.634
		287.40		-6.021E-01	1.075E+00	1.695E+00	9.698E-02	-0.355
		402.60	*	2.690E-02	3.109E-02	5.288E-02	3.080E-03	0.509
CF-249		252.85		-8.267E-01	7.360E-01	1.137E+00	6.387E-02	-0.727
		333.44		-2.130E-02	1.700E-01	2.358E-01	1.364E-02	-0.090
		387.95	*	2.782E-02	3.243E-02	5.677E-02	3.263E-03	0.490
CF-251		176.60	*	-4.227E-02	1.077E-01	1.784E-01	9.421E-03	-0.237
		227.00		1.498E-01	3.313E-01	5.581E-01	3.076E-02	0.268
		285.00		2.091E-01	1.484E+00	2.430E+00	1.389E-01	0.086

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]G243630010      *
* Acquisition date   : 7-JAN-2010 13:28:07 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 02:00:01.53 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243630010 Analyst initials: MXR1                 *
* Batch Number       : 937702 Sample Quantity : 1.1779E+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	2.156E+01	2.045E+00	4.054E-01	0.000E+00
CD-109	2.747E+00	1.019E+00	1.250E+00	0.000E+00
SN-126	2.696E-01	9.997E-02	1.365E-01	0.000E+00
BA-137M	1.947E-01	4.374E-02	5.016E-02	0.000E+00
CS-137	2.058E-01	4.625E-02	5.302E-02	0.000E+00
CE-141	1.089E-01	7.019E-02	9.040E-02	0.000E+00
TL-208	4.876E-01	7.573E-02	4.745E-02	0.000E+00
BI-211	4.018E+00	4.643E-01	2.990E-01	0.000E+00
PB-212	1.469E+00	1.576E-01	8.331E-02	0.000E+00
PO-212	1.469E+00	1.576E-01	8.331E-02	0.000E+00
BI-214	1.128E+00	1.656E-01	9.942E-02	0.000E+00
PB-214	1.398E+00	1.766E-01	9.640E-02	0.000E+00
PO-214	1.398E+00	1.766E-01	9.640E-02	0.000E+00
PO-216	1.469E+00	1.576E-01	8.331E-02	0.000E+00
PO-218	1.398E+00	1.766E-01	9.640E-02	0.000E+00
RA-224	2.622E+00	7.612E-01	1.227E+00	0.000E+00
RA-226	1.128E+00	1.656E-01	9.942E-02	0.000E+00
AC-228	1.572E+00	3.130E-01	1.731E-01	0.000E+00
RA-228	1.572E+00	3.130E-01	1.731E-01	0.000E+00
TH-228	1.492E+00	1.602E-01	8.465E-02	0.000E+00
TH-230	1.128E+00	1.656E-01	9.942E-02	0.000E+00
TH-232	1.572E+00	3.130E-01	1.731E-01	0.000E+00
TH-234	3.202E+00	2.117E+00	2.299E+00	0.000E+00
U-234	1.128E+00	1.656E-01	9.942E-02	0.000E+00
U-235	3.560E-01	2.355E-01	3.096E-01	0.000E+00
NP-237	7.917E-01	3.344E-01	4.196E-01	0.000E+00
U-238	3.202E+00	2.117E+00	2.299E+00	0.000E+00
AM-243	3.318E-01	7.571E-02	9.395E-02	0.000E+00
ANH-511	9.445E-02	5.454E-02	3.588E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line			
Activity	K.L.	Act error	MDA

Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-1.473E-01	2.590E-01	4.238E-01	0.000E+00	NOT IDENT.
NA-22	-1.670E-02	3.518E-02	5.642E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.846E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.946E-02	2.196E-02	4.162E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.734E-02	8.608E-02	0.000E+00	FAIL ABUN
SC-46	1.718E-03	2.957E-02	4.967E-02	0.000E+00	FAIL ABUN
V-48	1.044E-02	5.841E-02	9.807E-02	0.000E+00	NOT IDENT.
CR-51	-1.410E-01	3.122E-01	5.065E-01	0.000E+00	NOT IDENT.
MN-52	9.607E-02	1.919E-01	3.365E-01	0.000E+00	NOT IDENT.
MN-54	1.032E-02	3.108E-02	5.343E-02	0.000E+00	NOT IDENT.
CO-56	-2.040E-02	3.288E-02	5.257E-02	0.000E+00	NOT IDENT.
CO-57	-7.516E-03	2.319E-02	3.831E-02	0.000E+00	NOT IDENT.
CO-58	-6.221E-03	3.137E-02	5.214E-02	0.000E+00	NOT IDENT.
FE-59	-5.156E-02	7.382E-02	1.184E-01	0.000E+00	FAIL ABUN
CO-60	-1.932E-03	2.726E-02	4.502E-02	0.000E+00	NOT IDENT.
ZN-65	-5.985E-02	8.488E-02	1.134E-01	0.000E+00	NOT IDENT.
GE-68	2.559E-01	9.154E-01	1.594E+00	0.000E+00	NOT IDENT.
AS-73	-3.710E-01	1.044E+00	1.771E+00	0.000E+00	NOT IDENT.
AS-74	1.960E-02	7.898E-02	1.334E-01	0.000E+00	NOT IDENT.
SE-75	1.757E-02	3.976E-02	6.393E-02	0.000E+00	NOT IDENT.
BR-77	6.680E+00	1.107E+01	1.935E+01	0.000E+00	FAIL ABUN
SR-82	-3.288E-01	3.204E-01	4.866E-01	0.000E+00	NOT IDENT.
RB-83	3.024E-02	5.577E-02	9.713E-02	0.000E+00	NOT IDENT.
RB-84	1.683E-02	5.273E-02	9.056E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.488E+00	1.294E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.878E-02	6.700E-02	0.000E+00	NOT IDENT.
RB-86	-6.628E-03	6.019E-01	1.024E+00	0.000E+00	NOT IDENT.
Y-88	-2.375E-02	2.716E-02	3.856E-02	0.000E+00	NOT IDENT.
ZR-88	-6.405E-03	2.454E-02	4.182E-02	0.000E+00	NOT IDENT.
Y-91	9.580E+00	1.401E+01	2.480E+01	0.000E+00	NOT IDENT.
NB-94	9.771E-03	2.638E-02	4.618E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	3.956E-02	6.721E-02	0.000E+00	NOT IDENT.
NB-95M	3.423E-02	1.131E-01	1.729E-01	0.000E+00	NOT IDENT.
ZR-95	8.419E-02	5.945E-02	1.092E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.266E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.215E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.933E+00	1.086E+01	1.824E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.308E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.363E-02	2.900E-02	5.067E-02	0.000E+00	NOT IDENT.
RH-102	-6.217E-03	2.212E-02	3.689E-02	0.000E+00	NOT IDENT.
RU-103	-3.252E-02	3.149E-02	4.902E-02	0.000E+00	FAIL ABUN
RH-106	-3.397E-01	2.771E-01	4.136E-01	0.000E+00	FAIL ABUN
RU-106	-3.397E-01	2.750E-01	4.136E-01	0.000E+00	FAIL ABUN
AG-108M	2.733E-03	2.764E-02	4.761E-02	0.000E+00	NOT IDENT.
AG-110M	-1.465E-02	3.197E-02	4.545E-02	0.000E+00	NOT IDENT.
IN-111	3.924E-02	1.242E+00	1.862E+00	0.000E+00	NOT IDENT.
IN-113M	-7.098E-04	3.596E-02	6.212E-02	0.000E+00	NOT IDENT.
SN-113	-7.098E-04	3.596E-02	6.212E-02	0.000E+00	NOT IDENT.
IN-114M	4.603E-02	1.711E-01	2.662E-01	0.000E+00	NOT IDENT.
CD-115	-2.748E+00	1.220E+01	2.023E+01	0.000E+00	NOT IDENT.
SN-117M	-2.013E-03	4.702E-02	8.287E-02	0.000E+00	NOT IDENT.
SB-122	2.338E+00	2.085E+00	3.729E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.582E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.142E-03	2.375E-02	4.178E-02	0.000E+00	NOT IDENT.
I-124	7.937E-02	8.061E-01	1.164E+00	0.000E+00	NOT IDENT.
SB-124	3.442E-02	5.798E-02	1.053E-01	0.000E+00	FAIL ABUN
SB-125	-7.207E-03	7.660E-02	1.307E-01	0.000E+00	FAIL ABUN
TE-125M	-1.568E+00	8.673E+00	1.455E+01	0.000E+00	NOT IDENT.
I-126	1.340E-01	1.739E-01	2.754E-01	0.000E+00	NOT IDENT.
SB-126	2.197E-02	1.334E-01	2.072E-01	0.000E+00	FAIL ABUN
SB-127	8.565E-01	1.279E+00	2.282E+00	0.000E+00	NOT IDENT.
XE-127	-5.296E-02	4.164E-02	6.234E-02	0.000E+00	FAIL ABUN
I-131	-2.470E-02	9.282E-02	1.591E-01	0.000E+00	NOT IDENT.
TE-132	-6.310E-03	7.236E-01	1.241E+00	0.000E+00	NOT IDENT.
BA-133	-8.885E-03	3.891E-02	5.477E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.072E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.415E-02	4.106E-02	7.591E-02	0.000E+00	NOT IDENT.
CS-135	7.386E-02	1.474E-01	2.255E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.822E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.563E-02	8.532E-02	1.421E-01	0.000E+00	FAIL ABUN
CE-139	1.078E-02	2.516E-02	4.494E-02	0.000E+00	NOT IDENT.
BA-140	-3.324E-02	2.213E-01	3.676E-01	0.000E+00	NOT IDENT.
LA-140	-8.275E-02	7.733E-02	1.143E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.569E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.341E-02	2.153E-01	3.113E-01	0.000E+00	NOT IDENT.
PM-144	5.361E-03	2.850E-02	4.938E-02	0.000E+00	NOT IDENT.

PR-144	3.635E-01	1.933E+00	3.348E+00	0.000E+00	NOT IDENT.
PM-146	1.766E-02	3.565E-02	6.249E-02	0.000E+00	NOT IDENT.
ND-147	2.955E-01	5.023E-01	8.724E-01	0.000E+00	FAIL ABUN
PM-149	-1.477E+01	1.031E+02	1.722E+02	0.000E+00	NOT IDENT.
EU-152	-3.716E-02	8.646E-02	1.342E-01	0.000E+00	NOT IDENT.
GD-153	-4.424E-02	7.875E-02	1.159E-01	0.000E+00	NOT IDENT.
EU-154	-1.552E-02	9.568E-02	1.578E-01	0.000E+00	NOT IDENT.
EU-155	6.950E-02	9.677E-02	1.687E-01	0.000E+00	FAIL ABUN
TB-160	1.254E-02	1.012E-01	1.712E-01	0.000E+00	FAIL ABUN
HO-166M	2.141E-02	4.810E-02	8.454E-02	0.000E+00	NOT IDENT.
TM-171	-1.004E+01	3.193E+01	4.862E+01	0.000E+00	NOT IDENT.
LU-176	3.310E-03	2.249E-02	3.506E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.723E+00	2.004E+00	0.000E+00	FAIL ABUN
LU-177M	-1.080E-01	1.501E-01	2.484E-01	0.000E+00	NOT IDENT.
HF-181	1.439E-03	3.623E-02	6.161E-02	0.000E+00	FAIL ABUN
W-181	0.000E+00	6.216E-01	6.737E-01	0.000E+00	FAIL ABUN
TA-182	1.059E-01	1.540E-01	2.713E-01	0.000E+00	FAIL ABUN
RE-183	-1.666E-02	9.380E-02	1.623E-01	0.000E+00	FAIL ABUN
RE-184	-2.212E-01	1.930E-01	3.091E-01	0.000E+00	NOT IDENT.
OS-185	-6.164E-03	3.431E-02	5.578E-02	0.000E+00	NOT IDENT.
RE-188	4.871E-02	1.484E-01	2.654E-01	0.000E+00	NOT IDENT.
W-188	4.316E+00	6.885E+00	1.056E+01	0.000E+00	FAIL ABUN
IR-192	-3.128E-02	2.887E-02	4.505E-02	0.000E+00	FAIL ABUN
AU-195	2.566E-01	2.010E-01	3.587E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.559E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.724E+00	7.337E+00	1.272E+01	0.000E+00	NOT IDENT.
TL-202	-1.990E-02	6.027E-02	9.941E-02	0.000E+00	NOT IDENT.
HG-203	3.419E-02	3.346E-02	5.915E-02	0.000E+00	NOT IDENT.
BI-207	4.425E-02	4.511E-02	8.177E-02	0.000E+00	FAIL ABUN
TL-207	-1.037E-01	5.621E-01	9.256E-01	0.000E+00	FAIL ABUN
PO-209	1.024E+00	6.016E+00	1.018E+01	0.000E+00	NOT IDENT.
BI-210	6.415E-01	5.058E+00	9.081E+00	0.000E+00	NOT IDENT.
PB-210	6.415E-01	5.058E+00	9.081E+00	0.000E+00	NOT IDENT.
PO-210	6.415E-01	5.058E+00	9.081E+00	0.000E+00	NOT IDENT.
PB-211	-2.069E-01	7.688E-01	1.289E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.104E-01	5.579E-01	0.000E+00	FAIL ABUN
PO-215	-1.037E-01	5.621E-01	9.256E-01	0.000E+00	FAIL ABUN
RN-219	9.799E-02	3.430E-01	5.843E-01	0.000E+00	FAIL ABUN
RN-220	-4.182E+00	2.130E+01	3.522E+01	0.000E+00	NOT IDENT.
RA-223	-1.037E-01	5.621E-01	9.256E-01	0.000E+00	FAIL ABUN
AC-227	2.429E-02	3.229E-01	5.504E-01	0.000E+00	FAIL ABUN
TH-227	2.429E-02	3.229E-01	5.504E-01	0.000E+00	FAIL ABUN
TH-229	-2.048E-01	4.307E-01	7.347E-01	0.000E+00	FAIL ABUN
PA-231	5.687E-01	1.242E+00	2.136E+00	0.000E+00	FAIL ABUN
TH-231	-1.037E-01	5.621E-01	9.256E-01	0.000E+00	FAIL ABUN
U-231	-5.526E-01	1.214E+00	1.801E+00	0.000E+00	FAIL ABUN
PA-233	3.641E-02	5.255E-02	9.097E-02	0.000E+00	FAIL ABUN
PA-234	-1.486E-01	2.317E-01	3.599E-01	0.000E+00	FAIL ABUN
PA-234M	1.542E+00	3.989E+00	6.744E+00	0.000E+00	NOT IDENT.
NP-236	-4.243E-02	6.590E-02	1.134E-01	0.000E+00	FAIL ABUN
NP-239	-1.151E-01	1.669E-01	2.718E-01	0.000E+00	FAIL ABUN
AM-241	4.342E-02	1.896E-01	3.031E-01	0.000E+00	NOT IDENT.
CM-243	-3.990E-02	8.934E-02	1.487E-01	0.000E+00	FAIL ABUN
AM-246	5.346E-02	1.027E-01	1.822E-01	0.000E+00	NOT IDENT.
CM-247	2.690E-02	3.047E-02	5.346E-02	0.000E+00	NOT IDENT.
CF-249	2.782E-02	3.178E-02	5.741E-02	0.000E+00	NOT IDENT.
CF-251	-4.227E-02	1.056E-01	1.820E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630010.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:28:07.
Sample ID          : G243630010          Sample quantity  : 1.17790E+02 GRAM
Detector name      : GAM18                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.53  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 937702               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	1367	10.67*	1.893E+00	2.156E+01	2.156E+01	9.68
CD-109	88.03	203	3.72*	6.473E+00	2.682E+00	2.747E+00	37.84
SN-126	64.28	123	9.60	3.229E+00	1.267E+00	1.267E+00	66.78
	86.94	203	8.90	6.473E+00	1.121E+00	1.121E+00	55.39
	87.57	203	37.00*	6.473E+00	2.696E-01	2.696E-01	37.84
BA-137M	661.65	197	89.98*	3.587E+00	1.945E-01	1.947E-01	22.92
CS-137	661.65	197	85.12*	3.587E+00	2.056E-01	2.058E-01	22.93
CE-141	145.44	96	48.40*	8.219E+00	7.724E-02	1.089E-01	65.78
TL-208	277.35	-----	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	128	21.60	4.308E+00	4.373E-01	4.373E-01	59.51
	583.14	507	84.20*	3.932E+00	4.876E-01	4.876E-01	15.85
	860.37	73	12.46	2.915E+00	6.425E-01	6.425E-01	53.84
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	889	12.94*	5.448E+00	4.018E+00	4.018E+00	11.79
PB-212	74.81	341	10.70	4.969E+00	2.047E+00	2.047E+00	25.09
	77.11	595	18.00	5.280E+00	1.996E+00	1.996E+00	15.89
	87.30	203	8.00	6.473E+00	1.247E+00	1.247E+00	39.14
	238.63	1396	44.60*	6.790E+00	1.469E+00	1.469E+00	10.95
	300.09	75	3.41	5.979E+00	1.179E+00	1.179E+00	77.58
PO-212	74.81	341	10.70	4.969E+00	2.047E+00	2.047E+00	25.09
	77.11	595	18.00	5.280E+00	1.996E+00	1.996E+00	15.89
	87.30	203	8.00	6.473E+00	1.247E+00	1.247E+00	39.14
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1396	44.60*	6.790E+00	1.469E+00	1.469E+00	10.95
	300.09	75	3.41	5.979E+00	1.179E+00	1.179E+00	77.58
BI-214	609.31	625	46.30*	3.811E+00	1.128E+00	1.128E+00	14.98
	1120.29	168	15.10	2.333E+00	1.519E+00	1.519E+00	30.59
	1764.49	125	15.80	1.694E+00	1.489E+00	1.489E+00	23.16
PB-214	74.81	341	6.21	4.969E+00	3.527E+00	3.527E+00	24.43
	77.11	595	10.50	5.280E+00	3.421E+00	3.421E+00	17.62
	87.30	203	4.67	6.473E+00	2.136E+00	2.136E+00	38.61
	241.98	219	7.49	6.741E+00	1.383E+00	1.383E+00	30.15

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	482	19.20	6.037E+00	1.325E+00	1.325E+00	17.57
	351.92	889	37.20*	5.448E+00	1.398E+00	1.398E+00	12.89
	74.81	341	6.21	4.969E+00	3.527E+00	3.527E+00	24.43
	77.11	595	10.50	5.280E+00	3.421E+00	3.421E+00	17.62
	87.30	203	4.67	6.473E+00	2.136E+00	2.136E+00	38.61
PO-216	241.98	219	7.49	6.741E+00	1.383E+00	1.383E+00	30.15
	295.21	482	19.20	6.037E+00	1.325E+00	1.325E+00	17.57
	351.92	889	37.20*	5.448E+00	1.398E+00	1.398E+00	12.89
	74.81	341	6.21	4.969E+00	2.047E+00	2.047E+00	25.09
	77.11	595	18.00	5.280E+00	1.996E+00	1.996E+00	15.89
PO-218	87.30	203	8.00	6.473E+00	1.247E+00	1.247E+00	39.14
	238.63	1396	44.60*	6.790E+00	1.469E+00	1.469E+00	10.95
	300.09	75	3.41	5.979E+00	1.179E+00	1.179E+00	77.58
	74.81	341	6.21	4.969E+00	3.527E+00	3.527E+00	24.43
	77.11	595	10.50	5.280E+00	3.421E+00	3.421E+00	17.62
RA-224	87.30	203	4.67	6.473E+00	2.136E+00	2.136E+00	38.61
	241.98	219	7.49	6.741E+00	1.383E+00	1.383E+00	30.15
	295.21	482	19.20	6.037E+00	1.325E+00	1.325E+00	17.57
	351.92	889	37.20*	5.448E+00	1.398E+00	1.398E+00	12.89
	240.98	219	3.95*	6.741E+00	2.622E+00	2.622E+00	29.62
RA-226	609.31	625	46.30*	3.811E+00	1.128E+00	1.128E+00	14.98
	1120.29	168	15.10	2.333E+00	1.519E+00	1.519E+00	30.59
	1764.49	125	15.80	1.694E+00	1.489E+00	1.489E+00	23.16
	338.32	284	11.40	5.578E+00	1.422E+00	1.422E+00	45.50
	911.07	380	27.70*	2.779E+00	1.572E+00	1.572E+00	20.31
AC-228	969.11	223	16.60	2.638E+00	1.624E+00	1.624E+00	37.68
	338.32	284	11.40	5.578E+00	1.422E+00	1.422E+00	45.50
	911.07	380	27.70*	2.779E+00	1.572E+00	1.572E+00	20.31
	969.11	223	16.60	2.638E+00	1.624E+00	1.624E+00	37.68
	74.81	341	10.70	4.969E+00	2.047E+00	2.080E+00	23.31
TH-228	77.11	595	18.00	5.280E+00	1.996E+00	2.028E+00	15.89
	87.30	203	8.00	6.473E+00	1.247E+00	1.267E+00	37.84
	238.63	1396	44.60*	6.790E+00	1.469E+00	1.492E+00	10.95
	300.09	75	3.41	5.979E+00	1.179E+00	1.198E+00	97.08
	609.31	625	46.30*	3.811E+00	1.128E+00	1.128E+00	14.98
TH-230	1120.29	168	15.10	2.333E+00	1.519E+00	1.519E+00	30.59
	1764.49	125	15.80	1.694E+00	1.489E+00	1.489E+00	23.16
	338.32	284	11.40	5.578E+00	1.422E+00	1.422E+00	21.02
	911.07	380	27.70*	2.779E+00	1.572E+00	1.572E+00	20.31
	969.11	223	16.60	2.638E+00	1.624E+00	1.624E+00	37.68
TH-232	63.29	123	3.80*	3.229E+00	3.202E+00	3.202E+00	67.47
	92.38	317	5.41	6.983E+00	2.675E+00	2.675E+00	33.40
	609.31	625	46.30*	3.811E+00	1.128E+00	1.128E+00	14.98
	1120.29	168	15.10	2.333E+00	1.519E+00	1.519E+00	30.59
	1764.49	125	15.80	1.694E+00	1.489E+00	1.489E+00	23.16
TH-234	89.95	127	2.70	6.741E+00	2.229E+00	2.229E+00	43.81
	93.35	317	4.50	6.983E+00	3.216E+00	3.216E+00	39.68
	105.00	-----	2.10	7.709E+00	-----	Line Not Found	-----
	143.76	96	10.50*	8.219E+00	3.560E-01	3.560E-01	67.50

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	163.35	-----	4.70	8.004E+00	-----	Line Not Found	-----
	185.71	247	54.00	7.644E+00	1.906E-01	1.906E-01	36.18
	205.31	-----	4.70	7.323E+00	-----	Line Not Found	-----
NP-237	86.50	203	12.60*	6.473E+00	7.917E-01	7.917E-01	43.10
	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
U-238	63.29	123	3.80*	3.229E+00	3.202E+00	3.202E+00	67.47
	92.38	317	5.41	6.983E+00	2.675E+00	2.675E+00	29.38
AM-243	74.67	341	66.00*	4.969E+00	3.318E-01	3.318E-01	23.28
	86.72	203	0.34	6.473E+00	2.969E+01	2.969E+01	37.84
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	128	100.00*	4.308E+00	9.445E-02	9.445E-02	58.92

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 3
Number of lines tentatively identified by NID 29 90.63%

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	2.156E+01	2.156E+01	0.209E+01	9.68	
CD-109	464.00D	1.02	2.682E+00	2.747E+00	1.039E+00	37.84	
SN-126	1.00E+05Y	1.00	2.696E-01	2.696E-01	1.020E-01	37.84	
BA-137M	30.17Y	1.00	1.945E-01	1.947E-01	0.446E-01	22.92	
CS-137	30.17Y	1.00	2.056E-01	2.058E-01	0.472E-01	22.93	
CE-141	32.50D	1.41	7.724E-02	1.089E-01	0.716E-01	65.78	
TL-208	1.41E+10Y	1.00	4.876E-01	4.876E-01	0.773E-01	15.85	
BI-211	7.04E+08Y	1.00	4.018E+00	4.018E+00	0.474E+00	11.79	
PB-212	1.41E+10Y	1.00	1.469E+00	1.469E+00	0.161E+00	10.95	
PO-212	1.41E+10Y	1.00	1.469E+00	1.469E+00	0.161E+00	10.95	
BI-214	1600.00Y	1.00	1.128E+00	1.128E+00	0.169E+00	14.98	
PB-214	1600.00Y	1.00	1.398E+00	1.398E+00	0.180E+00	12.89	
PO-214	1600.00Y	1.00	1.398E+00	1.398E+00	0.180E+00	12.89	
PO-216	1.41E+10Y	1.00	1.469E+00	1.469E+00	0.161E+00	10.95	
PO-218	1600.00Y	1.00	1.398E+00	1.398E+00	0.180E+00	12.89	
RA-224	1.41E+10Y	1.00	2.622E+00	2.622E+00	0.777E+00	29.62	
RA-226	1600.00Y	1.00	1.128E+00	1.128E+00	0.169E+00	14.98	
AC-228	1.41E+10Y	1.00	1.572E+00	1.572E+00	0.319E+00	20.31	
RA-228	1.41E+10Y	1.00	1.572E+00	1.572E+00	0.319E+00	20.31	
TH-228	1.91Y	1.02	1.469E+00	1.492E+00	0.163E+00	10.95	
TH-230	4.47E+09Y	1.00	1.128E+00	1.128E+00	0.169E+00	14.98	
TH-232	1.41E+10Y	1.00	1.572E+00	1.572E+00	0.319E+00	20.31	
TH-234	4.47E+09Y	1.00	3.202E+00	3.202E+00	2.160E+00	67.47	
U-234	4.47E+09Y	1.00	1.128E+00	1.128E+00	0.169E+00	14.98	
U-235	7.04E+08Y	1.00	3.560E-01	3.560E-01	2.403E-01	67.50	
NP-237	2.14E+06Y	1.00	7.917E-01	7.917E-01	3.412E-01	43.10	
U-238	4.47E+09Y	1.00	3.202E+00	3.202E+00	2.160E+00	67.47	
AM-243	7380.00Y	1.00	3.318E-01	3.318E-01	0.773E-01	23.28	
ANH-511	1.00E+09Y	1.00	9.445E-02	9.445E-02	5.565E-02	58.92	

Total Activity : 5.939E+01 5.952E+01

Grand Total Activity : 5.939E+01 5.952E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243630010

Page : 5
Acquisition date : 7-JAN-2010 13:28:07

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.31	69	327	1.11	257.70	254	8	9.54E-03	94.1	8.25E+00	T
0	209.17	201	378	0.90	417.35	411	12	2.79E-02	41.2	7.26E+00	T
0	270.77	142	247	1.35	540.53	535	11	1.98E-02	46.0	6.34E+00	T
0	463.21	100	144	1.49	925.29	920	12	1.39E-02	52.5	4.60E+00	T
0	728.03	129	106	1.81	1454.78	1448	14	1.79E-02	38.9	3.33E+00	T
0	768.54	50	101	1.88	1535.78	1529	12	6.95E-03	85.5	3.19E+00	
0	1377.75	51	37	0.84	2754.00	2744	21	7.06E-03	65.9	1.98E+00	
0	1731.76	16	23	1.48	3461.97	3456	13	2.23E-03	****	1.71E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630010.CNF;1
* Acquisition date   : 7-JAN-2010 13:28:07.  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 02:00:01.53             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630010           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.17790E+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	2.156E+01	2.086E+00	4.067E-01	3.086E-02	53.023
CD-109	2.747E+00	1.039E+00	1.216E+00	1.125E-01	2.258
SN-126	2.696E-01	1.020E-01	1.328E-01	1.224E-02	2.030
BA-137M	1.947E-01	4.463E-02	4.988E-02	3.802E-03	3.904
CS-137	2.058E-01	4.719E-02	5.273E-02	4.029E-03	3.904
CE-141	1.089E-01	7.162E-02	8.846E-02	5.050E-03	1.231
TL-208	4.876E-01	7.727E-02	4.713E-02	3.694E-03	10.346
BI-211	4.018E+00	4.738E-01	2.953E-01	1.896E-02	13.605
PB-212	1.469E+00	1.609E-01	8.195E-02	5.854E-03	17.924
PO-212	1.469E+00	1.609E-01	8.195E-02	5.854E-03	17.924
BI-214	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
PB-214	1.398E+00	1.802E-01	9.521E-02	7.876E-03	14.680
PO-214	1.398E+00	1.802E-01	9.521E-02	7.876E-03	14.680
PO-216	1.469E+00	1.609E-01	8.195E-02	5.854E-03	17.924
PO-218	1.398E+00	1.802E-01	9.521E-02	7.876E-03	14.680
RA-224	2.622E+00	7.768E-01	1.208E+00	6.727E-02	2.171
RA-226	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
AC-228	1.572E+00	3.194E-01	1.728E-01	2.289E-02	9.101

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.572E+00	3.194E-01	1.728E-01	2.289E-02	9.101
TH-228	1.492E+00	1.634E-01	8.327E-02	5.949E-03	17.924
TH-230	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
TH-232	1.572E+00	3.194E-01	1.728E-01	2.289E-02	9.101
TH-234	3.202E+00	2.160E+00	2.230E+00	3.932E-01	1.436
U-234	1.128E+00	1.690E-01	9.878E-02	8.824E-03	11.419
U-235	3.560E-01	2.403E-01	3.029E-01	4.906E-02	1.175
NP-237	7.917E-01	3.412E-01	4.083E-01	9.213E-02	1.939
U-238	3.202E+00	2.160E+00	2.230E+00	3.932E-01	1.436
AM-243	3.318E-01	7.725E-02	9.130E-02	7.618E-03	3.635
ANH-511	9.445E-02	5.565E-02	3.558E-02	2.350E-03	2.654

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.473E-01		2.642E-01	4.200E-01	3.043E-02	-0.351
NA-22	-1.670E-02		3.590E-02	5.651E-02	3.845E-03	-0.296
NA-24	8.494E-01		9.418E-01	Half-Life too short		
AL-26	1.946E-02		2.241E-02	4.185E-02	2.443E-03	0.465
TI-44	3.683E-01	+	5.851E-02	8.368E-02	7.155E-03	4.401
SC-46	1.718E-03		3.017E-02	4.956E-02	5.527E-03	0.035
V-48	1.044E-02		5.960E-02	9.795E-02	9.688E-03	0.107
CR-51	-1.410E-01		3.186E-01	4.997E-01	3.217E-02	-0.282
MN-52	9.607E-02		1.958E-01	3.375E-01	2.487E-02	0.285
MN-54	1.032E-02		3.171E-02	5.327E-02	5.457E-03	0.194
CO-56	-2.040E-02		3.355E-02	5.242E-02	5.472E-03	-0.389
CO-57	-7.516E-03		2.366E-02	3.742E-02	2.217E-03	-0.201
CO-58	-6.221E-03		3.201E-02	5.197E-02	5.130E-03	-0.120
FE-59	-5.156E-02		7.533E-02	1.184E-01	9.748E-03	-0.435
CO-60	-1.932E-03		2.782E-02	4.512E-02	3.409E-03	-0.043
ZN-65	-5.985E-02		8.661E-02	1.135E-01	7.992E-03	-0.527
GE-68	2.559E-01		9.341E-01	1.593E+00	1.266E-01	0.161
AS-73	-3.710E-01		1.065E+00	1.715E+00	1.360E-01	-0.216
AS-74	1.960E-02		8.059E-02	1.325E-01	9.522E-03	0.148
SE-75	1.757E-02		4.057E-02	6.295E-02	3.600E-03	0.279
BR-77	6.680E+00		1.130E+01	1.919E+01	1.280E+00	0.348
SR-82	-3.288E-01		3.270E-01	4.848E-01	4.515E-02	-0.678
RB-83	3.024E-02		5.690E-02	9.634E-02	6.425E-03	0.314
RB-84	1.683E-02		5.381E-02	9.034E-02	9.957E-03	0.186
KR-85	2.210E+01		7.641E+00	1.283E+01	8.500E-01	1.722
SR-85	1.144E-01		3.957E-02	6.644E-02	4.402E-03	1.722
RB-86	-6.628E-03		6.141E-01	1.024E+00	8.149E-02	-0.006
Y-88	-2.375E-02		2.772E-02	3.878E-02	2.209E-03	-0.612
ZR-88	-6.405E-03		2.504E-02	4.136E-02	2.379E-03	-0.155
Y-91	9.580E+00		1.430E+01	2.483E+01	1.468E+00	0.386
NB-94	9.771E-03		2.692E-02	4.596E-02	3.770E-03	0.213
NB-95	8.007E-02		4.036E-02	6.695E-02	6.124E-03	1.196

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	3.423E-02		1.154E-01	1.700E-01	1.247E-02	0.201
ZR-95	8.419E-02		6.067E-02	1.088E-01	1.070E-02	0.774
NB-97	-7.828E-02		1.156E-01	Half-Life too short		
ZR-97	4.101E+00		2.151E+00	Half-Life too short		
MO-99	-1.933E+00		1.108E+01	1.816E+01	2.772E+00	-0.106
TC-99M	1.027E+11		2.708E+11	Half-Life too short		
RH-101	2.363E-02		2.959E-02	4.974E-02	2.674E-03	0.475
RH-102	-6.217E-03		2.257E-02	3.655E-02	2.322E-03	-0.170
RU-103	-3.252E-02		3.214E-02	4.859E-02	6.310E-03	-0.669
RH-106	-3.397E-01		2.827E-01	4.110E-01	5.171E-02	-0.826
RU-106	-3.397E-01		2.806E-01	4.110E-01	3.025E-02	-0.826
AG-108M	2.733E-03		2.820E-02	4.713E-02	3.079E-03	0.058
AG-110M	-1.465E-02		3.262E-02	4.519E-02	3.564E-03	-0.324
IN-111	3.924E-02		1.268E+00	1.832E+00	1.024E-01	0.021
IN-113M	-7.098E-04		3.669E-02	6.143E-02	3.768E-03	-0.012
SN-113	-7.098E-04		3.669E-02	6.143E-02	3.768E-03	-0.012
IN-114M	4.603E-02		1.746E-01	2.612E-01	1.395E-02	0.176
CD-115	-2.748E+00		1.245E+01	2.007E+01	1.349E+00	-0.137
SN-117M	-2.013E-03		4.798E-02	8.116E-02	4.314E-03	-0.025
SB-122	2.338E+00		2.128E+00	3.702E+00	2.580E-01	0.632
I-123	-1.426E+00		8.071E+00	Half-Life too short		
TE-123M	-2.142E-03		2.424E-02	4.092E-02	2.208E-03	-0.052
I-124	7.937E-02		8.226E-01	1.156E+00	8.362E-02	0.069
SB-124	3.442E-02		5.916E-02	1.058E-01	7.301E-03	0.325
SB-125	-7.207E-03		7.816E-02	1.294E-01	8.086E-03	-0.056
TE-125M	-1.568E+00		8.850E+00	1.419E+01	1.248E+00	-0.110
I-126	1.340E-01		1.774E-01	2.739E-01	2.106E-02	0.489
SB-126	2.197E-02		1.361E-01	2.062E-01	1.746E-02	0.107
SB-127	8.565E-01		1.305E+00	2.270E+00	2.538E-01	0.377
XE-127	-5.296E-02		4.249E-02	6.121E-02	3.304E-03	-0.865
I-131	-2.470E-02		9.471E-02	1.572E-01	1.016E-02	-0.157
TE-132	-6.310E-03		7.384E-01	1.220E+00	1.763E-01	-0.005
BA-133	-8.885E-03		3.970E-02	5.410E-02	6.250E-03	-0.164
I-133	1.525E-03		5.471E-03	Half-Life too short		
CS-134	7.415E-02		4.190E-02	7.564E-02	7.316E-03	0.980
CS-135	7.386E-02		1.505E-01	2.221E-01	1.679E-02	0.333
I-135	-5.269E+10		2.460E+10	Half-Life too short		
CS-136	-2.563E-02		8.706E-02	1.420E-01	1.273E-02	-0.180
CE-139	1.078E-02		2.567E-02	4.404E-02	2.312E-03	0.245
BA-140	-3.324E-02		2.258E-01	3.647E-01	1.193E-01	-0.091
LA-140	-8.275E-02		7.891E-02	1.147E-01	7.872E-03	-0.721
CE-143	5.924E-04		1.311E-04	Half-Life too short		
CE-144	-8.341E-02		2.197E-01	3.043E-01	4.303E-02	-0.274
PM-144	5.361E-03		2.909E-02	4.913E-02	3.989E-03	0.109
PR-144	3.635E-01		1.972E+00	3.331E+00	2.703E-01	0.109
PM-146	1.766E-02		3.638E-02	6.189E-02	5.506E-03	0.285
ND-147	2.955E-01		5.125E-01	8.655E-01	1.208E-01	0.341
PM-149	-1.477E+01		1.052E+02	1.697E+02	2.401E+01	-0.087

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-3.716E-02		8.823E-02	1.325E-01	8.648E-03	-0.280
GD-153	-4.424E-02		8.036E-02	1.129E-01	8.831E-03	-0.392
EU-154	-1.552E-02		9.764E-02	1.580E-01	1.579E-02	-0.098
EU-155	6.950E-02		9.875E-02	1.645E-01	1.176E-02	0.422
TB-160	1.254E-02		1.033E-01	1.708E-01	1.876E-02	0.073
HO-166M	2.141E-02		4.909E-02	8.414E-02	7.014E-03	0.254
TM-171	-1.004E+01		3.258E+01	4.719E+01	3.773E+00	-0.213
LU-176	3.310E-03		2.295E-02	3.458E-02	1.991E-03	0.096
LU-177	4.229E+00	+	1.758E+00	1.969E+00	1.068E-01	2.148
LU-177M	-1.080E-01		1.531E-01	2.458E-01	1.452E-02	-0.439
HF-181	1.439E-03		3.697E-02	6.106E-02	3.909E-03	0.024
W-181	9.669E-01	+	6.343E-01	6.537E-01	5.185E-02	1.479
TA-182	1.059E-01		1.571E-01	2.716E-01	1.662E-02	0.390
RE-183	-1.666E-02		9.571E-02	1.590E-01	8.394E-03	-0.105
RE-184	-2.212E-01		1.969E-01	3.042E-01	1.709E-02	-0.727
OS-185	-6.164E-03		3.501E-02	5.546E-02	4.171E-03	-0.111
RE-188	4.871E-02		1.514E-01	2.598E-01	1.390E-02	0.187
W-188	4.316E+00		7.026E+00	1.041E+01	5.962E-01	0.415
IR-192	-3.128E-02		2.946E-02	4.445E-02	2.578E-03	-0.704
AU-195	2.566E-01		2.051E-01	3.495E-01	2.674E-02	0.734
TL-200	2.610E-04		3.346E-04	Half-Life	too short	
TL-201	-2.724E+00		7.487E+00	1.246E+01	6.543E-01	-0.219
TL-202	-1.990E-02		6.150E-02	9.842E-02	6.000E-03	-0.202
HG-203	3.419E-02		3.415E-02	5.828E-02	3.534E-03	0.587
BI-207	4.425E-02		4.603E-02	8.174E-02	6.748E-03	0.541
TL-207	-1.037E-01		5.736E-01	9.134E-01	1.508E-01	-0.114
PO-209	1.024E+00		6.139E+00	1.016E+01	1.146E+00	0.101
BI-210	6.415E-01		5.161E+00	8.781E+00	6.794E-01	0.073
PB-210	6.415E-01		5.161E+00	8.781E+00	6.794E-01	0.073
PO-210	6.415E-01		5.161E+00	8.781E+00	5.841E-01	0.073
PB-211	-2.069E-01		7.845E-01	1.275E+00	7.949E-01	-0.162
BI-212	1.042E+00	+	4.187E-01	5.553E-01	5.531E-02	1.876
PO-215	-1.037E-01		5.736E-01	9.134E-01	1.508E-01	-0.114
RN-219	9.799E-02		3.500E-01	5.779E-01	7.868E-02	0.170
RN-220	-4.182E+00		2.174E+01	3.496E+01	2.402E+00	-0.120
RA-223	-1.037E-01		5.736E-01	9.134E-01	1.508E-01	-0.114
AC-227	2.429E-02		3.294E-01	5.418E-01	7.526E-02	0.045
TH-227	2.429E-02		3.294E-01	5.418E-01	9.125E-02	0.045
TH-229	-2.048E-01		4.395E-01	7.211E-01	3.861E-02	-0.284
PA-231	5.687E-01		1.267E+00	2.105E+00	2.893E-01	0.270
TH-231	-1.037E-01		5.736E-01	9.134E-01	1.508E-01	-0.114
U-231	-5.526E-01		1.239E+00	1.755E+00	1.406E-01	-0.315
PA-233	3.641E-02		5.362E-02	8.974E-02	5.497E-03	0.406
PA-234	-1.486E-01		2.364E-01	3.593E-01	7.088E-02	-0.413
PA-234M	1.542E+00		4.070E+00	6.737E+00	7.268E-01	0.229
NP-236	-4.243E-02		6.725E-02	1.110E-01	5.883E-03	-0.382
NP-239	-1.151E-01		1.703E-01	2.653E-01	1.642E-02	-0.434
AM-241	4.342E-02		1.935E-01	2.939E-01	2.437E-02	0.148

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.990E-02		9.117E-02	1.450E-01	1.038E-02	-0.275
AM-246	5.346E-02		1.048E-01	1.822E-01	1.441E-02	0.293
CM-247	2.690E-02		3.109E-02	5.288E-02	3.080E-03	0.509
CF-249	2.782E-02		3.243E-02	5.677E-02	3.263E-03	0.490
CF-251	-4.227E-02		1.077E-01	1.784E-01	9.421E-03	-0.237

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]G243630010          *
* Acquisition date   : 7-JAN-2010 13:28:07 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 02:00:01.53                               Half life ratio  : 8.000          *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243630010                               Analyst initials: MXR1          *
* Batch Number       : 937702                                   Sample Quantity : 1.1779E+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	2.156E+01	2.045E+00	2.028E-01	1.043E+00
CD-109	2.747E+00	1.019E+00	6.252E-01	5.197E-01
SN-126	2.696E-01	9.997E-02	6.827E-02	5.101E-02
BA-137M	1.947E-01	4.374E-02	2.509E-02	2.231E-02
CS-137	2.058E-01	4.625E-02	2.653E-02	2.360E-02
CE-141	1.089E-01	7.019E-02	4.523E-02	3.581E-02
TL-208	4.876E-01	7.573E-02	2.374E-02	3.864E-02
BI-211	4.018E+00	4.643E-01	1.496E-01	2.369E-01
PB-212	1.469E+00	1.576E-01	4.168E-02	8.043E-02
PO-212	1.469E+00	1.576E-01	4.168E-02	8.043E-02
BI-214	1.128E+00	1.656E-01	4.974E-02	8.448E-02
PB-214	1.398E+00	1.766E-01	4.823E-02	9.012E-02
PO-214	1.398E+00	1.766E-01	4.823E-02	9.012E-02
PO-216	1.469E+00	1.576E-01	4.168E-02	8.043E-02
PO-218	1.398E+00	1.766E-01	4.823E-02	9.012E-02
RA-224	2.622E+00	7.612E-01	6.141E-01	3.884E-01
RA-226	1.128E+00	1.656E-01	4.974E-02	8.448E-02
AC-228	1.572E+00	3.130E-01	8.662E-02	1.597E-01
RA-228	1.572E+00	3.130E-01	8.662E-02	1.597E-01
TH-228	1.492E+00	1.602E-01	4.235E-02	8.172E-02
TH-230	1.128E+00	1.656E-01	4.974E-02	8.448E-02
TH-232	1.572E+00	3.130E-01	8.662E-02	1.597E-01
TH-234	3.202E+00	2.117E+00	1.150E+00	1.080E+00
U-234	1.128E+00	1.656E-01	4.974E-02	8.448E-02
U-235	3.560E-01	2.355E-01	1.549E-01	1.202E-01
NP-237	7.917E-01	3.344E-01	2.099E-01	1.706E-01
U-238	3.202E+00	2.117E+00	1.150E+00	1.080E+00
AM-243	3.318E-01	7.571E-02	4.700E-02	3.863E-02
ANH-511	9.445E-02	5.454E-02	1.795E-02	2.782E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-1.473E-01	2.590E-01	2.120E-01	1.321E-01	NOT IDENT.
NA-22	-1.670E-02	3.518E-02	2.823E-02	1.795E-02	NOT IDENT.
NA-24	8.494E+05	1.846E+06	0.000E+00	9.418E+05	SHORT HLIF
AL-26	1.946E-02	2.196E-02	2.082E-02	1.121E-02	NOT IDENT.
TI-44	3.683E-01	5.734E-02	4.306E-02	2.926E-02	FAIL ABUN
SC-46	1.718E-03	2.957E-02	2.485E-02	1.509E-02	FAIL ABUN
V-48	1.044E-02	5.841E-02	4.906E-02	2.980E-02	NOT IDENT.
CR-51	-1.410E-01	3.122E-01	2.534E-01	1.593E-01	NOT IDENT.
MN-52	9.607E-02	1.919E-01	1.684E-01	9.790E-02	NOT IDENT.
MN-54	1.032E-02	3.108E-02	2.673E-02	1.586E-02	NOT IDENT.
CO-56	-2.040E-02	3.288E-02	2.630E-02	1.678E-02	NOT IDENT.
CO-57	-7.516E-03	2.319E-02	1.917E-02	1.183E-02	NOT IDENT.
CO-58	-6.221E-03	3.137E-02	2.609E-02	1.600E-02	NOT IDENT.
FE-59	-5.156E-02	7.382E-02	5.925E-02	3.766E-02	FAIL ABUN
CO-60	-1.932E-03	2.726E-02	2.252E-02	1.391E-02	NOT IDENT.
ZN-65	-5.985E-02	8.488E-02	5.675E-02	4.330E-02	NOT IDENT.
GE-68	2.559E-01	9.154E-01	7.974E-01	4.670E-01	NOT IDENT.
AS-73	-3.710E-01	1.044E+00	8.861E-01	5.326E-01	NOT IDENT.
AS-74	1.960E-02	7.898E-02	6.675E-02	4.030E-02	NOT IDENT.
SE-75	1.757E-02	3.976E-02	3.198E-02	2.029E-02	NOT IDENT.
BR-77	6.680E+00	1.107E+01	9.681E+00	5.649E+00	FAIL ABUN
SR-82	-3.288E-01	3.204E-01	2.435E-01	1.635E-01	NOT IDENT.
RB-83	3.024E-02	5.577E-02	4.859E-02	2.845E-02	NOT IDENT.
RB-84	1.683E-02	5.273E-02	4.531E-02	2.690E-02	NOT IDENT.
KR-85	2.210E+01	7.488E+00	6.473E+00	3.821E+00	NOT IDENT.
SR-85	1.144E-01	3.878E-02	3.352E-02	1.978E-02	NOT IDENT.
RB-86	-6.628E-03	6.019E-01	5.122E-01	3.071E-01	NOT IDENT.
Y-88	-2.375E-02	2.716E-02	1.929E-02	1.386E-02	NOT IDENT.
ZR-88	-6.405E-03	2.454E-02	2.092E-02	1.252E-02	NOT IDENT.
Y-91	9.580E+00	1.401E+01	1.241E+01	7.149E+00	NOT IDENT.
NB-94	9.771E-03	2.638E-02	2.311E-02	1.346E-02	NOT IDENT.
NB-95	8.007E-02	3.956E-02	3.363E-02	2.018E-02	NOT IDENT.
NB-95M	3.423E-02	1.131E-01	8.649E-02	5.772E-02	NOT IDENT.
ZR-95	8.419E-02	5.945E-02	5.464E-02	3.033E-02	NOT IDENT.
NB-97	-7.828E+04	2.266E+05	0.000E+00	1.156E+05	SHORT HLIF
ZR-97	4.101E+06	4.215E+06	0.000E+00	2.151E+06	SHORT HLIF
MO-99	-1.933E+00	1.086E+01	9.127E+00	5.541E+00	NOT IDENT.
TC-99M	1.027E+17	5.308E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.363E-02	2.900E-02	2.535E-02	1.480E-02	NOT IDENT.
RH-102	-6.217E-03	2.212E-02	1.846E-02	1.128E-02	NOT IDENT.
RU-103	-3.252E-02	3.149E-02	2.452E-02	1.607E-02	FAIL ABUN
RH-106	-3.397E-01	2.771E-01	2.069E-01	1.414E-01	FAIL ABUN
RU-106	-3.397E-01	2.750E-01	2.069E-01	1.403E-01	FAIL ABUN
AG-108M	2.733E-03	2.764E-02	2.382E-02	1.410E-02	NOT IDENT.
AG-110M	-1.465E-02	3.197E-02	2.274E-02	1.631E-02	NOT IDENT.
IN-111	3.924E-02	1.242E+00	9.315E-01	6.339E-01	NOT IDENT.
IN-113M	-7.098E-04	3.596E-02	3.108E-02	1.835E-02	NOT IDENT.
SN-113	-7.098E-04	3.596E-02	3.108E-02	1.835E-02	NOT IDENT.
IN-114M	4.603E-02	1.711E-01	1.332E-01	8.730E-02	NOT IDENT.
CD-115	-2.748E+00	1.220E+01	1.012E+01	6.226E+00	NOT IDENT.
SN-117M	-2.013E-03	4.702E-02	4.146E-02	2.399E-02	NOT IDENT.
SB-122	2.338E+00	2.085E+00	1.866E+00	1.064E+00	NOT IDENT.
I-123	-1.426E+06	1.582E+07	0.000E+00	8.071E+06	SHORT HLIF
TE-123M	-2.142E-03	2.375E-02	2.090E-02	1.212E-02	NOT IDENT.
I-124	7.937E-02	8.061E-01	5.824E-01	4.113E-01	NOT IDENT.
SB-124	3.442E-02	5.798E-02	5.270E-02	2.958E-02	FAIL ABUN
SB-125	-7.207E-03	7.660E-02	6.541E-02	3.908E-02	FAIL ABUN
TE-125M	-1.568E+00	8.673E+00	7.279E+00	4.425E+00	NOT IDENT.
I-126	1.340E-01	1.739E-01	1.378E-01	8.870E-02	NOT IDENT.
SB-126	2.197E-02	1.334E-01	1.037E-01	6.805E-02	FAIL ABUN
SB-127	8.565E-01	1.279E+00	1.142E+00	6.524E-01	NOT IDENT.
XE-127	-5.296E-02	4.164E-02	3.119E-02	2.125E-02	FAIL ABUN
I-131	-2.470E-02	9.282E-02	7.961E-02	4.736E-02	NOT IDENT.
TE-132	-6.310E-03	7.236E-01	6.209E-01	3.692E-01	NOT IDENT.
BA-133	-8.885E-03	3.891E-02	2.740E-02	1.985E-02	NOT IDENT.
I-133	1.525E+03	1.072E+04	0.000E+00	5.471E+03	SHORT HLIF
CS-134	7.415E-02	4.106E-02	3.798E-02	2.095E-02	NOT IDENT.
CS-135	7.386E-02	1.474E-01	1.128E-01	7.523E-02	NOT IDENT.
I-135	-5.269E+16	4.822E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.563E-02	8.532E-02	7.109E-02	4.353E-02	FAIL ABUN
CE-139	1.078E-02	2.516E-02	2.249E-02	1.284E-02	NOT IDENT.
BA-140	-3.324E-02	2.213E-01	1.839E-01	1.129E-01	NOT IDENT.
LA-140	-8.275E-02	7.733E-02	5.717E-02	3.945E-02	NOT IDENT.
CE-143	5.924E+02	2.569E+02	0.000E+00	1.311E+02	SHORT HLIF
CE-144	-8.341E-02	2.153E-01	1.557E-01	1.099E-01	NOT IDENT.
PM-144	5.361E-03	2.850E-02	2.470E-02	1.454E-02	NOT IDENT.

PR-144	3.635E-01	1.933E+00	1.675E+00	9.860E-01	NOT IDENT.
PM-146	1.766E-02	3.565E-02	3.126E-02	1.819E-02	NOT IDENT.
ND-147	2.955E-01	5.023E-01	4.365E-01	2.563E-01	FAIL ABUN
PM-149	-1.477E+01	1.031E+02	8.617E+01	5.262E+01	NOT IDENT.
EU-152	-3.716E-02	8.646E-02	6.714E-02	4.411E-02	NOT IDENT.
GD-153	-4.424E-02	7.875E-02	5.799E-02	4.018E-02	NOT IDENT.
EU-154	-1.552E-02	9.568E-02	7.894E-02	4.882E-02	NOT IDENT.
EU-155	6.950E-02	9.677E-02	8.442E-02	4.937E-02	FAIL ABUN
TB-160	1.254E-02	1.012E-01	8.566E-02	5.164E-02	FAIL ABUN
HO-166M	2.141E-02	4.810E-02	4.230E-02	2.454E-02	NOT IDENT.
TM-171	-1.004E+01	3.193E+01	2.432E+01	1.629E+01	NOT IDENT.
LU-176	3.310E-03	2.249E-02	1.754E-02	1.147E-02	FAIL ABUN
LU-177	4.229E+00	1.723E+00	1.003E+00	8.792E-01	FAIL ABUN
LU-177M	-1.080E-01	1.501E-01	1.243E-01	7.656E-02	NOT IDENT.
HF-181	1.439E-03	3.623E-02	3.083E-02	1.848E-02	FAIL ABUN
W-181	9.669E-01	6.216E-01	3.371E-01	3.171E-01	FAIL ABUN
TA-182	1.059E-01	1.540E-01	1.357E-01	7.856E-02	FAIL ABUN
RE-183	-1.666E-02	9.380E-02	8.121E-02	4.786E-02	FAIL ABUN
RE-184	-2.212E-01	1.930E-01	1.546E-01	9.845E-02	NOT IDENT.
OS-185	-6.164E-03	3.431E-02	2.791E-02	1.750E-02	NOT IDENT.
RE-188	4.871E-02	1.484E-01	1.328E-01	7.572E-02	NOT IDENT.
W-188	4.316E+00	6.885E+00	5.283E+00	3.513E+00	FAIL ABUN
IR-192	-3.128E-02	2.887E-02	2.254E-02	1.473E-02	FAIL ABUN
AU-195	2.566E-01	2.010E-01	1.794E-01	1.026E-01	FAIL ABUN
TL-200	2.610E+02	6.559E+02	0.000E+00	3.346E+02	SHORT HLIF
TL-201	-2.724E+00	7.337E+00	6.364E+00	3.744E+00	NOT IDENT.
TL-202	-1.990E-02	6.027E-02	4.973E-02	3.075E-02	NOT IDENT.
HG-203	3.419E-02	3.346E-02	2.959E-02	1.707E-02	NOT IDENT.
BI-207	4.425E-02	4.511E-02	4.091E-02	2.301E-02	FAIL ABUN
TL-207	-1.037E-01	5.621E-01	4.631E-01	2.868E-01	FAIL ABUN
PO-209	1.024E+00	6.016E+00	5.093E+00	3.069E+00	NOT IDENT.
BI-210	6.415E-01	5.058E+00	4.543E+00	2.581E+00	NOT IDENT.
PB-210	6.415E-01	5.058E+00	4.543E+00	2.581E+00	NOT IDENT.
PO-210	6.415E-01	5.058E+00	4.543E+00	2.581E+00	NOT IDENT.
PB-211	-2.069E-01	7.688E-01	6.448E-01	3.922E-01	NOT IDENT.
BI-212	1.042E+00	4.104E-01	2.791E-01	2.094E-01	FAIL ABUN
PO-215	-1.037E-01	5.621E-01	4.631E-01	2.868E-01	FAIL ABUN
RN-219	9.799E-02	3.430E-01	2.923E-01	1.750E-01	FAIL ABUN
RN-220	-4.182E+00	2.130E+01	1.762E+01	1.087E+01	NOT IDENT.
RA-223	-1.037E-01	5.621E-01	4.631E-01	2.868E-01	FAIL ABUN
AC-227	2.429E-02	3.229E-01	2.754E-01	1.647E-01	FAIL ABUN
TH-227	2.429E-02	3.229E-01	2.754E-01	1.647E-01	FAIL ABUN
TH-229	-2.048E-01	4.307E-01	3.676E-01	2.197E-01	FAIL ABUN
PA-231	5.687E-01	1.242E+00	1.069E+00	6.334E-01	FAIL ABUN
TH-231	-1.037E-01	5.621E-01	4.631E-01	2.868E-01	FAIL ABUN
U-231	-5.526E-01	1.214E+00	9.010E-01	6.193E-01	FAIL ABUN
PA-233	3.641E-02	5.255E-02	4.551E-02	2.681E-02	FAIL ABUN
PA-234	-1.486E-01	2.317E-01	1.801E-01	1.182E-01	FAIL ABUN
PA-234M	1.542E+00	3.989E+00	3.374E+00	2.035E+00	NOT IDENT.
NP-236	-4.243E-02	6.590E-02	5.671E-02	3.362E-02	FAIL ABUN
NP-239	-1.151E-01	1.669E-01	1.360E-01	8.517E-02	FAIL ABUN
AM-241	4.342E-02	1.896E-01	1.516E-01	9.673E-02	NOT IDENT.
CM-243	-3.990E-02	8.934E-02	7.440E-02	4.558E-02	FAIL ABUN
AM-246	5.346E-02	1.027E-01	9.117E-02	5.242E-02	NOT IDENT.
CM-247	2.690E-02	3.047E-02	2.675E-02	1.555E-02	NOT IDENT.
CF-249	2.782E-02	3.178E-02	2.872E-02	1.622E-02	NOT IDENT.
CF-251	-4.227E-02	1.056E-01	9.103E-02	5.386E-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
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46.50	258.7244
46.50	258.7244
46.50	258.7244
48.70	261.0754
49.72	268.4321
51.35	246.6703
52.39	242.2227
52.97	249.1257
53.15	250.2062
53.44	252.3042
54.07	257.4702
56.28	270.6320
56.28	270.6350
57.37	0.0000
57.53	272.7896
57.53	272.7911
57.60	275.6327
57.98	276.0094
57.98	276.0094
59.32	294.5423
59.32	294.5423
59.40	294.6252
59.54	294.7701
59.72	292.1602
60.01	274.2657
61.10	314.6351
61.14	314.6787
61.30	314.8522
63.00	308.1991
63.29	310.3870
63.29	310.3870
63.58	310.6890
64.28	311.4170
65.12	327.4713
65.20	327.5577
65.20	327.5577
66.05	309.9061
66.72	330.6173
66.83	345.0548
66.91	345.1431
67.20	345.4667
67.20	345.4667
67.75	364.7452
67.85	351.9352
68.90	357.4366
68.90	357.4366
69.30	362.6991
69.67	377.5728
70.82	346.5438
70.82	346.5438
70.83	346.5547
72.80	385.1296
72.87	385.2122
72.87	385.2122
74.67	395.1313
74.81	395.2967
74.81	395.2967
74.81	395.2967
74.81	395.2967
74.81	395.2967
74.81	395.2967
74.81	395.2967
74.97	395.4847
75.28	395.8505
75.70	396.3436
77.11	397.9875
77.11	397.9875

77.11	397.9875
77.11	397.9875
77.11	397.9875
77.11	397.9875
77.11	397.9875
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79.80	373.7846
79.80	373.7846
80.11	374.1140
80.18	374.1886
80.30	383.2628
80.30	383.2628
80.57	383.5569
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81.07	399.0435
81.07	399.0435
81.07	399.0435
81.07	399.0435
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83.37	370.0172
83.78	368.9337
83.78	368.9337
83.78	368.9337
83.78	368.9337
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84.90	371.5750
85.43	381.1858
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86.50	488.4784
86.54	488.5300
86.59	488.5963
86.72	484.2121
86.79	484.2997
86.94	484.4968
87.30	460.6399
87.30	460.6399
87.30	460.6399
87.30	460.6399
87.30	460.6399
87.30	460.6399
87.57	460.9705
87.88	377.6063
88.03	377.7576
88.36	378.0869
88.47	378.1966
89.95	379.6686
91.11	268.7191
92.29	269.5362
92.38	269.5990
92.38	269.5990
93.35	270.2652
94.00	270.7112
94.67	271.1638
94.67	271.1678
94.90	271.3240
94.90	271.3240
94.90	271.3240
94.90	271.3240
95.87	303.0659
95.87	303.0659
96.73	316.1761
97.43	305.7984
98.44	286.5351
98.44	286.5351
98.88	257.8243
99.55	268.6992
99.55	268.6992
99.86	277.2709
100.00	277.3653
100.10	277.4340
103.18	329.0435
103.76	317.8758
105.00	267.9594
105.31	276.6328
108.00	307.1426
109.28	319.8014

111.00	303.8600
111.00	303.8600
111.76	311.9025
112.95	289.0002
115.19	295.8375
116.30	294.3766
117.00	291.5561
117.00	291.5561
117.66	310.4895
121.11	266.6699
121.62	295.5172
121.78	295.6157
122.06	303.4852
122.32	303.6480
122.32	303.6480
122.32	303.6480
122.32	303.6480
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127.23	286.7089
129.76	316.6441
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135.34	309.3872
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136.25	312.1874
136.48	337.2204
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140.51	0.0000
142.18	315.6913
142.65	319.4008
143.76	311.4500
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144.24	300.8160
144.24	300.8160
144.24	300.8160
145.22	282.9510
145.44	283.0662
147.16	285.6784
152.43	301.7688
152.70	301.9111
153.22	296.6457
154.21	289.2686
154.21	289.2686
154.21	289.2686
154.21	289.2686
155.03	314.2606
156.02	320.0746
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159.00	295.1957
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161.27	317.6229
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162.64	291.6746
163.35	281.3362
163.89	289.6093
165.85	287.8671
167.43	309.2292
171.28	287.7114
171.86	283.4653
172.10	263.7049
176.55	294.6731
176.60	294.6953
181.06	284.2863
184.41	296.0530
185.71	282.2455
186.00	282.3692
190.27	273.4013
192.34	314.0497
193.63	304.2446
197.04	283.2402
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198.60	284.8138
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201.83	297.4562
202.84	293.7814
205.31	208.0035

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208.81	250.7782
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209.75	251.1013
210.97	257.0675
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216.55	244.7486
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222.10	274.7025
223.80	259.7461
226.40	238.1714
227.00	253.0087
227.08	253.0344
227.20	254.0511
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228.18	269.0457
228.18	269.0457
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236.00	260.8499
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238.63	280.7369
238.63	280.7369
238.63	280.7369
239.00	472.0742
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241.98	285.0802
241.98	285.0802
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248.90	217.8145
249.79	204.9836
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252.85	236.9919
252.85	236.9919
254.15	0.0000
256.20	223.7525
256.20	223.7525
260.50	219.7837
260.90	222.9398
262.80	212.2053
264.65	201.7476
268.24	210.2344
268.79	218.5830
269.46	205.5878
269.46	205.5878
269.46	205.5878
269.46	205.5878
271.23	197.7568
273.65	223.0763
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277.60	196.0425
277.60	196.0425
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278.60	183.7979
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283.67	179.5901
284.30	198.5178
285.00	194.4860
285.90	203.0464
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286.10	203.0878
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295.21	191.1013

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300.09	182.7211
300.09	182.7211
300.12	182.7264
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306.84	183.9809
308.46	172.4972
311.98	161.2793
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319.02	146.1649
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323.87	194.7215
323.87	194.7215
323.87	194.7215
325.23	226.5637
328.77	206.5688
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334.20	175.7764
334.30	175.7935
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338.28	176.4502
338.28	176.4502
338.28	176.4502
338.32	176.4575
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338.32	176.4575
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344.27	187.5732
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351.92	169.7429
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391.69	156.2631
392.90	155.4943
398.62	151.5769
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404.84	165.4276
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427.89	153.2291
432.53	147.0877
433.93	151.0701
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439.89	144.0692
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445.03	143.6599
445.03	143.6599
445.03	143.6599
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475.35	113.3407
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511.85	107.1096
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513.99	129.8592
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520.65	108.7476
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529.87	0.0000
531.02	116.6413
537.32	119.1690
543.00	104.1316
546.56	0.0000
549.76	119.0710
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569.50	134.1469
569.67	134.1625
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593.00	117.9700
595.88	114.9768
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602.71	146.0725
602.71	146.0725
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609.31	138.4010
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621.84	136.1452
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633.10	91.3356
634.78	88.1567
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636.97	91.5325
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646.12	99.6579
656.30	99.1055
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661.65	117.7969
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666.33	99.6372
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692.80	104.7630
695.00	100.1993
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696.49	116.2071
697.00	110.6130
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698.50	117.2638
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717.42	114.5994
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722.78	94.4199
722.89	94.4240
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755.35	79.1088
756.15	82.0342
756.87	85.9236
763.93	84.6893
765.79	79.7779
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778.57	101.4334
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792.07	122.6756

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836.80	0.0000
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884.67	59.2638
889.25	67.5670
896.60	78.0395
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911.07	80.5676
911.07	80.5676
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969.11	76.0913
969.11	76.0913
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983.50	69.0704
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1036.00	74.2969
1037.82	67.8392
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1038.76	0.0000
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1046.59	76.4460
1048.07	71.8223

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1050.47	68.1498
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1077.35	61.2594
1078.86	56.5785
1085.78	67.1122
1099.22	86.4170
1112.02	63.4269
1112.84	71.7935
1115.52	96.9263
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1120.29	65.0402
1120.29	65.0402
1120.29	65.0402
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1124.00	0.0000
1129.67	57.0907
1131.51	0.0000
1147.95	0.0000
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1173.22	87.6050
1175.09	80.8405
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1291.56	69.6810
1298.22	0.0000
1312.09	69.0910
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1325.50	43.8608
1332.49	38.8403
1333.61	40.8970
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1362.66	0.0000
1365.15	30.9521
1368.21	34.3343
1368.53	0.0000
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1384.27	36.3062
1394.10	43.6875
1395.20	52.0246
1407.95	46.9870
1434.06	27.3430
1436.60	29.4668
1457.56	0.0000
1460.81	30.7184
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1596.49	48.9456
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1678.03	0.0000
1691.02	17.6726
1691.02	17.6726
1706.46	0.0000
1750.46	0.0000
1764.49	21.3021
1764.49	21.3021
1764.49	21.3021
1764.49	21.3021
1770.23	8.8873
1771.40	8.8897
1791.20	0.0000
1808.65	12.1011

1836.01

26.3769

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630010

Total Uranium Activity	9.6901E+00	ug/g
Total Uranium Counting Unc.	6.2996E+00	ug/g
Total Uranium Tpu	3.2141E-06	ug/g
Total Uranium Mda	3.4228E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G243630010
*  ANALYST       : MXR1            DETECTOR    : GAM18
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:28:07.34  SAMPLE ALQT: 117.790 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.173E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.110E+00
GROSS GAMMA MDA (pCi/GRAM ) : 2.141E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.035E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:30:24.74

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630011.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:28:37.
Sample ID          : G243630011 Sample quantity : 1.10250E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:34.34 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.45*	88	342	1.52	92.93	88	9	1.23E-02	40.5	
2	0	63.15*	62	437	1.13	126.29	123	8	8.66E-03	61.5	
3	2	73.01	72	304	1.24	145.98	143	19	1.00E-02	37.5	1.62E+00
4	2	74.99*	510	410	1.14	149.93	143	19	7.08E-02	8.3	
5	2	77.21*	812	390	1.11	154.35	143	19	1.13E-01	5.5	
6	3	84.25*	153	372	1.39	168.41	161	31	2.12E-02	24.0	1.73E+00
7	3	87.31	342	367	1.39	174.52	161	31	4.75E-02	11.2	
8	3	90.04*	201	362	1.35	179.97	161	31	2.80E-02	18.5	
9	3	92.80*	271	357	1.39	185.49	161	31	3.76E-02	14.9	
10	0	105.42	71	248	1.38	210.70	208	7	9.91E-03	38.3	
11	0	129.07	66	290	1.41	257.92	255	8	9.21E-03	46.0	
12	0	185.91*	231	280	1.24	371.45	367	10	3.21E-02	15.7	
13	0	208.92	137	255	1.49	417.41	413	10	1.90E-02	23.4	
14	3	238.65*	1306	158	1.09	476.79	469	21	1.81E-01	3.3	9.72E-01
15	3	241.66*	290	193	1.54	482.81	469	21	4.03E-02	12.1	
16	0	270.37	118	191	1.26	540.16	535	11	1.64E-02	24.5	
17	0	277.29	51	151	0.98	553.99	551	7	7.10E-03	42.3	
18	0	295.37	437	208	1.44	590.10	583	13	6.07E-02	8.3	
19	0	300.32	115	145	0.99	599.99	596	10	1.60E-02	21.5	
20	0	328.36	102	171	1.20	656.01	651	12	1.41E-02	27.6	
21	0	338.38*	235	159	1.10	676.02	672	10	3.27E-02	12.1	
22	0	351.92*	733	169	1.20	703.07	698	12	1.02E-01	5.2	
23	0	409.58	37	59	1.22	818.29	815	7	5.21E-03	37.4	
24	0	463.21	80	101	1.23	925.44	920	11	1.11E-02	26.9	
25	0	511.40*	89	168	1.61	1021.76	1014	17	1.24E-02	38.8	
26	0	583.49*	368	68	1.43	1165.84	1161	11	5.11E-02	7.0	
27	0	609.54*	491	70	1.28	1217.91	1213	12	6.83E-02	5.8	
28	0	661.80	158	66	1.18	1322.39	1317	11	2.19E-02	12.8	
29	0	727.77	75	76	1.80	1454.26	1448	14	1.04E-02	27.1	
30	0	787.90	21	74	1.69	1574.50	1566	12	2.88E-03	86.4	
31	0	795.14	50	65	1.49	1588.98	1581	13	6.94E-03	36.1	
32	0	911.61*	281	72	1.43	1821.89	1815	15	3.90E-02	9.0	
33	0	934.52*	41	17	1.59	1867.70	1863	11	5.65E-03	26.6	
34	2	964.83*	40	55	2.02	1928.35	1922	26	5.59E-03	38.7	2.66E+00
35	2	969.37*	149	37	1.79	1937.41	1922	26	2.07E-02	11.8	
36	0	1120.89	121	51	1.66	2240.55	2235	12	1.67E-02	15.2	
37	0	1378.57	51	15	1.40	2756.25	2749	15	7.08E-03	21.7	
38	0	1461.26*	822	45	1.60	2921.78	2913	18	1.14E-01	4.0	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1593.44	29	14	0.85	3186.46	3182	13	3.97E-03	32.3	
40	0	1630.63	16	2	1.54	3260.94	3256	9	2.21E-03	30.2	
41	0	1729.83	25	13	1.87	3459.63	3451	17	3.49E-03	38.2	
42	0	1764.64*	92	0	2.16	3529.37	3524	12	1.28E-02	11.0	
43	0	1847.84	31	4	2.29	3696.06	3688	13	4.34E-03	21.6	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:28:37
Sample ID         : G243630011 Sample quantity      : 110.25 GRAM
Sample type       : SOLID Sample geometry       :
Detector name     : GAMMA20 Detector geometry    : CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:34.34 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

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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	*	2.094E+01	2.480E+00	4.134E-01	3.605E-02	50.665
CD-109	+	88.03	*	4.616E+00	1.122E+00	1.056E+00	9.989E-02	4.370
SN-126	+	64.28		4.789E-01	5.934E-01	6.746E-01	9.768E-02	0.710
	+	86.94		1.884E+00	8.888E-01	4.340E-01	1.802E-01	4.340
	+	87.57	*	4.531E-01	1.101E-01	1.040E-01	9.779E-03	4.358
BA-137M	+	661.65	*	2.456E-01	6.733E-02	6.246E-02	6.268E-03	3.932
CS-137	+	661.65	*	2.596E-01	7.119E-02	6.603E-02	6.636E-03	3.932
EU-155		48.70		3.535E-01	1.660E+00	2.489E+00	1.992E-01	0.142
		60.01		9.175E-01	4.172E+00	6.207E+00	4.404E-01	0.148
	+	86.54		5.459E-01	1.328E-01	1.261E-01	1.181E-02	4.328
	+	105.31	*	1.591E-01	1.226E-01	1.715E-01	1.491E-02	0.928
TL-208	+	277.35		5.423E-01	4.646E-01	6.014E-01	7.996E-02	0.902
	+	510.84		4.714E-01	3.702E-01	2.193E-01	2.742E-02	2.149
	+	583.14	*	5.524E-01	9.586E-02	5.994E-02	6.162E-03	9.217
		860.37		5.533E-01	3.351E-01	6.172E-01	6.541E-02	0.896
BI-210	+	46.50	*	4.060E+00	3.313E+00	3.314E+00	3.074E-01	1.225
PB-210	+	46.50	*	4.060E+00	3.313E+00	3.314E+00	3.074E-01	1.225
PO-210	+	46.50	*	4.060E+00	3.309E+00	3.314E+00	2.781E-01	1.225
BI-211	+	72.87		3.303E+00	2.492E+00	4.183E+00	3.304E-01	0.790
	+	351.07	*	4.860E+00	6.844E-01	3.392E-01	3.249E-02	14.330
PB-212	+	74.81		2.678E+00	5.536E-01	4.812E-01	5.939E-02	5.564
	+	77.11		2.454E+00	3.397E-01	2.769E-01	2.290E-02	8.863
	+	87.30		2.095E+00	5.506E-01	4.817E-01	6.602E-02	4.350
	+	238.63	*	1.899E+00	2.368E-01	8.560E-02	9.103E-03	22.191
	+	300.09		2.584E+00	1.150E+00	1.241E+00	1.419E-01	2.082
PO-212	+	74.81		2.678E+00	5.536E-01	4.812E-01	5.939E-02	5.564
	+	77.11		2.454E+00	3.397E-01	2.769E-01	2.290E-02	8.863
	+	87.30		2.095E+00	5.506E-01	4.817E-01	6.602E-02	4.350
		115.19		1.884E+00	3.616E+00	5.954E+00	5.001E-01	0.316
	+	238.63	*	1.899E+00	2.368E-01	8.560E-02	9.103E-03	22.191
	+	300.09		2.584E+00	1.150E+00	1.241E+00	1.419E-01	2.082
BI-214	+	609.31	*	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
	+	1120.29		1.747E+00	5.621E-01	4.612E-01	4.990E-02	3.787
	+	1764.49		1.807E+00	4.233E-01	2.566E-01	2.108E-02	7.044

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-214	+	74.81		4.614E+00	9.170E-01	8.292E-01	9.078E-02	5.564
	+	77.11		4.207E+00	6.647E-01	4.747E-01	5.338E-02	8.863
	+	87.30		3.590E+00	9.151E-01	8.252E-01	1.001E-01	4.350
	+	241.98		2.533E+00	6.745E-01	5.153E-01	5.762E-02	4.916
	+	295.21		1.716E+00	3.489E-01	2.055E-01	2.398E-02	8.353
PO-214	+	351.92	*	1.691E+00	2.539E-01	1.112E-01	1.212E-02	15.204
	+	74.81		4.614E+00	9.170E-01	8.292E-01	9.078E-02	5.564
	+	77.11		4.207E+00	6.647E-01	4.747E-01	5.338E-02	8.863
	+	87.30		3.590E+00	9.151E-01	8.252E-01	1.001E-01	4.350
	+	241.98		2.533E+00	6.745E-01	5.153E-01	5.762E-02	4.916
PO-216	+	295.21		1.716E+00	3.489E-01	2.055E-01	2.398E-02	8.353
	+	351.92	*	1.691E+00	2.539E-01	1.112E-01	1.212E-02	15.204
	+	74.81		2.678E+00	5.536E-01	4.812E-01	5.939E-02	5.564
	+	77.11		2.454E+00	3.397E-01	2.769E-01	2.290E-02	8.863
	+	87.30		2.095E+00	5.506E-01	4.817E-01	6.602E-02	4.350
PO-218	+	238.63	*	1.899E+00	2.368E-01	8.560E-02	9.103E-03	22.191
	+	300.09		2.584E+00	1.150E+00	1.241E+00	1.419E-01	2.082
	+	74.81		4.614E+00	9.170E-01	8.292E-01	9.078E-02	5.564
	+	77.11		4.207E+00	6.647E-01	4.747E-01	5.338E-02	8.863
	+	87.30		3.590E+00	9.151E-01	8.252E-01	1.001E-01	4.350
RA-224	+	241.98		2.533E+00	6.745E-01	5.153E-01	5.762E-02	4.916
	+	295.21		1.716E+00	3.489E-01	2.055E-01	2.398E-02	8.353
	+	351.92	*	1.691E+00	2.539E-01	1.112E-01	1.212E-02	15.204
	+	240.98	*	4.803E+00	1.250E+00	9.739E-01	9.414E-02	4.932
	+	609.31	*	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
RA-226	+	1120.29		1.747E+00	5.621E-01	4.612E-01	4.990E-02	3.787
	+	1764.49		1.807E+00	4.233E-01	2.566E-01	2.108E-02	7.044
	+	338.32		1.720E+00	8.259E-01	3.714E-01	1.538E-01	4.632
	+	911.07	*	1.854E+00	4.033E-01	1.977E-01	2.422E-02	9.378
	+	969.11		1.736E+00	5.822E-01	3.750E-01	8.900E-02	4.629
AC-228	+	338.32		1.720E+00	8.259E-01	3.714E-01	1.538E-01	4.632
	+	911.07	*	1.854E+00	4.033E-01	1.977E-01	2.422E-02	9.378
	+	969.11		1.736E+00	5.822E-01	3.750E-01	8.900E-02	4.629
	+	74.81		2.721E+00	5.027E-01	4.890E-01	3.980E-02	5.564
	+	77.11		2.494E+00	3.452E-01	2.814E-01	2.327E-02	8.863
TH-228	+	87.30		2.129E+00	5.174E-01	4.895E-01	4.588E-02	4.350
	+	238.63	*	1.930E+00	2.406E-01	8.698E-02	9.250E-03	22.191
	+	300.09		2.626E+00	1.927E+00	1.261E+00	7.500E-01	2.082
	+	609.31	*	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
	+	1120.29		1.747E+00	5.621E-01	4.612E-01	4.990E-02	3.787
TH-230	+	1764.49		1.807E+00	4.233E-01	2.566E-01	2.108E-02	7.044
	+	338.32		1.720E+00	4.476E-01	3.714E-01	3.480E-02	4.632
	+	911.07	*	1.854E+00	4.033E-01	1.977E-01	2.422E-02	9.378
	+	969.11		1.736E+00	5.822E-01	3.750E-01	8.900E-02	4.629
	+	63.29	*	1.210E+00	1.504E+00	1.712E+00	2.975E-01	0.707
TH-234	+	92.38		2.378E+00	8.305E-01	6.935E-01	1.272E-01	3.429
	+	609.31	*	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
	+	1120.29		1.747E+00	5.621E-01	4.612E-01	4.990E-02	3.787
	+	1764.49		1.807E+00	4.233E-01	2.566E-01	2.108E-02	7.044
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	+	89.95		3.595E+00	1.735E+00	1.406E+00	4.365E-01	2.558
	+	93.35		2.859E+00	1.171E+00	8.306E-01	2.340E-01	3.442
	+	105.00		1.559E+00	1.280E+00	1.573E+00	4.694E-01	0.991
		143.76	*	5.356E-02	2.210E-01	3.547E-01	6.181E-02	0.151
		163.35		1.454E-01	5.068E-01	8.041E-01	1.537E-01	0.181
	+	185.71		2.357E-01	7.708E-02	6.780E-02	6.102E-03	3.476
		205.31		5.799E-01	5.557E-01	8.672E-01	1.680E-01	0.669
NP-237	+	86.50	*	1.330E+00	4.241E-01	3.075E-01	6.956E-02	4.327
		95.87		3.380E-01	1.000E+00	1.462E+00	3.618E-01	0.231
U-238	+	63.29	*	1.210E+00	1.504E+00	1.712E+00	2.975E-01	0.707
	+	92.38		2.378E+00	7.395E-01	6.935E-01	6.339E-02	3.429
AM-243	+	74.67	*	4.341E-01	8.006E-02	7.818E-02	6.293E-03	5.553
	+	86.72		4.989E+01	1.212E+01	1.151E+01	1.071E+00	4.334
		117.66		-2.449E+00	3.819E+00	5.947E+00	4.978E-01	-0.412
		142.18		-9.914E+00	1.848E+01	2.857E+01	2.412E+00	-0.347
ANH-511	+	511.00	*	1.018E-01	7.951E-02	4.739E-02	4.416E-03	2.149

---- 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	*	3.895E-02	3.669E-01	5.999E-01	5.831E-02	0.065
NA-22		1274.54	*	-1.403E-02	4.411E-02	6.827E-02	5.655E-03	-0.206
NA-24		1368.53	*	5.509E-01	4.411E-02	Half-Life too short		
AL-26		1129.67		-1.969E+00	1.821E+00	2.602E+00	2.204E-01	-0.757
		1808.65	*	-1.582E-02	2.884E-02	4.131E-02	3.355E-03	-0.383
TI-44		67.85		-8.050E-03	4.208E-02	6.409E-02	4.822E-03	-0.126
	+	78.38	*	4.529E-01	6.269E-02	8.043E-02	6.750E-03	5.631
SC-46		889.25	*	-3.043E-02	3.854E-02	5.799E-02	5.781E-03	-0.525
	+	1120.51		3.013E-01	9.491E-02	1.506E-01	1.289E-02	2.000
V-48		944.10		1.119E-01	9.267E-01	1.544E+00	1.507E-01	0.072
		983.50	*	-4.601E-02	7.100E-02	1.075E-01	1.028E-02	-0.428
		1312.09		-3.979E-02	8.468E-02	1.273E-01	1.062E-02	-0.313
CR-51		320.08	*	6.202E-02	3.739E-01	6.159E-01	6.174E-02	0.101
MN-52		744.21		-5.894E-02	2.528E-01	4.130E-01	4.195E-02	-0.143
		848.13		-3.348E+00	7.487E+00	1.184E+01	1.192E+00	-0.283
	+	935.52		5.931E-01	3.212E-01	5.148E-01	5.043E-02	1.152
		1246.25		-9.197E-02	8.087E+00	1.304E+01	1.071E+00	-0.007
		1333.61		1.290E+00	5.946E+00	9.824E+00	8.231E-01	0.131
		1434.06	*	1.343E-01	2.530E-01	4.542E-01	3.844E-02	0.296
MN-54		834.83	*	1.348E-02	3.879E-02	6.625E-02	6.692E-03	0.204
CO-56		846.75	*	-3.265E-02	3.931E-02	5.940E-02	5.987E-03	-0.550
		977.42		-1.175E+00	3.296E+00	4.407E+00	4.227E-01	-0.267
		1037.82		1.996E-01	2.729E-01	4.847E-01	4.676E-02	0.412
		1175.09		-4.672E-02	2.419E+00	3.914E+00	3.148E-01	-0.012
		1238.25		1.448E-01	9.287E-02	1.695E-01	1.434E-02	0.854
		1360.21		-2.198E-01	9.377E-01	1.523E+00	1.281E-01	-0.144
		1771.40		-1.034E-01	2.218E-01	2.565E-01	2.104E-02	-0.403
CO-57		122.06	*	-2.417E-02	2.668E-02	4.091E-02	3.415E-03	-0.591

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-58	136.48			-1.318E-01	2.082E-01	3.218E-01	2.913E-02	-0.410
	810.76	*		-5.033E-02	3.743E-02	5.253E-02	5.333E-03	-0.958
	142.65			-5.690E-01	2.863E+00	4.503E+00	3.804E-01	-0.126
	192.34			5.428E-01	9.091E-01	1.577E+00	2.165E-01	0.344
FE-59	1099.22	*		-7.975E-02	8.713E-02	1.253E-01	1.182E-02	-0.637
	1291.56			-5.628E-02	1.298E-01	1.973E-01	1.876E-02	-0.285
	1173.22			3.111E-02	4.543E-02	7.873E-02	6.330E-03	0.395
	1332.49	*		1.032E-02	4.273E-02	7.075E-02	5.926E-03	0.146
CO-60	1115.52	*		-7.803E-02	1.026E-01	1.261E-01	1.086E-02	-0.619
ZN-65	1077.35	*		1.637E-01	1.328E+00	2.185E+00	1.950E-01	0.075
GE-68	53.44	*		-4.118E-01	5.876E-01	9.281E-01	6.890E-02	-0.444
AS-73	595.88	*		4.531E-02	1.013E-01	1.683E-01	1.647E-02	0.269
AS-74	634.78			1.389E-01	3.444E-01	6.002E-01	5.970E-02	0.231
SE-75	66.05			-1.310E+00	4.497E+00	6.495E+00	6.144E-01	-0.202
	96.73			-7.887E-01	8.513E-01	1.154E+00	1.593E-01	-0.684
	121.11			2.707E-02	1.362E-01	2.210E-01	2.433E-02	0.122
	136.00			-4.289E-02	3.933E-02	5.913E-02	4.996E-03	-0.725
	198.60			1.680E+00	1.825E+00	3.144E+00	3.164E-01	0.534
	264.65	*		1.143E-02	4.472E-02	7.063E-02	6.993E-03	0.162
	279.53			4.403E-02	1.203E-01	1.815E-01	1.858E-02	0.243
	303.91			1.351E-01	2.415E+00	3.544E+00	4.385E-01	0.038
BR-77	400.65			3.063E-02	2.757E-01	4.496E-01	4.934E-02	0.068
	+ 87.88			1.312E+03	3.188E+02	4.490E+02	4.240E+01	2.922
	200.40			-4.035E+01	2.142E+02	3.596E+02	3.307E+01	-0.112
	+ 239.00			4.018E+02	4.674E+01	5.615E+01	5.417E+00	7.156
	249.79			3.334E+00	8.672E+01	1.457E+02	1.420E+01	0.023
	281.68			-2.973E+01	1.280E+02	1.842E+02	1.832E+01	-0.161
	297.23			4.651E+02	1.146E+02	1.682E+02	1.655E+01	2.765
	303.76			1.079E+01	2.693E+02	3.948E+02	3.862E+01	0.027
	439.47			-1.112E+02	1.934E+02	3.008E+02	2.642E+01	-0.370
	484.57			1.483E+02	3.132E+02	5.264E+02	4.809E+01	0.282
	520.65	*		-3.847E+00	1.273E+01	1.994E+01	1.870E+00	-0.193
	574.64			-1.251E+02	2.949E+02	4.553E+02	4.411E+01	-0.275
	578.91			-5.209E+01	1.431E+02	1.916E+02	1.860E+01	-0.272
	585.48			1.941E+03	3.914E+02	6.829E+02	6.651E+01	2.842
	755.35			1.099E+02	2.330E+02	4.034E+02	4.100E+01	0.273
	817.79			2.172E+01	1.726E+02	2.902E+02	2.939E+01	0.075
SR-82	698.33			-5.571E+00	3.390E+01	5.607E+01	5.669E+00	-0.099
	776.49	*		-6.767E-01	4.138E-01	5.753E-01	5.845E-02	-1.176
	1395.20			4.902E+00	8.700E+00	1.591E+01	1.342E+00	0.308
	520.41	*		-3.185E-02	6.773E-02	1.045E-01	9.798E-03	-0.305
RB-83	529.64			-9.964E-02	1.081E-01	1.588E-01	1.499E-02	-0.627
	552.65			-2.992E-02	2.049E-01	3.253E-01	3.113E-02	-0.092
	881.50	*		-1.303E-02	7.122E-02	1.155E-01	1.154E-02	-0.113
RB-84	513.99	*		1.647E+01	8.693E+00	1.433E+01	1.338E+00	1.150
KR-85	513.99	*		8.529E-02	4.501E-02	7.418E-02	6.927E-03	1.150
SR-85	1076.63	*		2.612E-01	8.579E-01	1.438E+00	1.284E-01	0.182
RB-86	898.02			2.010E-02	4.108E-02	7.109E-02	7.093E-03	0.283
Y-88	1836.01	*		1.007E-02	2.734E-02	4.900E-02	3.954E-03	0.206

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-88	392.90	*		-2.244E-02	3.104E-02	4.812E-02	4.025E-03	-0.466
Y-91	1204.90	*		-2.546E+00	1.922E+01	3.067E+01	2.491E+00	-0.083
NB-94	702.63	*		1.665E-02	3.311E-02	5.769E-02	5.837E-03	0.289
	871.10			-1.270E-02	3.396E-02	5.399E-02	5.410E-03	-0.235
NB-95	765.79	*		3.543E-02	4.524E-02	7.973E-02	8.103E-03	0.444
NB-95M	235.69	*		9.262E-02	1.266E-01	1.982E-01	2.130E-02	0.467
ZR-95	724.18			-3.967E-02	9.028E-02	1.229E-01	1.325E-02	-0.323
	756.15	*		2.020E-02	7.830E-02	1.333E-01	1.455E-02	0.151
NB-97	657.90	*		1.022E-01	7.830E-02	Half-Life	too short	
	1024.50			-1.865E+00	7.830E-02	Half-Life	too short	
ZR-97	254.15			-5.363E+00	7.830E-02	Half-Life	too short	
	355.39			4.854E+00	7.830E-02	Half-Life	too short	
	507.63	*		2.590E+00	7.830E-02	Half-Life	too short	
	602.52			2.152E+00	7.830E-02	Half-Life	too short	
	1021.30			9.569E+00	7.830E-02	Half-Life	too short	
	1147.95			-1.204E+01	7.830E-02	Half-Life	too short	
	1362.66			-6.021E+00	7.830E-02	Half-Life	too short	
	1750.46			-6.057E+00	7.830E-02	Half-Life	too short	
MO-99	140.51			-6.328E+00	3.338E+01	5.276E+01	1.458E+01	-0.120
	181.06			1.046E+01	2.367E+01	3.420E+01	6.305E+00	0.306
	366.43			7.810E+01	1.008E+02	1.748E+02	1.554E+01	0.447
	739.58	*		4.066E+00	1.460E+01	2.497E+01	4.022E+00	0.163
	778.00			9.285E+00	4.269E+01	7.252E+01	7.369E+00	0.128
TC-99M	140.51	*		-9.866E+10	4.269E+01	Half-Life	too short	
RH-101	127.23			-2.915E-02	3.824E-02	5.195E-02	4.334E-03	-0.561
	198.01	*		1.123E-02	3.328E-02	5.617E-02	5.148E-03	0.200
	325.23			8.814E-02	2.471E-01	3.704E-01	3.537E-02	0.238
RH-102	418.52			-9.998E-02	2.967E-01	4.728E-01	4.068E-02	-0.211
	475.06	*		2.638E-03	3.191E-02	5.211E-02	4.724E-03	0.051
	631.29			-6.349E-03	5.355E-02	8.438E-02	8.382E-03	-0.075
	697.49			-1.793E-02	7.306E-02	1.199E-01	1.212E-02	-0.150
	766.84			2.007E-01	1.172E-01	2.167E-01	2.202E-02	0.927
	1046.59			2.433E-02	9.653E-02	1.628E-01	1.491E-02	0.149
	1112.84			-2.154E-01	2.333E-01	3.265E-01	2.816E-02	-0.660
RU-103	497.08	*		1.350E-02	3.994E-02	6.648E-02	9.665E-03	0.203
	610.33			1.525E+01	3.181E+00	3.396E+00	5.893E-01	4.490
RH-106	511.85	+		5.095E-01	3.979E-01	4.749E-01	4.428E-02	1.073
	621.84	*		1.226E-01	3.361E-01	5.540E-01	7.876E-02	0.221
	1050.47			1.639E+00	2.088E+00	3.714E+00	3.390E-01	0.441
RU-106	511.85	+		5.095E-01	3.979E-01	4.749E-01	4.428E-02	1.073
	621.84	*		1.226E-01	3.359E-01	5.540E-01	5.484E-02	0.221
	1050.47			1.639E+00	2.088E+00	3.714E+00	3.390E-01	0.441
AG-108M	433.93	*		-2.336E-02	3.442E-02	5.315E-02	4.824E-03	-0.439
	614.37			-3.086E-03	4.277E-02	5.899E-02	5.997E-03	-0.052
	722.95			-1.006E-02	3.898E-02	5.457E-02	5.693E-03	-0.184
AG-110M	657.75	*		1.311E-02	3.572E-02	5.480E-02	5.614E-03	0.239
	677.61			-4.307E-02	3.030E-01	5.030E-01	5.171E-02	-0.086
	706.67			2.599E-02	2.202E-01	3.724E-01	3.846E-02	0.070
	763.93			-1.779E-01	1.797E-01	2.741E-01	2.843E-02	-0.649

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		884.67		1.886E-02	5.000E-02	8.566E-02	8.758E-03	0.220
		937.48		-3.632E-02	1.193E-01	1.616E-01	1.626E-02	-0.225
		1384.27		1.652E-02	1.596E-01	2.362E-01	2.050E-02	0.070
IN-111		171.28		9.054E-01	1.269E+00	2.083E+00	1.834E-01	0.435
		245.39	*	-6.932E-01	1.473E+00	2.100E+00	2.039E-01	-0.330
IN-113M		391.69	*	2.822E-02	4.357E-02	7.466E-02	6.441E-03	0.378
SN-113		391.69	*	2.822E-02	4.357E-02	7.466E-02	6.441E-03	0.378
IN-114M		190.27	*	5.435E-03	1.963E-01	2.946E-01	2.670E-02	0.018
CD-115		260.90		1.042E+01	1.738E+02	2.917E+02	2.870E+01	0.036
		492.35		-2.011E+01	4.737E+01	7.376E+01	6.779E+00	-0.273
		527.90	*	1.334E+01	1.388E+01	2.423E+01	2.284E+00	0.550
SN-117M		156.02		-2.259E-01	2.546E+00	4.034E+00	3.468E-01	-0.056
		158.56	*	-3.495E-02	5.963E-02	9.181E-02	7.924E-03	-0.381
SB-122		563.90	*	1.665E+00	2.732E+00	4.610E+00	4.440E-01	0.361
		692.80		-3.627E-01	5.405E+01	9.066E+01	9.157E+00	-0.004
I-123		159.00	*	-1.382E+01	5.405E+01	Half-Life too short		
		528.96		-3.443E+01	5.405E+01	Half-Life too short		
TE-123M		159.00	*	-2.073E-02	2.973E-02	4.547E-02	3.951E-03	-0.456
I-124		602.71	*	1.030E-01	8.429E-01	1.316E+00	1.292E-01	0.078
		722.78		-7.721E-01	4.804E+00	6.831E+00	6.928E-01	-0.113
		1325.50		-4.221E+00	4.029E+01	6.378E+01	5.335E+00	-0.066
		1376.25		6.265E+01	4.275E+01	7.543E+01	6.354E+00	0.831
		1509.49		1.501E+01	1.839E+01	3.395E+01	2.878E+00	0.442
		1691.02		2.784E+00	4.221E+00	7.833E+00	6.531E-01	0.355
SB-124		602.71		5.172E-03	4.234E-02	6.609E-02	6.490E-03	0.078
		645.85		2.178E-02	4.939E-01	8.352E-01	8.715E-02	0.026
		709.31		8.663E-02	2.966E+00	4.981E+00	5.045E-01	0.017
		713.82		-8.465E-01	1.659E+00	2.650E+00	3.489E-01	-0.319
		722.78		-5.623E-02	3.499E-01	4.975E-01	5.124E-02	-0.113
	+	968.20		1.807E+01	4.622E+00	7.875E+00	7.592E-01	2.294
		1045.16		-8.783E-01	2.096E+00	3.232E+00	2.962E-01	-0.272
		1325.50		-3.283E-01	3.134E+00	4.961E+00	4.150E-01	-0.066
		1368.21		2.675E-01	1.717E+00	2.940E+00	3.923E-01	0.091
		1436.60		1.970E+00	3.478E+00	6.291E+00	5.325E-01	0.313
		1691.02	*	4.781E-02	7.251E-02	1.345E-01	1.169E-02	0.355
SB-125		427.89	*	-2.936E-02	9.324E-02	1.485E-01	1.314E-02	-0.198
	+	463.38		8.234E-01	4.494E-01	5.925E-01	5.704E-02	1.390
		600.56		4.496E-02	1.916E-01	3.127E-01	3.243E-02	0.144
		635.90		2.614E-01	2.559E-01	4.652E-01	4.912E-02	0.562
TE-125M		109.28	*	3.991E+00	1.062E+01	1.553E+01	1.588E+00	0.257
I-126		388.63		1.148E-01	2.094E-01	3.566E-01	3.004E-02	0.322
		666.33	*	1.141E-03	2.225E-01	3.261E-01	3.277E-02	0.003
		753.82		1.005E+00	1.657E+00	2.896E+00	2.943E-01	0.347
SB-126		223.80		9.151E-01	4.190E+00	7.130E+00	6.763E-01	0.128
	+	278.60		3.780E+00	3.221E+00	4.920E+00	4.898E-01	0.768
	+	296.50		1.801E+01	3.484E+00	4.382E+00	4.314E-01	4.111
		414.70		3.304E-02	8.934E-02	1.394E-01	1.194E-02	0.237
		415.30		-2.201E+00	6.919E+00	1.105E+01	9.476E-01	-0.199
		555.20		2.213E+00	3.945E+00	6.674E+00	6.397E-01	0.332

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	573.80			6.996E-02	1.168E+00	1.885E+00	1.825E-01	0.037
	593.00			2.583E-01	9.653E-01	1.585E+00	1.549E-01	0.163
	656.30			-1.041E+00	3.764E+00	5.323E+00	5.334E-01	-0.196
	666.33			4.777E-04	9.316E-02	1.366E-01	1.372E-02	0.003
	675.00			-1.120E+00	2.127E+00	3.413E+00	3.436E-01	-0.328
	695.00			-1.361E-02	7.820E-02	1.292E-01	1.306E-02	-0.105
	697.00			-3.608E-02	2.622E-01	4.344E-01	4.391E-02	-0.083
	720.50	*		-4.908E-03	1.469E-01	2.315E-01	2.347E-02	-0.021
	856.80			-1.165E+00	5.653E-01	7.335E-01	7.377E-02	-1.588
	989.30			1.144E+00	1.234E+00	2.225E+00	2.119E-01	0.514
	1034.80			5.689E-01	8.958E+00	1.476E+01	1.363E+00	0.039
	1213.00			-2.730E+00	4.844E+00	7.344E+00	5.978E-01	-0.372
SB-127	61.10			-9.870E-01	5.800E+01	8.518E+01	8.842E+00	-0.012
	252.40			-1.503E+00	5.152E+00	8.433E+00	3.572E+00	-0.178
	290.80			-3.263E+00	2.838E+01	4.118E+01	5.118E+00	-0.079
	411.60			-1.137E+00	1.763E+01	2.512E+01	3.990E+00	-0.045
	444.90			5.526E+00	1.177E+01	1.983E+01	2.564E+00	0.279
	473.00			4.688E-01	2.043E+00	3.376E+00	4.524E-01	0.139
	543.00			9.526E+00	1.935E+01	3.246E+01	4.922E+00	0.293
	603.60			4.573E-01	1.508E+01	2.233E+01	3.037E+00	0.020
	685.20	*		-3.783E-01	1.626E+00	2.675E+00	3.421E-01	-0.141
	698.50			-3.397E+00	1.739E+01	2.868E+01	4.838E+00	-0.118
	722.20			1.553E+01	3.257E+01	5.060E+01	6.392E+00	0.307
	783.80			-4.886E+00	5.605E+00	7.210E+00	9.926E-01	-0.678
XE-127	57.60			1.458E+00	4.652E+00	7.753E+00	5.540E-01	0.188
	145.22			1.729E-01	7.428E-01	1.198E+00	1.015E-01	0.144
	172.10			6.367E-02	1.224E-01	1.992E-01	1.756E-02	0.320
	202.84	*		-2.999E-02	4.843E-02	7.673E-02	7.081E-03	-0.391
	374.96			3.637E-02	2.041E-01	3.395E-01	2.961E-02	0.107
I-131	80.18			6.834E+00	5.652E+00	7.114E+00	6.143E-01	0.961
	284.30			-1.571E-01	1.579E+00	2.617E+00	2.702E-01	-0.060
	364.48	*		-6.320E-02	1.217E-01	1.926E-01	1.807E-02	-0.328
	636.97			1.515E+00	1.609E+00	2.907E+00	3.018E-01	0.521
	722.89			-1.597E+00	7.144E+00	1.006E+01	1.025E+00	-0.159
TE-132	49.72			1.031E+01	1.595E+01	2.447E+01	2.575E+00	0.421
	111.76			-1.182E+01	3.715E+01	5.900E+01	6.477E+00	-0.200
	116.30			2.670E+00	3.437E+01	5.551E+01	6.067E+00	0.048
	228.16	*		-8.486E-02	8.095E-01	1.355E+00	2.224E-01	-0.063
BA-133	53.15			-8.595E-01	2.473E+00	3.971E+00	2.959E-01	-0.216
	79.62			2.105E+00	1.498E+00	1.881E+00	2.852E-01	1.119
	81.00			9.729E-02	1.108E-01	1.355E-01	2.154E-02	0.718
	276.40	+		5.360E-01	4.610E-01	7.405E-01	1.131E-01	0.724
	302.84			1.182E-01	1.662E-01	2.551E-01	3.591E-02	0.463
	356.01	*		-3.664E-03	4.618E-02	6.628E-02	8.954E-03	-0.055
	383.85			-2.296E-01	3.040E-01	4.698E-01	5.893E-02	-0.489
I-133	510.53	+		2.205E+00	3.040E-01	Half-Life too short		
	529.87	*		-1.230E-02	3.040E-01	Half-Life too short		
	706.58			1.021E-01	3.040E-01	Half-Life too short		
	856.28			-2.764E+00	3.040E-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
CS-134		875.33		1.920E-01	3.040E-01	Half-Life	too short	
		1236.41		8.426E-01	3.040E-01	Half-Life	too short	
		1298.22		-1.811E-02	3.040E-01	Half-Life	too short	
		475.35		6.211E-01	2.096E+00	3.475E+00	3.152E-01	0.179
		563.23		3.608E-01	3.745E-01	6.478E-01	6.284E-02	0.557
		569.32		9.755E-02	2.159E-01	3.508E-01	3.425E-02	0.278
		604.70		-3.922E-03	3.823E-02	5.261E-02	5.180E-03	-0.075
	+	795.84	*	1.076E-01	7.850E-02	9.883E-02	1.008E-02	1.089
		801.93		-1.874E-01	4.277E-01	6.622E-01	6.745E-02	-0.283
		1038.57		3.570E+00	3.252E+00	6.008E+00	5.535E-01	0.594
CS-135 I-135		1167.94		-1.659E+00	2.442E+00	3.644E+00	2.950E-01	-0.455
		1365.15		8.761E-01	1.185E+00	2.172E+00	1.915E-01	0.403
		268.24	*	1.816E-01	1.772E-01	2.783E-01	3.084E-02	0.653
		288.45		2.169E+09	1.772E-01	Half-Life	too short	
		417.63		-4.441E+10	1.772E-01	Half-Life	too short	
		546.56		-1.429E+11	1.772E-01	Half-Life	too short	
		836.80		9.543E+10	1.772E-01	Half-Life	too short	
		1038.76		1.734E+11	1.772E-01	Half-Life	too short	
		1124.00		7.020E+11	1.772E-01	Half-Life	too short	
		1131.51		9.263E+10	1.772E-01	Half-Life	too short	
CS-136		1260.41	*	-3.933E+09	1.772E-01	Half-Life	too short	
		1457.56		1.635E+12	1.772E-01	Half-Life	too short	
		1678.03		1.304E+10	1.772E-01	Half-Life	too short	
		1706.46		1.003E+10	1.772E-01	Half-Life	too short	
		1791.20		3.195E+10	1.772E-01	Half-Life	too short	
		66.91		-3.933E-03	7.833E-01	1.134E+00	1.681E-01	-0.003
	+	86.29		6.214E+00	1.622E+00	2.119E+00	2.815E-01	2.932
		153.22		8.515E-01	7.407E-01	1.235E+00	1.184E-01	0.689
		163.89		1.433E-01	1.201E+00	1.893E+00	1.841E-01	0.076
		176.55		2.118E-01	3.884E-01	6.321E-01	5.915E-02	0.335
CE-139 BA-140		273.65		5.340E-01	6.637E-01	7.857E-01	8.189E-02	0.680
		340.57		2.697E-01	1.627E-01	2.621E-01	2.508E-02	1.029
		818.51		4.947E-03	7.783E-02	1.301E-01	1.318E-02	0.038
		1048.07	*	-5.920E-02	1.038E-01	1.573E-01	1.493E-02	-0.376
		1235.34		-5.027E-01	6.247E-01	9.226E-01	1.065E-01	-0.545
		165.85	*	-2.677E-03	3.092E-02	4.885E-02	4.264E-03	-0.055
		162.64		6.184E-01	8.363E-01	1.356E+00	1.245E-01	0.456
		304.84		-4.082E-01	1.578E+00	2.250E+00	6.390E-01	-0.181
		423.70		-1.946E-01	1.958E+00	3.171E+00	1.028E+00	-0.061
		537.32	*	1.146E-01	2.840E-01	4.693E-01	1.566E-01	0.244
LA-140	+	328.77		9.675E-01	5.422E-01	6.349E-01	6.313E-02	1.524
		432.53		1.776E+00	2.198E+00	3.792E+00	3.466E-01	0.468
		487.03		9.190E-03	1.491E-01	2.428E-01	2.345E-02	0.038
		751.79		1.057E+00	1.883E+00	3.284E+00	3.597E-01	0.322
		815.85		3.616E-01	3.256E-01	5.942E-01	6.529E-02	0.609
		867.82		1.061E+00	1.458E+00	2.576E+00	2.685E-01	0.412
		919.63		6.110E-01	2.992E+00	4.770E+00	5.569E-01	0.128
		925.24		-6.157E-01	1.141E+00	1.764E+00	1.820E-01	-0.349
		1596.49	*	1.210E-01	8.554E-02	1.630E-01	1.376E-02	0.743

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-141	145.44	*		5.147E-03	6.711E-02	1.075E-01	9.279E-03	0.048
CE-143	57.37			4.635E-04	6.711E-02	Half-Life too short		
	231.56			-3.064E-03	6.711E-02	Half-Life too short		
	293.26	*		1.045E-03	6.711E-02	Half-Life too short		
	350.59		+	6.203E-02	6.711E-02	Half-Life too short		
	490.36			-3.207E-04	6.711E-02	Half-Life too short		
	664.57			5.571E-03	6.711E-02	Half-Life too short		
	721.93			1.304E-03	6.711E-02	Half-Life too short		
CE-144	80.11			2.863E+00	2.402E+00	3.020E+00	2.587E-01	0.948
	133.54	*		-5.493E-02	2.265E-01	3.172E-01	4.895E-02	-0.173
PM-144	476.78			3.253E-02	7.421E-02	1.242E-01	1.223E-02	0.262
	618.01			-1.859E-02	3.635E-02	5.370E-02	5.419E-03	-0.346
	696.49	*		-1.486E-02	3.207E-02	5.152E-02	5.209E-03	-0.288
	778.57			1.874E+00	2.345E+00	4.082E+00	4.149E-01	0.459
PR-144	696.49	*		-1.007E+00	2.174E+00	3.493E+00	3.531E-01	-0.288
	1489.15			2.058E-01	9.005E+00	1.509E+01	1.279E+00	0.014
PM-146	453.90	*		-8.914E-03	4.050E-02	6.463E-02	7.078E-03	-0.138
	633.02			-2.045E+00	1.634E+00	1.958E+00	7.382E-01	-1.045
	735.90			-1.221E-01	1.502E-01	2.170E-01	6.316E-02	-0.563
	747.13			-1.036E-01	8.804E-02	1.276E-01	1.919E-02	-0.812
ND-147	91.11		+	9.581E-01	3.667E-01	5.477E-01	5.419E-02	1.749
	319.41			-1.572E+00	3.474E+00	5.490E+00	5.282E-01	-0.286
	439.89			-4.558E+00	6.359E+00	9.762E+00	8.581E-01	-0.467
	531.02	*		-1.542E-01	5.850E-01	9.195E-01	1.420E-01	-0.168
PM-149	285.90	*		2.858E+00	1.219E+02	2.034E+02	3.316E+01	0.014
EU-152	121.78			-6.064E-02	7.682E-02	1.185E-01	1.147E-02	-0.512
	244.69			3.354E-02	3.436E-01	5.119E-01	4.966E-02	0.066
	344.27	*		-7.857E-03	1.072E-01	1.630E-01	1.591E-02	-0.048
	443.98			3.923E-01	9.537E-01	1.603E+00	1.414E-01	0.245
	778.89			2.485E-01	2.710E-01	4.759E-01	4.836E-02	0.522
	867.32			5.279E-01	8.426E-01	1.475E+00	1.479E-01	0.358
	964.01		+	5.385E-01	4.203E-01	6.169E-01	5.960E-02	0.873
	1085.78			3.080E-02	4.228E-01	6.944E-01	6.148E-02	0.044
	1112.02			-1.758E-01	3.131E-01	4.767E-01	4.114E-02	-0.369
	1407.95			1.962E-01	2.046E-01	3.778E-01	3.192E-02	0.519
GD-153	69.67			-1.405E-01	1.574E+00	2.293E+00	1.754E-01	-0.061
	83.37		+	3.654E+01	1.782E+01	2.393E+01	2.133E+00	1.527
	97.43	*		-6.383E-02	8.708E-02	1.201E-01	1.066E-02	-0.531
	103.18			6.906E-03	1.067E-01	1.545E-01	1.336E-02	0.045
EU-154	123.07			2.099E-02	5.346E-02	8.735E-02	9.741E-03	0.240
	247.94			3.356E-01	3.817E-01	6.243E-01	7.698E-02	0.538
	591.81			-3.612E-01	6.304E-01	9.515E-01	1.194E-01	-0.380
	723.30			-1.125E-01	1.681E-01	2.197E-01	2.401E-02	-0.512
	756.87			8.268E-02	8.143E-01	1.371E+00	1.800E-01	0.060
	873.19			-2.166E-01	3.087E-01	4.721E-01	6.262E-02	-0.459
	996.32			-3.811E-01	3.675E-01	5.201E-01	9.467E-02	-0.733
	1004.76			-6.335E-02	2.237E-01	3.557E-01	4.359E-02	-0.178
	1274.45	*		-1.339E-02	1.208E-01	1.919E-01	2.121E-02	-0.070
TB-160	86.79		+	1.471E+00	3.574E-01	5.050E-01	4.702E-02	2.912

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	197.04			-3.274E-01	5.771E-01	9.358E-01	8.566E-02	-0.350
	215.65			3.123E-02	7.367E-01	1.245E+00	1.169E-01	0.025
	298.57			2.824E-01	1.556E-01	2.053E-01	2.017E-02	1.376
	879.36	*		-2.929E-02	1.399E-01	2.263E-01	2.263E-02	-0.129
	962.29			9.052E-01	6.063E-01	1.026E+00	9.923E-02	0.882
+	966.15			3.731E-01	2.912E-01	4.537E-01	4.378E-02	0.822
	1177.93			-8.875E-02	3.888E-01	6.155E-01	4.956E-02	-0.144
	1271.85			-3.512E-02	7.157E-01	1.147E+00	9.481E-02	-0.031
HO-166M	80.57			3.157E-01	3.054E-01	3.800E-01	3.273E-02	0.831
	184.41			9.651E-02	4.273E-02	7.161E-02	6.432E-03	1.348
	280.46			-3.413E-02	9.416E-02	1.341E-01	1.334E-02	-0.255
+	410.95			3.216E-01	2.424E-01	4.342E-01	3.705E-02	0.741
	711.68	*		1.194E-02	6.240E-02	1.061E-01	1.075E-02	0.112
	752.31			9.458E-02	2.883E-01	4.942E-01	5.022E-02	0.191
	810.29			-5.297E-02	5.558E-02	8.261E-02	8.374E-03	-0.641
TM-171	51.35			-1.571E+01	1.997E+01	3.175E+01	2.426E+00	-0.495
	52.39			-5.136E+00	1.078E+01	1.721E+01	1.295E+00	-0.298
	59.40			2.132E+01	2.218E+01	3.423E+01	2.422E+00	0.623
	66.72	*		-1.354E+00	2.710E+01	3.915E+01	2.917E+00	-0.035
LU-176	88.36			1.075E+00	2.611E-01	3.679E-01	3.469E-02	2.921
	201.83			-3.789E-02	2.872E-02	4.536E-02	4.181E-03	-0.835
	306.84	*		-1.309E-02	2.734E-02	4.251E-02	4.147E-03	-0.308
	401.10			4.989E-01	7.050E+00	1.146E+01	9.674E-01	0.044
LU-177	112.95			-1.259E+00	1.859E+00	2.899E+00	2.444E-01	-0.434
+	208.36	*		3.900E+00	1.862E+00	2.341E+00	2.177E-01	1.666
LU-177M	52.97			-2.936E-01	1.125E+00	1.814E+00	1.355E-01	-0.162
	54.07			6.287E-02	6.024E-01	9.870E-01	7.273E-02	0.064
	61.30			2.371E-01	1.263E+00	1.874E+00	1.340E-01	0.127
	121.62			-1.575E-01	3.880E-01	6.110E-01	5.095E-02	-0.258
	147.16			1.113E-01	6.737E-01	1.083E+00	9.198E-02	0.103
	171.86			2.806E-01	4.880E-01	7.961E-01	7.013E-02	0.352
	218.09			6.446E-01	8.396E-01	1.462E+00	1.377E-01	0.441
	268.79			1.498E+00	9.537E-01	1.534E+00	1.518E-01	0.977
	319.02			-1.434E-01	2.556E-01	4.005E-01	3.855E-02	-0.358
	367.43			2.994E-01	8.736E-01	1.472E+00	1.306E-01	0.203
	413.65	*		2.500E-01	1.961E-01	3.150E-01	2.696E-02	0.794
HF-181	56.28			-2.547E-01	7.124E-01	1.156E+00	8.339E-02	-0.220
	57.53			1.277E-01	3.905E-01	6.511E-01	4.654E-02	0.196
	65.20			2.196E-01	8.924E-01	1.324E+00	9.744E-02	0.166
	133.02			1.267E-02	7.288E-02	1.050E-01	8.791E-03	0.121
	136.25			-3.686E-01	4.588E-01	7.021E-01	5.890E-02	-0.525
	345.85			2.174E-02	2.117E-01	3.264E-01	3.020E-02	0.067
	482.03	*		-3.106E-02	4.695E-02	7.201E-02	6.566E-03	-0.431
W-181	56.28			-9.790E-02	2.761E-01	4.481E-01	3.232E-02	-0.219
	57.53			4.957E-02	1.514E-01	2.525E-01	1.805E-02	0.196
	65.20	*		8.450E-02	3.434E-01	5.095E-01	3.749E-02	0.166
TA-182	67.75			-3.785E-02	1.082E-01	1.539E-01	1.157E-02	-0.246
	100.10			1.232E-01	1.729E-01	2.880E-01	2.521E-02	0.428
	152.43			9.469E-02	3.546E-01	5.719E-01	4.892E-02	0.166

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		222.10		-9.891E-02	3.435E-01	5.708E-01	5.403E-02	-0.173
		1001.68		5.934E-01	2.235E+00	3.823E+00	3.614E-01	0.155
	+	1121.28		8.305E-01	2.616E-01	4.090E-01	3.495E-02	2.031
		1189.05		1.438E-01	2.990E-01	5.090E-01	4.113E-02	0.283
		1221.42	*	-4.379E-02	2.147E-01	3.401E-01	2.775E-02	-0.129
		1230.97		-3.470E-01	4.446E-01	6.526E-01	5.339E-02	-0.532
		57.98		1.458E-02	1.532E-01	2.531E-01	1.804E-02	0.058
		59.32		9.104E-02	9.205E-02	1.422E-01	1.007E-02	0.640
		67.20		-2.708E-03	1.929E-01	2.791E-01	2.088E-02	-0.010
		162.32	*	5.721E-02	1.185E-01	1.900E-01	1.649E-02	0.301
RE-184	+	208.81		3.210E+00	1.533E+00	1.924E+00	1.790E-01	1.669
		291.72		-6.586E-01	1.079E+00	1.500E+00	1.482E-01	-0.439
		57.98		5.344E-02	5.614E-01	9.275E-01	6.611E-02	0.058
		59.32		3.334E-01	3.371E-01	5.208E-01	3.686E-02	0.640
		67.20		-9.923E-03	7.069E-01	1.023E+00	7.651E-02	-0.010
		161.27		-1.391E-01	3.705E-01	5.770E-01	5.000E-02	-0.241
		216.55		2.063E-01	2.645E-01	4.608E-01	4.332E-02	0.448
		252.85	*	-1.076E-01	2.345E-01	3.830E-01	3.743E-02	-0.281
		318.01		-2.647E-01	4.406E-01	6.881E-01	6.630E-02	-0.385
		792.07		7.436E-01	1.493E+00	1.643E+00	1.668E-01	0.453
OS-185		903.28		-2.475E-01	1.064E+00	1.667E+00	1.654E-01	-0.148
		920.93		1.465E-01	4.331E-01	7.394E-01	7.288E-02	0.198
		59.72		2.083E-01	2.453E-01	3.766E-01	2.667E-02	0.553
		61.14		-3.366E-03	1.402E-01	2.058E-01	1.470E-02	-0.016
		69.30		3.551E-02	2.849E-01	4.194E-01	3.197E-02	0.085
		592.07		-9.302E-01	2.611E+00	4.039E+00	3.947E-01	-0.230
		646.12	*	-2.787E-02	4.197E-02	6.653E-02	6.644E-03	-0.419
		717.42		-1.153E-01	8.653E-01	1.432E+00	1.451E-01	-0.081
		874.81		4.527E-03	5.923E-01	9.805E-01	9.816E-02	0.005
		880.27		-4.926E-01	7.617E-01	1.169E+00	1.169E-01	-0.421
RE-188		155.03	*	2.854E-01	1.836E-01	3.109E-01	2.669E-02	0.918
		477.96		9.365E-01	3.473E+00	5.744E+00	5.220E-01	0.163
		633.10		-4.131E+00	2.970E+00	4.008E+00	3.984E-01	-1.031
	+	63.58		4.909E+01	6.051E+01	7.607E+01	5.529E+00	0.645
W-188		227.08		-2.305E+00	1.270E+01	2.120E+01	2.018E+00	-0.109
IR-192	+	290.67	*	-5.604E-01	8.390E+00	1.222E+01	1.209E+00	-0.046
		295.96		1.320E+00	2.557E-01	3.307E-01	3.275E-02	3.992
		308.46		5.719E-02	1.027E-01	1.756E-01	1.717E-02	0.326
		316.51	*	-6.666E-03	3.304E-02	5.405E-02	5.227E-03	-0.123
		468.07		2.727E-02	7.424E-02	1.098E-01	1.055E-02	0.248
		604.41		-2.713E-02	5.229E-01	7.244E-01	1.003E-01	-0.037
AU-195		612.46		2.038E+00	9.145E-01	1.528E+00	1.680E-01	1.334
		65.12		4.714E-02	1.590E-01	2.364E-01	1.739E-02	0.199
		66.83		-2.276E-04	8.984E-02	1.301E-01	9.700E-03	-0.002
	+	75.70		1.410E+00	2.600E-01	4.539E-01	3.695E-02	3.106
		98.88	*	2.917E-01	2.236E-01	3.650E-01	3.214E-02	0.799
TL-200	+	129.76		4.064E+00	3.757E+00	5.028E+00	4.199E-01	0.808
		367.94	*	3.566E-04	3.757E+00	Half-Life too short		
		579.30		-1.930E-03	3.757E+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
	828.27			-8.901E-03	3.757E+00	Half-Life	too short	
	1205.75			1.509E-04	3.757E+00	Half-Life	too short	
TL-201	68.90			-6.905E-01	5.743E+00	8.259E+00	6.273E-01	-0.084
	70.82			7.658E-01	3.186E+00	4.713E+00	3.645E-01	0.162
	80.30			8.323E+00	7.035E+00	8.839E+00	7.589E-01	0.942
	135.34			-2.779E+01	3.126E+01	4.762E+01	3.992E+00	-0.584
	167.43	*		-2.478E+00	9.035E+00	1.412E+01	1.236E+00	-0.175
TL-202	68.90			-5.284E-02	4.394E-01	6.319E-01	4.800E-02	-0.084
	70.82			5.843E-02	2.431E-01	3.596E-01	2.782E-02	0.162
	80.30			6.353E-01	5.370E-01	6.747E-01	5.793E-02	0.942
	439.56	*		-4.460E-02	7.489E-02	1.162E-01	1.021E-02	-0.384
HG-203	70.83			2.434E-01	1.013E+00	1.498E+00	1.957E-01	0.162
	72.87			6.663E-01	5.071E-01	9.636E-01	1.228E-01	0.691
	82.60			2.084E+00	1.128E+00	1.717E+00	2.382E-01	1.214
	279.20	*		4.271E-02	4.687E-02	7.318E-02	7.442E-03	0.584
BI-207	72.80		+	1.926E-01	1.453E-01	2.738E-01	2.161E-02	0.703
	74.97		+	7.793E-01	1.437E-01	2.187E-01	1.766E-02	3.563
	84.90		+	4.713E-01	2.299E-01	3.198E-01	2.907E-02	1.474
	569.67			3.409E-02	3.298E-02	5.589E-02	5.399E-03	0.610
	1063.62	*		7.186E-02	5.039E-02	9.410E-02	8.497E-03	0.764
	1770.23			-4.036E-01	4.393E-01	3.666E-01	3.008E-02	-1.101
TL-207	81.07			2.089E-01	2.426E-01	2.983E-01	2.585E-02	0.700
	83.78		+	3.107E-01	1.516E-01	2.085E-01	1.869E-02	1.490
	94.90			5.669E-01	2.502E-01	3.950E-01	3.553E-02	1.435
	122.32			-1.715E+00	1.855E+00	2.841E+00	2.553E-01	-0.604
	144.24			1.813E-01	7.100E-01	1.140E+00	1.083E-01	0.159
	154.21			7.191E-01	4.208E-01	7.147E-01	6.746E-02	1.006
	269.46		+	6.152E-01	3.078E-01	3.736E-01	3.756E-02	1.647
	323.87	*		5.223E-01	7.153E-01	1.099E+00	1.998E-01	0.475
	338.28		+	7.183E+00	1.973E+00	2.721E+00	3.496E-01	2.640
	445.03			9.953E-01	2.305E+00	3.874E+00	4.742E-01	0.257
PO-209	260.50			2.604E+00	9.539E+00	1.619E+01	1.592E+00	0.161
	262.80			-2.321E+01	2.581E+01	4.077E+01	4.017E+00	-0.569
	896.60	*		3.675E-02	7.431E+00	1.228E+01	1.221E+00	0.003
PB-211	404.84	*		1.552E-01	1.116E+00	1.616E+00	1.012E+00	0.096
	427.08			-6.342E-01	2.056E+00	3.214E+00	1.997E+00	-0.197
	831.96			-4.276E-02	1.187E+00	1.962E+00	1.234E+00	-0.022
BI-212	727.18	*	+	9.565E-01	5.293E-01	6.608E-01	7.500E-02	1.447
	785.46			2.071E+00	2.185E+00	3.485E+00	3.540E-01	0.594
	1620.62			1.326E+00	1.304E+00	2.478E+00	2.086E-01	0.535
PO-215	81.07			2.089E-01	2.426E-01	2.983E-01	2.585E-02	0.700
	83.78		+	3.107E-01	1.516E-01	2.085E-01	1.869E-02	1.490
	94.90			5.669E-01	2.502E-01	3.950E-01	3.553E-02	1.435
	122.32			-1.715E+00	1.855E+00	2.841E+00	2.553E-01	-0.604
	144.24			1.813E-01	7.100E-01	1.140E+00	1.083E-01	0.159
	154.21			7.191E-01	4.208E-01	7.147E-01	6.746E-02	1.006
	269.46		+	6.152E-01	3.078E-01	3.736E-01	3.756E-02	1.647
	323.87	*		5.223E-01	7.153E-01	1.099E+00	1.998E-01	0.475
	338.28		+	7.183E+00	1.973E+00	2.721E+00	3.496E-01	2.640

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		9.953E-01	2.305E+00	3.874E+00	4.742E-01	0.257
		271.23		7.893E-01	3.972E-01	4.803E-01	5.481E-02	1.643
		401.81	*	-1.686E-02	4.432E-01	7.153E-01	1.068E-01	-0.024
		549.76	*	-2.634E+00	2.577E+01	4.108E+01	3.924E+00	-0.064
RN-220	+	81.07		2.089E-01	2.426E-01	2.983E-01	2.585E-02	0.700
		83.78		3.107E-01	1.516E-01	2.085E-01	1.869E-02	1.490
		94.90		5.669E-01	2.502E-01	3.950E-01	3.553E-02	1.435
		122.32		-1.715E+00	1.855E+00	2.841E+00	2.553E-01	-0.604
RA-223	+	144.24		1.813E-01	7.100E-01	1.140E+00	1.083E-01	0.159
		154.21		7.191E-01	4.208E-01	7.147E-01	6.746E-02	1.006
		269.46		6.152E-01	3.078E-01	3.736E-01	3.756E-02	1.647
		323.87	*	5.223E-01	7.153E-01	1.099E+00	1.998E-01	0.475
AC-227	+	338.28		7.183E+00	1.973E+00	2.721E+00	3.496E-01	2.640
		445.03		9.953E-01	2.305E+00	3.874E+00	4.742E-01	0.257
		79.80		2.165E+00	1.900E+00	2.325E+00	4.992E-01	0.931
		236.00		4.539E-01	2.520E-01	4.083E-01	5.293E-02	1.112
TH-227	+	256.20	*	-3.930E-02	3.914E-01	6.519E-01	1.046E-01	-0.060
		286.10		1.416E-02	1.518E+00	2.531E+00	3.565E-01	0.006
		299.80		4.790E+00	2.236E+00	2.804E+00	5.078E-01	1.708
		304.40		-1.071E+00	2.218E+00	3.099E+00	5.890E-01	-0.346
TH-229	+	334.20		1.638E+00	3.353E+00	3.781E+00	7.480E-01	0.433
		79.80		2.165E+00	1.902E+00	2.325E+00	5.056E-01	0.931
		94.00		9.189E+00	3.398E+00	3.941E+00	8.651E-01	2.331
		236.00		4.539E-01	2.509E-01	4.083E-01	4.846E-02	1.112
TH-229	+	256.20	*	-3.930E-02	3.914E-01	6.519E-01	1.216E-01	-0.060
		286.10		1.416E-02	1.518E+00	2.531E+00	2.544E+00	0.006
		299.80		4.790E+00	2.236E+00	2.804E+00	5.078E-01	1.708
		304.40		-1.071E+00	2.218E+00	3.099E+00	5.890E-01	-0.346
PA-231	+	334.20		1.638E+00	3.353E+00	3.781E+00	7.480E-01	0.433
		85.43		4.652E-01	2.269E-01	3.244E-01	2.968E-02	1.434
		88.47		6.186E-01	1.503E-01	2.109E-01	1.987E-02	2.933
		100.00		1.310E-01	1.785E-01	2.977E-01	2.608E-02	0.440
TH-231	+	193.63	*	-2.115E-02	4.771E-01	8.070E-01	7.349E-02	-0.026
		210.97		1.394E+00	8.124E-01	1.324E+00	1.236E-01	1.053
		283.67	*	-3.630E-02	1.499E+00	2.495E+00	3.984E-01	-0.015
		301.29		1.916E+00	8.617E-01	1.148E+00	1.504E-01	1.669
U-231	+	81.07		2.089E-01	2.426E-01	2.983E-01	2.585E-02	0.700
		83.78		3.107E-01	1.516E-01	2.085E-01	1.869E-02	1.490
		94.90		5.669E-01	2.502E-01	3.950E-01	3.553E-02	1.435
		122.32		-1.715E+00	1.855E+00	2.841E+00	2.553E-01	-0.604
U-231	+	144.24		1.813E-01	7.100E-01	1.140E+00	1.083E-01	0.159
		154.21		7.191E-01	4.208E-01	7.147E-01	6.746E-02	1.006
		269.46		6.152E-01	3.078E-01	3.736E-01	3.756E-02	1.647
		323.87	*	5.223E-01	7.153E-01	1.099E+00	1.998E-01	0.475
U-231	+	338.28		7.183E+00	1.973E+00	2.721E+00	3.496E-01	2.640
		445.03		9.953E-01	2.305E+00	3.874E+00	4.742E-01	0.257
		84.21		1.564E+01	7.629E+00	1.053E+01	9.488E-01	1.485
		92.29		1.061E+01	3.298E+00	4.884E+00	4.467E-01	2.171
U-231	+	95.87	*	4.476E-01	1.321E+00	1.936E+00	1.732E-01	0.231

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-1.968E-01	2.705E+00	3.857E+00	3.287E-01	-0.051
	+	75.28		2.274E+01	5.092E+00	6.597E+00	9.938E-01	3.447
	+	86.59		8.870E+00	3.118E+00	3.041E+00	8.222E-01	2.917
	+	300.12		1.335E+00	6.111E-01	7.901E-01	1.232E-01	1.690
		311.98	*	-2.337E-03	6.556E-02	1.086E-01	1.077E-02	-0.022
		340.50		1.525E+00	8.401E-01	1.255E+00	3.026E-01	1.215
PA-234		398.62		-4.297E-01	2.131E+00	3.438E+00	9.134E-01	-0.125
		415.76		-1.159E+00	1.790E+00	2.763E+00	5.951E-01	-0.419
	+	63.00		1.410E+00	1.748E+00	2.231E+00	3.297E-01	0.632
		94.67		5.382E-01	1.950E-01	3.011E-01	3.816E-02	1.788
		98.44		1.137E-01	1.110E-01	1.491E-01	8.324E-02	0.762
		99.86		2.500E-01	4.550E-01	7.533E-01	6.603E-02	0.332
		111.00		-3.901E-02	1.883E-01	3.008E-01	3.602E-02	-0.130
		131.20		3.217E-02	1.188E-01	1.722E-01	1.439E-02	0.187
		152.70		1.424E-01	3.441E-01	5.574E-01	9.483E-02	0.255
	+	186.00		6.363E+00	2.824E+00	2.833E+00	8.873E-01	2.246
		226.40		2.850E-02	3.971E-01	6.708E-01	9.259E-02	0.042
		227.20		4.802E-02	4.194E-01	7.099E-01	6.760E-02	0.068
		248.90		-6.676E-02	8.078E-01	1.348E+00	3.084E-01	-0.050
		293.70		5.867E+00	1.414E+00	1.830E+00	3.285E-01	3.207
		369.80		-3.661E-01	8.231E-01	1.304E+00	2.850E-01	-0.281
		568.70		7.639E-02	1.103E+00	1.739E+00	1.679E-01	0.044
		569.50		1.713E-01	3.014E-01	4.940E-01	4.772E-02	0.347
		574.00		-2.924E-02	1.582E+00	2.535E+00	2.454E-01	-0.012
		699.00		-1.132E-01	6.833E-01	1.129E+00	2.236E-01	-0.100
		706.10		-5.975E-01	1.143E+00	1.784E+00	8.012E-01	-0.335
		733.00		-2.979E-01	4.284E-01	5.574E-01	1.273E-01	-0.534
		742.81		5.233E-01	1.377E+00	2.302E+00	1.552E+00	0.227
	+	796.30		2.089E+00	1.615E+00	1.886E+00	5.201E-01	1.108
		805.60		9.315E-01	1.018E+00	1.763E+00	5.486E-01	0.528
		819.60		-3.514E-01	1.266E+00	2.035E+00	7.815E-01	-0.173
		826.30		-1.632E-01	8.035E-01	1.282E+00	5.775E-01	-0.127
		831.60		-6.889E-02	6.156E-01	1.010E+00	3.061E-01	-0.068
		876.40		3.675E-01	8.923E-01	1.399E+00	1.440E+00	0.263
		880.51		-1.678E-01	2.744E-01	4.231E-01	4.229E-02	-0.396
		883.24		1.859E-01	3.055E-01	4.915E-01	3.313E-01	0.378
		899.00		7.878E-02	8.159E-01	1.359E+00	5.980E-01	0.058
		925.00		-6.078E-01	1.126E+00	1.741E+00	1.713E-01	-0.349
		926.50		-1.290E-01	1.643E-01	2.400E-01	6.172E-02	-0.538
		946.00	*	-7.193E-02	3.103E-01	4.980E-01	9.617E-02	-0.144
		949.00		1.339E-01	4.585E-01	7.761E-01	7.555E-02	0.173
		980.50		1.945E-01	6.505E-01	1.105E+00	1.058E-01	0.176
PA-234M		1394.10		4.677E-01	9.812E-01	1.690E+00	1.099E+00	0.277
		766.42		1.954E+01	1.554E+01	2.229E+01	1.137E+01	0.877
NP-236		1001.03	*	2.319E+00	5.048E+00	8.773E+00	9.384E-01	0.264
		94.67		4.111E-01	1.435E-01	2.287E-01	2.060E-02	1.798
		98.44		8.593E-02	6.926E-02	1.127E-01	9.947E-03	0.762
		111.00		-2.950E-02	1.424E-01	2.275E-01	1.925E-02	-0.130
		160.31	*	-1.809E-02	8.217E-02	1.291E-01	1.117E-02	-0.140

---- 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		8.666E-02	1.513E-01	2.508E-01	2.201E-02	0.346
		117.00	*	-1.531E-01	1.941E-01	2.999E-01	2.513E-02	-0.511
	+	209.75		2.509E+00	1.198E+00	1.485E+00	1.384E-01	1.689
		228.18		-1.522E-02	2.159E-01	3.621E-01	3.452E-02	-0.042
	+	277.60		2.615E-01	2.229E-01	3.489E-01	3.471E-02	0.750
AM-241		334.30		9.118E-01	1.892E+00	2.139E+00	2.017E-01	0.426
		59.54	*	1.173E-01	1.286E-01	1.980E-01	1.549E-02	0.593
CM-243		99.55		8.918E-02	1.557E-01	2.581E-01	2.265E-02	0.346
		103.76	*	6.920E-02	1.001E-01	1.503E-01	1.298E-02	0.460
		117.00		-1.575E-01	1.997E-01	3.086E-01	2.585E-02	-0.511
	+	209.75		2.473E+00	1.181E+00	1.464E+00	1.364E-01	1.689
		228.18		-1.538E-02	2.181E-01	3.659E-01	3.488E-02	-0.042
AM-246	+	277.60		2.637E-01	2.247E-01	3.518E-01	3.500E-02	0.750
		798.80		-7.101E-02	1.615E-01	2.194E-01	2.227E-02	-0.324
		1036.00		-1.009E-02	2.801E-01	4.562E-01	4.210E-02	-0.022
		1062.04		-3.253E-02	2.278E-01	3.660E-01	3.309E-02	-0.089
		1078.86	*	-1.728E-01	1.600E-01	2.292E-01	2.042E-02	-0.754
CM-247	+	278.00		1.085E+00	9.242E-01	1.442E+00	1.435E-01	0.752
		287.40		3.845E-01	1.230E+00	2.084E+00	2.066E-01	0.184
		402.60	*	3.404E-03	3.990E-02	6.494E-02	5.491E-03	0.052
CF-249		252.85		-4.023E-01	8.765E-01	1.432E+00	1.399E-01	-0.281
		333.44		1.267E-01	2.476E-01	2.811E-01	2.654E-02	0.451
		387.95	*	9.985E-03	3.905E-02	6.524E-02	5.505E-03	0.153
CF-251		176.60	*	7.099E-02	1.275E-01	2.076E-01	1.842E-02	0.342
		227.00		-6.852E-02	3.776E-01	6.301E-01	5.999E-02	-0.109
		285.00		1.557E-02	1.723E+00	2.874E+00	2.852E-01	0.005

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]G243630011      *
* Acquisition date   : 7-JAN-2010 13:28:37 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 02:00:34.34 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243630011 Analyst initials: MXR1                  *
* Batch Number      : 937702 Sample Quantity : 1.1025E+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	2.094E+01	2.430E+00	4.111E-01	0.000E+00
CD-109	4.616E+00	1.099E+00	1.072E+00	0.000E+00
SN-126	4.531E-01	1.079E-01	1.056E-01	0.000E+00
BA-137M	2.456E-01	6.599E-02	6.249E-02	0.000E+00
CS-137	2.596E-01	6.977E-02	6.605E-02	0.000E+00
EU-155	1.591E-01	1.201E-01	1.739E-01	0.000E+00
TL-208	5.524E-01	9.394E-02	6.002E-02	0.000E+00
BI-210	4.060E+00	3.247E+00	3.380E+00	0.000E+00
PB-210	4.060E+00	3.247E+00	3.380E+00	0.000E+00
PO-210	4.060E+00	3.243E+00	3.380E+00	0.000E+00
BI-211	4.860E+00	6.707E-01	3.409E-01	0.000E+00
PB-212	1.899E+00	2.321E-01	8.628E-02	0.000E+00
PO-212	1.899E+00	2.321E-01	8.628E-02	0.000E+00
BI-214	1.389E+00	2.186E-01	9.912E-02	0.000E+00
PB-214	1.691E+00	2.488E-01	1.118E-01	0.000E+00
PO-214	1.691E+00	2.488E-01	1.118E-01	0.000E+00
PO-216	1.899E+00	2.321E-01	8.628E-02	0.000E+00
PO-218	1.691E+00	2.488E-01	1.118E-01	0.000E+00
RA-224	4.803E+00	1.225E+00	9.816E-01	0.000E+00
RA-226	1.389E+00	2.186E-01	9.912E-02	0.000E+00
AC-228	1.854E+00	3.952E-01	1.973E-01	0.000E+00
RA-228	1.854E+00	3.952E-01	1.973E-01	0.000E+00
TH-228	1.930E+00	2.358E-01	8.767E-02	0.000E+00
TH-230	1.389E+00	2.186E-01	9.912E-02	0.000E+00
TH-232	1.854E+00	3.952E-01	1.973E-01	0.000E+00
TH-234	1.210E+00	1.474E+00	1.742E+00	0.000E+00
U-234	1.389E+00	2.186E-01	9.912E-02	0.000E+00
U-235	5.356E-02	2.166E-01	3.588E-01	0.000E+00
NP-237	1.330E+00	4.157E-01	3.122E-01	0.000E+00
U-238	1.210E+00	1.474E+00	1.742E+00	0.000E+00
AM-243	4.341E-01	7.846E-02	7.947E-02	0.000E+00
ANH-511	1.018E-01	7.792E-02	4.750E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	3.895E-02	3.596E-01	6.016E-01	0.000E+00	NOT IDENT.
NA-22	-1.403E-02	4.323E-02	6.797E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.961E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.582E-02	2.826E-02	4.101E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.144E-02	8.173E-02	0.000E+00	FAIL ABUN
SC-46	-3.043E-02	3.777E-02	5.789E-02	0.000E+00	FAIL ABUN
V-48	-4.601E-02	6.958E-02	1.073E-01	0.000E+00	NOT IDENT.
CR-51	6.202E-02	3.664E-01	6.194E-01	0.000E+00	NOT IDENT.
MN-52	1.343E-01	2.479E-01	4.518E-01	0.000E+00	FAIL ABUN
MN-54	1.348E-02	3.802E-02	6.616E-02	0.000E+00	NOT IDENT.
CO-56	-3.265E-02	3.853E-02	5.932E-02	0.000E+00	NOT IDENT.
CO-57	-2.417E-02	2.615E-02	4.143E-02	0.000E+00	NOT IDENT.
CO-58	-5.033E-02	3.668E-02	5.247E-02	0.000E+00	NOT IDENT.
FE-59	-7.975E-02	8.539E-02	1.249E-01	0.000E+00	NOT IDENT.
CO-60	1.032E-02	4.188E-02	7.041E-02	0.000E+00	NOT IDENT.
ZN-65	-7.803E-02	1.006E-01	1.257E-01	0.000E+00	NOT IDENT.
GE-68	1.637E-01	1.301E+00	2.178E+00	0.000E+00	NOT IDENT.
AS-73	-4.118E-01	5.759E-01	9.457E-01	0.000E+00	NOT IDENT.
AS-74	4.531E-02	9.928E-02	1.685E-01	0.000E+00	NOT IDENT.
SE-75	1.143E-02	4.382E-02	7.114E-02	0.000E+00	NOT IDENT.
BR-77	-3.847E+00	1.247E+01	1.998E+01	0.000E+00	FAIL ABUN
SR-82	-6.767E-01	4.055E-01	5.748E-01	0.000E+00	NOT IDENT.
RB-83	-3.185E-02	6.637E-02	1.047E-01	0.000E+00	NOT IDENT.
RB-84	-1.303E-02	6.980E-02	1.153E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.519E+00	1.436E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.411E-02	7.435E-02	0.000E+00	NOT IDENT.
RB-86	2.612E-01	8.408E-01	1.433E+00	0.000E+00	NOT IDENT.
Y-88	1.007E-02	2.680E-02	4.865E-02	0.000E+00	NOT IDENT.
ZR-88	-2.244E-02	3.042E-02	4.833E-02	0.000E+00	NOT IDENT.
Y-91	-2.546E+00	1.884E+01	3.055E+01	0.000E+00	NOT IDENT.
NB-94	1.665E-02	3.245E-02	5.769E-02	0.000E+00	NOT IDENT.
NB-95	3.543E-02	4.433E-02	7.968E-02	0.000E+00	NOT IDENT.
NB-95M	9.262E-02	1.241E-01	1.998E-01	0.000E+00	NOT IDENT.
ZR-95	2.020E-02	7.673E-02	1.333E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.476E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.951E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.066E+00	1.430E+01	2.496E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.102E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.123E-02	3.261E-02	5.669E-02	0.000E+00	NOT IDENT.
RH-102	2.638E-03	3.127E-02	5.226E-02	0.000E+00	NOT IDENT.
RU-103	1.350E-02	3.914E-02	6.665E-02	0.000E+00	FAIL ABUN
RH-106	1.226E-01	3.294E-01	5.545E-01	0.000E+00	FAIL ABUN
RU-106	1.226E-01	3.292E-01	5.545E-01	0.000E+00	FAIL ABUN
AG-108M	-2.336E-02	3.373E-02	5.334E-02	0.000E+00	NOT IDENT.
AG-110M	1.311E-02	3.500E-02	5.482E-02	0.000E+00	NOT IDENT.
IN-111	-6.932E-01	1.444E+00	2.117E+00	0.000E+00	NOT IDENT.
IN-113M	2.822E-02	4.269E-02	7.498E-02	0.000E+00	NOT IDENT.
SN-113	2.822E-02	4.269E-02	7.498E-02	0.000E+00	NOT IDENT.
IN-114M	5.435E-03	1.923E-01	2.974E-01	0.000E+00	NOT IDENT.
CD-115	1.334E+01	1.360E+01	2.428E+01	0.000E+00	NOT IDENT.
SN-117M	-3.495E-02	5.843E-02	9.282E-02	0.000E+00	NOT IDENT.
SB-122	1.665E+00	2.678E+00	4.617E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.941E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.073E-02	2.913E-02	4.597E-02	0.000E+00	NOT IDENT.
I-124	1.030E-01	8.260E-01	1.317E+00	0.000E+00	NOT IDENT.
SB-124	4.781E-02	7.106E-02	1.337E-01	0.000E+00	FAIL ABUN
SB-125	-2.936E-02	9.138E-02	1.490E-01	0.000E+00	FAIL ABUN
TE-125M	3.991E+00	1.041E+01	1.574E+01	0.000E+00	NOT IDENT.
I-126	1.141E-03	2.180E-01	3.262E-01	0.000E+00	NOT IDENT.
SB-126	-4.908E-03	1.440E-01	2.314E-01	0.000E+00	FAIL ABUN
SB-127	-3.783E-01	1.593E+00	2.676E+00	0.000E+00	NOT IDENT.
XE-127	-2.999E-02	4.746E-02	7.743E-02	0.000E+00	NOT IDENT.
I-131	-6.320E-02	1.192E-01	1.935E-01	0.000E+00	NOT IDENT.
TE-132	-8.486E-02	7.934E-01	1.367E+00	0.000E+00	NOT IDENT.
BA-133	-3.664E-03	4.526E-02	6.661E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.288E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.693E-02	9.874E-02	0.000E+00	FAIL ABUN
CS-135	1.816E-01	1.736E-01	2.803E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.793E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.920E-02	1.017E-01	1.568E-01	0.000E+00	FAIL ABUN
CE-139	-2.677E-03	3.030E-02	4.937E-02	0.000E+00	NOT IDENT.
BA-140	1.146E-01	2.784E-01	4.702E-01	0.000E+00	NOT IDENT.
LA-140	1.210E-01	8.383E-02	1.620E-01	0.000E+00	FAIL ABUN

CE-141	5.147E-03	6.577E-02	1.087E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.615E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-5.493E-02	2.220E-01	3.211E-01	0.000E+00	NOT IDENT.
PM-144	-1.486E-02	3.142E-02	5.152E-02	0.000E+00	NOT IDENT.
PR-144	-1.007E+00	2.131E+00	3.493E+00	0.000E+00	NOT IDENT.
PM-146	-8.914E-03	3.969E-02	6.483E-02	0.000E+00	NOT IDENT.
ND-147	-1.542E-01	5.733E-01	9.214E-01	0.000E+00	FAIL ABUN
PM-149	2.858E+00	1.195E+02	2.048E+02	0.000E+00	NOT IDENT.
EU-152	-7.857E-03	1.050E-01	1.639E-01	0.000E+00	FAIL ABUN
GD-153	-6.383E-02	8.534E-02	1.219E-01	0.000E+00	FAIL ABUN
EU-154	-1.339E-02	1.184E-01	1.911E-01	0.000E+00	NOT IDENT.
TB-160	-2.929E-02	1.371E-01	2.259E-01	0.000E+00	FAIL ABUN
HO-166M	1.194E-02	6.115E-02	1.061E-01	0.000E+00	FAIL ABUN
TM-171	-1.354E+00	2.656E+01	3.982E+01	0.000E+00	NOT IDENT.
LU-176	-1.309E-02	2.679E-02	4.277E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.825E+00	2.362E+00	0.000E+00	FAIL ABUN
LU-177M	2.500E-01	1.922E-01	3.163E-01	0.000E+00	NOT IDENT.
HF-181	-3.106E-02	4.601E-02	7.221E-02	0.000E+00	NOT IDENT.
W-181	8.450E-02	3.365E-01	5.184E-01	0.000E+00	NOT IDENT.
TA-182	-4.379E-02	2.104E-01	3.387E-01	0.000E+00	FAIL ABUN
RE-183	5.721E-02	1.161E-01	1.920E-01	0.000E+00	FAIL ABUN
RE-184	-1.076E-01	2.298E-01	3.859E-01	0.000E+00	NOT IDENT.
OS-185	-2.787E-02	4.113E-02	6.657E-02	0.000E+00	NOT IDENT.
RE-188	2.854E-01	1.799E-01	3.144E-01	0.000E+00	NOT IDENT.
W-188	-5.604E-01	8.222E+00	1.230E+01	0.000E+00	FAIL ABUN
IR-192	-6.666E-03	3.237E-02	5.436E-02	0.000E+00	FAIL ABUN
AU-195	2.917E-01	2.191E-01	3.702E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.856E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.478E+00	8.854E+00	1.427E+01	0.000E+00	NOT IDENT.
TL-202	-4.460E-02	7.339E-02	1.166E-01	0.000E+00	NOT IDENT.
HG-203	4.271E-02	4.593E-02	7.367E-02	0.000E+00	FAIL ABUN
BI-207	7.186E-02	4.938E-02	9.381E-02	0.000E+00	FAIL ABUN
TL-207	5.223E-01	7.010E-01	1.105E+00	0.000E+00	FAIL ABUN
PO-209	3.675E-02	7.282E+00	1.225E+01	0.000E+00	NOT IDENT.
PB-211	1.552E-01	1.093E+00	1.623E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.187E-01	6.606E-01	0.000E+00	FAIL ABUN
PO-215	5.223E-01	7.010E-01	1.105E+00	0.000E+00	FAIL ABUN
RN-219	-1.686E-02	4.343E-01	7.183E-01	0.000E+00	FAIL ABUN
RN-220	-2.634E+00	2.526E+01	4.115E+01	0.000E+00	NOT IDENT.
RA-223	5.223E-01	7.010E-01	1.105E+00	0.000E+00	FAIL ABUN
AC-227	-3.930E-02	3.835E-01	6.568E-01	0.000E+00	FAIL ABUN
TH-227	-3.930E-02	3.835E-01	6.568E-01	0.000E+00	FAIL ABUN
TH-229	-2.115E-02	4.676E-01	8.146E-01	0.000E+00	FAIL ABUN
PA-231	-3.630E-02	1.469E+00	2.512E+00	0.000E+00	FAIL ABUN
TH-231	5.223E-01	7.010E-01	1.105E+00	0.000E+00	FAIL ABUN
U-231	4.476E-01	1.294E+00	1.965E+00	0.000E+00	FAIL ABUN
PA-233	-2.337E-03	6.425E-02	1.092E-01	0.000E+00	FAIL ABUN
PA-234	-7.193E-02	3.041E-01	4.969E-01	0.000E+00	FAIL ABUN
PA-234M	2.319E+00	4.947E+00	8.749E+00	0.000E+00	NOT IDENT.
NP-236	-1.809E-02	8.053E-02	1.305E-01	0.000E+00	NOT IDENT.
NP-239	-1.531E-01	1.902E-01	3.039E-01	0.000E+00	FAIL ABUN
AM-241	1.173E-01	1.261E-01	2.015E-01	0.000E+00	NOT IDENT.
CM-243	6.920E-02	9.815E-02	1.524E-01	0.000E+00	FAIL ABUN
AM-246	-1.728E-01	1.568E-01	2.285E-01	0.000E+00	NOT IDENT.
CM-247	3.404E-03	3.910E-02	6.520E-02	0.000E+00	FAIL ABUN
CF-249	9.985E-03	3.827E-02	6.553E-02	0.000E+00	NOT IDENT.
CF-251	7.099E-02	1.250E-01	2.097E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630011.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:28:37.
Sample ID          : G243630011 Sample quantity : 1.10250E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:34.34 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 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	822	10.67*	1.253E+00	2.094E+01	2.094E+01	11.84
CD-109	88.03	342	3.72*	6.940E+00	4.506E+00	4.616E+00	24.30
SN-126	64.28	62	9.60	4.615E+00	4.789E-01	4.789E-01	123.90
	86.94	342	8.90	6.940E+00	1.884E+00	1.884E+00	47.19
	87.57	342	37.00*	6.940E+00	4.531E-01	4.531E-01	24.30
BA-137M	661.65	158	89.98*	2.435E+00	2.453E-01	2.456E-01	27.42
CS-137	661.65	158	85.12*	2.435E+00	2.593E-01	2.596E-01	27.42
EU-155	48.70	-----	4.60	2.210E+00	-----	Line Not Found	-----
	60.01	-----	1.11	4.133E+00	-----	Line Not Found	-----
	86.54	342	30.90	6.940E+00	5.425E-01	5.459E-01	24.33
	105.31	71	20.70*	7.418E+00	1.581E-01	1.591E-01	77.01
TL-208	277.35	51	6.80	4.722E+00	5.423E-01	5.423E-01	85.67
	510.84	89	21.60	2.990E+00	4.714E-01	4.714E-01	78.53
	583.14	368	84.20*	2.695E+00	5.524E-01	5.524E-01	17.35
	860.37	-----	12.46	1.954E+00	-----	Line Not Found	-----
BI-210	46.50	88	4.05*	1.833E+00	4.055E+00	4.060E+00	81.59
PB-210	46.50	88	4.05*	1.833E+00	4.055E+00	4.060E+00	81.59
PO-210	46.50	88	4.05*	1.833E+00	4.055E+00	4.060E+00	81.50
BI-211	72.87	72	1.27	5.860E+00	3.303E+00	3.303E+00	75.45
	351.07	733	12.94*	3.969E+00	4.860E+00	4.860E+00	14.08
PB-212	74.81	510	10.70	6.058E+00	2.678E+00	2.678E+00	20.68
	77.11	812	18.00	6.260E+00	2.454E+00	2.454E+00	13.84
	87.30	342	8.00	6.940E+00	2.095E+00	2.095E+00	26.28
	238.63	1306	44.60*	5.248E+00	1.899E+00	1.899E+00	12.47
	300.09	115	3.41	4.458E+00	2.584E+00	2.584E+00	44.52
PO-212	74.81	510	10.70	6.058E+00	2.678E+00	2.678E+00	20.68
	77.11	812	18.00	6.260E+00	2.454E+00	2.454E+00	13.84
	87.30	342	8.00	6.940E+00	2.095E+00	2.095E+00	26.28
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1306	44.60*	5.248E+00	1.899E+00	1.899E+00	12.47
	300.09	115	3.41	4.458E+00	2.584E+00	2.584E+00	44.52
BI-214	609.31	491	46.30*	2.603E+00	1.389E+00	1.389E+00	16.07

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1120.29	121	15.10	1.557E+00	1.747E+00	1.747E+00	32.18
	1764.49	92	15.80	1.100E+00	1.807E+00	1.807E+00	23.42
	74.81	510	6.21	6.058E+00	4.614E+00	4.614E+00	19.87
	77.11	812	10.50	6.260E+00	4.207E+00	4.207E+00	15.80
	87.30	342	4.67	6.940E+00	3.590E+00	3.590E+00	25.49
	241.98	290	7.49	5.203E+00	2.533E+00	2.533E+00	26.63
PO-214	295.21	437	19.20	4.512E+00	1.716E+00	1.716E+00	20.33
	351.92	733	37.20*	3.969E+00	1.691E+00	1.691E+00	15.02
	74.81	510	6.21	6.058E+00	4.614E+00	4.614E+00	19.87
	77.11	812	10.50	6.260E+00	4.207E+00	4.207E+00	15.80
	87.30	342	4.67	6.940E+00	3.590E+00	3.590E+00	25.49
	241.98	290	7.49	5.203E+00	2.533E+00	2.533E+00	26.63
PO-216	295.21	437	19.20	4.512E+00	1.716E+00	1.716E+00	20.33
	351.92	733	37.20*	3.969E+00	1.691E+00	1.691E+00	15.02
	74.81	510	10.70	6.058E+00	2.678E+00	2.678E+00	20.68
	77.11	812	18.00	6.260E+00	2.454E+00	2.454E+00	13.84
	87.30	342	8.00	6.940E+00	2.095E+00	2.095E+00	26.28
	238.63	1306	44.60*	5.248E+00	1.899E+00	1.899E+00	12.47
PO-218	300.09	115	3.41	4.458E+00	2.584E+00	2.584E+00	44.52
	74.81	510	6.21	6.058E+00	4.614E+00	4.614E+00	19.87
	77.11	812	10.50	6.260E+00	4.207E+00	4.207E+00	15.80
	87.30	342	4.67	6.940E+00	3.590E+00	3.590E+00	25.49
	241.98	290	7.49	5.203E+00	2.533E+00	2.533E+00	26.63
	295.21	437	19.20	4.512E+00	1.716E+00	1.716E+00	20.33
RA-224	351.92	733	37.20*	3.969E+00	1.691E+00	1.691E+00	15.02
	240.98	290	3.95*	5.203E+00	4.803E+00	4.803E+00	26.03
RA-226	609.31	491	46.30*	2.603E+00	1.389E+00	1.389E+00	16.07
	1120.29	121	15.10	1.557E+00	1.747E+00	1.747E+00	32.18
AC-228	1764.49	92	15.80	1.100E+00	1.807E+00	1.807E+00	23.42
	338.32	235	11.40	4.086E+00	1.720E+00	1.720E+00	48.01
	911.07	281	27.70*	1.860E+00	1.854E+00	1.854E+00	21.75
RA-228	969.11	149	16.60	1.764E+00	1.736E+00	1.736E+00	33.54
	338.32	235	11.40	4.086E+00	1.720E+00	1.720E+00	48.01
	911.07	281	27.70*	1.860E+00	1.854E+00	1.854E+00	21.75
TH-228	969.11	149	16.60	1.764E+00	1.736E+00	1.736E+00	33.54
	74.81	510	10.70	6.058E+00	2.678E+00	2.721E+00	18.48
	77.11	812	18.00	6.260E+00	2.454E+00	2.494E+00	13.84
TH-230	87.30	342	8.00	6.940E+00	2.095E+00	2.129E+00	24.30
	238.63	1306	44.60*	5.248E+00	1.899E+00	1.930E+00	12.47
	300.09	115	3.41	4.458E+00	2.584E+00	2.626E+00	73.40
	609.31	491	46.30*	2.603E+00	1.389E+00	1.389E+00	16.07
TH-232	1120.29	121	15.10	1.557E+00	1.747E+00	1.747E+00	32.18
	1764.49	92	15.80	1.100E+00	1.807E+00	1.807E+00	23.42
	338.32	235	11.40	4.086E+00	1.720E+00	1.720E+00	26.02
TH-234	911.07	281	27.70*	1.860E+00	1.854E+00	1.854E+00	21.75
	969.11	149	16.60	1.764E+00	1.736E+00	1.736E+00	33.54
	63.29	62	3.80*	4.615E+00	1.210E+00	1.210E+00	124.28
U-234	92.38	271	5.41	7.168E+00	2.378E+00	2.378E+00	34.93
	609.31	491	46.30*	2.603E+00	1.389E+00	1.389E+00	16.07

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	1120.29	121	15.10	1.557E+00	1.747E+00	1.747E+00	32.18
	1764.49	92	15.80	1.100E+00	1.807E+00	1.807E+00	23.42
	89.95	201	2.70	7.064E+00	3.595E+00	3.595E+00	48.27
	93.35	271	4.50	7.168E+00	2.859E+00	2.859E+00	40.97
	105.00	71	2.10	7.418E+00	1.559E+00	1.559E+00	82.13
	143.76	-----	10.50*	7.037E+00	-----	Line Not Found	-----
	163.35	-----	4.70	6.638E+00	-----	Line Not Found	-----
NP-237	185.71	231	54.00	6.174E+00	2.357E-01	2.357E-01	32.71
	205.31	-----	4.70	5.804E+00	-----	Line Not Found	-----
	86.50	342	12.60*	6.940E+00	1.330E+00	1.330E+00	31.88
	95.87	-----	2.60	7.260E+00	-----	Line Not Found	-----
	63.29	62	3.80*	4.615E+00	1.210E+00	1.210E+00	124.28
U-238	92.38	271	5.41	7.168E+00	2.378E+00	2.378E+00	31.10
AM-243	74.67	510	66.00*	6.058E+00	4.341E-01	4.341E-01	18.44
	86.72	342	0.34	6.940E+00	4.989E+01	4.989E+01	24.30
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
	511.00	89	100.00*	2.990E+00	1.018E-01	1.018E-01	78.09

Flag: "*" = Keyline

Total number of lines in spectrum 43
Number of unidentified lines 6
Number of lines tentatively identified by NID 37 86.05%

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	2.094E+01	2.094E+01	0.248E+01	11.84	
CD-109	464.00D	1.02	4.506E+00	4.616E+00	1.122E+00	24.30	
SN-126	1.00E+05Y	1.00	4.531E-01	4.531E-01	1.101E-01	24.30	
BA-137M	30.17Y	1.00	2.453E-01	2.456E-01	0.673E-01	27.42	
CS-137	30.17Y	1.00	2.593E-01	2.596E-01	0.712E-01	27.42	
EU-155	4.96Y	1.01	1.581E-01	1.591E-01	1.226E-01	77.01	
TL-208	1.41E+10Y	1.00	5.524E-01	5.524E-01	0.959E-01	17.35	
BI-210	22.26Y	1.00	4.055E+00	4.060E+00	3.313E+00	81.59	
PB-210	22.26Y	1.00	4.055E+00	4.060E+00	3.313E+00	81.59	
PO-210	22.26Y	1.00	4.055E+00	4.060E+00	3.309E+00	81.50	
BI-211	7.04E+08Y	1.00	4.860E+00	4.860E+00	0.684E+00	14.08	
PB-212	1.41E+10Y	1.00	1.899E+00	1.899E+00	0.237E+00	12.47	
PO-212	1.41E+10Y	1.00	1.899E+00	1.899E+00	0.237E+00	12.47	
BI-214	1600.00Y	1.00	1.389E+00	1.389E+00	0.223E+00	16.07	
PB-214	1600.00Y	1.00	1.691E+00	1.691E+00	0.254E+00	15.02	
PO-214	1600.00Y	1.00	1.691E+00	1.691E+00	0.254E+00	15.02	
PO-216	1.41E+10Y	1.00	1.899E+00	1.899E+00	0.237E+00	12.47	
PO-218	1600.00Y	1.00	1.691E+00	1.691E+00	0.254E+00	15.02	
RA-224	1.41E+10Y	1.00	4.803E+00	4.803E+00	1.250E+00	26.03	
RA-226	1600.00Y	1.00	1.389E+00	1.389E+00	0.223E+00	16.07	
AC-228	1.41E+10Y	1.00	1.854E+00	1.854E+00	0.403E+00	21.75	
RA-228	1.41E+10Y	1.00	1.854E+00	1.854E+00	0.403E+00	21.75	
TH-228	1.91Y	1.02	1.899E+00	1.930E+00	0.241E+00	12.47	
TH-230	4.47E+09Y	1.00	1.389E+00	1.389E+00	0.223E+00	16.07	
TH-232	1.41E+10Y	1.00	1.854E+00	1.854E+00	0.403E+00	21.75	
TH-234	4.47E+09Y	1.00	1.210E+00	1.210E+00	1.504E+00	124.28	
U-234	4.47E+09Y	1.00	1.389E+00	1.389E+00	0.223E+00	16.07	
U-235	7.04E+08Y	1.00	2.357E-01	2.357E-01	0.771E-01	32.71	K
NP-237	2.14E+06Y	1.00	1.330E+00	1.330E+00	0.424E+00	31.88	
U-238	4.47E+09Y	1.00	1.210E+00	1.210E+00	1.504E+00	124.28	
AM-243	7380.00Y	1.00	4.341E-01	4.341E-01	0.801E-01	18.44	
ANH-511	1.00E+09Y	1.00	1.018E-01	1.018E-01	0.795E-01	78.09	
Total Activity :			7.725E+01	7.741E+01			

Grand Total Activity : 7.725E+01 7.741E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	84.25	153	372	1.39	168.41	161	31	2.12E-02	47.9	6.77E+00	T
0	129.07	66	290	1.41	257.92	255	8	9.21E-03	92.1	7.29E+00	T
0	208.92	137	255	1.49	417.41	413	10	1.90E-02	46.8	5.74E+00	T
0	270.37	118	191	1.26	540.16	535	11	1.64E-02	49.0	4.81E+00	T
0	328.36	102	171	1.20	656.01	651	12	1.41E-02	55.2	4.18E+00	T
0	409.58	37	59	1.22	818.29	815	7	5.21E-03	74.9	3.54E+00	T
0	463.21	80	101	1.23	925.44	920	11	1.11E-02	53.7	3.23E+00	T
0	727.77	75	76	1.80	1454.26	1448	14	1.04E-02	54.2	2.25E+00	T
0	787.90	21	74	1.69	1574.50	1566	12	2.88E-03	****	2.11E+00	
0	795.14	50	65	1.49	1588.98	1581	13	6.94E-03	72.2	2.09E+00	T
0	934.52	41	17	1.59	1867.70	1863	11	5.65E-03	53.3	1.82E+00	T
2	964.83	40	55	2.02	1928.35	1922	26	5.59E-03	77.4	1.77E+00	T
0	1378.57	51	15	1.40	2756.25	2749	15	7.08E-03	43.4	1.31E+00	
0	1593.44	29	14	0.85	3186.46	3182	13	3.97E-03	64.5	1.18E+00	
0	1630.63	16	2	1.54	3260.94	3256	9	2.21E-03	60.3	1.16E+00	
0	1729.83	25	13	1.87	3459.63	3451	17	3.49E-03	76.3	1.11E+00	
0	1847.84	31	4	2.29	3696.06	3688	13	4.34E-03	43.2	1.07E+00	

Flags: "T" = Tentatively associated


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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243630011.CNF;1
* Acquisition date   : 7-JAN-2010 13:28:37.  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 02:00:34.34             Half life ratio: 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G243630011           Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.10250E+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	2.094E+01	2.480E+00	4.134E-01	3.605E-02	50.665
CD-109	4.616E+00	1.122E+00	1.056E+00	9.989E-02	4.370
SN-126	4.531E-01	1.101E-01	1.040E-01	9.779E-03	4.358
BA-137M	2.456E-01	6.733E-02	6.246E-02	6.268E-03	3.932
CS-137	2.596E-01	7.119E-02	6.603E-02	6.636E-03	3.932
EU-155	1.591E-01	1.226E-01	1.715E-01	1.491E-02	0.928
TL-208	5.524E-01	9.586E-02	5.994E-02	6.162E-03	9.217
BI-210	4.060E+00	3.313E+00	3.314E+00	3.074E-01	1.225
PB-210	4.060E+00	3.313E+00	3.314E+00	3.074E-01	1.225
PO-210	4.060E+00	3.309E+00	3.314E+00	2.781E-01	1.225
BI-211	4.860E+00	6.844E-01	3.392E-01	3.249E-02	14.330
PB-212	1.899E+00	2.368E-01	8.560E-02	9.103E-03	22.191
PO-212	1.899E+00	2.368E-01	8.560E-02	9.103E-03	22.191
BI-214	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
PB-214	1.691E+00	2.539E-01	1.112E-01	1.212E-02	15.204
PO-214	1.691E+00	2.539E-01	1.112E-01	1.212E-02	15.204
PO-216	1.899E+00	2.368E-01	8.560E-02	9.103E-03	22.191
PO-218	1.691E+00	2.539E-01	1.112E-01	1.212E-02	15.204

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	4.803E+00	1.250E+00	9.739E-01	9.414E-02	4.932
RA-226	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
AC-228	1.854E+00	4.033E-01	1.977E-01	2.422E-02	9.378
RA-228	1.854E+00	4.033E-01	1.977E-01	2.422E-02	9.378
TH-228	1.930E+00	2.406E-01	8.698E-02	9.250E-03	22.191
TH-230	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
TH-232	1.854E+00	4.033E-01	1.977E-01	2.422E-02	9.378
TH-234	1.210E+00	1.504E+00	1.712E+00	2.975E-01	0.707
U-234	1.389E+00	2.231E-01	9.902E-02	1.102E-02	14.025
U-235	2.357E-01	7.708E-02	3.547E-01	6.181E-02	0.665
NP-237	1.330E+00	4.241E-01	3.075E-01	6.956E-02	4.327
U-238	1.210E+00	1.504E+00	1.712E+00	2.975E-01	0.707
AM-243	4.341E-01	8.006E-02	7.818E-02	6.293E-03	5.553
ANH-511	1.018E-01	7.951E-02	4.739E-02	4.416E-03	2.149

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.895E-02		3.669E-01	5.999E-01	5.831E-02	0.065
NA-22	-1.403E-02		4.411E-02	6.827E-02	5.655E-03	-0.206
NA-24	5.509E-01		1.000E+00	Half-Life	too short	
AL-26	-1.582E-02		2.884E-02	4.131E-02	3.355E-03	-0.383
TI-44	4.529E-01	+	6.269E-02	8.043E-02	6.750E-03	5.631
SC-46	-3.043E-02		3.854E-02	5.799E-02	5.781E-03	-0.525
V-48	-4.601E-02		7.100E-02	1.075E-01	1.028E-02	-0.428
CR-51	6.202E-02		3.739E-01	6.159E-01	6.174E-02	0.101
MN-52	1.343E-01		2.530E-01	4.542E-01	3.844E-02	0.296
MN-54	1.348E-02		3.879E-02	6.625E-02	6.692E-03	0.204
CO-56	-3.265E-02		3.931E-02	5.940E-02	5.987E-03	-0.550
CO-57	-2.417E-02		2.668E-02	4.091E-02	3.415E-03	-0.591
CO-58	-5.033E-02		3.743E-02	5.253E-02	5.333E-03	-0.958
FE-59	-7.975E-02		8.713E-02	1.253E-01	1.182E-02	-0.637
CO-60	1.032E-02		4.273E-02	7.075E-02	5.926E-03	0.146
ZN-65	-7.803E-02		1.026E-01	1.261E-01	1.086E-02	-0.619
GE-68	1.637E-01		1.328E+00	2.185E+00	1.950E-01	0.075
AS-73	-4.118E-01		5.876E-01	9.281E-01	6.890E-02	-0.444
AS-74	4.531E-02		1.013E-01	1.683E-01	1.647E-02	0.269
SE-75	1.143E-02		4.472E-02	7.063E-02	6.993E-03	0.162
BR-77	-3.847E+00		1.273E+01	1.994E+01	1.870E+00	-0.193
SR-82	-6.767E-01		4.138E-01	5.753E-01	5.845E-02	-1.176
RB-83	-3.185E-02		6.773E-02	1.045E-01	9.798E-03	-0.305
RB-84	-1.303E-02		7.122E-02	1.155E-01	1.154E-02	-0.113
KR-85	1.647E+01		8.693E+00	1.433E+01	1.338E+00	1.150
SR-85	8.529E-02		4.501E-02	7.418E-02	6.927E-03	1.150
RB-86	2.612E-01		8.579E-01	1.438E+00	1.284E-01	0.182
Y-88	1.007E-02		2.734E-02	4.900E-02	3.954E-03	0.206
ZR-88	-2.244E-02		3.104E-02	4.812E-02	4.025E-03	-0.466

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-2.546E+00		1.922E+01	3.067E+01	2.491E+00	-0.083
NB-94	1.665E-02		3.311E-02	5.769E-02	5.837E-03	0.289
NB-95	3.543E-02		4.524E-02	7.973E-02	8.103E-03	0.444
NB-95M	9.262E-02		1.266E-01	1.982E-01	2.130E-02	0.467
ZR-95	2.020E-02		7.830E-02	1.333E-01	1.455E-02	0.151
NB-97	1.022E-01		1.263E-01	Half-Life	too short	
ZR-97	2.590E+00		2.526E+00	Half-Life	too short	
MO-99	4.066E+00		1.460E+01	2.497E+01	4.022E+00	0.163
TC-99M	-9.866E+10		2.603E+11	Half-Life	too short	
RH-101	1.123E-02		3.328E-02	5.617E-02	5.148E-03	0.200
RH-102	2.638E-03		3.191E-02	5.211E-02	4.724E-03	0.051
RU-103	1.350E-02		3.994E-02	6.648E-02	9.665E-03	0.203
RH-106	1.226E-01		3.361E-01	5.540E-01	7.876E-02	0.221
RU-106	1.226E-01		3.359E-01	5.540E-01	5.484E-02	0.221
AG-108M	-2.336E-02		3.442E-02	5.315E-02	4.824E-03	-0.439
AG-110M	1.311E-02		3.572E-02	5.480E-02	5.614E-03	0.239
IN-111	-6.932E-01		1.473E+00	2.100E+00	2.039E-01	-0.330
IN-113M	2.822E-02		4.357E-02	7.466E-02	6.441E-03	0.378
SN-113	2.822E-02		4.357E-02	7.466E-02	6.441E-03	0.378
IN-114M	5.435E-03		1.963E-01	2.946E-01	2.670E-02	0.018
CD-115	1.334E+01		1.388E+01	2.423E+01	2.284E+00	0.550
SN-117M	-3.495E-02		5.963E-02	9.181E-02	7.924E-03	-0.381
SB-122	1.665E+00		2.732E+00	4.610E+00	4.440E-01	0.361
I-123	-1.382E+01		9.905E+00	Half-Life	too short	
TE-123M	-2.073E-02		2.973E-02	4.547E-02	3.951E-03	-0.456
I-124	1.030E-01		8.429E-01	1.316E+00	1.292E-01	0.078
SB-124	4.781E-02		7.251E-02	1.345E-01	1.169E-02	0.355
SB-125	-2.936E-02		9.324E-02	1.485E-01	1.314E-02	-0.198
TE-125M	3.991E+00		1.062E+01	1.553E+01	1.588E+00	0.257
I-126	1.141E-03		2.225E-01	3.261E-01	3.277E-02	0.003
SB-126	-4.908E-03		1.469E-01	2.315E-01	2.347E-02	-0.021
SB-127	-3.783E-01		1.626E+00	2.675E+00	3.421E-01	-0.141
XE-127	-2.999E-02		4.843E-02	7.673E-02	7.081E-03	-0.391
I-131	-6.320E-02		1.217E-01	1.926E-01	1.807E-02	-0.328
TE-132	-8.486E-02		8.095E-01	1.355E+00	2.224E-01	-0.063
BA-133	-3.664E-03		4.618E-02	6.628E-02	8.954E-03	-0.055
I-133	-1.230E-02		6.571E-03	Half-Life	too short	
CS-134	1.076E-01	+	7.850E-02	9.883E-02	1.008E-02	1.089
CS-135	1.816E-01		1.772E-01	2.783E-01	3.084E-02	0.653
I-135	-3.933E+09		2.955E+10	Half-Life	too short	
CS-136	-5.920E-02		1.038E-01	1.573E-01	1.493E-02	-0.376
CE-139	-2.677E-03		3.092E-02	4.885E-02	4.264E-03	-0.055
BA-140	1.146E-01		2.840E-01	4.693E-01	1.566E-01	0.244
LA-140	1.210E-01		8.554E-02	1.630E-01	1.376E-02	0.743
CE-141	5.147E-03		6.711E-02	1.075E-01	9.279E-03	0.048
CE-143	1.045E-03		1.844E-04	Half-Life	too short	
CE-144	-5.493E-02		2.265E-01	3.172E-01	4.895E-02	-0.173
PM-144	-1.486E-02		3.207E-02	5.152E-02	5.209E-03	-0.288

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	-1.007E+00		2.174E+00	3.493E+00	3.531E-01	-0.288
PM-146	-8.914E-03		4.050E-02	6.463E-02	7.078E-03	-0.138
ND-147	-1.542E-01		5.850E-01	9.195E-01	1.420E-01	-0.168
PM-149	2.858E+00		1.219E+02	2.034E+02	3.316E+01	0.014
EU-152	-7.857E-03		1.072E-01	1.630E-01	1.591E-02	-0.048
GD-153	-6.383E-02		8.708E-02	1.201E-01	1.066E-02	-0.531
EU-154	-1.339E-02		1.208E-01	1.919E-01	2.121E-02	-0.070
TB-160	-2.929E-02		1.399E-01	2.263E-01	2.263E-02	-0.129
HO-166M	1.194E-02		6.240E-02	1.061E-01	1.075E-02	0.112
TM-171	-1.354E+00		2.710E+01	3.915E+01	2.917E+00	-0.035
LU-176	-1.309E-02		2.734E-02	4.251E-02	4.147E-03	-0.308
LU-177	3.900E+00	+	1.862E+00	2.341E+00	2.177E-01	1.666
LU-177M	2.500E-01		1.961E-01	3.150E-01	2.696E-02	0.794
HF-181	-3.106E-02		4.695E-02	7.201E-02	6.566E-03	-0.431
W-181	8.450E-02		3.434E-01	5.095E-01	3.749E-02	0.166
TA-182	-4.379E-02		2.147E-01	3.401E-01	2.775E-02	-0.129
RE-183	5.721E-02		1.185E-01	1.900E-01	1.649E-02	0.301
RE-184	-1.076E-01		2.345E-01	3.830E-01	3.743E-02	-0.281
OS-185	-2.787E-02		4.197E-02	6.653E-02	6.644E-03	-0.419
RE-188	2.854E-01		1.836E-01	3.109E-01	2.669E-02	0.918
W-188	-5.604E-01		8.390E+00	1.222E+01	1.209E+00	-0.046
IR-192	-6.666E-03		3.304E-02	5.405E-02	5.227E-03	-0.123
AU-195	2.917E-01		2.236E-01	3.650E-01	3.214E-02	0.799
TL-200	3.566E-04		4.008E-04	Half-Life	too short	
TL-201	-2.478E+00		9.035E+00	1.412E+01	1.236E+00	-0.175
TL-202	-4.460E-02		7.489E-02	1.162E-01	1.021E-02	-0.384
HG-203	4.271E-02		4.687E-02	7.318E-02	7.442E-03	0.584
BI-207	7.186E-02		5.039E-02	9.410E-02	8.497E-03	0.764
TL-207	5.223E-01		7.153E-01	1.099E+00	1.998E-01	0.475
PO-209	3.675E-02		7.431E+00	1.228E+01	1.221E+00	0.003
PB-211	1.552E-01		1.116E+00	1.616E+00	1.012E+00	0.096
BI-212	9.565E-01	+	5.293E-01	6.608E-01	7.500E-02	1.447
PO-215	5.223E-01		7.153E-01	1.099E+00	1.998E-01	0.475
RN-219	-1.686E-02		4.432E-01	7.153E-01	1.068E-01	-0.024
RN-220	-2.634E+00		2.577E+01	4.108E+01	3.924E+00	-0.064
RA-223	5.223E-01		7.153E-01	1.099E+00	1.998E-01	0.475
AC-227	-3.930E-02		3.914E-01	6.519E-01	1.046E-01	-0.060
TH-227	-3.930E-02		3.914E-01	6.519E-01	1.216E-01	-0.060
TH-229	-2.115E-02		4.771E-01	8.070E-01	7.349E-02	-0.026
PA-231	-3.630E-02		1.499E+00	2.495E+00	3.984E-01	-0.015
TH-231	5.223E-01		7.153E-01	1.099E+00	1.998E-01	0.475
U-231	4.476E-01		1.321E+00	1.936E+00	1.732E-01	0.231
PA-233	-2.337E-03		6.556E-02	1.086E-01	1.077E-02	-0.022
PA-234	-7.193E-02		3.103E-01	4.980E-01	9.617E-02	-0.144
PA-234M	2.319E+00		5.048E+00	8.773E+00	9.384E-01	0.264
NP-236	-1.809E-02		8.217E-02	1.291E-01	1.117E-02	-0.140
NP-239	-1.531E-01		1.941E-01	2.999E-01	2.513E-02	-0.511
AM-241	1.173E-01		1.286E-01	1.980E-01	1.549E-02	0.593

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.920E-02		1.001E-01	1.503E-01	1.298E-02	0.460
AM-246	-1.728E-01		1.600E-01	2.292E-01	2.042E-02	-0.754
CM-247	3.404E-03		3.990E-02	6.494E-02	5.491E-03	0.052
CF-249	9.985E-03		3.905E-02	6.524E-02	5.505E-03	0.153
CF-251	7.099E-02		1.275E-01	2.076E-01	1.842E-02	0.342

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G243630011             *
* Acquisition date   : 7-JAN-2010 13:28:37 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 02:00:34.34             Half life ratio : 8.000         *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID             *
* Sample ID          : G243630011              Analyst initials: MXR1          *
* Batch Number       : 937702                  Sample Quantity : 1.1025E+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	2.094E+01	2.430E+00	2.057E-01	1.240E+00
CD-109	4.616E+00	1.099E+00	5.365E-01	5.608E-01
SN-126	4.531E-01	1.079E-01	5.281E-02	5.505E-02
BA-137M	2.456E-01	6.599E-02	3.126E-02	3.367E-02
CS-137	2.596E-01	6.977E-02	3.305E-02	3.559E-02
EU-155	1.591E-01	1.201E-01	8.700E-02	6.128E-02
TL-208	5.524E-01	9.394E-02	3.003E-02	4.793E-02
BI-210	4.060E+00	3.247E+00	1.691E+00	1.657E+00
PB-210	4.060E+00	3.247E+00	1.691E+00	1.657E+00
PO-210	4.060E+00	3.243E+00	1.691E+00	1.655E+00
BI-211	4.860E+00	6.707E-01	1.705E-01	3.422E-01
PB-212	1.899E+00	2.321E-01	4.316E-02	1.184E-01
PO-212	1.899E+00	2.321E-01	4.316E-02	1.184E-01
BI-214	1.389E+00	2.186E-01	4.959E-02	1.116E-01
PB-214	1.691E+00	2.488E-01	5.591E-02	1.270E-01
PO-214	1.691E+00	2.488E-01	5.591E-02	1.270E-01
PO-216	1.899E+00	2.321E-01	4.316E-02	1.184E-01
PO-218	1.691E+00	2.488E-01	5.591E-02	1.270E-01
RA-224	4.803E+00	1.225E+00	4.911E-01	6.251E-01
RA-226	1.389E+00	2.186E-01	4.959E-02	1.116E-01
AC-228	1.854E+00	3.952E-01	9.872E-02	2.017E-01
RA-228	1.854E+00	3.952E-01	9.872E-02	2.017E-01
TH-228	1.930E+00	2.358E-01	4.386E-02	1.203E-01
TH-230	1.389E+00	2.186E-01	4.959E-02	1.116E-01
TH-232	1.854E+00	3.952E-01	9.872E-02	2.017E-01
TH-234	1.210E+00	1.474E+00	8.717E-01	7.518E-01
U-234	1.389E+00	2.186E-01	4.959E-02	1.116E-01
U-235	5.356E-02	2.166E-01	1.795E-01	1.105E-01
NP-237	1.330E+00	4.157E-01	1.562E-01	2.121E-01
U-238	1.210E+00	1.474E+00	8.717E-01	7.518E-01
AM-243	4.341E-01	7.846E-02	3.976E-02	4.003E-02
ANH-511	1.018E-01	7.792E-02	2.376E-02	3.976E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	3.895E-02	3.596E-01	3.010E-01	1.835E-01	NOT IDENT.
NA-22	-1.403E-02	4.323E-02	3.400E-02	2.206E-02	NOT IDENT.
NA-24	5.509E+05	1.961E+06	0.000E+00	1.000E+06	SHORT HLIF
AL-26	-1.582E-02	2.826E-02	2.052E-02	1.442E-02	NOT IDENT.
TI-44	4.529E-01	6.144E-02	4.089E-02	3.134E-02	FAIL ABUN
SC-46	-3.043E-02	3.777E-02	2.896E-02	1.927E-02	FAIL ABUN
V-48	-4.601E-02	6.958E-02	5.367E-02	3.550E-02	NOT IDENT.
CR-51	6.202E-02	3.664E-01	3.099E-01	1.870E-01	NOT IDENT.
MN-52	1.343E-01	2.479E-01	2.260E-01	1.265E-01	FAIL ABUN
MN-54	1.348E-02	3.802E-02	3.310E-02	1.940E-02	NOT IDENT.
CO-56	-3.265E-02	3.853E-02	2.968E-02	1.966E-02	NOT IDENT.
CO-57	-2.417E-02	2.615E-02	2.073E-02	1.334E-02	NOT IDENT.
CO-58	-5.033E-02	3.668E-02	2.625E-02	1.871E-02	NOT IDENT.
FE-59	-7.975E-02	8.539E-02	6.247E-02	4.356E-02	NOT IDENT.
CO-60	1.032E-02	4.188E-02	3.523E-02	2.137E-02	NOT IDENT.
ZN-65	-7.803E-02	1.006E-01	6.289E-02	5.132E-02	NOT IDENT.
GE-68	1.637E-01	1.301E+00	1.090E+00	6.639E-01	NOT IDENT.
AS-73	-4.118E-01	5.759E-01	4.731E-01	2.938E-01	NOT IDENT.
AS-74	4.531E-02	9.928E-02	8.431E-02	5.065E-02	NOT IDENT.
SE-75	1.143E-02	4.382E-02	3.559E-02	2.236E-02	NOT IDENT.
BR-77	-3.847E+00	1.247E+01	9.995E+00	6.363E+00	FAIL ABUN
SR-82	-6.767E-01	4.055E-01	2.876E-01	2.069E-01	NOT IDENT.
RB-83	-3.185E-02	6.637E-02	5.238E-02	3.386E-02	NOT IDENT.
RB-84	-1.303E-02	6.980E-02	5.770E-02	3.561E-02	NOT IDENT.
KR-85	1.647E+01	8.519E+00	7.183E+00	4.346E+00	NOT IDENT.
SR-85	8.529E-02	4.411E-02	3.720E-02	2.251E-02	NOT IDENT.
RB-86	2.612E-01	8.408E-01	7.171E-01	4.290E-01	NOT IDENT.
Y-88	1.007E-02	2.680E-02	2.434E-02	1.367E-02	NOT IDENT.
ZR-88	-2.244E-02	3.042E-02	2.418E-02	1.552E-02	NOT IDENT.
Y-91	-2.546E+00	1.884E+01	1.528E+01	9.611E+00	NOT IDENT.
NB-94	1.665E-02	3.245E-02	2.886E-02	1.656E-02	NOT IDENT.
NB-95	3.543E-02	4.433E-02	3.986E-02	2.262E-02	NOT IDENT.
NB-95M	9.262E-02	1.241E-01	9.995E-02	6.329E-02	NOT IDENT.
ZR-95	2.020E-02	7.673E-02	6.667E-02	3.915E-02	NOT IDENT.
NB-97	1.022E+05	2.476E+05	0.000E+00	1.263E+05	SHORT HLIF
ZR-97	2.590E+06	4.951E+06	0.000E+00	2.526E+06	SHORT HLIF
MO-99	4.066E+00	1.430E+01	1.249E+01	7.298E+00	NOT IDENT.
TC-99M	-9.866E+16	5.102E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.123E-02	3.261E-02	2.836E-02	1.664E-02	NOT IDENT.
RH-102	2.638E-03	3.127E-02	2.614E-02	1.595E-02	NOT IDENT.
RU-103	1.350E-02	3.914E-02	3.335E-02	1.997E-02	FAIL ABUN
RH-106	1.226E-01	3.294E-01	2.774E-01	1.681E-01	FAIL ABUN
RU-106	1.226E-01	3.292E-01	2.774E-01	1.680E-01	FAIL ABUN
AG-108M	-2.336E-02	3.373E-02	2.669E-02	1.721E-02	NOT IDENT.
AG-110M	1.311E-02	3.500E-02	2.743E-02	1.786E-02	NOT IDENT.
IN-111	-6.932E-01	1.444E+00	1.059E+00	7.366E-01	NOT IDENT.
IN-113M	2.822E-02	4.269E-02	3.751E-02	2.178E-02	NOT IDENT.
SN-113	2.822E-02	4.269E-02	3.751E-02	2.178E-02	NOT IDENT.
IN-114M	5.435E-03	1.923E-01	1.488E-01	9.813E-02	NOT IDENT.
CD-115	1.334E+01	1.360E+01	1.215E+01	6.939E+00	NOT IDENT.
SN-117M	-3.495E-02	5.843E-02	4.644E-02	2.981E-02	NOT IDENT.
SB-122	1.665E+00	2.678E+00	2.310E+00	1.366E+00	NOT IDENT.
I-123	-1.382E+07	1.941E+07	0.000E+00	9.905E+06	SHORT HLIF
TE-123M	-2.073E-02	2.913E-02	2.300E-02	1.486E-02	NOT IDENT.
I-124	1.030E-01	8.260E-01	6.589E-01	4.214E-01	NOT IDENT.
SB-124	4.781E-02	7.106E-02	6.687E-02	3.625E-02	FAIL ABUN
SB-125	-2.936E-02	9.138E-02	7.456E-02	4.662E-02	FAIL ABUN
TE-125M	3.991E+00	1.041E+01	7.877E+00	5.310E+00	NOT IDENT.
I-126	1.141E-03	2.180E-01	1.632E-01	1.112E-01	NOT IDENT.
SB-126	-4.908E-03	1.440E-01	1.158E-01	7.345E-02	FAIL ABUN
SB-127	-3.783E-01	1.593E+00	1.339E+00	8.128E-01	NOT IDENT.
XE-127	-2.999E-02	4.746E-02	3.874E-02	2.421E-02	NOT IDENT.
I-131	-6.320E-02	1.192E-01	9.680E-02	6.083E-02	NOT IDENT.
TE-132	-8.486E-02	7.934E-01	6.837E-01	4.048E-01	NOT IDENT.
BA-133	-3.664E-03	4.526E-02	3.333E-02	2.309E-02	FAIL ABUN
I-133	-1.230E+04	1.288E+04	0.000E+00	6.571E+03	SHORT HLIF
CS-134	1.076E-01	7.693E-02	4.940E-02	3.925E-02	FAIL ABUN
CS-135	1.816E-01	1.736E-01	1.402E-01	8.858E-02	NOT IDENT.
I-135	-3.933E+15	5.793E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.920E-02	1.017E-01	7.847E-02	5.188E-02	FAIL ABUN
CE-139	-2.677E-03	3.030E-02	2.470E-02	1.546E-02	NOT IDENT.
BA-140	1.146E-01	2.784E-01	2.353E-01	1.420E-01	NOT IDENT.
LA-140	1.210E-01	8.383E-02	8.103E-02	4.277E-02	FAIL ABUN

CE-141	5.147E-03	6.577E-02	5.439E-02	3.355E-02	NOT IDENT.
CE-143	1.045E+03	3.615E+02	0.000E+00	1.844E+02	SHORT HLIF
CE-144	-5.493E-02	2.220E-01	1.606E-01	1.132E-01	NOT IDENT.
PM-144	-1.486E-02	3.142E-02	2.578E-02	1.603E-02	NOT IDENT.
PR-144	-1.007E+00	2.131E+00	1.748E+00	1.087E+00	NOT IDENT.
PM-146	-8.914E-03	3.969E-02	3.244E-02	2.025E-02	NOT IDENT.
ND-147	-1.542E-01	5.733E-01	4.610E-01	2.925E-01	FAIL ABUN
PM-149	2.858E+00	1.195E+02	1.024E+02	6.095E+01	NOT IDENT.
EU-152	-7.857E-03	1.050E-01	8.199E-02	5.359E-02	FAIL ABUN
GD-153	-6.383E-02	8.534E-02	6.098E-02	4.354E-02	FAIL ABUN
EU-154	-1.339E-02	1.184E-01	9.560E-02	6.039E-02	NOT IDENT.
TB-160	-2.929E-02	1.371E-01	1.130E-01	6.995E-02	FAIL ABUN
HO-166M	1.194E-02	6.115E-02	5.309E-02	3.120E-02	FAIL ABUN
TM-171	-1.354E+00	2.656E+01	1.992E+01	1.355E+01	NOT IDENT.
LU-176	-1.309E-02	2.679E-02	2.140E-02	1.367E-02	FAIL ABUN
LU-177	3.900E+00	1.825E+00	1.182E+00	9.311E-01	FAIL ABUN
LU-177M	2.500E-01	1.922E-01	1.582E-01	9.806E-02	NOT IDENT.
HF-181	-3.106E-02	4.601E-02	3.613E-02	2.37E-02	NOT IDENT.
W-181	8.450E-02	3.365E-01	2.593E-01	1.717E-01	NOT IDENT.
TA-182	-4.379E-02	2.104E-01	1.695E-01	1.073E-01	FAIL ABUN
RE-183	5.721E-02	1.161E-01	9.606E-02	5.924E-02	FAIL ABUN
RE-184	-1.076E-01	2.298E-01	1.931E-01	1.173E-01	NOT IDENT.
OS-185	-2.787E-02	4.113E-02	3.331E-02	2.098E-02	NOT IDENT.
RE-188	2.854E-01	1.799E-01	1.573E-01	9.180E-02	NOT IDENT.
W-188	-5.604E-01	8.222E+00	6.154E+00	4.195E+00	FAIL ABUN
IR-192	-6.666E-03	3.237E-02	2.720E-02	1.652E-02	FAIL ABUN
AU-195	2.917E-01	2.191E-01	1.852E-01	1.118E-01	FAIL ABUN
TL-200	3.566E+02	7.856E+02	0.000E+00	4.008E+02	SHORT HLIF
TL-201	-2.478E+00	8.854E+00	7.140E+00	4.518E+00	NOT IDENT.
TL-202	-4.460E-02	7.339E-02	5.835E-02	3.744E-02	NOT IDENT.
HG-203	4.271E-02	4.593E-02	3.686E-02	2.343E-02	FAIL ABUN
BI-207	7.186E-02	4.938E-02	4.693E-02	2.519E-02	FAIL ABUN
TL-207	5.223E-01	7.010E-01	5.529E-01	3.577E-01	FAIL ABUN
PO-209	3.675E-02	7.282E+00	6.131E+00	3.715E+00	NOT IDENT.
PB-211	1.552E-01	1.093E+00	8.118E-01	5.579E-01	NOT IDENT.
BI-212	9.565E-01	5.187E-01	3.305E-01	2.646E-01	FAIL ABUN
PO-215	5.223E-01	7.010E-01	5.529E-01	3.577E-01	FAIL ABUN
RN-219	-1.686E-02	4.343E-01	3.594E-01	2.216E-01	FAIL ABUN
RN-220	-2.634E+00	2.526E+01	2.059E+01	1.289E+01	NOT IDENT.
RA-223	5.223E-01	7.010E-01	5.529E-01	3.577E-01	FAIL ABUN
AC-227	-3.930E-02	3.835E-01	3.286E-01	1.957E-01	FAIL ABUN
TH-227	-3.930E-02	3.835E-01	3.286E-01	1.957E-01	FAIL ABUN
TH-229	-2.115E-02	4.676E-01	4.075E-01	2.386E-01	FAIL ABUN
PA-231	-3.630E-02	1.469E+00	1.257E+00	7.494E-01	FAIL ABUN
TH-231	5.223E-01	7.010E-01	5.529E-01	3.577E-01	FAIL ABUN
U-231	4.476E-01	1.294E+00	9.829E-01	6.603E-01	FAIL ABUN
PA-233	-2.337E-03	6.425E-02	5.464E-02	3.278E-02	FAIL ABUN
PA-234	-7.193E-02	3.041E-01	2.486E-01	1.552E-01	FAIL ABUN
PA-234M	2.319E+00	4.947E+00	4.377E+00	2.524E+00	NOT IDENT.
NP-236	-1.809E-02	8.053E-02	6.528E-02	4.108E-02	NOT IDENT.
NP-239	-1.531E-01	1.902E-01	1.520E-01	9.703E-02	FAIL ABUN
AM-241	1.173E-01	1.261E-01	1.008E-01	6.432E-02	NOT IDENT.
CM-243	6.920E-02	9.815E-02	7.626E-02	5.007E-02	FAIL ABUN
AM-246	-1.728E-01	1.568E-01	1.143E-01	7.998E-02	NOT IDENT.
CM-247	3.404E-03	3.910E-02	3.262E-02	1.995E-02	FAIL ABUN
CF-249	9.985E-03	3.827E-02	3.278E-02	1.952E-02	NOT IDENT.
CF-251	7.099E-02	1.250E-01	1.049E-01	6.375E-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
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46.50	243.1304
46.50	243.1304
46.50	243.1304
48.70	241.8327
49.72	215.9113
51.35	268.2185
52.39	267.7998
52.97	265.1553
53.15	265.2504
53.44	281.1905
54.07	259.8089
56.28	305.5781
56.28	305.5797
57.37	0.0000
57.53	296.3676
57.53	296.3683
57.60	296.4070
57.98	309.5605
57.98	309.5605
59.32	281.4041
59.32	281.4041
59.40	281.4456
59.54	281.5195
59.72	281.6142
60.01	307.2443
61.10	328.8885
61.14	328.9119
61.30	319.9948
63.00	362.6778
63.29	362.8665
63.29	362.8665
63.58	363.0551
64.28	382.1386
65.12	379.6822
65.20	379.7358
65.20	379.7358
66.05	384.8486
66.72	370.1290
66.83	368.6825
66.91	368.7344
67.20	368.9198
67.20	368.9198
67.75	385.9861
67.85	374.5009
68.90	376.0893
68.90	376.0893
69.30	385.4876
69.67	385.7308
70.82	380.3675
70.82	380.3675
70.83	380.3732
72.80	393.8822
72.87	384.7306
72.87	384.7306
74.67	385.8643
74.81	385.9523
74.81	385.9523
74.81	385.9523
74.81	385.9523
74.81	385.9523
74.81	385.9523
74.81	385.9523
74.97	386.0519
75.28	386.2453
75.70	386.5058
77.11	387.3790
77.11	387.3790

77.11	387.3790
77.11	387.3790
77.11	387.3790
77.11	387.3790
77.11	387.3790
78.38	388.1584
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79.80	278.9799
79.80	278.9799
80.11	279.1145
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80.30	279.1969
80.30	279.1969
80.57	279.3137
81.00	279.4991
81.07	279.5293
81.07	279.5293
81.07	279.5293
81.07	279.5293
82.60	283.2989
83.37	283.6280
83.78	283.8057
83.78	283.8057
83.78	283.8057
83.78	283.8057
84.21	283.9890
84.90	284.2834
85.43	284.5097
86.29	284.8735
86.50	284.9624
86.54	284.9790
86.59	284.9998
86.72	285.0540
86.79	285.0832
86.94	285.1470
87.30	285.2984
87.30	285.2984
87.30	285.2984
87.30	285.2984
87.30	285.2984
87.30	285.2984
87.30	285.2984
87.57	285.4109
87.88	285.5414
88.03	285.6039
88.36	285.7413
88.47	285.7872
89.95	286.4023
91.11	286.8799
92.29	287.3632
92.38	287.4007
92.38	287.4007
93.35	287.7950
94.00	288.0588
94.67	275.6531
94.67	275.6558
94.90	263.0655
94.90	263.0655
94.90	263.0655
94.90	263.0655
95.87	274.5295
95.87	274.5295
96.73	324.1087
97.43	314.8782
98.44	244.6066
98.44	244.6066
98.88	235.8298
99.55	264.7525
99.55	264.7525
99.86	266.9913
100.00	258.5311
100.10	258.5670
103.18	230.7843
103.76	226.1495
105.00	239.3706
105.31	273.2176
108.00	274.1722
109.28	263.3143

111.00	288.1738
111.00	288.1738
111.76	293.8518
112.95	306.1918
115.19	258.2207
116.30	266.1793
117.00	280.5432
117.00	280.5432
117.66	267.7099
121.11	237.1352
121.62	264.6149
121.78	282.1639
122.06	287.7285
122.32	292.1942
122.32	292.1942
122.32	292.1942
122.32	292.1942
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127.23	303.7870
129.76	258.3083
131.20	245.4637
133.02	227.6881
133.54	237.7973
135.34	254.3847
136.00	257.9060
136.25	247.9691
136.48	248.0326
140.51	250.2454
140.51	0.0000
142.18	259.6524
142.65	248.5847
143.76	242.1541
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144.24	236.6710
144.24	236.6710
144.24	236.6710
145.22	262.7430
145.44	262.8049
147.16	248.6565
152.43	247.7607
152.70	250.0919
153.22	236.6387
154.21	215.3445
154.21	215.3445
154.21	215.3445
154.21	215.3445
155.03	218.9273
156.02	262.2953
158.56	247.0300
159.00	0.0000
159.00	250.5548
160.31	237.1992
161.27	243.1330
162.32	221.6740
162.64	210.3148
163.35	227.6180
163.89	228.8839
165.85	230.4679
167.43	235.4151
171.28	191.3347
171.86	196.0524
172.10	196.0973
176.55	194.6038
176.60	194.6140
181.06	190.1845
184.41	219.8192
185.71	204.1328
186.00	204.1861
190.27	205.4943
192.34	189.4799
193.63	200.2824
197.04	226.5410
198.01	201.9336
198.60	186.9705
200.40	226.3117
201.83	250.5797
202.84	227.6738
205.31	176.8165

208.36	207.2905
208.81	207.3684
209.75	186.0625
209.75	186.0625
210.97	166.1935
215.65	195.9575
216.55	184.4080
218.09	178.3332
222.10	198.7892
223.80	186.3920
226.40	188.5905
227.00	192.3078
227.08	192.3191
227.20	181.4514
228.16	179.7713
228.18	177.9585
228.18	177.9585
231.56	0.0000
235.69	154.8904
236.00	156.3882
236.00	156.3882
238.63	160.1812
238.63	160.1812
238.63	160.1812
238.63	160.1812
239.00	160.2266
240.98	160.4683
241.98	160.5885
241.98	160.5885
241.98	160.5885
244.69	151.5378
245.39	173.6971
247.94	142.5645
248.90	161.4216
249.79	160.6054
252.40	164.6125
252.85	171.1425
252.85	171.1425
254.15	0.0000
256.20	171.5610
256.20	171.5610
260.50	149.7681
260.90	153.5344
262.80	159.3340
264.65	131.8638
268.24	143.6742
268.79	152.7111
269.46	158.2132
269.46	158.2132
269.46	158.2132
269.46	158.2132
271.23	179.9678
273.65	123.9373
276.40	158.0383
277.35	148.7277
277.60	160.9935
277.60	160.9935
278.00	138.6244
278.60	126.6214
279.20	138.7367
279.53	138.7682
280.46	149.4221
281.68	137.4620
283.67	138.0245
284.30	137.1389
285.00	138.1493
285.90	139.1808
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286.10	139.1987
287.40	136.4766
288.45	0.0000
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290.80	145.9078
291.72	159.6841
293.26	0.0000
293.70	126.3906
295.21	126.5162
295.21	126.5162

295.21	126.5162
295.96	126.5791
296.50	95.3491
297.23	95.3949
298.57	95.4788
299.80	95.5551
299.80	95.5551
300.09	142.2133
300.09	142.2133
300.09	142.2133
300.09	142.2133
300.12	142.2155
301.29	136.2030
302.84	133.2761
303.76	139.4859
303.91	139.4993
304.40	154.8782
304.40	154.8782
304.84	148.7870
306.84	155.7805
308.46	134.5270
311.98	132.9021
316.51	114.9326
318.01	117.9399
319.02	118.9817
319.41	118.0423
320.08	107.4449
323.87	104.0103
323.87	104.0103
323.87	104.0103
323.87	104.0103
325.23	119.6339
328.77	131.3786
333.44	105.4012
334.20	105.4490
334.20	105.4490
334.30	105.4556
338.28	119.4106
338.28	119.4106
338.28	119.4106
338.28	119.4106
338.32	119.4143
338.32	119.4143
338.32	119.4143
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340.57	128.5914
344.27	123.1111
345.85	116.6713
350.59	0.0000
351.07	121.5006
351.92	107.5497
351.92	107.5497
351.92	107.5497
355.39	0.0000
356.01	99.6941
364.48	105.3466
366.43	80.5897
367.43	90.5904
367.94	0.0000
369.80	101.6763
374.96	102.9701
383.85	113.5224
387.95	93.6400
388.63	88.6378
391.69	85.7587
391.69	85.7587
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398.62	105.3187
400.65	105.4314
401.10	102.4148
401.81	108.5396
402.60	107.5705
404.84	107.2919
410.95	106.0043
411.60	114.1978
413.65	75.1240
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415.30	108.2887

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427.08	90.4438
427.89	95.6224
432.53	78.3263
433.93	105.1953
439.47	98.2471
439.56	98.2514
439.89	100.3362
443.98	78.7739
444.90	80.8838
445.03	80.8886
445.03	80.8886
445.03	80.8886
445.03	80.8886
453.90	74.9905
463.38	81.6122
468.07	73.8246
473.00	80.9348
475.06	93.6390
475.35	91.5467
476.78	89.5019
477.59	99.0158
477.96	94.8189
482.03	100.2779
484.57	77.1459
487.03	80.4079
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492.35	76.3627
497.08	65.8987
507.63	0.0000
510.53	0.0000
510.84	80.2116
511.00	80.2168
511.85	80.2477
511.85	80.2477
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513.99	73.6837
520.41	73.0344
520.65	64.4476
527.90	52.7997
528.96	0.0000
529.64	83.0344
529.87	0.0000
531.02	70.1357
537.32	69.2441
543.00	60.7373
546.56	0.0000
549.76	67.4379
552.65	72.9643
555.20	53.4188
563.23	63.4428
563.90	67.8371
568.70	77.8383
569.32	71.2802
569.50	71.2842
569.67	60.3224
573.80	76.9043
574.00	76.9107
574.64	83.5239
578.91	89.8352
579.30	0.0000
583.14	73.8885
585.48	56.5172
591.81	73.0395
592.07	71.9408
593.00	59.7876
595.88	69.8329
600.56	77.7374
602.52	0.0000
602.71	76.2158
602.71	76.2158
603.60	74.1231
604.41	72.9612
604.70	72.9692
609.31	56.8318

609.31	56.8318
609.31	56.8318
609.31	56.8318
610.33	56.8552
612.46	60.6953
614.37	64.3148
618.01	74.9149
621.84	63.8293
621.84	63.8293
631.29	58.4413
633.02	79.8468
633.10	79.8490
634.78	53.1173
635.90	46.8355
636.97	49.5577
645.85	61.4756
646.12	69.6196
656.30	60.5062
657.75	49.9445
657.90	0.0000
661.65	74.5687
661.65	74.5687
664.57	0.0000
666.33	71.3587
666.33	71.3587
675.00	72.1936
677.61	63.1141
685.20	66.9565
692.80	63.4594
695.00	63.5100
696.49	63.5437
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697.00	59.8695
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698.33	66.3486
698.50	66.3521
699.00	64.5210
702.63	59.9885
706.10	82.2403
706.58	0.0000
706.67	72.0891
709.31	72.1557
711.68	64.8098
713.82	68.5638
717.42	58.4442
720.50	53.3995
721.93	0.0000
722.20	38.7177
722.78	46.4709
722.78	46.4709
722.89	46.4722
722.95	46.4734
723.30	52.6768
724.18	51.1422
727.18	45.6109
733.00	65.2883
735.90	62.2396
739.58	54.2164
742.81	51.4685
744.21	54.3014
747.13	64.6639
751.79	57.2560
752.31	61.0216
753.82	60.1125
755.35	61.0835
756.15	66.7393
756.87	63.9343
763.93	87.6461
765.79	64.1252
766.42	54.7063
766.84	55.6568
776.49	81.3851
778.00	53.0209
778.57	47.3486
778.89	46.3012
783.80	85.3726
785.46	58.5276
792.07	42.8005

795.84	53.9620
796.30	57.1450
798.80	61.9563
801.93	57.2476
805.60	42.0310
810.29	55.4866
810.76	59.3223
815.85	35.4589
817.79	47.9468
818.51	49.8761
819.60	55.6494
826.30	46.1520
828.27	0.0000
831.60	53.9328
831.96	52.9751
834.83	57.8423
836.80	0.0000
846.75	58.0562
848.13	53.2396
856.28	0.0000
856.80	90.2618
860.37	50.5235
867.32	43.8146
867.82	40.8998
871.10	50.6873
873.19	57.5466
874.81	47.8157
875.33	0.0000
876.40	40.0280
879.36	48.8586
880.27	50.8257
880.51	50.8295
881.50	48.8892
883.24	38.1535
884.67	44.0420
889.25	51.9416
896.60	47.1434
898.02	41.2668
899.00	44.2277
903.28	54.6699
911.07	41.4248
911.07	41.4248
911.07	41.4248
919.63	40.7857
920.93	38.5753
925.00	46.5422
925.24	46.5456
926.50	45.5710
935.52	41.3849
937.48	43.0636
944.10	43.8088
946.00	50.8045
949.00	45.8630
962.29	38.3614
964.01	48.0574
966.15	48.0855
968.20	48.1137
969.11	48.1254
969.11	48.1254
969.11	48.1254
977.42	43.5460
980.50	32.1844
983.50	46.3032
989.30	29.2372
996.32	53.5357
1001.03	43.4892
1001.68	45.5197
1004.76	52.6449
1021.30	0.0000
1024.50	0.0000
1034.80	38.7793
1036.00	37.7705
1037.82	26.5535
1038.57	21.4522
1038.76	0.0000
1045.16	33.7686
1046.59	28.6617
1048.07	40.9629

1050.47	28.6918
1050.47	28.6918
1062.04	44.1926
1063.62	26.7325
1076.63	37.1373
1077.35	40.2397
1078.86	57.8020
1085.78	47.5633
1099.22	46.6875
1112.02	49.9594
1112.84	55.5208
1115.52	53.8236
1120.29	46.9336
1120.29	46.9336
1120.29	46.9336
1120.29	46.9336
1120.51	49.0218
1121.28	46.9446
1124.00	0.0000
1129.67	62.7217
1131.51	0.0000
1147.95	0.0000
1167.94	50.6438
1173.22	41.2014
1175.09	53.9011
1177.93	56.0537
1189.05	40.2952
1204.90	52.1534
1205.75	0.0000
1213.00	54.3842
1221.42	63.0390
1230.97	53.5400
1235.34	67.5281
1236.41	0.0000
1238.25	43.9749
1246.25	45.1295
1260.41	0.0000
1271.85	37.8267
1274.45	37.8489
1274.54	41.0931
1291.56	41.2489
1298.22	0.0000
1312.09	35.9826
1325.50	29.5273
1325.50	29.5273
1332.49	31.7612
1333.61	29.5787
1360.21	25.7077
1362.66	0.0000
1365.15	19.3004
1368.21	23.9116
1368.53	0.0000
1376.25	22.1094
1384.27	18.9827
1394.10	12.9456
1395.20	12.0235
1407.95	25.0378
1434.06	17.7143
1436.60	15.8573
1457.56	0.0000
1460.81	12.1859
1489.15	11.3120
1509.49	17.0361
1596.49	6.5985
1620.62	12.5662
1678.03	0.0000
1691.02	8.8114
1691.02	8.8114
1706.46	0.0000
1750.46	0.0000
1764.49	7.9339
1764.49	7.9339
1764.49	7.9339
1764.49	7.9339
1770.23	11.9126
1771.40	10.2129
1791.20	0.0000
1808.65	12.9905

1836.01

6.0232

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243630011

Total Uranium Activity	3.6243E+00	ug/g
Total Uranium Counting Unc.	4.3851E+00	ug/g
Total Uranium Tpu	2.2373E-06	ug/g
Total Uranium Mda	2.5948E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937702                          SAMPLE ID   : G243630011
*  ANALYST       : MXR1                             DETECTOR    : GAM20
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:28:37.04          SAMPLE ALQT: 110.250 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.016E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.650E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.987E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.417E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:29:33.21

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006611.CNF;1
Sample date        : 31-DEC-2009 00:00:00 Acquisition date : 7-JAN-2010 13:29:10.
Sample ID          : G1202006611 Sample quantity : 1.40030E+02 GRAM
Detector name      : GAM25 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.09 0.0%
Energy tolerance  : 1.50000 keV Analyst Initials : MXR1
Abundance limit   : 75.00000 Sensitivity : 5.00000
Batch ID          : 937702 Detector SN# :
Matrix Spike ID   : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.55*	8	98	0.78	92.66	88	8	1.04E-03	285.3	
2	0	661.55*	19	29	1.24	1322.60	1316	14	2.66E-03	75.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 7-JAN-2010 15:29:36

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006611.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 31-DEC-2009 00:00:00 Acquisition date : 7-JAN-2010 13:29:10
Sample ID         : G1202006611 Sample quantity : 140.03 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA25 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.09 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

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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
BA-137M	+	661.65	*	2.554E-02	3.860E-02	3.118E-02	3.454E-03	0.819
CS-137	+	661.65	*	2.700E-02	4.081E-02	3.296E-02	3.655E-03	0.819
BI-210	+	46.50	*	5.418E-02	3.093E-01	2.495E-01	2.573E-02	0.217
PB-210	+	46.50	*	5.418E-02	3.093E-01	2.495E-01	2.573E-02	0.217
PO-210	+	46.50	*	5.418E-02	3.093E-01	2.495E-01	2.376E-02	0.217

---- 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	*	9.023E-02	1.345E-01	2.392E-01	2.533E-02	0.377
NA-22		1274.54	*	-8.827E-03	2.114E-02	3.163E-02	2.594E-03	-0.279
NA-24		1368.53	*	6.580E-05	2.114E-02	Half-Life too short		
AL-26		1129.67		2.689E-01	6.628E-01	1.197E+00	1.022E-01	0.225
		1808.65	*	-1.019E-02	2.966E-02	4.078E-02	3.342E-03	-0.250
K-40		1460.81	*	5.969E-02	2.875E-01	5.127E-01	4.366E-02	0.116
TI-44		67.85		-5.413E-03	6.944E-03	9.657E-03	9.611E-04	-0.560
		78.38	*	2.543E-03	7.773E-03	1.217E-02	1.254E-03	0.209
SC-46		889.25	*	-2.204E-02	1.942E-02	2.411E-02	2.309E-03	-0.914
		1120.51		-7.534E-03	1.761E-02	2.638E-02	2.268E-03	-0.286
V-48		944.10		1.159E-01	2.883E-01	5.053E-01	4.741E-02	0.229
		983.50	*	8.688E-03	2.330E-02	4.049E-02	3.752E-03	0.215
		1312.09		-1.452E-02	2.939E-02	4.267E-02	3.478E-03	-0.340
CR-51		320.08	*	-1.972E-02	1.475E-01	2.454E-01	2.725E-02	-0.080
MN-52		744.21		-7.274E-03	4.603E-02	7.419E-02	8.016E-03	-0.098
		848.13		-1.057E-01	1.476E+00	2.384E+00	2.388E-01	-0.044
		935.52		4.509E-02	5.540E-02	1.011E-01	9.509E-03	0.446
		1246.25		6.396E-01	1.277E+00	2.304E+00	1.892E-01	0.278
		1333.61		-2.700E-01	1.119E+00	1.725E+00	1.401E-01	-0.157
		1434.06	*	-1.369E-02	4.723E-02	7.042E-02	5.803E-03	-0.194
MN-54		834.83	*	1.184E-04	2.023E-02	3.314E-02	3.363E-03	0.004
CO-56		846.75	*	-2.598E-03	2.072E-02	3.318E-02	3.329E-03	-0.078
		977.42		-7.504E-01	1.298E+00	1.813E+00	1.683E-01	-0.414
		1037.82		2.120E-01	1.364E-01	2.850E-01	2.705E-02	0.744

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1175.09			-9.241E-02	8.774E-01	1.422E+00	1.170E-01	-0.065
	1238.25			-1.939E-02	3.515E-02	5.153E-02	4.369E-03	-0.376
	1360.21			-7.300E-02	5.264E-01	8.330E-01	6.797E-02	-0.088
	1771.40			-3.670E-02	1.456E-01	2.238E-01	1.843E-02	-0.164
CO-57	122.06	*		6.172E-04	8.390E-03	1.424E-02	1.836E-03	0.043
	136.48			-4.587E-02	7.486E-02	1.185E-01	1.453E-02	-0.387
CO-58	810.76	*		-7.114E-03	1.972E-02	3.043E-02	3.158E-03	-0.234
FE-59	142.65			-6.024E-01	9.253E-01	1.375E+00	1.547E-01	-0.438
	192.34			-1.439E-01	3.330E-01	5.201E-01	7.288E-02	-0.277
	1099.22	*		-6.015E-03	4.330E-02	7.055E-02	6.645E-03	-0.085
	1291.56			2.120E-02	5.985E-02	1.046E-01	9.828E-03	0.203
CO-60	1173.22			4.130E-03	1.840E-02	3.190E-02	2.626E-03	0.129
	1332.49	*		-1.360E-02	2.236E-02	3.140E-02	2.550E-03	-0.433
ZN-65	1115.52	*		3.700E-03	3.392E-02	5.781E-02	4.994E-03	0.064
GE-68	1077.35	*		-1.566E-01	5.672E-01	8.967E-01	7.938E-02	-0.175
AS-73	53.44	*		-5.017E-02	7.076E-02	9.913E-02	9.515E-03	-0.506
AS-74	595.88	*		8.370E-03	4.046E-02	6.635E-02	7.190E-03	0.126
	634.78			-8.999E-02	1.110E-01	1.582E-01	1.740E-02	-0.569
SE-75	66.05			-1.007E+00	7.523E-01	9.943E-01	1.146E-01	-1.013
	96.73			-3.337E-02	1.851E-01	3.120E-01	4.807E-02	-0.107
	121.11			9.341E-04	4.389E-02	7.422E-02	1.091E-02	0.013
	136.00			3.379E-03	1.346E-02	2.301E-02	2.730E-03	0.147
	198.60			2.018E-01	7.974E-01	1.231E+00	1.292E-01	0.164
	264.65	*		5.281E-03	2.057E-02	3.360E-02	3.683E-03	0.157
	279.53			2.408E-02	5.382E-02	8.756E-02	9.990E-03	0.275
	303.91			-5.400E-01	9.411E-01	1.502E+00	1.999E-01	-0.360
	400.65			4.793E-02	1.154E-01	2.000E-01	2.313E-02	0.240
BR-77	87.88			5.485E+00	4.755E+00	7.995E+00	8.585E-01	0.686
	200.40			-5.892E+00	7.408E+00	1.109E+01	1.074E+00	-0.531
	239.00			1.357E-02	5.445E-01	8.773E-01	9.186E-02	0.015
	249.79			-3.196E-01	3.515E+00	5.571E+00	5.944E-01	-0.057
	281.68			-3.759E+00	5.217E+00	7.604E+00	8.474E-01	-0.494
	297.23			-2.513E+00	2.642E+00	4.058E+00	4.471E-01	-0.619
	303.76			-5.307E+00	9.321E+00	1.491E+01	1.632E+00	-0.356
	439.47			1.235E+01	8.641E+00	1.623E+01	1.563E+00	0.761
	484.57			6.178E+00	1.281E+01	2.214E+01	2.230E+00	0.279
	520.65	*		-1.105E-01	6.007E-01	9.452E-01	9.800E-02	-0.117
	574.64			6.252E+00	1.354E+01	2.296E+01	2.462E+00	0.272
	578.91			-4.056E+00	5.261E+00	7.425E+00	7.981E-01	-0.546
	585.48			9.165E-01	9.987E+00	1.617E+01	1.744E+00	0.057
	755.35			-4.076E-01	1.009E+01	1.657E+01	1.781E+00	-0.025
	817.79			1.196E+00	7.053E+00	1.192E+01	1.228E+00	0.100
SR-82	698.33			-8.625E+00	1.640E+01	2.547E+01	2.800E+00	-0.339
	776.49	*		4.963E-02	1.551E-01	2.685E-01	2.849E-02	0.185
	1395.20			1.257E+00	5.678E+00	9.661E+00	7.924E-01	0.130
RB-83	520.41	*		-7.192E-03	3.371E-02	5.281E-02	5.474E-03	-0.136
	529.64			-1.461E-02	5.179E-02	8.009E-02	8.357E-03	-0.182
	552.65			6.483E-03	1.050E-01	1.703E-01	1.803E-02	0.038
RB-84	881.50	*		1.791E-02	3.604E-02	6.298E-02	6.088E-03	0.284

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
KR-85	513.99	*		-1.779E+01	6.569E+00	7.765E+00	8.011E-01	-2.291
SR-85	513.99	*		-8.426E-02	3.111E-02	3.677E-02	3.794E-03	-2.291
RB-86	1076.63	*		8.573E-02	2.886E-01	5.075E-01	4.495E-02	0.169
Y-88	898.02			1.247E-03	2.454E-02	4.018E-02	3.822E-03	0.031
	1836.01	*		-6.136E-03	1.757E-02	2.510E-02	2.051E-03	-0.244
ZR-88	392.90	*		3.599E-03	1.282E-02	2.197E-02	2.000E-03	0.164
Y-91	1204.90	*		1.406E+00	8.465E+00	1.463E+01	1.204E+00	0.096
NB-94	702.63	*		-2.691E-03	1.794E-02	2.923E-02	3.210E-03	-0.092
	871.10			-3.935E-03	1.825E-02	2.860E-02	2.798E-03	-0.138
NB-95	765.79	*		1.240E-03	1.835E-02	3.061E-02	3.270E-03	0.041
NB-95M	235.69	*		-8.348E-02	5.189E-02	6.847E-02	7.848E-03	-1.219
ZR-95	724.18			-8.095E-03	4.244E-02	6.837E-02	7.862E-03	-0.118
	756.15	*		-8.699E-03	3.577E-02	5.694E-02	6.521E-03	-0.153
NB-97	657.90	*		1.294E-05	3.577E-02	Half-Life	too short	
	1024.50			-9.201E-04	3.577E-02	Half-Life	too short	
ZR-97	254.15			-3.918E-04	3.577E-02	Half-Life	too short	
	355.39			-3.236E-04	3.577E-02	Half-Life	too short	
	507.63	*		-2.588E-03	3.577E-02	Half-Life	too short	
	602.52			7.473E-04	3.577E-02	Half-Life	too short	
	1021.30			1.648E-03	3.577E-02	Half-Life	too short	
	1147.95			-1.152E-03	3.577E-02	Half-Life	too short	
	1362.66			4.235E-04	3.577E-02	Half-Life	too short	
	1750.46			-1.472E-03	3.577E-02	Half-Life	too short	
MO-99	140.51			1.442E-01	1.496E+00	2.341E+00	6.719E-01	0.062
	181.06			-3.083E-01	1.044E+00	1.667E+00	3.100E-01	-0.185
	366.43			4.771E-01	6.205E+00	1.043E+01	1.022E+00	0.046
	739.58	*		4.187E-01	8.985E-01	1.586E+00	2.622E-01	0.264
	778.00			2.480E+00	2.511E+00	4.747E+00	5.033E-01	0.522
TC-99M	140.51	*		1.205E+00	2.511E+00	Half-Life	too short	
RH-101	127.23			-6.738E-03	1.043E-02	1.650E-02	2.064E-03	-0.408
	198.01	*		2.959E-03	1.531E-02	2.354E-02	2.268E-03	0.126
	325.23			6.469E-02	9.917E-02	1.772E-01	1.887E-02	0.365
RH-102	418.52			-3.304E-02	1.250E-01	1.985E-01	1.866E-02	-0.166
	475.06	*		-1.257E-02	1.398E-02	1.961E-02	1.958E-03	-0.641
	631.29			1.525E-02	2.345E-02	4.323E-02	4.749E-03	0.353
	697.49			-2.495E-02	4.732E-02	7.366E-02	8.101E-03	-0.339
	766.84			1.615E-02	5.201E-02	8.977E-02	9.583E-03	0.180
	1046.59			1.701E-02	4.895E-02	8.755E-02	7.888E-03	0.194
	1112.84			2.311E-02	9.588E-02	1.672E-01	1.446E-02	0.138
RU-103	497.08	*		-6.268E-03	1.709E-02	2.616E-02	3.967E-03	-0.240
	610.33			-2.460E-01	4.063E-01	6.130E-01	1.102E-01	-0.401
RH-106	511.85			-1.394E-01	1.522E-01	2.792E-01	2.876E-02	-0.499
	621.84	*		-9.409E-02	1.751E-01	2.501E-01	3.744E-02	-0.376
	1050.47			-3.498E-01	1.030E+00	1.609E+00	1.447E-01	-0.217
RU-106	511.85			-1.394E-01	1.522E-01	2.792E-01	2.876E-02	-0.499
	621.84	*		-9.409E-02	1.748E-01	2.501E-01	2.739E-02	-0.376
	1050.47			-3.498E-01	1.030E+00	1.609E+00	1.447E-01	-0.217
AG-108M	433.93	*		-7.105E-03	1.614E-02	2.498E-02	2.469E-03	-0.284
	614.37			4.980E-03	2.078E-02	3.596E-02	4.023E-03	0.139

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	722.95			-5.806E-03	2.002E-02	3.169E-02	3.541E-03	-0.183
CD-109	88.03	*		2.275E-01	1.972E-01	3.315E-01	3.563E-02	0.686
AG-110M	657.75	*		7.680E-03	2.154E-02	3.335E-02	3.758E-03	0.230
	677.61			9.072E-03	1.721E-01	2.891E-01	3.250E-02	0.031
	706.67			-4.090E-02	1.113E-01	1.756E-01	1.959E-02	-0.233
	763.93			-6.080E-02	8.422E-02	1.230E-01	1.339E-02	-0.494
	884.67			1.520E-02	2.656E-02	4.722E-02	4.664E-03	0.322
	937.48			1.067E-02	6.151E-02	1.024E-01	9.919E-03	0.104
	1384.27			-4.648E-02	7.315E-02	9.602E-02	8.109E-03	-0.484
IN-111	171.28			1.187E-02	7.049E-02	1.123E-01	1.014E-02	0.106
	245.39	*		1.149E-02	7.689E-02	1.250E-01	1.324E-02	0.092
IN-113M	391.69	*		-4.828E-03	1.841E-02	2.947E-02	2.753E-03	-0.164
SN-113	391.69	*		-4.828E-03	1.841E-02	2.947E-02	2.753E-03	-0.164
IN-114M	190.27	*		7.897E-02	6.311E-02	1.143E-01	1.082E-02	0.691
CD-115	260.90			-1.669E-01	5.898E+00	9.375E+00	1.018E+00	-0.018
	492.35			3.000E-01	1.865E+00	3.092E+00	3.135E-01	0.097
	527.90	*		-1.599E-01	5.373E-01	8.291E-01	8.641E-02	-0.193
SN-117M	156.02			-7.724E-02	5.738E-01	9.407E-01	9.381E-02	-0.082
	158.56	*		1.211E-02	1.375E-02	2.445E-02	2.374E-03	0.495
SB-122	563.90	*		-5.085E-02	1.577E-01	2.407E-01	2.567E-02	-0.211
	692.80			2.663E+00	3.737E+00	6.721E+00	7.401E-01	0.396
I-123	159.00	*		1.398E-04	3.737E+00	Half-Life too short		
	528.96			-1.016E-02	3.737E+00	Half-Life too short		
TE-123M	159.00	*		9.495E-03	1.019E-02	1.816E-02	1.764E-03	0.523
I-124	602.71	*		2.486E-02	1.042E-01	1.804E-01	1.960E-02	0.138
	722.78			-2.423E-02	5.925E-01	9.768E-01	1.065E-01	-0.025
	1325.50			7.275E+00	5.662E+00	1.138E+01	9.251E-01	0.639
	1376.25			1.243E+00	4.143E+00	7.244E+00	5.926E-01	0.172
	1509.49			8.370E-01	2.877E+00	4.942E+00	4.098E-01	0.169
	1691.02			9.867E-02	6.201E-01	1.077E+00	8.929E-02	0.092
SB-124	602.71			4.636E-03	1.943E-02	3.363E-02	3.656E-03	0.138
	645.85			6.418E-02	2.265E-01	3.947E-01	4.516E-02	0.163
	709.31			1.256E+00	1.400E+00	2.582E+00	2.829E-01	0.487
	713.82			-1.577E-01	8.338E-01	1.348E+00	1.860E-01	-0.117
	722.78			-6.550E-03	1.602E-01	2.640E-01	2.919E-02	-0.025
	968.20			3.465E-01	1.169E+00	1.982E+00	1.846E-01	0.175
	1045.16			-6.126E-01	1.086E+00	1.622E+00	1.462E-01	-0.378
	1325.50			2.100E+00	1.635E+00	3.285E+00	2.671E-01	0.639
	1368.21			5.841E-01	9.026E-01	1.671E+00	2.204E-01	0.350
	1436.60			3.781E-01	1.866E+00	3.184E+00	2.624E-01	0.119
	1691.02	*		6.291E-03	3.954E-02	6.868E-02	5.937E-03	0.092
SB-125	427.89	*		3.935E-02	5.138E-02	9.108E-02	8.797E-03	0.432
	463.38			5.031E-02	1.448E-01	2.462E-01	2.577E-02	0.204
	600.56			-3.710E-02	1.064E-01	1.616E-01	1.837E-02	-0.230
	635.90			-9.056E-02	1.166E-01	1.683E-01	1.945E-02	-0.538
TE-125M	109.28	*		-1.038E+00	2.437E+00	3.979E+00	5.281E-01	-0.261
I-126	388.63			-6.533E-02	5.990E-02	8.415E-02	7.726E-03	-0.776
	666.33	*		-1.282E-02	6.332E-02	8.777E-02	9.716E-03	-0.146
	753.82			3.067E-01	5.320E-01	9.490E-01	1.020E-01	0.323

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	223.80			1.445E-01	1.090E+00	1.784E+00	1.816E-01	0.081
	278.60			2.603E-01	8.378E-01	1.346E+00	1.501E-01	0.193
	296.50			-3.055E-02	4.447E-01	7.024E-01	7.743E-02	-0.043
	414.70			-1.726E-02	2.166E-02	3.162E-02	2.959E-03	-0.546
	415.30			-8.822E-01	1.783E+00	2.735E+00	2.561E-01	-0.323
	555.20			-7.856E-01	1.474E+00	2.183E+00	2.315E-01	-0.360
	573.80			1.317E-01	4.133E-01	6.884E-01	7.380E-02	0.191
	593.00			3.279E-02	3.399E-01	5.504E-01	5.956E-02	0.060
	656.30			-3.172E-01	1.327E+00	1.839E+00	2.035E-01	-0.172
	666.33			-5.265E-03	2.600E-02	3.605E-02	3.991E-03	-0.146
	675.00			-2.241E-01	7.042E-01	1.123E+00	1.242E-01	-0.200
	695.00			2.872E-02	3.123E-02	5.709E-02	6.283E-03	0.503
	697.00			-2.919E-02	1.065E-01	1.713E-01	1.884E-02	-0.170
	720.50	*		-2.532E-03	4.821E-02	7.939E-02	8.666E-03	-0.032
	856.80			9.605E-02	1.803E-01	3.167E-01	3.145E-02	0.303
	989.30			1.533E-01	4.318E-01	7.411E-01	6.853E-02	0.207
	1034.80			-3.467E+00	3.336E+00	4.606E+00	4.175E-01	-0.753
	1213.00			-6.503E-01	1.296E+00	1.912E+00	1.573E-01	-0.340
SN-126	64.28			-1.567E-01	9.572E-02	1.489E-01	2.372E-02	-1.053
	86.94			-4.157E-02	8.806E-02	1.257E-01	5.260E-02	-0.331
	87.57	*		7.040E-03	2.053E-02	3.233E-02	3.467E-03	0.218
SB-127	61.10			-5.637E+00	2.223E+00	2.593E+00	2.714E-01	-2.174
	252.40			2.382E-01	5.385E-01	8.845E-01	3.721E-01	0.269
	290.80			-1.157E+00	2.427E+00	3.931E+00	4.572E-01	-0.294
	411.60			1.984E-03	1.314E+00	2.170E+00	3.235E-01	0.001
	444.90			-1.286E+00	1.358E+00	1.948E+00	2.296E-01	-0.660
	473.00			-4.082E-02	1.975E-01	3.121E-01	3.859E-02	-0.131
	543.00			-8.259E-01	2.538E+00	3.909E+00	5.612E-01	-0.211
	603.60			6.430E-02	1.549E+00	2.625E+00	3.349E-01	0.024
	685.20	*		-5.467E-02	1.807E-01	2.878E-01	3.398E-02	-0.190
	698.50			-1.226E+00	2.280E+00	3.522E+00	5.671E-01	-0.348
XE-127	722.20			8.075E-02	3.778E+00	6.289E+00	7.215E-01	0.013
	783.80			-4.396E-02	4.513E-01	7.312E-01	9.069E-02	-0.060
	57.60			-1.457E-02	5.443E-01	8.675E-01	8.457E-02	-0.017
	145.22			2.375E-02	1.975E-01	3.330E-01	3.669E-02	0.071
	172.10			-2.777E-03	4.584E-02	7.146E-02	6.469E-03	-0.039
	202.84	*		-9.323E-03	1.622E-02	2.484E-02	2.419E-03	-0.375
	374.96			9.053E-03	8.137E-02	1.371E-01	1.313E-02	0.066
I-131	80.18			-4.437E-01	5.132E-01	7.291E-01	7.572E-02	-0.608
	284.30			-2.766E-01	3.780E-01	5.443E-01	6.231E-02	-0.508
	364.48	*		1.387E-02	2.945E-02	5.150E-02	5.267E-03	0.269
	636.97			-1.053E-01	3.385E-01	5.373E-01	6.101E-02	-0.196
TE-132	722.89			-1.937E-01	1.724E+00	2.809E+00	3.066E-01	-0.069
	49.72			2.524E-02	2.592E-01	3.902E-01	3.935E-02	0.065
	111.76			9.337E-01	2.043E+00	3.386E+00	4.269E-01	0.276
	116.30			2.820E-01	1.732E+00	2.970E+00	3.835E-01	0.095
BA-133	228.16	*		-1.877E-02	5.872E-02	8.681E-02	1.360E-02	-0.216
	53.15			-2.387E-01	3.211E-01	4.484E-01	4.300E-02	-0.532
	79.62			-2.259E-01	2.802E-01	3.997E-01	6.501E-02	-0.565

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133		81.00		4.183E-04	1.912E-02	2.996E-02	5.068E-03	0.014
		276.40		-1.462E-01	1.883E-01	2.720E-01	4.368E-02	-0.538
		302.84		-2.362E-02	7.027E-02	1.153E-01	1.719E-02	-0.205
		356.01	*	-1.506E-02	2.154E-02	3.316E-02	4.701E-03	-0.454
		383.85		1.542E-01	1.415E-01	2.608E-01	3.416E-02	0.591
		510.53		-3.786E-04	1.415E-01	Half-Life	too short	
		529.87	*	-8.194E-07	1.415E-01	Half-Life	too short	
		706.58		-2.436E-04	1.415E-01	Half-Life	too short	
		856.28		6.122E-04	1.415E-01	Half-Life	too short	
		875.33		1.451E-04	1.415E-01	Half-Life	too short	
CS-134		1236.41		4.268E-04	1.415E-01	Half-Life	too short	
		1298.22		-2.266E-04	1.415E-01	Half-Life	too short	
		475.35		-5.241E-01	8.974E-01	1.333E+00	1.331E-01	-0.393
		563.23		4.920E-02	1.851E-01	3.085E-01	3.308E-02	0.160
		569.32		1.079E-02	1.080E-01	1.755E-01	1.893E-02	0.061
		604.70		-7.787E-03	1.827E-02	2.924E-02	3.185E-03	-0.266
CS-135		795.84	*	-8.686E-03	2.554E-02	3.983E-02	4.193E-03	-0.218
		801.93		-1.252E-01	2.623E-01	3.992E-01	4.179E-02	-0.314
		1038.57		1.958E+00	1.816E+00	3.585E+00	3.244E-01	0.546
		1167.94		-3.062E-01	9.965E-01	1.538E+00	1.272E-01	-0.199
		1365.15		-4.595E-01	7.590E-01	1.073E+00	9.206E-02	-0.428
		268.24	*	-3.022E-02	7.077E-02	1.070E-01	1.291E-02	-0.283
I-135		288.45		5.816E+01	7.077E-02	Half-Life	too short	
		417.63		-2.517E+01	7.077E-02	Half-Life	too short	
		546.56		1.415E+01	7.077E-02	Half-Life	too short	
		836.80		1.252E+01	7.077E-02	Half-Life	too short	
		1038.76		4.944E+01	7.077E-02	Half-Life	too short	
		1124.00		-2.741E+01	7.077E-02	Half-Life	too short	
CS-136		1131.51		1.067E+01	7.077E-02	Half-Life	too short	
		1260.41	*	6.672E-01	7.077E-02	Half-Life	too short	
		1457.56		-3.216E+01	7.077E-02	Half-Life	too short	
		1678.03		-4.977E+01	7.077E-02	Half-Life	too short	
		1706.46		-1.627E+01	7.077E-02	Half-Life	too short	
		1791.20		-1.119E+00	7.077E-02	Half-Life	too short	
		66.91		-7.756E-02	8.267E-02	1.133E-01	1.835E-02	-0.685
		86.29		-1.844E-01	1.884E-01	2.581E-01	3.690E-02	-0.714
		153.22		-7.888E-03	1.555E-01	2.572E-01	2.859E-02	-0.031
		163.89		2.780E-01	3.221E-01	5.325E-01	5.386E-02	0.522
CE-139 BA-140		176.55		2.358E-02	1.032E-01	1.730E-01	1.664E-02	0.136
		273.65		6.603E-02	1.450E-01	2.406E-01	2.771E-02	0.274
		340.57		-2.002E-02	4.103E-02	6.551E-02	6.934E-03	-0.306
		818.51		-4.380E-03	2.401E-02	3.803E-02	3.915E-03	-0.115
		1048.07	*	3.044E-02	3.021E-02	6.011E-02	5.619E-03	0.507
		1235.34		7.509E-02	1.627E-01	2.908E-01	3.360E-02	0.258
		165.85	*	-1.017E-02	1.199E-02	1.832E-02	1.634E-03	-0.555
		162.64		-7.351E-03	2.270E-01	3.516E-01	3.425E-02	-0.021
		304.84		-2.072E-01	3.952E-01	6.272E-01	1.808E-01	-0.330
		423.70		-4.391E-02	6.669E-01	1.090E+00	3.558E-01	-0.040
		537.32	*	-4.973E-02	1.046E-01	1.552E-01	5.225E-02	-0.320

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LA-140	328.77			-1.649E-01	9.920E-02	1.310E-01	1.440E-02	-1.259
	432.53			-3.027E-01	6.936E-01	1.076E+00	1.070E-01	-0.281
	487.03			-3.217E-02	4.952E-02	7.334E-02	7.738E-03	-0.439
	751.79			-9.442E-02	6.158E-01	9.947E-01	1.145E-01	-0.095
	815.85			-5.982E-02	1.022E-01	1.482E-01	1.654E-02	-0.404
	867.82			1.593E-01	4.585E-01	7.938E-01	8.113E-02	0.201
	919.63			-1.103E+00	9.053E-01	1.039E+00	1.176E-01	-1.062
	925.24			3.830E-01	3.562E-01	6.901E-01	6.847E-02	0.555
	1596.49	*		-3.182E-03	3.067E-02	4.985E-02	4.145E-03	-0.064
	145.44	*		-2.754E-03	1.777E-02	2.920E-02	3.248E-03	-0.094
CE-141	57.37			-2.301E-01	2.469E+00	3.909E+00	4.218E-01	-0.059
CE-143	231.56			-1.525E+01	2.340E+01	3.411E+01	1.094E+01	-0.447
	293.26	*		-1.756E-01	1.234E+00	2.064E+00	4.646E-01	-0.085
	350.59			-5.407E+00	1.940E+01	3.085E+01	9.708E+00	-0.175
	490.36			2.776E+01	3.582E+01	6.192E+01	1.981E+01	0.448
	664.57			2.268E+01	1.731E+01	2.890E+01	9.544E+00	0.785
	721.93			-2.180E+00	1.554E+01	2.523E+01	7.544E+00	-0.086
	80.11			-3.766E-01	4.449E-01	6.336E-01	6.570E-02	-0.594
	133.54	*		1.615E-02	6.822E-02	1.166E-01	2.062E-02	0.138
	476.78			-2.898E-03	3.046E-02	4.893E-02	5.236E-03	-0.059
	618.01			-2.121E-03	1.734E-02	2.873E-02	3.195E-03	-0.074
PM-144	696.49	*		9.855E-04	2.049E-02	3.431E-02	3.775E-03	0.029
	778.57			7.183E-01	1.143E+00	2.062E+00	2.185E-01	0.348
	696.49	*		6.652E-02	1.383E+00	2.316E+00	2.548E-01	0.029
	1489.15			-1.112E+00	5.750E+00	8.730E+00	7.230E-01	-0.127
	453.90	*		1.865E-03	1.958E-02	3.248E-02	3.792E-03	0.057
	633.02			6.409E-02	6.043E-01	1.031E+00	3.916E-01	0.062
	735.90			1.372E-02	7.305E-02	1.244E-01	3.651E-02	0.110
	747.13			-2.515E-02	6.477E-02	7.640E-02	1.182E-02	-0.329
	91.11			-1.283E-01	5.891E-02	7.251E-02	8.322E-03	-1.770
	319.41			-7.196E-01	1.013E+00	1.584E+00	1.702E-01	-0.454
ND-147	439.89			2.169E+00	1.947E+00	3.570E+00	3.441E-01	0.607
	531.02	*		1.334E-01	1.718E-01	3.065E-01	4.925E-02	0.435
	285.90	*		-9.249E-02	3.949E+00	6.228E+00	1.061E+00	-0.015
	121.78			-4.313E-04	2.491E-02	4.198E-02	5.784E-03	-0.010
	244.69			-3.485E-02	1.531E-01	2.397E-01	2.535E-02	-0.145
	344.27	*		4.375E-02	5.114E-02	9.189E-02	9.868E-03	0.476
	443.98			-6.051E-01	5.177E-01	7.170E-01	6.940E-02	-0.844
	778.89			7.707E-02	1.325E-01	2.378E-01	2.520E-02	0.324
	867.32			-1.211E-01	4.453E-01	6.914E-01	6.791E-02	-0.175
	964.01			-2.781E-02	1.518E-01	2.374E-01	2.215E-02	-0.117
PM-149	1085.78			-6.253E-02	2.026E-01	3.196E-01	2.814E-02	-0.196
	1112.02			-5.585E-02	1.344E-01	2.041E-01	1.765E-02	-0.274
	1407.95			1.215E-01	1.102E-01	2.170E-01	1.783E-02	0.560
	69.67			-1.239E-03	2.431E-01	3.837E-01	3.837E-02	-0.003
	83.37			1.522E-01	3.475E+00	5.163E+00	5.430E-01	0.029
	97.43	*		3.413E-03	2.338E-02	3.750E-02	4.223E-03	0.091
	103.18			-1.440E-02	2.819E-02	4.586E-02	5.324E-03	-0.314
	123.07			3.613E-03	1.760E-02	3.016E-02	4.465E-03	0.120
EU-152								
EU-154								
GD-153								
EU-154								

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	247.94			-7.411E-02	1.700E-01	2.593E-01	3.386E-02	-0.286
	591.81			7.168E-02	3.499E-01	5.750E-01	7.690E-02	0.125
	723.30			-6.315E-03	8.038E-02	1.317E-01	1.532E-02	-0.048
	756.87			-1.278E-01	4.183E-01	6.587E-01	8.944E-02	-0.194
	873.19			-1.188E-01	1.737E-01	2.490E-01	3.255E-02	-0.477
	996.32			-1.954E-01	1.923E-01	2.355E-01	4.255E-02	-0.830
	1004.76			2.168E-02	1.215E-01	2.012E-01	2.428E-02	0.108
	1274.45	*		-2.365E-02	5.953E-02	8.951E-02	9.834E-03	-0.264
	48.70			2.246E-02	1.461E-01	2.218E-01	2.111E-02	0.101
	60.01			2.391E-01	5.282E-01	8.807E-01	8.665E-02	0.271
TB-160	86.54			-2.482E-02	2.576E-02	3.553E-02	3.817E-03	-0.699
	105.31	*		-9.628E-03	2.818E-02	4.645E-02	5.491E-03	-0.207
	86.79			-3.339E-02	6.193E-02	8.947E-02	9.559E-03	-0.373
	197.04			2.694E-03	2.444E-01	3.699E-01	3.556E-02	0.007
	215.65			1.917E-01	2.950E-01	5.060E-01	5.065E-02	0.379
	298.57			-4.890E-02	5.013E-02	7.714E-02	8.488E-03	-0.634
	879.36	*		-6.848E-02	8.258E-02	1.165E-01	1.129E-02	-0.588
	962.29			6.460E-02	2.571E-01	4.320E-01	4.032E-02	0.150
	966.15			-2.606E-03	9.707E-02	1.559E-01	1.453E-02	-0.017
	1177.93			-1.468E-02	1.339E-01	2.166E-01	1.783E-02	-0.068
HO-166M	1271.85			3.292E-01	3.237E-01	6.312E-01	5.171E-02	0.522
	80.57			-3.267E-02	5.566E-02	8.152E-02	8.470E-03	-0.401
	184.41			-2.322E-02	1.793E-02	2.796E-02	2.610E-03	-0.831
	280.46			1.470E-03	4.353E-02	6.798E-02	7.582E-03	0.022
	410.95			-7.224E-02	1.127E-01	1.704E-01	1.588E-02	-0.424
	711.68	*		-1.157E-05	3.311E-02	5.501E-02	6.023E-03	0.000
	752.31			6.059E-02	1.415E-01	2.486E-01	2.675E-02	0.244
	810.29			-1.032E-02	3.294E-02	5.136E-02	5.322E-03	-0.201
	51.35			3.440E-01	2.063E+00	3.375E+00	3.223E-01	0.102
	52.39			-6.102E-01	1.288E+00	1.848E+00	1.769E-01	-0.330
TM-171	59.40			-8.807E-01	2.909E+00	4.494E+00	4.419E-01	-0.196
	66.72	*		-7.229E-02	4.085E+00	6.243E+00	6.197E-01	-0.012
	88.36			3.611E-02	4.698E-02	7.667E-02	8.252E-03	0.471
	201.83			-1.601E-03	1.102E-02	1.767E-02	1.717E-03	-0.091
	306.84	*		-1.844E-03	1.142E-02	1.901E-02	2.074E-03	-0.097
	401.10			8.830E-01	3.096E+00	5.295E+00	4.872E-01	0.167
	112.95			-8.290E-03	2.593E-01	4.143E-01	5.074E-02	-0.020
	208.36	*		-2.282E-01	2.054E-01	2.951E-01	2.909E-02	-0.773
	52.97			-7.941E-02	1.377E-01	1.959E-01	1.878E-02	-0.405
	54.07			-3.006E-02	7.905E-02	1.153E-01	1.109E-02	-0.261
LU-176	61.30			-6.114E-01	2.213E-01	2.500E-01	2.461E-02	-2.446
	121.62			4.717E-03	1.225E-01	2.074E-01	2.667E-02	0.023
	147.16			-1.211E-01	2.167E-01	3.416E-01	3.702E-02	-0.355
	171.86			1.053E-01	1.986E-01	3.246E-01	2.937E-02	0.325
	218.09			1.633E-02	3.632E-01	5.900E-01	5.936E-02	0.028
	268.79			-2.601E-01	3.582E-01	5.218E-01	5.737E-02	-0.499
	319.02			-3.366E-02	1.168E-01	1.912E-01	2.055E-02	-0.176
	367.43			7.284E-02	4.159E-01	7.065E-01	6.906E-02	0.103
	413.65	*		-3.515E-03	7.216E-02	1.183E-01	1.106E-02	-0.030

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181	56.28			2.269E-02	8.191E-02	1.346E-01	1.304E-02	0.169
	57.53			-7.151E-03	4.737E-02	7.456E-02	7.266E-03	-0.096
	65.20			-4.382E-01	1.585E-01	1.831E-01	1.812E-02	-2.394
	133.02			-1.239E-02	1.955E-02	3.085E-02	3.721E-03	-0.402
	136.25			-2.696E-02	1.457E-01	2.402E-01	2.834E-02	-0.112
	345.85			6.169E-03	9.249E-02	1.558E-01	1.601E-02	0.040
W-181	482.03		*	6.175E-03	1.958E-02	3.316E-02	3.331E-03	0.186
	56.28			9.605E-03	3.474E-02	5.708E-02	5.533E-03	0.168
	57.53			-3.021E-03	2.011E-02	3.165E-02	3.084E-03	-0.095
	65.20		*	-1.845E-01	6.676E-02	7.710E-02	7.630E-03	-2.394
TA-182	67.75			-2.228E-02	1.676E-02	2.179E-02	2.168E-03	-1.023
	100.10			-3.394E-02	5.084E-02	8.218E-02	9.385E-03	-0.413
	152.43			1.571E-02	1.150E-01	1.935E-01	1.999E-02	0.081
	222.10			-3.039E-02	1.446E-01	2.287E-01	2.319E-02	-0.133
	1001.68			3.963E-01	1.046E+00	1.820E+00	1.675E-01	0.218
	1121.28			-1.693E-02	4.536E-02	6.835E-02	5.873E-03	-0.248
	1189.05			3.398E-02	1.213E-01	2.121E-01	1.745E-02	0.160
	1221.42		*	7.358E-03	7.560E-02	1.273E-01	1.047E-02	0.058
	1230.97			-1.660E-01	1.957E-01	2.645E-01	2.175E-02	-0.627
	57.98			-5.211E-03	1.960E-02	3.045E-02	2.974E-03	-0.171
RE-183	59.32			-5.212E-03	1.130E-02	1.717E-02	1.687E-03	-0.304
	67.20			-3.755E-02	2.910E-02	3.817E-02	3.793E-03	-0.984
	162.32		*	-3.887E-03	4.538E-02	6.976E-02	6.493E-03	-0.056
	208.81			-1.762E-01	3.594E-01	5.545E-01	5.472E-02	-0.318
	291.72			-4.481E-01	3.860E-01	5.757E-01	6.372E-02	-0.778
RE-184	57.98			-2.006E-02	7.545E-02	1.172E-01	1.145E-02	-0.171
	59.32			-2.005E-02	4.349E-02	6.604E-02	6.491E-03	-0.304
	67.20			-1.445E-01	1.120E-01	1.469E-01	1.460E-02	-0.984
	161.27			-9.984E-02	1.382E-01	2.140E-01	2.016E-02	-0.467
	216.55			2.807E-02	1.116E-01	1.850E-01	1.855E-02	0.152
	252.85		*	2.239E-02	1.112E-01	1.812E-01	1.943E-02	0.124
	318.01			-1.269E-02	2.057E-01	3.448E-01	3.711E-02	-0.037
	792.07			3.964E-01	5.146E-01	9.366E-01	9.838E-02	0.423
	903.28			-1.466E-01	5.387E-01	8.340E-01	7.894E-02	-0.176
	920.93			-1.799E-01	1.864E-01	2.249E-01	2.121E-02	-0.800
OS-185	59.72			-7.076E-04	3.027E-02	4.814E-02	4.736E-03	-0.015
	61.14			-6.403E-02	2.369E-02	2.712E-02	2.670E-03	-2.361
	69.30			2.383E-04	4.085E-02	6.458E-02	6.450E-03	0.004
	592.07			3.680E-01	1.365E+00	2.261E+00	2.446E-01	0.163
	646.12		*	6.474E-03	2.002E-02	3.505E-02	3.867E-03	0.185
	717.42			-1.582E-01	4.460E-01	7.010E-01	7.660E-02	-0.226
	874.81			2.299E-02	3.109E-01	5.127E-01	4.994E-02	0.045
	880.27			3.806E-02	4.367E-01	7.209E-01	6.978E-02	0.053
RE-188	155.03		*	2.332E-02	5.708E-02	9.809E-02	9.880E-03	0.238
	477.96			5.881E-01	1.358E+00	2.342E+00	2.345E-01	0.251
	633.10			1.046E-01	1.132E+00	1.928E+00	2.120E-01	0.054
W-188	63.58			-4.918E+00	9.024E+00	1.552E+01	1.532E+00	-0.317
	227.08			2.649E+00	4.608E+00	7.878E+00	8.068E-01	0.336
	290.67		*	3.675E-02	2.912E+00	4.951E+00	5.484E-01	0.007

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IR-192	295.96			3.000E-02	4.847E-02	8.112E-02	8.986E-03	0.370
	308.46			1.634E-02	4.123E-02	7.223E-02	7.893E-03	0.226
	316.51	*		5.446E-03	1.556E-02	2.709E-02	2.926E-03	0.201
	468.07			-2.464E-02	3.335E-02	4.912E-02	5.138E-03	-0.502
	604.41			-9.036E-02	2.329E-01	3.744E-01	5.470E-02	-0.241
	612.46			-5.144E-02	3.543E-01	5.864E-01	7.007E-02	-0.088
AU-195	65.12			-8.603E-02	3.131E-02	3.628E-02	3.590E-03	-2.371
	66.83			-1.227E-02	1.431E-02	2.001E-02	1.987E-03	-0.613
	75.70			-1.694E-02	3.767E-02	5.481E-02	5.588E-03	-0.309
	98.88	*		2.468E-02	6.864E-02	1.119E-01	1.270E-02	0.220
	129.76			1.348E+00	9.364E-01	1.729E+00	2.130E-01	0.780
TL-200	367.94	*		2.795E-02	1.775E+00	2.962E+00	2.892E-01	0.009
	579.30			-1.725E+01	1.621E+01	2.171E+01	2.334E+00	-0.795
	828.27			-6.128E-01	2.137E+01	3.241E+01	3.309E+00	-0.019
	1205.75			4.792E+00	9.841E+00	1.784E+01	1.468E+00	0.269
TL-201	68.90			1.665E-02	1.207E-01	1.936E-01	1.932E-02	0.086
	70.82			-6.580E-02	8.092E-02	1.167E-01	1.171E-02	-0.564
	80.30			-9.937E-02	1.839E-01	2.711E-01	2.813E-02	-0.367
	135.34			1.155E+00	1.587E+00	2.809E+00	3.336E-01	0.411
	167.43	*		-2.852E-01	4.933E-01	7.709E-01	6.896E-02	-0.370
TL-202	68.90			5.451E-03	3.953E-02	6.339E-02	6.325E-03	0.086
	70.82			-2.148E-02	2.642E-02	3.811E-02	3.822E-03	-0.564
	80.30			-3.245E-02	6.008E-02	8.853E-02	9.189E-03	-0.367
	439.56	*		3.169E-02	2.488E-02	4.611E-02	4.441E-03	0.687
HG-203	70.83			-1.268E-01	1.577E-01	2.268E-01	3.298E-02	-0.559
	72.87			9.344E-03	9.823E-02	1.560E-01	2.217E-02	0.060
	82.60			-2.125E-01	2.403E-01	3.197E-01	4.789E-02	-0.665
	279.20	*		8.047E-03	1.910E-02	3.100E-02	3.519E-03	0.260
BI-207	72.80			4.303E-03	3.229E-02	5.147E-02	5.194E-03	0.084
	74.97			-2.590E-02	2.220E-02	2.996E-02	3.046E-03	-0.864
	84.90			-7.243E-03	4.800E-02	7.016E-02	7.430E-03	-0.103
	569.67			9.402E-04	1.685E-02	2.722E-02	2.912E-03	0.035
TL-207	1063.62	*		1.780E-02	2.633E-02	4.887E-02	4.361E-03	0.364
	1770.23			-1.819E-02	3.243E-01	5.283E-01	4.350E-02	-0.034
	81.07			1.721E-03	4.237E-02	6.653E-02	6.927E-03	0.026
	83.78			7.361E-03	2.986E-02	4.519E-02	4.761E-03	0.163
	94.90			-2.751E-01	7.791E-02	8.939E-02	9.936E-03	-3.078
	122.32			4.256E-01	5.739E-01	1.023E+00	1.362E-01	0.416
	144.24			-1.277E-01	2.619E-01	3.954E-01	4.712E-02	-0.323
	154.21			1.230E-02	1.430E-01	2.393E-01	2.607E-02	0.051
	269.46			-4.322E-02	8.768E-02	1.317E-01	1.468E-02	-0.328
	323.87	*		1.810E-01	3.111E-01	5.494E-01	1.032E-01	0.329
TL-208	338.28			3.869E-01	4.622E-01	8.316E-01	1.134E-01	0.465
	445.03			-8.531E-01	1.199E+00	1.779E+00	2.290E-01	-0.479
	277.35			6.931E-02	1.784E-01	2.940E-01	4.176E-02	0.236
	510.84			-4.598E-02	1.457E-01	2.746E-01	3.637E-02	-0.167
	583.14	*		-6.940E-03	2.190E-02	3.396E-02	3.829E-03	-0.204
	860.37			-4.178E-02	1.666E-01	2.614E-01	2.732E-02	-0.160
PO-209	260.50			-3.512E-01	4.534E+00	7.168E+00	7.783E-01	-0.049

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	262.80			1.391E+01	1.297E+01	2.275E+01	2.479E+00	0.611
	896.60	*		2.346E+00	4.735E+00	8.234E+00	7.813E-01	0.285
BI-211	72.87			5.256E-02	5.526E-01	8.776E-01	8.859E-02	0.060
	351.07	*		-3.806E-02	1.131E-01	1.798E-01	1.894E-02	-0.212
PB-211	404.84	*		-9.247E-02	4.652E-01	7.455E-01	4.678E-01	-0.124
	427.08			6.578E-01	1.208E+00	1.986E+00	1.237E+00	0.331
	831.96			-2.533E-01	6.302E-01	9.255E-01	5.821E-01	-0.274
BI-212	727.18	*		3.746E-02	1.324E-01	2.292E-01	2.754E-02	0.163
	785.46			1.247E-02	8.746E-01	1.443E+00	1.523E-01	0.009
	1620.62			6.940E-02	7.992E-01	1.359E+00	1.129E-01	0.051
PB-212	74.81			-8.814E-02	7.675E-02	1.032E-01	1.424E-02	-0.854
	77.11			-1.203E-02	4.554E-02	6.803E-02	6.971E-03	-0.177
	87.30			1.331E-02	9.332E-02	1.443E-01	2.115E-02	0.092
	238.63	*		-3.557E-03	3.053E-02	4.864E-02	5.537E-03	-0.073
	300.09			2.800E-01	3.571E-01	6.423E-01	8.000E-02	0.436
PO-212	74.81			-8.814E-02	7.675E-02	1.032E-01	1.424E-02	-0.854
	77.11			-1.203E-02	4.554E-02	6.803E-02	6.971E-03	-0.177
	87.30			1.331E-02	9.332E-02	1.443E-01	2.115E-02	0.092
	115.19			-5.170E-01	1.127E+00	1.832E+00	2.271E-01	-0.282
	238.63	*		-3.557E-03	3.053E-02	4.864E-02	5.537E-03	-0.073
	300.09			2.800E-01	3.571E-01	6.423E-01	8.000E-02	0.436
BI-214	609.31	*		-1.578E-02	4.291E-02	6.704E-02	8.090E-03	-0.235
	1120.29			-5.080E-02	1.086E-01	1.607E-01	1.744E-02	-0.316
	1764.49			4.298E-02	1.614E-01	2.638E-01	2.174E-02	0.163
PB-214	74.81			-1.519E-01	1.320E-01	1.778E-01	2.236E-02	-0.854
	77.11			-2.062E-02	7.808E-02	1.166E-01	1.489E-02	-0.177
	87.30			2.281E-02	1.599E-01	2.473E-01	3.263E-02	0.092
	241.98			-1.433E-01	1.743E-01	2.577E-01	3.074E-02	-0.556
	295.21			8.582E-02	6.618E-02	1.155E-01	1.465E-02	0.743
	351.92	*		-1.569E-02	3.891E-02	6.134E-02	7.203E-03	-0.256
PO-214	74.81			-1.519E-01	1.320E-01	1.778E-01	2.236E-02	-0.854
	77.11			-2.062E-02	7.808E-02	1.166E-01	1.489E-02	-0.177
	87.30			2.281E-02	1.599E-01	2.473E-01	3.263E-02	0.092
	241.98			-1.433E-01	1.743E-01	2.577E-01	3.074E-02	-0.556
	295.21			8.582E-02	6.618E-02	1.155E-01	1.465E-02	0.743
	351.92	*		-1.569E-02	3.891E-02	6.134E-02	7.203E-03	-0.256
PO-215	81.07			1.721E-03	4.237E-02	6.653E-02	6.927E-03	0.026
	83.78			7.361E-03	2.986E-02	4.519E-02	4.761E-03	0.163
	94.90			-2.751E-01	7.791E-02	8.939E-02	9.936E-03	-3.078
	122.32			4.256E-01	5.739E-01	1.023E+00	1.362E-01	0.416
	144.24			-1.277E-01	2.619E-01	3.954E-01	4.712E-02	-0.323
	154.21			1.230E-02	1.430E-01	2.393E-01	2.607E-02	0.051
	269.46			-4.322E-02	8.768E-02	1.317E-01	1.468E-02	-0.328
	323.87	*		1.810E-01	3.111E-01	5.494E-01	1.032E-01	0.329
	338.28			3.869E-01	4.622E-01	8.316E-01	1.134E-01	0.465
	445.03			-8.531E-01	1.199E+00	1.779E+00	2.290E-01	-0.479
PO-216	74.81			-8.814E-02	7.675E-02	1.032E-01	1.424E-02	-0.854
	77.11			-1.203E-02	4.554E-02	6.803E-02	6.971E-03	-0.177
	87.30			1.331E-02	9.332E-02	1.443E-01	2.115E-02	0.092

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	238.63	*		-3.557E-03	3.053E-02	4.864E-02	5.537E-03	-0.073
	300.09			2.800E-01	3.571E-01	6.423E-01	8.000E-02	0.436
	74.81			-1.519E-01	1.320E-01	1.778E-01	2.236E-02	-0.854
	77.11			-2.062E-02	7.808E-02	1.166E-01	1.489E-02	-0.177
	87.30			2.281E-02	1.599E-01	2.473E-01	3.263E-02	0.092
RN-219	241.98			-1.433E-01	1.743E-01	2.577E-01	3.074E-02	-0.556
	295.21			8.582E-02	6.618E-02	1.155E-01	1.465E-02	0.743
	351.92	*		-1.569E-02	3.891E-02	6.134E-02	7.203E-03	-0.256
	271.23			4.129E-02	1.174E-01	1.929E-01	2.393E-02	0.214
	401.81	*		4.797E-02	1.986E-01	3.374E-01	5.187E-02	0.142
RN-220	549.76	*		1.464E+00	1.549E+01	2.521E+01	2.666E+00	0.058
RA-223	81.07			1.721E-03	4.237E-02	6.653E-02	6.927E-03	0.026
	83.78			7.361E-03	2.986E-02	4.519E-02	4.761E-03	0.163
	94.90			-2.751E-01	7.791E-02	8.939E-02	9.936E-03	-3.078
	122.32			4.256E-01	5.739E-01	1.023E+00	1.362E-01	0.416
	144.24			-1.277E-01	2.619E-01	3.954E-01	4.712E-02	-0.323
RA-224	154.21			1.230E-02	1.430E-01	2.393E-01	2.607E-02	0.051
	269.46			-4.322E-02	8.768E-02	1.317E-01	1.468E-02	-0.328
	323.87	*		1.810E-01	3.111E-01	5.494E-01	1.032E-01	0.329
	338.28			3.869E-01	4.622E-01	8.316E-01	1.134E-01	0.465
	445.03			-8.531E-01	1.199E+00	1.779E+00	2.290E-01	-0.479
RA-226	240.98	*		-2.562E-01	3.227E-01	4.788E-01	5.031E-02	-0.535
	609.31	*		-1.578E-02	4.291E-02	6.704E-02	8.090E-03	-0.235
	1120.29			-5.080E-02	1.086E-01	1.607E-01	1.744E-02	-0.316
	1764.49			4.298E-02	1.614E-01	2.638E-01	2.174E-02	0.163
	79.80			-2.693E-01	3.547E-01	5.048E-01	1.123E-01	-0.534
AC-227	236.00			-2.139E-01	1.081E-01	1.326E-01	1.799E-02	-1.613
	256.20	*		3.324E-02	1.737E-01	2.829E-01	4.713E-02	0.118
	286.10			7.059E-02	7.155E-01	1.145E+00	1.711E-01	0.062
	299.80			4.805E-01	6.604E-01	1.178E+00	2.211E-01	0.408
	304.40			-2.546E-01	8.437E-01	1.383E+00	2.715E-01	-0.184
TH-227	334.20			-8.372E-01	1.149E+00	1.773E+00	3.601E-01	-0.472
	79.80			-2.693E-01	3.548E-01	5.048E-01	1.137E-01	-0.534
	94.00			-2.529E+00	8.856E-01	9.923E-01	2.268E-01	-2.548
	236.00			-2.139E-01	1.075E-01	1.326E-01	1.661E-02	-1.613
	256.20	*		3.324E-02	1.737E-01	2.829E-01	5.429E-02	0.118
AC-228	286.10			7.059E-02	7.189E-01	1.145E+00	1.152E+00	0.062
	299.80			4.805E-01	6.604E-01	1.178E+00	2.211E-01	0.408
	304.40			-2.546E-01	8.437E-01	1.383E+00	2.715E-01	-0.184
	334.20			-8.372E-01	1.149E+00	1.773E+00	3.601E-01	-0.472
	338.32			9.453E-02	1.170E-01	1.998E-01	8.325E-02	0.473
RA-228	911.07	*		-1.065E-01	8.381E-02	1.043E-01	1.241E-02	-1.021
	969.11			4.086E-02	1.250E-01	2.123E-01	5.012E-02	0.192
	338.32			9.453E-02	1.170E-01	1.998E-01	8.325E-02	0.473
	911.07	*		-1.065E-01	8.381E-02	1.043E-01	1.241E-02	-1.021
	969.11			4.086E-02	1.250E-01	2.123E-01	5.012E-02	0.192
TH-228	74.81			-8.880E-02	7.689E-02	1.040E-01	1.063E-02	-0.854
	77.11			-1.212E-02	4.588E-02	6.855E-02	7.024E-03	-0.177
	87.30			1.341E-02	9.402E-02	1.454E-01	1.557E-02	0.092

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	238.63	*		-3.584E-03	3.076E-02	4.901E-02	5.579E-03	-0.073
	300.09			2.822E-01	3.957E-01	6.472E-01	3.862E-01	0.436
	85.43			-4.367E-02	4.781E-02	6.396E-02	6.790E-03	-0.683
	88.47			1.802E-02	2.682E-02	4.343E-02	4.677E-03	0.415
	100.00			-5.102E-02	6.069E-02	8.964E-02	1.023E-02	-0.569
TH-230	193.63	*		-2.294E-01	2.038E-01	2.932E-01	2.797E-02	-0.782
	210.97			1.927E-02	2.964E-01	4.839E-01	4.797E-02	0.040
	609.31	*		-1.578E-02	4.291E-02	6.704E-02	8.090E-03	-0.235
	1120.29			-5.080E-02	1.086E-01	1.607E-01	1.744E-02	-0.316
	1764.49			4.298E-02	1.614E-01	2.638E-01	2.174E-02	0.163
PA-231	283.67	*		2.405E-01	7.182E-01	1.178E+00	1.972E-01	0.204
TH-231	301.29			3.380E-01	2.642E-01	4.887E-01	6.843E-02	0.692
	81.07			1.721E-03	4.237E-02	6.653E-02	6.927E-03	0.026
	83.78			7.361E-03	2.986E-02	4.519E-02	4.761E-03	0.163
	94.90			-2.751E-01	7.791E-02	8.939E-02	9.936E-03	-3.078
	122.32			4.256E-01	5.739E-01	1.023E+00	1.362E-01	0.416
U-231	144.24			-1.277E-01	2.619E-01	3.954E-01	4.712E-02	-0.323
	154.21			1.230E-02	1.430E-01	2.393E-01	2.607E-02	0.051
	269.46			-4.322E-02	8.768E-02	1.317E-01	1.468E-02	-0.328
	323.87	*		1.810E-01	3.111E-01	5.494E-01	1.032E-01	0.329
	338.28			3.869E-01	4.622E-01	8.316E-01	1.134E-01	0.465
TH-232	445.03			-8.531E-01	1.199E+00	1.779E+00	2.290E-01	-0.479
	84.21			2.513E-01	3.686E-01	5.799E-01	6.122E-02	0.433
	92.29			-9.724E-02	2.056E-01	3.643E-01	3.997E-02	-0.267
	95.87	*		-1.450E-01	8.376E-02	1.206E-01	1.347E-02	-1.203
	108.00			-2.487E-02	1.664E-01	2.793E-01	3.328E-02	-0.089
PA-233	338.32			9.453E-02	1.106E-01	1.998E-01	2.082E-02	0.473
	911.07	*		-1.065E-01	8.381E-02	1.043E-01	1.241E-02	-1.021
	969.11			4.086E-02	1.250E-01	2.123E-01	5.012E-02	0.192
	75.28			-5.828E-01	6.357E-01	8.733E-01	1.421E-01	-0.667
	86.59			-4.032E-01	4.323E-01	5.798E-01	1.597E-01	-0.695
PA-234	300.12			1.458E-01	1.853E-01	3.322E-01	5.435E-02	0.439
	311.98	*		4.472E-03	3.111E-02	5.322E-02	5.877E-03	0.084
	340.50			-1.508E-01	2.975E-01	4.708E-01	1.155E-01	-0.320
	398.62			-3.748E-01	9.931E-01	1.560E+00	4.182E-01	-0.240
	415.76			-1.105E-01	6.731E-01	1.083E+00	2.368E-01	-0.102
PA-234	63.00			-2.155E-01	2.814E-01	4.755E-01	7.716E-02	-0.453
	94.67			-1.554E-01	5.450E-02	6.657E-02	9.480E-03	-2.335
	98.44			1.339E-02	2.947E-02	4.688E-02	2.638E-02	0.286
	99.86			-1.239E-01	1.538E-01	2.282E-01	2.602E-02	-0.543
	111.00			2.538E-02	5.688E-02	9.978E-02	1.475E-02	0.254
PA-234	131.20			-1.290E-02	3.546E-02	5.760E-02	7.032E-03	-0.224
	152.70			-1.439E-03	1.182E-01	1.961E-01	3.522E-02	-0.007
	186.00			-4.289E-01	6.582E-01	1.057E+00	3.323E-01	-0.406
	226.40			-2.868E-03	1.593E-01	2.564E-01	3.667E-02	-0.011
	227.20			1.292E-01	1.655E-01	2.885E-01	2.956E-02	0.448
PA-234	248.90			-1.152E-01	3.853E-01	5.959E-01	1.387E-01	-0.193
	293.70			5.136E-02	2.903E-01	5.001E-01	9.317E-02	0.103
	369.80			-2.631E-01	3.851E-01	5.793E-01	1.288E-01	-0.454

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	568.70			1.148E-01	5.481E-01	9.041E-01	9.665E-02	0.127
	569.50			1.159E-02	1.500E-01	2.430E-01	2.600E-02	0.048
	574.00			2.672E-01	9.029E-01	1.500E+00	1.608E-01	0.178
	699.00			-1.488E-01	4.087E-01	6.466E-01	1.310E-01	-0.230
	706.10			-3.745E-01	6.093E-01	8.888E-01	4.009E-01	-0.421
	733.00			-7.216E-02	1.831E-01	2.825E-01	6.542E-02	-0.255
	742.81			-9.500E-02	6.931E-01	1.117E+00	7.546E-01	-0.085
	796.30			-4.207E-01	5.388E-01	7.634E-01	2.114E-01	-0.551
	805.60			3.175E-01	6.026E-01	1.048E+00	3.269E-01	0.303
	819.60			-2.406E-02	5.903E-01	9.606E-01	3.692E-01	-0.025
	826.30			-1.015E-01	4.409E-01	6.381E-01	2.877E-01	-0.159
	831.60			-1.122E-01	3.206E-01	4.902E-01	1.487E-01	-0.229
	876.40			3.673E-01	5.846E-01	8.247E-01	8.486E-01	0.445
	880.51			-8.509E-03	1.676E-01	2.707E-01	2.619E-02	-0.031
	883.24			1.994E-01	2.064E-01	3.059E-01	2.060E-01	0.652
	899.00			-1.245E-01	5.006E-01	7.761E-01	3.407E-01	-0.160
	925.00			4.904E-01	5.577E-01	1.051E+00	9.910E-02	0.466
	926.50			3.389E-02	8.892E-02	1.536E-01	3.926E-02	0.221
	946.00	*		7.027E-02	1.320E-01	2.364E-01	4.521E-02	0.297
	949.00			-1.148E-01	2.132E-01	3.040E-01	2.849E-02	-0.378
	980.50			1.392E-01	3.369E-01	5.895E-01	5.469E-02	0.236
	1394.10			1.104E-01	7.479E-01	1.250E+00	8.128E-01	0.088
PA-234M	766.42			1.871E+00	5.470E+00	9.359E+00	4.785E+00	0.200
	1001.03	*		1.310E+00	2.548E+00	4.509E+00	4.723E-01	0.290
TH-234	63.29	*		-1.461E-01	2.403E-01	4.107E-01	7.646E-02	-0.356
	92.38			-8.196E-02	1.883E-01	3.334E-01	6.441E-02	-0.246
U-234	609.31	*		-1.578E-02	4.291E-02	6.704E-02	8.090E-03	-0.235
	1120.29			-5.080E-02	1.086E-01	1.607E-01	1.744E-02	-0.316
	1764.49			4.298E-02	1.614E-01	2.638E-01	2.174E-02	0.163
U-235	89.95			-7.120E-01	3.847E-01	3.795E-01	1.197E-01	-1.876
	93.35			-1.505E-01	2.254E-01	3.894E-01	1.124E-01	-0.386
	105.00			-1.126E-01	2.861E-01	4.666E-01	1.441E-01	-0.241
	143.76	*		-5.355E-02	8.147E-02	1.203E-01	2.272E-02	-0.445
	163.35			1.026E-01	2.159E-01	3.470E-01	6.714E-02	0.296
	185.71			-8.800E-03	2.379E-02	3.977E-02	3.724E-03	-0.221
	205.31			4.197E-02	2.072E-01	3.431E-01	6.737E-02	0.122
NP-236	94.67			-1.176E-01	3.999E-02	5.059E-02	5.616E-03	-2.324
	98.44			1.013E-02	2.157E-02	3.544E-02	4.012E-03	0.286
	111.00			1.920E-02	4.300E-02	7.547E-02	9.145E-03	0.254
	160.31	*		-2.738E-02	3.176E-02	4.845E-02	4.614E-03	-0.565
NP-237	86.50	*		-6.087E-02	6.419E-02	8.682E-02	2.017E-02	-0.701
	95.87			-4.453E-01	2.770E-01	3.703E-01	9.493E-02	-1.203
U-238	63.29	*		-1.461E-01	2.403E-01	4.107E-01	7.646E-02	-0.356
	92.38			-8.196E-02	1.879E-01	3.334E-01	3.660E-02	-0.246
NP-239	99.55			8.800E-04	4.975E-02	7.908E-02	9.005E-03	0.011
	117.00	*		2.552E-02	5.910E-02	1.035E-01	1.297E-02	0.247
	209.75			2.246E-01	2.853E-01	4.981E-01	4.925E-02	0.451
	228.18			-3.026E-02	9.578E-02	1.418E-01	1.455E-02	-0.213
	277.60			4.151E-02	8.684E-02	1.444E-01	1.607E-02	0.288

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	334.30			-4.679E-01	6.462E-01	1.007E+00	1.057E-01	-0.465
AM-241	59.54	*		-4.976E-03	1.715E-02	2.653E-02	2.757E-03	-0.188
AM-243	74.67	*		-7.006E-03	1.174E-02	1.680E-02	1.707E-03	-0.417
	86.72			-1.188E+00	2.264E+00	3.274E+00	3.496E-01	-0.363
	117.66			2.798E-01	1.183E+00	2.041E+00	2.566E-01	0.137
	142.18			-6.945E+00	6.914E+00	9.915E+00	1.120E+00	-0.700
CM-243	99.55			9.050E-04	5.117E-02	8.133E-02	9.261E-03	0.011
	103.76	*		-1.441E-02	2.560E-02	4.131E-02	4.811E-03	-0.349
	117.00			2.624E-02	6.077E-02	1.064E-01	1.333E-02	0.247
	209.75			2.213E-01	2.811E-01	4.908E-01	4.853E-02	0.451
	228.18			-3.057E-02	9.673E-02	1.432E-01	1.470E-02	-0.213
	277.60			4.183E-02	8.751E-02	1.455E-01	1.620E-02	0.288
AM-246	798.80			9.089E-03	7.911E-02	1.322E-01	1.382E-02	0.069
	1036.00			-7.427E-02	1.594E-01	2.459E-01	2.228E-02	-0.302
	1062.04			-6.197E-02	1.104E-01	1.647E-01	1.471E-02	-0.376
	1078.86	*		-7.702E-03	6.810E-02	1.114E-01	9.852E-03	-0.069
CM-247	278.00			7.952E-02	3.743E-01	6.061E-01	6.753E-02	0.131
	287.40			-2.152E-02	5.819E-01	9.161E-01	1.017E-01	-0.023
	402.60	*		-2.847E-03	1.818E-02	2.952E-02	2.721E-03	-0.096
CF-249	252.85			8.667E-02	4.303E-01	7.013E-01	7.521E-02	0.124
	333.44			6.038E-02	8.232E-02	1.472E-01	1.547E-02	0.410
	387.95	*		-1.734E-02	1.719E-02	2.443E-02	2.248E-03	-0.710
CF-251	176.60	*		1.096E-02	5.289E-02	8.849E-02	8.103E-03	0.124
	227.00			8.067E-02	1.485E-01	2.533E-01	2.593E-02	0.319
	285.00			-7.084E-01	8.626E-01	1.228E+00	1.365E-01	-0.577
ANH-511	511.00	*		-7.112E-03	3.151E-02	5.965E-02	6.140E-03	-0.119

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]G1202006611      *
* Acquisition date   : 7-JAN-2010 13:29:10 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 02:00:01.09 Half life ratio : 8.000                *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 31-DEC-2009 00:00:00 Nuclide Library : SOLID           *
* Sample ID         : G1202006611 Analyst initials: MXR1                   *
* Batch Number      : 937702 Sample Quantity : 1.4003E+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)	
BA-137M	2.554E-02	3.783E-02	3.182E-02	0.000E+00
CS-137	2.700E-02	3.999E-02	3.364E-02	0.000E+00
BI-210	5.418E-02	3.031E-01	2.682E-01	0.000E+00
PB-210	5.418E-02	3.031E-01	2.682E-01	0.000E+00
PO-210	5.418E-02	3.031E-01	2.682E-01	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.023E-02	1.318E-01	2.458E-01	0.000E+00 NOT IDENT.
NA-22	-8.827E-03	2.072E-02	3.184E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	8.937E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-1.019E-02	2.907E-02	4.075E-02	0.000E+00 NOT IDENT.
K-40	5.969E-02	2.818E-01	5.146E-01	0.000E+00 NOT IDENT.
TI-44	2.543E-03	7.618E-03	1.296E-02	0.000E+00 NOT IDENT.
SC-46	-2.204E-02	1.903E-02	2.446E-02	0.000E+00 NOT IDENT.
V-48	8.688E-03	2.283E-02	4.098E-02	0.000E+00 NOT IDENT.
CR-51	-1.972E-02	1.446E-01	2.542E-01	0.000E+00 NOT IDENT.
MN-52	-1.369E-02	4.629E-02	7.071E-02	0.000E+00 NOT IDENT.
MN-54	1.184E-04	1.983E-02	3.366E-02	0.000E+00 NOT IDENT.
CO-56	-2.598E-03	2.030E-02	3.369E-02	0.000E+00 NOT IDENT.
CO-57	6.172E-04	8.222E-03	1.503E-02	0.000E+00 NOT IDENT.
CO-58	-7.114E-03	1.933E-02	3.093E-02	0.000E+00 NOT IDENT.
FE-59	-6.015E-03	4.243E-02	7.125E-02	0.000E+00 NOT IDENT.
CO-60	-1.360E-02	2.191E-02	3.158E-02	0.000E+00 NOT IDENT.
ZN-65	3.700E-03	3.325E-02	5.836E-02	0.000E+00 NOT IDENT.
GE-68	-1.566E-01	5.559E-01	9.059E-01	0.000E+00 NOT IDENT.
AS-73	-5.017E-02	6.935E-02	1.063E-01	0.000E+00 NOT IDENT.
AS-74	8.370E-03	3.965E-02	6.787E-02	0.000E+00 NOT IDENT.
SE-75	5.281E-03	2.015E-02	3.494E-02	0.000E+00 NOT IDENT.
BR-77	-1.105E-01	5.887E-01	9.694E-01	0.000E+00 NOT IDENT.

SR-82	4.963E-02	1.520E-01	2.731E-01	0.000E+00	NOT IDENT.
RB-83	-7.192E-03	3.304E-02	5.416E-02	0.000E+00	NOT IDENT.
RB-84	1.791E-02	3.532E-02	6.390E-02	0.000E+00	NOT IDENT.
KR-85	-1.779E+01	6.438E+00	7.966E+00	0.000E+00	NOT IDENT.
SR-85	-8.426E-02	3.049E-02	3.773E-02	0.000E+00	NOT IDENT.
RB-86	8.573E-02	2.829E-01	5.128E-01	0.000E+00	NOT IDENT.
Y-88	-6.136E-03	1.721E-02	2.507E-02	0.000E+00	NOT IDENT.
ZR-88	3.599E-03	1.256E-02	2.267E-02	0.000E+00	NOT IDENT.
Y-91	1.406E+00	8.296E+00	1.474E+01	0.000E+00	NOT IDENT.
NB-94	-2.691E-03	1.758E-02	2.979E-02	0.000E+00	NOT IDENT.
NB-95	1.240E-03	1.799E-02	3.115E-02	0.000E+00	NOT IDENT.
NB-95M	-8.348E-02	5.085E-02	7.135E-02	0.000E+00	NOT IDENT.
ZR-95	-8.699E-03	3.505E-02	5.796E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.542E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.074E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.187E-01	8.806E-01	1.615E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.226E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.959E-03	1.500E-02	2.461E-02	0.000E+00	NOT IDENT.
RH-102	-1.257E-02	1.370E-02	2.015E-02	0.000E+00	NOT IDENT.
RU-103	-6.268E-03	1.675E-02	2.686E-02	0.000E+00	NOT IDENT.
RH-106	-9.409E-02	1.716E-01	2.556E-01	0.000E+00	NOT IDENT.
RU-106	-9.409E-02	1.713E-01	2.556E-01	0.000E+00	NOT IDENT.
AG-108M	-7.105E-03	1.582E-02	2.572E-02	0.000E+00	NOT IDENT.
CD-109	2.275E-01	1.933E-01	3.522E-01	0.000E+00	NOT IDENT.
AG-110M	7.680E-03	2.111E-02	3.404E-02	0.000E+00	NOT IDENT.
IN-111	1.149E-02	7.535E-02	1.302E-01	0.000E+00	NOT IDENT.
IN-113M	-4.828E-03	1.805E-02	3.040E-02	0.000E+00	NOT IDENT.
SN-113	-4.828E-03	1.805E-02	3.040E-02	0.000E+00	NOT IDENT.
IN-114M	7.897E-02	6.184E-02	1.196E-01	0.000E+00	NOT IDENT.
CD-115	-1.599E-01	5.266E-01	8.502E-01	0.000E+00	NOT IDENT.
SN-117M	1.211E-02	1.347E-02	2.568E-02	0.000E+00	NOT IDENT.
SB-122	-5.085E-02	1.545E-01	2.465E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.471E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	9.495E-03	9.985E-03	1.908E-02	0.000E+00	NOT IDENT.
I-124	2.486E-02	1.021E-01	1.844E-01	0.000E+00	NOT IDENT.
SB-124	6.291E-03	3.875E-02	6.872E-02	0.000E+00	NOT IDENT.
SB-125	3.935E-02	5.035E-02	9.378E-02	0.000E+00	NOT IDENT.
TE-125M	-1.038E+00	2.388E+00	4.210E+00	0.000E+00	NOT IDENT.
I-126	-1.282E-02	6.205E-02	8.956E-02	0.000E+00	NOT IDENT.
SB-126	-2.532E-03	4.725E-02	8.089E-02	0.000E+00	NOT IDENT.
SN-126	7.040E-03	2.012E-02	3.435E-02	0.000E+00	NOT IDENT.
SB-127	-5.467E-02	1.771E-01	2.935E-01	0.000E+00	NOT IDENT.
XE-127	-9.323E-03	1.590E-02	2.596E-02	0.000E+00	NOT IDENT.
I-131	1.387E-02	2.886E-02	5.321E-02	0.000E+00	NOT IDENT.
TE-132	-1.877E-02	5.754E-02	9.053E-02	0.000E+00	NOT IDENT.
BA-133	-1.506E-02	2.111E-02	3.427E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.210E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-8.686E-03	2.503E-02	4.050E-02	0.000E+00	NOT IDENT.
CS-135	-3.022E-02	6.936E-02	1.112E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.405E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.044E-02	2.961E-02	6.076E-02	0.000E+00	NOT IDENT.
CE-139	-1.017E-02	1.175E-02	1.923E-02	0.000E+00	NOT IDENT.
BA-140	-4.973E-02	1.025E-01	1.590E-01	0.000E+00	NOT IDENT.
LA-140	-3.182E-03	3.006E-02	4.995E-02	0.000E+00	NOT IDENT.
CE-141	-2.754E-03	1.742E-02	3.072E-02	0.000E+00	NOT IDENT.
CE-143	-1.756E-01	1.209E+00	2.142E+00	0.000E+00	NOT IDENT.
CE-144	1.615E-02	6.686E-02	1.229E-01	0.000E+00	NOT IDENT.
PM-144	9.855E-04	2.008E-02	3.498E-02	0.000E+00	NOT IDENT.
PR-144	6.652E-02	1.356E+00	2.361E+00	0.000E+00	NOT IDENT.
PM-146	1.865E-03	1.919E-02	3.340E-02	0.000E+00	NOT IDENT.
ND-147	1.334E-01	1.684E-01	3.142E-01	0.000E+00	NOT IDENT.
PM-149	-9.249E-02	3.870E+00	6.466E+00	0.000E+00	NOT IDENT.
EU-152	4.375E-02	5.012E-02	9.504E-02	0.000E+00	NOT IDENT.
GD-153	3.413E-03	2.291E-02	3.976E-02	0.000E+00	NOT IDENT.
EU-154	-2.365E-02	5.834E-02	9.010E-02	0.000E+00	NOT IDENT.
EU-155	-9.628E-03	2.762E-02	4.917E-02	0.000E+00	NOT IDENT.
TB-160	-6.848E-02	8.093E-02	1.182E-01	0.000E+00	NOT IDENT.
HO-166M	-1.157E-05	3.245E-02	5.606E-02	0.000E+00	NOT IDENT.
TM-171	-7.229E-02	4.004E+00	6.666E+00	0.000E+00	NOT IDENT.
LU-176	-1.844E-03	1.119E-02	1.970E-02	0.000E+00	NOT IDENT.
LU-177	-2.282E-01	2.013E-01	3.083E-01	0.000E+00	NOT IDENT.
LU-177M	-3.515E-03	7.071E-02	1.219E-01	0.000E+00	NOT IDENT.
HF-181	6.175E-03	1.919E-02	3.406E-02	0.000E+00	NOT IDENT.
W-181	-1.845E-01	6.542E-02	8.236E-02	0.000E+00	NOT IDENT.
TA-182	7.358E-03	7.409E-02	1.283E-01	0.000E+00	NOT IDENT.
RE-183	-3.887E-03	4.447E-02	7.324E-02	0.000E+00	NOT IDENT.
RE-184	2.239E-02	1.089E-01	1.886E-01	0.000E+00	NOT IDENT.
OS-185	6.474E-03	1.962E-02	3.579E-02	0.000E+00	NOT IDENT.

RE-188	2.332E-02	5.593E-02	1.031E-01	0.000E+00	NOT IDENT.
W-188	3.675E-02	2.854E+00	5.138E+00	0.000E+00	NOT IDENT.
IR-192	5.446E-03	1.525E-02	2.806E-02	0.000E+00	NOT IDENT.
AU-195	2.468E-02	6.727E-02	1.186E-01	0.000E+00	NOT IDENT.
TL-200	2.795E-02	1.739E+00	3.060E+00	0.000E+00	NOT IDENT.
TL-201	-2.852E-01	4.834E-01	8.087E-01	0.000E+00	NOT IDENT.
TL-202	3.169E-02	2.438E-02	4.745E-02	0.000E+00	NOT IDENT.
HG-203	8.047E-03	1.872E-02	3.220E-02	0.000E+00	NOT IDENT.
BI-207	1.780E-02	2.581E-02	4.938E-02	0.000E+00	NOT IDENT.
TL-207	1.810E-01	3.049E-01	5.690E-01	0.000E+00	NOT IDENT.
TL-208	-6.940E-03	2.147E-02	3.475E-02	0.000E+00	NOT IDENT.
PO-209	2.346E+00	4.640E+00	8.351E+00	0.000E+00	NOT IDENT.
BI-211	-3.806E-02	1.108E-01	1.859E-01	0.000E+00	NOT IDENT.
PB-211	-9.247E-02	4.559E-01	7.685E-01	0.000E+00	NOT IDENT.
BI-212	3.746E-02	1.297E-01	2.335E-01	0.000E+00	NOT IDENT.
PB-212	-3.557E-03	2.992E-02	5.067E-02	0.000E+00	NOT IDENT.
PO-212	-3.557E-03	2.992E-02	5.067E-02	0.000E+00	NOT IDENT.
BI-214	-1.578E-02	4.205E-02	6.854E-02	0.000E+00	NOT IDENT.
PB-214	-1.569E-02	3.813E-02	6.341E-02	0.000E+00	NOT IDENT.
PO-214	-1.569E-02	3.813E-02	6.341E-02	0.000E+00	NOT IDENT.
PO-215	1.810E-01	3.049E-01	5.690E-01	0.000E+00	NOT IDENT.
PO-216	-3.557E-03	2.992E-02	5.067E-02	0.000E+00	NOT IDENT.
PO-218	-1.569E-02	3.813E-02	6.341E-02	0.000E+00	NOT IDENT.
RN-219	4.797E-02	1.946E-01	3.479E-01	0.000E+00	NOT IDENT.
RN-220	1.464E+00	1.518E+01	2.583E+01	0.000E+00	NOT IDENT.
RA-223	1.810E-01	3.049E-01	5.690E-01	0.000E+00	NOT IDENT.
RA-224	-2.562E-01	3.163E-01	4.987E-01	0.000E+00	NOT IDENT.
RA-226	-1.578E-02	4.205E-02	6.854E-02	0.000E+00	NOT IDENT.
AC-227	3.324E-02	1.702E-01	2.943E-01	0.000E+00	NOT IDENT.
TH-227	3.324E-02	1.702E-01	2.943E-01	0.000E+00	NOT IDENT.
AC-228	-1.065E-01	8.213E-02	1.058E-01	0.000E+00	NOT IDENT.
RA-228	-1.065E-01	8.213E-02	1.058E-01	0.000E+00	NOT IDENT.
TH-228	-3.584E-03	3.015E-02	5.106E-02	0.000E+00	NOT IDENT.
TH-229	-2.294E-01	1.998E-01	3.068E-01	0.000E+00	NOT IDENT.
TH-230	-1.578E-02	4.205E-02	6.853E-02	0.000E+00	NOT IDENT.
PA-231	2.405E-01	7.038E-01	1.223E+00	0.000E+00	NOT IDENT.
TH-231	1.810E-01	3.049E-01	5.690E-01	0.000E+00	NOT IDENT.
U-231	-1.450E-01	8.209E-02	1.279E-01	0.000E+00	NOT IDENT.
TH-232	-1.065E-01	8.213E-02	1.058E-01	0.000E+00	NOT IDENT.
PA-233	4.472E-03	3.049E-02	5.515E-02	0.000E+00	NOT IDENT.
PA-234	7.027E-02	1.294E-01	2.395E-01	0.000E+00	NOT IDENT.
PA-234M	1.310E+00	2.497E+00	4.562E+00	0.000E+00	NOT IDENT.
TH-234	-1.461E-01	2.355E-01	4.390E-01	0.000E+00	NOT IDENT.
U-234	-1.578E-02	4.205E-02	6.853E-02	0.000E+00	NOT IDENT.
U-235	-5.355E-02	7.984E-02	1.266E-01	0.000E+00	NOT IDENT.
NP-236	-2.738E-02	3.112E-02	5.087E-02	0.000E+00	NOT IDENT.
NP-237	-6.087E-02	6.291E-02	9.225E-02	0.000E+00	NOT IDENT.
U-238	-1.461E-01	2.355E-01	4.390E-01	0.000E+00	NOT IDENT.
NP-239	2.552E-02	5.792E-02	1.093E-01	0.000E+00	NOT IDENT.
AM-241	-4.976E-03	1.681E-02	2.839E-02	0.000E+00	NOT IDENT.
AM-243	-7.006E-03	1.151E-02	1.791E-02	0.000E+00	NOT IDENT.
CM-243	-1.441E-02	2.509E-02	4.375E-02	0.000E+00	NOT IDENT.
AM-246	-7.702E-03	6.674E-02	1.125E-01	0.000E+00	NOT IDENT.
CM-247	-2.847E-03	1.782E-02	3.044E-02	0.000E+00	NOT IDENT.
CF-249	-1.734E-02	1.684E-02	2.521E-02	0.000E+00	NOT IDENT.
CF-251	1.096E-02	5.183E-02	9.274E-02	0.000E+00	NOT IDENT.
ANH-511	-7.112E-03	3.088E-02	6.120E-02	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006611.CNF;1
Sample date        : 31-DEC-2009 00:00:00 Acquisition date : 7-JAN-2010 13:29:10.
Sample ID          : G1202006611      Sample quantity   : 1.40030E+02 GRAM
Detector name      : GAM25             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:01.09 0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity      : 5.00000
Batch ID           : 937702            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
BA-137M	661.65	19	89.98*	2.231E+00	2.553E-02	2.554E-02	151.12
CS-137	661.65	19	85.12*	2.231E+00	2.699E-02	2.700E-02	151.12
BI-210	46.50	8	4.05*	9.192E+00	5.415E-02	5.418E-02	570.76
PB-210	46.50	8	4.05*	9.192E+00	5.415E-02	5.418E-02	570.76
PO-210	46.50	8	4.05*	9.192E+00	5.415E-02	5.418E-02	570.74

Flag: "*" = Keyline

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
BA-137M	30.17Y	1.00	2.553E-02	2.554E-02	3.860E-02	151.12	
CS-137	30.17Y	1.00	2.699E-02	2.700E-02	4.081E-02	151.12	
BI-210	22.26Y	1.00	5.415E-02	5.418E-02	30.93E-02	570.76	
PB-210	22.26Y	1.00	5.415E-02	5.418E-02	30.93E-02	570.76	
PO-210	22.26Y	1.00	5.415E-02	5.418E-02	30.93E-02	570.74	
Total Activity :			2.150E-01	2.151E-01			

Grand Total Activity : 2.150E-01 2.151E-01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202006611

Page : 3
Acquisition date : 7-JAN-2010 13:29:10

None

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006611.CNF;1
* Acquisition date   : 7-JAN-2010 13:29:10.  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 02:00:01.09             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 31-DEC-2009 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202006611          Analyst initials: MXR1
* Batch Number       : 937702              Sample Quantity : 1.40030E+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        :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-137M	2.554E-02	3.860E-02	3.118E-02	3.454E-03	0.819
CS-137	2.700E-02	4.081E-02	3.296E-02	3.655E-03	0.819
BI-210	5.418E-02	3.093E-01	2.495E-01	2.573E-02	0.217
PB-210	5.418E-02	3.093E-01	2.495E-01	2.573E-02	0.217
PO-210	5.418E-02	3.093E-01	2.495E-01	2.376E-02	0.217

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.023E-02		1.345E-01	2.392E-01	2.533E-02	0.377
NA-22	-8.827E-03		2.114E-02	3.163E-02	2.594E-03	-0.279
NA-24	6.580E-05		4.560E-05	Half-Life too short		
AL-26	-1.019E-02		2.966E-02	4.078E-02	3.342E-03	-0.250
K-40	5.969E-02		2.875E-01	5.127E-01	4.366E-02	0.116
TI-44	2.543E-03		7.773E-03	1.217E-02	1.254E-03	0.209
SC-46	-2.204E-02		1.942E-02	2.411E-02	2.309E-03	-0.914

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
V-48	8.688E-03		2.330E-02	4.049E-02	3.752E-03	0.215
CR-51	-1.972E-02		1.475E-01	2.454E-01	2.725E-02	-0.080
MN-52	-1.369E-02		4.723E-02	7.042E-02	5.803E-03	-0.194
MN-54	1.184E-04		2.023E-02	3.314E-02	3.363E-03	0.004
CO-56	-2.598E-03		2.072E-02	3.318E-02	3.329E-03	-0.078
CO-57	6.172E-04		8.390E-03	1.424E-02	1.836E-03	0.043
CO-58	-7.114E-03		1.972E-02	3.043E-02	3.158E-03	-0.234
FE-59	-6.015E-03		4.330E-02	7.055E-02	6.645E-03	-0.085
CO-60	-1.360E-02		2.236E-02	3.140E-02	2.550E-03	-0.433
ZN-65	3.700E-03		3.392E-02	5.781E-02	4.994E-03	0.064
GE-68	-1.566E-01		5.672E-01	8.967E-01	7.938E-02	-0.175
AS-73	-5.017E-02		7.076E-02	9.913E-02	9.515E-03	-0.506
AS-74	8.370E-03		4.046E-02	6.635E-02	7.190E-03	0.126
SE-75	5.281E-03		2.057E-02	3.360E-02	3.683E-03	0.157
BR-77	-1.105E-01		6.007E-01	9.452E-01	9.800E-02	-0.117
SR-82	4.963E-02		1.551E-01	2.685E-01	2.849E-02	0.185
RB-83	-7.192E-03		3.371E-02	5.281E-02	5.474E-03	-0.136
RB-84	1.791E-02		3.604E-02	6.298E-02	6.088E-03	0.284
KR-85	-1.779E+01		6.569E+00	7.765E+00	8.011E-01	-2.291
SR-85	-8.426E-02		3.111E-02	3.677E-02	3.794E-03	-2.291
RB-86	8.573E-02		2.886E-01	5.075E-01	4.495E-02	0.169
Y-88	-6.136E-03		1.757E-02	2.510E-02	2.051E-03	-0.244
ZR-88	3.599E-03		1.282E-02	2.197E-02	2.000E-03	0.164
Y-91	1.406E+00		8.465E+00	1.463E+01	1.204E+00	0.096
NB-94	-2.691E-03		1.794E-02	2.923E-02	3.210E-03	-0.092
NB-95	1.240E-03		1.835E-02	3.061E-02	3.270E-03	0.041
NB-95M	-8.348E-02		5.189E-02	6.847E-02	7.848E-03	-1.219
ZR-95	-8.699E-03		3.577E-02	5.694E-02	6.521E-03	-0.153
NB-97	1.294E-05		1.807E-05	Half-Life too short		
ZR-97	-2.588E-03		4.630E-04	Half-Life too short		
MO-99	4.187E-01		8.985E-01	1.586E+00	2.622E-01	0.264
TC-99M	1.205E+00		6.253E+00	Half-Life too short		
RH-101	2.959E-03		1.531E-02	2.354E-02	2.268E-03	0.126
RH-102	-1.257E-02		1.398E-02	1.961E-02	1.958E-03	-0.641
RU-103	-6.268E-03		1.709E-02	2.616E-02	3.967E-03	-0.240
RH-106	-9.409E-02		1.751E-01	2.501E-01	3.744E-02	-0.376
RU-106	-9.409E-02		1.748E-01	2.501E-01	2.739E-02	-0.376
AG-108M	-7.105E-03		1.614E-02	2.498E-02	2.469E-03	-0.284
CD-109	2.275E-01		1.972E-01	3.315E-01	3.563E-02	0.686
AG-110M	7.680E-03		2.154E-02	3.335E-02	3.758E-03	0.230
IN-111	1.149E-02		7.689E-02	1.250E-01	1.324E-02	0.092
IN-113M	-4.828E-03		1.841E-02	2.947E-02	2.753E-03	-0.164
SN-113	-4.828E-03		1.841E-02	2.947E-02	2.753E-03	-0.164
IN-114M	7.897E-02		6.311E-02	1.143E-01	1.082E-02	0.691
CD-115	-1.599E-01		5.373E-01	8.291E-01	8.641E-02	-0.193
SN-117M	1.211E-02		1.375E-02	2.445E-02	2.374E-03	0.495
SB-122	-5.085E-02		1.577E-01	2.407E-01	2.567E-02	-0.211
I-123	1.398E-04		7.503E-05	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
TE-123M	9.495E-03		1.019E-02	1.816E-02	1.764E-03	0.523
I-124	2.486E-02		1.042E-01	1.804E-01	1.960E-02	0.138
SB-124	6.291E-03		3.954E-02	6.868E-02	5.937E-03	0.092
SB-125	3.935E-02		5.138E-02	9.108E-02	8.797E-03	0.432
TE-125M	-1.038E+00		2.437E+00	3.979E+00	5.281E-01	-0.261
I-126	-1.282E-02		6.332E-02	8.777E-02	9.716E-03	-0.146
SB-126	-2.532E-03		4.821E-02	7.939E-02	8.666E-03	-0.032
SN-126	7.040E-03		2.053E-02	3.233E-02	3.467E-03	0.218
SB-127	-5.467E-02		1.807E-01	2.878E-01	3.398E-02	-0.190
XE-127	-9.323E-03		1.622E-02	2.484E-02	2.419E-03	-0.375
I-131	1.387E-02		2.945E-02	5.150E-02	5.267E-03	0.269
TE-132	-1.877E-02		5.872E-02	8.681E-02	1.360E-02	-0.216
BA-133	-1.506E-02		2.154E-02	3.316E-02	4.701E-03	-0.454
I-133	-8.194E-07		3.679E-06	Half-Life too short		
CS-134	-8.686E-03		2.554E-02	3.983E-02	4.193E-03	-0.218
CS-135	-3.022E-02		7.077E-02	1.070E-01	1.291E-02	-0.283
I-135	6.672E-01		7.166E+00	Half-Life too short		
CS-136	3.044E-02		3.021E-02	6.011E-02	5.619E-03	0.507
CE-139	-1.017E-02		1.199E-02	1.832E-02	1.634E-03	-0.555
BA-140	-4.973E-02		1.046E-01	1.552E-01	5.225E-02	-0.320
LA-140	-3.182E-03		3.067E-02	4.985E-02	4.145E-03	-0.064
CE-141	-2.754E-03		1.777E-02	2.920E-02	3.248E-03	-0.094
CE-143	-1.756E-01		1.234E+00	2.064E+00	4.646E-01	-0.085
CE-144	1.615E-02		6.822E-02	1.166E-01	2.062E-02	0.138
PM-144	9.855E-04		2.049E-02	3.431E-02	3.775E-03	0.029
PR-144	6.652E-02		1.383E+00	2.316E+00	2.548E-01	0.029
PM-146	1.865E-03		1.958E-02	3.248E-02	3.792E-03	0.057
ND-147	1.334E-01		1.718E-01	3.065E-01	4.925E-02	0.435
PM-149	-9.249E-02		3.949E+00	6.228E+00	1.061E+00	-0.015
EU-152	4.375E-02		5.114E-02	9.189E-02	9.868E-03	0.476
GD-153	3.413E-03		2.338E-02	3.750E-02	4.223E-03	0.091
EU-154	-2.365E-02		5.953E-02	8.951E-02	9.834E-03	-0.264
EU-155	-9.628E-03		2.818E-02	4.645E-02	5.491E-03	-0.207
TB-160	-6.848E-02		8.258E-02	1.165E-01	1.129E-02	-0.588
HO-166M	-1.157E-05		3.311E-02	5.501E-02	6.023E-03	0.000
TM-171	-7.229E-02		4.085E+00	6.243E+00	6.197E-01	-0.012
LU-176	-1.844E-03		1.142E-02	1.901E-02	2.074E-03	-0.097
LU-177	-2.282E-01		2.054E-01	2.951E-01	2.909E-02	-0.773
LU-177M	-3.515E-03		7.216E-02	1.183E-01	1.106E-02	-0.030
HF-181	6.175E-03		1.958E-02	3.316E-02	3.331E-03	0.186
W-181	-1.845E-01		6.676E-02	7.710E-02	7.630E-03	-2.394
TA-182	7.358E-03		7.560E-02	1.273E-01	1.047E-02	0.058
RE-183	-3.887E-03		4.538E-02	6.976E-02	6.493E-03	-0.056
RE-184	2.239E-02		1.112E-01	1.812E-01	1.943E-02	0.124
OS-185	6.474E-03		2.002E-02	3.505E-02	3.867E-03	0.185
RE-188	2.332E-02		5.708E-02	9.809E-02	9.880E-03	0.238
W-188	3.675E-02		2.912E+00	4.951E+00	5.484E-01	0.007
IR-192	5.446E-03		1.556E-02	2.709E-02	2.926E-03	0.201

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	2.468E-02		6.864E-02	1.119E-01	1.270E-02	0.220
TL-200	2.795E-02		1.775E+00	2.962E+00	2.892E-01	0.009
TL-201	-2.852E-01		4.933E-01	7.709E-01	6.896E-02	-0.370
TL-202	3.169E-02		2.488E-02	4.611E-02	4.441E-03	0.687
HG-203	8.047E-03		1.910E-02	3.100E-02	3.519E-03	0.260
BI-207	1.780E-02		2.633E-02	4.887E-02	4.361E-03	0.364
TL-207	1.810E-01		3.111E-01	5.494E-01	1.032E-01	0.329
TL-208	-6.940E-03		2.190E-02	3.396E-02	3.829E-03	-0.204
PO-209	2.346E+00		4.735E+00	8.234E+00	7.813E-01	0.285
BI-211	-3.806E-02		1.131E-01	1.798E-01	1.894E-02	-0.212
PB-211	-9.247E-02		4.652E-01	7.455E-01	4.678E-01	-0.124
BI-212	3.746E-02		1.324E-01	2.292E-01	2.754E-02	0.163
PB-212	-3.557E-03		3.053E-02	4.864E-02	5.537E-03	-0.073
PO-212	-3.557E-03		3.053E-02	4.864E-02	5.537E-03	-0.073
BI-214	-1.578E-02		4.291E-02	6.704E-02	8.090E-03	-0.235
PB-214	-1.569E-02		3.891E-02	6.134E-02	7.203E-03	-0.256
PO-214	-1.569E-02		3.891E-02	6.134E-02	7.203E-03	-0.256
PO-215	1.810E-01		3.111E-01	5.494E-01	1.032E-01	0.329
PO-216	-3.557E-03		3.053E-02	4.864E-02	5.537E-03	-0.073
PO-218	-1.569E-02		3.891E-02	6.134E-02	7.203E-03	-0.256
RN-219	4.797E-02		1.986E-01	3.374E-01	5.187E-02	0.142
RN-220	1.464E+00		1.549E+01	2.521E+01	2.666E+00	0.058
RA-223	1.810E-01		3.111E-01	5.494E-01	1.032E-01	0.329
RA-224	-2.562E-01		3.227E-01	4.788E-01	5.031E-02	-0.535
RA-226	-1.578E-02		4.291E-02	6.704E-02	8.090E-03	-0.235
AC-227	3.324E-02		1.737E-01	2.829E-01	4.713E-02	0.118
TH-227	3.324E-02		1.737E-01	2.829E-01	5.429E-02	0.118
AC-228	-1.065E-01		8.381E-02	1.043E-01	1.241E-02	-1.021
RA-228	-1.065E-01		8.381E-02	1.043E-01	1.241E-02	-1.021
TH-228	-3.584E-03		3.076E-02	4.901E-02	5.579E-03	-0.073
TH-229	-2.294E-01		2.038E-01	2.932E-01	2.797E-02	-0.782
TH-230	-1.578E-02		4.291E-02	6.704E-02	8.090E-03	-0.235
PA-231	2.405E-01		7.182E-01	1.178E+00	1.972E-01	0.204
TH-231	1.810E-01		3.111E-01	5.494E-01	1.032E-01	0.329
U-231	-1.450E-01		8.376E-02	1.206E-01	1.347E-02	-1.203
TH-232	-1.065E-01		8.381E-02	1.043E-01	1.241E-02	-1.021
PA-233	4.472E-03		3.111E-02	5.322E-02	5.877E-03	0.084
PA-234	7.027E-02		1.320E-01	2.364E-01	4.521E-02	0.297
PA-234M	1.310E+00		2.548E+00	4.509E+00	4.723E-01	0.290
TH-234	-1.461E-01		2.403E-01	4.107E-01	7.646E-02	-0.356
U-234	-1.578E-02		4.291E-02	6.704E-02	8.090E-03	-0.235
U-235	-5.355E-02		8.147E-02	1.203E-01	2.272E-02	-0.445
NP-236	-2.738E-02		3.176E-02	4.845E-02	4.614E-03	-0.565
NP-237	-6.087E-02		6.419E-02	8.682E-02	2.017E-02	-0.701
U-238	-1.461E-01		2.403E-01	4.107E-01	7.646E-02	-0.356
NP-239	2.552E-02		5.910E-02	1.035E-01	1.297E-02	0.247
AM-241	-4.976E-03		1.715E-02	2.653E-02	2.757E-03	-0.188
AM-243	-7.006E-03		1.174E-02	1.680E-02	1.707E-03	-0.417

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.441E-02		2.560E-02	4.131E-02	4.811E-03	-0.349
AM-246	-7.702E-03		6.810E-02	1.114E-01	9.852E-03	-0.069
CM-247	-2.847E-03		1.818E-02	2.952E-02	2.721E-03	-0.096
CF-249	-1.734E-02		1.719E-02	2.443E-02	2.248E-03	-0.710
CF-251	1.096E-02		5.289E-02	8.849E-02	8.103E-03	0.124
ANH-511	-7.112E-03		3.151E-02	5.965E-02	6.140E-03	-0.119

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]G1202006611          *
* Acquisition date   : 7-JAN-2010 13:29:10 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 02:00:01.09              Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 31-DEC-2009 00:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202006611              Analyst initials: MXR1         *
* Batch Number       : 937702                    Sample Quantity : 1.4003E+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
BA-137M	2.554E-02	3.783E-02	1.592E-02	1.930E-02
CS-137	2.700E-02	3.999E-02	1.683E-02	2.040E-02
BI-210	5.418E-02	3.031E-01	1.342E-01	1.546E-01
PB-210	5.418E-02	3.031E-01	1.342E-01	1.546E-01
PO-210	5.418E-02	3.031E-01	1.342E-01	1.546E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	9.023E-02	1.318E-01	1.230E-01	6.724E-02	NOT IDENT.
NA-22	-8.827E-03	2.072E-02	1.593E-02	1.057E-02	NOT IDENT.
NA-24	6.580E+01	8.937E+01	0.000E+00	4.560E+01	SHORT HLIF
AL-26	-1.019E-02	2.907E-02	2.039E-02	1.483E-02	NOT IDENT.
K-40	5.969E-02	2.818E-01	2.574E-01	1.438E-01	NOT IDENT.
TI-44	2.543E-03	7.618E-03	6.483E-03	3.887E-03	NOT IDENT.
SC-46	-2.204E-02	1.903E-02	1.224E-02	9.710E-03	NOT IDENT.
V-48	8.688E-03	2.283E-02	2.050E-02	1.165E-02	NOT IDENT.
CR-51	-1.972E-02	1.446E-01	1.272E-01	7.377E-02	NOT IDENT.
MN-52	-1.369E-02	4.629E-02	3.538E-02	2.362E-02	NOT IDENT.
MN-54	1.184E-04	1.983E-02	1.684E-02	1.012E-02	NOT IDENT.
CO-56	-2.598E-03	2.030E-02	1.686E-02	1.036E-02	NOT IDENT.
CO-57	6.172E-04	8.222E-03	7.521E-03	4.195E-03	NOT IDENT.
CO-58	-7.114E-03	1.933E-02	1.547E-02	9.862E-03	NOT IDENT.
FE-59	-6.015E-03	4.243E-02	3.564E-02	2.165E-02	NOT IDENT.
CO-60	-1.360E-02	2.191E-02	1.580E-02	1.118E-02	NOT IDENT.
ZN-65	3.700E-03	3.325E-02	2.920E-02	1.696E-02	NOT IDENT.
GE-68	-1.566E-01	5.559E-01	4.532E-01	2.836E-01	NOT IDENT.
AS-73	-5.017E-02	6.935E-02	5.318E-02	3.538E-02	NOT IDENT.
AS-74	8.370E-03	3.965E-02	3.395E-02	2.023E-02	NOT IDENT.
SE-75	5.281E-03	2.015E-02	1.748E-02	1.028E-02	NOT IDENT.
BR-77	-1.105E-01	5.887E-01	4.850E-01	3.003E-01	NOT IDENT.

SR-82	4.963E-02	1.520E-01	1.366E-01	7.757E-02	NOT IDENT.
RB-83	-7.192E-03	3.304E-02	2.710E-02	1.686E-02	NOT IDENT.
RB-84	1.791E-02	3.532E-02	3.197E-02	1.802E-02	NOT IDENT.
KR-85	-1.779E+01	6.438E+00	3.986E+00	3.285E+00	NOT IDENT.
SR-85	-8.426E-02	3.049E-02	1.887E-02	1.555E-02	NOT IDENT.
RB-86	8.573E-02	2.829E-01	2.565E-01	1.443E-01	NOT IDENT.
Y-88	-6.136E-03	1.721E-02	1.254E-02	8.783E-03	NOT IDENT.
ZR-88	3.599E-03	1.256E-02	1.134E-02	6.410E-03	NOT IDENT.
Y-91	1.406E+00	8.296E+00	7.377E+00	4.233E+00	NOT IDENT.
NB-94	-2.691E-03	1.758E-02	1.490E-02	8.970E-03	NOT IDENT.
NB-95	1.240E-03	1.799E-02	1.558E-02	9.177E-03	NOT IDENT.
NB-95M	-8.348E-02	5.085E-02	3.570E-02	2.594E-02	NOT IDENT.
ZR-95	-8.699E-03	3.505E-02	2.900E-02	1.788E-02	NOT IDENT.
NB-97	1.294E+01	3.542E+01	0.000E+00	1.807E+01	SHORT HLIF
ZR-97	-2.588E+03	9.074E+02	0.000E+00	4.630E+02	SHORT HLIF
MO-99	4.187E-01	8.806E-01	8.078E-01	4.493E-01	NOT IDENT.
TC-99M	1.205E+06	1.226E+07	0.000E+00	6.253E+06	SHORT HLIF
RH-101	2.959E-03	1.500E-02	1.231E-02	7.655E-03	NOT IDENT.
RH-102	-1.257E-02	1.370E-02	1.008E-02	6.992E-03	NOT IDENT.
RU-103	-6.268E-03	1.675E-02	1.344E-02	8.546E-03	NOT IDENT.
RH-106	-9.409E-02	1.716E-01	1.279E-01	8.755E-02	NOT IDENT.
RU-106	-9.409E-02	1.713E-01	1.279E-01	8.742E-02	NOT IDENT.
AG-108M	-7.105E-03	1.582E-02	1.287E-02	8.070E-03	NOT IDENT.
CD-109	2.275E-01	1.933E-01	1.762E-01	9.860E-02	NOT IDENT.
AG-110M	7.680E-03	2.111E-02	1.703E-02	1.077E-02	NOT IDENT.
IN-111	1.149E-02	7.535E-02	6.514E-02	3.845E-02	NOT IDENT.
IN-113M	-4.828E-03	1.805E-02	1.521E-02	9.207E-03	NOT IDENT.
SN-113	-4.828E-03	1.805E-02	1.521E-02	9.207E-03	NOT IDENT.
IN-114M	7.897E-02	6.184E-02	5.984E-02	3.155E-02	NOT IDENT.
CD-115	-1.599E-01	5.266E-01	4.253E-01	2.687E-01	NOT IDENT.
SN-117M	1.211E-02	1.347E-02	1.285E-02	6.873E-03	NOT IDENT.
SB-122	-5.085E-02	1.545E-01	1.233E-01	7.884E-02	NOT IDENT.
I-123	1.398E+02	1.471E+02	0.000E+00	7.503E+01	SHORT HLIF
TE-123M	9.495E-03	9.985E-03	9.544E-03	5.094E-03	NOT IDENT.
I-124	2.486E-02	1.021E-01	9.227E-02	5.209E-02	NOT IDENT.
SB-124	6.291E-03	3.875E-02	3.438E-02	1.977E-02	NOT IDENT.
SB-125	3.935E-02	5.035E-02	4.692E-02	2.569E-02	NOT IDENT.
TE-125M	-1.038E+00	2.388E+00	2.106E+00	1.218E+00	NOT IDENT.
I-126	-1.282E-02	6.205E-02	4.481E-02	3.166E-02	NOT IDENT.
SB-126	-2.532E-03	4.725E-02	4.047E-02	2.411E-02	NOT IDENT.
SN-126	7.040E-03	2.012E-02	1.718E-02	1.026E-02	NOT IDENT.
SB-127	-5.467E-02	1.771E-01	1.469E-01	9.037E-02	NOT IDENT.
XE-127	-9.323E-03	1.590E-02	1.299E-02	8.110E-03	NOT IDENT.
I-131	1.387E-02	2.886E-02	2.662E-02	1.473E-02	NOT IDENT.
TE-132	-1.877E-02	5.754E-02	4.529E-02	2.936E-02	NOT IDENT.
BA-133	-1.506E-02	2.111E-02	1.714E-02	1.077E-02	NOT IDENT.
I-133	-8.194E-01	7.210E+00	0.000E+00	3.679E+00	SHORT HLIF
CS-134	-8.686E-03	2.503E-02	2.026E-02	1.277E-02	NOT IDENT.
CS-135	-3.022E-02	6.936E-02	5.562E-02	3.539E-02	NOT IDENT.
I-135	6.672E+05	1.405E+07	0.000E+00	7.166E+06	SHORT HLIF
CS-136	3.044E-02	2.961E-02	3.040E-02	1.511E-02	NOT IDENT.
CE-139	-1.017E-02	1.175E-02	9.619E-03	5.996E-03	NOT IDENT.
BA-140	-4.973E-02	1.025E-01	7.957E-02	5.232E-02	NOT IDENT.
LA-140	-3.182E-03	3.006E-02	2.499E-02	1.534E-02	NOT IDENT.
CE-141	-2.754E-03	1.742E-02	1.537E-02	8.886E-03	NOT IDENT.
CE-143	-1.756E-01	1.209E+00	1.072E+00	6.169E-01	NOT IDENT.
CE-144	1.615E-02	6.686E-02	6.149E-02	3.411E-02	NOT IDENT.
PM-144	9.855E-04	2.008E-02	1.750E-02	1.025E-02	NOT IDENT.
PR-144	6.652E-02	1.356E+00	1.181E+00	6.916E-01	NOT IDENT.
PM-146	1.865E-03	1.919E-02	1.671E-02	9.789E-03	NOT IDENT.
ND-147	1.334E-01	1.684E-01	1.572E-01	8.592E-02	NOT IDENT.
PM-149	-9.249E-02	3.870E+00	3.235E+00	1.974E+00	NOT IDENT.
EU-152	4.375E-02	5.012E-02	4.755E-02	2.557E-02	NOT IDENT.
GD-153	3.413E-03	2.291E-02	1.989E-02	1.169E-02	NOT IDENT.
EU-154	-2.365E-02	5.834E-02	4.508E-02	2.976E-02	NOT IDENT.
EU-155	-9.628E-03	2.762E-02	2.460E-02	1.409E-02	NOT IDENT.
TB-160	-6.848E-02	8.093E-02	5.912E-02	4.129E-02	NOT IDENT.
HO-166M	-1.157E-05	3.245E-02	2.805E-02	1.655E-02	NOT IDENT.
TM-171	-7.229E-02	4.004E+00	3.335E+00	2.043E+00	NOT IDENT.
LU-176	-1.844E-03	1.119E-02	9.858E-03	5.711E-03	NOT IDENT.
LU-177	-2.282E-01	2.013E-01	1.542E-01	1.027E-01	NOT IDENT.
LU-177M	-3.515E-03	7.071E-02	6.097E-02	3.608E-02	NOT IDENT.
HF-181	6.175E-03	1.919E-02	1.704E-02	9.789E-03	NOT IDENT.
W-181	-1.845E-01	6.542E-02	4.120E-02	3.338E-02	NOT IDENT.
TA-182	7.358E-03	7.409E-02	6.418E-02	3.780E-02	NOT IDENT.
RE-183	-3.887E-03	4.447E-02	3.664E-02	2.269E-02	NOT IDENT.
RE-184	2.239E-02	1.089E-01	9.434E-02	5.559E-02	NOT IDENT.
OS-185	6.474E-03	1.962E-02	1.790E-02	1.001E-02	NOT IDENT.

RE-188	2.332E-02	5.593E-02	5.156E-02	2.854E-02	NOT IDENT.
W-188	3.675E-02	2.854E+00	2.570E+00	1.456E+00	NOT IDENT.
IR-192	5.446E-03	1.525E-02	1.404E-02	7.781E-03	NOT IDENT.
AU-195	2.468E-02	6.727E-02	5.935E-02	3.432E-02	NOT IDENT.
TL-200	2.795E-02	1.739E+00	1.531E+00	8.873E-01	NOT IDENT.
TL-201	-2.852E-01	4.834E-01	4.046E-01	2.467E-01	NOT IDENT.
TL-202	3.169E-02	2.438E-02	2.374E-02	1.244E-02	NOT IDENT.
HG-203	8.047E-03	1.872E-02	1.611E-02	9.550E-03	NOT IDENT.
BI-207	1.780E-02	2.581E-02	2.471E-02	1.317E-02	NOT IDENT.
TL-207	1.810E-01	3.049E-01	2.846E-01	1.555E-01	NOT IDENT.
TL-208	-6.940E-03	2.147E-02	1.739E-02	1.095E-02	NOT IDENT.
PO-209	2.346E+00	4.640E+00	4.178E+00	2.367E+00	NOT IDENT.
BI-211	-3.806E-02	1.108E-01	9.298E-02	5.654E-02	NOT IDENT.
PB-211	-9.247E-02	4.559E-01	3.845E-01	2.326E-01	NOT IDENT.
BI-212	3.746E-02	1.297E-01	1.168E-01	6.620E-02	NOT IDENT.
PB-212	-3.557E-03	2.992E-02	2.535E-02	1.527E-02	NOT IDENT.
PO-212	-3.557E-03	2.992E-02	2.535E-02	1.527E-02	NOT IDENT.
BI-214	-1.578E-02	4.205E-02	3.429E-02	2.145E-02	NOT IDENT.
PB-214	-1.569E-02	3.813E-02	3.173E-02	1.945E-02	NOT IDENT.
PO-214	-1.569E-02	3.813E-02	3.173E-02	1.945E-02	NOT IDENT.
PO-215	1.810E-01	3.049E-01	2.846E-01	1.555E-01	NOT IDENT.
PO-216	-3.557E-03	2.992E-02	2.535E-02	1.527E-02	NOT IDENT.
PO-218	-1.569E-02	3.813E-02	3.173E-02	1.945E-02	NOT IDENT.
RN-219	4.797E-02	1.946E-01	1.740E-01	9.929E-02	NOT IDENT.
RN-220	1.464E+00	1.518E+01	1.292E+01	7.744E+00	NOT IDENT.
RA-223	1.810E-01	3.049E-01	2.846E-01	1.555E-01	NOT IDENT.
RA-224	-2.562E-01	3.163E-01	2.495E-01	1.614E-01	NOT IDENT.
RA-226	-1.578E-02	4.205E-02	3.429E-02	2.145E-02	NOT IDENT.
AC-227	3.324E-02	1.702E-01	1.472E-01	8.684E-02	NOT IDENT.
TH-227	3.324E-02	1.702E-01	1.472E-01	8.686E-02	NOT IDENT.
AC-228	-1.065E-01	8.213E-02	5.292E-02	4.190E-02	NOT IDENT.
RA-228	-1.065E-01	8.213E-02	5.292E-02	4.190E-02	NOT IDENT.
TH-228	-3.584E-03	3.015E-02	2.554E-02	1.538E-02	NOT IDENT.
TH-229	-2.294E-01	1.998E-01	1.535E-01	1.019E-01	NOT IDENT.
TH-230	-1.578E-02	4.205E-02	3.429E-02	2.145E-02	NOT IDENT.
PA-231	2.405E-01	7.038E-01	6.121E-01	3.591E-01	NOT IDENT.
TH-231	1.810E-01	3.049E-01	2.846E-01	1.555E-01	NOT IDENT.
U-231	-1.450E-01	8.209E-02	6.398E-02	4.188E-02	NOT IDENT.
TH-232	-1.065E-01	8.213E-02	5.292E-02	4.190E-02	NOT IDENT.
PA-233	4.472E-03	3.049E-02	2.759E-02	1.555E-02	NOT IDENT.
PA-234	7.027E-02	1.294E-01	1.198E-01	6.601E-02	NOT IDENT.
PA-234M	1.310E+00	2.497E+00	2.282E+00	1.274E+00	NOT IDENT.
TH-234	-1.461E-01	2.355E-01	2.196E-01	1.201E-01	NOT IDENT.
U-234	-1.578E-02	4.205E-02	3.429E-02	2.145E-02	NOT IDENT.
U-235	-5.355E-02	7.984E-02	6.333E-02	4.073E-02	NOT IDENT.
NP-236	-2.738E-02	3.112E-02	2.545E-02	1.588E-02	NOT IDENT.
NP-237	-6.087E-02	6.291E-02	4.615E-02	3.210E-02	NOT IDENT.
U-238	-1.461E-01	2.355E-01	2.196E-01	1.201E-01	NOT IDENT.
NP-239	2.552E-02	5.792E-02	5.470E-02	2.955E-02	NOT IDENT.
AM-241	-4.976E-03	1.681E-02	1.421E-02	8.577E-03	NOT IDENT.
AM-243	-7.006E-03	1.151E-02	8.958E-03	5.872E-03	NOT IDENT.
CM-243	-1.441E-02	2.509E-02	2.189E-02	1.280E-02	NOT IDENT.
AM-246	-7.702E-03	6.674E-02	5.630E-02	3.405E-02	NOT IDENT.
CM-247	-2.847E-03	1.782E-02	1.523E-02	9.090E-03	NOT IDENT.
CF-249	-1.734E-02	1.684E-02	1.261E-02	8.594E-03	NOT IDENT.
CF-251	1.096E-02	5.183E-02	4.640E-02	2.644E-02	NOT IDENT.
ANH-511	-7.112E-03	3.088E-02	3.062E-02	1.576E-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	55.3992
46.50	55.3992
46.50	55.3992
48.70	54.5199
49.72	56.2077
51.35	51.1640
52.39	54.6717
52.97	59.1898
53.15	62.5253
53.44	61.5029
54.07	59.4617
56.28	56.6657
56.28	56.6665
57.37	62.4931
57.53	62.5328
57.53	62.5332
57.60	59.1992
57.98	62.6437
57.98	62.6437
59.32	65.2208
59.32	65.2208
59.40	61.8666
59.54	61.9000
59.72	56.3118
60.01	48.4821
61.10	127.9363
61.14	133.6174
61.30	133.6984
63.00	62.7142
63.29	59.3570
63.29	59.3570
63.58	61.7057
64.28	69.8834
65.12	152.8338
65.20	152.8782
65.20	152.8782
66.05	83.0143
66.72	48.5401
66.83	68.2147
66.91	68.2336
67.20	70.6192
67.20	70.6192
67.75	69.5956
67.85	55.6963
68.90	51.2419
68.90	51.2419
69.30	54.8117
69.67	57.2174
70.82	76.1987
70.82	76.1987
70.83	76.2011
72.80	73.1666
72.87	73.1837
72.87	73.1837
74.67	79.5559
74.81	96.2233
74.81	96.2233
74.81	96.2233
74.81	96.2233
74.81	96.2233
74.81	96.2233
74.81	96.2233
74.97	96.2734
75.28	88.0421
75.70	81.0141
77.11	86.1685
77.11	86.1685

77.11	86.1685
77.11	86.1685
77.11	86.1685
77.11	86.1685
77.11	86.1685
78.38	63.6852
79.62	82.0268
79.80	79.6590
79.80	79.6590
80.11	79.7356
80.18	79.7527
80.30	70.1118
80.30	70.1118
80.57	70.1702
81.00	56.9374
81.07	56.9496
81.07	56.9496
81.07	56.9496
81.07	56.9496
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83.78	54.9759
84.21	48.9304
84.90	68.6435
85.43	78.5728
86.29	86.1563
86.50	86.2092
86.54	86.2193
86.59	86.2321
86.72	73.9412
86.79	75.1884
86.94	75.2219
87.30	62.9562
87.30	62.9562
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87.30	62.9562
87.57	63.0057
87.88	45.7509
88.03	45.7707
88.36	52.0052
88.47	52.0219
89.95	125.6305
91.11	164.7291
92.29	55.0911
92.38	55.1051
92.38	55.1051
93.35	51.9044
94.00	87.2216
94.67	142.8340
94.67	142.8357
94.90	159.7404
94.90	159.7404
94.90	159.7404
94.90	159.7404
95.87	89.3534
95.87	89.3534
96.73	59.1444
97.43	60.1013
98.44	56.8679
98.44	56.8679
98.88	58.6336
99.55	63.8451
99.55	63.8451
99.86	79.2322
100.00	79.2611
100.10	79.2828
103.18	61.0113
103.76	56.7990
105.00	56.1143
105.31	52.7024
108.00	56.5361
109.28	60.2044

111.00	56.9524
111.00	56.9524
111.76	50.0345
112.95	57.2195
115.19	66.3738
116.30	56.7865
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117.00	51.5465
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121.62	61.0761
121.78	62.8953
122.06	61.1366
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122.32	49.4776
122.32	49.4776
122.32	49.4776
123.07	60.3739
127.23	66.3866
129.76	44.8050
131.20	64.2044
133.02	65.3722
133.54	56.2263
135.34	52.7371
136.00	61.1472
136.25	66.7405
136.48	73.2637
140.51	56.1023
140.51	0.0000
142.18	62.8575
142.65	55.4043
143.76	55.5262
144.24	52.7529
144.24	52.7529
144.24	52.7529
144.24	52.7529
145.22	51.9111
145.44	55.7104
147.16	62.5296
152.43	57.4219
152.70	61.2813
153.22	57.5073
154.21	58.5744
154.21	58.5744
154.21	58.5744
154.21	58.5744
155.03	53.8558
156.02	63.5897
158.56	48.4004
159.00	0.0000
159.00	49.4078
160.31	77.6880
161.27	76.8503
162.32	65.3002
162.64	68.2632
163.35	61.5151
163.89	52.7783
165.85	82.3859
167.43	69.8300
171.28	65.3481
171.86	53.5199
172.10	66.4316
176.55	64.9378
176.60	64.9431
181.06	70.4600
184.41	78.9442
185.71	63.8972
186.00	69.0002
190.27	41.8884
192.34	61.5002
193.63	69.8414
197.04	57.8212
198.01	54.8056
198.60	52.7847
200.40	68.4976
201.83	54.0852
202.84	62.5012
205.31	55.4137

208.36	74.5694
208.81	63.0585
209.75	42.0968
209.75	42.0968
210.97	53.7693
215.65	50.9497
216.55	57.3926
218.09	60.7138
222.10	61.0580
223.80	50.4653
226.40	47.4142
227.00	39.9042
227.08	39.9087
227.20	36.6787
228.16	44.2882
228.18	44.2895
228.18	44.2895
231.56	55.3460
235.69	85.1173
236.00	92.7941
236.00	92.7941
238.63	58.0620
238.63	58.0620
238.63	58.0620
238.63	58.0620
239.00	56.9940
240.98	84.6151
241.98	88.0265
241.98	88.0265
241.98	88.0265
244.69	61.8356
245.39	55.2602
247.94	59.8771
248.90	57.7298
249.79	57.7954
252.40	50.1805
252.85	56.9039
252.85	56.9039
254.15	0.0000
256.20	48.1790
256.20	48.1790
260.50	52.9419
260.90	52.9678
262.80	42.9247
264.65	52.0785
268.24	53.4411
268.79	60.3032
269.46	59.2131
269.46	59.2131
269.46	59.2131
269.46	59.2131
271.23	54.7734
273.65	51.4975
276.40	68.8855
277.35	49.4222
277.60	49.4370
277.60	49.4370
278.00	56.3612
278.60	49.4948
279.20	48.3771
279.53	46.0913
280.46	48.4480
281.68	66.9988
283.67	42.8377
284.30	55.6133
285.00	57.9773
285.90	44.1076
286.10	44.1176
286.10	44.1176
287.40	46.5088
288.45	0.0000
290.67	44.6382
290.80	53.3983
291.72	60.4634
293.26	49.1564
293.70	49.1803
295.21	30.7895
295.21	30.7895

295.21	30.7895
295.96	43.1412
296.50	51.0952
297.23	62.5984
298.57	68.8713
299.80	45.0919
299.80	45.0919
300.09	45.1059
300.09	45.1059
300.09	45.1059
300.09	45.1059
300.12	45.1075
301.29	38.0804
302.84	59.4347
303.76	56.8301
303.91	55.9508
304.40	48.8719
304.40	48.8719
304.84	53.3405
306.84	47.2185
308.46	41.0537
311.98	47.4781
316.51	44.1042
318.01	45.9767
319.02	46.9274
319.41	55.9746
320.08	47.8824
323.87	39.9072
323.87	39.9072
323.87	39.9072
323.87	39.9072
325.23	36.3300
328.77	61.0715
333.44	41.2118
334.20	58.6572
334.20	58.6572
334.30	58.6631
338.28	37.7299
338.28	37.7299
338.28	37.7299
338.28	37.7299
338.32	37.7312
338.32	37.7312
338.32	37.7312
340.50	56.2576
340.57	56.2614
344.27	42.5810
345.85	54.6985
350.59	43.7735
351.07	47.5207
351.92	46.6270
351.92	46.6270
351.92	46.6270
355.39	0.0000
356.01	50.5533
364.48	34.9150
366.43	38.7597
367.43	35.0104
367.94	36.9202
369.80	37.9315
374.96	35.2526
383.85	24.9709
387.95	36.6287
388.63	38.5797
391.69	30.9468
391.69	30.9468
392.90	28.0752
398.62	36.9708
400.65	30.2129
401.10	30.2247
401.81	33.1699
402.60	38.0734
404.84	39.1248
410.95	37.3610
411.60	26.5604
413.65	26.6057
414.70	33.5331
415.30	30.5894

415.76	24.6784
417.63	0.0000
418.52	28.6925
423.70	38.7513
427.08	35.8693
427.89	34.8959
432.53	37.0288
433.93	35.0662
439.47	25.1583
439.56	27.1730
439.89	27.1800
443.98	46.4569
444.90	44.4693
445.03	40.4309
445.03	40.4309
445.03	40.4309
445.03	40.4309
453.90	24.4266
463.38	32.8057
468.07	41.1530
473.00	25.8156
475.06	33.0947
475.35	29.9987
476.78	24.8529
477.59	19.6868
477.96	22.8016
482.03	28.0679
484.57	24.9954
487.03	37.5606
490.36	26.1467
492.35	30.3740
497.08	27.3243
507.63	0.0000
510.53	0.0000
510.84	36.0806
511.00	35.0235
511.85	39.2919
511.85	39.2919
513.99	137.1954
513.99	137.1954
520.41	28.8432
520.65	28.8474
527.90	28.9907
528.96	0.0000
529.64	29.0253
529.87	0.0000
531.02	18.2918
537.32	31.3364
543.00	36.8783
546.56	0.0000
549.76	32.6852
552.65	29.4719
555.20	33.8949
563.23	24.1793
563.90	29.6878
568.70	27.5726
569.32	28.6866
569.50	28.6906
569.67	28.6938
573.80	32.0878
574.00	32.0922
574.64	28.7842
578.91	35.5215
579.30	39.9716
583.14	26.7114
585.48	28.9794
591.81	26.8557
592.07	26.8594
593.00	26.8748
595.88	30.2877
600.56	37.1240
602.52	0.0000
602.71	30.6390
602.71	30.6390
603.60	29.7540
604.41	36.9851
604.70	36.9921
609.31	31.6658

609.31	31.6658
609.31	31.6658
609.31	31.6658
610.33	33.4960
612.46	33.5385
614.37	28.1323
618.01	30.0118
621.84	26.4335
621.84	26.4335
631.29	12.8321
633.02	16.5146
633.10	16.5155
634.78	20.2055
635.90	21.1374
636.97	17.4720
645.85	19.4101
646.12	19.4132
656.30	26.3432
657.75	24.8138
657.90	0.0000
661.65	25.1793
661.65	25.1793
664.57	12.4544
666.33	20.2580
666.33	20.2580
675.00	27.2449
677.61	27.2838
685.20	24.5629
692.80	25.6124
695.00	25.6421
696.49	32.3158
696.49	32.3158
697.00	35.1771
697.49	38.9900
698.33	36.1538
698.50	35.2051
699.00	32.3598
702.63	26.7005
706.10	32.4810
706.58	0.0000
706.67	28.6685
709.31	19.1392
711.68	24.9114
713.82	26.8577
717.42	24.9863
720.50	22.1386
721.93	23.1188
722.20	21.1949
722.78	20.2376
722.78	20.2376
722.89	20.2386
722.95	22.1667
723.30	19.2788
724.18	23.1451
727.18	16.4202
733.00	21.3130
735.90	17.4634
739.58	17.4964
742.81	20.4458
744.21	19.4858
747.13	21.4661
751.79	23.4721
752.31	17.6084
753.82	18.6011
755.35	23.5137
756.15	24.5032
756.87	24.5123
763.93	27.5495
765.79	18.7115
766.42	17.7319
766.84	18.7212
776.49	16.8294
778.00	11.8884
778.57	14.8645
778.89	14.8671
783.80	18.8761
785.46	18.8910
792.07	16.9564

795.84	25.9797
796.30	31.9820
798.80	23.0140
801.93	25.0525
805.60	21.0805
810.29	23.1393
810.76	22.1380
815.85	18.1560
817.79	14.1340
818.51	16.1586
819.60	15.1564
826.30	16.2168
828.27	15.2168
831.60	20.3203
831.96	20.3237
834.83	22.3851
836.80	0.0000
846.75	21.4835
848.13	20.4731
856.28	0.0000
856.80	19.5251
860.37	24.7025
867.32	19.6160
867.82	13.4247
871.10	18.6148
873.19	24.8420
874.81	18.6447
875.33	0.0000
876.40	12.4386
879.36	30.0988
880.27	20.7661
880.51	21.8065
881.50	18.6992
883.24	10.3962
884.67	14.5640
889.25	22.9313
896.60	20.9126
898.02	23.0178
899.00	23.0275
903.28	20.9722
911.07	25.2498
911.07	25.2498
911.07	25.2498
919.63	20.0616
920.93	14.7902
925.00	8.4660
925.24	7.4084
926.50	12.7069
935.52	13.8173
937.48	18.0833
944.10	9.5994
946.00	8.5395
949.00	16.0313
962.29	18.2667
964.01	21.5049
966.15	20.4473
968.20	16.1558
969.11	16.1616
969.11	16.1616
969.11	16.1616
977.42	15.1341
980.50	9.7409
983.50	9.7526
989.30	13.0330
996.32	20.6922
1001.03	10.9106
1001.68	10.9133
1004.76	17.4824
1021.30	0.0000
1024.50	0.0000
1034.80	25.7886
1036.00	19.3508
1037.82	4.6104
1038.57	7.3786
1038.76	0.0000
1045.16	16.6428
1046.59	9.2513
1048.07	5.5537

1050.47	13.8965
1050.47	13.8965
1062.04	16.7476
1063.62	11.1714
1076.63	12.1605
1077.35	14.0350
1078.86	14.0424
1085.78	16.8933
1099.22	17.9176
1112.02	13.2629
1112.84	10.4240
1115.52	9.4853
1120.29	11.4014
1120.29	11.4014
1120.29	11.4014
1120.29	11.4014
1120.51	11.4023
1121.28	9.5044
1124.00	0.0000
1129.67	7.6260
1131.51	0.0000
1147.95	0.0000
1167.94	11.5898
1173.22	9.6757
1175.09	11.6182
1177.93	10.6598
1189.05	9.7270
1204.90	10.7561
1205.75	8.8026
1213.00	14.7064
1221.42	10.8142
1230.97	17.7510
1235.34	10.8630
1236.41	0.0000
1238.25	16.8042
1246.25	9.9101
1260.41	0.0000
1271.85	6.9934
1274.45	13.9983
1274.54	13.9983
1291.56	12.0625
1298.22	0.0000
1312.09	13.1502
1325.50	6.0940
1325.50	6.0940
1332.49	10.1782
1333.61	8.1452
1360.21	11.2887
1362.66	0.0000
1365.15	15.4163
1368.21	7.2005
1368.53	0.0000
1376.25	7.2176
1384.27	9.3014
1394.10	11.4010
1395.20	11.4046
1407.95	6.2434
1434.06	8.3864
1436.60	7.3432
1457.56	0.0000
1460.81	9.5054
1489.15	6.3862
1509.49	9.6321
1596.49	7.5078
1620.62	8.4981
1678.03	0.0000
1691.02	4.8040
1691.02	4.8040
1706.46	0.0000
1750.46	0.0000
1764.49	2.9331
1764.49	2.9331
1764.49	2.9331
1764.49	2.9331
1770.23	7.8320
1771.40	7.8343
1791.20	0.0000
1808.65	7.9015

1836.01

4.9691

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202006611

Total Uranium Activity	-4.5948E-01	ug/g
Total Uranium Counting Unc.	7.0149E-01	ug/g
Total Uranium Tpu	3.5790E-07	ug/g
Total Uranium Mda	6.5398E-01	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G1202006611
*  ANALYST       : MXR1            DETECTOR    : GAM25
*  SAMPLE DATE   : 31-DEC-2009 00:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:29:10.58  SAMPLE ALQT: 140.030 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.517E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 4.140E-02
GROSS GAMMA MDA      (pCi/GRAM ) : 5.573E-02
GROSS GAMMA DLC      (pCi/GRAM ) : 2.586E-02

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 15:32:24.76

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006612.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:31:56.
Sample ID          : G1202006612 Sample quantity : 1.14450E+02 GRAM
Detector name      : GAM19 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.41 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 937702 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.32*	47	479	1.28	126.51	122	9	6.53E-03	87.0	
2	2	74.86	478	556	1.62	149.56	143	17	6.64E-02	11.2	3.48E+00
3	2	77.13	639	372	1.16	154.11	143	17	8.87E-02	6.6	
4	3	87.25	196	524	1.28	174.33	169	26	2.72E-02	19.9	2.93E+00
5	3	89.78	126	374	1.16	179.38	169	26	1.75E-02	27.3	
6	3	92.85*	210	335	1.41	185.52	169	26	2.92E-02	19.1	
7	0	128.72	78	297	1.82	257.21	254	9	1.08E-02	41.5	
8	0	185.81*	140	358	1.32	371.29	366	11	1.95E-02	28.2	
9	0	208.97	151	206	1.32	417.59	414	9	2.10E-02	18.8	
10	2	238.44*	1229	144	1.41	476.48	468	32	1.71E-01	3.4	1.99E+00
11	2	241.46	328	198	1.80	482.52	468	32	4.56E-02	12.5	
12	0	270.45	128	216	1.70	540.46	535	12	1.78E-02	24.7	
13	0	276.56	116	179	3.42	552.67	547	12	1.61E-02	24.9	
14	0	295.06	389	228	1.22	589.65	584	13	5.40E-02	9.5	
15	0	300.34	70	174	1.17	600.20	596	11	9.67E-03	38.7	
16	0	328.05	73	127	1.17	655.58	651	9	1.02E-02	30.2	
17	0	338.07	271	152	1.49	675.62	670	13	3.77E-02	11.1	
18	0	351.73*	707	179	1.39	702.93	695	16	9.82E-02	5.7	
19	0	462.90	55	80	1.60	925.14	921	9	7.60E-03	32.5	
20	0	510.83*	202	153	2.25	1020.97	1011	22	2.80E-02	18.9	
21	0	567.47	113	127	1.40	1134.20	1128	14	1.57E-02	23.3	
22	0	583.08*	367	108	1.40	1165.41	1159	13	5.10E-02	8.0	
23	0	609.24*	456	114	1.35	1217.72	1210	16	6.34E-02	7.1	
24	0	661.76	117	98	1.84	1322.72	1318	12	1.62E-02	19.4	
25	0	727.57	97	104	1.94	1454.31	1447	17	1.35E-02	26.4	
26	0	861.12	67	60	1.90	1721.38	1715	17	9.24E-03	29.3	
27	0	911.39*	229	58	1.43	1821.90	1815	13	3.18E-02	9.7	
28	0	968.93	138	57	1.95	1936.98	1932	10	1.92E-02	13.3	
29	0	1120.66	80	70	1.57	2240.46	2232	14	1.11E-02	24.8	
30	0	1460.74*	771	24	2.03	2920.84	2911	18	1.07E-01	3.9	
31	0	1592.86	32	0	1.78	3185.22	3181	11	4.44E-03	17.7	
32	0	1764.33*	67	4	1.66	3528.39	3522	14	9.30E-03	14.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 7-JAN-2010 15:32:27

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006612.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:31:56
 Sample ID : G1202006612 Sample quantity : 114.45 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA19 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.41 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	*	2.028E+01	2.194E+00	6.080E-01	4.527E-02	33.362
CD-109	+	88.03	*	2.906E+00	1.186E+00	1.377E+00	1.233E-01	2.111
SN-126	+	64.28		4.429E-01	7.730E-01	8.893E-01	1.299E-01	0.498
	+	86.94		1.186E+00	6.815E-01	5.677E-01	2.351E-01	2.089
	+	87.57	*	2.852E-01	1.164E-01	1.357E-01	1.211E-02	2.102
BA-137M	+	661.65	*	1.850E-01	7.256E-02	6.942E-02	4.043E-03	2.665
CS-137	+	661.65	*	1.956E-01	7.671E-02	7.339E-02	4.291E-03	2.665
TL-208	+	277.35		1.238E+00	6.303E-01	6.346E-01	6.696E-02	1.951
	+	510.84		1.078E+00	4.221E-01	1.970E-01	2.012E-02	5.471
	+	583.14	*	5.599E-01	9.719E-02	6.468E-02	3.988E-03	8.657
	+	860.37		9.539E-01	5.649E-01	4.468E-01	4.001E-02	2.135
BI-211		72.87		1.145E+01	4.188E+00	6.549E+00	5.132E-01	1.749
	+	351.07	*	4.728E+00	6.203E-01	3.486E-01	2.226E-02	13.565
PB-212	+	74.81		2.887E+00	7.358E-01	6.017E-01	7.379E-02	4.798
	+	77.11		2.195E+00	3.387E-01	3.424E-01	2.766E-02	6.411
	+	87.30		1.319E+00	5.544E-01	6.293E-01	8.422E-02	2.096
	+	238.63	*	1.801E+00	1.776E-01	9.910E-02	7.153E-03	18.174
	+	300.09		1.573E+00	1.226E+00	9.520E-01	7.863E-02	1.652
PO-212	+	74.81		2.887E+00	7.358E-01	6.017E-01	7.379E-02	4.798
	+	77.11		2.195E+00	3.387E-01	3.424E-01	2.766E-02	6.411
	+	87.30		1.319E+00	5.544E-01	6.293E-01	8.422E-02	2.096
	+	115.19		3.257E+00	4.038E+00	6.785E+00	4.320E-01	0.480
	+	238.63	*	1.801E+00	1.776E-01	9.910E-02	7.153E-03	18.174
	+	300.09		1.573E+00	1.226E+00	9.520E-01	7.863E-02	1.652
BI-214	+	609.31	*	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
	+	1120.29		1.194E+00	6.033E-01	5.026E-01	4.597E-02	2.376
	+	1764.49		1.350E+00	4.000E-01	4.035E-01	2.445E-02	3.345
PB-214	+	74.81		4.975E+00	1.236E+00	1.037E+00	1.126E-01	4.798
	+	77.11		3.763E+00	6.476E-01	5.870E-01	6.519E-02	6.411
	+	87.30		2.260E+00	9.388E-01	1.078E+00	1.269E-01	2.096
	+	241.98		2.890E+00	7.600E-01	5.963E-01	4.755E-02	4.846
	+	295.21		1.541E+00	3.210E-01	2.446E-01	2.088E-02	6.299
	+	351.92	*	1.645E+00	2.322E-01	1.215E-01	1.002E-02	13.538
PO-214	+	74.81		4.975E+00	1.236E+00	1.037E+00	1.126E-01	4.798

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.763E+00	6.476E-01	5.870E-01	6.519E-02	6.411
	+	87.30		2.260E+00	9.388E-01	1.078E+00	1.269E-01	2.096
	+	241.98		2.890E+00	7.600E-01	5.963E-01	4.755E-02	4.846
	+	295.21		1.541E+00	3.210E-01	2.446E-01	2.088E-02	6.299
	+	351.92	*	1.645E+00	2.322E-01	1.215E-01	1.002E-02	13.538
PO-216	+	74.81		2.887E+00	7.358E-01	6.017E-01	7.379E-02	4.798
	+	77.11		2.195E+00	3.387E-01	3.424E-01	2.766E-02	6.411
	+	87.30		1.319E+00	5.544E-01	6.293E-01	8.422E-02	2.096
	+	238.63	*	1.801E+00	1.776E-01	9.910E-02	7.153E-03	18.174
	+	300.09		1.573E+00	1.226E+00	9.520E-01	7.863E-02	1.652
PO-218	+	74.81		4.975E+00	1.236E+00	1.037E+00	1.126E-01	4.798
	+	77.11		3.763E+00	6.476E-01	5.870E-01	6.519E-02	6.411
	+	87.30		2.260E+00	9.388E-01	1.078E+00	1.269E-01	2.096
	+	241.98		2.890E+00	7.600E-01	5.963E-01	4.755E-02	4.846
	+	295.21		1.541E+00	3.210E-01	2.446E-01	2.088E-02	6.299
	+	351.92	*	1.645E+00	2.322E-01	1.215E-01	1.002E-02	13.538
RA-224	+	240.98	*	5.479E+00	1.408E+00	1.127E+00	6.387E-02	4.861
RA-226	+	609.31	*	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
	+	1120.29		1.194E+00	6.033E-01	5.026E-01	4.597E-02	2.376
	+	1764.49		1.350E+00	4.000E-01	4.035E-01	2.445E-02	3.345
AC-228	+	338.32		2.000E+00	9.285E-01	4.193E-01	1.709E-01	4.769
	+	911.07	*	1.555E+00	3.498E-01	2.295E-01	2.596E-02	6.777
	+	969.11		1.654E+00	5.834E-01	4.826E-01	1.119E-01	3.427
RA-228	+	338.32		2.000E+00	9.285E-01	4.193E-01	1.709E-01	4.769
	+	911.07	*	1.555E+00	3.498E-01	2.295E-01	2.596E-02	6.777
	+	969.11		1.654E+00	5.834E-01	4.826E-01	1.119E-01	3.427
TH-228	+	74.81		2.934E+00	6.964E-01	6.114E-01	4.902E-02	4.798
	+	77.11		2.231E+00	3.442E-01	3.480E-01	2.811E-02	6.411
	+	87.30		1.341E+00	5.472E-01	6.395E-01	5.688E-02	2.096
	+	238.63	*	1.830E+00	1.805E-01	1.007E-01	7.268E-03	18.174
	+	300.09		1.598E+00	1.556E+00	9.674E-01	5.702E-01	1.652
TH-230	+	609.31	*	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
	+	1120.29		1.194E+00	6.033E-01	5.026E-01	4.597E-02	2.376
	+	1764.49		1.350E+00	4.000E-01	4.035E-01	2.445E-02	3.345
TH-232	+	338.32		2.000E+00	4.594E-01	4.193E-01	2.424E-02	4.769
	+	911.07	*	1.555E+00	3.498E-01	2.295E-01	2.596E-02	6.777
	+	969.11		1.654E+00	5.834E-01	4.826E-01	1.119E-01	3.427
TH-234	+	63.29	*	1.119E+00	1.956E+00	2.218E+00	3.880E-01	0.504
	+	92.38		1.994E+00	8.402E-01	8.928E-01	1.603E-01	2.234
U-234	+	609.31	*	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
	+	1120.29		1.194E+00	6.033E-01	5.026E-01	4.597E-02	2.376
	+	1764.49		1.350E+00	4.000E-01	4.035E-01	2.445E-02	3.345
NP-237	+	86.50	*	8.376E-01	3.831E-01	4.027E-01	9.037E-02	2.080
		95.87		-3.801E-01	1.163E+00	1.631E+00	3.980E-01	-0.233
U-238	+	63.29	*	1.119E+00	1.956E+00	2.218E+00	3.880E-01	0.504
	+	92.38		1.994E+00	7.781E-01	8.928E-01	7.456E-02	2.234
AM-243	+	74.67	*	4.681E-01	1.110E-01	9.783E-02	7.759E-03	4.784
	+	86.72		3.141E+01	1.282E+01	1.507E+01	1.332E+00	2.084
		117.66		-3.142E+00	4.385E+00	6.923E+00	4.301E-01	-0.454

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	-1.342E+01	2.058E+01	3.247E+01	1.807E+00	-0.413
		511.00	*	2.328E-01	8.908E-02	4.257E-02	2.512E-03	5.470

---- 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	*	5.042E-01	3.713E-01	6.664E-01	4.524E-02	0.757
NA-22		1274.54	*	-2.937E-02	4.740E-02	7.295E-02	4.866E-03	-0.403
NA-24		1368.53	*	-8.918E-01	4.740E-02	Half-Life too short		
AL-26		1129.67	*	-3.487E-01	1.712E+00	2.801E+00	1.728E-01	-0.125
		1808.65	*	-4.364E-03	3.023E-02	4.767E-02	2.783E-03	-0.092
TI-44		67.85	*	-8.726E-02	7.211E-02	8.048E-02	6.143E-03	-1.084
	+	78.38	*	4.051E-01	6.251E-02	9.150E-02	7.469E-03	4.427
SC-46		889.25	*	1.623E-02	4.191E-02	7.035E-02	6.113E-03	0.231
	+	1120.51	*	2.060E-01	1.032E-01	1.410E-01	8.895E-03	1.461
V-48		944.10	*	-5.056E-01	1.012E+00	1.537E+00	1.295E-01	-0.329
		983.50	*	-2.058E-02	7.127E-02	1.102E-01	8.862E-03	-0.187
		1312.09	*	-3.234E-02	8.778E-02	1.391E-01	9.896E-03	-0.233
CR-51		320.08	*	2.837E-01	4.255E-01	7.379E-01	4.775E-02	0.384
MN-52		744.21	*	9.119E-02	2.799E-01	4.692E-01	3.190E-02	0.194
		848.13	*	-4.695E+00	8.594E+00	1.312E+01	1.067E+00	-0.358
		935.52	*	4.163E-01	3.342E-01	5.970E-01	5.075E-02	0.697
		1246.25	*	3.478E-01	8.957E+00	1.494E+01	9.444E-01	0.023
		1333.61	*	7.073E+00	6.026E+00	1.129E+01	8.319E-01	0.626
		1434.06	*	-7.788E-02	2.210E-01	3.405E-01	2.456E-02	-0.229
MN-54		834.83	*	-6.539E-03	4.153E-02	6.622E-02	5.267E-03	-0.099
CO-56		846.75	*	5.859E-03	4.235E-02	6.944E-02	5.634E-03	0.084
		977.42	*	1.246E+00	2.923E+00	4.929E+00	3.994E-01	0.253
		1037.82	*	-2.640E-01	3.345E-01	5.156E-01	4.101E-02	-0.512
		1175.09	*	6.919E-01	2.015E+00	3.485E+00	1.917E-01	0.199
		1238.25	*	2.606E-01	1.053E-01	2.037E-01	1.338E-02	1.279
		1360.21	*	3.305E-01	9.567E-01	1.660E+00	1.218E-01	0.199
		1771.40	*	-3.662E-02	3.236E-01	5.190E-01	3.128E-02	-0.071
CO-57		122.06	*	1.147E-02	2.837E-02	4.695E-02	2.802E-03	0.244
		136.48	*	-2.753E-02	2.390E-01	3.861E-01	2.549E-02	-0.071
CO-58		810.76	*	4.875E-03	4.258E-02	6.977E-02	5.347E-03	0.070
FE-59		142.65	*	-3.013E+00	3.309E+00	5.062E+00	2.814E-01	-0.595
		192.34	*	-2.453E-01	1.176E+00	1.807E+00	2.099E-01	-0.136
		1099.22	*	-2.592E-02	8.891E-02	1.440E-01	1.081E-02	-0.180
		1291.56	*	-1.247E-01	1.341E-01	1.980E-01	1.639E-02	-0.630
CO-60		1173.22	*	-8.723E-03	4.146E-02	6.752E-02	3.700E-03	-0.129
		1332.49	*	2.051E-02	4.215E-02	7.316E-02	5.392E-03	0.280
ZN-65		1115.52	*	3.352E-03	1.040E-01	1.505E-01	9.622E-03	0.022
GE-68		1077.35	*	4.925E-01	1.264E+00	2.196E+00	1.520E-01	0.224
AS-73		53.44	*	-4.135E-01	8.919E-01	1.436E+00	1.062E-01	-0.288
AS-74		595.88	*	4.908E-02	1.020E-01	1.737E-01	1.029E-02	0.283
		634.78	*	8.172E-02	4.053E-01	6.747E-01	3.965E-02	0.121
SE-75		66.05	*	1.835E+00	5.849E+00	8.574E+00	8.231E-01	0.214

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-1.353E+00	9.868E-01	1.281E+00	1.685E-01	-1.057
		121.11		-5.312E-02	1.547E-01	2.481E-01	2.324E-02	-0.214
		136.00		-2.069E-02	4.512E-02	7.181E-02	4.135E-03	-0.288
		198.60		-1.552E+00	2.190E+00	3.356E+00	2.291E-01	-0.462
		264.65	*	-1.667E-02	5.444E-02	7.827E-02	4.552E-03	-0.213
		279.53		7.683E-02	1.333E-01	2.034E-01	1.274E-02	0.378
		303.91		2.070E+00	2.432E+00	3.784E+00	3.615E-01	0.547
		400.65		9.595E-02	2.883E-01	4.895E-01	4.395E-02	0.196
BR-77	+	87.88		8.265E+02	3.373E+02	5.345E+02	4.784E+01	1.546
		200.40		-8.006E+01	2.495E+02	3.951E+02	2.149E+01	-0.203
	+	239.00		3.812E+02	3.349E+01	5.641E+01	3.192E+00	6.758
		249.79		1.077E+01	1.108E+02	1.555E+02	8.869E+00	0.069
		281.68		8.760E+01	1.369E+02	2.105E+02	1.220E+01	0.416
		297.23		5.843E+02	1.153E+02	1.807E+02	1.051E+01	3.233
		303.76		2.269E+02	2.708E+02	4.218E+02	2.454E+01	0.538
		439.47		7.571E+01	1.905E+02	3.252E+02	1.868E+01	0.233
		484.57		-2.219E+01	3.142E+02	5.171E+02	3.029E+01	-0.043
		520.65	*	1.416E+01	1.499E+01	2.529E+01	1.495E+00	0.560
		574.64		-9.484E+01	3.760E+02	5.210E+02	3.092E+01	-0.182
		578.91		-1.171E+01	1.526E+02	2.154E+02	1.278E+01	-0.054
		585.48		1.750E+03	3.627E+02	6.762E+02	4.010E+01	2.588
		755.35		-3.374E+01	2.363E+02	3.789E+02	2.628E+01	-0.089
		817.79		1.279E+02	1.968E+02	3.379E+02	2.612E+01	0.379
SR-82		698.33		-2.496E+01	4.013E+01	6.205E+01	3.877E+00	-0.402
		776.49	*	-3.846E-01	4.435E-01	6.602E-01	4.754E-02	-0.583
		1395.20		-4.512E+00	1.249E+01	1.964E+01	1.430E+00	-0.230
RB-83		520.41	*	4.263E-02	7.870E-02	1.243E-01	7.350E-03	0.343
		529.64		-1.073E-02	1.131E-01	1.851E-01	1.096E-02	-0.058
		552.65		2.375E-01	2.167E-01	3.855E-01	2.288E-02	0.616
RB-84		881.50	*	-2.014E-02	7.880E-02	1.238E-01	1.062E-02	-0.163
KR-85		513.99	*	2.449E+01	8.013E+00	1.548E+01	9.141E-01	1.582
SR-85		513.99	*	1.268E-01	4.150E-02	8.017E-02	4.734E-03	1.582
RB-86		1076.63	*	2.657E-01	8.128E-01	1.405E+00	9.737E-02	0.189
Y-88		898.02		-1.003E-02	3.791E-02	5.906E-02	5.228E-03	-0.170
		1836.01	*	3.751E-02	3.651E-02	7.089E-02	4.047E-03	0.529
ZR-88		392.90	*	-2.862E-03	3.521E-02	5.839E-02	3.251E-03	-0.049
Y-91		1204.90	*	-7.468E-01	1.856E+01	3.077E+01	1.797E+00	-0.024
NB-94		702.63	*	1.563E-02	3.688E-02	6.222E-02	3.919E-03	0.251
		871.10		-1.028E-02	3.590E-02	5.439E-02	4.591E-03	-0.189
NB-95		765.79	*	4.000E-02	5.012E-02	8.638E-02	6.104E-03	0.463
NB-95M		235.69	*	6.729E-01	1.852E-01	3.012E-01	2.231E-02	2.234
ZR-95		724.18		1.890E-01	1.183E-01	1.953E-01	1.467E-02	0.968
		756.15	*	-3.775E-05	7.789E-02	1.266E-01	1.013E-02	0.000
NB-97		657.90	*	2.502E-01	7.789E-02	Half-Life	too short	
		1024.50		-1.615E-01	7.789E-02	Half-Life	too short	
ZR-97		254.15		-7.283E+00	7.789E-02	Half-Life	too short	
		355.39		3.097E+00	7.789E-02	Half-Life	too short	
		507.63	*	1.767E+01	7.789E-02	Half-Life	too short	
		602.52		-5.994E+00	7.789E-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
	1021.30			-9.698E+00	7.789E-02	Half-Life	too short	
	1147.95			-1.208E+00	7.789E-02	Half-Life	too short	
	1362.66			6.160E+00	7.789E-02	Half-Life	too short	
	1750.46			5.235E+00	7.789E-02	Half-Life	too short	
MO-99	140.51			4.222E+00	3.892E+01	6.262E+01	1.685E+01	0.067
	181.06			-1.393E+01	2.879E+01	3.916E+01	6.651E+00	-0.356
	366.43			3.836E+00	1.135E+02	1.899E+02	1.081E+01	0.020
	739.58	*		-5.537E-01	1.609E+01	2.609E+01	3.706E+00	-0.021
	778.00			2.316E+01	4.673E+01	7.929E+01	5.725E+00	0.292
TC-99M	140.51	*		6.618E+10	4.673E+01	Half-Life	too short	
RH-101	127.23	+		5.541E-02	4.610E-02	6.061E-02	3.537E-03	0.914
	198.01	*		-5.886E-03	3.953E-02	6.224E-02	3.376E-03	-0.095
	325.23			1.151E-01	2.765E-01	4.163E-01	2.416E-02	0.277
RH-102	418.52			7.622E-02	3.069E-01	5.186E-01	2.941E-02	0.147
	475.06	*		4.941E-03	3.278E-02	5.482E-02	3.200E-03	0.090
	631.29			2.051E-02	5.923E-02	9.980E-02	5.871E-03	0.206
	697.49			-2.882E-02	8.811E-02	1.399E-01	8.723E-03	-0.206
	766.84			2.137E-01	1.282E-01	2.326E-01	1.647E-02	0.919
	1046.59			6.816E-02	1.239E-01	2.179E-01	1.595E-02	0.313
	1112.84			1.171E-01	2.639E-01	4.039E-01	2.593E-02	0.290
RU-103	497.08	*		-4.373E-03	4.392E-02	7.204E-02	9.135E-03	-0.061
	610.33	+		1.439E+01	3.029E+00	3.343E+00	5.169E-01	4.306
RH-106	511.85	+		1.165E+00	4.458E-01	5.200E-01	3.069E-02	2.241
	621.84	*		1.626E-01	3.517E-01	5.969E-01	7.035E-02	0.272
	1050.47			1.344E+00	2.372E+00	4.188E+00	3.044E-01	0.321
RU-106	511.85	+		1.165E+00	4.458E-01	5.200E-01	3.069E-02	2.241
	621.84	*		1.626E-01	3.513E-01	5.969E-01	3.520E-02	0.272
	1050.47			1.344E+00	2.372E+00	4.188E+00	3.044E-01	0.321
AG-108M	433.93	*		-1.583E-02	3.301E-02	5.286E-02	3.292E-03	-0.299
	614.37			1.049E-02	4.422E-02	6.456E-02	4.125E-03	0.163
	722.95			1.804E-02	4.954E-02	7.293E-02	5.090E-03	0.247
AG-110M	657.75	*		3.636E-02	4.480E-02	6.914E-02	4.290E-03	0.526
	677.61			1.214E-02	3.423E-01	5.606E-01	3.559E-02	0.022
	706.67			-1.749E-01	2.363E-01	3.604E-01	2.402E-02	-0.485
	763.93			-7.525E-02	1.999E-01	3.147E-01	2.310E-02	-0.239
	884.67			-1.787E-02	5.284E-02	8.209E-02	7.309E-03	-0.218
	937.48			-1.035E-01	1.334E-01	1.975E-01	1.738E-02	-0.524
	1384.27			1.177E-01	1.776E-01	3.172E-01	2.407E-02	0.371
IN-111	171.28			-1.129E+00	1.451E+00	2.258E+00	1.185E-01	-0.500
	245.39	*		-1.256E+00	1.493E+00	2.271E+00	1.291E-01	-0.553
IN-113M	391.69	*		-9.374E-03	5.024E-02	8.278E-02	4.939E-03	-0.113
SN-113	391.69	*		-9.374E-03	5.024E-02	8.278E-02	4.939E-03	-0.113
IN-114M	190.27	*		-4.880E-02	2.445E-01	3.393E-01	1.823E-02	-0.144
CD-115	260.90			-6.398E+01	2.072E+02	3.248E+02	1.865E+01	-0.197
	492.35			3.957E+00	5.136E+01	8.540E+01	5.015E+00	0.046
	527.90	*		-8.257E+00	1.534E+01	2.419E+01	1.432E+00	-0.341
SN-117M	156.02			7.968E-01	2.906E+00	4.753E+00	2.548E-01	0.168
	158.56	*		-1.659E-02	6.878E-02	1.101E-01	5.861E-03	-0.151
SB-122	563.90	*		4.734E+00	3.543E+00	5.692E+00	3.378E-01	0.832

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	692.80			3.183E+01	5.931E+01	1.011E+02	6.252E+00	0.315
	159.00	*		-9.403E+00	5.931E+01	Half-Life	too short	
	528.96			5.150E+01	5.931E+01	Half-Life	too short	
TE-123M	159.00	*		-1.407E-02	3.396E-02	5.395E-02	2.914E-03	-0.261
I-124	602.71	*		-3.816E-01	1.002E+00	1.315E+00	7.785E-02	-0.290
	722.78			2.050E+00	6.043E+00	8.870E+00	5.800E-01	0.231
	1325.50			9.233E+00	3.907E+01	6.674E+01	4.860E+00	0.138
	1376.25			2.856E+01	3.887E+01	6.965E+01	5.094E+00	0.410
	1509.49			1.034E+01	1.644E+01	2.983E+01	2.098E+00	0.347
	1691.02			2.893E+00	4.970E+00	8.947E+00	5.723E-01	0.323
SB-124	602.71			-1.917E-02	5.031E-02	6.605E-02	3.911E-03	-0.290
	645.85			-1.124E-01	5.383E-01	6.645E-01	5.701E-02	-0.130
	709.31			-6.859E-01	3.099E+00	4.954E+00	3.160E-01	-0.138
	713.82			6.148E-01	1.784E+00	2.993E+00	3.168E-01	0.205
	722.78			1.492E-01	4.399E-01	6.457E-01	4.379E-02	0.231
	968.20	+		1.721E+01	4.789E+00	8.332E+00	6.828E-01	2.066
	1045.16			1.315E+00	2.676E+00	4.687E+00	3.438E-01	0.281
	1325.50			7.179E-01	3.038E+00	5.189E+00	3.779E-01	0.138
	1368.21			-9.119E-01	1.858E+00	2.858E+00	3.626E-01	-0.319
	1436.60			-5.277E+00	3.372E+00	3.743E+00	2.698E-01	-1.410
	1691.02	*		4.968E-02	8.535E-02	1.536E-01	1.052E-02	0.323
SB-125	427.89	*		1.148E-02	9.893E-02	1.657E-01	9.864E-03	0.069
	463.38	+		5.709E-01	3.736E-01	5.829E-01	3.947E-02	0.979
	600.56			1.660E-02	1.965E-01	3.161E-01	2.154E-02	0.053
	635.90			-1.400E-01	3.044E-01	4.790E-01	3.284E-02	-0.292
TE-125M	109.28	*		-6.672E+00	1.078E+01	1.713E+01	1.514E+00	-0.390
I-126	388.63			4.187E-02	2.432E-01	4.095E-01	2.285E-02	0.102
	666.33	*		3.377E-02	2.435E-01	3.497E-01	2.055E-02	0.097
	753.82			6.867E-02	1.669E+00	2.724E+00	1.884E-01	0.025
SB-126	223.80			4.638E+00	4.809E+00	8.066E+00	4.501E-01	0.575
	278.60			3.008E+00	3.201E+00	4.993E+00	2.891E-01	0.602
	296.50	+		1.618E+01	3.214E+00	4.379E+00	2.546E-01	3.694
	414.70			-1.145E-01	9.136E-02	1.396E-01	7.895E-03	-0.821
	415.30			-1.200E+01	7.474E+00	1.108E+01	6.268E-01	-1.084
	555.20			-3.547E+00	4.700E+00	7.270E+00	4.314E-01	-0.488
	573.80			3.611E-01	1.439E+00	2.103E+00	1.248E-01	0.172
	593.00			-5.747E-01	1.046E+00	1.637E+00	9.700E-02	-0.351
	656.30			1.447E+00	4.577E+00	6.709E+00	3.915E-01	0.216
	666.33			1.414E-02	1.020E-01	1.465E-01	8.606E-03	0.097
	675.00			-4.077E-01	2.391E+00	3.849E+00	2.300E-01	-0.106
	695.00			7.473E-02	8.882E-02	1.547E-01	9.607E-03	0.483
	697.00			-3.856E-02	3.243E-01	5.238E-01	3.264E-02	-0.074
	720.50	*		1.545E-02	1.838E-01	2.615E-01	1.703E-02	0.059
	856.80			-2.115E-02	6.050E-01	8.390E-01	6.920E-02	-0.025
	989.30			1.191E-01	1.325E+00	2.151E+00	1.716E-01	0.055
	1034.80			5.779E+00	1.025E+01	1.805E+01	1.347E+00	0.320
	1213.00			3.763E-01	5.192E+00	8.699E+00	5.160E-01	0.043
SB-127	61.10			5.608E+01	8.161E+01	1.217E+02	1.296E+01	0.461
	252.40			-2.318E-01	6.572E+00	9.120E+00	3.795E+00	-0.025

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	290.80			3.452E+00	3.068E+01	4.533E+01	4.311E+00	0.076
	411.60			9.263E+00	1.740E+01	2.973E+01	4.322E+00	0.312
	444.90			-7.483E-01	1.186E+01	1.959E+01	2.167E+00	-0.038
	473.00			-2.305E+00	2.198E+00	3.334E+00	3.826E-01	-0.691
	543.00			6.521E+00	2.149E+01	3.620E+01	4.782E+00	0.180
	603.60			-6.247E+00	1.755E+01	2.310E+01	2.568E+00	-0.270
	685.20	*		1.520E-01	1.699E+00	2.796E+00	2.780E-01	0.054
	698.50			-1.366E+01	2.067E+01	3.170E+01	4.717E+00	-0.431
	722.20			1.383E+01	4.206E+01	6.164E+01	6.145E+00	0.224
	783.80			-1.647E+00	4.910E+00	7.725E+00	9.125E-01	-0.213
XE-127	57.60			2.878E+00	6.918E+00	1.078E+01	8.072E-01	0.267
	145.22			4.914E-01	8.427E-01	1.372E+00	7.570E-02	0.358
	172.10			-7.146E-02	1.397E-01	2.201E-01	1.156E-02	-0.325
	202.84	*		-4.035E-04	5.688E-02	8.762E-02	4.780E-03	-0.005
	374.96			7.504E-02	2.251E-01	3.829E-01	2.165E-02	0.196
I-131	80.18			-5.202E+00	6.202E+00	8.545E+00	7.140E-01	-0.609
	284.30			-2.513E-01	1.708E+00	2.853E+00	1.842E-01	-0.088
	364.48	*		-1.285E-02	1.303E-01	2.164E-01	1.384E-02	-0.059
	636.97			-1.491E+00	1.848E+00	2.809E+00	1.846E-01	-0.531
	722.89			3.215E+00	9.047E+00	1.330E+01	8.810E-01	0.242
TE-132	49.72			-4.920E+00	2.445E+01	4.012E+01	4.017E+00	-0.123
	111.76			-2.521E+01	4.109E+01	6.521E+01	6.275E+00	-0.387
	116.30			9.978E+00	3.799E+01	6.255E+01	5.894E+00	0.160
	228.16	*		-4.258E-01	9.729E-01	1.521E+00	2.202E-01	-0.280
BA-133	53.15			-2.220E+00	3.796E+00	6.078E+00	4.489E-01	-0.365
	79.62			2.156E+00	1.641E+00	2.456E+00	3.688E-01	0.878
	81.00			-2.818E-01	1.590E-01	1.623E-01	2.554E-02	-1.736
	276.40	+		1.224E+00	6.297E-01	7.707E-01	9.986E-02	1.588
	302.84			1.713E-01	1.657E-01	2.602E-01	3.036E-02	0.658
	356.01	*		6.423E-03	5.017E-02	7.378E-02	8.504E-03	0.087
	383.85			4.467E-02	3.383E-01	5.686E-01	6.124E-02	0.079
I-133	510.53	+		5.052E+00	3.383E-01	Half-Life too short		
	529.87	*		-3.290E-03	3.383E-01	Half-Life too short		
	706.58			-7.067E-01	3.383E-01	Half-Life too short		
	856.28			-8.174E-02	3.383E-01	Half-Life too short		
	875.33			1.179E-01	3.383E-01	Half-Life too short		
	1236.41			3.049E+00	3.383E-01	Half-Life too short		
	1298.22			2.420E-01	3.383E-01	Half-Life too short		
CS-134	475.35			1.364E+00	2.156E+00	3.719E+00	2.171E-01	0.367
	563.23			1.987E-01	4.759E-01	7.072E-01	4.282E-02	0.281
	569.32			5.540E-01	2.981E-01	4.898E-01	2.990E-02	1.131
	604.70			-5.135E-03	4.094E-02	5.731E-02	3.409E-03	-0.090
	795.84	*		5.459E-02	5.266E-02	9.264E-02	6.966E-03	0.589
	801.93			2.030E-02	4.621E-01	7.268E-01	5.510E-02	0.028
	1038.57			-5.695E+00	4.251E+00	6.135E+00	4.550E-01	-0.928
	1167.94			-5.394E-01	2.468E+00	4.022E+00	2.239E-01	-0.134
	1365.15			9.832E-02	1.247E+00	2.086E+00	1.624E-01	0.047
CS-135	268.24	*		2.784E-01	2.059E-01	3.266E-01	2.492E-02	0.852
I-135	288.45			3.676E+11	2.059E-01	Half-Life too short		

---- Non-Identified Nuclides ----

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	417.63			-2.631E+10	2.059E-01	Half-Life too short		
	546.56			-6.142E+10	2.059E-01	Half-Life too short		
	836.80			2.093E+11	2.059E-01	Half-Life too short		
	1038.76			-2.885E+11	2.059E-01	Half-Life too short		
	1124.00			2.780E+11	2.059E-01	Half-Life too short		
	1131.51			1.068E+10	2.059E-01	Half-Life too short		
	1260.41	*		1.059E+10	2.059E-01	Half-Life too short		
	1457.56			4.065E+12	2.059E-01	Half-Life too short		
	1678.03			-5.305E+10	2.059E-01	Half-Life too short		
	1706.46			-6.710E+10	2.059E-01	Half-Life too short		
	1791.20			-2.432E+10	2.059E-01	Half-Life too short		
CS-136	66.91			-8.134E-01	1.041E+00	1.438E+00	2.142E-01	-0.566
	86.29	+		3.913E+00	1.640E+00	2.483E+00	3.221E-01	1.576
	153.22			1.124E+00	8.299E-01	1.410E+00	9.739E-02	0.797
	163.89			8.834E-01	1.279E+00	2.126E+00	1.450E-01	0.415
	176.55			1.798E-01	4.445E-01	7.299E-01	4.426E-02	0.246
	273.65			7.932E-01	7.799E-01	8.830E-01	5.825E-02	0.898
	340.57			3.820E-01	1.770E-01	2.928E-01	1.799E-02	1.305
	818.51			6.457E-02	8.906E-02	1.537E-01	1.191E-02	0.420
	1048.07	*		-3.700E-02	1.231E-01	2.003E-01	1.548E-02	-0.185
	1235.34			2.651E-01	6.923E-01	1.185E+00	1.211E-01	0.224
CE-139	165.85	*		-1.996E-03	3.448E-02	5.558E-02	2.901E-03	-0.036
BA-140	162.64			-3.257E-01	9.003E-01	1.432E+00	8.664E-02	-0.227
	304.84			-1.708E-01	1.619E+00	2.347E+00	6.406E-01	-0.073
	423.70			-5.392E-01	2.206E+00	3.597E+00	1.143E+00	-0.150
	537.32	*		-4.069E-02	2.841E-01	4.623E-01	1.505E-01	-0.088
LA-140	328.77	+		7.029E-01	4.267E-01	6.260E-01	4.067E-02	1.123
	432.53			1.423E+00	2.208E+00	3.831E+00	2.427E-01	0.371
	487.03			-1.204E-01	1.519E-01	2.355E-01	1.559E-02	-0.511
	751.79			-3.052E-01	1.914E+00	3.064E+00	2.455E-01	-0.100
	815.85			-7.077E-02	3.914E-01	6.230E-01	5.484E-02	-0.114
	867.82			-1.654E+00	1.701E+00	1.955E+00	1.733E-01	-0.846
	919.63			3.236E-01	2.950E+00	4.811E+00	5.130E-01	0.067
	925.24			-4.849E-01	1.263E+00	1.945E+00	1.776E-01	-0.249
	1596.49	*		7.588E-03	9.880E-02	1.419E-01	9.600E-03	0.053
CE-141	145.44	*		5.984E-02	7.477E-02	1.250E-01	7.198E-03	0.479
CE-143	57.37			8.925E-04	7.477E-02	Half-Life too short		
	231.56			2.282E-03	7.477E-02	Half-Life too short		
	293.26	*		1.821E-03	7.477E-02	Half-Life too short		
	350.59	+		6.041E-02	7.477E-02	Half-Life too short		
	490.36			2.109E-03	7.477E-02	Half-Life too short		
	664.57			3.417E-03	7.477E-02	Half-Life too short		
	721.93			8.704E-04	7.477E-02	Half-Life too short		
CE-144	80.11			-1.988E+00	2.643E+00	3.660E+00	3.032E-01	-0.543
	133.54	*		-7.167E-02	2.629E-01	3.671E-01	5.201E-02	-0.195
PM-144	476.78			9.289E-02	7.611E-02	1.357E-01	9.469E-03	0.685
	618.01			-3.072E-03	3.430E-02	5.426E-02	3.389E-03	-0.057
	696.49	*		5.940E-03	3.890E-02	6.423E-02	4.002E-03	0.092
	778.57			2.327E+00	2.389E+00	4.224E+00	3.055E-01	0.551

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PR-144	696.49	*		4.028E-01	2.637E+00	4.355E+00	2.711E-01	0.092
	1489.15			-6.009E+00	1.073E+01	1.575E+01	1.116E+00	-0.382
PM-146	453.90	*		8.437E-03	4.823E-02	8.091E-02	6.968E-03	0.104
	633.02			8.335E-01	1.550E+00	2.600E+00	9.576E-01	0.321
	735.90			3.188E-02	1.763E-01	2.651E-01	7.445E-02	0.120
	747.13			-7.314E-02	9.772E-02	1.465E-01	1.907E-02	-0.499
ND-147	91.11	+		6.521E-01	3.610E-01	6.494E-01	5.998E-02	1.004
	319.41			6.405E-01	4.014E+00	6.788E+00	3.947E-01	0.094
	439.89			2.784E+00	6.239E+00	1.069E+01	6.141E-01	0.261
	531.02	*		9.900E-02	6.181E-01	1.032E+00	1.401E-01	0.096
PM-149	285.90	*		-1.262E+02	1.325E+02	2.097E+02	2.973E+01	-0.602
EU-152	121.78			-2.095E-02	8.399E-02	1.353E-01	1.047E-02	-0.155
	244.69			-1.212E-01	3.713E-01	5.829E-01	3.313E-02	-0.208
	344.27	*		1.776E-02	1.904E-01	1.889E-01	1.230E-02	0.094
	443.98			-3.654E-01	9.607E-01	1.548E+00	8.913E-02	-0.236
	778.89			1.770E-01	2.819E-01	4.840E-01	3.500E-02	0.366
	867.32			-3.130E-01	8.768E-01	1.141E+00	9.574E-02	-0.274
	964.01			5.253E-01	3.733E-01	6.035E-01	4.970E-02	0.870
	1085.78			7.907E-02	4.290E-01	7.303E-01	4.969E-02	0.108
	1112.02			7.177E-02	3.627E-01	5.578E-01	3.588E-02	0.129
	1407.95			9.323E-02	2.039E-01	3.557E-01	2.583E-02	0.262
GD-153	69.67			-1.293E-01	2.063E+00	2.969E+00	2.285E-01	-0.044
	83.37			6.659E+00	2.040E+01	2.765E+01	2.363E+00	0.241
	97.43	*		-2.980E-03	9.443E-02	1.350E-01	1.050E-02	-0.022
	103.18			-2.282E-01	1.238E-01	1.855E-01	1.344E-02	-1.230
EU-154	123.07			2.829E-02	5.995E-02	9.616E-02	9.123E-03	0.294
	247.94			-6.984E-02	4.617E-01	6.352E-01	6.020E-02	-0.110
	591.81			-5.099E-01	6.684E-01	1.024E+00	1.009E-01	-0.498
	723.30			7.267E-02	2.125E-01	3.117E-01	2.400E-02	0.233
	756.87			4.689E-01	8.191E-01	1.399E+00	1.516E-01	0.335
	873.19			7.804E-02	3.237E-01	5.356E-01	6.501E-02	0.146
	996.32			1.381E-01	3.717E-01	6.207E-01	1.082E-01	0.222
	1004.76			-9.625E-02	1.982E-01	3.146E-01	3.478E-02	-0.306
	1274.45	*		-1.173E-01	1.361E-01	2.032E-01	2.011E-02	-0.577
EU-155	48.70			4.692E-01	2.526E+00	4.209E+00	2.952E-01	0.111
	60.01			-2.194E-01	5.846E+00	8.447E+00	6.355E-01	-0.026
	86.54	+		3.437E-01	1.403E-01	2.171E-01	1.934E-02	1.583
	105.31	*		1.753E-01	1.230E-01	2.108E-01	1.516E-02	0.831
TB-160	86.79	+		9.260E-01	3.780E-01	5.827E-01	5.154E-02	1.589
	197.04			3.032E-01	6.813E-01	1.101E+00	5.968E-02	0.275
	215.65			5.547E-01	8.639E-01	1.428E+00	7.904E-02	0.388
	298.57			5.084E-01	1.660E-01	2.360E-01	1.372E-02	2.154
	879.36	*		2.846E-02	1.585E-01	2.604E-01	2.228E-02	0.109
	962.29			-1.563E-02	6.687E-01	9.690E-01	7.997E-02	-0.016
	966.15			1.016E+00	3.306E-01	5.756E-01	4.729E-02	1.764
	1177.93			-4.472E-02	3.179E-01	5.213E-01	2.884E-02	-0.086
	1271.85			9.039E-02	7.636E-01	1.284E+00	8.506E-02	0.070
HO-166M	80.57			-5.995E-01	3.743E-01	4.523E-01	3.763E-02	-1.325
	184.41	+		1.085E-01	6.148E-02	7.658E-02	4.086E-03	1.417

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		8.866E-02	9.559E-02	1.500E-01	8.688E-03	0.591
		410.95		4.933E-01	2.933E-01	5.303E-01	2.992E-02	0.930
		711.68	*	4.113E-02	6.512E-02	1.118E-01	7.164E-03	0.368
		752.31		1.029E-01	2.892E-01	4.857E-01	3.351E-02	0.212
		810.29		-8.657E-03	6.503E-02	1.040E-01	7.939E-03	-0.083
		51.35		3.629E+00	3.236E+01	5.331E+01	3.888E+00	0.068
		52.39		-9.377E+00	1.673E+01	2.683E+01	1.972E+00	-0.350
		59.40		1.012E+00	3.174E+01	4.604E+01	3.463E+00	0.022
		66.72	*	-1.172E+01	3.511E+01	4.991E+01	3.794E+00	-0.235
		88.36		6.766E-01	2.762E-01	4.475E-01	3.986E-02	1.512
LU-176	+	201.83		-3.297E-02	3.318E-02	5.032E-02	2.742E-03	-0.655
		306.84	*	-2.558E-02	2.937E-02	4.205E-02	2.446E-03	-0.608
		401.10		3.599E+00	7.478E+00	1.281E+01	7.176E-01	0.281
LU-177		112.95		5.626E-01	2.011E+00	3.315E+00	2.159E-01	0.170
	+	208.36	*	4.345E+00	1.655E+00	2.484E+00	1.364E-01	1.749
LU-177M		52.97		-1.104E+00	1.722E+00	2.749E+00	2.029E-01	-0.402
		54.07		-2.492E-01	9.227E-01	1.497E+00	1.110E-01	-0.166
		61.30		2.019E+00	1.789E+00	2.720E+00	2.047E-01	0.742
		121.62		-1.412E-01	4.311E-01	6.919E-01	4.136E-02	-0.204
		147.16		3.183E-01	7.600E-01	1.252E+00	6.876E-02	0.254
		171.86		-3.455E-01	5.514E-01	8.640E-01	4.538E-02	-0.400
		218.09		-4.417E-01	9.707E-01	1.521E+00	8.438E-02	-0.290
		268.79		2.216E+00	1.056E+00	1.737E+00	1.002E-01	1.275
		319.02		-9.216E-02	3.007E-01	4.963E-01	2.884E-02	-0.186
		367.43		-5.188E-01	9.763E-01	1.576E+00	8.960E-02	-0.329
HF-181		413.65	*	-1.646E-01	2.070E-01	3.275E-01	1.851E-02	-0.503
		56.28		3.851E-01	1.027E+00	1.718E+00	1.283E-01	0.224
		57.53		2.499E-01	5.811E-01	9.055E-01	6.783E-02	0.276
		65.20		8.954E-01	1.183E+00	1.767E+00	1.337E-01	0.507
		133.02		-4.141E-02	8.610E-02	1.188E-01	6.797E-03	-0.349
		136.25		-2.280E-01	5.322E-01	8.481E-01	4.804E-02	-0.269
		345.85		-1.351E-01	2.706E-01	3.548E-01	2.045E-02	-0.381
		482.03	*	-7.017E-03	4.803E-02	7.865E-02	4.603E-03	-0.089
		56.28		2.449E-01	3.946E-01	6.657E-01	4.971E-02	0.368
		57.53		9.701E-02	2.254E-01	3.512E-01	2.631E-02	0.276
W-181		65.20	*	3.445E-01	4.553E-01	6.799E-01	5.145E-02	0.507
		67.75		-1.868E-01	1.545E-01	1.934E-01	1.475E-02	-0.966
		100.10		2.008E-01	2.179E-01	3.275E-01	2.461E-02	0.613
TA-182		152.43		1.497E-01	4.064E-01	6.676E-01	3.613E-02	0.224
		222.10		-3.642E-01	4.018E-01	6.137E-01	3.419E-02	-0.593
		1001.68		8.364E-01	1.883E+00	3.304E+00	2.592E-01	0.253
	+	1121.28		5.678E-01	2.844E-01	3.951E-01	2.487E-02	1.437
		1189.05		7.131E-02	3.186E-01	5.419E-01	3.066E-02	0.132
RE-183		1221.42	*	1.176E-01	2.006E-01	3.514E-01	2.119E-02	0.335
		1230.97		-1.310E-01	4.787E-01	7.755E-01	4.763E-02	-0.169
		57.98		-7.613E-03	2.415E-01	3.493E-01	2.619E-02	-0.022
		59.32		7.350E-03	1.318E-01	1.914E-01	1.439E-02	0.038
		67.20		-2.106E-01	2.543E-01	3.524E-01	2.684E-02	-0.598
		162.32	*	-5.291E-02	1.264E-01	2.004E-01	1.056E-02	-0.264

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		3.576E+00	1.362E+00	2.063E+00	1.133E-01	1.734
		291.72		4.683E-01	1.172E+00	1.766E+00	1.026E-01	0.265
		57.98		-2.790E-02	8.851E-01	1.280E+00	9.599E-02	-0.022
		59.32		2.691E-02	4.825E-01	7.007E-01	5.270E-02	0.038
		67.20		-7.715E-01	9.317E-01	1.291E+00	9.832E-02	-0.598
		161.27		-4.116E-01	4.212E-01	6.513E-01	3.441E-02	-0.632
		216.55		2.404E-01	3.001E-01	4.999E-01	2.769E-02	0.481
		252.85	*	-1.355E-01	3.072E-01	4.124E-01	2.357E-02	-0.329
		318.01		1.534E-01	5.103E-01	8.693E-01	5.053E-02	0.176
		792.07		-9.825E-01	1.149E+00	1.716E+00	1.269E-01	-0.573
OS-185		903.28		4.893E-01	1.098E+00	1.757E+00	1.541E-01	0.278
		920.93		1.078E-01	4.578E-01	7.570E-01	6.531E-02	0.142
		59.72		-2.871E-02	3.503E-01	5.050E-01	3.799E-02	-0.057
		61.14		1.472E-01	1.972E-01	2.953E-01	2.222E-02	0.499
		69.30		3.014E-01	3.844E-01	5.378E-01	4.131E-02	0.560
		592.07		-2.557E+00	2.706E+00	4.075E+00	2.415E-01	-0.627
		646.12	*	-1.231E-02	4.574E-02	7.304E-02	4.278E-03	-0.169
		717.42		-6.949E-01	9.748E-01	1.481E+00	9.589E-02	-0.469
		874.81		3.459E-01	6.391E-01	1.088E+00	9.238E-02	0.318
		880.27		3.084E-02	8.699E-01	1.409E+00	1.207E-01	0.022
RE-188		155.03	*	1.129E-01	2.121E-01	3.503E-01	1.883E-02	0.322
		477.96		4.199E+00	3.565E+00	6.339E+00	3.704E-01	0.662
		633.10		1.741E+00	3.104E+00	5.313E+00	3.124E-01	0.328
W-188	+	63.58		4.539E+01	7.903E+01	1.008E+02	7.600E+00	0.450
IR-192		227.08		4.858E-01	1.481E+01	2.376E+01	1.330E+00	0.020
	*	290.67		3.048E+00	8.937E+00	1.342E+01	7.797E-01	0.227
	+	295.96		1.185E+00	2.359E-01	3.320E-01	1.961E-02	3.570
AU-195		308.46		-1.752E-02	1.028E-01	1.710E-01	1.006E-02	-0.102
	*	316.51		4.287E-02	3.874E-02	6.861E-02	4.009E-03	0.625
		468.07		6.159E-02	7.479E-02	1.169E-01	7.837E-03	0.527
		604.41		1.753E-01	5.347E-01	7.875E-01	8.986E-02	0.223
		612.46		1.710E+00	8.934E-01	1.499E+00	1.148E-01	1.140
		65.12		1.727E-01	2.110E-01	3.159E-01	2.390E-02	0.547
		66.83		-4.041E-02	1.163E-01	1.652E-01	1.256E-02	-0.245
TL-200	+	75.70		1.520E+00	3.604E-01	5.471E-01	4.372E-02	2.778
	*	98.88		3.568E-01	2.663E-01	4.088E-01	3.120E-02	0.873
	+	129.76		4.899E+00	4.076E+00	5.579E+00	3.227E-01	0.878
TL-201		367.94	*	-3.458E-04	4.076E+00	Half-Life	too short	
		579.30		4.076E-03	4.076E+00	Half-Life	too short	
		828.27		3.347E-05	4.076E+00	Half-Life	too short	
		1205.75		-1.479E-03	4.076E+00	Half-Life	too short	
TL-202		68.90		5.047E+00	7.607E+00	1.059E+01	8.117E-01	0.477
		70.82		1.073E+00	4.218E+00	6.155E+00	4.765E-01	0.174
		80.30		-7.608E+00	7.700E+00	1.052E+01	8.728E-01	-0.724
		135.34		-1.690E+01	3.718E+01	5.701E+01	3.239E+00	-0.297
	*	167.43		5.226E+00	9.785E+00	1.618E+01	8.453E-01	0.323
TL-202		68.90		3.860E-01	5.819E-01	8.097E-01	6.208E-02	0.477
		70.82		8.183E-02	3.218E-01	4.695E-01	3.634E-02	0.174
		80.30		-5.805E-01	5.875E-01	8.024E-01	6.660E-02	-0.724

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203	439.56	*		3.034E-02	7.390E-02	1.263E-01	7.251E-03	0.240
	70.83			4.738E-01	1.336E+00	1.957E+00	2.557E-01	0.242
	72.87			2.310E+00	8.758E-01	1.321E+00	1.678E-01	1.749
	82.60			-1.716E+00	2.104E+00	2.029E+00	2.771E-01	-0.846
BI-207	279.20	*		3.821E-02	5.114E-02	7.885E-02	4.849E-03	0.485
	72.80			7.362E-01	2.392E-01	3.775E-01	2.956E-02	1.950
	74.97		+	8.402E-01	1.992E-01	2.751E-01	2.186E-02	3.055
	84.90			4.977E-01	2.524E-01	3.858E-01	3.347E-02	1.290
	569.67			7.149E-02	4.486E-02	7.274E-02	4.317E-03	0.983
	1063.62	*		2.326E-02	5.417E-02	9.443E-02	6.706E-03	0.246
TL-207	1770.23			7.461E-02	6.303E-01	9.081E-01	5.478E-02	0.082
	81.07			-6.201E-01	3.408E-01	3.583E-01	2.995E-02	-1.731
	83.78			5.823E-02	1.727E-01	2.342E-01	2.009E-02	0.249
	94.90			3.215E-01	2.717E-01	4.600E-01	3.703E-02	0.699
	122.32			1.038E+00	1.943E+00	3.232E+00	2.208E-01	0.321
	144.24			1.834E-01	8.132E-01	1.306E+00	9.167E-02	0.140
	154.21			5.392E-01	4.816E-01	8.118E-01	5.419E-02	0.664
	269.46		+	6.726E-01	3.347E-01	4.125E-01	2.488E-02	1.630
	323.87	*		3.523E-01	8.200E-01	1.234E+00	2.038E-01	0.286
	338.28		+	8.350E+00	2.054E+00	2.776E+00	2.921E-01	3.008
	445.03			2.309E-01	2.308E+00	3.857E+00	3.952E-01	0.060
	260.50			-7.942E-02	1.136E+01	1.812E+01	1.041E+00	-0.004
PO-209	262.80			-1.114E+01	3.097E+01	4.838E+01	2.781E+00	-0.230
	896.60	*		-5.399E+00	7.559E+00	1.114E+01	9.796E-01	-0.485
BI-210	46.50	*		-7.037E-01	3.587E+00	5.890E+00	4.489E-01	-0.119
PB-210	46.50	*		-7.037E-01	3.587E+00	5.890E+00	4.489E-01	-0.119
PO-210	46.50	*		-7.037E-01	3.586E+00	5.890E+00	3.839E-01	-0.119
PB-211	404.84	*		-1.268E+00	1.356E+00	1.709E+00	1.065E+00	-0.742
BI-212	427.08			1.756E-02	2.248E+00	3.737E+00	2.309E+00	0.005
	831.96			-1.315E+00	1.551E+00	1.909E+00	1.195E+00	-0.689
	727.18	*	+	1.268E+00	6.769E-01	7.655E-01	6.373E-02	1.656
	785.46			1.893E+00	1.935E+00	3.402E+00	2.488E-01	0.557
	1620.62			9.725E-01	1.380E+00	2.504E+00	1.672E-01	0.388
	81.07			-6.201E-01	3.408E-01	3.583E-01	2.995E-02	-1.731
PO-215	83.78			5.823E-02	1.727E-01	2.342E-01	2.009E-02	0.249
	94.90			3.215E-01	2.717E-01	4.600E-01	3.703E-02	0.699
	122.32			1.038E+00	1.943E+00	3.232E+00	2.208E-01	0.321
	144.24			1.834E-01	8.132E-01	1.306E+00	9.167E-02	0.140
	154.21			5.392E-01	4.816E-01	8.118E-01	5.419E-02	0.664
	269.46		+	6.726E-01	3.347E-01	4.125E-01	2.488E-02	1.630
	323.87	*		3.523E-01	8.200E-01	1.234E+00	2.038E-01	0.286
	338.28		+	8.350E+00	2.054E+00	2.776E+00	2.921E-01	3.008
	445.03			2.309E-01	2.308E+00	3.857E+00	3.952E-01	0.060
	271.23		+	8.629E-01	4.319E-01	5.275E-01	4.264E-02	1.636
	401.81	*		3.563E-01	4.508E-01	7.826E-01	1.058E-01	0.455
	549.76	*		1.756E+00	2.901E+01	4.799E+01	2.847E+00	0.037
RN-220	81.07			-6.201E-01	3.408E-01	3.583E-01	2.995E-02	-1.731
RA-223	83.78			5.823E-02	1.727E-01	2.342E-01	2.009E-02	0.249
	94.90			3.215E-01	2.717E-01	4.600E-01	3.703E-02	0.699

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		1.038E+00	1.943E+00	3.232E+00	2.208E-01	0.321
		144.24		1.834E-01	8.132E-01	1.306E+00	9.167E-02	0.140
		154.21		5.392E-01	4.816E-01	8.118E-01	5.419E-02	0.664
	+	269.46		6.726E-01	3.347E-01	4.125E-01	2.488E-02	1.630
		323.87	*	3.523E-01	8.200E-01	1.234E+00	2.038E-01	0.286
	+	338.28		8.350E+00	2.054E+00	2.776E+00	2.921E-01	3.008
		445.03		2.309E-01	2.308E+00	3.857E+00	3.952E-01	0.060
		79.80		1.152E+00	2.008E+00	2.946E+00	6.294E-01	0.391
		236.00		2.512E+00	4.507E-01	6.779E-01	7.027E-02	3.706
		256.20	*	-1.348E-03	4.550E-01	7.174E-01	9.994E-02	-0.002
		286.10		-1.497E+00	1.649E+00	2.626E+00	3.036E-01	-0.570
	+	299.80		2.915E+00	2.308E+00	2.839E+00	4.625E-01	1.027
		304.40		1.420E+00	2.200E+00	3.361E+00	5.816E-01	0.422
		334.20		1.469E+00	3.008E+00	4.030E+00	7.387E-01	0.364
TH-227		79.80		1.152E+00	2.009E+00	2.946E+00	6.376E-01	0.391
	+	94.00		7.706E+00	3.379E+00	4.308E+00	9.305E-01	1.789
		236.00		2.512E+00	4.312E-01	6.779E-01	6.072E-02	3.706
		256.20	*	-1.348E-03	4.550E-01	7.174E-01	1.211E-01	-0.002
		286.10		-1.497E+00	2.222E+00	2.626E+00	2.630E+00	-0.570
	+	299.80		2.915E+00	2.308E+00	2.839E+00	4.625E-01	1.027
TH-229		304.40		1.420E+00	2.200E+00	3.361E+00	5.816E-01	0.422
		334.20		1.469E+00	3.008E+00	4.030E+00	7.387E-01	0.364
		85.43		7.610E-01	2.600E-01	4.036E-01	3.520E-02	1.886
	+	88.47		3.895E-01	1.590E-01	2.560E-01	2.275E-02	1.522
		100.00		2.064E-01	2.249E-01	3.379E-01	2.542E-02	0.611
		193.63	*	1.669E-01	6.031E-01	9.825E-01	5.301E-02	0.170
PA-231		210.97		9.895E-01	1.028E+00	1.523E+00	8.388E-02	0.650
		283.67	*	-4.130E-01	1.698E+00	2.659E+00	3.664E-01	-0.155
	+	301.29		1.166E+00	9.118E-01	1.141E+00	1.194E-01	1.022
TH-231		81.07		-6.201E-01	3.408E-01	3.583E-01	2.995E-02	-1.731
		83.78		5.823E-02	1.727E-01	2.342E-01	2.009E-02	0.249
		94.90		3.215E-01	2.717E-01	4.600E-01	3.703E-02	0.699
U-231		122.32		1.038E+00	1.943E+00	3.232E+00	2.208E-01	0.321
		144.24		1.834E-01	8.132E-01	1.306E+00	9.167E-02	0.140
		154.21		5.392E-01	4.816E-01	8.118E-01	5.419E-02	0.664
	+	269.46		6.726E-01	3.347E-01	4.125E-01	2.488E-02	1.630
		323.87	*	3.523E-01	8.200E-01	1.234E+00	2.038E-01	0.286
	+	338.28		8.350E+00	2.054E+00	2.776E+00	2.921E-01	3.008
		445.03		2.309E-01	2.308E+00	3.857E+00	3.952E-01	0.060
		84.21		4.231E+00	8.143E+00	1.190E+01	1.025E+00	0.356
	+	92.29		8.898E+00	3.472E+00	5.259E+00	4.398E-01	1.692
		95.87	*	-5.036E-01	1.536E+00	2.160E+00	1.716E-01	-0.233
PA-233		108.00		-4.391E-01	2.777E+00	4.503E+00	3.088E-01	-0.098
	+	75.28		2.452E+01	6.595E+00	8.518E+00	1.277E+00	2.878
	+	86.59		5.584E+00	2.685E+00	3.525E+00	9.477E-01	1.584
	+	300.12		8.126E-01	6.392E-01	7.910E-01	1.063E-01	1.027
		311.98	*	1.210E-02	6.812E-02	1.155E-01	7.128E-03	0.105
		340.50		1.941E+00	9.313E-01	1.378E+00	3.163E-01	1.409
		398.62		-1.301E+00	2.413E+00	3.850E+00	9.936E-01	-0.338

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-2.571E+00	1.899E+00	2.749E+00	5.650E-01	-0.935
		63.00		1.304E+00	2.277E+00	2.928E+00	4.370E-01	0.445
		94.67		4.199E-01	2.057E-01	3.482E-01	4.190E-02	1.206
		98.44		1.250E-01	1.279E-01	1.641E-01	9.132E-02	0.762
		99.86		6.137E-01	5.638E-01	8.544E-01	6.440E-02	0.718
		111.00		-2.067E-01	2.109E-01	3.284E-01	3.536E-02	-0.630
		131.20		9.305E-02	1.317E-01	1.949E-01	1.122E-02	0.477
		152.70		2.405E-01	3.939E-01	6.503E-01	1.019E-01	0.370
		186.00		3.907E+00	2.505E+00	2.818E+00	8.586E-01	1.386
		226.40		9.997E-02	4.686E-01	7.584E-01	8.691E-02	0.132
		227.20		-1.205E-01	4.989E-01	7.895E-01	4.420E-02	-0.153
		248.90		5.991E-03	1.057E+00	1.473E+00	3.161E-01	0.004
		293.70		7.397E+00	1.842E+00	2.026E+00	3.259E-01	3.652
		369.80		2.266E-01	9.166E-01	1.552E+00	3.226E-01	0.146
		568.70		4.723E+00	2.222E+00	2.645E+00	1.570E-01	1.786
		569.50		6.835E-01	4.069E-01	6.619E-01	3.929E-02	1.033
		574.00		5.932E-01	1.966E+00	2.888E+00	1.714E-01	0.205
		699.00		-4.052E-01	8.207E-01	1.279E+00	2.319E-01	-0.317
		706.10		-1.604E-01	1.163E+00	1.871E+00	8.270E-01	-0.086
		733.00		-8.940E-02	4.679E-01	6.407E-01	1.378E-01	-0.140
		742.81		8.346E-01	1.524E+00	2.434E+00	1.631E+00	0.343
		796.30		1.264E+00	1.061E+00	1.806E+00	4.821E-01	0.700
		805.60		8.357E-01	1.178E+00	1.983E+00	6.024E-01	0.421
		819.60		7.700E-01	1.476E+00	2.456E+00	9.295E-01	0.313
		826.30		1.048E-01	9.255E-01	1.513E+00	6.746E-01	0.069
		831.60		-2.869E-01	6.655E-01	1.021E+00	3.027E-01	-0.281
		876.40		-6.849E-02	9.581E-01	1.532E+00	1.574E+00	-0.045
		880.51		2.035E-02	3.100E-01	5.038E-01	4.317E-02	0.040
		883.24		-1.645E-01	3.314E-01	4.756E-01	3.197E-01	-0.346
		899.00		-2.291E-01	8.079E-01	1.248E+00	5.461E-01	-0.184
		925.00		-3.873E-01	1.256E+00	1.952E+00	1.677E-01	-0.198
		926.50		-3.450E-02	1.871E-01	2.948E-01	7.449E-02	-0.117
		946.00	*	-1.112E-01	3.279E-01	5.069E-01	9.461E-02	-0.219
		949.00		-2.116E-01	5.249E-01	8.095E-01	6.783E-02	-0.261
		980.50		-3.612E-02	7.147E-01	1.141E+00	9.206E-02	-0.032
		1394.10		-1.758E-02	1.260E+00	2.079E+00	1.350E+00	-0.008
PA-234M		766.42		2.164E+01	1.716E+01	2.414E+01	1.219E+01	0.896
		1001.03	*	7.153E-01	4.306E+00	7.354E+00	6.846E-01	0.097
U-235	+	89.95		2.447E+00	1.534E+00	2.232E+00	6.892E-01	1.096
	+	93.35		2.398E+00	1.133E+00	1.385E+00	3.865E-01	1.731
		105.00		1.547E+00	1.272E+00	2.037E+00	5.997E-01	0.759
		143.76	*	-7.520E-02	2.524E-01	3.963E-01	6.427E-02	-0.190
		163.35		3.945E-01	5.349E-01	8.852E-01	1.577E-01	0.446
	+	185.71		1.447E-01	8.198E-02	1.041E-01	5.561E-03	1.390
		205.31		-9.255E-02	6.576E-01	9.129E-01	1.632E-01	-0.101
NP-236		94.67		3.215E-01	1.536E-01	2.644E-01	2.136E-02	1.216
		98.44		9.444E-02	8.149E-02	1.240E-01	9.521E-03	0.761
		111.00		-1.564E-01	1.590E-01	2.484E-01	1.650E-02	-0.630
		160.31	*	-3.501E-02	9.202E-02	1.463E-01	7.751E-03	-0.239

---- 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		2.360E-01	1.869E-01	2.856E-01	2.161E-02	0.826
		117.00	*	-7.253E-02	2.194E-01	3.525E-01	2.205E-02	-0.206
	+	209.75		2.794E+00	1.065E+00	1.640E+00	9.018E-02	1.704
		228.18		-1.131E-01	2.598E-01	4.067E-01	2.279E-02	-0.278
	+	277.60		5.971E-01	2.994E-01	3.590E-01	2.077E-02	1.663
AM-241		334.30		8.651E-01	1.700E+00	2.290E+00	1.326E-01	0.378
		59.54	*	-3.280E-03	1.838E-01	2.659E-01	2.189E-02	-0.012
CM-243		99.55		2.429E-01	1.923E-01	2.939E-01	2.224E-02	0.826
		103.76	*	-4.646E-02	1.121E-01	1.801E-01	1.295E-02	-0.258
		117.00		-7.463E-02	2.258E-01	3.627E-01	2.268E-02	-0.206
	+	209.75		2.755E+00	1.050E+00	1.617E+00	8.891E-02	1.704
		228.18		-1.143E-01	2.625E-01	4.110E-01	2.303E-02	-0.278
AM-246	+	277.60		6.020E-01	3.018E-01	3.619E-01	2.094E-02	1.663
		798.80		-2.129E-01	1.678E-01	2.395E-01	1.793E-02	-0.889
		1036.00		7.694E-02	3.140E-01	5.389E-01	4.014E-02	0.143
		1062.04		-1.575E-01	2.403E-01	3.756E-01	2.675E-02	-0.419
		1078.86	*	6.494E-02	1.404E-01	2.459E-01	1.697E-02	0.264
CM-247	+	278.00		2.476E+00	1.241E+00	1.462E+00	8.460E-02	1.694
		287.40		1.942E-01	1.347E+00	2.227E+00	1.292E-01	0.087
		402.60	*	7.732E-03	4.101E-02	6.907E-02	3.874E-03	0.112
CF-249		252.85		-5.065E-01	1.148E+00	1.541E+00	8.810E-02	-0.329
		333.44		1.861E-01	2.346E-01	2.982E-01	1.727E-02	0.624
		387.95	*	1.800E-02	4.580E-02	7.807E-02	4.360E-03	0.231
CF-251		176.60	*	2.356E-03	1.483E-01	2.394E-01	1.265E-02	0.010
		227.00		3.910E-02	4.413E-01	7.102E-01	3.975E-02	0.055
		285.00		-9.372E-01	1.844E+00	3.019E+00	1.751E-01	-0.310

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]G1202006612
* Acquisition date   : 7-JAN-2010 13:31:56 Detector SN#      :
* Detector ID        : GAM19                               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 02:00:01.41                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202006612 Analyst initials: MXR1
* Batch Number       : 937702 Sample Quantity : 1.1445E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54 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	2.028E+01	2.150E+00	6.054E-01	0.000E+00
CD-109	2.906E+00	1.163E+00	1.407E+00	0.000E+00
SN-126	2.852E-01	1.141E-01	1.387E-01	0.000E+00
BA-137M	1.850E-01	7.111E-02	6.965E-02	0.000E+00
CS-137	1.956E-01	7.518E-02	7.363E-02	0.000E+00
TL-208	5.599E-01	9.525E-02	6.497E-02	0.000E+00
BI-211	4.728E+00	6.079E-01	3.518E-01	0.000E+00
PB-212	1.801E+00	1.741E-01	1.004E-01	0.000E+00
PO-212	1.801E+00	1.741E-01	1.004E-01	0.000E+00
BI-214	1.311E+00	2.094E-01	1.120E-01	0.000E+00
PB-214	1.645E+00	2.276E-01	1.226E-01	0.000E+00
PO-214	1.645E+00	2.276E-01	1.226E-01	0.000E+00
PO-216	1.801E+00	1.741E-01	1.004E-01	0.000E+00
PO-218	1.645E+00	2.276E-01	1.226E-01	0.000E+00
RA-224	5.479E+00	1.380E+00	1.141E+00	0.000E+00
RA-226	1.311E+00	2.094E-01	1.120E-01	0.000E+00
AC-228	1.555E+00	3.428E-01	2.296E-01	0.000E+00
RA-228	1.555E+00	3.428E-01	2.296E-01	0.000E+00
TH-228	1.830E+00	1.769E-01	1.020E-01	0.000E+00
TH-230	1.311E+00	2.094E-01	1.120E-01	0.000E+00
TH-232	1.555E+00	3.428E-01	2.296E-01	0.000E+00
TH-234	1.119E+00	1.917E+00	2.273E+00	0.000E+00
U-234	1.311E+00	2.094E-01	1.120E-01	0.000E+00
NP-237	8.376E-01	3.755E-01	4.117E-01	0.000E+00
U-238	1.119E+00	1.917E+00	2.273E+00	0.000E+00
AM-243	4.681E-01	1.088E-01	1.001E-01	0.000E+00
ANH-511	2.328E-01	8.730E-02	4.281E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	5.042E-01	3.639E-01	6.707E-01	0.000E+00	NOT IDENT.
NA-22	-2.937E-02	4.646E-02	7.274E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.195E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-4.364E-03	2.963E-02	4.738E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.126E-02	9.362E-02	0.000E+00	FAIL ABUN
SC-46	1.623E-02	4.107E-02	7.038E-02	0.000E+00	FAIL ABUN
V-48	-2.058E-02	6.985E-02	1.102E-01	0.000E+00	NOT IDENT.
CR-51	2.837E-01	4.170E-01	7.453E-01	0.000E+00	NOT IDENT.
MN-52	-7.788E-02	2.166E-01	3.392E-01	0.000E+00	NOT IDENT.
MN-54	-6.539E-03	4.070E-02	6.629E-02	0.000E+00	NOT IDENT.
CO-56	5.859E-03	4.150E-02	6.951E-02	0.000E+00	NOT IDENT.
CO-57	1.147E-02	2.780E-02	4.784E-02	0.000E+00	NOT IDENT.
CO-58	4.875E-03	4.173E-02	6.987E-02	0.000E+00	NOT IDENT.
FE-59	-2.592E-02	8.713E-02	1.438E-01	0.000E+00	NOT IDENT.
CO-60	2.051E-02	4.130E-02	7.292E-02	0.000E+00	NOT IDENT.
ZN-65	3.352E-03	1.019E-01	1.502E-01	0.000E+00	NOT IDENT.
GE-68	4.925E-01	1.239E+00	2.194E+00	0.000E+00	NOT IDENT.
AS-73	-4.135E-01	8.741E-01	1.474E+00	0.000E+00	NOT IDENT.
AS-74	4.908E-02	9.991E-02	1.744E-01	0.000E+00	NOT IDENT.
SE-75	-1.667E-02	5.335E-02	7.920E-02	0.000E+00	NOT IDENT.
BR-77	1.416E+01	1.469E+01	2.543E+01	0.000E+00	FAIL ABUN
SR-82	-3.846E-01	4.347E-01	6.614E-01	0.000E+00	NOT IDENT.
RB-83	4.263E-02	7.713E-02	1.250E-01	0.000E+00	NOT IDENT.
RB-84	-2.014E-02	7.723E-02	1.238E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.853E+00	1.557E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.067E-02	8.062E-02	0.000E+00	NOT IDENT.
RB-86	2.657E-01	7.966E-01	1.403E+00	0.000E+00	NOT IDENT.
Y-88	3.751E-02	3.578E-02	7.045E-02	0.000E+00	NOT IDENT.
ZR-88	-2.862E-03	3.451E-02	5.887E-02	0.000E+00	NOT IDENT.
Y-91	-7.468E-01	1.819E+01	3.070E+01	0.000E+00	NOT IDENT.
NB-94	1.563E-02	3.615E-02	6.239E-02	0.000E+00	NOT IDENT.
NB-95	4.000E-02	4.912E-02	8.654E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.815E-01	3.051E-01	0.000E+00	NOT IDENT.
ZR-95	-3.775E-05	7.634E-02	1.269E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.096E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.818E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.537E-01	1.577E+01	2.615E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.979E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.886E-03	3.874E-02	6.314E-02	0.000E+00	FAIL ABUN
RH-102	4.941E-03	3.212E-02	5.517E-02	0.000E+00	NOT IDENT.
RU-103	-4.373E-03	4.304E-02	7.247E-02	0.000E+00	FAIL ABUN
RH-106	1.626E-01	3.446E-01	5.992E-01	0.000E+00	FAIL ABUN
RU-106	1.626E-01	3.442E-01	5.992E-01	0.000E+00	FAIL ABUN
AG-108M	-1.583E-02	3.235E-02	5.325E-02	0.000E+00	NOT IDENT.
AG-110M	3.636E-02	4.390E-02	6.937E-02	0.000E+00	NOT IDENT.
IN-111	-1.256E+00	1.463E+00	2.299E+00	0.000E+00	NOT IDENT.
IN-113M	-9.374E-03	4.923E-02	8.346E-02	0.000E+00	NOT IDENT.
SN-113	-9.374E-03	4.923E-02	8.346E-02	0.000E+00	NOT IDENT.
IN-114M	-4.880E-02	2.397E-01	3.444E-01	0.000E+00	NOT IDENT.
CD-115	-8.257E+00	1.503E+01	2.432E+01	0.000E+00	NOT IDENT.
SN-117M	-1.659E-02	6.740E-02	1.119E-01	0.000E+00	NOT IDENT.
SB-122	4.734E+00	3.472E+00	5.719E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.224E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.407E-02	3.328E-02	5.484E-02	0.000E+00	NOT IDENT.
I-124	-3.816E-01	9.818E-01	1.321E+00	0.000E+00	NOT IDENT.
SB-124	4.968E-02	8.364E-02	1.528E-01	0.000E+00	FAIL ABUN
SB-125	1.148E-02	9.696E-02	1.669E-01	0.000E+00	FAIL ABUN
TE-125M	-6.672E+00	1.057E+01	1.747E+01	0.000E+00	NOT IDENT.
I-126	3.377E-02	2.387E-01	3.509E-01	0.000E+00	NOT IDENT.
SB-126	1.545E-02	1.801E-01	2.621E-01	0.000E+00	FAIL ABUN
SB-127	1.520E-01	1.665E+00	2.804E+00	0.000E+00	NOT IDENT.
XE-127	-4.035E-04	5.574E-02	8.887E-02	0.000E+00	NOT IDENT.
I-131	-1.285E-02	1.277E-01	2.183E-01	0.000E+00	NOT IDENT.
TE-132	-4.258E-01	9.534E-01	1.541E+00	0.000E+00	NOT IDENT.
BA-133	6.423E-03	4.917E-02	7.445E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.328E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.459E-02	5.160E-02	9.279E-02	0.000E+00	NOT IDENT.
CS-135	2.784E-01	2.018E-01	3.304E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.902E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.700E-02	1.206E-01	2.001E-01	0.000E+00	FAIL ABUN
CE-139	-1.996E-03	3.379E-02	5.647E-02	0.000E+00	NOT IDENT.
BA-140	-4.069E-02	2.784E-01	4.647E-01	0.000E+00	NOT IDENT.
LA-140	7.588E-03	9.682E-02	1.412E-01	0.000E+00	FAIL ABUN
CE-141	5.984E-02	7.328E-02	1.272E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.144E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-7.167E-02	2.577E-01	3.738E-01	0.000E+00	NOT IDENT.
PM-144	5.940E-03	3.812E-02	6.441E-02	0.000E+00	NOT IDENT.
PR-144	4.028E-01	2.585E+00	4.367E+00	0.000E+00	NOT IDENT.

PM-146	8.437E-03	4.726E-02	8.146E-02	0.000E+00	NOT IDENT.
ND-147	9.900E-02	6.057E-01	1.037E+00	0.000E+00	FAIL ABUN
PM-149	-1.262E+02	1.298E+02	2.120E+02	0.000E+00	NOT IDENT.
EU-152	1.776E-02	1.866E-01	1.907E-01	0.000E+00	NOT IDENT.
GD-153	-2.980E-03	9.254E-02	1.379E-01	0.000E+00	NOT IDENT.
EU-154	-1.173E-01	1.334E-01	2.026E-01	0.000E+00	NOT IDENT.
EU-155	1.753E-01	1.205E-01	2.151E-01	0.000E+00	FAIL ABUN
TB-160	2.846E-02	1.553E-01	2.606E-01	0.000E+00	FAIL ABUN
HO-166M	4.113E-02	6.381E-02	1.121E-01	0.000E+00	FAIL ABUN
TM-171	-1.172E+01	3.441E+01	5.113E+01	0.000E+00	NOT IDENT.
LU-176	-2.558E-02	2.878E-02	4.249E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.622E+00	2.519E+00	0.000E+00	FAIL ABUN
LU-177M	-1.646E-01	2.029E-01	3.300E-01	0.000E+00	NOT IDENT.
HF-181	-7.017E-03	4.707E-02	7.914E-02	0.000E+00	NOT IDENT.
W-181	3.445E-01	4.462E-01	6.967E-01	0.000E+00	NOT IDENT.
TA-182	1.176E-01	1.966E-01	3.506E-01	0.000E+00	FAIL ABUN
RE-183	-5.291E-02	1.238E-01	2.037E-01	0.000E+00	FAIL ABUN
RE-184	-1.355E-01	3.010E-01	4.175E-01	0.000E+00	NOT IDENT.
OS-185	-1.231E-02	4.482E-02	7.330E-02	0.000E+00	NOT IDENT.
RE-188	1.129E-01	2.078E-01	3.562E-01	0.000E+00	NOT IDENT.
W-188	3.048E+00	8.758E+00	1.357E+01	0.000E+00	FAIL ABUN
IR-192	4.287E-02	3.797E-02	6.931E-02	0.000E+00	FAIL ABUN
AU-195	3.568E-01	2.610E-01	4.173E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.761E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.226E+00	9.589E+00	1.644E+01	0.000E+00	NOT IDENT.
TL-202	3.034E-02	7.242E-02	1.272E-01	0.000E+00	NOT IDENT.
HG-203	3.821E-02	5.012E-02	7.975E-02	0.000E+00	NOT IDENT.
BI-207	2.326E-02	5.308E-02	9.432E-02	0.000E+00	FAIL ABUN
TL-207	3.523E-01	8.036E-01	1.246E+00	0.000E+00	FAIL ABUN
PO-209	-5.399E+00	7.408E+00	1.115E+01	0.000E+00	NOT IDENT.
BI-210	-7.037E-01	3.515E+00	6.054E+00	0.000E+00	NOT IDENT.
PB-210	-7.037E-01	3.515E+00	6.054E+00	0.000E+00	NOT IDENT.
PO-210	-7.037E-01	3.515E+00	6.054E+00	0.000E+00	NOT IDENT.
PB-211	-1.268E+00	1.329E+00	1.722E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.634E-01	7.673E-01	0.000E+00	FAIL ABUN
PO-215	3.523E-01	8.036E-01	1.246E+00	0.000E+00	FAIL ABUN
RN-219	3.563E-01	4.418E-01	7.888E-01	0.000E+00	FAIL ABUN
RN-220	1.756E+00	2.843E+01	4.823E+01	0.000E+00	NOT IDENT.
RA-223	3.523E-01	8.036E-01	1.246E+00	0.000E+00	FAIL ABUN
AC-227	-1.348E-03	4.459E-01	7.261E-01	0.000E+00	FAIL ABUN
TH-227	-1.348E-03	4.459E-01	7.261E-01	0.000E+00	FAIL ABUN
TH-229	1.669E-01	5.910E-01	9.969E-01	0.000E+00	FAIL ABUN
PA-231	-4.130E-01	1.664E+00	2.689E+00	0.000E+00	FAIL ABUN
TH-231	3.523E-01	8.036E-01	1.246E+00	0.000E+00	FAIL ABUN
U-231	-5.036E-01	1.505E+00	2.206E+00	0.000E+00	FAIL ABUN
PA-233	1.210E-02	6.675E-02	1.166E-01	0.000E+00	FAIL ABUN
PA-234	-1.112E-01	3.214E-01	5.068E-01	0.000E+00	FAIL ABUN
PA-234M	7.153E-01	4.220E+00	7.350E+00	0.000E+00	NOT IDENT.
U-235	-7.520E-02	2.474E-01	4.033E-01	0.000E+00	FAIL ABUN
NP-236	-3.501E-02	9.018E-02	1.487E-01	0.000E+00	NOT IDENT.
NP-239	-7.253E-02	2.150E-01	3.594E-01	0.000E+00	FAIL ABUN
AM-241	-3.280E-03	1.801E-01	2.727E-01	0.000E+00	NOT IDENT.
CM-243	-4.646E-02	1.099E-01	1.838E-01	0.000E+00	FAIL ABUN
AM-246	6.494E-02	1.376E-01	2.456E-01	0.000E+00	NOT IDENT.
CM-247	7.732E-03	4.019E-02	6.962E-02	0.000E+00	FAIL ABUN
CF-249	1.800E-02	4.488E-02	7.871E-02	0.000E+00	NOT IDENT.
CF-251	2.356E-03	1.453E-01	2.431E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006612.CNF;1
Sample date        : 22-DEC-2009 12:00:00 Acquisition date : 7-JAN-2010 13:31:56.
Sample ID          : G1202006612 Sample quantity      : 1.14450E+02 GRAM
Detector name      : GAM19 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.41 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials    : MXR1
Abundance limit    : 75.00000 Sensitivity          : 5.00000
Batch ID           : 937702 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	771	10.67*	1.169E+00	2.028E+01	2.028E+01	10.82
CD-109	88.03	196	3.72*	6.094E+00	2.837E+00	2.906E+00	40.82
SN-126	64.28	47	9.60	3.629E+00	4.429E-01	4.429E-01	174.55
	86.94	196	8.90	6.094E+00	1.186E+00	1.186E+00	57.47
	87.57	196	37.00*	6.094E+00	2.852E-01	2.852E-01	40.82
BA-137M	661.65	117	89.98*	2.301E+00	1.848E-01	1.850E-01	39.22
CS-137	661.65	117	85.12*	2.301E+00	1.954E-01	1.956E-01	39.23
TL-208	277.35	116	6.80	4.521E+00	1.238E+00	1.238E+00	50.91
	510.84	202	21.60	2.842E+00	1.078E+00	1.078E+00	39.16
	583.14	367	84.20*	2.555E+00	5.599E-01	5.599E-01	17.36
	860.37	67	12.46	1.835E+00	9.539E-01	9.539E-01	59.22
BI-211	72.87	-----	1.27	4.857E+00	-----	Line Not Found	-----
	351.07	707	12.94*	3.788E+00	4.728E+00	4.728E+00	13.12
PB-212	74.81	478	10.70	5.073E+00	2.887E+00	2.887E+00	25.49
	77.11	639	18.00	5.302E+00	2.195E+00	2.195E+00	15.43
	87.30	196	8.00	6.094E+00	1.319E+00	1.319E+00	42.03
	238.63	1229	44.60*	5.018E+00	1.801E+00	1.801E+00	9.86
	300.09	70	3.41	4.258E+00	1.573E+00	1.573E+00	77.94
PO-212	74.81	478	10.70	5.073E+00	2.887E+00	2.887E+00	25.49
	77.11	639	18.00	5.302E+00	2.195E+00	2.195E+00	15.43
	87.30	196	8.00	6.094E+00	1.319E+00	1.319E+00	42.03
	115.19	-----	0.60	6.866E+00	-----	Line Not Found	-----
	238.63	1229	44.60*	5.018E+00	1.801E+00	1.801E+00	9.86
	300.09	70	3.41	4.258E+00	1.573E+00	1.573E+00	77.94
BI-214	609.31	456	46.30*	2.465E+00	1.311E+00	1.311E+00	16.30
	1120.29	80	15.10	1.455E+00	1.194E+00	1.194E+00	50.52
	1764.49	67	15.80	1.030E+00	1.350E+00	1.350E+00	29.64
PB-214	74.81	478	6.21	5.073E+00	4.975E+00	4.975E+00	24.84
	77.11	639	10.50	5.302E+00	3.763E+00	3.763E+00	17.21
	87.30	196	4.67	6.094E+00	2.260E+00	2.260E+00	41.54
	241.98	328	7.49	4.975E+00	2.890E+00	2.890E+00	26.30
	295.21	389	19.20	4.314E+00	1.541E+00	1.541E+00	20.83

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	707	37.20*	3.788E+00	1.645E+00	1.645E+00	14.12
	74.81	478	6.21	5.073E+00	4.975E+00	4.975E+00	24.84
	77.11	639	10.50	5.302E+00	3.763E+00	3.763E+00	17.21
	87.30	196	4.67	6.094E+00	2.260E+00	2.260E+00	41.54
	241.98	328	7.49	4.975E+00	2.890E+00	2.890E+00	26.30
PO-216	295.21	389	19.20	4.314E+00	1.541E+00	1.541E+00	20.83
	351.92	707	37.20*	3.788E+00	1.645E+00	1.645E+00	14.12
	74.81	478	10.70	5.073E+00	2.887E+00	2.887E+00	25.49
	77.11	639	18.00	5.302E+00	2.195E+00	2.195E+00	15.43
	87.30	196	8.00	6.094E+00	1.319E+00	1.319E+00	42.03
PO-218	238.63	1229	44.60*	5.018E+00	1.801E+00	1.801E+00	9.86
	300.09	70	3.41	4.258E+00	1.573E+00	1.573E+00	77.94
	74.81	478	6.21	5.073E+00	4.975E+00	4.975E+00	24.84
	77.11	639	10.50	5.302E+00	3.763E+00	3.763E+00	17.21
	87.30	196	4.67	6.094E+00	2.260E+00	2.260E+00	41.54
RA-224	241.98	328	7.49	4.975E+00	2.890E+00	2.890E+00	26.30
	295.21	389	19.20	4.314E+00	1.541E+00	1.541E+00	20.83
	351.92	707	37.20*	3.788E+00	1.645E+00	1.645E+00	14.12
	240.98	328	3.95*	4.975E+00	5.479E+00	5.479E+00	25.70
	609.31	456	46.30*	2.465E+00	1.311E+00	1.311E+00	16.30
AC-228	1120.29	80	15.10	1.455E+00	1.194E+00	1.194E+00	50.52
	1764.49	67	15.80	1.030E+00	1.350E+00	1.350E+00	29.64
	338.32	271	11.40	3.902E+00	2.000E+00	2.000E+00	46.43
	911.07	229	27.70*	1.746E+00	1.555E+00	1.555E+00	22.49
	969.11	138	16.60	1.654E+00	1.654E+00	1.654E+00	35.27
RA-228	338.32	271	11.40	3.902E+00	2.000E+00	2.000E+00	46.43
	911.07	229	27.70*	1.746E+00	1.555E+00	1.555E+00	22.49
	969.11	138	16.60	1.654E+00	1.654E+00	1.654E+00	35.27
	74.81	478	10.70	5.073E+00	2.887E+00	2.934E+00	23.74
	77.11	639	18.00	5.302E+00	2.195E+00	2.231E+00	15.43
TH-228	87.30	196	8.00	6.094E+00	1.319E+00	1.341E+00	40.82
	238.63	1229	44.60*	5.018E+00	1.801E+00	1.830E+00	9.86
	300.09	70	3.41	4.258E+00	1.573E+00	1.598E+00	97.36
	609.31	456	46.30*	2.465E+00	1.311E+00	1.311E+00	16.30
	1120.29	80	15.10	1.455E+00	1.194E+00	1.194E+00	50.52
TH-230	1764.49	67	15.80	1.030E+00	1.350E+00	1.350E+00	29.64
	338.32	271	11.40	3.902E+00	2.000E+00	2.000E+00	22.97
	911.07	229	27.70*	1.746E+00	1.555E+00	1.555E+00	22.49
	969.11	138	16.60	1.654E+00	1.654E+00	1.654E+00	35.27
	63.29	47	3.80*	3.629E+00	1.119E+00	1.119E+00	174.81
TH-234	92.38	210	5.41	6.391E+00	1.994E+00	1.994E+00	42.13
	609.31	456	46.30*	2.465E+00	1.311E+00	1.311E+00	16.30
	1120.29	80	15.10	1.455E+00	1.194E+00	1.194E+00	50.52
	1764.49	67	15.80	1.030E+00	1.350E+00	1.350E+00	29.64
	86.50	196	12.60*	6.094E+00	8.376E-01	8.376E-01	45.74
NP-237	95.87	-----	2.60	6.515E+00	-----	Line Not Found	-----
U-238	63.29	47	3.80*	3.629E+00	1.119E+00	1.119E+00	174.81
	92.38	210	5.41	6.391E+00	1.994E+00	1.994E+00	39.02
	74.67	478	66.00*	5.073E+00	4.681E-01	4.681E-01	23.71

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	196	0.34	6.094E+00	3.141E+01	3.141E+01	40.82
	117.66	-----	0.55	6.871E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.659E+00	-----	Line Not Found	-----
ANH-511	511.00	202	100.00*	2.842E+00	2.328E-01	2.328E-01	38.26

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 1
Number of lines tentatively identified by NID 31 96.88%

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	2.028E+01	2.028E+01	0.219E+01	10.82	
CD-109	464.00D	1.02	2.837E+00	2.906E+00	1.186E+00	40.82	
SN-126	1.00E+05Y	1.00	2.852E-01	2.852E-01	1.164E-01	40.82	
BA-137M	30.17Y	1.00	1.848E-01	1.850E-01	0.726E-01	39.22	
CS-137	30.17Y	1.00	1.954E-01	1.956E-01	0.767E-01	39.23	
TL-208	1.41E+10Y	1.00	5.599E-01	5.599E-01	0.972E-01	17.36	
BI-211	7.04E+08Y	1.00	4.728E+00	4.728E+00	0.620E+00	13.12	
PB-212	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.178E+00	9.86	
PO-212	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.178E+00	9.86	
BI-214	1600.00Y	1.00	1.311E+00	1.311E+00	0.214E+00	16.30	
PB-214	1600.00Y	1.00	1.645E+00	1.645E+00	0.232E+00	14.12	
PO-214	1600.00Y	1.00	1.645E+00	1.645E+00	0.232E+00	14.12	
PO-216	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.178E+00	9.86	
PO-218	1600.00Y	1.00	1.645E+00	1.645E+00	0.232E+00	14.12	
RA-224	1.41E+10Y	1.00	5.479E+00	5.479E+00	1.408E+00	25.70	
RA-226	1600.00Y	1.00	1.311E+00	1.311E+00	0.214E+00	16.30	
AC-228	1.41E+10Y	1.00	1.555E+00	1.555E+00	0.350E+00	22.49	
RA-228	1.41E+10Y	1.00	1.555E+00	1.555E+00	0.350E+00	22.49	
TH-228	1.91Y	1.02	1.801E+00	1.830E+00	0.180E+00	9.86	
TH-230	4.47E+09Y	1.00	1.311E+00	1.311E+00	0.214E+00	16.30	
TH-232	1.41E+10Y	1.00	1.555E+00	1.555E+00	0.350E+00	22.49	
TH-234	4.47E+09Y	1.00	1.119E+00	1.119E+00	1.956E+00	174.81	
U-234	4.47E+09Y	1.00	1.311E+00	1.311E+00	0.214E+00	16.30	
NP-237	2.14E+06Y	1.00	8.376E-01	8.376E-01	3.831E-01	45.74	
U-238	4.47E+09Y	1.00	1.119E+00	1.119E+00	1.956E+00	174.81	
AM-243	7380.00Y	1.00	4.681E-01	4.681E-01	1.110E-01	23.71	
ANH-511	1.00E+09Y	1.00	2.328E-01	2.328E-01	0.891E-01	38.26	
Total Activity :			6.038E+01	6.048E+01			

Grand Total Activity : 6.038E+01 6.048E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.78	126	374	1.16	179.38	169	26	1.75E-02	54.6	6.24E+00	T
0	128.72	78	297	1.82	257.21	254	9	1.08E-02	83.0	6.82E+00	T
0	185.81	140	358	1.32	371.29	366	11	1.95E-02	56.4	5.89E+00	T
0	208.97	151	206	1.32	417.59	414	9	2.10E-02	37.7	5.48E+00	T
0	270.45	128	216	1.70	540.46	535	12	1.78E-02	49.4	4.59E+00	T
0	328.05	73	127	1.17	655.58	651	9	1.02E-02	60.4	3.99E+00	T
0	462.90	55	80	1.60	925.14	921	9	7.60E-03	65.1	3.07E+00	T
0	567.47	113	127	1.40	1134.20	1128	14	1.57E-02	46.7	2.61E+00	T
0	727.57	97	104	1.94	1454.31	1447	17	1.35E-02	52.7	2.12E+00	T
0	1592.86	32	0	1.78	3185.22	3181	11	4.44E-03	35.4	1.10E+00	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
*                               DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006612.CNF;1
* Acquisition date   : 7-JAN-2010 13:31:56.  Detector SN#           :
* Detector ID        : GAM19                      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 02:00:01.41             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00  Nuclide Library : SOLID
* Sample ID          : G1202006612           Analyst initials: MXR1
* Batch Number       : 937702                Sample Quantity : 1.14450E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54.1MS 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	2.028E+01	2.194E+00	6.080E-01	4.527E-02	33.362
CD-109	2.906E+00	1.186E+00	1.377E+00	1.233E-01	2.111
SN-126	2.852E-01	1.164E-01	1.357E-01	1.211E-02	2.102
BA-137M	1.850E-01	7.256E-02	6.942E-02	4.043E-03	2.665
CS-137	1.956E-01	7.671E-02	7.339E-02	4.291E-03	2.665
TL-208	5.599E-01	9.719E-02	6.468E-02	4.398E-03	8.657
BI-211	4.728E+00	6.203E-01	3.486E-01	2.226E-02	13.565
PB-212	1.801E+00	1.776E-01	9.910E-02	7.153E-03	18.174
PO-212	1.801E+00	1.776E-01	9.910E-02	7.153E-03	18.174
BI-214	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
PB-214	1.645E+00	2.322E-01	1.215E-01	1.002E-02	13.538
PO-214	1.645E+00	2.322E-01	1.215E-01	1.002E-02	13.538
PO-216	1.801E+00	1.776E-01	9.910E-02	7.153E-03	18.174
PO-218	1.645E+00	2.322E-01	1.215E-01	1.002E-02	13.538
RA-224	5.479E+00	1.408E+00	1.127E+00	6.387E-02	4.861
RA-226	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
AC-228	1.555E+00	3.498E-01	2.295E-01	2.596E-02	6.777
RA-228	1.555E+00	3.498E-01	2.295E-01	2.596E-02	6.777

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.830E+00	1.805E-01	1.007E-01	7.268E-03	18.174
TH-230	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
TH-232	1.555E+00	3.498E-01	2.295E-01	2.596E-02	6.777
TH-234	1.119E+00	1.956E+00	2.218E+00	3.880E-01	0.504
U-234	1.311E+00	2.137E-01	1.116E-01	8.772E-03	11.751
NP-237	8.376E-01	3.831E-01	4.027E-01	9.037E-02	2.080
U-238	1.119E+00	1.956E+00	2.218E+00	3.880E-01	0.504
AM-243	4.681E-01	1.110E-01	9.783E-02	7.759E-03	4.784
ANH-511	2.328E-01	8.908E-02	4.257E-02	2.512E-03	5.470

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	5.042E-01		3.713E-01	6.664E-01	4.524E-02	0.757
NA-22	-2.937E-02		4.740E-02	7.295E-02	4.866E-03	-0.403
NA-24	-8.918E-01		1.120E+00	Half-Life too short		
AL-26	-4.364E-03		3.023E-02	4.767E-02	2.783E-03	-0.092
TI-44	4.051E-01	+	6.251E-02	9.150E-02	7.469E-03	4.427
SC-46	1.623E-02		4.191E-02	7.035E-02	6.113E-03	0.231
V-48	-2.058E-02		7.127E-02	1.102E-01	8.862E-03	-0.187
CR-51	2.837E-01		4.255E-01	7.379E-01	4.775E-02	0.384
MN-52	-7.788E-02		2.210E-01	3.405E-01	2.456E-02	-0.229
MN-54	-6.539E-03		4.153E-02	6.622E-02	5.267E-03	-0.099
CO-56	5.859E-03		4.235E-02	6.944E-02	5.634E-03	0.084
CO-57	1.147E-02		2.837E-02	4.695E-02	2.802E-03	0.244
CO-58	4.875E-03		4.258E-02	6.977E-02	5.347E-03	0.070
FE-59	-2.592E-02		8.891E-02	1.440E-01	1.081E-02	-0.180
CO-60	2.051E-02		4.215E-02	7.316E-02	5.392E-03	0.280
ZN-65	3.352E-03		1.040E-01	1.505E-01	9.622E-03	0.022
GE-68	4.925E-01		1.264E+00	2.196E+00	1.520E-01	0.224
AS-73	-4.135E-01		8.919E-01	1.436E+00	1.062E-01	-0.288
AS-74	4.908E-02		1.020E-01	1.737E-01	1.029E-02	0.283
SE-75	-1.667E-02		5.444E-02	7.827E-02	4.552E-03	-0.213
BR-77	1.416E+01		1.499E+01	2.529E+01	1.495E+00	0.560
SR-82	-3.846E-01		4.435E-01	6.602E-01	4.754E-02	-0.583
RB-83	4.263E-02		7.870E-02	1.243E-01	7.350E-03	0.343
RB-84	-2.014E-02		7.880E-02	1.238E-01	1.062E-02	-0.163
KR-85	2.449E+01		8.013E+00	1.548E+01	9.141E-01	1.582
SR-85	1.268E-01		4.150E-02	8.017E-02	4.734E-03	1.582
RB-86	2.657E-01		8.128E-01	1.405E+00	9.737E-02	0.189
Y-88	3.751E-02		3.651E-02	7.089E-02	4.047E-03	0.529
ZR-88	-2.862E-03		3.521E-02	5.839E-02	3.251E-03	-0.049
Y-91	-7.468E-01		1.856E+01	3.077E+01	1.797E+00	-0.024
NB-94	1.563E-02		3.688E-02	6.222E-02	3.919E-03	0.251
NB-95	4.000E-02		5.012E-02	8.638E-02	6.104E-03	0.463
NB-95M	6.729E-01		1.852E-01	3.012E-01	2.231E-02	2.234
ZR-95	-3.775E-05		7.789E-02	1.266E-01	1.013E-02	0.000

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	2.502E-01		1.579E-01	Half-Life too short		
ZR-97	1.767E+01		2.969E+00	Half-Life too short		
MO-99	-5.537E-01		1.609E+01	2.609E+01	3.706E+00	-0.021
TC-99M	6.618E+10		3.050E+11	Half-Life too short		
RH-101	-5.886E-03		3.953E-02	6.224E-02	3.376E-03	-0.095
RH-102	4.941E-03		3.278E-02	5.482E-02	3.200E-03	0.090
RU-103	-4.373E-03		4.392E-02	7.204E-02	9.135E-03	-0.061
RH-106	1.626E-01		3.517E-01	5.969E-01	7.035E-02	0.272
RU-106	1.626E-01		3.513E-01	5.969E-01	3.520E-02	0.272
AG-108M	-1.583E-02		3.301E-02	5.286E-02	3.292E-03	-0.299
AG-110M	3.636E-02		4.480E-02	6.914E-02	4.290E-03	0.526
IN-111	-1.256E+00		1.493E+00	2.271E+00	1.291E-01	-0.553
IN-113M	-9.374E-03		5.024E-02	8.278E-02	4.939E-03	-0.113
SN-113	-9.374E-03		5.024E-02	8.278E-02	4.939E-03	-0.113
IN-114M	-4.880E-02		2.445E-01	3.393E-01	1.823E-02	-0.144
CD-115	-8.257E+00		1.534E+01	2.419E+01	1.432E+00	-0.341
SN-117M	-1.659E-02		6.878E-02	1.101E-01	5.861E-03	-0.151
SB-122	4.734E+00		3.543E+00	5.692E+00	3.378E-01	0.832
I-123	-9.403E+00		1.135E+01	Half-Life too short		
TE-123M	-1.407E-02		3.396E-02	5.395E-02	2.914E-03	-0.261
I-124	-3.816E-01		1.002E+00	1.315E+00	7.785E-02	-0.290
SB-124	4.968E-02		8.535E-02	1.536E-01	1.052E-02	0.323
SB-125	1.148E-02		9.893E-02	1.657E-01	9.864E-03	0.069
TE-125M	-6.672E+00		1.078E+01	1.713E+01	1.514E+00	-0.390
I-126	3.377E-02		2.435E-01	3.497E-01	2.055E-02	0.097
SB-126	1.545E-02		1.838E-01	2.615E-01	1.703E-02	0.059
SB-127	1.520E-01		1.699E+00	2.796E+00	2.780E-01	0.054
XE-127	-4.035E-04		5.688E-02	8.762E-02	4.780E-03	-0.005
I-131	-1.285E-02		1.303E-01	2.164E-01	1.384E-02	-0.059
TE-132	-4.258E-01		9.729E-01	1.521E+00	2.202E-01	-0.280
BA-133	6.423E-03		5.017E-02	7.378E-02	8.504E-03	0.087
I-133	-3.290E-03		6.777E-03	Half-Life too short		
CS-134	5.459E-02		5.266E-02	9.264E-02	6.966E-03	0.589
CS-135	2.784E-01		2.059E-01	3.266E-01	2.492E-02	0.852
I-135	1.059E+10		3.011E+10	Half-Life too short		
CS-136	-3.700E-02		1.231E-01	2.003E-01	1.548E-02	-0.185
CE-139	-1.996E-03		3.448E-02	5.558E-02	2.901E-03	-0.036
BA-140	-4.069E-02		2.841E-01	4.623E-01	1.505E-01	-0.088
LA-140	7.588E-03		9.880E-02	1.419E-01	9.600E-03	0.053
CE-141	5.984E-02		7.477E-02	1.250E-01	7.198E-03	0.479
CE-143	1.821E-03		2.625E-04	Half-Life too short		
CE-144	-7.167E-02		2.629E-01	3.671E-01	5.201E-02	-0.195
PM-144	5.940E-03		3.890E-02	6.423E-02	4.002E-03	0.092
PR-144	4.028E-01		2.637E+00	4.355E+00	2.711E-01	0.092
PM-146	8.437E-03		4.823E-02	8.091E-02	6.968E-03	0.104
ND-147	9.900E-02		6.181E-01	1.032E+00	1.401E-01	0.096
PM-149	-1.262E+02		1.325E+02	2.097E+02	2.973E+01	-0.602
EU-152	1.776E-02		1.904E-01	1.889E-01	1.230E-02	0.094

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.980E-03		9.443E-02	1.350E-01	1.050E-02	-0.022
EU-154	-1.173E-01		1.361E-01	2.032E-01	2.011E-02	-0.577
EU-155	1.753E-01		1.230E-01	2.108E-01	1.516E-02	0.831
TB-160	2.846E-02		1.585E-01	2.604E-01	2.228E-02	0.109
HO-166M	4.113E-02		6.512E-02	1.118E-01	7.164E-03	0.368
TM-171	-1.172E+01		3.511E+01	4.991E+01	3.794E+00	-0.235
LU-176	-2.558E-02		2.937E-02	4.205E-02	2.446E-03	-0.608
LU-177	4.345E+00	+	1.655E+00	2.484E+00	1.364E-01	1.749
LU-177M	-1.646E-01		2.070E-01	3.275E-01	1.851E-02	-0.503
HF-181	-7.017E-03		4.803E-02	7.865E-02	4.603E-03	-0.089
W-181	3.445E-01		4.553E-01	6.799E-01	5.145E-02	0.507
TA-182	1.176E-01		2.006E-01	3.514E-01	2.119E-02	0.335
RE-183	-5.291E-02		1.264E-01	2.004E-01	1.056E-02	-0.264
RE-184	-1.355E-01		3.072E-01	4.124E-01	2.357E-02	-0.329
OS-185	-1.231E-02		4.574E-02	7.304E-02	4.278E-03	-0.169
RE-188	1.129E-01		2.121E-01	3.503E-01	1.883E-02	0.322
W-188	3.048E+00		8.937E+00	1.342E+01	7.797E-01	0.227
IR-192	4.287E-02		3.874E-02	6.861E-02	4.009E-03	0.625
AU-195	3.568E-01		2.663E-01	4.088E-01	3.120E-02	0.873
TL-200	-3.458E-04		4.470E-04	Half-Life	too short	
TL-201	5.226E+00		9.785E+00	1.618E+01	8.453E-01	0.323
TL-202	3.034E-02		7.390E-02	1.263E-01	7.251E-03	0.240
HG-203	3.821E-02		5.114E-02	7.885E-02	4.849E-03	0.485
BI-207	2.326E-02		5.417E-02	9.443E-02	6.706E-03	0.246
TL-207	3.523E-01		8.200E-01	1.234E+00	2.038E-01	0.286
PO-209	-5.399E+00		7.559E+00	1.114E+01	9.796E-01	-0.485
BI-210	-7.037E-01		3.587E+00	5.890E+00	4.489E-01	-0.119
PB-210	-7.037E-01		3.587E+00	5.890E+00	4.489E-01	-0.119
PO-210	-7.037E-01		3.586E+00	5.890E+00	3.839E-01	-0.119
PB-211	-1.268E+00		1.356E+00	1.709E+00	1.065E+00	-0.742
BI-212	1.268E+00	+	6.769E-01	7.655E-01	6.373E-02	1.656
PO-215	3.523E-01		8.200E-01	1.234E+00	2.038E-01	0.286
RN-219	3.563E-01		4.508E-01	7.826E-01	1.058E-01	0.455
RN-220	1.756E+00		2.901E+01	4.799E+01	2.847E+00	0.037
RA-223	3.523E-01		8.200E-01	1.234E+00	2.038E-01	0.286
AC-227	-1.348E-03		4.550E-01	7.174E-01	9.994E-02	-0.002
TH-227	-1.348E-03		4.550E-01	7.174E-01	1.211E-01	-0.002
TH-229	1.669E-01		6.031E-01	9.825E-01	5.301E-02	0.170
PA-231	-4.130E-01		1.698E+00	2.659E+00	3.664E-01	-0.155
TH-231	3.523E-01		8.200E-01	1.234E+00	2.038E-01	0.286
U-231	-5.036E-01		1.536E+00	2.160E+00	1.716E-01	-0.233
PA-233	1.210E-02		6.812E-02	1.155E-01	7.128E-03	0.105
PA-234	-1.112E-01		3.279E-01	5.069E-01	9.461E-02	-0.219
PA-234M	7.153E-01		4.306E+00	7.354E+00	6.846E-01	0.097
U-235	-7.520E-02		2.524E-01	3.963E-01	6.427E-02	-0.190
NP-236	-3.501E-02		9.202E-02	1.463E-01	7.751E-03	-0.239
NP-239	-7.253E-02		2.194E-01	3.525E-01	2.205E-02	-0.206
AM-241	-3.280E-03		1.838E-01	2.659E-01	2.189E-02	-0.012

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.646E-02		1.121E-01	1.801E-01	1.295E-02	-0.258
AM-246	6.494E-02		1.404E-01	2.459E-01	1.697E-02	0.264
CM-247	7.732E-03		4.101E-02	6.907E-02	3.874E-03	0.112
CF-249	1.800E-02		4.580E-02	7.807E-02	4.360E-03	0.231
CF-251	2.356E-03		1.483E-01	2.394E-01	1.265E-02	0.010

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]G1202006612          *
* Acquisition date   : 7-JAN-2010 13:31:56 Detector SN#      :              *
* Detector ID        : GAM19                      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 02:00:01.41              Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202006612              Analyst initials: MXR1        *
* Batch Number       : 937702                   Sample Quantity : 1.1445E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000        *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54 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	2.028E+01	2.150E+00	3.029E-01	1.097E+00
CD-109	2.906E+00	1.163E+00	7.040E-01	5.931E-01
SN-126	2.852E-01	1.141E-01	6.940E-02	5.822E-02
BA-137M	1.850E-01	7.111E-02	3.485E-02	3.628E-02
CS-137	1.956E-01	7.518E-02	3.684E-02	3.836E-02
TL-208	5.599E-01	9.525E-02	3.250E-02	4.860E-02
BI-211	4.728E+00	6.079E-01	1.760E-01	3.102E-01
PB-212	1.801E+00	1.741E-01	5.021E-02	8.882E-02
PO-212	1.801E+00	1.741E-01	5.021E-02	8.882E-02
BI-214	1.311E+00	2.094E-01	5.604E-02	1.069E-01
PB-214	1.645E+00	2.276E-01	6.134E-02	1.161E-01
PO-214	1.645E+00	2.276E-01	6.134E-02	1.161E-01
PO-216	1.801E+00	1.741E-01	5.021E-02	8.882E-02
PO-218	1.645E+00	2.276E-01	6.134E-02	1.161E-01
RA-224	5.479E+00	1.380E+00	5.711E-01	7.040E-01
RA-226	1.311E+00	2.094E-01	5.604E-02	1.069E-01
AC-228	1.555E+00	3.428E-01	1.148E-01	1.749E-01
RA-228	1.555E+00	3.428E-01	1.148E-01	1.749E-01
TH-228	1.830E+00	1.769E-01	5.102E-02	9.025E-02
TH-230	1.311E+00	2.094E-01	5.604E-02	1.069E-01
TH-232	1.555E+00	3.428E-01	1.148E-01	1.749E-01
TH-234	1.119E+00	1.917E+00	1.137E+00	9.779E-01
U-234	1.311E+00	2.094E-01	5.604E-02	1.069E-01
NP-237	8.376E-01	3.755E-01	2.060E-01	1.916E-01
U-238	1.119E+00	1.917E+00	1.137E+00	9.779E-01
AM-243	4.681E-01	1.088E-01	5.010E-02	5.549E-02
ANH-511	2.328E-01	8.730E-02	2.142E-02	4.454E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	5.042E-01	3.639E-01	3.355E-01	1.857E-01	NOT IDENT.
NA-22	-2.937E-02	4.646E-02	3.639E-02	2.370E-02	NOT IDENT.
NA-24	-8.918E+05	2.195E+06	0.000E+00	1.120E+06	SHORT HLIF
AL-26	-4.364E-03	2.963E-02	2.370E-02	1.512E-02	NOT IDENT.
TI-44	4.051E-01	6.126E-02	4.684E-02	3.126E-02	FAIL ABUN
SC-46	1.623E-02	4.107E-02	3.521E-02	2.095E-02	FAIL ABUN
V-48	-2.058E-02	6.985E-02	5.512E-02	3.564E-02	NOT IDENT.
CR-51	2.837E-01	4.170E-01	3.729E-01	2.127E-01	NOT IDENT.
MN-52	-7.788E-02	2.166E-01	1.697E-01	1.105E-01	NOT IDENT.
MN-54	-6.539E-03	4.070E-02	3.316E-02	2.077E-02	NOT IDENT.
CO-56	5.859E-03	4.150E-02	3.477E-02	2.117E-02	NOT IDENT.
CO-57	1.147E-02	2.780E-02	2.394E-02	1.418E-02	NOT IDENT.
CO-58	4.875E-03	4.173E-02	3.496E-02	2.129E-02	NOT IDENT.
FE-59	-2.592E-02	8.713E-02	7.193E-02	4.446E-02	NOT IDENT.
CO-60	2.051E-02	4.130E-02	3.648E-02	2.107E-02	NOT IDENT.
ZN-65	3.352E-03	1.019E-01	7.517E-02	5.199E-02	NOT IDENT.
GE-68	4.925E-01	1.239E+00	1.097E+00	6.319E-01	NOT IDENT.
AS-73	-4.135E-01	8.741E-01	7.374E-01	4.460E-01	NOT IDENT.
AS-74	4.908E-02	9.991E-02	8.725E-02	5.098E-02	NOT IDENT.
SE-75	-1.667E-02	5.335E-02	3.962E-02	2.722E-02	NOT IDENT.
BR-77	1.416E+01	1.469E+01	1.272E+01	7.497E+00	FAIL ABUN
SR-82	-3.846E-01	4.347E-01	3.309E-01	2.218E-01	NOT IDENT.
RB-83	4.263E-02	7.713E-02	6.254E-02	3.935E-02	NOT IDENT.
RB-84	-2.014E-02	7.723E-02	6.196E-02	3.940E-02	NOT IDENT.
KR-85	2.449E+01	7.853E+00	7.789E+00	4.007E+00	NOT IDENT.
SR-85	1.268E-01	4.067E-02	4.034E-02	2.075E-02	NOT IDENT.
RB-86	2.657E-01	7.966E-01	7.022E-01	4.064E-01	NOT IDENT.
Y-88	3.751E-02	3.578E-02	3.524E-02	1.826E-02	NOT IDENT.
ZR-88	-2.862E-03	3.451E-02	2.945E-02	1.761E-02	NOT IDENT.
Y-91	-7.468E-01	1.819E+01	1.536E+01	9.278E+00	NOT IDENT.
NB-94	1.563E-02	3.615E-02	3.121E-02	1.844E-02	NOT IDENT.
NB-95	4.000E-02	4.912E-02	4.330E-02	2.506E-02	NOT IDENT.
NB-95M	6.729E-01	1.815E-01	1.526E-01	9.262E-02	NOT IDENT.
ZR-95	-3.775E-05	7.634E-02	6.346E-02	3.895E-02	NOT IDENT.
NB-97	2.502E+05	3.096E+05	0.000E+00	1.579E+05	SHORT HLIF
ZR-97	1.767E+07	5.818E+06	0.000E+00	2.969E+06	SHORT HLIF
MO-99	-5.537E-01	1.577E+01	1.308E+01	8.045E+00	NOT IDENT.
TC-99M	6.618E+16	5.979E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.886E-03	3.874E-02	3.159E-02	1.977E-02	FAIL ABUN
RH-102	4.941E-03	3.212E-02	2.760E-02	1.639E-02	NOT IDENT.
RU-103	-4.373E-03	4.304E-02	3.625E-02	2.196E-02	FAIL ABUN
RH-106	1.626E-01	3.446E-01	2.998E-01	1.758E-01	FAIL ABUN
RU-106	1.626E-01	3.442E-01	2.998E-01	1.756E-01	FAIL ABUN
AG-108M	-1.583E-02	3.235E-02	2.664E-02	1.651E-02	NOT IDENT.
AG-110M	3.636E-02	4.390E-02	3.470E-02	2.240E-02	NOT IDENT.
IN-111	-1.256E+00	1.463E+00	1.150E+00	7.464E-01	NOT IDENT.
IN-113M	-9.374E-03	4.923E-02	4.175E-02	2.512E-02	NOT IDENT.
SN-113	-9.374E-03	4.923E-02	4.175E-02	2.512E-02	NOT IDENT.
IN-114M	-4.880E-02	2.397E-01	1.723E-01	1.223E-01	NOT IDENT.
CD-115	-8.257E+00	1.503E+01	1.217E+01	7.669E+00	NOT IDENT.
SN-117M	-1.659E-02	6.740E-02	5.601E-02	3.439E-02	NOT IDENT.
SB-122	4.734E+00	3.472E+00	2.861E+00	1.772E+00	NOT IDENT.
I-123	-9.403E+06	2.224E+07	0.000E+00	1.135E+07	SHORT HLIF
TE-123M	-1.407E-02	3.328E-02	2.744E-02	1.698E-02	NOT IDENT.
I-124	-3.816E-01	9.818E-01	6.608E-01	5.009E-01	NOT IDENT.
SB-124	4.968E-02	8.364E-02	7.644E-02	4.267E-02	FAIL ABUN
SB-125	1.148E-02	9.696E-02	8.349E-02	4.947E-02	FAIL ABUN
TE-125M	-6.672E+00	1.057E+01	8.740E+00	5.390E+00	NOT IDENT.
I-126	3.377E-02	2.387E-01	1.755E-01	1.218E-01	NOT IDENT.
SB-126	1.545E-02	1.801E-01	1.312E-01	9.190E-02	FAIL ABUN
SB-127	1.520E-01	1.665E+00	1.403E+00	8.496E-01	NOT IDENT.
XE-127	-4.035E-04	5.574E-02	4.446E-02	2.844E-02	NOT IDENT.
I-131	-1.285E-02	1.277E-01	1.092E-01	6.517E-02	NOT IDENT.
TE-132	-4.258E-01	9.534E-01	7.708E-01	4.865E-01	NOT IDENT.
BA-133	6.423E-03	4.917E-02	3.725E-02	2.509E-02	FAIL ABUN
I-133	-3.290E+03	1.328E+04	0.000E+00	6.777E+03	SHORT HLIF
CS-134	5.459E-02	5.160E-02	4.642E-02	2.633E-02	NOT IDENT.
CS-135	2.784E-01	2.018E-01	1.653E-01	1.030E-01	NOT IDENT.
I-135	1.059E+16	5.902E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.700E-02	1.206E-01	1.001E-01	6.154E-02	FAIL ABUN
CE-139	-1.996E-03	3.379E-02	2.825E-02	1.724E-02	NOT IDENT.
BA-140	-4.069E-02	2.784E-01	2.325E-01	1.421E-01	NOT IDENT.
LA-140	7.588E-03	9.682E-02	7.063E-02	4.940E-02	FAIL ABUN
CE-141	5.984E-02	7.328E-02	6.362E-02	3.739E-02	NOT IDENT.
CE-143	1.821E+03	5.144E+02	0.000E+00	2.625E+02	SHORT HLIF
CE-144	-7.167E-02	2.577E-01	1.870E-01	1.315E-01	NOT IDENT.
PM-144	5.940E-03	3.812E-02	3.223E-02	1.945E-02	NOT IDENT.
PR-144	4.028E-01	2.585E+00	2.185E+00	1.319E+00	NOT IDENT.

PM-146	8.437E-03	4.726E-02	4.075E-02	2.411E-02	NOT IDENT.
ND-147	9.900E-02	6.057E-01	5.190E-01	3.090E-01	FAIL ABUN
PM-149	-1.262E+02	1.298E+02	1.061E+02	6.625E+01	NOT IDENT.
EU-152	1.776E-02	1.866E-01	9.541E-02	9.519E-02	NOT IDENT.
GD-153	-2.980E-03	9.254E-02	6.897E-02	4.721E-02	NOT IDENT.
EU-154	-1.173E-01	1.334E-01	1.014E-01	6.804E-02	NOT IDENT.
EU-155	1.753E-01	1.205E-01	1.076E-01	6.150E-02	FAIL ABUN
TB-160	2.846E-02	1.553E-01	1.304E-01	7.925E-02	FAIL ABUN
HO-166M	4.113E-02	6.381E-02	5.610E-02	3.256E-02	FAIL ABUN
TM-171	-1.172E+01	3.441E+01	2.558E+01	1.755E+01	NOT IDENT.
LU-176	-2.558E-02	2.878E-02	2.126E-02	1.468E-02	FAIL ABUN
LU-177	4.345E+00	1.622E+00	1.260E+00	8.277E-01	FAIL ABUN
LU-177M	-1.646E-01	2.029E-01	1.651E-01	1.035E-01	NOT IDENT.
HF-181	-7.017E-03	4.707E-02	3.959E-02	2.401E-02	NOT IDENT.
W-181	3.445E-01	4.462E-01	3.486E-01	2.277E-01	NOT IDENT.
TA-182	1.176E-01	1.966E-01	1.754E-01	1.003E-01	FAIL ABUN
RE-183	-5.291E-02	1.238E-01	1.019E-01	6.318E-02	FAIL ABUN
RE-184	-1.355E-01	3.010E-01	2.089E-01	1.536E-01	NOT IDENT.
OS-185	-1.231E-02	4.482E-02	3.667E-02	2.287E-02	NOT IDENT.
RE-188	1.129E-01	2.078E-01	1.782E-01	1.060E-01	NOT IDENT.
W-188	3.048E+00	8.758E+00	6.790E+00	4.468E+00	FAIL ABUN
IR-192	4.287E-02	3.797E-02	3.468E-02	1.937E-02	FAIL ABUN
AU-195	3.568E-01	2.610E-01	2.088E-01	1.332E-01	FAIL ABUN
TL-200	-3.458E+02	8.761E+02	0.000E+00	4.470E+02	SHORT HLIF
TL-201	5.226E+00	9.589E+00	8.224E+00	4.892E+00	NOT IDENT.
TL-202	3.034E-02	7.242E-02	6.362E-02	3.695E-02	NOT IDENT.
HG-203	3.821E-02	5.012E-02	3.990E-02	2.557E-02	NOT IDENT.
BI-207	2.326E-02	5.308E-02	4.719E-02	2.708E-02	FAIL ABUN
TL-207	3.523E-01	8.036E-01	6.233E-01	4.100E-01	FAIL ABUN
PO-209	-5.399E+00	7.408E+00	5.577E+00	3.780E+00	NOT IDENT.
BI-210	-7.037E-01	3.515E+00	3.029E+00	1.793E+00	NOT IDENT.
PB-210	-7.037E-01	3.515E+00	3.029E+00	1.793E+00	NOT IDENT.
PO-210	-7.037E-01	3.515E+00	3.029E+00	1.793E+00	NOT IDENT.
PB-211	-1.268E+00	1.329E+00	8.615E-01	6.778E-01	NOT IDENT.
BI-212	1.268E+00	6.634E-01	3.839E-01	3.385E-01	FAIL ABUN
PO-215	3.523E-01	8.036E-01	6.233E-01	4.100E-01	FAIL ABUN
RN-219	3.563E-01	4.418E-01	3.946E-01	2.254E-01	FAIL ABUN
RN-220	1.756E+00	2.843E+01	2.413E+01	1.451E+01	NOT IDENT.
RA-223	3.523E-01	8.036E-01	6.233E-01	4.100E-01	FAIL ABUN
AC-227	-1.348E-03	4.459E-01	3.633E-01	2.275E-01	FAIL ABUN
TH-227	-1.348E-03	4.459E-01	3.633E-01	2.275E-01	FAIL ABUN
TH-229	1.669E-01	5.910E-01	4.988E-01	3.016E-01	FAIL ABUN
PA-231	-4.130E-01	1.664E+00	1.345E+00	8.488E-01	FAIL ABUN
TH-231	3.523E-01	8.036E-01	6.233E-01	4.100E-01	FAIL ABUN
U-231	-5.036E-01	1.505E+00	1.104E+00	7.679E-01	FAIL ABUN
PA-233	1.210E-02	6.675E-02	5.836E-02	3.406E-02	FAIL ABUN
PA-234	-1.112E-01	3.214E-01	2.536E-01	1.640E-01	FAIL ABUN
PA-234M	7.153E-01	4.220E+00	3.677E+00	2.153E+00	NOT IDENT.
U-235	-7.520E-02	2.474E-01	2.018E-01	1.262E-01	FAIL ABUN
NP-236	-3.501E-02	9.018E-02	7.441E-02	4.601E-02	NOT IDENT.
NP-239	-7.253E-02	2.150E-01	1.798E-01	1.097E-01	FAIL ABUN
AM-241	-3.280E-03	1.801E-01	1.364E-01	9.191E-02	NOT IDENT.
CM-243	-4.646E-02	1.099E-01	9.195E-02	5.607E-02	FAIL ABUN
AM-246	6.494E-02	1.376E-01	1.229E-01	7.021E-02	NOT IDENT.
CM-247	7.732E-03	4.019E-02	3.483E-02	2.051E-02	FAIL ABUN
CF-249	1.800E-02	4.488E-02	3.938E-02	2.290E-02	NOT IDENT.
CF-251	2.356E-03	1.453E-01	1.216E-01	7.414E-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
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46.50	328.4748
46.50	328.4748
46.50	328.4748
48.70	330.3247
49.72	332.6768
51.35	322.5602
52.39	342.5199
52.97	342.7468
53.15	342.8176
53.44	344.8900
54.07	348.0772
56.28	347.9515
56.28	335.1750
57.37	0.0000
57.53	334.6496
57.53	334.6505
57.60	334.6752
57.98	360.8106
57.98	360.8106
59.32	370.7984
59.32	370.7984
59.40	370.8300
59.54	370.8859
59.72	370.9569
60.01	371.0717
61.10	380.9849
61.14	381.0004
61.30	371.5773
63.00	400.9464
63.29	401.0666
63.29	401.0666
63.58	431.1019
64.28	444.1001
65.12	425.4308
65.20	425.4651
65.20	425.4651
66.05	417.8865
66.72	457.9172
66.83	457.9681
66.91	488.2207
67.20	488.3612
67.20	488.3612
67.75	517.2765
67.85	527.9420
68.90	406.3253
68.90	406.3253
69.30	406.4856
69.67	462.4459
70.82	472.5395
70.82	472.5395
70.83	466.1592
72.80	446.2484
72.87	486.2682
72.87	486.2682
74.67	457.6537
74.81	457.7148
74.81	457.7148
74.81	457.7148
74.81	457.7148
74.81	457.7148
74.81	457.7148
74.81	457.7148
74.97	457.7827
75.28	457.9153
75.70	458.0948
77.11	458.6945
77.11	458.6945

77.11	458.6945
77.11	458.6945
77.11	458.6945
77.11	458.6945
77.11	458.6945
78.38	395.5204
79.62	420.1106
79.80	420.1791
79.80	420.1791
80.11	475.0483
80.18	475.0771
80.30	475.1293
80.30	475.1293
80.57	519.5471
81.00	550.6372
81.07	550.6706
81.07	550.6706
81.07	550.6706
81.07	550.6706
82.60	532.5943
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83.78	456.4072
83.78	456.4072
83.78	456.4072
84.21	459.0039
84.90	439.8750
85.43	440.0775
86.29	464.6934
86.50	404.8584
86.54	404.8721
86.59	404.8904
86.72	404.9362
86.79	404.9591
86.94	405.0125
87.30	405.1376
87.30	405.1376
87.30	405.1376
87.30	405.1376
87.30	405.1376
87.30	405.1376
87.57	405.2322
87.88	405.3391
88.03	405.3909
88.36	405.5054
88.47	405.5435
89.95	406.0532
91.11	406.4484
92.29	406.8497
92.38	406.8802
92.38	406.8802
93.35	407.2067
94.00	407.4249
94.67	407.6477
94.67	407.6492
94.90	407.7271
94.90	407.7271
94.90	407.7271
94.90	407.7271
95.87	347.6577
95.87	347.6577
96.73	375.6676
97.43	303.9722
98.44	261.6934
98.44	261.6943
98.88	256.8776
99.55	263.5628
99.55	263.5628
99.86	271.8149
100.00	281.6710
100.10	281.6941
103.18	400.1701
103.76	356.2103
105.00	292.8452
105.31	295.9991
108.00	349.1334
109.28	352.5636

111.00	353.0189
111.00	353.0189
111.76	341.8589
112.95	312.1829
115.19	297.1665
116.30	302.5876
117.00	327.6241
117.00	327.6241
117.66	335.0418
121.11	305.7154
121.62	309.9862
121.78	310.0215
122.06	280.9475
122.32	273.7139
122.32	273.7139
122.32	273.7139
122.32	273.7139
123.07	280.8509
127.23	325.8252
129.76	294.5889
131.20	274.7721
133.02	313.6930
133.54	302.0559
135.34	315.6193
136.00	316.2071
136.25	316.2599
136.48	306.8504
140.51	301.3417
140.51	0.0000
142.18	348.0771
142.65	348.1828
143.76	329.4267
144.24	311.5739
144.24	311.5739
144.24	311.5739
144.24	311.5739
145.22	299.0876
145.44	304.4136
147.16	307.9198
152.43	322.7402
152.70	321.7318
153.22	295.2817
154.21	309.2785
154.21	309.2785
154.21	309.2785
154.21	309.2785
155.03	329.6375
156.02	331.9666
158.56	319.6930
159.00	0.0000
159.00	319.7777
160.31	301.8944
161.27	328.7539
162.32	294.7830
162.64	292.7033
163.35	259.6966
163.89	266.1944
165.85	287.9079
167.43	259.2520
171.28	289.8969
171.86	282.4754
172.10	283.5877
176.55	263.8490
176.60	282.1649
181.06	297.1283
184.41	273.4526
185.71	264.1217
186.00	264.1646
190.27	279.5410
192.34	284.3232
193.63	275.0472
197.04	251.5882
198.01	263.7034
198.60	282.3170
200.40	273.8572
201.83	277.3377
202.84	252.2023
205.31	250.2762

208.36	259.4354
208.81	247.6599
209.75	242.0778
209.75	242.0778
210.97	261.5376
215.65	226.5290
216.55	213.4293
218.09	241.1202
222.10	253.7366
223.80	203.1592
226.40	231.0557
227.00	227.8067
227.08	227.8161
227.20	236.6764
228.16	236.7875
228.18	236.7891
228.18	236.7891
231.56	0.0000
235.69	222.0993
236.00	222.1329
236.00	222.1329
238.63	211.2901
238.63	211.2901
238.63	211.2901
238.63	211.2901
239.00	211.3263
240.98	211.5234
241.98	211.6235
241.98	211.6235
241.98	211.6235
244.69	211.8916
245.39	211.9598
247.94	185.8517
248.90	185.9343
249.79	177.0676
252.40	179.0710
252.85	197.0184
252.85	197.0184
254.15	0.0000
256.20	197.3192
256.20	197.3192
260.50	196.5786
260.90	202.2308
262.80	193.4055
264.65	183.0621
268.24	187.8611
268.79	178.8874
269.46	178.9406
269.46	178.9406
269.46	178.9406
269.46	178.9406
271.23	144.4668
273.65	144.6191
276.40	153.8425
277.35	162.9580
277.60	162.9756
277.60	162.9756
278.00	173.5692
278.60	166.0653
279.20	167.6179
279.53	164.6210
280.46	131.4470
281.68	140.5861
283.67	162.2649
284.30	161.6276
285.00	168.0334
285.90	179.9088
286.10	179.9257
286.10	179.9257
287.40	159.6169
288.45	0.0000
290.67	156.2959
290.80	163.8918
291.72	168.5099
293.26	0.0000
293.70	185.3605
295.21	176.3553
295.21	176.3553

295.21	176.3553
295.96	176.4096
296.50	82.1404
297.23	82.1656
298.57	82.2107
299.80	82.2524
299.80	82.2524
300.09	82.2623
300.09	82.2623
300.09	82.2623
300.09	82.2623
300.12	82.2634
301.29	150.8888
302.84	125.0570
303.76	126.6294
303.91	126.6378
304.40	132.7674
304.40	132.7674
304.84	152.6326
306.84	166.2866
308.46	148.5765
311.98	140.5221
316.51	134.3353
318.01	154.6699
319.02	173.1519
319.41	159.3608
320.08	143.7382
323.87	143.0306
323.87	143.0306
323.87	143.0306
323.87	143.0306
325.23	147.7227
328.77	152.5485
333.44	108.0577
334.20	122.7582
334.20	122.7582
334.30	122.7631
338.28	149.3967
338.28	149.3967
338.28	149.3967
338.28	149.3967
338.32	149.3987
338.32	149.3987
338.32	149.3987
340.50	145.4980
340.57	145.5019
344.27	153.4548
345.85	160.0616
350.59	0.0000
351.07	125.8753
351.92	125.9149
351.92	125.9149
351.92	125.9149
355.39	0.0000
356.01	113.6511
364.48	115.2524
366.43	116.2727
367.43	128.5077
367.94	0.0000
369.80	116.4135
374.96	124.1528
383.85	127.3766
387.95	128.5044
388.63	128.5343
391.69	130.5643
391.69	130.5643
392.90	131.5647
398.62	139.4113
400.65	120.5275
401.10	117.6986
401.81	106.3344
402.60	120.6081
404.84	160.6181
410.95	115.2365
411.60	135.2657
413.65	146.7963
414.70	146.8489
415.30	146.8790

415.76	137.3625
417.63	0.0000
418.52	103.1168
423.70	114.7705
427.08	108.1956
427.89	102.4781
432.53	82.4905
433.93	95.9631
439.47	83.6377
439.56	83.6409
439.89	82.6879
443.98	91.4619
444.90	90.5255
445.03	86.6766
445.03	86.6766
445.03	86.6766
445.03	86.6766
453.90	101.4086
463.38	95.8990
468.07	69.5224
473.00	111.7291
475.06	99.1624
475.35	93.3375
476.78	83.6516
477.59	83.6715
477.96	87.5731
482.03	99.3728
484.57	85.8000
487.03	95.6206
490.36	0.0000
492.35	84.0463
497.08	87.1020
507.63	0.0000
510.53	0.0000
510.84	62.8902
511.00	62.8930
511.85	62.9082
511.85	62.9082
513.99	62.9480
513.99	62.9480
520.41	70.3857
520.65	65.2876
527.90	85.9146
528.96	0.0000
529.64	82.0051
529.87	0.0000
531.02	74.1302
537.32	78.2247
543.00	79.3418
546.56	0.0000
549.76	84.4604
552.65	66.6271
555.20	95.5336
563.23	88.1004
563.90	79.8027
568.70	99.8853
569.32	94.9072
569.50	94.9119
569.67	91.5861
573.80	86.6878
574.00	86.6921
574.64	100.0464
578.91	98.4918
579.30	0.0000
583.14	83.2290
585.48	66.8929
591.81	85.4316
592.07	85.4379
593.00	81.4370
595.88	71.4385
600.56	80.5938
602.52	0.0000
602.71	83.9986
602.71	83.9986
603.60	84.0190
604.41	72.2720
604.70	84.0434
609.31	69.6721

609.31	69.6721
609.31	69.6721
609.31	69.6721
610.33	69.6907
612.46	64.0013
614.37	65.7189
618.01	70.8408
621.84	69.8979
621.84	69.8979
631.29	67.0216
633.02	66.0347
633.10	66.0363
634.78	70.1287
635.90	81.3320
636.97	82.3724
645.85	69.3065
646.12	70.3308
656.30	73.2344
657.75	66.4457
657.90	0.0000
661.65	88.6810
661.65	88.6810
664.57	0.0000
666.33	75.1237
666.33	75.1237
675.00	78.0206
677.61	70.8800
685.20	62.7767
692.80	62.8914
695.00	61.8933
696.49	76.3631
696.49	76.3631
697.00	82.5645
697.49	85.6708
698.33	89.8165
698.50	89.8207
699.00	87.7662
702.63	69.2393
706.10	76.5365
706.58	0.0000
706.67	85.8572
709.31	74.5242
711.68	59.0317
713.82	62.1694
717.42	73.6296
720.50	62.2676
721.93	0.0000
722.20	60.5621
722.78	60.5693
722.78	60.5693
722.89	60.5707
722.95	60.5721
723.30	64.0379
724.18	55.3958
727.18	65.4825
733.00	65.9171
735.90	59.5145
739.58	63.5854
742.81	51.1138
744.21	54.2610
747.13	67.8723
751.79	61.6720
752.31	55.4067
753.82	61.7008
755.35	63.8132
756.15	62.7788
756.87	53.3707
763.93	90.1404
765.79	72.3523
766.42	62.9238
766.84	63.9785
776.49	76.7302
778.00	54.6749
778.57	45.2182
778.89	51.5313
783.80	74.7476
785.46	53.7119
792.07	82.2675

795.84	57.0019
796.30	52.7844
798.80	89.7813
801.93	60.2480
805.60	57.1219
810.29	59.2977
810.76	54.0094
815.85	63.6094
817.79	50.9086
818.51	51.9776
819.60	57.2946
826.30	57.3763
828.27	0.0000
831.60	59.5684
831.96	69.1482
834.83	65.9961
836.80	0.0000
846.75	51.2227
848.13	64.0459
856.28	0.0000
856.80	53.4680
860.37	44.9470
867.32	39.2958
867.82	51.8038
871.10	47.6682
873.19	48.2849
874.81	45.0803
875.33	0.0000
876.40	56.9064
879.36	52.6427
880.27	52.6523
880.51	51.5813
881.50	54.8150
883.24	55.9102
884.67	51.6246
889.25	44.1371
896.60	50.6707
898.02	37.7446
899.00	42.0669
903.28	43.1826
911.07	52.9801
911.07	52.9801
911.07	52.9801
919.63	41.1571
920.93	40.0839
925.00	49.8745
925.24	49.8768
926.50	48.8046
935.52	45.6319
937.48	69.5609
944.10	53.3258
946.00	52.2574
949.00	62.0919
962.29	67.0870
964.01	50.9824
966.15	61.9321
968.20	75.4418
969.11	75.4553
969.11	75.4553
969.11	75.4553
977.42	35.0484
980.50	38.3573
983.50	39.4752
989.30	38.4205
996.32	38.4718
1001.03	39.4219
1001.68	35.7595
1004.76	43.1197
1021.30	0.0000
1024.50	0.0000
1034.80	45.2038
1036.00	44.2910
1037.82	56.3064
1038.57	64.6224
1038.76	0.0000
1045.16	44.3652
1046.59	44.3770
1048.07	53.6363

1050.47	39.7823
1050.47	39.7823
1062.04	53.7708
1063.62	41.7316
1076.63	39.0383
1077.35	39.9731
1078.86	37.1956
1085.78	47.4825
1099.22	42.9285
1112.02	46.2975
1112.84	43.2968
1115.52	48.1306
1120.29	52.4521
1120.29	52.4521
1120.29	52.4521
1120.29	52.4521
1120.51	52.9897
1121.28	52.9966
1124.00	0.0000
1129.67	47.8457
1131.51	0.0000
1147.95	0.0000
1167.94	47.2127
1173.22	41.5848
1175.09	34.0342
1177.93	36.8878
1189.05	48.3271
1204.90	47.5037
1205.75	0.0000
1213.00	55.1774
1221.42	46.6792
1230.97	56.2944
1235.34	67.7903
1236.41	0.0000
1238.25	45.8516
1246.25	54.5206
1260.41	0.0000
1271.85	41.2976
1274.45	52.8426
1274.54	48.0408
1291.56	48.1689
1298.22	0.0000
1312.09	37.6924
1325.50	25.1801
1325.50	25.1801
1332.49	24.2371
1333.61	22.3018
1360.21	20.4454
1362.66	0.0000
1365.15	24.3581
1368.21	30.2179
1368.53	0.0000
1376.25	27.3267
1384.27	24.4273
1394.10	26.4210
1395.20	31.3177
1407.95	26.4749
1434.06	16.7330
1436.60	25.6012
1457.56	0.0000
1460.81	24.7030
1489.15	17.8579
1509.49	12.9344
1596.49	15.5353
1620.62	15.1526
1678.03	0.0000
1691.02	12.2344
1691.02	12.2344
1706.46	0.0000
1750.46	0.0000
1764.49	18.5244
1764.49	18.5244
1764.49	18.5244
1764.49	18.5244
1770.23	15.8894
1771.40	23.6897
1791.20	0.0000
1808.65	11.3827

1836.01

7.2677

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202006612

Total Uranium Activity	3.2936E+00	ug/g
Total Uranium Counting Unc.	5.7033E+00	ug/g
Total Uranium Tpu	2.9098E-06	ug/g
Total Uranium Mda	3.3848E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G1202006612
*  ANALYST       : MXR1            DETECTOR    : GAM19
*  SAMPLE DATE   : 22-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:31:56.45  SAMPLE ALQT: 114.450 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.982E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.408E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.458E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.679E+00

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VAX/VMS Nuclide Identification Report Generated 7-JAN-2010 14:33:07.89

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006613.CNF;1
Sample date       : 31-DEC-2009 00:00:00 Acquisition date : 7-JAN-2010 13:32:34.
Sample ID        : G1202006613 Sample quantity   : 1.51730E+02 GRAM
Detector name    : GAM15 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.38 0.0%
Energy tolerance : 1.50000 keV Analyst Initials  : MXR1
Abundance limit  : 75.00000 Sensitivity         : 5.00000
Batch ID        : 937702 Detector SN#         :
Matrix Spike ID  : LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	58.89	1491	634	1.24	118.29	113	12	4.14E-01	4.3	
2	0	76.60*	89	382	1.26	153.68	151	7	2.46E-02	39.4	
3	0	87.45*	1293	651	1.34	175.37	169	13	3.59E-01	5.0	
4	0	92.08*	50	293	1.46	184.63	182	8	1.39E-02	63.3	
5	0	121.58	193	455	1.13	243.61	237	12	5.35E-02	23.3	
6	0	185.48*	56	301	1.09	371.35	367	9	1.56E-02	59.0	
7	1	238.18*	538	220	1.36	476.70	472	23	1.49E-01	6.6	1.32E+00
8	1	241.18*	133	263	1.67	482.70	472	23	3.70E-02	26.3	
9	0	294.54*	140	305	1.16	589.38	582	13	3.90E-02	27.1	
10	0	338.08*	102	254	0.95	676.42	671	12	2.84E-02	32.9	
11	0	351.36*	269	207	1.58	702.97	698	12	7.46E-02	12.5	
12	0	510.90*	72	153	1.84	1021.94	1016	13	1.99E-02	40.4	
13	0	582.71*	152	139	1.50	1165.51	1158	12	4.23E-02	17.7	
14	0	609.25*	224	123	1.70	1218.57	1212	16	6.22E-02	13.4	
15	0	661.30	1982	169	1.68	1322.63	1316	15	5.51E-01	2.7	
16	0	727.75*	43	127	2.27	1455.51	1448	15	1.20E-02	59.5	
17	0	910.80*	97	114	1.85	1821.51	1814	12	2.70E-02	24.4	
18	0	968.65*	112	88	1.65	1937.18	1931	13	3.11E-02	20.0	
19	0	1120.41*	26	46	1.23	2240.63	2235	9	7.17E-03	52.3	
20	0	1173.06	1628	71	1.91	2345.91	2337	16	4.52E-01	2.7	
21	0	1332.42	1442	68	2.12	2664.60	2655	22	4.01E-01	3.0	
22	0	1764.84*	34	0	2.49	3529.38	3523	13	9.45E-03	18.9	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006613.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 31-DEC-2009 00:00:00 Acquisition date : 7-JAN-2010 13:32:34
Sample ID         : G1202006613 Sample quantity : 151.73 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.38 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

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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	*	1.986E-01	9.367E-02	8.041E-02	5.781E-03	2.470
		136.48		2.175E-01	4.139E-01	6.865E-01	5.268E-02	0.317
CO-60	+	1173.22		6.673E+00	5.264E-01	1.455E-01	8.289E-03	45.854
	+	1332.49	*	6.635E+00	6.417E-01	1.131E-01	8.533E-03	58.687
CD-109	+	88.03	*	3.889E+01	5.912E+00	2.916E+00	3.372E-01	13.338
SN-126		64.28		1.030E+00	1.539E+00	2.309E+00	3.959E-01	0.446
	+	86.94		1.607E+01	6.945E+00	1.228E+00	5.164E-01	13.089
	+	87.57	*	3.866E+00	5.877E-01	2.921E-01	3.371E-02	13.234
BA-137M	+	661.65	*	5.400E+00	3.962E-01	1.403E-01	7.058E-03	38.493
CS-137	+	661.65	*	5.708E+00	4.199E-01	1.483E-01	7.503E-03	38.493
TL-208		277.35		1.621E-01	8.561E-01	1.444E+00	1.618E-01	0.112
	+	510.84		6.662E-01	5.424E-01	5.199E-01	5.234E-02	1.281
	+	583.14	*	4.009E-01	1.442E-01	1.434E-01	9.128E-03	2.797
		860.37		6.375E-01	7.535E-01	1.308E+00	1.124E-01	0.487
BI-211		72.87		8.307E+00	8.480E+00	1.281E+01	1.428E+00	0.649
	+	351.07	*	3.203E+00	8.300E-01	7.710E-01	5.297E-02	4.154
PB-212		74.81		1.991E+00	1.075E+00	1.629E+00	2.366E-01	1.222
	+	77.11		7.122E-01	5.662E-01	8.249E-01	9.160E-02	0.863
	+	87.30		1.788E+01	3.254E+00	1.358E+00	2.071E-01	13.172
	+	238.63	*	1.414E+00	2.208E-01	1.924E-01	1.593E-02	7.350
		300.09		-3.762E-01	1.965E+00	2.822E+00	2.531E-01	-0.133
PO-212		74.81		1.991E+00	1.075E+00	1.629E+00	2.366E-01	1.222
	+	77.11		7.122E-01	5.662E-01	8.249E-01	9.160E-02	0.863
	+	87.30		1.788E+01	3.254E+00	1.358E+00	2.071E-01	13.172
		115.19		-1.130E+00	7.943E+00	1.126E+01	8.613E-01	-0.100
	+	238.63	*	1.414E+00	2.208E-01	1.924E-01	1.593E-02	7.350
		300.09		-3.762E-01	1.965E+00	2.822E+00	2.531E-01	-0.133
BI-214	+	609.31	*	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
	+	1120.29		6.698E-01	7.031E-01	1.052E+00	9.709E-02	0.636
	+	1764.49		1.209E+00	4.640E-01	5.699E-01	3.546E-02	2.121
PB-214		74.81		3.431E+00	1.842E+00	2.807E+00	3.749E-01	1.222
	+	77.11		1.221E+00	9.752E-01	1.414E+00	1.904E-01	0.863
	+	87.30		3.063E+01	5.221E+00	2.326E+00	3.223E-01	13.172
	+	241.98		2.106E+00	1.124E+00	1.158E+00	1.035E-01	1.818

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		9.967E-01	5.483E-01	5.265E-01	4.869E-02	1.893
	+	351.92	*	1.114E+00	2.945E-01	2.687E-01	2.316E-02	4.146
		74.81		3.431E+00	1.842E+00	2.807E+00	3.749E-01	1.222
	+	77.11		1.221E+00	9.752E-01	1.414E+00	1.904E-01	0.863
	+	87.30		3.063E+01	5.221E+00	2.326E+00	3.223E-01	13.172
PO-216	+	241.98		2.106E+00	1.124E+00	1.158E+00	1.035E-01	1.818
	+	295.21		9.967E-01	5.483E-01	5.265E-01	4.869E-02	1.893
	+	351.92	*	1.114E+00	2.945E-01	2.687E-01	2.316E-02	4.146
		74.81		1.991E+00	1.075E+00	1.629E+00	2.366E-01	1.222
	+	77.11		7.122E-01	5.662E-01	8.249E-01	9.160E-02	0.863
PO-218	+	87.30		1.788E+01	3.254E+00	1.358E+00	2.071E-01	13.172
	+	238.63	*	1.414E+00	2.208E-01	1.924E-01	1.593E-02	7.350
		300.09		-3.762E-01	1.965E+00	2.822E+00	2.531E-01	-0.133
		74.81		3.431E+00	1.842E+00	2.807E+00	3.749E-01	1.222
	+	77.11		1.221E+00	9.752E-01	1.414E+00	1.904E-01	0.863
RA-224	+	87.30		3.063E+01	5.221E+00	2.326E+00	3.223E-01	13.172
	+	241.98		2.106E+00	1.124E+00	1.158E+00	1.035E-01	1.818
	+	295.21		9.967E-01	5.483E-01	5.265E-01	4.869E-02	1.893
	+	351.92	*	1.114E+00	2.945E-01	2.687E-01	2.316E-02	4.146
	+	240.98	*	3.993E+00	2.120E+00	2.189E+00	1.524E-01	1.824
RA-226	+	609.31	*	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
	+	1120.29		6.698E-01	7.031E-01	1.052E+00	9.709E-02	0.636
	+	1764.49		1.209E+00	4.640E-01	5.699E-01	3.546E-02	2.121
	+	338.32		1.348E+00	1.044E+00	8.175E-01	3.340E-01	1.649
	+	911.07	*	1.134E+00	5.678E-01	6.166E-01	6.854E-02	1.840
AC-228	+	969.11		2.303E+00	1.065E+00	1.008E+00	2.331E-01	2.285
	+	338.32		1.348E+00	1.044E+00	8.175E-01	3.340E-01	1.649
	+	911.07	*	1.134E+00	5.678E-01	6.166E-01	6.854E-02	1.840
	+	969.11		2.303E+00	1.065E+00	1.008E+00	2.331E-01	2.285
	+	74.81		2.006E+00	1.067E+00	1.642E+00	1.833E-01	1.222
TH-228	+	77.11		7.176E-01	5.705E-01	8.311E-01	9.229E-02	0.863
	+	87.30		1.802E+01	2.739E+00	1.368E+00	1.576E-01	13.172
	+	238.63	*	1.425E+00	2.224E-01	1.939E-01	1.605E-02	7.350
	+	300.09		-3.790E-01	1.992E+00	2.843E+00	1.679E+00	-0.133
	+	609.31	*	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
TH-230	+	1120.29		6.698E-01	7.031E-01	1.052E+00	9.709E-02	0.636
	+	1764.49		1.209E+00	4.640E-01	5.699E-01	3.546E-02	2.121
	+	338.32		1.348E+00	8.907E-01	8.175E-01	5.262E-02	1.649
	+	911.07	*	1.134E+00	5.678E-01	6.166E-01	6.854E-02	1.840
	+	969.11		2.303E+00	1.065E+00	1.008E+00	2.331E-01	2.285
U-234	+	609.31	*	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
	+	1120.29		6.698E-01	7.031E-01	1.052E+00	9.709E-02	0.636
	+	1764.49		1.209E+00	4.640E-01	5.699E-01	3.546E-02	2.121
	+	86.50	*	1.135E+01	2.910E+00	8.743E-01	2.064E-01	12.985
	+	95.87		1.045E+00	2.114E+00	3.100E+00	7.780E-01	0.337
AM-241	+	59.54	*	1.595E+01	2.469E+00	9.805E-01	1.248E-01	16.263
ANH-511	+	511.00	*	1.439E-01	1.165E-01	1.123E-01	6.343E-03	1.281

---- 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	*	-8.234E-03	7.543E-01	1.232E+00	8.209E-02	-0.007

---- 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	*		-1.108E-02	5.705E-02	8.935E-02	6.132E-03	-0.124
NA-24	1368.53	*		-1.500E-05	5.705E-02	Half-Life too short		
AL-26	1129.67			-2.571E+00	3.832E+00	5.879E+00	3.704E-01	-0.437
	1808.65	*		-2.854E-02	4.688E-02	6.467E-02	3.870E-03	-0.441
K-40	1460.81	*		2.644E-01	5.721E-01	1.062E+00	8.119E-02	0.249
TI-44	67.85			1.131E-02	1.200E-01	1.994E-01	2.275E-02	0.057
	78.38	*		6.997E-02	9.404E-02	1.404E-01	1.561E-02	0.498
SC-46	889.25	*		-6.760E-03	1.005E-01	1.655E-01	1.389E-02	-0.041
	+ 1120.51			1.077E-01	1.128E-01	1.939E-01	1.245E-02	0.555
V-48	944.10			1.119E+00	2.064E+00	3.505E+00	2.881E-01	0.319
	983.50	*		-7.225E-04	1.393E-01	2.291E-01	1.810E-02	-0.003
	1312.09			-1.697E-02	8.549E-02	1.336E-01	9.756E-03	-0.127
CR-51	320.08	*		-5.989E-01	7.036E-01	1.119E+00	8.073E-02	-0.535
MN-52	744.21			-2.118E-01	1.986E-01	3.044E-01	1.867E-02	-0.696
	848.13			-1.865E-01	6.785E+00	1.124E+01	8.662E-01	-0.017
	935.52			2.054E-01	2.750E-01	4.743E-01	3.929E-02	0.433
	1246.25			2.148E+00	3.859E+00	6.735E+00	4.392E-01	0.319
	+ 1333.61			3.342E+02	3.233E+01	4.115E+01	3.106E+00	8.122
	1434.06	*		-2.662E-02	1.214E-01	1.947E-01	1.444E-02	-0.137
MN-54	834.83	*		4.315E-02	9.113E-02	1.558E-01	1.168E-02	0.277
CO-56	846.75	*		-4.558E-02	9.520E-02	1.529E-01	1.175E-02	-0.298
	977.42			1.835E+00	7.700E+00	1.261E+01	1.003E+00	0.146
	1037.82			5.364E-02	7.507E-01	1.238E+00	9.795E-02	0.043
	1175.09			2.782E+02	2.209E+01	3.459E+01	1.977E+00	8.043
	1238.25			9.692E-02	1.153E-01	2.055E-01	1.389E-02	0.472
	1360.21			-4.027E-02	1.298E+00	2.080E+00	1.565E-01	-0.019
	1771.40			-8.851E-01	4.842E-01	5.081E-01	3.143E-02	-1.742
CO-58	810.76	*		5.705E-03	8.559E-02	1.431E-01	1.022E-02	0.040
FE-59	142.65			-2.332E+00	4.610E+00	7.267E+00	4.948E-01	-0.321
	192.34			6.224E-01	1.834E+00	2.983E+00	3.678E-01	0.209
	1099.22	*		-4.362E-02	2.119E-01	3.409E-01	2.580E-02	-0.128
	1291.56			9.991E-02	1.617E-01	2.849E-01	2.404E-02	0.351
ZN-65	1115.52	*		-1.911E-01	2.501E-01	3.186E-01	2.069E-02	-0.600
GE-68	1077.35	*		4.168E-01	3.315E+00	5.473E+00	3.803E-01	0.076
AS-73	53.44	*		-1.550E+00	4.722E+00	6.805E+00	9.299E-01	-0.228
AS-74	595.88	*		-1.175E-01	1.483E-01	2.251E-01	1.210E-02	-0.522
	634.78			-3.099E-01	6.207E-01	9.625E-01	4.992E-02	-0.322
SE-75	66.05			-1.176E+01	1.260E+01	1.997E+01	2.589E+00	-0.589
	96.73			5.046E-01	1.692E+00	2.469E+00	3.542E-01	0.204
	+ 121.11			1.042E+00	4.972E-01	5.612E-01	5.723E-02	1.857
	136.00			5.265E-02	7.575E-02	1.265E-01	8.807E-03	0.416
	198.60			2.634E+00	3.603E+00	5.928E+00	4.731E-01	0.444
	264.65	*		-2.687E-02	9.266E-02	1.533E-01	1.072E-02	-0.175
	279.53			1.240E-02	2.414E-01	4.048E-01	2.953E-02	0.031
	303.91			-1.147E+00	4.507E+00	7.424E+00	7.537E-01	-0.155
	400.65			-2.788E-01	5.947E-01	9.555E-01	8.629E-02	-0.292
BR-77	+ 87.88			9.335E+02	1.419E+02	1.353E+02	1.564E+01	6.902
	200.40			-3.676E+00	3.984E+01	6.358E+01	4.345E+00	-0.058
	+ 239.00			2.494E+01	3.730E+00	6.510E+00	4.530E-01	3.832

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	249.79			8.726E+00	1.721E+01	2.600E+01	1.810E+00	0.336
	281.68			-3.645E+00	2.363E+01	3.926E+01	2.704E+00	-0.093
	297.23			1.621E+01	1.534E+01	2.362E+01	1.607E+00	0.687
	303.76			-1.348E+01	4.395E+01	7.222E+01	4.882E+00	-0.187
	439.47			1.894E+01	3.945E+01	6.636E+01	3.792E+00	0.285
	484.57			-4.716E+01	6.503E+01	1.017E+02	5.787E+00	-0.464
	520.65	*		-5.503E-01	2.827E+00	4.546E+00	2.557E-01	-0.121
	574.64			1.142E+01	5.503E+01	8.218E+01	4.489E+00	0.139
	578.91			2.167E+01	2.448E+01	3.701E+01	2.015E+00	0.586
	585.48			1.011E+02	5.392E+01	8.610E+01	4.667E+00	1.174
	755.35			2.021E+01	4.088E+01	7.051E+01	4.437E+00	0.287
	817.79			1.747E+01	3.595E+01	6.171E+01	4.459E+00	0.283
SR-82	698.33			3.475E+01	5.707E+01	9.954E+01	5.480E+00	0.349
	776.49	*		-6.491E-01	7.130E-01	1.111E+00	7.333E-02	-0.584
	1395.20			-3.121E+00	1.296E+01	2.080E+01	1.555E+00	-0.150
RB-83	520.41	*		-3.636E-02	1.604E-01	2.574E-01	1.448E-02	-0.141
	529.64			-7.249E-02	2.285E-01	3.635E-01	2.037E-02	-0.199
	552.65			-5.183E-01	4.343E-01	6.441E-01	3.568E-02	-0.805
RB-84	881.50	*		2.821E-02	1.590E-01	2.663E-01	2.199E-02	0.106
KR-85	513.99	*		2.904E+01	1.777E+01	2.837E+01	1.601E+00	1.024
SR-85	513.99	*		1.375E-01	8.413E-02	1.343E-01	7.578E-03	1.024
RB-86	1076.63	*		2.184E-01	1.591E+00	2.630E+00	1.830E-01	0.083
Y-88	898.02			-5.918E-02	1.094E-01	1.744E-01	1.496E-02	-0.339
	1836.01	*		1.939E-02	5.575E-02	9.825E-02	5.739E-03	0.197
ZR-88	392.90	*		2.848E-02	7.015E-02	1.181E-01	6.696E-03	0.241
Y-91	1204.90	*		-7.408E-01	2.523E+01	4.084E+01	2.470E+00	-0.018
NB-94	702.63	*		-1.995E-02	7.121E-02	1.171E-01	6.514E-03	-0.170
	871.10			1.090E-01	9.365E-02	1.657E-01	1.340E-02	0.657
NB-95	765.79	*		-6.908E-02	8.466E-02	1.335E-01	8.602E-03	-0.517
NB-95M	235.69	*		1.002E+00	3.173E-01	5.170E-01	4.368E-02	1.939
ZR-95	724.18			-1.637E-02	2.269E-01	3.254E-01	2.247E-02	-0.050
	756.15	*		1.297E-01	1.455E-01	2.571E-01	1.917E-02	0.504
NB-97	657.90	*		1.761E-03	1.455E-01	Half-Life	too short	
	1024.50			7.462E-03	1.455E-01	Half-Life	too short	
ZR-97	254.15			-4.673E-03	1.455E-01	Half-Life	too short	
	355.39			-1.363E-03	1.455E-01	Half-Life	too short	
	507.63	*		1.791E-03	1.455E-01	Half-Life	too short	
	602.52			3.282E-03	1.455E-01	Half-Life	too short	
	1021.30			-1.700E-03	1.455E-01	Half-Life	too short	
	1147.95			5.995E-03	1.455E-01	Half-Life	too short	
	1362.66			-6.815E-04	1.455E-01	Half-Life	too short	
	1750.46			-3.770E-03	1.455E-01	Half-Life	too short	
MO-99	140.51			-1.446E+00	7.464E+00	1.199E+01	3.259E+00	-0.121
	181.06			6.353E-01	5.783E+00	8.173E+00	1.428E+00	0.078
	366.43			-1.157E+00	2.914E+01	4.811E+01	2.921E+00	-0.024
	739.58	*		2.259E+00	3.622E+00	6.320E+00	8.782E-01	0.357
	778.00			-5.431E-01	1.086E+01	1.804E+01	1.195E+00	-0.030
TC-99M	140.51	*		-1.156E+01	1.086E+01	Half-Life	too short	
RH-101	127.23			6.797E-02	6.853E-02	1.080E-01	7.611E-03	0.629

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	198.01	*		-9.964E-04	7.063E-02	1.126E-01	7.682E-03	-0.009
	325.23			4.401E-02	4.818E-01	8.048E-01	5.293E-02	0.055
	418.52			2.590E-05	7.283E-01	1.198E+00	6.832E-02	0.000
	475.06	*		2.077E-02	7.505E-02	1.245E-01	7.099E-03	0.167
	631.29			-3.883E-02	1.285E-01	2.025E-01	1.054E-02	-0.192
	697.49			9.518E-02	1.612E-01	2.807E-01	1.542E-02	0.339
	766.84			-2.023E-01	2.326E-01	3.654E-01	2.360E-02	-0.554
RU-103	1046.59			-1.149E-01	3.128E-01	4.992E-01	3.639E-02	-0.230
	1112.84			4.440E-01	5.853E-01	9.204E-01	6.000E-02	0.482
	497.08	*		7.203E-02	8.617E-02	1.468E-01	1.847E-02	0.491
RH-106	610.33	+		1.049E+01	3.226E+00	3.804E+00	5.798E-01	2.757
	511.85	+		7.085E-01	5.739E-01	7.539E-01	4.256E-02	0.940
RU-106	621.84	*		3.155E-01	7.277E-01	1.208E+00	1.386E-01	0.261
	1050.47			4.018E+00	6.122E+00	1.048E+01	7.599E-01	0.383
	511.85	+		7.085E-01	5.739E-01	7.539E-01	4.256E-02	0.940
AG-108M	621.84	*		3.155E-01	7.270E-01	1.208E+00	6.345E-02	0.261
	1050.47			4.018E+00	6.122E+00	1.048E+01	7.599E-01	0.383
	433.93	*		-1.163E-02	8.440E-02	1.376E-01	8.553E-03	-0.085
AG-110M	614.37			-2.189E-02	9.366E-02	1.269E-01	7.391E-03	-0.173
	722.95			-2.723E-02	1.028E-01	1.444E-01	9.136E-03	-0.189
	657.75	*		8.463E-01	1.377E-01	2.518E-01	1.380E-02	3.361
	677.61			7.141E-02	6.548E-01	1.060E+00	5.961E-02	0.067
	706.67			3.275E-01	4.327E-01	7.607E-01	4.545E-02	0.431
	763.93			-3.174E-02	3.416E-01	5.664E-01	3.818E-02	-0.056
	884.67			-1.647E-02	1.320E-01	2.168E-01	1.864E-02	-0.076
IN-111	937.48			-6.097E-02	3.182E-01	5.188E-01	4.459E-02	-0.118
	1384.27			-3.029E-02	2.149E-01	3.508E-01	2.726E-02	-0.086
	171.28			-1.014E-01	3.170E-01	5.032E-01	3.358E-02	-0.202
	245.39	*		3.137E-01	3.895E-01	5.982E-01	4.165E-02	0.524
	391.69	*		2.602E-02	1.020E-01	1.704E-01	1.034E-02	0.153
SN-113	391.69	*		2.602E-02	1.020E-01	1.704E-01	1.034E-02	0.153
IN-114M	190.27	*		-1.407E-01	4.165E-01	5.713E-01	3.873E-02	-0.246
CD-115	260.90			-1.457E+01	2.740E+01	4.487E+01	3.119E+00	-0.325
SN-117M	492.35			-3.978E+00	8.992E+00	1.430E+01	8.122E-01	-0.278
	527.90	*		9.192E-01	2.307E+00	3.851E+00	2.160E-01	0.239
	156.02			-1.502E+00	3.076E+00	4.863E+00	3.259E-01	-0.309
SB-122	158.56	*		5.463E-02	7.759E-02	1.290E-01	8.623E-03	0.424
	563.90	*		4.029E-01	6.270E-01	1.062E+00	5.841E-02	0.379
I-123	692.80			2.172E+00	1.311E+01	2.224E+01	1.208E+00	0.098
	159.00	*		7.475E-04	1.311E+01	Half-Life too short		
TE-123M	528.96			4.401E-04	1.311E+01	Half-Life too short		
	159.00	*		5.193E-02	5.679E-02	9.512E-02	6.422E-03	0.546
I-124	602.71	*		1.722E-01	4.983E-01	7.168E-01	3.832E-02	0.240
	722.78			-7.132E-01	3.064E+00	4.321E+00	2.521E-01	-0.165
	1325.50			8.148E+00	2.248E+01	3.305E+01	2.466E+00	0.247
	1376.25			4.936E+00	1.448E+01	2.451E+01	1.839E+00	0.201
	1509.49			2.718E-01	6.533E+00	1.096E+01	7.935E-01	0.025
	1691.02			5.240E-01	1.450E+00	2.609E+00	1.718E-01	0.201
	602.71			3.221E-02	9.319E-02	1.340E-01	7.169E-03	0.240

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		645.85		9.047E-02	1.096E+00	1.773E+00	1.056E-01	0.051
		709.31		-1.353E+00	5.564E+00	9.170E+00	5.183E-01	-0.148
		713.82		-9.101E-01	3.288E+00	5.402E+00	5.489E-01	-0.168
		722.78		-1.934E-01	8.308E-01	1.171E+00	7.154E-02	-0.165
	+	968.20		2.173E+01	8.871E+00	1.257E+01	1.010E+00	1.728
		1045.16		-1.893E+00	6.041E+00	9.675E+00	7.068E-01	-0.196
		1325.50		2.359E+00	6.508E+00	9.569E+00	7.141E-01	0.247
		1368.21		1.162E-01	2.229E+00	3.630E+00	4.645E-01	0.032
		1436.60		-2.381E+00	4.615E+00	6.930E+00	5.135E-01	-0.344
		1691.02	*	3.350E-02	9.273E-02	1.668E-01	1.172E-02	0.201
		427.89	*	-7.685E-02	2.288E-01	3.691E-01	2.200E-02	-0.208
		463.38		-3.670E-02	7.213E-01	1.178E+00	7.872E-02	-0.031
		600.56		-4.393E-02	4.137E-01	6.447E-01	4.079E-02	-0.068
		635.90		-1.380E-01	6.378E-01	1.011E+00	6.339E-02	-0.137
	TE-125M	109.28	*	-1.449E+01	1.659E+01	2.600E+01	2.580E+00	-0.557
	I-126	388.63		1.898E-01	3.203E-01	5.445E-01	3.115E-02	0.349
		666.33	*	-1.478E-01	3.266E-01	4.300E-01	2.188E-02	-0.344
		753.82		-4.539E-01	2.200E+00	3.622E+00	2.271E-01	-0.125
	SB-126	223.80		3.181E+00	5.875E+00	9.602E+00	6.652E-01	0.331
		278.60		-6.754E-01	3.765E+00	6.254E+00	4.315E-01	-0.108
SB-127		296.50		5.105E+00	2.549E+00	4.069E+00	2.771E-01	1.254
		414.70		5.389E-02	1.216E-01	2.045E-01	1.166E-02	0.263
		415.30		5.471E+00	1.022E+01	1.726E+01	9.844E-01	0.317
		555.20		-7.685E-01	5.868E+00	9.430E+00	5.216E-01	-0.081
		573.80		-5.059E-01	1.523E+00	2.335E+00	1.276E-01	-0.217
		593.00		-2.549E-02	1.341E+00	2.164E+00	1.166E-01	-0.012
		656.30		5.441E+00	6.081E+00	9.145E+00	4.631E-01	0.595
		666.33		-6.070E-02	1.341E-01	1.766E-01	8.988E-03	-0.344
		675.00		-4.693E-01	2.898E+00	4.592E+00	2.388E-01	-0.102
		695.00		2.165E-02	1.063E-01	1.807E-01	9.870E-03	0.120
		697.00		2.067E-01	3.741E-01	6.498E-01	3.566E-02	0.318
		720.50	*	9.465E-02	2.352E-01	3.531E-01	2.049E-02	0.268
		856.80		-8.671E-01	8.093E-01	1.243E+00	9.755E-02	-0.698
		989.30		2.982E-01	2.179E+00	3.618E+00	2.840E-01	0.082
		1034.80		-2.721E-01	1.515E+01	2.483E+01	1.841E+00	-0.011
		1213.00		-2.039E+00	4.507E+00	6.890E+00	4.230E-01	-0.296
		61.10		4.369E+02	8.506E+01	1.184E+02	1.492E+01	3.691
		252.40		1.288E-01	2.363E+00	3.978E+00	1.642E+00	0.032
		290.80		-1.202E+01	1.416E+01	1.938E+01	1.493E+00	-0.620
		411.60		-7.923E+00	7.756E+00	1.197E+01	1.550E+00	-0.662
XE-127		444.90		1.605E+00	6.200E+00	1.031E+01	9.090E-01	0.156
		473.00		-7.902E-01	1.137E+00	1.784E+00	1.655E-01	-0.443
		543.00		-2.737E+00	9.828E+00	1.565E+01	1.758E+00	-0.175
		603.60		1.417E+00	7.818E+00	1.107E+01	9.461E-01	0.128
		685.20	*	-2.232E-01	7.028E-01	1.152E+00	7.816E-02	-0.194
		698.50		3.848E+00	8.070E+00	1.394E+01	1.810E+00	0.276
		722.20		-4.594E+00	1.934E+01	2.728E+01	1.861E+00	-0.168
		783.80		7.373E-01	2.137E+00	3.641E+00	3.401E-01	0.202
	+	57.60		5.049E+02	7.633E+01	7.512E+01	9.568E+00	6.721

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131		145.22		3.177E-03	1.130E+00	1.832E+00	1.242E-01	0.002
		172.10		-7.415E-02	2.099E-01	3.325E-01	2.221E-02	-0.223
		202.84	*	3.349E-02	8.973E-02	1.460E-01	9.996E-03	0.229
		374.96		-3.143E-01	4.019E-01	6.358E-01	3.779E-02	-0.494
		80.18		-5.867E+00	6.961E+00	8.900E+00	9.940E-01	-0.659
		284.30		1.631E+00	1.839E+00	3.184E+00	2.351E-01	0.512
		364.48	*	-3.244E-02	1.405E-01	2.297E-01	1.537E-02	-0.141
TE-132		636.97		-1.828E-01	1.873E+00	2.995E+00	1.762E-01	-0.061
		722.89		-2.287E+00	9.018E+00	1.269E+01	7.431E-01	-0.180
		49.72		1.332E+01	2.410E+01	4.079E+01	5.656E+00	0.327
		111.76		5.135E+00	1.124E+01	1.872E+01	1.607E+00	0.274
BA-133		116.30		-1.705E+00	1.264E+01	1.792E+01	1.480E+00	-0.095
		228.16	*	-1.721E-01	3.002E-01	4.930E-01	6.763E-02	-0.349
		53.15		-7.982E+00	2.191E+01	3.151E+01	4.319E+00	-0.253
		79.62		-2.858E+00	3.485E+00	4.797E+00	8.051E-01	-0.596
		81.00		-2.712E-01	3.194E-01	3.632E-01	6.320E-02	-0.747
I-133		276.40		3.541E-01	8.372E-01	1.424E+00	1.922E-01	0.249
		302.84		-1.992E-01	3.228E-01	5.214E-01	6.345E-02	-0.382
		356.01	*	-3.060E-02	1.143E-01	1.610E-01	1.895E-02	-0.190
		383.85		-4.667E-01	7.162E-01	1.139E+00	1.238E-01	-0.410
	+	510.53		3.427E-03	7.162E-01	Half-Life	too short	
		529.87	*	-1.194E-05	7.162E-01	Half-Life	too short	
		706.58		1.548E-03	7.162E-01	Half-Life	too short	
		856.28		-3.768E-03	7.162E-01	Half-Life	too short	
		875.33		-3.629E-04	7.162E-01	Half-Life	too short	
		1236.41		2.579E-03	7.162E-01	Half-Life	too short	
CS-134		1298.22		-1.330E-04	7.162E-01	Half-Life	too short	
		475.35		4.170E+00	4.788E+00	8.192E+00	4.669E-01	0.509
		563.23		3.274E-01	7.738E-01	1.291E+00	7.270E-02	0.254
		569.32		-3.005E-01	4.044E-01	6.171E-01	3.496E-02	-0.487
		604.70		2.705E-02	8.634E-02	1.238E-01	6.651E-03	0.218
CS-135		795.84	*	8.046E-02	1.089E-01	1.897E-01	1.322E-02	0.424
		801.93		6.407E-01	9.155E-01	1.598E+00	1.125E-01	0.401
		1038.57		-2.773E+00	1.006E+01	1.615E+01	1.191E+00	-0.172
		1167.94		1.666E+00	6.840E+00	9.807E+00	5.660E-01	0.170
		1365.15		-6.539E-01	1.687E+00	2.500E+00	1.991E-01	-0.262
		268.24	*	1.755E-01	3.383E-01	5.790E-01	4.950E-02	0.303
		288.45		-2.676E+02	3.383E-01	Half-Life	too short	
		417.63		1.359E+02	3.383E-01	Half-Life	too short	
		546.56		-7.538E+01	3.383E-01	Half-Life	too short	
		836.80		-6.367E+01	3.383E-01	Half-Life	too short	
I-135		1038.76		-7.145E+01	3.383E-01	Half-Life	too short	
		1124.00		1.107E+02	3.383E-01	Half-Life	too short	
		1131.51		5.662E+01	3.383E-01	Half-Life	too short	
		1260.41	*	8.411E+00	3.383E-01	Half-Life	too short	
		1457.56		4.552E+01	3.383E-01	Half-Life	too short	
		1678.03		4.681E+01	3.383E-01	Half-Life	too short	
		1706.46		-4.781E+01	3.383E-01	Half-Life	too short	
		1791.20		-9.130E+01	3.383E-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
CS-136		66.91		-6.417E-01	1.400E+00	2.270E+00	3.904E-01	-0.283
	+	86.29		3.386E+01	6.074E+00	4.950E+00	7.372E-01	6.841
		153.22		1.269E-01	8.462E-01	1.378E+00	1.099E-01	0.092
		163.89		8.940E-01	1.476E+00	2.441E+00	1.940E-01	0.366
		176.55		1.560E-02	5.027E-01	8.103E-01	5.936E-02	0.019
		273.65		5.783E-02	6.760E-01	1.136E+00	8.643E-02	0.051
		340.57		1.718E-01	2.123E-01	3.224E-01	2.172E-02	0.533
		818.51		4.562E-02	1.227E-01	2.091E-01	1.514E-02	0.218
		1048.07	*	-9.060E-02	1.984E-01	3.143E-01	2.420E-02	-0.288
		1235.34		4.970E-01	5.175E-01	9.364E-01	9.681E-02	0.531
CE-139		165.85	*	1.184E-02	5.857E-02	9.533E-02	6.340E-03	0.124
BA-140		162.64		-7.388E-01	1.046E+00	1.635E+00	1.194E-01	-0.452
		304.84		-8.876E-03	1.915E+00	3.193E+00	8.782E-01	-0.003
LA-140		423.70		-6.041E-01	3.132E+00	5.086E+00	1.616E+00	-0.119
		537.32	*	1.552E-01	3.881E-01	6.423E-01	2.086E-01	0.242
		328.77		1.393E-01	4.378E-01	7.384E-01	5.291E-02	0.189
		432.53		-6.148E-01	3.524E+00	5.733E+00	3.628E-01	-0.107
		487.03		1.193E-01	2.316E-01	3.889E-01	2.514E-02	0.307
		751.79		-1.320E+00	2.497E+00	4.011E+00	2.993E-01	-0.329
		815.85		8.909E-02	5.271E-01	8.865E-01	7.412E-02	0.101
		867.82		-1.467E+00	2.577E+00	4.111E+00	3.502E-01	-0.357
		919.63		-1.466E+00	5.074E+00	8.217E+00	8.600E-01	-0.178
		925.24		1.033E+00	2.147E+00	3.648E+00	3.252E-01	0.283
CE-141		1596.49	*	-4.420E-02	8.985E-02	1.351E-01	9.417E-03	-0.327
		145.44	*	-8.052E-03	1.004E-01	1.622E-01	1.132E-02	-0.050
CE-143		57.37		1.922E+03	3.091E+02	3.180E+02	4.327E+01	6.042
		231.56		-2.420E+01	1.288E+02	2.031E+02	6.325E+01	-0.119
	+	293.26	*	2.085E+01	1.211E+01	1.324E+01	2.748E+00	1.575
	+	350.59		5.579E+02	2.197E+02	2.045E+02	6.224E+01	2.728
		490.36		1.062E+02	1.648E+02	2.733E+02	8.440E+01	0.389
		664.57		9.629E+02	3.265E+02	2.382E+02	7.510E+01	4.042
		721.93		2.664E+00	7.640E+01	1.107E+02	3.149E+01	0.024
		80.11		-5.179E+00	6.047E+00	7.724E+00	8.617E-01	-0.670
		133.54	*	-6.788E-02	4.048E-01	6.530E-01	9.597E-02	-0.104
		476.78		7.797E-03	1.698E-01	2.782E-01	1.907E-02	0.028
PM-144		618.01		2.274E-02	7.557E-02	1.176E-01	6.643E-03	0.193
		696.49	*	1.265E-02	7.269E-02	1.233E-01	6.759E-03	0.103
PR-144		778.57		6.716E-01	5.036E+00	8.475E+00	5.621E-01	0.079
		696.49	*	8.540E-01	4.906E+00	8.322E+00	4.561E-01	0.103
PM-146		1489.15		-4.414E+00	1.947E+01	3.118E+01	2.275E+00	-0.142
		453.90	*	-3.823E-02	1.129E-01	1.815E-01	1.555E-02	-0.211
ND-147		633.02		-2.288E+00	3.420E+00	5.073E+00	1.863E+00	-0.451
		735.90		-2.798E-01	3.540E-01	4.963E-01	1.386E-01	-0.564
		747.13		3.768E-02	1.889E-01	3.201E-01	4.061E-02	0.118
	+	91.11		2.966E-01	3.772E-01	5.957E-01	6.775E-02	0.498
		319.41		4.476E-01	4.685E+00	7.832E+00	5.194E-01	0.057
		439.89		1.544E+00	9.204E+00	1.523E+01	8.707E-01	0.101
PM-149		531.02	*	1.193E-01	7.794E-01	1.280E+00	1.720E-01	0.093
		285.90	*	3.976E+00	2.030E+01	3.335E+01	4.877E+00	0.119

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	+	121.78		5.872E-01	2.784E-01	3.191E-01	2.783E-02	1.840
		244.69		5.793E-03	6.958E-01	1.170E+00	8.149E-02	0.005
		344.27	*	-6.521E-03	2.908E-01	3.653E-01	2.574E-02	-0.018
		443.98		-1.989E+00	2.450E+00	3.836E+00	2.192E-01	-0.519
		778.89		1.448E-01	5.820E-01	9.874E-01	6.553E-02	0.147
		867.32		-1.763E+00	2.322E+00	3.656E+00	2.932E-01	-0.482
		964.01		2.450E-01	8.563E-01	1.243E+00	1.003E-01	0.197
		1085.78		3.561E-01	1.000E+00	1.680E+00	1.151E-01	0.212
		1112.02		7.574E-01	8.047E-01	1.352E+00	8.824E-02	0.560
		1407.95		1.256E-01	2.578E-01	4.648E-01	3.467E-02	0.270
GD-153		69.67		2.279E-02	4.116E+00	6.812E+00	7.690E-01	0.003
		83.37		3.241E+01	3.772E+01	5.638E+01	6.360E+00	0.575
		97.43	*	1.019E-01	1.758E-01	2.604E-01	2.499E-02	0.391
		103.18		1.073E-02	2.090E-01	3.431E-01	3.018E-02	0.031
EU-154	+	123.07		4.120E-01	1.967E-01	2.142E-01	2.205E-02	1.924
		247.94		-3.683E-01	8.934E-01	1.273E+00	1.309E-01	-0.289
		591.81		2.220E-01	1.400E+00	2.288E+00	2.182E-01	0.097
		723.30		-3.202E-01	4.541E-01	6.098E-01	4.339E-02	-0.525
		756.87		1.165E+00	1.766E+00	3.071E+00	3.206E-01	0.379
		873.19		1.931E-01	8.224E-01	1.382E+00	1.644E-01	0.140
		996.32		-6.729E-02	9.797E-01	1.603E+00	2.785E-01	-0.042
		1004.76		-1.956E-02	5.274E-01	8.643E-01	9.491E-02	-0.023
		1274.45	*	-3.107E-02	1.600E-01	2.505E-01	2.513E-02	-0.124
		48.70		6.158E+00	1.585E+01	2.674E+01	3.441E+00	0.230
EU-155	+	60.01		5.172E+02	7.820E+01	6.072E+01	7.424E+00	8.517
	+	86.54		4.643E+00	7.081E-01	6.870E-01	7.923E-02	6.758
TB-160		105.31	*	2.482E-01	2.138E-01	3.649E-01	3.160E-02	0.680
	+	86.79		1.157E+01	1.758E+00	1.708E+00	1.961E-01	6.774
		197.04		-7.479E-01	1.127E+00	1.752E+00	1.194E-01	-0.427
		215.65		4.915E-01	1.493E+00	2.421E+00	1.671E-01	0.203
		298.57		1.375E-01	2.617E-01	3.934E-01	2.673E-02	0.350
		879.36	*	-1.189E-01	3.438E-01	5.559E-01	4.571E-02	-0.214
		962.29		8.776E-02	1.460E+00	2.078E+00	1.679E-01	0.042
		966.15		1.449E+00	5.886E-01	9.824E-01	7.905E-02	1.475
		1177.93		8.231E-01	7.427E-01	1.190E+00	6.839E-02	0.692
		1271.85		-5.556E-01	8.557E-01	1.224E+00	8.346E-02	-0.454
HO-166M		80.57		-5.783E-01	8.680E-01	1.008E+00	1.126E-01	-0.574
	+	184.41		7.747E-02	9.155E-02	1.273E-01	8.589E-03	0.609
		280.46		3.602E-02	1.989E-01	3.353E-01	2.311E-02	0.107
		410.95		-4.183E-01	5.999E-01	9.508E-01	5.417E-02	-0.440
		711.68	*	-1.400E-02	1.325E-01	2.204E-01	1.253E-02	-0.064
		752.31		-5.101E-01	6.068E-01	9.510E-01	5.943E-02	-0.536
		810.29		6.619E-03	1.378E-01	2.301E-01	1.636E-02	0.029
		51.35		1.602E+00	1.769E+02	2.949E+02	4.073E+01	0.005
TM-171		52.39		-5.789E+01	8.993E+01	1.409E+02	1.943E+01	-0.411
	+	59.40		2.708E+03	4.094E+02	3.489E+02	4.293E+01	7.761
LU-176		66.72	*	-4.225E+01	7.528E+01	1.217E+02	1.400E+01	-0.347
	+	88.36		9.170E+00	1.394E+00	1.295E+00	1.486E-01	7.081
		201.83		5.798E-04	6.348E-02	1.017E-01	6.959E-03	0.006

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177	306.84	*		2.190E-03	5.565E-02	9.293E-02	6.261E-03	0.024
	401.10			-1.990E-01	1.630E+01	2.686E+01	1.527E+00	-0.007
	112.95			2.302E-01	1.442E+00	2.371E+00	1.856E-01	0.097
	208.36	*		9.467E-01	1.090E+00	1.805E+00	1.241E-01	0.524
	52.97			-5.331E+00	9.194E+00	1.382E+01	1.898E+00	-0.386
	54.07			-1.187E+00	4.935E+00	7.143E+00	9.681E-01	-0.166
	61.30			2.429E+01	6.534E+00	1.004E+01	1.212E+00	2.420
	121.62	+		2.918E+00	1.376E+00	1.581E+00	1.139E-01	1.846
	147.16			5.117E-02	1.201E+00	1.950E+00	1.319E-01	0.026
	171.86			-4.400E-01	9.468E-01	1.492E+00	9.963E-02	-0.295
HF-181	218.09			-1.261E+00	1.793E+00	2.763E+00	1.909E-01	-0.456
	268.79			-3.611E-01	1.686E+00	2.800E+00	1.941E-01	-0.129
	319.02			-1.049E-02	5.736E-01	9.538E-01	6.329E-02	-0.011
	367.43			2.977E-01	2.030E+00	3.385E+00	2.050E-01	0.088
	413.65	*		-3.478E-01	4.210E-01	6.617E-01	3.771E-02	-0.526
	56.28			1.546E+01	5.207E+00	7.897E+00	1.031E+00	1.958
	57.53	+		4.320E+01	6.532E+00	6.375E+00	8.130E-01	6.777
	65.20			-1.832E+00	2.503E+00	3.703E+00	4.310E-01	-0.495
	133.02			-1.051E-01	1.164E-01	1.814E-01	1.258E-02	-0.579
	136.25			6.201E-01	8.122E-01	1.360E+00	9.362E-02	0.456
W-181	345.85			1.812E-01	4.735E-01	6.628E-01	4.208E-02	0.273
	482.03	*		3.752E-03	9.423E-02	1.543E-01	8.783E-03	0.024
	56.28			6.597E+00	2.212E+00	3.353E+00	4.379E-01	1.967
	57.53	+		1.834E+01	2.773E+00	2.705E+00	3.450E-01	6.779
	65.20	*		-7.716E-01	1.054E+00	1.560E+00	1.815E-01	-0.495
	67.75			2.062E-02	2.742E-01	4.552E-01	5.197E-02	0.045
	100.10			-4.317E-01	3.530E-01	5.456E-01	5.018E-02	-0.791
	152.43			1.397E-01	6.211E-01	1.015E+00	6.825E-02	0.138
	222.10			-8.750E-02	7.416E-01	1.177E+00	8.147E-02	-0.074
	1001.68			-3.621E+00	5.001E+00	7.783E+00	6.021E-01	-0.465
TA-182	1121.28	+		3.025E-01	3.169E-01	5.541E-01	3.552E-02	0.546
	1189.05			-1.042E-01	4.736E-01	7.500E-01	4.403E-02	-0.139
	1221.42	*		4.021E-02	2.315E-01	3.855E-01	2.403E-02	0.104
	1230.97			-3.909E-01	5.766E-01	8.397E-01	5.327E-02	-0.466
	57.98	+		1.804E+01	2.728E+00	2.655E+00	3.357E-01	6.795
	59.32	+		1.037E+01	1.568E+00	1.348E+00	1.661E-01	7.696
	67.20			2.391E-02	4.834E-01	8.020E-01	9.190E-02	0.030
	162.32	*		-2.791E-01	2.172E-01	3.298E-01	2.198E-02	-0.846
	208.81			1.760E+00	1.999E+00	3.313E+00	2.277E-01	0.531
	291.72			6.438E-01	2.176E+00	3.221E+00	2.203E-01	0.200
RE-183	57.98	+		6.947E+01	1.050E+01	1.022E+01	1.293E+00	6.795
	59.32	+		3.990E+01	6.033E+00	5.185E+00	6.390E-01	7.696
	67.20			9.202E-02	1.861E+00	3.087E+00	3.537E-01	0.030
	161.27			-9.036E-02	7.360E-01	1.182E+00	7.888E-02	-0.076
	216.55			2.882E-02	5.592E-01	8.954E-01	6.183E-02	0.032
	252.85	*		1.354E-01	4.790E-01	8.143E-01	5.668E-02	0.166
	318.01			5.555E-01	9.961E-01	1.701E+00	1.130E-01	0.327
	792.07			1.398E-01	2.332E+00	3.900E+00	2.665E-01	0.036
	903.28			-1.231E-01	3.230E+00	4.576E+00	3.891E-01	-0.027
RE-184								

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	+	920.93	-1.671E+00	1.256E+00	1.878E+00	1.575E-01	-0.890
		59.72	2.883E+01	4.360E+00	3.557E+00	4.360E-01	8.107
		61.14	4.085E+00	8.348E-01	1.213E+00	1.467E-01	3.368
		69.30	2.390E-01	7.055E-01	1.181E+00	1.336E-01	0.202
	*	592.07	-1.231E+00	5.509E+00	8.764E+00	4.726E-01	-0.140
		646.12	2.324E-02	9.481E-02	1.552E-01	7.952E-03	0.150
		717.42	9.754E-01	1.889E+00	3.269E+00	1.884E-01	0.298
		874.81	-4.586E-01	1.533E+00	2.490E+00	2.029E-01	-0.184
RE-188	*	880.27	2.497E-01	1.968E+00	3.286E+00	2.707E-01	0.076
		155.03	-4.831E-01	3.205E-01	4.805E-01	3.223E-02	-1.005
		477.96	-4.130E-01	7.331E+00	1.194E+01	6.804E-01	-0.035
		633.10	-4.396E+00	6.226E+00	9.508E+00	4.940E-01	-0.462
W-188	*	63.58	-7.289E+01	1.562E+02	2.235E+02	2.639E+01	-0.326
		227.08	-3.307E+00	2.578E+01	4.326E+01	3.001E+00	-0.076
		290.67	-1.511E+01	1.777E+01	2.432E+01	1.664E+00	-0.621
IR-192	+	295.96	7.079E-01	3.870E-01	4.525E-01	3.118E-02	1.564
		308.46	1.164E-02	2.033E-01	3.397E-01	2.304E-02	0.034
		316.51	2.179E-02	7.461E-02	1.259E-01	8.413E-03	0.173
		468.07	1.487E-01	1.645E-01	2.810E-01	1.856E-02	0.529
		604.41	3.409E-01	1.096E+00	1.570E+00	1.746E-01	0.217
		612.46	5.894E-01	1.602E+00	2.311E+00	1.663E-01	0.255
AU-195	+	65.12	-3.718E-01	4.966E-01	7.338E-01	8.547E-02	-0.507
		66.83	-1.221E-01	2.434E-01	3.946E-01	4.534E-02	-0.309
		75.70	6.108E-01	4.856E-01	8.261E-01	9.173E-02	0.739
		98.88	3.913E-01	4.399E-01	7.449E-01	6.982E-02	0.525
		129.76	4.218E+00	5.427E+00	9.100E+00	6.364E-01	0.464
TL-200	*	367.94	1.123E+00	8.520E+00	1.419E+01	8.585E-01	0.079
		579.30	9.487E+01	7.418E+01	1.154E+02	6.283E+00	0.822
		828.27	-4.221E+01	9.809E+01	1.581E+02	1.169E+01	-0.267
		1205.75	8.851E-01	2.975E+01	4.852E+01	2.939E+00	0.018
TL-201	*	68.90	9.941E-01	2.145E+00	3.606E+00	4.087E-01	0.276
		70.82	-1.831E+00	1.259E+00	1.948E+00	2.187E-01	-0.940
		80.30	-2.127E+00	2.595E+00	3.323E+00	3.709E-01	-0.640
		135.34	8.066E+00	8.997E+00	1.514E+01	1.045E+00	0.533
TL-202	*	167.43	-2.091E-01	2.503E+00	4.021E+00	2.676E-01	-0.052
		68.90	3.265E-01	7.045E-01	1.184E+00	1.342E-01	0.276
		70.82	-5.995E-01	4.123E-01	6.380E-01	7.163E-02	-0.940
		80.30	-6.968E-01	8.502E-01	1.089E+00	1.215E-01	-0.640
HG-203	*	439.56	4.944E-02	1.129E-01	1.895E-01	1.083E-02	0.261
		70.83	-3.580E+00	2.480E+00	3.792E+00	5.836E-01	-0.944
		72.87	1.476E+00	1.514E+00	2.276E+00	3.408E-01	0.649
		82.60	1.455E+00	2.597E+00	3.835E+00	5.955E-01	0.379
BI-207	*	279.20	-2.368E-02	8.513E-02	1.408E-01	1.014E-02	-0.168
		72.80	4.545E-01	4.943E-01	7.450E-01	8.308E-02	0.610
		74.97	7.847E-01	3.091E-01	4.793E-01	5.325E-02	1.637
		84.90	2.107E+00	5.915E-01	8.995E-01	1.022E-01	2.342
		569.67	-4.479E-02	6.329E-02	9.686E-02	5.309E-03	-0.462
		1063.62	-1.612E-02	1.333E-01	2.163E-01	1.537E-02	-0.074
		1770.23	-1.510E-01	8.498E-01	1.120E+00	6.939E-02	-0.135

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		81.07		-1.862E-01	7.875E-01	8.053E-01	9.008E-02	-0.231
		83.78		1.770E-01	3.346E-01	4.939E-01	5.582E-02	0.358
		94.90		-2.033E-01	5.042E-01	7.084E-01	7.103E-02	-0.287
	+	122.32		1.400E+01	6.618E+00	7.561E+00	5.987E-01	1.851
		144.24		-6.408E-01	1.292E+00	2.036E+00	1.639E-01	-0.315
		154.21		-9.647E-01	7.882E-01	1.198E+00	9.330E-02	-0.805
		269.46		2.989E-02	4.088E-01	6.870E-01	4.914E-02	0.044
		323.87	*	-1.009E+00	1.477E+00	2.357E+00	3.962E-01	-0.428
	+	338.28		5.628E+00	3.752E+00	4.486E+00	4.888E-01	1.255
		445.03		1.301E+00	5.638E+00	9.361E+00	9.568E-01	0.139
PO-209		260.50		3.081E+00	2.087E+01	3.523E+01	2.449E+00	0.087
		262.80		-5.179E+01	5.880E+01	9.454E+01	6.568E+00	-0.548
		896.60	*	-6.928E+00	1.989E+01	3.211E+01	2.734E+00	-0.216
BI-210		46.50	*	-4.820E-01	2.565E+01	4.267E+01	4.433E+00	-0.011
PB-210		46.50	*	-4.820E-01	2.565E+01	4.267E+01	4.433E+00	-0.011
PO-210		46.50	*	-4.820E-01	2.565E+01	4.267E+01	4.099E+00	-0.011
PB-211		404.84	*	1.577E+00	2.511E+00	3.929E+00	2.449E+00	0.401
		427.08		4.346E-01	5.146E+00	8.482E+00	5.242E+00	0.051
		831.96		1.193E+00	3.059E+00	5.058E+00	3.162E+00	0.236
BI-212	+	727.18	*	9.706E-01	1.158E+00	1.258E+00	9.794E-02	0.772
		785.46		-4.720E-01	4.131E+00	6.832E+00	4.601E-01	-0.069
		1620.62		1.020E+00	1.992E+00	3.604E+00	2.479E-01	0.283
PO-215		81.07		-1.862E-01	7.875E-01	8.053E-01	9.008E-02	-0.231
		83.78		1.770E-01	3.346E-01	4.939E-01	5.582E-02	0.358
		94.90		-2.033E-01	5.042E-01	7.084E-01	7.103E-02	-0.287
	+	122.32		1.400E+01	6.618E+00	7.561E+00	5.987E-01	1.851
		144.24		-6.408E-01	1.292E+00	2.036E+00	1.639E-01	-0.315
		154.21		-9.647E-01	7.882E-01	1.198E+00	9.330E-02	-0.805
		269.46		2.989E-02	4.088E-01	6.870E-01	4.914E-02	0.044
		323.87	*	-1.009E+00	1.477E+00	2.357E+00	3.962E-01	-0.428
	+	338.28		5.628E+00	3.752E+00	4.486E+00	4.888E-01	1.255
		445.03		1.301E+00	5.638E+00	9.361E+00	9.568E-01	0.139
RN-219		271.23		3.683E-02	5.282E-01	8.874E-01	7.938E-02	0.041
		401.81	*	-1.037E+00	1.048E+00	1.624E+00	2.201E-01	-0.639
RN-220		549.76	*	8.021E+01	5.839E+01	1.032E+02	5.723E+00	0.777
RA-223		81.07		-1.862E-01	7.875E-01	8.053E-01	9.008E-02	-0.231
		83.78		1.770E-01	3.346E-01	4.939E-01	5.582E-02	0.358
		94.90		-2.033E-01	5.042E-01	7.084E-01	7.103E-02	-0.287
	+	122.32		1.400E+01	6.618E+00	7.561E+00	5.987E-01	1.851
		144.24		-6.408E-01	1.292E+00	2.036E+00	1.639E-01	-0.315
		154.21		-9.647E-01	7.882E-01	1.198E+00	9.330E-02	-0.805
		269.46		2.989E-02	4.088E-01	6.870E-01	4.914E-02	0.044
		323.87	*	-1.009E+00	1.477E+00	2.357E+00	3.962E-01	-0.428
	+	338.28		5.628E+00	3.752E+00	4.486E+00	4.888E-01	1.255
		445.03		1.301E+00	5.638E+00	9.361E+00	9.568E-01	0.139
AC-227		79.80		-3.528E+00	4.450E+00	6.089E+00	1.378E+00	-0.579
		236.00		3.323E+00	7.429E-01	1.154E+00	1.285E-01	2.880
		256.20	*	3.592E-01	8.312E-01	1.419E+00	2.054E-01	0.253
		286.10		-4.224E-01	3.688E+00	5.972E+00	7.245E-01	-0.071

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		299.80		7.755E-02	3.607E+00	5.255E+00	8.755E-01	0.015
		304.40		-6.560E-01	4.253E+00	7.039E+00	1.242E+00	-0.093
		334.20		1.156E+00	5.865E+00	8.570E+00	1.591E+00	0.135
		79.80		-3.528E+00	4.451E+00	6.089E+00	1.394E+00	-0.579
		94.00		1.299E+00	4.214E+00	6.154E+00	1.382E+00	0.211
		236.00		3.323E+00	7.224E-01	1.154E+00	1.135E-01	2.880
		256.20	*	3.592E-01	8.319E-01	1.419E+00	2.459E-01	0.253
		286.10		-4.224E-01	3.711E+00	5.972E+00	5.986E+00	-0.071
		299.80		7.755E-02	3.607E+00	5.255E+00	8.755E-01	0.015
		304.40		-6.560E-01	4.253E+00	7.039E+00	1.242E+00	-0.093
TH-229		334.20		1.156E+00	5.865E+00	8.570E+00	1.591E+00	0.135
		85.43		4.692E+00	8.007E-01	1.085E+00	1.236E-01	4.325
	+	88.47		5.279E+00	8.024E-01	7.401E-01	8.470E-02	7.132
		100.00		-3.221E-01	3.784E-01	5.965E-01	5.494E-02	-0.540
		193.63	*	-1.458E-01	1.090E+00	1.738E+00	1.181E-01	-0.084
PA-231		210.97		1.536E+00	1.685E+00	2.794E+00	1.923E-01	0.550
		283.67	*	1.462E+00	3.659E+00	6.211E+00	8.862E-01	0.235
		301.29		8.648E-03	1.323E+00	2.085E+00	2.299E-01	0.004
TH-231		81.07		-1.862E-01	7.875E-01	8.053E-01	9.008E-02	-0.231
		83.78		1.770E-01	3.346E-01	4.939E-01	5.582E-02	0.358
		94.90		-2.033E-01	5.042E-01	7.084E-01	7.103E-02	-0.287
	+	122.32		1.400E+01	6.618E+00	7.561E+00	5.987E-01	1.851
		144.24		-6.408E-01	1.292E+00	2.036E+00	1.639E-01	-0.315
		154.21		-9.647E-01	7.882E-01	1.198E+00	9.330E-02	-0.805
		269.46		2.989E-02	4.088E-01	6.870E-01	4.914E-02	0.044
		323.87	*	-1.009E+00	1.477E+00	2.357E+00	3.962E-01	-0.428
	+	338.28		5.628E+00	3.752E+00	4.486E+00	4.888E-01	1.255
		445.03		1.301E+00	5.638E+00	9.361E+00	9.568E-01	0.139
U-231		84.21		4.358E+00	4.170E+00	6.256E+00	7.085E-01	0.697
	+	92.29		1.040E+00	1.322E+00	1.918E+00	2.022E-01	0.542
		95.87	*	3.394E-01	6.819E-01	1.007E+00	9.921E-02	0.337
		108.00		-3.125E-01	1.138E+00	1.839E+00	1.521E-01	-0.170
PA-233	+	75.28		1.017E+01	8.192E+00	1.398E+01	2.359E+00	0.728
	+	86.59		7.569E+01	2.240E+01	1.119E+01	3.119E+00	6.762
		300.12		-1.956E-01	1.015E+00	1.458E+00	2.025E-01	-0.134
PA-234		311.98	*	-4.163E-02	1.469E-01	2.413E-01	1.691E-02	-0.173
		340.50		1.396E+00	1.572E+00	2.354E+00	5.444E-01	0.593
		398.62		-2.968E+00	5.284E+00	8.371E+00	2.162E+00	-0.355
		415.76		2.471E+00	4.097E+00	6.899E+00	1.418E+00	0.358
		63.00		-4.352E+00	5.152E+00	7.149E+00	1.253E+00	-0.609
		94.67		-9.020E-02	3.624E-01	5.141E-01	6.914E-02	-0.175
		98.44		1.318E-01	2.048E-01	3.112E-01	1.740E-01	0.423
		99.86		-3.568E-01	9.462E-01	1.526E+00	1.409E-01	-0.234
		111.00		2.099E-01	3.524E-01	5.894E-01	6.866E-02	0.356
		131.20		-2.382E-01	2.154E-01	3.329E-01	2.319E-02	-0.715
	+	152.70		1.598E-01	6.224E-01	1.018E+00	1.646E-01	0.157
		186.00		2.789E+00	3.400E+00	4.615E+00	1.419E+00	0.604
		226.40		1.825E-01	8.620E-01	1.465E+00	1.783E-01	0.125
		227.20		-1.540E-01	9.379E-01	1.571E+00	1.090E-01	-0.098

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		248.90		-2.534E-01	1.987E+00	2.883E+00	6.293E-01	-0.088
	+	293.70		4.784E+00	2.712E+00	3.029E+00	4.992E-01	1.579
		369.80		1.057E-01	1.993E+00	3.305E+00	6.904E-01	0.032
		568.70		-1.546E+00	2.096E+00	3.203E+00	1.757E-01	-0.483
		569.50		-4.607E-01	5.667E-01	8.599E-01	4.713E-02	-0.536
		574.00		-1.714E+00	3.393E+00	5.130E+00	2.804E-01	-0.334
		699.00		1.462E-01	1.471E+00	2.483E+00	4.443E-01	0.059
		706.10		1.425E+00	2.325E+00	3.908E+00	1.724E+00	0.365
		733.00		2.977E-02	8.841E-01	1.280E+00	2.728E-01	0.023
		742.81		7.090E-02	2.890E+00	4.838E+00	3.239E+00	0.015
		796.30		8.141E-01	2.125E+00	3.609E+00	9.583E-01	0.226
		805.60		-5.052E-01	2.357E+00	3.856E+00	1.166E+00	-0.131
		819.60		1.897E+00	3.121E+00	5.263E+00	1.986E+00	0.360
		826.30		7.979E-02	2.021E+00	3.367E+00	1.499E+00	0.024
		831.60		3.200E-01	1.559E+00	2.620E+00	7.735E-01	0.122
		876.40		-9.540E-01	2.463E+00	3.639E+00	3.740E+00	-0.262
		880.51		6.347E-02	7.437E-01	1.239E+00	1.021E-01	0.051
		883.24		-2.999E-01	8.159E-01	1.277E+00	8.577E-01	-0.235
		899.00		-1.529E-01	2.264E+00	3.727E+00	1.628E+00	-0.041
		925.00		1.303E+00	3.341E+00	5.648E+00	4.721E-01	0.231
		926.50		3.571E-01	5.054E-01	8.583E-01	2.162E-01	0.416
		946.00	*	6.059E-01	9.729E-01	1.650E+00	3.064E-01	0.367
		949.00		3.489E-01	1.446E+00	2.416E+00	1.977E-01	0.144
		980.50		8.541E-01	2.020E+00	3.418E+00	2.709E-01	0.250
		1394.10		4.615E-01	1.661E+00	2.865E+00	1.861E+00	0.161
PA-234M		766.42		-1.574E+01	2.542E+01	3.860E+01	1.946E+01	-0.408
		1001.03	*	-1.110E+00	1.179E+01	1.928E+01	1.777E+00	-0.058
TH-234		63.29	*	-3.562E+00	4.356E+00	6.041E+00	1.192E+00	-0.590
	+	92.38		9.508E-01	1.218E+00	1.751E+00	3.338E-01	0.543
U-235		89.95		1.218E+01	5.174E+00	4.601E+00	1.455E+00	2.648
	+	93.35		1.143E+00	1.485E+00	2.041E+00	5.836E-01	0.560
		105.00		2.845E+00	2.278E+00	3.650E+00	1.089E+00	0.779
		143.76	*	-1.684E-01	3.985E-01	6.290E-01	1.050E-01	-0.268
		163.35		2.546E-01	9.801E-01	1.598E+00	2.921E-01	0.159
	+	185.71		1.033E-01	1.221E-01	1.703E-01	1.151E-02	0.606
		205.31		-3.440E-01	1.161E+00	1.832E+00	3.361E-01	-0.188
NP-236		94.67		-6.751E-02	2.749E-01	3.900E-01	3.928E-02	-0.173
		98.44		9.959E-02	1.447E-01	2.352E-01	2.220E-02	0.423
		111.00		1.588E-01	2.662E-01	4.458E-01	3.564E-02	0.356
		160.31	*	1.661E-01	1.640E-01	2.758E-01	1.841E-02	0.602
U-238		63.29	*	-3.562E+00	4.356E+00	6.041E+00	1.192E+00	-0.590
	+	92.38		9.508E-01	1.209E+00	1.751E+00	1.842E-01	0.543
NP-239		99.55		-3.947E-02	3.192E-01	5.207E-01	4.830E-02	-0.076
		117.00	*	-1.171E-02	4.377E-01	6.244E-01	4.694E-02	-0.019
		209.75		1.661E+00	1.716E+00	2.851E+00	1.961E-01	0.582
		228.18		-2.832E-01	4.905E-01	8.074E-01	5.603E-02	-0.351
		277.60		3.703E-02	4.142E-01	6.958E-01	4.805E-02	0.053
		334.30		6.635E-01	3.322E+00	4.858E+00	3.149E-01	0.137
AM-243		74.67	*	2.825E-01	1.705E-01	2.614E-01	2.905E-02	1.081

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		4.257E+02	6.472E+01	6.289E+01	7.219E+00	6.770
		117.66		5.186E+00	8.572E+00	1.267E+01	9.466E-01	0.409
		142.18		6.987E-01	3.330E+01	5.379E+01	3.665E+00	0.013
CM-243		99.55		-4.059E-02	3.283E-01	5.355E-01	4.967E-02	-0.076
		103.76	*	1.376E-01	1.944E-01	3.270E-01	2.855E-02	0.421
		117.00		-1.204E-02	4.501E-01	6.421E-01	4.826E-02	-0.019
		209.75		1.636E+00	1.691E+00	2.809E+00	1.932E-01	0.582
		228.18		-2.860E-01	4.954E-01	8.154E-01	5.659E-02	-0.351
		277.60		3.732E-02	4.174E-01	7.012E-01	4.841E-02	0.053
AM-246		798.80		-4.953E-01	3.411E-01	5.088E-01	3.528E-02	-0.974
		1036.00		-3.893E-01	7.676E-01	1.209E+00	8.949E-02	-0.322
		1062.04		4.077E-02	5.943E-01	9.784E-01	6.968E-02	0.042
		1078.86	*	-6.291E-02	3.799E-01	6.140E-01	4.256E-02	-0.102
CM-247		278.00		-1.157E-01	1.729E+00	2.886E+00	1.992E-01	-0.040
		287.40		-7.091E-01	3.324E+00	4.765E+00	3.269E-01	-0.149
		402.60	*	-1.254E-01	9.407E-02	1.437E-01	8.173E-03	-0.873
CF-249		252.85		5.242E-01	1.854E+00	3.152E+00	2.194E-01	0.166
		333.44		1.661E-01	4.342E-01	6.428E-01	4.173E-02	0.258
		387.95	*	6.471E-02	9.284E-02	1.587E-01	9.097E-03	0.408
CF-251		176.60	*	6.928E-03	2.583E-01	4.162E-01	2.790E-02	0.017
		227.00		-8.634E-02	8.353E-01	1.403E+00	9.731E-02	-0.062
		285.00		3.561E+00	4.095E+00	7.089E+00	4.872E-01	0.502

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]G1202006613      *
* Acquisition date   : 7-JAN-2010 13:32:34 Detector SN#      :              *
* Detector ID        : GAM15 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 01:00:01.38 Half life ratio : 8.000   *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 31-DEC-2009 00:00:00 Nuclide Library : SOLID      *
* Sample ID         : G1202006613 Analyst initials: MXR1          *
* Batch Number      : 937702 Sample Quantity : 1.5173E+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)	
CO-57	1.986E-01	9.180E-02	8.619E-02	0.000E+00
CO-60	6.635E+00	6.289E-01	1.142E-01	0.000E+00
CD-109	3.889E+01	5.794E+00	3.150E+00	0.000E+00
SN-126	3.866E+00	5.760E-01	3.156E-01	0.000E+00
BA-137M	5.400E+00	3.883E-01	1.443E-01	0.000E+00
CS-137	5.708E+00	4.115E-01	1.525E-01	0.000E+00
TL-208	4.009E-01	1.414E-01	1.479E-01	0.000E+00
BI-211	3.203E+00	8.134E-01	8.056E-01	0.000E+00
PB-212	1.414E+00	2.164E-01	2.030E-01	0.000E+00
PO-212	1.414E+00	2.164E-01	2.030E-01	0.000E+00
BI-214	1.110E+00	3.016E-01	2.549E-01	0.000E+00
PB-214	1.114E+00	2.886E-01	2.807E-01	0.000E+00
PO-214	1.114E+00	2.886E-01	2.807E-01	0.000E+00
PO-216	1.414E+00	2.164E-01	2.030E-01	0.000E+00
PO-218	1.114E+00	2.886E-01	2.807E-01	0.000E+00
RA-224	3.993E+00	2.077E+00	2.309E+00	0.000E+00
RA-226	1.110E+00	3.016E-01	2.549E-01	0.000E+00
AC-228	1.134E+00	5.565E-01	6.289E-01	0.000E+00
RA-228	1.134E+00	5.565E-01	6.289E-01	0.000E+00
TH-228	1.425E+00	2.180E-01	2.045E-01	0.000E+00
TH-230	1.110E+00	3.016E-01	2.549E-01	0.000E+00
TH-232	1.134E+00	5.565E-01	6.289E-01	0.000E+00
U-234	1.110E+00	3.016E-01	2.549E-01	0.000E+00
NP-237	1.135E+01	2.852E+00	9.448E-01	0.000E+00
AM-241	1.595E+01	2.420E+00	1.069E+00	0.000E+00
ANH-511	1.439E-01	1.142E-01	1.163E-01	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-8.234E-03	7.392E-01	1.277E+00	0.000E+00 NOT IDENT.

NA-22	-1.108E-02	5.591E-02	9.034E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.213E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.854E-02	4.595E-02	6.478E-02	0.000E+00	NOT IDENT.
K-40	2.644E-01	5.607E-01	1.070E+00	0.000E+00	NOT IDENT.
TI-44	6.997E-02	9.216E-02	1.521E-01	0.000E+00	NOT IDENT.
SC-46	-6.760E-03	9.845E-02	1.690E-01	0.000E+00	FAIL ABUN
V-48	-7.225E-04	1.365E-01	2.332E-01	0.000E+00	NOT IDENT.
CR-51	-5.989E-01	6.895E-01	1.172E+00	0.000E+00	NOT IDENT.
MN-52	-2.662E-02	1.190E-01	1.962E-01	0.000E+00	FAIL ABUN
MN-54	4.315E-02	8.931E-02	1.593E-01	0.000E+00	NOT IDENT.
CO-56	-4.558E-02	9.330E-02	1.562E-01	0.000E+00	NOT IDENT.
CO-58	5.705E-03	8.388E-02	1.464E-01	0.000E+00	NOT IDENT.
FE-59	-4.362E-02	2.077E-01	3.461E-01	0.000E+00	NOT IDENT.
ZN-65	-1.911E-01	2.451E-01	3.232E-01	0.000E+00	NOT IDENT.
GE-68	4.168E-01	3.248E+00	5.558E+00	0.000E+00	NOT IDENT.
AS-73	-1.550E+00	4.628E+00	7.434E+00	0.000E+00	NOT IDENT.
AS-74	-1.175E-01	1.453E-01	2.321E-01	0.000E+00	NOT IDENT.
SE-75	-2.687E-02	9.080E-02	1.613E-01	0.000E+00	FAIL ABUN
BR-77	-5.503E-01	2.771E+00	4.703E+00	0.000E+00	FAIL ABUN
SR-82	-6.491E-01	6.987E-01	1.138E+00	0.000E+00	NOT IDENT.
RB-83	-3.636E-02	1.572E-01	2.663E-01	0.000E+00	NOT IDENT.
RB-84	2.821E-02	1.558E-01	2.719E-01	0.000E+00	NOT IDENT.
KR-85	2.904E+01	1.741E+01	2.937E+01	0.000E+00	NOT IDENT.
SR-85	1.375E-01	8.245E-02	1.391E-01	0.000E+00	NOT IDENT.
RB-86	2.184E-01	1.560E+00	2.671E+00	0.000E+00	NOT IDENT.
Y-88	1.939E-02	5.463E-02	9.837E-02	0.000E+00	NOT IDENT.
ZR-88	2.848E-02	6.875E-02	1.230E-01	0.000E+00	NOT IDENT.
Y-91	-7.408E-01	2.472E+01	4.136E+01	0.000E+00	NOT IDENT.
NB-94	-1.995E-02	6.979E-02	1.203E-01	0.000E+00	NOT IDENT.
NB-95	-6.908E-02	8.297E-02	1.368E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	3.110E-01	5.455E-01	0.000E+00	NOT IDENT.
ZR-95	1.297E-01	1.426E-01	2.635E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.399E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.765E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.259E+00	3.550E+00	6.481E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.842E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-9.964E-04	6.922E-02	1.193E-01	0.000E+00	NOT IDENT.
RH-102	2.077E-02	7.355E-02	1.292E-01	0.000E+00	NOT IDENT.
RU-103	7.203E-02	8.445E-02	1.520E-01	0.000E+00	FAIL ABUN
RH-106	3.155E-01	7.131E-01	1.244E+00	0.000E+00	FAIL ABUN
RU-106	3.155E-01	7.124E-01	1.244E+00	0.000E+00	FAIL ABUN
AG-108M	-1.163E-02	8.271E-02	1.430E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	1.349E-01	2.590E-01	0.000E+00	NOT IDENT.
IN-111	3.137E-01	3.817E-01	6.306E-01	0.000E+00	NOT IDENT.
IN-113M	2.602E-02	9.996E-02	1.776E-01	0.000E+00	NOT IDENT.
SN-113	2.602E-02	9.996E-02	1.776E-01	0.000E+00	NOT IDENT.
IN-114M	-1.407E-01	4.081E-01	6.059E-01	0.000E+00	NOT IDENT.
CD-115	9.192E-01	2.261E+00	3.983E+00	0.000E+00	NOT IDENT.
SN-117M	5.463E-02	7.604E-02	1.374E-01	0.000E+00	NOT IDENT.
SB-122	4.029E-01	6.144E-01	1.096E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.011E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.193E-02	5.566E-02	1.013E-01	0.000E+00	NOT IDENT.
I-124	1.722E-01	4.883E-01	7.389E-01	0.000E+00	NOT IDENT.
SB-124	3.350E-02	9.087E-02	1.674E-01	0.000E+00	FAIL ABUN
SB-125	-7.685E-02	2.242E-01	3.838E-01	0.000E+00	NOT IDENT.
TE-125M	-1.449E+01	1.626E+01	2.795E+01	0.000E+00	NOT IDENT.
I-126	-1.478E-01	3.200E-01	4.421E-01	0.000E+00	NOT IDENT.
SB-126	9.465E-02	2.305E-01	3.623E-01	0.000E+00	NOT IDENT.
SB-127	-2.232E-01	6.887E-01	1.184E+00	0.000E+00	NOT IDENT.
XE-127	3.349E-02	8.794E-02	1.546E-01	0.000E+00	FAIL ABUN
I-131	-3.244E-02	1.377E-01	2.398E-01	0.000E+00	NOT IDENT.
TE-132	-1.721E-01	2.941E-01	5.206E-01	0.000E+00	NOT IDENT.
BA-133	-3.060E-02	1.120E-01	1.681E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.181E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.046E-02	1.067E-01	1.941E-01	0.000E+00	NOT IDENT.
CS-135	1.755E-01	3.315E-01	6.090E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.588E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.060E-02	1.944E-01	3.194E-01	0.000E+00	FAIL ABUN
CE-139	1.184E-02	5.740E-02	1.014E-01	0.000E+00	NOT IDENT.
BA-140	1.552E-01	3.803E-01	6.640E-01	0.000E+00	NOT IDENT.
LA-140	-4.420E-02	8.805E-02	1.358E-01	0.000E+00	NOT IDENT.
CE-141	-8.052E-03	9.842E-02	1.731E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.187E+01	1.389E+01	0.000E+00	FAIL ABUN
CE-144	-6.788E-02	3.967E-01	6.985E-01	0.000E+00	NOT IDENT.
PM-144	1.265E-02	7.123E-02	1.266E-01	0.000E+00	NOT IDENT.
PR-144	8.540E-01	4.808E+00	8.547E+00	0.000E+00	NOT IDENT.
PM-146	-3.823E-02	1.106E-01	1.885E-01	0.000E+00	NOT IDENT.
ND-147	1.193E-01	7.638E-01	1.324E+00	0.000E+00	FAIL ABUN

PM-149	3.976E+00	1.989E+01	3.502E+01	0.000E+00	NOT IDENT.
EU-152	-6.521E-03	2.850E-01	3.819E-01	0.000E+00	FAIL ABUN
GD-153	1.019E-01	1.722E-01	2.806E-01	0.000E+00	NOT IDENT.
EU-154	-3.107E-02	1.568E-01	2.533E-01	0.000E+00	FAIL ABUN
EU-155	2.482E-01	2.095E-01	3.925E-01	0.000E+00	FAIL ABUN
TB-160	-1.189E-01	3.370E-01	5.676E-01	0.000E+00	FAIL ABUN
HO-166M	-1.400E-02	1.299E-01	2.262E-01	0.000E+00	FAIL ABUN
TM-171	-4.225E+01	7.377E+01	1.323E+02	0.000E+00	FAIL ABUN
LU-176	2.190E-03	5.453E-02	9.743E-02	0.000E+00	FAIL ABUN
LU-177	9.467E-01	1.068E+00	1.911E+00	0.000E+00	NOT IDENT.
LU-177M	-3.478E-01	4.125E-01	6.886E-01	0.000E+00	FAIL ABUN
HF-181	3.752E-03	9.234E-02	1.599E-01	0.000E+00	FAIL ABUN
W-181	-7.716E-01	1.033E+00	1.696E+00	0.000E+00	FAIL ABUN
TA-182	4.021E-02	2.269E-01	3.902E-01	0.000E+00	FAIL ABUN
RE-183	-2.791E-01	2.128E-01	3.511E-01	0.000E+00	FAIL ABUN
RE-184	1.354E-01	4.694E-01	8.578E-01	0.000E+00	FAIL ABUN
OS-185	2.324E-02	9.291E-02	1.597E-01	0.000E+00	FAIL ABUN
RE-188	-4.831E-01	3.141E-01	5.121E-01	0.000E+00	NOT IDENT.
W-188	-1.511E+01	1.742E+01	2.554E+01	0.000E+00	NOT IDENT.
IR-192	2.179E-02	7.311E-02	1.319E-01	0.000E+00	FAIL ABUN
AU-195	3.913E-01	4.311E-01	8.024E-01	0.000E+00	FAIL ABUN
TL-200	1.123E+00	8.349E+00	1.481E+01	0.000E+00	NOT IDENT.
TL-201	-2.091E-01	2.452E+00	4.278E+00	0.000E+00	NOT IDENT.
TL-202	4.944E-02	1.106E-01	1.970E-01	0.000E+00	NOT IDENT.
HG-203	-2.368E-02	8.343E-02	1.479E-01	0.000E+00	NOT IDENT.
BI-207	-1.612E-02	1.307E-01	2.198E-01	0.000E+00	NOT IDENT.
TL-207	-1.009E+00	1.447E+00	2.468E+00	0.000E+00	FAIL ABUN
PO-209	-6.928E+00	1.949E+01	3.277E+01	0.000E+00	NOT IDENT.
BI-210	-4.820E-01	2.514E+01	4.677E+01	0.000E+00	NOT IDENT.
PB-210	-4.820E-01	2.514E+01	4.677E+01	0.000E+00	NOT IDENT.
PO-210	-4.820E-01	2.514E+01	4.677E+01	0.000E+00	NOT IDENT.
PB-211	1.577E+00	2.461E+00	4.091E+00	0.000E+00	NOT IDENT.
BI-212	9.706E-01	1.135E+00	1.291E+00	0.000E+00	FAIL ABUN
PO-215	-1.009E+00	1.447E+00	2.468E+00	0.000E+00	FAIL ABUN
RN-219	-1.037E+00	1.027E+00	1.691E+00	0.000E+00	NOT IDENT.
RN-220	8.021E+01	5.722E+01	1.066E+02	0.000E+00	NOT IDENT.
RA-223	-1.009E+00	1.447E+00	2.468E+00	0.000E+00	FAIL ABUN
AC-227	3.592E-01	8.146E-01	1.494E+00	0.000E+00	NOT IDENT.
TH-227	3.592E-01	8.153E-01	1.494E+00	0.000E+00	NOT IDENT.
TH-229	-1.458E-01	1.068E+00	1.842E+00	0.000E+00	FAIL ABUN
PA-231	1.462E+00	3.586E+00	6.524E+00	0.000E+00	NOT IDENT.
TH-231	-1.009E+00	1.447E+00	2.468E+00	0.000E+00	FAIL ABUN
U-231	3.394E-01	6.682E-01	1.085E+00	0.000E+00	FAIL ABUN
PA-233	-4.163E-02	1.439E-01	2.529E-01	0.000E+00	FAIL ABUN
PA-234	6.059E-01	9.534E-01	1.681E+00	0.000E+00	FAIL ABUN
PA-234M	-1.110E+00	1.156E+01	1.961E+01	0.000E+00	NOT IDENT.
TH-234	-3.562E+00	4.269E+00	6.575E+00	0.000E+00	FAIL ABUN
U-235	-1.684E-01	3.905E-01	6.717E-01	0.000E+00	FAIL ABUN
NP-236	1.661E-01	1.607E-01	2.937E-01	0.000E+00	NOT IDENT.
U-238	-3.562E+00	4.269E+00	6.575E+00	0.000E+00	FAIL ABUN
NP-239	-1.171E-02	4.290E-01	6.700E-01	0.000E+00	NOT IDENT.
AM-243	2.825E-01	1.671E-01	2.835E-01	0.000E+00	FAIL ABUN
CM-243	1.376E-01	1.905E-01	3.519E-01	0.000E+00	NOT IDENT.
AM-246	-6.291E-02	3.723E-01	6.235E-01	0.000E+00	NOT IDENT.
CM-247	-1.254E-01	9.218E-02	1.497E-01	0.000E+00	NOT IDENT.
CF-249	6.471E-02	9.098E-02	1.654E-01	0.000E+00	NOT IDENT.
CF-251	6.928E-03	2.531E-01	4.423E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006613.CNF;1
Sample date        : 31-DEC-2009 00:00:00 Acquisition date : 7-JAN-2010 13:32:34.
Sample ID          : G1202006613      Sample quantity   : 1.51730E+02 GRAM
Detector name      : GAM15             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:01.38  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 937702            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	193	85.51*	5.723E+00	1.948E-01	1.986E-01	47.16
	136.48	-----	10.60	5.690E+00	-----	Line Not Found	-----
CO-60	1173.22	1628	100.00	1.210E+00	6.655E+00	6.673E+00	7.89
	1332.49	1442	100.00*	1.078E+00	6.617E+00	6.635E+00	9.67
CD-109	88.03	1293	3.72*	4.473E+00	3.845E+01	3.889E+01	15.20
SN-126	64.28	-----	9.60	1.930E+00	-----	Line Not Found	-----
	86.94	1293	8.90	4.473E+00	1.607E+01	1.607E+01	43.21
	87.57	1293	37.00*	4.473E+00	3.866E+00	3.866E+00	15.20
BA-137M	661.65	1982	89.98*	2.019E+00	5.398E+00	5.400E+00	7.34
CS-137	661.65	1982	85.12*	2.019E+00	5.706E+00	5.708E+00	7.36
TL-208	277.35	-----	6.80	3.788E+00	-----	Line Not Found	-----
	510.84	72	21.60	2.460E+00	6.662E-01	6.662E-01	81.42
	583.14	152	84.20*	2.230E+00	4.009E-01	4.009E-01	35.98
	860.37	-----	12.46	1.613E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	2.992E+00	-----	Line Not Found	-----
	351.07	269	12.94*	3.206E+00	3.203E+00	3.203E+00	25.92
PB-212	74.81	-----	10.70	3.221E+00	-----	Line Not Found	-----
	77.11	89	18.00	3.425E+00	7.122E-01	7.122E-01	79.51
	87.30	1293	8.00	4.473E+00	1.788E+01	1.788E+01	18.20
	238.63	538	44.60*	4.219E+00	1.414E+00	1.414E+00	15.61
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
PO-212	74.81	-----	10.70	3.221E+00	-----	Line Not Found	-----
	77.11	89	18.00	3.425E+00	7.122E-01	7.122E-01	79.51
	87.30	1293	8.00	4.473E+00	1.788E+01	1.788E+01	18.20
	115.19	-----	0.60	5.666E+00	-----	Line Not Found	-----
	238.63	538	44.60*	4.219E+00	1.414E+00	1.414E+00	15.61
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
BI-214	609.31	224	46.30*	2.155E+00	1.110E+00	1.110E+00	27.73
	1120.29	26	15.10	1.263E+00	6.698E-01	6.698E-01	104.97
	1764.49	34	15.80	8.814E-01	1.209E+00	1.209E+00	38.39
PB-214	74.81	-----	6.21	3.221E+00	-----	Line Not Found	-----
	77.11	89	10.50	3.425E+00	1.221E+00	1.221E+00	79.87

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	1293	4.67	4.473E+00	3.063E+01	3.063E+01	17.04
	241.98	133	7.49	4.182E+00	2.106E+00	2.106E+00	53.39
	295.21	140	19.20	3.630E+00	9.967E-01	9.967E-01	55.02
	351.92	269	37.20*	3.206E+00	1.114E+00	1.114E+00	26.44
PO-214	74.81	-----	6.21	3.221E+00	-----	Line Not Found	-----
	77.11	89	10.50	3.425E+00	1.221E+00	1.221E+00	79.87
	87.30	1293	4.67	4.473E+00	3.063E+01	3.063E+01	17.04
	241.98	133	7.49	4.182E+00	2.106E+00	2.106E+00	53.39
	295.21	140	19.20	3.630E+00	9.967E-01	9.967E-01	55.02
	351.92	269	37.20*	3.206E+00	1.114E+00	1.114E+00	26.44
PO-216	74.81	-----	10.70	3.221E+00	-----	Line Not Found	-----
	77.11	89	18.00	3.425E+00	7.122E-01	7.122E-01	79.51
	87.30	1293	8.00	4.473E+00	1.788E+01	1.788E+01	18.20
	238.63	538	44.60*	4.219E+00	1.414E+00	1.414E+00	15.61
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
PO-218	74.81	-----	6.21	3.221E+00	-----	Line Not Found	-----
	77.11	89	10.50	3.425E+00	1.221E+00	1.221E+00	79.87
	87.30	1293	4.67	4.473E+00	3.063E+01	3.063E+01	17.04
	241.98	133	7.49	4.182E+00	2.106E+00	2.106E+00	53.39
	295.21	140	19.20	3.630E+00	9.967E-01	9.967E-01	55.02
	351.92	269	37.20*	3.206E+00	1.114E+00	1.114E+00	26.44
RA-224	240.98	133	3.95*	4.182E+00	3.993E+00	3.993E+00	53.10
RA-226	609.31	224	46.30*	2.155E+00	1.110E+00	1.110E+00	27.73
	1120.29	26	15.10	1.263E+00	6.698E-01	6.698E-01	104.97
	1764.49	34	15.80	8.814E-01	1.209E+00	1.209E+00	38.39
AC-228	338.32	102	11.40	3.294E+00	1.348E+00	1.348E+00	77.43
	911.07	97	27.70*	1.532E+00	1.134E+00	1.134E+00	50.06
RA-228	969.11	112	16.60	1.447E+00	2.303E+00	2.303E+00	46.23
	338.32	102	11.40	3.294E+00	1.348E+00	1.348E+00	77.43
	911.07	97	27.70*	1.532E+00	1.134E+00	1.134E+00	50.06
	969.11	112	16.60	1.447E+00	2.303E+00	2.303E+00	46.23
TH-228	74.81	-----	10.70	3.221E+00	-----	Line Not Found	-----
	77.11	89	18.00	3.425E+00	7.122E-01	7.176E-01	79.51
	87.30	1293	8.00	4.473E+00	1.788E+01	1.802E+01	15.20
	238.63	538	44.60*	4.219E+00	1.414E+00	1.425E+00	15.61
	300.09	-----	3.41	3.583E+00	-----	Line Not Found	-----
TH-230	609.31	224	46.30*	2.155E+00	1.110E+00	1.110E+00	27.73
	1120.29	26	15.10	1.263E+00	6.698E-01	6.698E-01	104.97
	1764.49	34	15.80	8.814E-01	1.209E+00	1.209E+00	38.39
TH-232	338.32	102	11.40	3.294E+00	1.348E+00	1.348E+00	66.08
	911.07	97	27.70*	1.532E+00	1.134E+00	1.134E+00	50.06
	969.11	112	16.60	1.447E+00	2.303E+00	2.303E+00	46.23
U-234	609.31	224	46.30*	2.155E+00	1.110E+00	1.110E+00	27.73
	1120.29	26	15.10	1.263E+00	6.698E-01	6.698E-01	104.97
	1764.49	34	15.80	8.814E-01	1.209E+00	1.209E+00	38.39
NP-237	86.50	1293	12.60*	4.473E+00	1.135E+01	1.135E+01	25.63
	95.87	-----	2.60	5.041E+00	-----	Line Not Found	-----
AM-241	59.54	1491	35.90*	1.288E+00	1.595E+01	1.595E+01	15.48
ANH-511	511.00	72	100.00*	2.460E+00	1.439E-01	1.439E-01	80.99

Nuclide Line Activity Report (continued)
Sample ID : G1202006613

Page : 3
Acquisition date : 7-JAN-2010 13:32:34

Flag: "*" = Keyline

Total number of lines in spectrum 22
Number of unidentified lines 0
Number of lines tentatively identified by NID 22 100.00%

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	1.948E-01	1.986E-01	0.937E-01	47.16	
CO-60	5.27Y	1.00	6.617E+00	6.635E+00	0.642E+00	9.67	
CD-109	464.00D	1.01	3.845E+01	3.889E+01	0.591E+01	15.20	
SN-126	1.00E+05Y	1.00	3.866E+00	3.866E+00	0.588E+00	15.20	
BA-137M	30.17Y	1.00	5.398E+00	5.400E+00	0.396E+00	7.34	
CS-137	30.17Y	1.00	5.706E+00	5.708E+00	0.420E+00	7.36	
TL-208	1.41E+10Y	1.00	4.009E-01	4.009E-01	1.442E-01	35.98	
BI-211	7.04E+08Y	1.00	3.203E+00	3.203E+00	0.830E+00	25.92	
PB-212	1.41E+10Y	1.00	1.414E+00	1.414E+00	0.221E+00	15.61	
PO-212	1.41E+10Y	1.00	1.414E+00	1.414E+00	0.221E+00	15.61	
BI-214	1600.00Y	1.00	1.110E+00	1.110E+00	0.308E+00	27.73	
PB-214	1600.00Y	1.00	1.114E+00	1.114E+00	0.295E+00	26.44	
PO-214	1600.00Y	1.00	1.114E+00	1.114E+00	0.295E+00	26.44	
PO-216	1.41E+10Y	1.00	1.414E+00	1.414E+00	0.221E+00	15.61	
PO-218	1600.00Y	1.00	1.114E+00	1.114E+00	0.295E+00	26.44	
RA-224	1.41E+10Y	1.00	3.993E+00	3.993E+00	2.120E+00	53.10	
RA-226	1600.00Y	1.00	1.110E+00	1.110E+00	0.308E+00	27.73	
AC-228	1.41E+10Y	1.00	1.134E+00	1.134E+00	0.568E+00	50.06	
RA-228	1.41E+10Y	1.00	1.134E+00	1.134E+00	0.568E+00	50.06	
TH-228	1.91Y	1.01	1.414E+00	1.425E+00	0.222E+00	15.61	
TH-230	4.47E+09Y	1.00	1.110E+00	1.110E+00	0.308E+00	27.73	
TH-232	1.41E+10Y	1.00	1.134E+00	1.134E+00	0.568E+00	50.06	
U-234	4.47E+09Y	1.00	1.110E+00	1.110E+00	0.308E+00	27.73	
NP-237	2.14E+06Y	1.00	1.135E+01	1.135E+01	0.291E+01	25.63	
AM-241	432.20Y	1.00	1.595E+01	1.595E+01	0.247E+01	15.48	
ANH-511	1.00E+09Y	1.00	1.439E-01	1.439E-01	1.165E-01	80.99	

Total Activity : 1.121E+02 1.126E+02

Grand Total Activity : 1.121E+02 1.126E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202006613

Page : 5
Acquisition date : 7-JAN-2010 13:32:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.08	50	293	1.46	184.63	182	8	1.39E-02	****	4.81E+00	T
0	185.48	56	301	1.09	371.35	367	9	1.56E-02	****	4.98E+00	T
0	727.75	43	127	2.27	1455.51	1448	15	1.20E-02	****	1.87E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202006613.CNF;1
* Acquisition date   : 7-JAN-2010 13:32:34.  Detector SN#      :
* Detector ID        : GAM15                      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 01:00:01.38             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 31-DEC-2009 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202006613           Analyst initials: MXR1
* Batch Number       : 937702                Sample Quantity : 1.51730E+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
CO-57	1.986E-01	9.367E-02	8.041E-02	5.781E-03	2.470
CO-60	6.635E+00	6.417E-01	1.131E-01	8.533E-03	58.687
CD-109	3.889E+01	5.912E+00	2.916E+00	3.372E-01	13.338
SN-126	3.866E+00	5.877E-01	2.921E-01	3.371E-02	13.234
BA-137M	5.400E+00	3.962E-01	1.403E-01	7.058E-03	38.493
CS-137	5.708E+00	4.199E-01	1.483E-01	7.503E-03	38.493
TL-208	4.009E-01	1.442E-01	1.434E-01	9.128E-03	2.797
BI-211	3.203E+00	8.300E-01	7.710E-01	5.297E-02	4.154
PB-212	1.414E+00	2.208E-01	1.924E-01	1.593E-02	7.350
PO-212	1.414E+00	2.208E-01	1.924E-01	1.593E-02	7.350
BI-214	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
PB-214	1.114E+00	2.945E-01	2.687E-01	2.316E-02	4.146
PO-214	1.114E+00	2.945E-01	2.687E-01	2.316E-02	4.146
PO-216	1.414E+00	2.208E-01	1.924E-01	1.593E-02	7.350
PO-218	1.114E+00	2.945E-01	2.687E-01	2.316E-02	4.146
RA-224	3.993E+00	2.120E+00	2.189E+00	1.524E-01	1.824
RA-226	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
AC-228	1.134E+00	5.678E-01	6.166E-01	6.854E-02	1.840

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.134E+00	5.678E-01	6.166E-01	6.854E-02	1.840
TH-228	1.425E+00	2.224E-01	1.939E-01	1.605E-02	7.350
TH-230	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
TH-232	1.134E+00	5.678E-01	6.166E-01	6.854E-02	1.840
U-234	1.110E+00	3.078E-01	2.474E-01	1.837E-02	4.487
NP-237	1.135E+01	2.910E+00	8.743E-01	2.064E-01	12.985
AM-241	1.595E+01	2.469E+00	9.805E-01	1.248E-01	16.263
ANH-511	1.439E-01	1.165E-01	1.123E-01	6.343E-03	1.281

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-8.234E-03		7.543E-01	1.232E+00	8.209E-02	-0.007
NA-22	-1.108E-02		5.705E-02	8.935E-02	6.132E-03	-0.124
NA-24	-1.500E-05		1.129E-04	Half-Life too short		
AL-26	-2.854E-02		4.688E-02	6.467E-02	3.870E-03	-0.441
K-40	2.644E-01		5.721E-01	1.062E+00	8.119E-02	0.249
TI-44	6.997E-02		9.404E-02	1.404E-01	1.561E-02	0.498
SC-46	-6.760E-03		1.005E-01	1.655E-01	1.389E-02	-0.041
V-48	-7.225E-04		1.393E-01	2.291E-01	1.810E-02	-0.003
CR-51	-5.989E-01		7.036E-01	1.119E+00	8.073E-02	-0.535
MN-52	-2.662E-02		1.214E-01	1.947E-01	1.444E-02	-0.137
MN-54	4.315E-02		9.113E-02	1.558E-01	1.168E-02	0.277
CO-56	-4.558E-02		9.520E-02	1.529E-01	1.175E-02	-0.298
CO-58	5.705E-03		8.559E-02	1.431E-01	1.022E-02	0.040
FE-59	-4.362E-02		2.119E-01	3.409E-01	2.580E-02	-0.128
ZN-65	-1.911E-01		2.501E-01	3.186E-01	2.069E-02	-0.600
GE-68	4.168E-01		3.315E+00	5.473E+00	3.803E-01	0.076
AS-73	-1.550E+00		4.722E+00	6.805E+00	9.299E-01	-0.228
AS-74	-1.175E-01		1.483E-01	2.251E-01	1.210E-02	-0.522
SE-75	-2.687E-02		9.266E-02	1.533E-01	1.072E-02	-0.175
BR-77	-5.503E-01		2.827E+00	4.546E+00	2.557E-01	-0.121
SR-82	-6.491E-01		7.130E-01	1.111E+00	7.333E-02	-0.584
RB-83	-3.636E-02		1.604E-01	2.574E-01	1.448E-02	-0.141
RB-84	2.821E-02		1.590E-01	2.663E-01	2.199E-02	0.106
KR-85	2.904E+01		1.777E+01	2.837E+01	1.601E+00	1.024
SR-85	1.375E-01		8.413E-02	1.343E-01	7.578E-03	1.024
RB-86	2.184E-01		1.591E+00	2.630E+00	1.830E-01	0.083
Y-88	1.939E-02		5.575E-02	9.825E-02	5.739E-03	0.197
ZR-88	2.848E-02		7.015E-02	1.181E-01	6.696E-03	0.241
Y-91	-7.408E-01		2.523E+01	4.084E+01	2.470E+00	-0.018
NB-94	-1.995E-02		7.121E-02	1.171E-01	6.514E-03	-0.170
NB-95	-6.908E-02		8.466E-02	1.335E-01	8.602E-03	-0.517
NB-95M	1.002E+00		3.173E-01	5.170E-01	4.368E-02	1.939
ZR-95	1.297E-01		1.455E-01	2.571E-01	1.917E-02	0.504
NB-97	1.761E-03		1.224E-04	Half-Life too short		
ZR-97	1.791E-03		1.411E-03	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	2.259E+00		3.622E+00	6.320E+00	8.782E-01	0.357
TC-99M	-1.156E+01		2.981E+01	Half-Life too short		
RH-101	-9.964E-04		7.063E-02	1.126E-01	7.682E-03	-0.009
RH-102	2.077E-02		7.505E-02	1.245E-01	7.099E-03	0.167
RU-103	7.203E-02		8.617E-02	1.468E-01	1.847E-02	0.491
RH-106	3.155E-01		7.277E-01	1.208E+00	1.386E-01	0.261
RU-106	3.155E-01		7.270E-01	1.208E+00	6.345E-02	0.261
AG-108M	-1.163E-02		8.440E-02	1.376E-01	8.553E-03	-0.085
AG-110M	8.463E-01		1.377E-01	2.518E-01	1.380E-02	3.361
IN-111	3.137E-01		3.895E-01	5.982E-01	4.165E-02	0.524
IN-113M	2.602E-02		1.020E-01	1.704E-01	1.034E-02	0.153
SN-113	2.602E-02		1.020E-01	1.704E-01	1.034E-02	0.153
IN-114M	-1.407E-01		4.165E-01	5.713E-01	3.873E-02	-0.246
CD-115	9.192E-01		2.307E+00	3.851E+00	2.160E-01	0.239
SN-117M	5.463E-02		7.759E-02	1.290E-01	8.623E-03	0.424
SB-122	4.029E-01		6.270E-01	1.062E+00	5.841E-02	0.379
I-123	7.475E-04		4.087E-04	Half-Life too short		
TE-123M	5.193E-02		5.679E-02	9.512E-02	6.422E-03	0.546
I-124	1.722E-01		4.983E-01	7.168E-01	3.832E-02	0.240
SB-124	3.350E-02		9.273E-02	1.668E-01	1.172E-02	0.201
SB-125	-7.685E-02		2.288E-01	3.691E-01	2.200E-02	-0.208
TE-125M	-1.449E+01		1.659E+01	2.600E+01	2.580E+00	-0.557
I-126	-1.478E-01		3.266E-01	4.300E-01	2.188E-02	-0.344
SB-126	9.465E-02		2.352E-01	3.531E-01	2.049E-02	0.268
SB-127	-2.232E-01		7.028E-01	1.152E+00	7.816E-02	-0.194
XE-127	3.349E-02		8.973E-02	1.460E-01	9.996E-03	0.229
I-131	-3.244E-02		1.405E-01	2.297E-01	1.537E-02	-0.141
TE-132	-1.721E-01		3.002E-01	4.930E-01	6.763E-02	-0.349
BA-133	-3.060E-02		1.143E-01	1.610E-01	1.895E-02	-0.190
I-133	-1.194E-05		1.623E-05	Half-Life too short		
CS-134	8.046E-02		1.089E-01	1.897E-01	1.322E-02	0.424
CS-135	1.755E-01		3.383E-01	5.790E-01	4.950E-02	0.303
I-135	8.411E+00		2.341E+01	Half-Life too short		
CS-136	-9.060E-02		1.984E-01	3.143E-01	2.420E-02	-0.288
CE-139	1.184E-02		5.857E-02	9.533E-02	6.340E-03	0.124
BA-140	1.552E-01		3.881E-01	6.423E-01	2.086E-01	0.242
LA-140	-4.420E-02		8.985E-02	1.351E-01	9.417E-03	-0.327
CE-141	-8.052E-03		1.004E-01	1.622E-01	1.132E-02	-0.050
CE-143	2.085E+01	+	1.211E+01	1.324E+01	2.748E+00	1.575
CE-144	-6.788E-02		4.048E-01	6.530E-01	9.597E-02	-0.104
PM-144	1.265E-02		7.269E-02	1.233E-01	6.759E-03	0.103
PR-144	8.540E-01		4.906E+00	8.322E+00	4.561E-01	0.103
PM-146	-3.823E-02		1.129E-01	1.815E-01	1.555E-02	-0.211
ND-147	1.193E-01		7.794E-01	1.280E+00	1.720E-01	0.093
PM-149	3.976E+00		2.030E+01	3.335E+01	4.877E+00	0.119
EU-152	-6.521E-03		2.908E-01	3.653E-01	2.574E-02	-0.018
GD-153	1.019E-01		1.758E-01	2.604E-01	2.499E-02	0.391
EU-154	-3.107E-02		1.600E-01	2.505E-01	2.513E-02	-0.124

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	2.482E-01		2.138E-01	3.649E-01	3.160E-02	0.680
TB-160	-1.189E-01		3.438E-01	5.559E-01	4.571E-02	-0.214
HO-166M	-1.400E-02		1.325E-01	2.204E-01	1.253E-02	-0.064
TM-171	-4.225E+01		7.528E+01	1.217E+02	1.400E+01	-0.347
LU-176	2.190E-03		5.565E-02	9.293E-02	6.261E-03	0.024
LU-177	9.467E-01		1.090E+00	1.805E+00	1.241E-01	0.524
LU-177M	-3.478E-01		4.210E-01	6.617E-01	3.771E-02	-0.526
HF-181	3.752E-03		9.423E-02	1.543E-01	8.783E-03	0.024
W-181	-7.716E-01		1.054E+00	1.560E+00	1.815E-01	-0.495
TA-182	4.021E-02		2.315E-01	3.855E-01	2.403E-02	0.104
RE-183	-2.791E-01		2.172E-01	3.298E-01	2.198E-02	-0.846
RE-184	1.354E-01		4.790E-01	8.143E-01	5.668E-02	0.166
OS-185	2.324E-02		9.481E-02	1.552E-01	7.952E-03	0.150
RE-188	-4.831E-01		3.205E-01	4.805E-01	3.223E-02	-1.005
W-188	-1.511E+01		1.777E+01	2.432E+01	1.664E+00	-0.621
IR-192	2.179E-02		7.461E-02	1.259E-01	8.413E-03	0.173
AU-195	3.913E-01		4.399E-01	7.449E-01	6.982E-02	0.525
TL-200	1.123E+00		8.520E+00	1.419E+01	8.585E-01	0.079
TL-201	-2.091E-01		2.503E+00	4.021E+00	2.676E-01	-0.052
TL-202	4.944E-02		1.129E-01	1.895E-01	1.083E-02	0.261
HG-203	-2.368E-02		8.513E-02	1.408E-01	1.014E-02	-0.168
BI-207	-1.612E-02		1.333E-01	2.163E-01	1.537E-02	-0.074
TL-207	-1.009E+00		1.477E+00	2.357E+00	3.962E-01	-0.428
PO-209	-6.928E+00		1.989E+01	3.211E+01	2.734E+00	-0.216
BI-210	-4.820E-01		2.565E+01	4.267E+01	4.433E+00	-0.011
PB-210	-4.820E-01		2.565E+01	4.267E+01	4.433E+00	-0.011
PO-210	-4.820E-01		2.565E+01	4.267E+01	4.099E+00	-0.011
PB-211	1.577E+00		2.511E+00	3.929E+00	2.449E+00	0.401
BI-212	9.706E-01	+	1.158E+00	1.258E+00	9.794E-02	0.772
PO-215	-1.009E+00		1.477E+00	2.357E+00	3.962E-01	-0.428
RN-219	-1.037E+00		1.048E+00	1.624E+00	2.201E-01	-0.639
RN-220	8.021E+01		5.839E+01	1.032E+02	5.723E+00	0.777
RA-223	-1.009E+00		1.477E+00	2.357E+00	3.962E-01	-0.428
AC-227	3.592E-01		8.312E-01	1.419E+00	2.054E-01	0.253
TH-227	3.592E-01		8.319E-01	1.419E+00	2.459E-01	0.253
TH-229	-1.458E-01		1.090E+00	1.738E+00	1.181E-01	-0.084
PA-231	1.462E+00		3.659E+00	6.211E+00	8.862E-01	0.235
TH-231	-1.009E+00		1.477E+00	2.357E+00	3.962E-01	-0.428
U-231	3.394E-01		6.819E-01	1.007E+00	9.921E-02	0.337
PA-233	-4.163E-02		1.469E-01	2.413E-01	1.691E-02	-0.173
PA-234	6.059E-01		9.729E-01	1.650E+00	3.064E-01	0.367
PA-234M	-1.110E+00		1.179E+01	1.928E+01	1.777E+00	-0.058
TH-234	-3.562E+00		4.356E+00	6.041E+00	1.192E+00	-0.590
U-235	-1.684E-01		3.985E-01	6.290E-01	1.050E-01	-0.268
NP-236	1.661E-01		1.640E-01	2.758E-01	1.841E-02	0.602
U-238	-3.562E+00		4.356E+00	6.041E+00	1.192E+00	-0.590
NP-239	-1.171E-02		4.377E-01	6.244E-01	4.694E-02	-0.019
AM-243	2.825E-01		1.705E-01	2.614E-01	2.905E-02	1.081

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.376E-01		1.944E-01	3.270E-01	2.855E-02	0.421
AM-246	-6.291E-02		3.799E-01	6.140E-01	4.256E-02	-0.102
CM-247	-1.254E-01		9.407E-02	1.437E-01	8.173E-03	-0.873
CF-249	6.471E-02		9.284E-02	1.587E-01	9.097E-03	0.408
CF-251	6.928E-03		2.583E-01	4.162E-01	2.790E-02	0.017

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]G1202006613          *
* Acquisition date   : 7-JAN-2010 13:32:34 Detector SN# :                   *
* Detector ID        : GAM15                                           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 01:00:01.38                               Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 31-DEC-2009 00:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1202006613 Analyst initials: MXR1                  *
* Batch Number     : 937702 Sample Quantity : 1.5173E+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
CO-57	1.986E-01	9.180E-02	4.312E-02	4.684E-02
CO-60	6.635E+00	6.289E-01	5.712E-02	3.209E-01
CD-109	3.889E+01	5.794E+00	1.576E+00	2.956E+00
SN-126	3.866E+00	5.760E-01	1.579E-01	2.939E-01
BA-137M	5.400E+00	3.883E-01	7.218E-02	1.981E-01
CS-137	5.708E+00	4.115E-01	7.630E-02	2.099E-01
TL-208	4.009E-01	1.414E-01	7.400E-02	7.212E-02
BI-211	3.203E+00	8.134E-01	4.030E-01	4.150E-01
PB-212	1.414E+00	2.164E-01	1.015E-01	1.104E-01
PO-212	1.414E+00	2.164E-01	1.015E-01	1.104E-01
BI-214	1.110E+00	3.016E-01	1.275E-01	1.539E-01
PB-214	1.114E+00	2.886E-01	1.405E-01	1.473E-01
PO-214	1.114E+00	2.886E-01	1.405E-01	1.473E-01
PO-216	1.414E+00	2.164E-01	1.015E-01	1.104E-01
PO-218	1.114E+00	2.886E-01	1.405E-01	1.473E-01
RA-224	3.993E+00	2.077E+00	1.155E+00	1.060E+00
RA-226	1.110E+00	3.016E-01	1.275E-01	1.539E-01
AC-228	1.134E+00	5.565E-01	3.146E-01	2.839E-01
RA-228	1.134E+00	5.565E-01	3.146E-01	2.839E-01
TH-228	1.425E+00	2.180E-01	1.023E-01	1.112E-01
TH-230	1.110E+00	3.016E-01	1.275E-01	1.539E-01
TH-232	1.134E+00	5.565E-01	3.146E-01	2.839E-01
U-234	1.110E+00	3.016E-01	1.275E-01	1.539E-01
NP-237	1.135E+01	2.852E+00	4.727E-01	1.455E+00
AM-241	1.595E+01	2.420E+00	5.346E-01	1.235E+00
ANH-511	1.439E-01	1.142E-01	5.818E-02	5.827E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-8.234E-03	7.392E-01	6.391E-01	3.771E-01 NOT IDENT.

NA-22	-1.108E-02	5.591E-02	4.520E-02	2.853E-02	NOT IDENT.
NA-24	-1.500E+01	2.213E+02	0.000E+00	1.129E+02	SHORT HLIF
AL-26	-2.854E-02	4.595E-02	3.241E-02	2.344E-02	NOT IDENT.
K-40	2.644E-01	5.607E-01	5.353E-01	2.861E-01	NOT IDENT.
TI-44	6.997E-02	9.216E-02	7.609E-02	4.702E-02	NOT IDENT.
SC-46	-6.760E-03	9.845E-02	8.453E-02	5.023E-02	FAIL ABUN
V-48	-7.225E-04	1.365E-01	1.167E-01	6.965E-02	NOT IDENT.
CR-51	-5.989E-01	6.895E-01	5.866E-01	3.518E-01	NOT IDENT.
MN-52	-2.662E-02	1.190E-01	9.817E-02	6.071E-02	FAIL ABUN
MN-54	4.315E-02	8.931E-02	7.968E-02	4.557E-02	NOT IDENT.
CO-56	-4.558E-02	9.330E-02	7.816E-02	4.760E-02	NOT IDENT.
CO-58	5.705E-03	8.388E-02	7.322E-02	4.280E-02	NOT IDENT.
FE-59	-4.362E-02	2.077E-01	1.731E-01	1.059E-01	NOT IDENT.
ZN-65	-1.911E-01	2.451E-01	1.617E-01	1.251E-01	NOT IDENT.
GE-68	4.168E-01	3.248E+00	2.781E+00	1.657E+00	NOT IDENT.
AS-73	-1.550E+00	4.628E+00	3.719E+00	2.361E+00	NOT IDENT.
AS-74	-1.175E-01	1.453E-01	1.161E-01	7.415E-02	NOT IDENT.
SE-75	-2.687E-02	9.080E-02	8.072E-02	4.633E-02	FAIL ABUN
BR-77	-5.503E-01	2.771E+00	2.353E+00	1.414E+00	FAIL ABUN
SR-82	-6.491E-01	6.987E-01	5.692E-01	3.565E-01	NOT IDENT.
RB-83	-3.636E-02	1.572E-01	1.332E-01	8.021E-02	NOT IDENT.
RB-84	2.821E-02	1.558E-01	1.360E-01	7.949E-02	NOT IDENT.
KR-85	2.904E+01	1.741E+01	1.469E+01	8.884E+00	NOT IDENT.
SR-85	1.375E-01	8.245E-02	6.957E-02	4.206E-02	NOT IDENT.
RB-86	2.184E-01	1.560E+00	1.336E+00	7.957E-01	NOT IDENT.
Y-88	1.939E-02	5.463E-02	4.921E-02	2.787E-02	NOT IDENT.
ZR-88	2.848E-02	6.875E-02	6.155E-02	3.508E-02	NOT IDENT.
Y-91	-7.408E-01	2.472E+01	2.069E+01	1.261E+01	NOT IDENT.
NB-94	-1.995E-02	6.979E-02	6.016E-02	3.560E-02	NOT IDENT.
NB-95	-6.908E-02	8.297E-02	6.843E-02	4.233E-02	NOT IDENT.
NB-95M	1.002E+00	3.110E-01	2.729E-01	1.587E-01	NOT IDENT.
ZR-95	1.297E-01	1.426E-01	1.318E-01	7.277E-02	NOT IDENT.
NB-97	1.761E+03	2.399E+02	0.000E+00	1.224E+02	SHORT HLIF
ZR-97	1.791E+03	2.765E+03	0.000E+00	1.411E+03	SHORT HLIF
MO-99	2.259E+00	3.550E+00	3.243E+00	1.811E+00	NOT IDENT.
TC-99M	-1.156E+07	5.842E+07	0.000E+00	2.981E+07	SHORT HLIF
RH-101	-9.964E-04	6.922E-02	5.970E-02	3.531E-02	NOT IDENT.
RH-102	2.077E-02	7.355E-02	6.461E-02	3.753E-02	NOT IDENT.
RU-103	7.203E-02	8.445E-02	7.606E-02	4.309E-02	FAIL ABUN
RH-106	3.155E-01	7.131E-01	6.223E-01	3.638E-01	FAIL ABUN
RU-106	3.155E-01	7.124E-01	6.223E-01	3.635E-01	FAIL ABUN
AG-108M	-1.163E-02	8.271E-02	7.154E-02	4.220E-02	NOT IDENT.
AG-110M	8.463E-01	1.349E-01	1.296E-01	6.885E-02	NOT IDENT.
IN-111	3.137E-01	3.817E-01	3.155E-01	1.947E-01	NOT IDENT.
IN-113M	2.602E-02	9.996E-02	8.887E-02	5.100E-02	NOT IDENT.
SN-113	2.602E-02	9.996E-02	8.887E-02	5.100E-02	NOT IDENT.
IN-114M	-1.407E-01	4.081E-01	3.031E-01	2.082E-01	NOT IDENT.
CD-115	9.192E-01	2.261E+00	1.993E+00	1.154E+00	NOT IDENT.
SN-117M	5.463E-02	7.604E-02	6.874E-02	3.879E-02	NOT IDENT.
SB-122	4.029E-01	6.144E-01	5.485E-01	3.135E-01	NOT IDENT.
I-123	7.475E+02	8.011E+02	0.000E+00	4.087E+02	SHORT HLIF
TE-123M	5.193E-02	5.566E-02	5.069E-02	2.840E-02	NOT IDENT.
I-124	1.722E-01	4.883E-01	3.697E-01	2.492E-01	NOT IDENT.
SB-124	3.350E-02	9.087E-02	8.376E-02	4.636E-02	FAIL ABUN
SB-125	-7.685E-02	2.242E-01	1.920E-01	1.144E-01	NOT IDENT.
TE-125M	-1.449E+01	1.626E+01	1.398E+01	8.297E+00	NOT IDENT.
I-126	-1.478E-01	3.200E-01	2.212E-01	1.633E-01	NOT IDENT.
SB-126	9.465E-02	2.305E-01	1.813E-01	1.176E-01	NOT IDENT.
SB-127	-2.232E-01	6.887E-01	5.922E-01	3.514E-01	NOT IDENT.
XE-127	3.349E-02	8.794E-02	7.736E-02	4.487E-02	FAIL ABUN
I-131	-3.244E-02	1.377E-01	1.199E-01	7.025E-02	NOT IDENT.
TE-132	-1.721E-01	2.941E-01	2.605E-01	1.501E-01	NOT IDENT.
BA-133	-3.060E-02	1.120E-01	8.412E-02	5.716E-02	NOT IDENT.
I-133	-1.194E+01	3.181E+01	0.000E+00	1.623E+01	SHORT HLIF
CS-134	8.046E-02	1.067E-01	9.712E-02	5.444E-02	NOT IDENT.
CS-135	1.755E-01	3.315E-01	3.047E-01	1.691E-01	NOT IDENT.
I-135	8.411E+06	4.588E+07	0.000E+00	2.341E+07	SHORT HLIF
CS-136	-9.060E-02	1.944E-01	1.598E-01	9.918E-02	FAIL ABUN
CE-139	1.184E-02	5.740E-02	5.075E-02	2.929E-02	NOT IDENT.
BA-140	1.552E-01	3.803E-01	3.322E-01	1.940E-01	NOT IDENT.
LA-140	-4.420E-02	8.805E-02	6.793E-02	4.492E-02	NOT IDENT.
CE-141	-8.052E-03	9.842E-02	8.660E-02	5.021E-02	NOT IDENT.
CE-143	2.085E+01	1.187E+01	6.951E+00	6.055E+00	FAIL ABUN
CE-144	-6.788E-02	3.967E-01	3.494E-01	2.024E-01	NOT IDENT.
PM-144	1.265E-02	7.123E-02	6.336E-02	3.634E-02	NOT IDENT.
PR-144	8.540E-01	4.808E+00	4.276E+00	2.453E+00	NOT IDENT.
PM-146	-3.823E-02	1.106E-01	9.429E-02	5.645E-02	NOT IDENT.
ND-147	1.193E-01	7.638E-01	6.622E-01	3.897E-01	FAIL ABUN

PM-149	3.976E+00	1.989E+01	1.752E+01	1.015E+01	NOT IDENT.
EU-152	-6.521E-03	2.850E-01	1.911E-01	1.454E-01	FAIL ABUN
GD-153	1.019E-01	1.722E-01	1.404E-01	8.788E-02	NOT IDENT.
EU-154	-3.107E-02	1.568E-01	1.267E-01	8.000E-02	FAIL ABUN
EU-155	2.482E-01	2.095E-01	1.964E-01	1.069E-01	FAIL ABUN
TB-160	-1.189E-01	3.370E-01	2.839E-01	1.719E-01	FAIL ABUN
HO-166M	-1.400E-02	1.299E-01	1.132E-01	6.625E-02	FAIL ABUN
TM-171	-4.225E+01	7.377E+01	6.619E+01	3.764E+01	FAIL ABUN
LU-176	2.190E-03	5.453E-02	4.875E-02	2.782E-02	FAIL ABUN
LU-177	9.467E-01	1.068E+00	9.559E-01	5.449E-01	NOT IDENT.
LU-177M	-3.478E-01	4.125E-01	3.445E-01	2.105E-01	FAIL ABUN
HF-181	3.752E-03	9.234E-02	8.002E-02	4.711E-02	FAIL ABUN
W-181	-7.716E-01	1.033E+00	8.487E-01	5.272E-01	FAIL ABUN
TA-182	4.021E-02	2.269E-01	1.952E-01	1.158E-01	FAIL ABUN
RE-183	-2.791E-01	2.128E-01	1.757E-01	1.086E-01	FAIL ABUN
RE-184	1.354E-01	4.694E-01	4.292E-01	2.395E-01	FAIL ABUN
OS-185	2.324E-02	9.291E-02	7.991E-02	4.740E-02	FAIL ABUN
RE-188	-4.831E-01	3.141E-01	2.562E-01	1.603E-01	NOT IDENT.
W-188	-1.511E+01	1.742E+01	1.278E+01	8.886E+00	NOT IDENT.
IR-192	2.179E-02	7.311E-02	6.598E-02	3.730E-02	FAIL ABUN
AU-195	3.913E-01	4.311E-01	4.014E-01	2.199E-01	FAIL ABUN
TL-200	1.123E+00	8.349E+00	7.410E+00	4.260E+00	NOT IDENT.
TL-201	-2.091E-01	2.452E+00	2.140E+00	1.251E+00	NOT IDENT.
TL-202	4.944E-02	1.106E-01	9.854E-02	5.645E-02	NOT IDENT.
HG-203	-2.368E-02	8.343E-02	7.400E-02	4.257E-02	NOT IDENT.
BI-207	-1.612E-02	1.307E-01	1.100E-01	6.667E-02	NOT IDENT.
TL-207	-1.009E+00	1.447E+00	1.235E+00	7.385E-01	FAIL ABUN
PO-209	-6.928E+00	1.949E+01	1.639E+01	9.944E+00	NOT IDENT.
BI-210	-4.820E-01	2.514E+01	2.340E+01	1.283E+01	NOT IDENT.
PB-210	-4.820E-01	2.514E+01	2.340E+01	1.283E+01	NOT IDENT.
PO-210	-4.820E-01	2.514E+01	2.340E+01	1.283E+01	NOT IDENT.
PB-211	1.577E+00	2.461E+00	2.047E+00	1.255E+00	NOT IDENT.
BI-212	9.706E-01	1.135E+00	6.457E-01	5.790E-01	FAIL ABUN
PO-215	-1.009E+00	1.447E+00	1.235E+00	7.385E-01	FAIL ABUN
RN-219	-1.037E+00	1.027E+00	8.461E-01	5.240E-01	NOT IDENT.
RN-220	8.021E+01	5.722E+01	5.333E+01	2.919E+01	NOT IDENT.
RA-223	-1.009E+00	1.447E+00	1.235E+00	7.385E-01	FAIL ABUN
AC-227	3.592E-01	8.146E-01	7.474E-01	4.156E-01	NOT IDENT.
TH-227	3.592E-01	8.153E-01	7.474E-01	4.160E-01	NOT IDENT.
TH-229	-1.458E-01	1.068E+00	9.217E-01	5.449E-01	FAIL ABUN
PA-231	1.462E+00	3.586E+00	3.264E+00	1.829E+00	NOT IDENT.
TH-231	-1.009E+00	1.447E+00	1.235E+00	7.385E-01	FAIL ABUN
U-231	3.394E-01	6.682E-01	5.429E-01	3.409E-01	FAIL ABUN
PA-233	-4.163E-02	1.439E-01	1.265E-01	7.344E-02	FAIL ABUN
PA-234	6.059E-01	9.534E-01	8.409E-01	4.864E-01	FAIL ABUN
PA-234M	-1.110E+00	1.156E+01	9.812E+00	5.897E+00	NOT IDENT.
TH-234	-3.562E+00	4.269E+00	3.289E+00	2.178E+00	FAIL ABUN
U-235	-1.684E-01	3.905E-01	3.360E-01	1.993E-01	FAIL ABUN
NP-236	1.661E-01	1.607E-01	1.469E-01	8.201E-02	NOT IDENT.
U-238	-3.562E+00	4.269E+00	3.289E+00	2.178E+00	FAIL ABUN
NP-239	-1.171E-02	4.290E-01	3.352E-01	2.189E-01	NOT IDENT.
AM-243	2.825E-01	1.671E-01	1.418E-01	8.523E-02	FAIL ABUN
CM-243	1.376E-01	1.905E-01	1.760E-01	9.721E-02	NOT IDENT.
AM-246	-6.291E-02	3.723E-01	3.119E-01	1.899E-01	NOT IDENT.
CM-247	-1.254E-01	9.218E-02	7.488E-02	4.703E-02	NOT IDENT.
CF-249	6.471E-02	9.098E-02	8.274E-02	4.642E-02	NOT IDENT.
CF-251	6.928E-03	2.531E-01	2.213E-01	1.291E-01	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
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46.50	379.6431
46.50	379.6431
46.50	379.6431
48.70	390.5342
49.72	394.9947
51.35	432.0862
52.39	456.6960
52.97	462.3792
53.15	457.7004
53.44	464.0016
54.07	476.6592
56.28	447.7773
56.28	447.7791
57.37	471.5094
57.53	477.7519
57.53	477.7538
57.60	477.8043
57.98	432.8824
57.98	432.8824
59.32	433.7773
59.32	433.7773
59.40	433.8308
59.54	433.9230
59.72	434.0429
60.01	434.2343
61.10	334.1037
61.14	334.1236
61.30	334.2037
63.00	358.2112
63.29	359.9085
63.29	359.9085
63.58	346.1544
64.28	301.6490
65.12	371.7140
65.20	371.7568
65.20	371.7568
66.05	376.0896
66.72	367.7172
66.83	367.7765
66.91	367.8184
67.20	349.5232
67.20	349.5232
67.75	352.7100
67.85	352.7599
68.90	341.6032
68.90	341.6032
69.30	351.5324
69.67	375.0968
70.82	452.7834
70.82	452.7834
70.83	452.7905
72.80	383.5602
72.87	383.5961
72.87	383.5961
74.67	430.0415
74.81	430.1218
74.81	430.1218
74.81	430.1218
74.81	430.1218
74.81	430.1218
74.81	430.1218
74.81	430.1218
74.97	400.3814
75.28	400.5464
75.70	411.7705
77.11	504.8435
77.11	504.8435

77.11	504.8435
77.11	504.8435
77.11	504.8435
77.11	504.8435
77.11	504.8435
78.38	414.7948
79.62	451.7924
79.80	451.8971
79.80	451.8971
80.11	464.3272
80.18	464.3685
80.30	464.4402
80.30	464.4402
80.57	461.3047
81.00	480.0198
81.07	435.2214
81.07	435.2214
81.07	435.2214
81.07	435.2214
82.60	410.6914
83.37	404.7378
83.78	439.8829
83.78	439.8829
83.78	439.8829
83.78	439.8829
84.21	438.5290
84.90	430.9535
85.43	440.7823
86.29	442.8402
86.50	442.9539
86.54	442.9760
86.59	443.0031
86.72	443.0727
86.79	443.1100
86.94	443.1914
87.30	443.3866
87.30	443.3866
87.30	443.3866
87.30	443.3866
87.30	443.3866
87.30	443.3866
87.30	443.3866
87.57	443.5308
87.88	443.6971
88.03	443.7785
88.36	443.9550
88.47	444.0144
89.95	324.0013
91.11	324.4487
92.29	335.3286
92.38	335.3644
92.38	335.3644
93.35	297.1901
94.00	323.1384
94.67	318.5608
94.67	318.5620
94.90	318.6466
94.90	318.6466
94.90	318.6466
94.90	318.6466
95.87	280.3360
95.87	280.3360
96.73	296.7399
97.43	279.2212
98.44	277.0020
98.44	277.0020
98.88	273.8191
99.55	308.4055
99.55	308.4055
99.86	308.5125
100.00	326.7704
100.10	342.9972
103.18	300.5121
103.76	276.3216
105.00	262.4535
105.31	261.5235
108.00	286.7745
109.28	305.5596

111.00	257.9957
111.00	257.9957
111.76	261.2752
112.95	280.0639
115.19	286.2642
116.30	299.7657
117.00	295.0348
117.00	295.0348
117.66	268.8425
121.11	304.1161
121.62	304.2709
121.78	304.3191
122.06	281.6248
122.32	281.6964
122.32	281.6964
122.32	281.6964
122.32	281.6964
123.07	298.4875
127.23	278.8869
129.76	279.5642
131.20	341.5747
133.02	320.1873
133.54	303.5938
135.34	268.4492
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136.25	276.0224
136.48	285.5282
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140.51	0.0000
142.18	264.8549
142.65	283.9685
143.76	274.7404
144.24	276.9718
144.24	276.9718
144.24	276.9718
144.24	276.9718
145.22	267.6910
145.44	267.7432
147.16	269.2103
152.43	266.1877
152.70	261.9906
153.22	264.2379
154.21	313.5145
154.21	313.5145
154.21	313.5145
154.21	313.5145
155.03	326.5398
156.02	296.9106
158.56	282.5645
159.00	0.0000
159.00	278.3844
160.31	267.9710
161.27	318.6034
162.32	343.5742
162.64	321.1139
163.35	291.2125
163.89	276.2919
165.85	278.8886
167.43	272.7782
171.28	272.5431
171.86	278.0801
172.10	274.8863
176.55	268.2530
176.60	268.2624
181.06	265.0537
184.41	267.4829
185.71	293.1230
186.00	301.0630
190.27	323.1051
192.34	287.9897
193.63	289.3648
197.04	309.9442
198.01	286.9855
198.60	252.8746
200.40	306.2804
201.83	302.1679
202.84	291.3102
205.31	320.6755

208.36	288.0079
208.81	290.3235
209.75	291.6297
209.75	291.6297
210.97	284.0793
215.65	253.7107
216.55	263.9317
218.09	277.6453
222.10	276.1588
223.80	253.9983
226.40	269.3026
227.00	285.6289
227.08	285.6444
227.20	285.6657
228.16	293.0634
228.18	293.0673
228.18	293.0673
231.56	284.6843
235.69	285.4553
236.00	271.9171
236.00	271.9171
238.63	246.9582
238.63	246.9582
238.63	246.9582
238.63	246.9582
239.00	247.0163
240.98	247.3317
241.98	247.4895
241.98	247.4895
241.98	247.4895
244.69	247.9178
245.39	209.7290
247.94	243.5563
248.90	226.9482
249.79	202.6916
252.40	222.5606
252.85	217.1261
252.85	217.1261
254.15	0.0000
256.20	224.0022
256.20	224.0022
260.50	223.6730
260.90	247.6658
262.80	248.8733
264.65	235.3085
268.24	221.9443
268.79	249.7698
269.46	243.3938
269.46	243.3938
269.46	243.3938
269.46	243.3938
271.23	244.5738
273.65	253.2748
276.40	243.4630
277.35	252.8949
277.60	256.6510
277.60	256.6510
278.00	263.2225
278.60	267.9680
279.20	266.2014
279.53	253.2170
280.46	250.5588
281.68	263.7856
283.67	241.6933
284.30	224.0449
285.00	219.4662
285.90	230.4792
286.10	241.9277
286.10	241.9277
287.40	244.7056
288.45	0.0000
290.67	246.7207
290.80	246.7400
291.72	212.4945
293.26	214.8692
293.70	214.9223
295.21	253.6161
295.21	253.6161

295.21	253.6161
295.96	245.8906
296.50	244.4006
297.23	230.3933
298.57	208.6080
299.80	219.7355
299.80	219.7355
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300.09	227.6216
300.09	227.6216
300.09	227.6216
300.12	227.6245
301.29	221.4886
302.84	231.1111
303.76	219.9023
303.91	219.9222
304.40	220.9232
304.40	220.9232
304.84	215.3114
306.84	201.3672
308.46	203.4364
311.98	210.4610
316.51	200.5221
318.01	189.2686
319.02	201.7416
319.41	197.0240
320.08	217.0898
323.87	208.9402
323.87	208.9402
323.87	208.9402
323.87	208.9402
325.23	189.9949
328.77	201.8254
333.44	190.1695
334.20	193.4420
334.20	193.4420
334.30	193.4518
338.28	177.8276
338.28	177.8276
338.28	177.8276
338.28	177.8276
338.32	177.8322
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340.50	186.0479
340.57	186.0550
344.27	188.0112
345.85	183.3365
350.59	198.2834
351.07	193.4937
351.92	193.5742
351.92	193.5742
351.92	193.5742
355.39	0.0000
356.01	189.1181
364.48	182.1150
366.43	175.4648
367.43	170.6741
367.94	171.6902
369.80	175.7505
374.96	191.8465
383.85	192.6576
387.95	159.5419
388.63	165.5042
391.69	176.5921
391.69	176.5921
392.90	177.6775
398.62	204.8673
400.65	192.1789
401.10	185.2834
401.81	219.0414
402.60	223.0884
404.84	174.6809
410.95	204.0266
411.60	211.0528
413.65	202.2789
414.70	174.4595
415.30	175.5037

415.76	168.5585
417.63	0.0000
418.52	190.7342
423.70	181.1613
427.08	176.4189
427.89	183.5004
432.53	187.8903
433.93	186.9967
439.47	164.2655
439.56	164.2714
439.89	175.3827
443.98	192.8536
444.90	161.6152
445.03	161.6250
445.03	161.6250
445.03	161.6250
445.03	161.6250
453.90	187.5790
463.38	195.4453
468.07	170.3249
473.00	192.1308
475.06	165.6980
475.35	147.3047
476.78	165.8147
477.59	170.9875
477.96	168.9659
482.03	156.9333
484.57	179.6826
487.03	150.0546
490.36	149.2233
492.35	175.0905
497.08	126.9203
507.63	0.0000
510.53	0.0000
510.84	144.2006
511.00	144.2099
511.85	147.0250
511.85	147.0250
513.99	109.0605
513.99	109.0605
520.41	145.7729
520.65	144.7453
527.90	109.6399
528.96	0.0000
529.64	126.4296
529.87	0.0000
531.02	111.8589
537.32	107.9312
543.00	124.9616
546.56	0.0000
549.76	90.5331
552.65	138.0521
555.20	113.9194
563.23	101.5570
563.90	94.1736
568.70	111.2959
569.32	108.1409
569.50	110.2664
569.67	107.0930
573.80	110.9085
574.00	116.8159
574.64	103.1858
578.91	104.6088
579.30	104.6232
583.14	136.7270
585.48	126.1770
591.81	106.8652
592.07	116.4911
593.00	103.7019
595.88	114.5051
600.56	120.2882
602.52	0.0000
602.71	116.2071
602.71	116.2071
603.60	121.6064
604.41	116.2745
604.70	116.2864
609.31	115.0354

609.31	115.0354
609.31	115.0354
609.31	115.0354
610.33	115.0772
612.46	102.2433
614.37	100.5156
618.01	102.4358
621.84	102.5680
621.84	102.5680
631.29	114.8066
633.02	123.5436
633.10	123.5464
634.78	114.9412
635.90	112.8131
636.97	107.4280
645.85	108.8306
646.12	103.3983
656.30	101.9215
657.75	100.1485
657.90	0.0000
661.65	122.5164
661.65	122.5164
664.57	114.9668
666.33	116.8568
666.33	116.8568
675.00	96.6732
677.61	87.9590
685.20	88.1680
692.80	93.9026
695.00	93.0457
696.49	98.6189
696.49	98.6189
697.00	92.1814
697.49	90.3517
698.33	86.6849
698.50	89.4574
699.00	93.1608
702.63	103.4232
706.10	90.5910
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711.68	100.0063
713.82	101.9232
717.42	92.7592
720.50	90.7245
721.93	100.3184
722.20	106.6948
722.78	101.9353
722.78	101.9353
722.89	101.9397
722.95	101.9420
723.30	119.4763
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744.21	100.0535
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818.51	94.5568
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846.75	117.4255
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856.80	134.1500
860.37	103.3645
867.32	135.4911
867.82	131.6393
871.10	96.8770
873.19	113.4080
874.81	122.1830
875.33	0.0000
876.40	118.3538
879.36	112.6204
880.27	107.7932
880.51	105.8576
881.50	105.8843
883.24	121.4828
884.67	114.7230
889.25	113.8865
896.60	114.1031
898.02	125.8506
899.00	113.1987
903.28	130.6266
911.07	129.2097
911.07	129.2097
911.07	129.2097
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920.93	140.3292
925.00	111.0045
925.24	111.0114
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935.52	106.3740
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946.00	140.2262
949.00	151.2008
962.29	118.9795
964.01	117.3279
966.15	98.6761
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969.11	110.6646
969.11	110.6646
969.11	110.6646
977.42	102.0489
980.50	100.5849
983.50	104.6454
989.30	94.8106
996.32	103.9683
1001.03	98.0798
1001.68	108.1055
1004.76	89.1521
1021.30	0.0000
1024.50	0.0000
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1038.76	0.0000
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1046.59	108.2365
1048.07	109.2832

1050.47	90.1082
1050.47	90.1082
1062.04	91.3623
1063.62	90.3798
1076.63	94.7218
1077.35	97.7930
1078.86	98.8432
1085.78	80.6265
1099.22	97.2498
1112.02	72.6812
1112.84	70.8474
1115.52	100.3862
1120.29	76.1047
1120.29	76.1047
1120.29	76.1047
1120.29	76.1047
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1173.22	58.2536
1175.09	51.7351
1177.93	42.8404
1189.05	40.7043
1204.90	33.5091
1205.75	34.5616
1213.00	37.7607
1221.42	23.1163
1230.97	31.5833
1235.34	23.1816
1236.41	0.0000
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1260.41	0.0000
1271.85	23.3535
1274.45	21.2410
1274.54	21.2410
1291.56	19.1821
1298.22	0.0000
1312.09	22.4689
1325.50	31.2619
1325.50	31.2619
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1333.61	27.9350
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1362.66	0.0000
1365.15	16.2134
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1368.53	0.0000
1376.25	21.6626
1384.27	15.8065
1394.10	13.0410
1395.20	17.7025
1407.95	13.0747
1434.06	12.1988
1436.60	14.0824
1457.56	0.0000
1460.81	13.2007
1489.15	18.0060
1509.49	14.2665
1596.49	17.3766
1620.62	10.6616
1678.03	0.0000
1691.02	5.8826
1691.02	5.8826
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1750.46	0.0000
1764.49	11.9025
1764.49	11.9025
1764.49	11.9025
1764.49	11.9025
1770.23	10.4238
1771.40	30.7805
1791.20	0.0000
1808.65	10.9847

1836.01

9.0248

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202006613

Total Uranium Activity	-1.0675E+01	ug/g
Total Uranium Counting Unc.	1.2702E+01	ug/g
Total Uranium Tpu	6.4808E-06	ug/g
Total Uranium Mda	9.7873E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 937702          SAMPLE ID   : G1202006613
*  ANALYST       : MXR1            DETECTOR    : GAM15
*  SAMPLE DATE   : 31-DEC-2009 00:00:00.00  COUNT TIME : 0 01:00:00.00
*  ANALYSIS DATE: 7-JAN-2010 13:32:34.36  SAMPLE ALQT: 151.730 GRAM
*
*****

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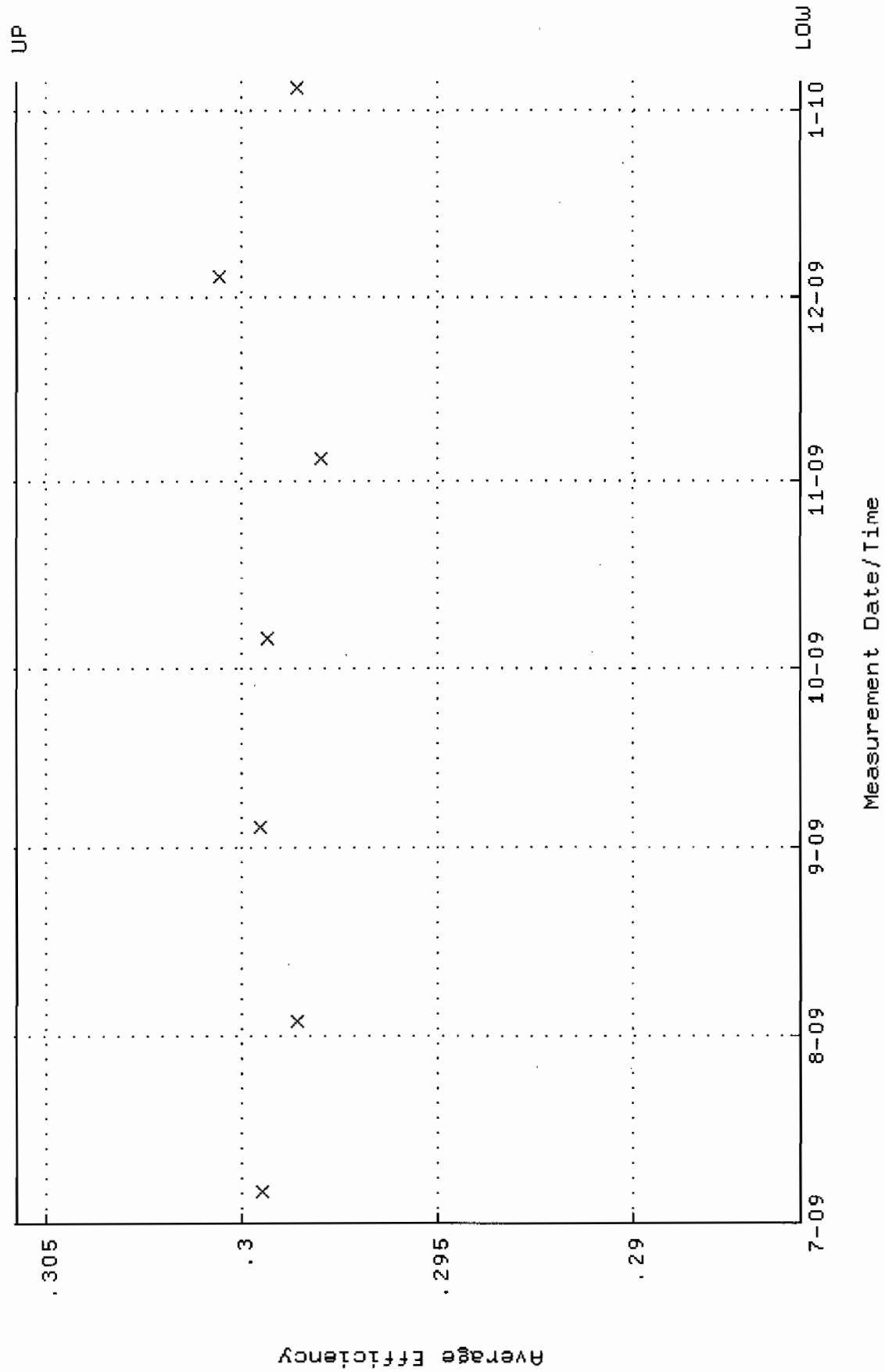
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.933E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 3.739E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 5.258E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.559E+00

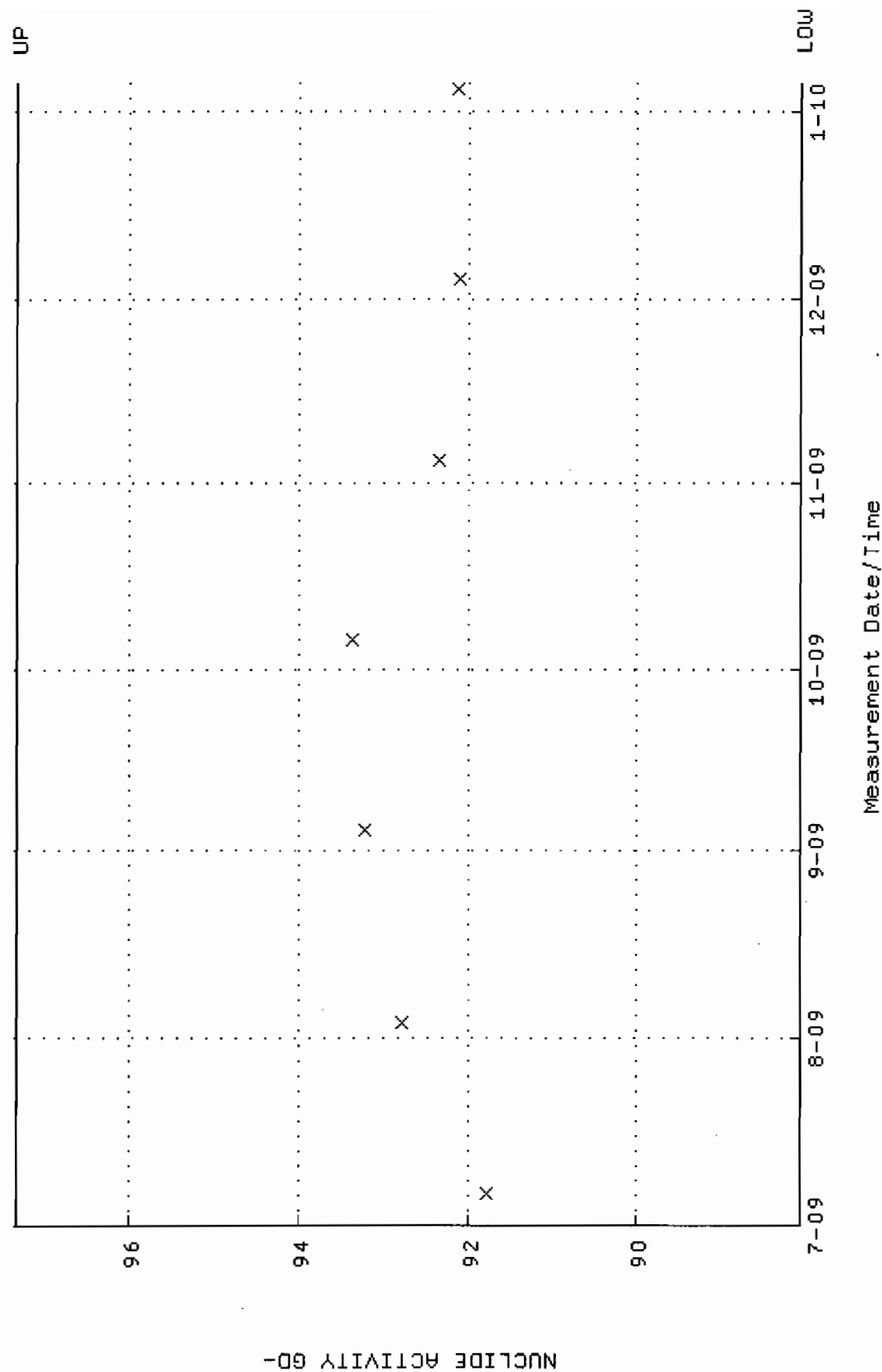
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BACKGROUND AND EFFICIENCY DATA

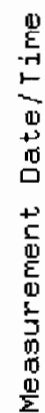
QA filename : DKA100:[ENV_ALPHA.QA.W]w012.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.285730 through 0.305730



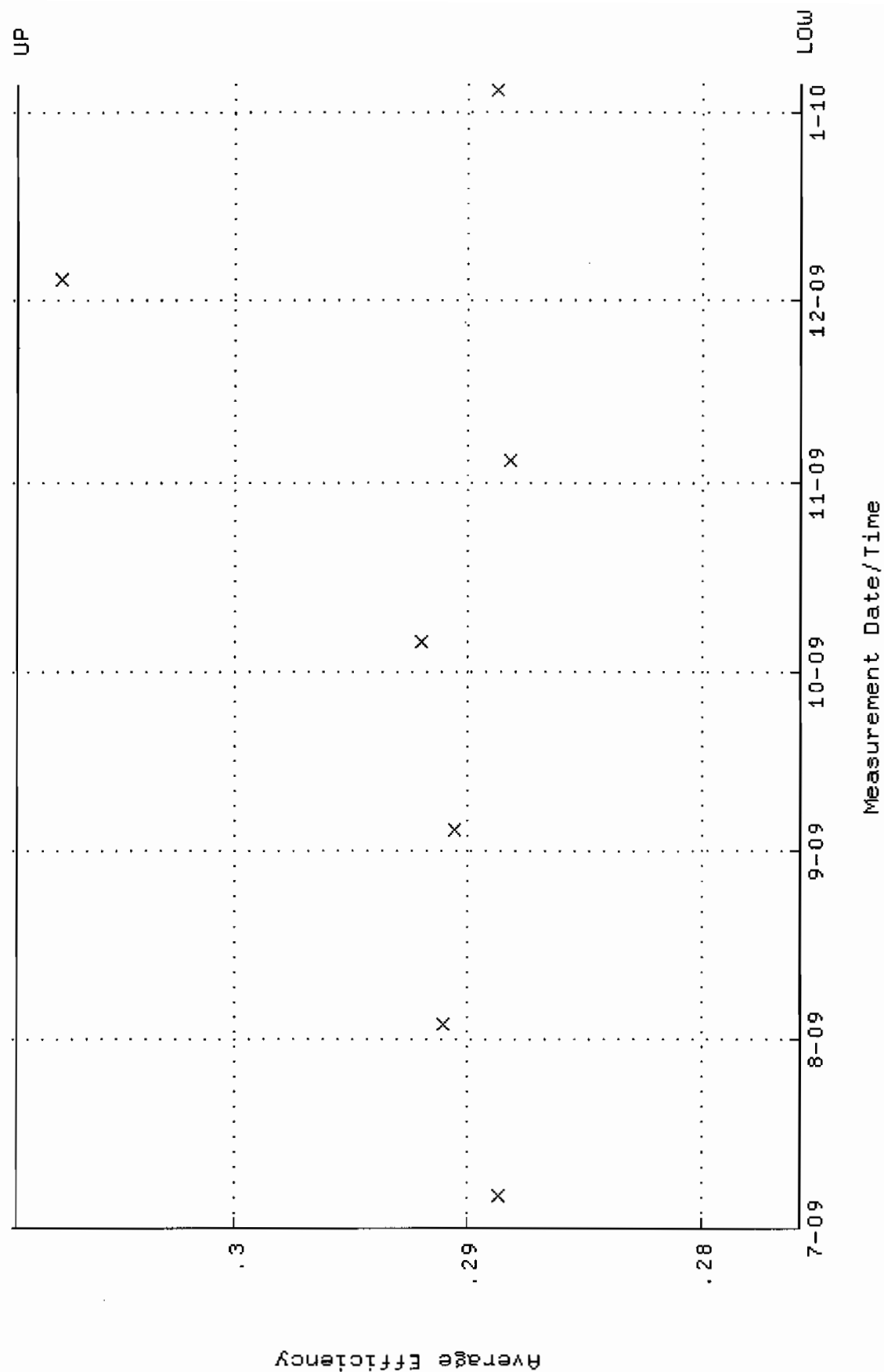
QA filename : DKA100:[ENV_ALPHA.QA.W]W012.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.0678 through 97.3382



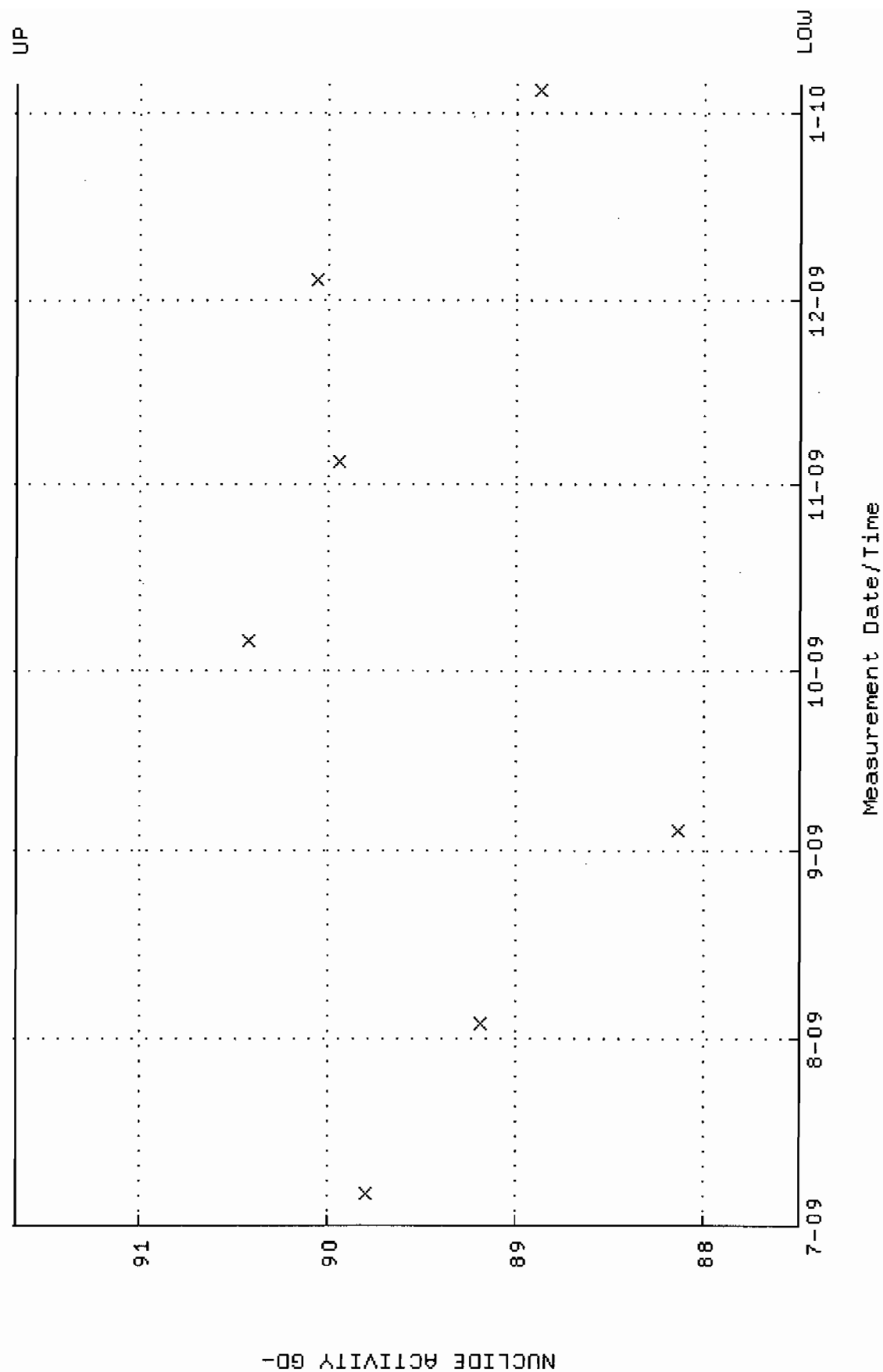
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



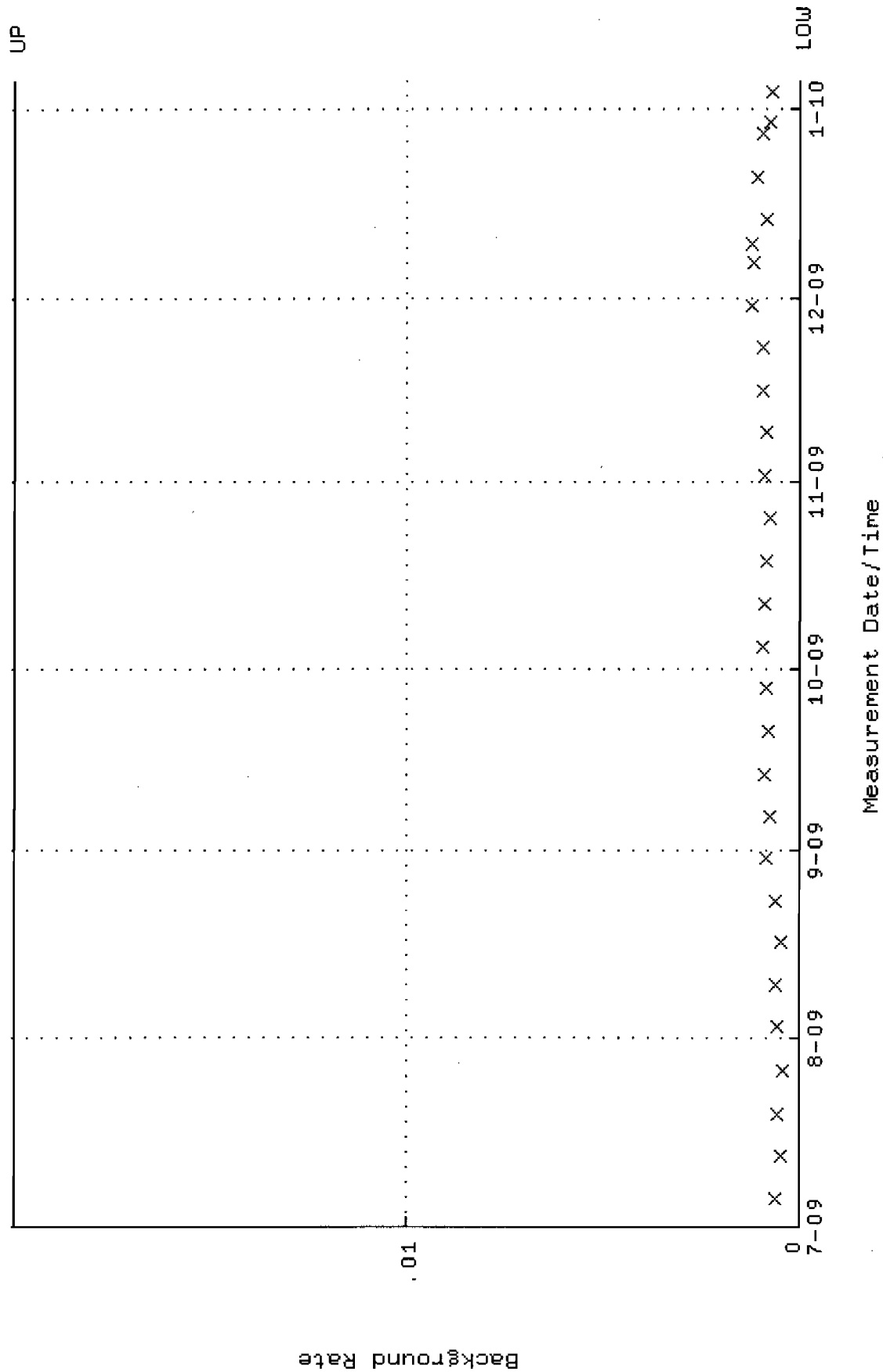
QA filename : DKA100:[ENV_ALPHA.QA.W]W019.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.275780 through 0.309420



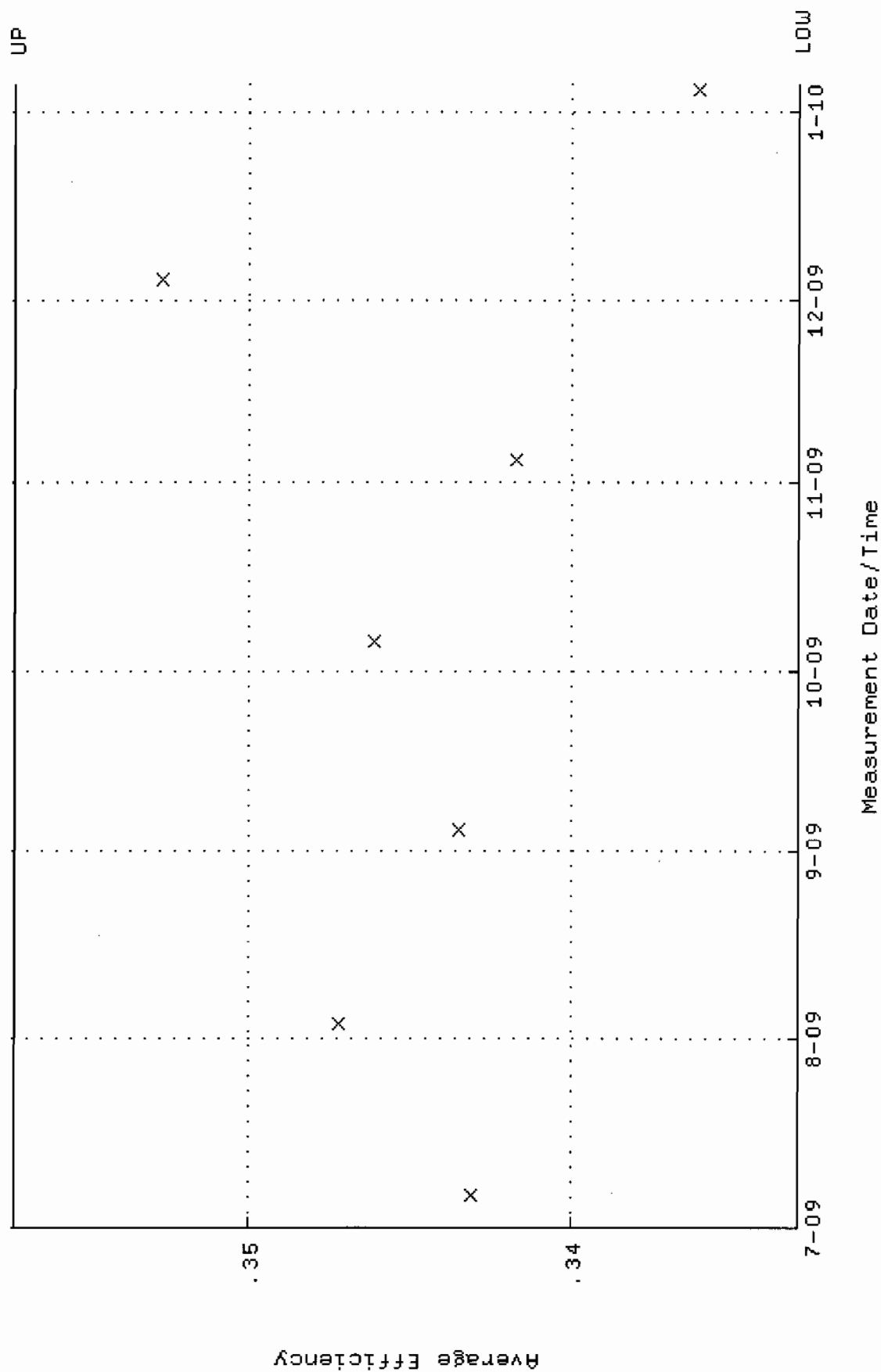
QA filename : DKA100:[ENV_ALPHA.QA.W]W019.QAF;3
 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.4952 through 91.6516



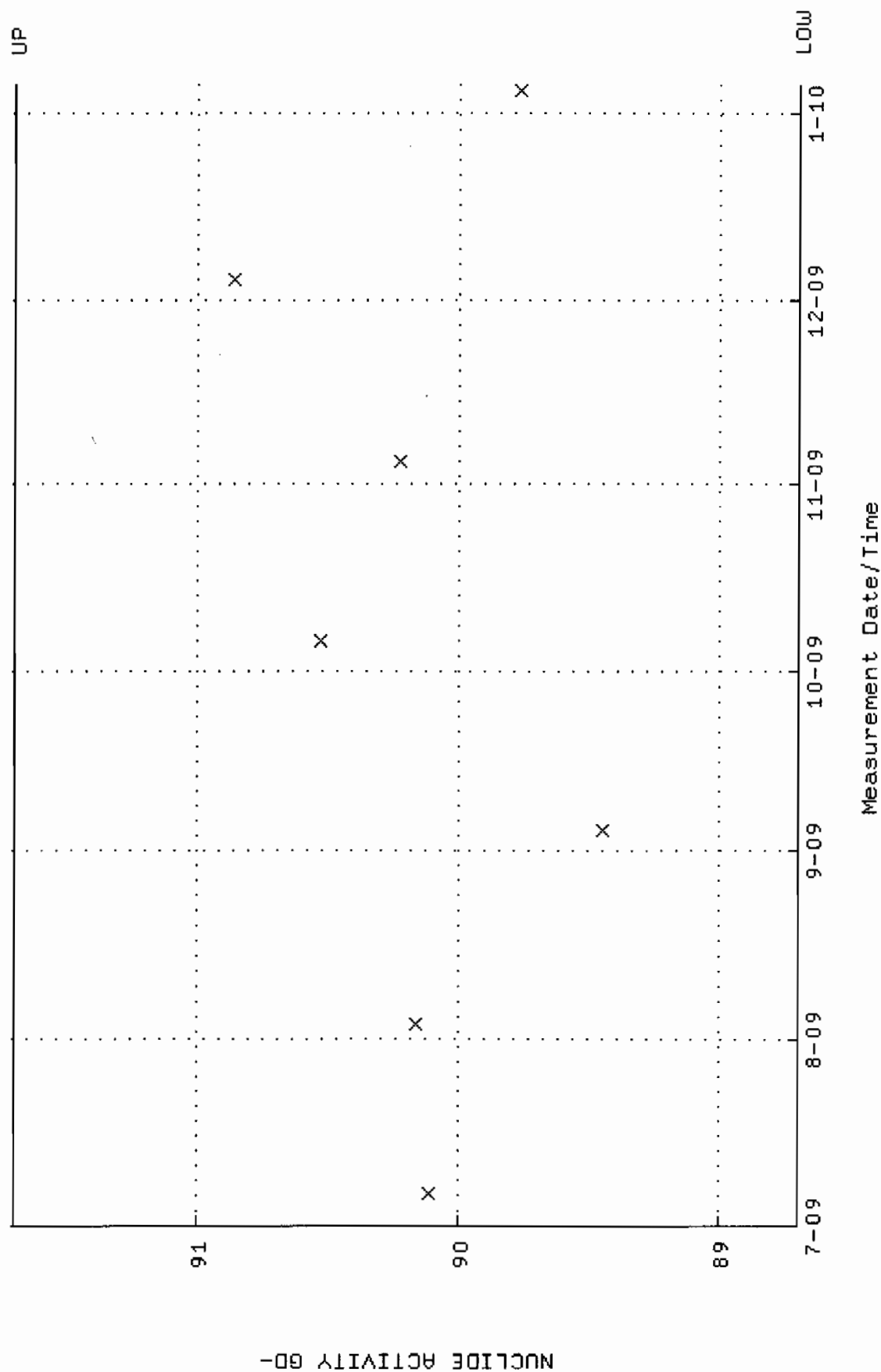
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:57 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



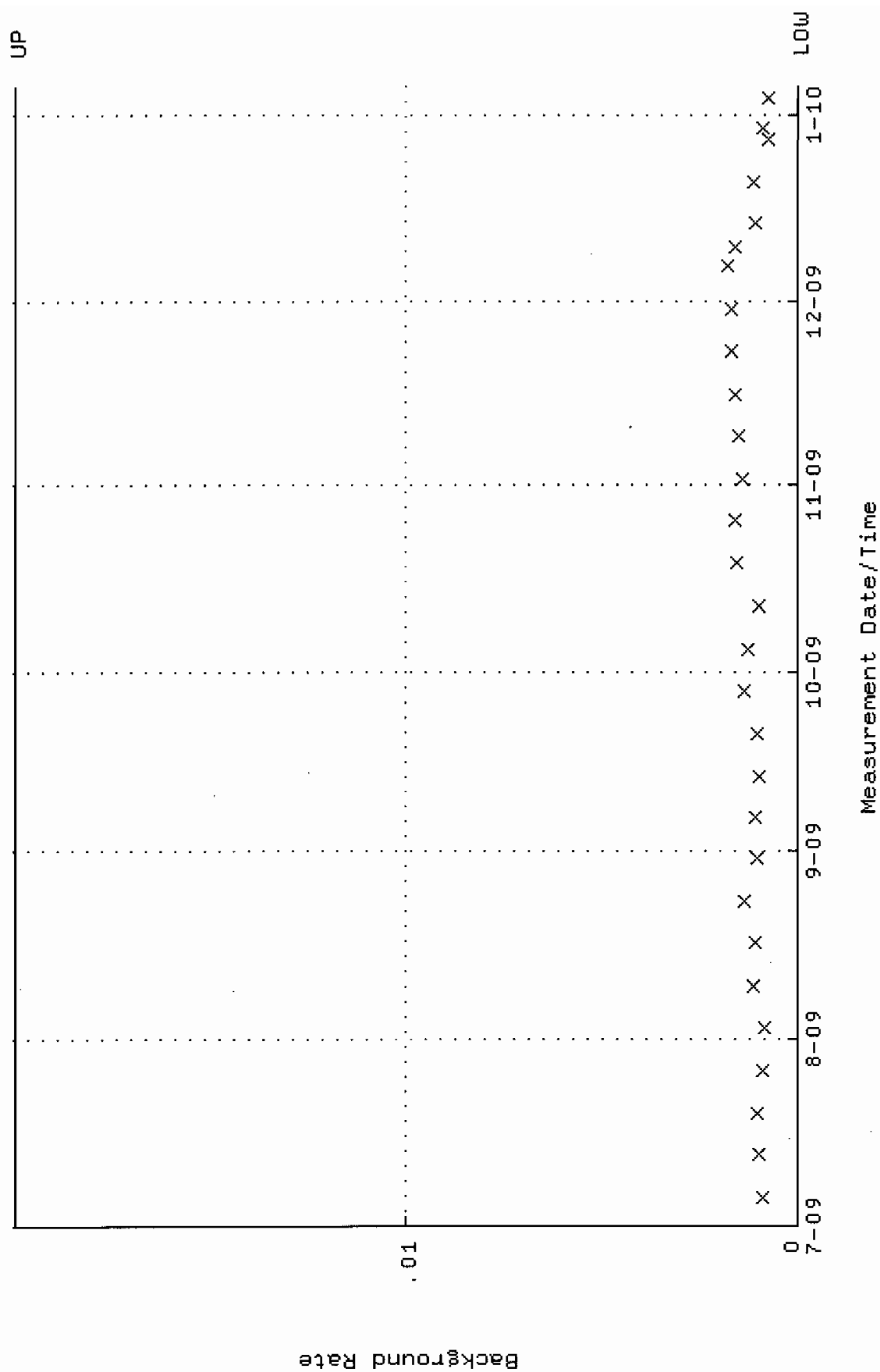
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 Lower/Upper Lmts: 0.332991 through 0.357265



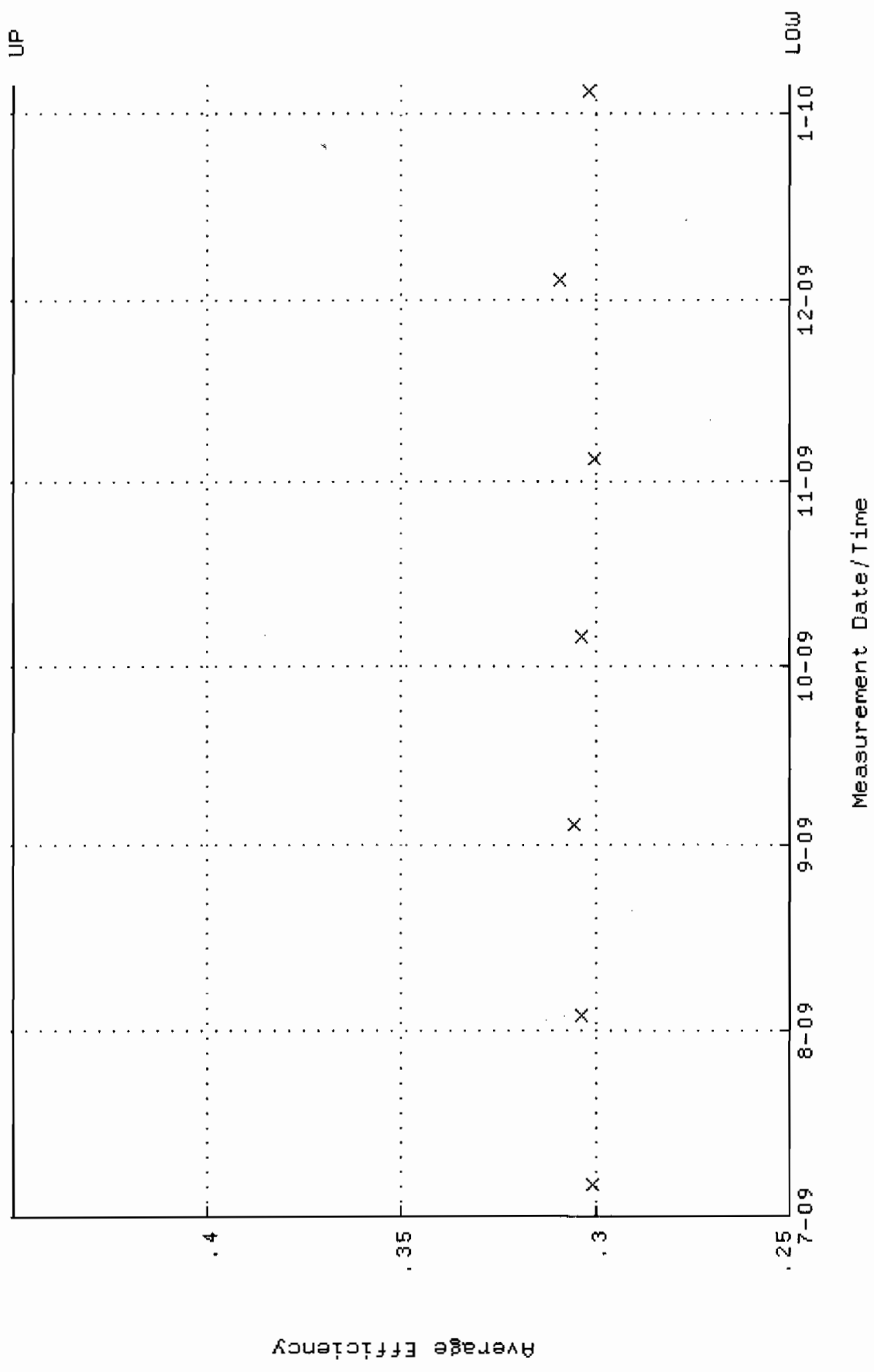
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.6996 through 91.6996



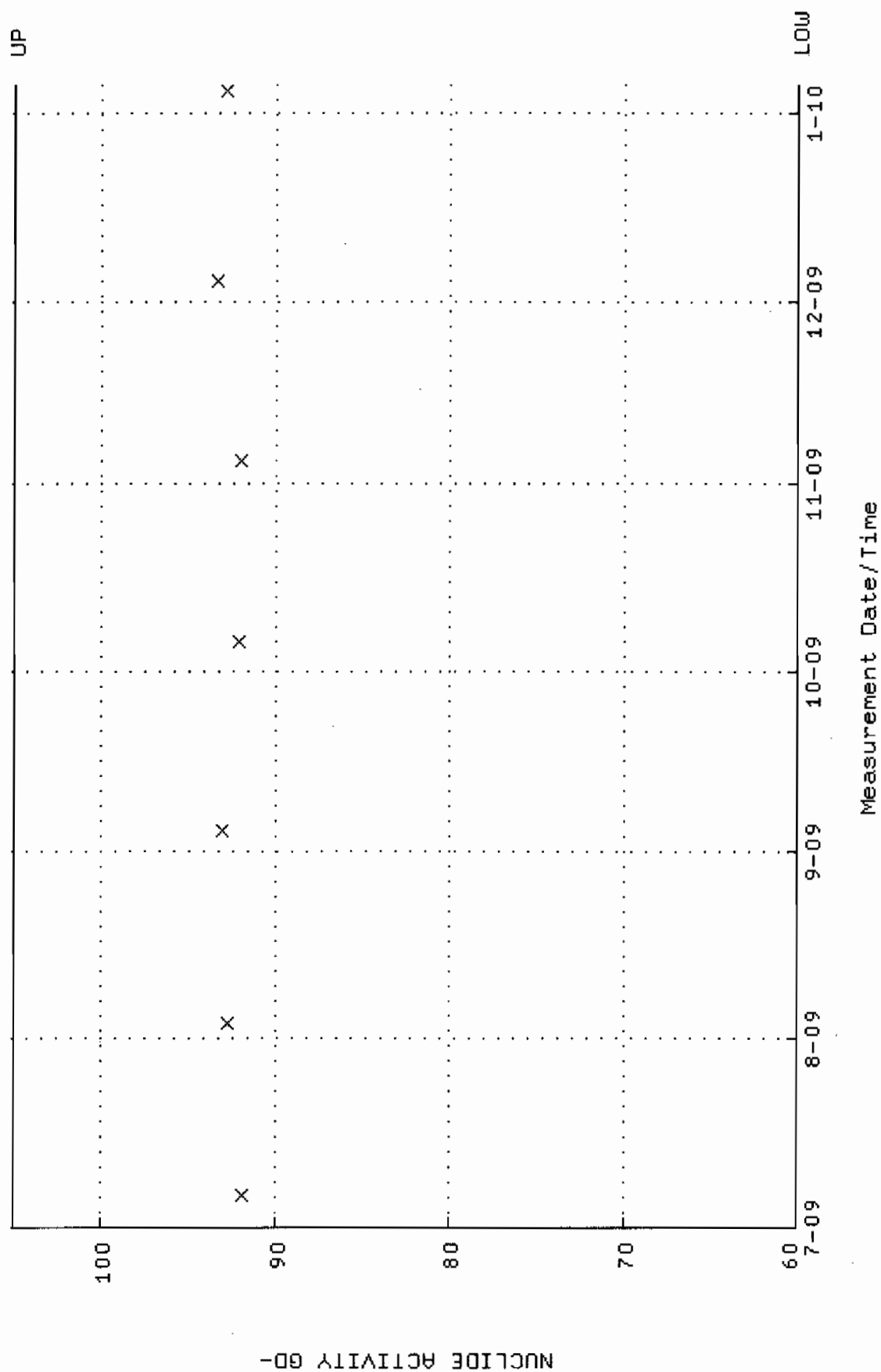
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 Start/End Dates : 5-JUL-2009 15:11:57 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



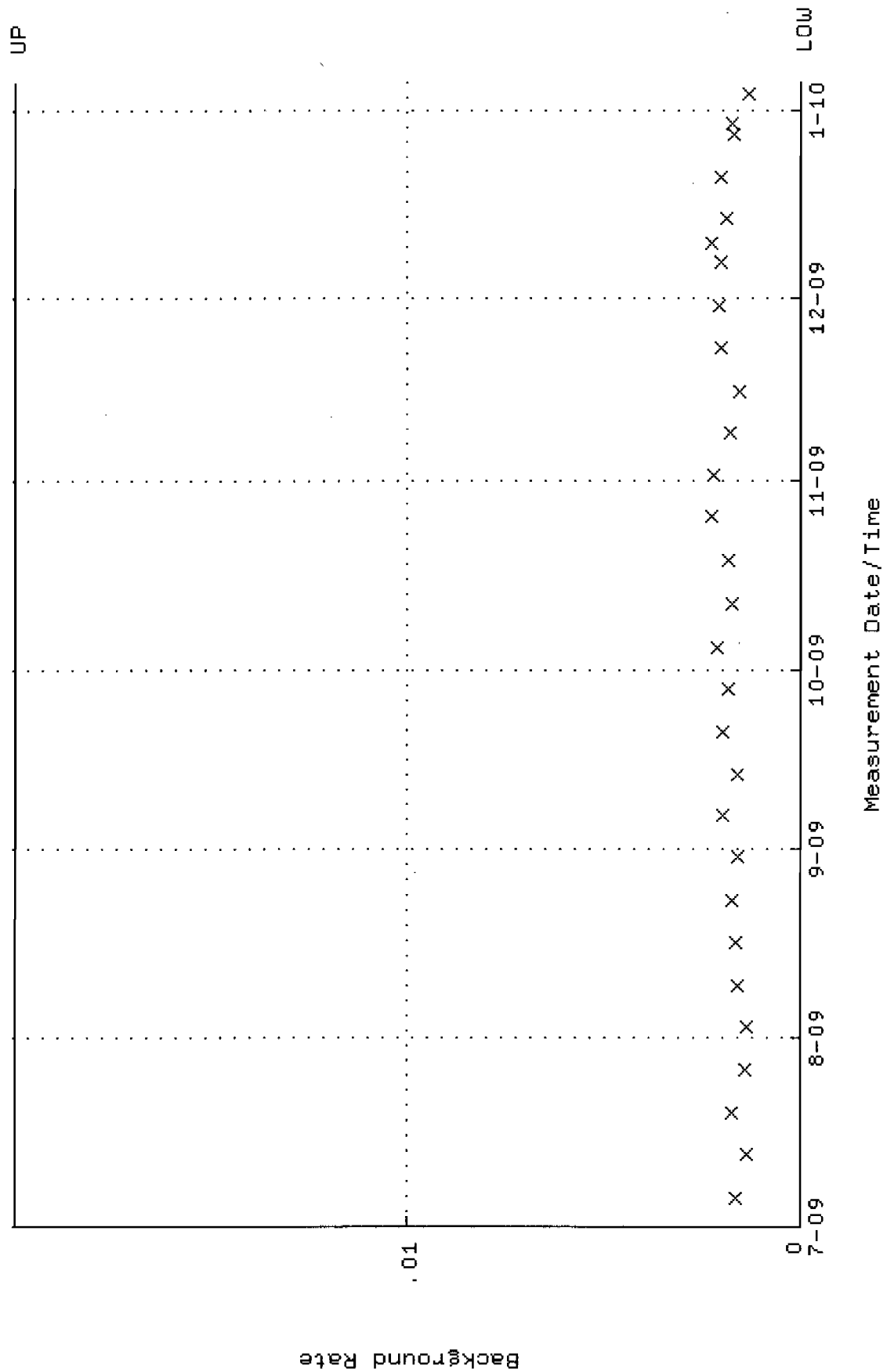
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 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



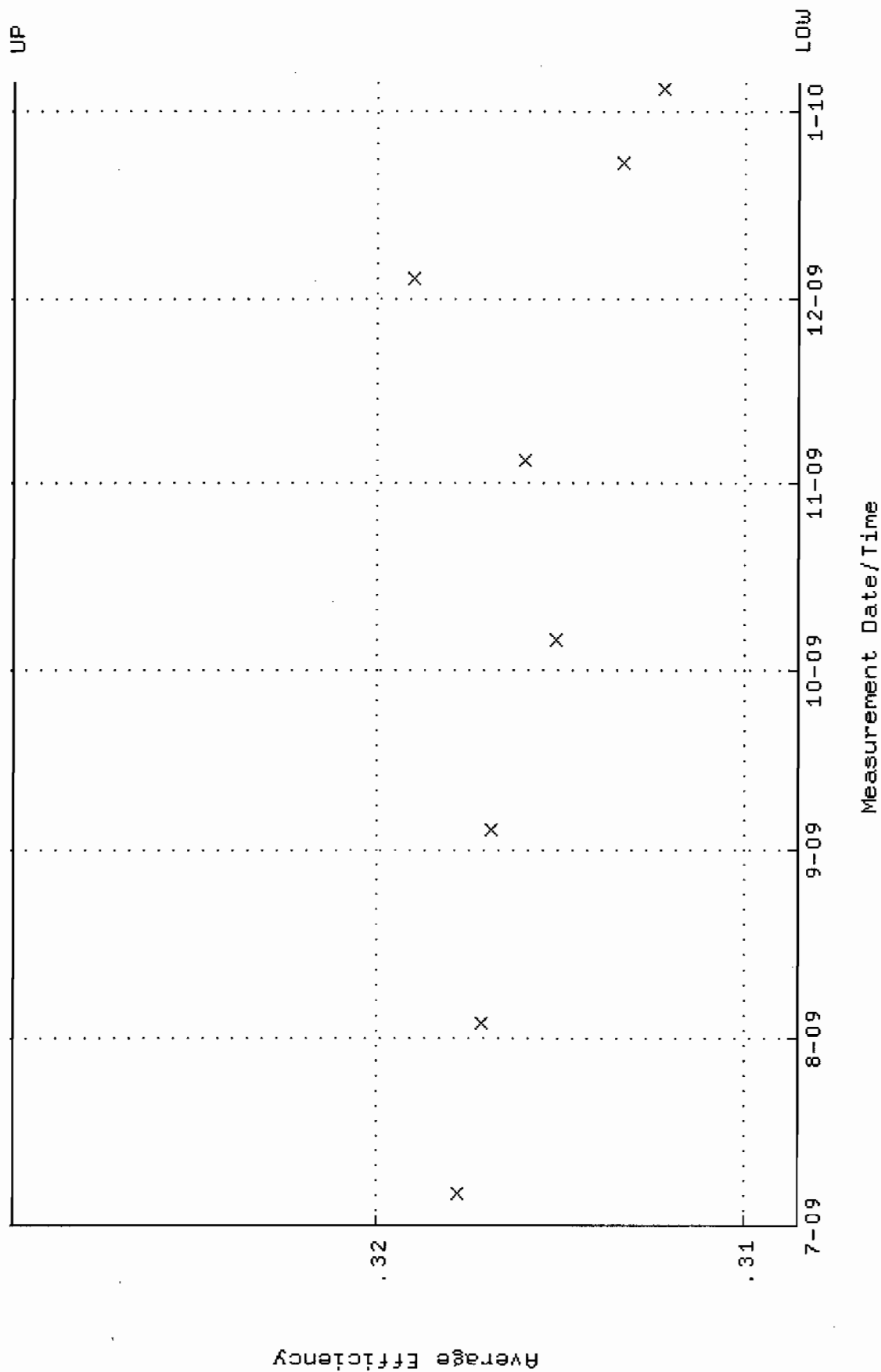
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 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



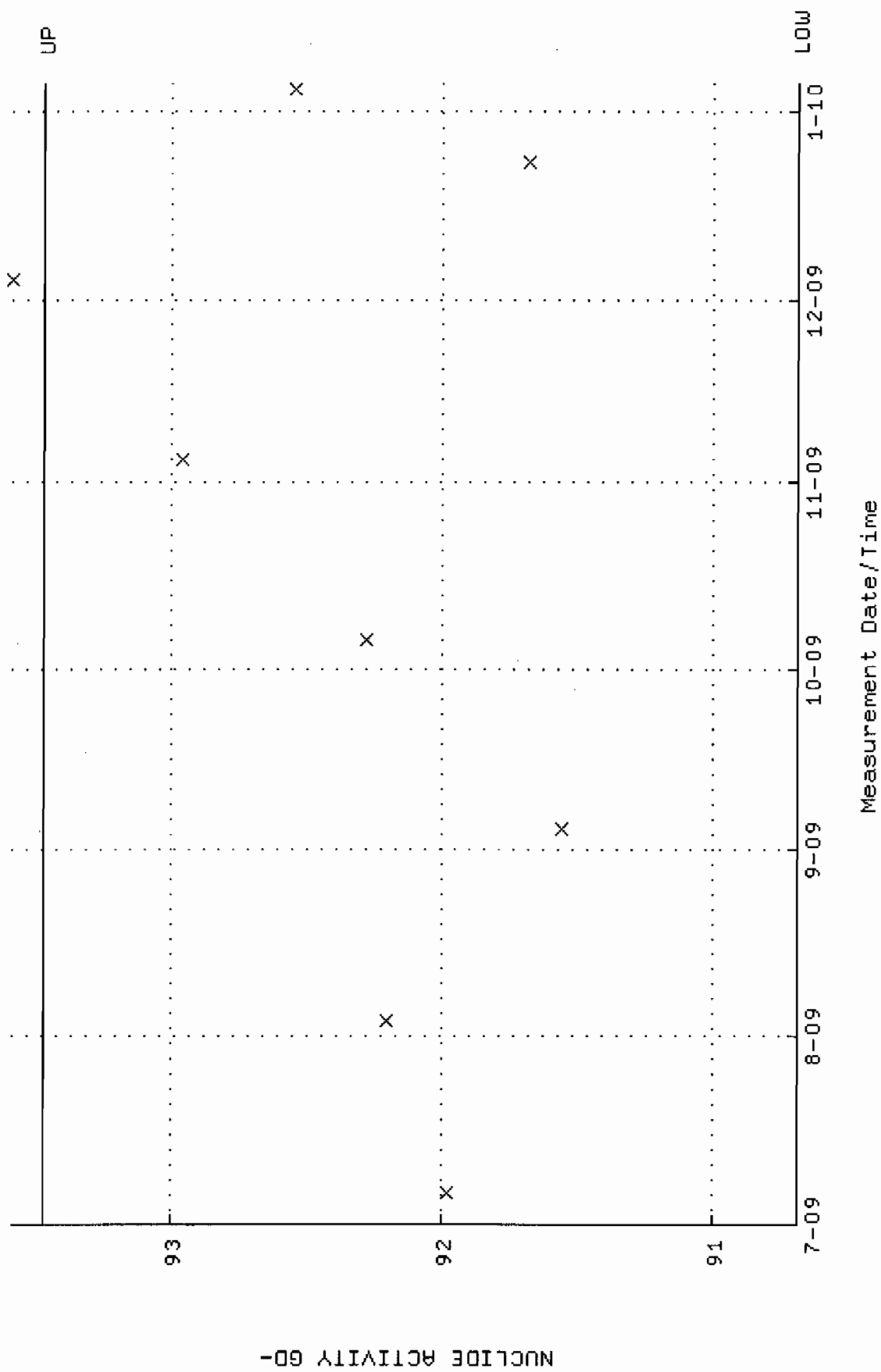
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 Start/End Dates : 5-JUL-2009 15:11:57 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



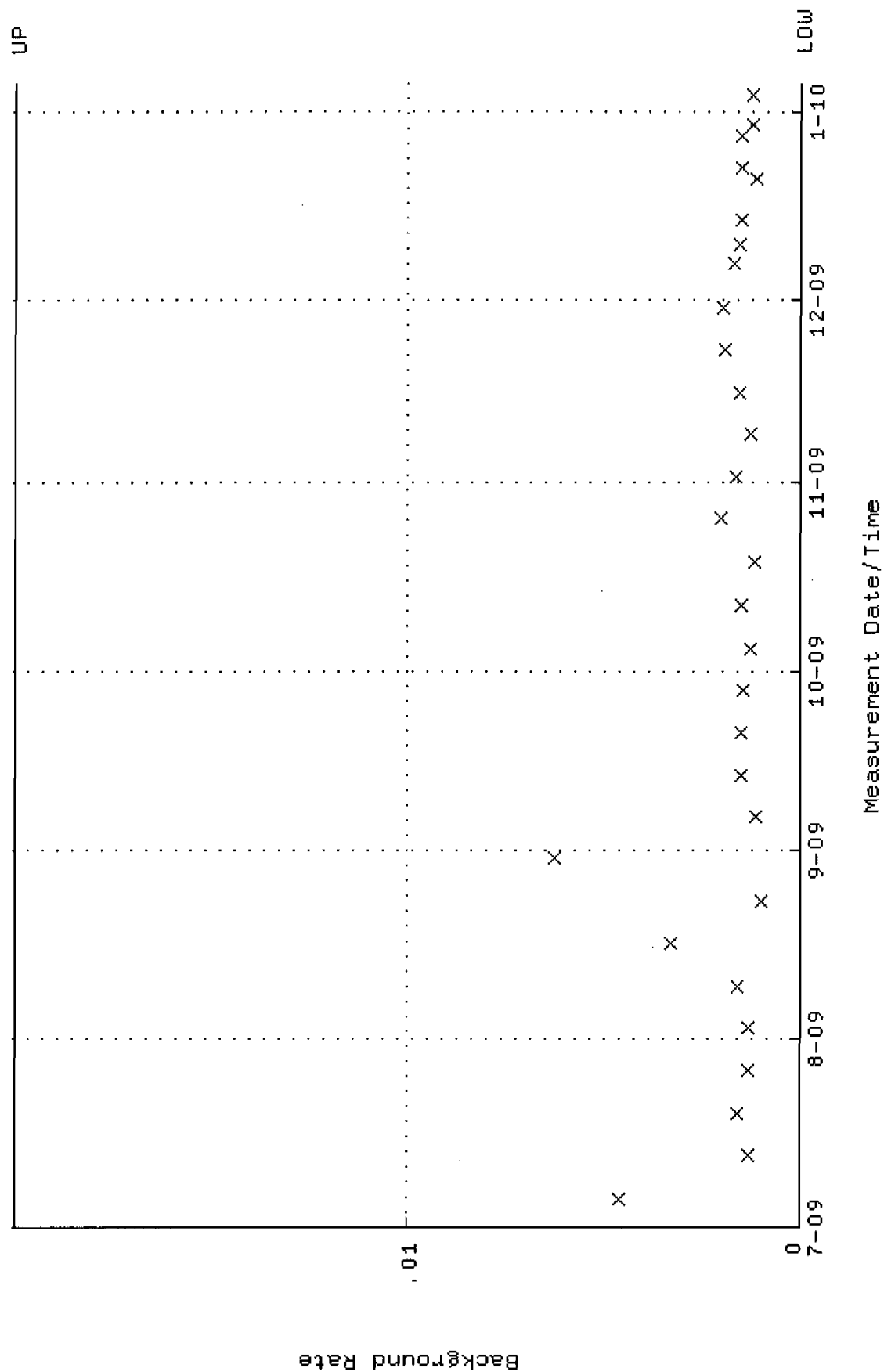
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 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.308540 through 0.329898



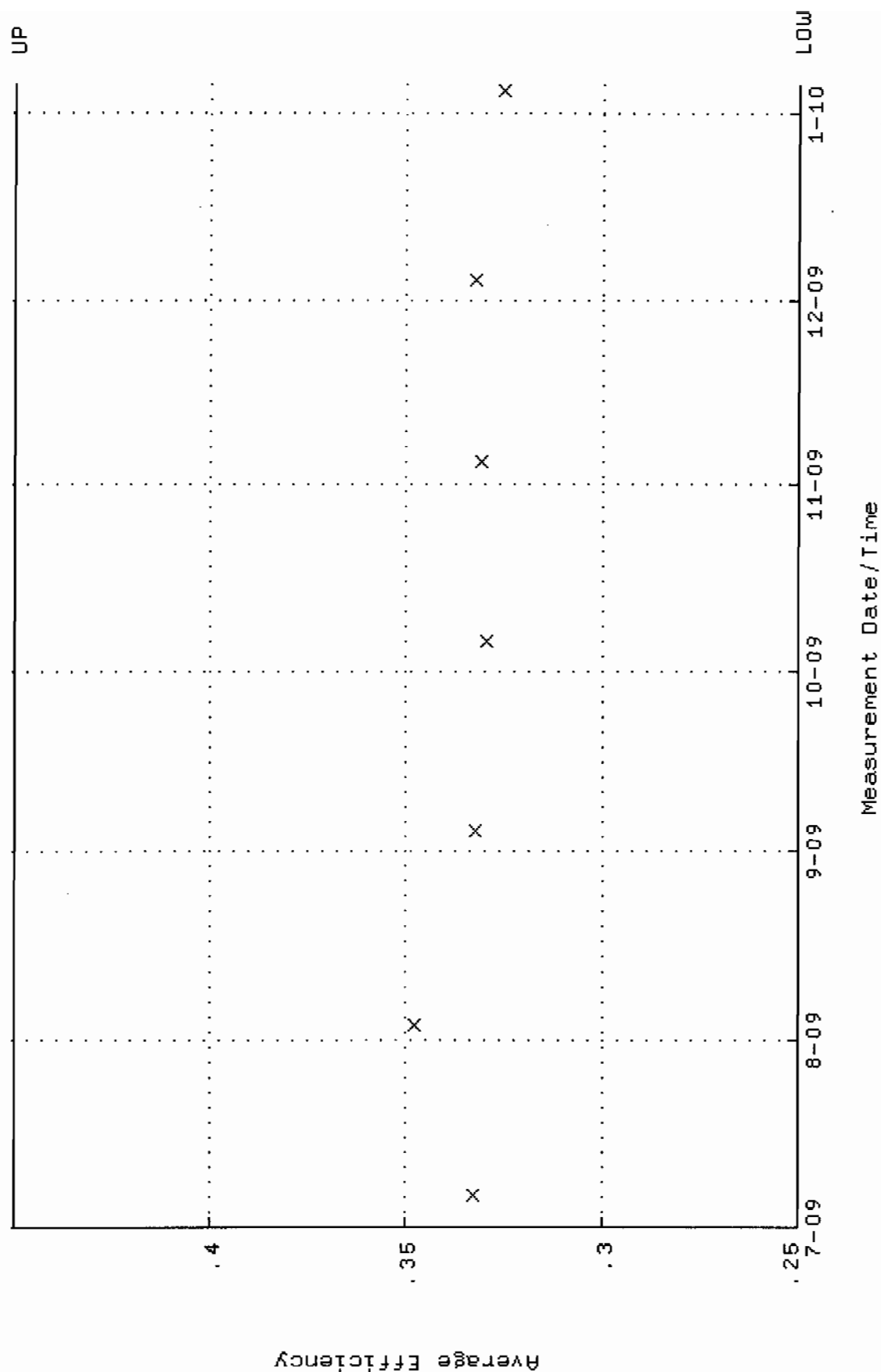
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 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 90.6887 through 93.4713



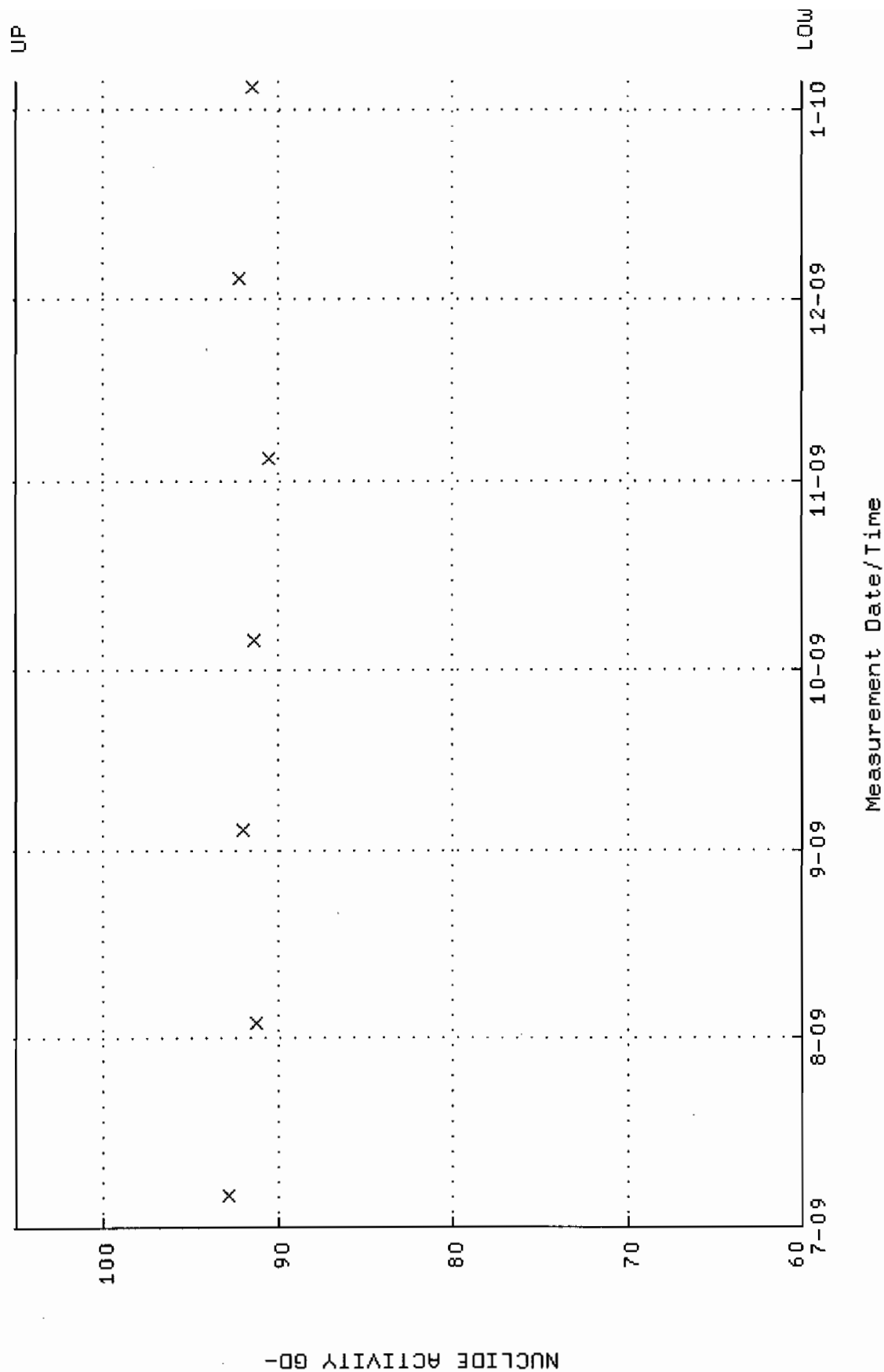
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



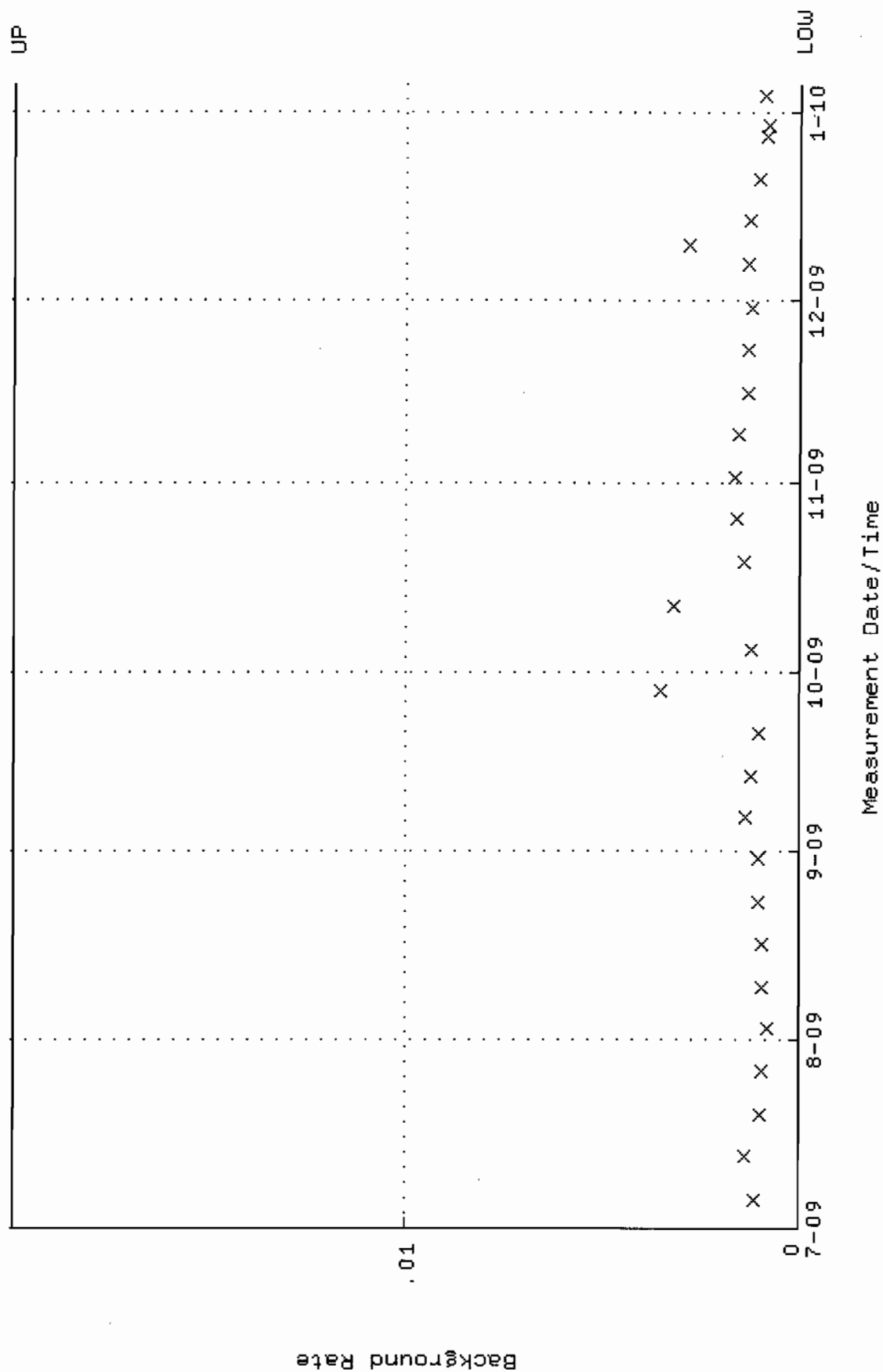
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.250000 through 0.450000



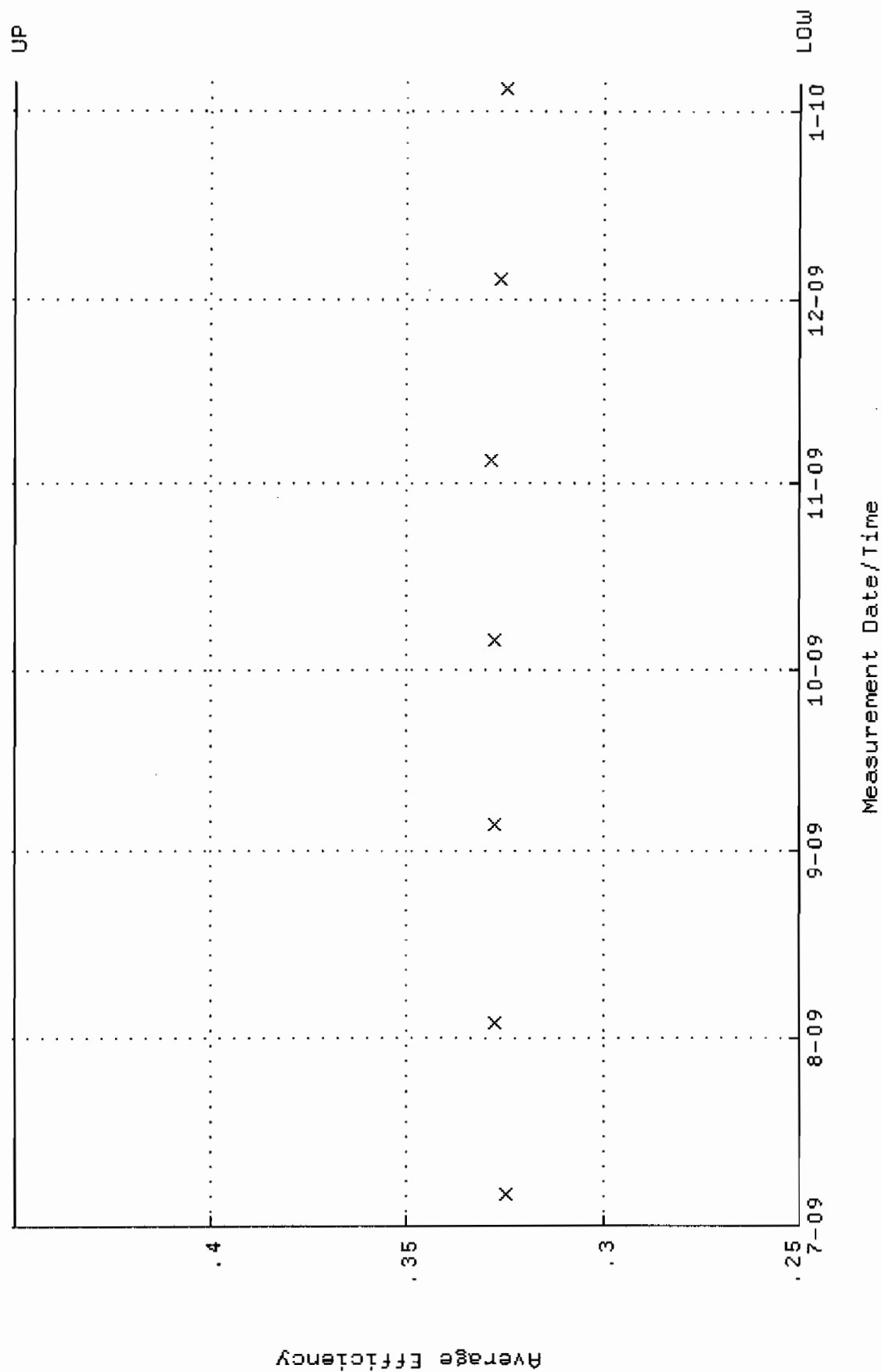
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 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



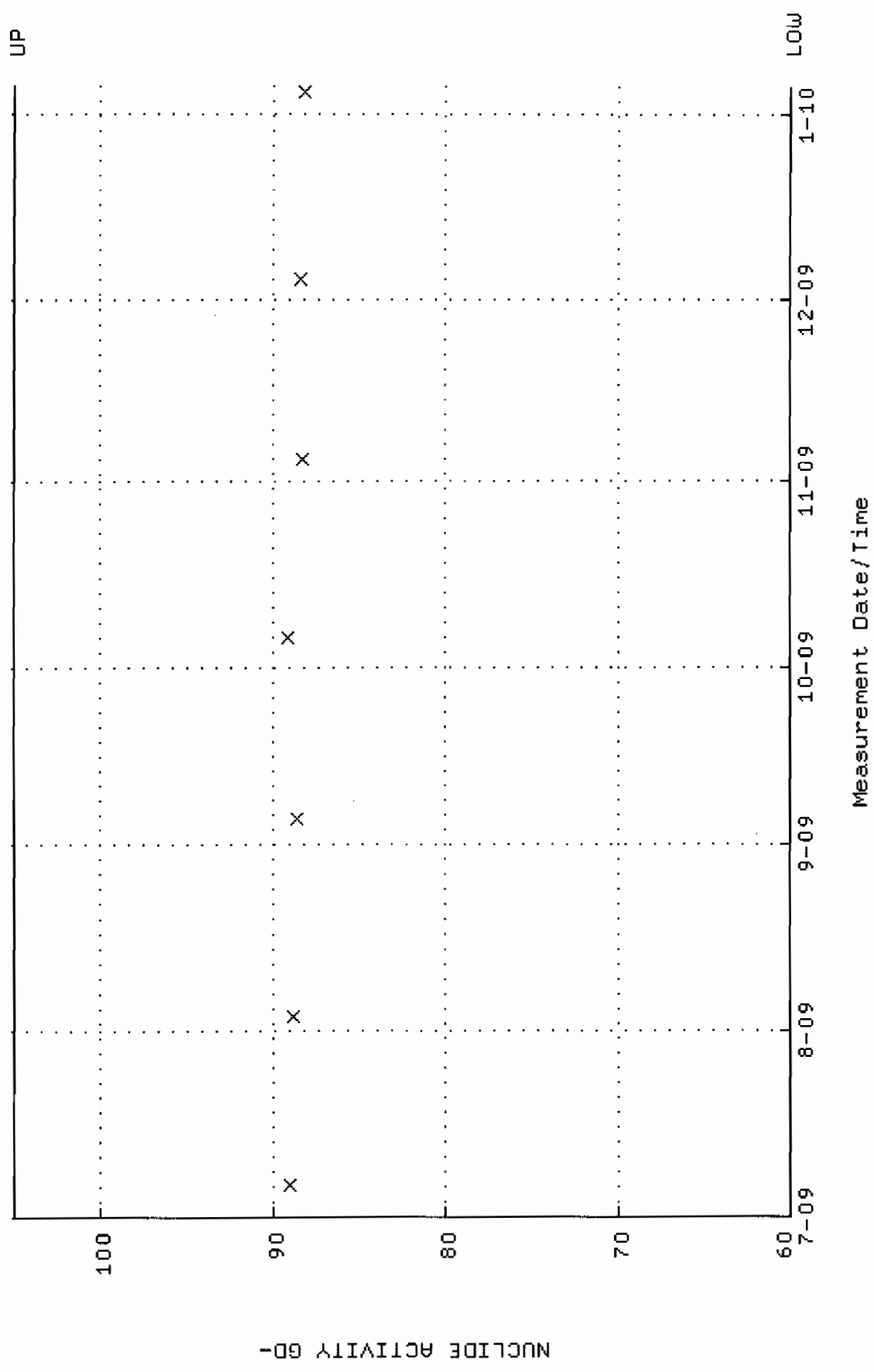
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



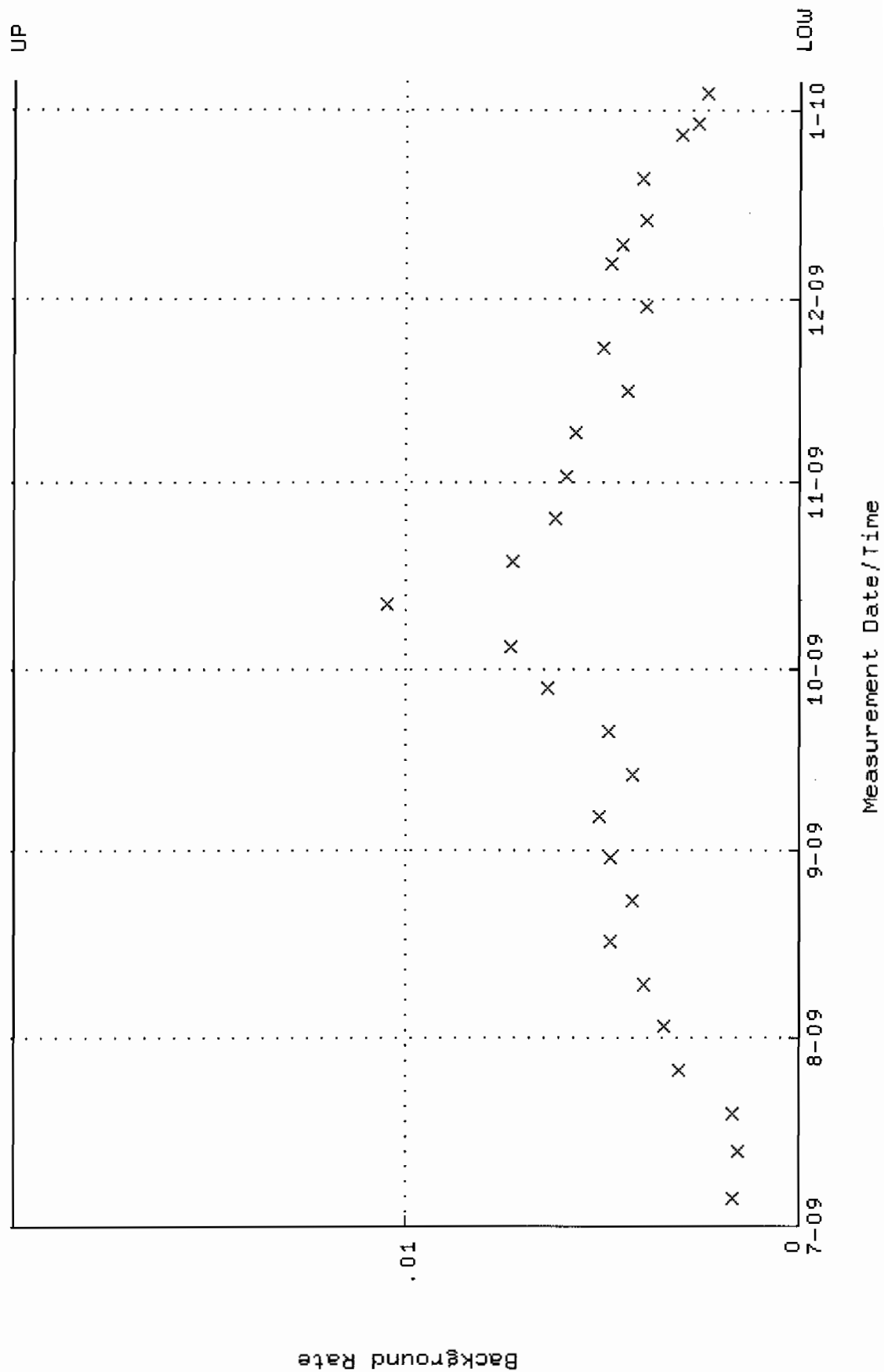
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 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



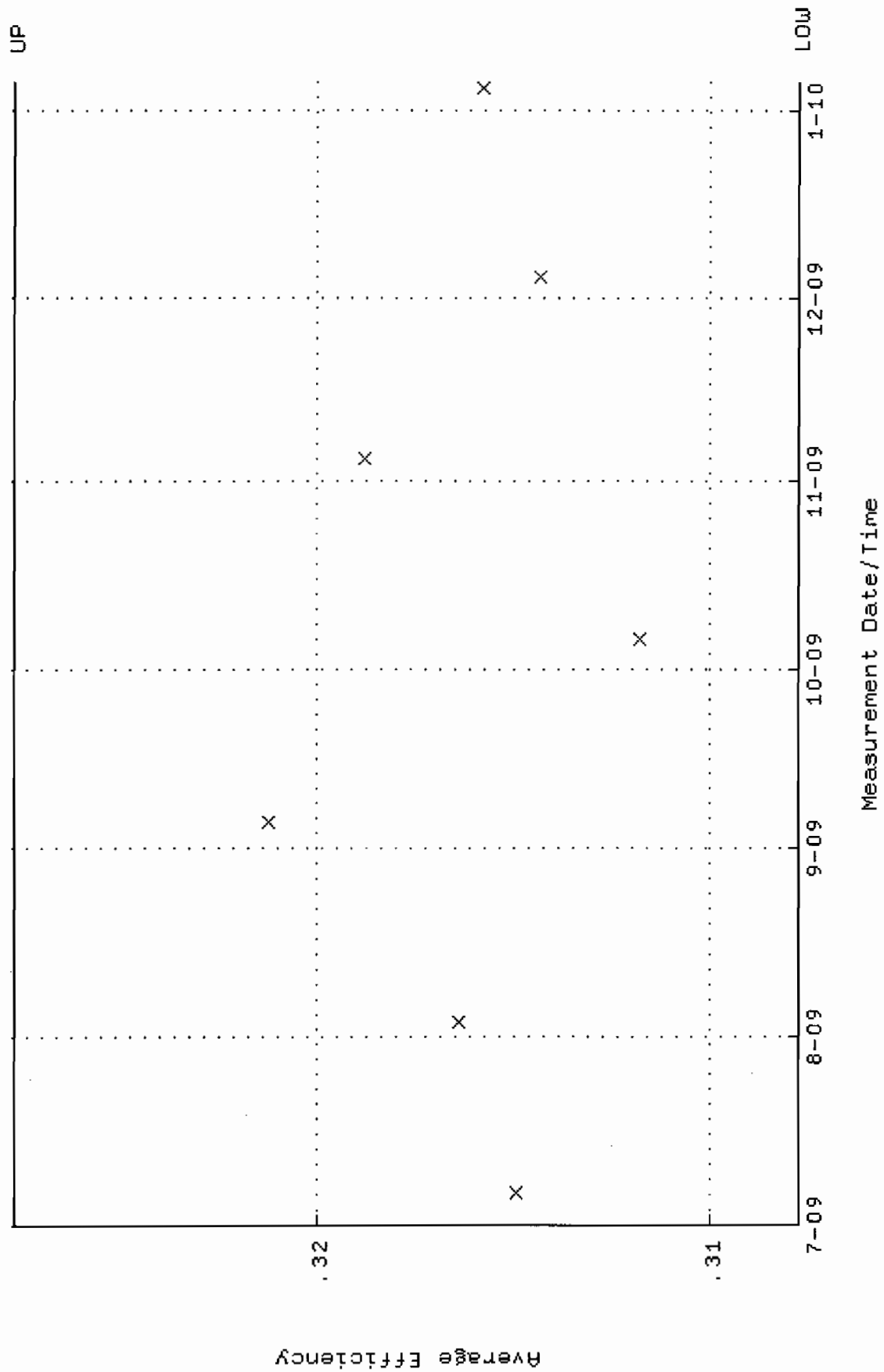
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Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.0000



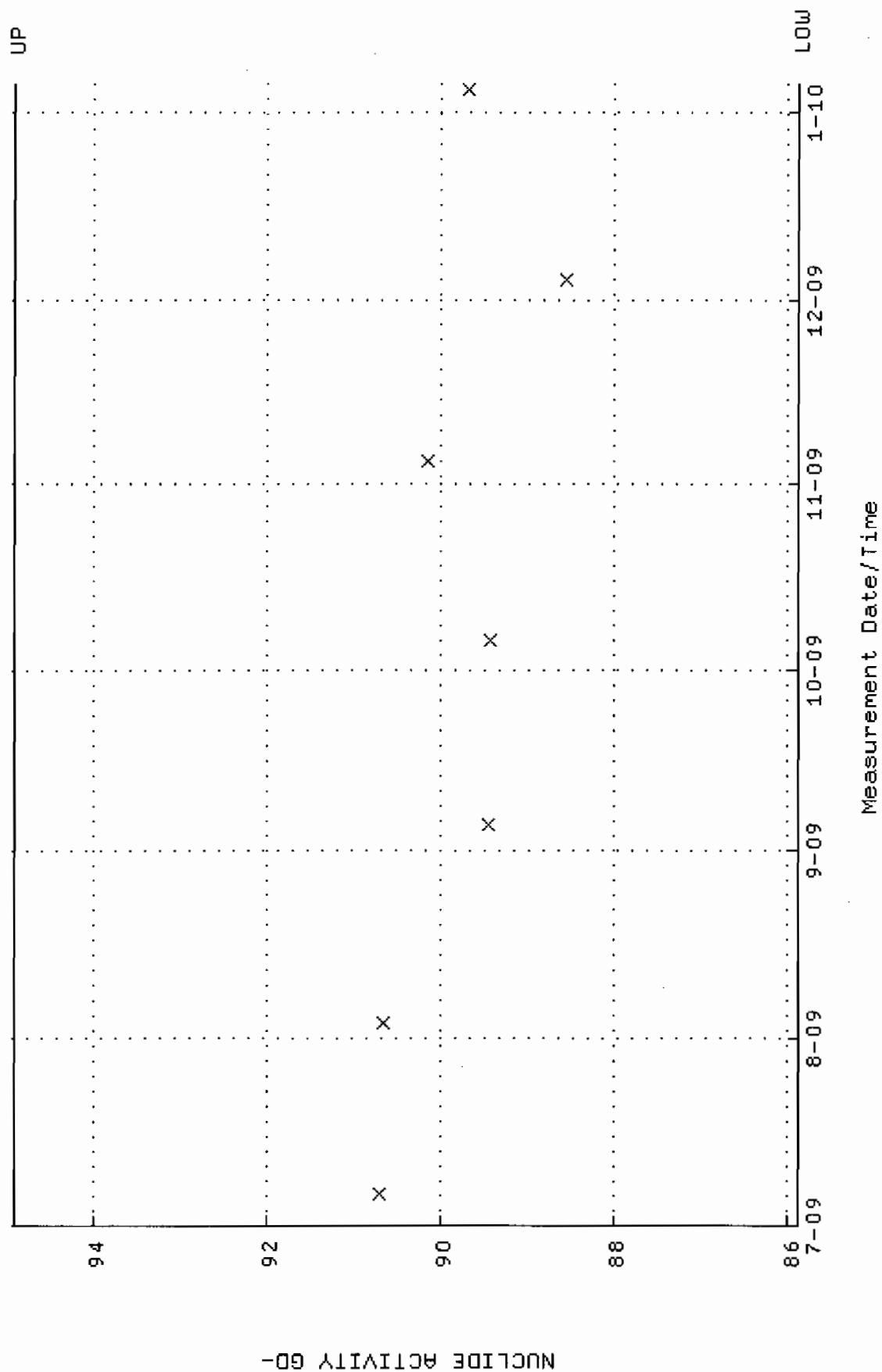
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 Parameter Name : BACKRATE (Background Rate)
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



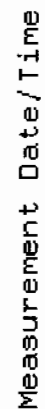
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.307728 through 0.327728



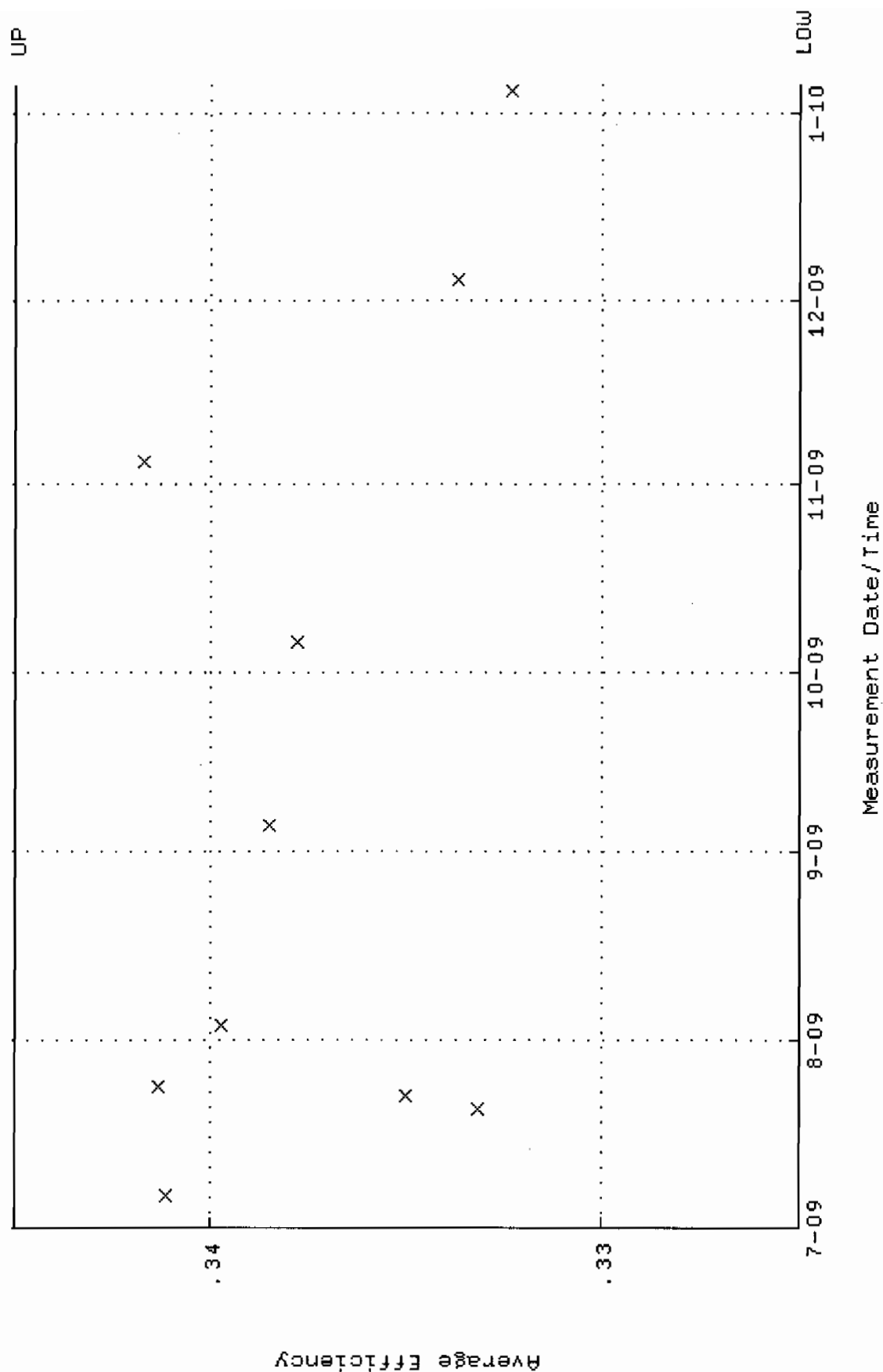
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 Parameter Name : NACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
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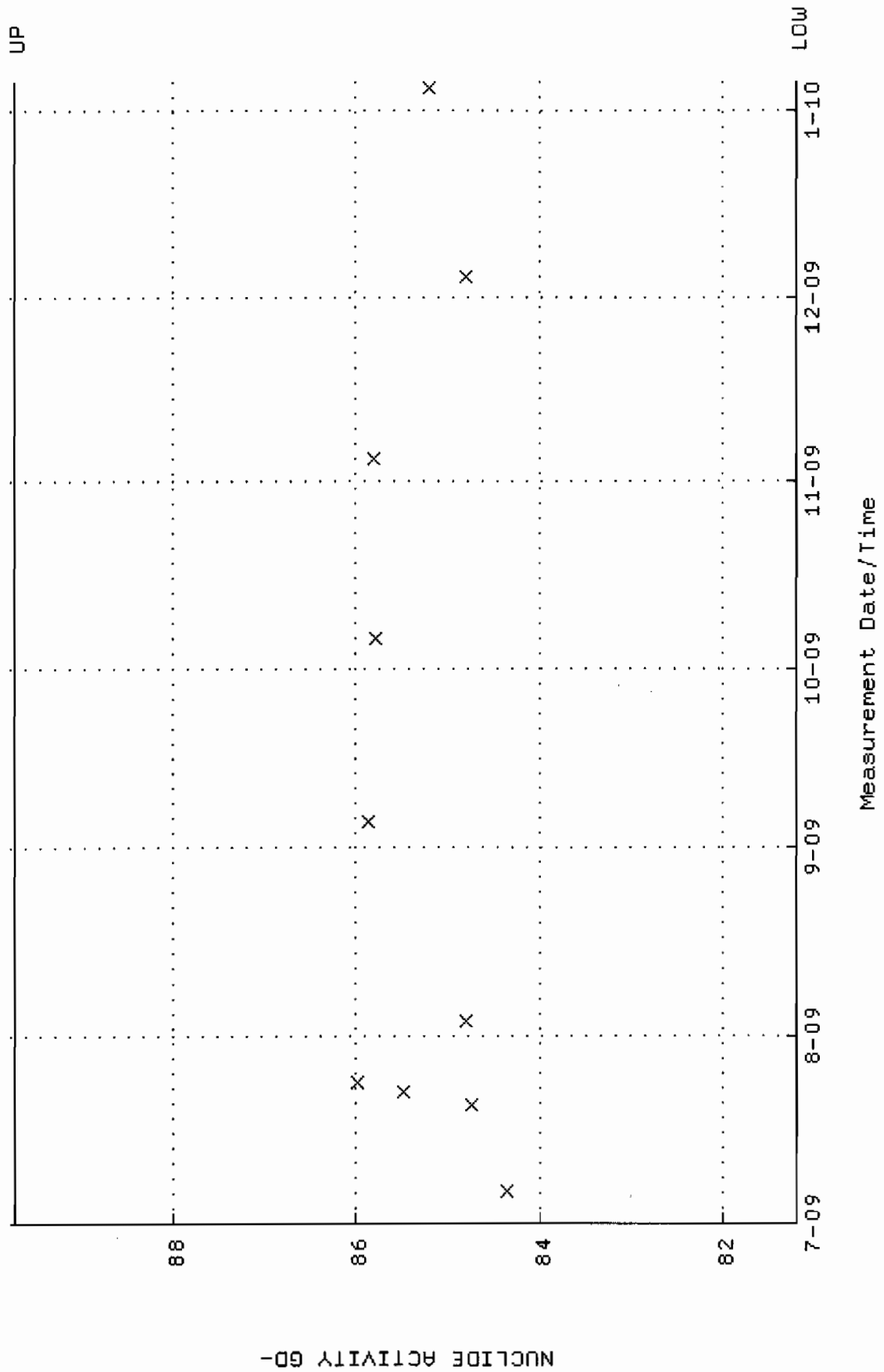
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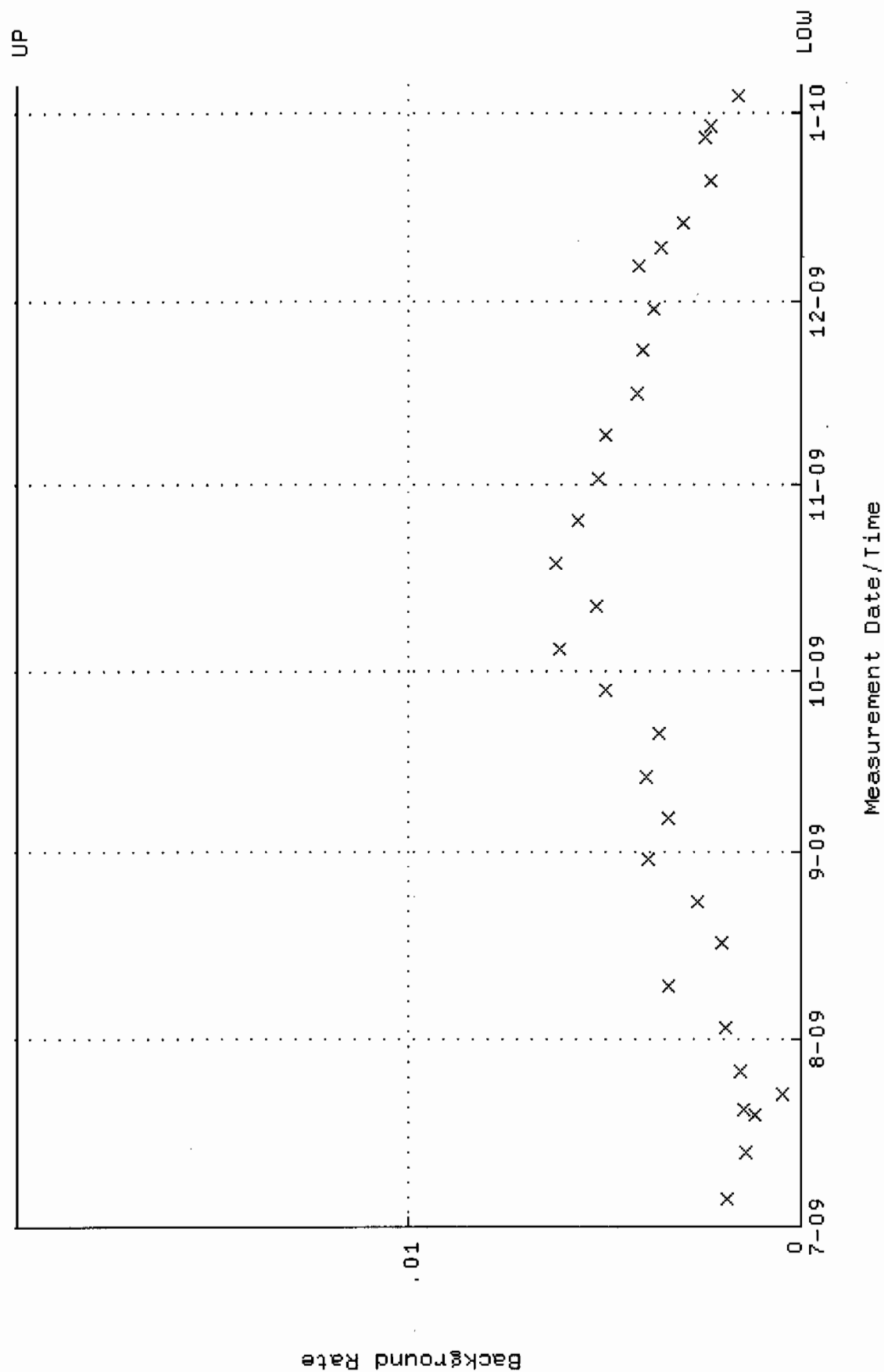
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 Lower/Upper Lmts: 0.324980 through 0.344980



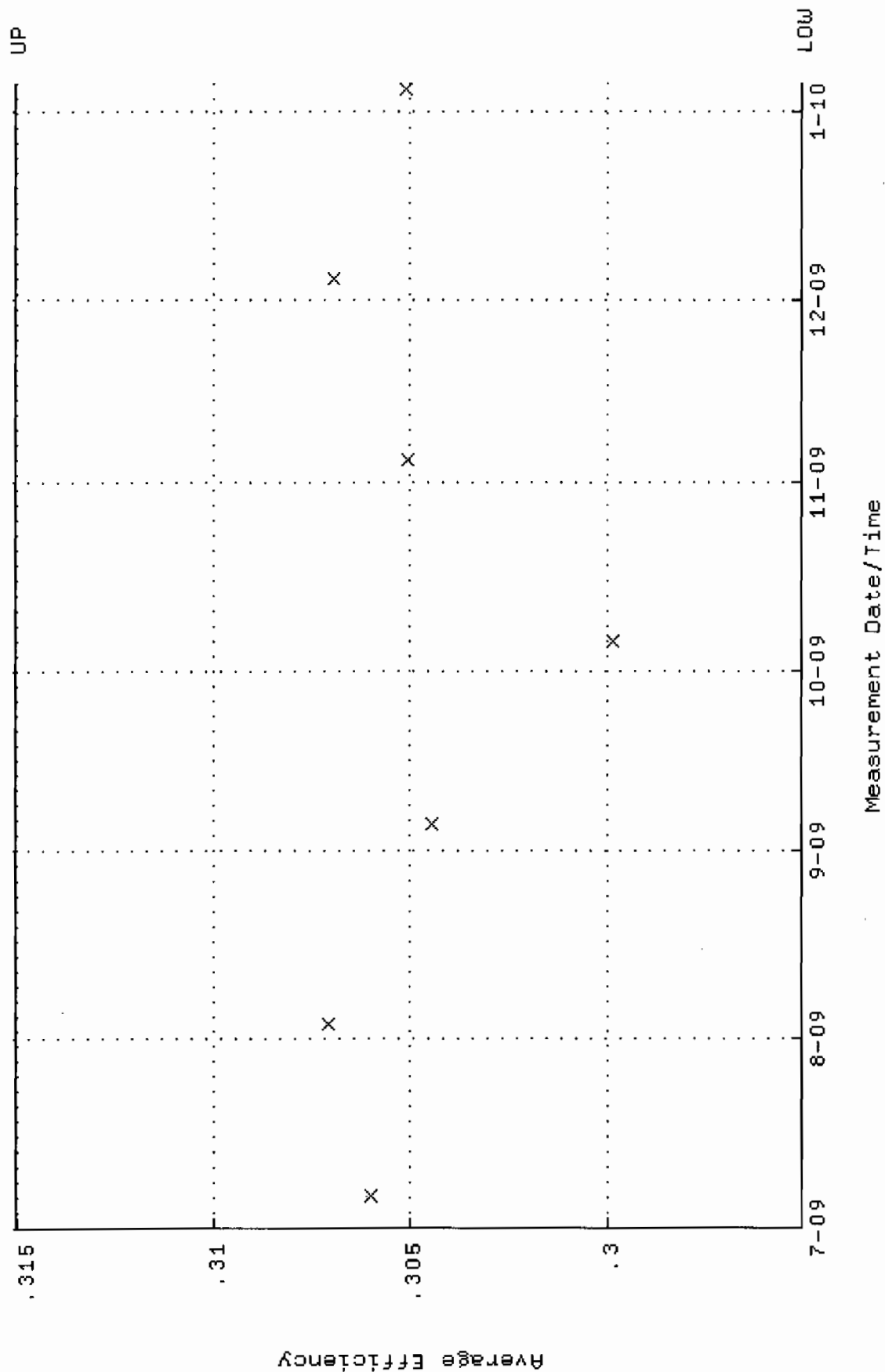
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 Lower/Upper Lmts: 81.2030 through 89.7506



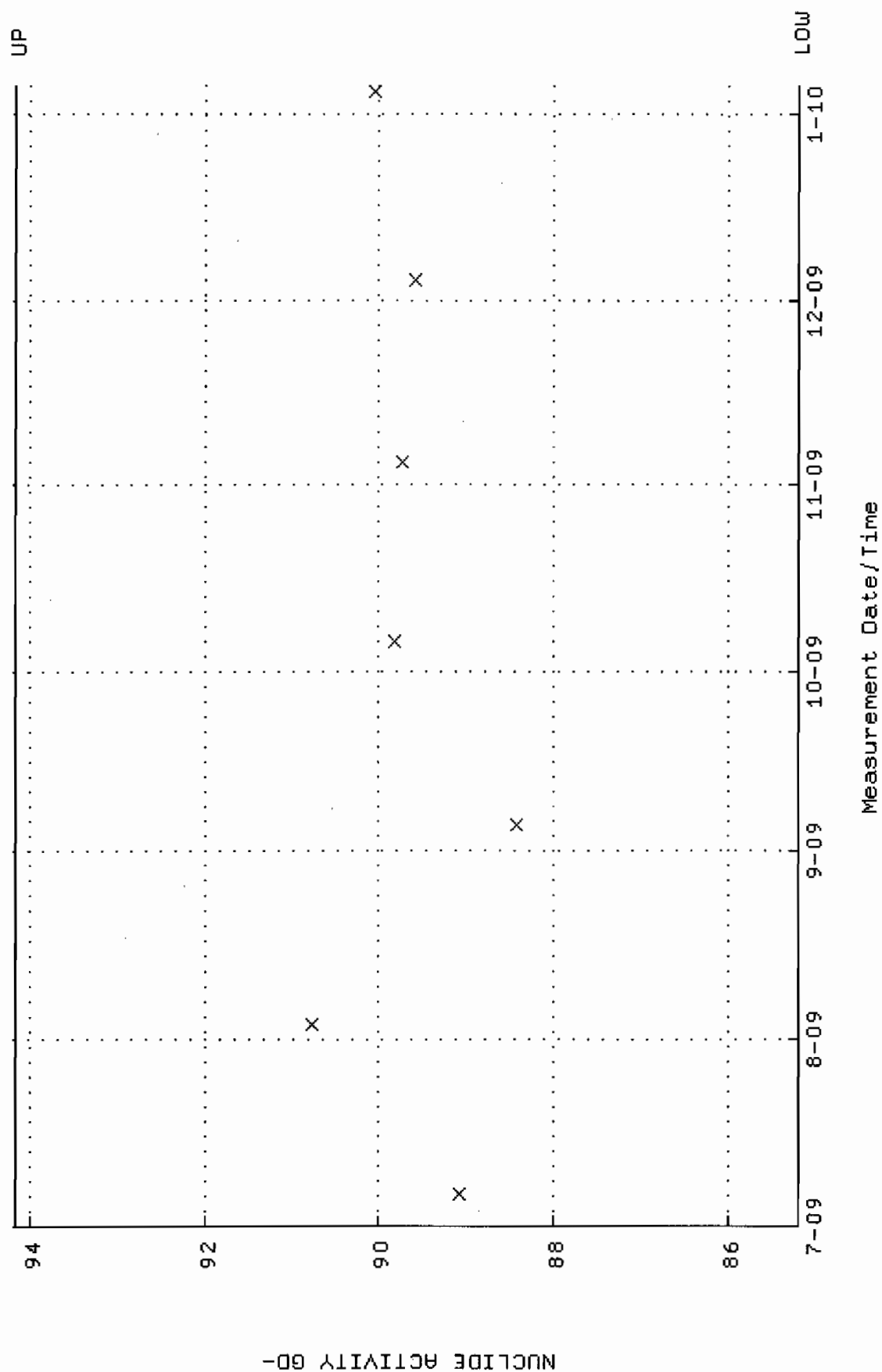
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



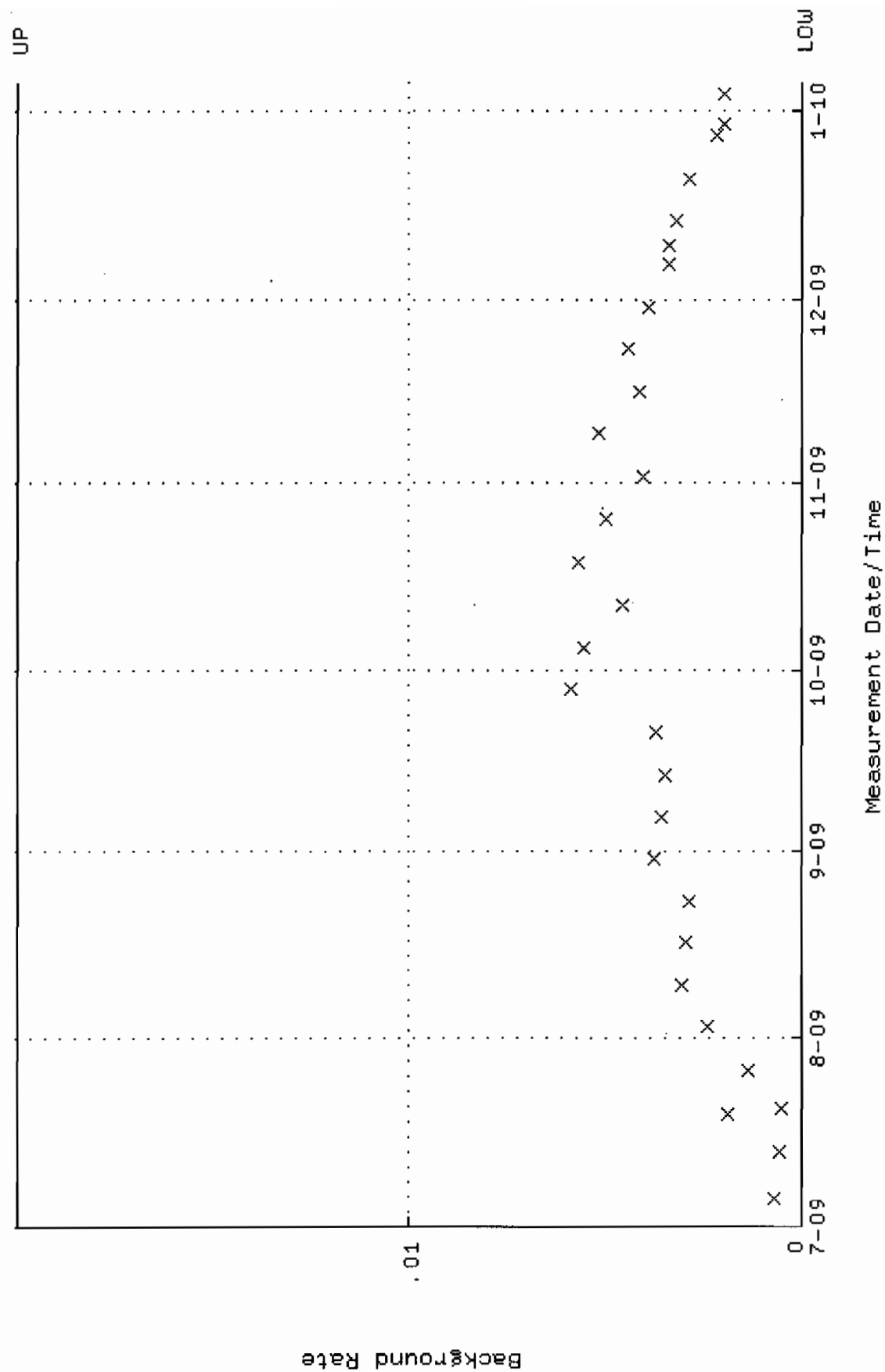
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 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.295040 through 0.315040



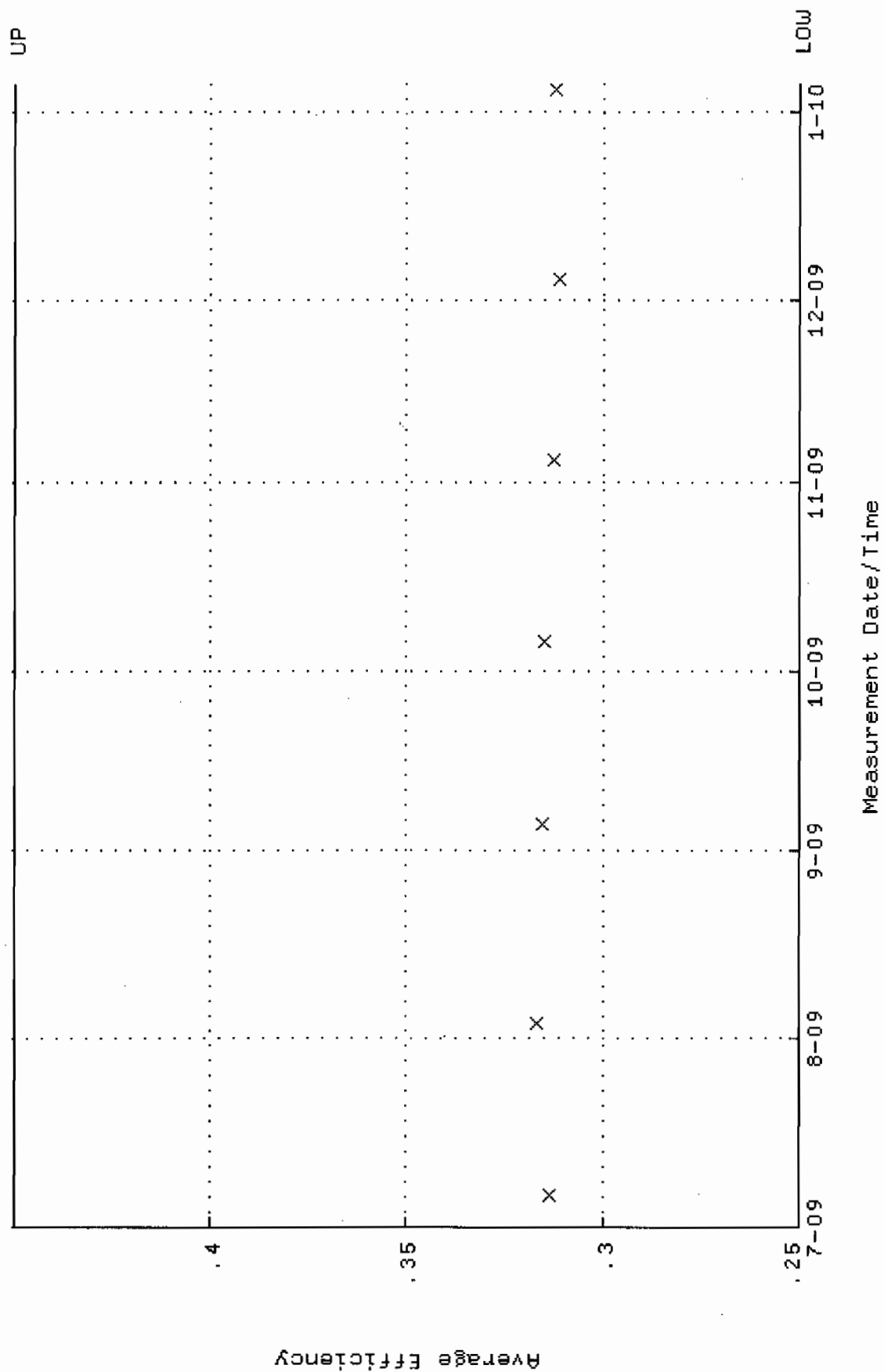
QA filename : DKA100:[ENV_ALPHA.QA.W]w028.QAF;4
 Parameter Name : NLACTIVITY-G0148 (NUCLIDE ACTIVITY G0-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.1965 through 94.1645



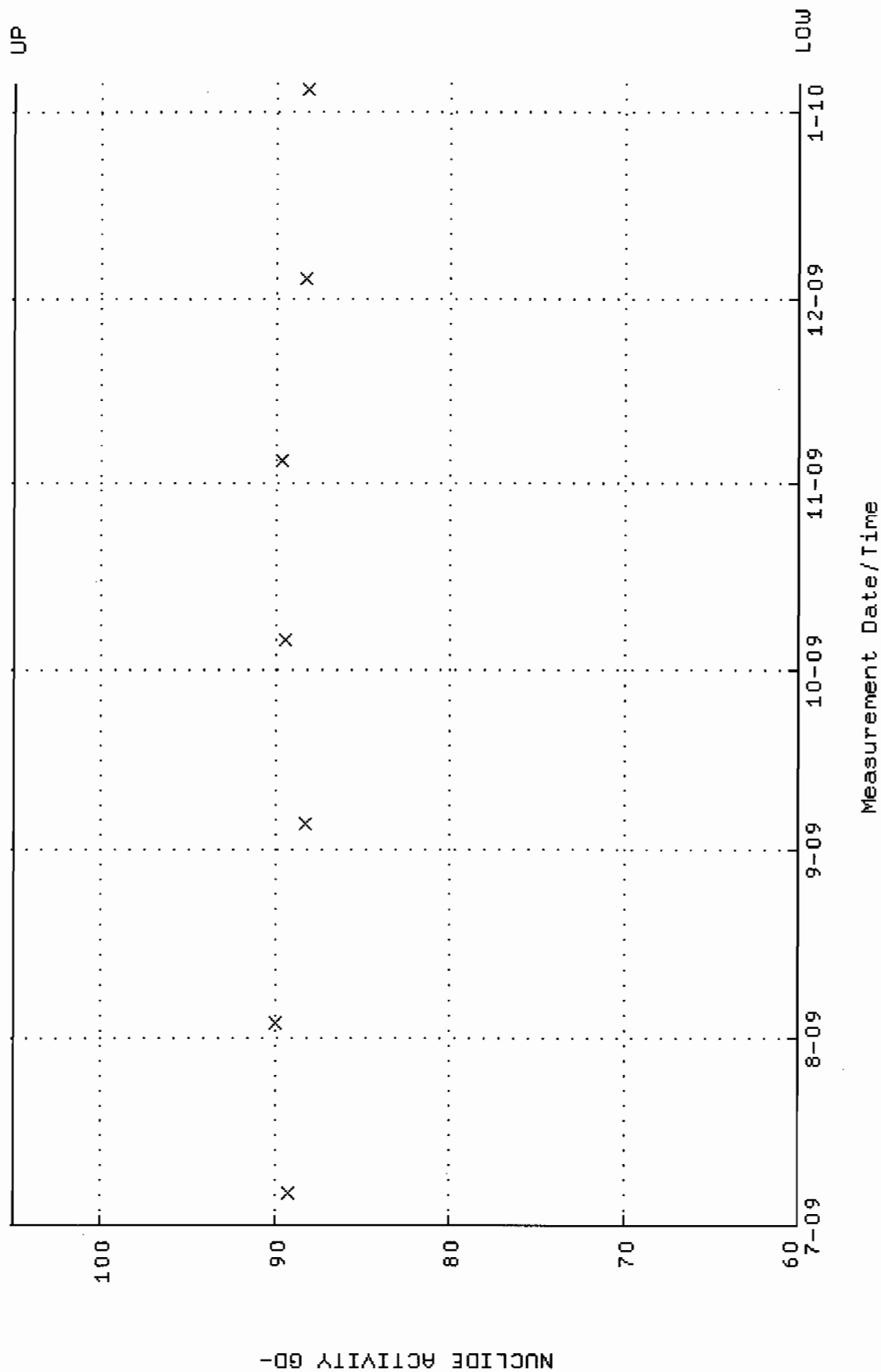
QA filename : DKA100:[ENV_ALPHA.QA.B]B028.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



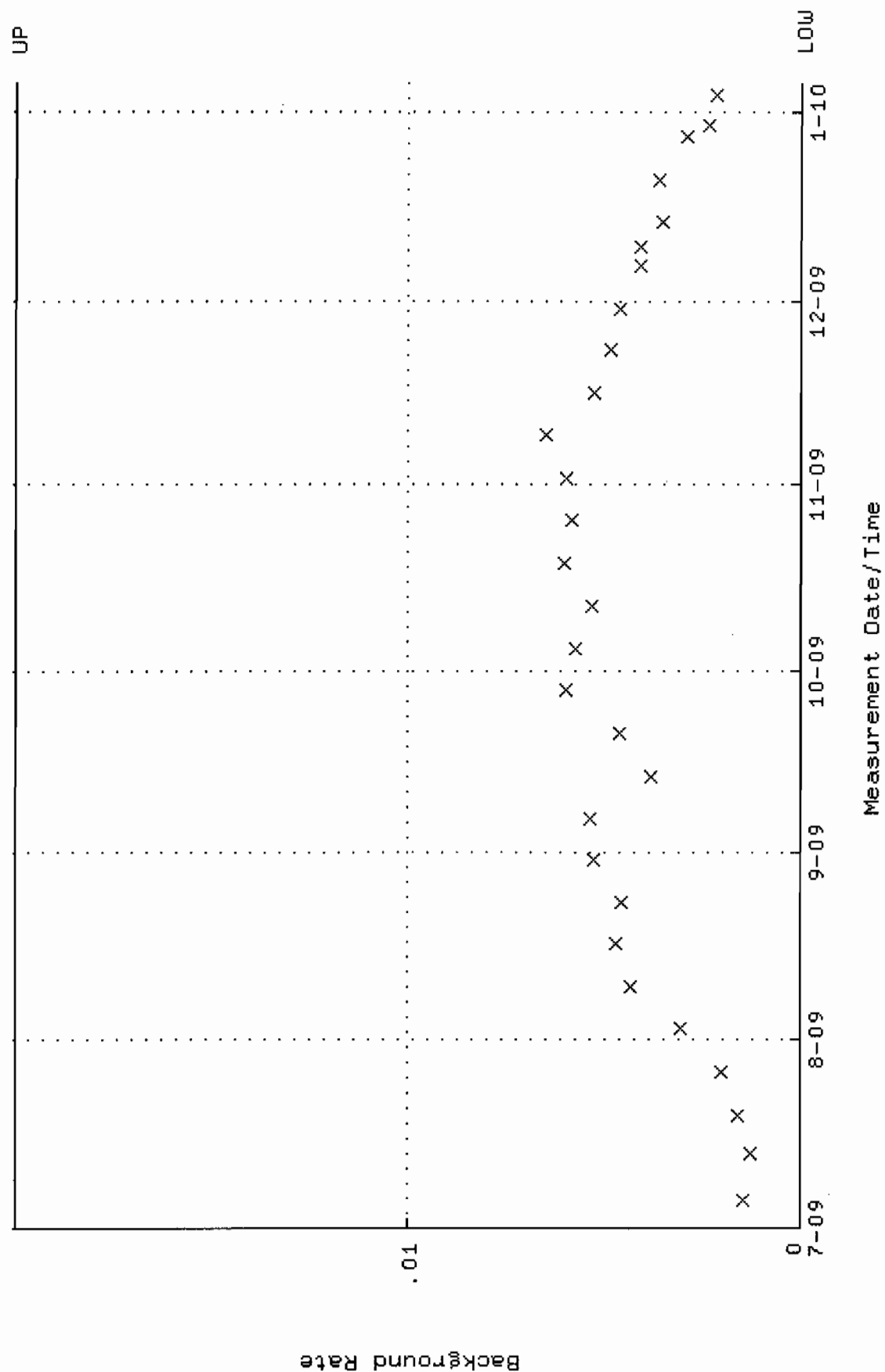
QA filename : DKA100:[ENV_ALPHA.QA.W]W029.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



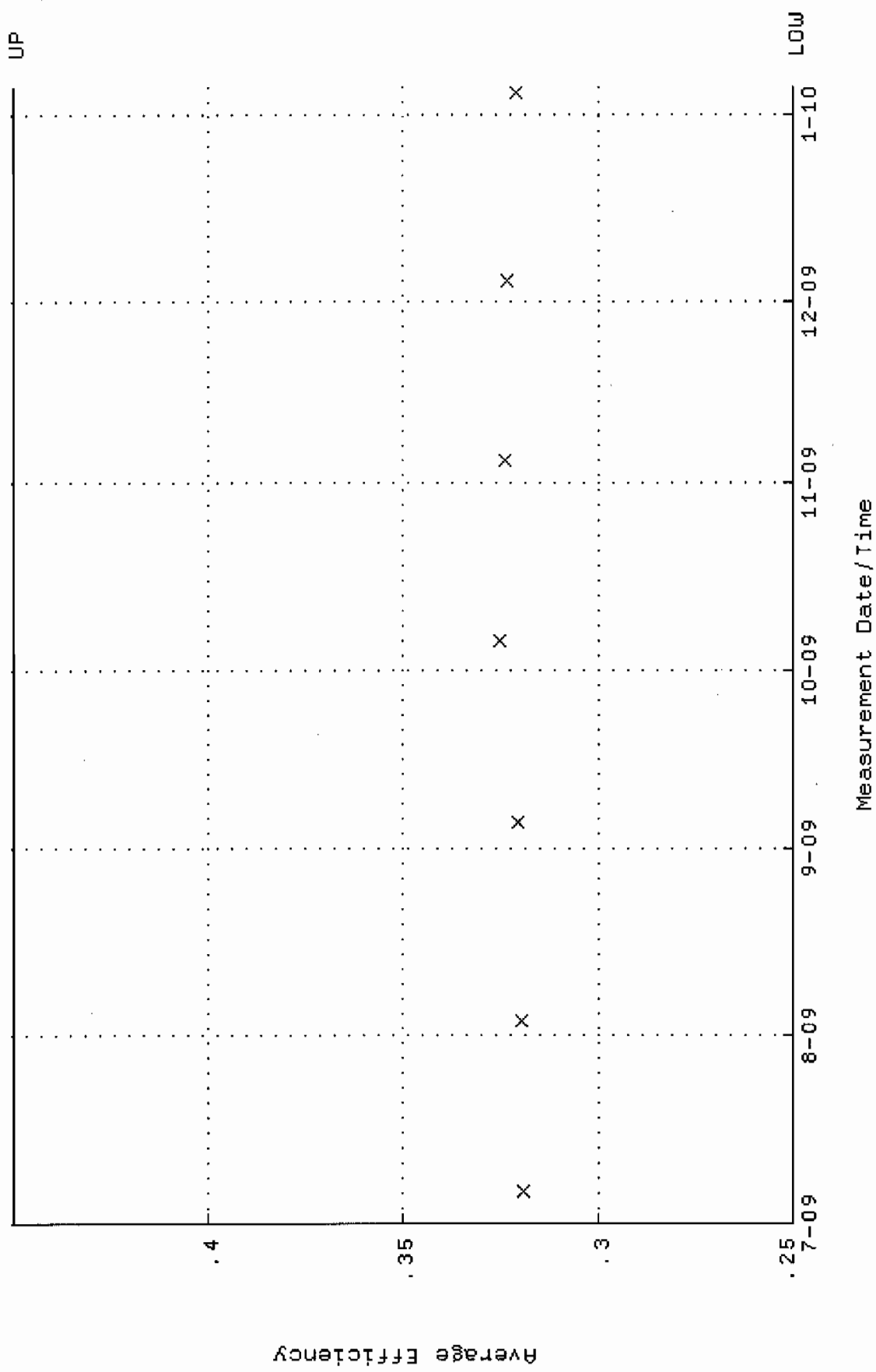
QA filename : DKA100:[ENV_ALPHA.QA.W]W029.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



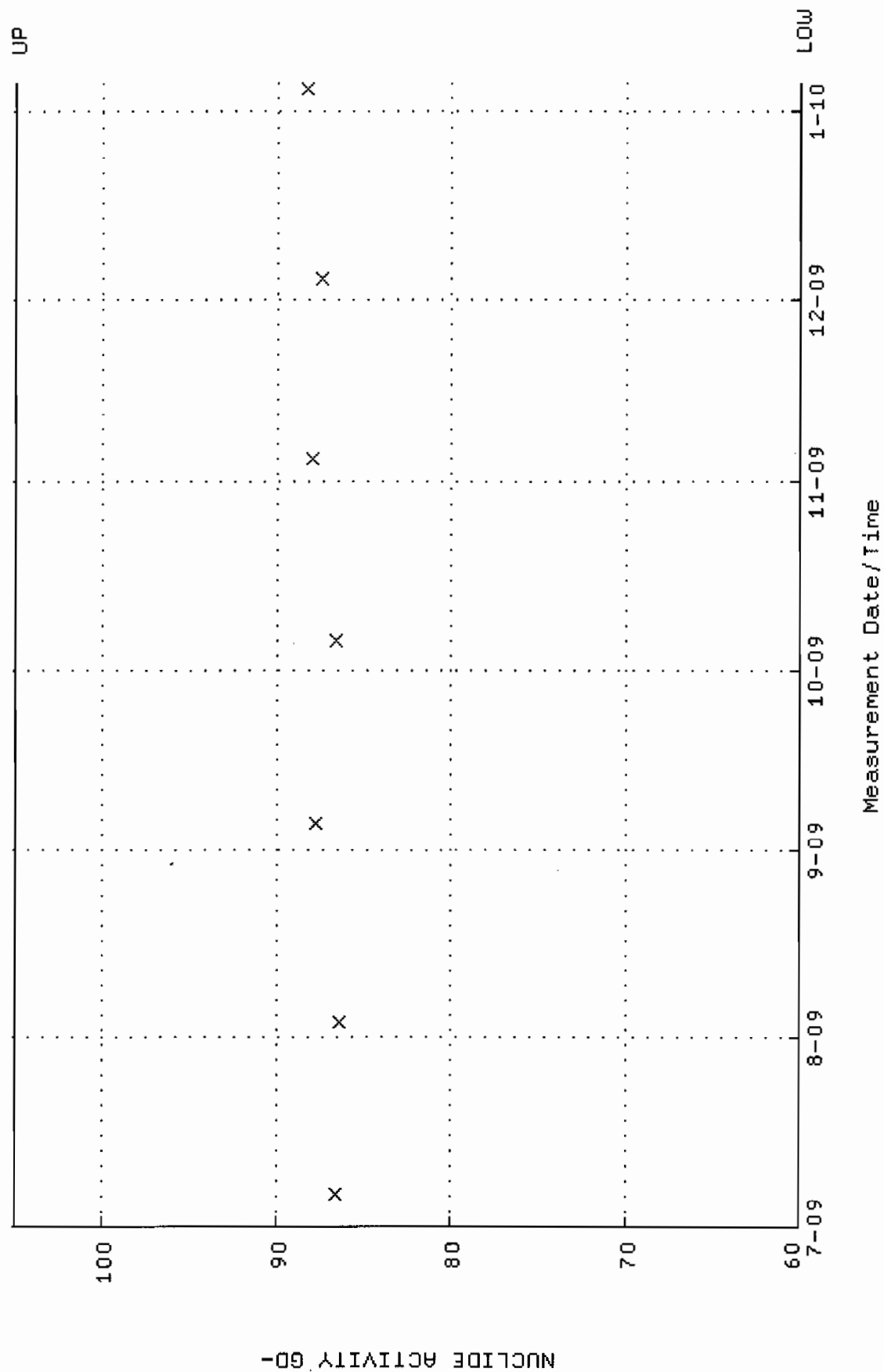
QA filename : DKA100:[ENV_ALPHA.QA.B]B029.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



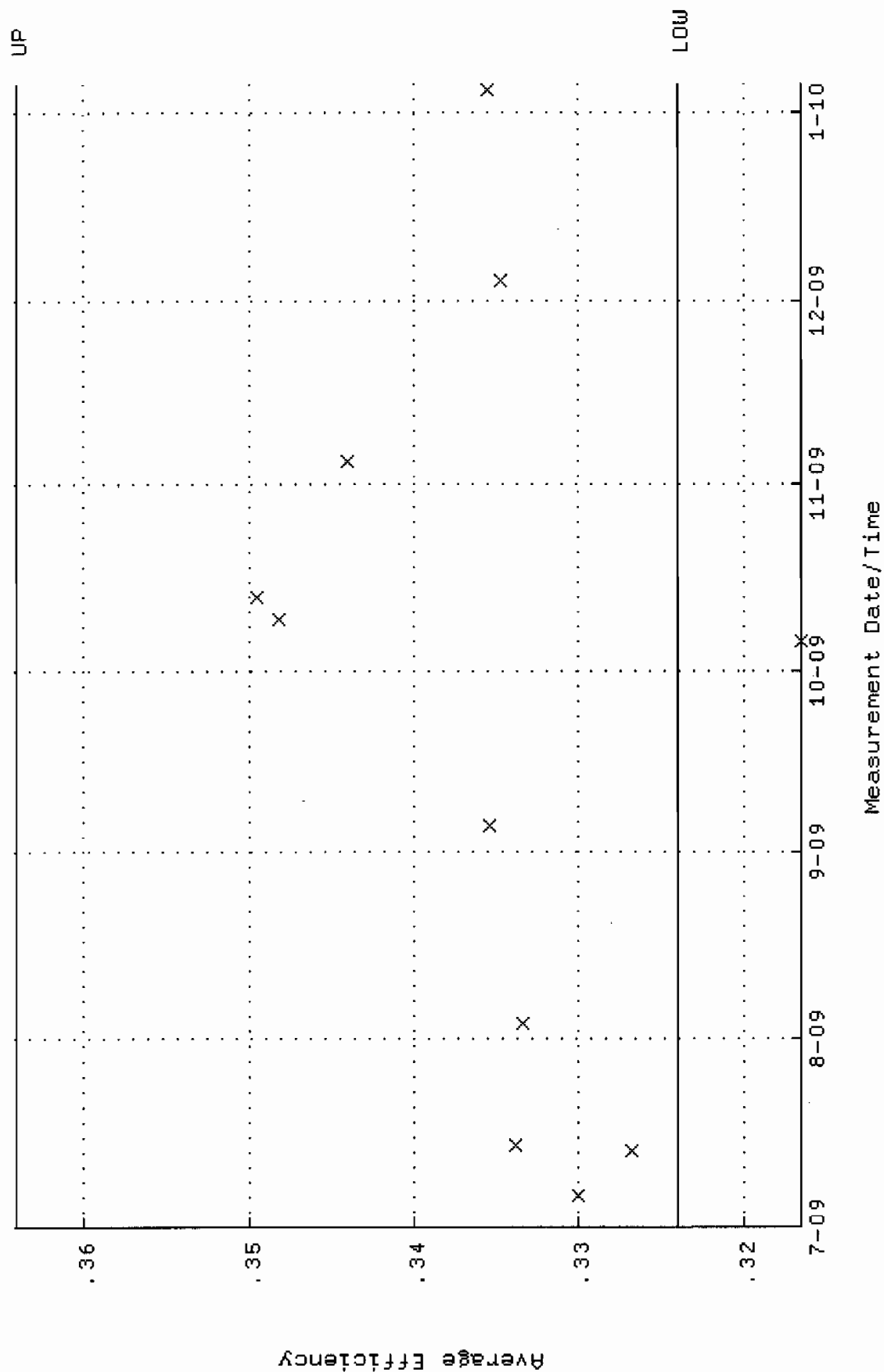
QA filename : DKA100:[ENV_ALPHA.QA.W]w030.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



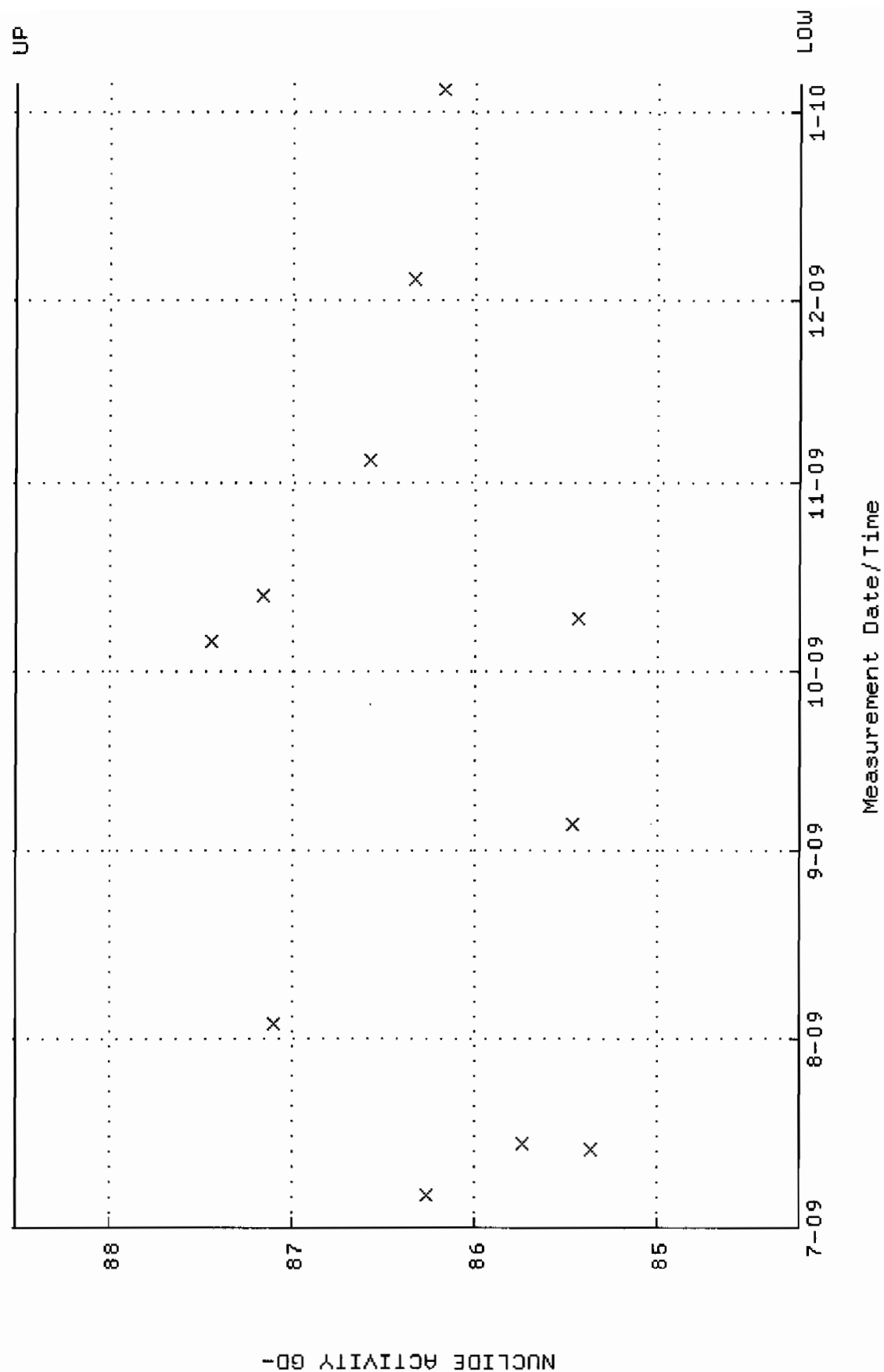
QA filename : DKA100:[ENV_ALPHA.QA.W]U030.QAF;3
 Parameter Name : NLACTIVITY-G0148 (NUCLIDE ACTIVITY G0-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



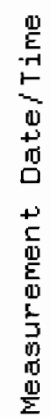
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.324029 through 0.364065



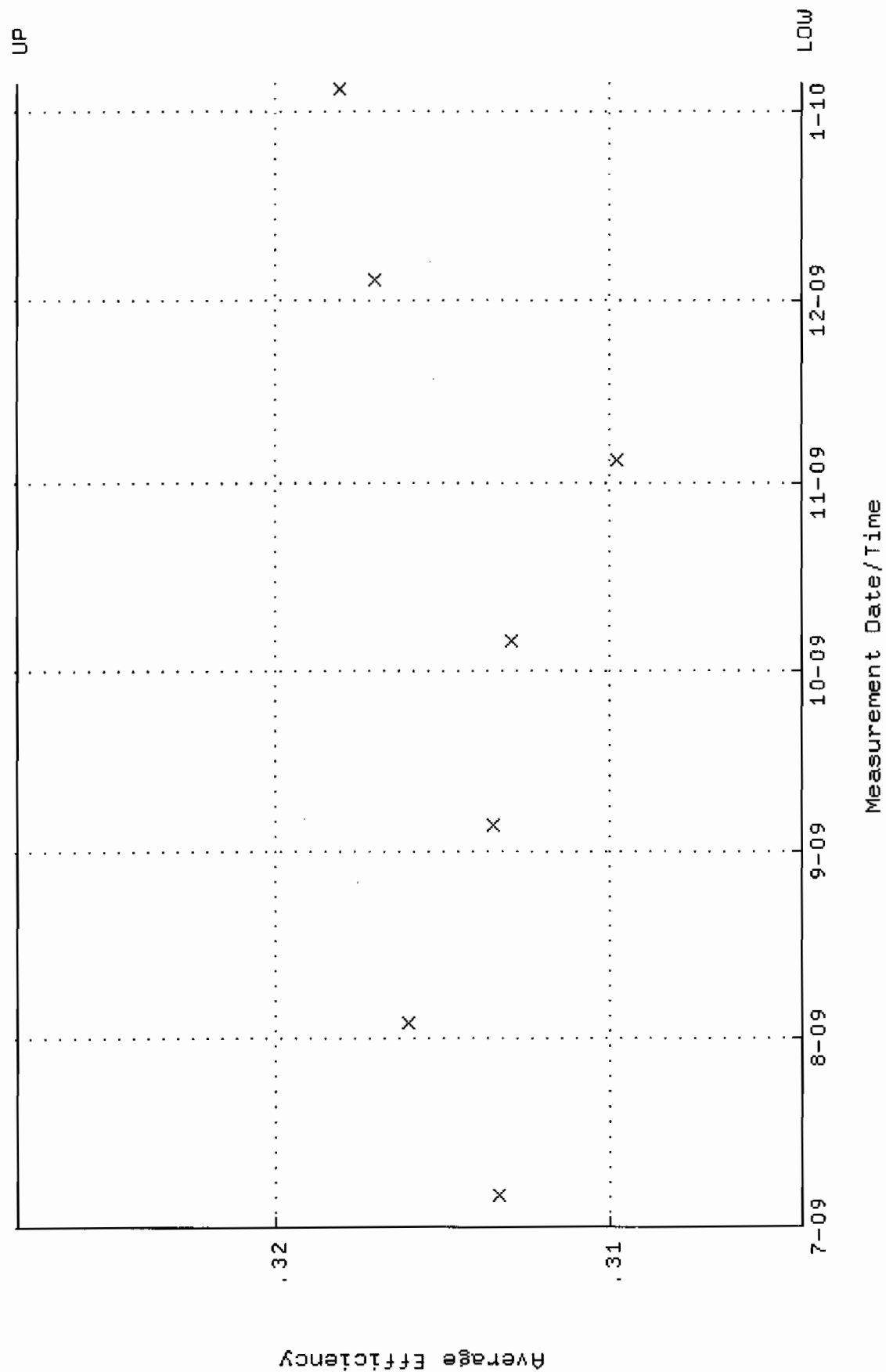
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.2165 through 88.5165



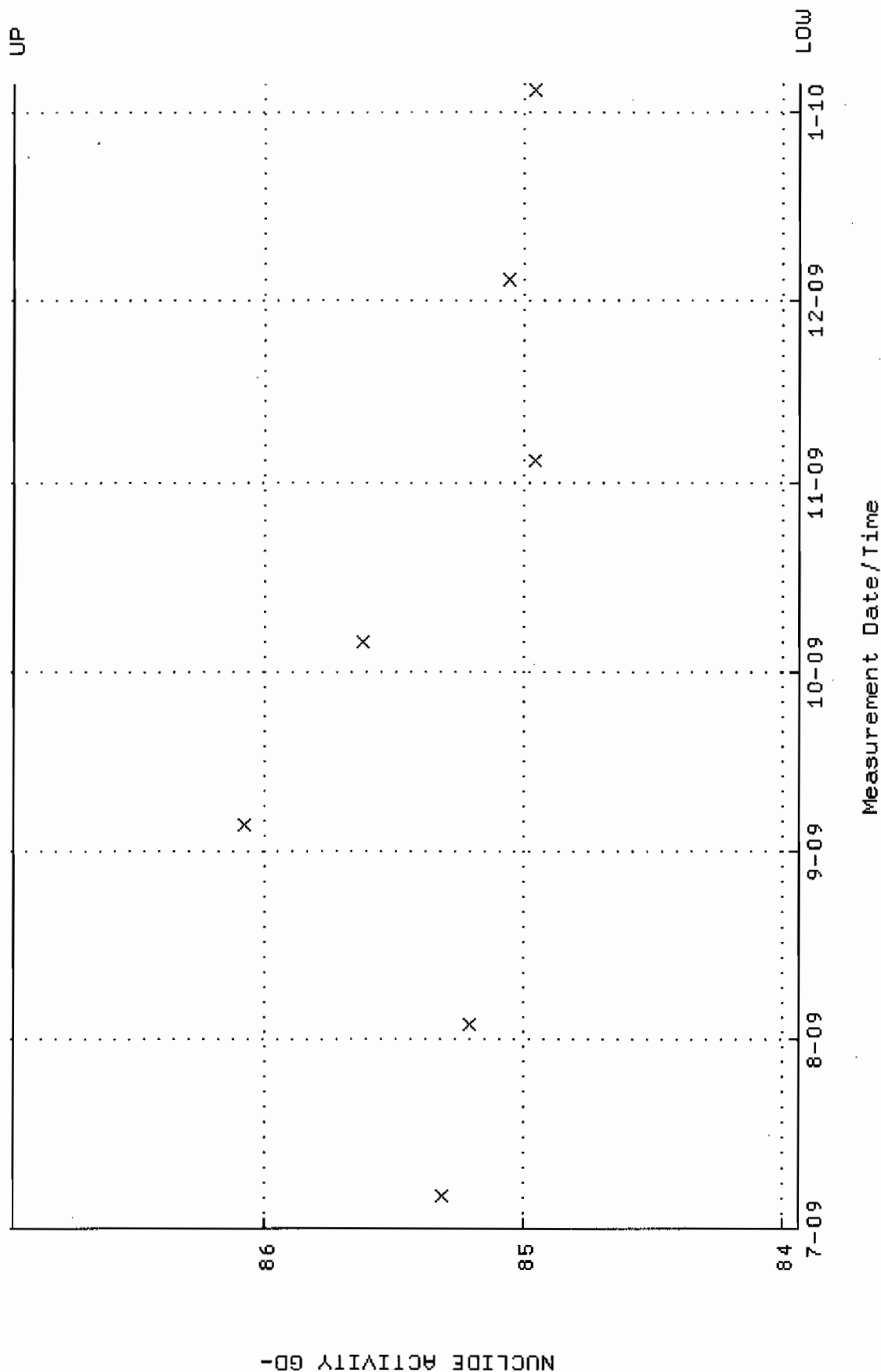
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



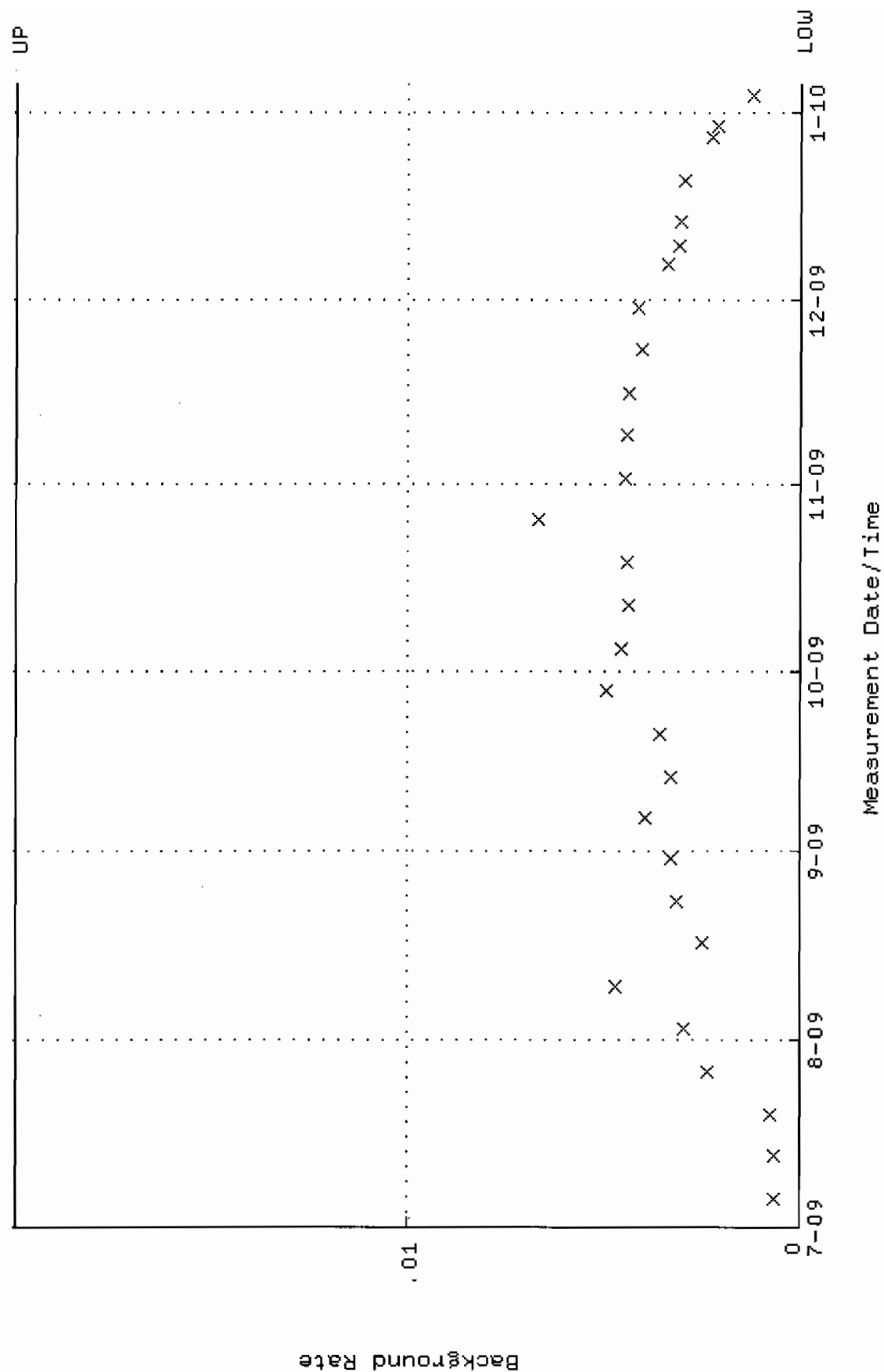
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.304222 through 0.327748



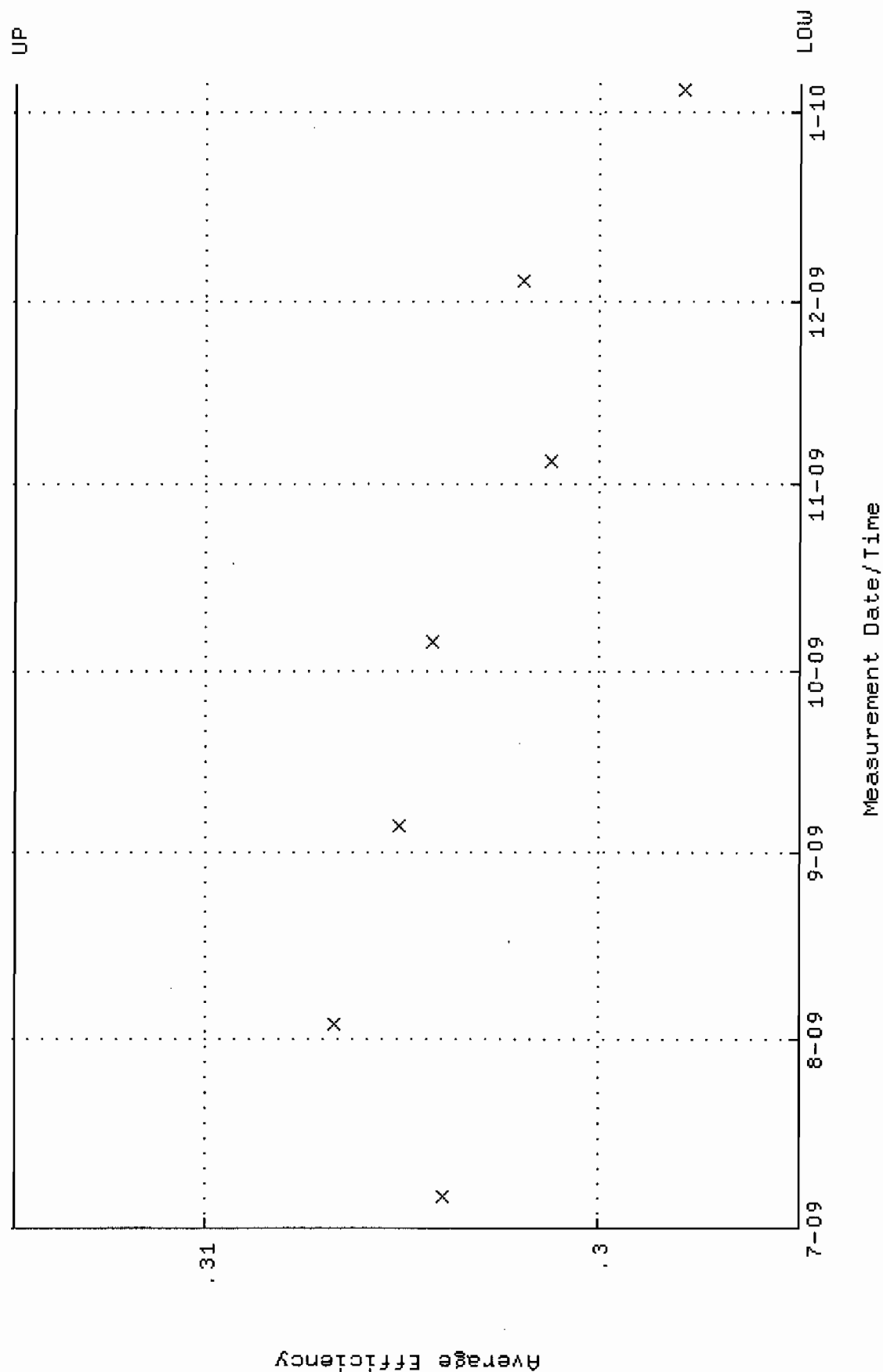
QA filename : DKA100:[ENV_ALPHA,QA.W]W033.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.9373 through 86.9661



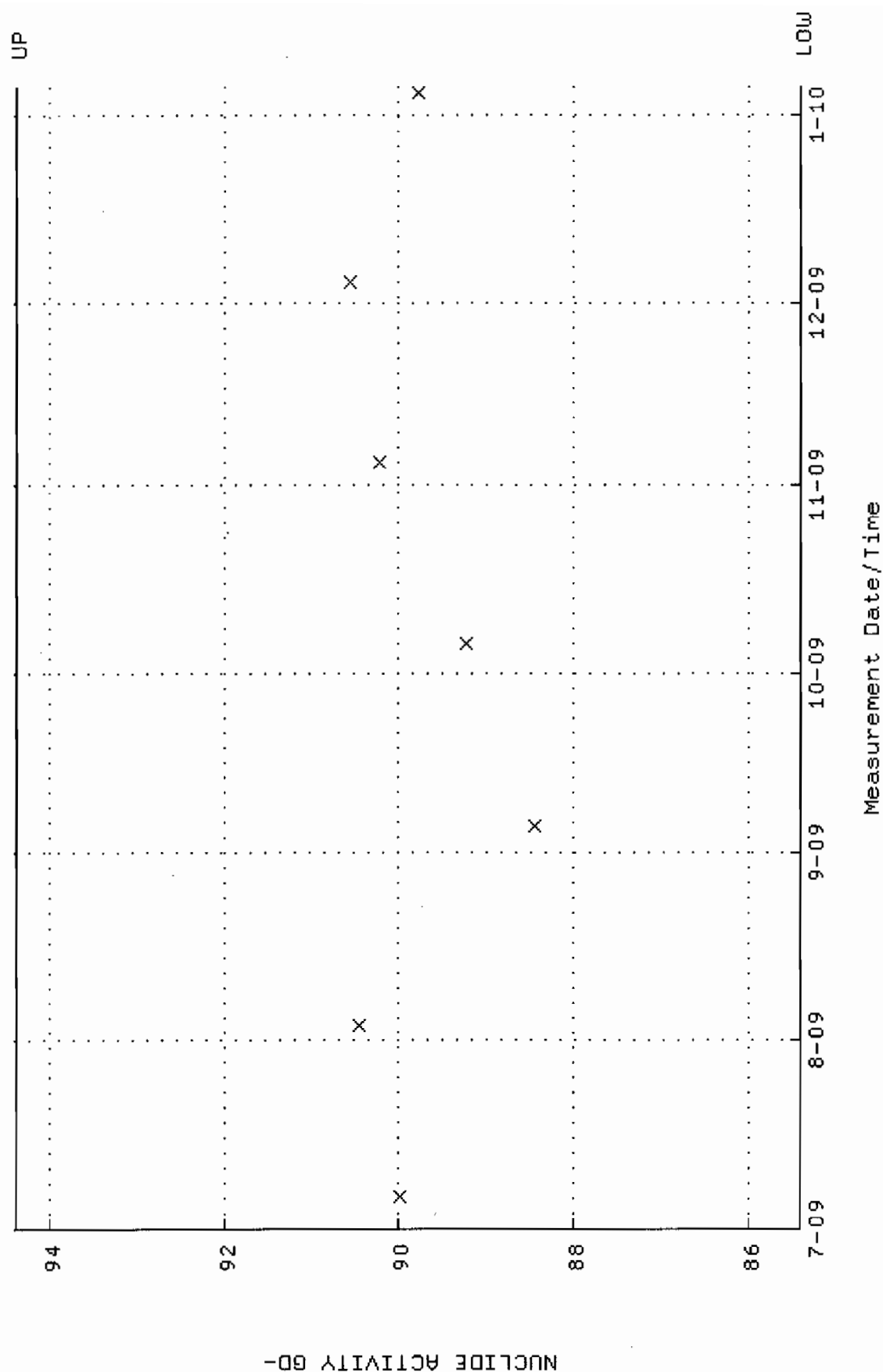
QA filename : DKA100:[ENV_ALPHA.QA.B]B033.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



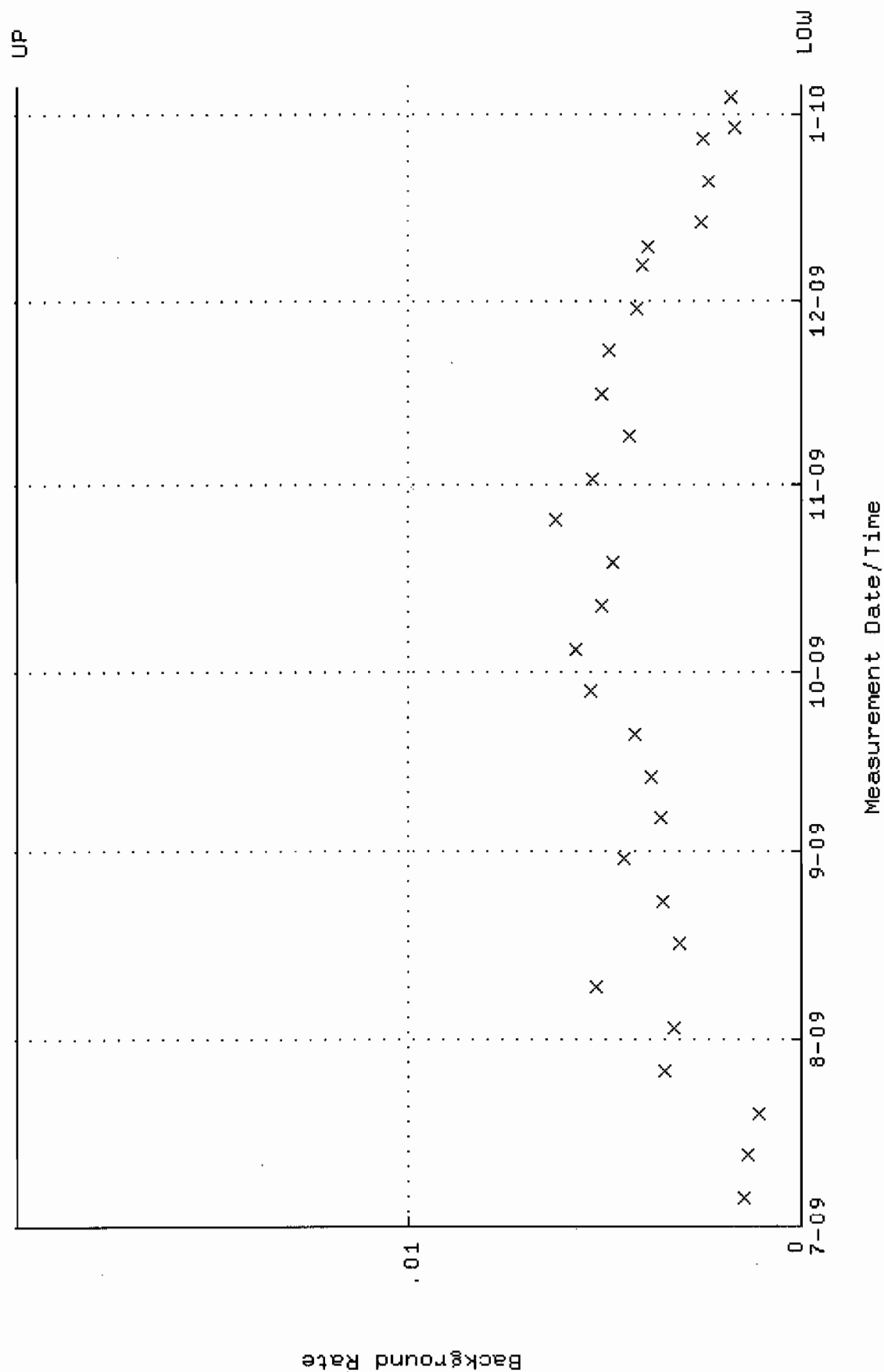
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.294859 through 0.314859



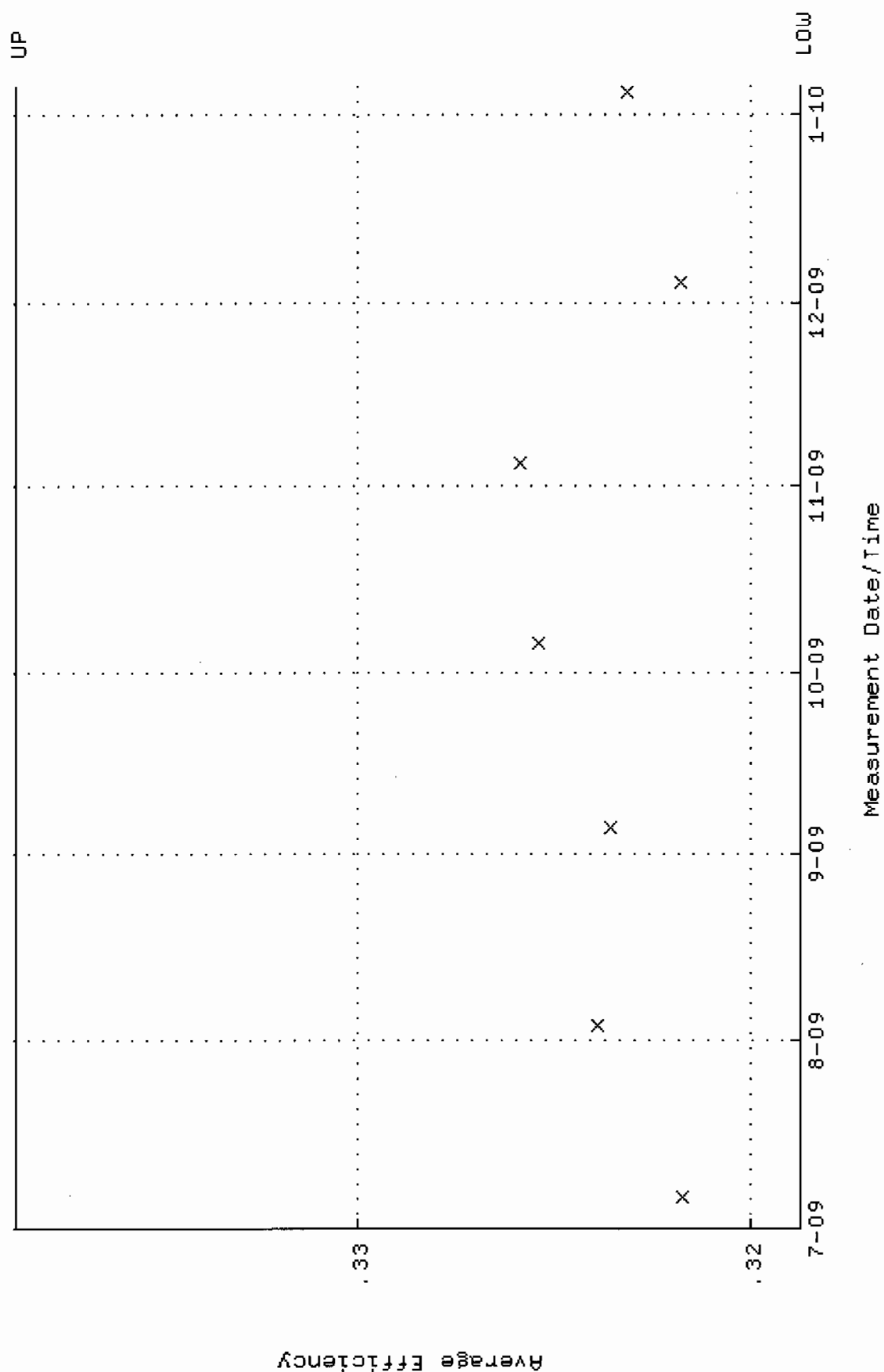
QA filename : DKA100:[ENV_ALPHA.QA.W]w035.QAF;3
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 85.3984 through 94.3878



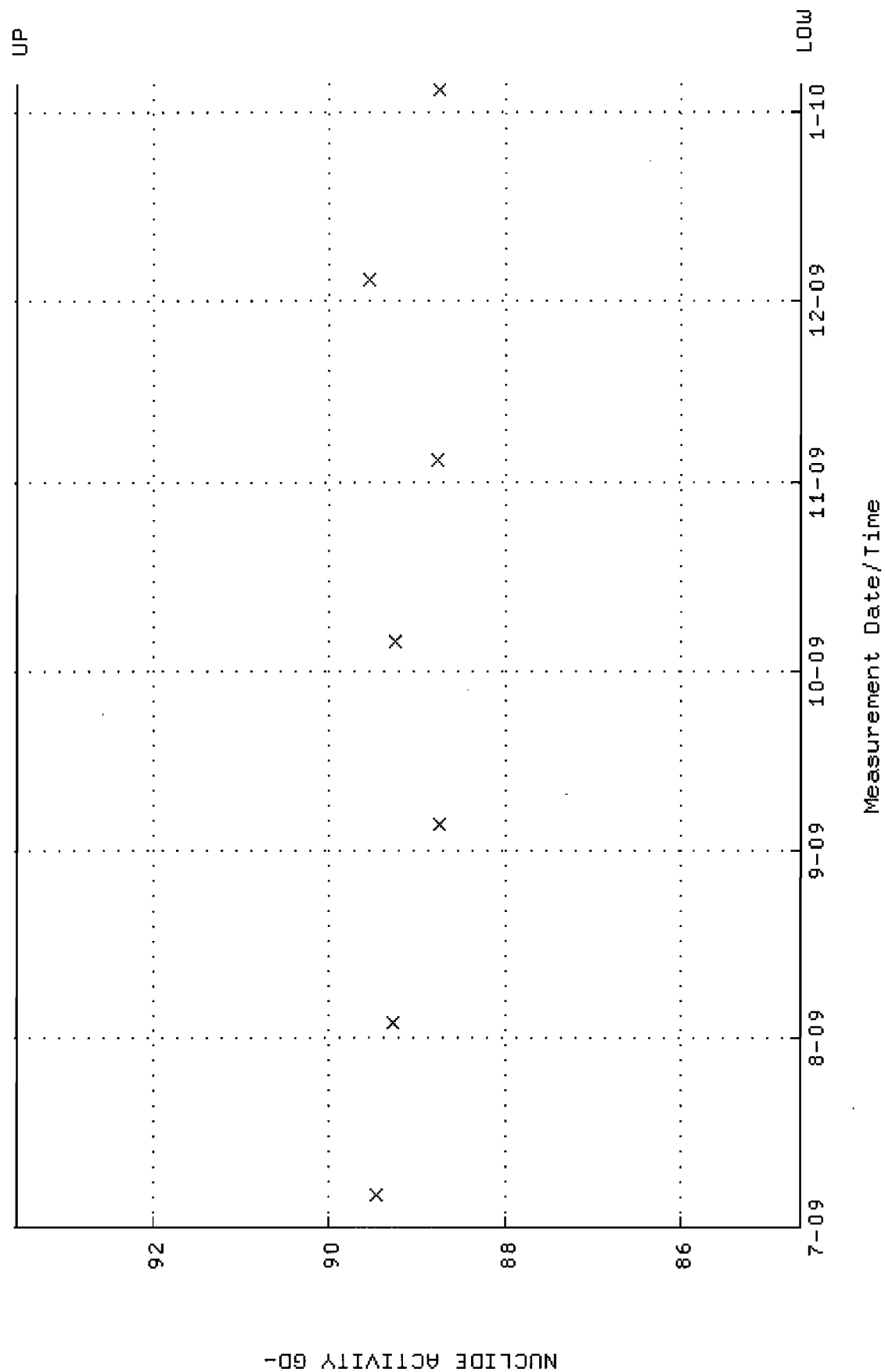
QA filename : DKA100:[ENV_ALPHA.QA.B]B035.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



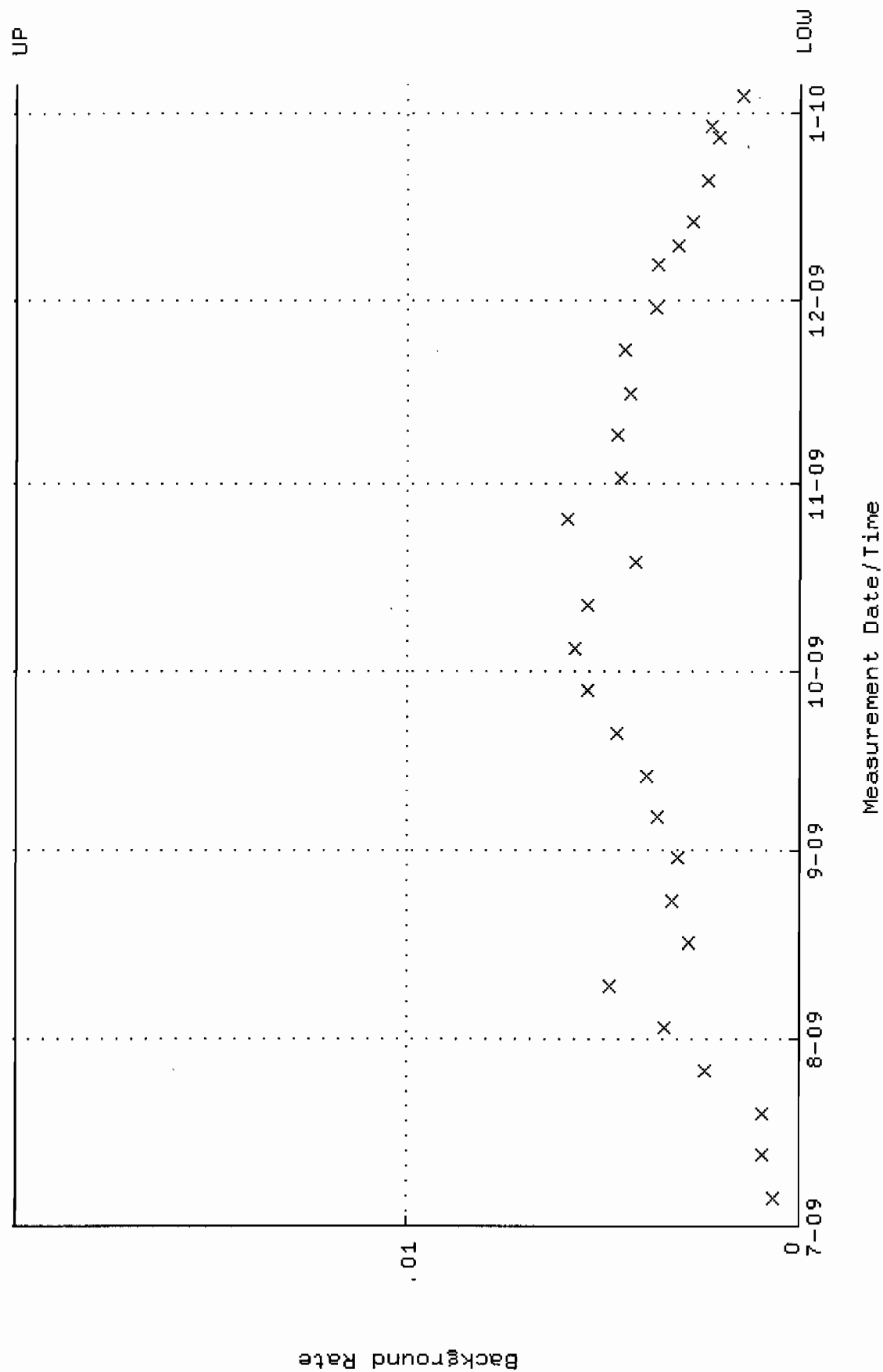
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.318717 through 0.338717



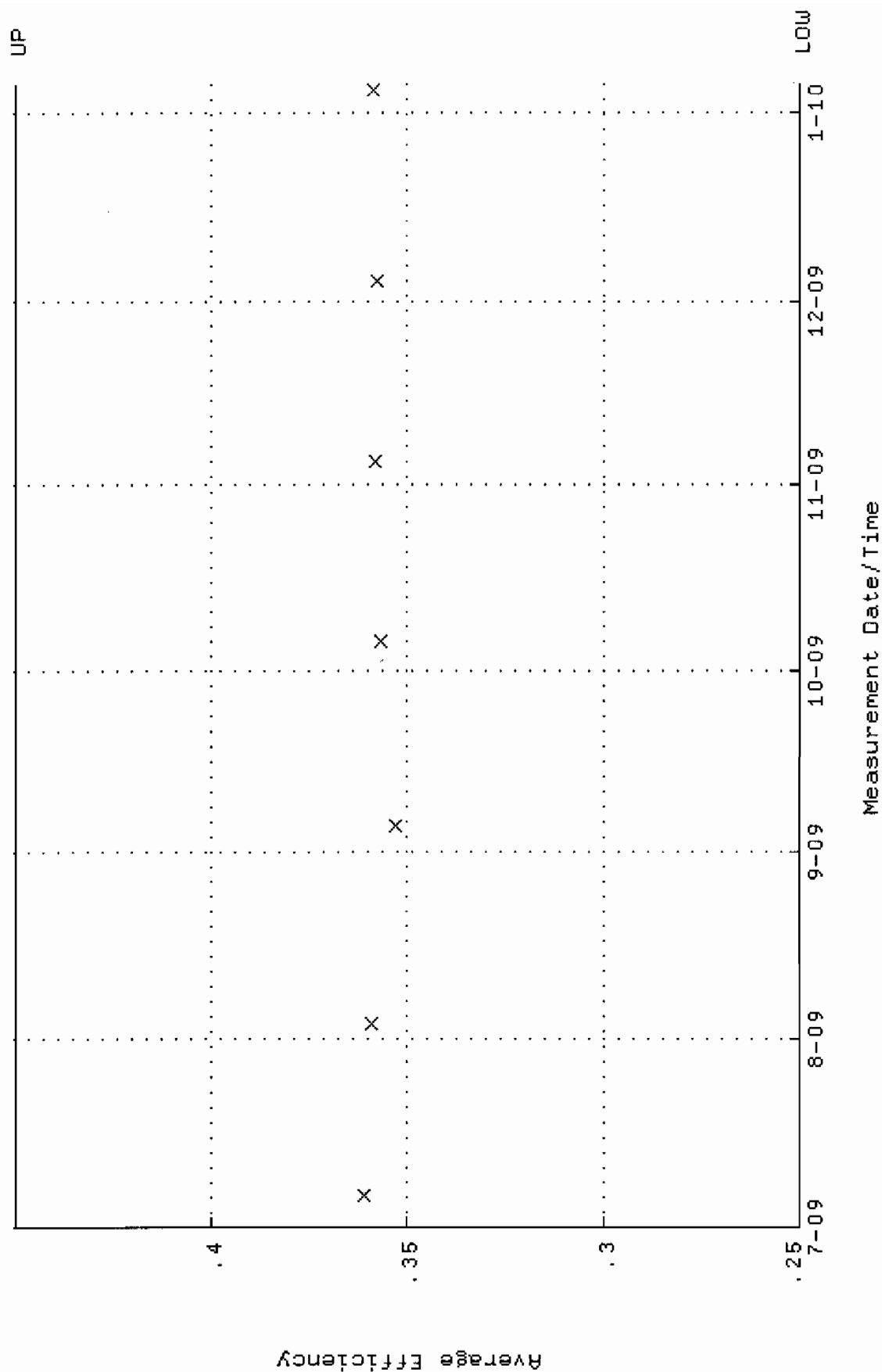
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.6422 through 93.5518



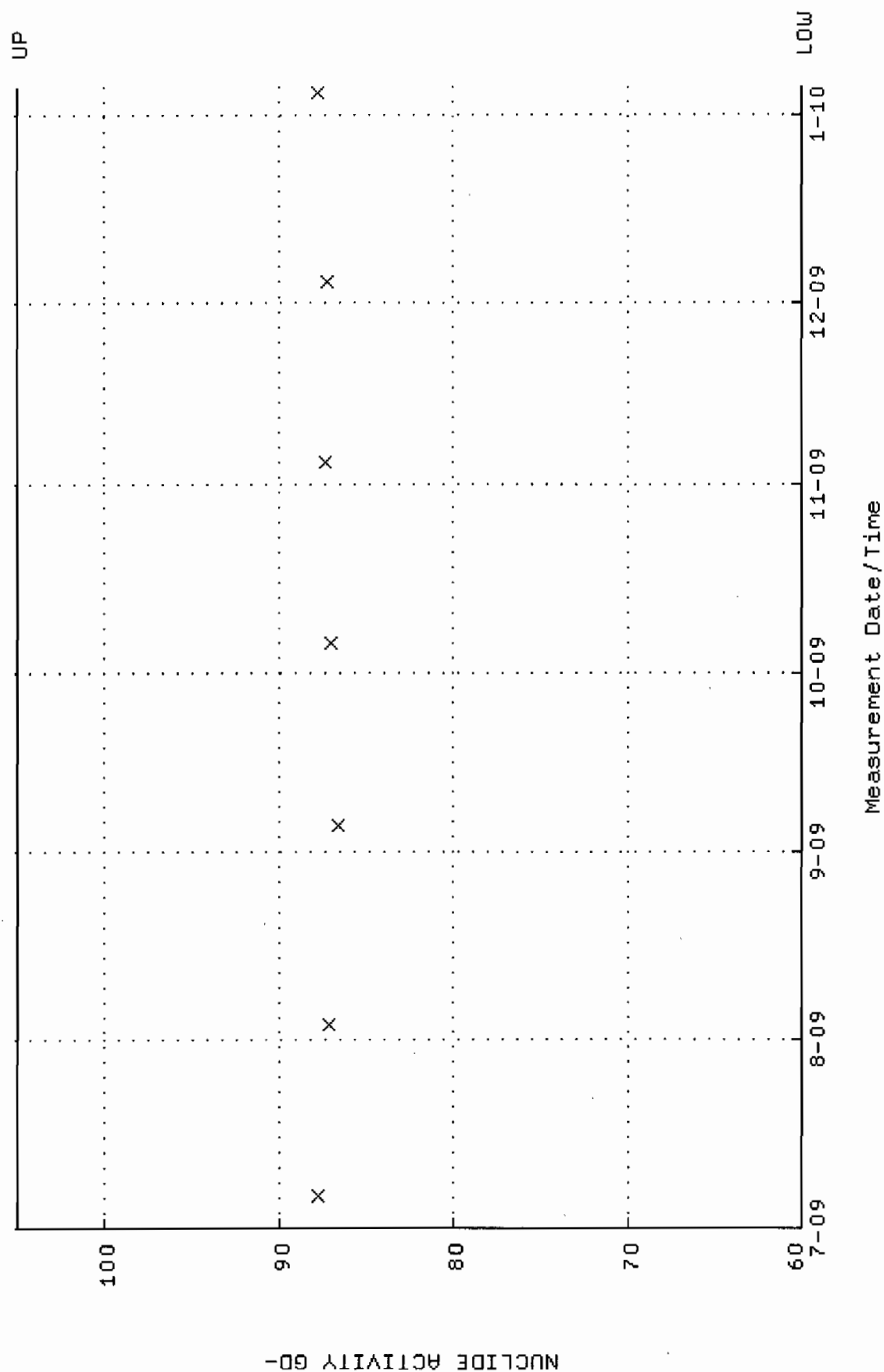
QA filename : DKA100:[ENV_ALPHA.QA.B]B036.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



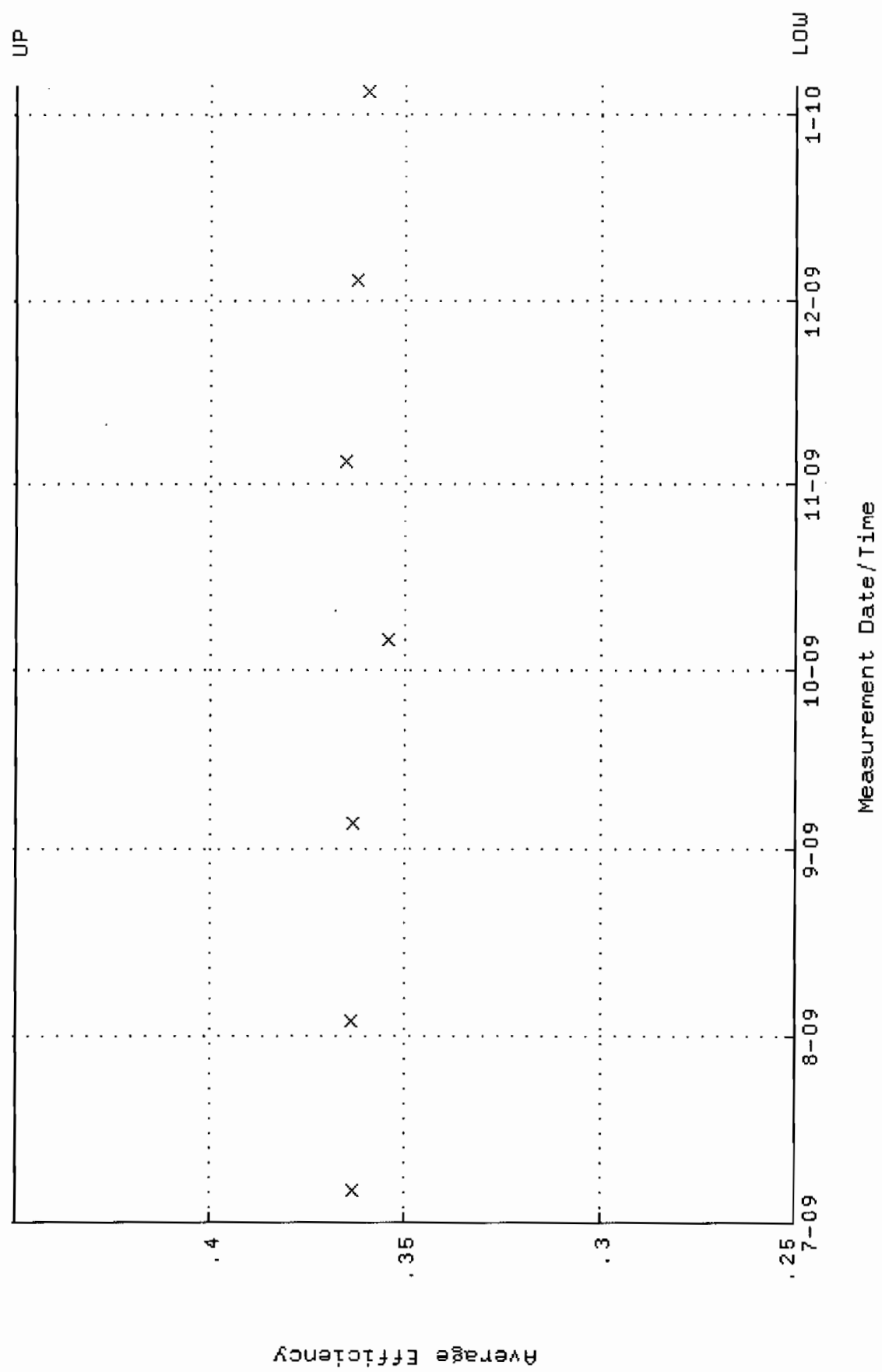
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



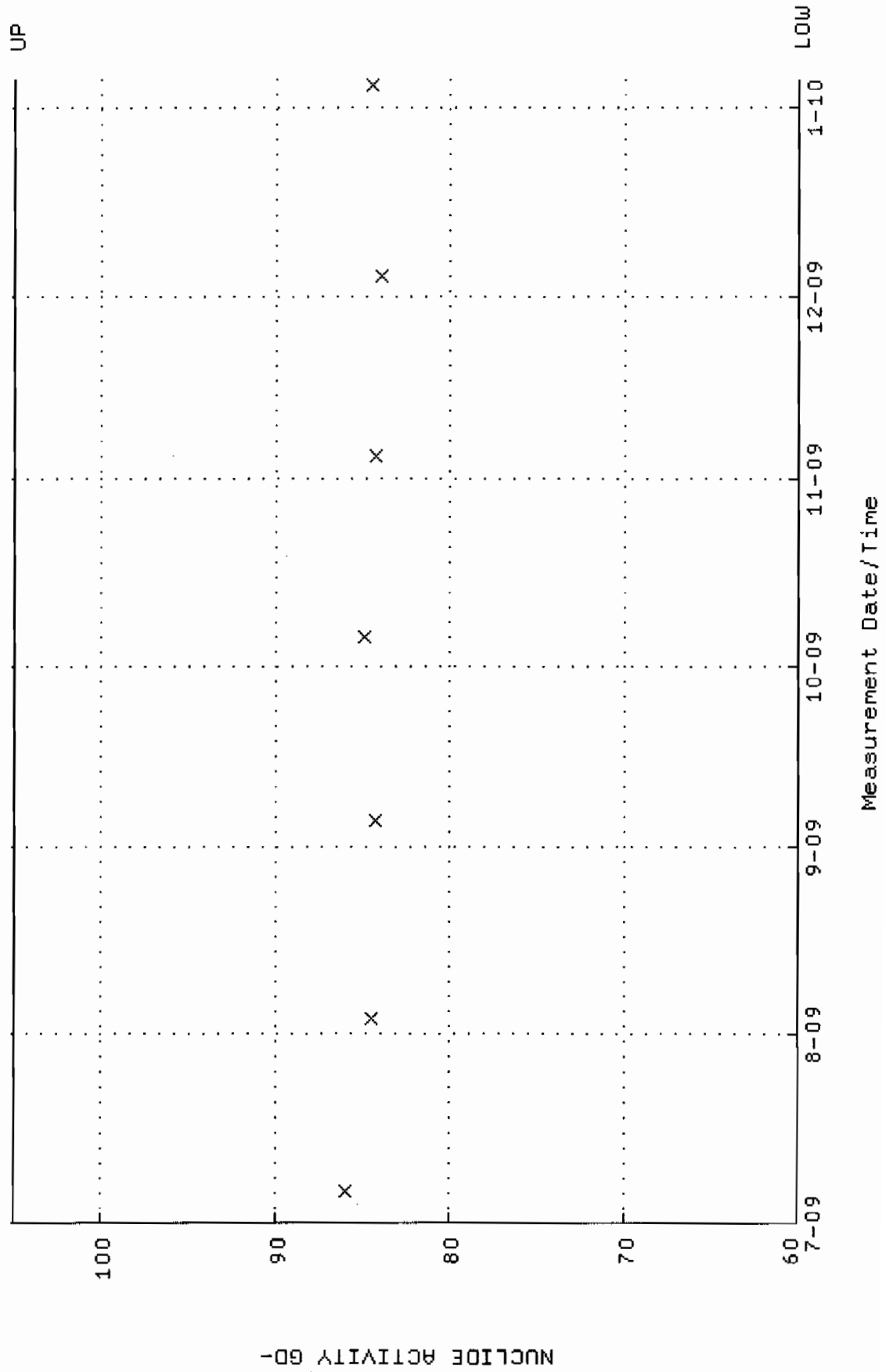
QA filename : DKA100:[ENV_ALPHA.QA.W]U037.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



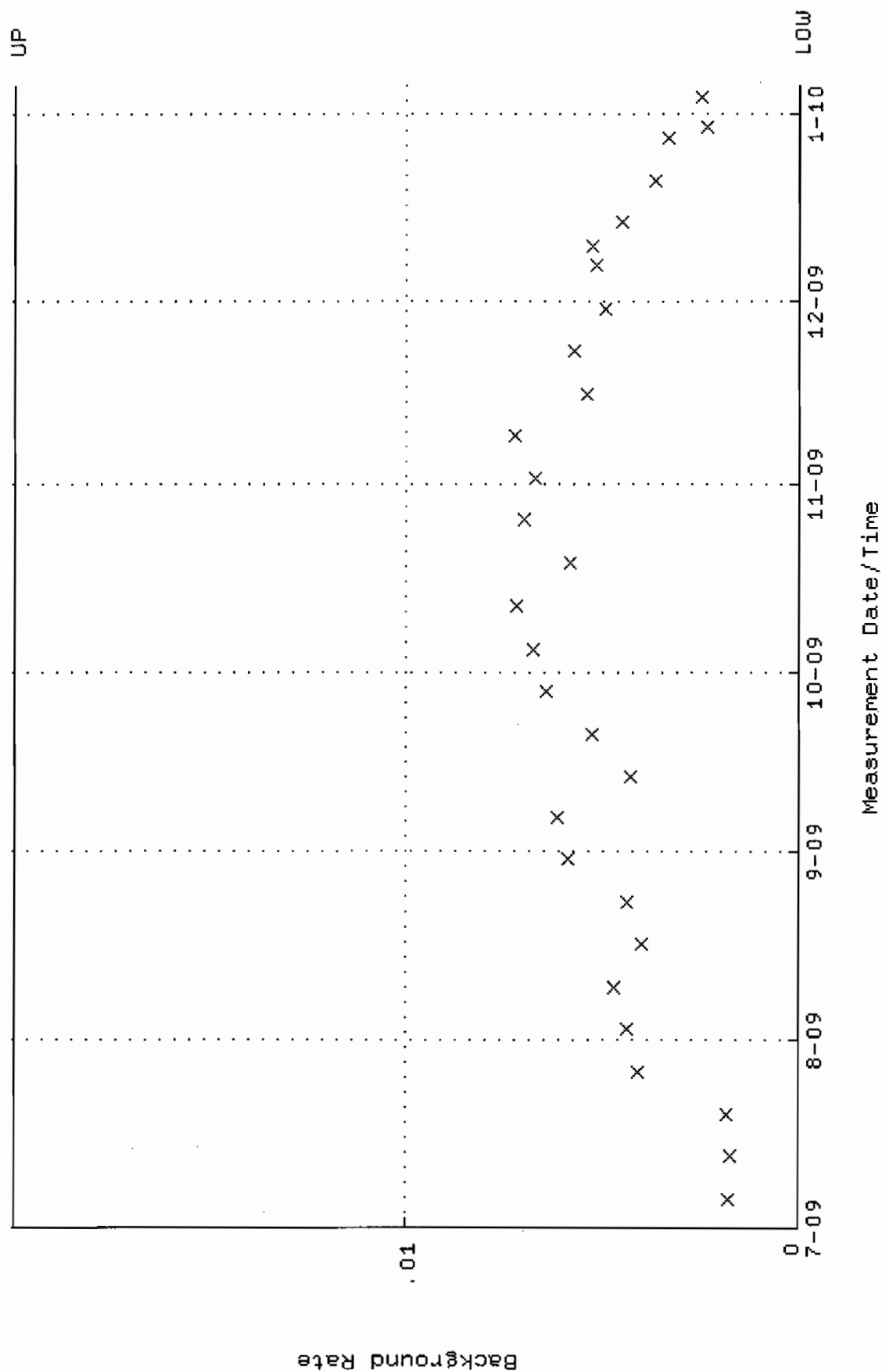
QA filename : DKA100:[ENV_ALPHA.QA.W]W039.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



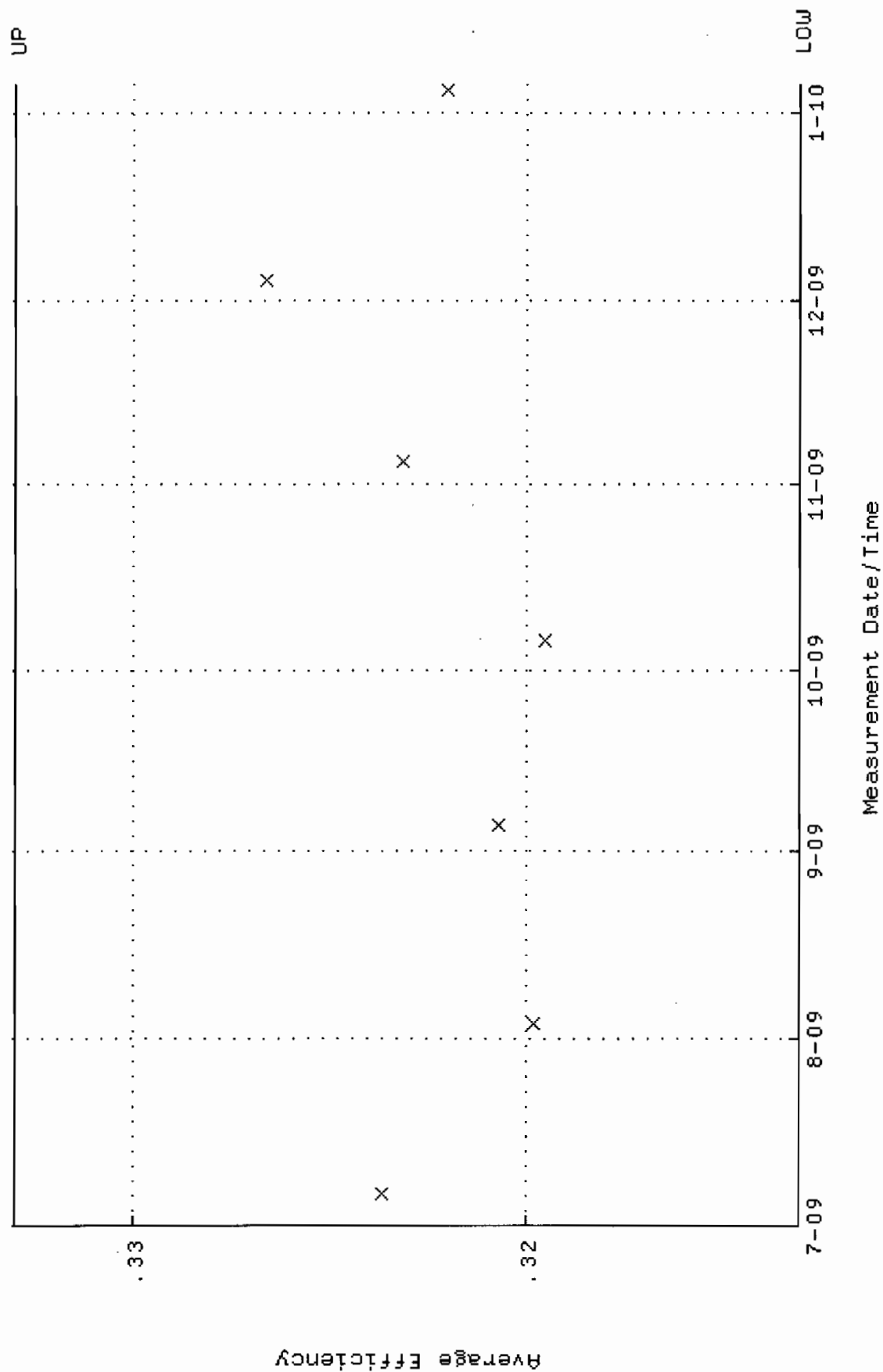
QA filename : DKA100:[ENV_ALPHA.QA.W]W039.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



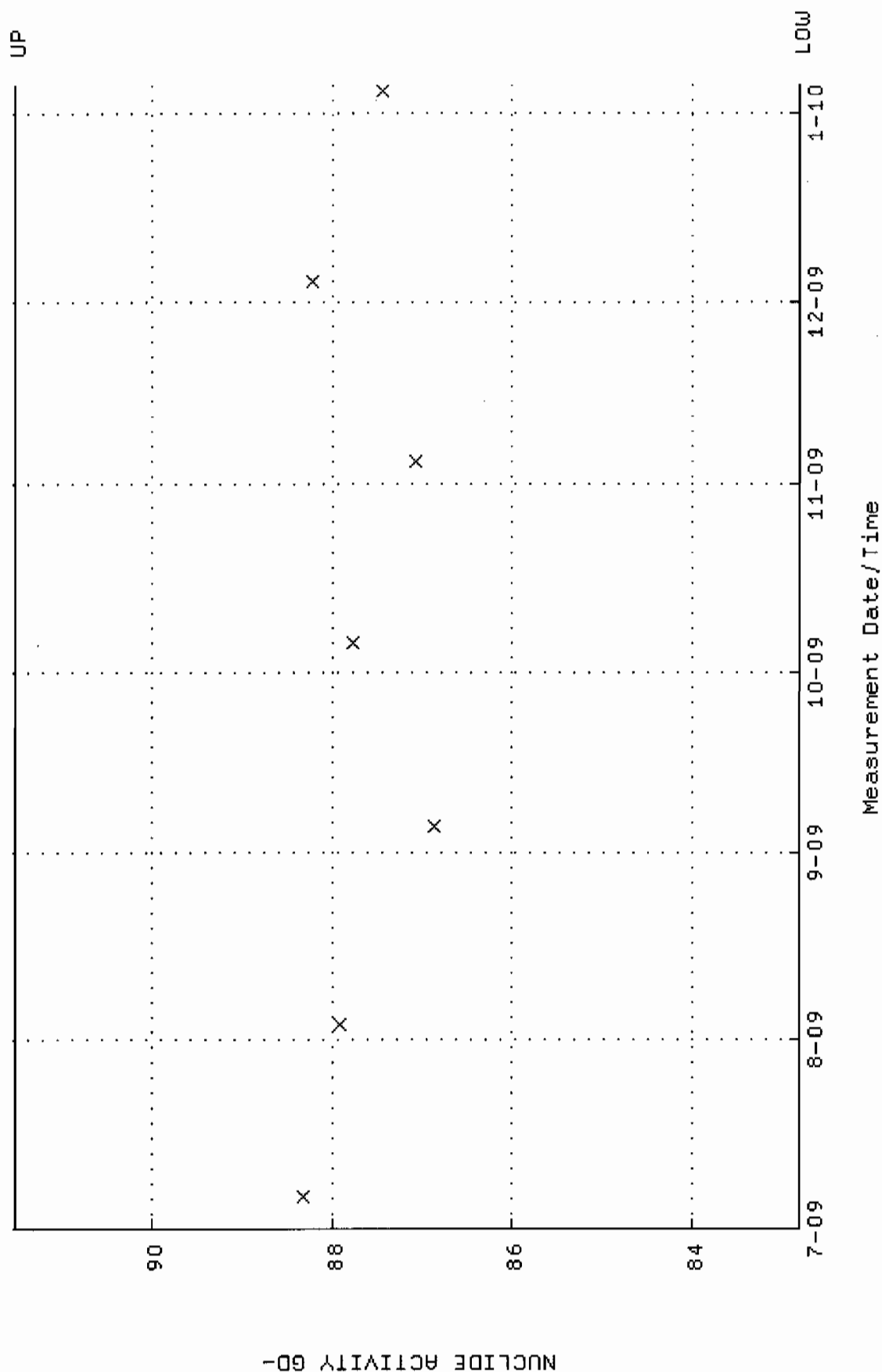
QA filename : DKA100:[ENV_ALPHA.QA.B]B039.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



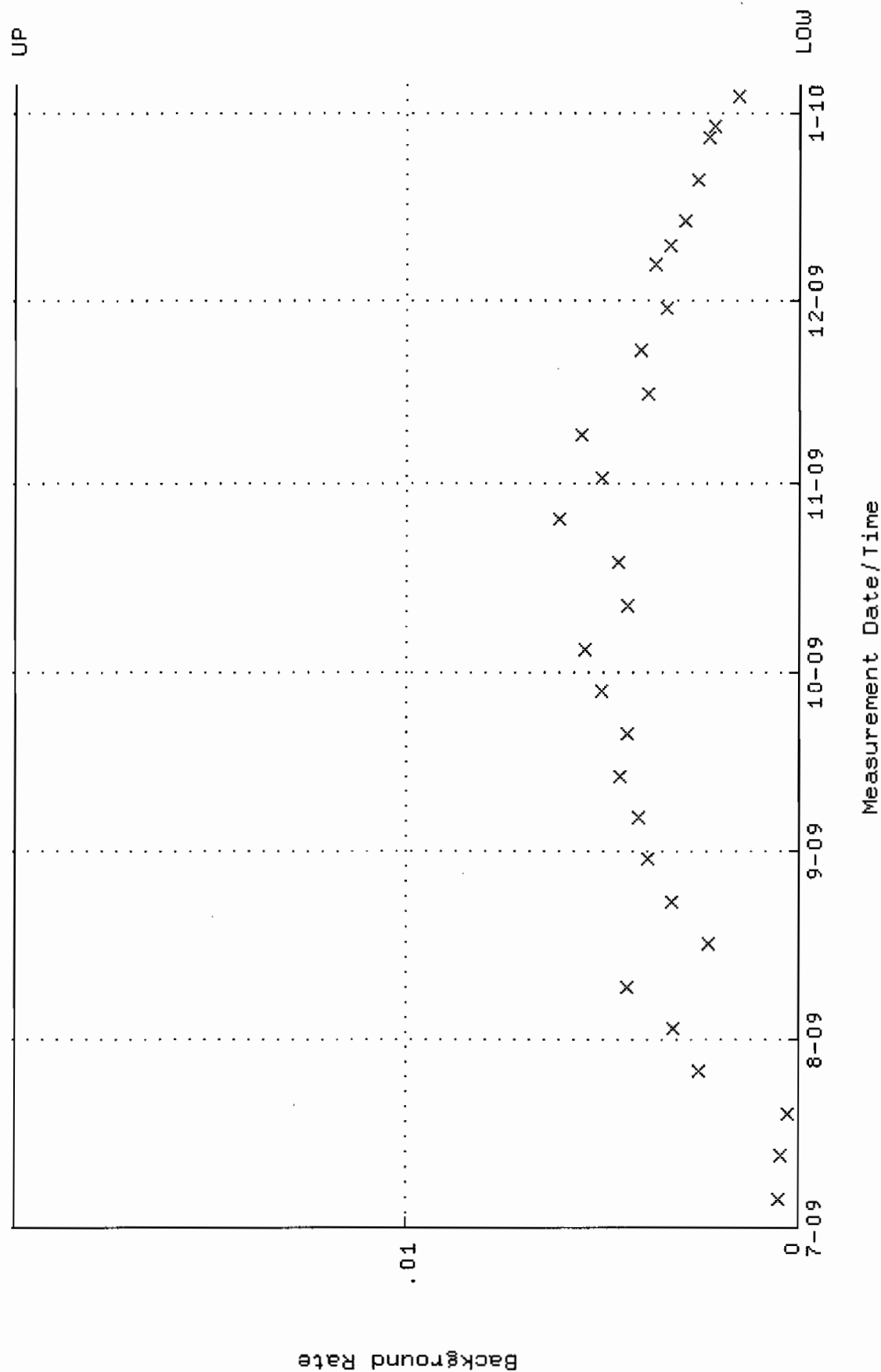
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.313016 through 0.333016



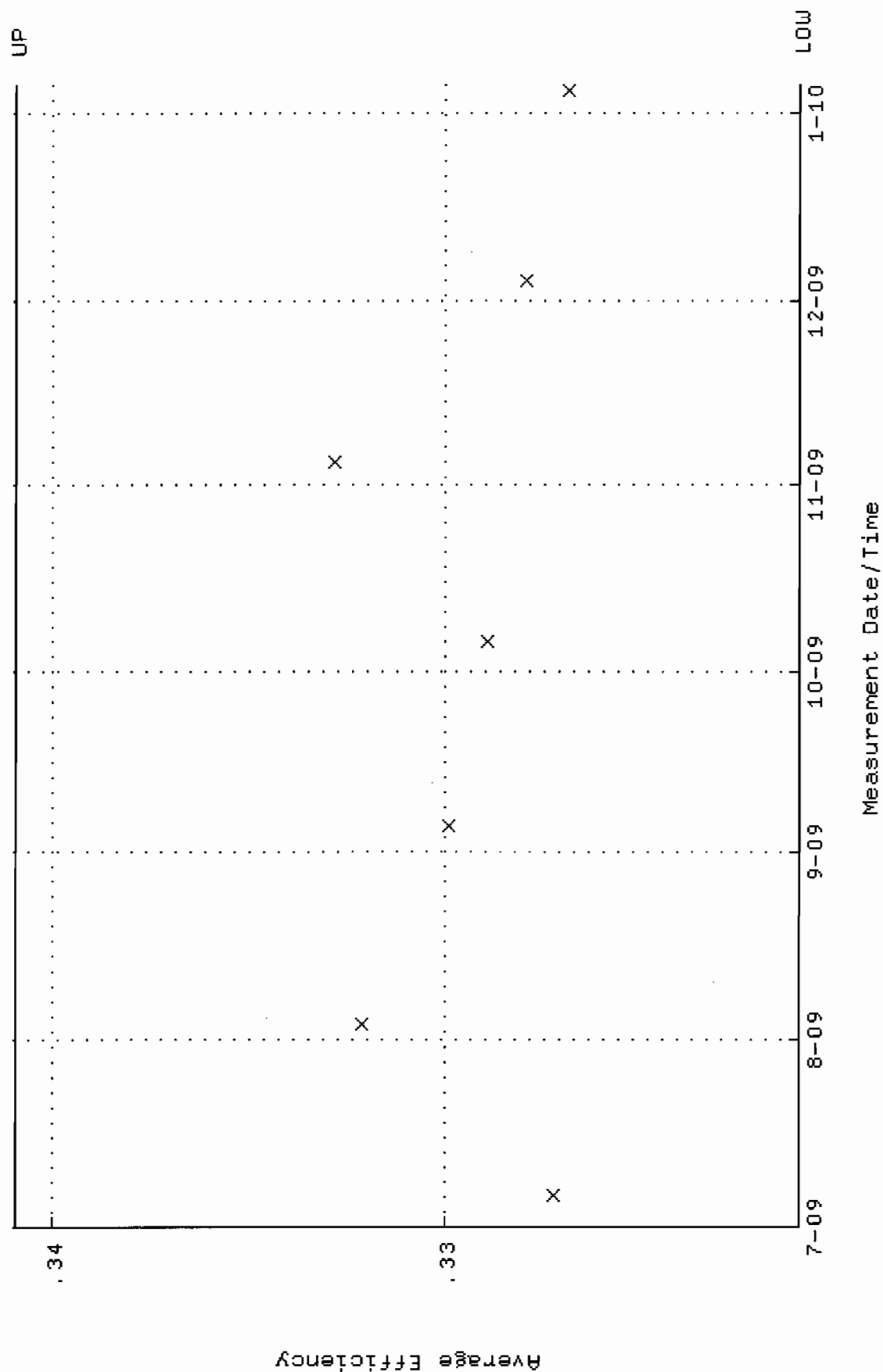
QA filename : DKA100:[ENV_ALPHA.QA.W]w040.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 82.8065 through 91.5229



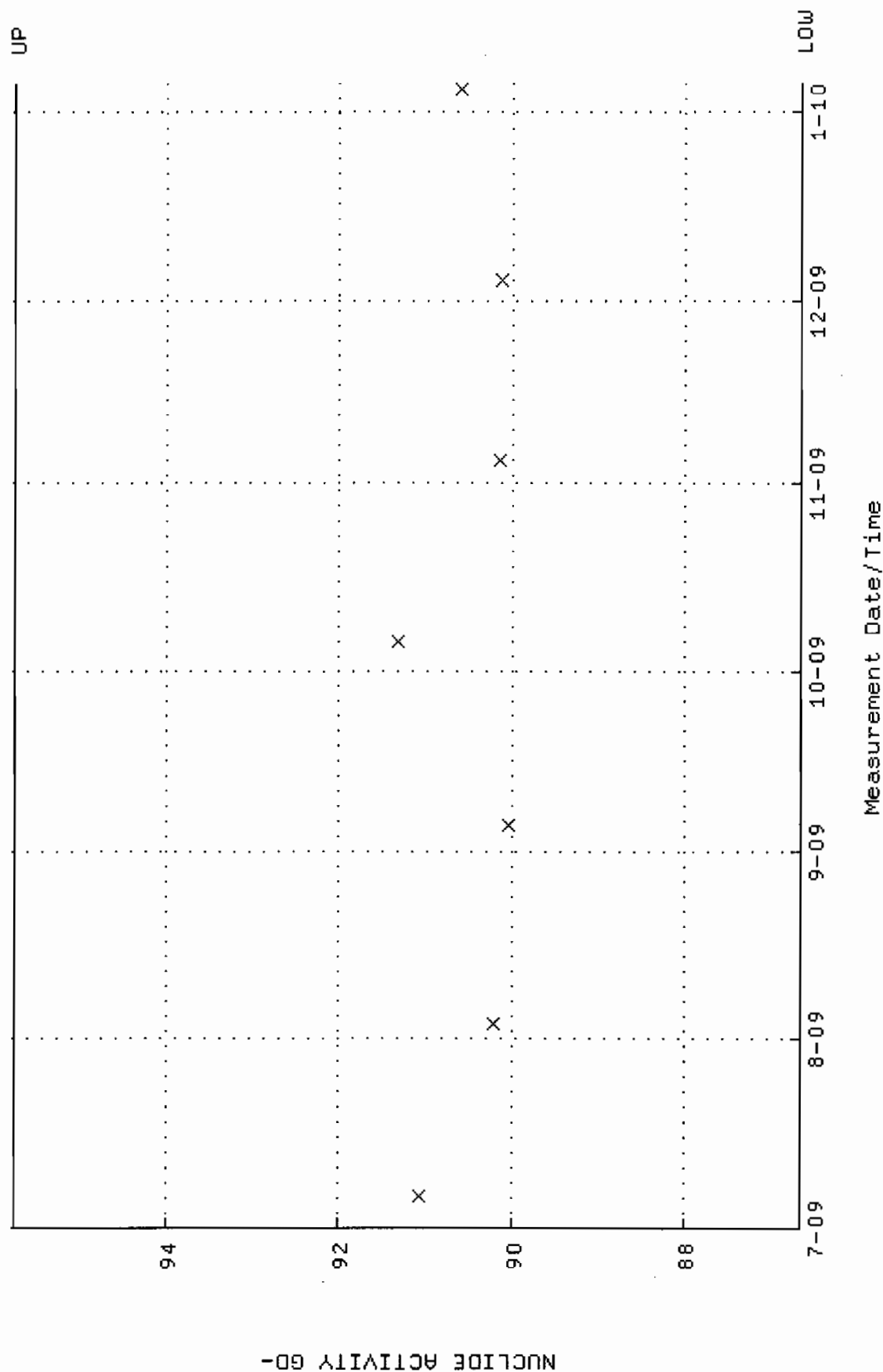
QA filename : DKA100:[ENV_ALPHA.QA.B]B040.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



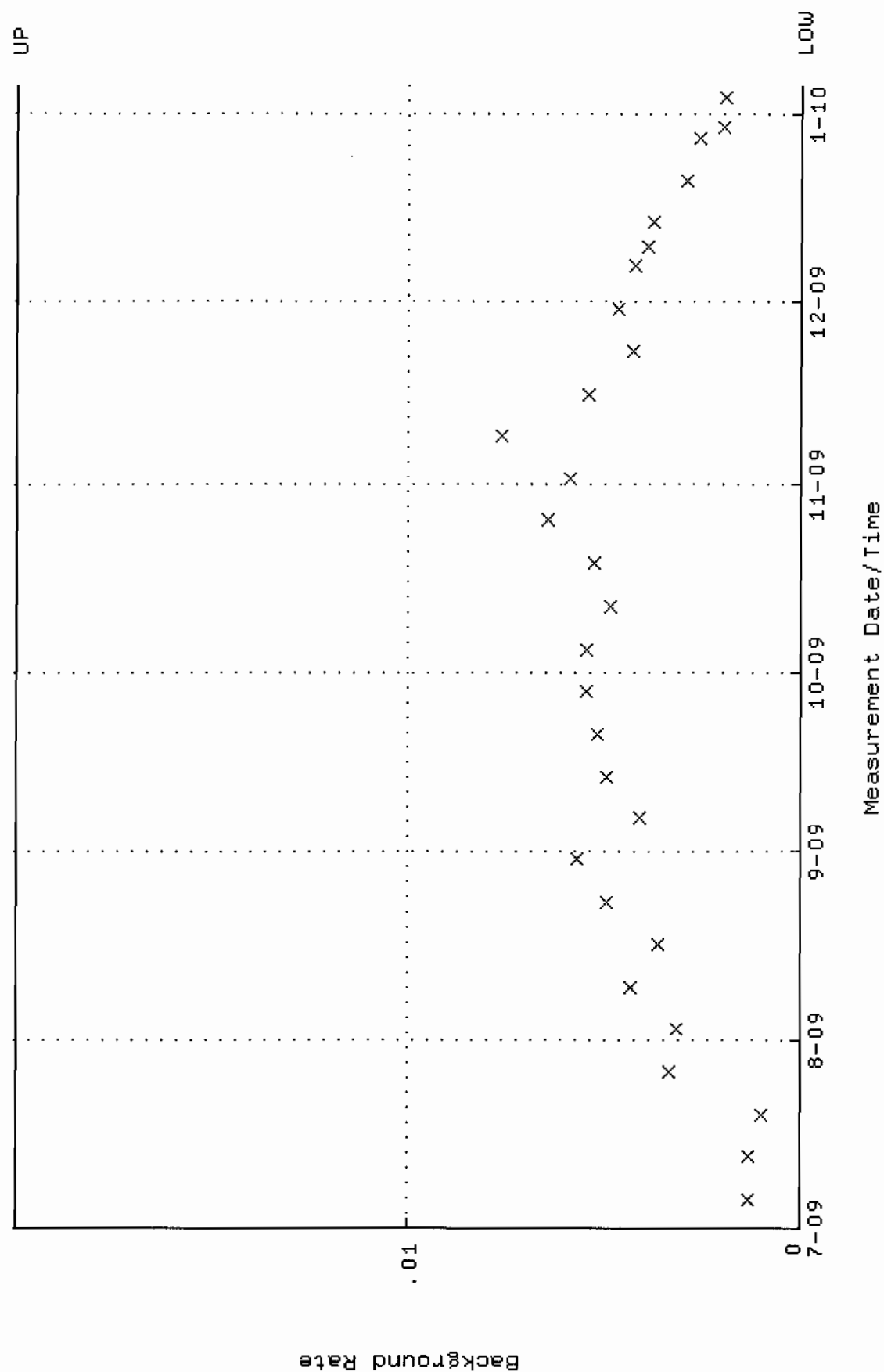
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.320943 through 0.340943



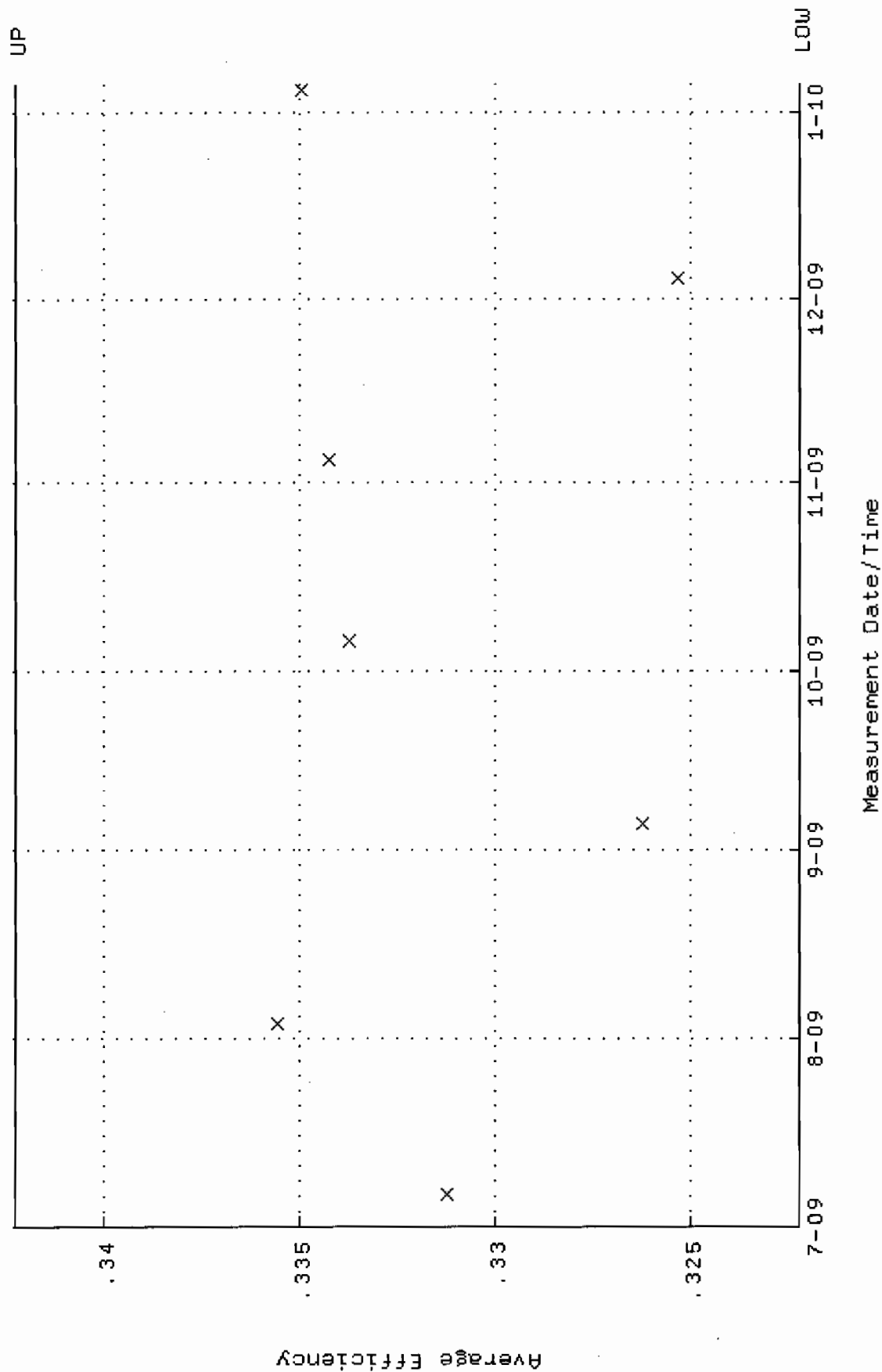
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.6435 through 95.7639



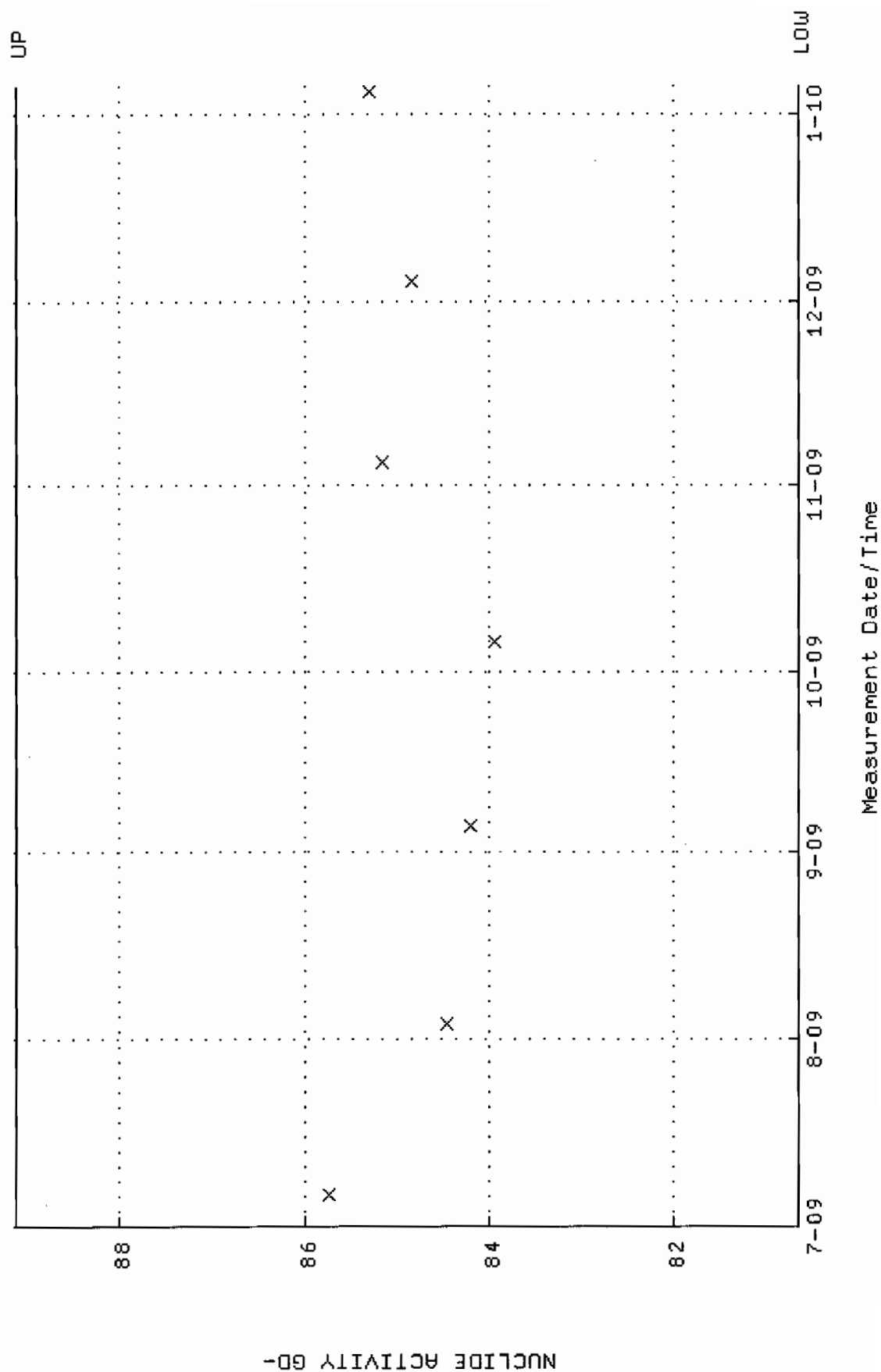
QA filename : DKA100:[ENV_ALPHA.QA.B]B041.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



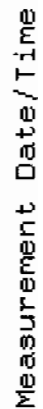
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.322243 through 0.342243



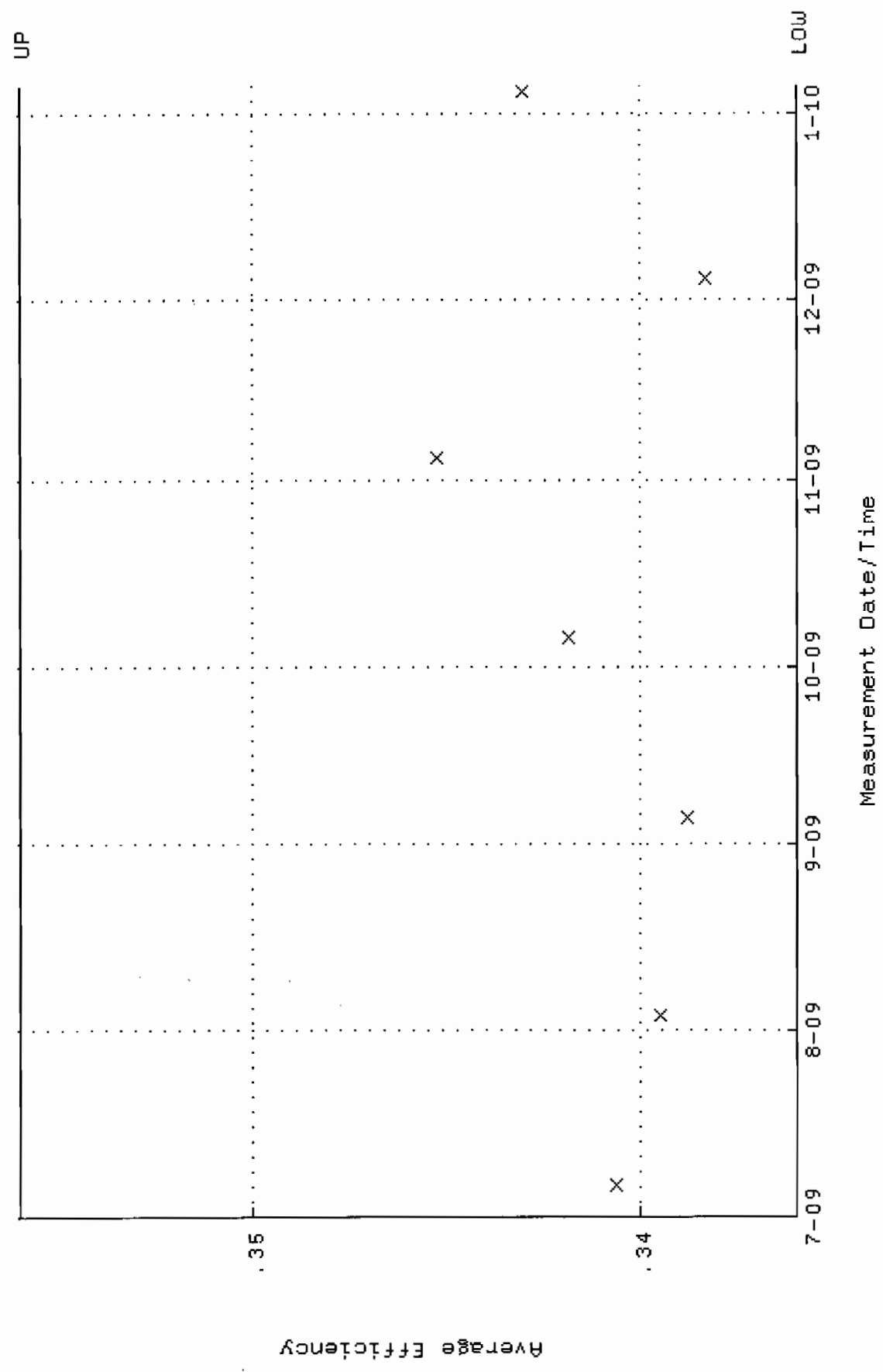
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 80.6389 through 89.1273



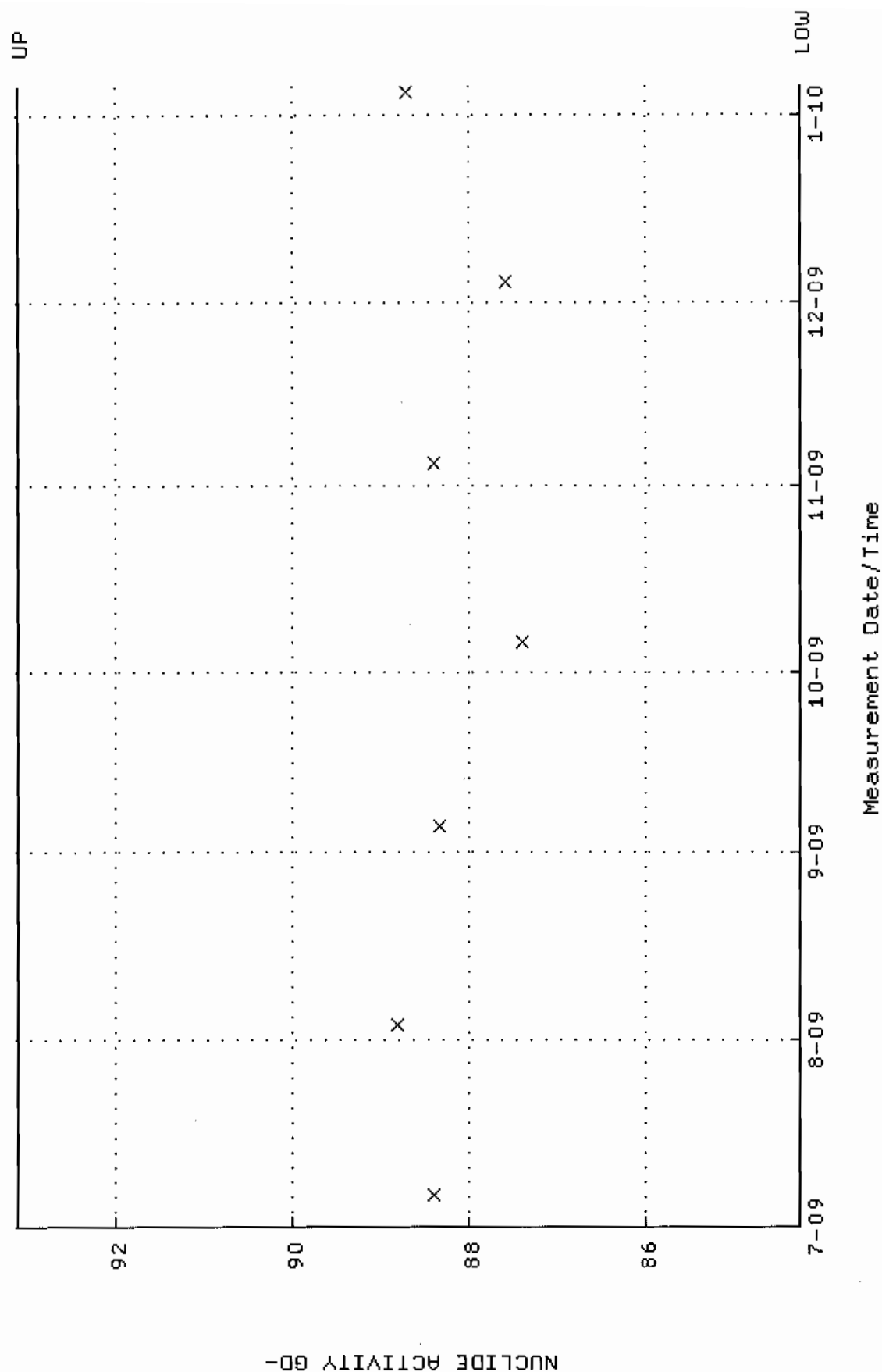
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



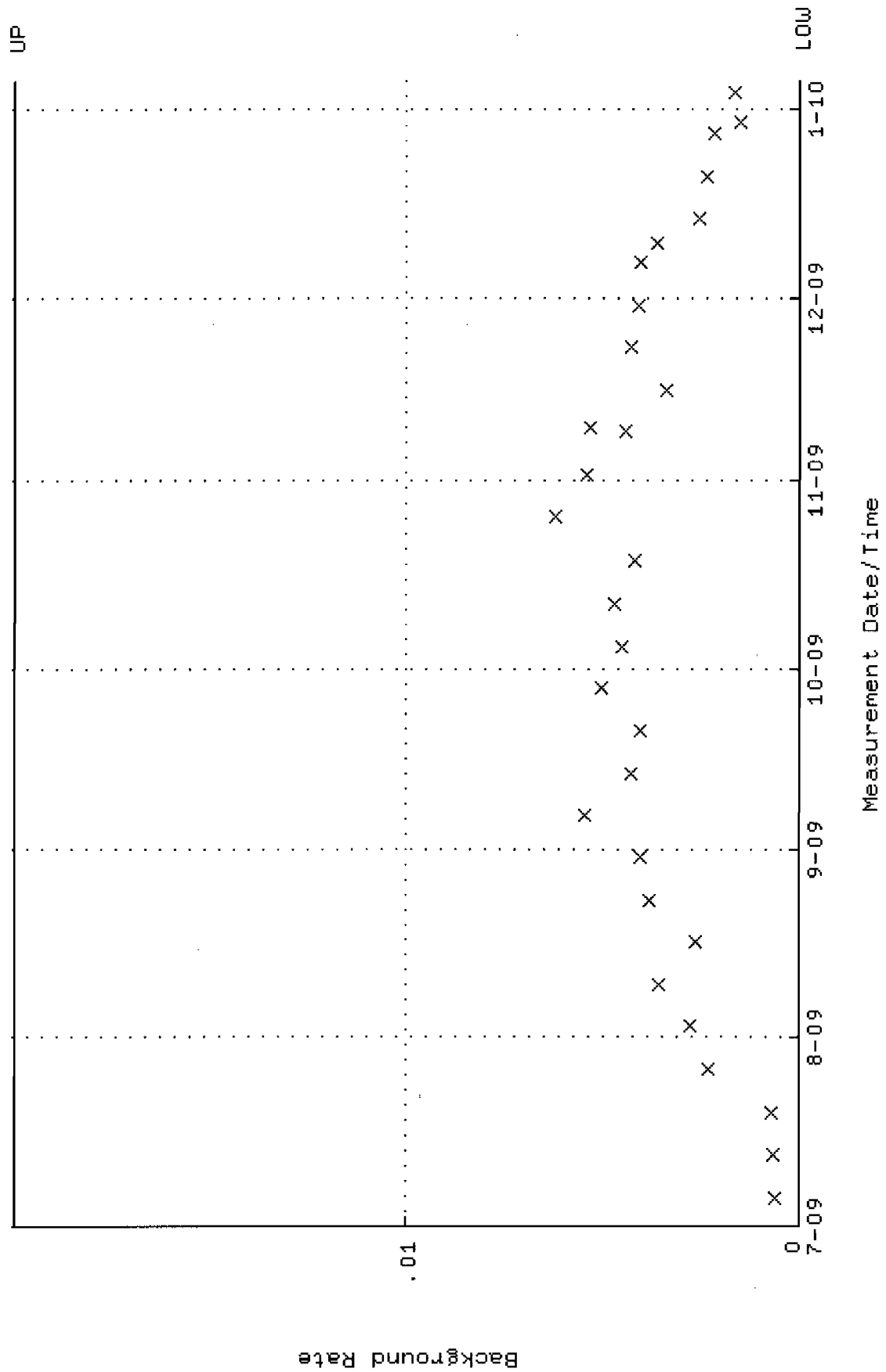
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.335973 through 0.355973



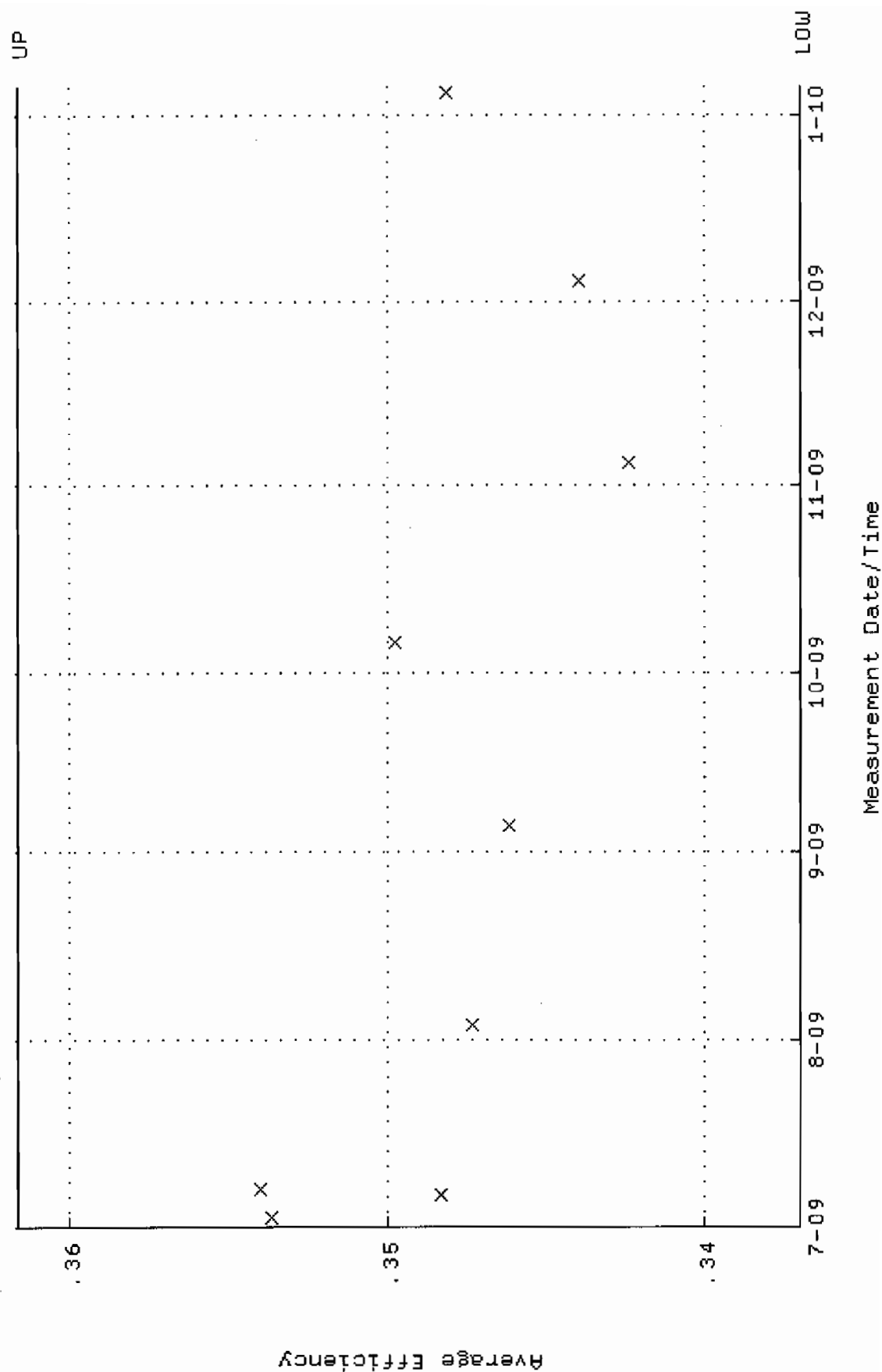
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.2440 through 93.1118



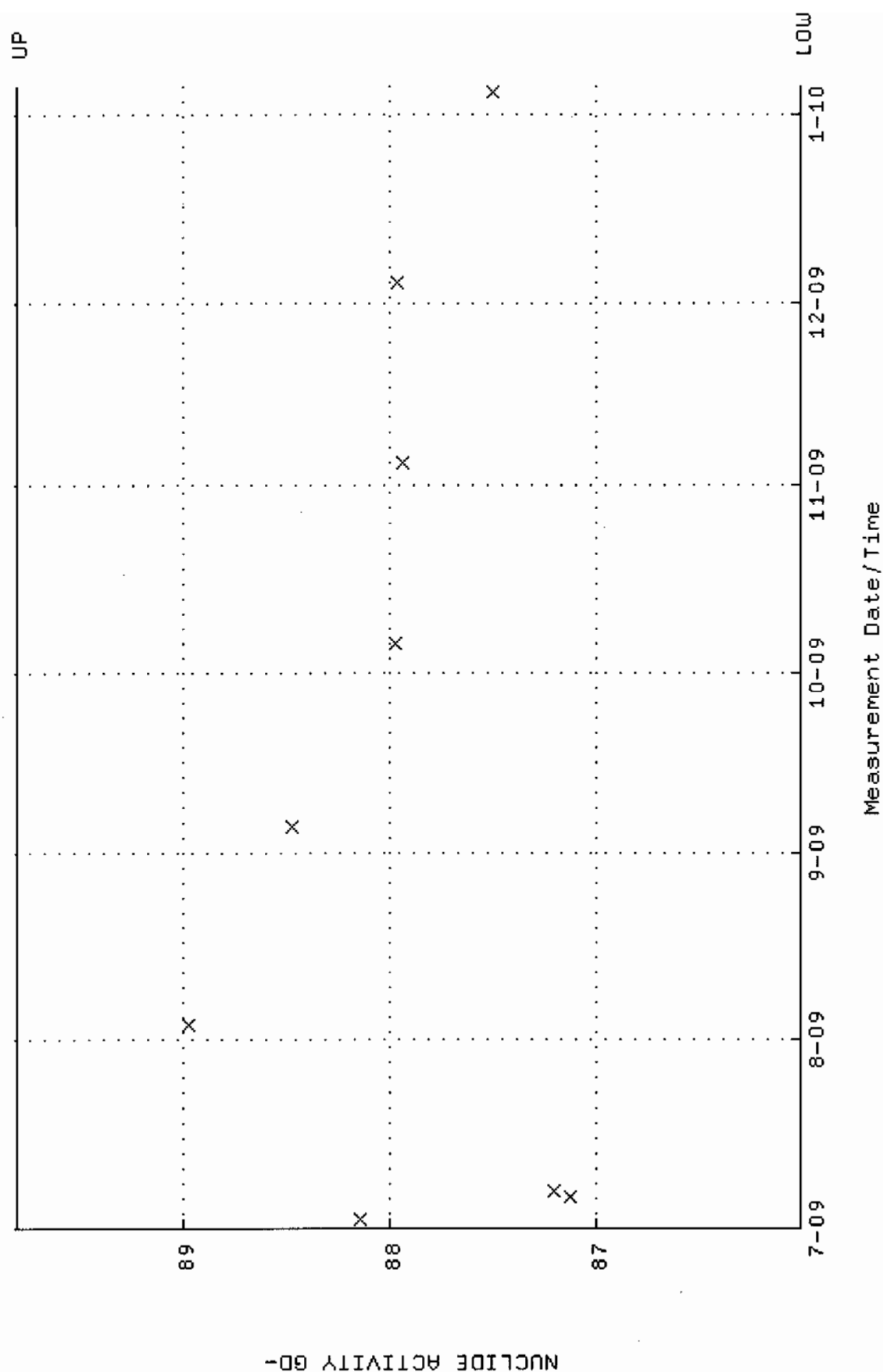
QA filename : DKA100:[ENV_ALPHA.QA.B]B043.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:12 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.336958 through 0.361648



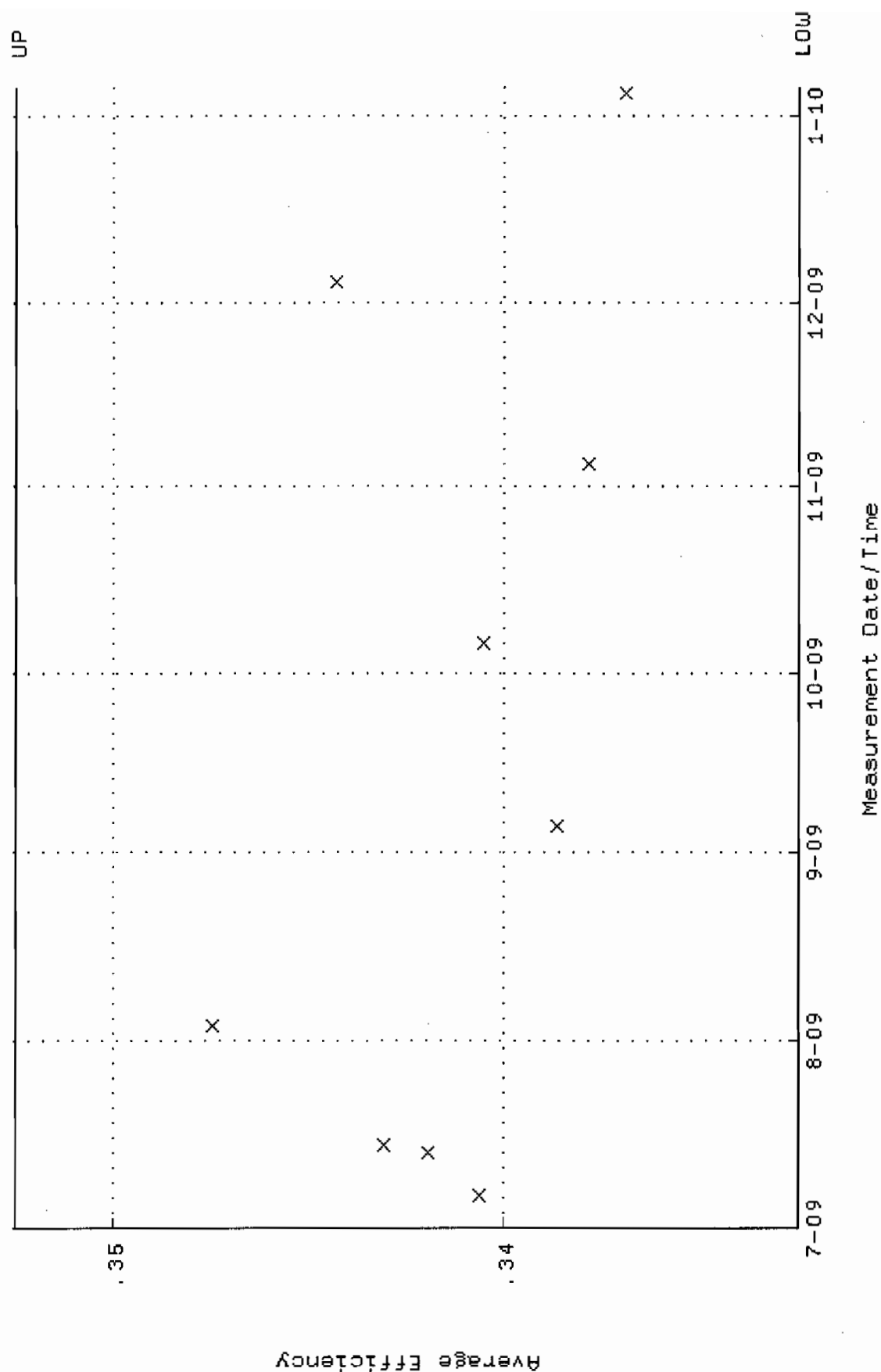
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUL-2009 15:04:12 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.0137 through 89.8023



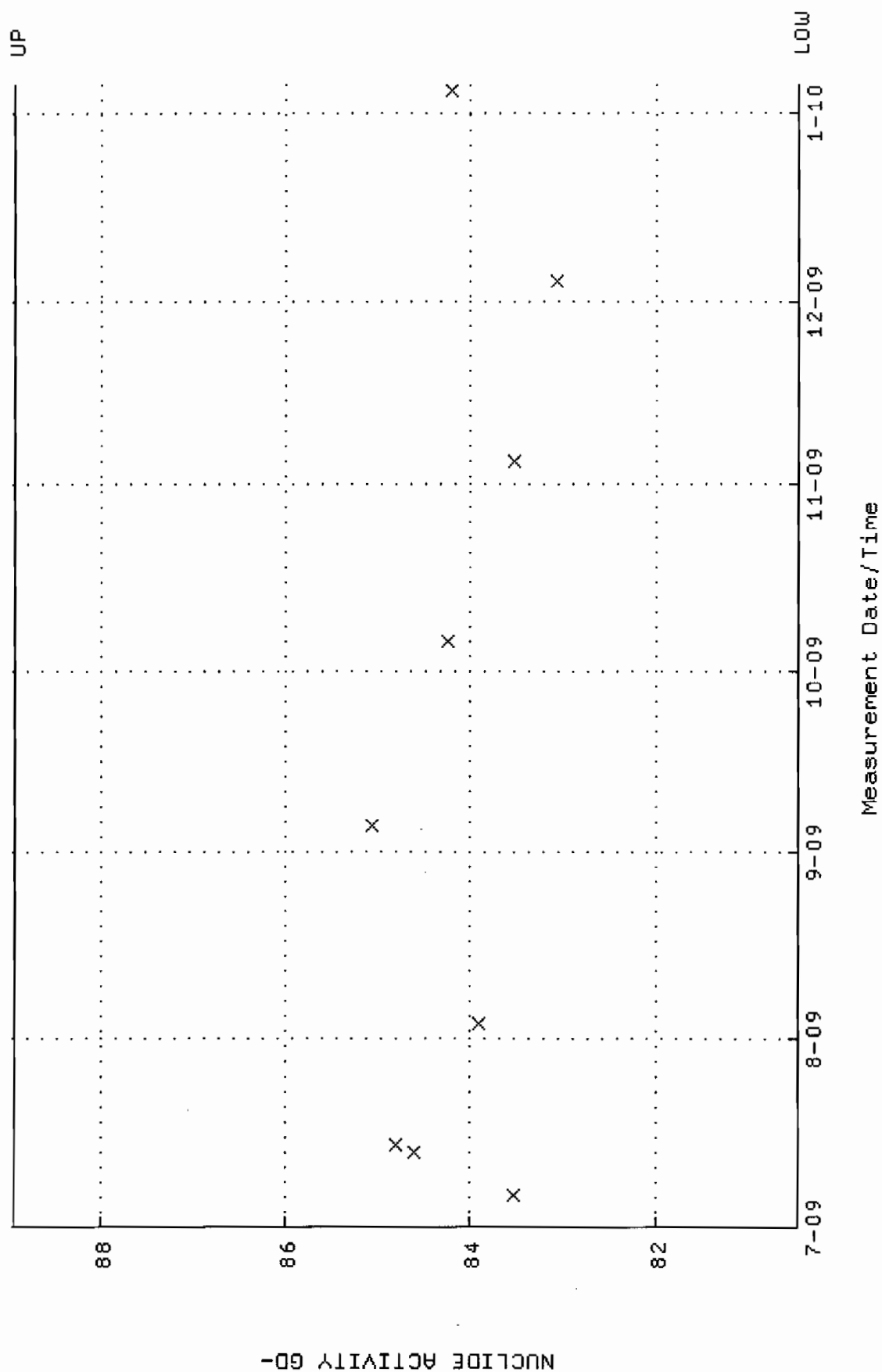
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



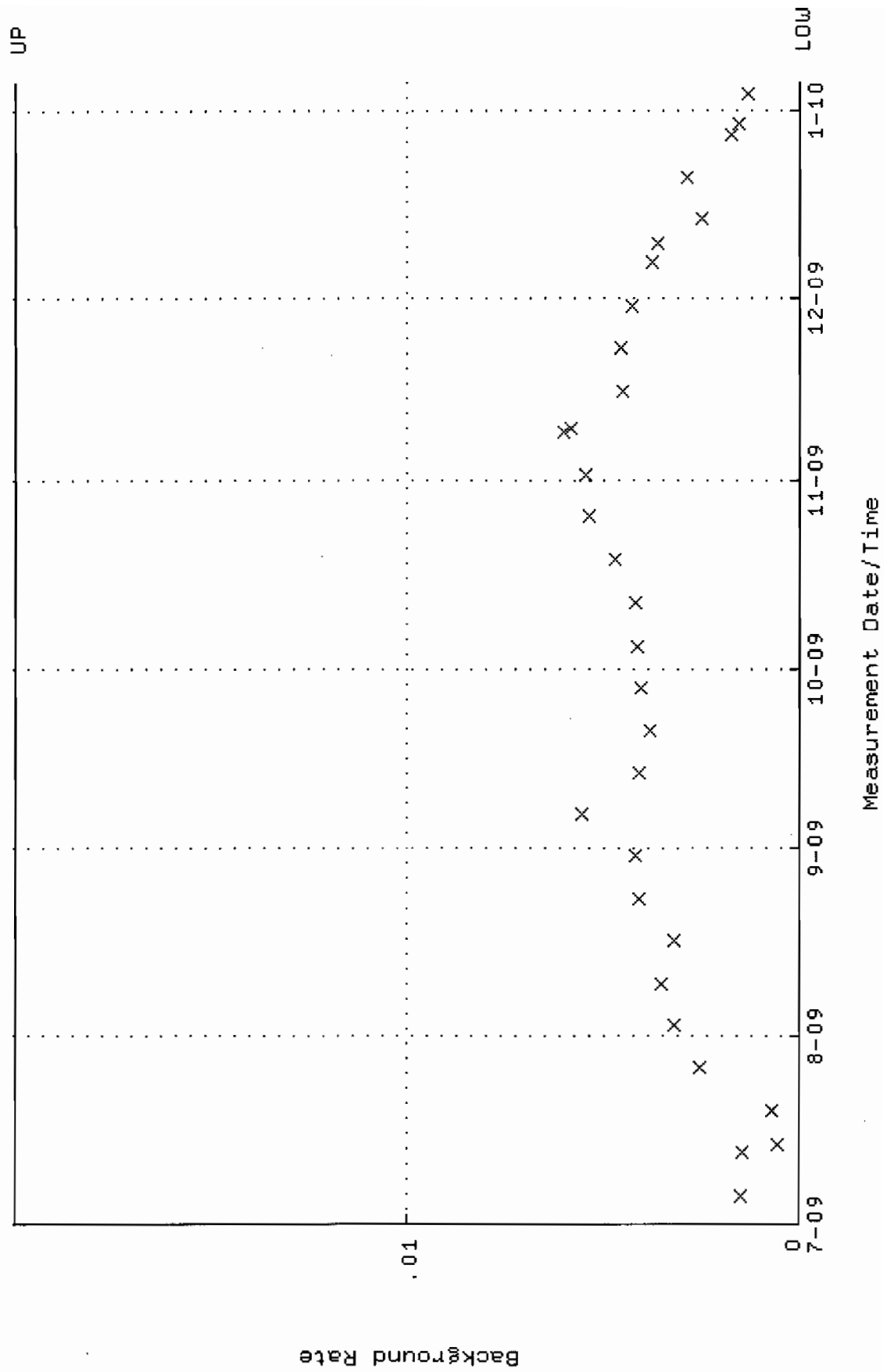
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.332472 through 0.352472



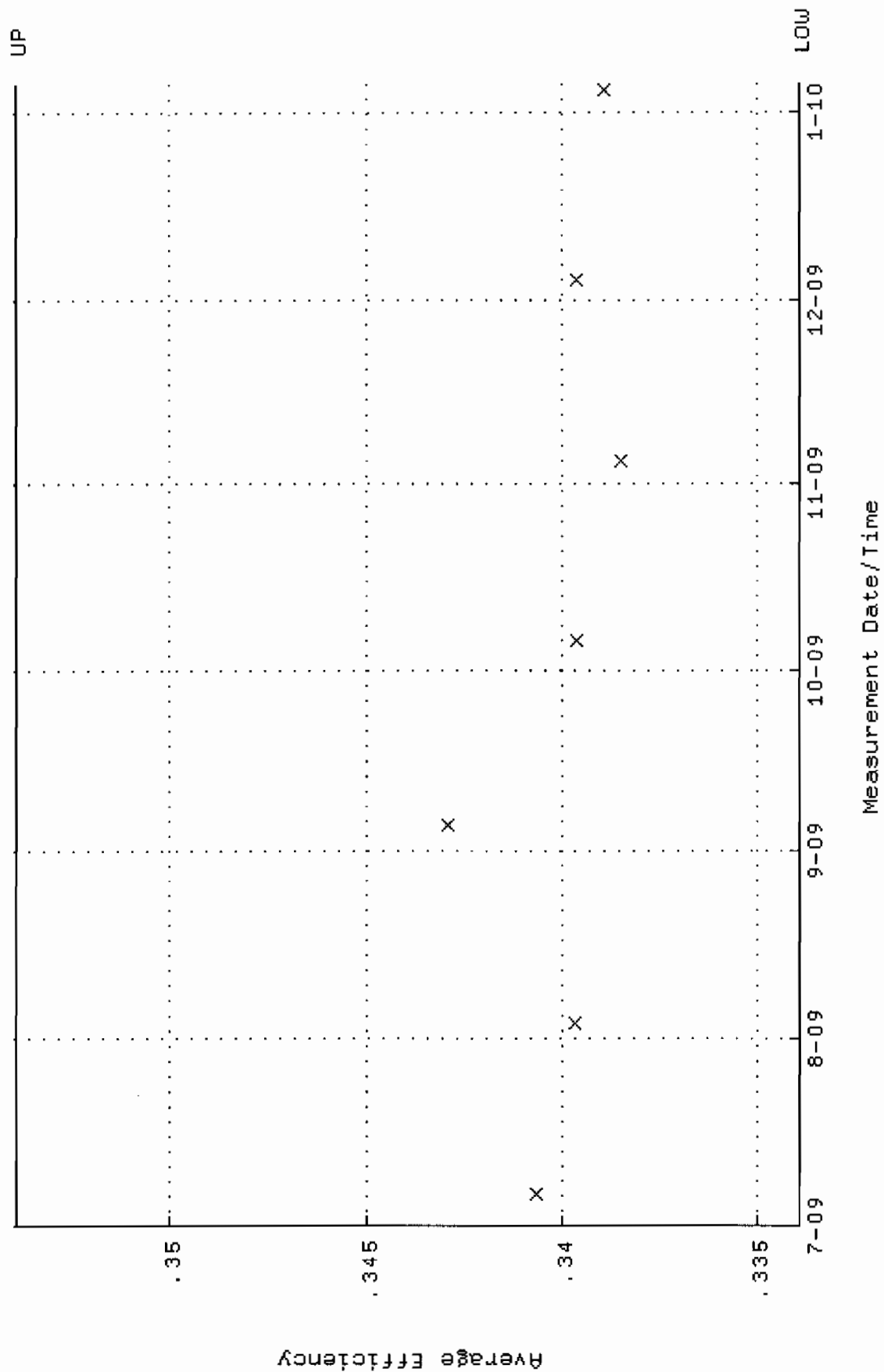
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 80.4622 through 88.9320



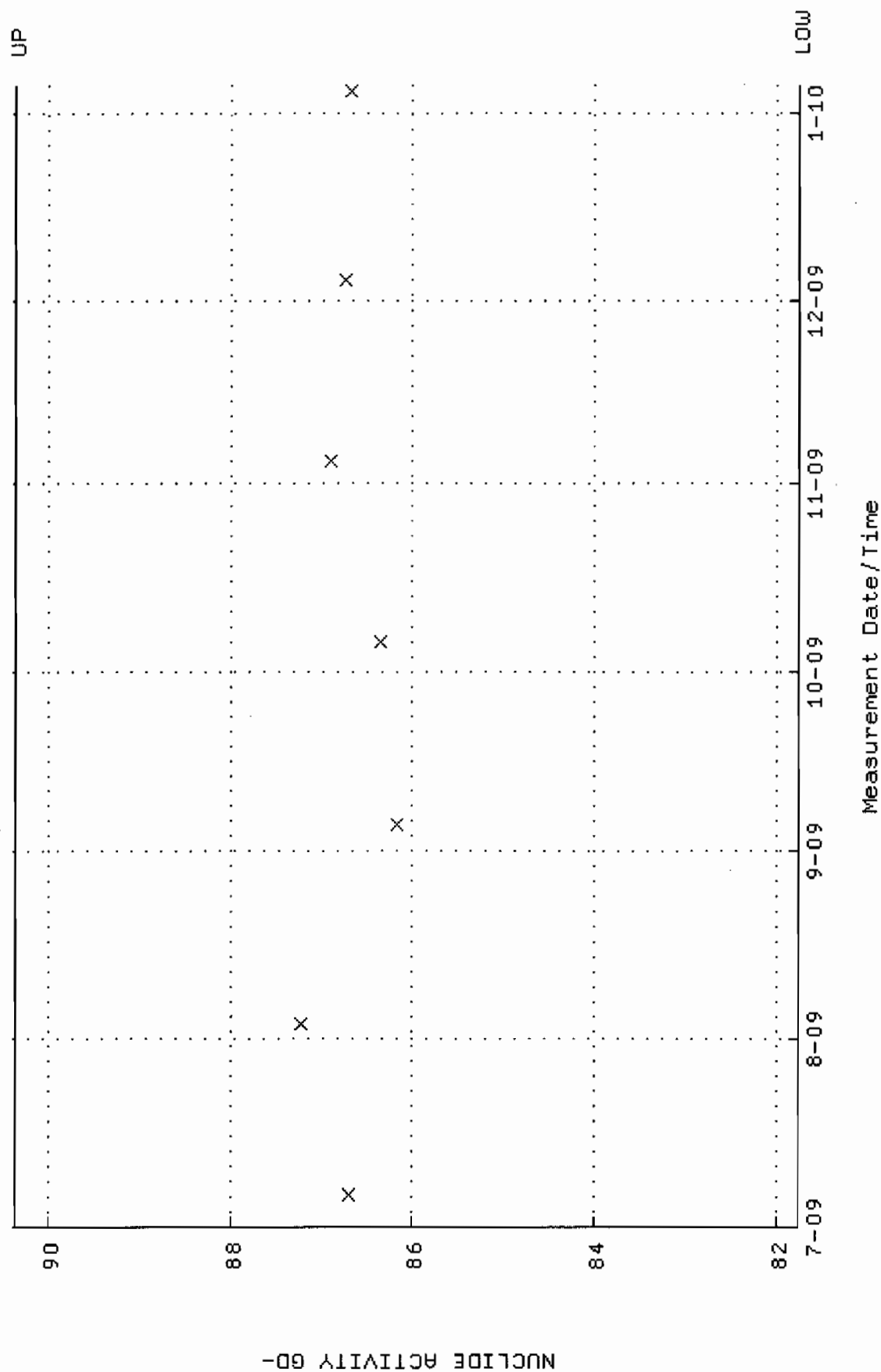
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.333927 through 0.353927



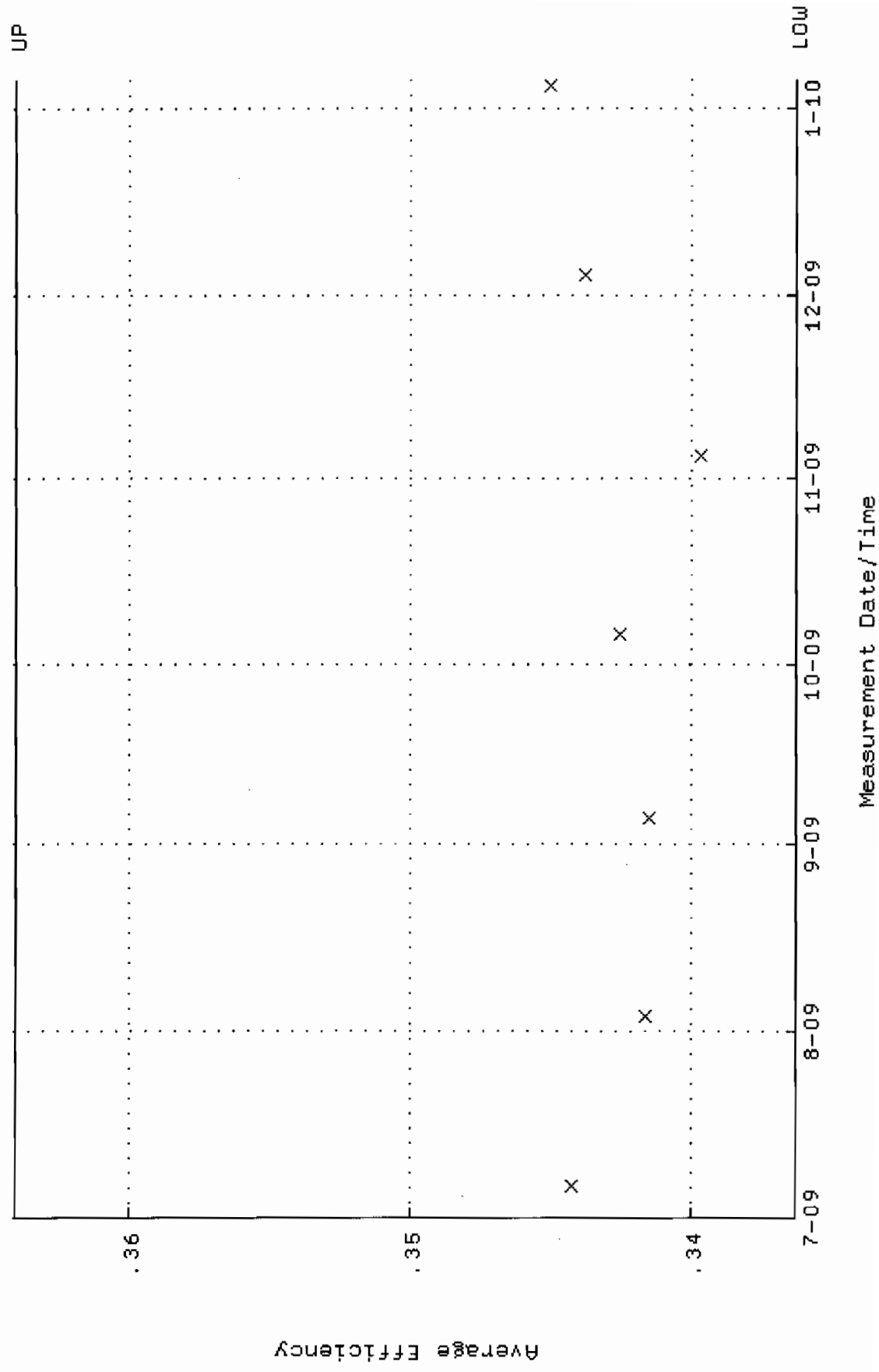
QA filename : DKA100:[ENV_ALPHA.QA.W]U046.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.7568 through 90.3628



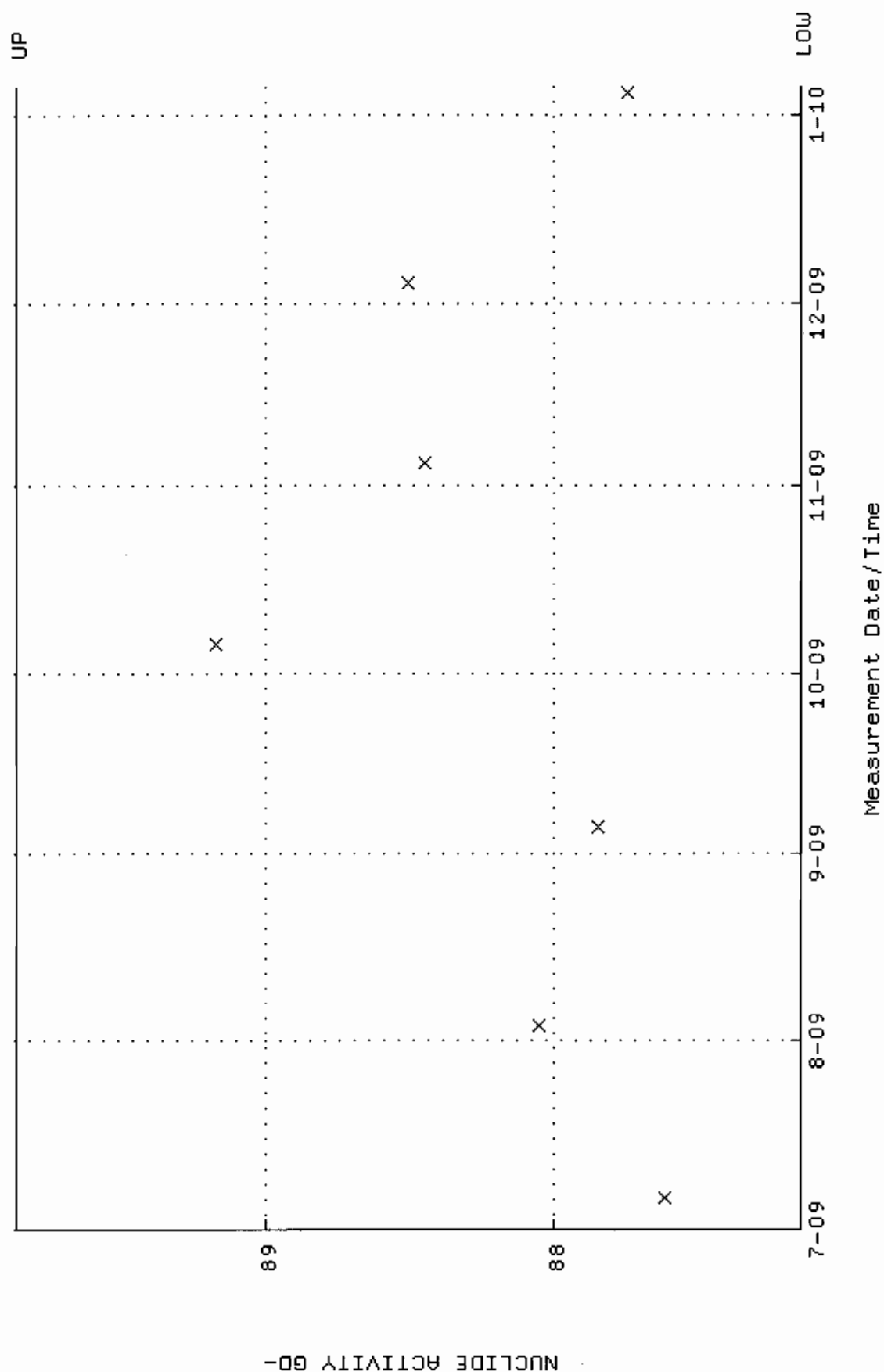
Lower/Upper Lmts: 0.00000E+00 through 2.00000E-02



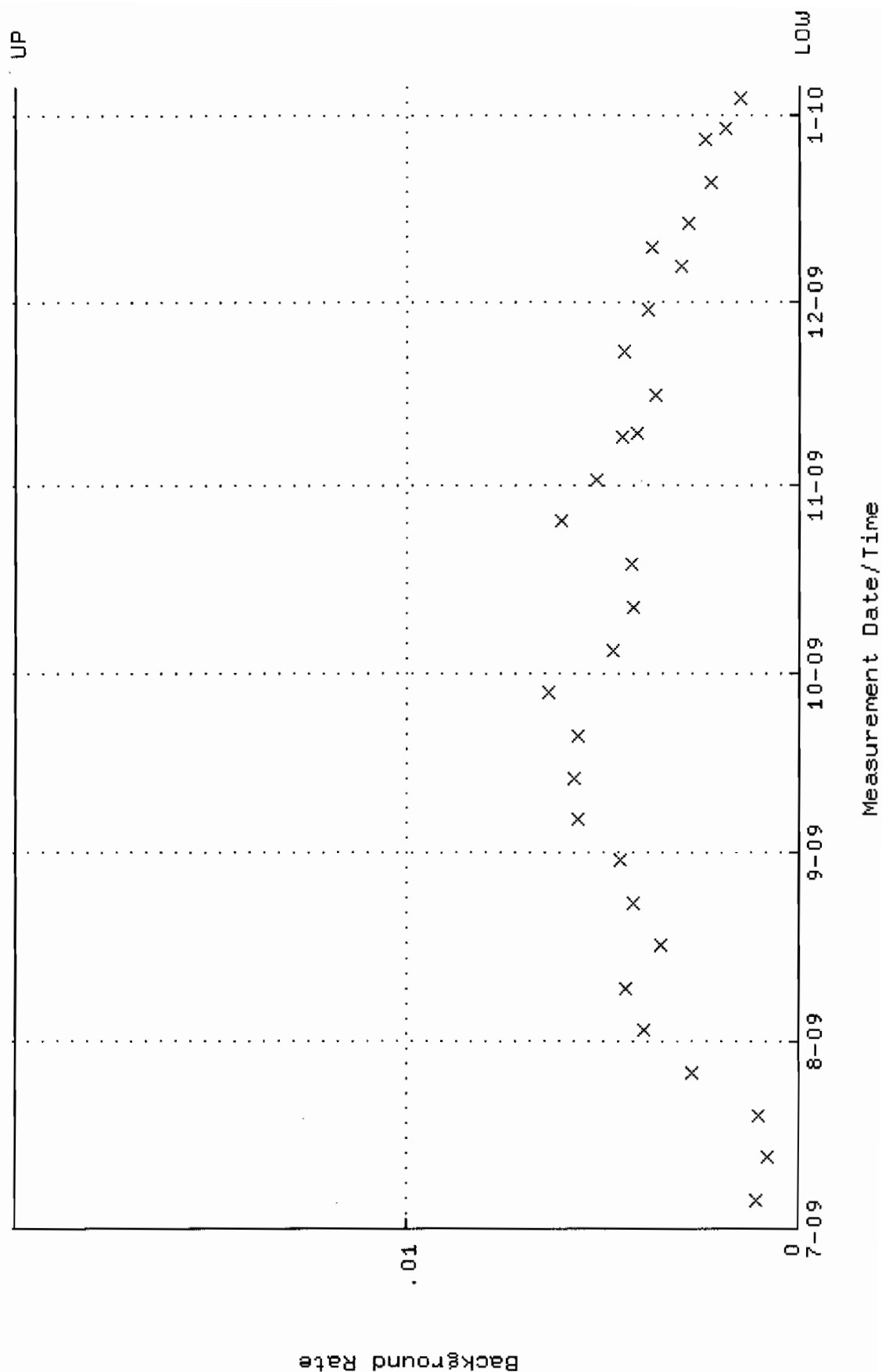
QA filename : DKA100:[ENV_ALPHA.QA.W]W047.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.336276 through 0.364038



QA filename : DKA100:[ENV_ALPHA.QA.W]W047.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.1403 through 89.8631



QA filename : DKA100:[ENV_ALPHA.QA.B]B047.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

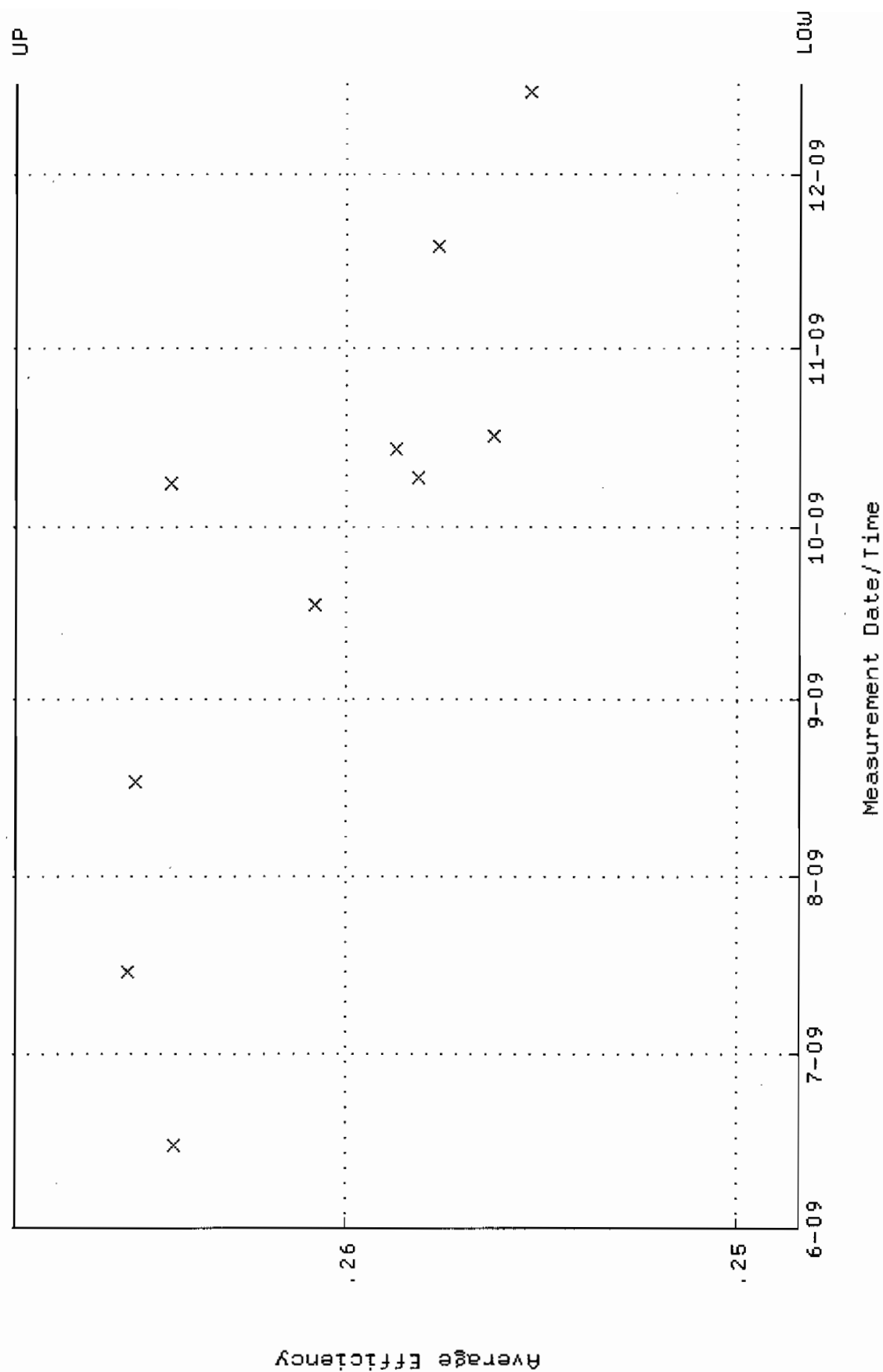


QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1

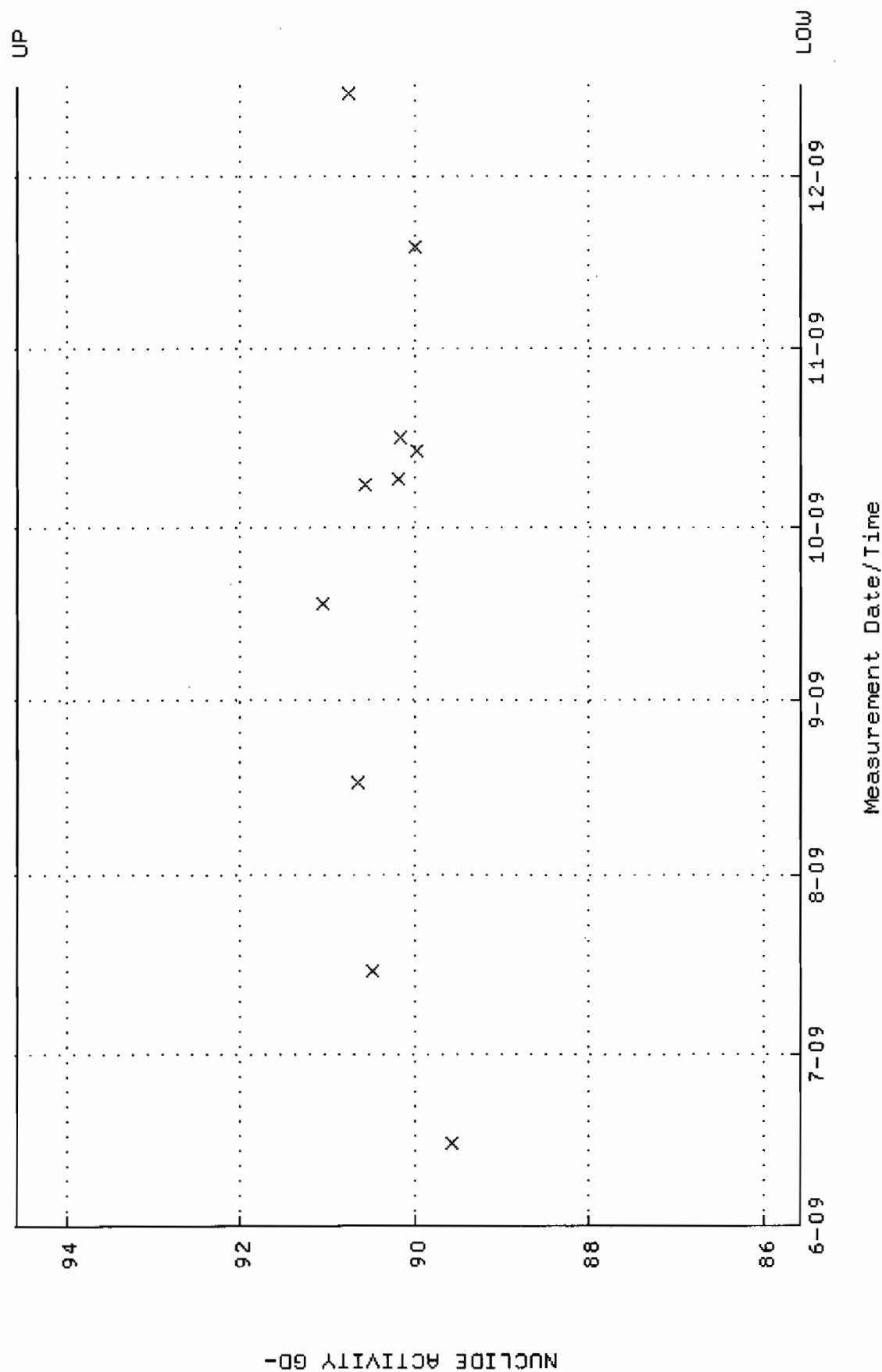
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 15-JUN-2009 10:34:29 through 16-DEC-2009 12:00:00

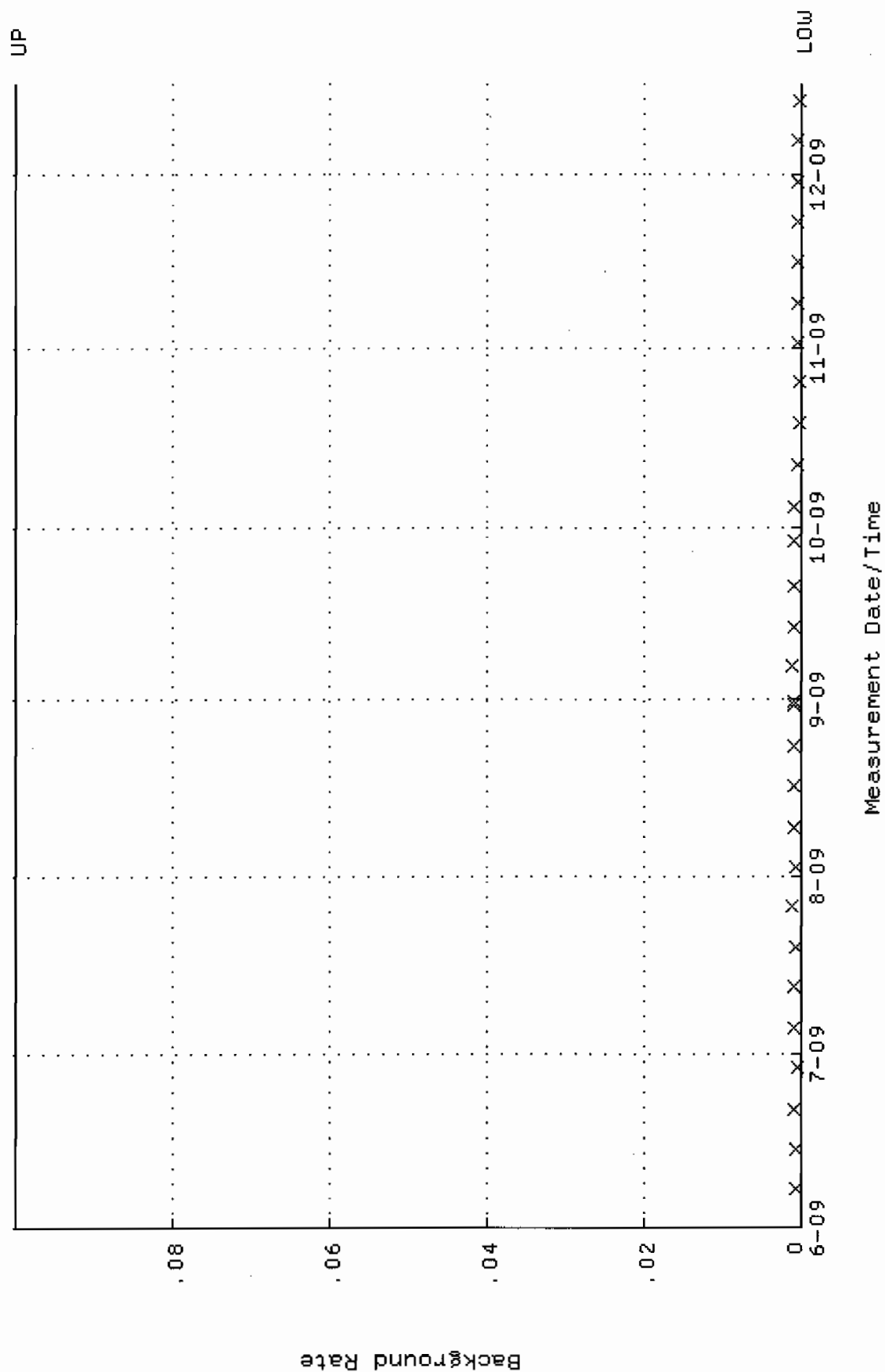
Lower/Upper Lmts: 0.248404 through 0.268404



QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:34:29 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 85.5661 through 94.5731



QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:08:48 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

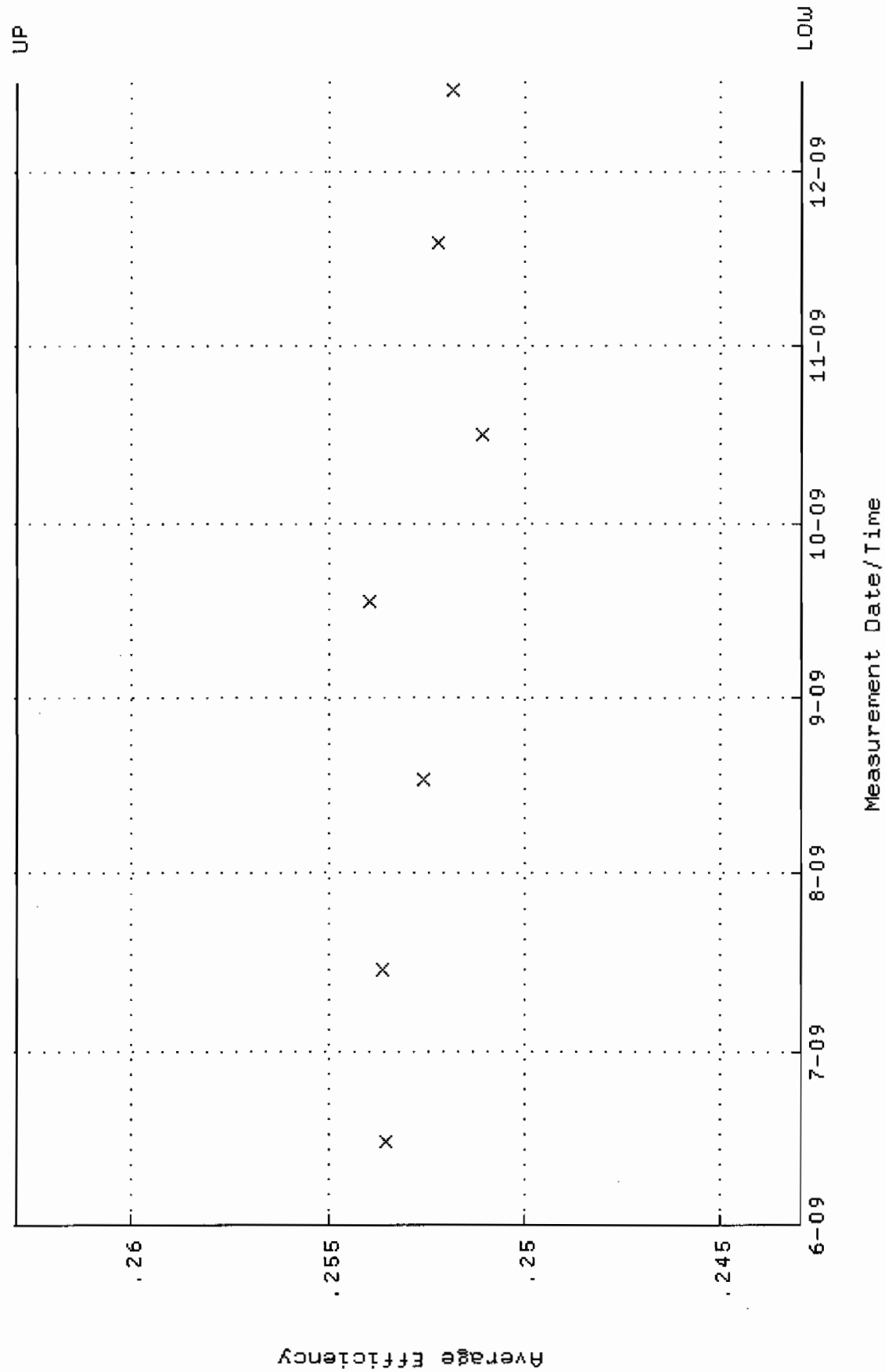


QA filename : DKA100:[ENV_ALPHA.QA.W]w117.QAF;1

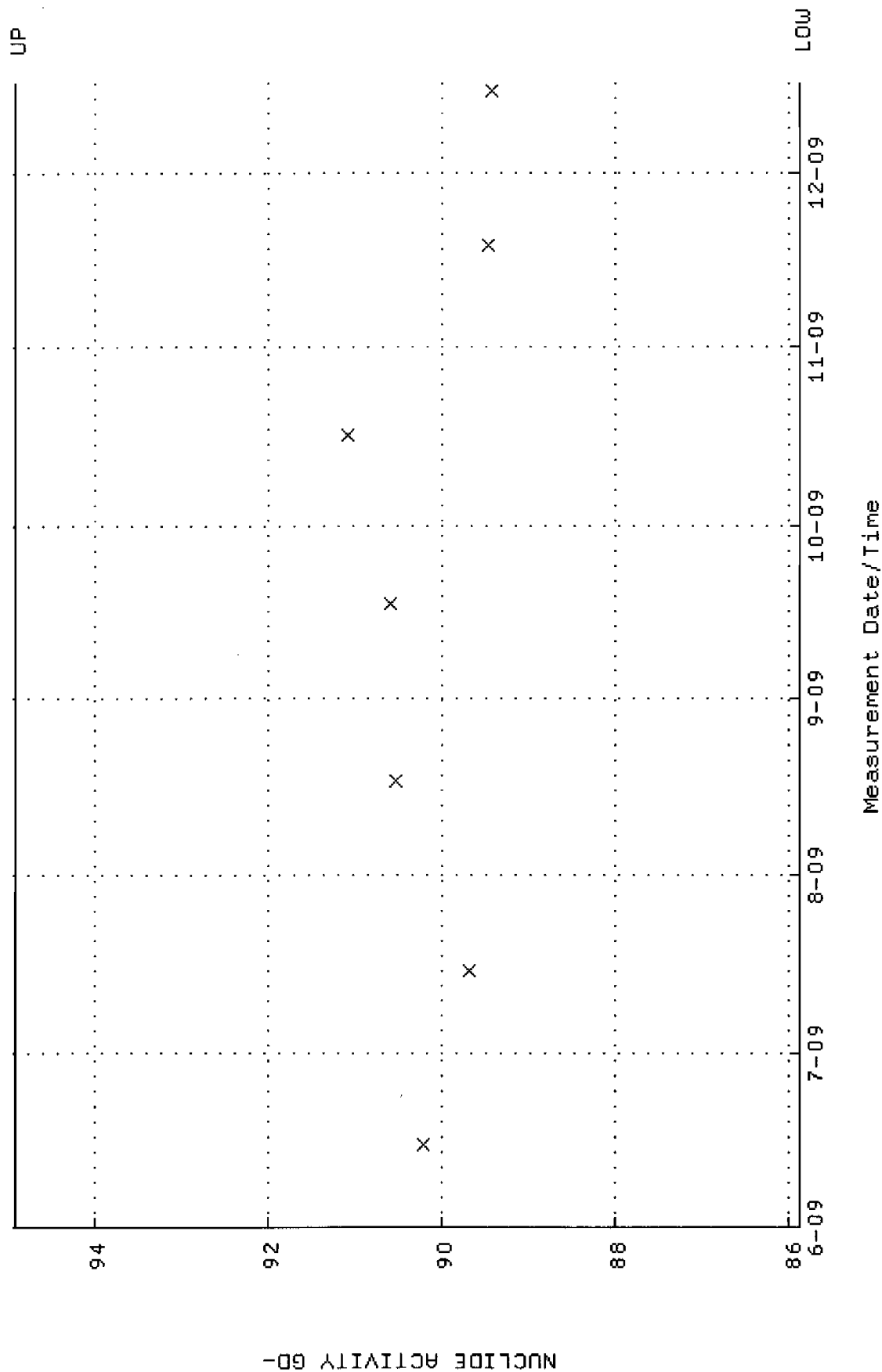
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 15-JUN-2009 10:34:39 through 16-DEC-2009 12:00:00

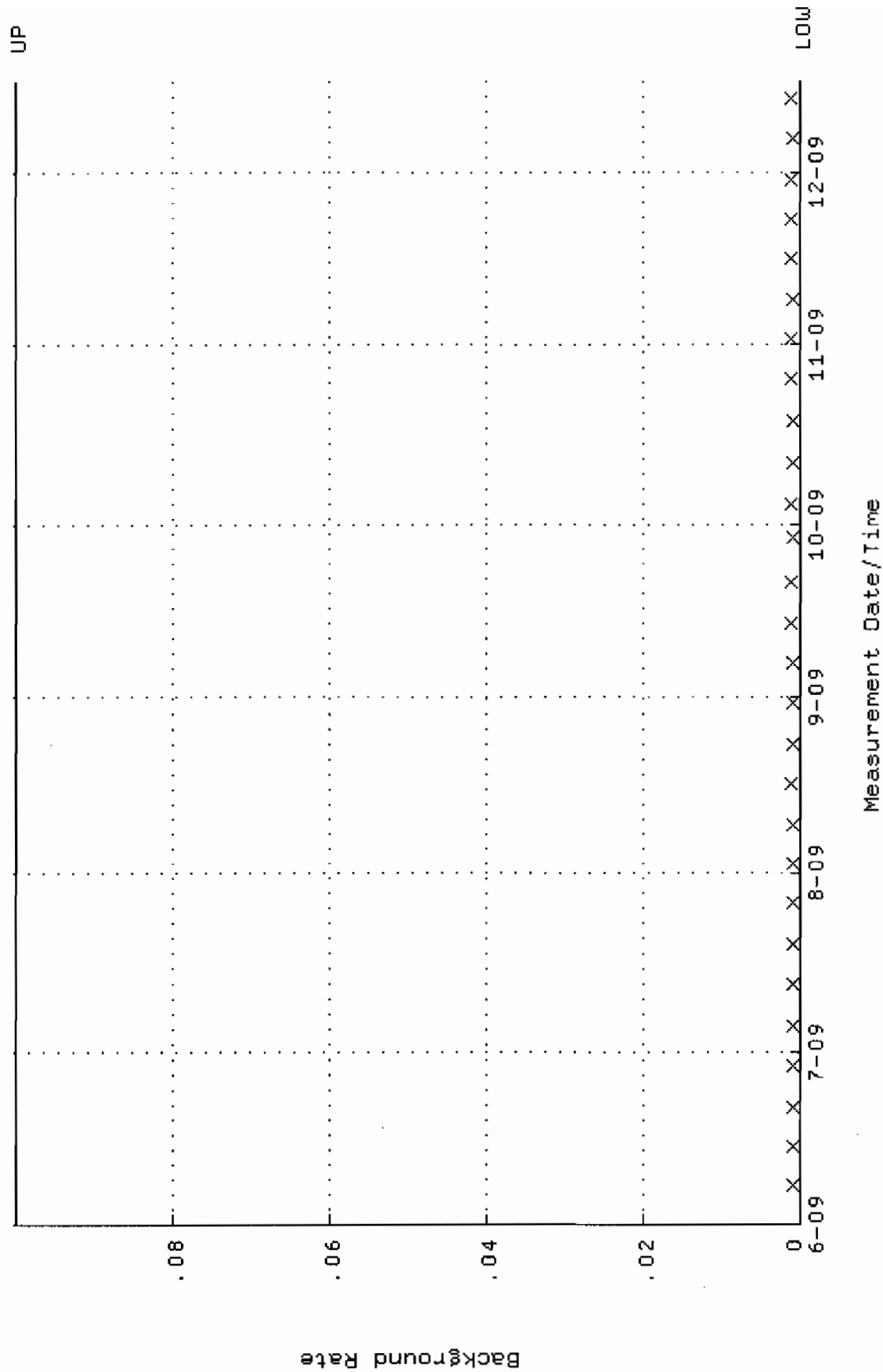
Lower/Upper Lmts: 0.242940 through 0.262940



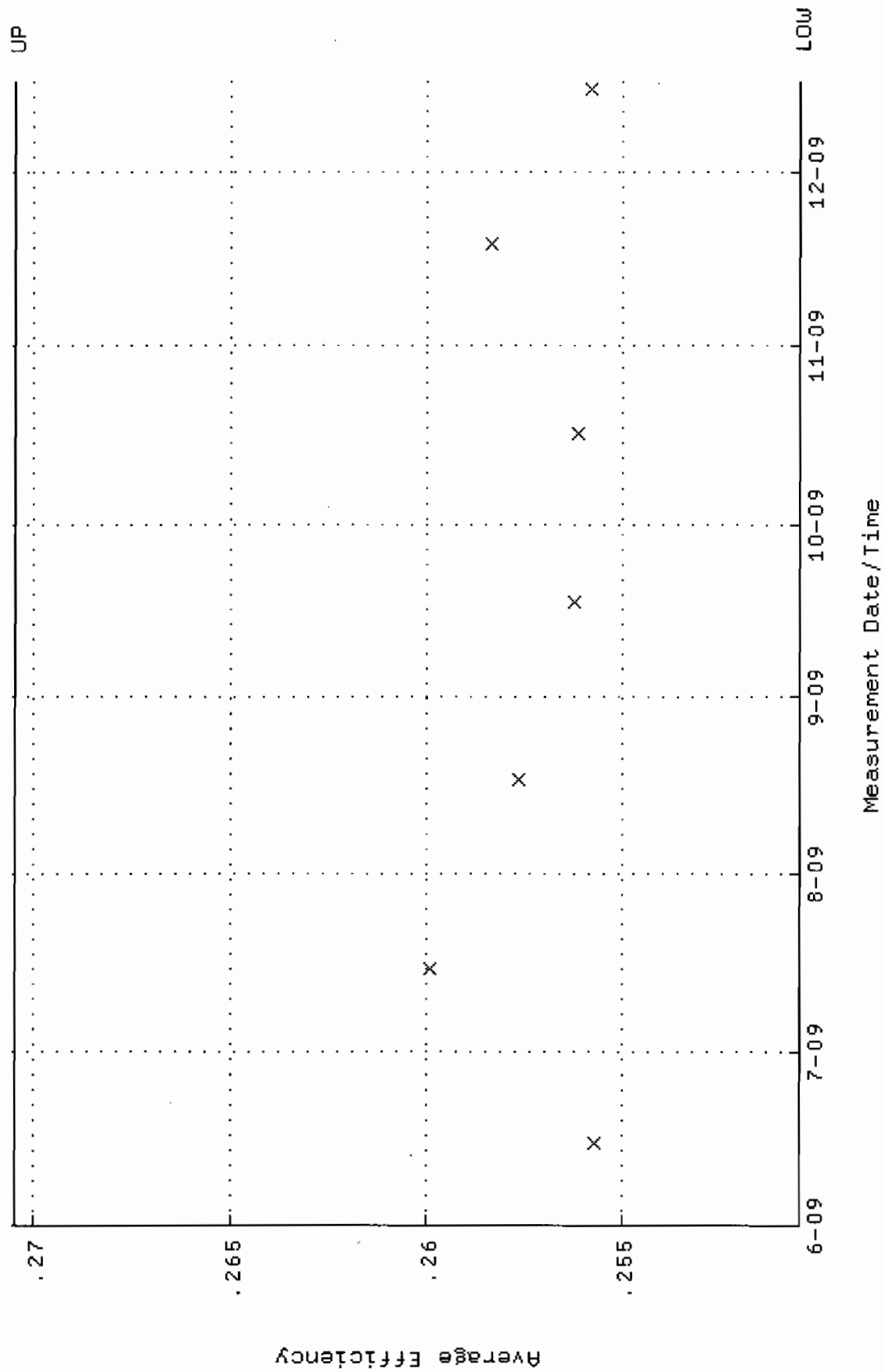
QA filename : DKA100:[ENV_ALPHA.QA.W]W117.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:34:39 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 85.8693 through 94.9081



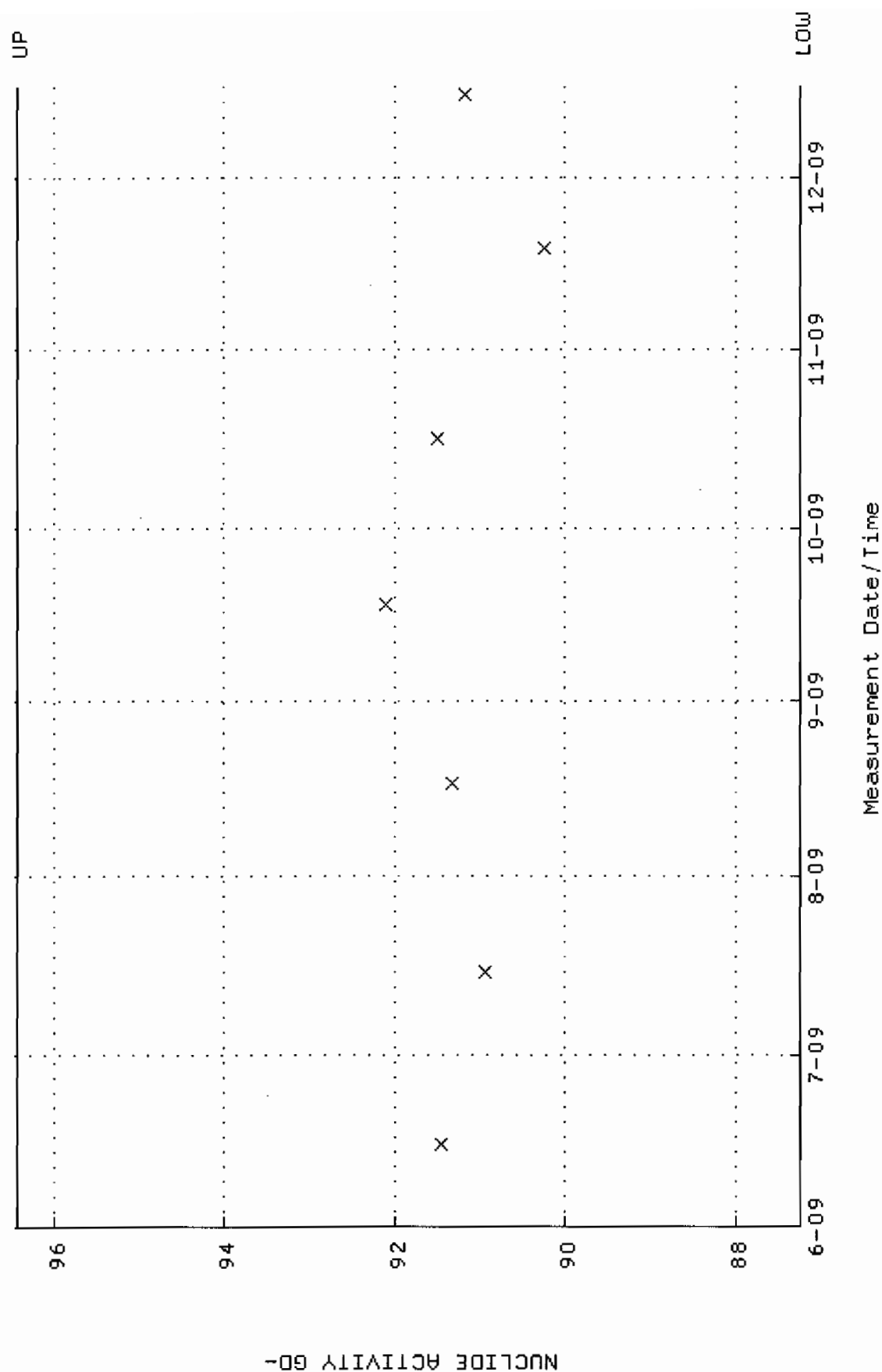
QA filename : DKA100:[ENV_ALPHA.QA.B]B117.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:08:57 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



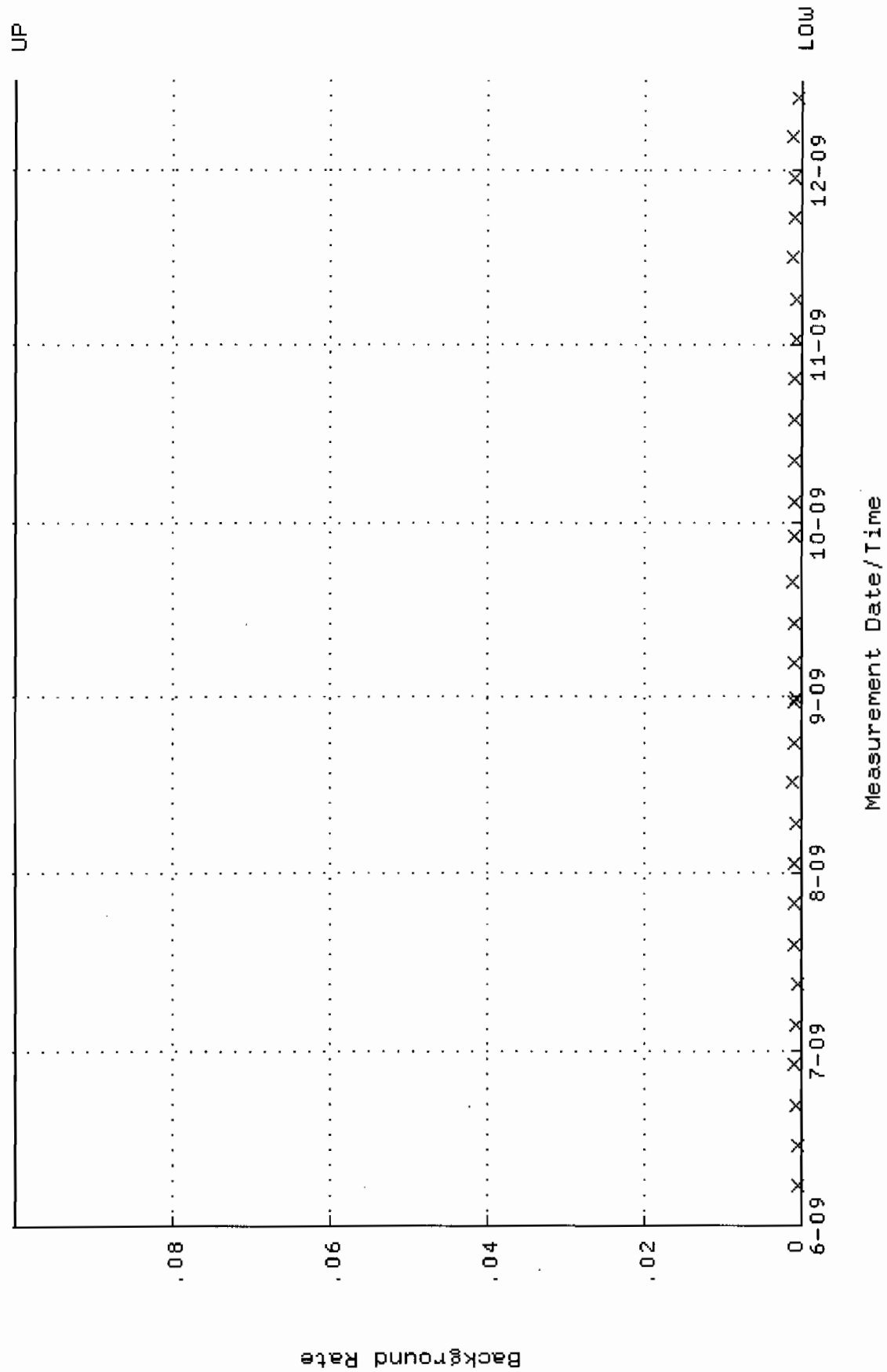
QA filename : DKA100:[ENV_ALPHA.QA.W]w118.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:34:45 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.250490 through 0.270490



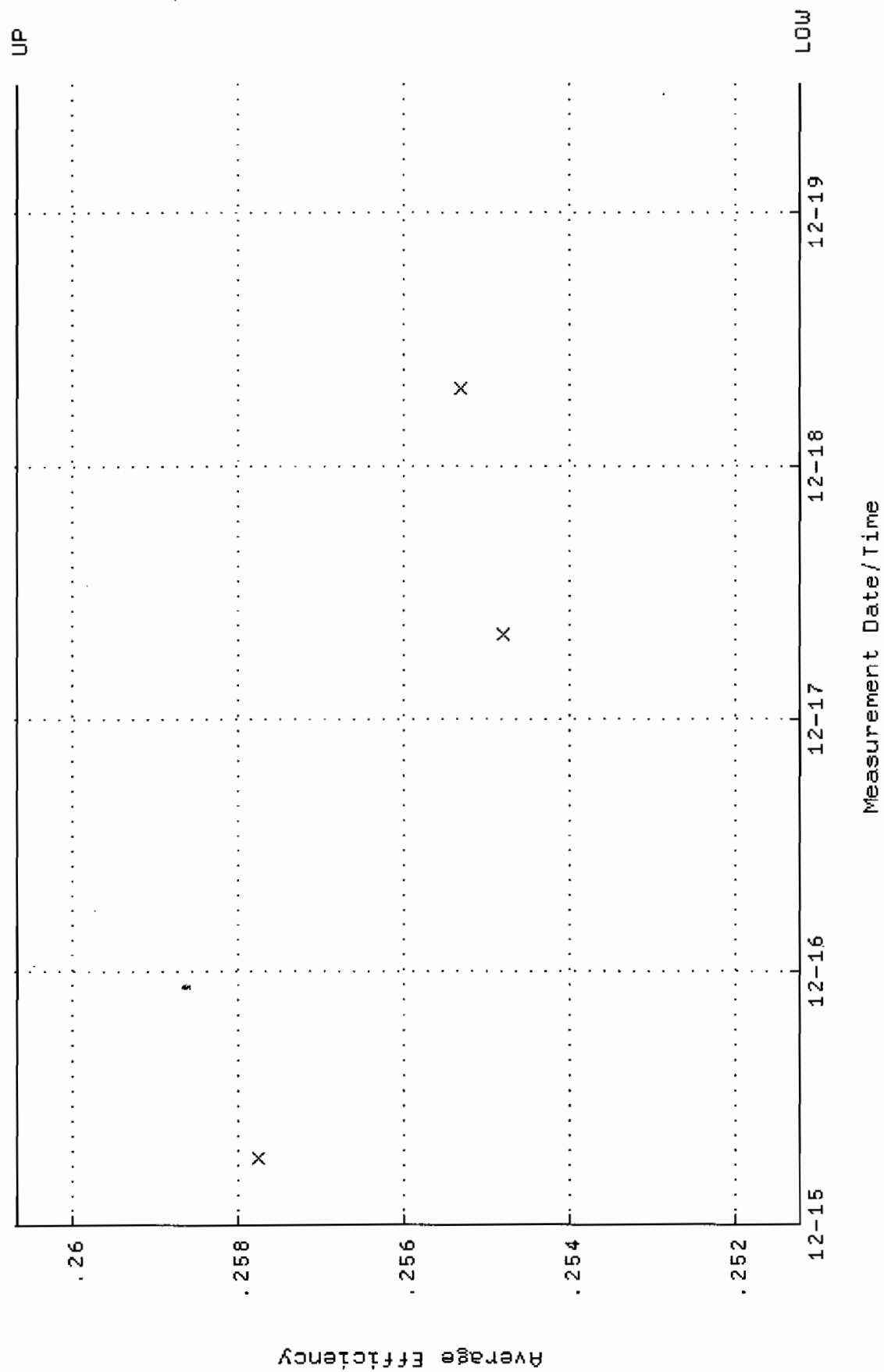
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:34:45 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 87.2440 through 96.4276



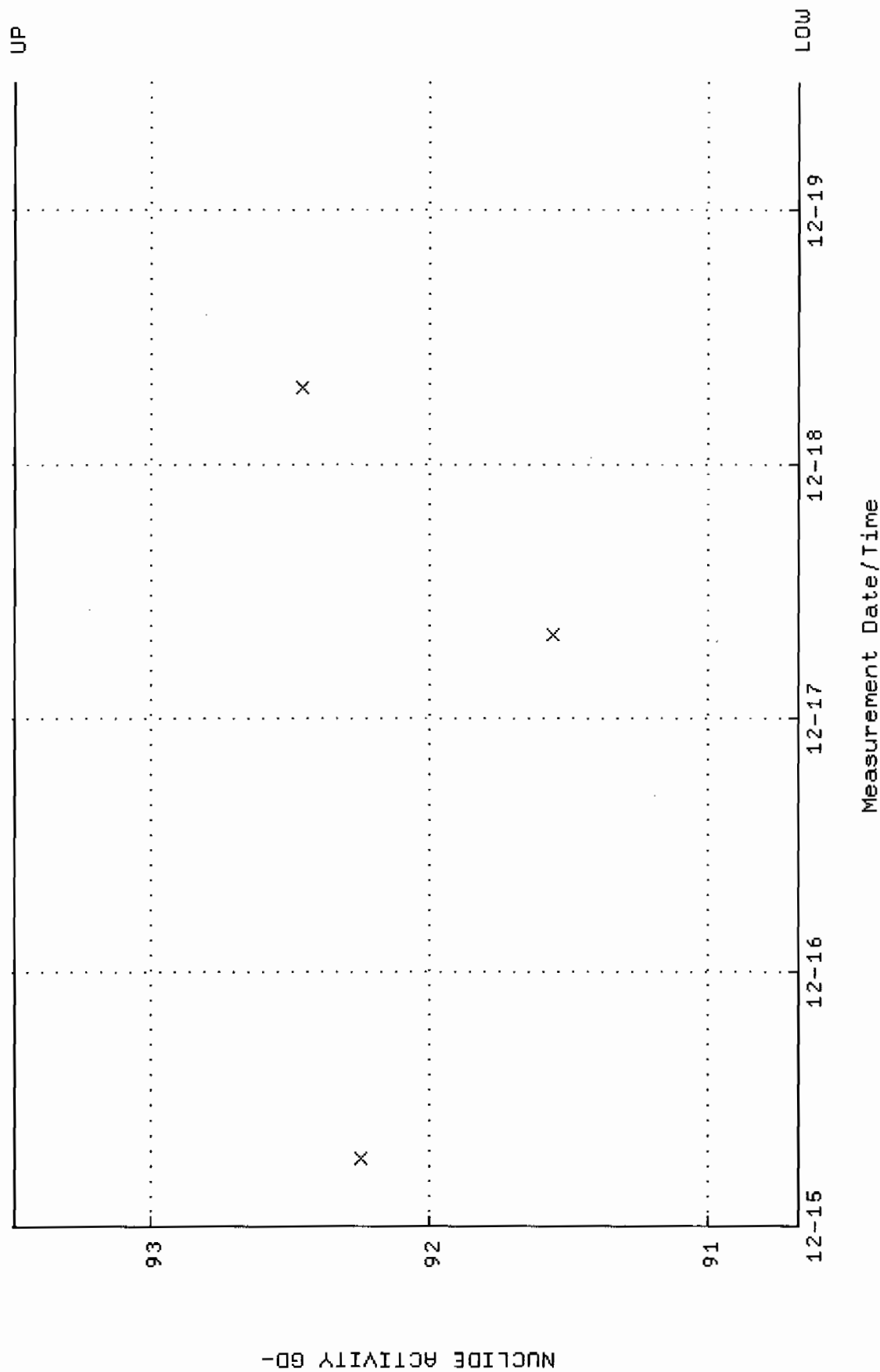
QA filename : DKA100:[ENV_ALPHA.QA.B]B118.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:01 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



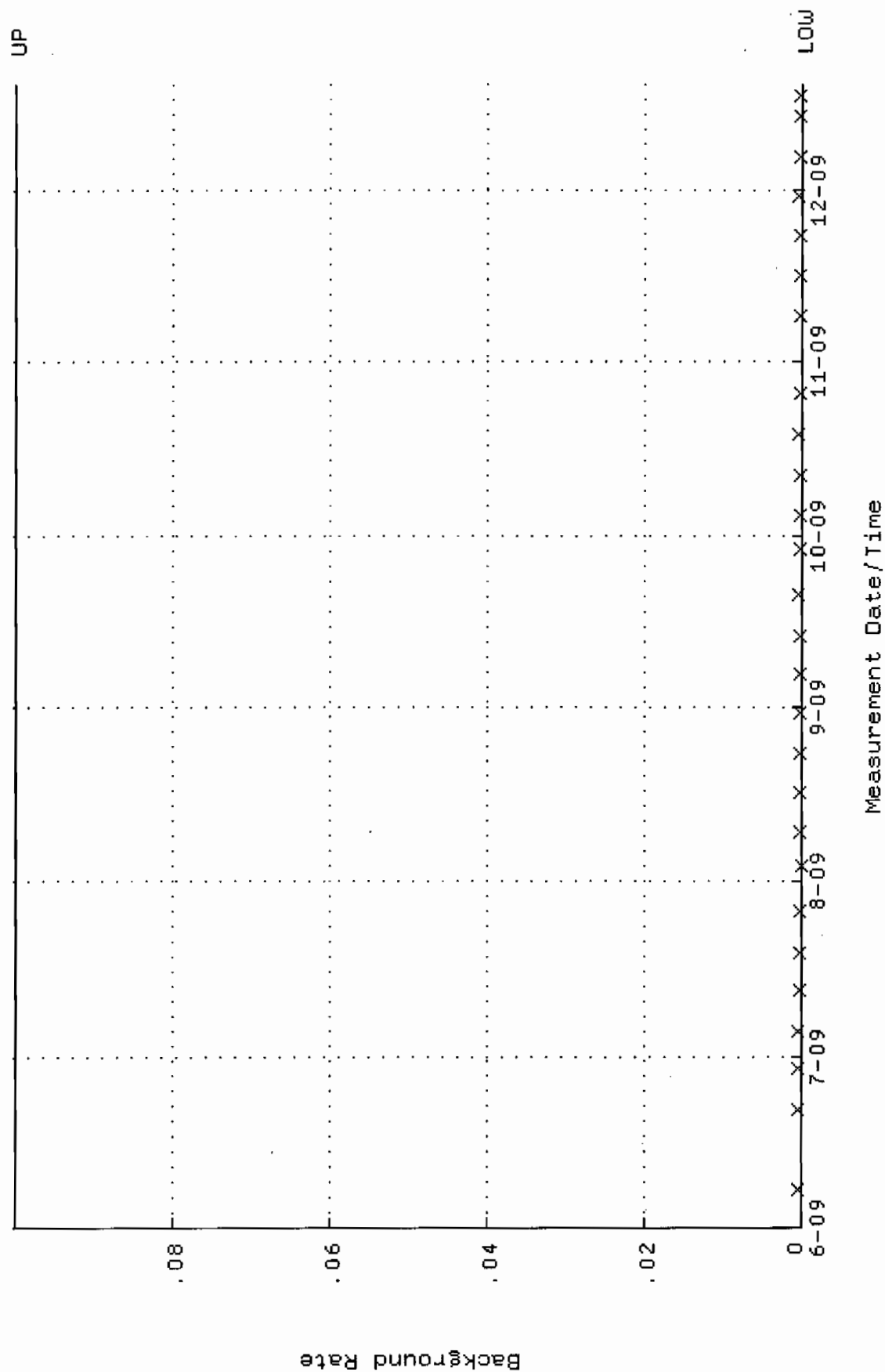
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.251222 through 0.260678



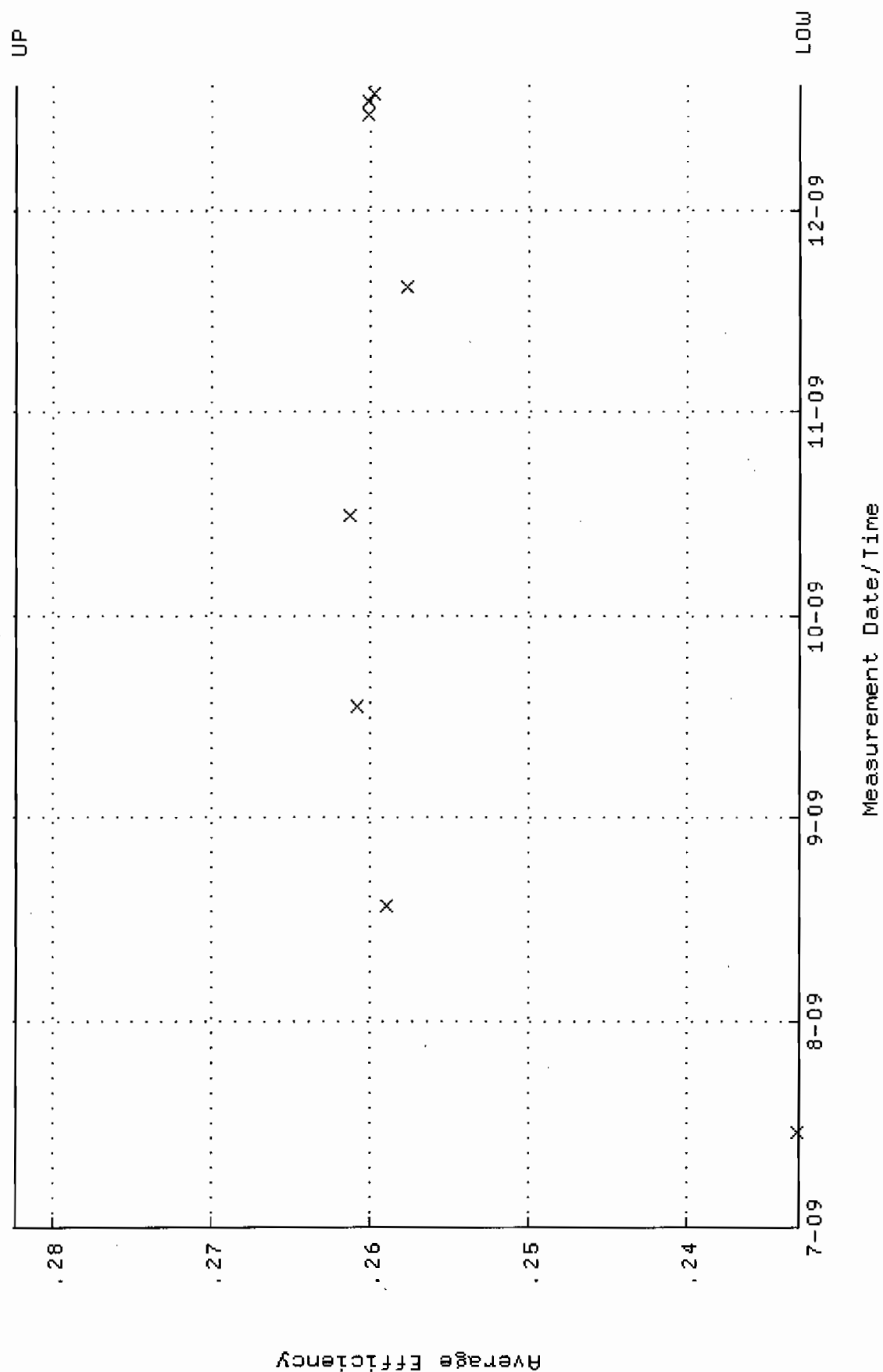
QA filename : DKA100:[ENV_ALPHA.QA.W]w119.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-DEC-2009 12:00:00
 Lower/Upper Lmts: 90.6781 through 93.4921



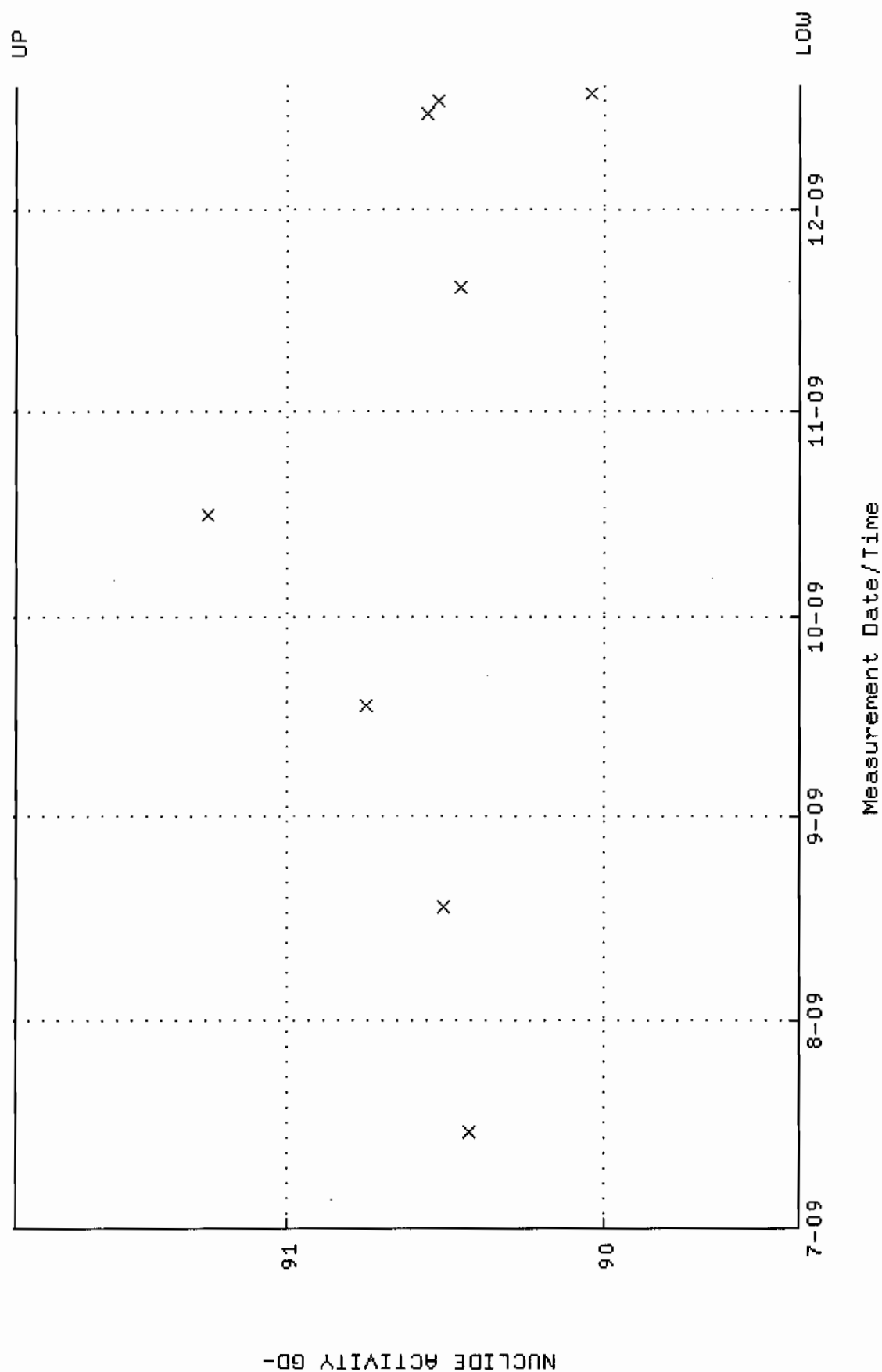
QA filename : DKA100:[ENV-ALPHA.QA.B]B119.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:05 through 19-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



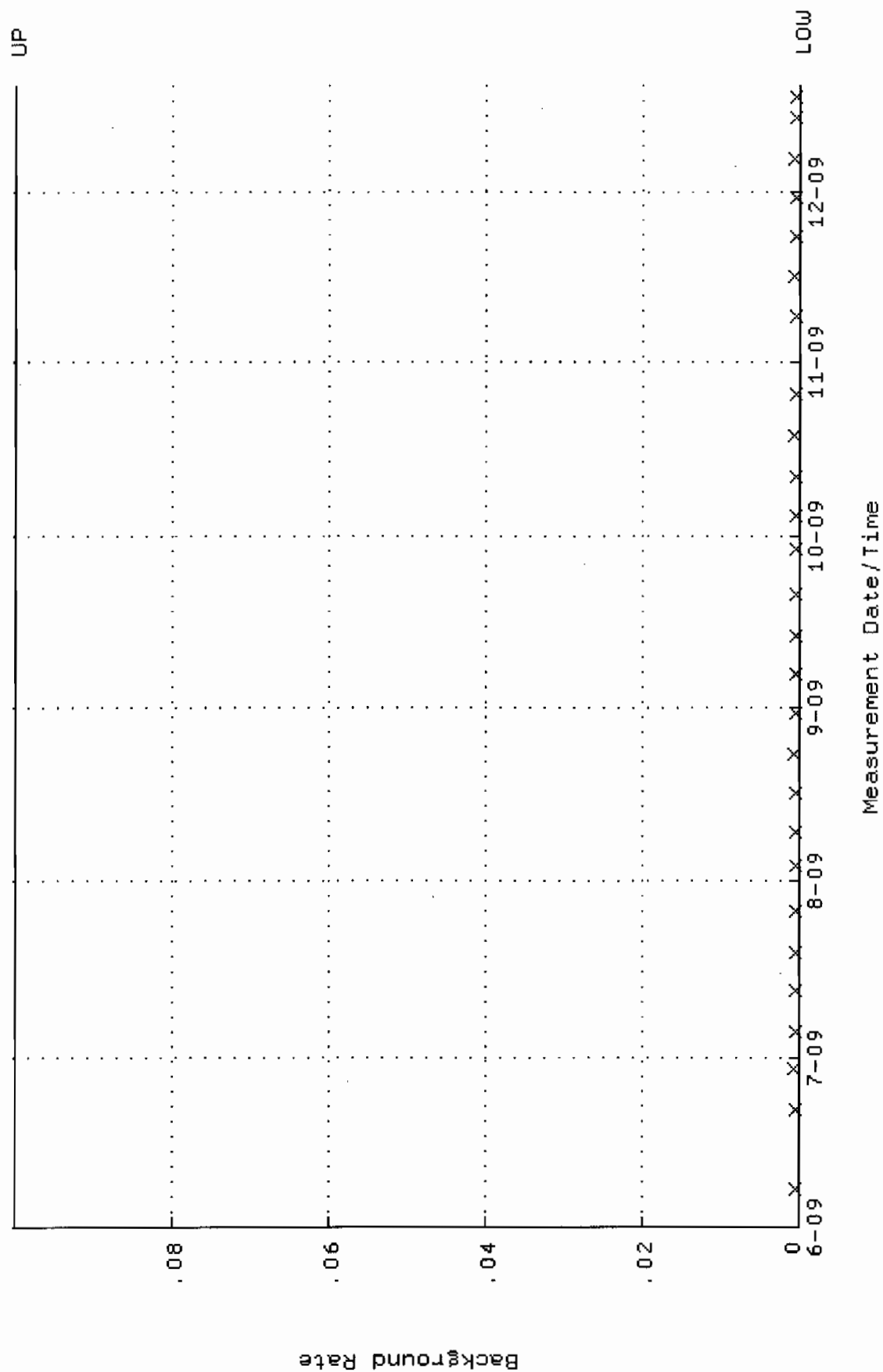
QA filename : DKA100:[ENV_ALPHA.QA.W]W120.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUL-2009 08:38:20 through 19-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.232847 through 0.282381



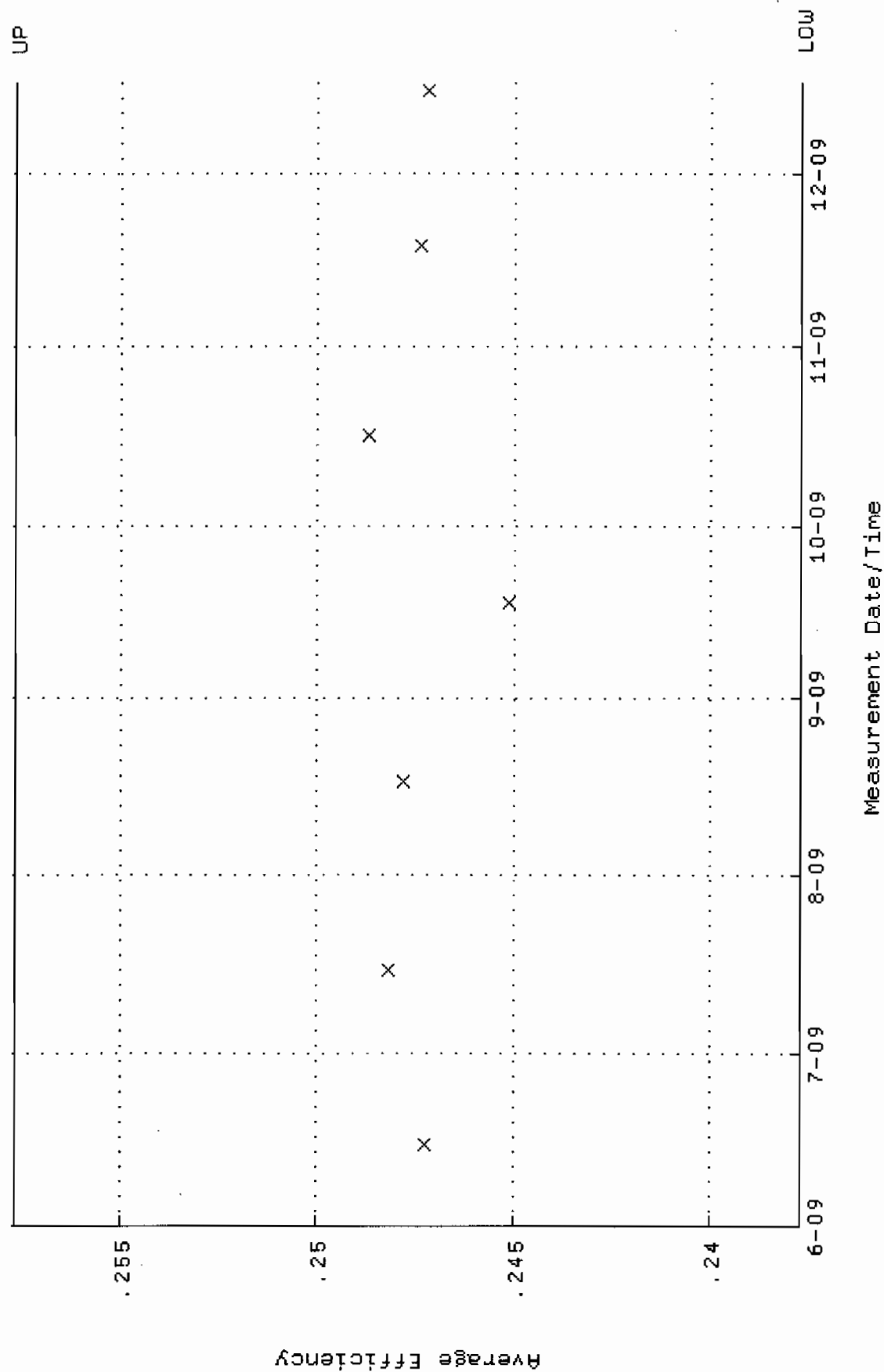
QA filename : DKA100:[ENV_ALPHA.QA.W]W120.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUL-2009 08:38:20 through 19-DEC-2009 12:00:00
 Lower/Upper Lmts: 89.3881 through 91.8481



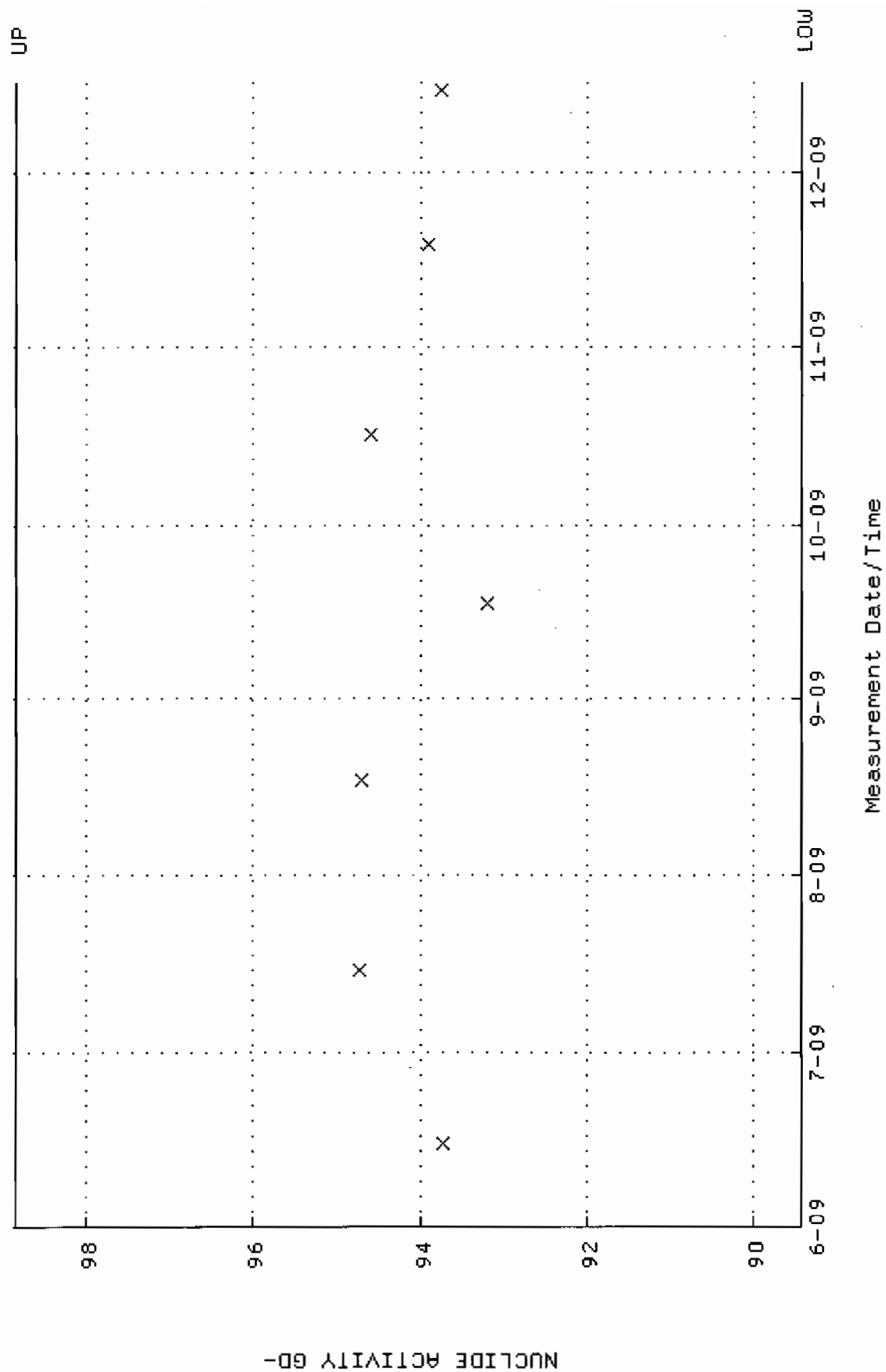
QA filename : DKA100:[ENV_ALPHA.QA.B]B120.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:10 through 19-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]w121.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:34:51 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.237686 through 0.257686



QA filename : DKA100:[ENV_ALPHA.QA.W]w121.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:34:51 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 89.4263 through 98.8395

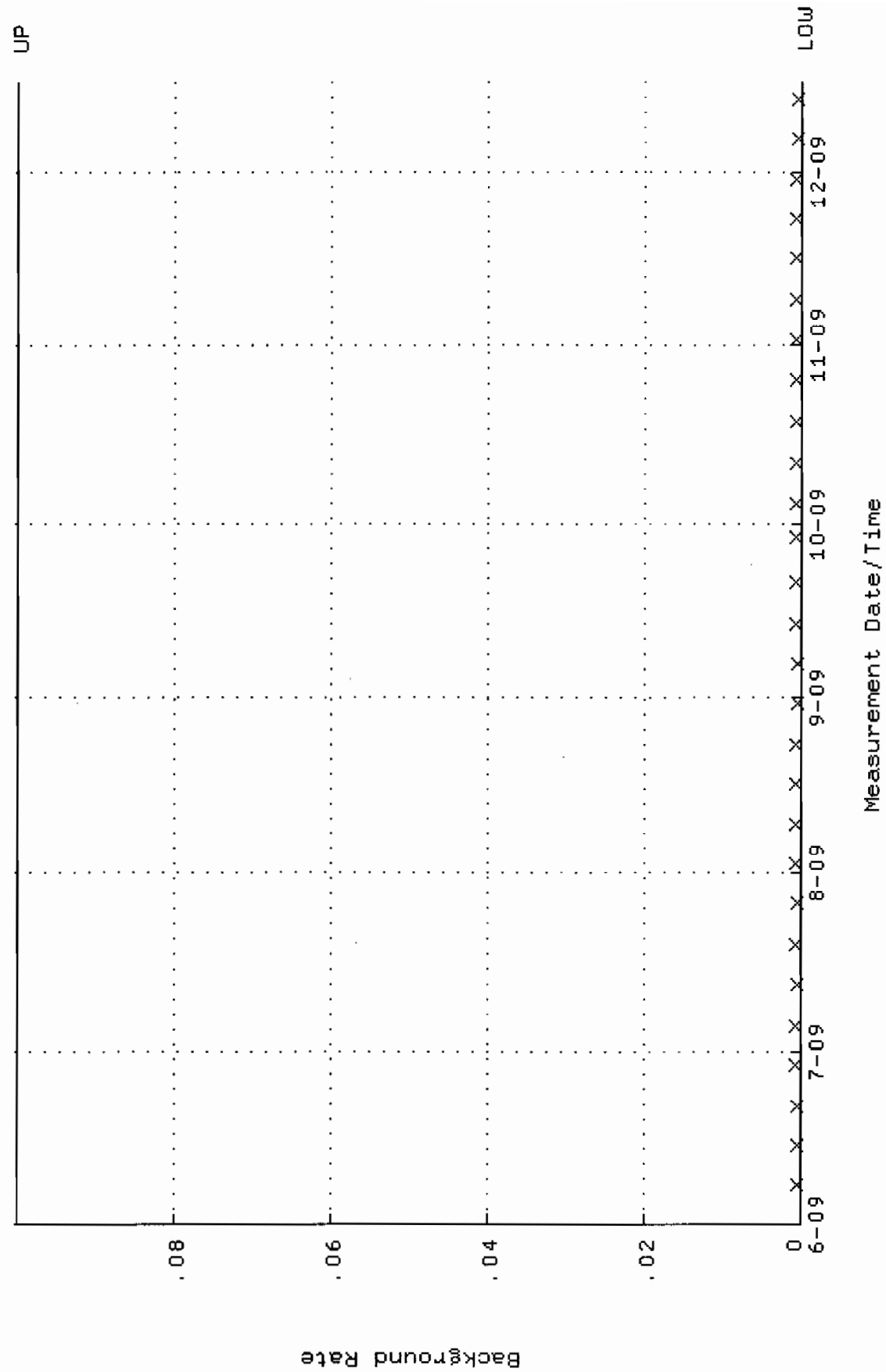


QA filename : DKA100:[ENV_ALPHA.QA.B]B121.QAF;1

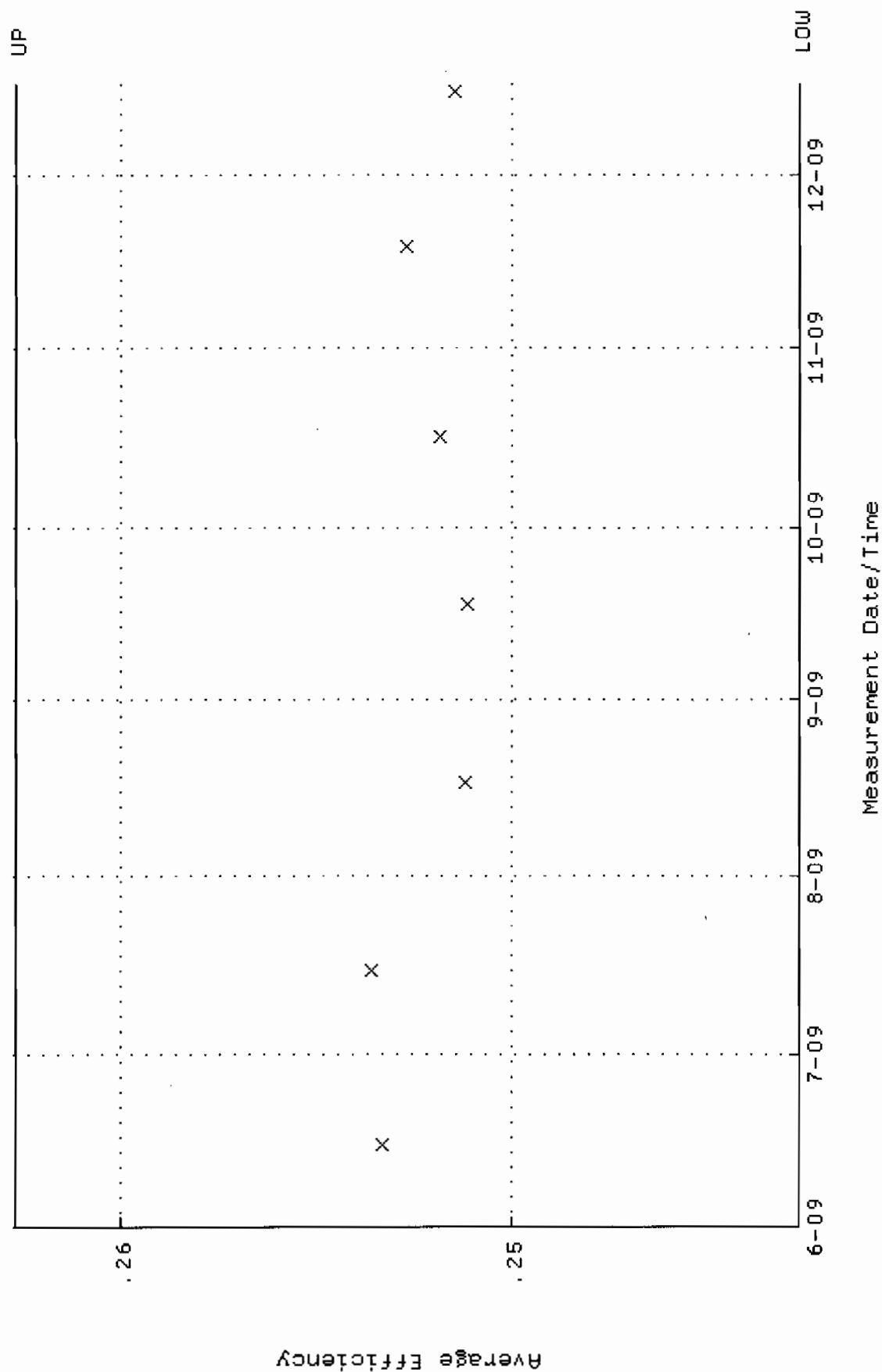
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 7-JUN-2009 17:09:14 through 16-DEC-2009 12:00:00

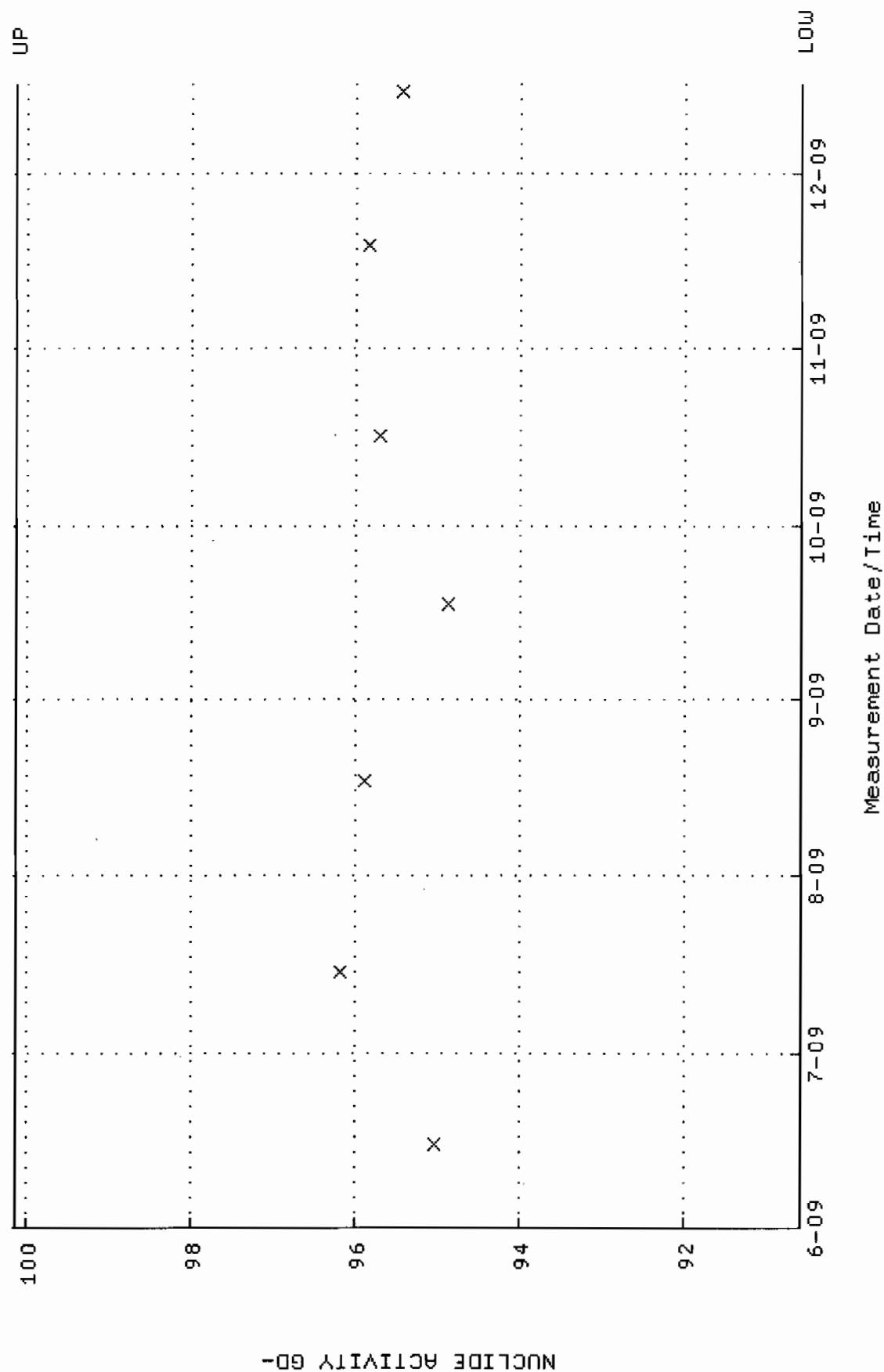
Lower/Upper Lmts: 0.000000E+00 through 0.100000



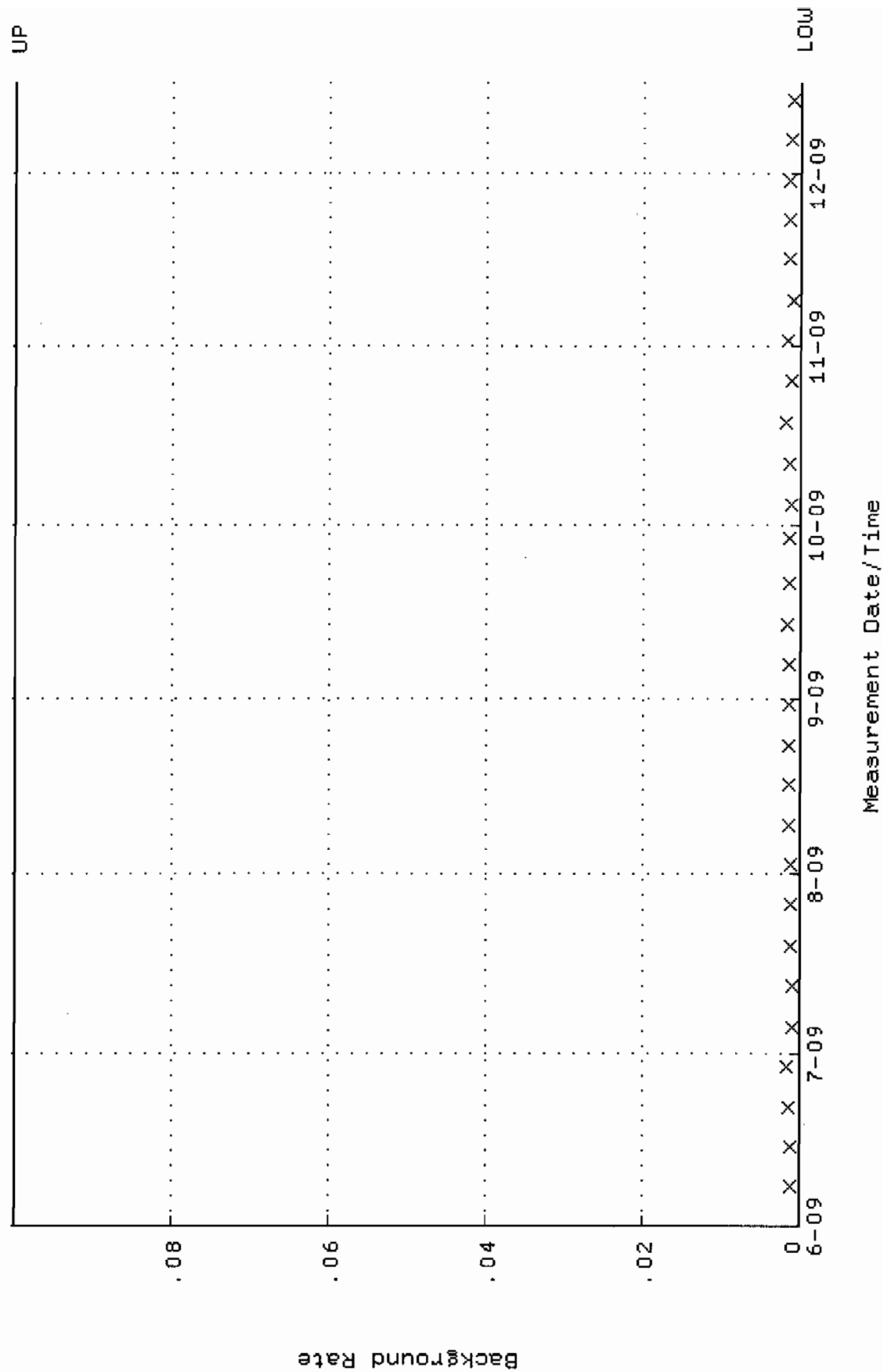
QA filename : DKA100:[ENV_ALPHA.QA.W]W122.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:34:57 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.242659 through 0.262659



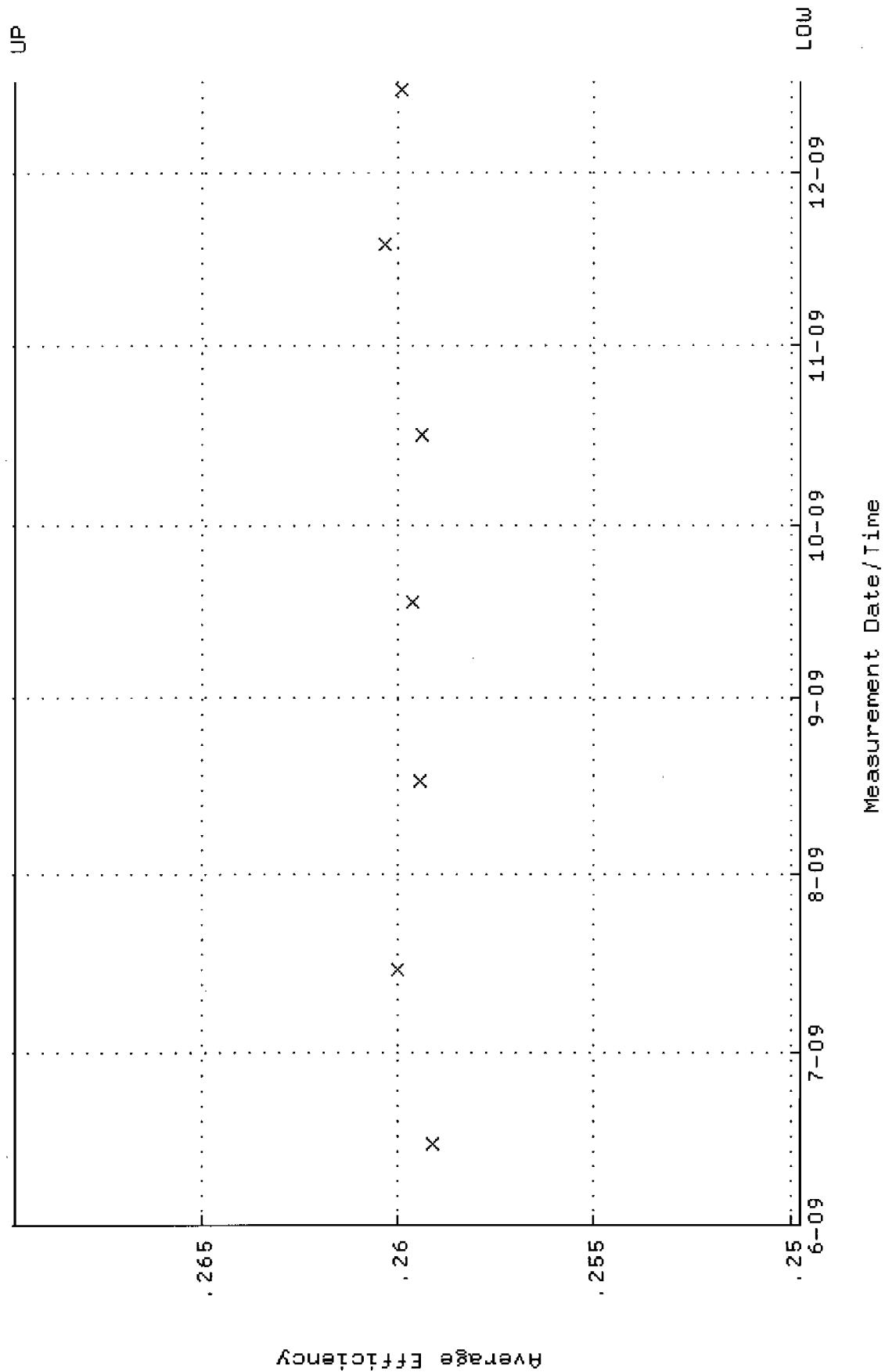
QA filename : DKA100:[ENV_ALPHA.QA.W]W122.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:34:57 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 90.5949 through 100.131



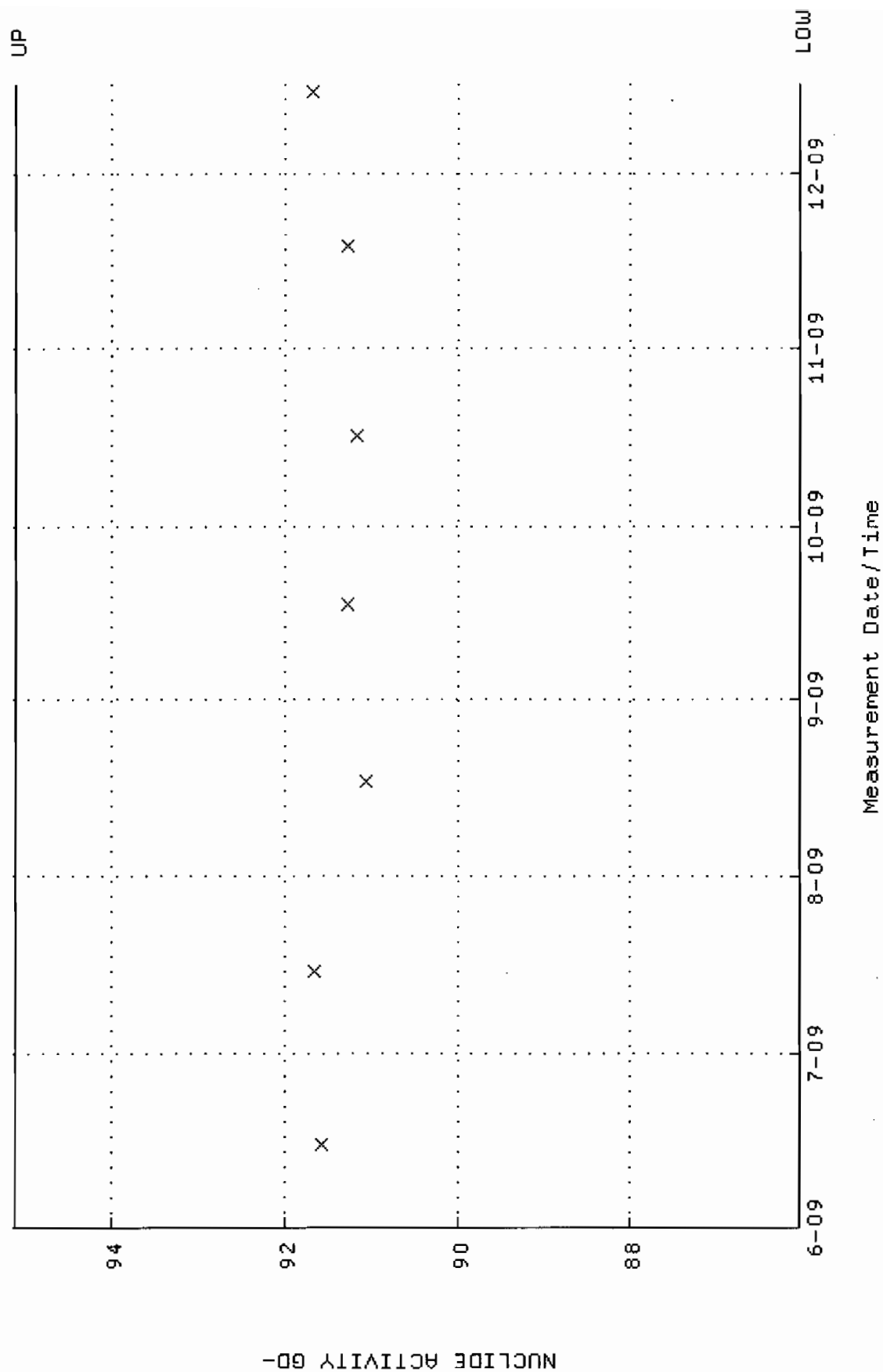
QA filename : DKA100:[ENV_ALPHA.QA.B]B122.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:18 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



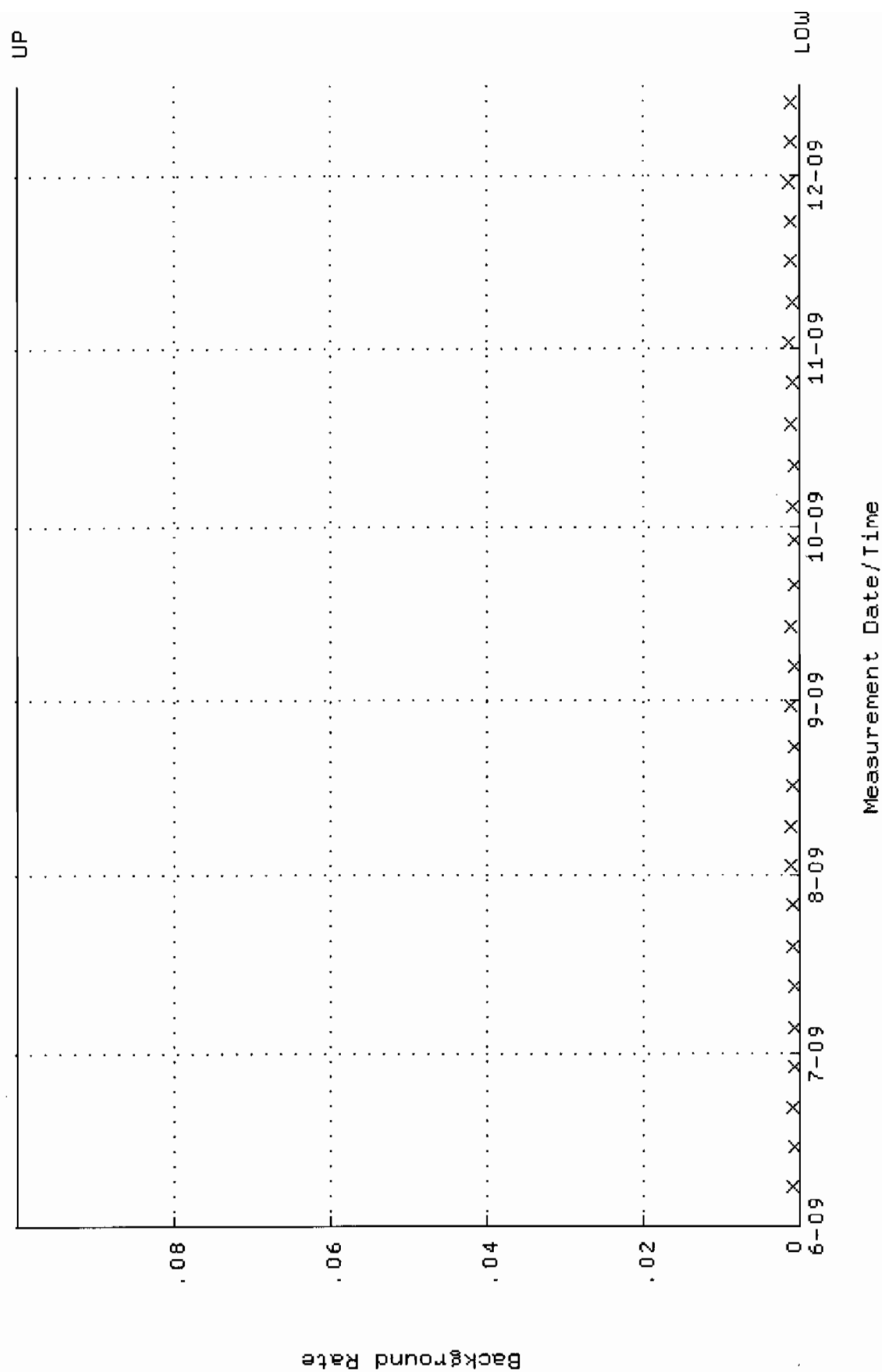
QA filename : OKA100:[ENV_ALPHA.QA.W]W123.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:03 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.249752 through 0.269752



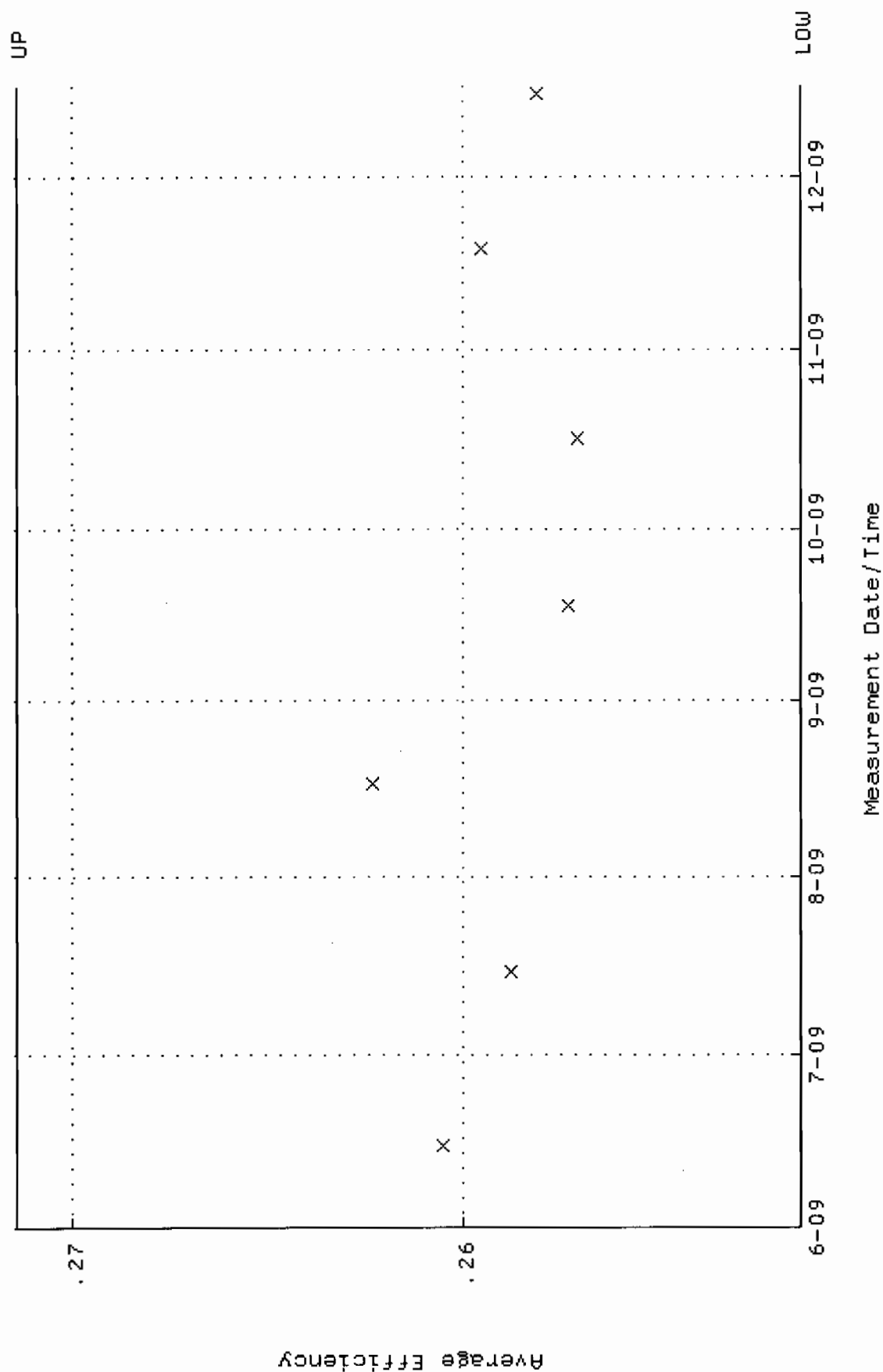
QA filename : DKA100:[ENV-ALPHA.QA.W]W123.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:03 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.0496 through 95.1074



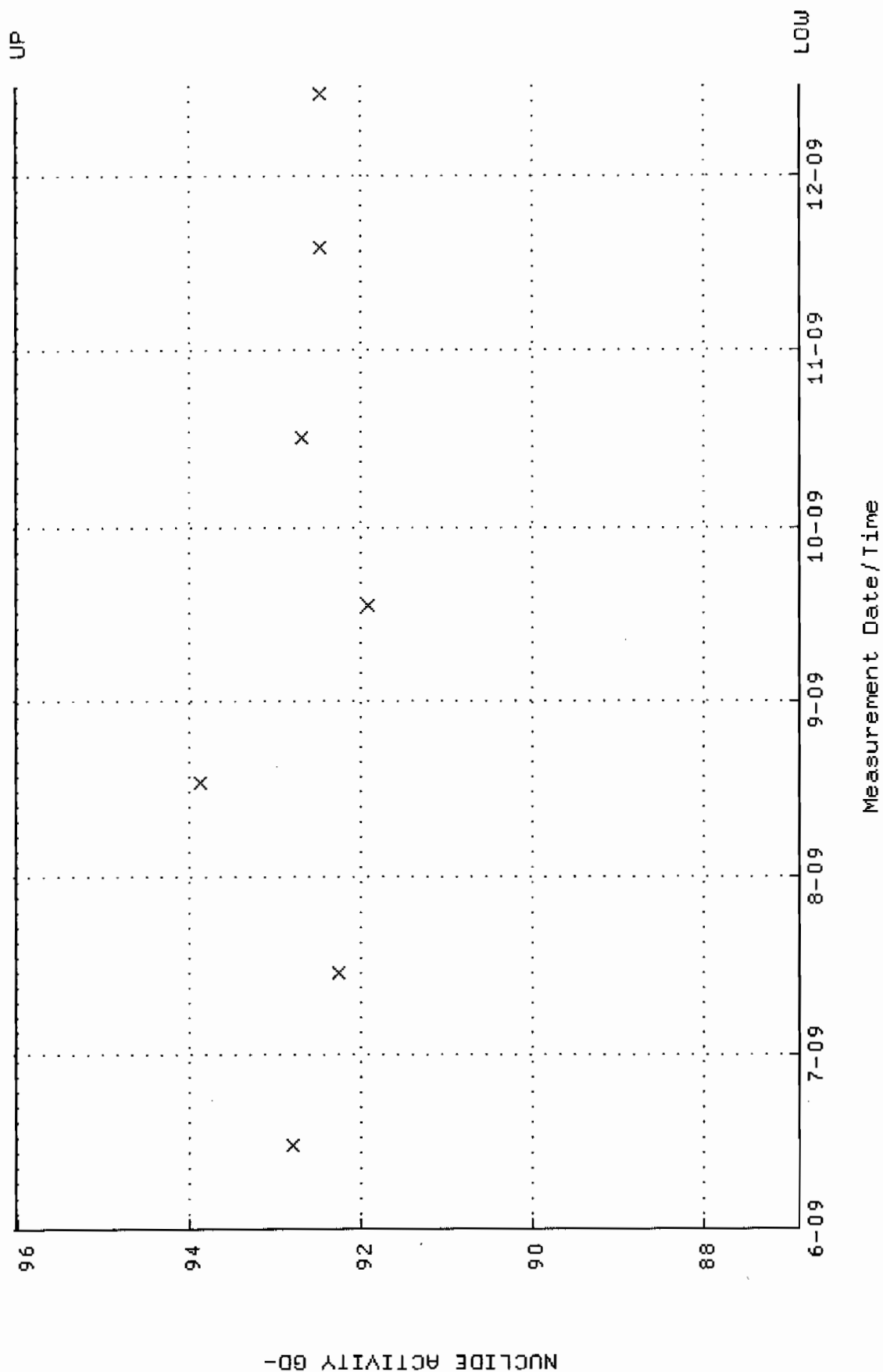
QA filename : DKA100:[ENV_ALPHA.QA.B]B123.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:22 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



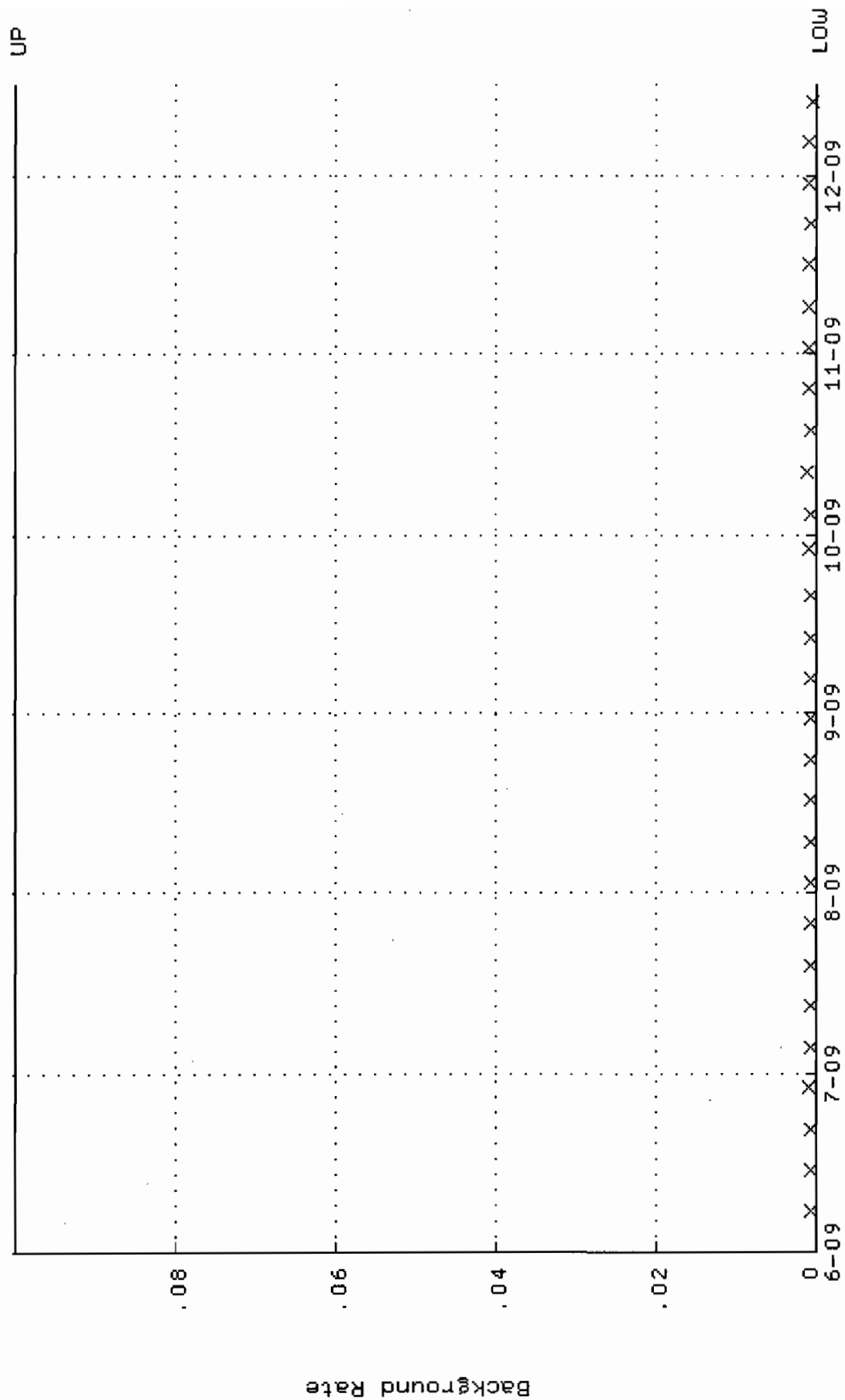
QA filename : DKA100:[ENV_ALPHA.QA.W]W124.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:08 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.251398 through 0.271398



QA filename : DKA100:[ENV-ALPHA.QA.W]W124.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:08 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.8862 through 96.0322

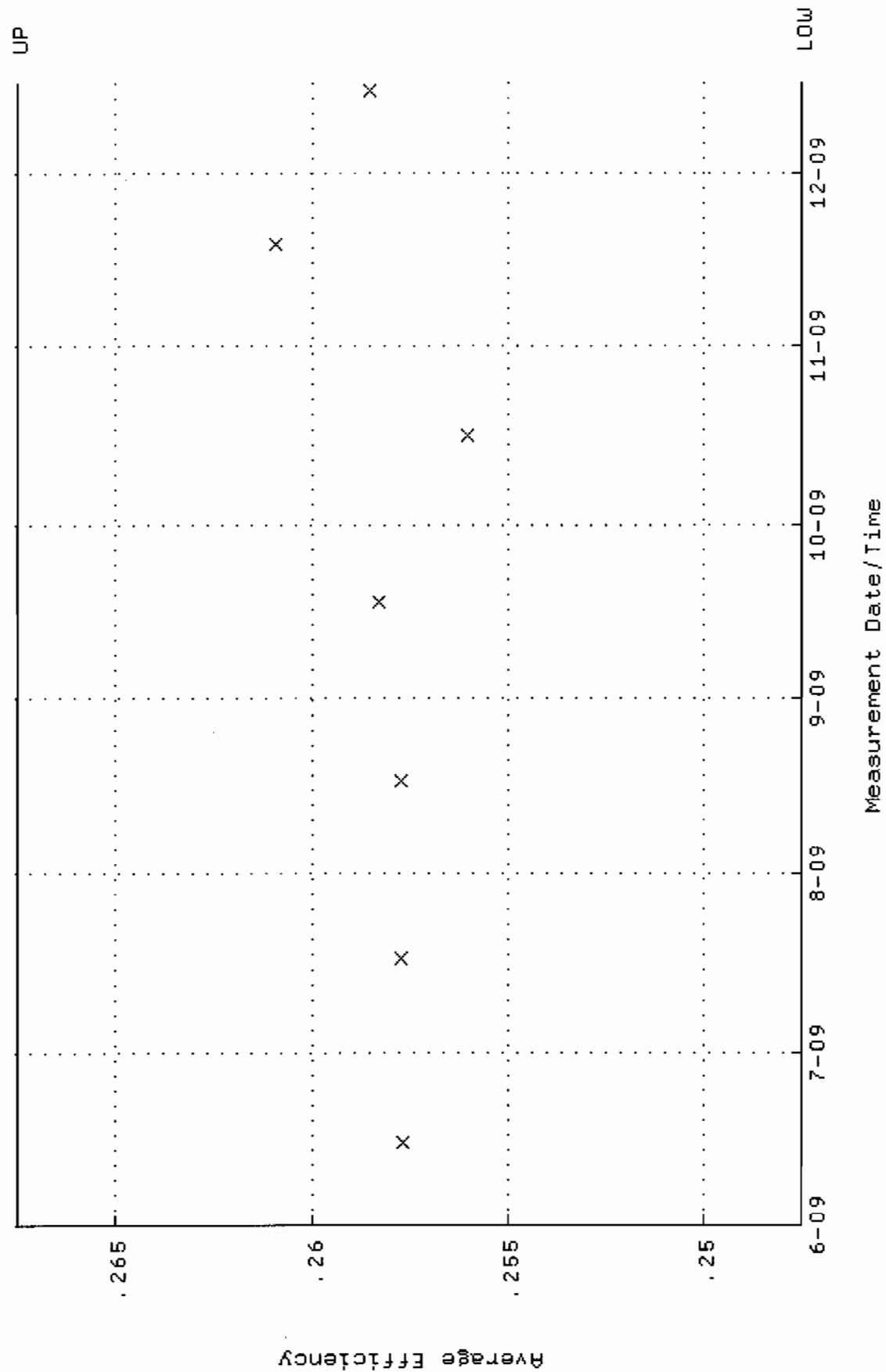


QA filename : DKA100:[ENV_ALPHA.QA.B]B124.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:27 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

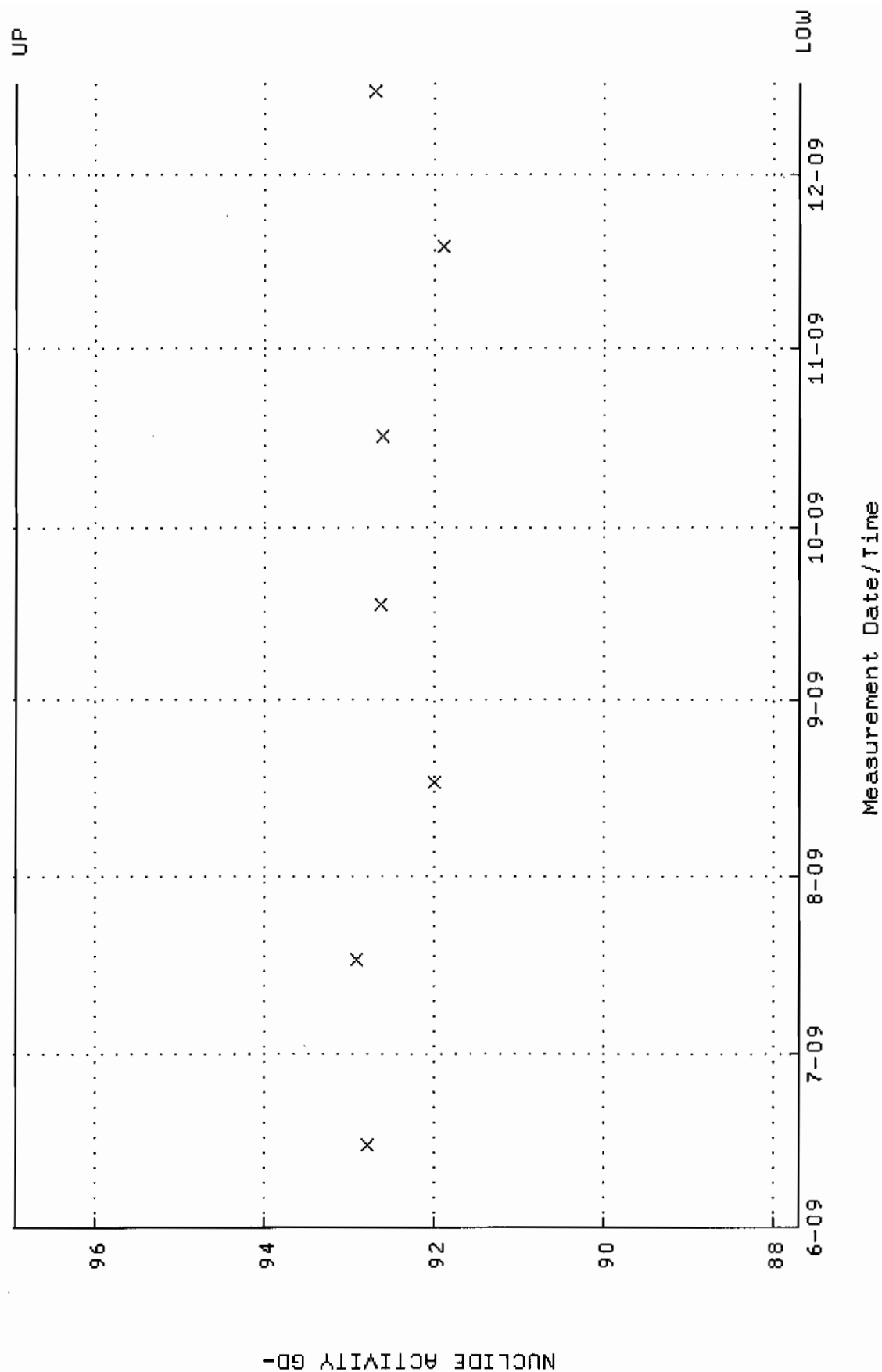


Measurement Date/Time

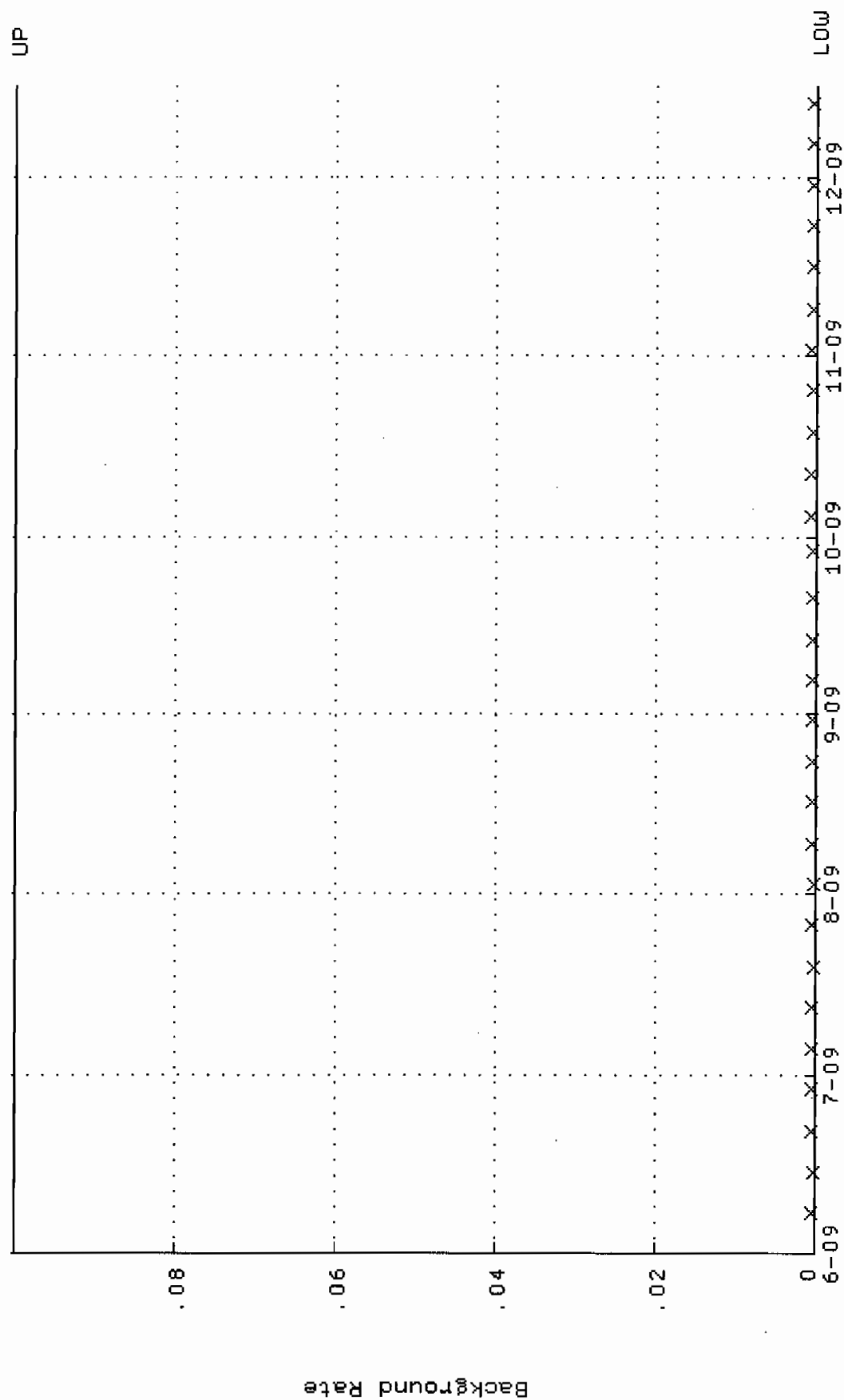
QA filename : DKA100:[ENV_ALPHA.QA.W]w125.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:14 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.247512 through 0.267512



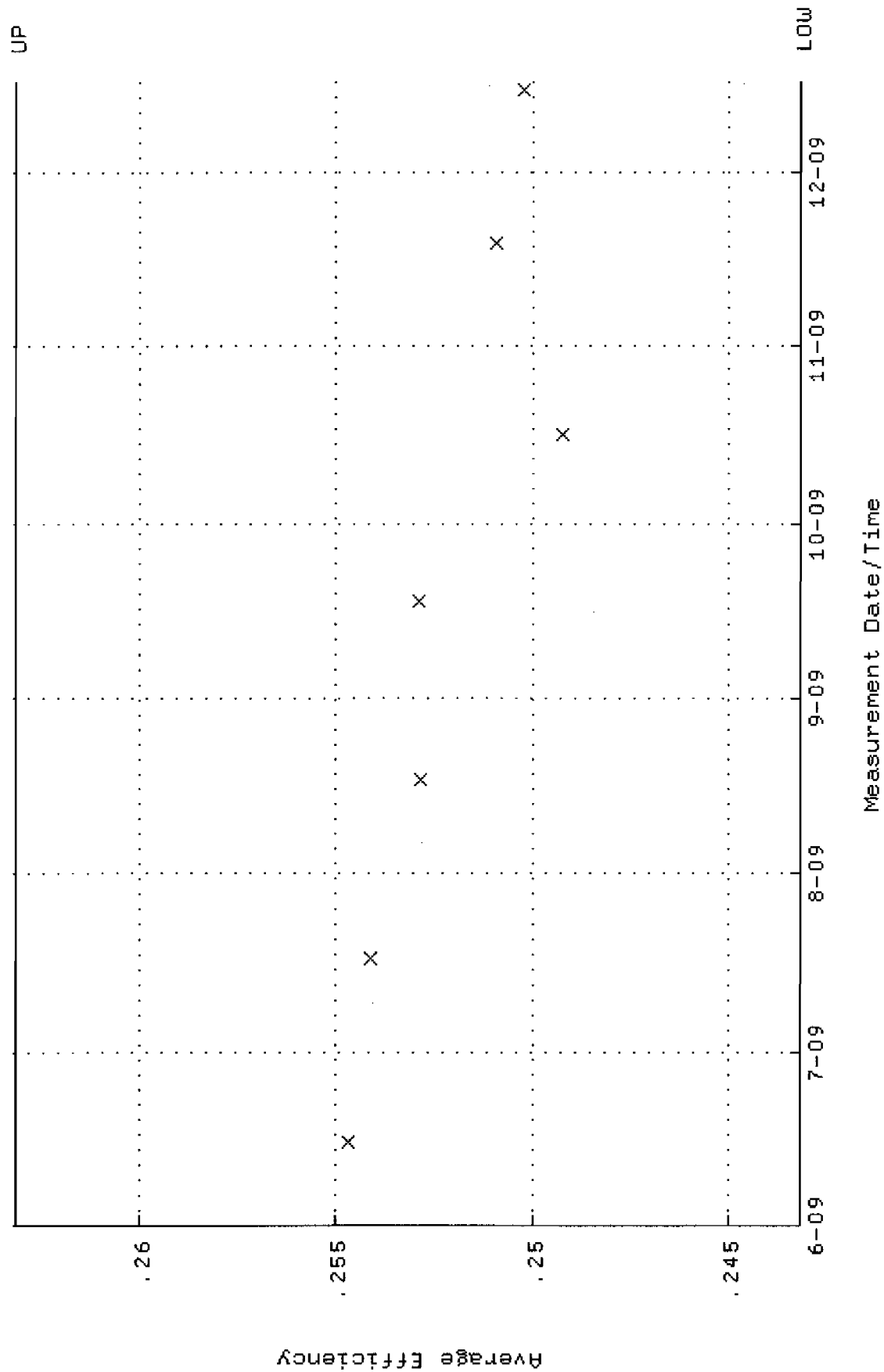
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:14 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 87.6956 through 96.9268



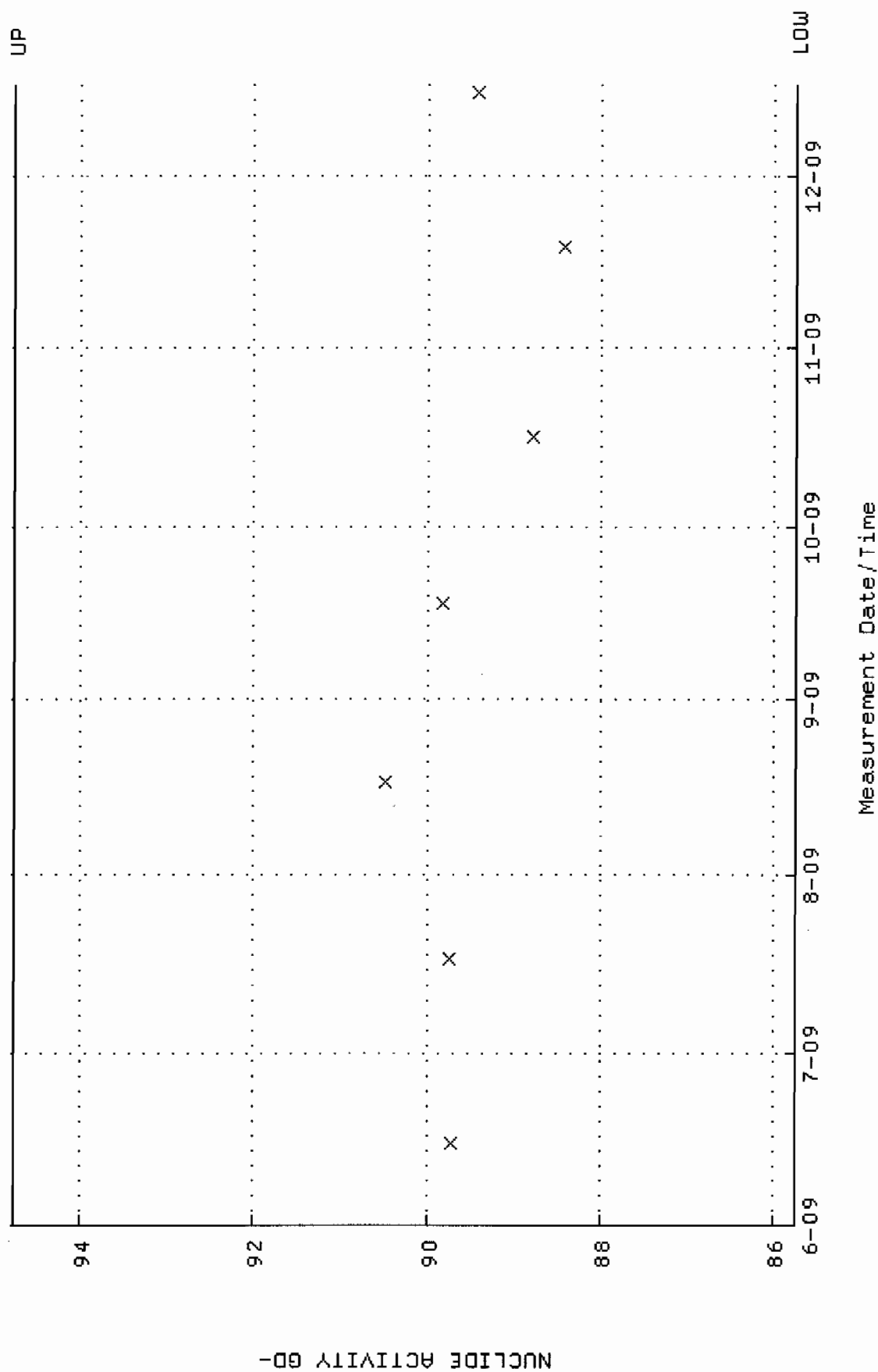
QA filename : DKA100:[ENV_ALPHA.QA.B]B125.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:31 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



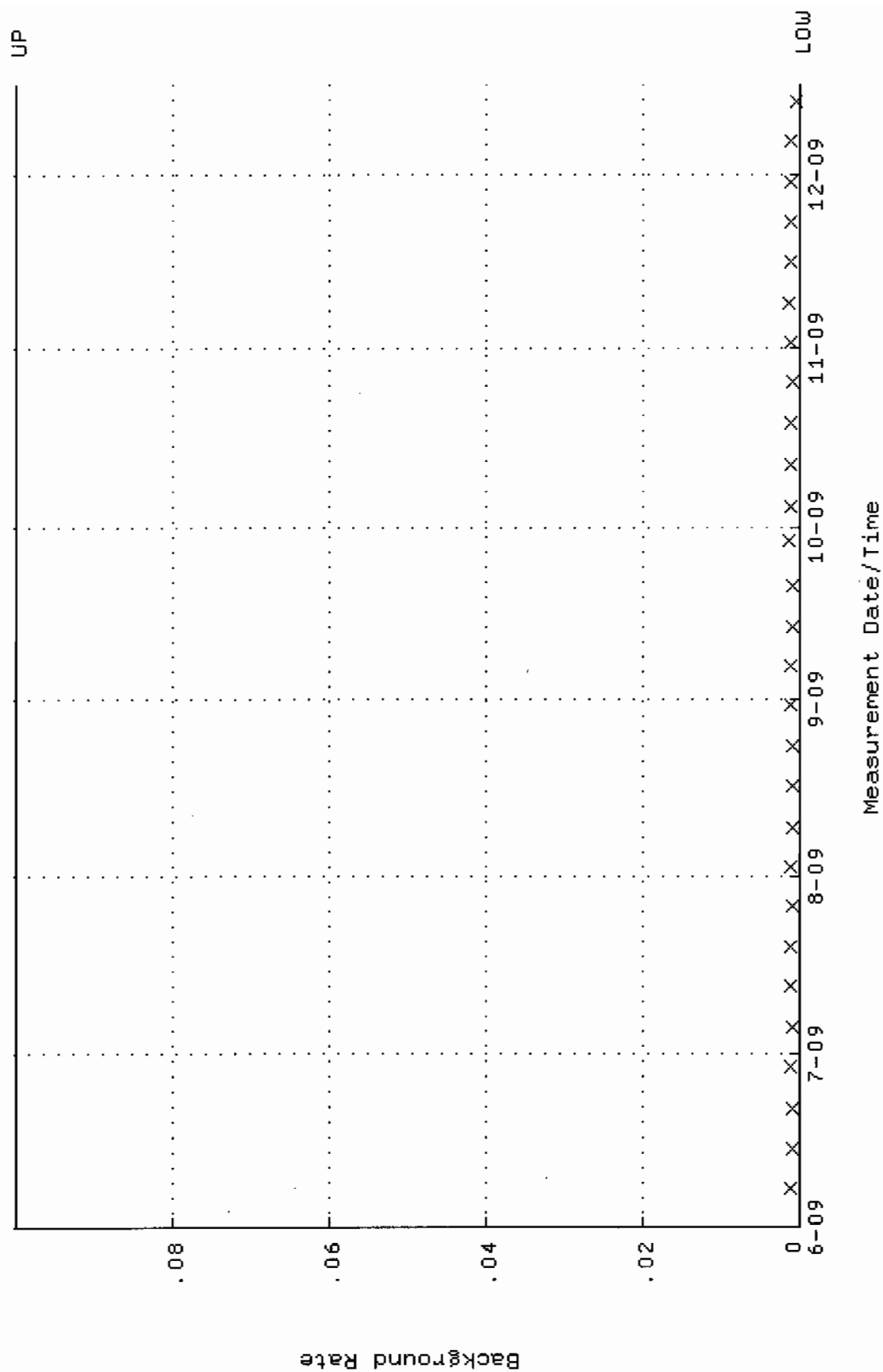
QA filename : DKA100:[ENV_ALPHA.QA.W]W126.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:19 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.243156 through 0.263156



QA filename : DKA100:[ENV_ALPHA.QA.W]W126.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:19 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 85.7449 through 94.7707



QA filename : DKA100:[ENV_ALPHA.QA.B]B126.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:35 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

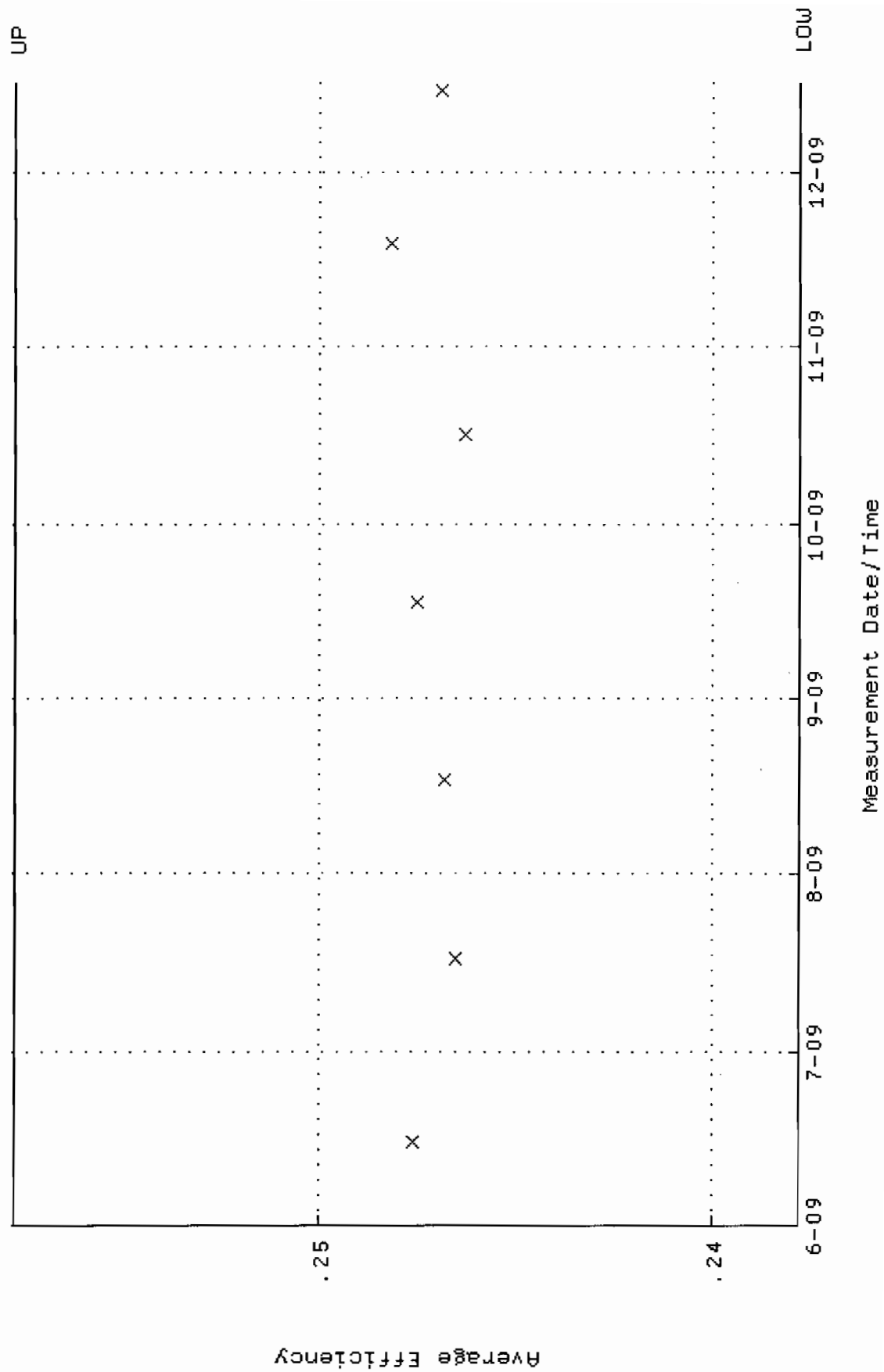


QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1

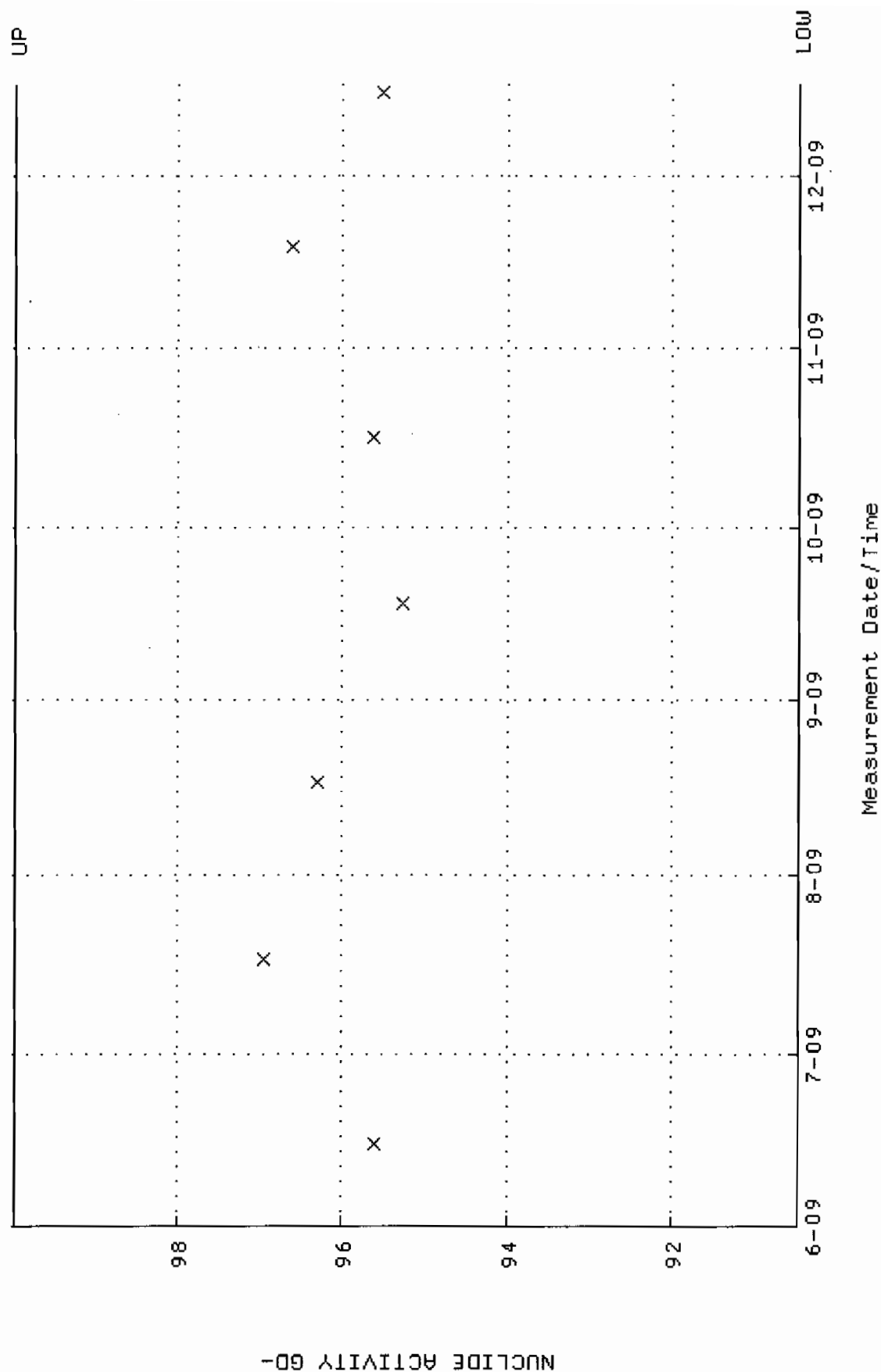
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 15-JUN-2009 10:35:25 through 16-DEC-2009 12:00:00

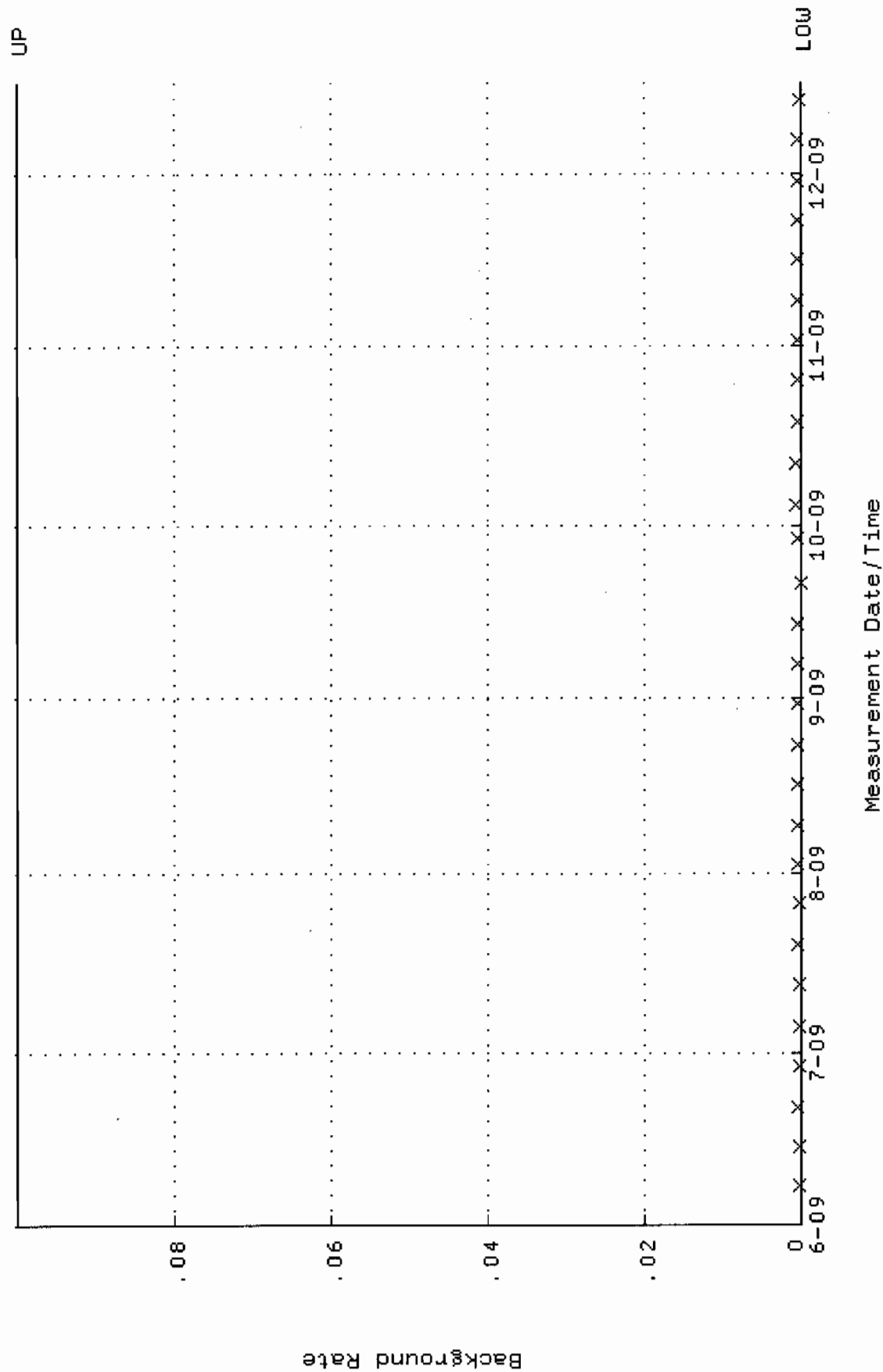
Lower/Upper Lmts: 0.237773 through 0.257773



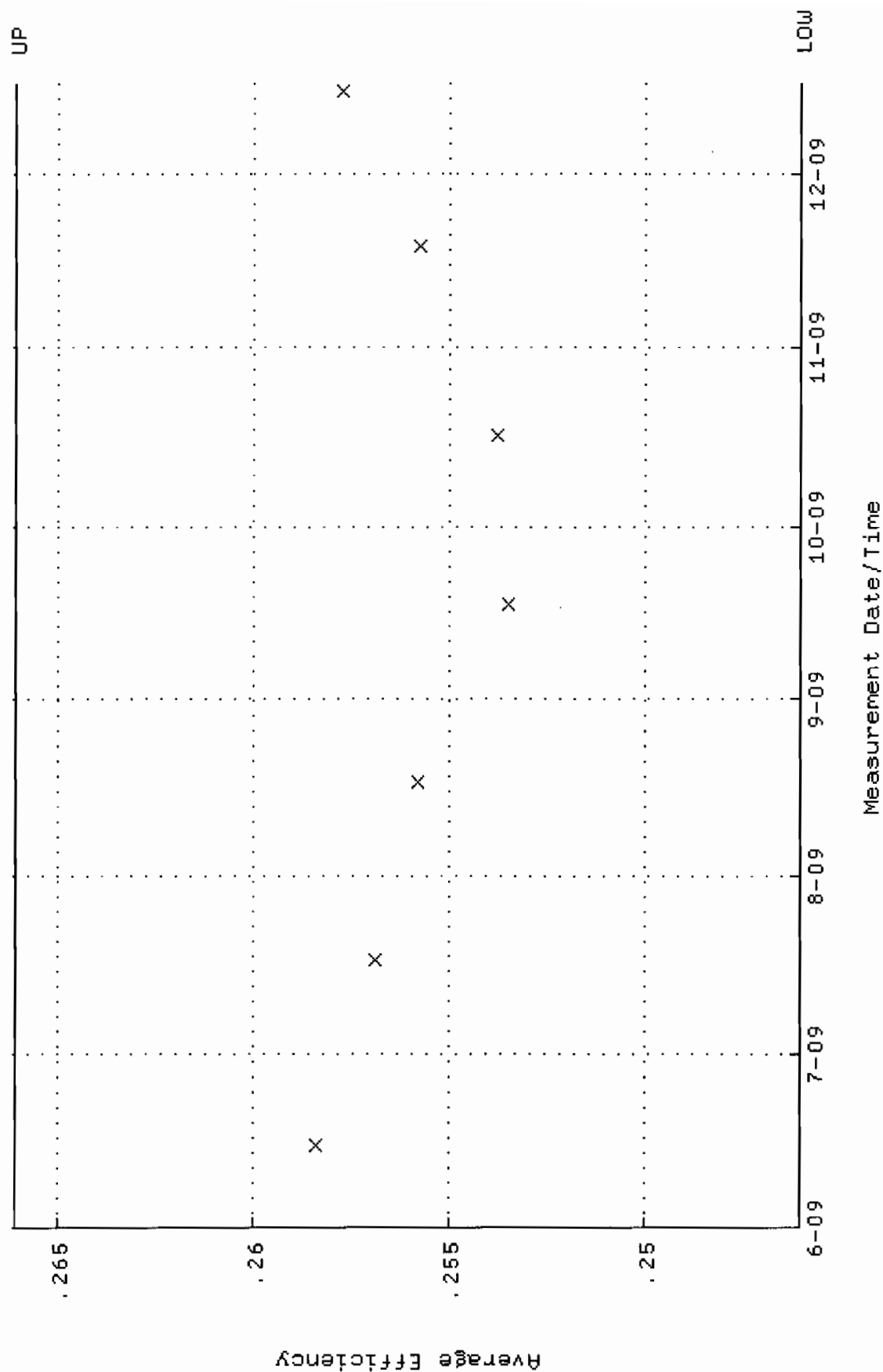
QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:25 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 90.4503 through 99.9713



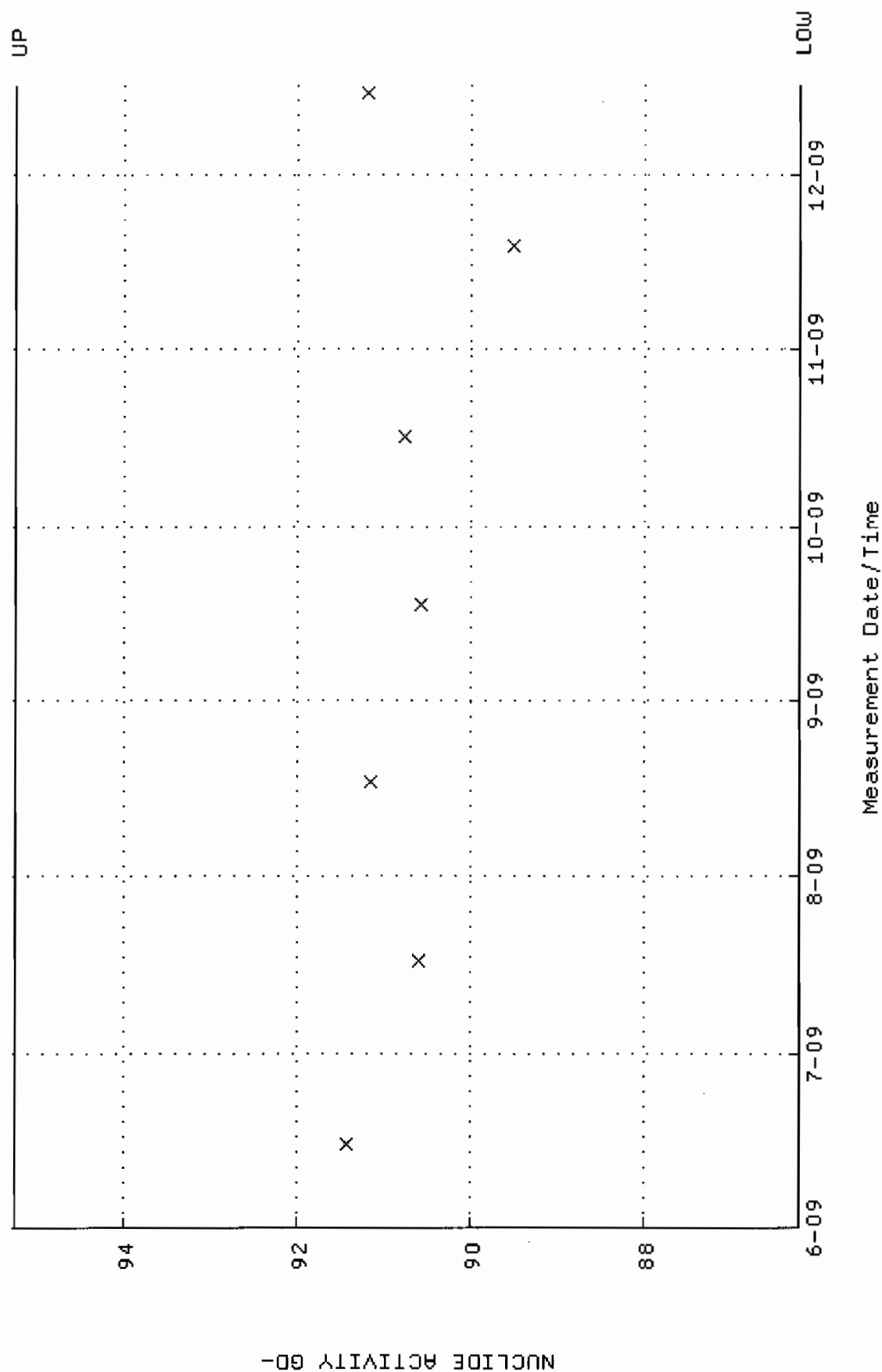
QA filename : DKA100:[ENV_ALPHA.QA.B]B127.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:40 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



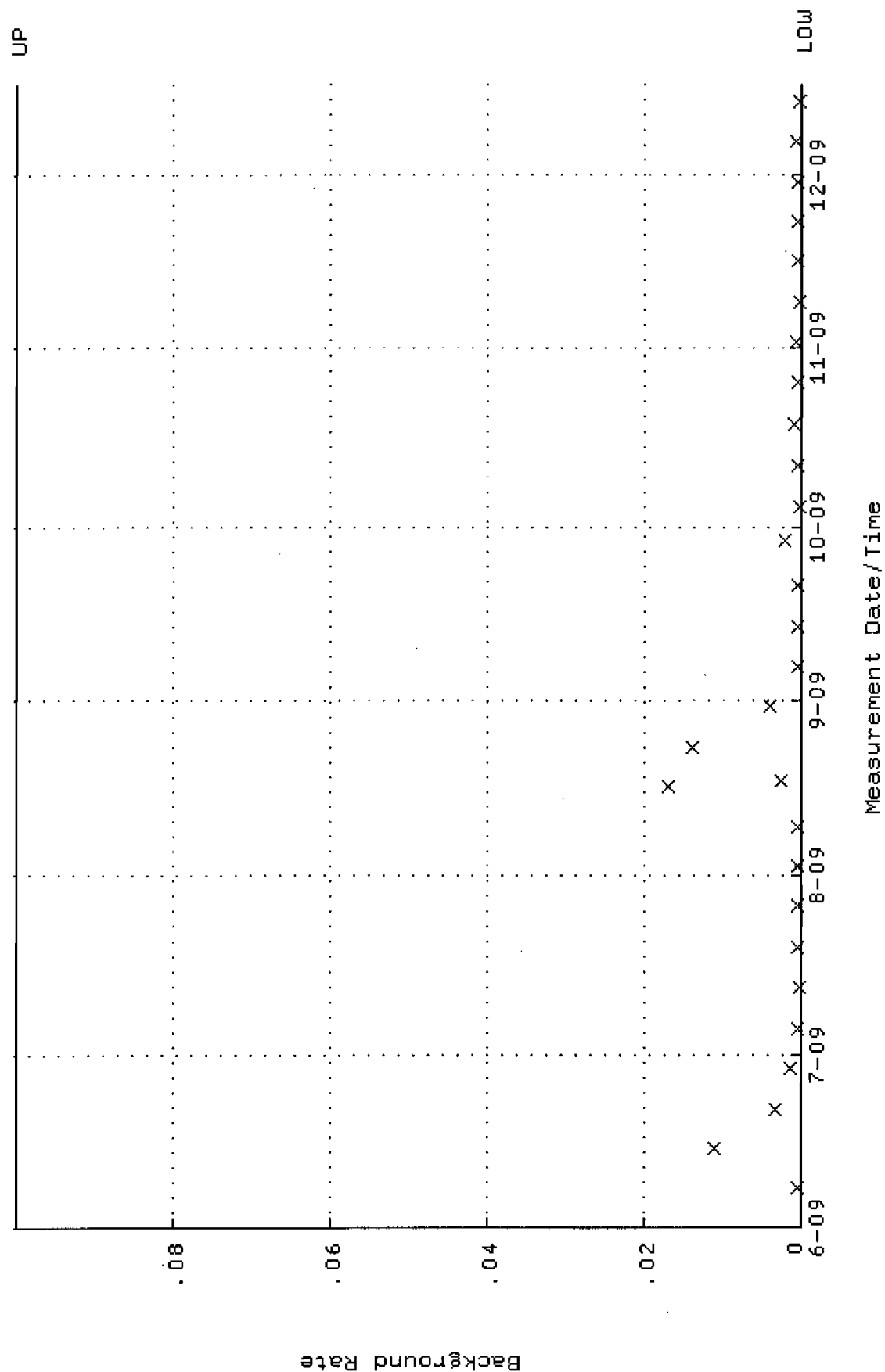
QA filename : DKA100:[ENV-ALPHA.QA.W]W128.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:31 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.246062 through 0.266062



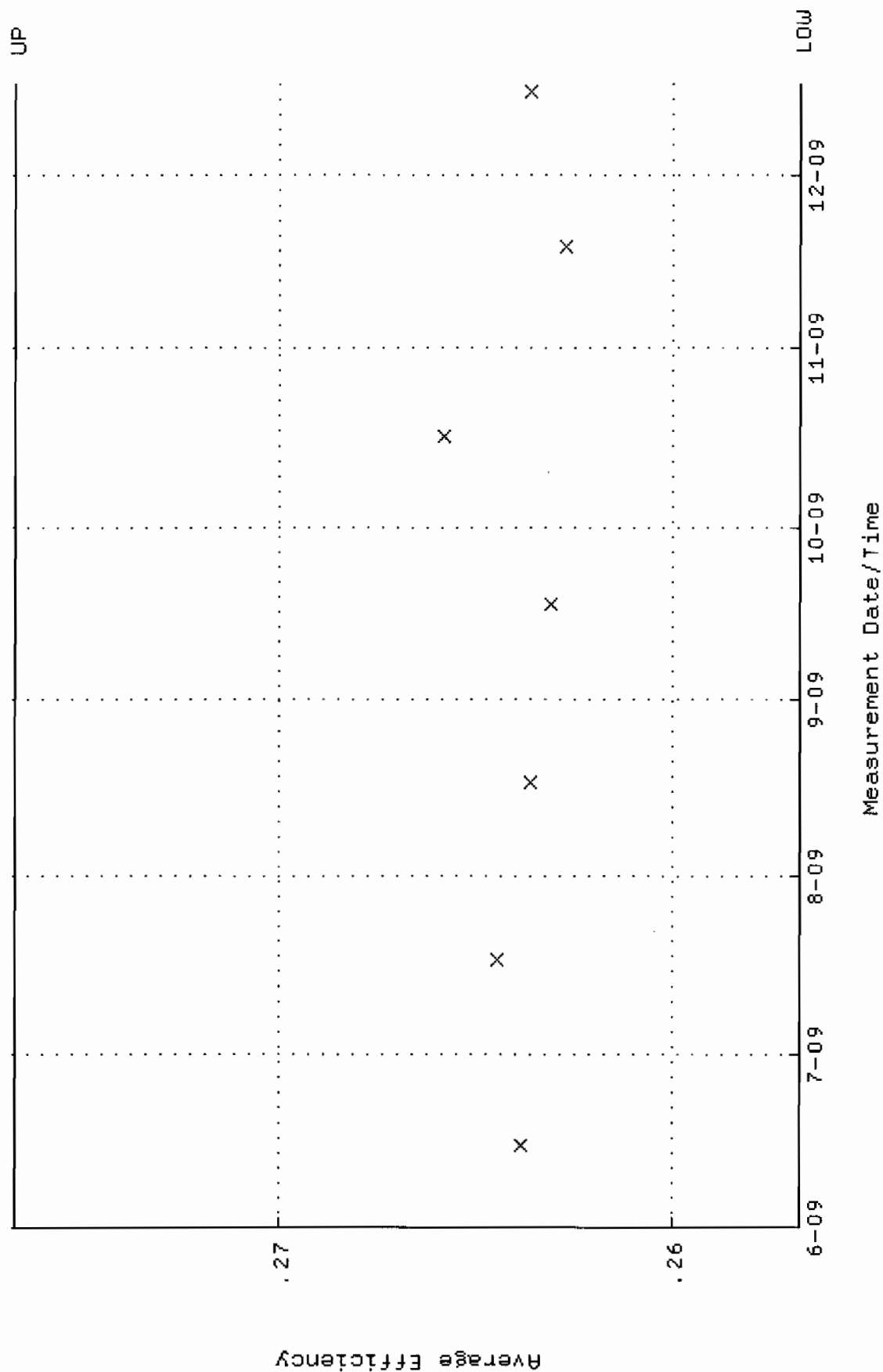
QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:31 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.1964 through 95.2697



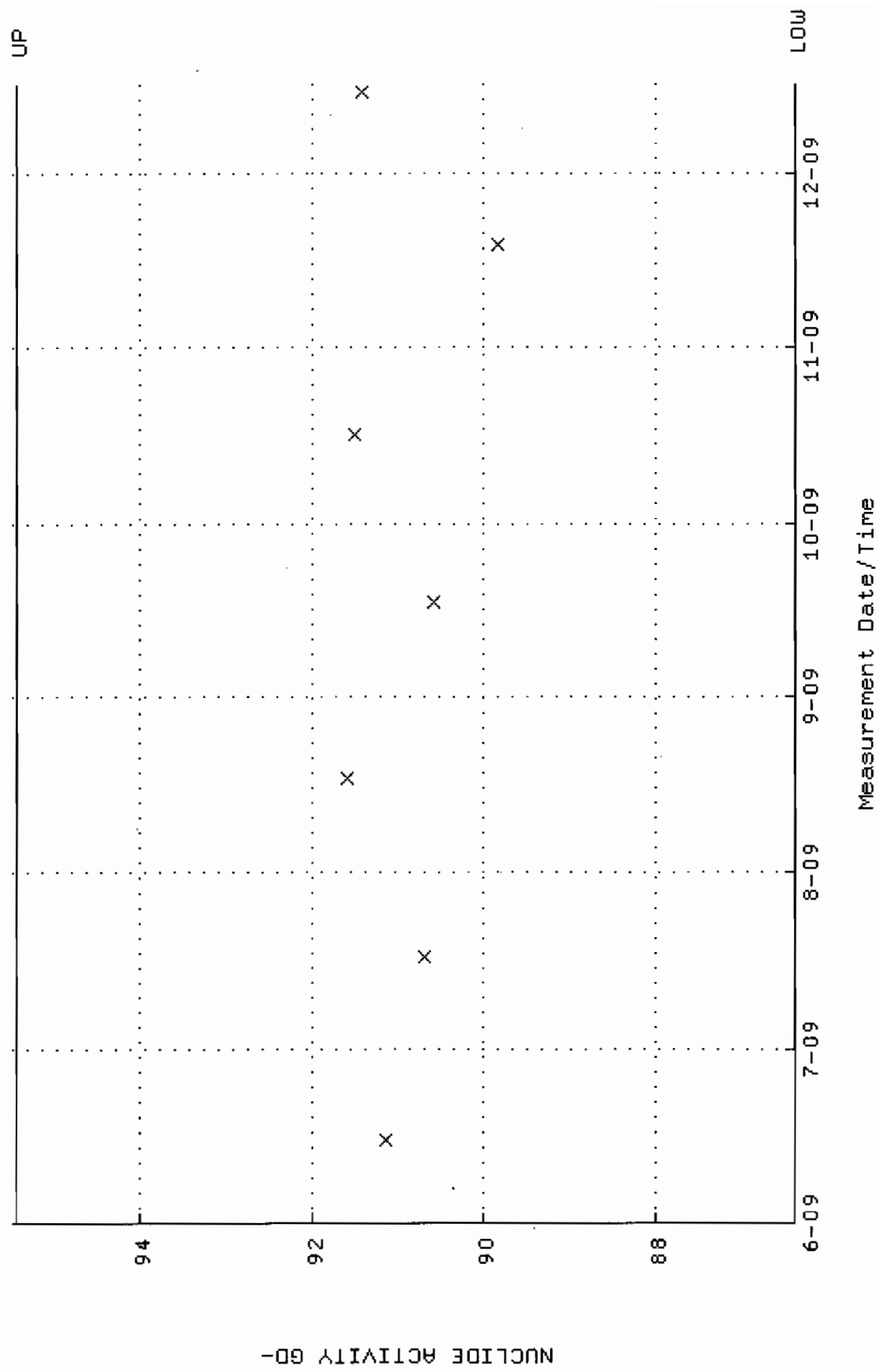
QA filename : DKA100:[ENV_ALPHA.QA.B]B128.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:44 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



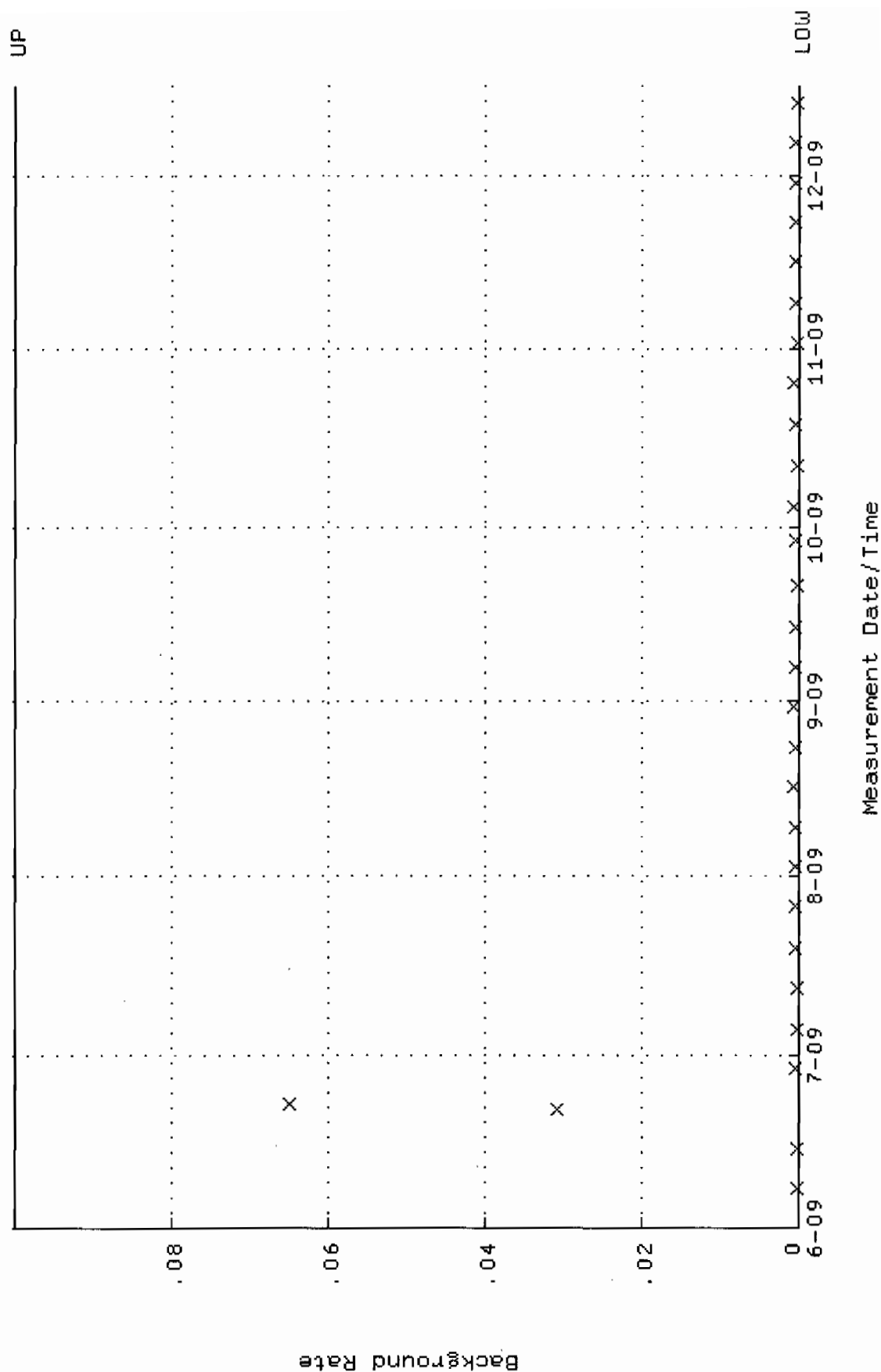
QA filename : OKA100:[ENV_ALPHA.QA.W]W129.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:37 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.256741 through 0.276741



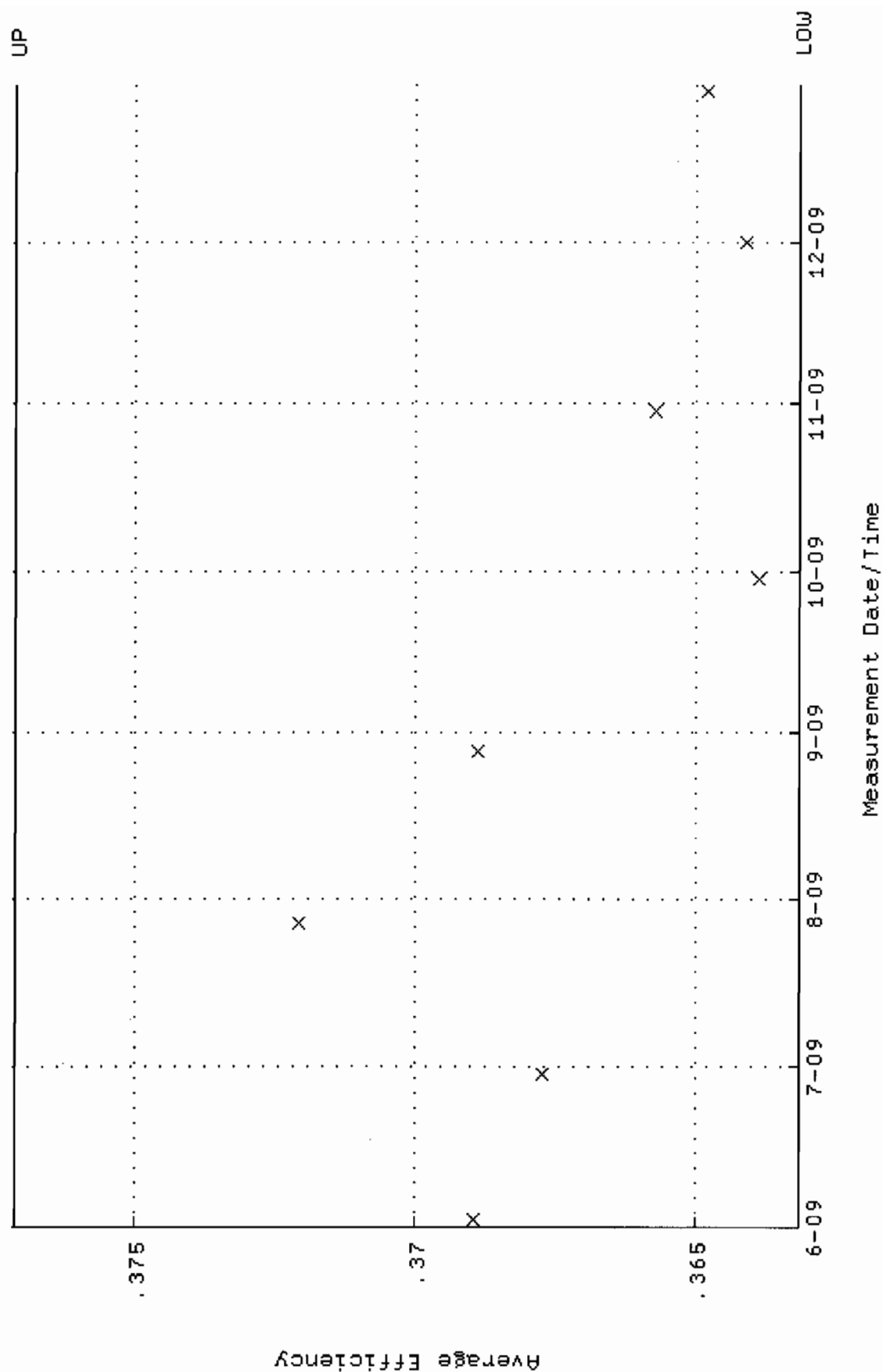
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:35:37 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.3646 through 95.4556



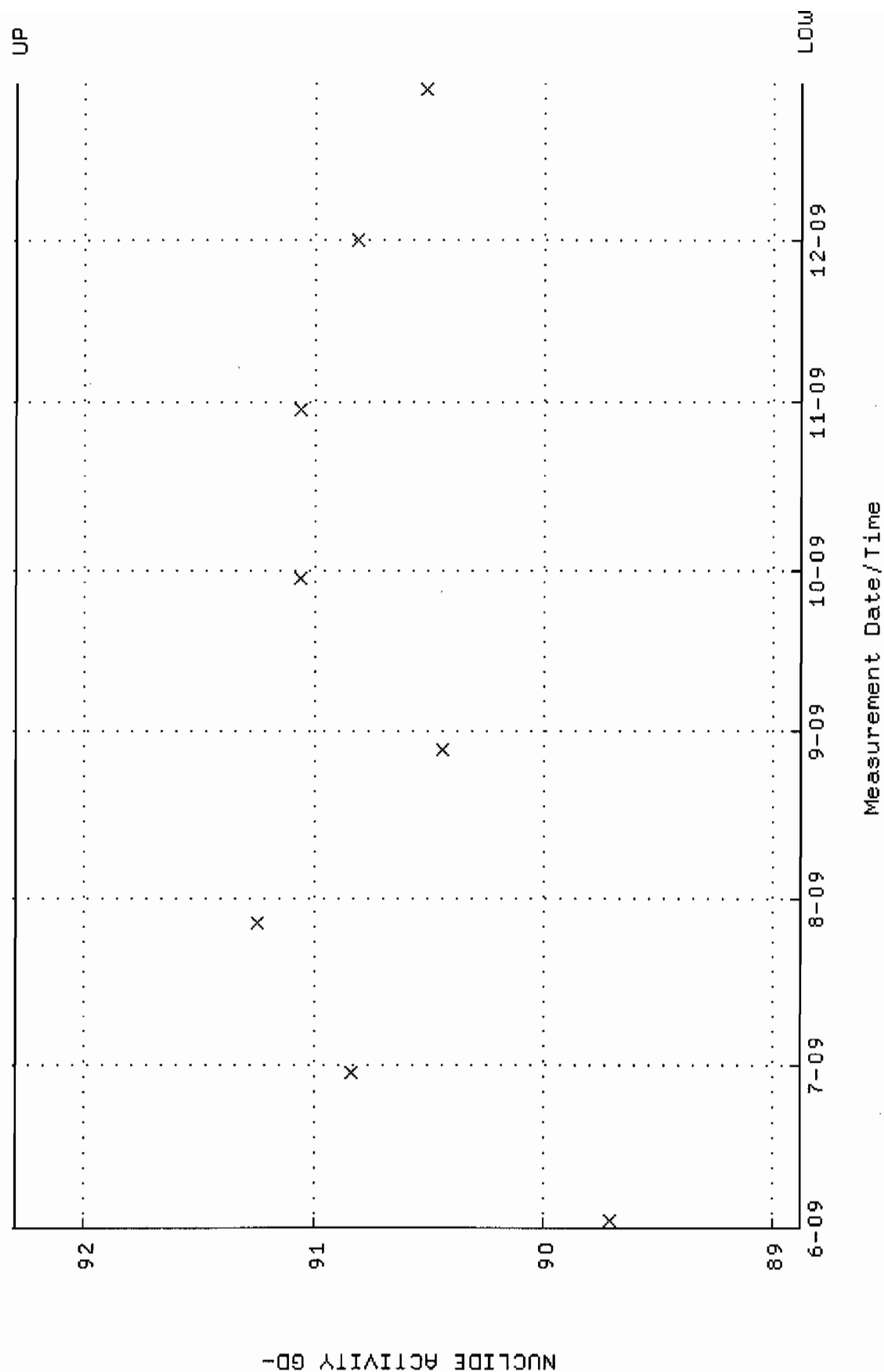
QA filename : DKA100:[ENV_ALPHA.QA.B]B129.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:48 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



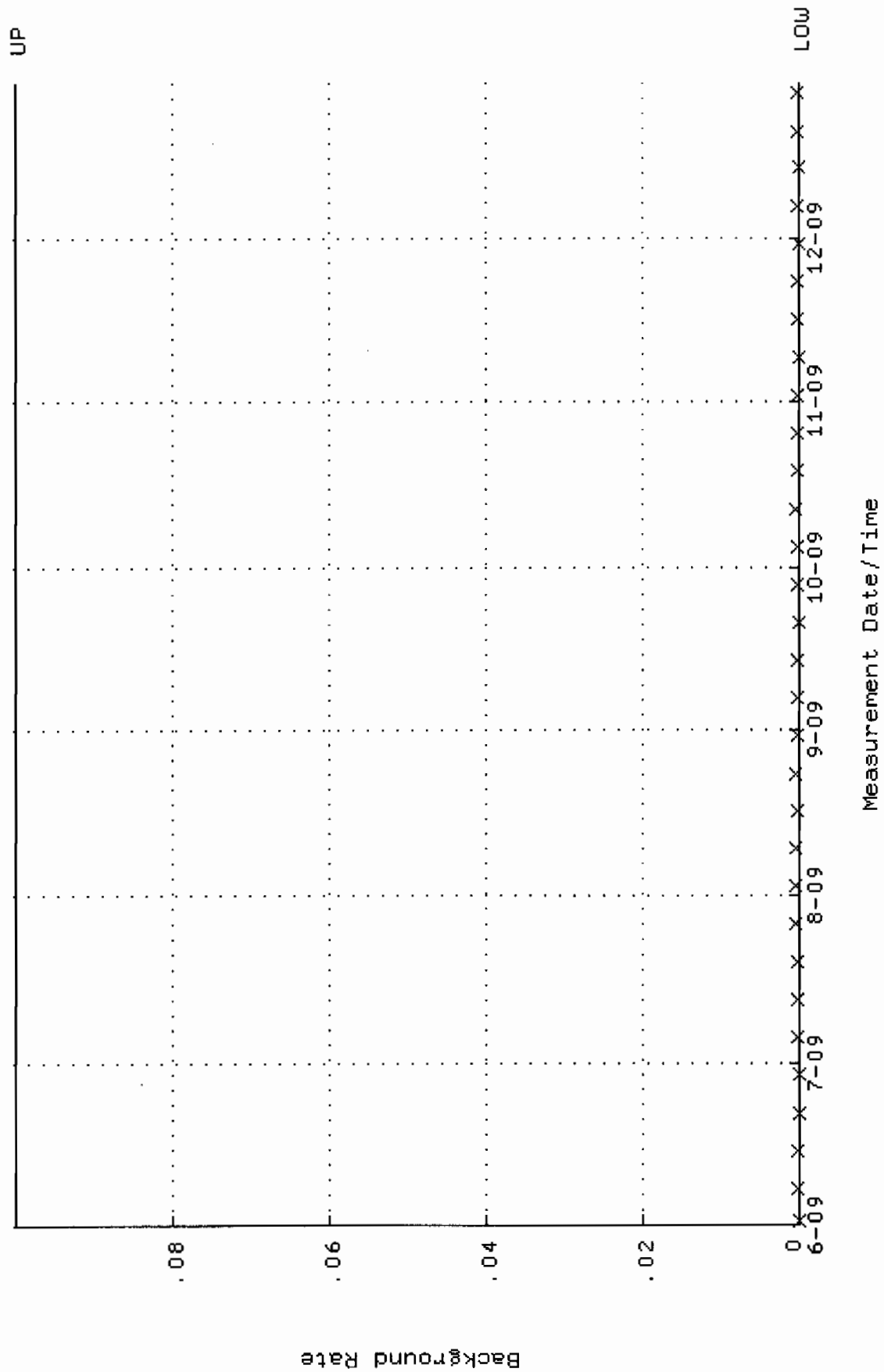
QA filename : DKA100:[ENV_ALPHA.QA.W]W209.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:17:06 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.363151 through 0.377133



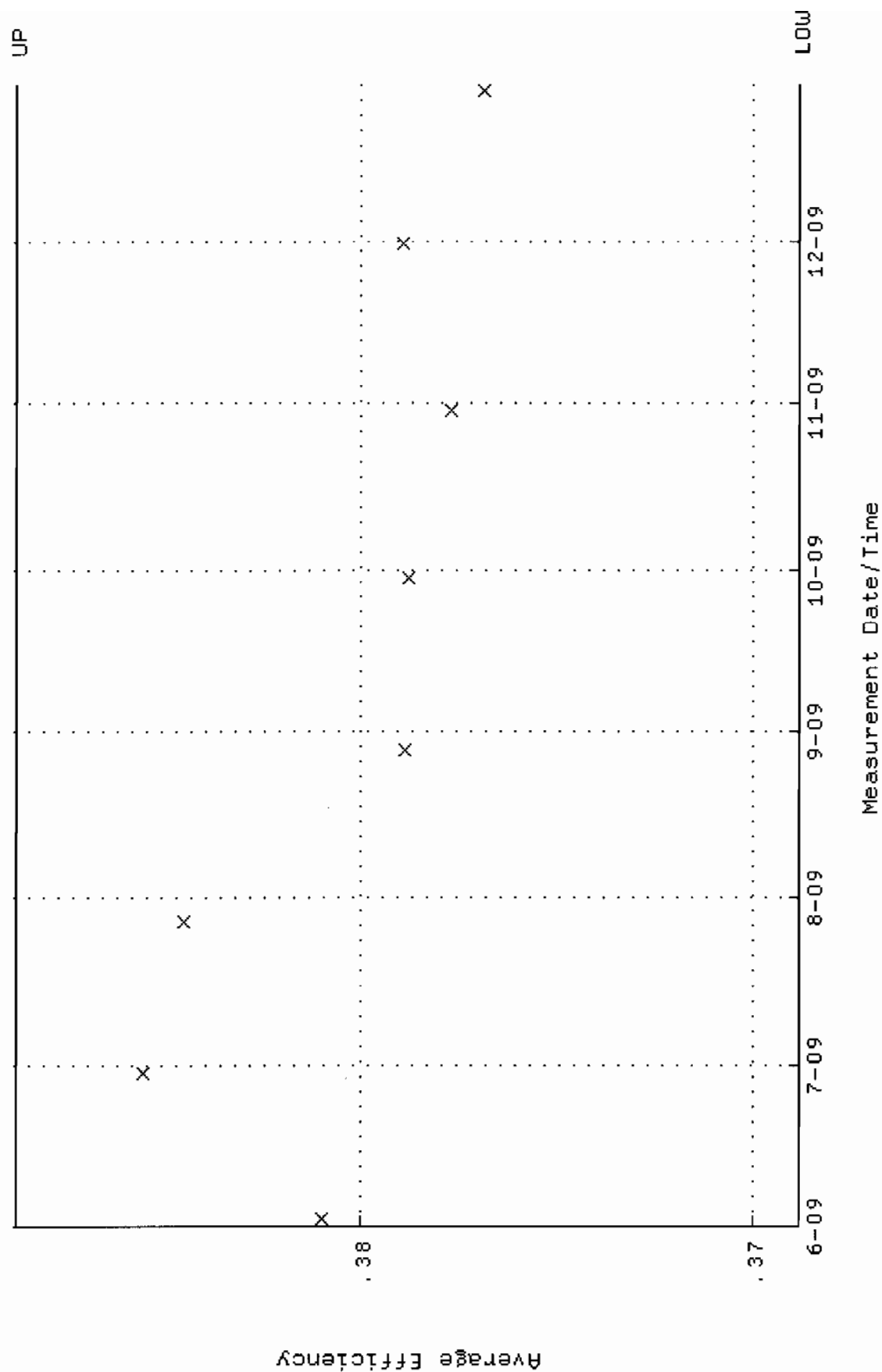
QA filename : DKR100:[ENV_ALPHA.QA.W]w209.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:17:06 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 88.8827 through 92.2979



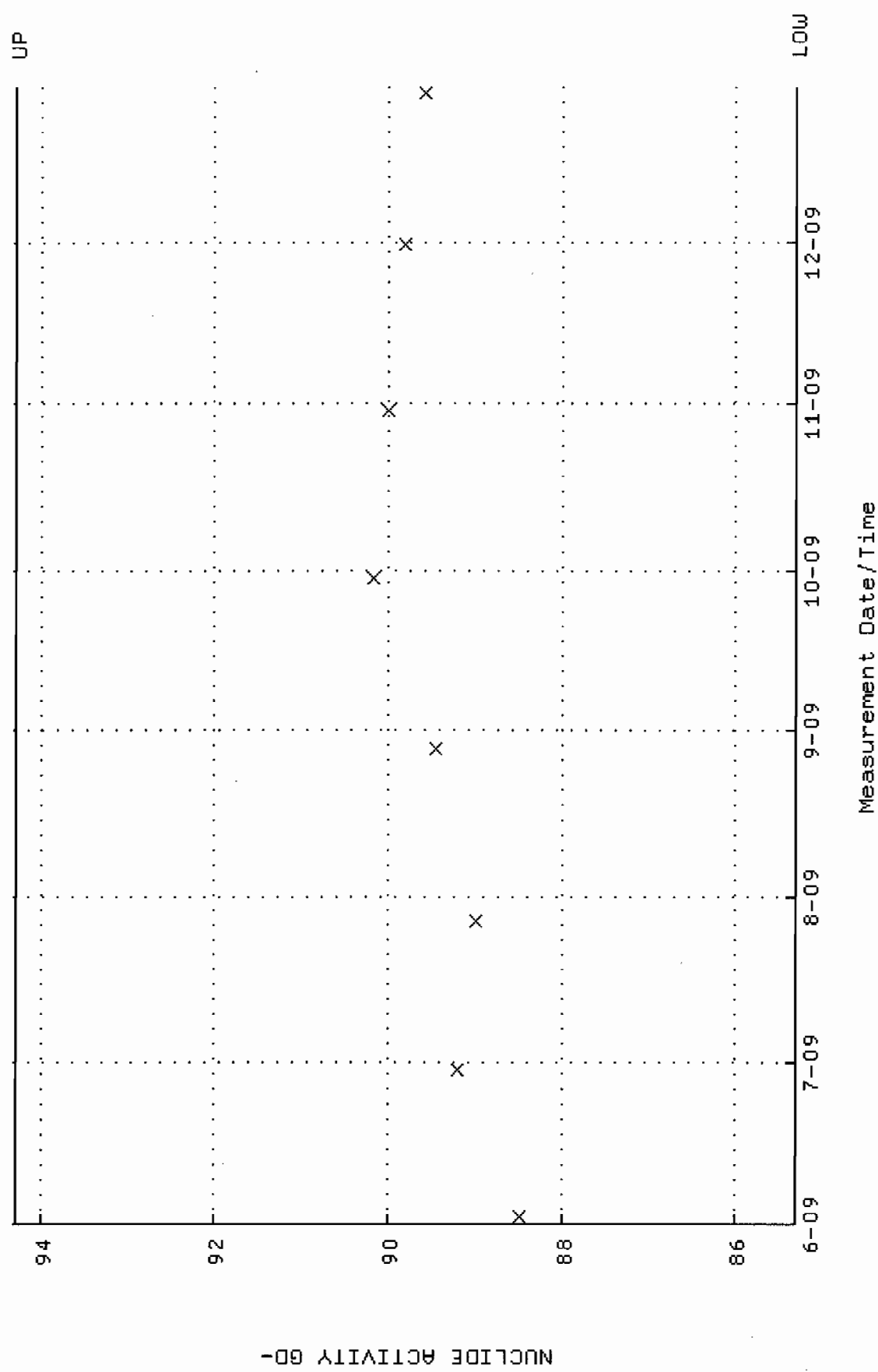
QA filename : DKA100:[ENV_ALPHA.QA.B]B209.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:43:30 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



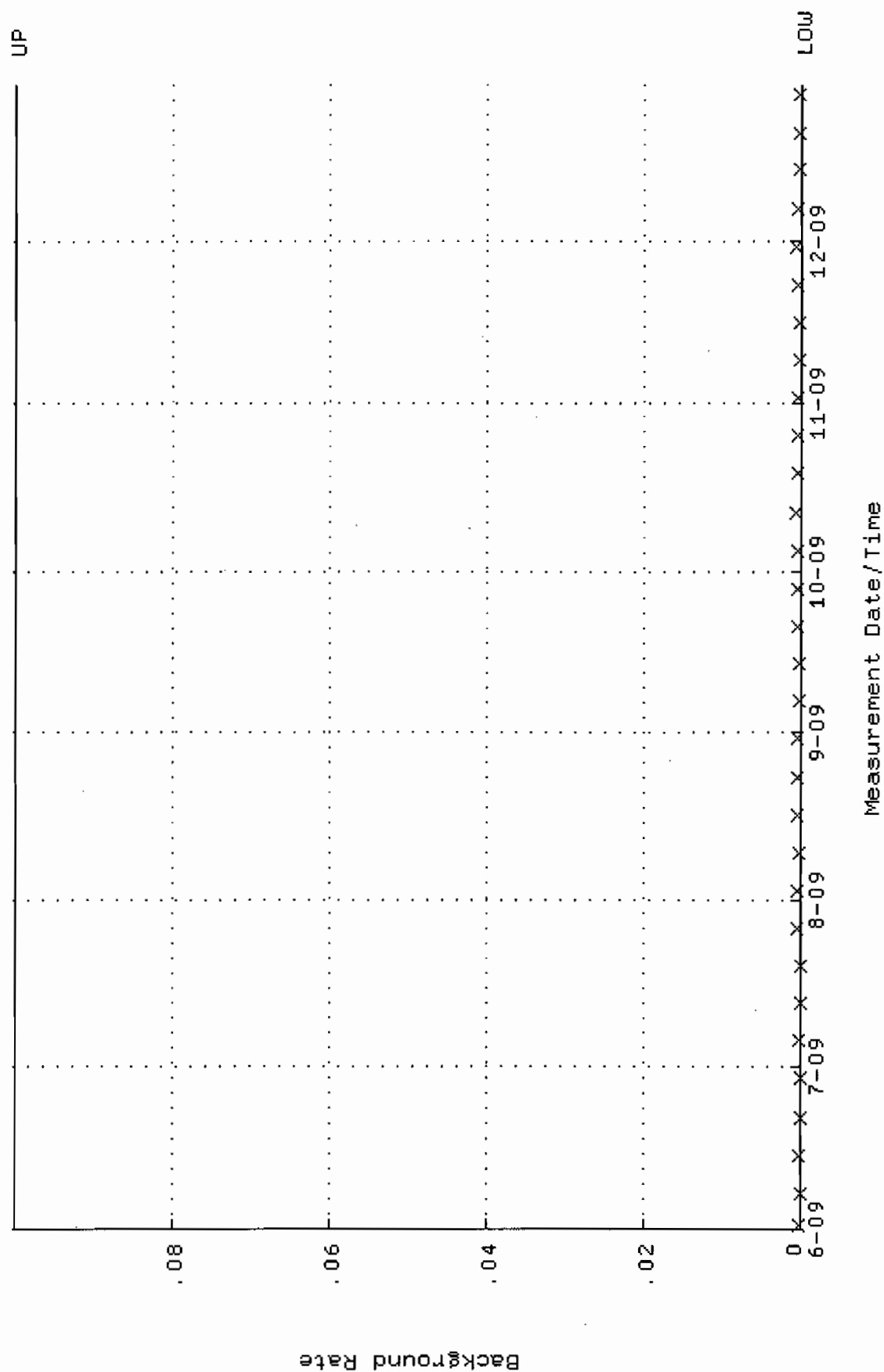
QA filename : DKA100:[ENV_ALPHA.QA.W]W224.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:26 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.368812 through 0.388812



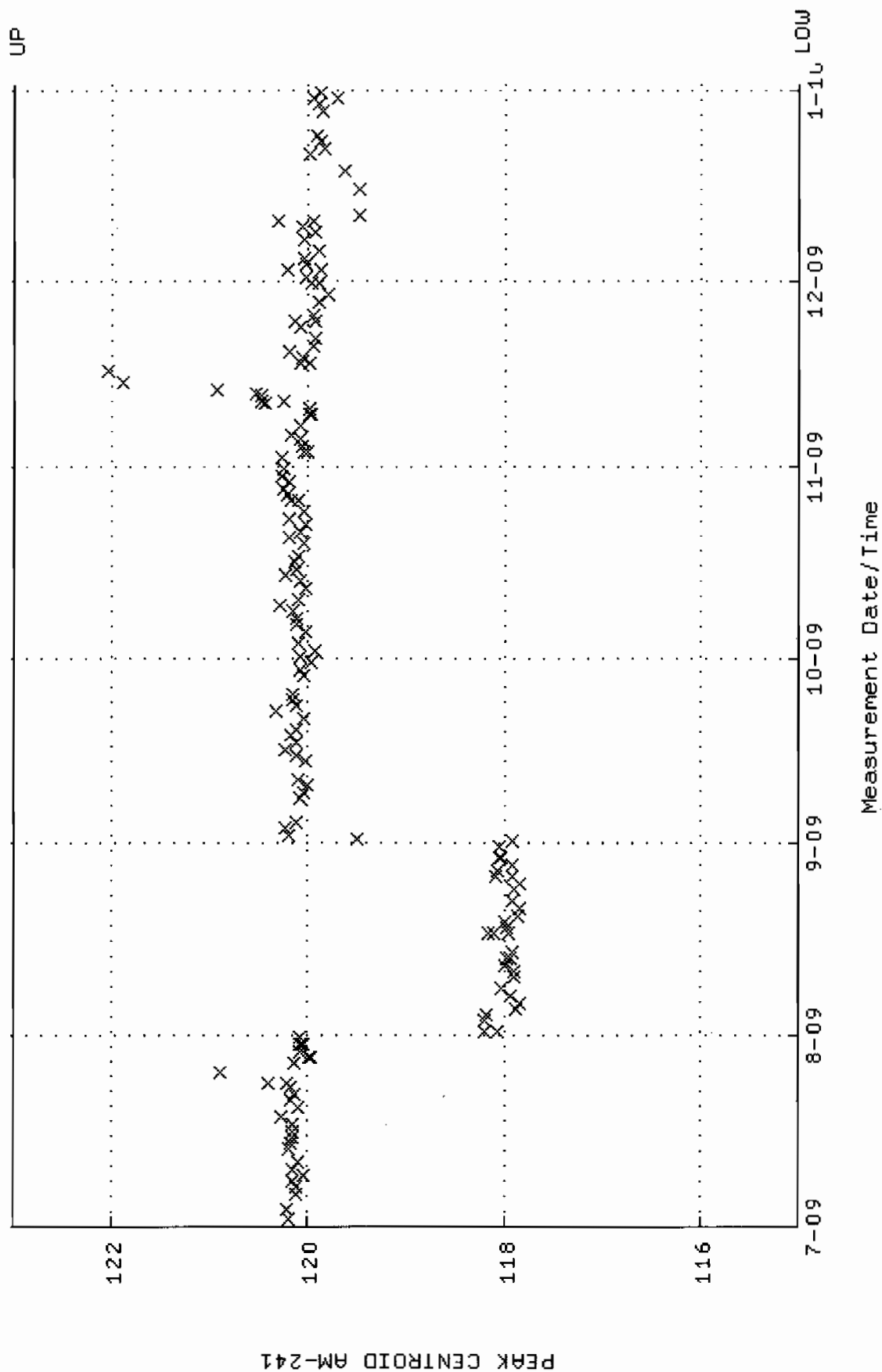
QA filename : DKA100:[ENV_ALPHA.QA.W]W224.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:26 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 85.3066 through 94.2862



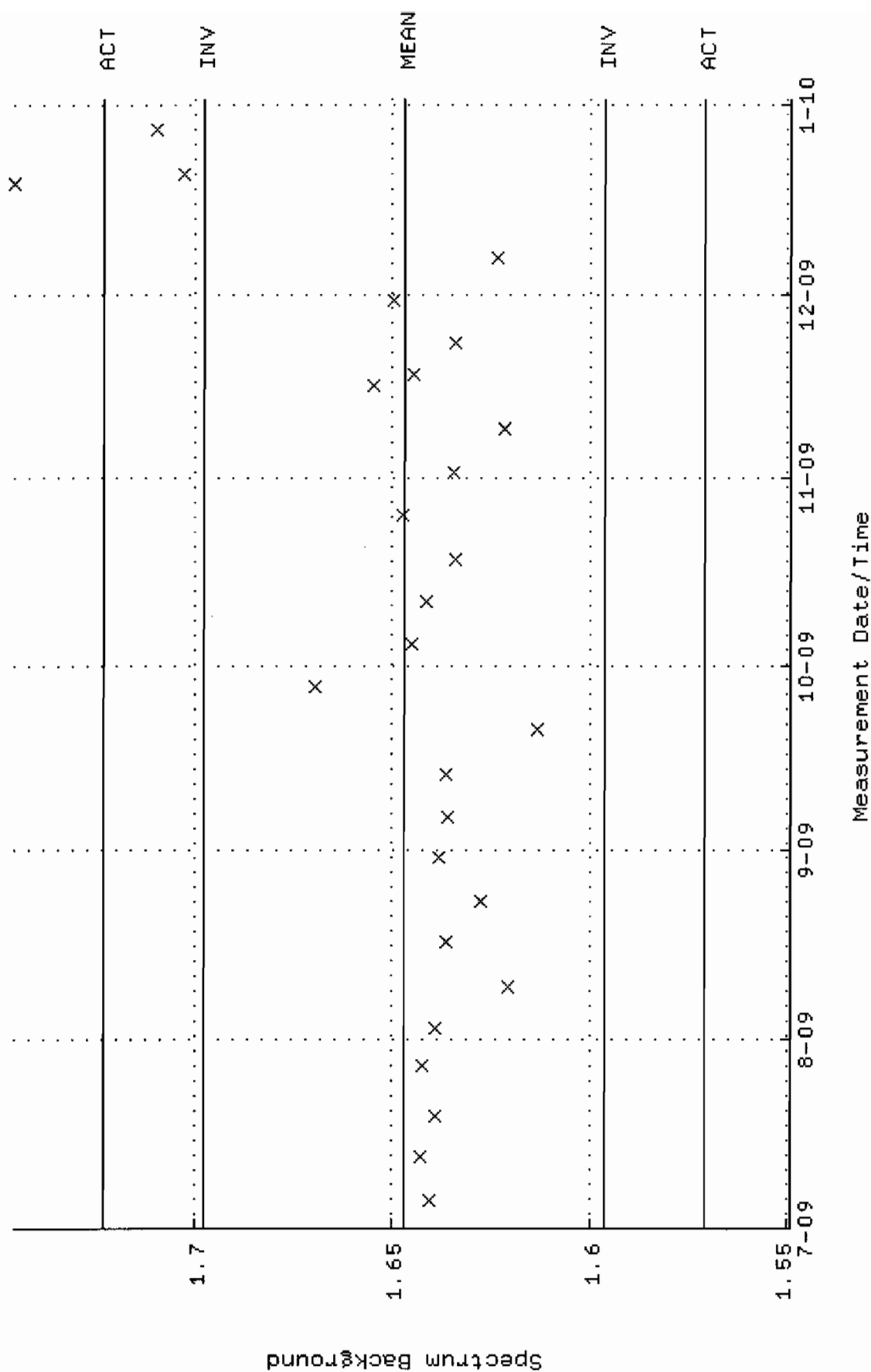
QA filename : DKA100:[ENV_ALPHA.QA.B]B224.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:39 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



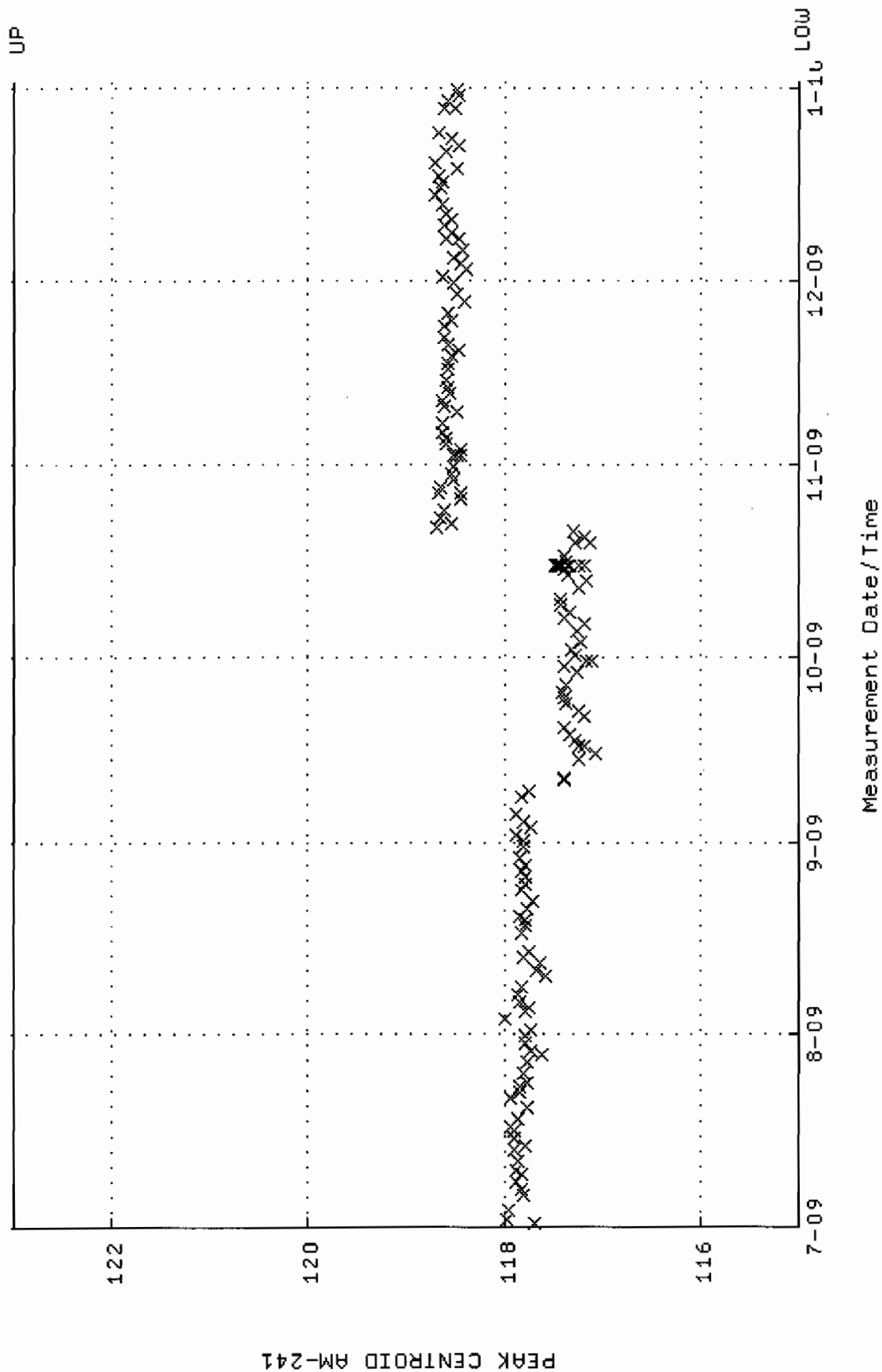
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:08 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



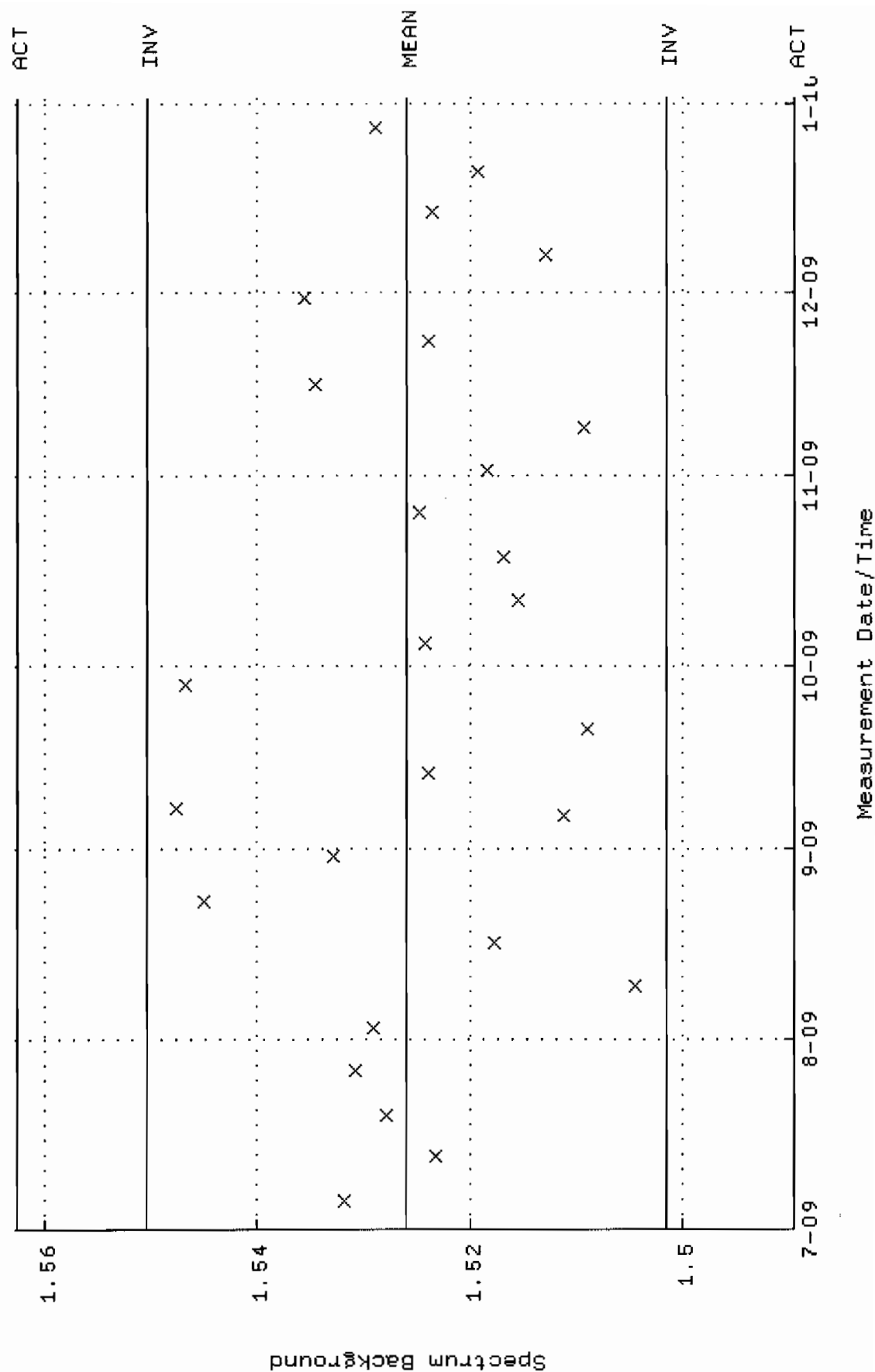
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM05.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:50:04 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.64719 +- 2.547087E-02 (1.55 %)



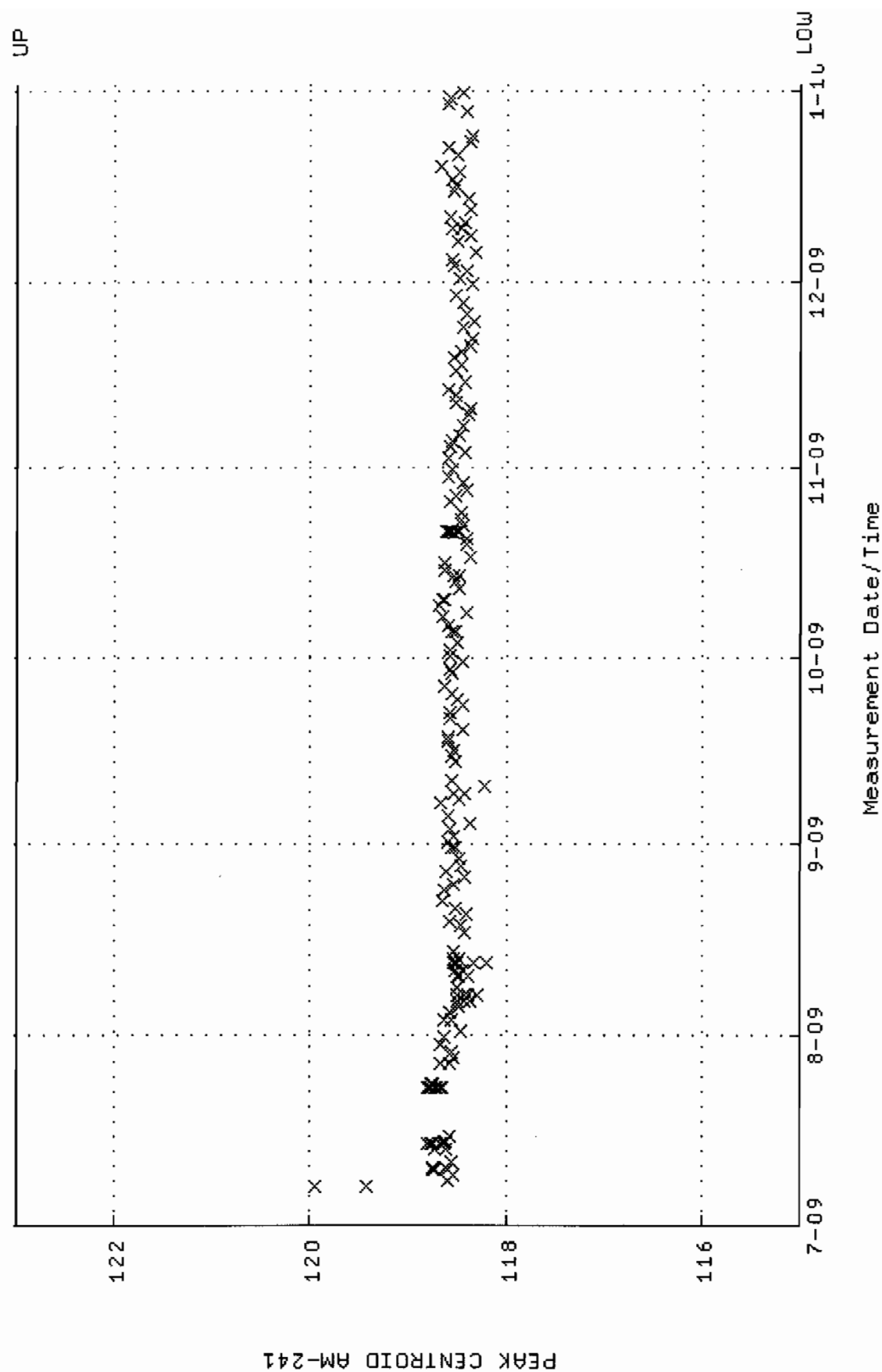
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-JUL-2009 14:30:59 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



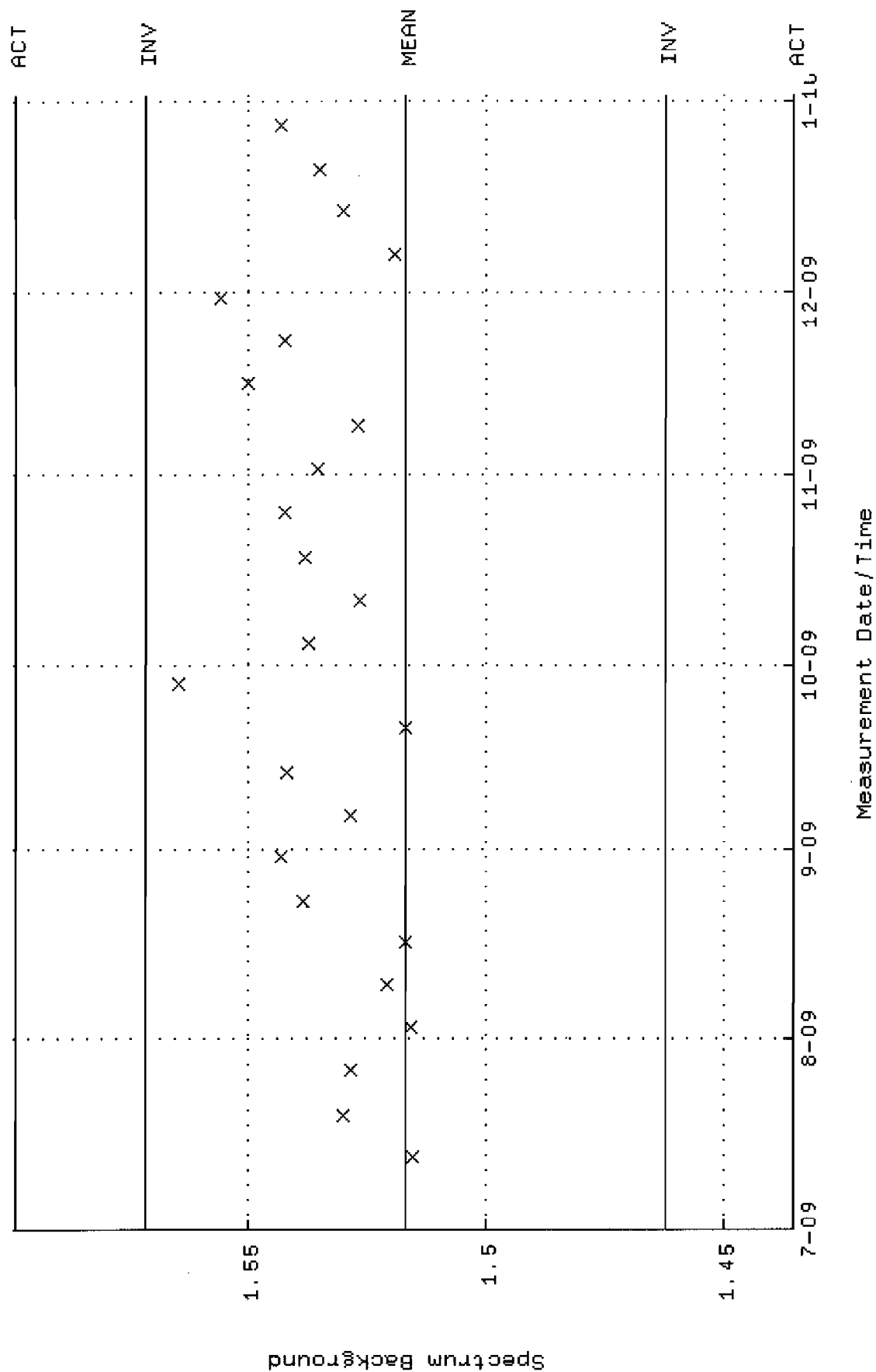
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM06.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:50:15 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.52603 +- 1.215987E-02 (0.80 %)



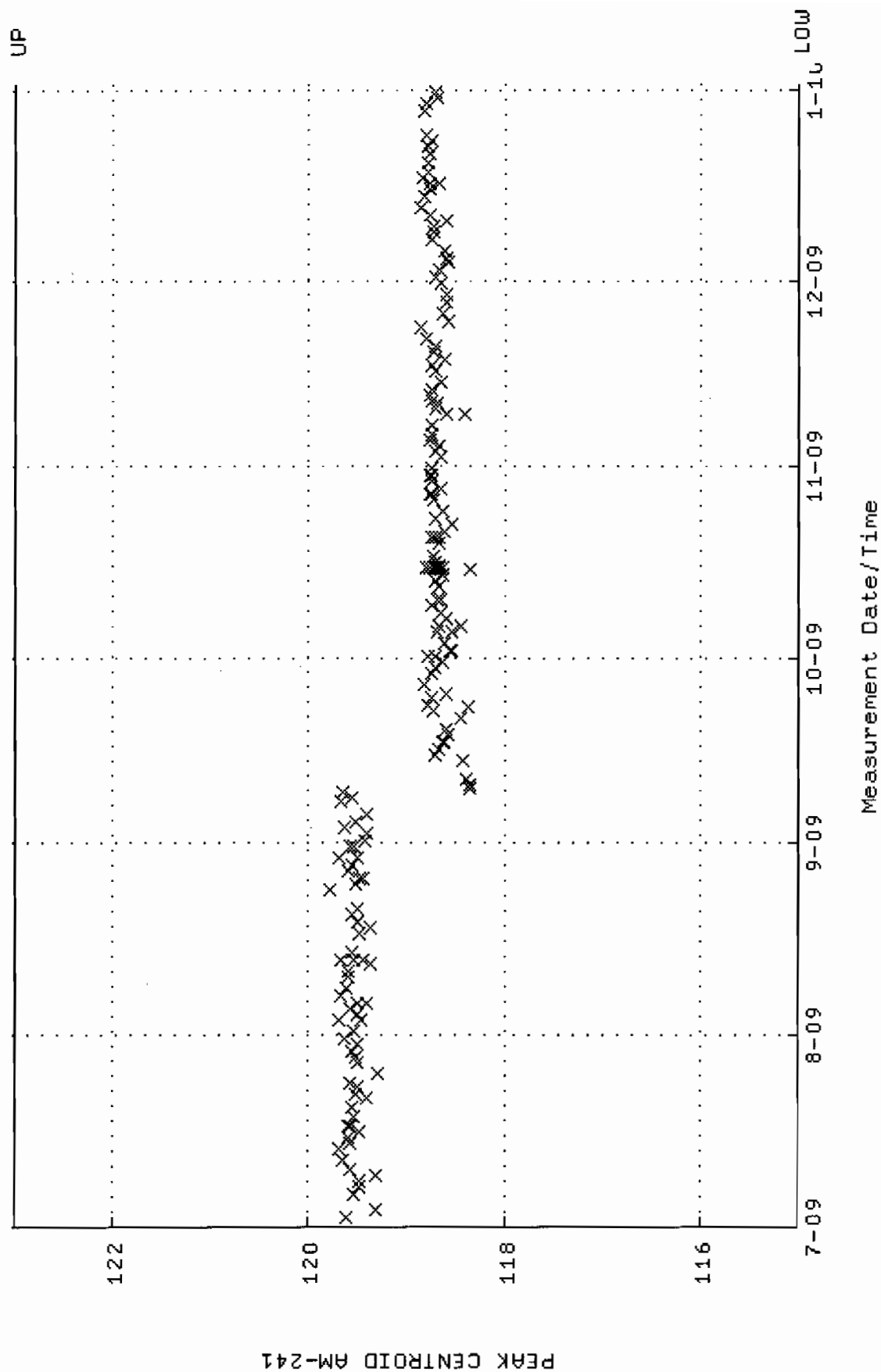
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 7-JUL-2009 09:02:00 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



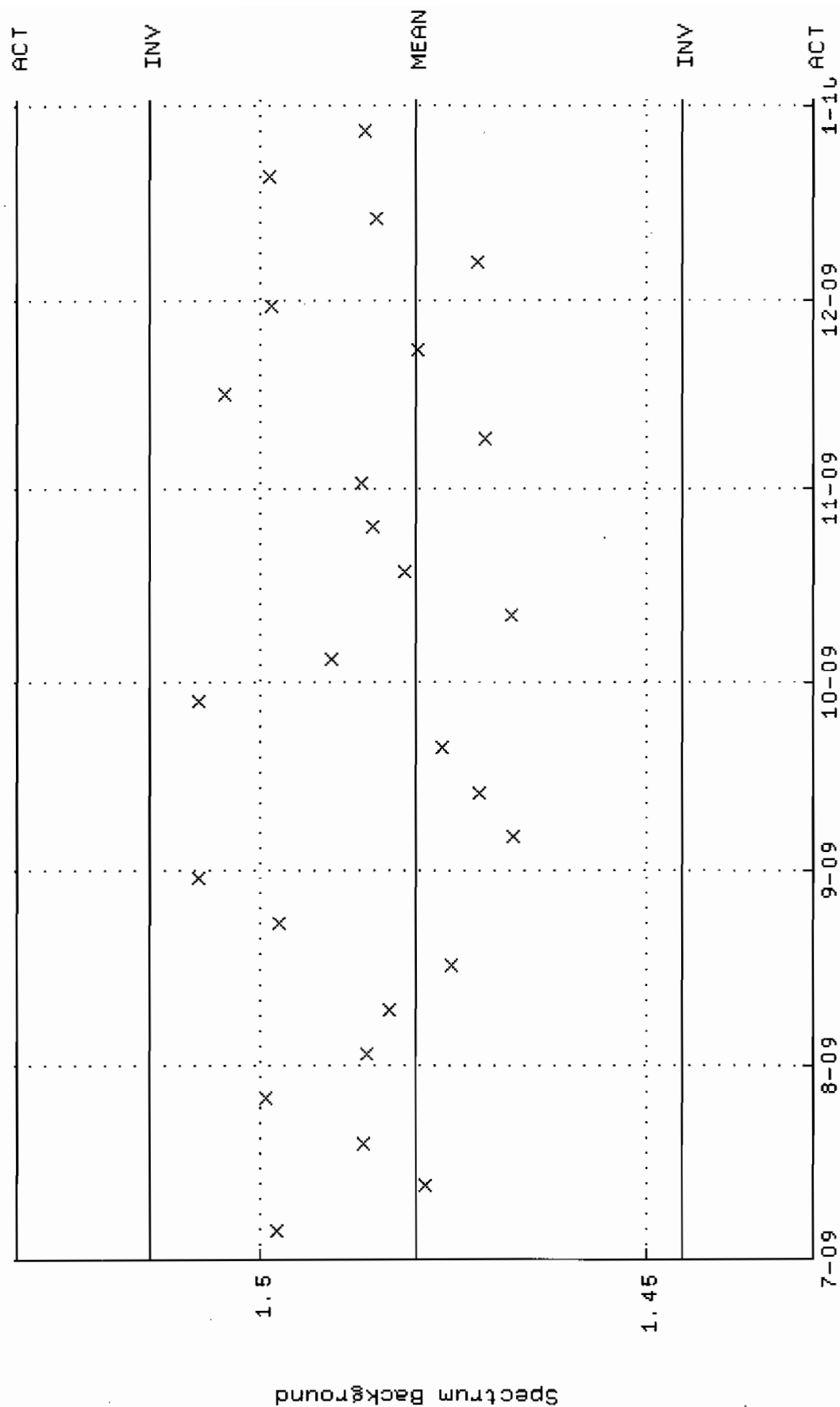
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 12-JUL-2009 17:17:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



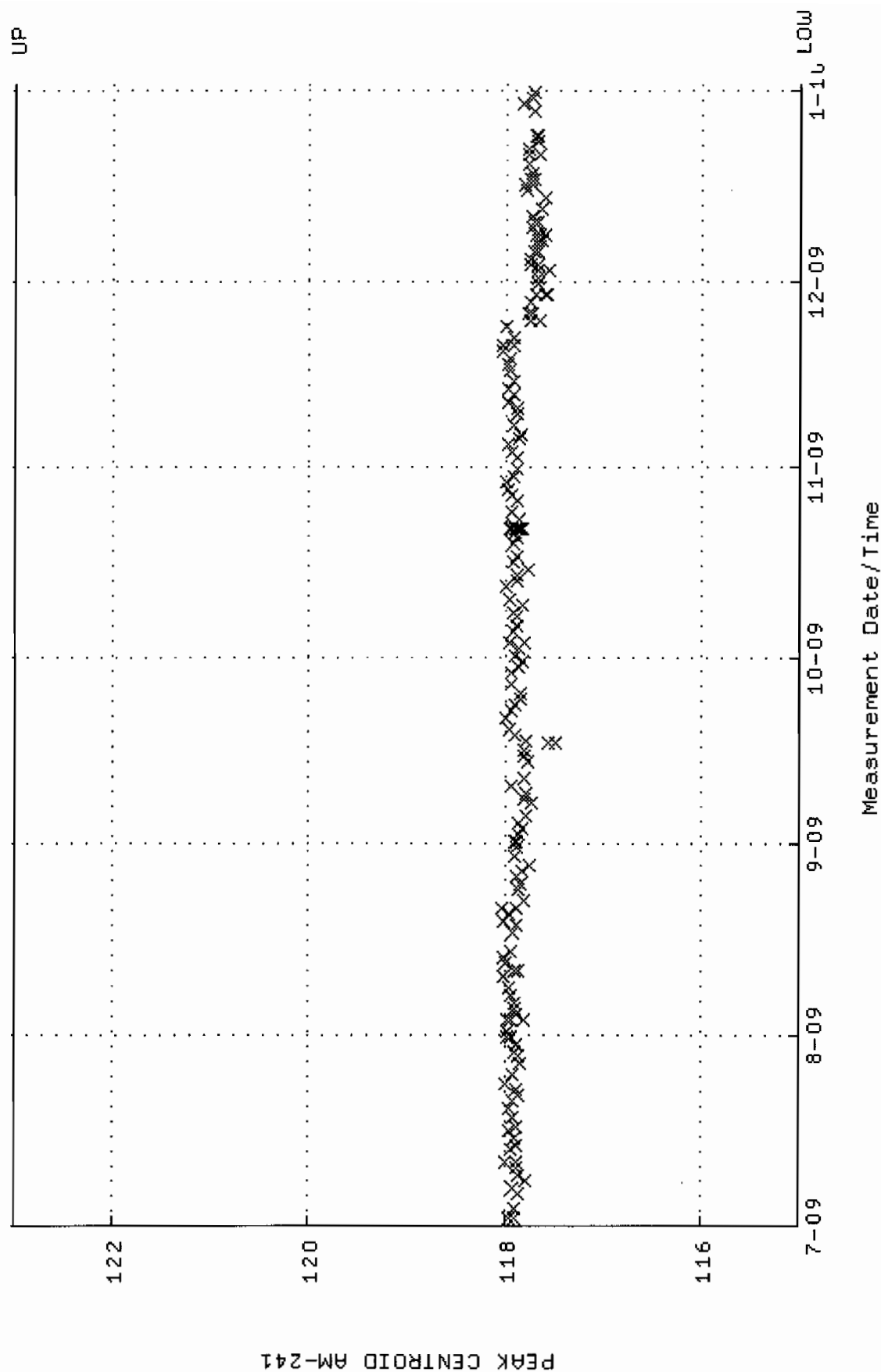
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM10-500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:17 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



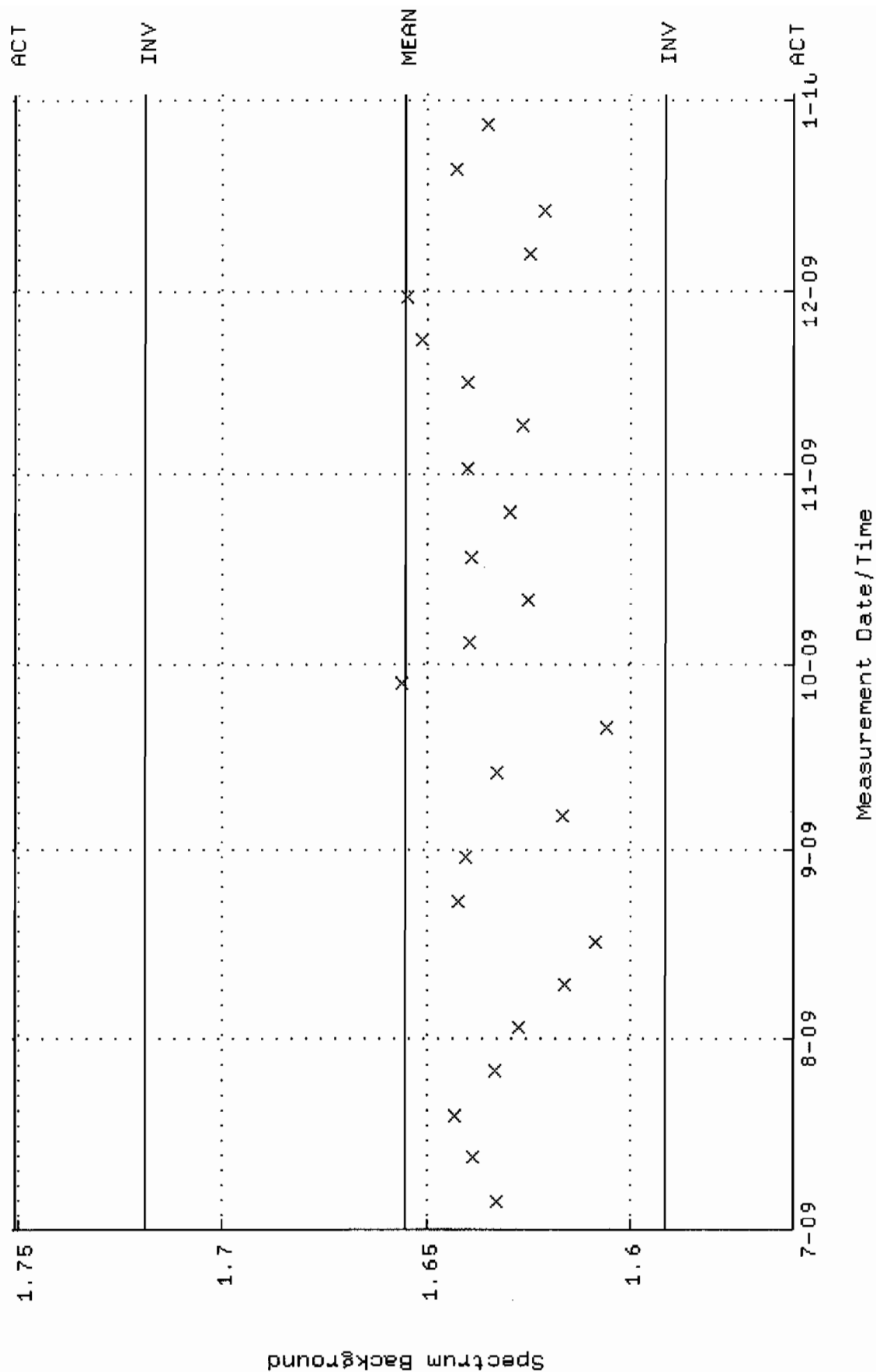
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:51:14 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



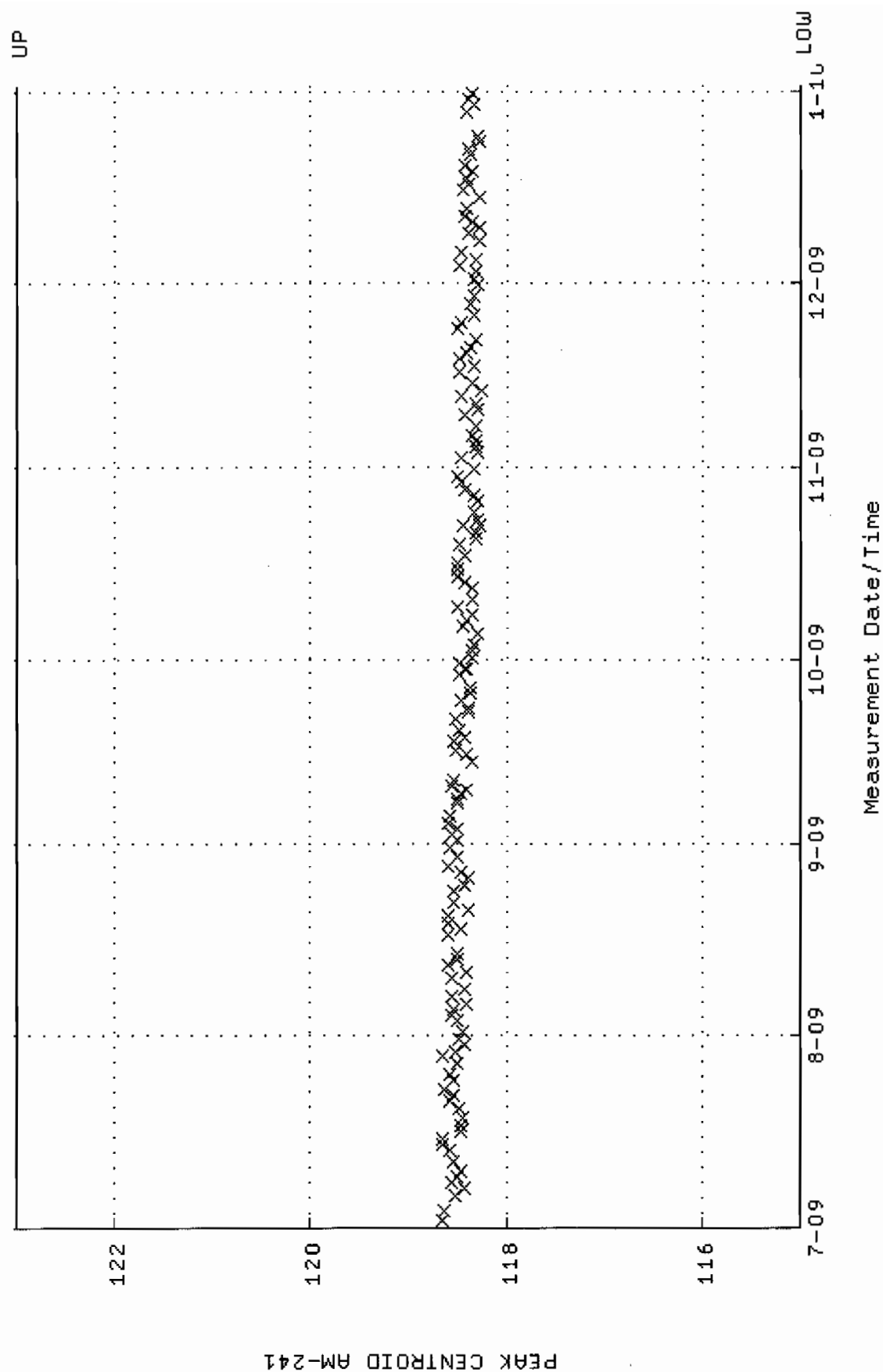
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM11_JAR.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:04 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



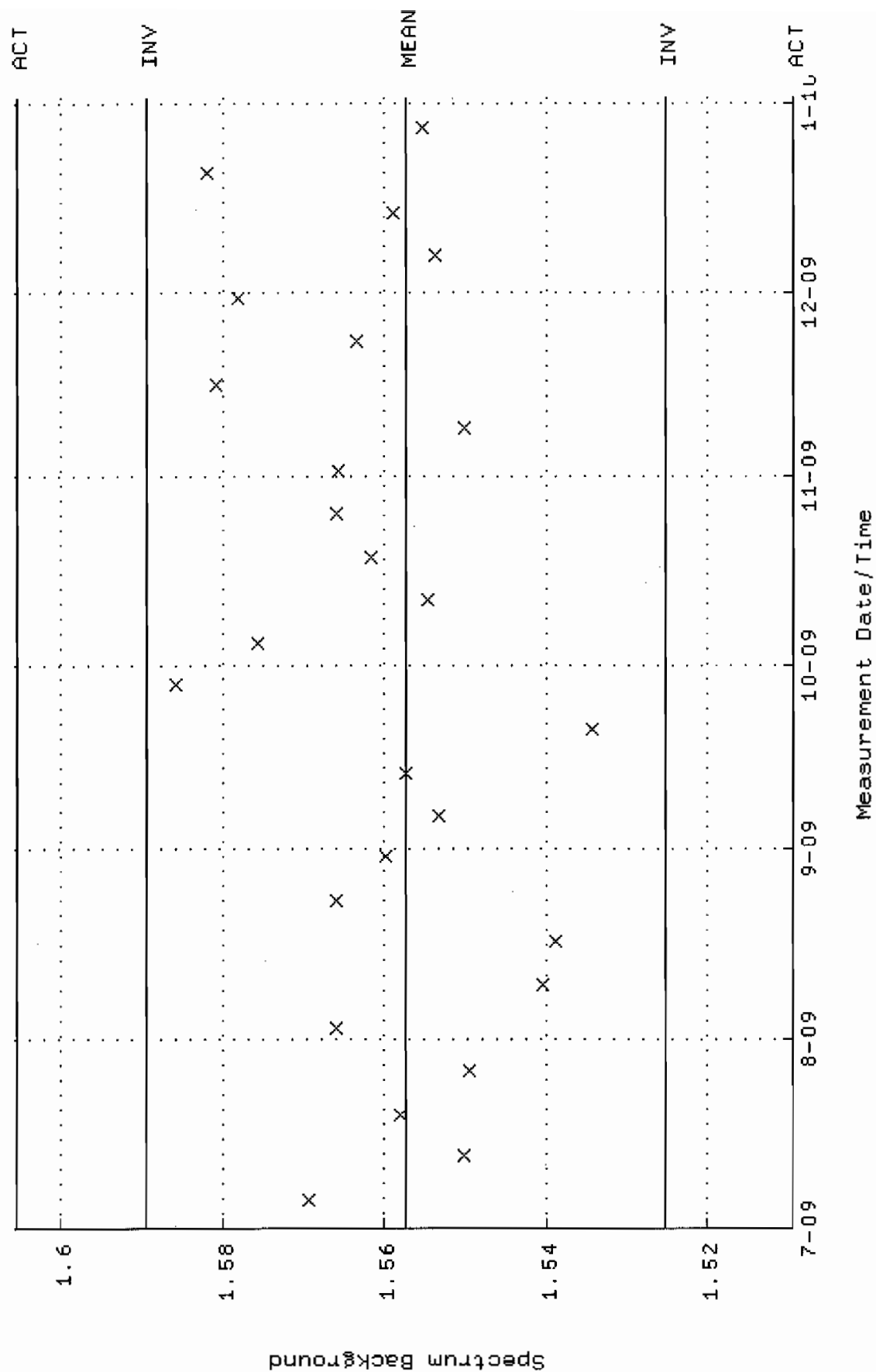
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:51:39 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



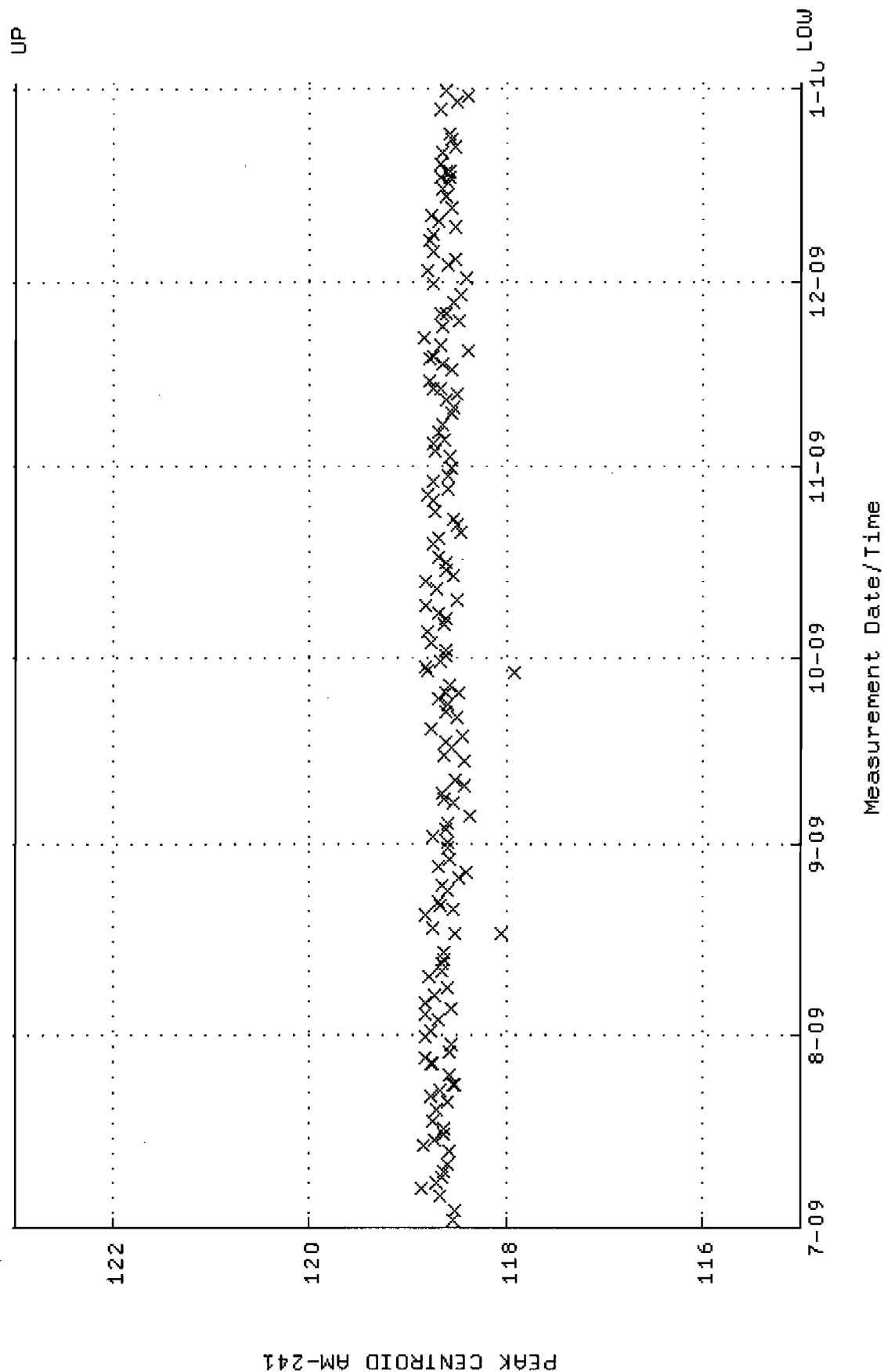
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:11 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



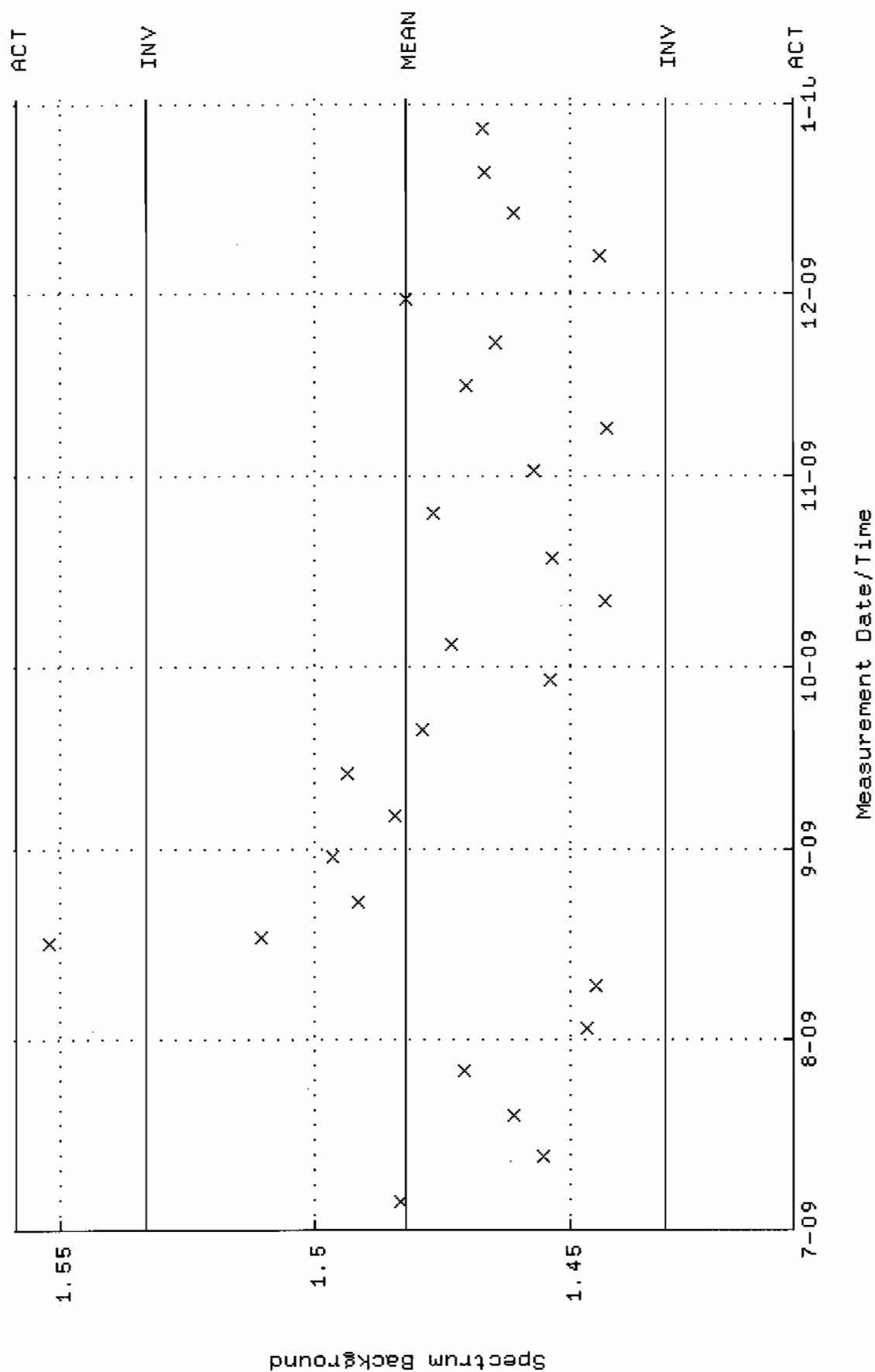
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:04 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



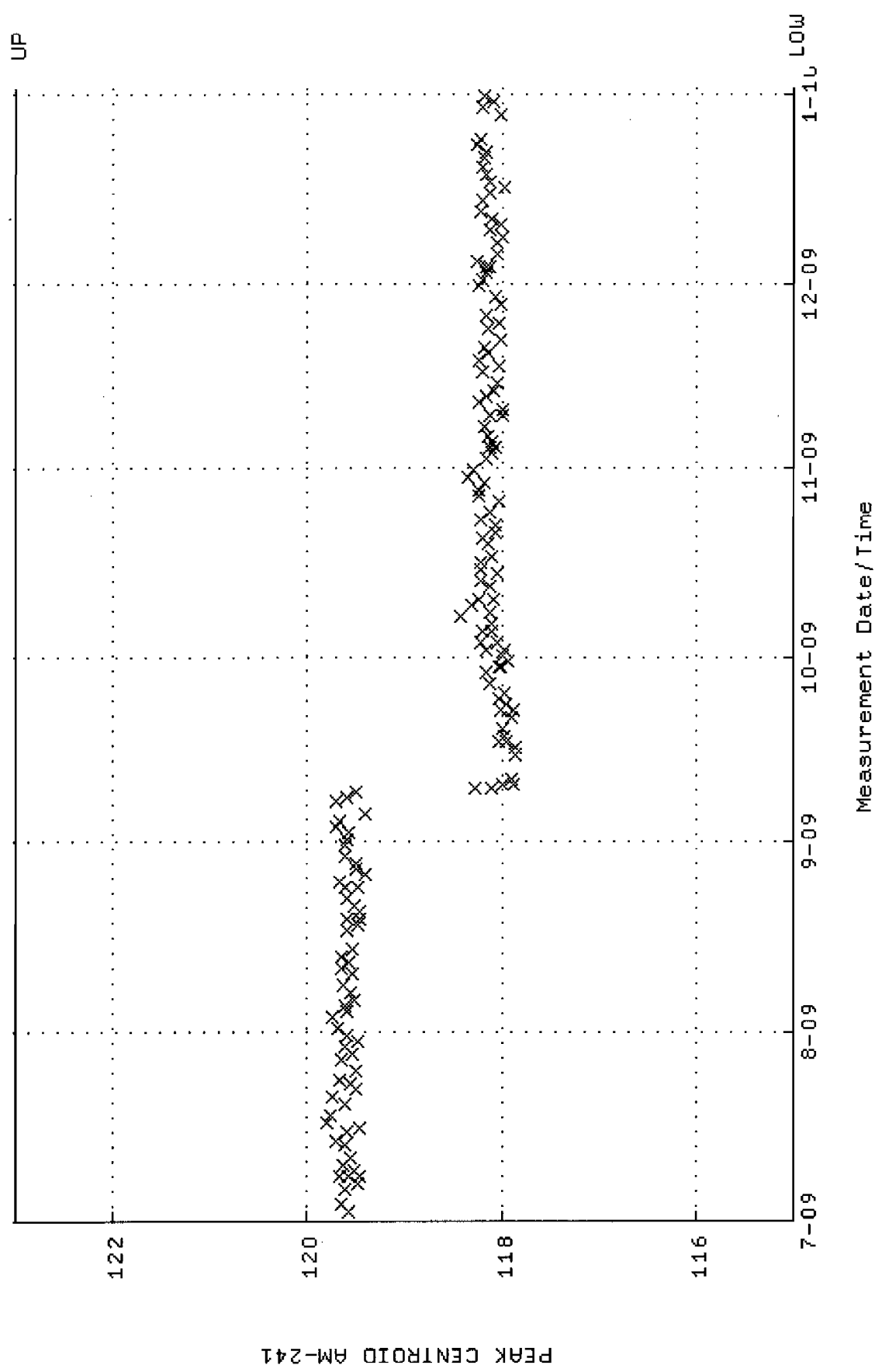
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM14-2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



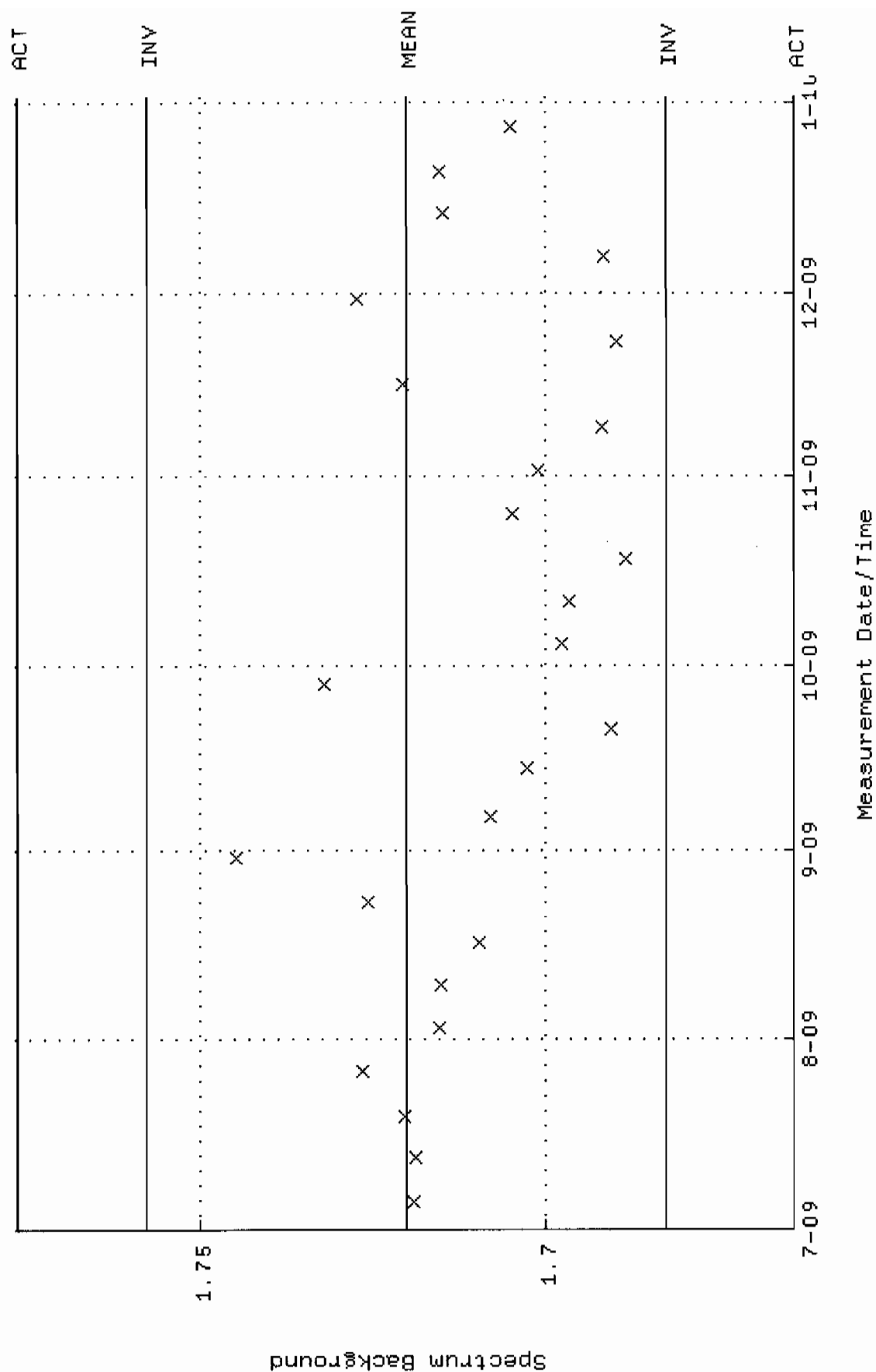
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



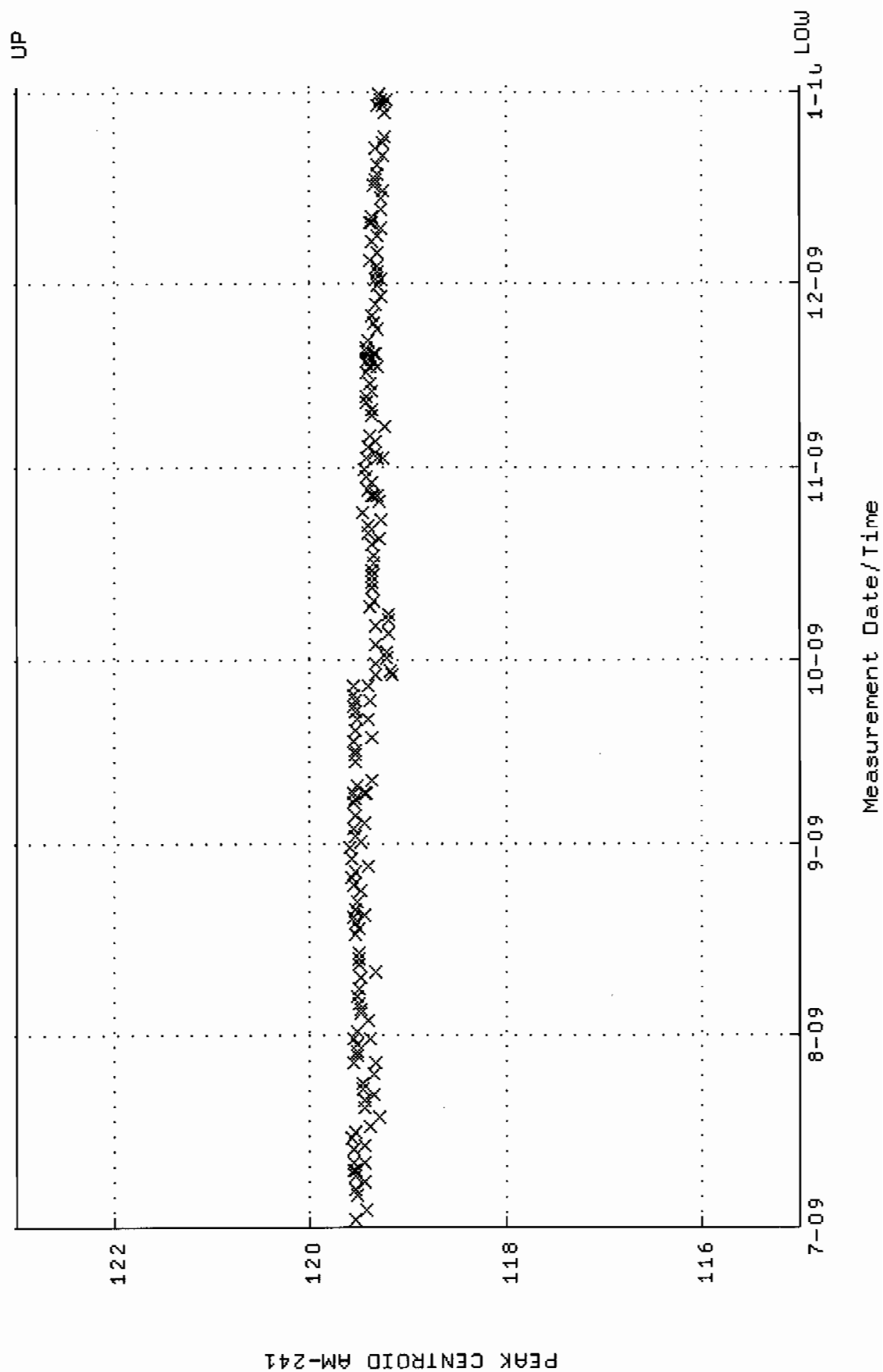
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



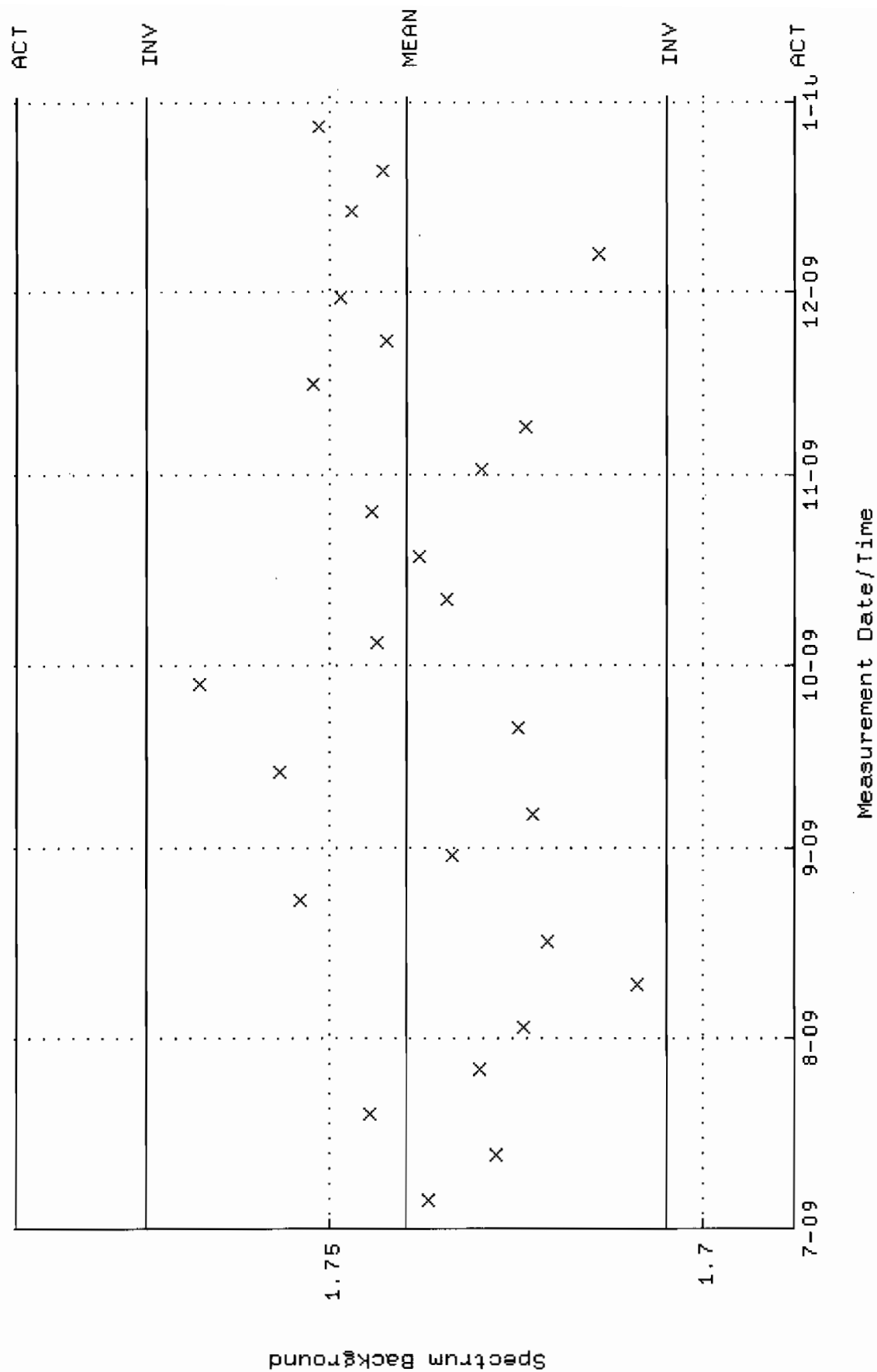
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



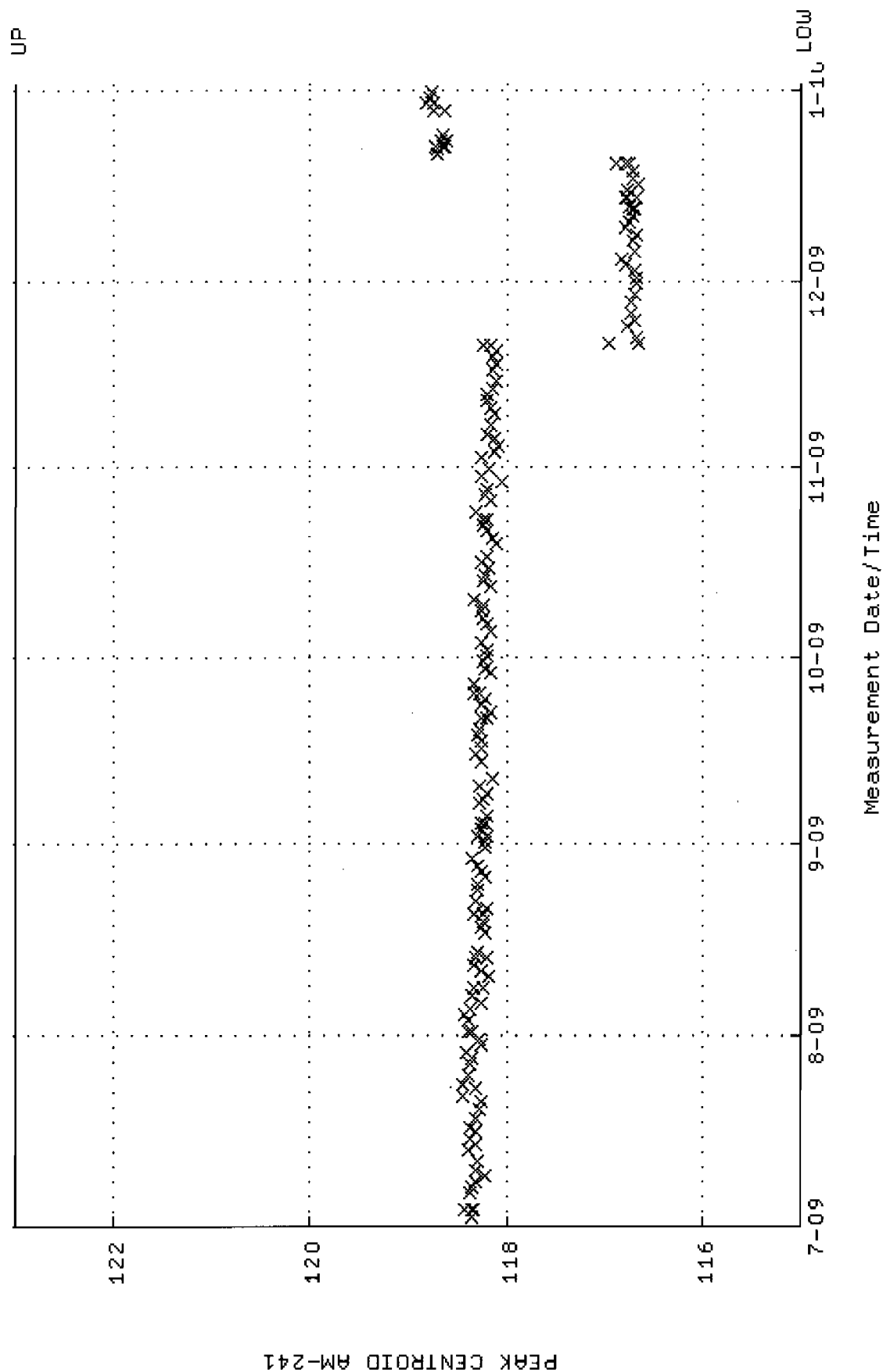
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM16-CAN.QAF;1
 Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:19 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



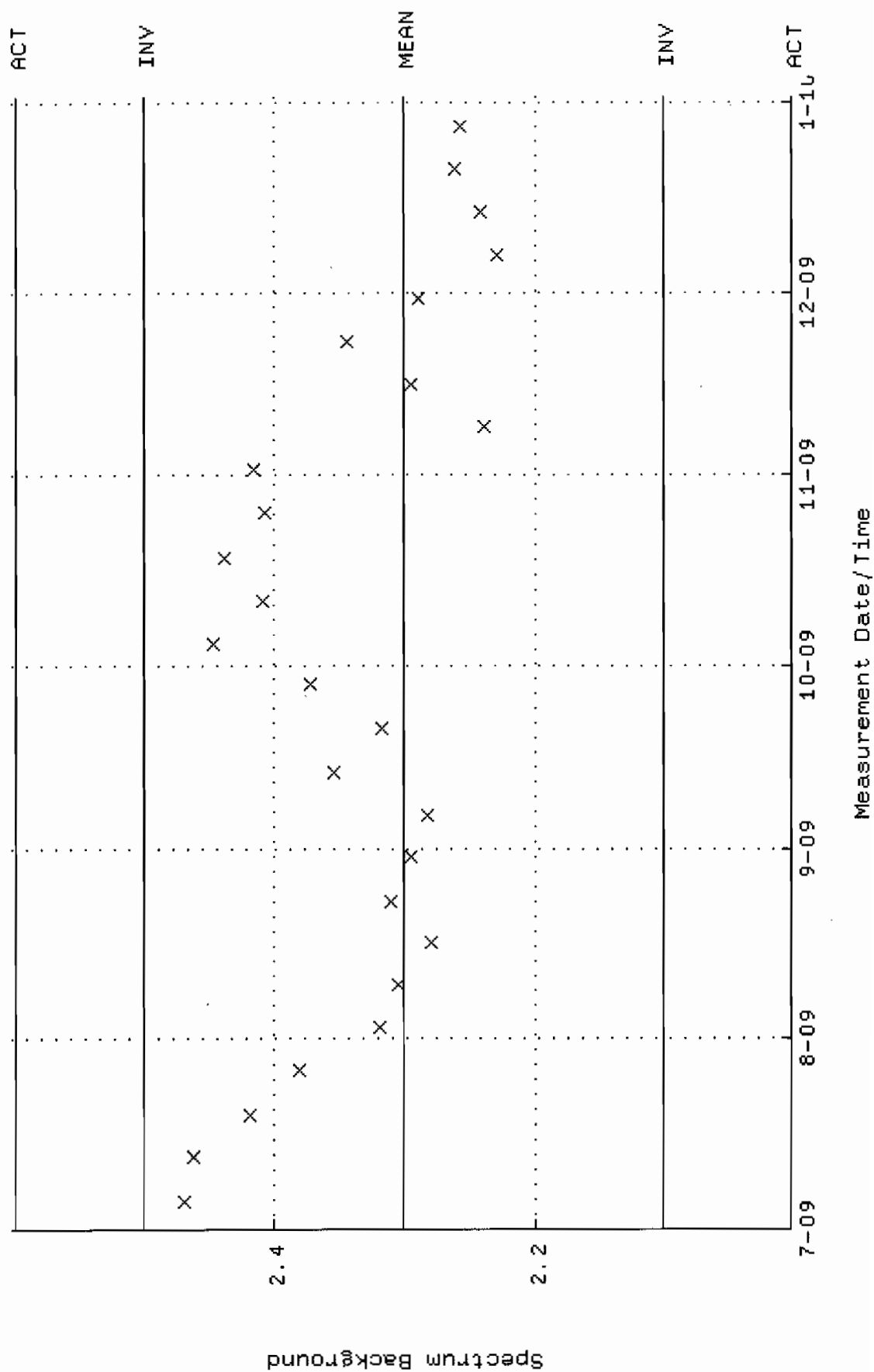
QA filename : DKA100: [CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:58 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



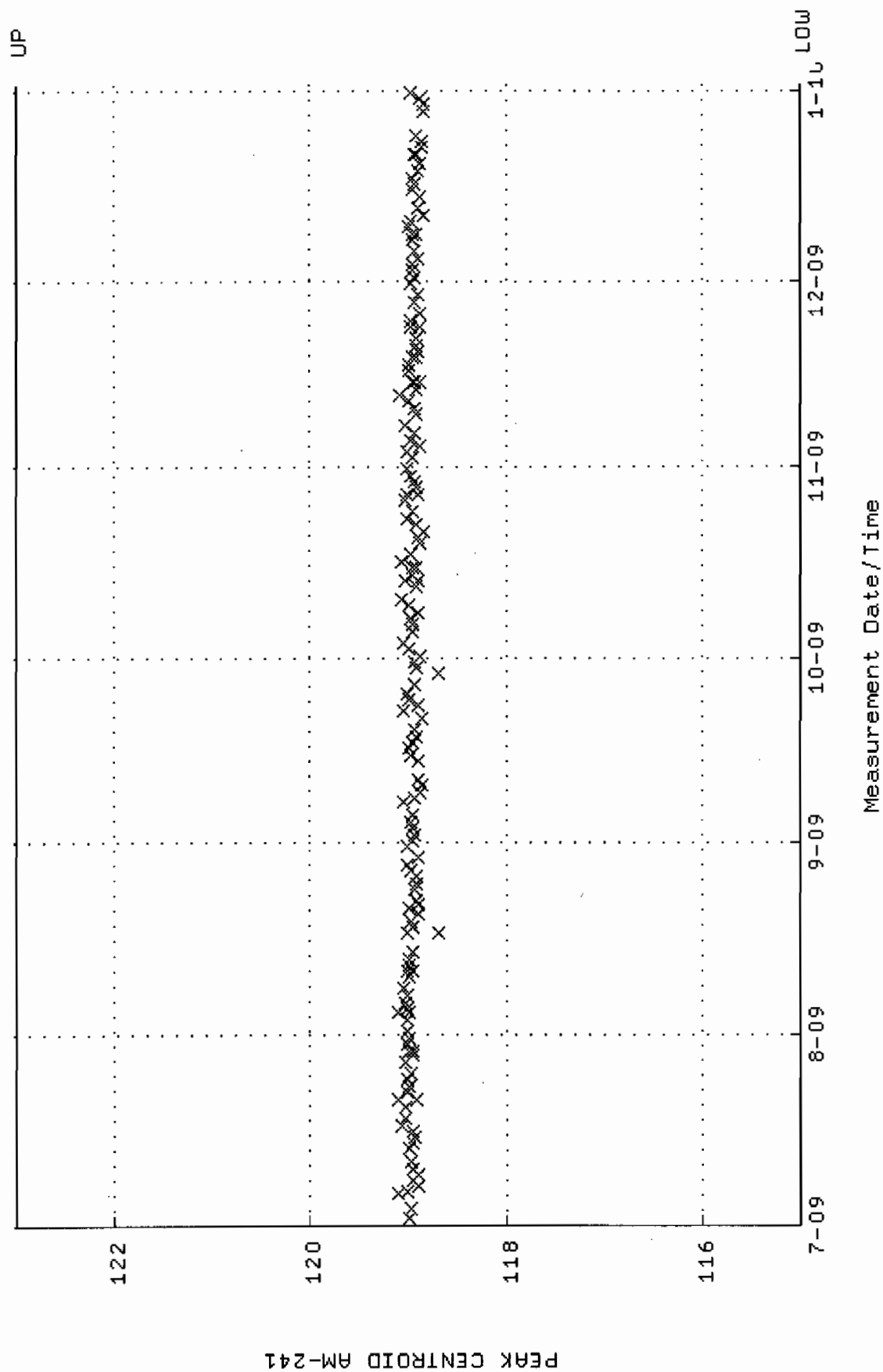
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



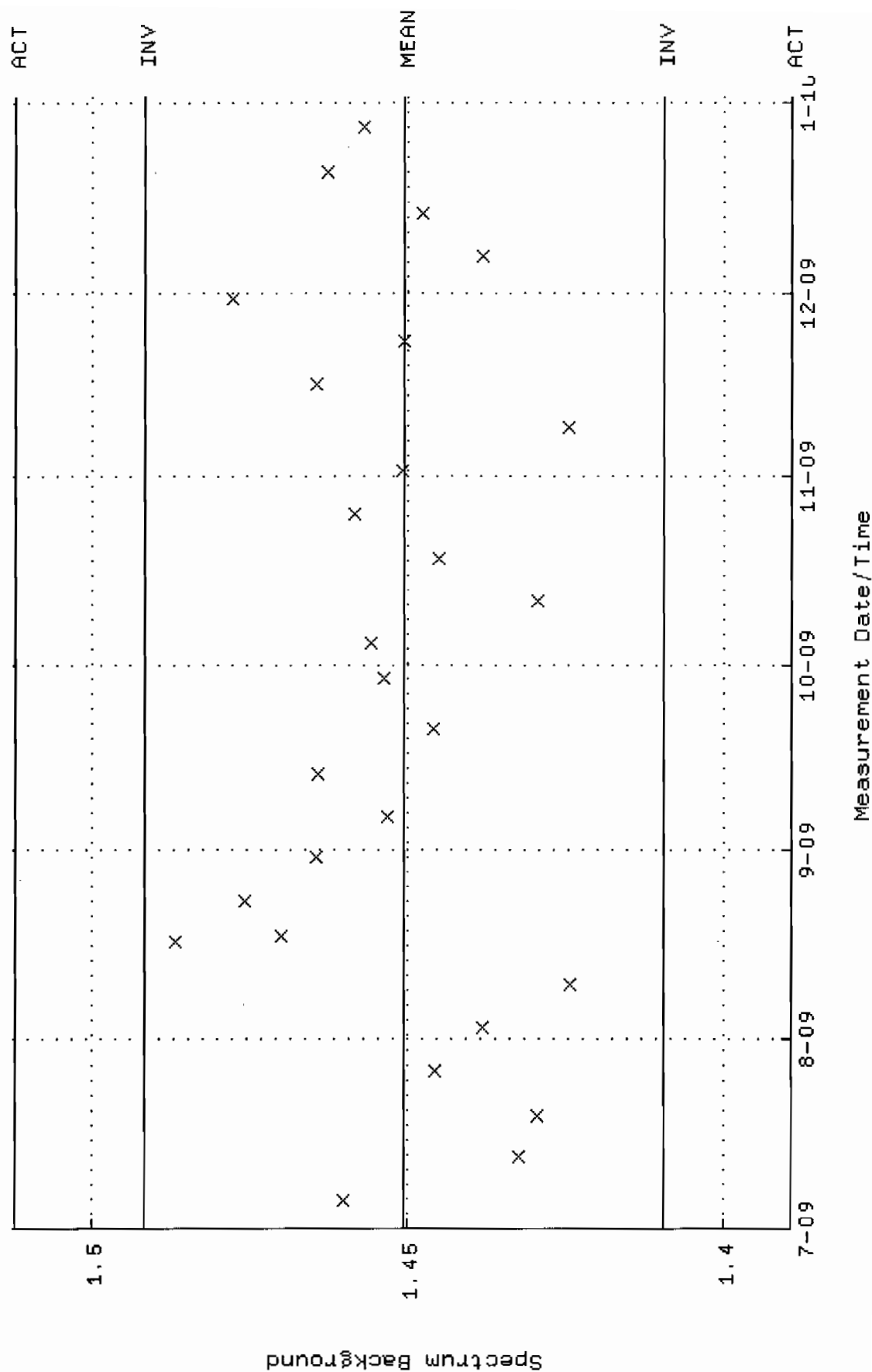
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



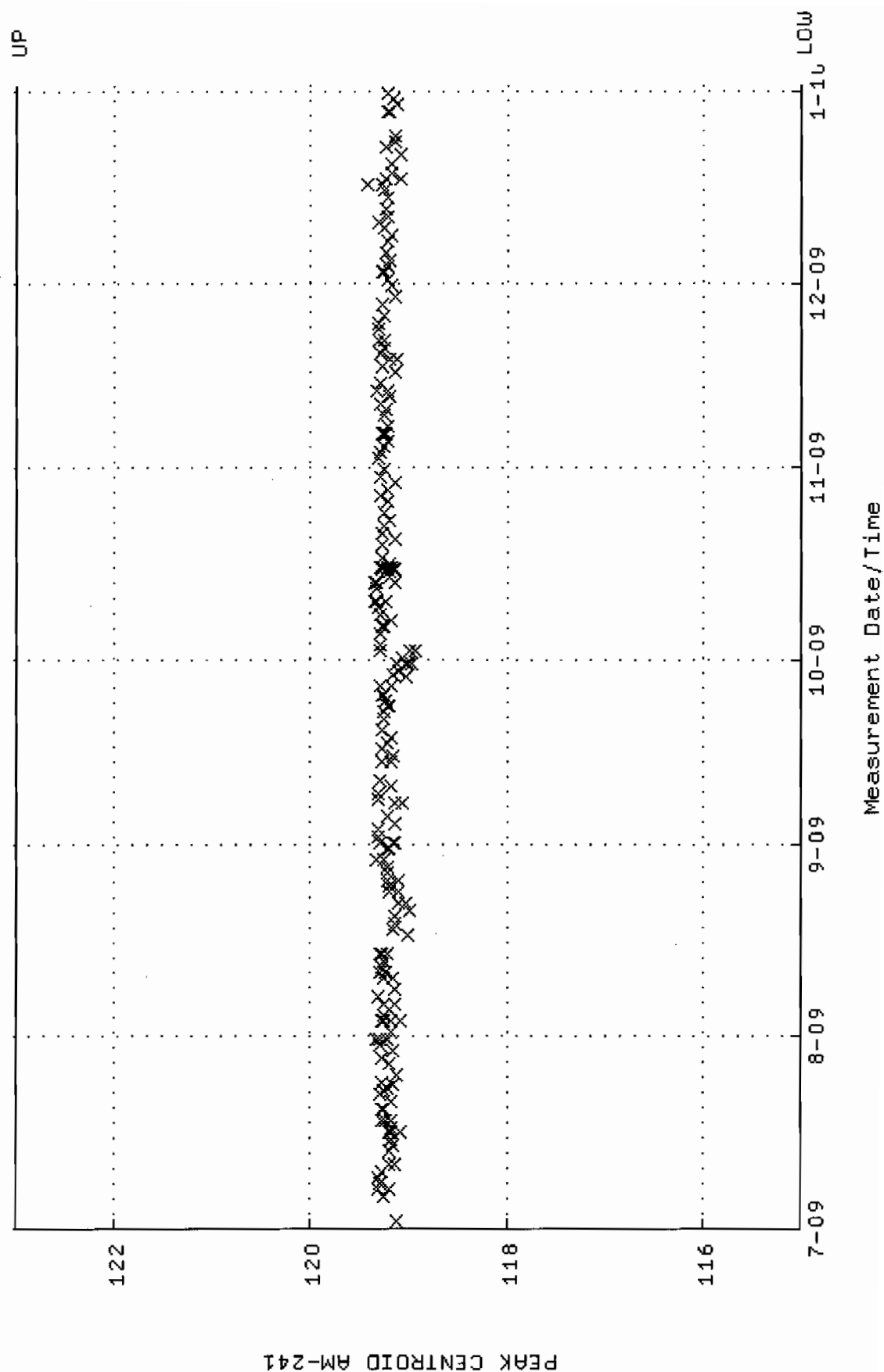
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM19_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:41:19 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM19.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:35 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.45067 +- 2.046038E-02 (1.41 %)



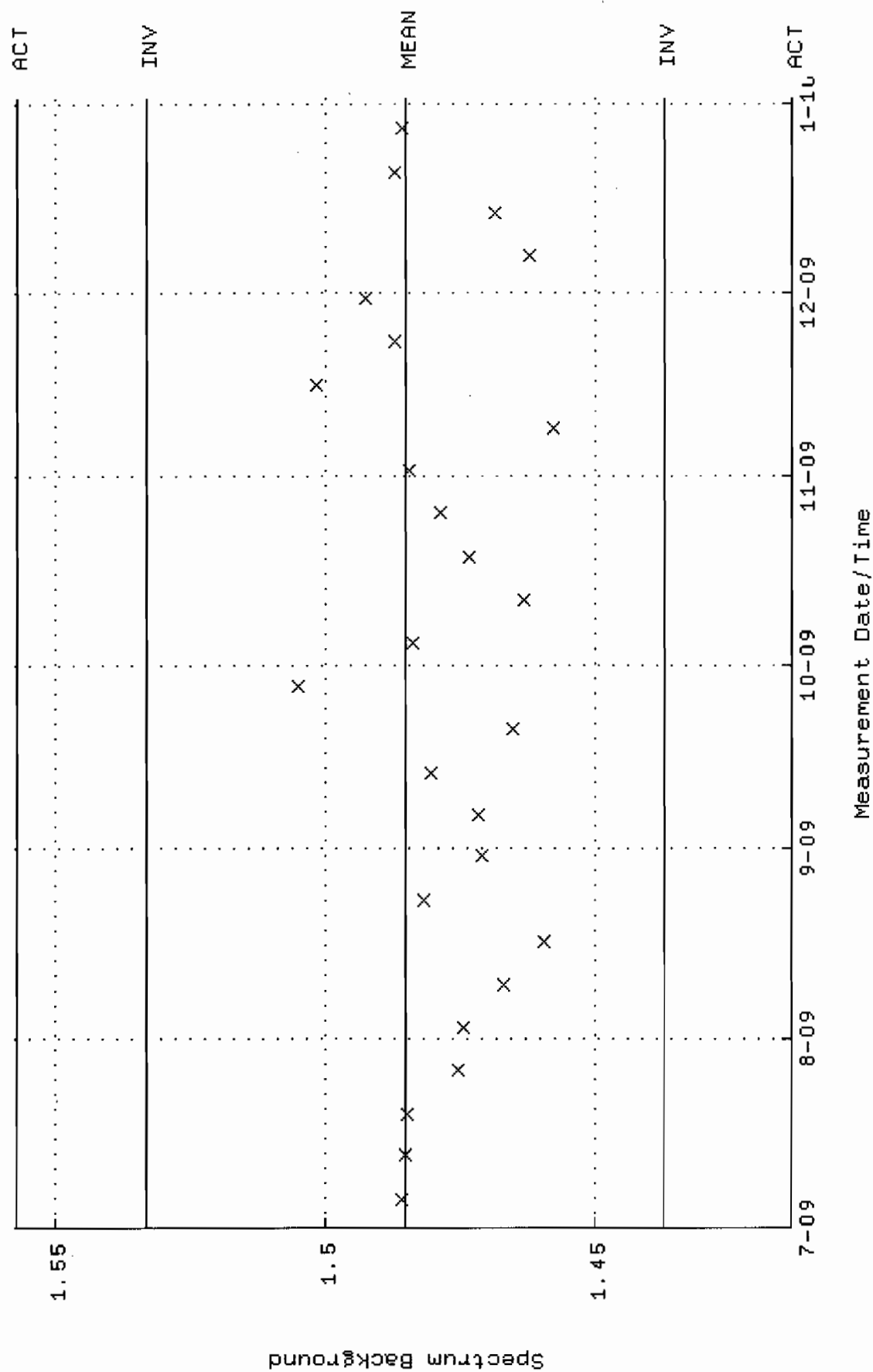
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



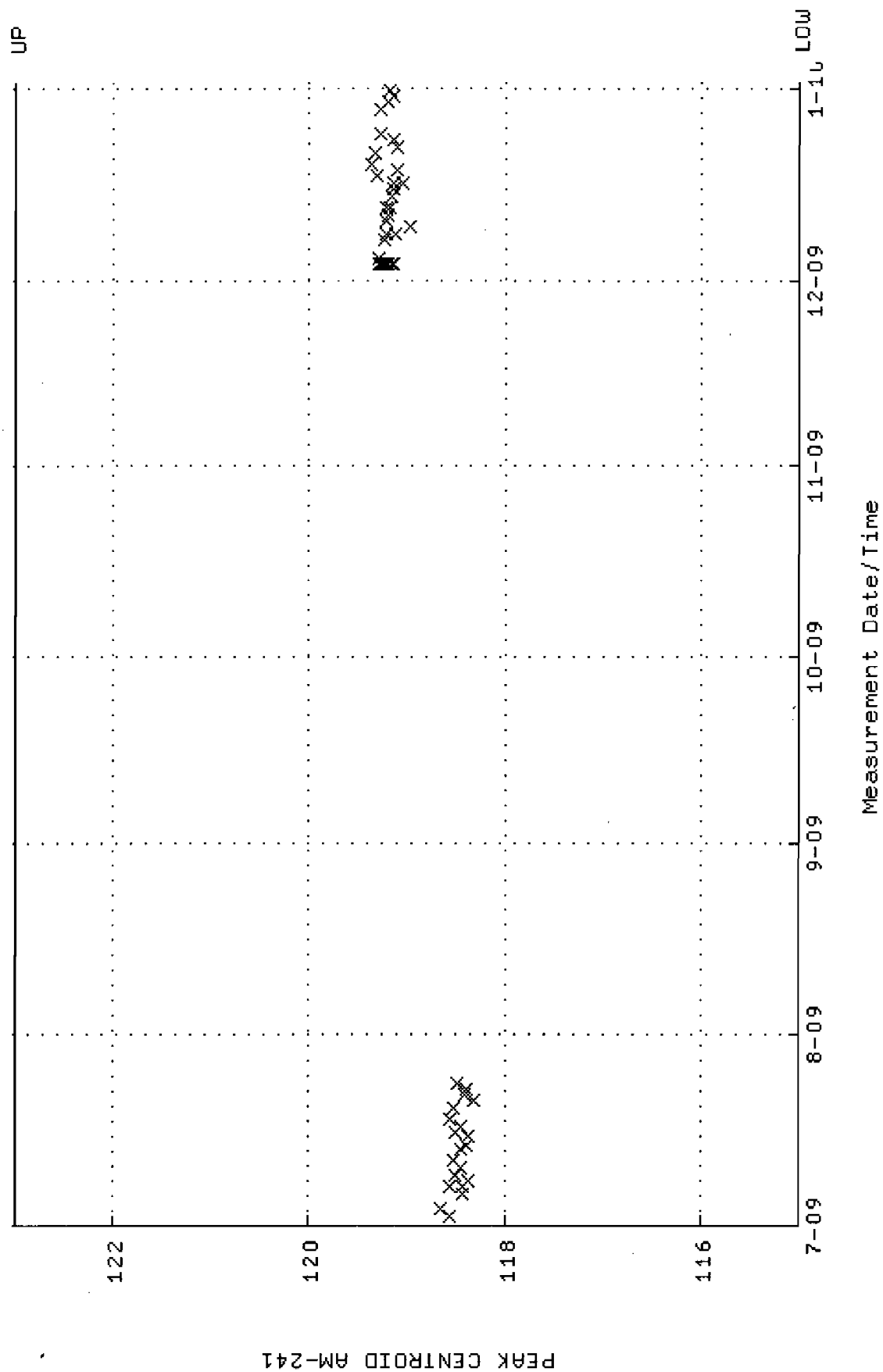
```

: DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM20.QAF;1
: BACKRATE (Spectrum Background Rate)
: 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
: 1.48527 +- 2.388665E-02 (1.61 %)

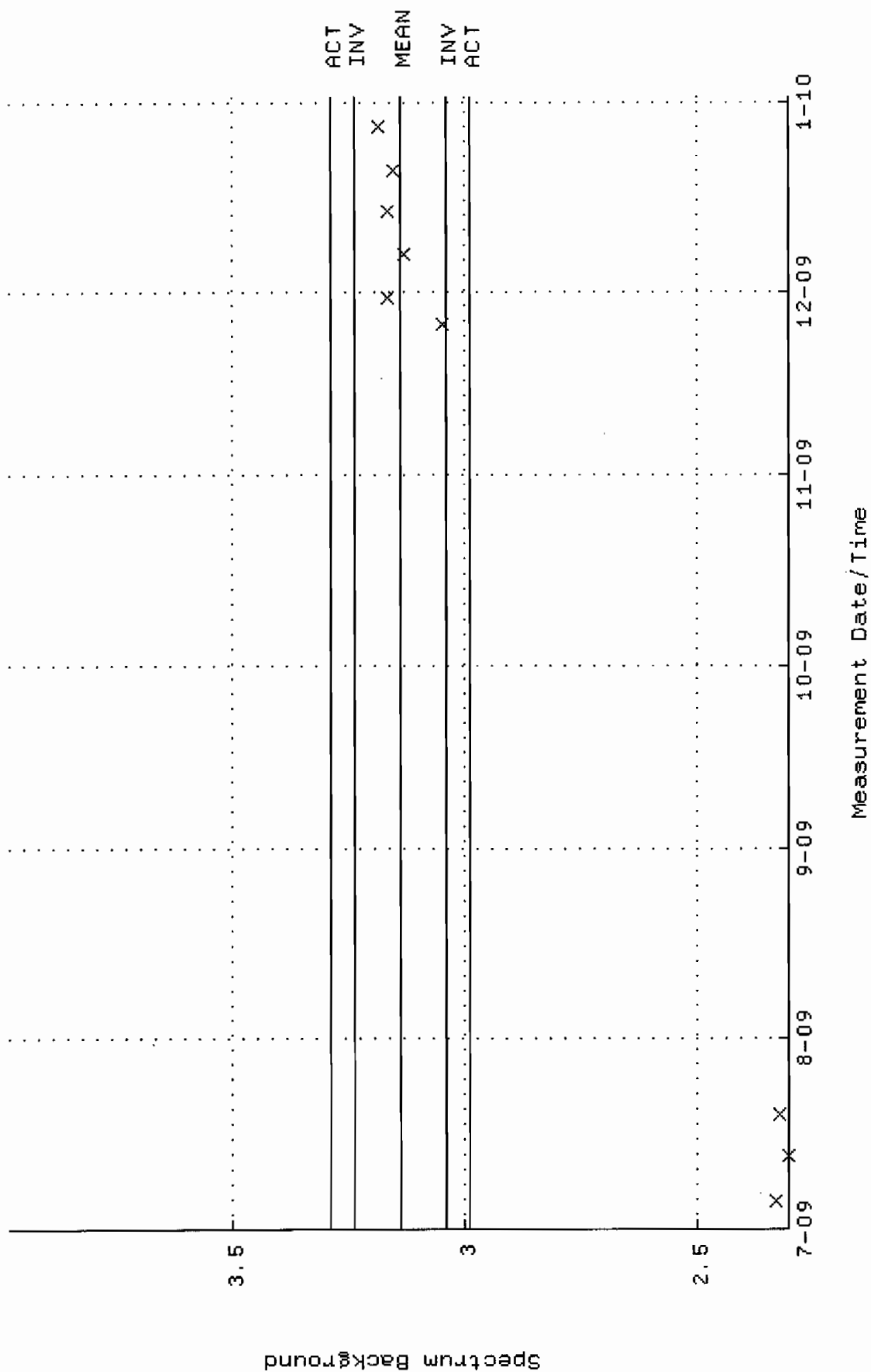
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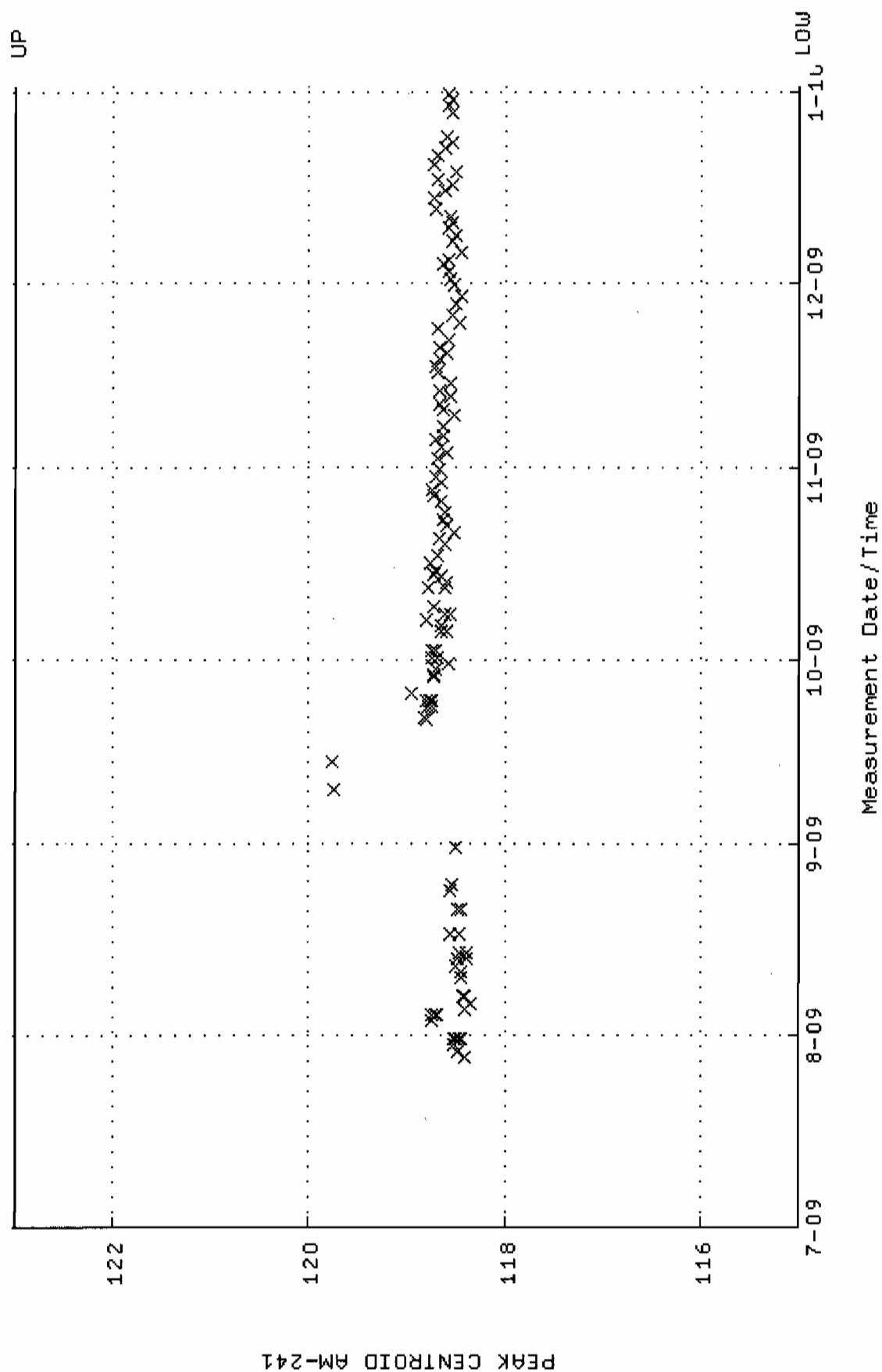
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM22-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:50 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



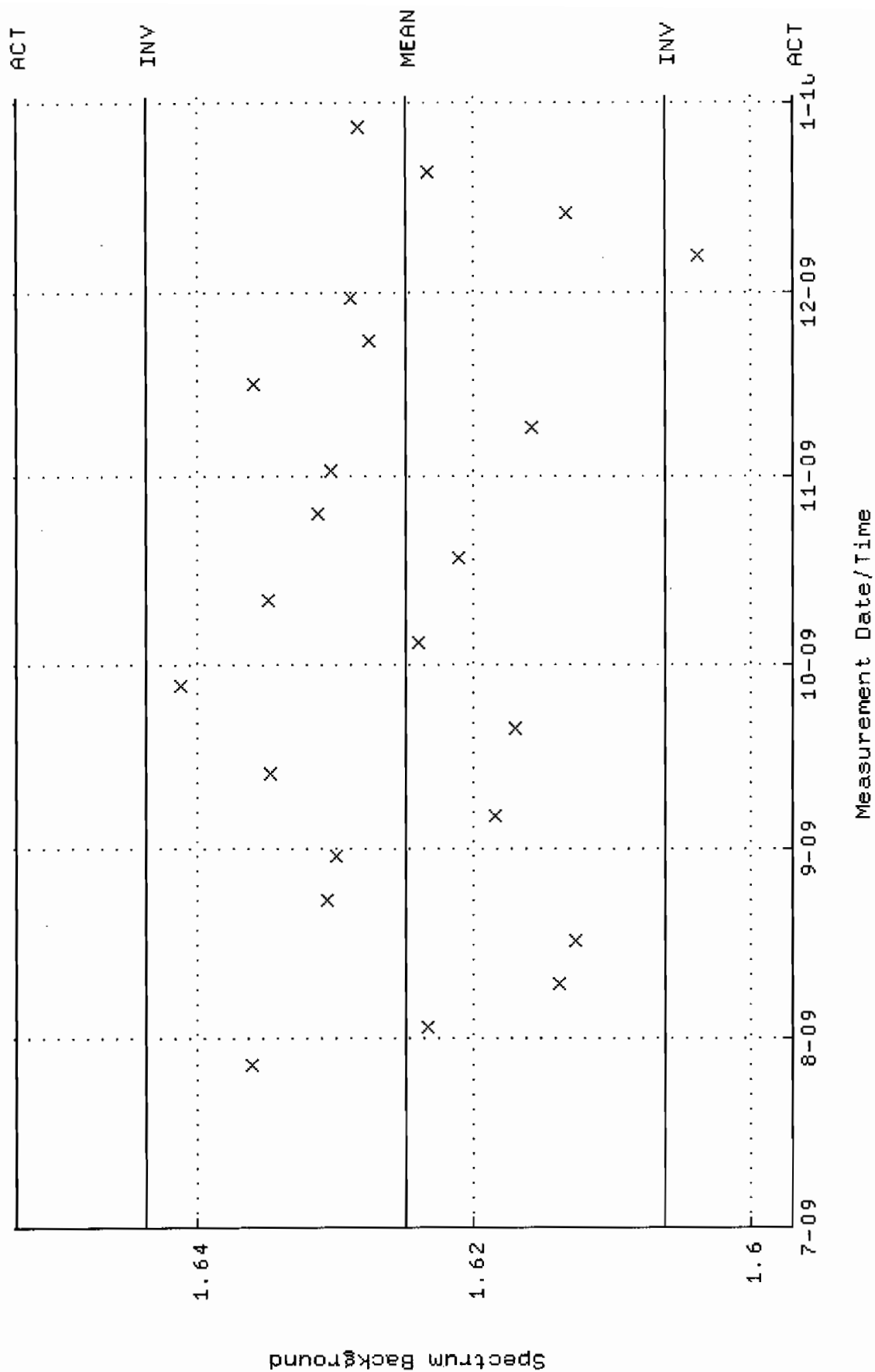
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:54:18 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



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

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. Analytix 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:

Don. M. J. 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.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 Uncertainty (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

Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

²As 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.

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$

$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$

$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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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	pCi/L - Var - Ia2 - 1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67
Stdev = 64.065
Rule 3 (Pass/Fail) Pass

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.56666667
Rule 2 (Pass/Fail) Pass

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.

M. Stamps
12/2/09
independent
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137

Isotope	Result	PCi/L - $\sqrt{\text{Std. Dev.}}$
Mixed Gamma N1	854.2	PCi/L - $\sqrt{\text{Std. Dev.}}$
Mixed Gamma N2	907.6	PCi/L - $\sqrt{\text{Std. Dev.}}$
Mixed Gamma N3	898.9	PCi/L - $\sqrt{\text{Std. Dev.}}$

Mean Value (Counting) = 886.90
 Stdev = 28.651
 Rule 3 (Pass/Fail) Pass

Certificate Value = 933.44144
 Lower Limit = 829.597644
 Upper Limit = 944.202356
 Rule 1 (Pass/Fail) Pass
 Two sigma = 57.30235597
 10 % of Mean = 88.69000000
 Rule 2 (Pass/Fail) Pass

12/2/09
 H. Stamps
 12/2/09

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	pCi/L - VER-1A-5
Mixed Gamma N1	1572	pCi/L - VER-1A-2
Mixed Gamma N2	1495	pCi/L - VER-1A-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67
Stdev = 42.829
98.50 Pass
Rule 3 (Pass/Fail)

Certificate Value = 1545.8378
Lower Limit = 1437.008431
Upper Limit = 1608.324902
Rule 1 (Pass/Fail) Pass
Two sigma = 85.65823564
10 % of Mean = 152.26666667
Rule 2 (Pass/Fail) Pass

U.S. Stamp issued 12/2/09

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 DATA 4/14/2000 *fit c held 12/1/04*

angela d. johnson 12/13/04

TRM

Invoice:

5 bottles 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
Tn-230	471 ± 11	24.5 ± 0.6	53.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	251 ± 14	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

9911627-01-001

SF 2001-COC (10-97)

Batch No.

SARAWR No. N/A

ANALYSIS REQUEST AND CHAIN OF CUSTODY

Press F1 for instructions for each field.

SARWR No. N/A

AR/COC-

Page 1 of 1

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 Carrier/Vol. No.: 726194 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 13 SMO Authorization: Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154		Date Samples Shipped: 11-16-99 Carrier/Vol. No.: 726194 Lab Contact: EDIE KENT Lab Destination: G.E.L. SMO Contact/Phone: Doug Salmi / 844-3110 Send Report to SMO: Suzi Jensen/844-3184	
Location Building N/A Room N/A Sample No. - Fraction 050484 - 001 PEM-1 050485 - 001 TRM-2 050486 - 001 ARM-2 - NBHD - - - - -		Tech Area VI Date/Time Collected 11/15/99 1100 S 11/15/99 1100 S 11/15/99 1100 S		Reference LOV (available at SMO) Container Type Volume P 1L G 1L G 1L			
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No. Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Sample Tracking Date Entered (mm/dd/yy) Entered by: KGJ/initials Init Company/Organization/Phone Weston / 7577 / 845-0887		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No These samples are not characterized and are not being sent to EEL or back to the lab. Please list as separate report.			
Sample Team Douglas E. Perry Members		1. Relinquished by D. E. Perry SMO Date 11-16-99 Time 0900 1. Received by Date Time 2. Relinquished by Date Time 2. Received by Date Time 3. Relinquished by Date Time 3. Received by Date Time		Parameter & Method Requested See Special Instructions Below Abnormal Conditions on Receipt Lab Use			

Original	1 st Copy	2 nd Copy	3 rd Copy
To Accompany Samples, Laboratory Copy (White)	To Accompany Samples, Return to SMO (Blue)	SMO Suspense Copy (Yellow)	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. Lehn 4/30/04
lett & dated 5/1/04

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.

9911627-01-202

Attention Nancy Slater At GEL
Not For Log In

SF 2001-COC (10-97)
Supersedes (9-97) none

Internal Lab
Batch No.

SARWR No. N/A

Press F1 for instructions for each field.

AR/COC- 602945

Page 1 of 1

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: RAN 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.: 5206794 Lab Contact: EDIE KENT Lab Destination: G.E.L. SMO Contact/Phone: Doug Salimi / 844-3110 Send Report to SMO: Suzi Jensen/844-3184		Contract No.: AJ-2480A Case No.: 10204 13 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services Dept. P.O. Box 5800 MS 0154								
Location Building N/A Tech Area VI Room N/A		Reference LOV (available at SMO)		LAB USE								
Sample No. - Fraction	ER Sample ID or Sample Location Detail	Dep't	Site	Date/Time Collected	Sample Matrix	Container Type	Volume	Preservative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
050484 - 001	PERM-1	N/A	N/A	11/15/99 1100	S	P	1 L	4 C	G	SA	See Special Instructions Below	
050485 - 001	TRM-2	N/A	N/A	11/15/99 1100	S	G	1 L	4 C	G	SA		
050486 - 001	ARM-2 N.B.H.D	N/A	N/A	11/15/99 1100	S	G	1 L	4 C	G	SA		
-												
-												
-												
-												
-												
-												
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No.		Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab		Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Sample Tracking (SMO USE)		Special Instructions/QC Requirements		Abnormal Conditions on Receipt Use		
Sample Team Members		Name Douglas E. Perry		Signature [Signature]		Init Company/Organization/Phone Weston / 757 / 845-0867		EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None samples are not characterized and materials being sent to GEL for analysis at their facilities		
1. Relinquished by [Signature]		Date 11-16-99		Time 0900		4. Relinquished by		Org.		Date		
1. Relinquished by		Date		Time		4. Relinquished by		Org.		Date		
2. Relinquished by		Date		Time		5. Relinquished by		Org.		Date		
2. Relinquished by		Date		Time		5. Relinquished by		Org.		Date		
3. Relinquished by		Date		Time		6. Relinquished by		Org.		Date		
3. Relinquished by		Date		Time		6. Relinquished 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 \pm 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 μ Ci
		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(NO ₃) ₃ in 2N HNO ₃
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 μ Ci/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:	$\pm 3.0\%$
b. Random uncertainty in assay:	$\pm 0.4\%$
c. Random uncertainty in weighing(s):	$\pm 0.0\%$
d. Total uncertainty at the 99% confidence level:	$\pm 3.0\%$

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).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna H. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

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 $50 \pm 10^\circ \text{C}$ 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 $50 \pm 10^\circ \text{C}$ 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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

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 5/15/2009	Isotope	Value	Uncertainty
	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-241 certified 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.

M. Aders 5/15/09
Taheri
 07509



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
12/15/04

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

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]*.

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·g ⁻¹
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·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	(16.5 ± 0.5) mm	
	Wall thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O	50	0.81
	HNO ₃	3.2	0.19
	²⁴² Pu ⁺⁶	8 × 10 ⁻⁷	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·g ⁻¹ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 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 4π α liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

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, $ \partial y/\partial x_i \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				<u>x 2</u>
Relative Expanded Uncertainty of the Output Quantity, U/y , (%)				0.72

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 ($\mu\text{Sv/h}$): <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 $y = f(x_1, x_2, x_3, \dots, x_n)$, 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 , $u_i(y) = |\partial y / \partial x_i| \cdot u(x_i)$, 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:
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies less than 3.1 MeV,
 $0.03 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 3.1 and 4.4 MeV, and
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$ 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:
 $5 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 19 and 39 keV,
 $7 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 49 and 92 keV,
 $2 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 106 and 507 keV,
 $1 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 515 and 1456 keV, and
 $5 \times 10^{-6} \text{ s}^{-1}\cdot\text{g}^{-1}$ 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 λt 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. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$. 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		A Solution Material Info	
Parent Code:	1374	Isotope:	Phutonium-242
Prepared By:	Mary Aders	Prepared By:	Ashley Drochter
Carrier Conc:	0.5M HNO3	Prep Date:	12/02/2009
Reference Date:	06/07/1994	Verification Date:	12/08/2009
Ampoule Mass (g):	5.5 g	Expiration Date:	12/08/2010
Uncertainty:	+/- .72 %	Primary Code:	1374-A
LogBook No:	RC-S-051-093	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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8553 \text{ dpm/mL}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0136 \text{ g/mL}) / (250 \text{ mL}) = 33.4010 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC

Version 1.0 9/18/2000

Verification for Pu-242 Standard 1374-A

A.Drochter 12/8/2009	Isotope	Value	Uncertainty
	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.

Handwritten:
 Not call
 12/8/09
 12/9/09
 12/9/09



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

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%
5.20483 grams 1M HNO₃ solution.

Source Prepared By:

W. Mao
W. Mao, Radiochemist

QA Approved:

D. M. Montgomery
D. M. Montgomery, QA Manager

Date: 12-11-08

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

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

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
12/14/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 937702

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243630001	SAMPLE	MXR1	GAM05	07-JAN-10 13:09	DONE	CAN	11-JUN-09 00:00
243630002	SAMPLE	MXR1	GAM06	07-JAN-10 13:10	DONE	CAN	04-FEB-09 00:00
243630003	SAMPLE	MXR1	GAM07	07-JAN-10 13:10	DONE	CAN	20-JUL-09 00:00
243630004	SAMPLE	MXR1	GAM14	07-JAN-10 13:12	DONE	CAN	06-MAR-09 00:00
243630005	SAMPLE	MXR1	GAM22	07-JAN-10 13:13	DONE	CAN	02-DEC-09 00:00
243630006	SAMPLE	MXR1	GAM10	07-JAN-10 13:23	DONE	CAN	16-MAR-09 00:00
243630007	SAMPLE	MXR1	GAM11	07-JAN-10 13:23	DONE	CAN	18-NOV-09 00:00
243630008	SAMPLE	MXR1	GAM12	07-JAN-10 13:24	DONE	CAN	10-FEB-09 00:00
243630009	SAMPLE	MXR1	GAM16	07-JAN-10 13:24	DONE	CAN	16-NOV-09 00:00
243630010	SAMPLE	MXR1	GAM18	07-JAN-10 13:28	DONE	CAN	23-APR-09 00:00
243630011	SAMPLE	MXR1	GAM20	07-JAN-10 13:28	DONE	CAN	26-AUG-09 00:00
1202006611	MB	MXR1	GAM25	07-JAN-10 13:29	DONE	CAN	07-OCT-09 00:00
1202006612	DUP	MXR1	GAM19	07-JAN-10 13:31	DONE	CAN	12-MAR-09 00:00
1202006613	LCS	MXR1	GAM15	07-JAN-10 13:32	DONE	CAN	16-FEB-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 938229

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243630001	SAMPLE	KXM4	1012	08-JAN-10 12:36	DONE		
243630002	SAMPLE	KXM4	1019	08-JAN-10 12:36	DONE		
243630003	SAMPLE	KXM4	1020	08-JAN-10 12:36	DONE		
243630004	SAMPLE	KXM4	1021	08-JAN-10 12:36	DONE		
243630005	SAMPLE	KXM4	1022	08-JAN-10 12:36	DONE		
243630006	SAMPLE	KXM4	1023	08-JAN-10 12:36	DONE		
243630007	SAMPLE	KXM4	1024	08-JAN-10 12:36	DUSE		
243630008	SAMPLE	KXM4	1025	08-JAN-10 12:36	DONE		
243630009	SAMPLE	KXM4	1026	08-JAN-10 12:36	DONE		
243630010	SAMPLE	KXM4	1027	08-JAN-10 12:36	DONE		
243630011	SAMPLE	KXM4	1028	08-JAN-10 12:36	DONE		
1202007592	MB	KXM4	1029	08-JAN-10 12:36	DONE		
1202007593	DUP	KXM4	1030	08-JAN-10 12:36	DONE		
1202007594	LCS	KXM4	1031	08-JAN-10 12:36	DONE		
243630007	SAMPLE	KXM4	1209	13-JAN-10 19:53	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 938238

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243630001	SAMPLE	KXM4	1033	08-JAN-10 12:36	DONE		
243630002	SAMPLE	KXM4	1035	08-JAN-10 12:36	DONE		
243630003	SAMPLE	KXM4	1036	08-JAN-10 12:36	DONE		
243630004	SAMPLE	KXM4	1037	08-JAN-10 12:36	DONE		
243630005	SAMPLE	KXM4	1038	08-JAN-10 12:36	DUSE		
243630006	SAMPLE	KXM4	1039	08-JAN-10 12:36	DONE		
243630007	SAMPLE	KXM4	1040	08-JAN-10 12:36	DONE		
243630008	SAMPLE	KXM4	1041	08-JAN-10 12:36	DONE		
243630009	SAMPLE	KXM4	1042	08-JAN-10 12:36	DONE		
243630010	SAMPLE	KXM4	1043	08-JAN-10 12:36	DONE		
243630011	SAMPLE	KXM4	1044	08-JAN-10 12:36	DONE		
1202007599	MB	KXM4	1045	08-JAN-10 12:36	DONE		
1202007600	DUP	KXM4	1046	08-JAN-10 12:36	DONE		
1202007601	LCS	KXM4	1047	08-JAN-10 12:36	DONE		
243630005	SAMPLE	KXM4	1224	12-JAN-10 14:40	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 938239

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243630001	SAMPLE	KXM4	1115	09-JAN-10 11:00	DONE		
243630002	SAMPLE	KXM4	1117	09-JAN-10 11:00	DONE		
243630003	SAMPLE	KXM4	1118	09-JAN-10 11:00	DONE		
243630004	SAMPLE	KXM4	1119	09-JAN-10 11:00	DONE		
243630005	SAMPLE	KXM4	1120	09-JAN-10 11:00	DONE		
243630006	SAMPLE	KXM4	1121	09-JAN-10 11:00	DONE		
243630007	SAMPLE	KXM4	1122	09-JAN-10 11:00	DONE		
243630008	SAMPLE	KXM4	1123	09-JAN-10 11:00	DONE		
243630009	SAMPLE	KXM4	1124	09-JAN-10 11:00	DONE		
1202007605	MB	KXM4	1125	09-JAN-10 11:00	DONE		
1202007606	DUP	KXM4	1126	09-JAN-10 11:00	DONE		
1202007607	LCS	KXM4	1127	09-JAN-10 11:00	DONE		
243630010	SAMPLE	KXM4	1128	09-JAN-10 11:00	DONE		
243630011	SAMPLE	KXM4	1129	09-JAN-10 11:00	DONE		