

Thursday, December 17, 2009

Page 1 of 3
REQUEST NUMBER: 10-989

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: 10-989
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/17/2009

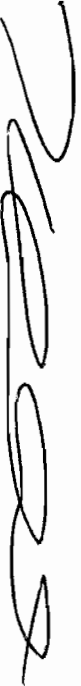
TURNAROUND/REPORT DUE: 1/16/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL ERS MO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1		1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	

Thursday, December 17, 2009

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REQUEST NUMBER: 10-989

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1						
		1	RE12-10-7364	R	12/16/2009	
HASL-300:AM-241						
		1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
HASL-300:ISOPU						
		1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
HASL-300:ISOU						
		1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	

Thursday, December 17, 2009

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REQUEST NUMBER: 10-989

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
	SW-846:8082	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
		1	RE12-10-7352	R	12/16/2009	
	SW-846:8321A_MOD	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	

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Thursday, December 17, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-989C

LOS ALAMOS

REQUEST NUMBER: 10-989

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/16/2010

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
RE12-10-7352	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7352	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7360	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7360	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7358	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7358	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7357	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7357	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7359	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7359	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7356	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7356	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7353	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7353	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7354	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7354	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7355	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7355	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7364	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7364	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Relinquished By:

Date

Time

Received By:

Date

Time


 12/17/09 3:10

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7366

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	12/16/2009	MEDIA:	NA
TIME COLLECTED (HH:MM)	1427	SUB-MEDIA:	OTHER
PRS ID: C-12-004	ok	SAMPLE TECH CODE:	DC
LOCATION ID: UNK	12-610572	FIELD QC TYPE:	ER
LOCATION TYPE: GENERIC	BH	FIELD PREP:	UF
TOP DEPTH: 0	ok	SAMPLE USAGE:	QC
BOTTOM DEPTH: 0	ok	SCREEN/PORT DESC:	NA
FIELD MATRIX: W	ok	EXCAVATED: YES/NO/NA	NA
COMPOSITE TYPE: NA	COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA	NO
BOREHOLE: YES/NO/NA	BOREHOLE DECLINATION: -90	BOREHOLE DIRECTION: NA	

#	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 RE12-10-7357

SAMPLE COMMENTS: Rinsete

LOCATION DESC: NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

LARRY A. LOPEZ

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TL McFarland	12/16/09	(Printed Name) L. Lopez	12/16/09
(Signature) [Signature]	1620	(Signature) [Signature]	4126
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7364

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/16/2009		MEDIA:	QBT3		Allh
TIME COLLECTED (HH:MM)		1330		SUB-MEDIA:	TUFF 1		NA
PRS ID:	C-12-004	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	UNK	12-610571		FIELD QC TYPE:	ED		
LOCATION TYPE:	GENERIC	BH		FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0	0.75		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	-90		
				BOREHOLE DIRECTION:			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	73m 12/16/09 8082+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 1 Liter	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE12-10-7355

Brown silty sand, some roots many cobbles

SAMPLE COMMENTS:

NA

LOCATION DESC:

4-3, south of rd

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 22$ dpm $\beta \leq 2180$ dpmPID $\frac{\text{ambient reading}}{1.0}$ 0.0 ppm

HE negative

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Larry A. Lopez

RELINQUISHED BY (Printed Name) TL McFarland (Signature) <i>TL McFarland</i>	Date/Time 12/16/09 1620	RECEIVED BY (Printed Name) K. Greene (Signature) <i>K. Greene</i>	Date/Time 12/16/09 4:20
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7360

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/16/2009		MEDIA:	OBT3		ok
TIME COLLECTED (HH:MM)		1458		SUB-MEDIA:	TUFF 1		
PRS ID:	C-12-004	ok		SAMPLE TECH CODE:	HA		
LOCATION ID:	12-610573	ok		FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC	BH		FIELD PREP:	NA		
TOP DEPTH:	0	2.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	2.5		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	ok		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE:	YES/NO/NA			BOREHOLE DECLINATION:	-90		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 12/16/09	None	y	
1		Met+U+CLO4+C N	1 GAL POLY 1 Liter	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:

Gray dry stuff

SAMPLE COMMENTS:

NA

LOCATION DESC:

4.4 west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 27 dpm

BX ≤ 2220 dpm

PID ambient reading 0.0 / 0.0 ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Nicholas Gallegos

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) <i>TLMcFarland</i>	Date/Time 12/16/09 1620	RECEIVED BY K. Greene (Printed Name) (Signature) <i>K. Greene</i>	Date/Time 12/16/09 4:20
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7359

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/16/2009	MEDIA:		OBT3
TIME COLLECTED (HH:MM)		1449	SUB-MEDIA:		TUFF 1
PRS ID:	C-12-004	ok	SAMPLE TECH CODE:		HA
LOCATION ID:	12-610573	ok	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	BH	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		NA
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: -90		BOREHOLE DIRECTION: NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 12m 12/15/09	None	Y	
1		Met+U+CLO4+C N	1-GAL POLY 1 liter	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 dry sandy silt, some organics, roots, and cobbles

SAMPLE COMMENTS:

NA

LOCATION DESC:

4-4 West side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 38$ dpm $\text{BY} \leq 2060$ dpmPID ambient
reading $\frac{0.0}{0.4}$ ppm

HE negative

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Nikolas Gallegos

RELINQUISHED BY (Printed Name) TLMcFarland (Signature)	Date/Time 12/16/09 1620	RECEIVED BY (Printed Name) K. Green (Signature)	Date/Time 12/16/09 4:20
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7358

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/16/2009	MEDIA:	OBT	Alh
TIME COLLECTED (HH:MM)		1430	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-004	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610572	↓	FIELD QC TYPE:	NA	
LOCATION TYPE:	GENERIC	B4	FIELD PREP:	NA	
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	
BOTTOM DEPTH:	0	2.5	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	B	S	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA	
			WATER FLOWING: YES/NO/NA		
BOREHOLE:	YES/NO/NA		BOREHOLE DECLINATION:	-90	
			BOREHOLE DIRECTION:	NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY tam 12/15/09	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 Liter	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 dry sandy silt

SAMPLE COMMENTS:

NA

LOCATION DESC:

4-2, south of rd

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 60 dpm

BY ≤ 2320

PID

$$\frac{\text{ambient}}{\text{reading}} = \frac{0.0 \text{ ppm}}{5.6 \text{ ppm}} = 0.0179$$

5.6 ppm
Tam 12/16/09

COLLECTED BY (PRINT)

Tracy A. Lopez

REVIEWED BY (PRINT)

TL McFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/16/09	(Printed Name) K. Greene	12/16/09
(Signature) Tracy	1620	(Signature)	4:20
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7357

WORK ORDER:

AS PLANNED

AS COLLECTED

AS PLANNED

AS COLLECTED

DATE COLLECTED(MM/DD/YYYY):

12/16/2009

MEDIA:

OBT3

A11h

TIME COLLECTED (HH:MM)

1410

SUB-MEDIA:

TUFF 1

NA

PRS ID: C-12-004

OK

SAMPLE TECH CODE: HA

OK

LOCATION ID: 12-610572

↓

FIELD QC TYPE: NA

LOCATION TYPE: GENERIC

BH

FIELD PREP: NA

TOP DEPTH: 0

0.0

SAMPLE USAGE: INV

BOTTOM DEPTH: 0

0.75

SCREEN/PORT DESC:

NA

FIELD MATRIX: B

S

EXCAVATED: YES (NO) / NA

COMPOSITE TYPE: NA

COMPOSITE TIME INTERVAL: NA

WATER FLOWING: YES (NO) / NA

BOREHOLE: YES / NO / NA

BOREHOLE DECLINATION: -90

BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 12/16/09	None	Y	
1	↓	Met+U+CLO4+C N	1-GAL POLY 1 liter	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 dry, sandy, silty soil, few cobbles, some roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

4-2 South of rd

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 6$ dpmPID ambient reading 0.0
4.4 ppm $\text{BX} \leq 1976$ dpm

HE negative

COLLECTED BY (PRINT)

TLMcFarlane

REVIEWED BY (PRINT)

Larry A. Lopez

RELINQUISHED BY (Printed Name) TLMcFarlane (Signature)	Date/Time 12/16/09 1620	RECEIVED BY (Printed Name) K. Bruce (Signature)	Date/Time 12/16/09 4120
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7356

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/16/2009	MEDIA:	OBT3			
TIME COLLECTED (HH:MM)		12/16/09 73m	SUB-MEDIA:	TUFF 1			ok
PRS ID:	C-12-004	1350	SAMPLE TECH CODE:	HA			
LOCATION ID:	12-610571	ok	FIELD QC TYPE:	NA			
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA			
TOP DEPTH:	0	BH	SAMPLE USAGE:	INV			
BOTTOM DEPTH:	0	2.0	SCREEN/PORT DESC:	NA			
FIELD MATRIX:	R	2.5	EXCAVATED: YES/NO/NA				
COMPOSITE TYPE:	NA	ok					
COMPOSITE TIME INTERVAL:	NA						
WATER FLOWING: YES/NO/NA							
BOREHOLE: YES/NO/NA			BOREHOLE DECLINATION: -90		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: Pinkish gray dry tuff

SAMPLE COMMENTS: NA

LOCATION DESC: 4-3, south of rd

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 33$ dpm PID $\frac{\text{reading}}{\text{ambient}} = \frac{1.5}{0.2}$ ppm
 $\text{BX} \leq 2220$ dpm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Larry A. Lopez

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy Thompson	Date/Time 12/16/09 1620	RECEIVED BY (Printed Name) L. Lopez (Signature) [Signature]	Date/Time 12/16/09 7120
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7355

WORK ORDER:

AS PLANNED

AS COLLECTED

AS PLANNED

AS COLLECTED

DATE COLLECTED(MM/DD/YYYY):

12/16/2009

MEDIA:

QBT3

TIME COLLECTED (HH:MM)

1330

SUB-MEDIA:

TUFF 1

PRS ID: C-12-004

OK

SAMPLE TECH CODE: HA

All h

LOCATION ID: 12-610571

OK

FIELD QC TYPE: NA

NA

LOCATION TYPE: GENERIC

B1+

FIELD PREP: NA

OK

TOP DEPTH: 0

0.0

SAMPLE USAGE: INV

BOTTOM DEPTH: 0

0.75

SCREEN/PORT DESC:

NA

FIELD MATRIX: R

S

EXCAVATED: YES ☒ NO ☐ NA

COMPOSITE TYPE: NA

COMPOSITE TIME INTERVAL: NA

WATER FLOWING: YES ☒ NO ☐ NABOREHOLE: ☒ YES ☐ NO ☐ NA

BOREHOLE DECLINATION: -90

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 LITER 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 silty sand, some roots, many cobbles

FD RE12-10-7364

SAMPLE COMMENTS:

NA

LOCATION DESC:

4-3, south of rd

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 22 dpm PID $\frac{\text{ambient}}{\text{reading}}$ 0.0 ppm

BY ≤ 2180 dpm HE negative

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Lacey A. Lopez

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy	Date/Time 12/16/09 1620	RECEIVED BY (Printed Name) L. Greene (Signature) [Signature]	Date/Time 12/16/09 4:20
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7354

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		12/16/2009	MEDIA:	QBT3		ok	
TIME COLLECTED(HH:MM)		1240	SUB-MEDIA:	TUFF 1			
PRS ID:	C-12-004	ok	SAMPLE TECH CODE:	HA			
LOCATION ID:	12-610570	↓	FIELD QC TYPE:	NA			
LOCATION TYPE:	GENERIC	BH	FIELD PREP:	NA			
TOP DEPTH:	0	1.75	SAMPLE USAGE:	INV			
BOTTOM DEPTH:	0	2.70	SCREEN/PORT DESC:		NA		
FIELD MATRIX:	R	ok	EXCAVATED: YES (NO) / NA				
COMPOSITE TYPE:	NA	COMPOSITE TIME INTERVAL:	NA	WATER FLOWING: YES (NO) / NA			
BOREHOLE: (YES) / NO / NA		BOREHOLE DECLINATION: -90	BOREHOLE DIRECTION: NA				

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 13/15/09	None	Y	
1		Met+U+CLO4+C N	1 LITER POLY 1 liter	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:

Pinkish gray dry stuff

SAMPLE COMMENTS: NA

LOCATION DESC: 4-5, south of rd ~15 ft

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 27$ dpm PID $\frac{\text{ambient}}{\text{reading}} \frac{0.0}{0.7}$ ppm
 $\text{BY} \leq 2290$ dpm

COLLECTED BY (PRINT):

LARRY A. LOPEZ

REVIEWED BY (PRINT): TLMcFarland

RELINQUISHED BY (Printed Name) TLMcFarland (Signature) Tracy [Signature]	Date/Time 12/16/09 1020	RECEIVED BY (Printed Name) K. Greene (Signature) [Signature]	Date/Time 12/16/09 4:26
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7353

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/16/2009	MEDIA:		QBT3
TIME COLLECTED (HH:MM)		1158	SUB-MEDIA:		TUFF 1
PRS ID:	C-12-004	OK	SAMPLE TECH CODE:		HA
LOCATION ID:	12-610570	OK	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	BH	FIELD PREP:		NA
TOP DEPTH:	0	0.0	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	0.75	SCREEN/PORT DESC:		NA
FIELD MATRIX:	R	S	EXCAVATED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA		
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	
BOREHOLE: <input checked="" type="checkbox"/> YES / NO / NA		BOREHOLE DECLINATION: 77m 12/16/09 -90		BOREHOLE DIRECTION: NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 77m 12/16/09	None	Y	
1		Met+U+CLO4+C N	1 LITER POLY 1 liter	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: Reddish brown damp silty clay, few roots, and numerous cobbles 77m 12/16/09

SAMPLE COMMENTS: NA

LOCATION DESC: 4-5, south of rd ~15 ft

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 22$ dpm PID ambient reading $\frac{0.0}{0.6}$ ppm
 $BY \leq 1959$ dpm H.E. negative

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

TL McFarland

Lisery A. Lopez

RELINQUISHED BY (Printed Name) TL McFarland (Signature) Tracy Hunt	Date/Time 12/16/09 1620	RECEIVED BY (Printed Name) K. Greene (Signature) [Signature]	Date/Time 12/16/09 4120
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2484

EVENT NAME: 4th Qtr. FY09 - AOC C-12-004 - Threemile Canyon

SAMPLE ID: RE12-10-7352

WORK ORDER:

AS PLANNED

AS COLLECTED

AS PLANNED

AS COLLECTED

DATE COLLECTED(MM/DD/YYYY):

12/16/2009

MEDIA:

OBT2

Allh

TIME COLLECTED (HH:MM)

11:10

SUB-MEDIA:

TUFF 1

NA

PRS ID: C-12-004

OK

SAMPLE TECH CODE: HA

OK

LOCATION ID: 12-610569

↓

FIELD QC TYPE: NA

LOCATION TYPE: GENERIC

BH

FIELD PREP: NA

TOP DEPTH: 0

2.0

SAMPLE USAGE: INV

BOTTOM DEPTH: 0

3.0

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: -90

BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	AM241+GS+ISO PU+ISOU	1 LITER POLY pp 12/15/09	None	Y	
1	↓	Met+U+CLO4+C N	1 LITER FOAL POLY	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	
1	↓	8082+NMED- HEXP	250 ML AMBER GLASS	Ice	Y	

SAMPLE DESC:

Light brown fine sandy silt

SAMPLE COMMENTS:

NA

LOCATION DESC:

4-1, 4 ft south of road.

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 38$ dpmPID ambient 0.0
reading 0.0 ppmBY ≤ 2300 dpm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

Nikolas Gallegos

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/16/09	(Printed Name) K. Gucera	12/16/09
(Signature) Tracy M.	16 20	(Signature) [Signature]	4:20
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

Rad Screening Data Release Form

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

RE 12-10-7352
-7353
-7354
-7355
-7356
-7357
-7358
-7359
-7360
7364

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 12-10-7366

Reason: Rinsate

.....
Print Last Name McFarland

Signature Tracy Z...

Date 12/16/09



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: AR52-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7352

ARS Sample ID: AR52-09-00164-001

Sample Collection Date: 12/16/09 11:10

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDL	YDL	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	28.27	18.43	20.56	18.75		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	25.62	10.72	12.93	11.57		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.13	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	27.50	9.76	1.97	9.79		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO-60	0.00	12.91	0.13	12.91		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.08	0.13	0.09	0.13		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	-0.01	16.89	0.08	16.89		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	0.30	0.33	0.15	0.33		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-213	1.66	0.61	0.19	0.61		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA 228	2.13	1.16	0.94	1.17		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	1.14	0.72	0.31	0.72		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	1.51	2.90	1.48	2.92		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.12	0.37	0.17	0.37		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.17

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: ARS2-09-00164

Client Sample ID: RE12-10-7353

Sample Collection Date: 12/16/09 11:58

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-09-00164-002

Date Received: 12/17/09 00:00

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MCr	YB11	Qr	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	22.00	16.64	21.37	16.85		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	33.60	10.22	12.17	11.02		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	15.66	6.34	2.02	6.86		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO-60	0.01	0.00	0.00	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.14	0.17	0.07	0.17		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	0.49	0.27	0.06	0.27		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	0.33	0.29	0.11	0.29		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.32	0.80	0.19	0.50		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-228	1.83	0.78	0.30	0.78		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	1.39	1.02	0.53	1.02		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	5.68	4.23	1.78	4.42		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.40	0.36	0.15	0.36		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 2.56

Matthew 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 work 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: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7354

ARS Sample ID: ARS2-09-00164-003

Sample Collection Date: 12/16/09 12:40

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	Min	Total	Quot	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	37.67	20.28	19.74	20.80		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	48.26	12.14	12.91	13.50		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.05	0.11	0.09	0.11		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	27.94	8.27	1.93	8.31		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-40	-0.01	25.28	0.00	25.28		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.16	0.12	0.07	0.12		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	0.00	0.04	0.00	0.04		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	0.92	0.60	0.16	0.60		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.74	0.51	0.16	0.51		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-228	2.41	0.89	0.28	0.90		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	1.09	0.77	0.48	0.77		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	3.38	4.68	1.89	4.74		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.08	0.18	0.09	0.18		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 0.56

Matt J. Eden
Quality Assurance Review

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ARS Sample Delivery Group: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7355

ARS Sample ID: ARS2-09-00164-004

Sample Collection Date: 12/16/09 13:30

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TDU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	64.96	26.99	25.87	27.75		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	55.99	12.99	12.63	14.30		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.15	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	-1.12	-19.14	3.89	-19.14		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO 60	0.13	0.16	0.15	0.16		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	0.74	0.42	0.10	0.42		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	0.27	0.34	0.18	0.34		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PR-212	1.05	0.61	0.25	0.61		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-226	0.59	0.43	0.22	0.43		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	2.12	1.23	0.37	1.23		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	1.27	3.48	1.78	3.49		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.11	0.34	0.16	0.34		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.44

Matthew A. Eder
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 # E87538



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7356

ARS Sample ID: ARS2-09-00164-005

Sample Collection Date: 12/16/09 13:50

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TOH	Unit	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	322.57	56.10	20.66	62.61		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	180.13	20.65	12.93	36.21		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	31.43	9.85	1.78	9.89		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
GO 60	0.00	11.66	0.17	11.66		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.10	0.10	0.09	0.10		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	-0.01	15.25	0.07	15.25		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	0.72	0.31	0.14	0.51		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.47	0.54	0.18	0.54		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-228	2.11	0.82	0.31	0.83		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	1.58	1.44	0.48	1.44		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	5.88	4.13	1.38	4.34		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.11	0.22	0.11	0.22		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.27

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

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7357

ARS Sample ID: ARS2-09-00164-006

Sample Collection Date: 12/16/09 14:10

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	HDC	YPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem recovery
GROSS ALPHA	63.53	29.39	21.37	26.96		pCi/g	EPA 908.0M	12/17/2009	ME	N/A
GROSS BETA	33.21	10.72	12.17	11.47		pCi/g	EPA 908.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.14	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	19.07	8.78	2.22	8.80		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO-60	0.00	14.24	0.15	14.84		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	-0.01	19.03	0.09	19.03		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-192	0.00	15.12	0.17	15.12		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PS-212	1.97	0.63	0.12	0.64		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
NA-226	1.20	0.74	0.46	0.74		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	-0.09	81.75	0.23	81.75		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	3.07	4.30	1.09	4.36		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.37	0.37	0.14	0.37		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.16

Matthew J. Eden
Quality Assurance Review

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LELAP Certificate# 30658

NELAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

805-672-2770 FAX 805-672-9534

ARS Sample Delivery Group: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7358

ARS Sample ID: ARS2-09-00164-007

Sample Collection Date: 12/16/09 14:30

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MC	TPU	Quat	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	73.89	27.34	19.74	28.79		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	62.43	13.61	12.91	15.61		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
HA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	17.18	7.19	1.68	7.21		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO 60	0.04	0.14	0.11	0.14		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.07	0.11	0.08	0.11		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	-0.01	14.38	0.07	14.38		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	0.07	0.16	0.13	0.16		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.83	0.81	0.13	0.51		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-226	1.58	0.57	0.39	0.57		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	1.78	0.80	0.17	0.80		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	5.44	4.59	1.71	4.78		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.16	0.27	0.12	0.27		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.25

Matt A. 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

NFIAP Certificate # E87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7389

ARS Sample ID: ARS2-09-00164-008

Sample Collection Date: 12/16/09 14:49

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	YSU	Quat	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	172.88	40.74	25.57	45.91		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	106.33	16.87	12.63	21.22		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.13	0.08		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	22.52	9.41	2.90	9.43		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO-60	-0.01	37.96	0.14	37.96		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.40	0.36	0.10	0.36		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	0.65	0.37	0.08	0.37		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	-0.01	39.47	0.16	39.47		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.48	0.65	0.26	0.65		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-228	2.70	1.49	0.43	1.58		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	2.41	1.82	0.66	1.82		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	2.12	4.31	2.28	4.34		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.13	0.35	0.18	0.35		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.35

Matthew J. Foley
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: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7360

ARS Sample ID: ARS2-09-00164-009

Sample Collection Date: 12/16/09 14:58

Date Received: 12/17/09 00:00

Sample Matrix: Cell/Solid

Report Date: 12/18/09 07:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDG	YNU	Quc	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	126.13	47.19	20.66	54.71		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	127.13	17.75	12.93	23.61		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	27.94	9.61	1.89	9.65		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO 60	0.00	12.39	0.13	12.39		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	0.18	0.19	0.08	0.19		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
EU-152	1.62	0.64	0.14	0.84		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.69	0.60	0.18	0.60		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RA-226	1.46	1.13	0.11	1.14		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	0.47	0.82	0.43	0.82		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	6.50	4.41	1.67	4.66		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.47	0.43	0.13	0.43		pCi/g	EPA 901.1M	12/17/2009	ME	N/A

NOTES: % Moisture: 1.10

Matthew J. Edgar
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 any form without 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: ARS2-09-00164

Request or PO Number:

Client Sample ID: RE12-10-7364

ARS Sample ID: ARS2-09-00164-010

Sample Collection Date: 12/16/09 13:30

Date Received: 12/17/09 00:00

Sample Matrix: Soil/Soil

Report Date: 12/18/09 07:00

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	181.14	37.72	21.37	42.01		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
GROSS BETA	101.70	15.87	12.17	20.17		pCi/g	EPA 900.0M	12/17/2009	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
K-40	-3.18	5418.80	4.88	5418.80		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CO-60	-0.01	32.79	0.13	32.79		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-134	0.28	0.25	0.09	0.25		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
CS-137	-0.02	78.15	0.09	78.15		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
RU-132	0.17	0.34	0.17	0.34		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PB-212	1.53	0.55	0.18	0.56		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
PA-238	7.14	0.98	0.66	0.99		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-235	2.14	1.04	0.32	1.04		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
U-238	4.73	4.86	2.05	4.97		pCi/g	EPA 901.1M	12/17/2009	ME	N/A
AM-241	0.27	0.41	0.18	0.41		pCi/g	EPA 901.1M	12/17/2009	ME	N/A


NOTES: % Moisture: 1.07

Matthew A. Foley
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

DATA VALIDATION COVER SHEET	
5122-1 <p style="text-align: center;">Data Validation Cover Sheet</p>	Records Use only 

Section I.

REQUEST NUMBER: 10-989 VALIDATION DATE: 02/05/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Ellen McEntee 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	<input type="checkbox"/> 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 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 CCV %Ds associated with all samples were >20% with positive bias for HMX and RDX. The associated sample results were NDs and, thus, were not qualified.
2. The LCS %R for TATB was > the laboratory UAL. The associated sample results were NDs and, thus were not qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/05/10

VALIDATOR'S SIGNATURE: *Ellen McEntee* **DATE:** 02/05/10

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 (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 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 type="checkbox"/>	<input checked="" 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: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274001

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102070a

Date Analyzed: 03-JAN-10 23:30

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: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274001

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030060.wiff

Date Analyzed: 04-JAN-10 03:07

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: RE12-10-7360

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274002

Sample Amount 2

Moisture: 11.1

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102076a

Date Analyzed: 04-JAN-10 02:27

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: RE12-10-7360

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274002

Sample Amount 2

Moisture: 11.1

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030066.wiff

Date Analyzed: 04-JAN-10 04:41

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: RE12-10-7358

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274003

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102077a

Date Analyzed: 04-JAN-10 02:56

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: RE12-10-7358

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274003

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030067.wiff

Date Analyzed: 04-JAN-10 04:57

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	Concentrated Extract Volume	X	Dilution Factor
		Sample Amount		

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7357

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274004

Sample Amount 2

Moisture: 10.4

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102078a

Date Analyzed: 04-JAN-10 03:26

Units: µg/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: RE12-10-7357

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274004

Sample Amount 2

Moisture: 10.4

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030068.wiff

Date Analyzed: 04-JAN-10 05:13

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: RE12-10-7359

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274005

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102079a

Date Analyzed: 04-JAN-10 03:55

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: RE12-10-7359

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274005

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030069.wiff

Date Analyzed: 04-JAN-10 05:28

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7356

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274006

Sample Amount 2

Moisture: 10.3

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102080a

Date Analyzed: 04-JAN-10 04:25

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	Concentrated Extract Volume	X	Dilution
Value		Sample Amount		Factor

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7356

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274006

Sample Amount 2

Moisture: 10.3

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030070.wiff

Date Analyzed: 04-JAN-10 05:44

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: RE12-10-7353

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274007

Sample Amount 2

Moisture: 17.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102081a

Date Analyzed: 04-JAN-10 04:54

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: RE12-10-7353

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274007

Sample Amount 2

Moisture: 17.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030071.wiff

Date Analyzed: 04-JAN-10 06:00

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7354

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274008

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102082a

Date Analyzed: 04-JAN-10 05:24

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: RE12-10-7354

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274008

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030072.wiff

Date Analyzed: 04-JAN-10 06:16

Units: ug/kg

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

*Concentration =

Instrument	X	Concentrated Extract Volume	X	Dilution
Value		Sample Amount		Factor

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7355

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274009

Sample Amount 2

Moisture: 12.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102083a

Date Analyzed: 04-JAN-10 05:53

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: RE12-10-7355

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274009

Sample Amount 2

Moisture: 12.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030073.wiff

Date Analyzed: 04-JAN-10 06:31

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: RE12-10-7364

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274010

Sample Amount 2

Moisture: 12.2

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102084a

Date Analyzed: 04-JAN-10 06:23

Units: ng/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: RE12-10-7364

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274010

Sample Amount 2

Moisture: 12.2

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030074.wiff

Date Analyzed: 04-JAN-10 06:47

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 Concentrated Extract Volume X Dilution Factor
Sample Amount

DATA VALIDATION COVER SHEET

5116-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-989 VALIDATION DATE: 02/05/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Ellen McEntee 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): PCBs | | | |

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):

None.

Reviewed by: Monica Dymerski Level I Date: 02/05/10

VALIDATOR'S SIGNATURE: *John McEntee*

DATE: 02/05/10

Form 5116-1, Revision 0.0

LOS ALAMOS

Environmental Restoration Project

**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


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 checked="" 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 (Check One)		Assign Qualifier Listed Below If Criterion = Yes	
		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: 10-989
Lab Sample ID: 243274001

Date Collected: 12/16/2009 12:00
Date Received: 12/18/2009 09:25
Client: LANL010
Method: SW846 8082
Inst: ECD1A.I
Analyst: JAOB
Allquot: 30.14 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 9.8
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE12-10-7352
Batch ID: 935393
Run Date: 12/22/2009 14:45
Prep Date: 12/21/2009 20:06
Data File: 040f4001.d
040b4001.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.68	ug/kg	1.22	3.68	1
11104-28-2	Aroclor-1221	U	3.68	ug/kg	1.22	3.68	1
11141-16-5	Aroclor-1232	U	3.68	ug/kg	1.22	3.68	1
53469-21-9	Aroclor-1242	U	3.68	ug/kg	1.22	3.68	1
12672-29-6	Aroclor-1248	U	3.68	ug/kg	1.22	3.68	1
11097-69-1	Aroclor-1254	U	3.68	ug/kg	1.22	3.68	1
11096-82-5	Aroclor-1260	U	3.68	ug/kg	1.22	3.68	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-989	Date Collected:	12/16/2009 12:00	Matrix:	R
Lab Sample ID:	243274010	Date Received:	12/18/2009 09:25	%Moisture:	12.2
Client ID:	RE12-10-7364	Client:	LANL010	Project:	LANL01004
Batch ID:	935393	Method:	SW846 8082	SOP Ref:	GL-OA-E-040
Run Date:	12/22/2009 15:17	Inst:	ECD1A.J	Dilution:	1
Prep Date:	12/21/2009 20:06	Analyst:	JAOC	Inj. Vol:	1 uL
Data File:	043f4301.d	Allquot:	30.07 g	Final Volume:	1 mL
	043b4301.d	Column:	1 CLP1	Level:	LOW
			2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.79	ug/kg	1.26	3.79	1
11104-28-2	Aroclor-1221	U	3.79	ug/kg	1.26	3.79	1
11141-16-5	Aroclor-1232	U	3.79	ug/kg	1.26	3.79	1
53469-21-9	Aroclor-1242	U	3.79	ug/kg	1.26	3.79	1
12672-29-6	Aroclor-1248	U	3.79	ug/kg	1.26	3.79	1
11097-69-1	Aroclor-1254	U	3.79	ug/kg	1.26	3.79	1
11096-82-5	Aroclor-1260	U	3.79	ug/kg	1.26	3.79	1

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-989 VALIDATION DATE: 02/05/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Ellen McEntee 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 checked="" type="checkbox"/> RADIOCHEMISTRY | <input 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 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):


1. The gamma spec results that were rejected by the laboratory due to high counting uncertainty, high peak width, interference, or low abundance were qualified R₁R_{5a}. Some gamma spec results from QC samples were also rejected by the laboratory. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/05/10


VALIDATOR'S SIGNATURE: Ellen McEntee DATE: 02/05/09

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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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	Records Use only
<div style="display: flex; justify-content: space-between;"> <div>Rad Analytical Data Validation Checklist</div> <div>  </div> </div>	

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"/>	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

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 12, 2010

Client Sample ID: RE12-10-7352
Sample ID: 243274001
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 9.79%

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	-0.000589	0.0241	+/-0.00173	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0179	+/-0.0011	0.050	pCi/g		KXM4	12/29/09	1535	935838	3
Plutonium-239/240	U	0.0011	0.0201	+/-0.0011	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.786	0.107	+/-0.0762	0.100	pCi/g		KXM4	01/07/10	1757	938206	4
Uranium-235/236		0.0724	0.0663	+/-0.0219	0.100	pCi/g						
Uranium-238		0.848	0.062	+/-0.0807	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0196	0.0727	+/-0.0236	0.200	pCi/g		MXR1	12/30/09	2247	935341	7
Bismuth-211	UI	3.08	R,R5a	0.239	+/-0.215	pCi/g						
Bismuth-214		0.922		0.0854	+/-0.0738	pCi/g						
Cadmium-109	UI	2.17	R,R5a	0.640	+/-0.280	pCi/g						
Cerium-139	U	0.00869		0.0328	+/-0.00941	pCi/g						
Cesium-134	UI	0.0766	R,R5a	0.0737	+/-0.0303	pCi/g						
Cesium-137	U	-0.0089		0.0478	+/-0.0149	pCi/g						
Cobalt-60	U	0.0118		0.0497	+/-0.0147	pCi/g						
Europium-152	U	0.00648		0.114	+/-0.0352	pCi/g						
Lanthanum-140	U	0.00249		0.0996	+/-0.0346	pCi/g						
Lead-212		1.46		0.0579	+/-0.0755	pCi/g						
Lead-214		1.07		0.0834	+/-0.0799	pCi/g						
Mercury-203	U	-0.0237		0.0459	+/-0.0146	pCi/g						
Potassium-40		23.3		0.442	+/-0.968	pCi/g						
Radium-223	U	0.060		0.737	+/-0.237	pCi/g						
Radium-224	UI	4.38	R,R5a	0.659	+/-0.449	pCi/g						
Radium-226		0.922		0.0854	+/-0.0738	pCi/g						
Radium-228		1.47		0.165	+/-0.150	pCi/g						
Ruthenium-106	U	0.0189		0.414	+/-0.125	pCi/g						

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Certificate of Analysis

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7352
Sample ID: 243274001
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	-0.00088	0.0602	+/-0.0186	0.080	pCi/g					
Strontium-85	U	0.0145	0.0436	+/-0.0142		pCi/g					
Thallium-208		0.520	0.0467	+/-0.0397	0.080	pCi/g					
Thorium-227	U	-0.00998	0.434	+/-0.131		pCi/g					
Thorium-231	U	0.060	0.737	+/-0.237		pCi/g					
Thorium-234	UI	0.760	R,R5a	+/-0.399	2.00	pCi/g					
Tin-113	U	0.00321	0.0545	+/-0.0158	0.100	pCi/g					
Uranium-235	U	0.121	0.236	+/-0.0703	0.500	pCi/g					
Yttrium-88	U	0.00383	0.0381	+/-0.0112	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	87.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.6	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7360
Sample ID: 243274002
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 11.1%

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	0.00683	0.0244	+/-0.00293	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00106	0.0173	+/-0.00107	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.00106	0.0195	+/-0.00107	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.811	0.116	+/-0.0807	0.100	pCi/g		KXM4	01/07/10	1757	938206	4
Uranium-235/236	U	0.065	0.0723	+/-0.018	0.100	pCi/g						
Uranium-238		0.793	0.0675	+/-0.0793	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0382	0.172	+/-0.0476	0.200	pCi/g		MXR1	12/30/09	2252	935341	7
Bismuth-211	UI	3.35	R,R5a	0.220	+/-0.184	pCi/g						
Bismuth-214		1.09		0.0797	+/-0.0676	0.200	pCi/g					
Cadmium-109	UI	3.11	R,R5a	0.897	+/-0.333	pCi/g						
Cerium-139	U	-0.00578	0.0315	+/-0.00953	0.050	pCi/g						
Cesium-134	UI	0.119	R,R5a	0.0666	+/-0.0234	0.100	pCi/g					
Cesium-137	U	0.0337	0.0496	+/-0.0139	0.100	pCi/g						
Cobalt-60	U	-0.000183	0.0422	+/-0.0129	0.100	pCi/g						
Europium-152	U	0.0375	0.109	+/-0.0315	0.200	pCi/g						
Lanthanum-140	U	-0.0475	0.0778	+/-0.0261	pCi/g							
Lead-212		1.53	0.0595	+/-0.0662	0.100	pCi/g						
Lead-214		1.17	0.0767	+/-0.0708	0.100	pCi/g						
Mercury-203	U	0.0376	0.0413	+/-0.0182	0.100	pCi/g						
Potassium-40		26.6	0.385	+/-1.13	1.00	pCi/g						
Radium-223	U	-0.00728	0.733	+/-0.245	pCi/g							
Radium-224	UI	4.58	R,R5a	0.677	+/-0.473	pCi/g						
Radium-226		1.09	0.0797	+/-0.0676	pCi/g							
Radium-228		1.65	0.141	+/-0.128	0.500	pCi/g						
Ruthenium-106	U	-0.0981	0.349	+/-0.106	0.800	pCi/g						
Sodium-22	U	-0.00906	0.0464	+/-0.0144	0.080	pCi/g						

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7360
Sample ID: 243274002
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	0.0193	0.043	+/-0.0144		pCi/g						
Thallium-208		0.462	0.0411	+/-0.0303	0.080	pCi/g						
Thorium-227	U	0.180	0.426	+/-0.121		pCi/g						
Thorium-231	U	-0.00728	0.733	+/-0.245		pCi/g						
Thorium-234	U	0.0473	1.56	+/-0.451	2.00	pCi/g						
Tin-113	U	-0.0132	0.0451	+/-0.0138	0.100	pCi/g						
Uranium-235	U	0.0612	0.237	+/-0.0716	0.500	pCi/g						
Yttrium-88	U	0.0162	0.0431	+/-0.0121	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.0	(50%-105%)

Notes:

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

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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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7358
Sample ID: 243274003
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 11%

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	0.00201	0.0252	+/-0.00242	0.050	pCi/g		KXM4	12/30/09	1044 935836	2
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00	0.0224	+/-0.00138	0.050	pCi/g		KXM4	12/29/09	1536 935838	3
Plutonium-239/240	U	0.0069	0.0252	+/-0.00311	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.04	0.110	+/-0.0954	0.100	pCi/g		KXM4	01/07/10	1757 938206	4
Uranium-235/236	U	0.0571	0.0684	+/-0.0175	0.100	pCi/g					
Uranium-238		1.14	0.0639	+/-0.103	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	-0.0106	0.220	+/-0.0726	0.200	pCi/g		MXR1	12/30/09	2306 935341	7
Bismuth-211	UI	4.20	R,R5a	0.261	+/-0.216	pCi/g					
Bismuth-214		1.36		0.0897	+/-0.0822	0.200	pCi/g				
Cadmium-109	UI	3.66	R,R5a	0.936	+/-0.450	pCi/g					
Cerium-139	U	-0.00458		0.0389	+/-0.0112	0.050	pCi/g				
Cesium-134	U	0.0638		0.0707	+/-0.0278	0.100	pCi/g				
Cesium-137	UI	0.058	R,R5a	0.0475	+/-0.0261	0.100	pCi/g				
Cobalt-60	U	0.0439		0.0536	+/-0.0142	0.100	pCi/g				
Europium-152	U	-0.0337		0.133	+/-0.0421	0.200	pCi/g				
Lanthanum-140	U	0.0391		0.0972	+/-0.0307	pCi/g					
Lead-212		1.80		0.0732	+/-0.0792	0.100	pCi/g				
Lead-214		1.46		0.091	+/-0.0843	0.100	pCi/g				
Mercury-203	U	0.025		0.0559	+/-0.0182	0.100	pCi/g				
Potassium-40		19.5		0.399	+/-0.923	1.00	pCi/g				
Radium-223	U	0.350		0.891	+/-0.295	pCi/g					
Radium-224	UI	4.63	R,R5a	0.833	+/-0.515	pCi/g					
Radium-226		1.36		0.0897	+/-0.0822	pCi/g					
Radium-228		1.74		0.164	+/-0.150	0.500	pCi/g				
Ruthenium-106	U	-0.0367		0.393	+/-0.117	0.800	pCi/g				
Sodium-22	U	0.0107		0.0543	+/-0.0158	0.080	pCi/g				

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7358
Sample ID: 243274003

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	0.052	R,R5a	0.0519	+/-0.0165							pCi/g
Thallium-208		0.608		0.0435	+/-0.0391	0.080						pCi/g
Thorium-227	U	-0.263		0.492	+/-0.151							pCi/g
Thorium-231	U	0.350		0.891	+/-0.295							pCi/g
Thorium-234	U	1.35		1.84	+/-0.706	2.00						pCi/g
Tin-113	U	-0.0482		0.0529	+/-0.0173	0.100						pCi/g
Uranium-235	U	0.251		0.297	+/-0.0869	0.500						pCi/g
Yttrium-88	U	-0.00364		0.0402	+/-0.0127	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	95.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	66.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.3	(50%-105%)

Notes:

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

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7357
Sample ID: 243274004
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 10.4%

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	0.00236	0.0275	+/-0.00387	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00421	0.0171	+/-0.00211	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0179	0.0192	+/-0.00467	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.45	0.105	+/-0.125	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0585	0.065	+/-0.0162	0.100	pCi/g						
Uranium-238		1.51	0.0607	+/-0.130	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0251	0.052	+/-0.0172	0.200	pCi/g		MXR1	12/30/09	2306	935341	7
Bismuth-211	UI	4.55	R,R5a	0.197	+/-0.288	pCi/g						
Bismuth-214		1.36		0.0763	+/-0.100	pCi/g						
Cadmium-109	UI	3.61	R,R5a	0.501	+/-0.277	pCi/g						
Cerium-139	U	0.00725		0.029	+/-0.00832	pCi/g						
Cesium-134	UI	0.112	R,R5a	0.0653	+/-0.0233	pCi/g						
Cesium-137		0.244		0.0432	+/-0.0297	pCi/g						
Cobalt-60	U	-0.00116		0.0438	+/-0.0134	pCi/g						
Europium-152	U	-0.0169		0.101	+/-0.0298	pCi/g						
Lanthanum-140	U	-0.0664		0.0896	+/-0.0304	pCi/g						
Lead-212		1.76		0.0573	+/-0.107	pCi/g						
Lead-214		1.58		0.0687	+/-0.108	pCi/g						
Mercury-203	U	0.0144		0.043	+/-0.0144	pCi/g						
Potassium-40		20.3		0.335	+/-1.04	pCi/g						
Radium-223	U	0.0929		0.711	+/-0.230	pCi/g						
Radium-224	UI	4.68	R,R5a	0.652	+/-0.442	pCi/g						
Radium-226		1.36		0.0763	+/-0.100	pCi/g						
Radium-228		1.63		0.151	+/-0.135	pCi/g						
Ruthenium-106	U	0.279		0.405	+/-0.113	pCi/g						
Sodium-22	U	-0.00892		0.0525	+/-0.0162	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID:			RE12-10-7357		Project:		LANL01004				
Sample ID:			243274004		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	0.0235	0.0442	+/-0.0146		pCi/g					
Thallium-208		0.593	0.0405	+/-0.0449	0.080	pCi/g					
Thorium-227	U	-0.0964	0.398	+/-0.123		pCi/g					
Thorium-231	U	0.0929	0.711	+/-0.230		pCi/g					
Thorium-234		1.59	0.521	+/-0.343	2.00	pCi/g					
Tin-113	U	-0.00594	0.0473	+/-0.0141	0.100	pCi/g					
Uranium-235	U	0.111	0.210	+/-0.0619	0.500	pCi/g					
Yttrium-88	U	-7.47E-05	0.0366	+/-0.0112	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	80.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	102	(50%-105%)

Notes:

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

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- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7359
Sample ID: 243274005
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-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	0.00821	0.0247	+/-0.00647	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.000973	0.0158	+/-0.000975	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0175	0.0178	+/-0.00422	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.34	0.113	+/-0.117	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236		0.099	0.070	+/-0.0222	0.100	pCi/g						
Uranium-238		1.69	0.0654	+/-0.143	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0566	0.0987	+/-0.0285	0.200	pCi/g		MXR1	12/31/09	1435	935341	7
Bismuth-211	UI	2.83	R,R5a	0.345	+/-0.238	pCi/g						
Bismuth-214		0.885		0.118	+/-0.0886	pCi/g						
Cadmium-109	UI	2.75	R,R5a	1.07	+/-0.416	pCi/g						
Cerium-139	U	-0.049		0.0448	+/-0.0144	pCi/g						
Cesium-134	U	0.0487		0.0937	+/-0.0258	pCi/g						
Cesium-137		0.677		0.0717	+/-0.0551	pCi/g						
Cobalt-60	U	0.0368		0.0775	+/-0.0214	pCi/g						
Europium-152	U	-0.0412		0.151	+/-0.063	pCi/g						
Lanthanum-140	U	-0.0595		0.140	+/-0.0471	pCi/g						
Lead-212		1.05		0.0998	+/-0.0879	pCi/g						
Lead-214		0.986		0.120	+/-0.0866	pCi/g						
Mercury-203	U	0.0169		0.067	+/-0.0189	pCi/g						
Potassium-40		17.1		0.627	+/-0.902	pCi/g						
Radium-223	U	-0.228		1.14	+/-0.341	pCi/g						
Radium-224	U	1.02		1.05	+/-0.284	pCi/g						
Radium-226		0.885		0.118	+/-0.0886	pCi/g						
Radium-228		1.25		0.226	+/-0.159	pCi/g						
Ruthenium-106	U	-0.234		0.547	+/-0.171	pCi/g						
Sodium-22	U	-0.019		0.0826	+/-0.0254	pCi/g						

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7359
Sample ID: 243274005
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	0.0606	0.070	+/-0.021		pCi/g					
Thallium-208		0.370	0.0651	+/-0.0471	0.080	pCi/g					
Thorium-227	U	-0.0659	0.633	+/-0.182		pCi/g					
Thorium-231	U	-0.228	1.14	+/-0.341		pCi/g					
Thorium-234		2.50	0.931	+/-0.495	2.00	pCi/g					
Tin-113	U	-0.0369	0.0699	+/-0.0221	0.100	pCi/g					
Uranium-235	U	0.118	0.343	+/-0.0993	0.500	pCi/g					
Yttrium-88	U	-0.0272	0.0528	+/-0.0187	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	95.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.9	(50%-105%)

Notes:

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

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- ** 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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7356
Sample ID: 243274006
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 10.3%

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	0.00224	0.0267	+/-0.00259	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00103	0.0168	+/-0.00146	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.00	0.0189	+/-0.00146	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.518	0.110	+/-0.0568	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0219	0.0683	+/-0.00993	0.100	pCi/g						
Uranium-238		0.564	0.0638	+/-0.061	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00336	0.105	+/-0.0352	0.200	pCi/g		MXR1	12/31/09	1435	935341	7
Bismuth-211	UI	3.17	R,R5a	0.300	+/-0.286	pCi/g						
Bismuth-214		0.959		0.130	+/-0.102	pCi/g						
Cadmium-109	UI	2.67	R,R5a	0.950	+/-0.406	pCi/g						
Cerium-139	U	-0.0332		0.0464	+/-0.0146	pCi/g						
Cesium-134	U	0.0473		0.112	+/-0.0312	pCi/g						
Cesium-137	U	0.0139		0.078	+/-0.0233	pCi/g						
Cobalt-60	U	0.0129		0.0843	+/-0.0252	pCi/g						
Europium-152	U	0.0215		0.154	+/-0.0529	pCi/g						
Lanthanum-140	U	-0.162		0.116	+/-0.0526	pCi/g						
Lead-212		1.34		0.092	+/-0.082	pCi/g						
Lead-214		1.10		0.105	+/-0.103	pCi/g						
Mercury-203	U	-0.0235		0.0696	+/-0.0222	pCi/g						
Potassium-40		28.2		0.695	+/-1.34	pCi/g						
Radium-223	U	-0.455		1.08	+/-0.377	pCi/g						
Radium-224	UI	4.17	R,R5a	1.05	+/-0.550	pCi/g						
Radium-226		0.959		0.130	+/-0.102	pCi/g						
Radium-228		1.56		0.249	+/-0.203	pCi/g						
Ruthenium-106	U	0.0553		0.579	+/-0.174	pCi/g						
Sodium-22	U	0.0185		0.0958	+/-0.0285	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID:			RE12-10-7356		Project:		LANL01004					
Sample ID:			243274006		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	0.0244	0.0715	+/-0.0204		pCi/g						
Thallium-208		0.470	0.0681	+/-0.0537	0.080	pCi/g						
Thorium-227	U	-0.0778	0.609	+/-0.189		pCi/g						
Thorium-231	U	-0.455	1.08	+/-0.377		pCi/g						
Thorium-234	U	0.355	0.894	+/-0.438	2.00	pCi/g						
Tin-113	U	-0.0186	0.0849	+/-0.0256	0.100	pCi/g						
Uranium-235	U	0.129	0.352	+/-0.103	0.500	pCi/g						
Yttrium-88	U	-0.0264	0.0413	+/-0.0173	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	100	(50%-105%)

Notes:

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

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- A The TIC is a suspected aldol-condensation product
- 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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7353
Sample ID: 243274007
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 17.8%

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	0.00183	0.0239	+/-0.00149	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0173	+/-0.0015	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0106	0.0194	+/-0.0034	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.08	0.105	+/-0.0978	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0546	0.0654	+/-0.0156	0.100	pCi/g						
Uranium-238		1.26	0.0611	+/-0.110	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.118	0.274	+/-0.0897	0.200	pCi/g		MXR1	12/31/09	1435	935341	7
Bismuth-211	UI	3.38	R,R5a	0.239	+/-0.197	pCi/g						
Bismuth-214		0.961		0.088	+/-0.0753	0.200	pCi/g					
Cadmium-109	UI	3.44	R,R5a	1.05	+/-0.497	pCi/g						
Cerium-139	U	-0.00484		0.0408	+/-0.0117	0.050	pCi/g					
Cesium-134	UI	0.0939	R,R5a	0.0692	+/-0.0243	0.100	pCi/g					
Cesium-137		0.336		0.0455	+/-0.0334	0.100	pCi/g					
Cobalt-60	U	-0.0258		0.0437	+/-0.0147	0.100	pCi/g					
Europium-152	U	0.0208		0.128	+/-0.0439	0.200	pCi/g					
Lanthanum-140	U	0.0848		0.116	+/-0.0339	pCi/g						
Lead-212		1.33		0.0712	+/-0.0647	0.100	pCi/g					
Lead-214		1.18		0.0833	+/-0.0751	0.100	pCi/g					
Mercury-203	U	0.0509		0.0566	+/-0.0158	0.100	pCi/g					
Potassium-40		19.8		0.423	+/-0.939	1.00	pCi/g					
Radium-223	U	-0.411		0.854	+/-0.272	pCi/g						
Radium-224	UI	3.54	R,R5a	0.809	+/-0.559	pCi/g						
Radium-226		0.961		0.088	+/-0.0753	pCi/g						
Radium-228		1.18		0.154	+/-0.131	0.500	pCi/g					
Ruthenium-106	U	0.00414		0.403	+/-0.123	0.800	pCi/g					
Sodium-22	U	-0.0372		0.052	+/-0.0174	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7353
Sample ID: 243274007

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	0.130	R,R5a	0.0608	+/-0.017	pCi/g					
Thallium-208		0.403		0.0487	+/-0.0329	pCi/g	0.080				
Thorium-227	U	-0.106		0.515	+/-0.155	pCi/g					
Thorium-231	U	-0.411		0.854	+/-0.272	pCi/g					
Thorium-234	U	2.05		2.13	+/-1.01	pCi/g	2.00				
Tin-113	U	0.00756		0.0603	+/-0.0174	pCi/g	0.100				
Uranium-235	U	-0.122		0.286	+/-0.0912	pCi/g	0.500				
Yttrium-88	U	0.00369		0.0389	+/-0.0116	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	102	(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

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7354
 Sample ID: 243274008
 Matrix: R
 Collect Date: 16-DEC-09
 Receive Date: 18-DEC-09
 Collector: Client
 Moisture: 6.86%

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	0.00509	0.0227	+/-0.00244	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0192	+/-0.00118	0.050	pCi/g		KXM4	12/29/09	1104	935838	3
Plutonium-239/240	U	7.04E-11	0.0216	+/-0.00167	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.504	0.112	+/-0.056	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0535	0.0693	+/-0.0159	0.100	pCi/g						
Uranium-238		0.458	0.0648	+/-0.0528	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0903	0.201	+/-0.0655	0.200	pCi/g		MXR1	12/31/09	1436	935341	7
Bismuth-211	UI	2.99	R,R5a	0.352	+/-0.271	pCi/g						
Bismuth-214		1.03		0.110	+/-0.0984	0.200	pCi/g					
Cadmium-109	UI	4.27	R,R5a	1.09	+/-0.703	pCi/g						
Cerium-139	U	-0.0102		0.0474	+/-0.0152	0.050	pCi/g					
Cesium-134	U	0.0659		0.093	+/-0.0256	0.100	pCi/g					
Cesium-137	U	-0.0434		0.051	+/-0.0175	0.100	pCi/g					
Cobalt-60	U	0.0045		0.0659	+/-0.0203	0.100	pCi/g					
Europium-152	U	-0.0768		0.155	+/-0.0573	0.200	pCi/g					
Lanthanum-140	U	-0.0742		0.108	+/-0.040	pCi/g						
Lead-212		1.63		0.0886	+/-0.104	0.100	pCi/g					
Lead-214		1.04		0.123	+/-0.098	0.100	pCi/g					
Mercury-203	UI	0.0603	R,R5a	0.0596	+/-0.0308	0.100	pCi/g					
Potassium-40		33.4		0.571	+/-1.76	1.00	pCi/g					
Radium-223	U	-0.0272		1.09	+/-0.378	pCi/g						
Radium-224	UI	4.84	R,R5a	1.01	+/-0.806	pCi/g						
Radium-226		1.03		0.110	+/-0.0984	pCi/g						
Radium-228		1.82		0.224	+/-0.180	0.500	pCi/g					
Ruthenium-106	U	0.313		0.553	+/-0.159	0.800	pCi/g					
Sodium-22	U	-0.01		0.0728	+/-0.0234	0.080	pCi/g					

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Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID:			RE12-10-7354		Project:		LANL01004				
Sample ID:			243274008		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	0.0634	0.0713	+/-0.0222		pCi/g					
Thallium-208		0.520	0.063	+/-0.0496	0.080	pCi/g					
Thorium-227	U	-0.0549	0.624	+/-0.188		pCi/g					
Thorium-231	U	-0.0272	1.09	+/-0.378		pCi/g					
Thorium-234	U	1.58	1.77	+/-0.692	2.00	pCi/g					
Tin-113	U	-0.0196	0.0709	+/-0.0224	0.100	pCi/g					
Uranium-235	U	0.131	0.359	+/-0.109	0.500	pCi/g					
Yttrium-88	U	1.44E-05	0.0572	+/-0.0176	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.4	(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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- 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

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 12, 2010

Client Sample ID: RE12-10-7355
 Sample ID: 243274009
 Matrix: R
 Collect Date: 16-DEC-09
 Receive Date: 18-DEC-09
 Collector: Client
 Moisture: 12.9%

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	-0.000401	0.028	+/-0.00142	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00117	0.0191	+/-0.00203	0.050	pCi/g		KXM4	12/29/09	1104	935838	3
Plutonium-239/240	U	0.00938	0.0215	+/-0.00335	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.11	0.111	+/-0.100	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0574	0.0688	+/-0.0164	0.100	pCi/g						
Uranium-238		1.30	0.0642	+/-0.114	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0451	0.0769	+/-0.0223	0.200	pCi/g		MXR1	12/31/09	1436	935341	7
Bismuth-211	UI	4.16	R,R5a	0.306	+/-0.281	pCi/g						
Bismuth-214		1.10		0.121	+/-0.112	pCi/g						
Cadmium-109	UI	3.01	R,R5a	0.718	+/-0.343	pCi/g						
Cerium-139	U	0.0179		0.0423	+/-0.0115	pCi/g						
Cesium-134	U	0.0849		0.105	+/-0.0284	pCi/g						
Cesium-137		0.212		0.0836	+/-0.0378	pCi/g						
Cobalt-60	U	0.0291		0.0815	+/-0.0222	pCi/g						
Europium-152	U	-0.0091		0.134	+/-0.0407	pCi/g						
Lanthanum-140	U	-0.138		0.136	+/-0.0556	pCi/g						
Lead-212		1.57		0.0749	+/-0.0935	pCi/g						
Lead-214		1.45		0.107	+/-0.105	pCi/g						
Mercury-203	U	0.0153		0.0573	+/-0.0182	pCi/g						
Potassium-40		18.4		0.669	+/-1.15	pCi/g						
Radium-223	U	0.246		0.984	+/-0.318	pCi/g						
Radium-224	UI	1.36	R,R5a	0.855	+/-0.476	pCi/g						
Radium-226		1.10		0.121	+/-0.112	pCi/g						
Radium-228		1.53		0.199	+/-0.173	pCi/g						
Ruthenium-106	U	-0.196		0.464	+/-0.187	pCi/g						
Sodium-22	U	-0.003		0.0931	+/-0.0289	pCi/g						

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7355
Sample ID: 243274009
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	0.00222	0.0604	+/-0.0176		pCi/g						
Thallium-208		0.498	0.0606	+/-0.046	0.080	pCi/g						
Thorium-227	U	-0.384	0.514	+/-0.167		pCi/g						
Thorium-231	U	0.246	0.984	+/-0.318		pCi/g						
Thorium-234		1.49	0.720	+/-0.405	2.00	pCi/g						
Tin-113	U	0.0247	0.069	+/-0.020	0.100	pCi/g						
Uranium-235	U	0.185	0.287	+/-0.0841	0.500	pCi/g						
Yttrium-88	U	-0.0401	0.049	+/-0.0213	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.0	(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

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 12, 2010

Client Sample ID: RE12-10-7364
Sample ID: 243274010
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 12.2%

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	0.00168	0.0231	+/-0.00141	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00258	0.0209	+/-0.00224	0.050	pCi/g		KXM4	12/29/09	1104	935838	3
Plutonium-239/240	U	0.00645	0.0236	+/-0.0029	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.111	+/-0.106	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236		0.0797	0.0689	+/-0.0197	0.100	pCi/g						
Uranium-238		1.19	0.0644	+/-0.107	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0696	0.327	+/-0.101	0.200	pCi/g		MXR1	12/31/09	1437	935341	7
Bismuth-211	UI	3.25	R,R5a	0.319	+/-0.239	pCi/g						
Bismuth-214		0.924		0.118	+/-0.0907	pCi/g						
Cadmium-109	UI	2.40	R,R5a	1.42	+/-0.563	pCi/g						
Cerium-139	U	-0.0199	0.0489	+/-0.0146	0.050	pCi/g						
Cesium-134	UI	0.104	R,R5a	0.082	+/-0.0304	pCi/g						
Cesium-137		0.202	0.0652	+/-0.0344	0.100	pCi/g						
Cobalt-60	U	0.0052	0.0549	+/-0.0164	0.100	pCi/g						
Europium-152	U	-0.0557	0.156	+/-0.0538	0.200	pCi/g						
Lanthanum-140	U	-0.0281	0.133	+/-0.0419		pCi/g						
Lead-212		1.36	0.0903	+/-0.0703	0.100	pCi/g						
Lead-214		1.13	0.113	+/-0.0881	0.100	pCi/g						
Mercury-203	U	0.023	0.0682	+/-0.0214	0.100	pCi/g						
Potassium-40		18.9	0.419	+/-1.02	1.00	pCi/g						
Radium-223	U	-0.376	1.06	+/-0.363		pCi/g						
Radium-224	UI	3.71	R,R5a	1.03	+/-0.548	pCi/g						
Radium-226		0.924	0.118	+/-0.0907		pCi/g						
Radium-228		1.30	0.214	+/-0.161	0.500	pCi/g						
Ruthenium-106	U	-0.00201	0.515	+/-0.154	0.800	pCi/g						
Sodium-22	U	-0.00498	0.0746	+/-0.0229	0.080	pCi/g						

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 12, 2010

Client Sample ID:

RE12-10-7364

Project:

LANL01004

Sample ID:

243274010

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	0.0455	0.0631	+/-0.0172		pCi/g					
Thallium-208		0.539	0.0525	+/-0.0412	0.080	pCi/g					
Thorium-227	U	-0.0762	0.638	+/-0.192		pCi/g					
Thorium-231	U	-0.376	1.06	+/-0.363		pCi/g					
Thorium-234		2.97	2.49	+/-0.935	2.00	pCi/g					
Tin-113	U	0.0244	0.0802	+/-0.0226	0.100	pCi/g					
Uranium-235	U	0.0821	0.372	+/-0.108	0.500	pCi/g					
Yttrium-88	U	0.0357	0.0628	+/-0.0157	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	97.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	78.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.7	(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

Thursday, December 17, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-989C

LOS ALAMOS

REQUEST NUMBER: 10-989

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/16/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243274%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7352	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7352	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7360	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7360	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7358	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7358	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7357	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7357	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7359	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7359	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7356	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7356	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7353	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7353	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7354	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7354	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7355	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7355	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7364	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7364	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Relinquished By:

Date Time

Received By:

Date Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By: [Signature]

Date Time

Remarks:

Thursday, December 17, 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: 10-989
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/17/2009
TURNAROUND/REPORT DUE: 1/16/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL SMO CONTACT:

Signature: 

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	

Thursday, December 17, 2009

REQUEST NUMBER: 10-989

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE12-10-7364	R	12/16/2009	
	HASL-300:AM-241	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
	HASL-300:ISOPU	1	RE12-10-7364	R	12/16/2009	
		1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
	HASL-300:ISOU	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	

REQUEST NUMBER: 10-989

Thursday, December 17, 2009

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7384	R	12/16/2009	
	SW-846:8082	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7384	R	12/16/2009	
	SW-846:8321A_MOD	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7384	R	12/16/2009	

Final Page of REQUEST NUMBER 10-989



January 04, 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: 243274
SDG: 10-989

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on December 18, 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: 10-989
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 243274
SDG: 10-989

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 243274
SDG # : 10-989**

January 04, 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 18, 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 13/15C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

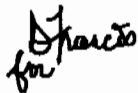
<u>Laboratory ID</u>	<u>Client ID</u>
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364

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.

A handwritten signature in black ink, appearing to read "Valerie Davis" with a stylized flourish at the end.

Valerie Davis

Project Manager

List of current GEL Certifications as of 04 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 17, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-989C

LOS ALAMOS

REQUEST NUMBER: 10-989

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/16/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243274%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7352	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7352	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7360	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7360	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7358	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7358	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7357	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7357	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7359	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7359	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7356	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7356	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7353	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7353	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7354	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7354	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7355	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7355	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7364	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7364	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Relinquished By:

Date

Time

Received By:

Date

Time



12/17/09 3:00

 Patricia Dover-Dent P.H.D. 12-18-09 09:25

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By: 1

Date

Time

Remarks:

Thursday, December 17, 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: 10-989

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 12/17/2009

TURNAROUND/REPORT DUE: 1/16/2010

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	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	

Thursday, December 17, 2009

REQUEST NUMBER: 10-989

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7364	R	12/16/2009	
	HASL-300:AM-241	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
	HASL-300:ISOPU	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
	HASL-300:ISOU	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	

REQUEST NUMBER: 10-989

Thursday, December 17, 2009

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
	SW-846:8082	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	
	SW-846:8321A_MOD	1	RE12-10-7352	R	12/16/2009	
		1	RE12-10-7353	R	12/16/2009	
		1	RE12-10-7354	R	12/16/2009	
		1	RE12-10-7355	R	12/16/2009	
		1	RE12-10-7356	R	12/16/2009	
		1	RE12-10-7357	R	12/16/2009	
		1	RE12-10-7358	R	12/16/2009	
		1	RE12-10-7359	R	12/16/2009	
		1	RE12-10-7360	R	12/16/2009	
		1	RE12-10-7364	R	12/16/2009	

Final Page of REQUEST NUMBER 10-989



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCOC/Work Order: 10-989		
Received By: Patricia Dover-Dent			Date Received: December 18, 2009		
Suspected Hazard Information		Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further	
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 (describe) 1-5,13,15
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 Preservative 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 #'S

7209 7849 2726 1C	7209 7849 2737 3C	7209 7849 2689 13C
7209 7849 2759 1C	7209 7849 2829 3C	7209 7849 2678 15C
7209 7849 2781 1C	7209 7849 2748 4C	
7209 7849 2760 2C	7209 7849 2792 4C	
7209 7849 2770 2C	7209 7849 2807 4C	
7209 7849 2818 2C	7209 7849 2704 5C	RADIOACTIVE SAMPLES
7209 7849 2715 3C	7209 7849 2667 13C	

ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 83

SHIP DATE: 17DEC88
ACTWGT: 58.0 LB MAN
CRD: 0014176/CAFE2434

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843)656-8171
REF: 6B010AMR3A0352VA00

DATE 11/11/11 11:11 AM 11/11/11



FedEx
Express



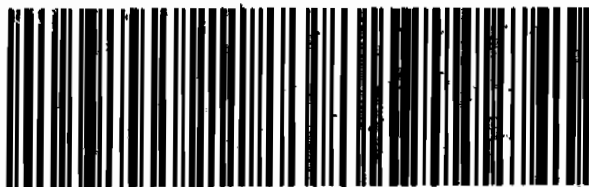
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MatrN 7209 7849 2704 0201

FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



Pat # 155148-434 NRIIT V3.00-00

ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 83

SHIP DATE: 17DEC88
ACTWGT: 58.0 LB MAN
CRD: 0014176/CAFE2434

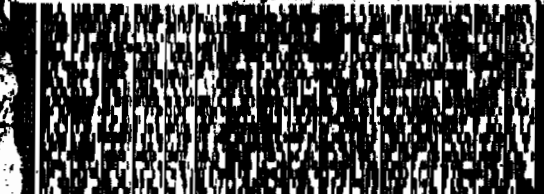
LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843)656-8171
REF: 6B010AMR3A0352VA00

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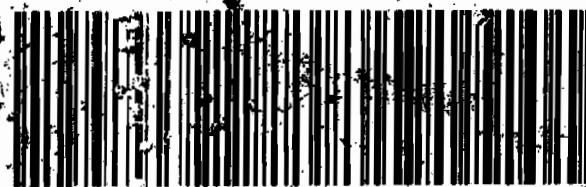


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FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 83

SHIP DATE: 17DEC88
ACTWGT: 62.0 LB MAN
CRD: 0014176/CAFE2434

LOS ALAMOS, NM 87545
UNITED STATES US

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GENERAL ENGINEERING LAB
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(843)656-8171
REF: 6B010AMR3A0352VA00

DATE 11/11/11 11:11 AM 11/11/11



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2 of 2
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MatrN 7209 7849 2770 0201

FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA f1441

ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 83

SHIP DATE: 17DEC88
ACTWGT: 55.0 LB MAN
CRD: 0014176/CAFE2434

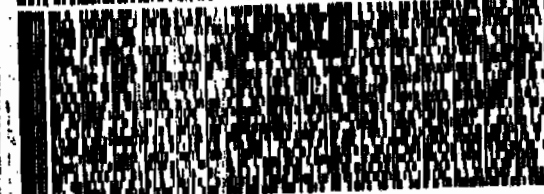
LOS ALAMOS, NM 87545
UNITED STATES US

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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

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(843)656-8171
REF: 6B010AMR3A0352VA00

DATE 11/11/11 11:11 AM 11/11/11



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2 of 2
MPS# 0263 7209 7849 2760
MatrN 7209 7849 2759 0201

FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 17DEC09
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2434

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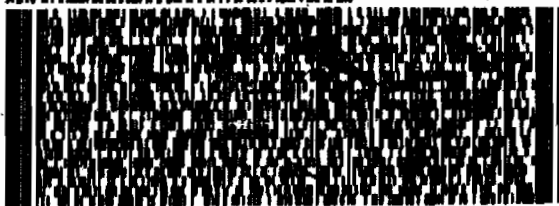
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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171

REF: 68010AMR3A0352VA00

0014176/CAFE2434



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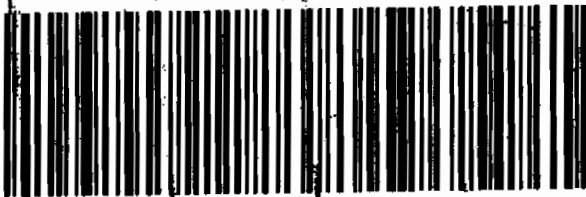


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NN MASTER NN

FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



Part 9 150148-434 NRIT V3 09-08

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 17DEC09
ACTWGT: 52.0 LB MAN
CAD: 0014176/CAFE2434

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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171

REF: 68010AMR3A0352VA00

0014176/CAFE2434



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PRIORITY OVERNIGHT

2 of 3
TRKH 7209 7849 2715
[0263]

NN MASTER NN

29407
SC-US
CHS

CHSA 2 of 1441

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 17DEC09
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2434

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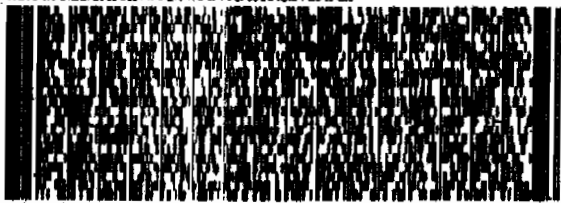
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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171

REF: 68010AMR3A0352VA00

0014176/CAFE2434



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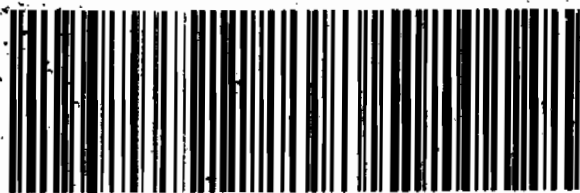
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NN MASTER NN

FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



Part 4 150148-434 NRIT V3 09-08

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 17DEC09
ACTWGT: 48.0 LB MAN
CAD: 0014176/CAFE2434

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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

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REF: 68010AMR3A0352VA00

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FRI - 18DEC A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

1 of 2
TRKH 7209 7849 2737
[0201]

NN MASTER NN

XX CHSA

ORIGIN ID: SAFA (505)665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 17DEC09
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

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REF: 68010AMR3A0352VA00

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PRIORITY OVERNIGHT

TRKH 7209 7849 2829
0201

29407
SC-US
CHS

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Part # 156148-434 NRT V3 09-08

ORIGIN ID: SAFA (505)665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU 03

SHIP DATE: 17DEC09
ACTWGT: 45.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

LOS ALAMOS, NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171
REF: 68010AMR3A0352VA00

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FRI - 18DEC A1
PRIORITY OVERNIGHT

1 of 3
7209 7849 2792
NN

29407
SC-US
CHS

ORIGIN ID: SAFA (505)665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 17DEC09
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

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REF: 68010AMR3A0352VA00

4C

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PRIORITY OVERNIGHT

2 of 2
MPSH 7209 7849 2748
0263

MatrN 7209 7849 2737 0201

29407
SC-US
CHS

XX CHSA



Part # 156148-434 NRT V3 09-08

ORIGIN ID: SAFA (505)665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU 03

SHIP DATE: 17DEC09
ACTWGT: 11.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

LOS ALAMOS, NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171
REF: 68010AMR3A0352VA00

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FRI - 18DEC A1
PRIORITY OVERNIGHT

2 of 3
MPSH 7209 7849 2807
0263

MatrN 7209 7849 2792 0201

29407
SC-US
CHS

XX CHSA

ORIGIN ID: SAFR (000)000-0000
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03

SHIP DATE: 17DEC89
ACTWGT: 10.0 LB HAN
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

5e

CHARLESTON SC 29407
(843)556-8171
REF: 68010AMR3A0352YAO0

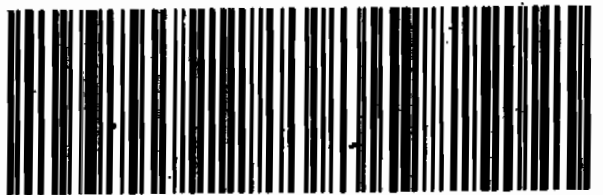


RADIOACTIVE SAMPLES

1 of 3
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NN MASTER NN
FRI - 18DEC A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



Part # 156148-434 NRT V3 00-00

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

SHIP DATE: 17DEC89
ACTWGT: 57.0 LB HAN
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

13c

CHARLESTON SC 29407
(843)556-8171
REF: 68010AMR1A015AGW10



3 of 3
TRKH 7209 7849 2689
0201
FRI - 18DEC A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

ORIGIN ID: SAFR (105)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03

SHIP DATE: 17DEC89
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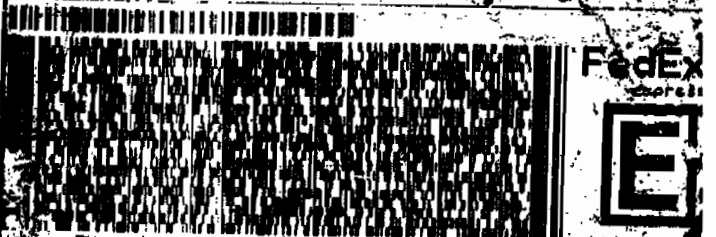
LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

13c

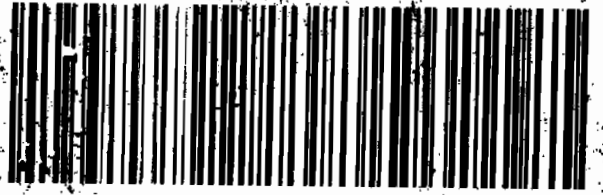
CHARLESTON SC 29407
(843)556-8171
REF: 68010AMR1A015AGW10



2 of 3
MPSH 7209 7849 2667
0263
Matr# 7209 7849 2656 0201
FRI - 18DEC A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



ORIGIN ID: SAFR (525)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03

SHIP DATE: 17DEC89
ACTWGT: 58.0 LB HAN
CAD: 0014176/CAFE2434

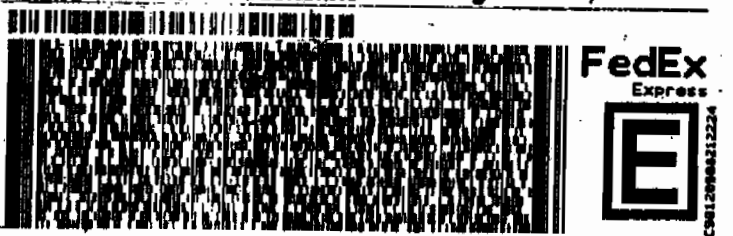
LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

15c

CHARLESTON SC 29407
(843)556-8171
REF: 68010AMR1A015AGW10



3 of 3
MPSH 7209 7849 2578
0263
Matr# 7209 7849 2656 0201
FRI - 18DEC A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

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 10-989**

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: 935248

Prep Batch Number: 935247

Sample Analysis

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

Sample ID	Client ID
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364
1202001039	Method Blank (MB)
1202001040	Laboratory Control Sample (LCS)
1202001041	243274001(RE12-10-7352) Matrix Spike (MS)
1202001042	243274001(RE12-10-7352) Matrix Spike Duplicate (MSD)

10-989-EXPLCMS

Page 1 of 6

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 243274001 (RE12-10-7352) 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

QC sample 1202001040 (LCS) failed ISTD acceptance criteria. Please see the Form 8 in the data package for the exact recoveries. The sample was re-analyzed and similar recoveries were observed. The re-analysis data are reported. The confirmation raw data are located in the Miscellaneous Section of the data package. Please see nonconformance report 776908.

Technical Information

Holding Time Specifications

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

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

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

Sample Re-extraction/Re-analysis

QC sample 1202001040 (LCS) failed ISTD acceptance criteria. Please see the Form 8 in the data package for the exact recoveries. The sample was re-analyzed and similar recoveries were observed. The re-analysis data are reported. The confirmation raw data are located in the Miscellaneous Section of the data package. Please see nonconformance report 776908.

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 256%. The recovery limits are 47-166%. The Matrix Spike and Matrix Spike Duplicate both met acceptance limits for TATB. Since TATB was not detected in the associated samples, the data are reported. Please see nonconformance report 776908.

QC Sample Designation

Sample 243274001 (RE12-10-7352) 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

Internal standard solution is not added to the secondary analyte analyses.

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

Nonconformance (NCR) Documentation

Nonconformance report 776908 was generated for his SDG.

The LCS recovered TATB at 256%. The recovery limits are 47-166%. The Matrix Spike and Matrix Spike Duplicate both met acceptance limits for TATB. Since TATB was not detected in the associated samples, the data are reported.

QC sample 1202001040 (LCS) failed ISTD acceptance criteria. Please see the Form 8 in the data package for the exact recoveries. The sample was re-analyzed and similar recoveries were observed. The re-analysis data are reported. The confirmation raw data are located in the Miscellaneous Section of the data package.

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: Nickie Mauer Date: 01/10/10

SAMPLE DATA SUMMARY

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274001

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102070a

Date Analyzed: 03-JAN-10 23:30

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: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274001

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030060.wiff

Date Analyzed: 04-JAN-10 03:07

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: RE12-10-7360

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274002

Sample Amount 2

Molsture: 11.1

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102076a

Date Analyzed: 04-JAN-10 02:27

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: RE12-10-7360

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274002

Sample Amount 2

Moisture: 11.1

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030066.wiff

Date Analyzed: 04-JAN-10 04:41

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: RE12-10-7358

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274003

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102077a

Date Analyzed: 04-JAN-10 02:56

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: RE12-10-7358

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274003

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030067.wiff

Date Analyzed: 04-JAN-10 04:57

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: RE12-10-7357

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274004

Sample Amount 2

Moisture: 10.4

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102078a

Date Analyzed: 04-JAN-10 03:26

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: RE12-10-7357

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274004

Sample Amount 2

Moisture: 10.4

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030068.wiff

Date Analyzed: 04-JAN-10 05:13

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: RE12-10-7359

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274005

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102079a

Date Analyzed: 04-JAN-10 03:55

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: RE12-10-7359

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274005

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030069.wiff

Date Analyzed: 04-JAN-10 05:28

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: RE12-10-7356

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274006

Sample Amount 2

Moisture: 10.3

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102080a

Date Analyzed: 04-JAN-10 04:25

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: RE12-10-7356

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274006

Sample Amount 2

Moisture: 10.3

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030070.wiff

Date Analyzed: 04-JAN-10 05:44

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: RE12-10-7353

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274007

Sample Amount 2

Moisture: 17.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102081a

Date Analyzed: 04-JAN-10 04:54

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: RE12-10-7353

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274007

Sample Amount 2

Moisture: 17.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030071.wiff

Date Analyzed: 04-JAN-10 06:00

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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7354

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274008

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102082a

Date Analyzed: 04-JAN-10 05:24

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: RE12-10-7354

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274008

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030072.wiff

Date Analyzed: 04-JAN-10 06:16

Units: ug/kg

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

*Concentration =

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: RE12-10-7355

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274009

Sample Amount 2

Moisture: 12.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102083a

Date Analyzed: 04-JAN-10 05:53

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>		

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7355

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274009

Sample Amount 2

Moisture: 12.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030073.wiff

Date Analyzed: 04-JAN-10 06:31

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7364

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274010

Sample Amount 2

Moisture: 12.2

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102084a

Date Analyzed: 04-JAN-10 06:23

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>		

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7364

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274010

Sample Amount 2

Moisture: 12.2

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030074.wiff

Date Analyzed: 04-JAN-10 06:47

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

2

High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
243274001	RE12-10-7352	109	73.7 - 133.3	
243274001	RE12-10-7352	95.2	73.7 - 133.3	
243274002	RE12-10-7360	105	73.7 - 133.3	
243274002	RE12-10-7360	92.8	73.7 - 133.3	
243274003	RE12-10-7358	106	73.7 - 133.3	
243274003	RE12-10-7358	92	73.7 - 133.3	
243274004	RE12-10-7357	101	73.7 - 133.3	
243274004	RE12-10-7357	93.6	73.7 - 133.3	
243274005	RE12-10-7359	106	73.7 - 133.3	
243274005	RE12-10-7359	89.6	73.7 - 133.3	
243274006	RE12-10-7356	106	73.7 - 133.3	
243274006	RE12-10-7356	88.8	73.7 - 133.3	
243274007	RE12-10-7353	104	73.7 - 133.3	
243274007	RE12-10-7353	89.6	73.7 - 133.3	
243274008	RE12-10-7354	108	73.7 - 133.3	
243274008	RE12-10-7354	98	73.7 - 133.3	
243274009	RE12-10-7355	108	73.7 - 133.3	
243274009	RE12-10-7355	93.6	73.7 - 133.3	
243274010	RE12-10-7364	103	73.7 - 133.3	
243274010	RE12-10-7364	90.8	73.7 - 133.3	
1202001039	MB for batch 935247	96.8	73.7 - 133.3	
1202001039	MB for batch 935247	103	73.7 - 133.3	
1202001040	LCS for batch 935247	112	73.7 - 133.3	
1202001040	LCS for batch 935247	102	73.7 - 133.3	
1202001041	RE12-10-7352(243274001MS)	116	73.7 - 133.3	
1202001041	RE12-10-7352(243274001MS)	92.4	73.7 - 133.3	
1202001042	RE12-10-7352(243274001MSD)	110	73.7 - 133.3	
1202001042	RE12-10-7352(243274001MSD)	94.4	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) 10-989

Extract Batch Code: 935247

Date Extracted: 29-DEC-09

GEL LCS ID: 1202001040

GEL LCSDUP ID:

Analysis Date/Time: 04-JAN-10 21:38

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	5020	100					62.1 - 124
2,4,6-Trinitrotoluene	5000	5850	117					78.3 - 132
2,4-Dinitrotoluene	5000	4970	99.4					82.7 - 132
2,6-Dinitrotoluene	5000	4870	97.3					86.9 - 122
2-Amino-4,6-dinitrotoluene	5000	5890	118					84.2 - 149
4-Amino-2,6-dinitrotoluene	5000	5170	103					85.6 - 133
HMX	5000	5730	115					66.5 - 142
Nitrobenzene	5000	4700	94.1					71.8 - 126
PETN	5000	4510	90.3					64.6 - 147
RDX	5000	5600	112					78.7 - 144
Tetryl	5000	4070	81.5					31.2 - 119
m-Dinitrobenzene	5000	5020	100					80.9 - 127
m-Nitrotoluene	5000	4180	83.5					71.9 - 126
o-Nitrotoluene	5000	4260	85.2					75 - 123
p-Nitrotoluene	5000	4480	89.6					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) 10-989

Extract Batch Code: 935247

Date Extracted: 29-DEC-09

GEL LCS ID: 1202001040

GEL LCSDUP ID:

Analysis Date/Time: 03-JAN-10 23:43

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	3710	74.2					64.8 - 128
2,6-Diamino-4-nitrotoluene	5000	4450	89					69.6 - 133
3,5-Dinitroaniline	5000	4830	96.6					77.3 - 123
tris(o-cresyl) phosphate	5000	5580	112					84.3 - 120
TATB	5000	12800	256 *					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: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Extract Batch Code: 935247

Date Extracted: 29-DEC-09

GEL Spike ID: 1202001041

GEL SpikeDup ID: 1202001042

Analysis Date/Time: 04-JAN-10 03:23

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	4150	83	4370	87.4	5.16	30	51.6 - 127
2,6-Diamino-4-nitrotoluene	5000	0	4510	90.2	5100	102	12.3	30	58.9 - 135
3,5-Dinitroaniline	5000	0	5010	100	4940	98.8	1.41	30	72.8 - 125
TATB	5000	0	5680	114	4790	95.8	17	30	43.9 - 166
tris(o-cresyl) phosphate	5000	0	5080	102	5050	101	592	30	79.1 - 124

#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: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Extract Batch Code: 935247

Date Extracted: 29-DEC-09

GEL Spike ID: 1202001041

GEL SpikeDup ID: 1202001042

Analysis Date/Time: 03-JAN-10 23:59

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
1,3,5-Trinitrobenzene	5000	0	4840	96.9	4930	98.5	1.65	30	70.7 - 130
2,4,6-Trinitrotoluene	5000	0	5830	117	6570	131	12	30	83.4 - 138
2,4-Dinitrotoluene	5000	0	5060	101	4920	98.3	2.93	30	79.1 - 137
2,6-Dinitrotoluene	5000	0	5080	102	5060	101	.223	30	85.4 - 125
2-Amino-4,6-dinitrotoluene	5000	0	5710	114	5920	118	3.59	30	77.4 - 154
4-Amino-2,6-dinitrotoluene	5000	0	5120	102	5410	108	5.53	30	77.3 - 140
HMX	5000	0	5550	111	5420	108	2.48	30	66.7 - 144
Nitrobenzene	5000	0	4420	88.5	4700	94	6.02	30	70.4 - 129
PETN	5000	0	5270	105	5530	111	4.8	30	61.9 - 153
RDX	5000	0	5280	106	5020	100	5	30	73 - 140
Tetryl	5000	0	4150	83	3570	71.4	15.1	30	46.8 - 138
m-Dinitrobenzene	5000	0	4910	98.2	4870	97.3	.846	30	83.5 - 126
m-Nitrotoluene	5000	0	4440	88.8	4330	86.6	2.51	30	68.6 - 135
o-Nitrotoluene	5000	0	4490	89.7	4850	97.1	7.86	30	71.2 - 131
p-Nitrotoluene	5000	0	4700	94	4670	93.5	.529	30	69.3 - 133

#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): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 02-JAN-10 13:33

GEL Data File: EXP0102001a

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	475.473
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	502.559
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

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Sample Report
oratories, LLC / Analyst : Michael A. Penny

C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

C:\MASSLYNX\New_Exp.PRO\MethDB\010210expa.mdb, Time: Mon Jan 04 10:47:42 2010

ion: Untitled, Time: Mon Jan 04 12:58:28 2010

C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102001a

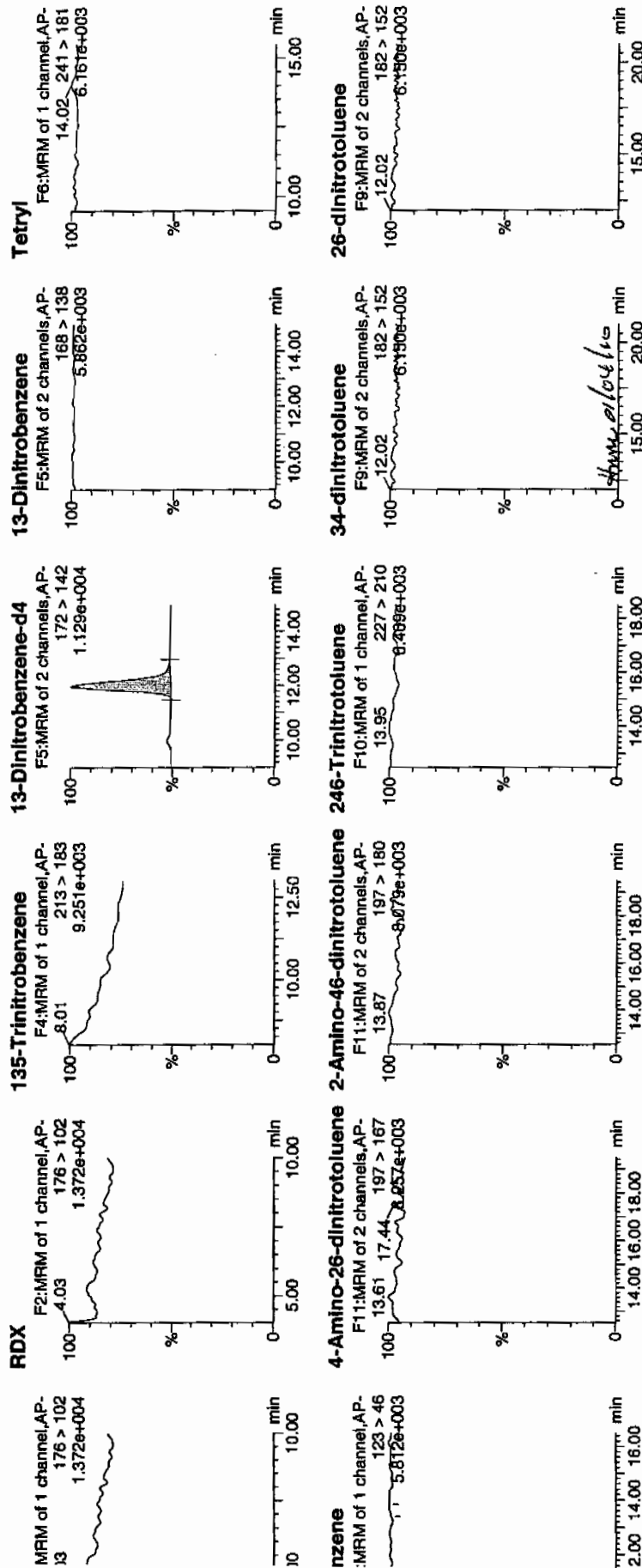
Jan-2010

1:33:58

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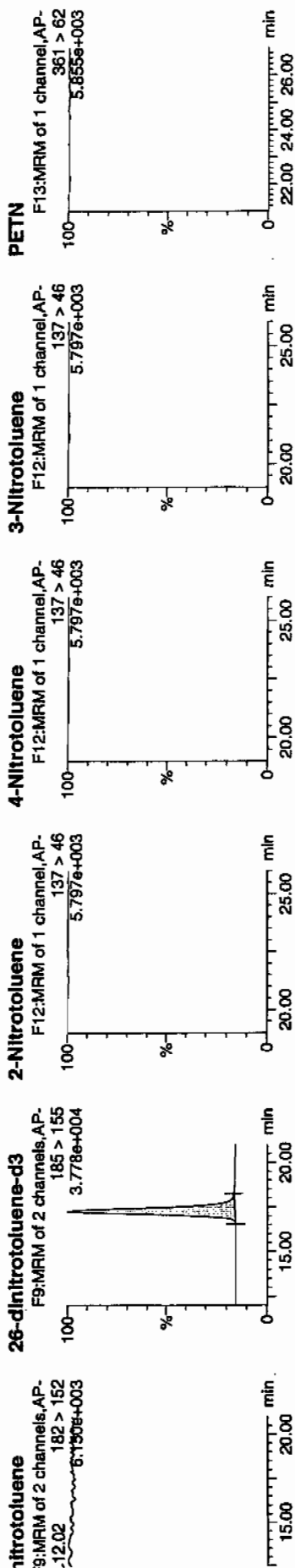
1/4/10



Printed: Mon Jan 04 12:59:32 2010, Page 2 of 175

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

et: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Retention Time (min)	Area	Height	Width	MM- 04-Jan-10 10:53:39
1-nitrotoluene	12.02	6.190e+003			
2-Nitrotoluene	137 > 46	5.797e+003			
3-Nitrotoluene	137 > 46	5.797e+003			
4-Nitrotoluene	137 > 46	5.797e+003			
PETN	361 > 62	5.855e+003			
1-nitrotoluene	176 > 102	2258.494			
2-Nitrotoluene	176 > 102	2258.494			
3-Nitrotoluene	176 > 102	2258.494			
4-Nitrotoluene	176 > 102	2258.494			
PETN	361 > 62	5.855e+003			

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 02-JAN-10 14:03

GEL Data File: EXP0102002a

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	477.712
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	507.343
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: Mon Jan 04 12:59:32 2010, Page 3 of 175

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

C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

D:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102002a

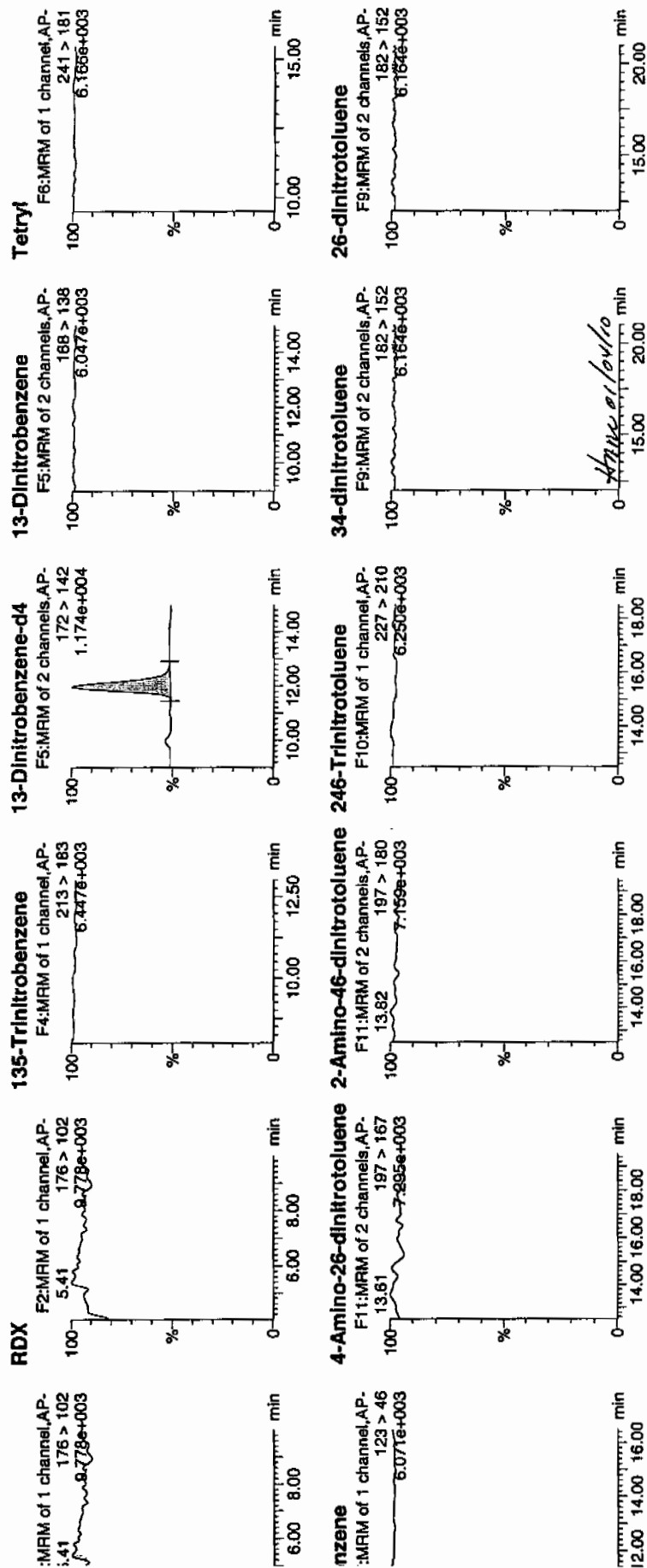
2-Jan-2010

4:03:27

K01

1, A

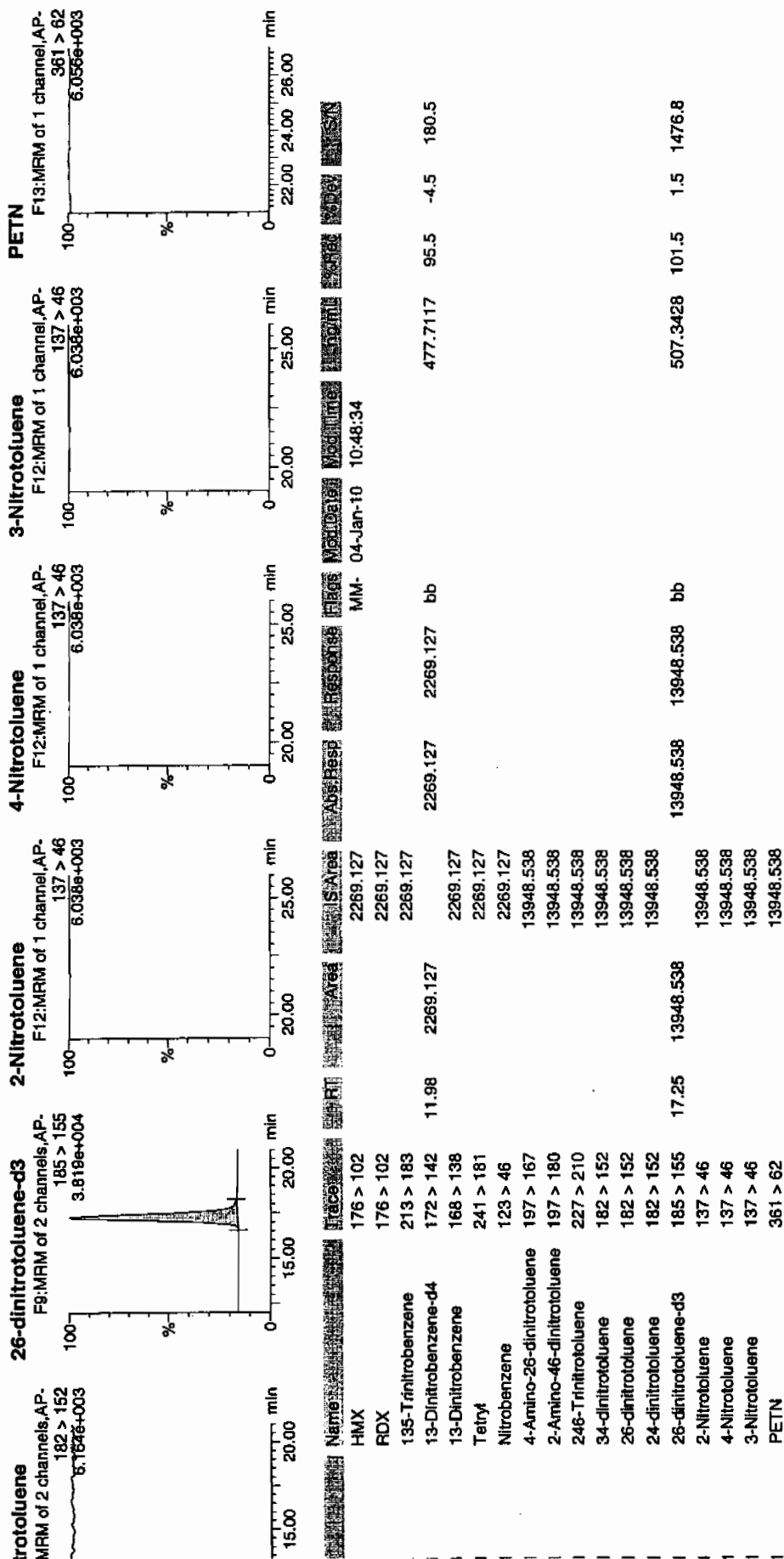
Page 55 of 1441



Printed: Mon Jan 04 12:59:32 2010, Page 4 of 175

y Sample Report
boratories, LLC / Analyst : Michael A. Penny

: C:\MASSLYNX\New_Exp\PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 03-JAN-10 11:40

GEL Data File: EXS01030001.wiff

Instrument ID: LCMSMS

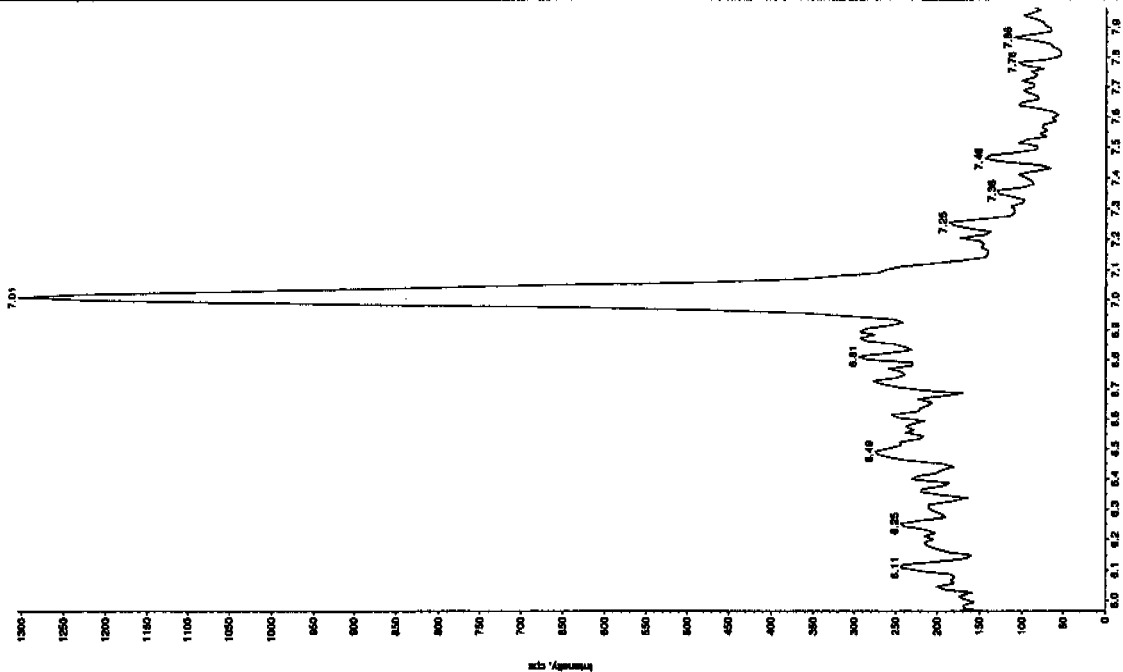
Column: Phenomenex Ultracarb 5u ODS(20)

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

11/17/10
JOP

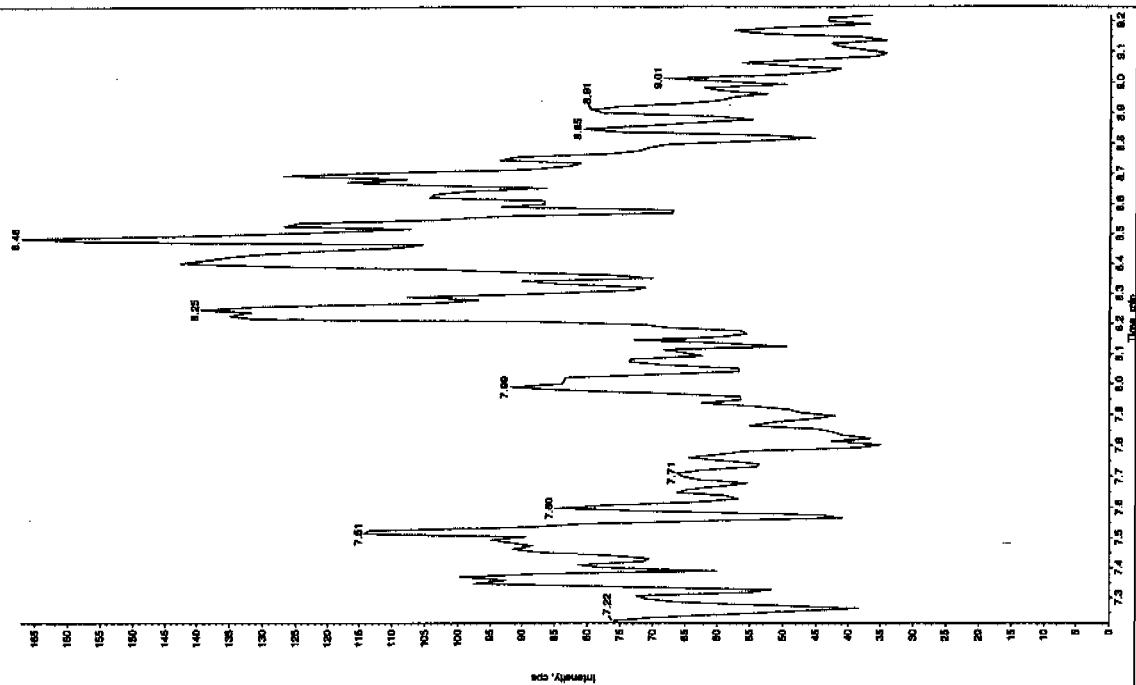
File: "XBLU001" Sample ID: "T1LER" File: "EXS01030001.wif"
Peak Name: "3S-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/3/2010
Acq. Time: 11:40:14 AM
Modified: No



Sample Name: "XBLU001" Sample ID: "T1LER" File: "EXS01030001.wif"
Peak Name: "3S-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCMS-EXP_B" Annotation: ""

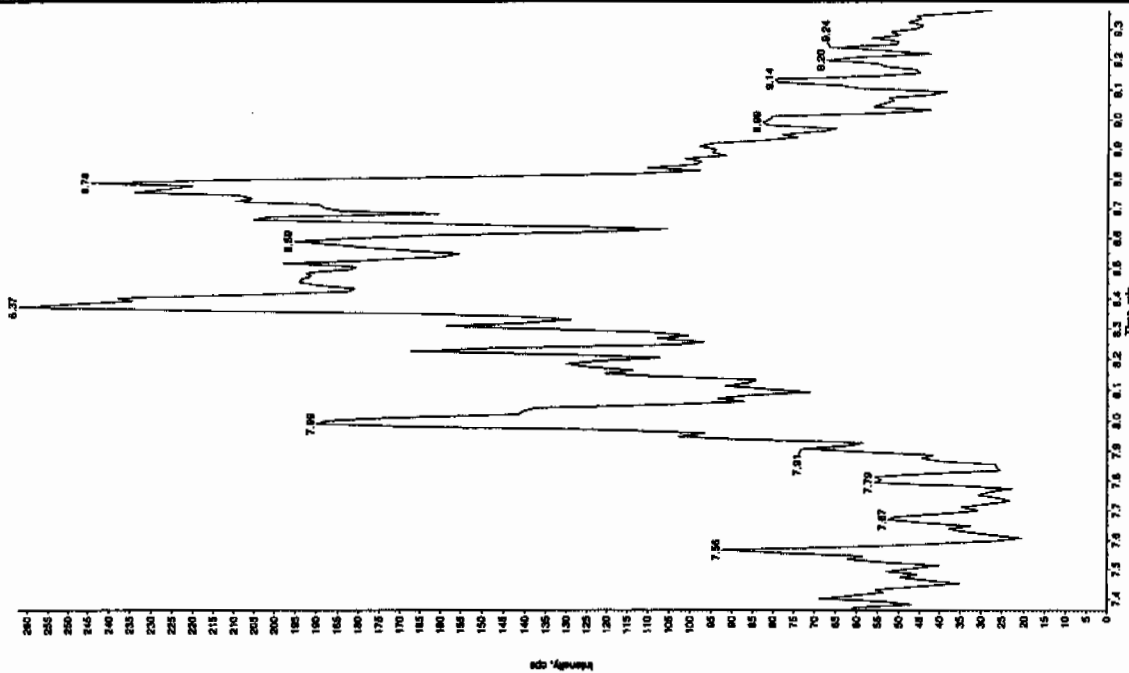
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/3/2010
Acq. Time: 11:40:14 AM
Modified: No



11/17/10
JOP

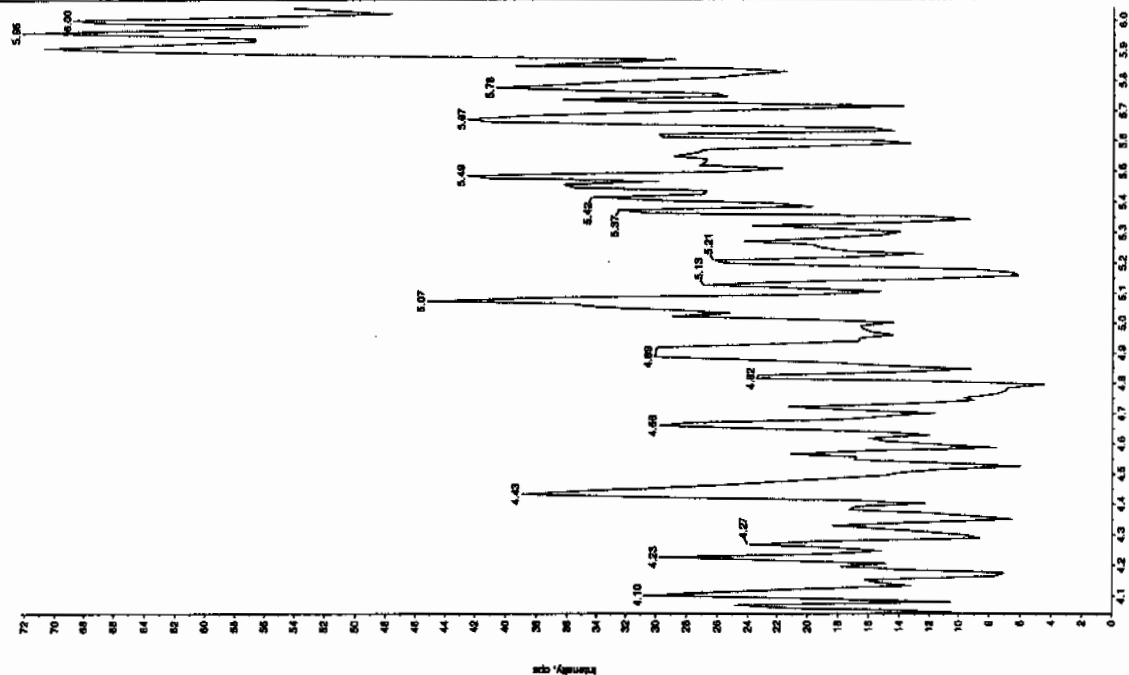
Sample Name: "XBLX01" Sample ID: "111111" File: "EX01030001.wif"
 Peak Name: "28-Diamino-4-ethanolamine" Mass(es): "182.17151.9 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

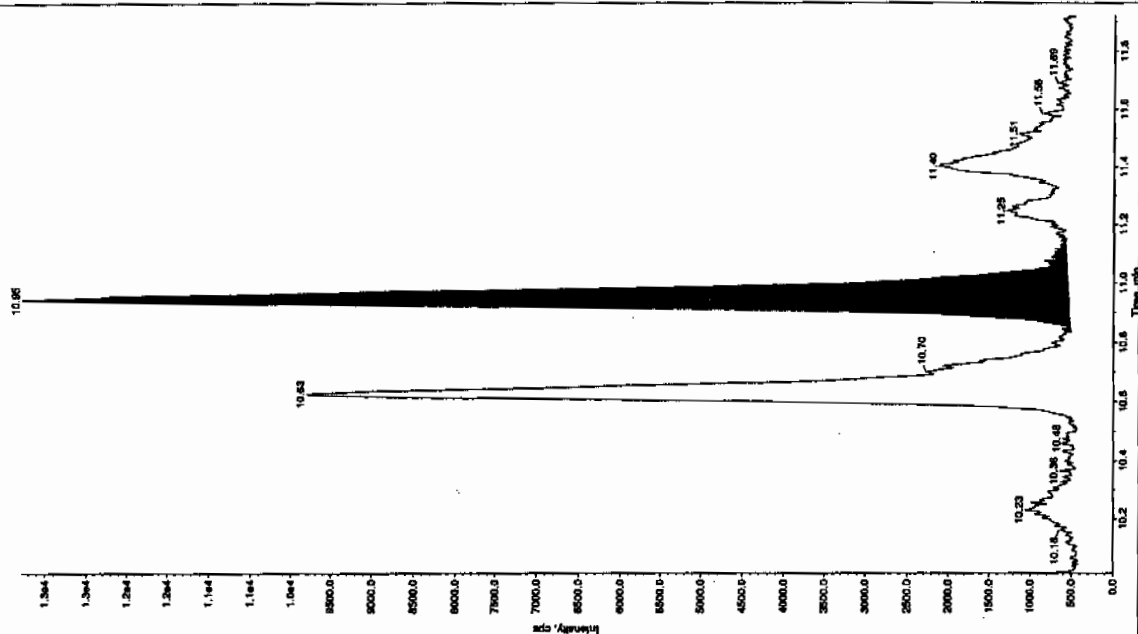
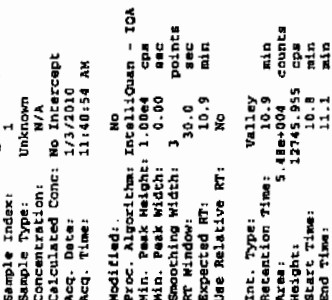
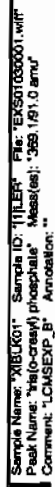
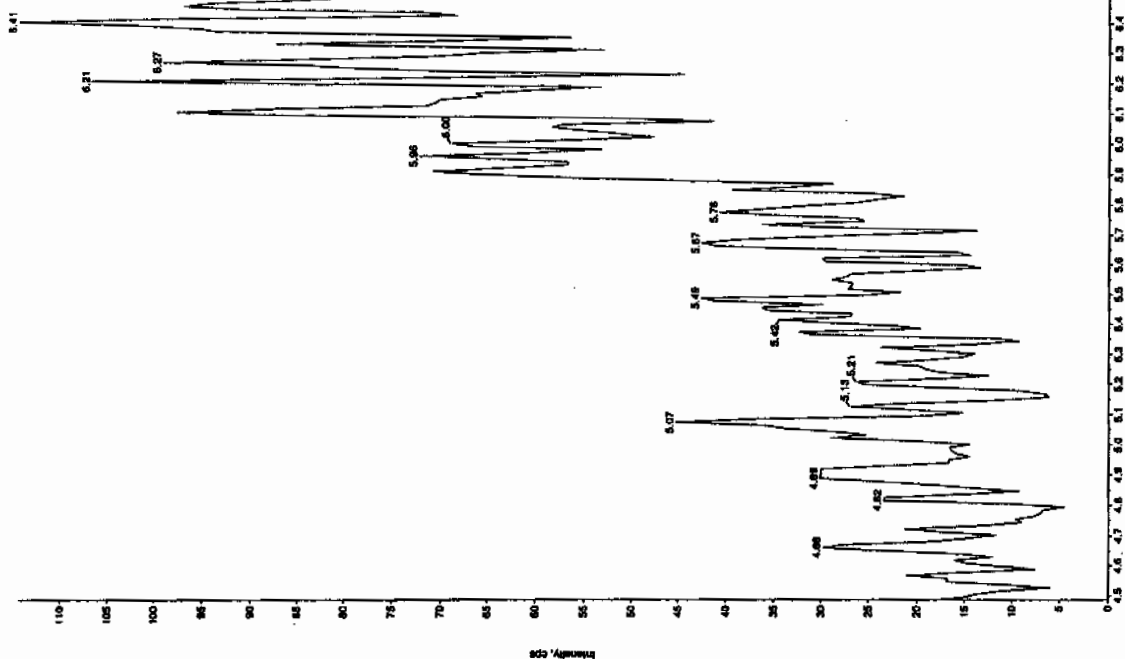
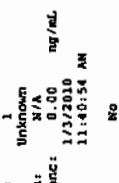
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 11:40:54 AM
 Modified: No



Sample Name: "XBLX01" Sample ID: "111111" File: "EX01030001.wif"
 Peak Name: "28-Diamino-4-ethanolamine" Mass(es): "186.046.0 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 11:40:54 AM
 Modified: No





Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 03-JAN-10 11:56

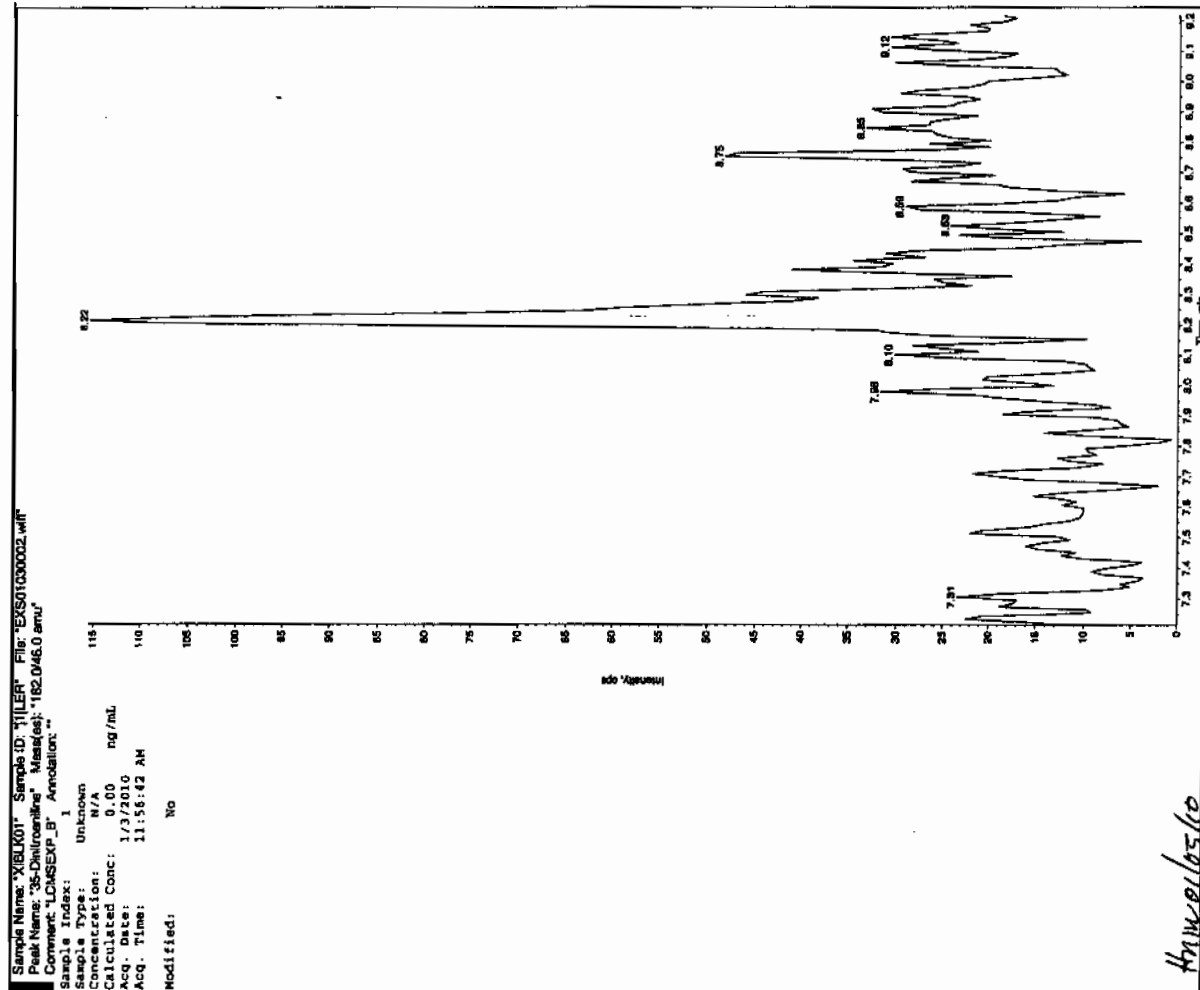
GEL Data File: EXS01030002.wiff

Instrument ID: LCMSMS

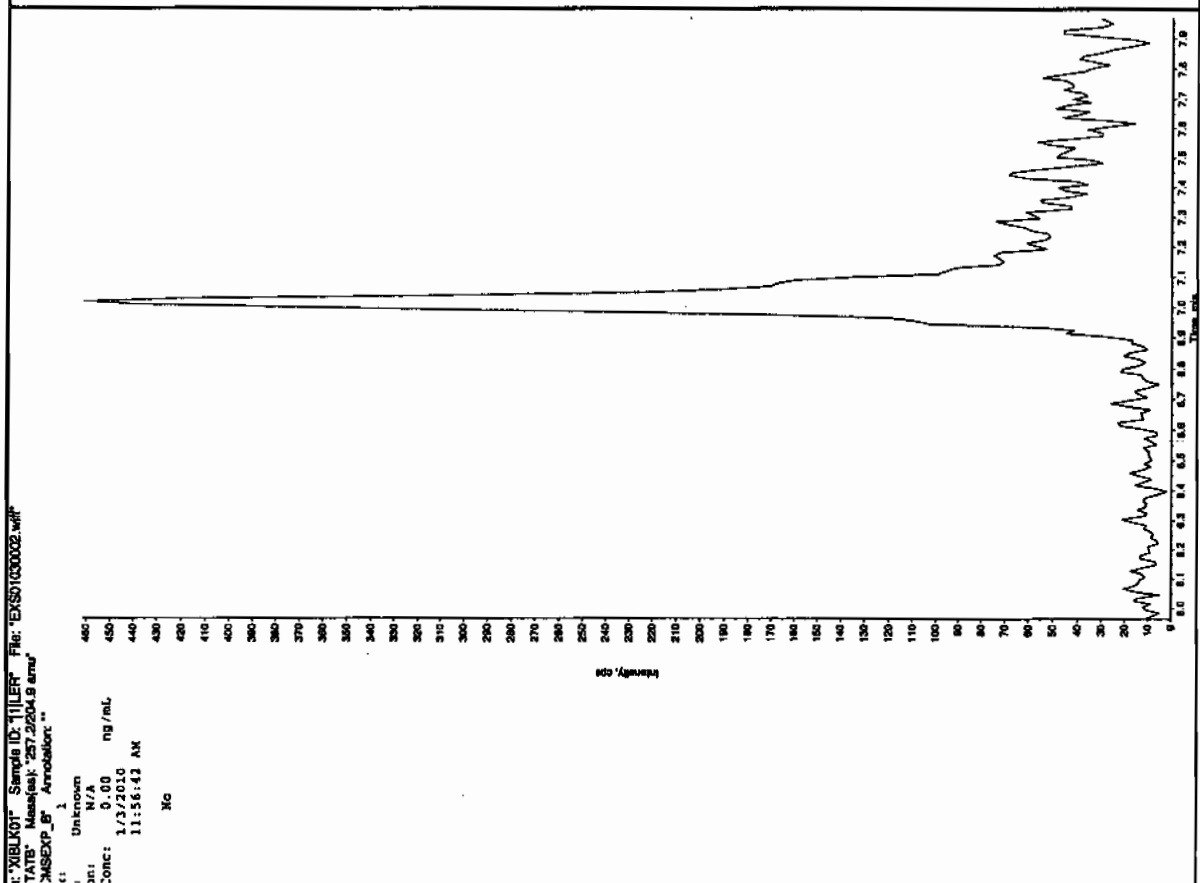
Column: Phenomenex Ultracarb 5u ODS(20)

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

8/27/10



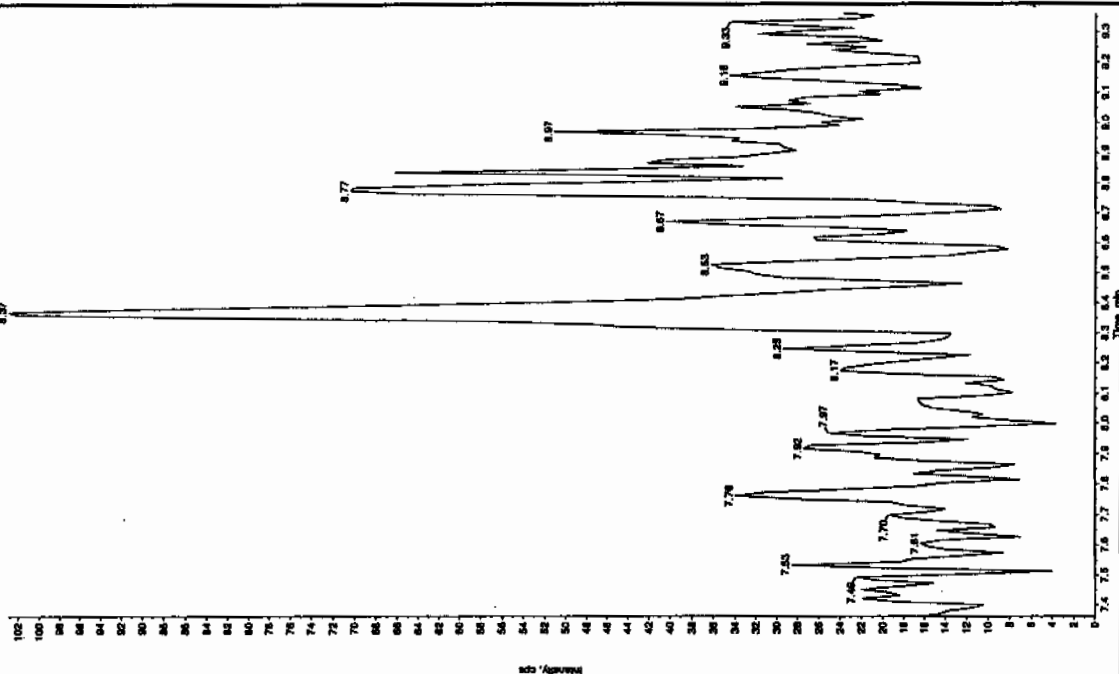
4/11/10/105/10



OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

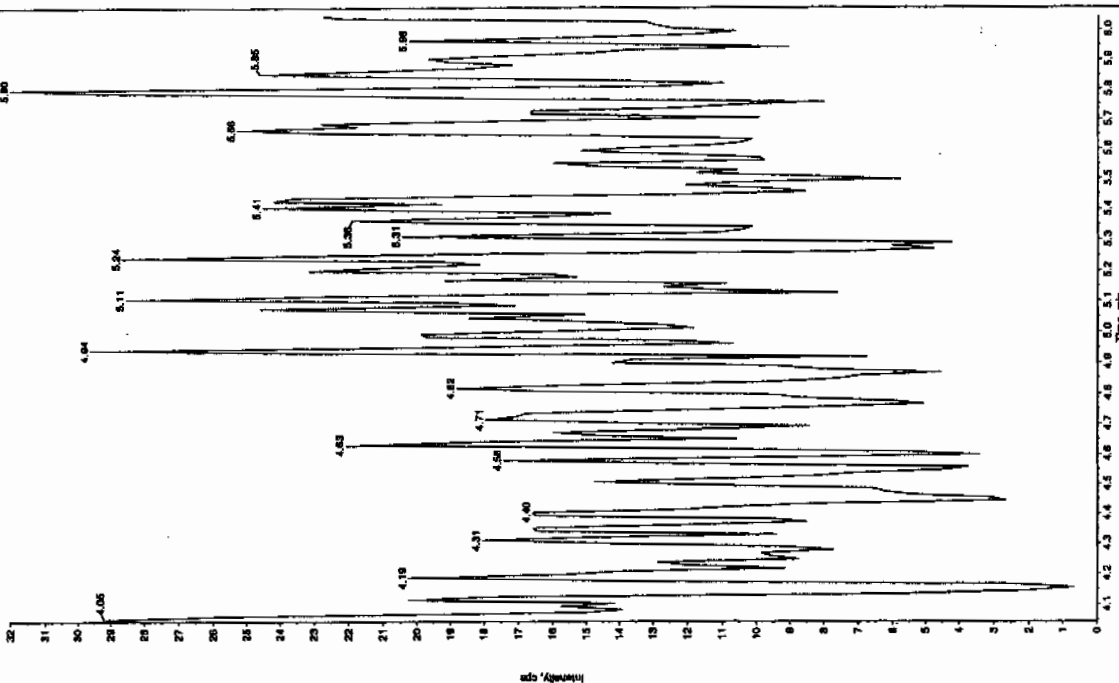
"XBL001" Sample ID: "111ER" File: "EX01030002.wif"
 4-Dinitrofluorene" Mass(es): "182.1151.9 amu"
 MSEP_B" Annotation: ""

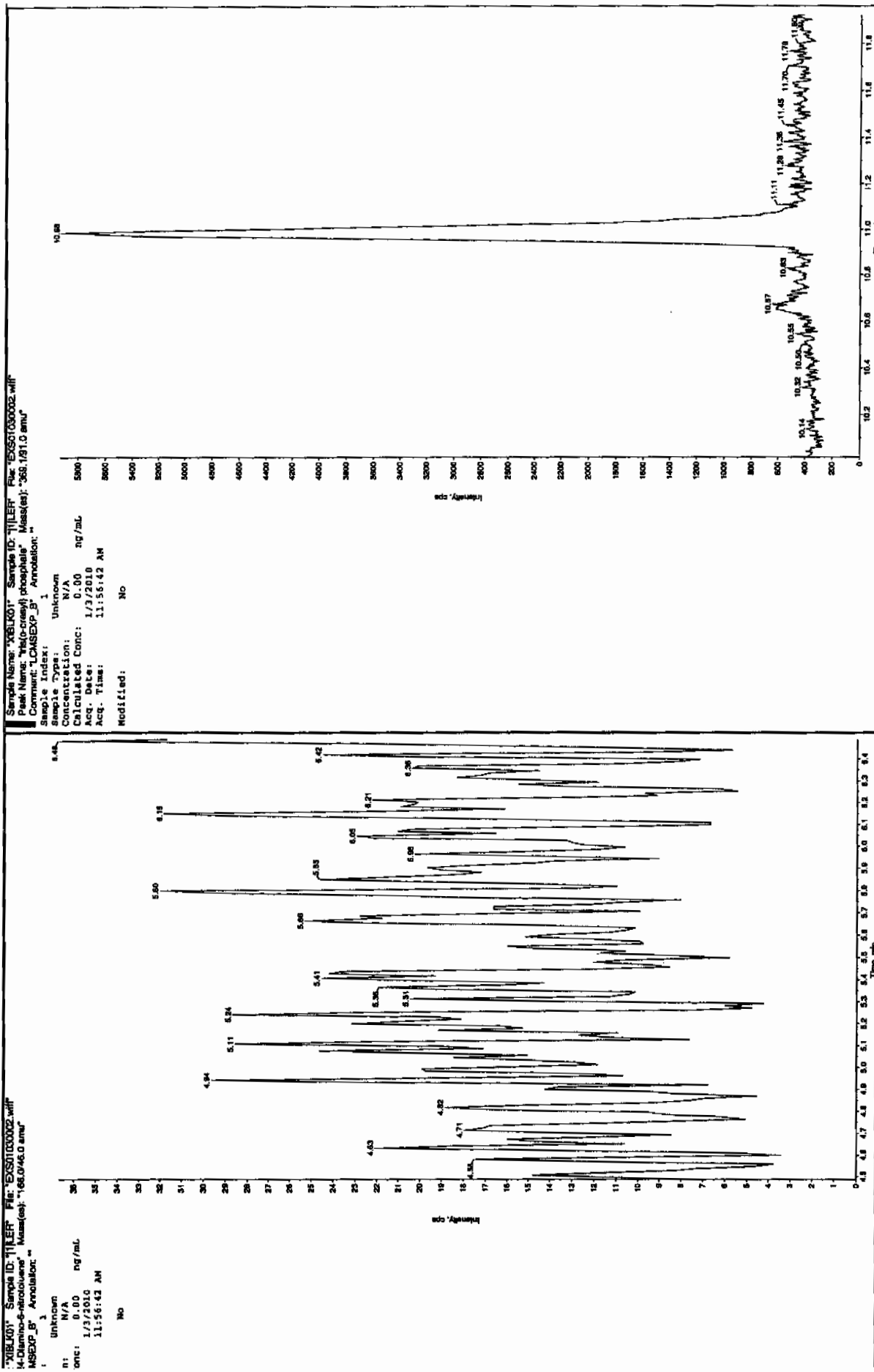
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 11:56:42 AM
 Modified: No



Sample Name: "XBL001" Sample ID: "111ER" File: "EX01030002.wif"
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "166.0418.0 amu"
 Comment: "LCMSEP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 11:56:42 AM
 Modified: No





OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 02-JAN-10 17:29

GEL Data File: EXP0102009a

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	467.689
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	519.135
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
p-Nitrotoluene	0	0

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Printed: Mon Jan 04 12:58:29 2010

set: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

at: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102009a

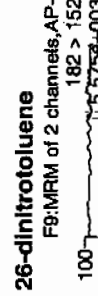
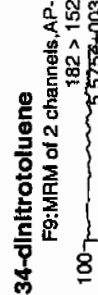
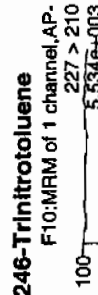
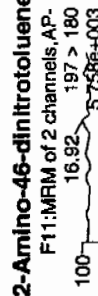
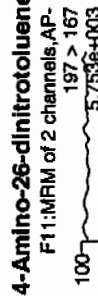
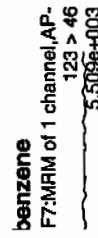
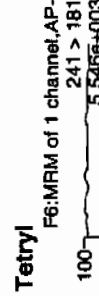
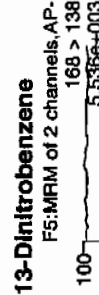
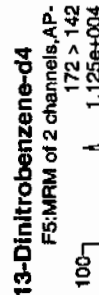
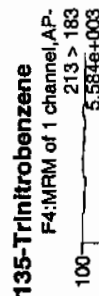
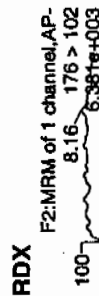
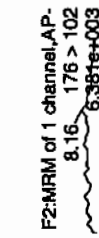
Page 66 of 141

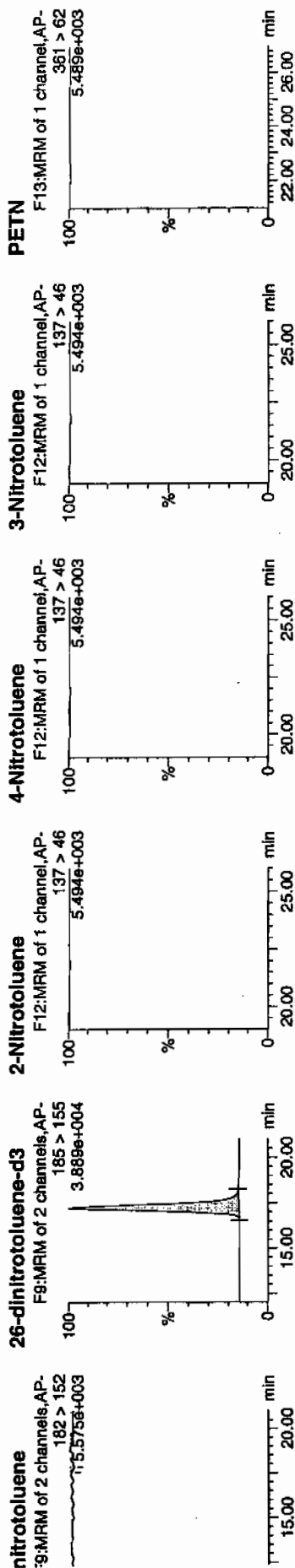
Page 17:29:46

IBLK02

1:1,A

14/10



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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 02-JAN-10 18:28

GEL Data File: EXP0102011a

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	484.222
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	509.266
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

Identify Sample Report

Laboratories, LLC / Analyst: Michael A. Penny

Printed: Mon Jan 04 12:59:32 2010, Page 21 of 175

Dataset: C:\MASSLYNX\New_Exp\PRO1010210expA.qld, Time: Mon Jan 04 12:58:29 2010

File: C:\MASSLYNX\NEW_EXP\PRO1010210expA\EXP0102011a

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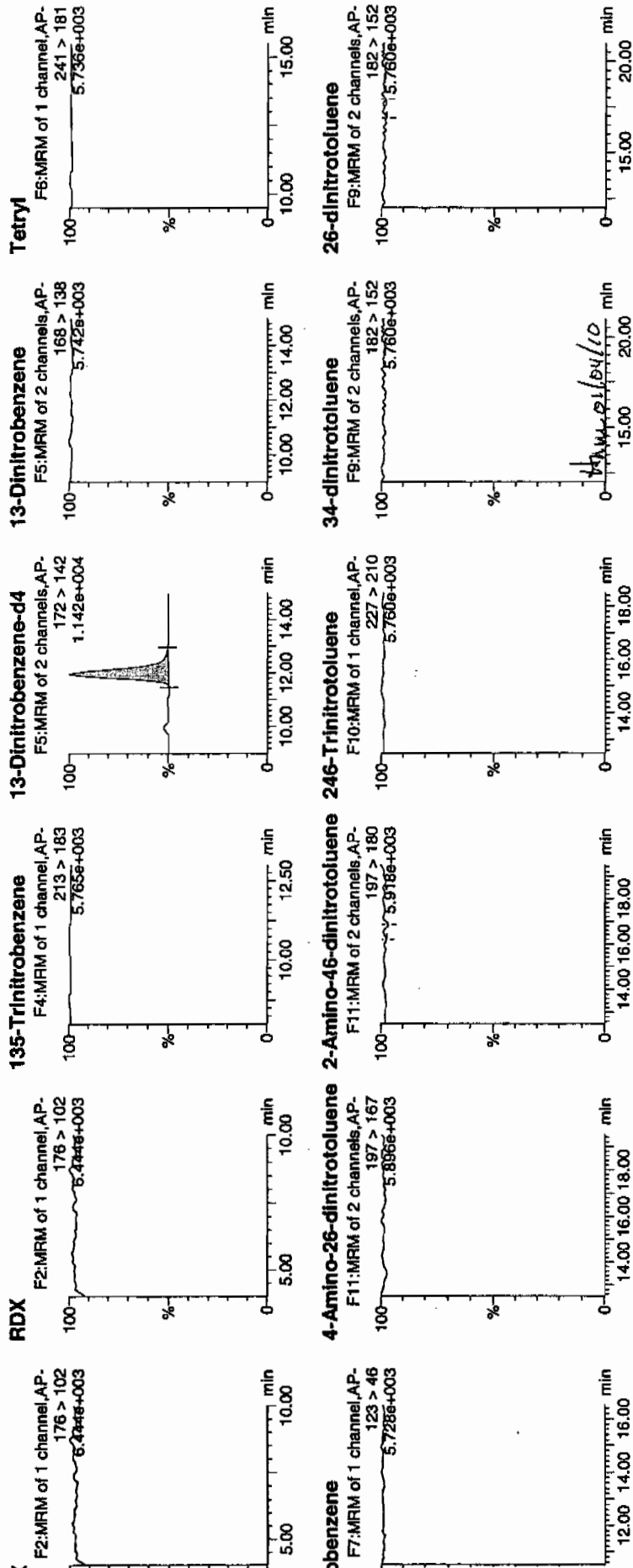
Date: 02-Jan-2010

Time: 18:28:43

Sample: KIBLK03

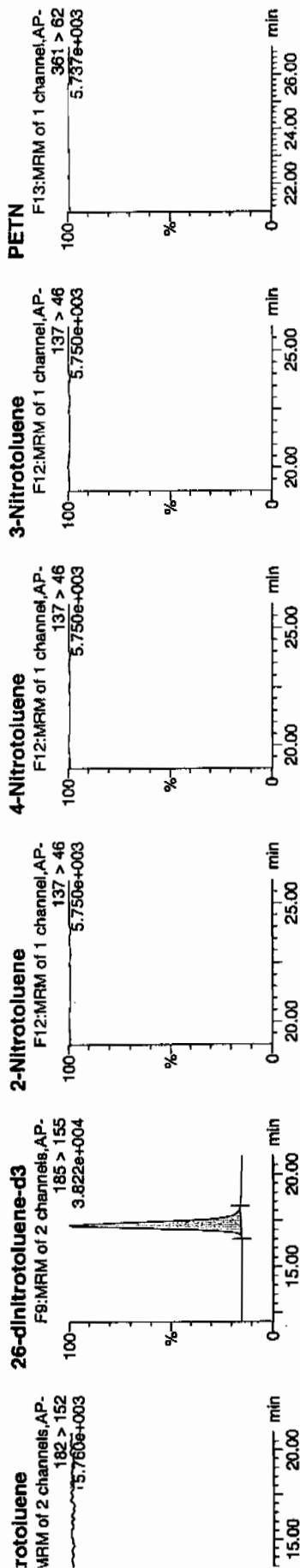
Ratio: 1:1,A

1/4/10



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

C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

[illegible]

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 02-JAN-10 23:53

GEL Data File: EXP0102022a

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	513.9
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	518.256
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

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

iset: C:\MASSLYNX\New_Exp.PRO\10210expA.qld, Time: Mon Jan 04 12:58:29 2010

ie: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102022a

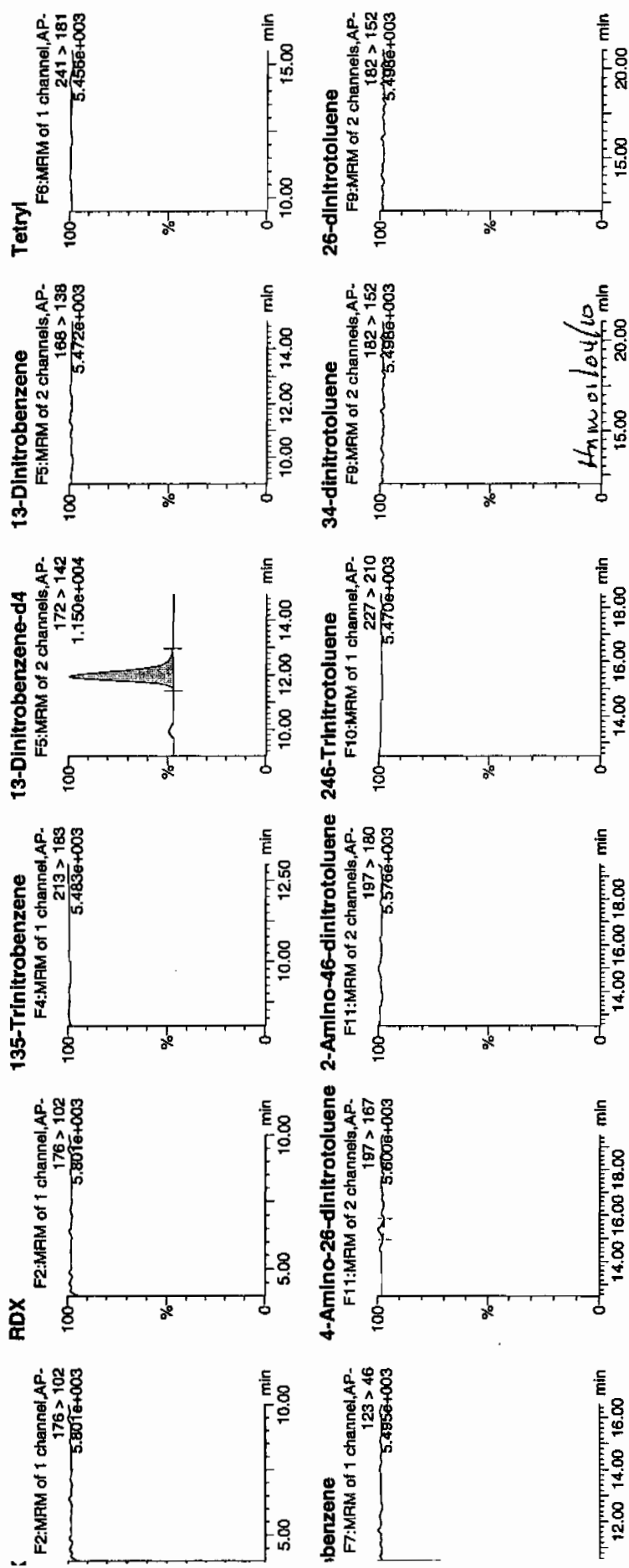
x: 02-Jan-2010

a: 23:53:19

(BLK04

1:1,A

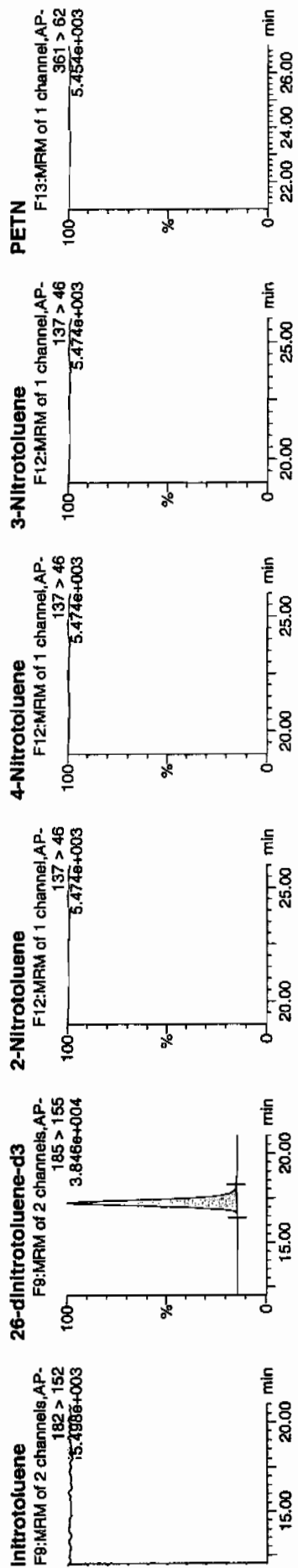
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Printed: Mon Jan 04 12:59:32 2010, Page 44 of 175

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

set: C:\MASSLYNX\New_Exp.PRO\1021010expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Trace	Area	Area	Abs Resp	Response	Flags	Mod Date	Misc	Peak	Dev	Mass
HM	176 > 102	2441.023									
RDX	176 > 102	2441.023									
135-Trinitrobenzene	213 > 183	2441.023									
13-Dinitrobenzene-d4	172 > 142	11.95	2441.023						2441.023	2441.023	bb
13-Dinitrobenzene	168 > 138										
Tetryl	241 > 181										
Nitrobenzene	123 > 46										
4-Amino-26-dinitrotoluene	197 > 167						MM-	04-Jan-10	10:57:01		
2-Amino-46-dinitrotoluene	197 > 180										
246-Trinitrotoluene	227 > 210										
34-dinitrotoluene	182 > 152										
26-dinitrotoluene	182 > 152										
24-dinitrotoluene	182 > 152										
26-dinitrotoluene-d3	185 > 155	17.23	14248.574				MM-	04-Jan-10	11:29:47		
2-Nitrotoluene	137 > 46								14248.574	14248.574	bb
4-Nitrotoluene	137 > 46										
3-Nitrotoluene	137 > 46										
PETN	361 > 62										

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 03-JAN-10 06:16

GEL Data File: EXP0102035a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
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	670.96
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	653.268
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

Identify Sample Report

Laboratories, LLC / Analyst : Michael A. Penny

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iset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

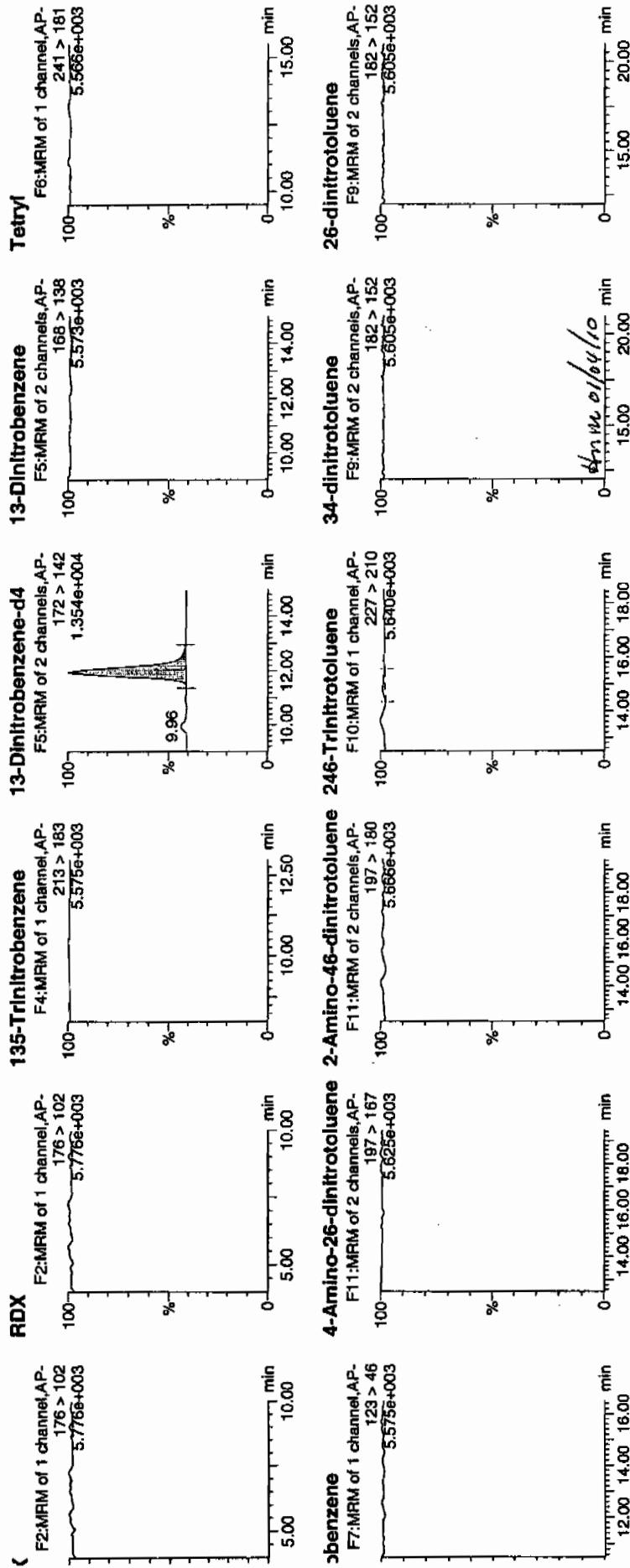
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3: 03-Jan-2010

ge: 06:16:37

KIBLK05

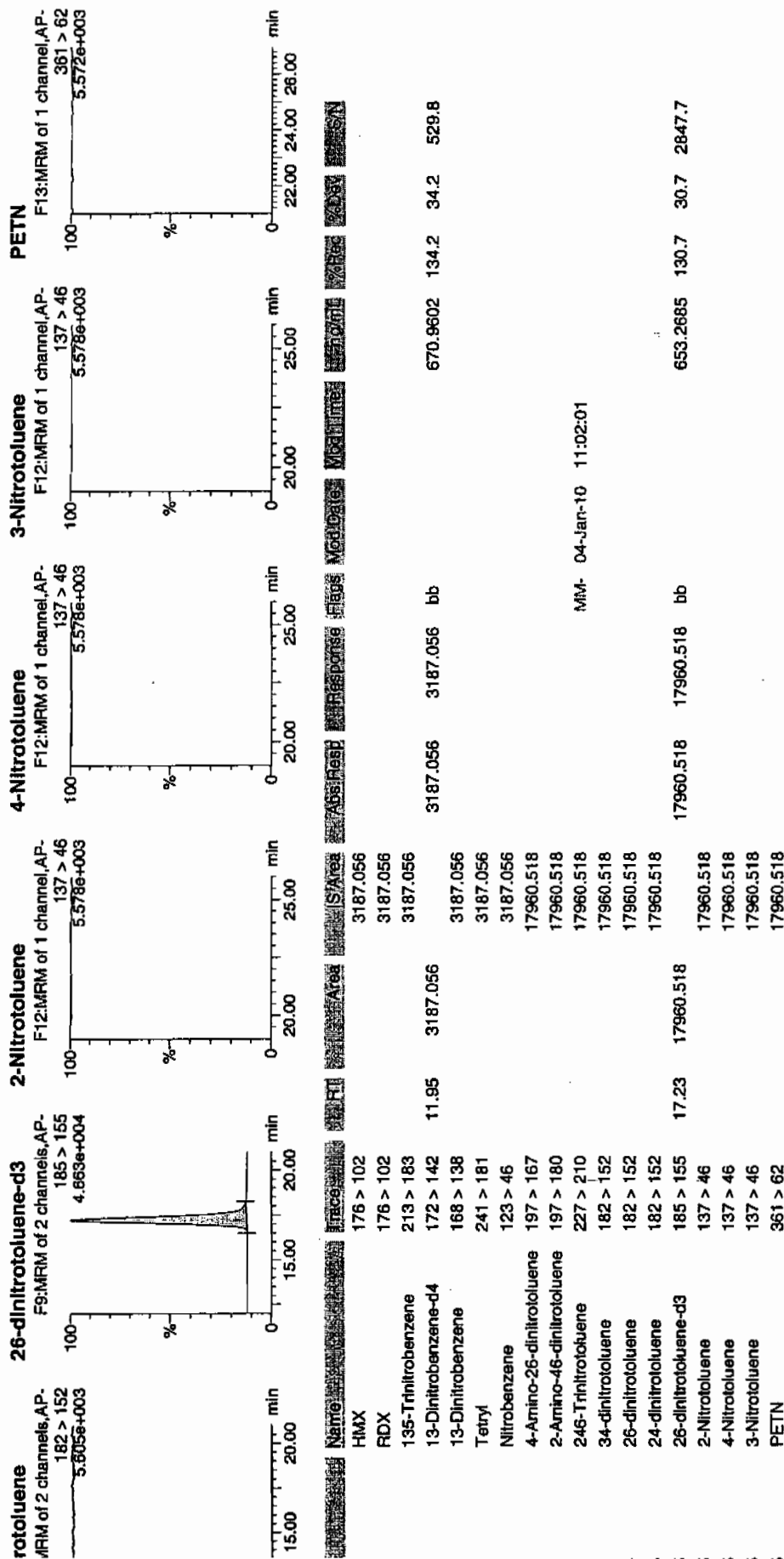
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y Sample Report
Laboratories, LLC / Analyst : Michael A. Penny

: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 03-JAN-10 12:40

GEL Data File: EXP0102048a

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	517.299
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	503.498
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: Mon Jan 04 12:59:32 2010, Page 95 of 175

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

Set: C:\MASSLYNX\New_Exp\PRO10210expA.qld, Time: Mon Jan 04 12:58:29 2010

ne: C:\MASSLYNX\NEW_EXP\PRO1Data\EXP0102048a

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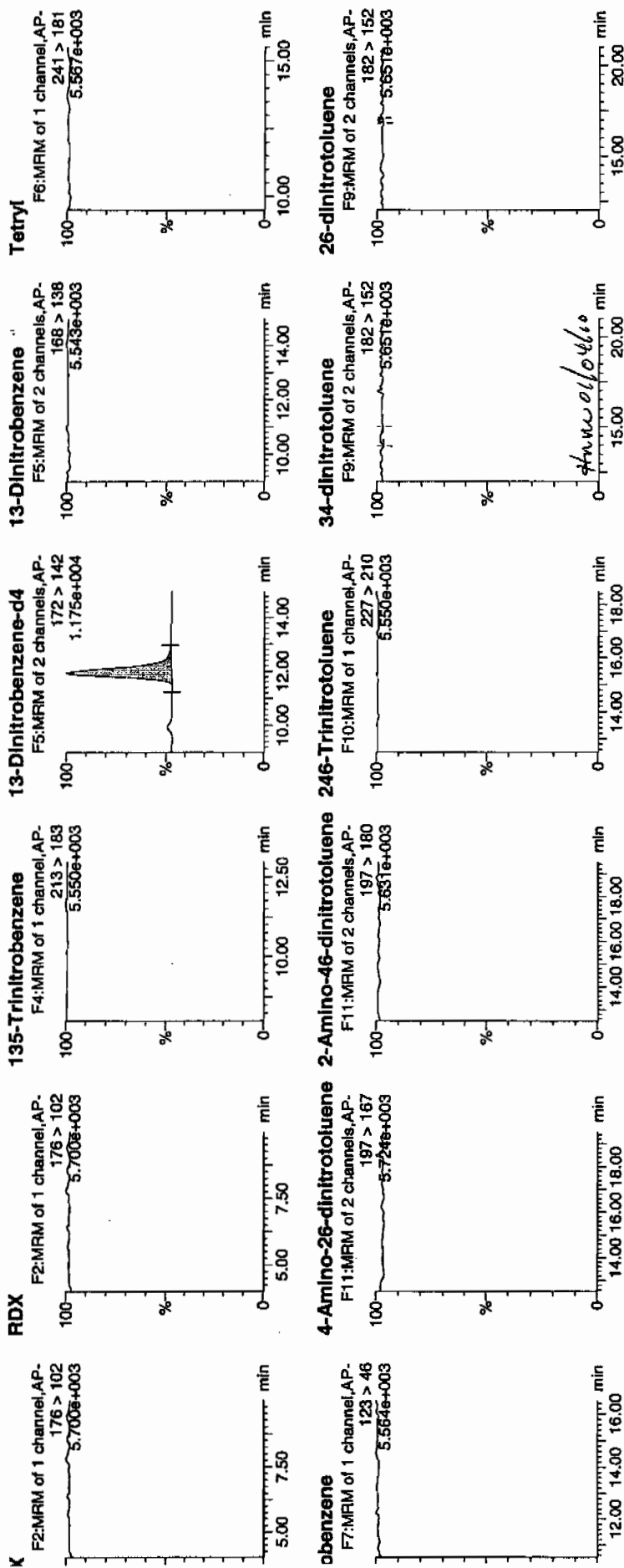
File: 03-Jan-2010

Time: 12:40:23

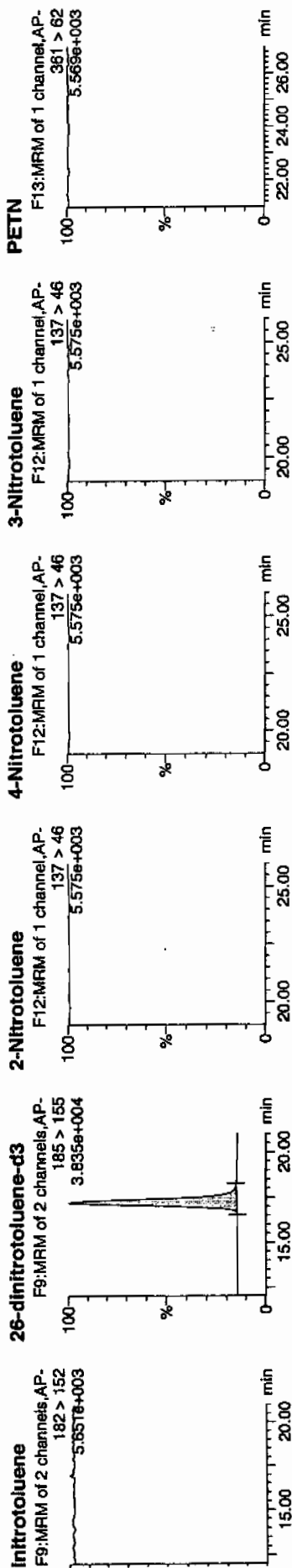
Sample: KIBLK06

Ratio: 1:1,A

AP
14/10



set: C:\MASSLYN\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Inj Conc	Area	IS Area	Absl Resp	Response	Peak	Mon Date	Mod Time	Area	Ratio	ISN
K06	HM-X	178 > 102		2457.168							
K06	ROX	176 > 102		2457.168							
K06	135-Trinitrobenzene	213 > 183		2457.168							
K06	13-Dinitrobenzene-d4	172 > 142	11.93	2457.168	2457.168	bb			517.2994	103.5	399.6
K06	13-Dinitrobenzene	168 > 138		2457.168							
K06	Tetryl	241 > 181		2457.168							
K06	Nitrobenzene	123 > 46		2457.168							
K06	4-Amino-26-dinitrotoluene	197 > 167		13842.821							
K06	2-Amino-46-dinitrotoluene	197 > 180		13842.821							
K06	246-Trinitrotoluene	227 > 210		13842.821							
K06	34-dinitrotoluene	182 > 152		13842.821			MM-	04-Jan-10	11:03:15		
K06	26-dinitrotoluene	182 > 152		13842.821			MM-	04-Jan-10	11:13:08		
K06	24-dinitrotoluene	182 > 152		13842.821							
K06	26-dinitrotoluene-d3	185 > 155	17.20	13842.821	13842.821	bb			503.4976	100.7	1354.6
K06	2-Nitrotoluene	137 > 46		13842.821							
K06	4-Nitrotoluene	137 > 46		13842.821							
K06	3-Nitrotoluene	137 > 46		13842.821							
K06	PETN	361 > 62		13842.821							

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 03-JAN-10 15:07

GEL Data File: EXP0102053a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
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	503.827
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	511.062
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0

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

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C:\MASSLYNX\NEW_EXP\PRO1010210expA.qld, Time: Mon Jan 04 12:58:29 2010

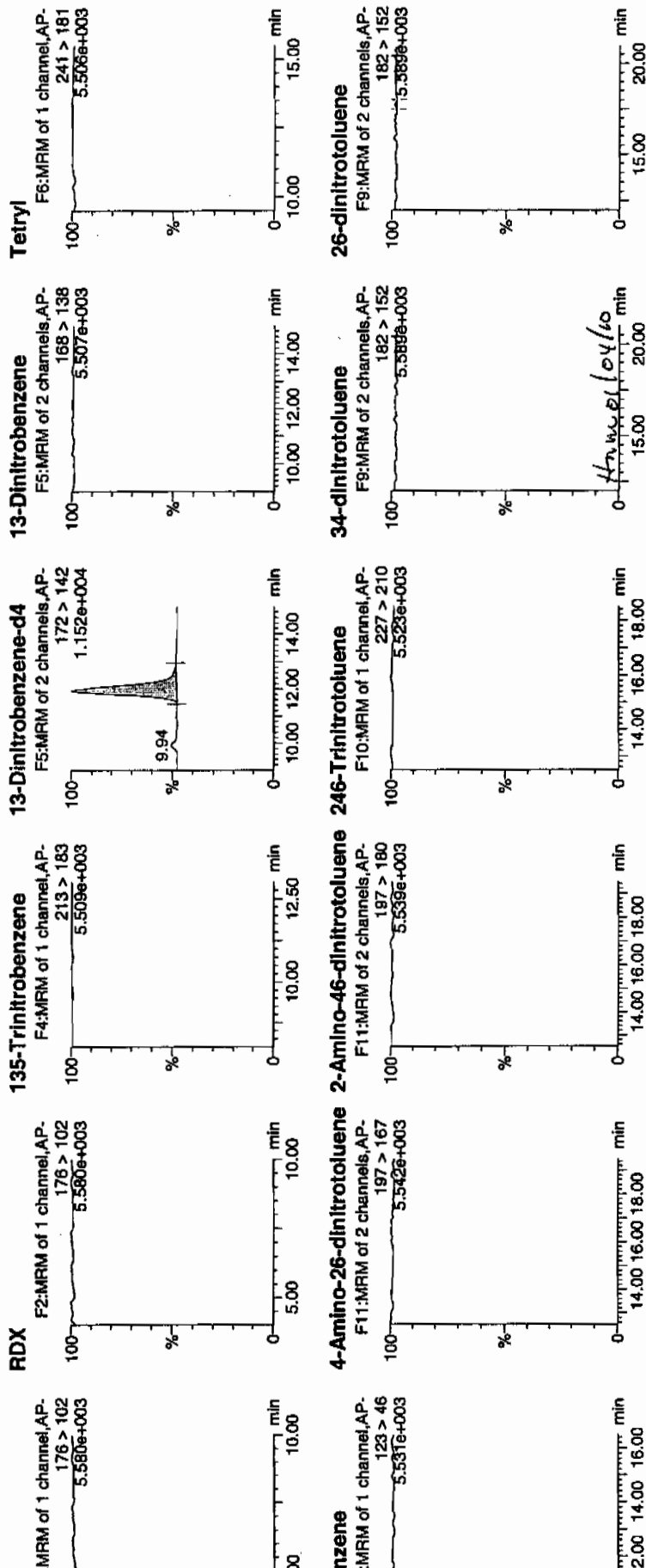
1-Jan-2010

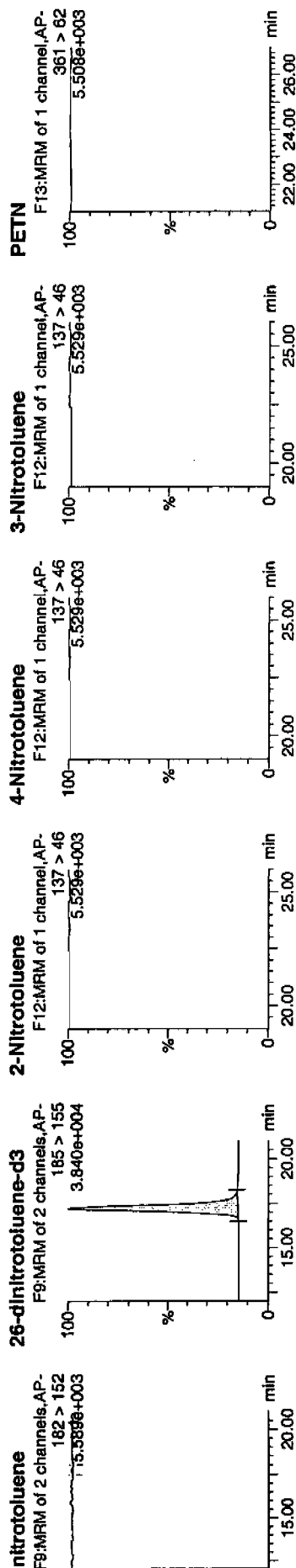
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Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 03-JAN-10 19:04

GEL Data File: EXP0102061a

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	503.703
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	514.188
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

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y Sample Report
 oratories, LLC / Analyst : Michael A. Penny

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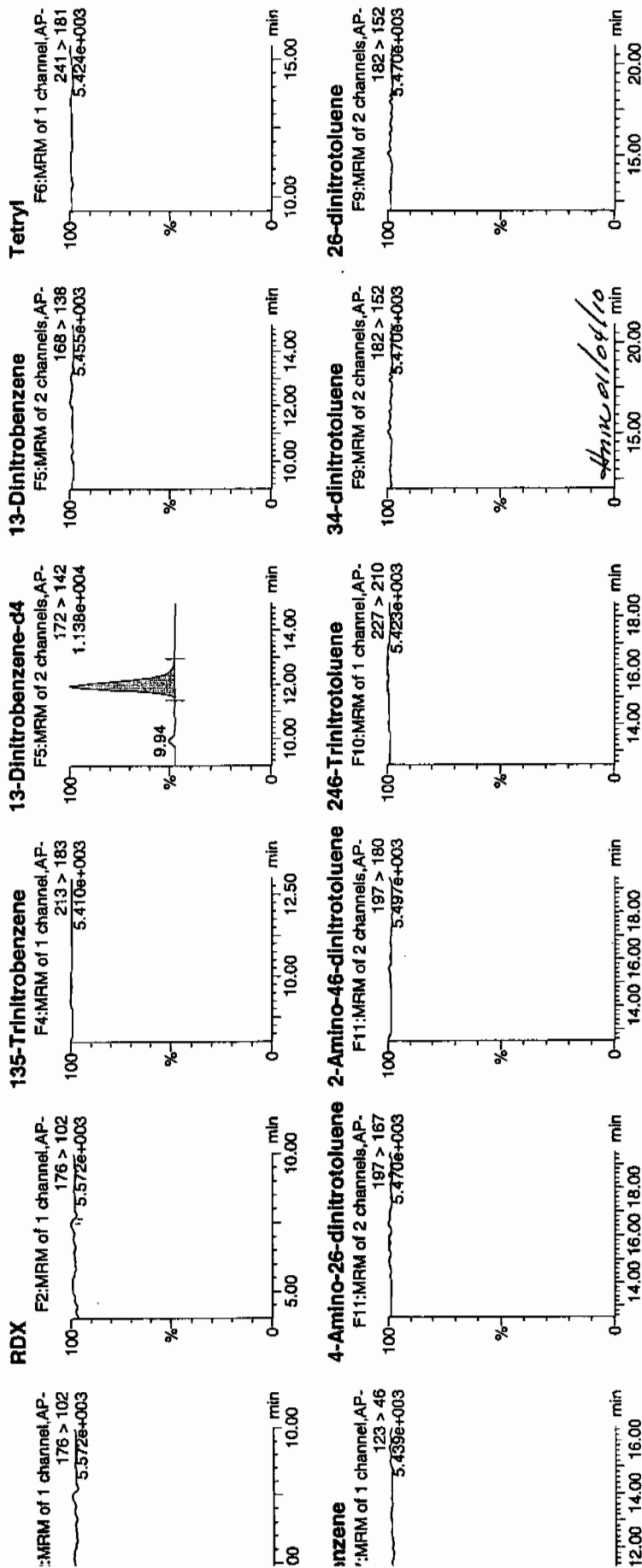
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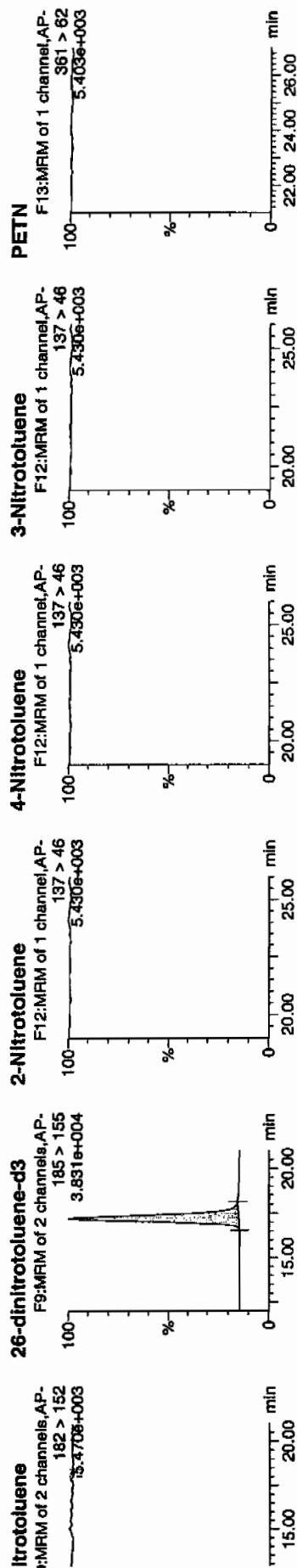
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Name	Trace	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Inj Vol (µl)	% Rec	% Dev
HMX	176 > 102		2392.585								
RDX	176 > 102		2392.585			MM-	04-Jan-10	10:50:18			
135-Trinitrobenzene	213 > 183		2392.585								
13-Dinitrobenzene-d4	172 > 142	11.95	2392.585	2392.585	2392.585	bb	.		503.7029	100.7	0.7
13-Dinitrobenzene	168 > 138		2392.585								
Tetryl	241 > 181		2392.585								
Nitrobenzene	123 > 46		2392.585								
4-Amino-2,6-dinitrotoluene	197 > 167		14136.740								
2-Amino-4,6-dinitrotoluene	197 > 180		14136.740								
2,4,6-Trinitrotoluene	227 > 210		14136.740								
3,4-dinitrotoluene	182 > 152		14136.740								
2,6-dinitrotoluene	182 > 152		14136.740								
2,4-dinitrotoluene	182 > 152		14136.740								
2,6-dinitrotoluene-d3	185 > 155	17.20	14136.740	14136.740	14136.740	MM-	04-Jan-10	11:31:56			
2-Nitrotoluene	137 > 46		14136.740			bb			514.1882	102.8	2.8
4-Nitrotoluene	137 > 46		14136.740								
3-Nitrotoluene	137 > 46		14136.740								
PETN	361 > 62		14136.740								

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 03-JAN-10 20:32

GEL Data File: EXP0102064a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
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
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	624.065
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	679.821
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0

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Identify Sample Report
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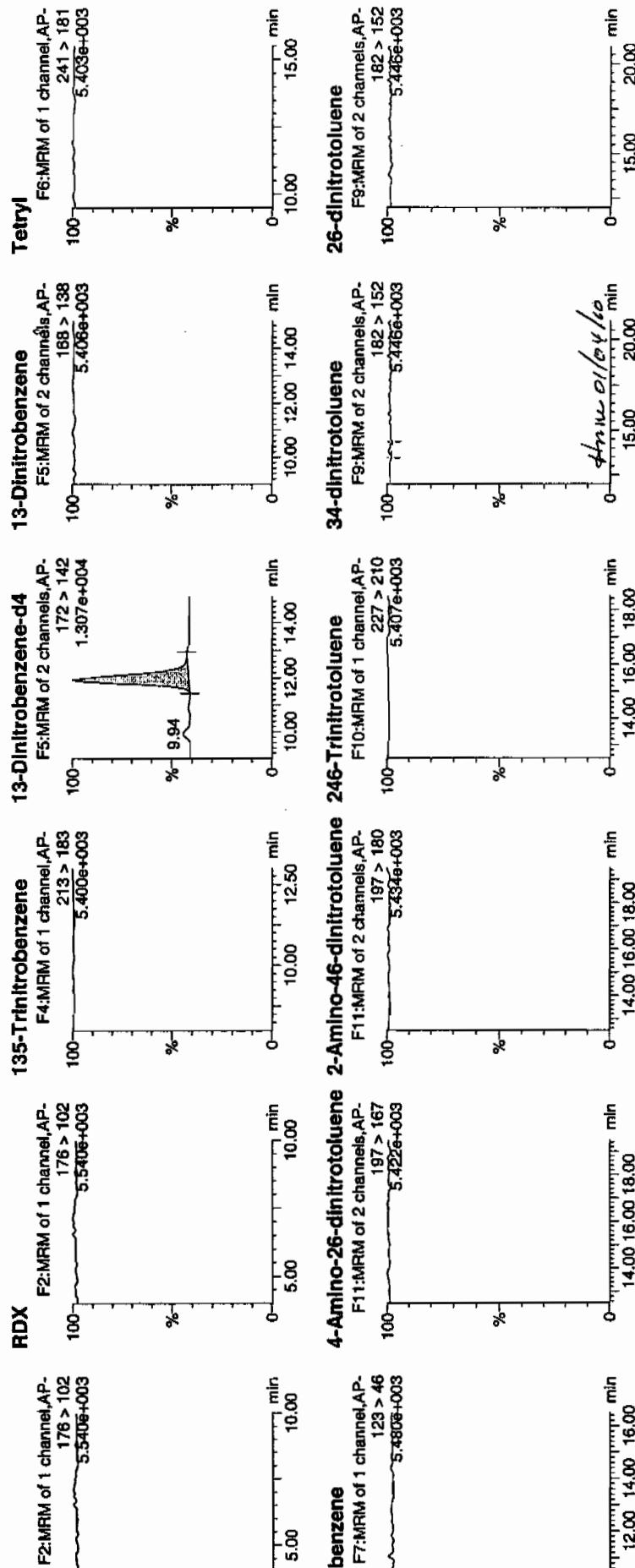
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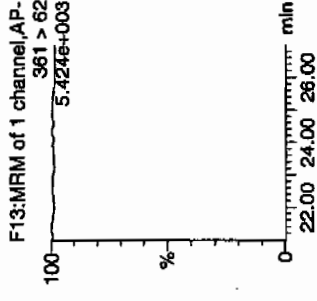
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PETN



Sample	Name	Trace	RT	Area	SA	Adst	Response	Flags	ModDate	ModTime	CPD	CRS	CS
K09	HMX	176 > 102			2964.304								
K09	RDX	176 > 102			2964.304								
K09	135-Trinitrobenzene	213 > 183			2964.304								
K09	13-Dinitrobenzene-d4	172 > 142	11.95	2964.304		2964.304	2964.304	bb		624.0650	124.8	24.8	217.2
K09	13-Dinitrobenzene	168 > 138			2964.304								
K09	Tetryl	241 > 181			2964.304								
K09	Nitrobenzene	123 > 46			2964.304								
K09	4-Amino-26-dinitrotoluene	197 > 167			18690.541								
K09	2-Amino-46-dinitrotoluene	197 > 180			18690.541								
K09	246-Trinitrotoluene	227 > 210			18690.541								
K09	34-dinitrotoluene	182 > 152			18690.541				MM-	04-Jan-10 11:03:06			
K09	26-dinitrotoluene	182 > 152			18690.541								
K09	24-dinitrotoluene	182 > 152			18690.541								
K09	26-dinitrotoluene-d3	185 > 155	17.20	18690.541		18690.541	18690.541	bb		679.8212	136.0	36.0	1808.3
K09	2-Nitrotoluene	137 > 46			18690.541								
K09	4-Nitrotoluene	137 > 46			18690.541								
K09	3-Nitrotoluene	137 > 46			18690.541								
K09	PETN	361 > 62			18690.541								

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK10

Analysis Date: 04-JAN-10 01:28

GEL Data File: EXP0102074a

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	554.495
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	520.555
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

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

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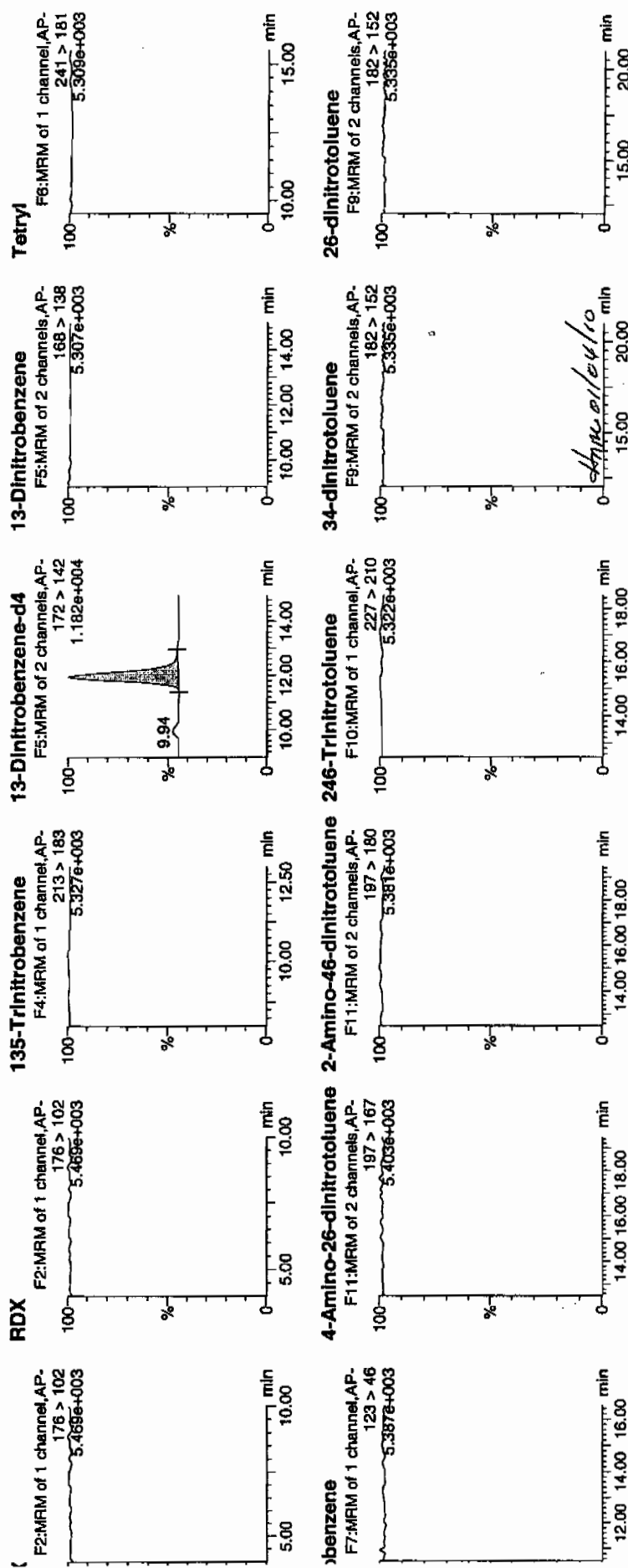
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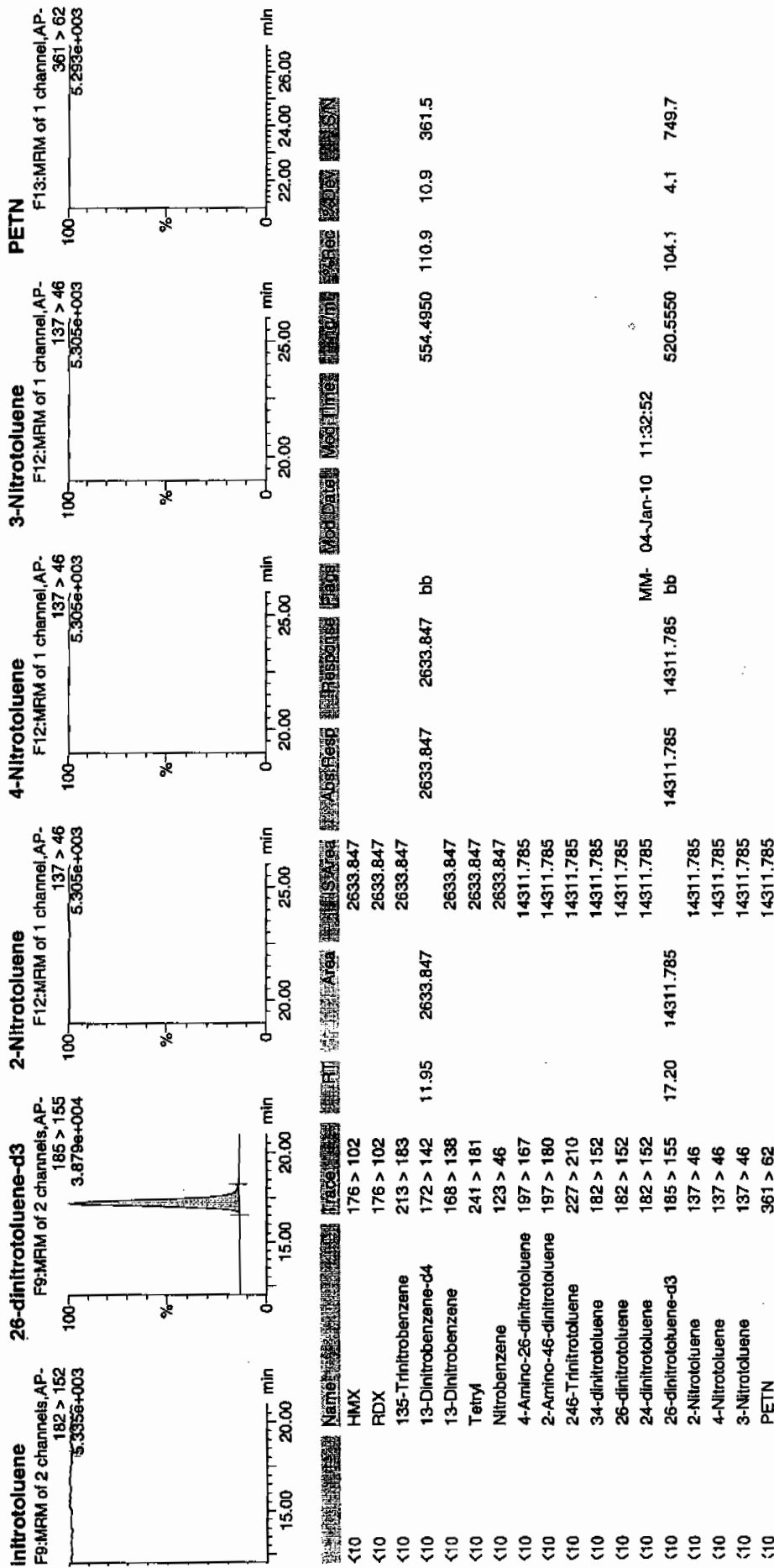


ntify Sample Report

Laboratories, LLC / Analyst: Michael A. Penny

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iset: C:\MASSLYNX\New_Exp_PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK11

Analysis Date: 04-JAN-10 07:22

GEL Data File: EXP0102086a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2,6-Dinitrotoluene-d3	500	507.225
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
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	505.023
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0

Notify Sample Report

Laboratories, LLC / Analyst : Michael A. Penny

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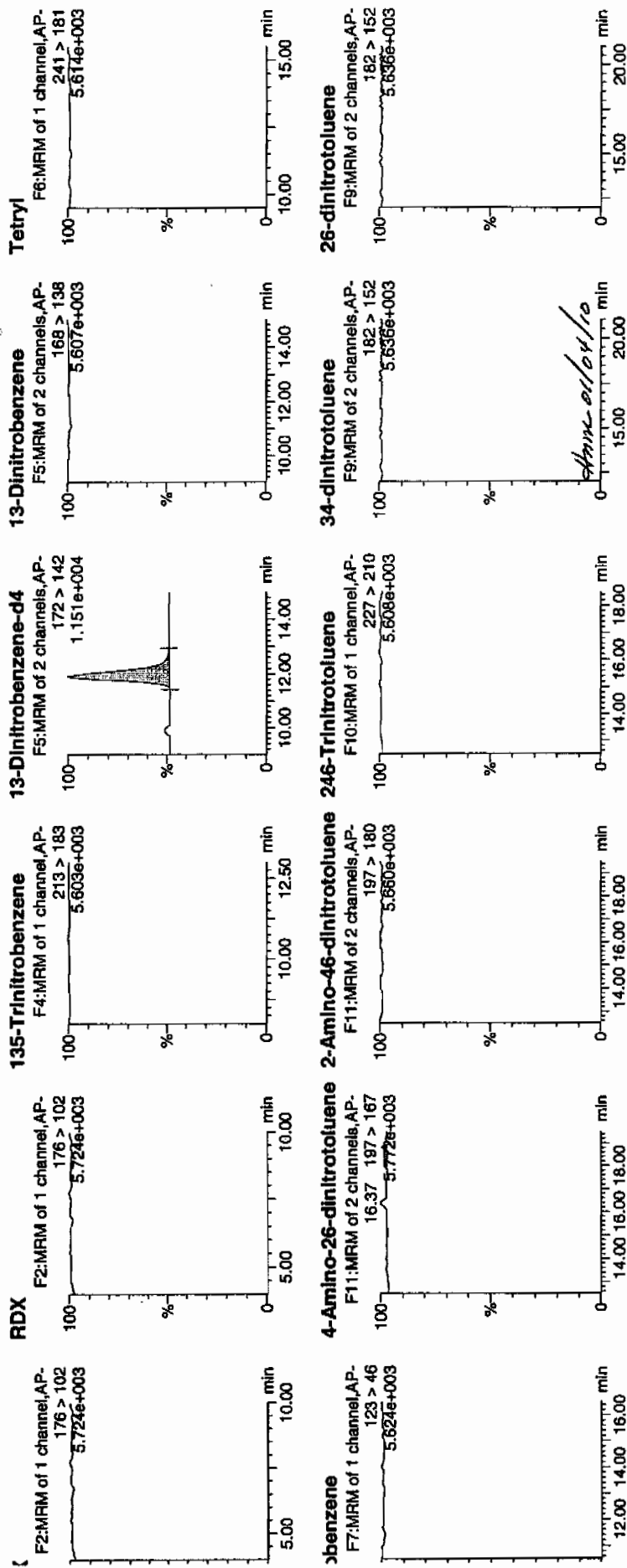
Page 3 of 1441

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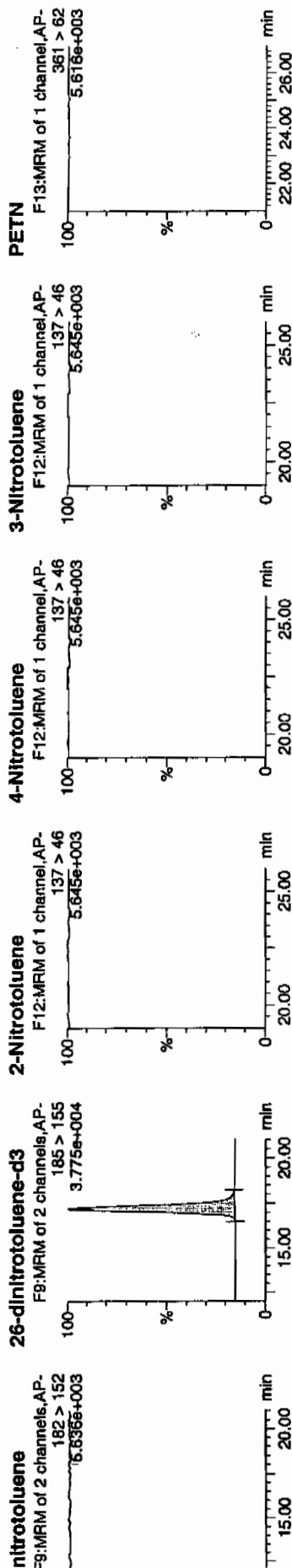
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itly Sample Report
Laboratories, LLC / Analyst : Michael A. Penny

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set: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Compound	Retention Time (min)	Area	Height	Width	MM-04-Jan-10 11:33:25
nitrobenzene	17.20	13945.294	13945.294	13945.294	
2-Nitrotoluene	11.92	2398.856	2398.856	2398.856	
3-Nitrotoluene	505.0231	101.0	1.0	340.2	
4-Nitrotoluene	2398.856	2398.856	2398.856	2398.856	
PETN	507.2248	101.4	1.4	1570.4	

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK12

Analysis Date: 04-JAN-10 13:46

GEL Data File: EXP0102099a

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	541.72
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	510.561
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

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

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e: 13:46:03

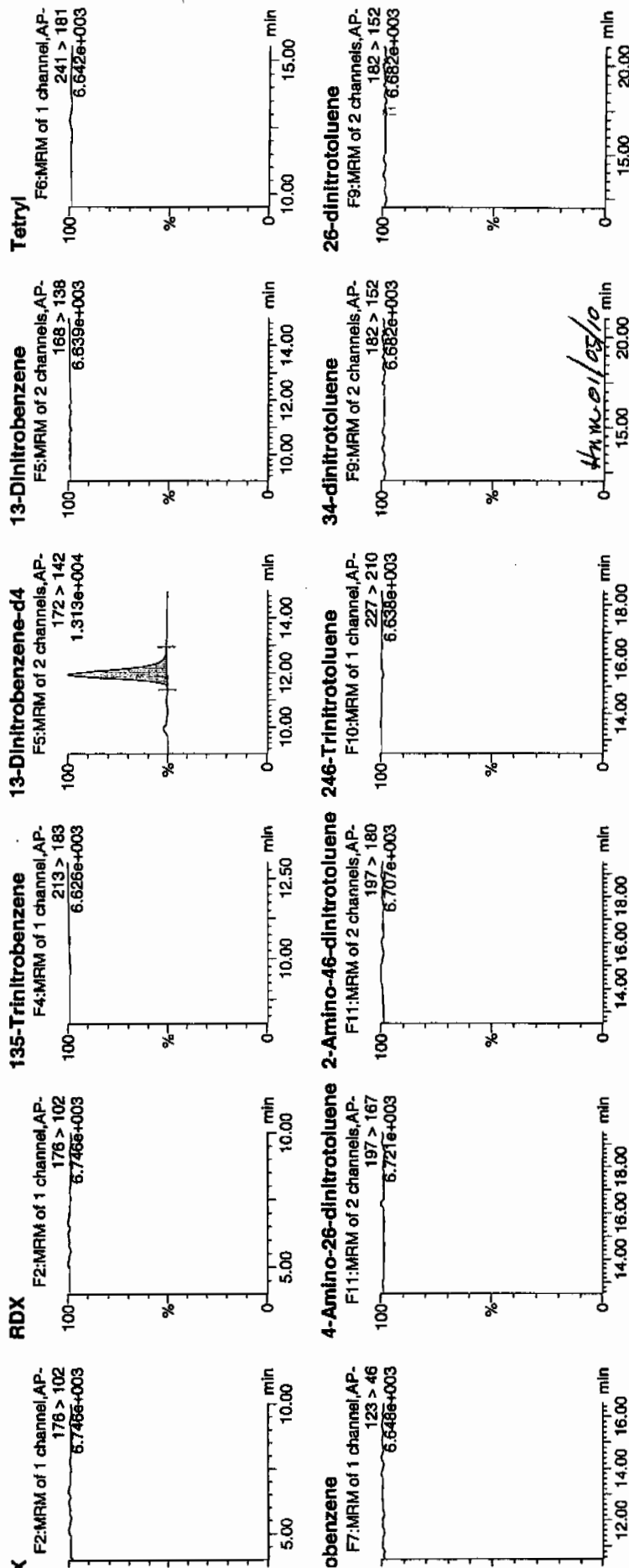
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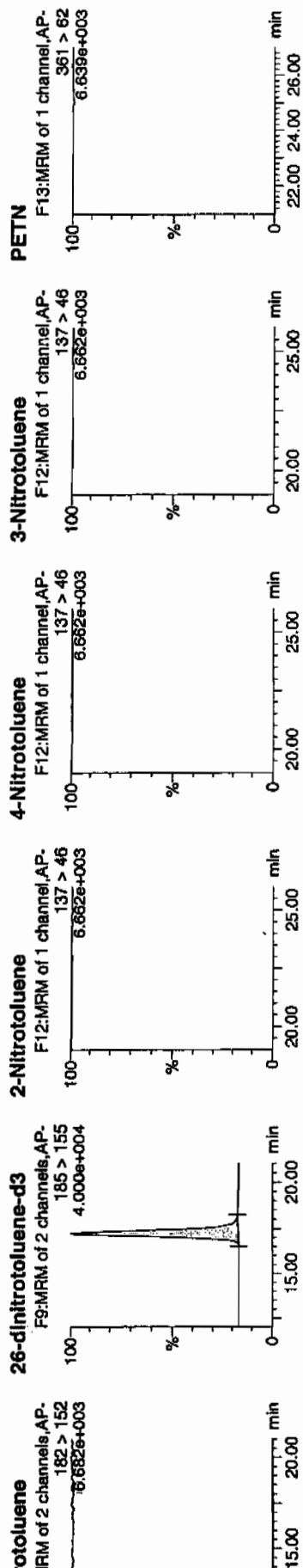
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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK13

Analysis Date: 04-JAN-10 19:10

GEL Data File: EXP0102110a

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	559
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	554.669
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

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

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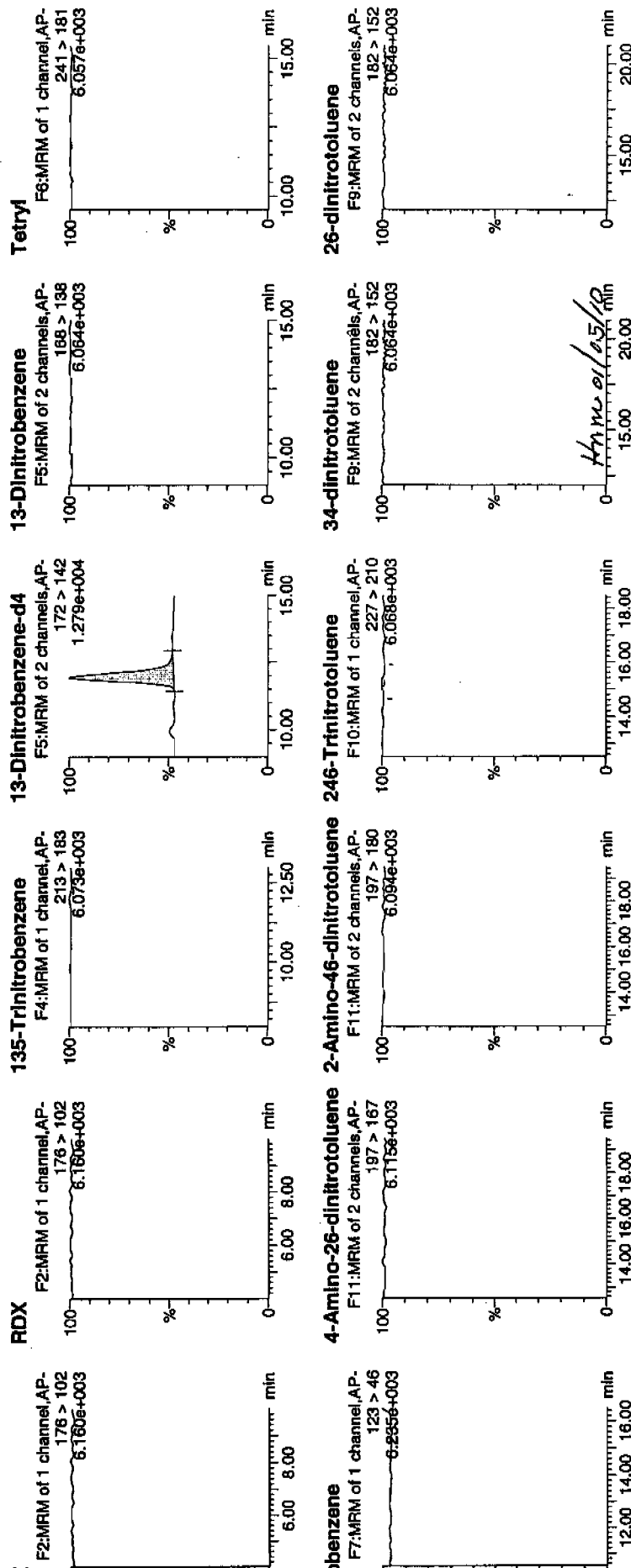
: 04-Jan-2010

19:10:37

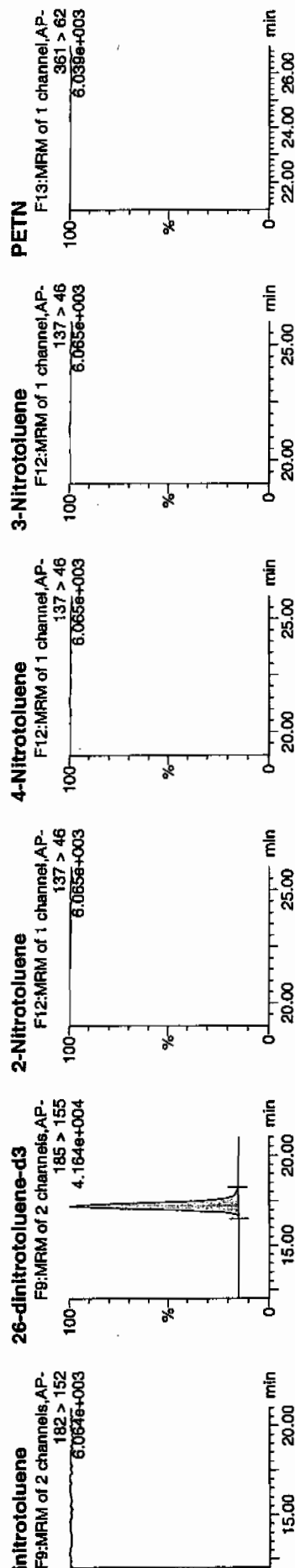
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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK14

Analysis Date: 04-JAN-10 23:07

GEL Data File: EXP0102118a

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	540.348
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	552.215
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

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Laboratories, LLC / Analyst: Michael A. Penny

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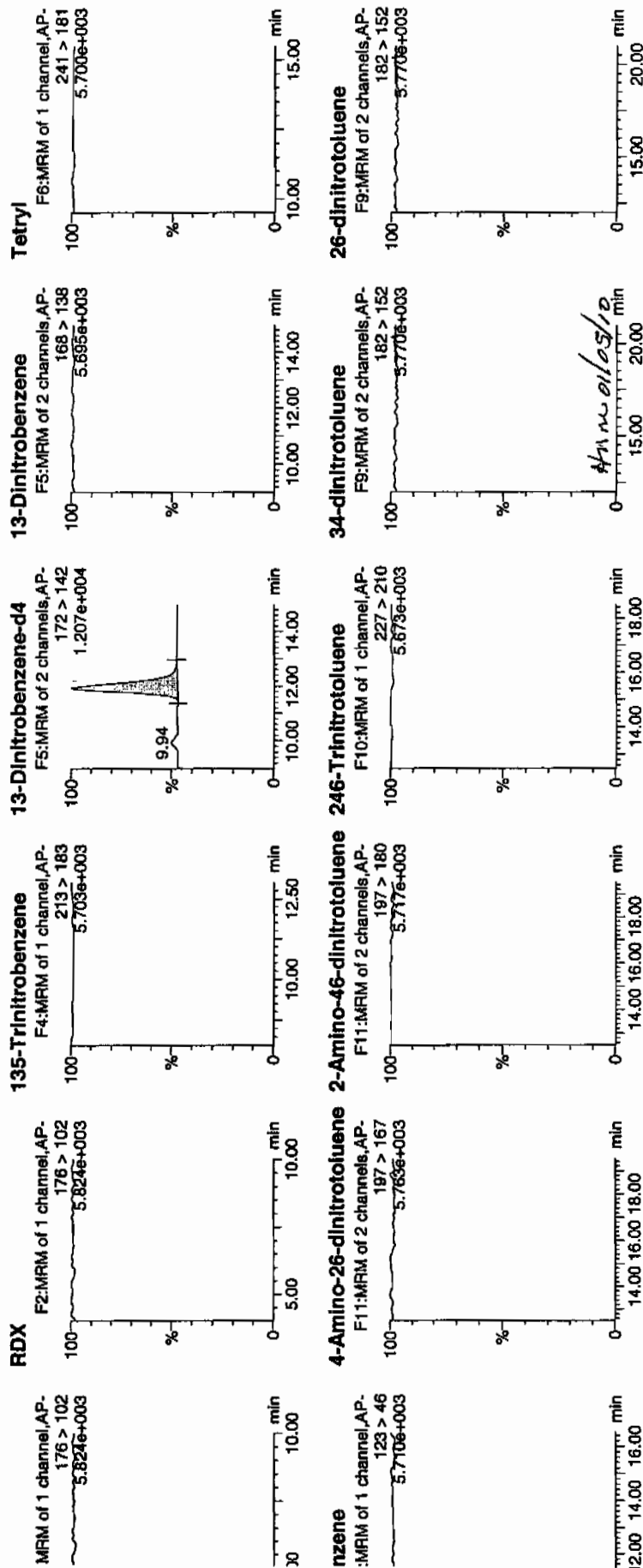
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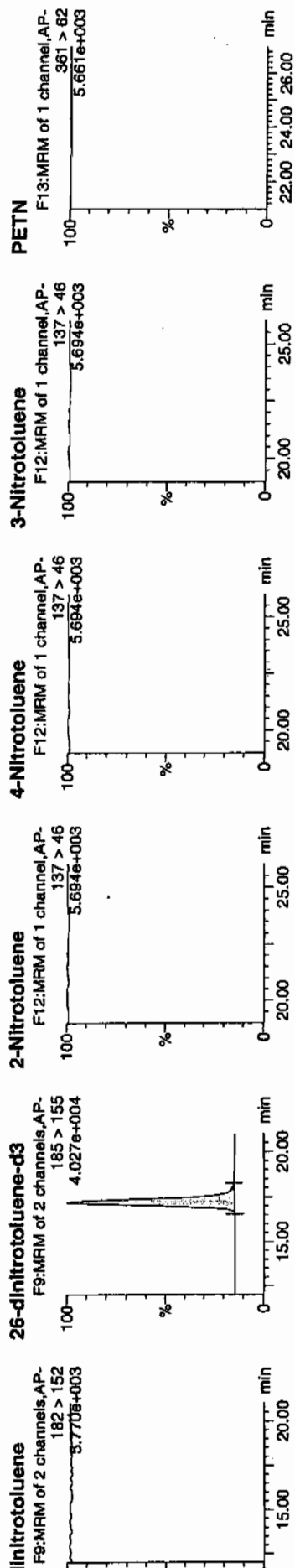


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Name	Trace	RT	Area	IS Area	Response	Flags	Mod	Time	Area	Mod	Time
K14	HMZ	176 > 102		2566.651							
K14	RDX	176 > 102		2566.651							
K14	135-Trinitrobenzene	213 > 183		2566.651							
K14	13-Dinitrobenzene-d4	172 > 142	11.92	2566.651							
K14	13-Dinitrobenzene	168 > 138		2566.651							
K14	Tetryl	241 > 181		2566.651							
K14	Nitrobenzene	123 > 46		2566.651							
K14	4-Amino-26-dinitrotoluene	197 > 167		15182.229							
K14	2-Amino-46-dinitrotoluene	197 > 180		15182.229							
K14	246-Trinitrotoluene	227 > 210		15182.229							
K14	34-dinitrotoluene	182 > 152		15182.229							
K14	26-dinitrotoluene	182 > 152		15182.229							
K14	24-dinitrotoluene	182 > 152		15182.229							
K14	26-dinitrotoluene-d3	185 > 155	17.20	15182.229							
K14	2-Nitrotoluene	137 > 46		15182.229							
K14	4-Nitrotoluene	137 > 46		15182.229							
K14	3-Nitrotoluene	137 > 46		15182.229							
K14	PETN	361 > 82		15182.229							
					15182.229	15182.229	bb				
					2566.651	2566.651	bb				
					540.3485	108.1					
					552.2152	110.4					
					1156.6	10.4					

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 03-JAN-10 14:02

GEL Data File: EXS01030010.wiff

Instrument ID: LCMSMS

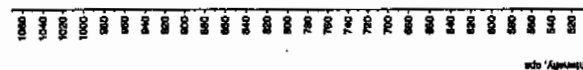
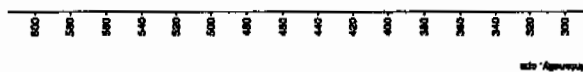
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Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	1.68
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

11/17/06
2008

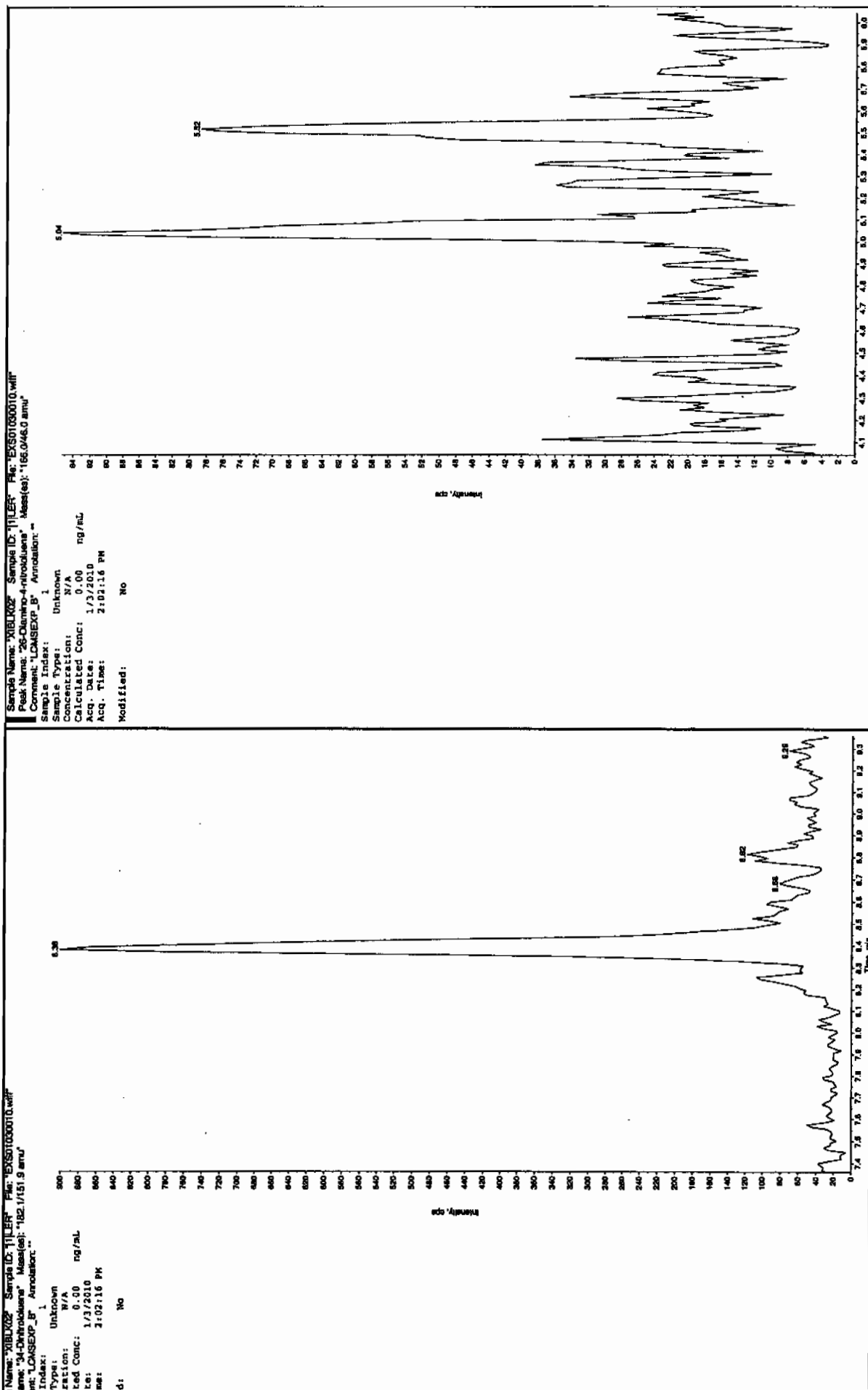
Sample Name: "XBLK02" Sample ID: "TILER" File: "EXS01030010.wif"
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/3/2010
Acq. Time: 2:02:16 PM
Modified: No

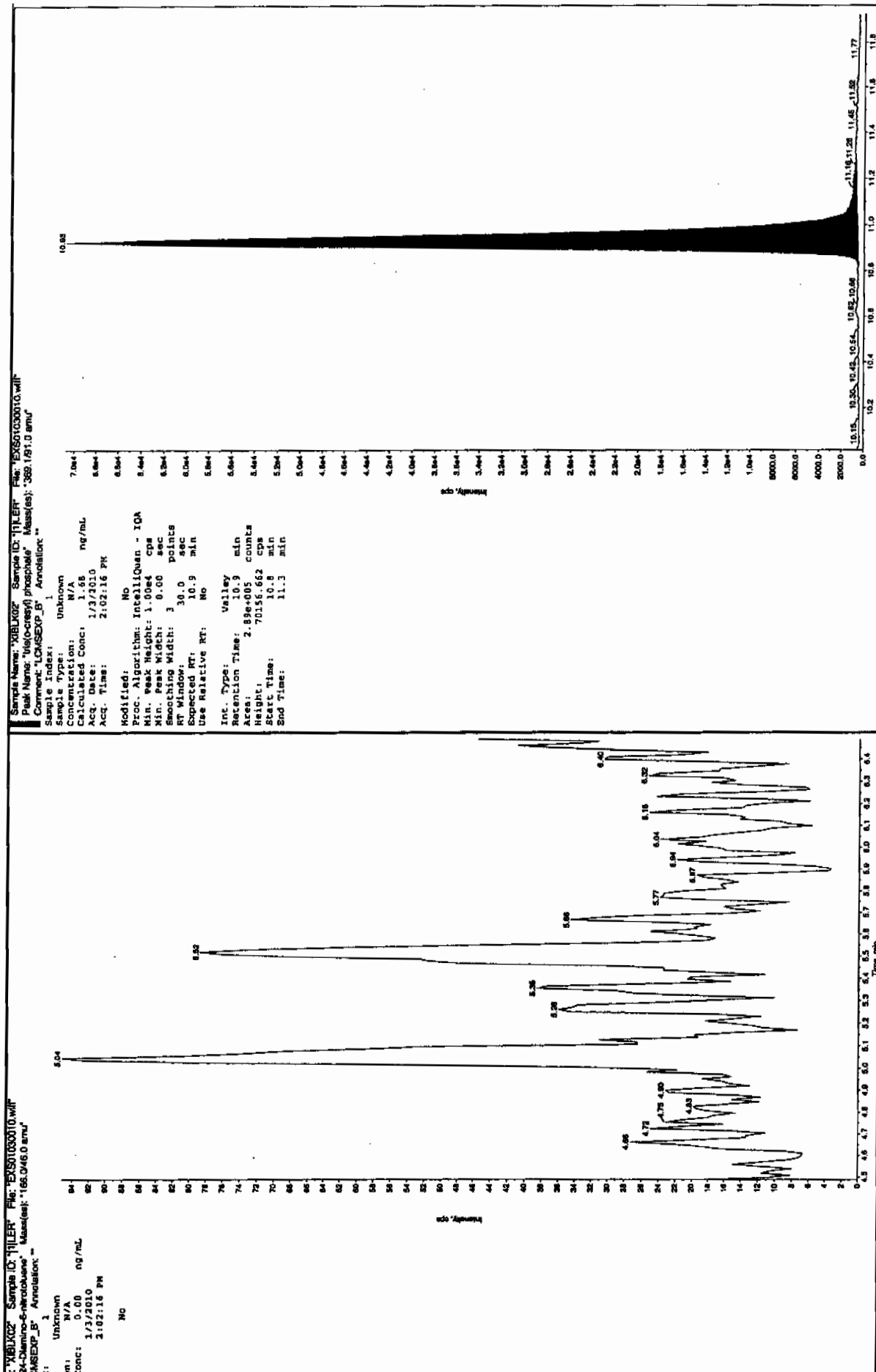


44m o/los/lo

OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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



JOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 03-JAN-10 14:33

GEL Data File: EXS01030012.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

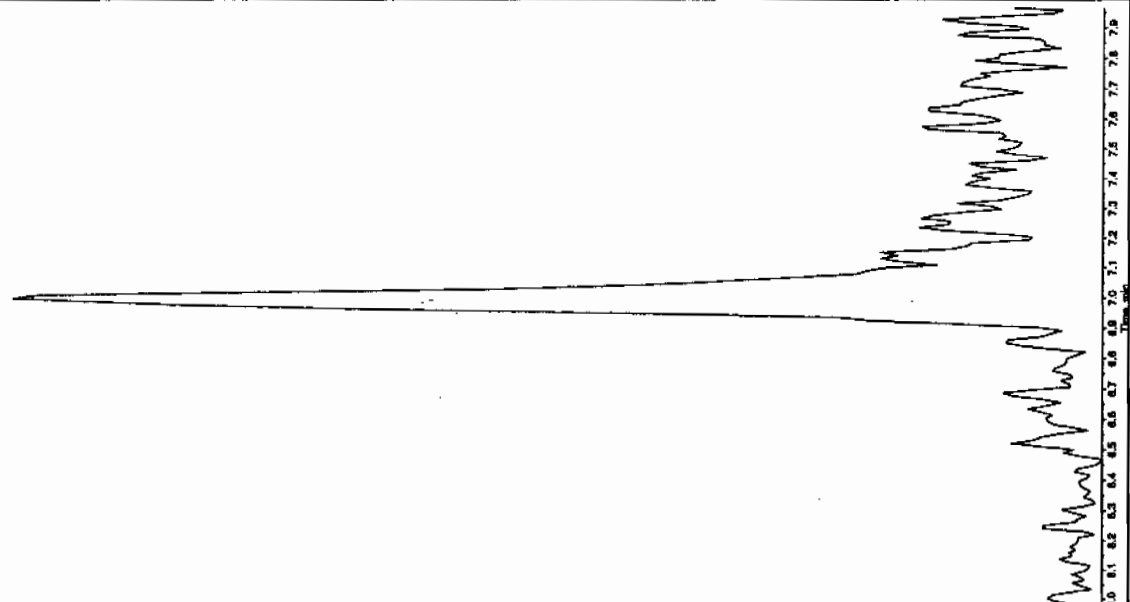
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

8/2/10

Sample Name: "XBLK03" Sample ID: "TJLER" File: "EX501000012.wif"
Peak Name: "35-Dihydroquinoline" 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: 1/3/2010
Acq. Time: 2:33:40 PM
Modified: No

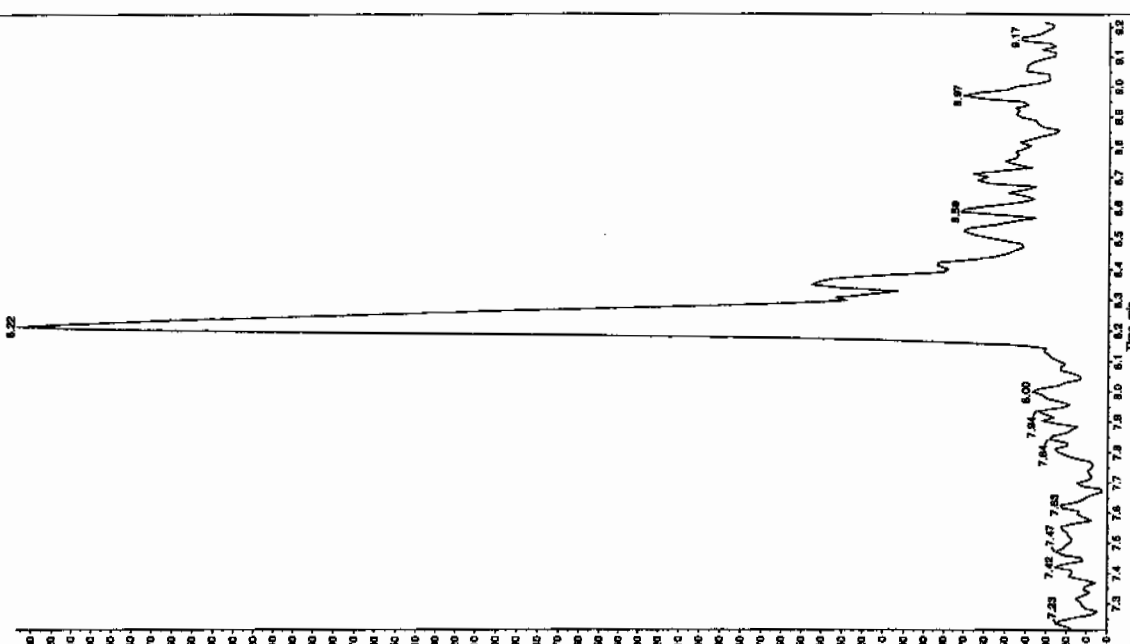
Intensity, cps



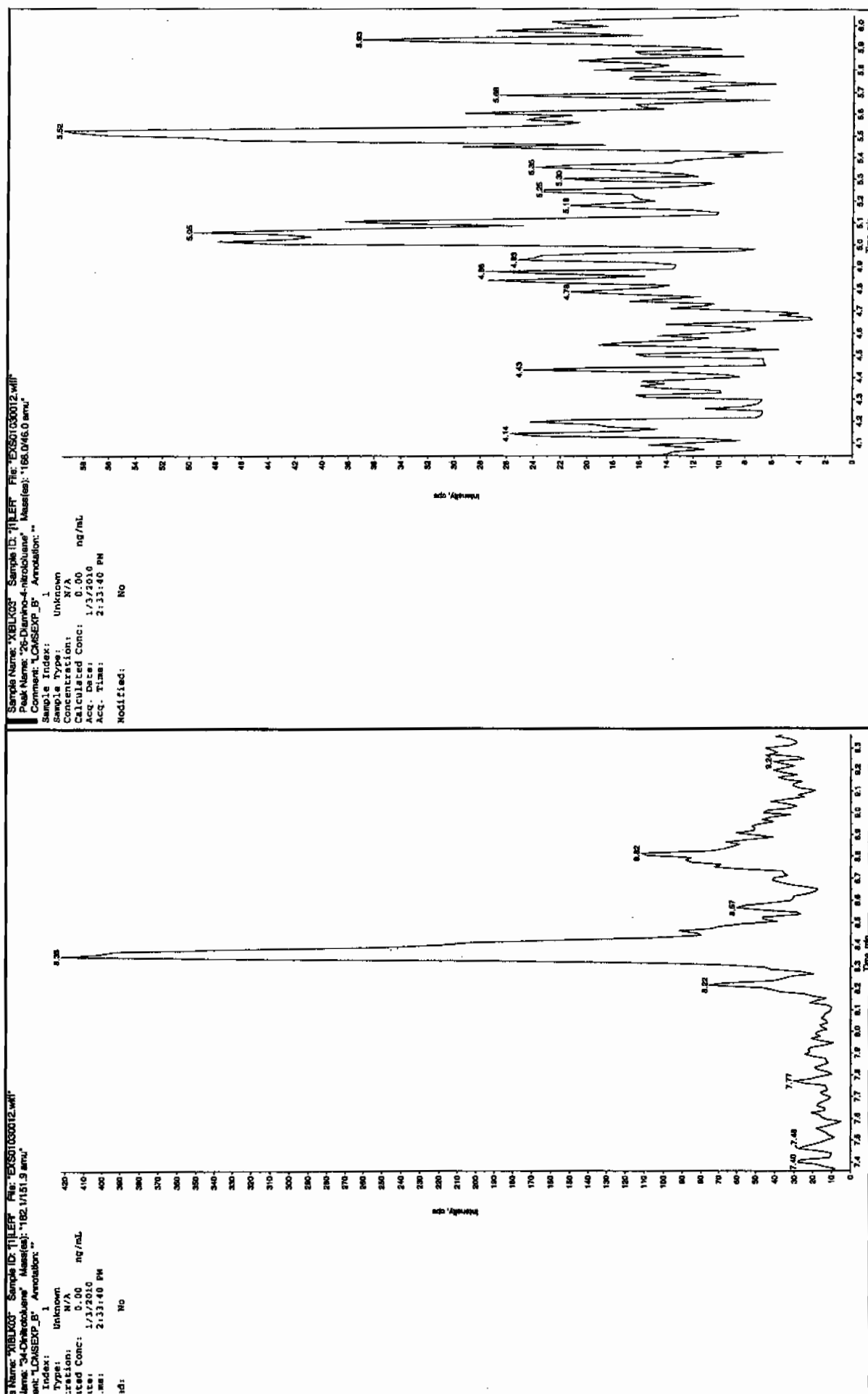
Sample Name: "XBLK03" Sample ID: "TJLER" File: "EX501000012.wif"
Peak Name: "35-Dihydroquinoline" Mass(es): "182.046.0 amu"
Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/3/2010
Acq. Time: 2:33:40 PM
Modified: No

Intensity, cps



Am 01/05/10

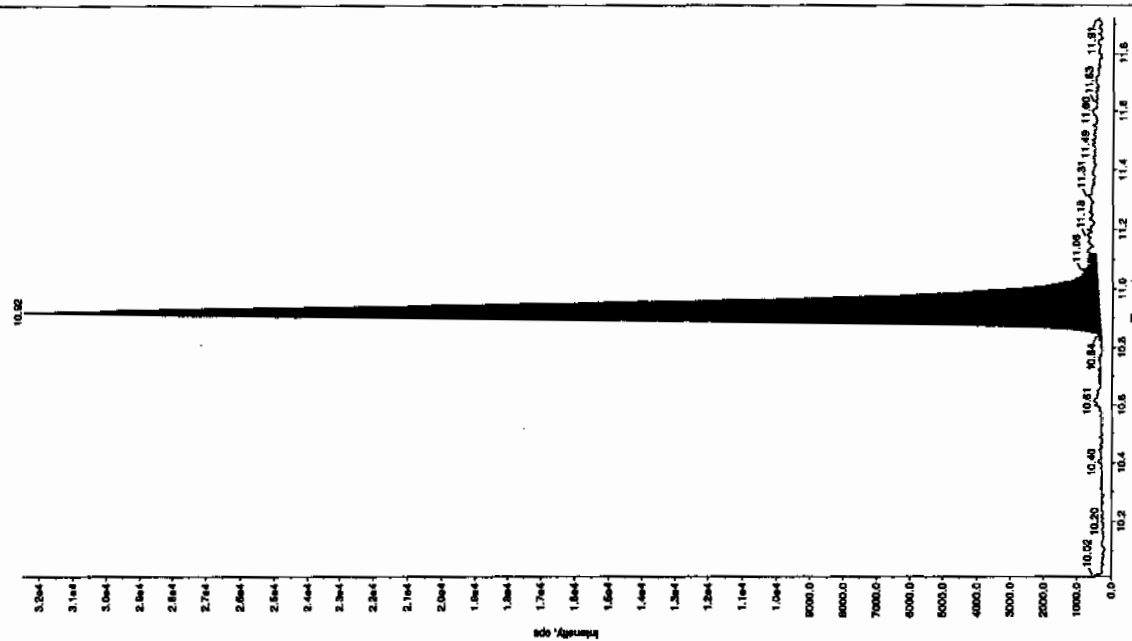
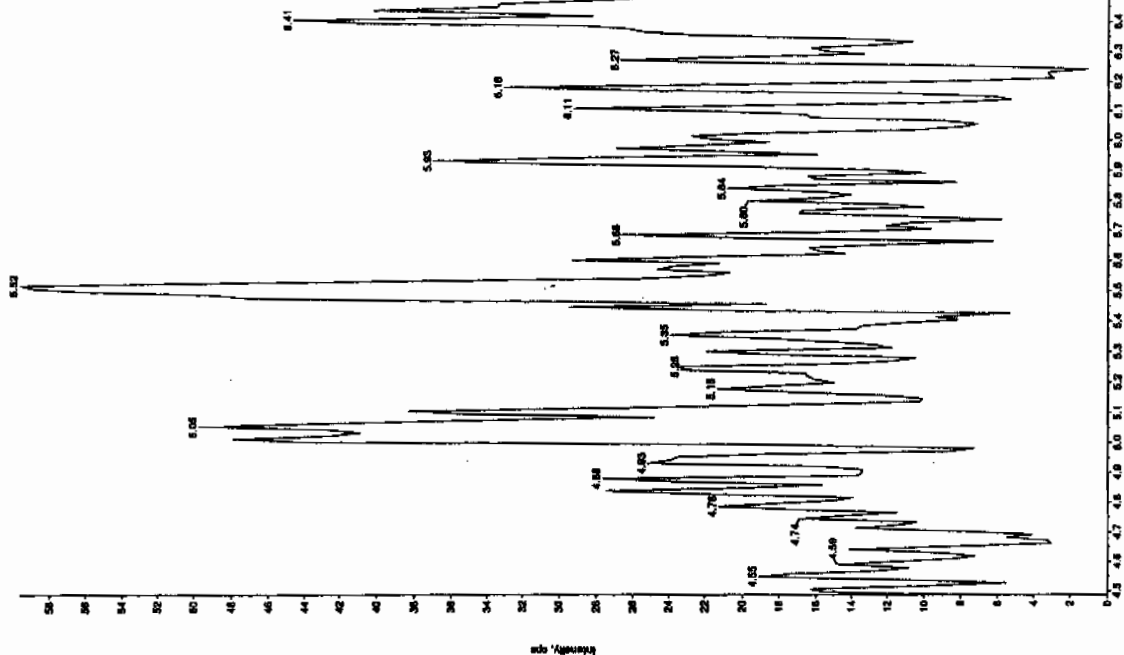


Sample Name: "XIBLK03" Sample ID: "111ER" File: "EX501030012.wif"
 Peak Name: "4-O-methyl-6-nitrophenol" Mass(es): "166.046.0 amu"
 Comment: "LCMS/EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: No Intercept
 Acq. Date: 1/3/2010
 Acq. Time: 2:33:40 PM

Modified: No
 Proc. Algorithm: InCellQuan - IQA
 Min. Peak Height: 1.00 cps
 Min. Peak Width: 0.00 points
 Smoothing Width: 3
 RT Window: 30.0 sec
 Expected RT: 10.9 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 10.9 min
 Area: 1.28e+005 counts
 Height: 32135.124 cps
 Start Time: 10.8 min
 End Time: 11.1 min



OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 03-JAN-10 17:57

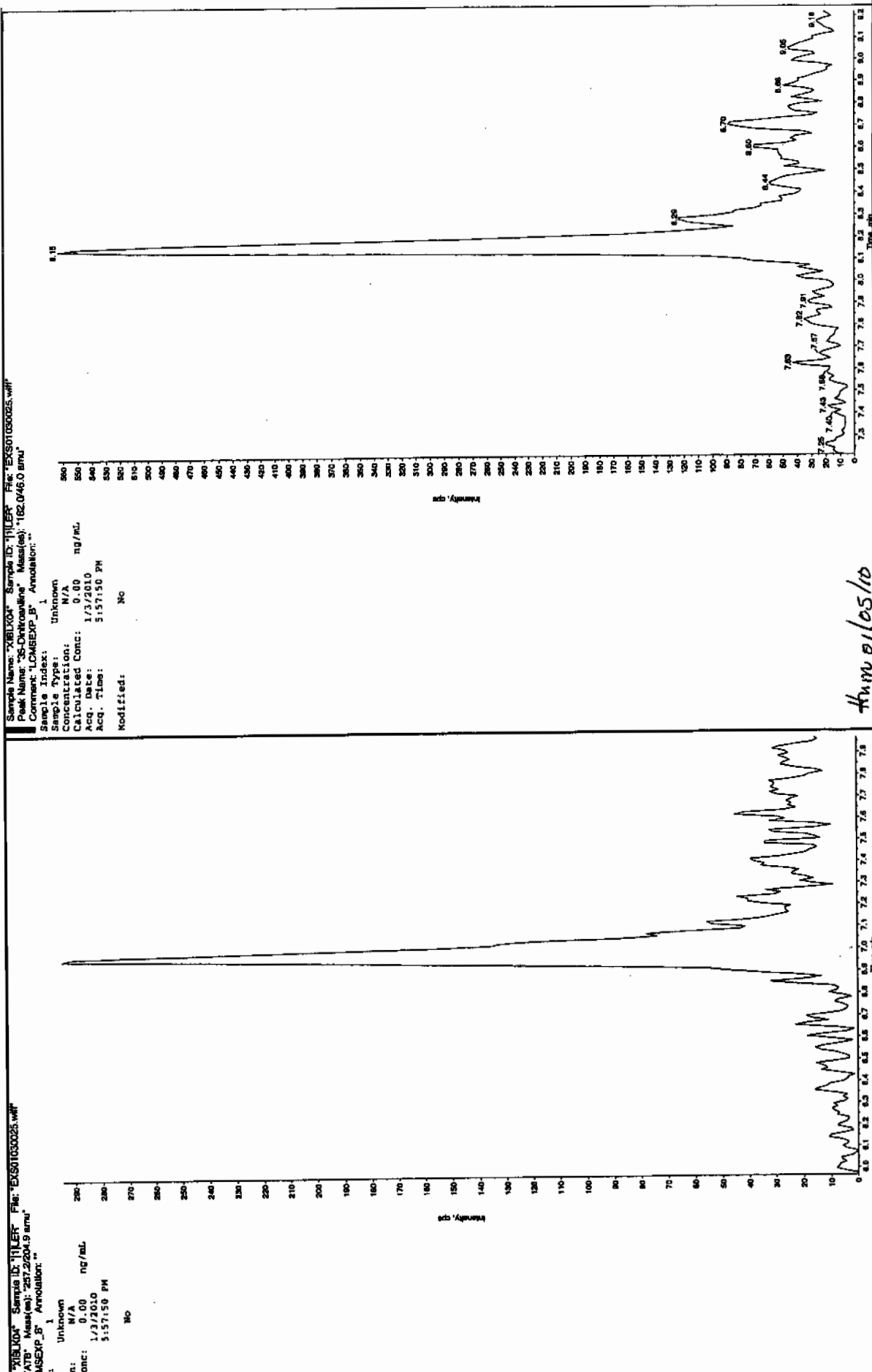
GEL Data File: EXS01030025.wiff

Instrument ID: LCMSMS

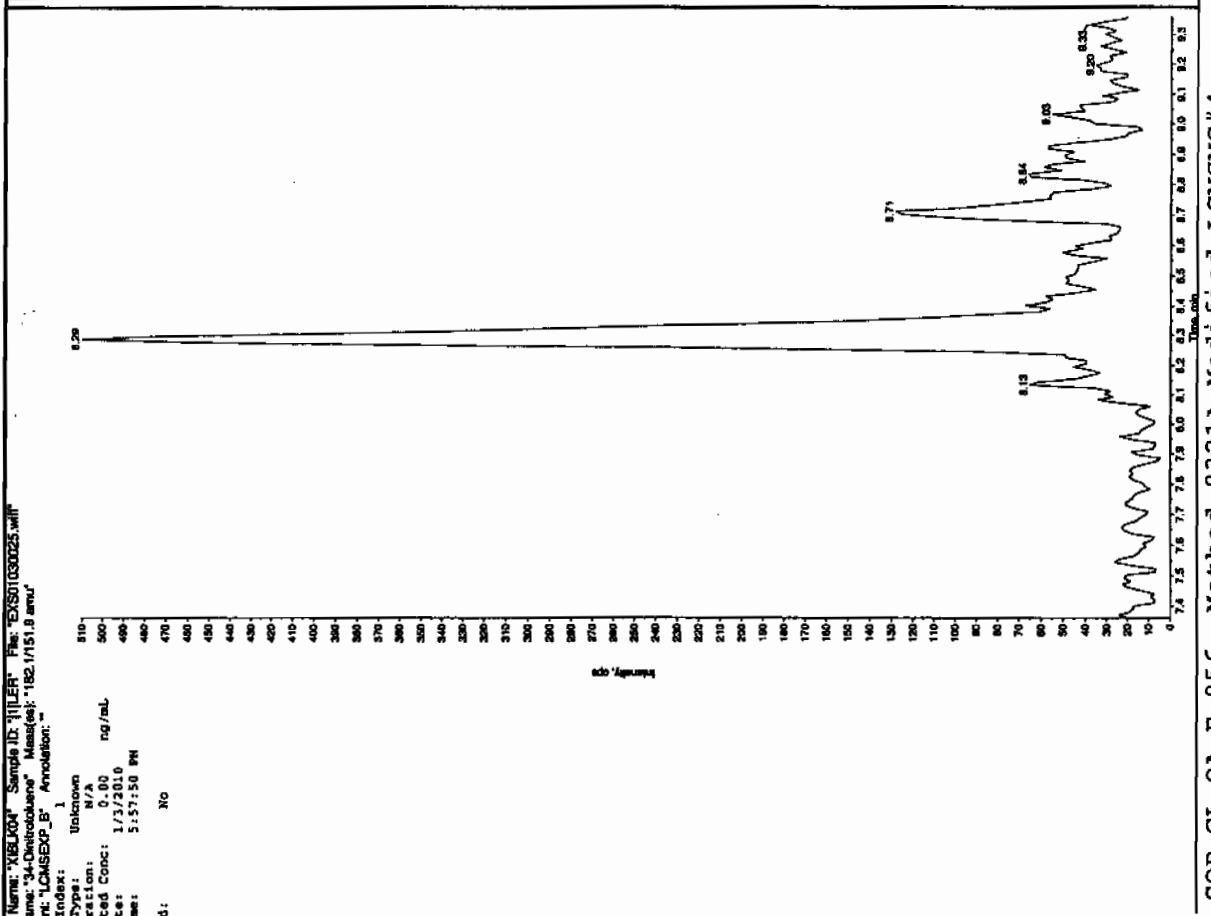
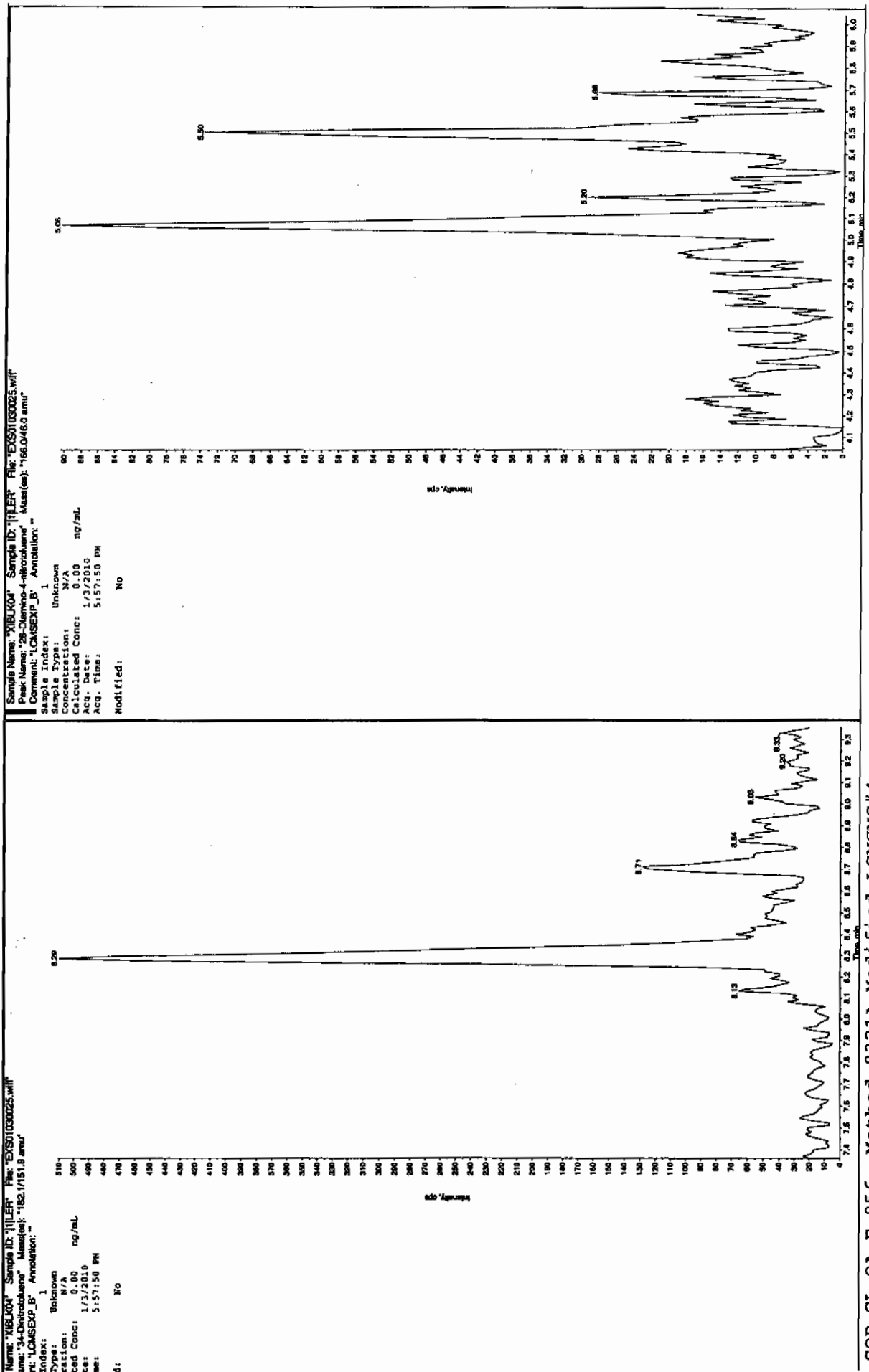
Column: Phenomenex Ultracarb 5u ODS(20)

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

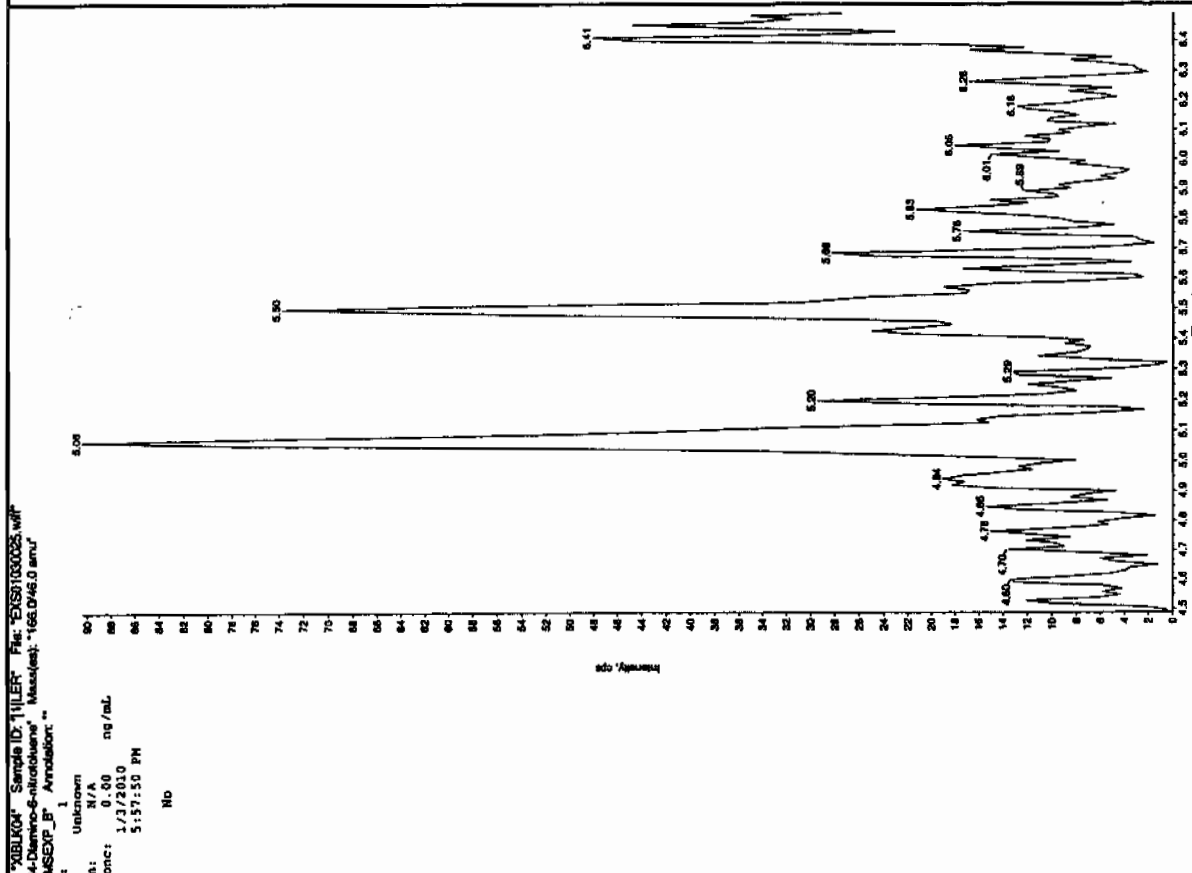
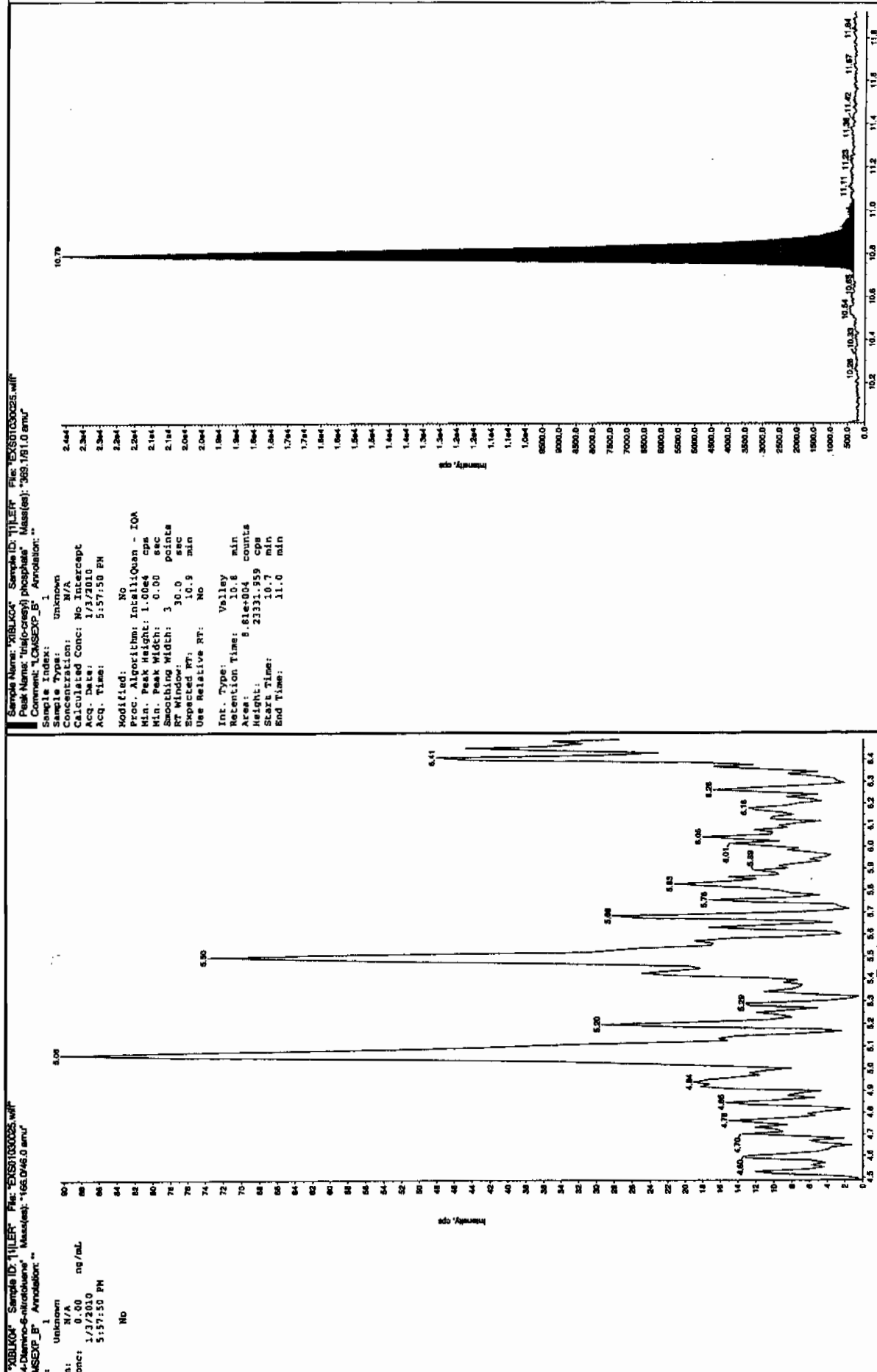
8/15/10



OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 03-JAN-10 21:22

GEL Data File: EXS01030038.wiff

Instrument ID: LCMSMS

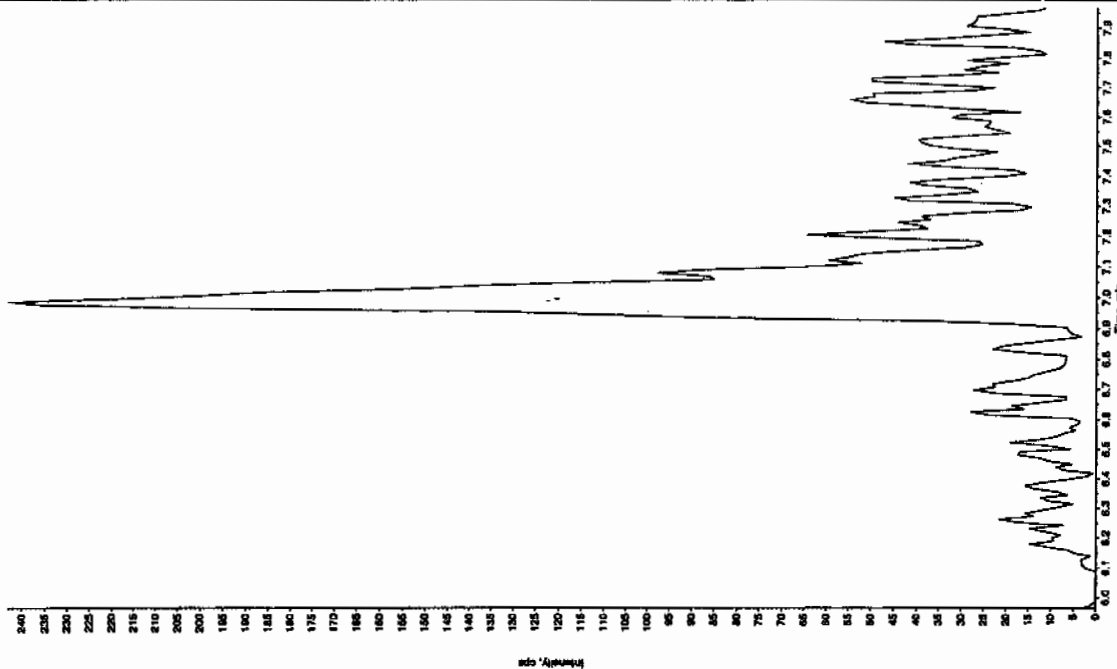
Column: Phenomenex Ultracarb 5u ODS(20)

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

024
11/17/10

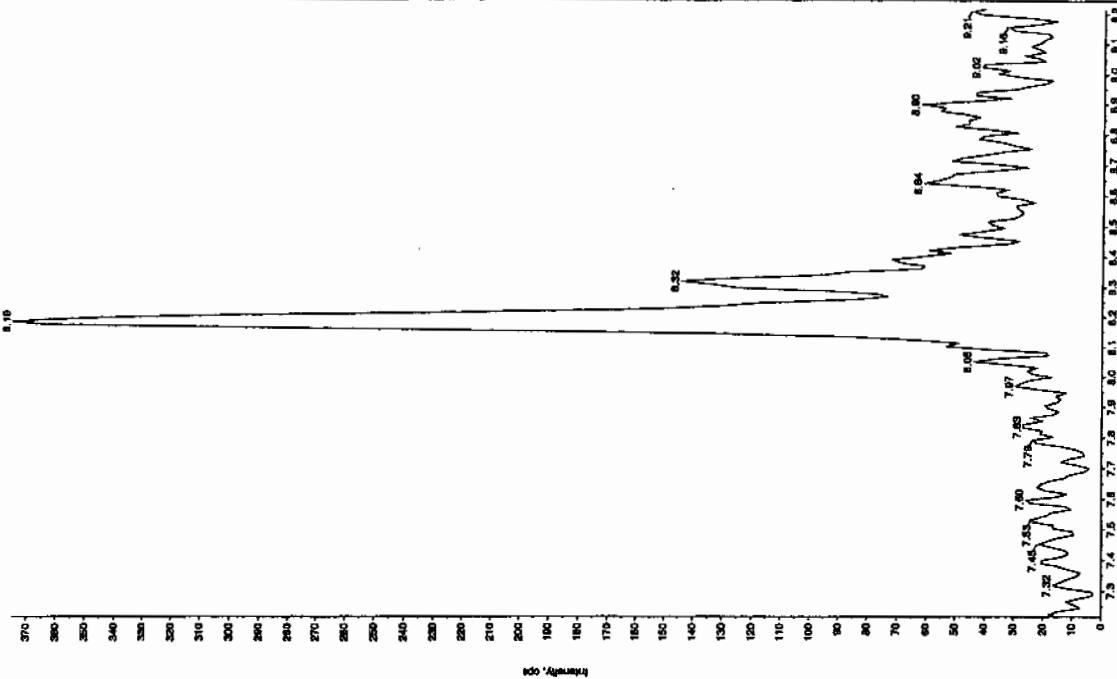
Sample Name: "XBLX03" Sample ID: "HILF" File: "EX501000038.wif"
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Conc. Unit: ng/mL
Acq. Date: 1/3/2010
Acq. Time: 9:22:05 PM
Modified: No

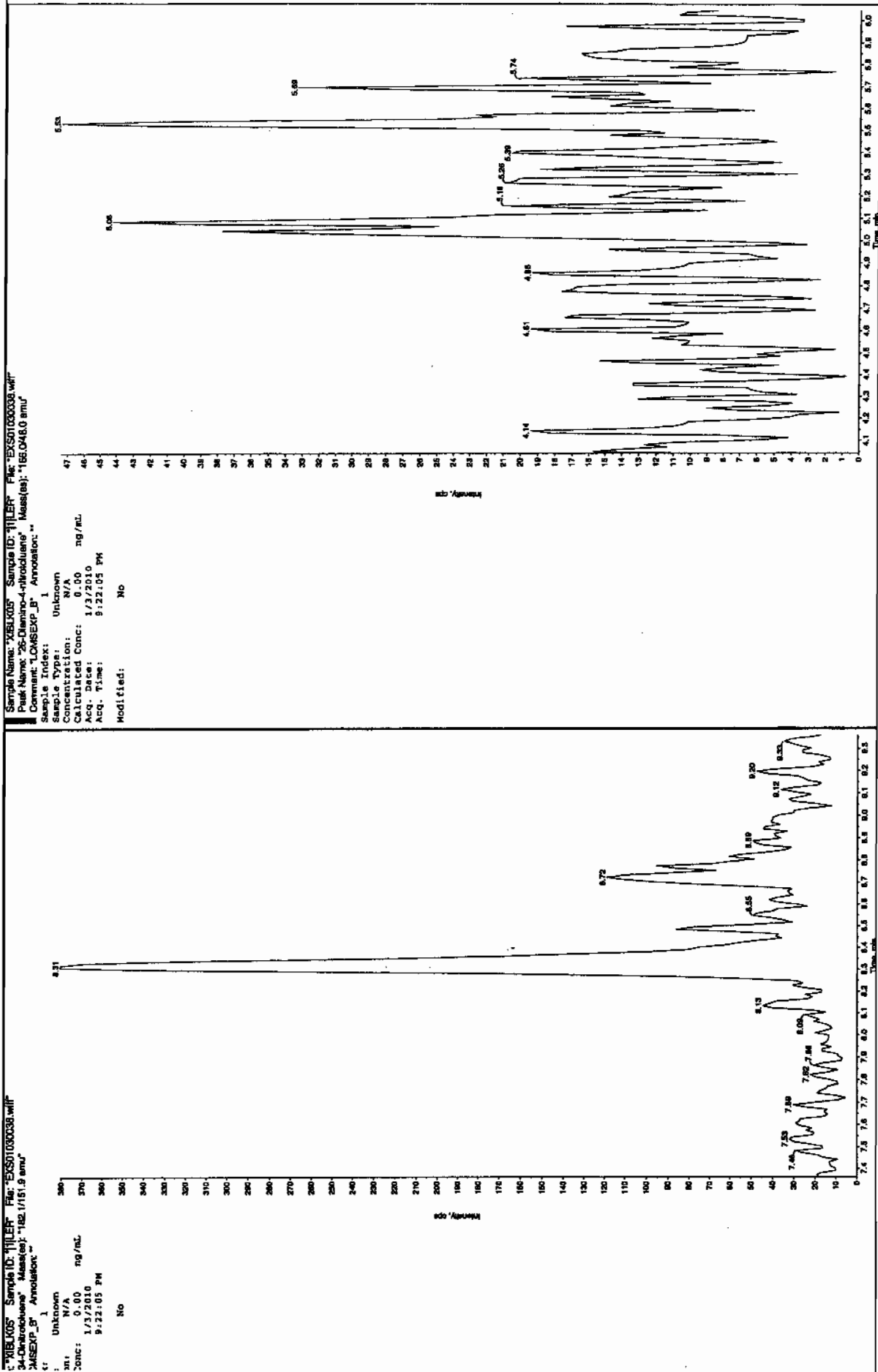


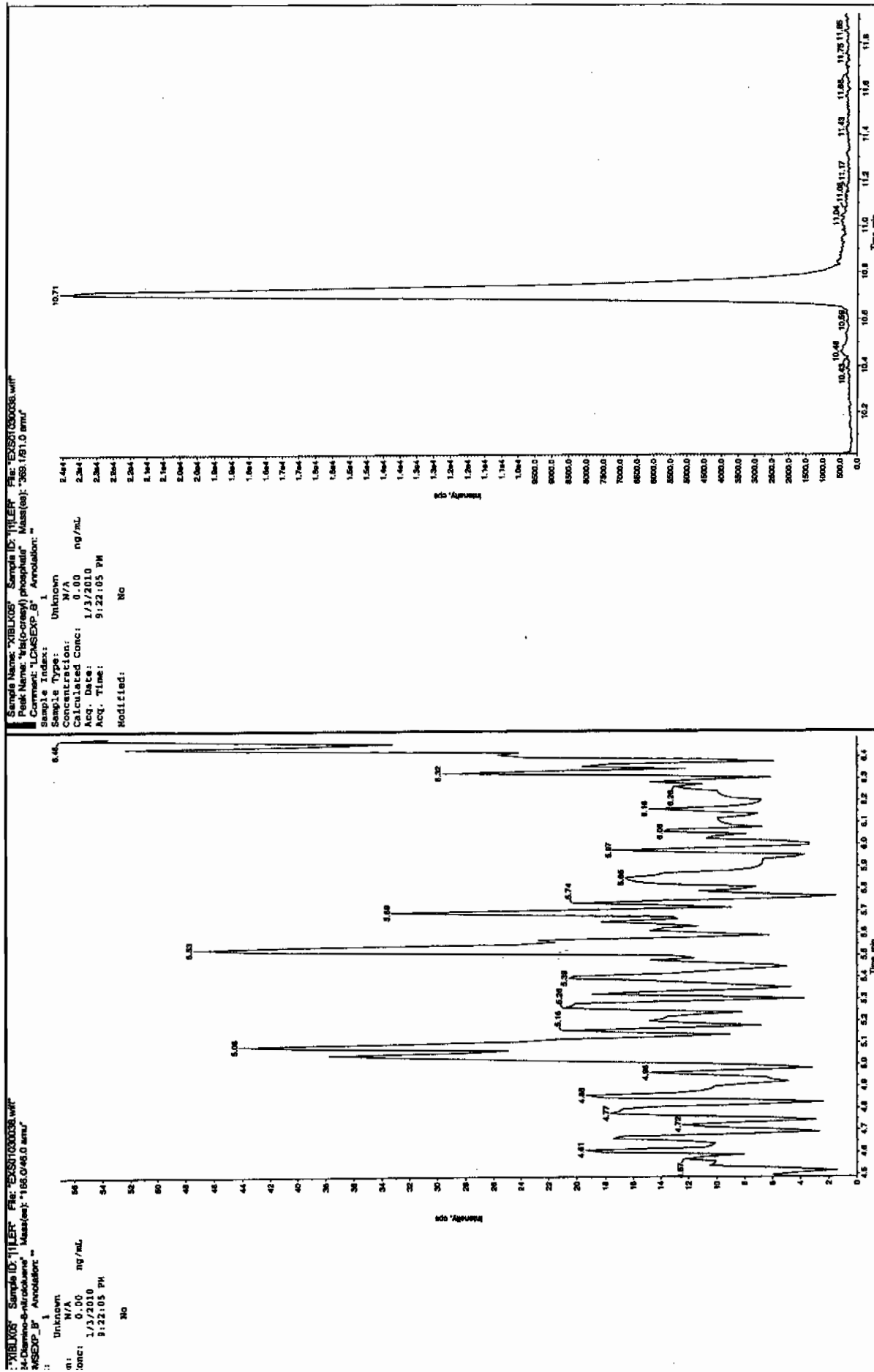
Sample Name: "XBLX03" Sample ID: "HILF" File: "EX501000038.wif"
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Conc. Unit: ng/mL
Acq. Date: 1/3/2010
Acq. Time: 9:22:05 PM
Modified: No



11/17/10





OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK06

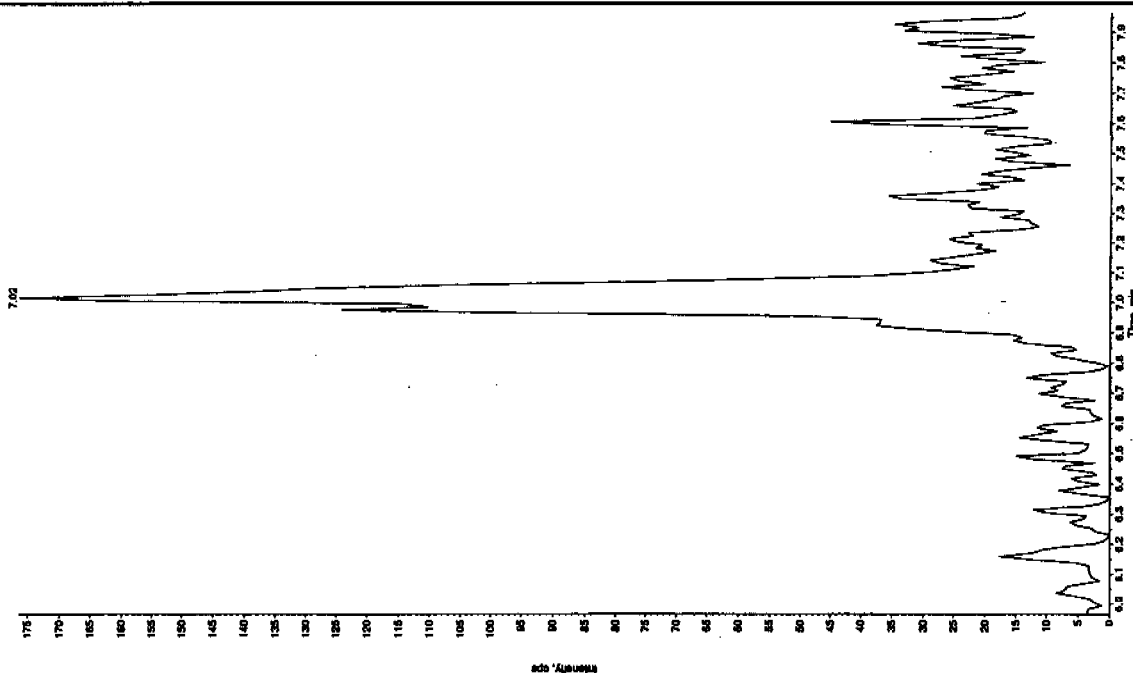
Analysis Date: 03-JAN-10 22:40

GEL Data File: EXS01030043.wiff

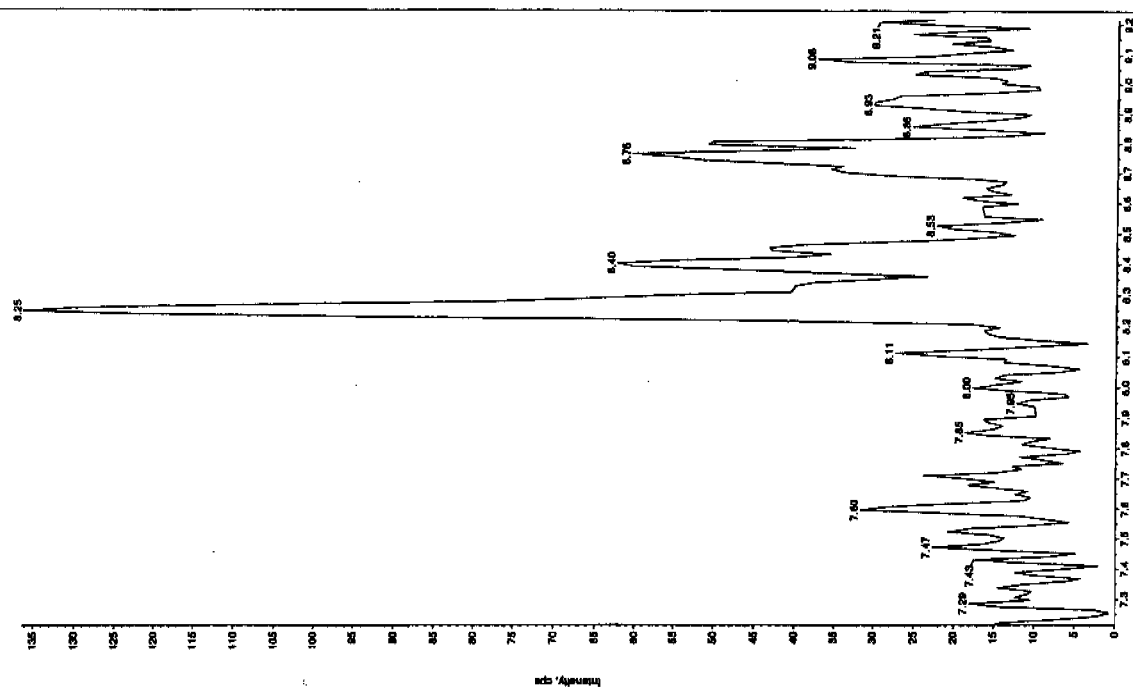
Instrument ID: LCMSMS

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



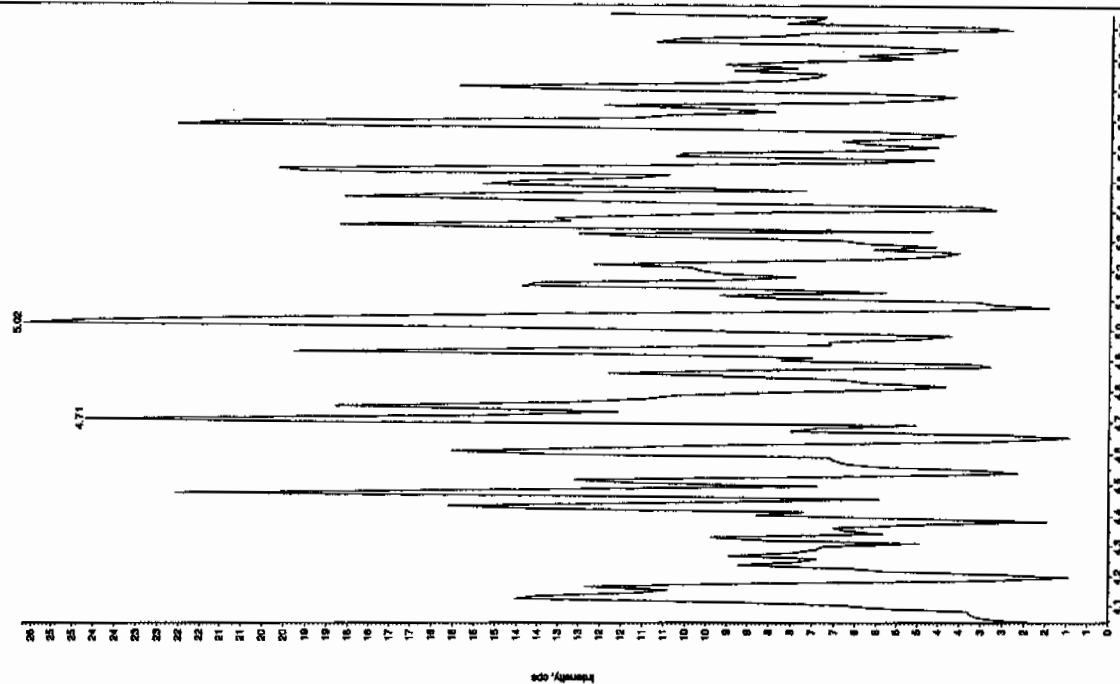
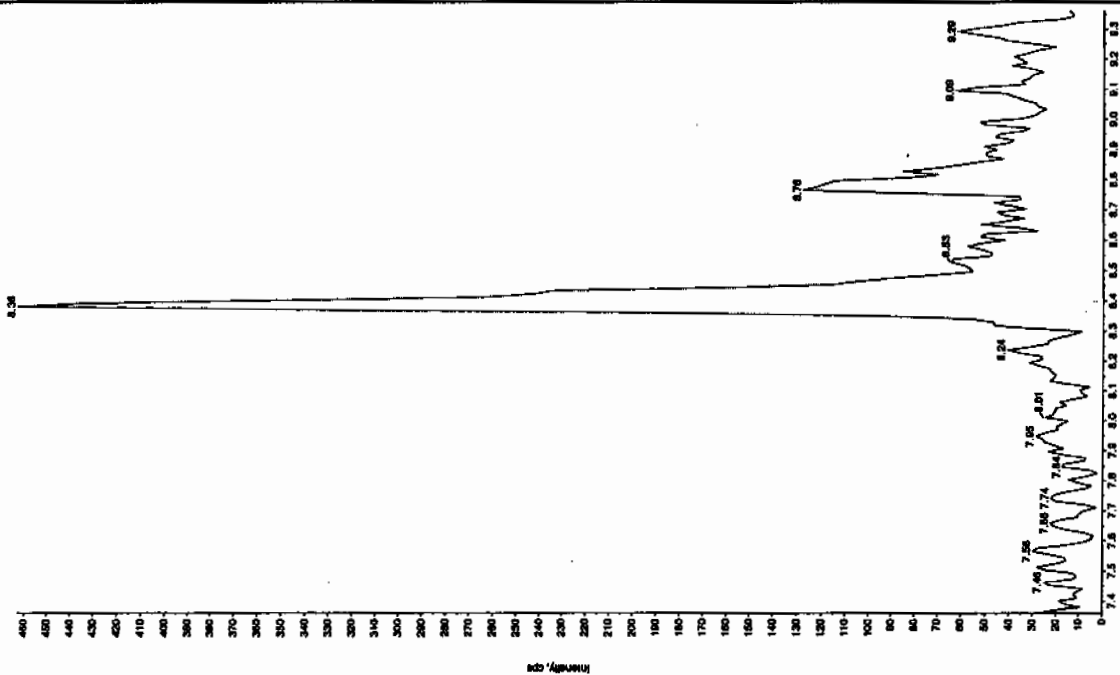
Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	0.00 ng/mL
Acq. Date:	1/3/2010
Acq. Time:	10:40:38 PM
Modified:	No



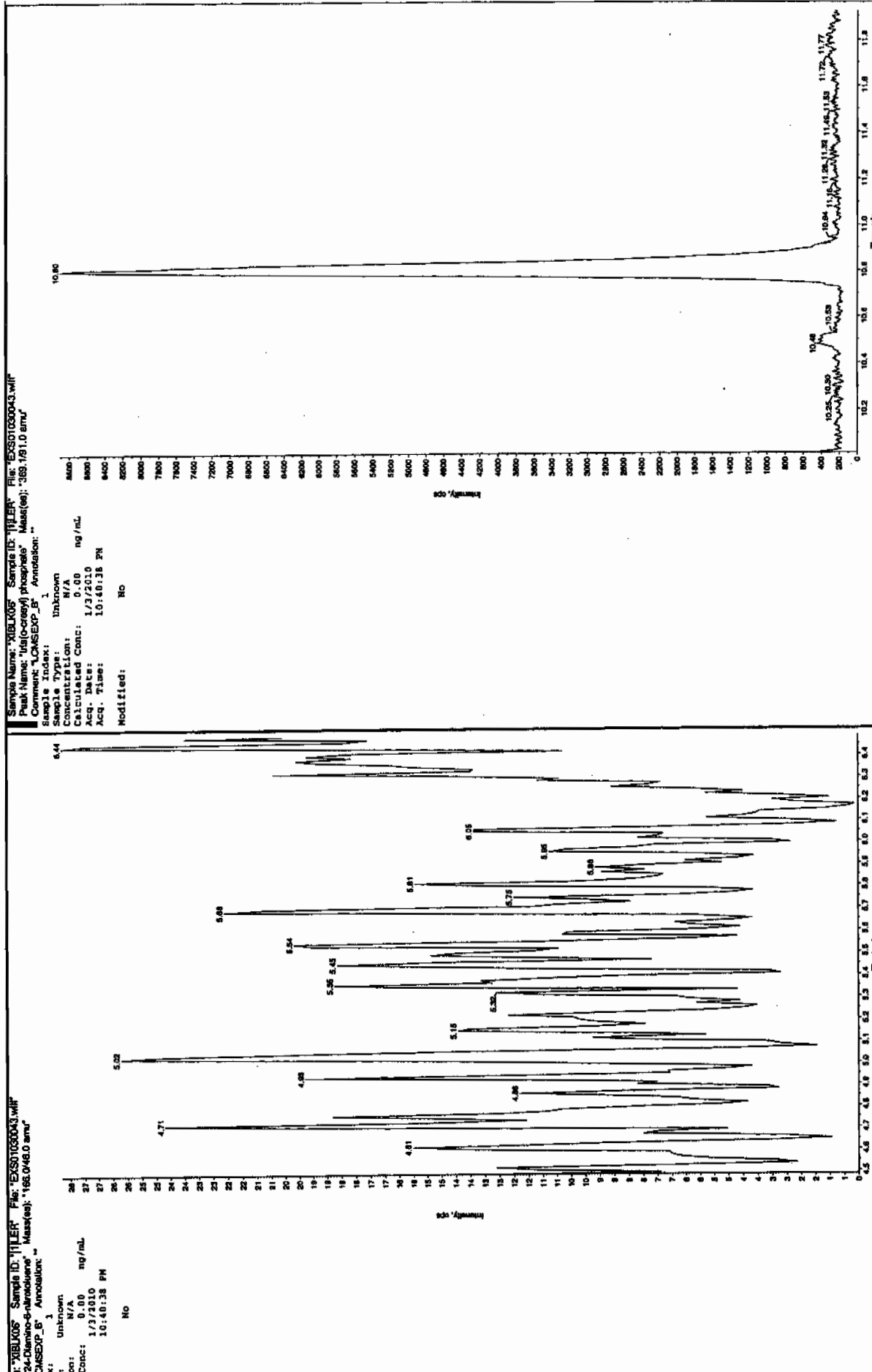
thru 01/05/10

Sample Name: "XBLX06" Sample ID: "11LEF" File: "EX501000043.wif"
 Peak Name: "25-Dinitro-4-nitrotoluene" Mass(es): "162.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/3/2010
 Acq. Date: 10/40:38 PM
 Acq. Time: 10/40:38 PM
 Modified: No



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



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 03-JAN-10 23:12

GEL Data File: EXS01030045.wiff

Instrument ID: LCMSMS

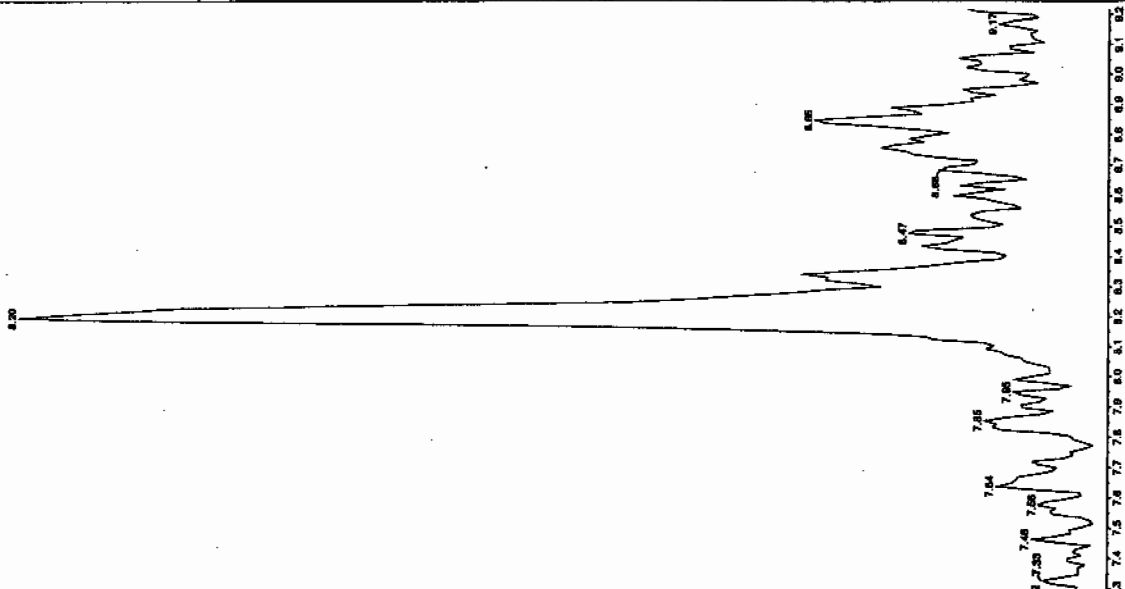
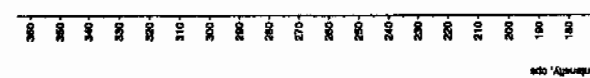
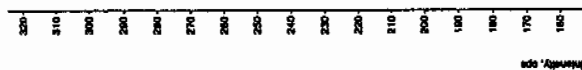
Column: Phenomenex Ultracarb 5u ODS(20)

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

80211510

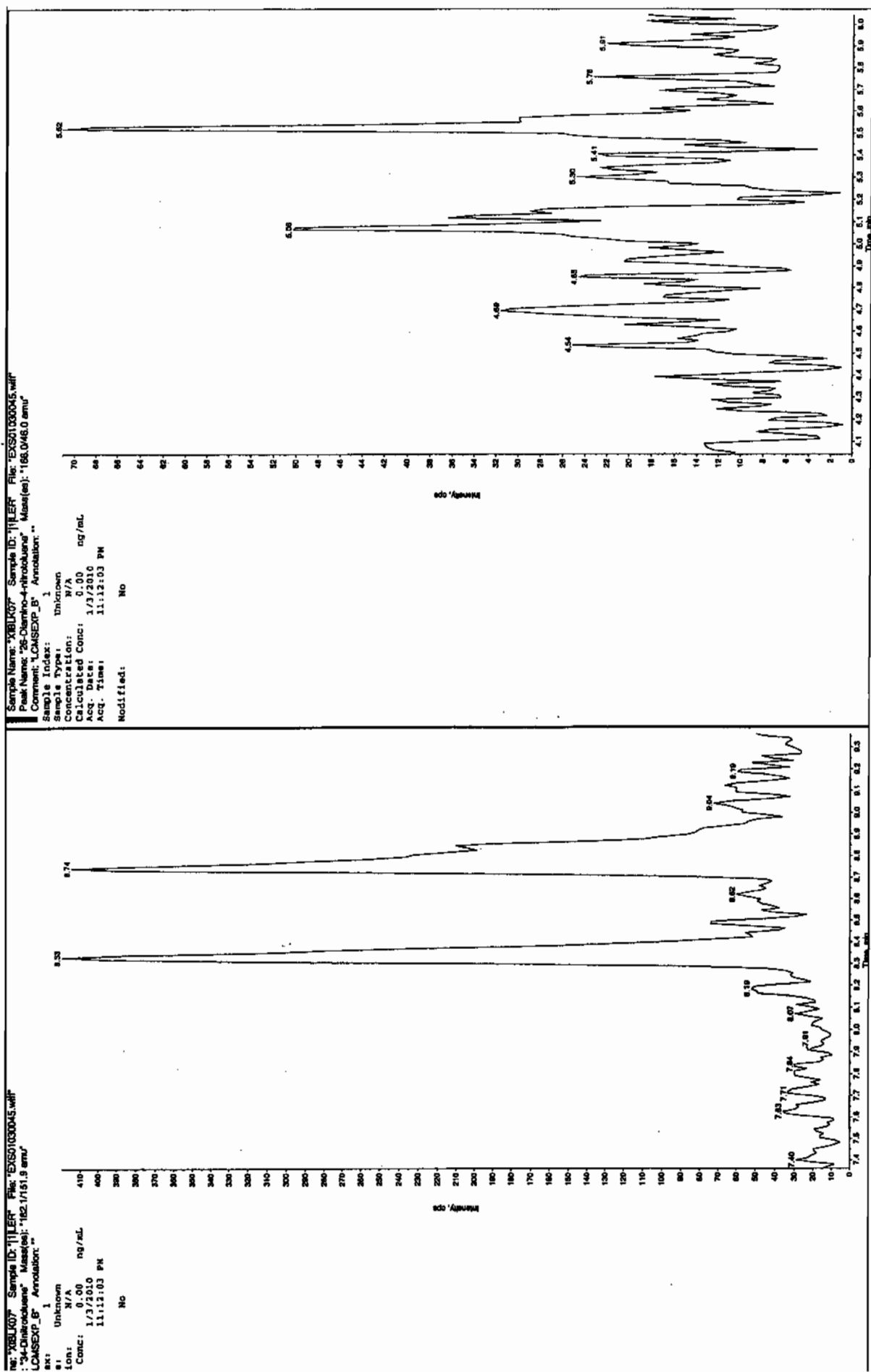
Sample Name: "XBLK07" Sample ID: "T11LIF" File: "EX501030045.wif"
 Peak Name: "35-Dehydroepiandrosterone" Mass(es): "182.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 11:12:03 PM
 Modified: No

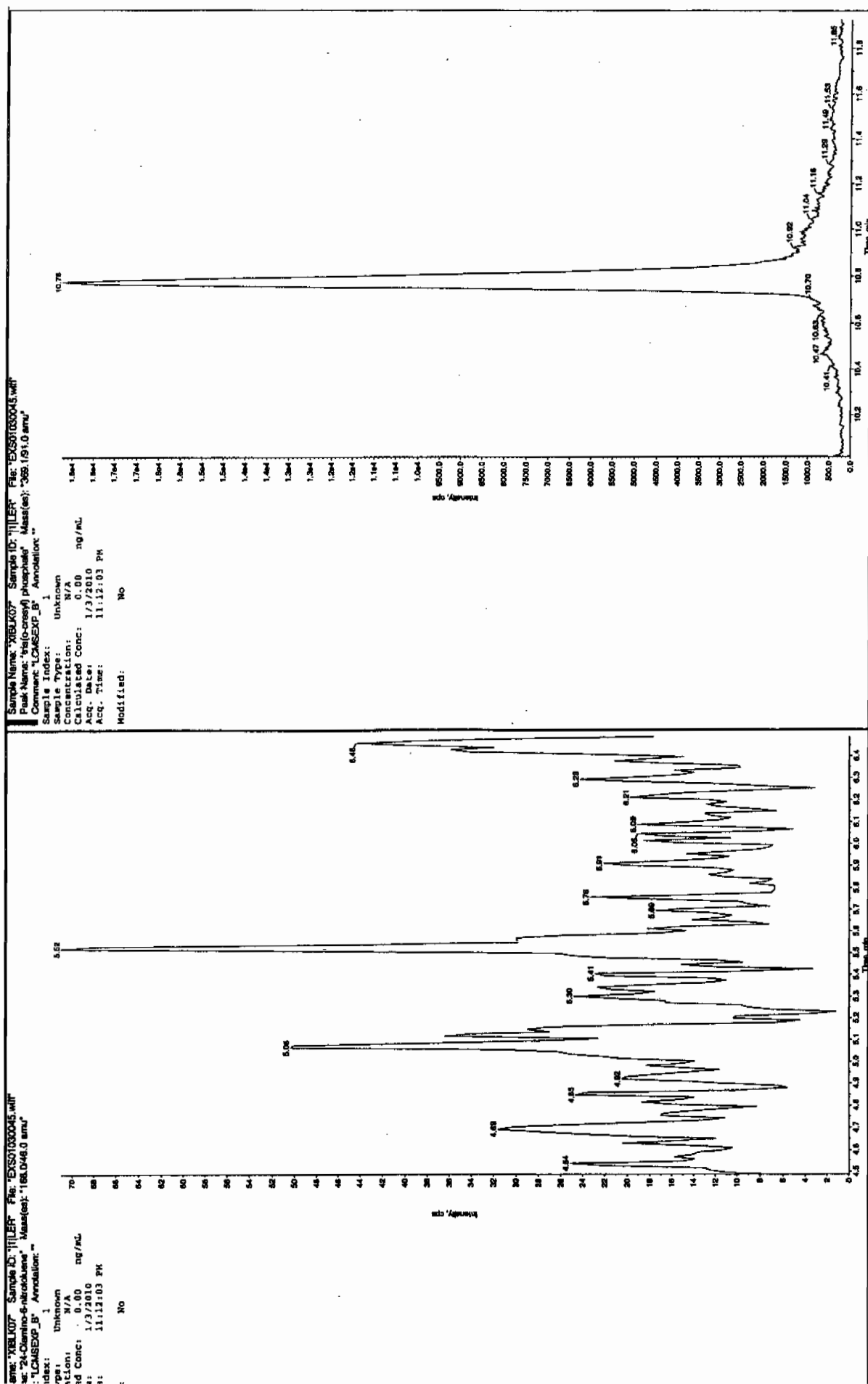


4/11/05/10

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



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



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 04-JAN-10 00:46

GEL Data File: EXS01030051.wiff

Instrument ID: LCMSMS

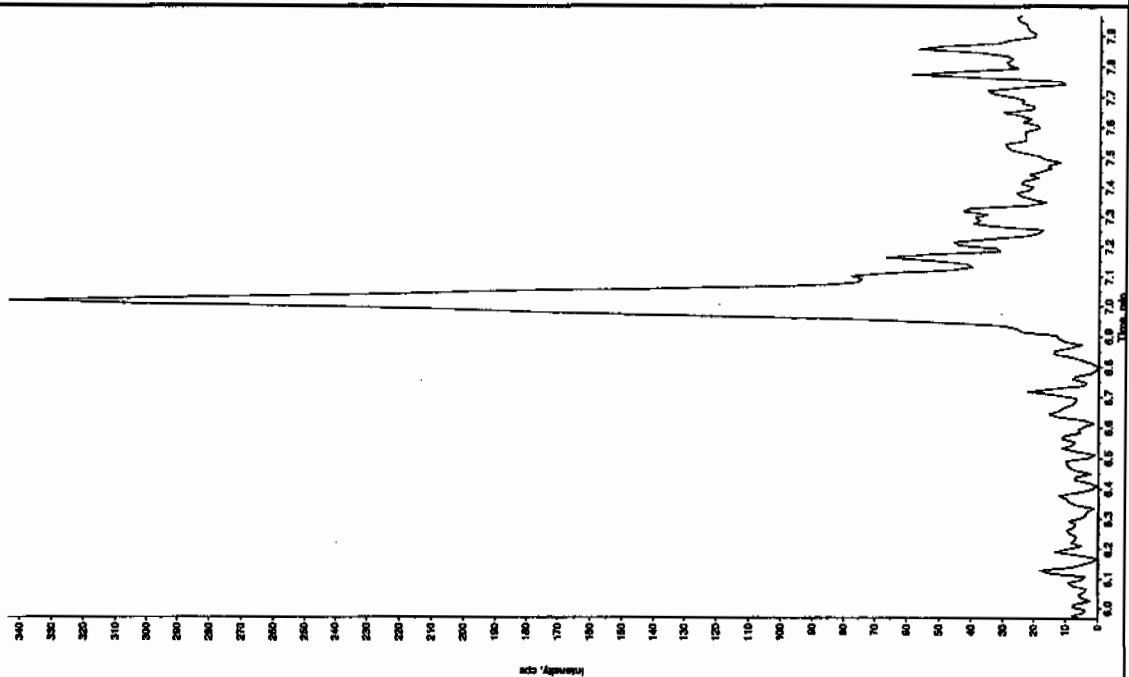
Column: Phenomenex Ultracarb 5u QDS(20)

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

805/15/10

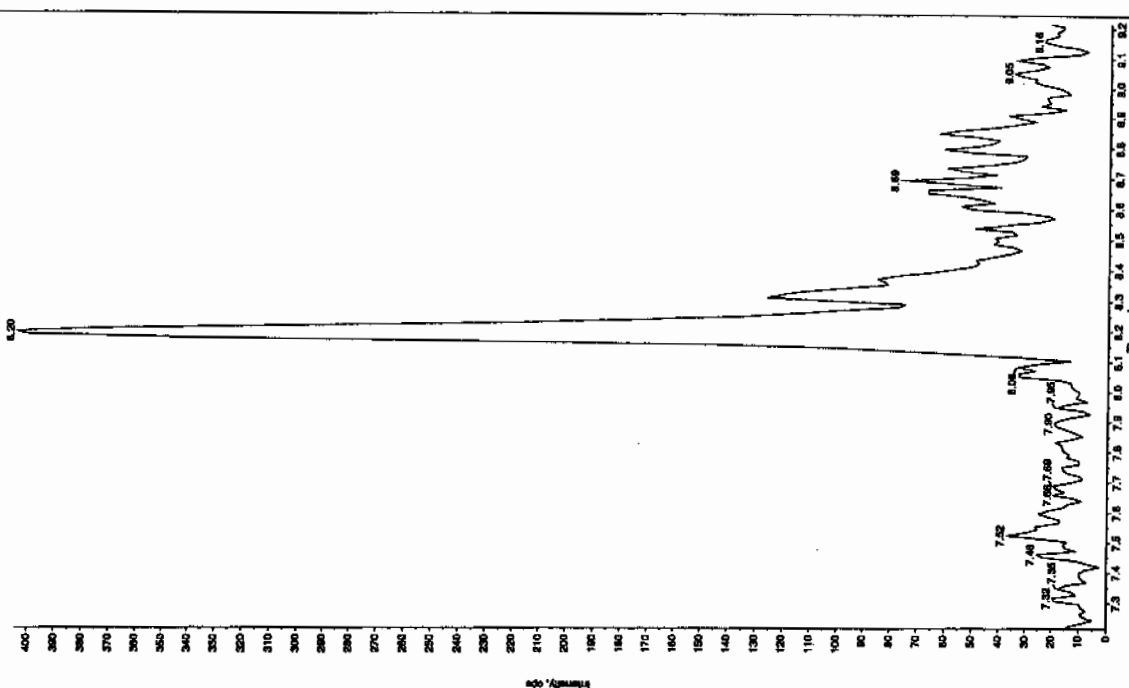
Sample Name: "XBLK08" Sample ID: "TILER" File: "EXS01030051.wif"
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCMSDOP_B" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 12:46:16 AM
 Modified: No

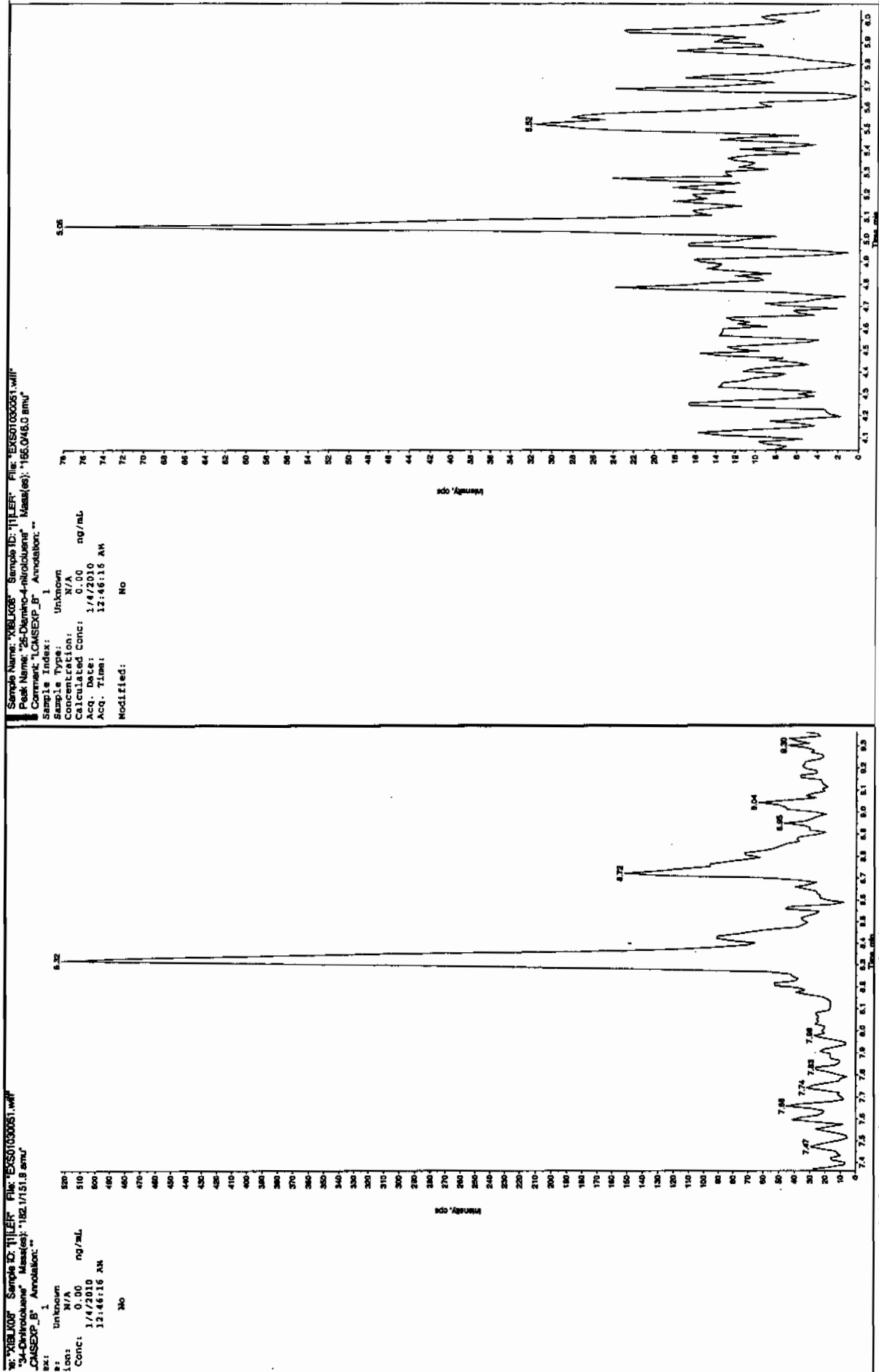


Sample Name: "XBLK08" Sample ID: "TILER" File: "EXS01030051.wif"
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCMSDOP_B" Annotation: "1"

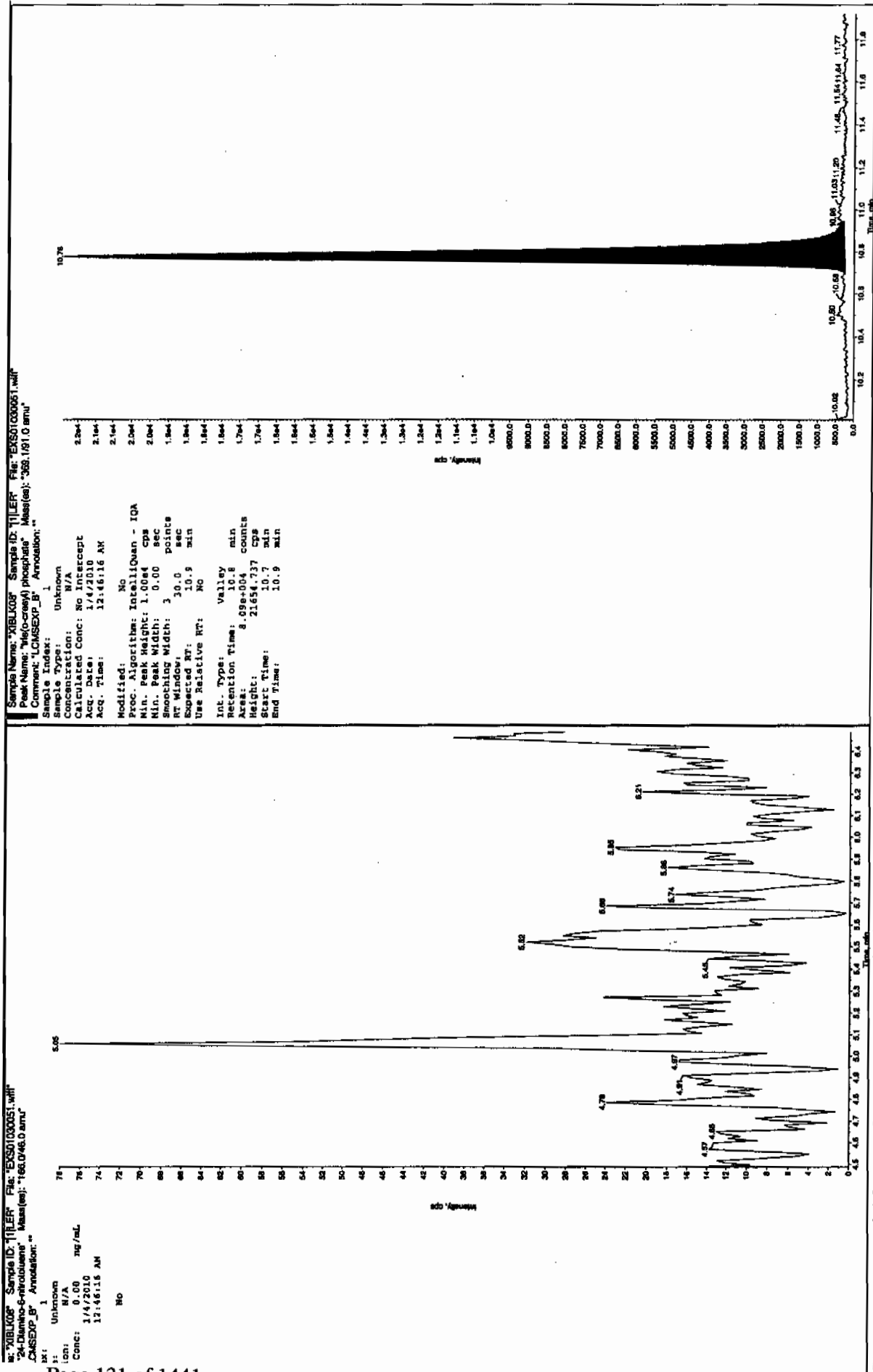
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 12:46:16 AM
 Modified: No



805/15/10



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



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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 04-JAN-10 04:10

GEL Data File: EXS01030064.wiff

Instrument ID: LCMSMS

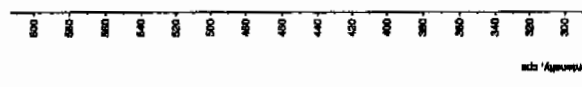
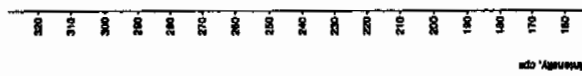
Column: Phenomenex Ultracarb 5u ODS(20)

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

1/15/10
2008

Sample Name: XIBL009 Sample ID: 11111111 File: EXS01030064.wif
Peak Name: 35-Dinitroaniline Mass(es): 182.046.0 amu
Comment: LCMS-EXP_BF Annotation: "

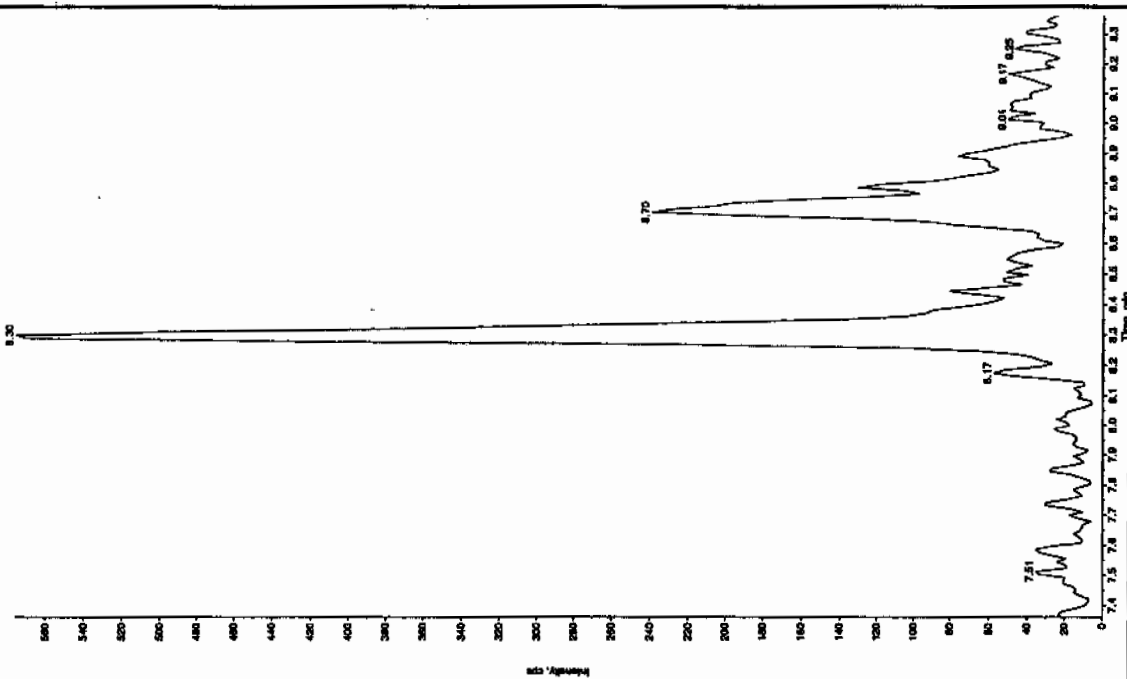
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/4/2010
Acq. Time: 4:10:24 AM
Modified: NO



4/10/05/10

Sample Name: "XIBL009" Sample ID: "111ER" File: "EXS01030064.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "185.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 4:10:24 AM
 Modified: No

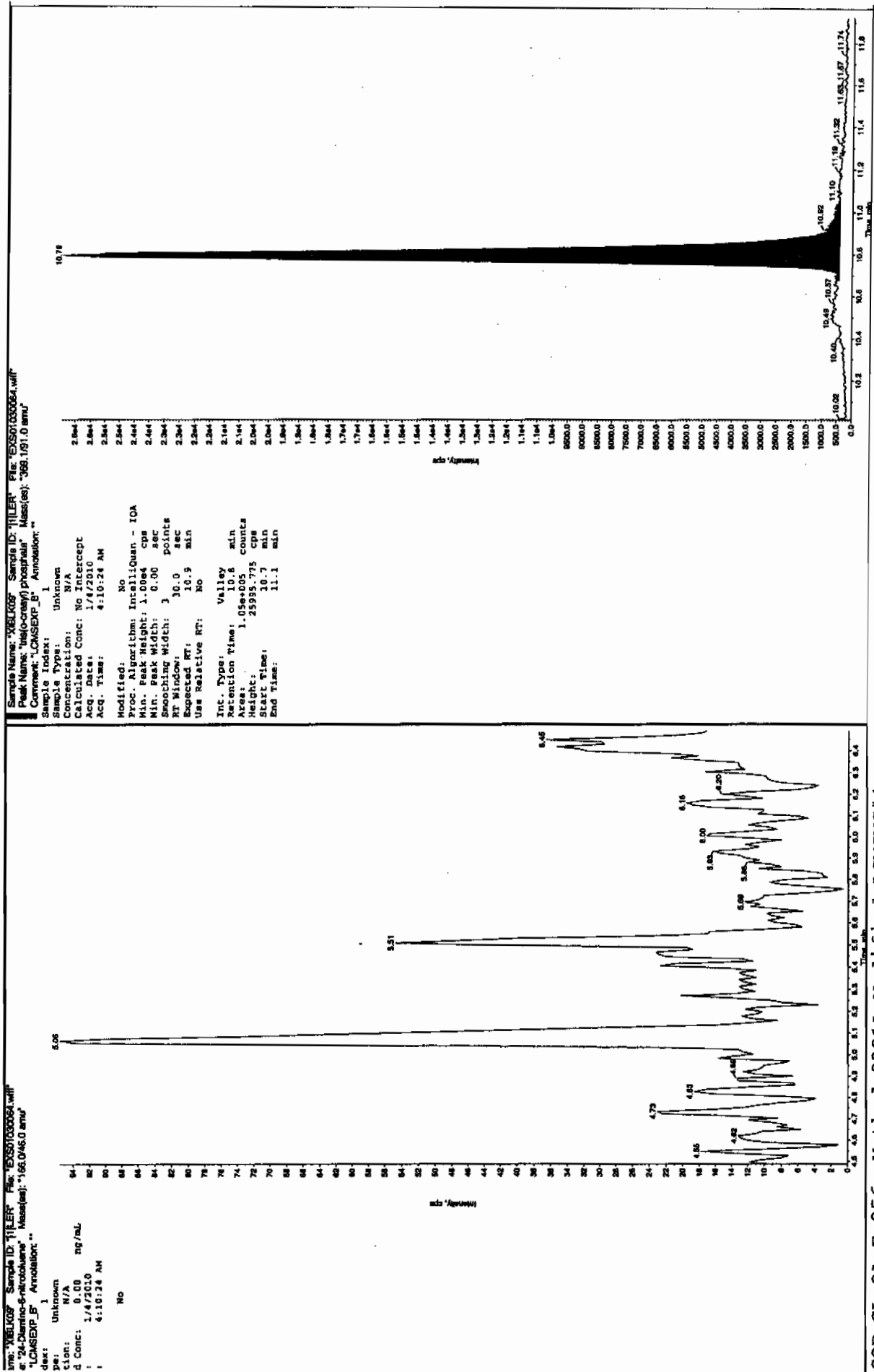


Sample Name: "XIBL009" Sample ID: "111ER" File: "EXS01030064.wif"
 Peak Name: "34-Oxynitrotoluene" Mass(es): "182.151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 4:10:24 AM
 Modified: No



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



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

4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-989

Lab Code: GEL

Lab Sample ID: XIBLK10

Analysis Date: 04-JAN-10 07:18

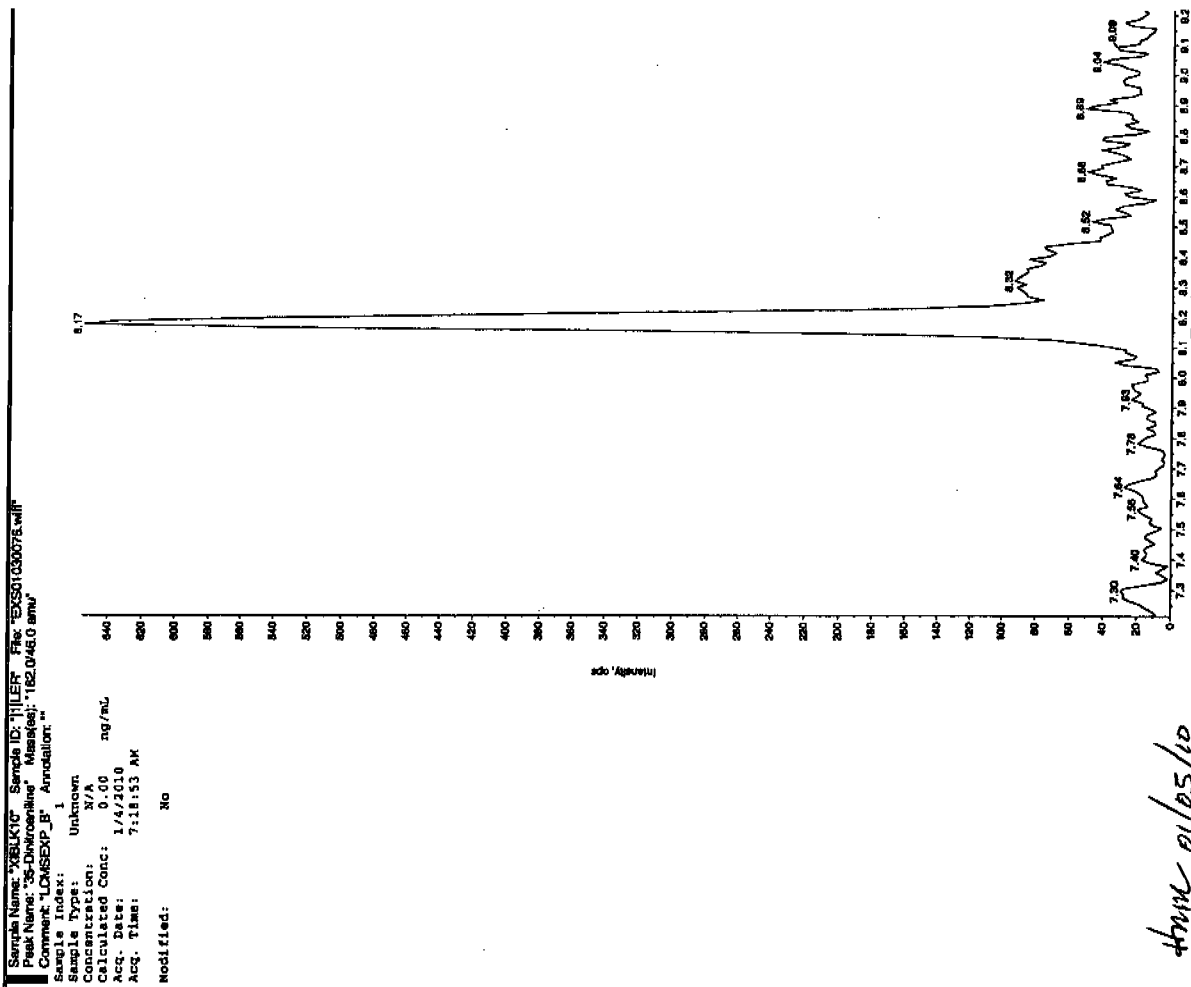
GEL Data File: EXS01030076.wiff

Instrument ID: LCMSMS

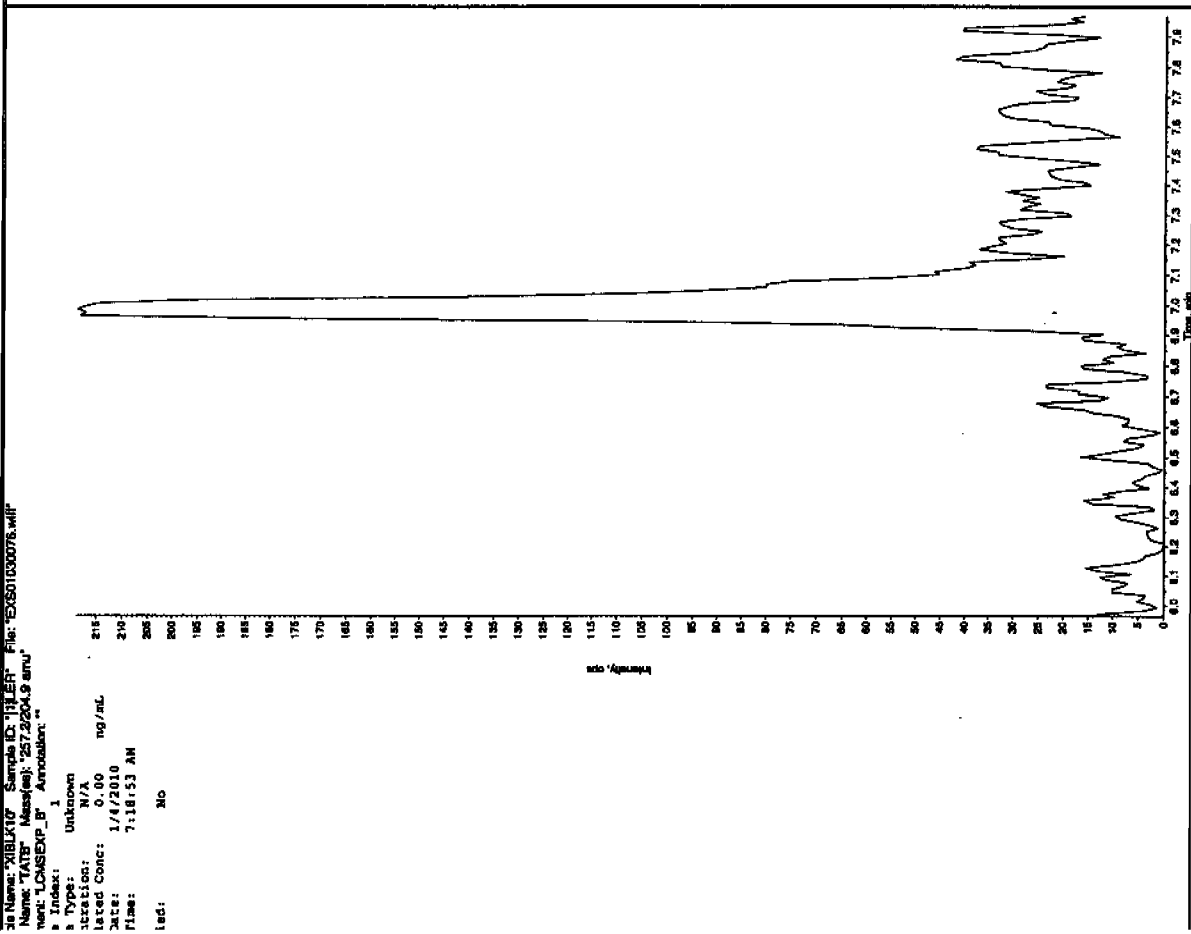
Column: Phenomenex Ultracarb 5u ODS(20)

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

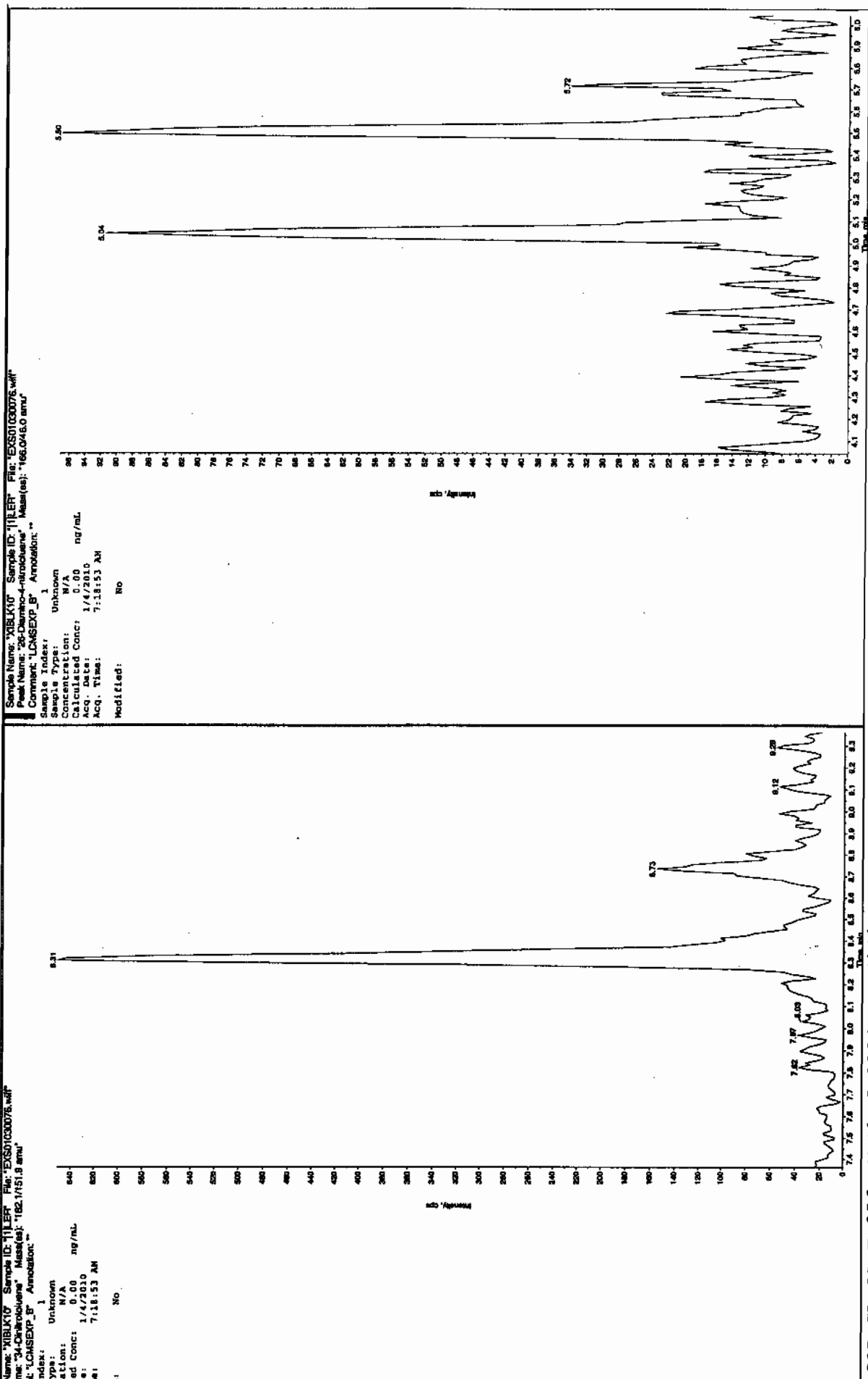
01/17/10
206



time 01/05/10



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



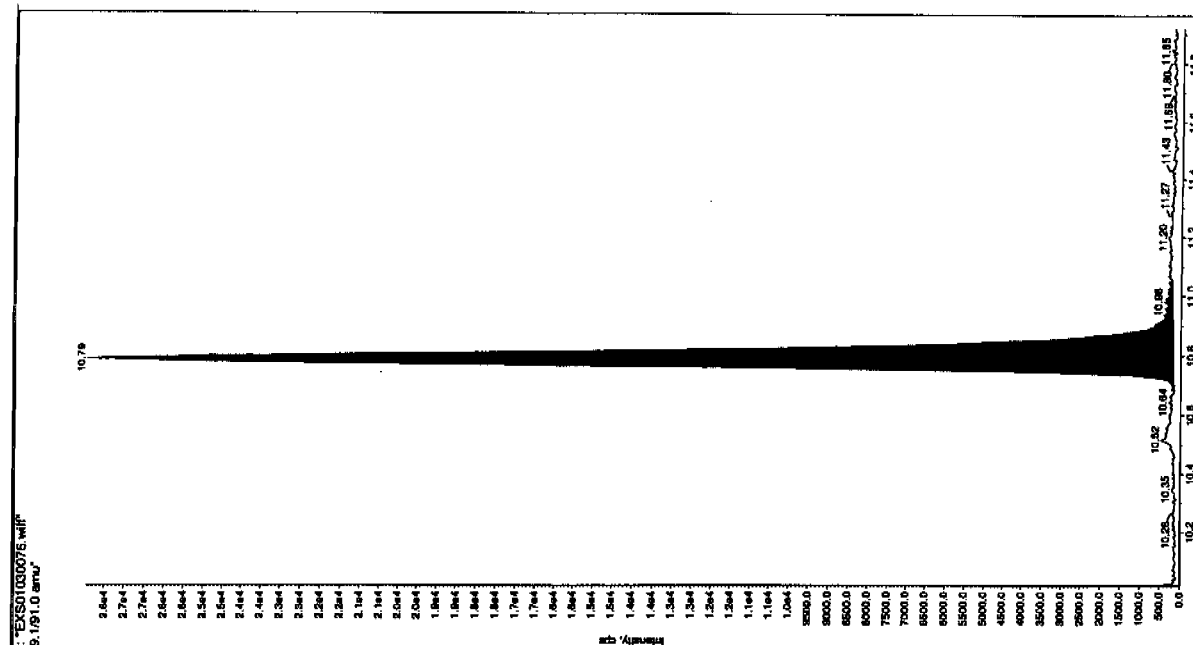
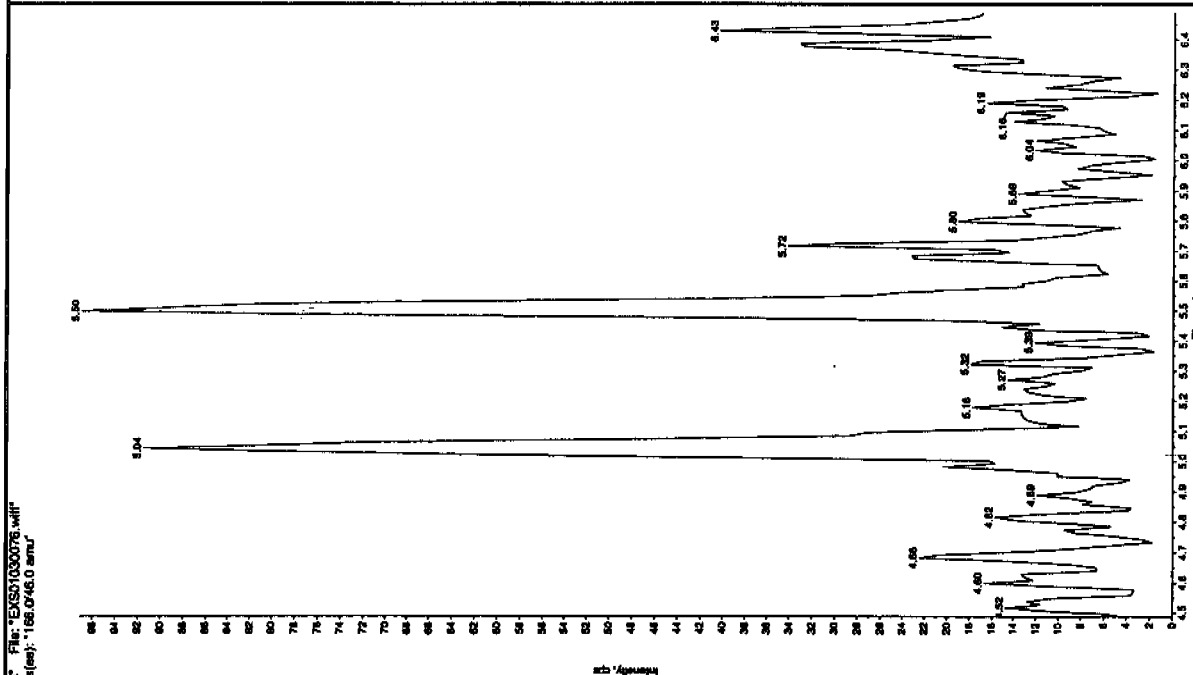
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XBLK10" Sample ID: "11LER" File: "EXS01030076.wif"
 Peak Name: "24-Diamino-6-nitrobenzene" Mass(es): "186.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 7:18:53 AM

No

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: 10.8 min
 Area: 1.06e+005 counts
 Height: 27769.386 cps
 Start Time: 10.7 min
 End Time: 11.1 min



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

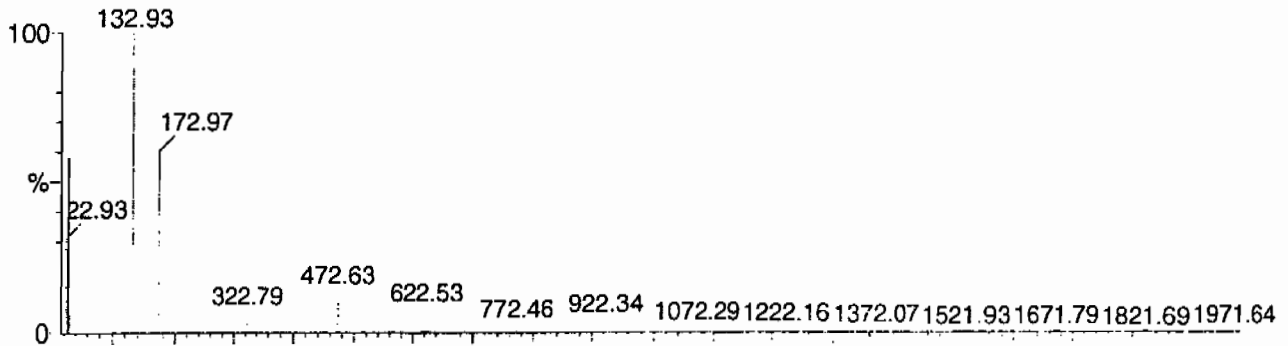
Calibration Report - MS1 Static

Page 1 of 1

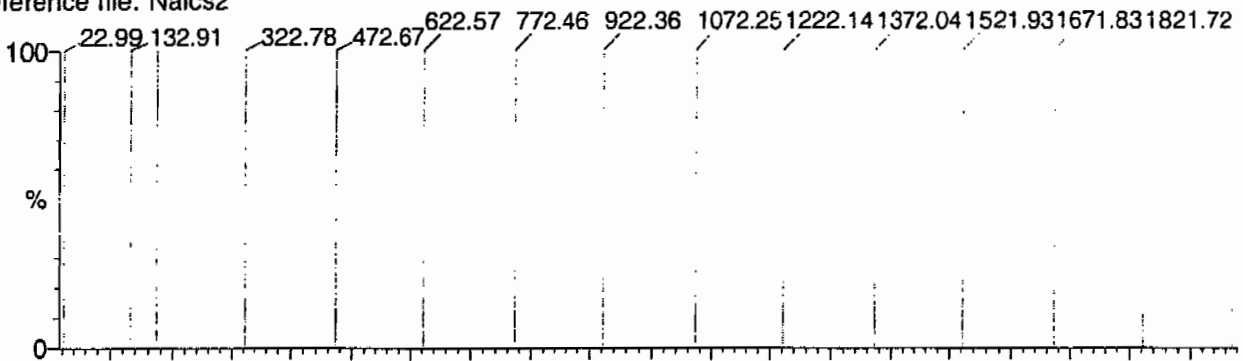
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

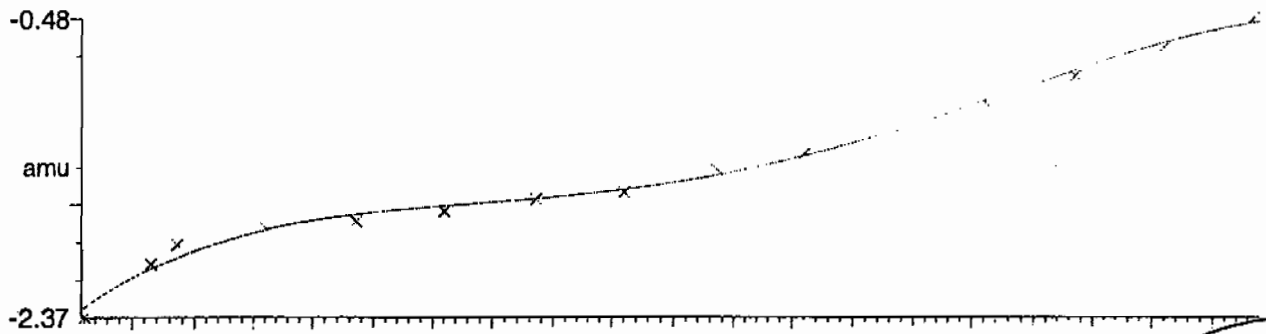
15 matches of 15 tested references



Reference file: Naics2

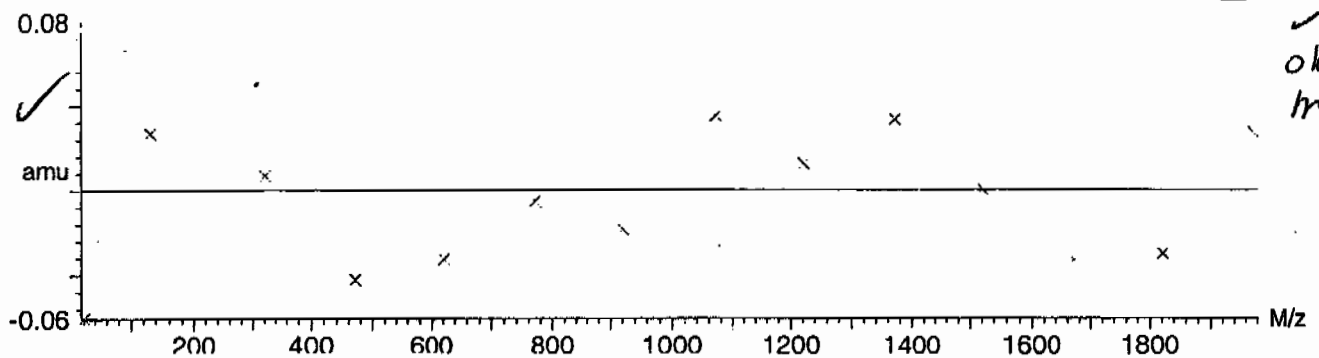


Mass difference (Raw - Ref mass)



Residuals

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

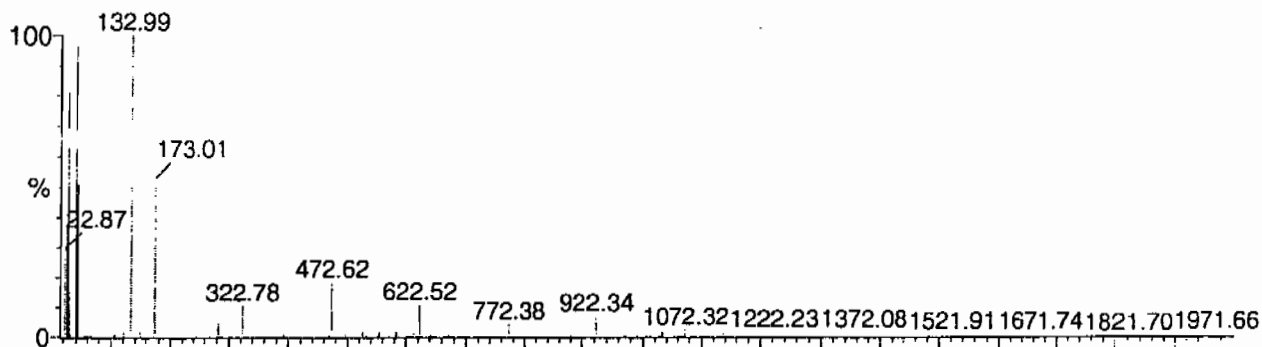


Calibration Report - MS1 Scanning

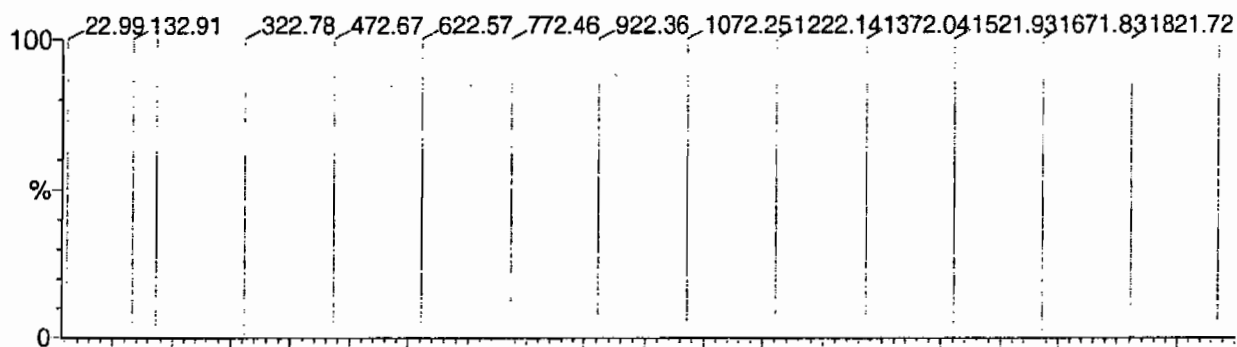
Page 1 of 1

Printed: Fri Aug 25 10:51:06 2006

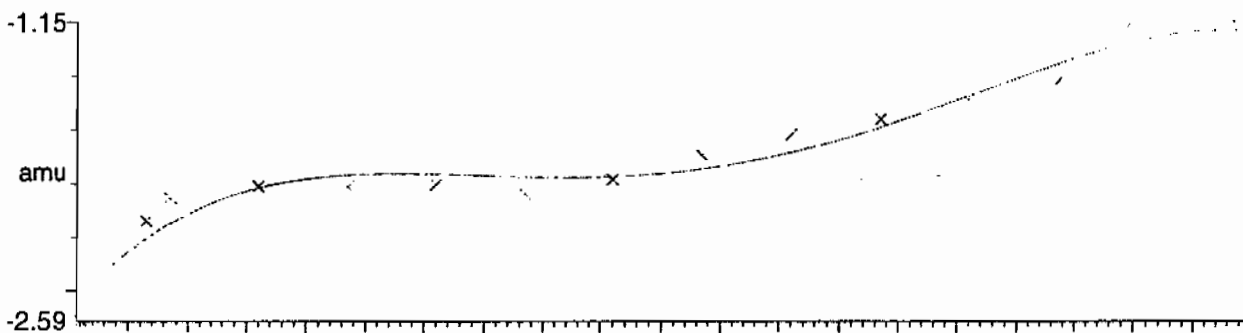
Data file: SCNMS1 - Calibrated 15 matches of 15 tested references



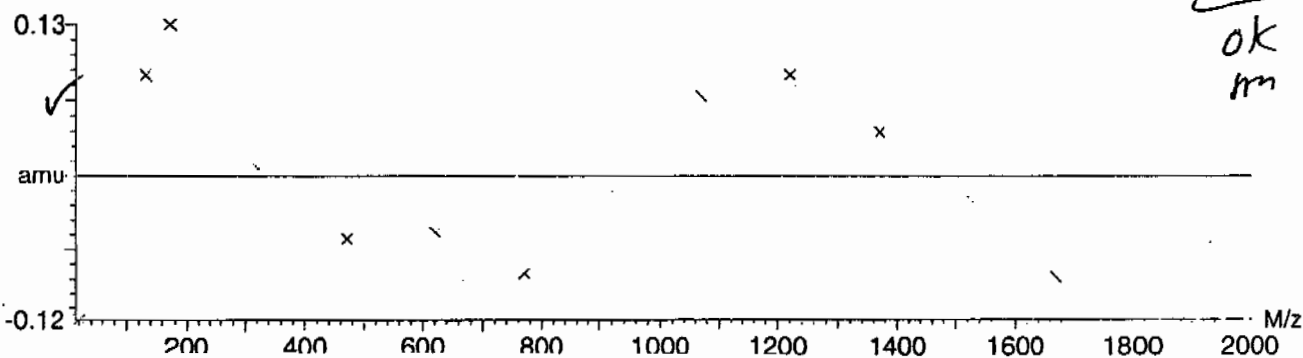
Reference file: Naics2



Mass difference (Raw - Ref mass)



Residuals



Mean residual = $-5.432715e-9 \pm 0.069858$

ok
m

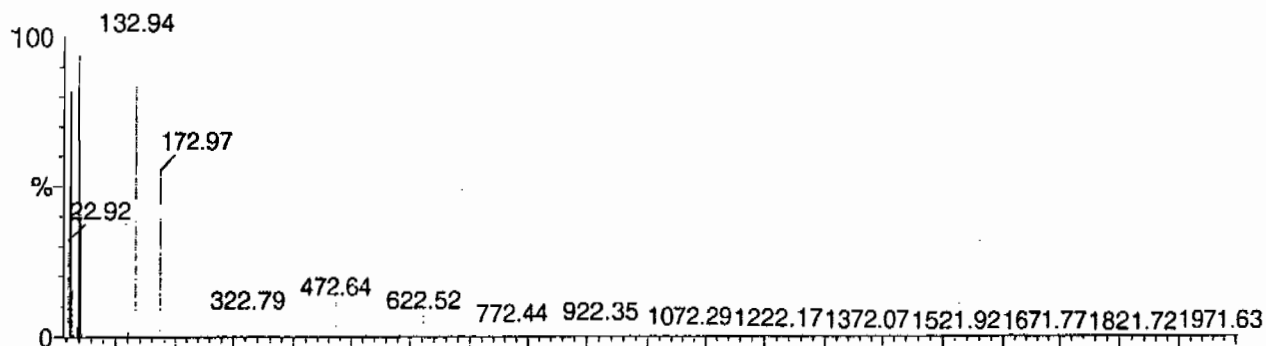
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

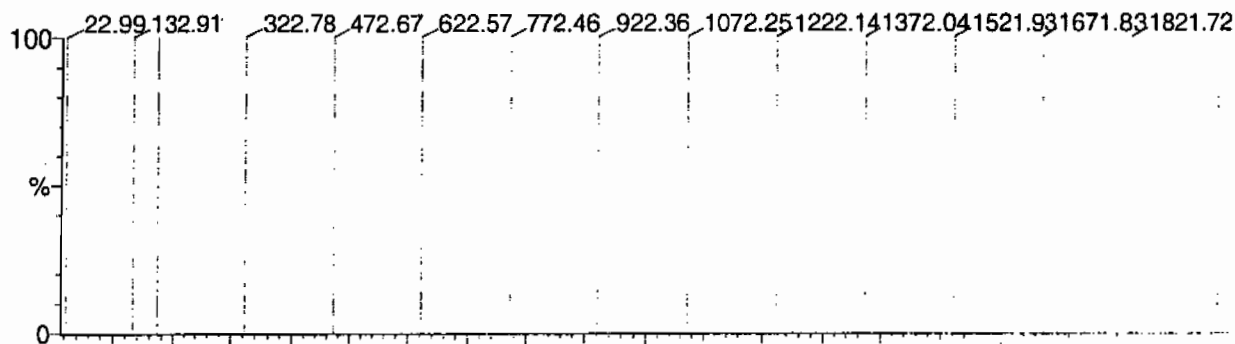
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

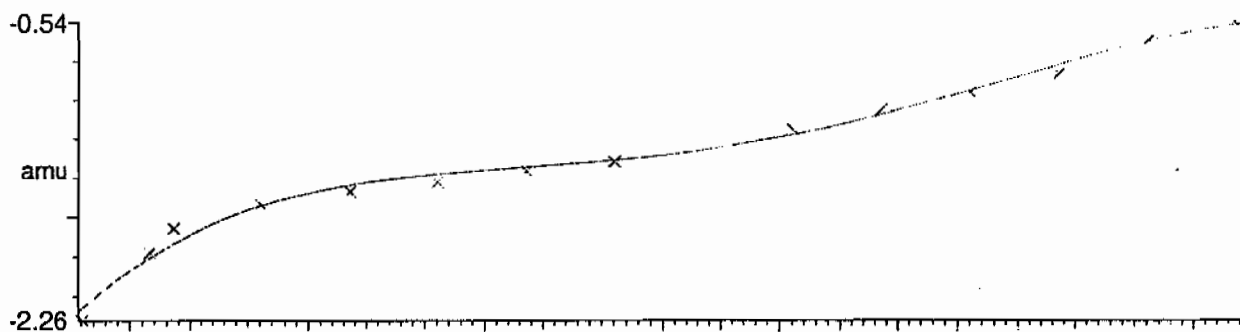
15 matches of 15 tested references



Reference file: Naics2

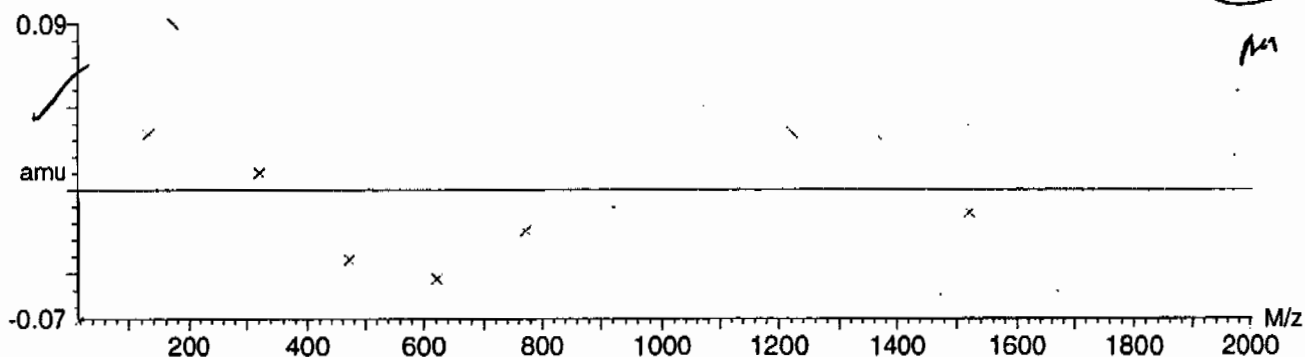


Mass difference (Raw - Ref mass)



Residuals

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



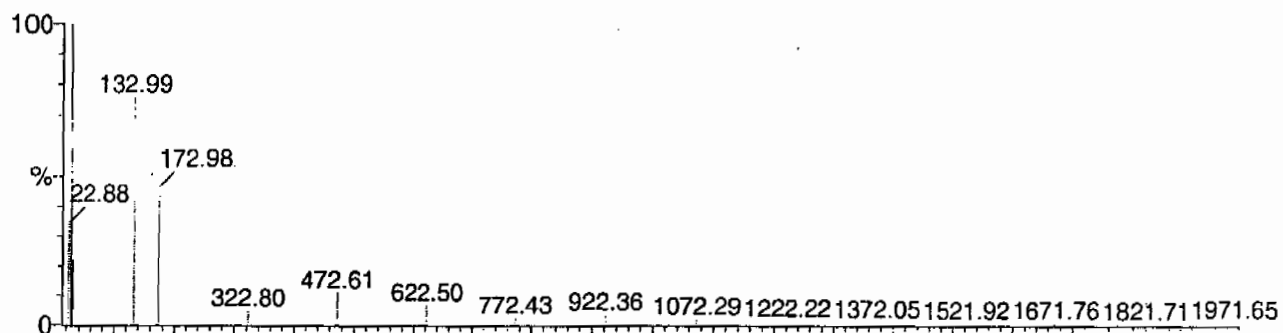
Calibration Report - MS2 Static

Page 1 of 1

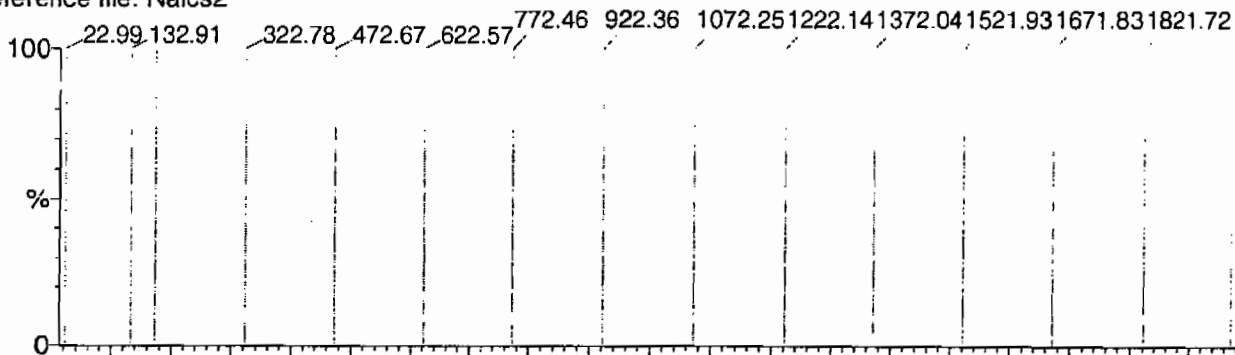
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

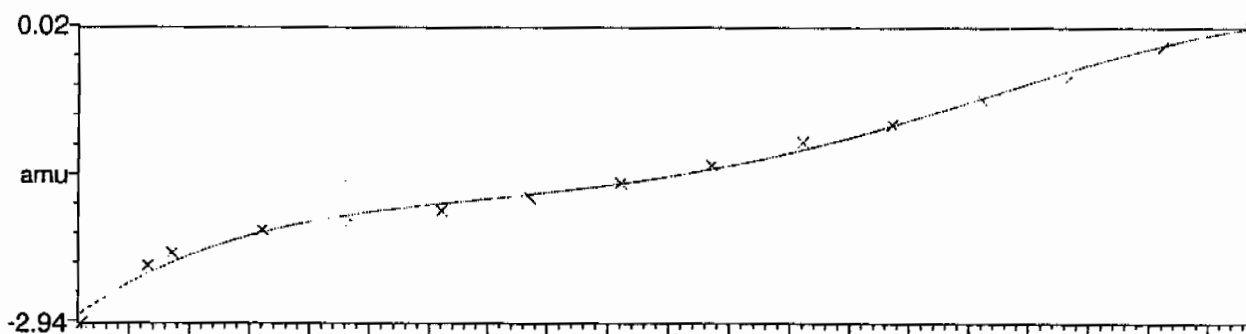
15 matches of 15 tested references



Reference file: Naics2

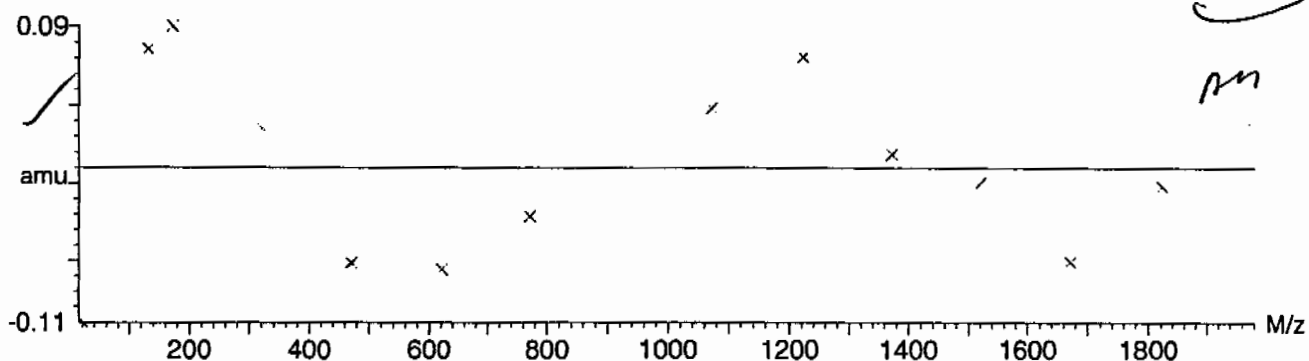


Mass difference (Raw - Ref mass)



Residuals

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



Calibration Report - MS2 Scanning

Page 1 of 1

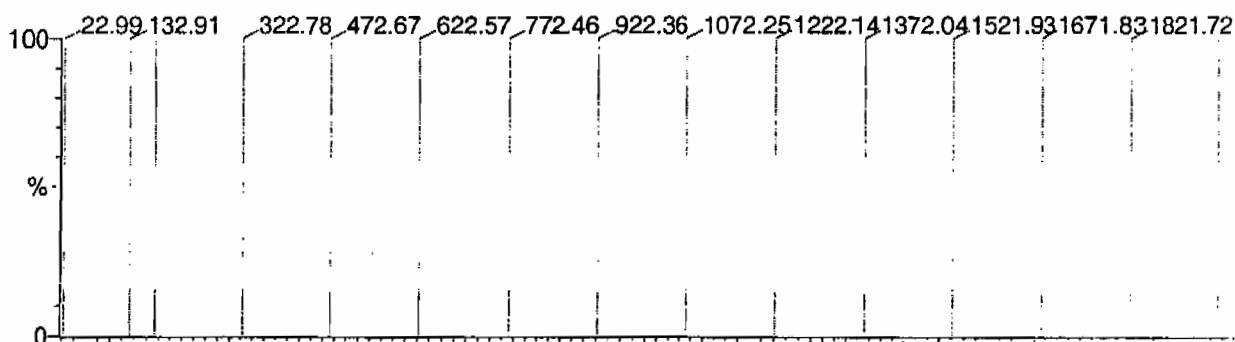
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

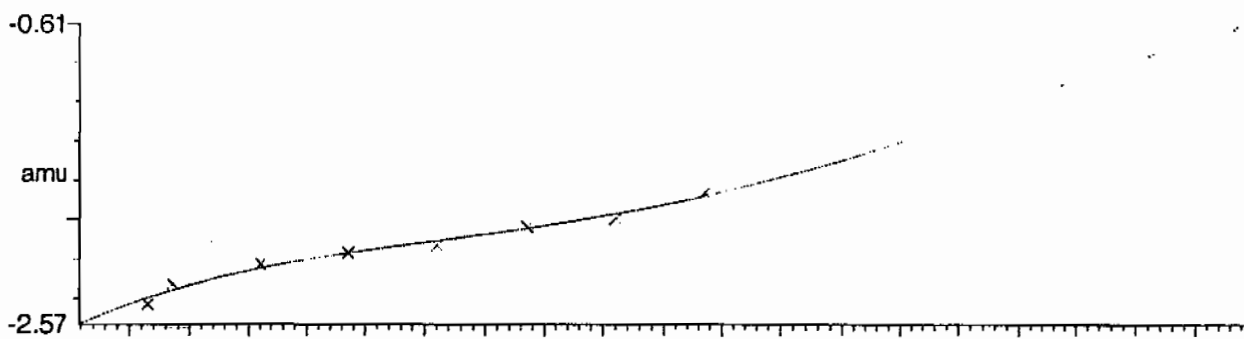
14 matches of 15 tested references



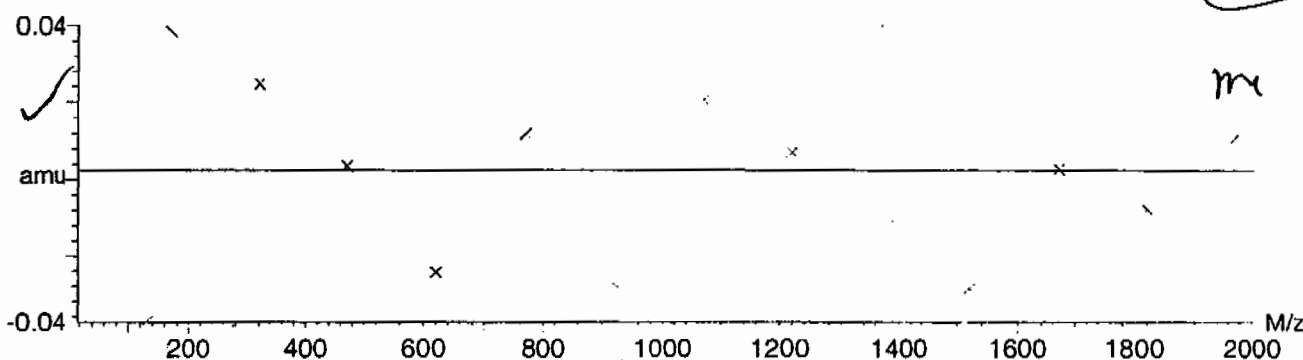
Reference file: Naics2



Mass difference (Raw - Ref mass)



Residuals



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

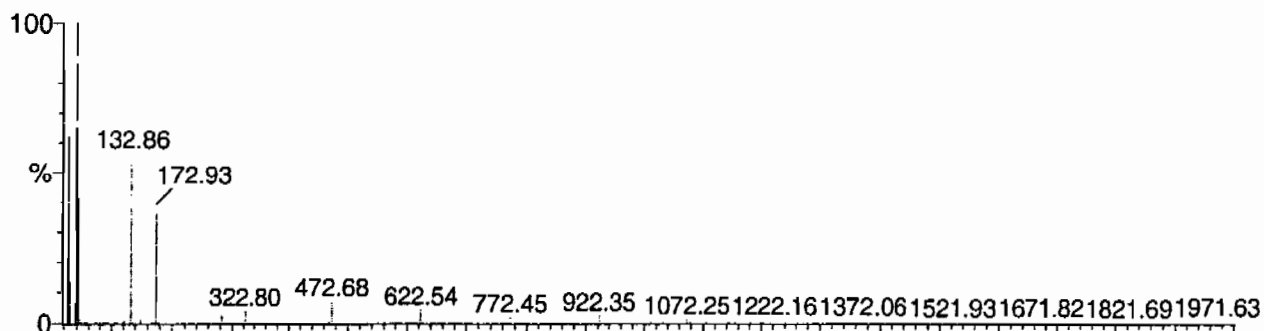
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

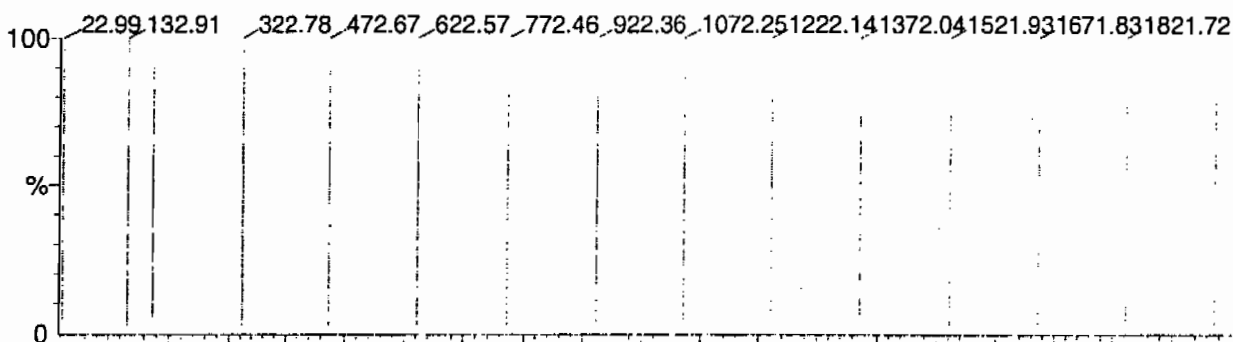
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

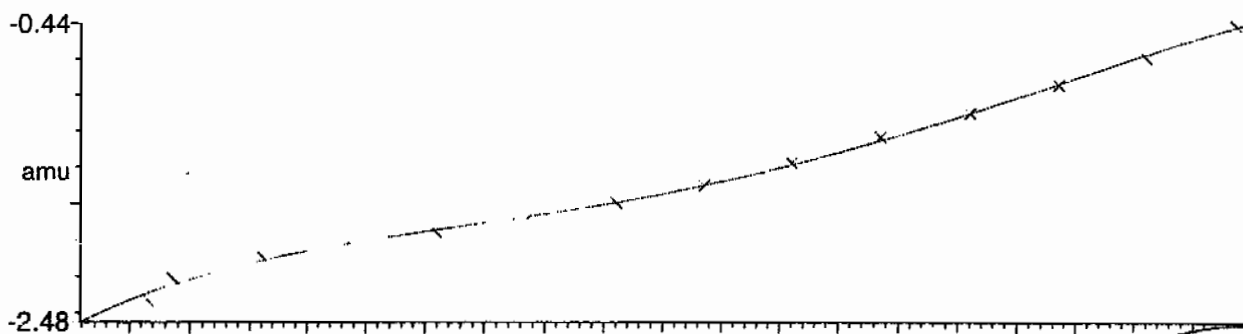
14 matches of 15 tested references



Reference file: Naics2

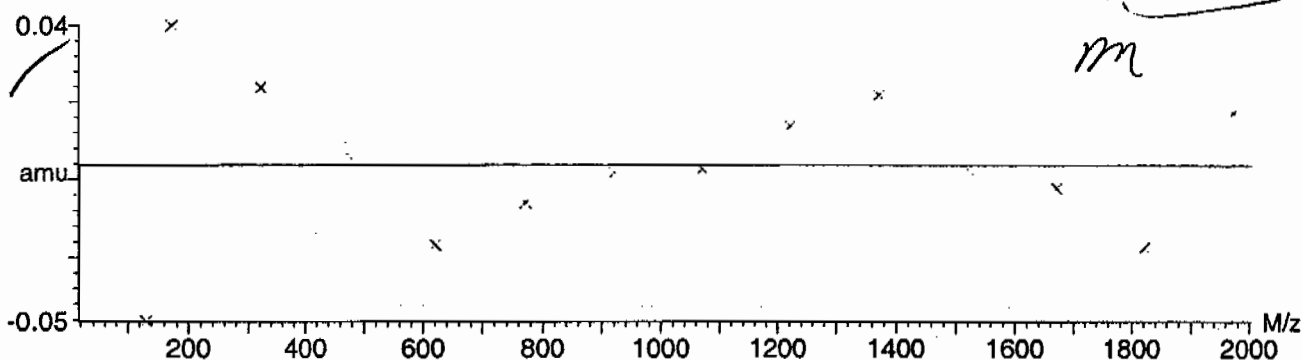


Mass difference (Raw - Ref mass)



Residuals

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

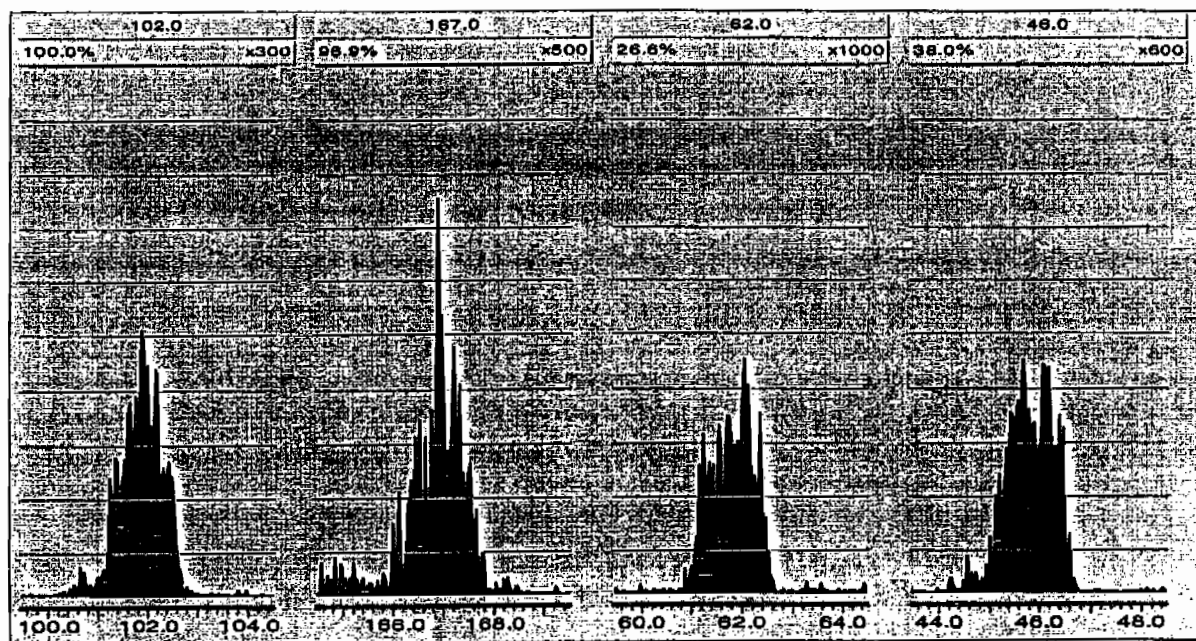


Quattro Micro Tune Parameters

Page 1

Parameter File: C:\MASSLYNX\NEW_EXP.PROVACQ\UDB\explosives04.IPR

Printed : Sat Jan 02 13:30:25 2010



High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

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) #
			2374.997	11.966	13746.65	17.25
Upper Limit			3087.4961	12.466	17870.645	17.75
Lower Limit			1662.4979	11.466	9622.655	16.75
MB for batch 935247	03-jan-10 15:37	EXP0102054a	2755.89	11.947	16086.8	17.201
RE12-10-7352	03-jan-10 23:30	EXP0102070a	2552.02	11.947	15332.6	17.222
RE12-10-7352(243274001MS)	03-jan-10 23:59	EXP0102071a	2863.69	11.948	16438.1	17.225
RE12-10-7352(243274001MSD)	04-jan-10 00:29	EXP0102072a	3006.33	11.947	15914.7	17.2
RE12-10-7360	04-jan-10 02:27	EXP0102076a	2756.84	11.951	16448.1	17.202
RE12-10-7358	04-jan-10 02:56	EXP0102077a	2743.55	11.953	15438.8	17.203
RE12-10-7357	04-jan-10 03:26	EXP0102078a	3069.44	11.947	16597.1	17.201
RE12-10-7359	04-jan-10 03:55	EXP0102079a	2668.2	11.944	15688.9	17.194
RE12-10-7356	04-jan-10 04:25	EXP0102080a	2796.82	11.952	16306.6	17.203
RE12-10-7353	04-jan-10 04:54	EXP0102081a	2795.72	11.946	16478.4	17.205
RE12-10-7354	04-jan-10 05:24	EXP0102082a	2827.61	11.946	16885.9	17.201
RE12-10-7355	04-jan-10 05:53	EXP0102083a	2940.71	11.946	17105.7	17.204
RE12-10-7364	04-jan-10 06:23	EXP0102084a	2993.68	11.946	17771.2	17.222
LCS for batch 935247	04-jan-10 21:38	EXP0102115a	3414.07 *	11.946	20452.6 *	17.204

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: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274001

Sample Amount 2

Moisture: 2.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102070a

Date Analyzed: 03-JAN-10 23:30

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: Mon Jan 04 12:59:32 2010, Page 139 of 175

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

set: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

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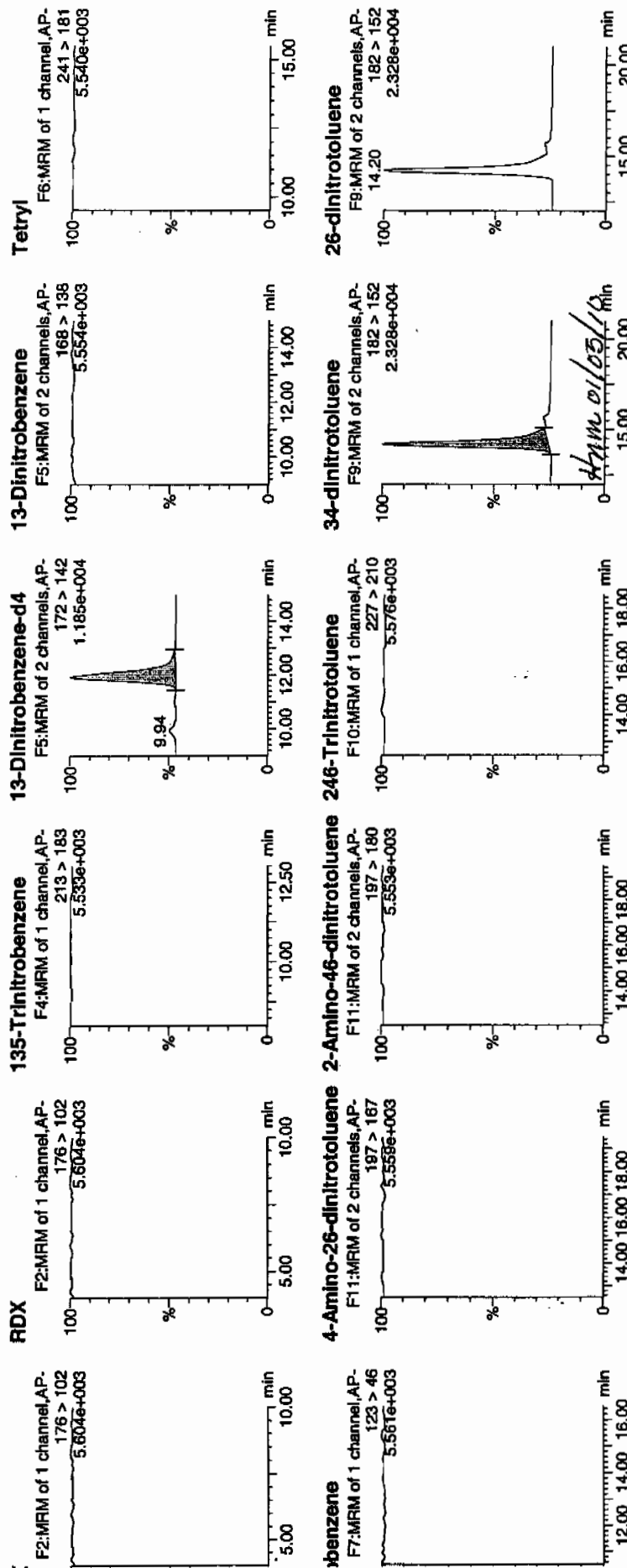
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43274001

2:7,A

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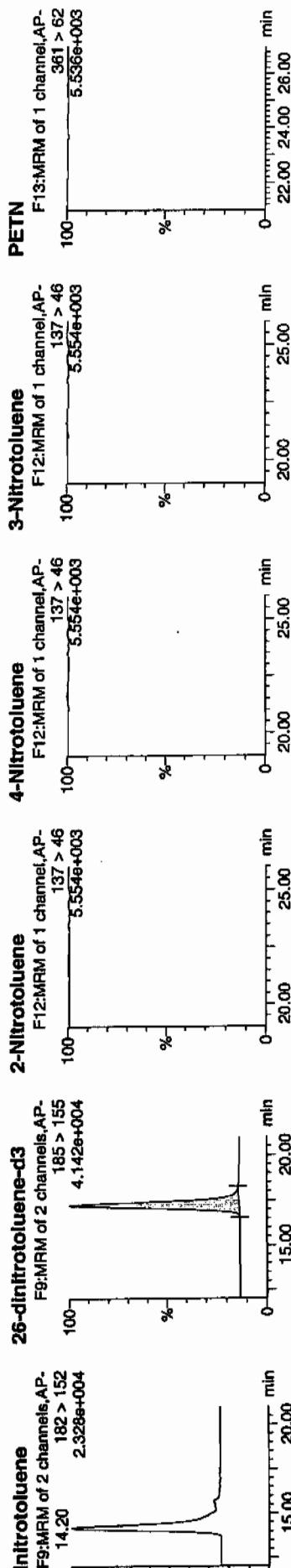
1047
1/4/10



Identify Sample Report

Laboratories, LLC / Analyst : Michael A. Penny

set: C:\MASSLYNX\New Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Trade Name	Lot #	Area	IS/MS	Response	Flags	Not Date	Mod Time	Proto	MS Ref	%Dev	MS SN
HMXX	176 > 102			2552.019								
RDX	176 > 102			2552.019								
135-Trinitrobenzene	213 > 183			2552.019								
13-Dinitrobenzene-d4	172 > 142	11.95	2552.019		2552.019	bb			537.2680	107.5	7.5	316.1
13-Dinitrobenzene	168 > 138			2552.019								
Tetryl	241 > 181			2552.019								
Nitrobenzene	123 > 46			2552.019								
4-Amino-26-dinitrotoluene	197 > 167			15332.633								
2-Amino-46-dinitrotoluene	197 > 180			15332.633								
246-Trinitrotoluene	227 > 210			15332.633								
34-dinitrotoluene	182 > 152	14.20	7428.119	15332.633	7428.119	242.232	bb		271.6113	108.6	8.6	423.1
26-dinitrotoluene	182 > 152			15332.633								
24-dinitrotoluene	182 > 152			15332.633								
26-dinitrotoluene-d3	185 > 155	17.22	15332.633		15332.633	15332.633	bb		557.6858	111.5	11.5	1866.2
2-Nitrotoluene	137 > 46			15332.633								
4-Nitrotoluene	137 > 46			15332.633								
3-Nitrotoluene	137 > 46			15332.633								
PETN	361 > 62			15332.633								

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7352

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274001

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030060.wiff

Date Analyzed: 04-JAN-10 03:07

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

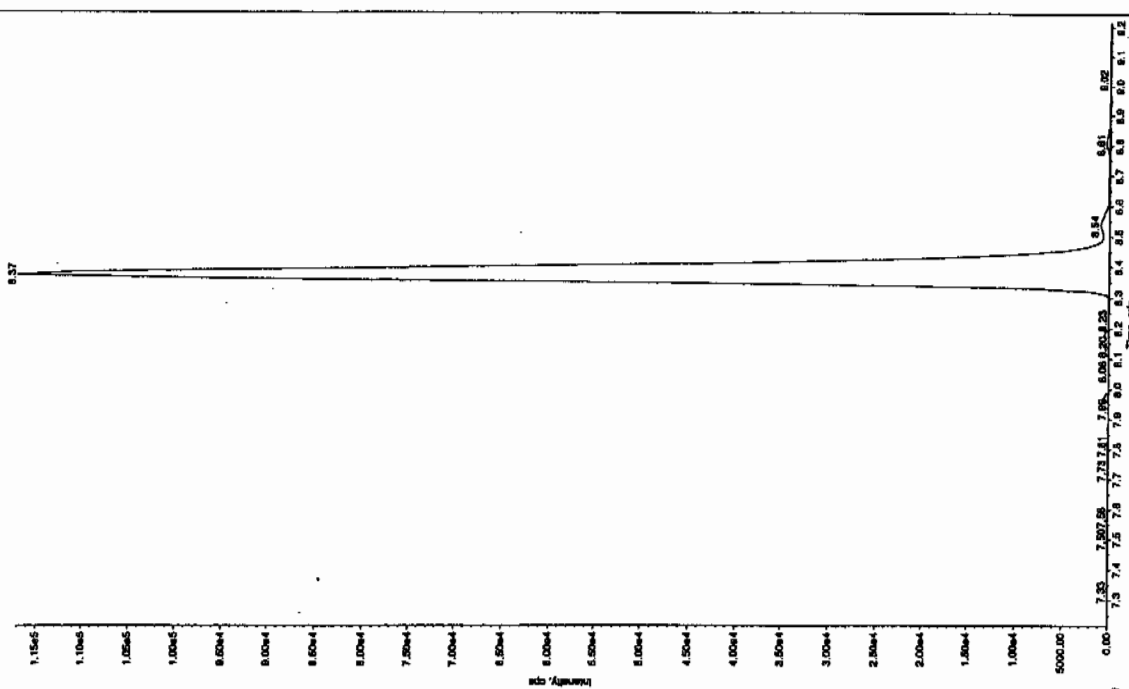
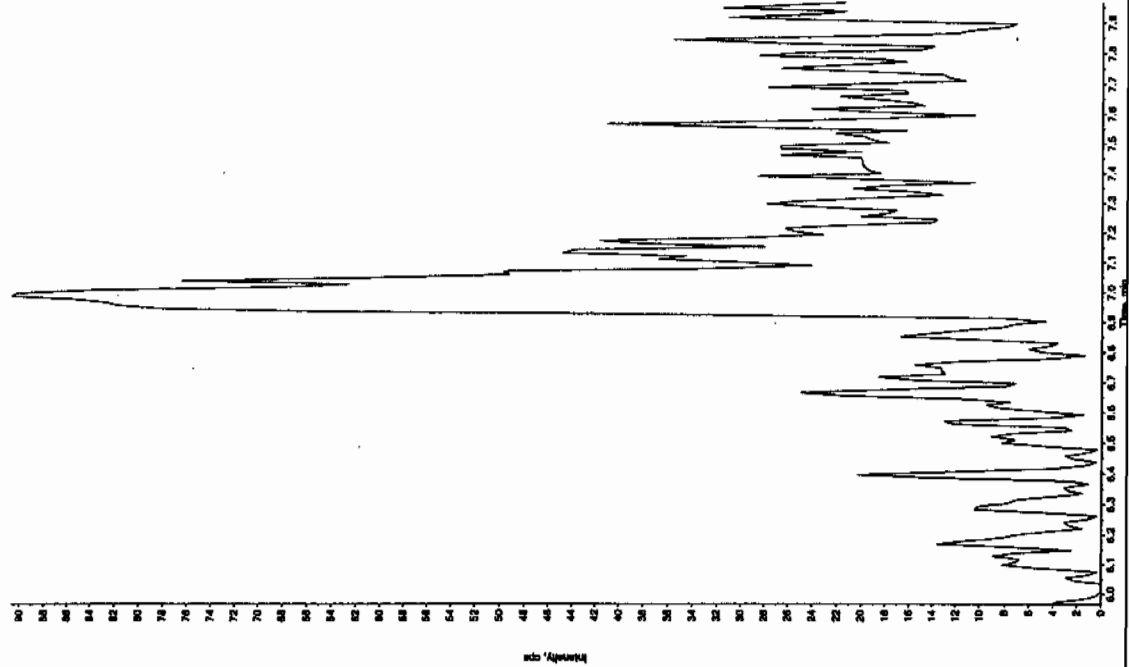
*Concentration =

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

8/2/10
11/15/10

File: "243274001" Sample ID: "9352482125" File: "EXS01030060.wif"

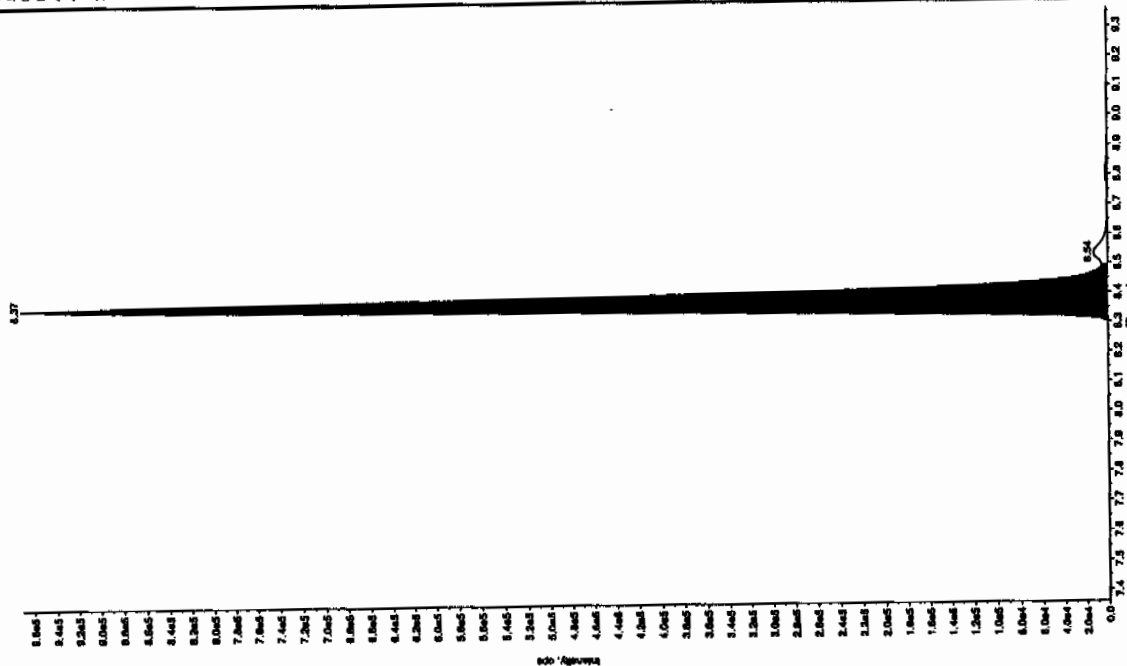
Sample Name: "243274001" Sample ID: "9352482125" File: "EXS01030060.wif"
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCX803125" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/4/2010
 Acq. Date: 3:07:36 AM
 Modified: No



Ann 01/05/10

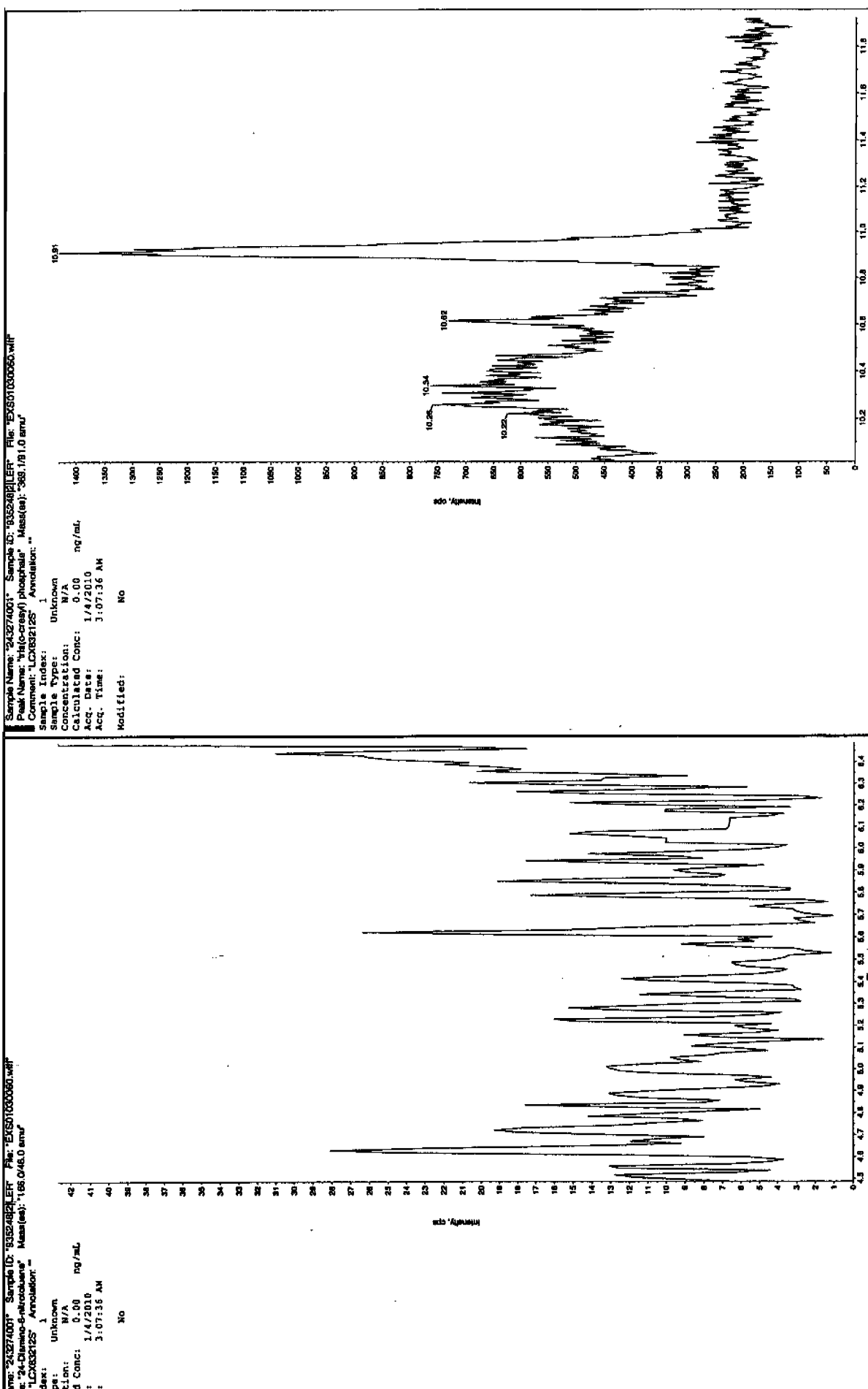
Sample Name: "243274001" Sample ID: "83324821LER" File: "EX501030060.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCN832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 3:07:36 AM
 Modified: No



Sample Name: "243274001" Sample ID: "83324821LER" File: "EX501030060.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCN832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 3:07:36 AM
 Modified: No
 c. Algorithm: IntelliQuan - IOA
 Peak Height: 1460.00 cps
 Peak Width: 0.00 sec
 Window: 3 points
 Window: 15.0 sec
 Retention Time: 8.27 min
 Relative RT: No
 Type: Valley
 Retention Time: 8.27 min
 Counts: 3,514,006 counts
 SNR: 971816.115
 Retention Time: 8.28 min
 Time: 8.50 min



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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7360

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274002

Sample Amount 2

Moisture: 11.1

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102076a

Date Analyzed: 04-JAN-10 02:27

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: Mon Jan 04 12:59:32 2010, Page 151 of 175

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

asest: C:\MASSLYNX\New_Exp\PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

ne: C:\MASSLYNX\NEW_EXP\PRO\data\EXP0102076a

9: 04-Jan-2010

e: 02:27:07

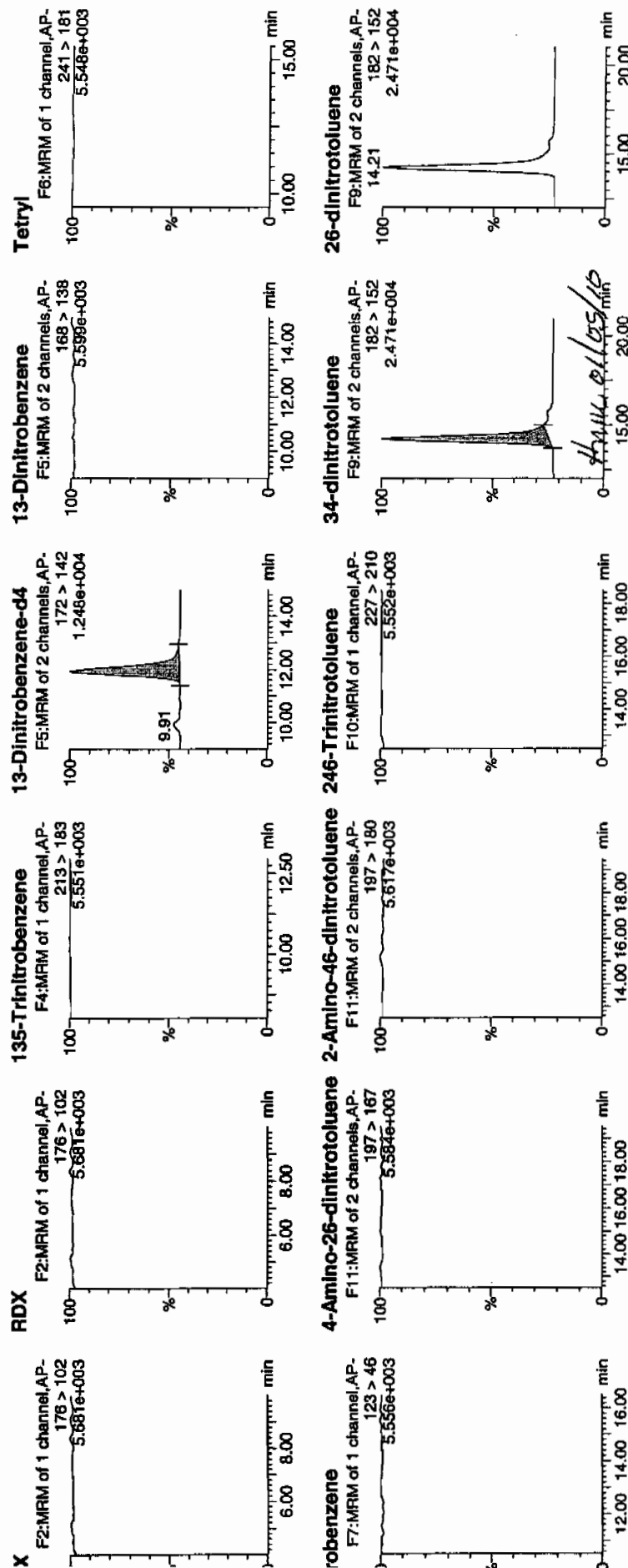
243274002

: 2:7,D

1/4/10

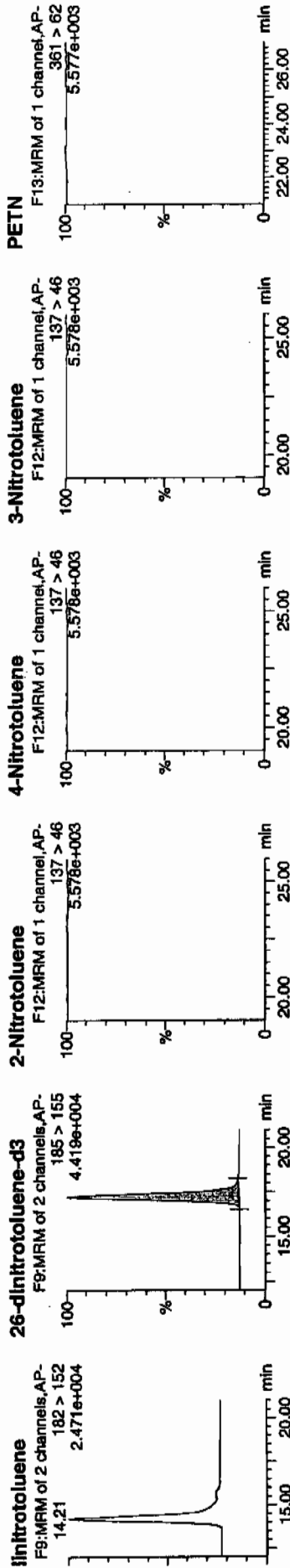
WAV | 935248 | 8000 | 21

Page 158 of 1441



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

iset: C:\MASSLYNX\New_Exp\PRO1010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	14.21	176 > 102	2756.838	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	HMZ	176 > 102	2756.838	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	RDX	176 > 102	2756.838	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	135-Trinitrobenzene	213 > 183	2756.838	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	13-Dinitrobenzene-d4	172 > 142	11.95	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	13-Dinitrobenzene	168 > 138	2756.838	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	Tetryl	241 > 181	2756.838	2756.838	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	Nitrobenzene	123 > 46	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	4-Amino-26-dinitrotoluene	197 > 167	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	2-Amino-46-dinitrotoluene	197 > 180	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	246-Trinitrotoluene	227 > 210	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	34-dinitrotoluene	182 > 152	14.21	7735.819	235.159	bb			598.2563	119.7	19.7	1644.7
274002	26-dinitrotoluene	182 > 152	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	24-dinitrotoluene	182 > 152	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	26-dinitrotoluene-d3	185 > 155	17.20	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	2-Nitrotoluene	137 > 46	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	4-Nitrotoluene	137 > 46	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	3-Nitrotoluene	137 > 46	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7
274002	PETN	361 > 62	16448.051	16448.051	580.3879	116.1	16.1	232.7	598.2563	119.7	19.7	1644.7

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7360

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274002

Sample Amount 2

Moisture: 11.1

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030066.wiff

Date Analyzed: 04-JAN-10 04:41

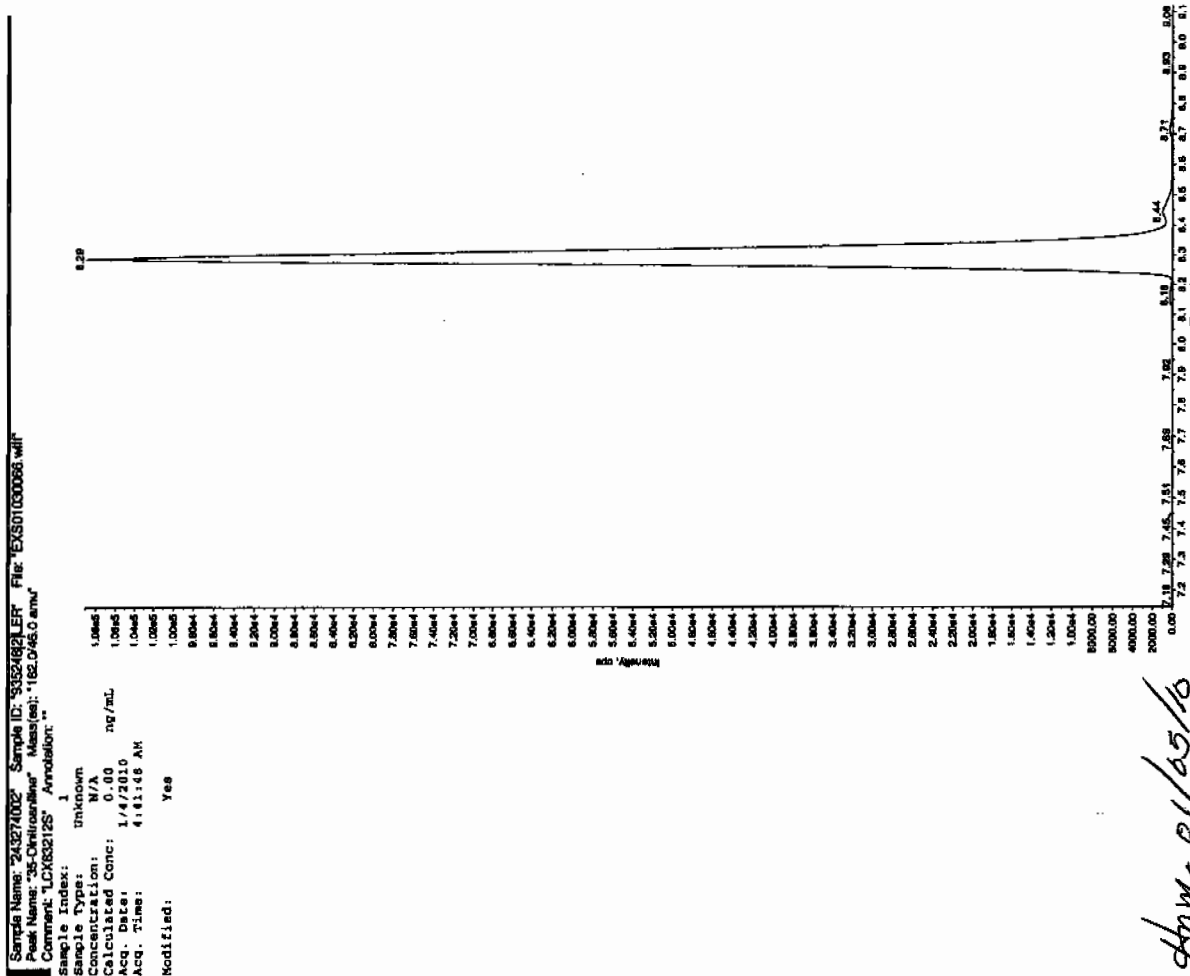
Units: ug/kg

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

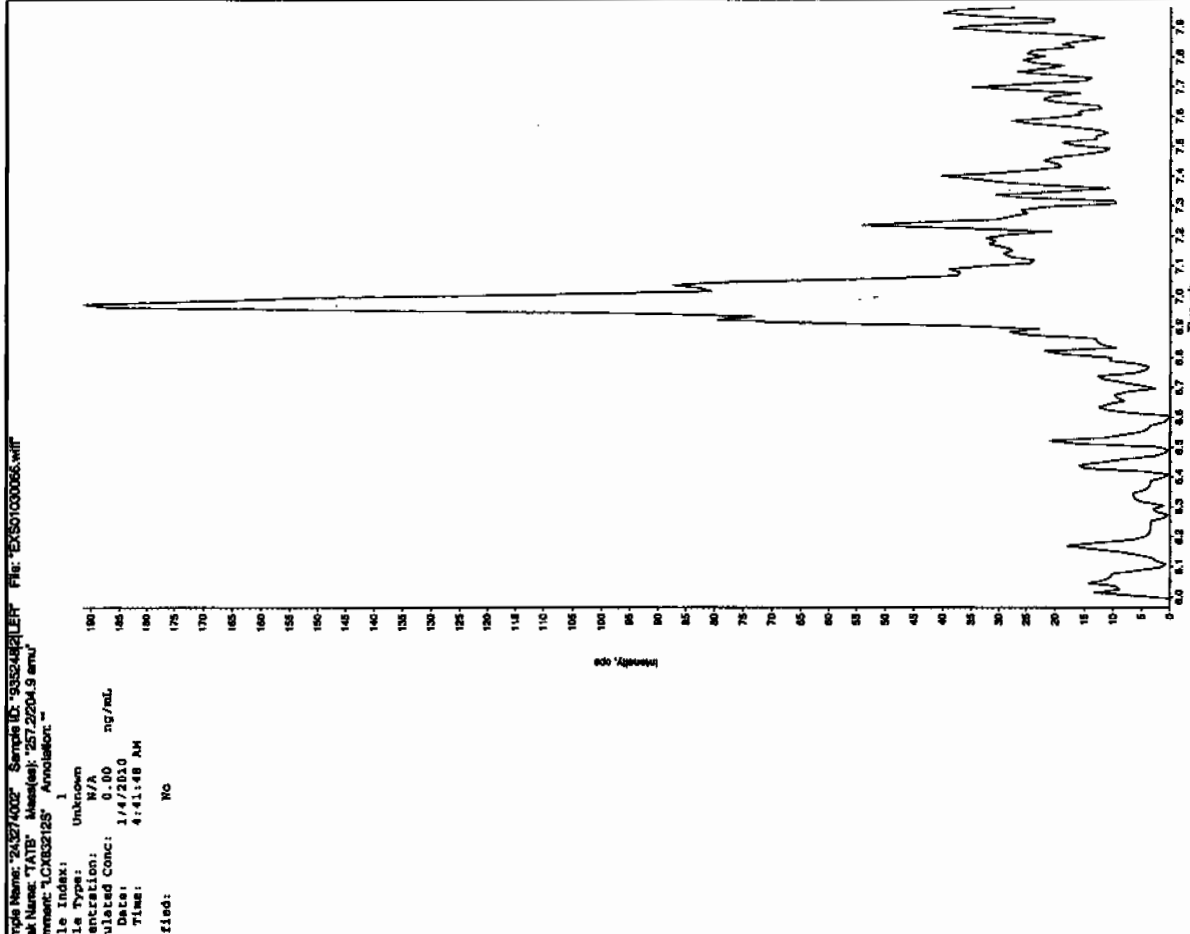
*Concentration =

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

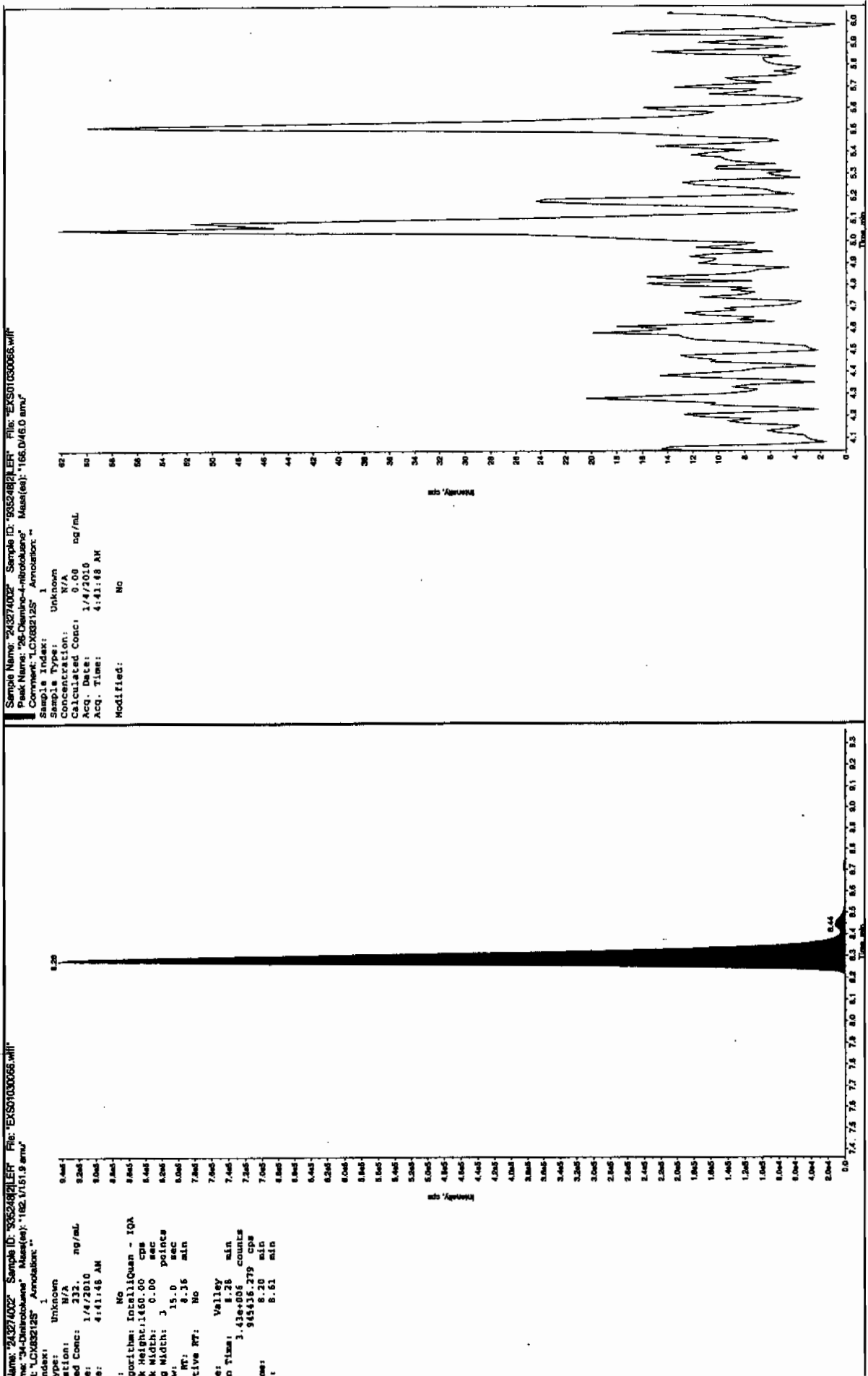
11/17/10
JW

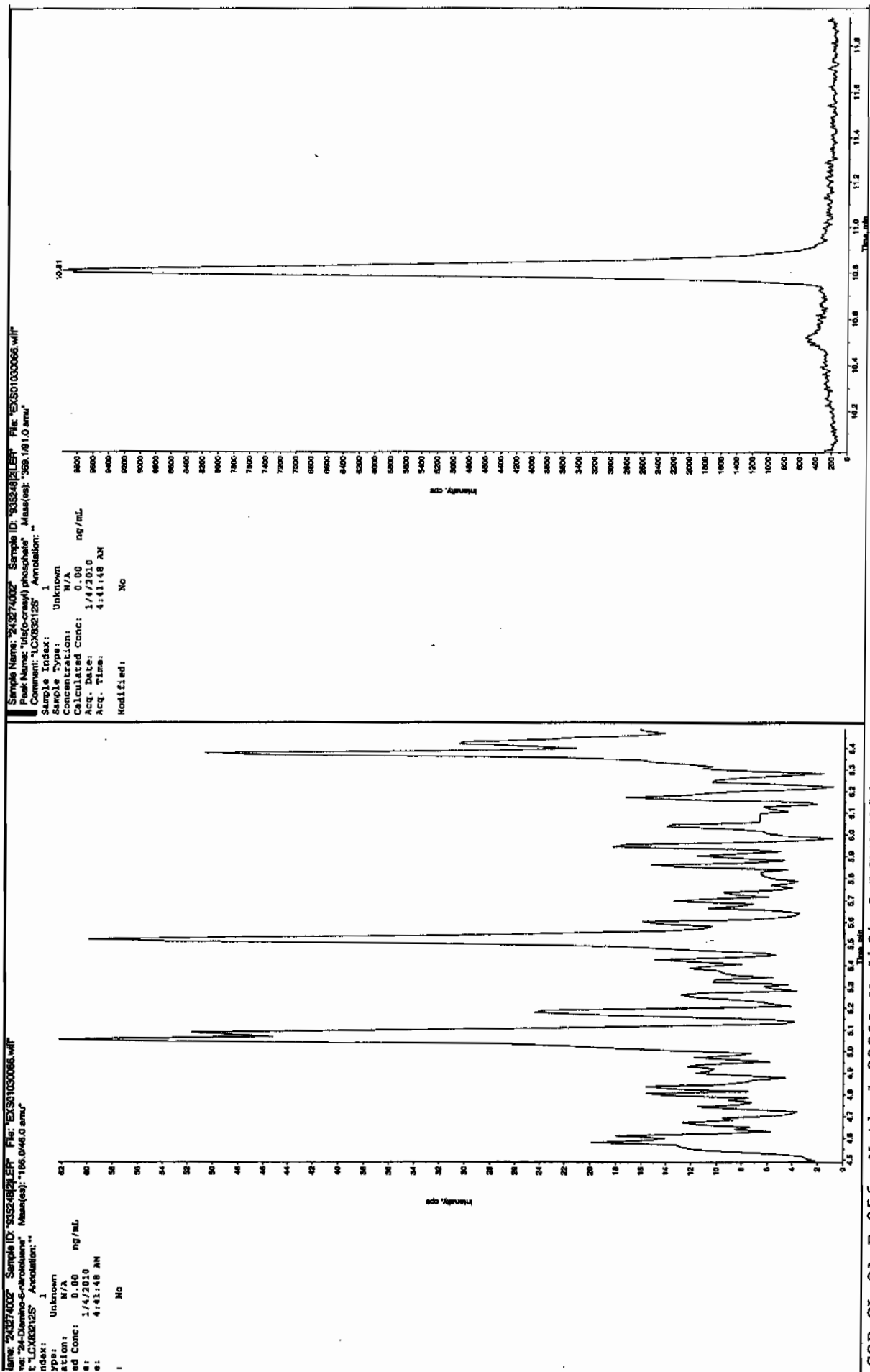


4/11/10 01/25/10



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





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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7358

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274003

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102077a

Date Analyzed: 04-JAN-10 02:56

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		

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

iset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

ie: C:\MASSLYNX\NEW_EXP.PRO\data\EXP0102077a

3: 04-Jan-2010

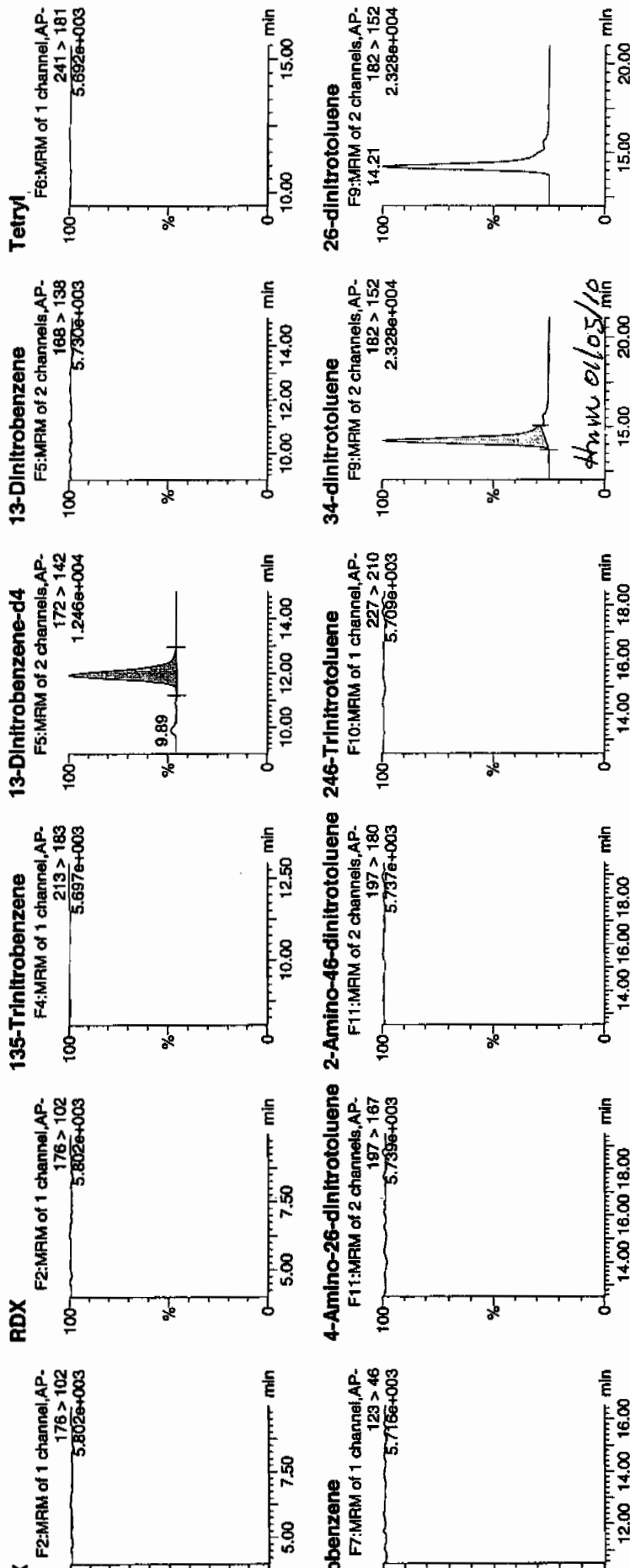
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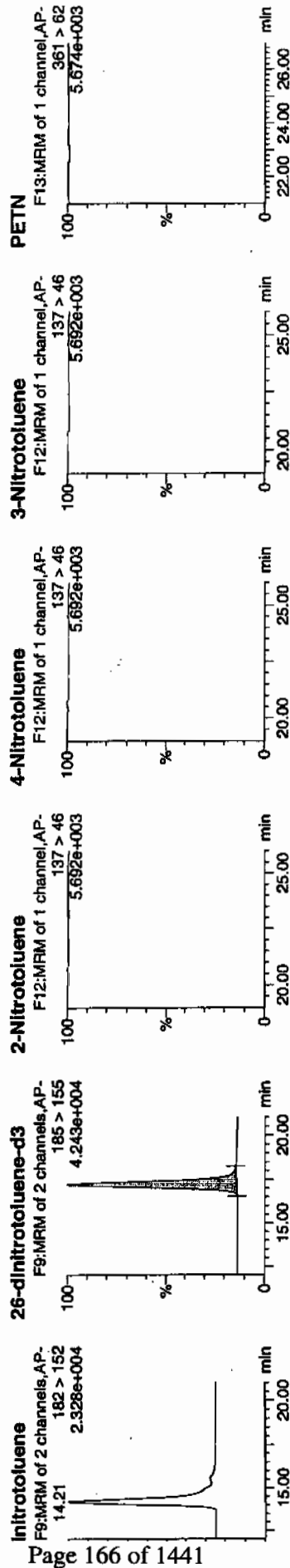
243274003

2: 27E

10/10

121





Compound	Retention Time (min)	Area	Height	Width	Signal
Nitrobenzene	14.21	2.328e+004	182 > 152	2.328e+004	182 > 152
2-Nitrotoluene	11.95	2743.546	2743.546	2743.546	2743.546
3-Nitrotoluene	11.95	2743.546	2743.546	2743.546	2743.546
4-Nitrotoluene	11.95	2743.546	2743.546	2743.546	2743.546
PETN	11.95	2743.546	2743.546	2743.546	2743.546
2-Nitrotoluene	14.21	7271.069	15438.834	15438.834	15438.834
3-Nitrotoluene	14.21	7271.069	15438.834	15438.834	15438.834
4-Nitrotoluene	14.21	7271.069	15438.834	15438.834	15438.834
PETN	14.21	7271.069	15438.834	15438.834	15438.834
2-Nitrotoluene	17.20	15438.834	15438.834	15438.834	15438.834
3-Nitrotoluene	17.20	15438.834	15438.834	15438.834	15438.834
4-Nitrotoluene	17.20	15438.834	15438.834	15438.834	15438.834
PETN	17.20	15438.834	15438.834	15438.834	15438.834
2-Nitrotoluene	18.20	15438.834	15438.834	15438.834	15438.834
3-Nitrotoluene	18.20	15438.834	15438.834	15438.834	15438.834
4-Nitrotoluene	18.20	15438.834	15438.834	15438.834	15438.834
PETN	18.20	15438.834	15438.834	15438.834	15438.834
2-Nitrotoluene	18.20	15438.834	15438.834	15438.834	15438.834
3-Nitrotoluene	18.20	15438.834	15438.834	15438.834	15438.834
4-Nitrotoluene	18.20	15438.834	15438.834	15438.834	15438.834
PETN	18.20	15438.834	15438.834	15438.834	15438.834

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7358

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274003

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030067.wiff

Date Analyzed: 04-JAN-10 04:57

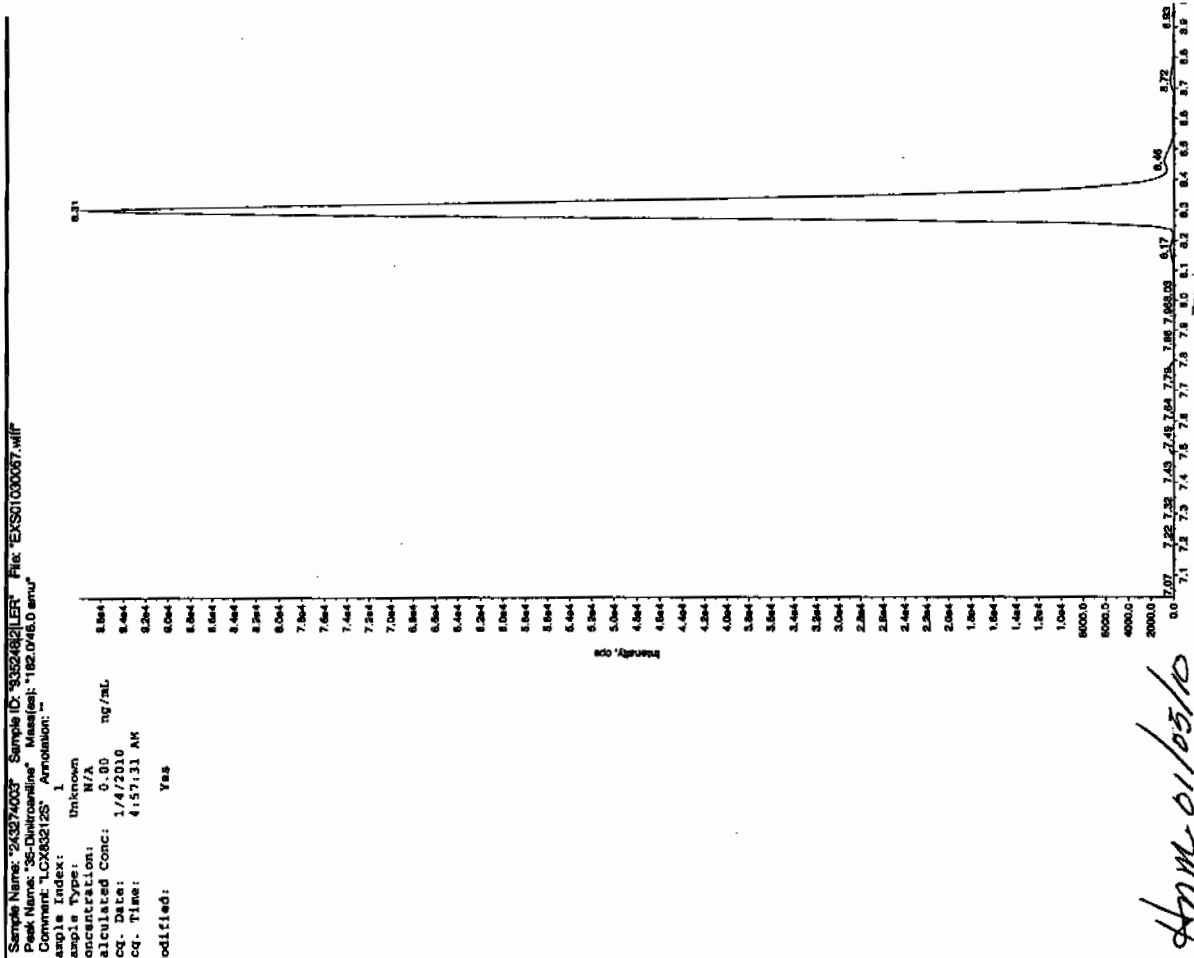
Units: ug/kg

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

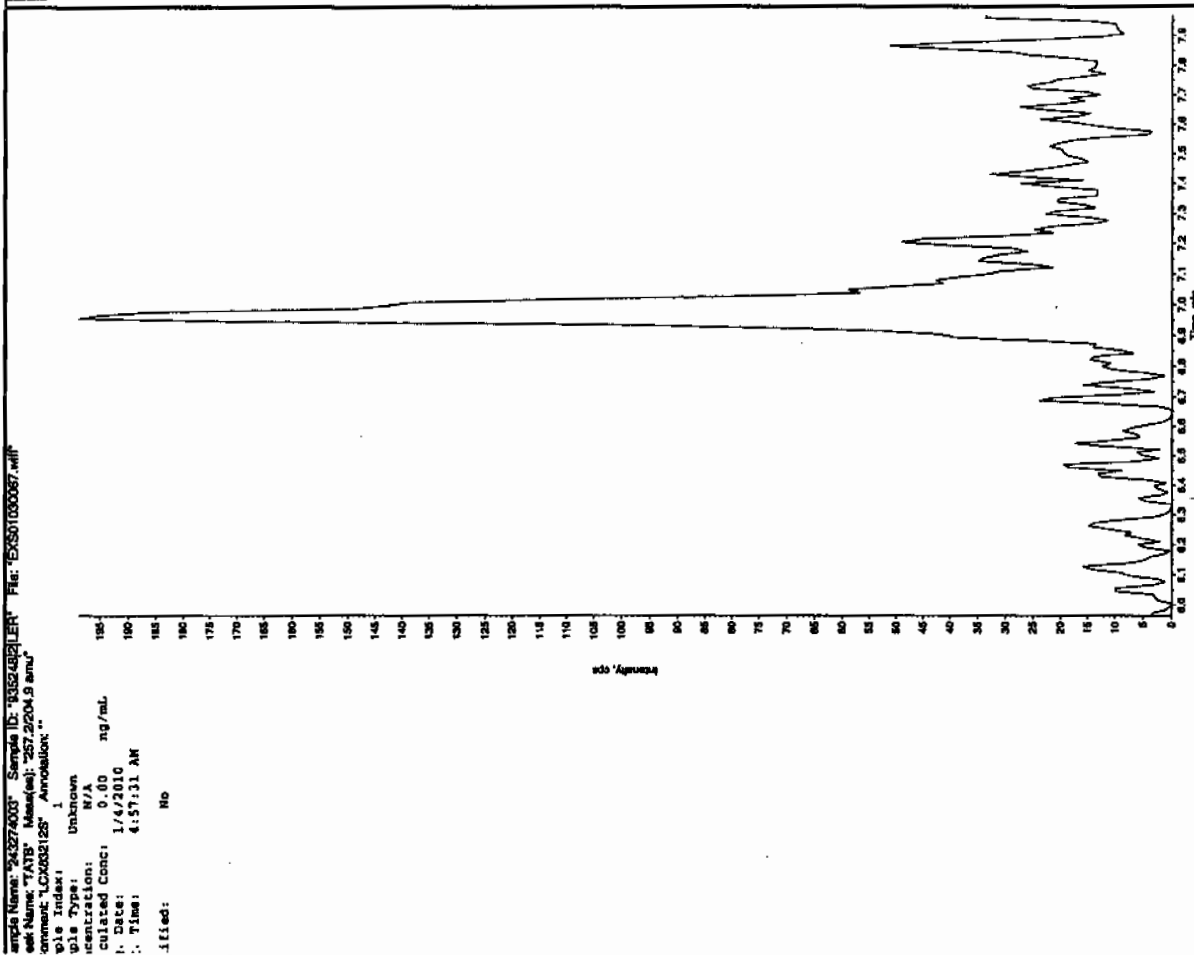
*Concentration =

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

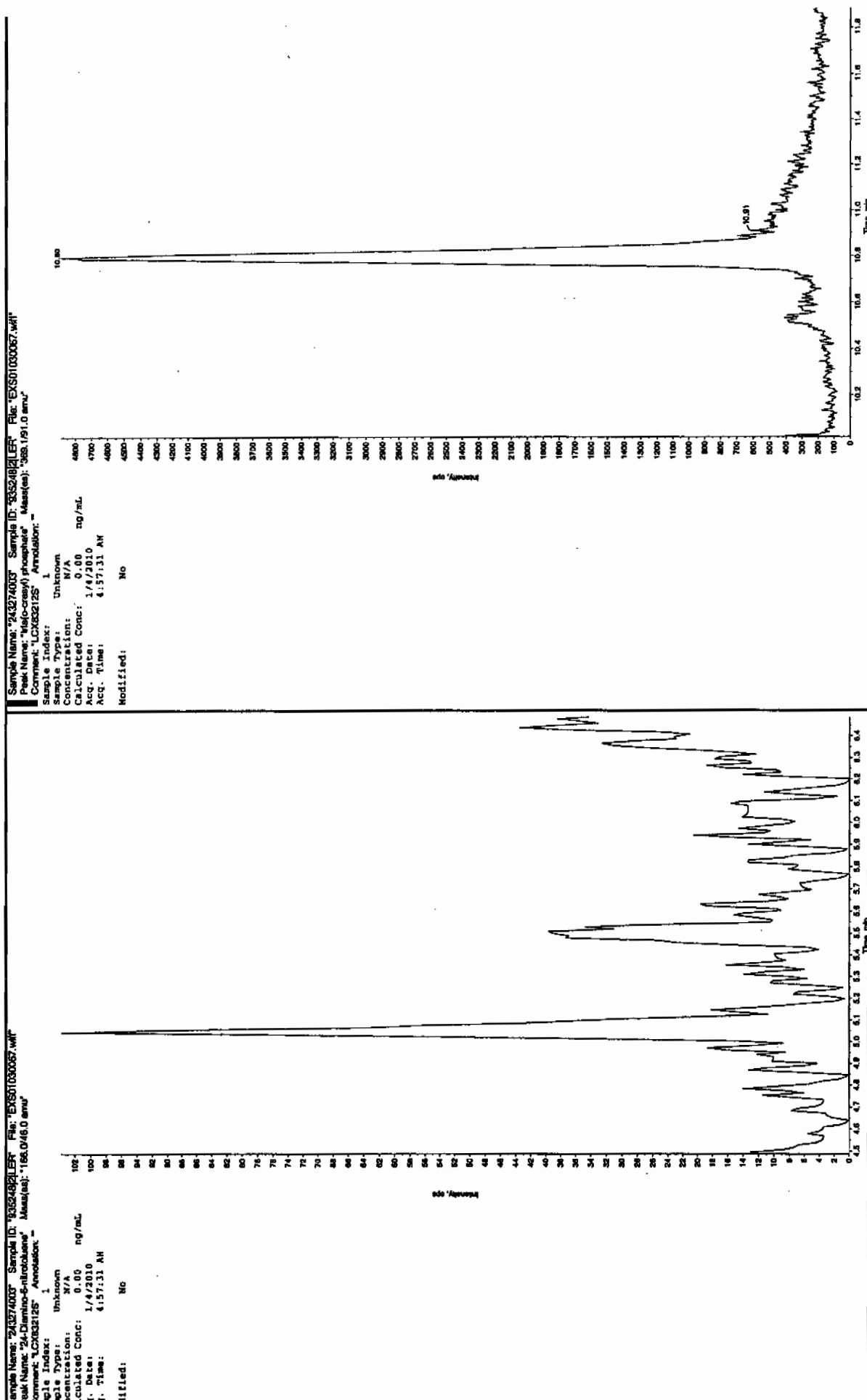
1/17/10
JLW



Ampl 01/05/10



3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7357

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274004

Sample Amount 2

Moisture: 10.4

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102078a

Date Analyzed: 04-JAN-10 03:26

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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Date: 04-Jan-2010

Time: 03:26:11

Sample: 243274004

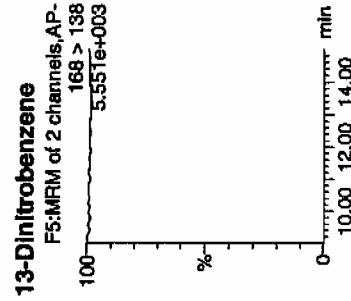
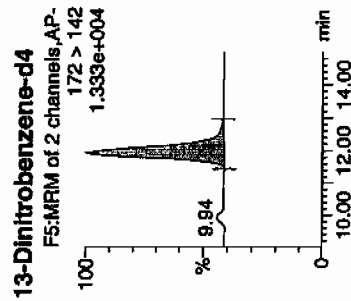
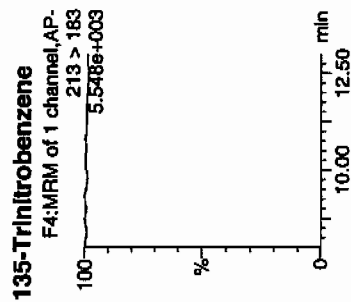
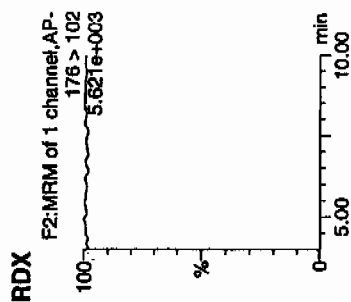
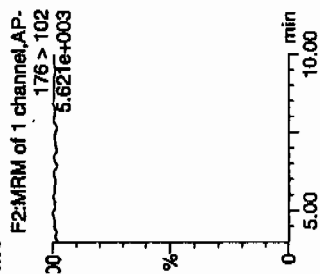
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1/4/10

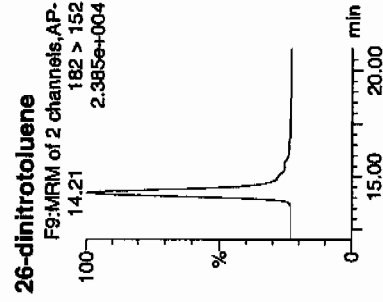
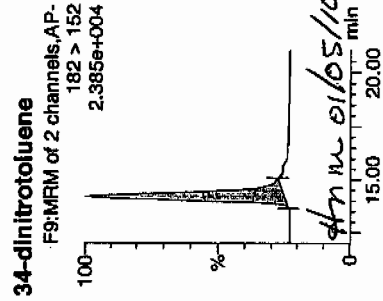
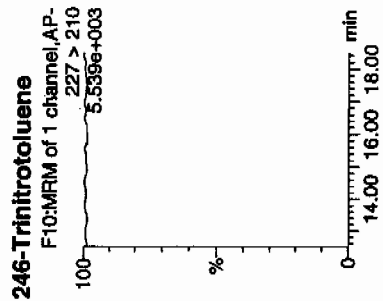
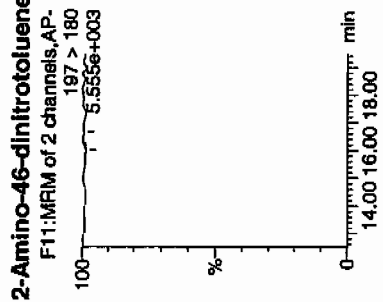
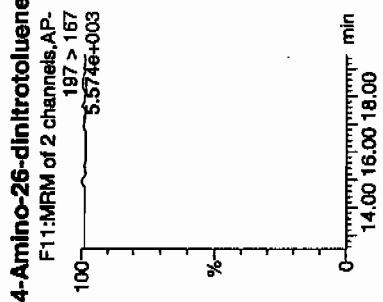
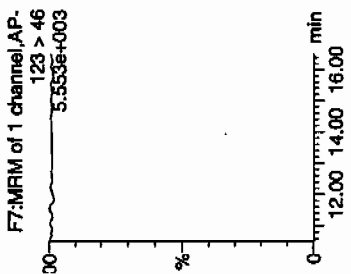
1935248 / 21

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RDX

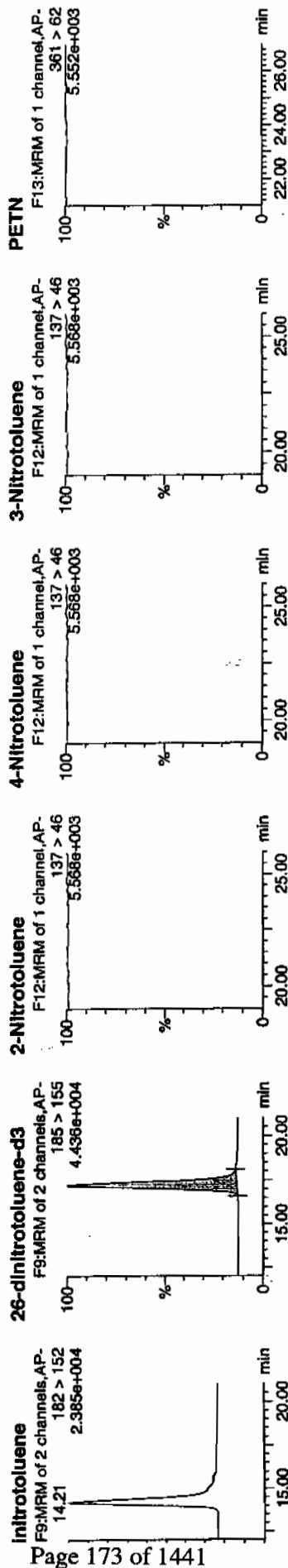


trobenzene



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

set: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Retention Time (min)	Area	Height	Width	MM	04-Jan-10	11:00:27
74004 HMX	176 > 102	3069.440					
74004 RDX	176 > 102	3069.440					
74004 135-Trinitrobenzene	213 > 183	3069.440					
74004 13-Dinitrobenzene-d4	172 > 142	11.95	3069.440				
74004 13-Dinitrobenzene	168 > 138	3069.440					
74004 Tetra	241 > 181	3069.440					
74004 Nitrobenzene	123 > 46	16597.141					
74004 4-Amino-26-dinitrotoluene	197 > 167	16597.141					
74004 2-Amino-46-dinitrotoluene	227 > 210	16597.141					
74004 246-Trinitrotoluene	182 > 152	14.21	7464.141				
74004 34-dinitrotoluene	182 > 152	16597.141					
74004 26-dinitrotoluene	182 > 152	16597.141					
74004 24-dinitrotoluene	182 > 152	16597.141					
74004 26-dinitrotoluene-d3	185 > 155	17.20	16597.141				
74004 2-Nitrotoluene	137 > 46	16597.141					
74004 4-Nitrotoluene	137 > 46	16597.141					
74004 3-Nitrotoluene	137 > 46	16597.141					
74004 PETN	361 > 62	16597.141					

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7357

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274004

Sample Amount 2

Moisture: 10.4

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030068.wiff

Date Analyzed: 04-JAN-10 05:13

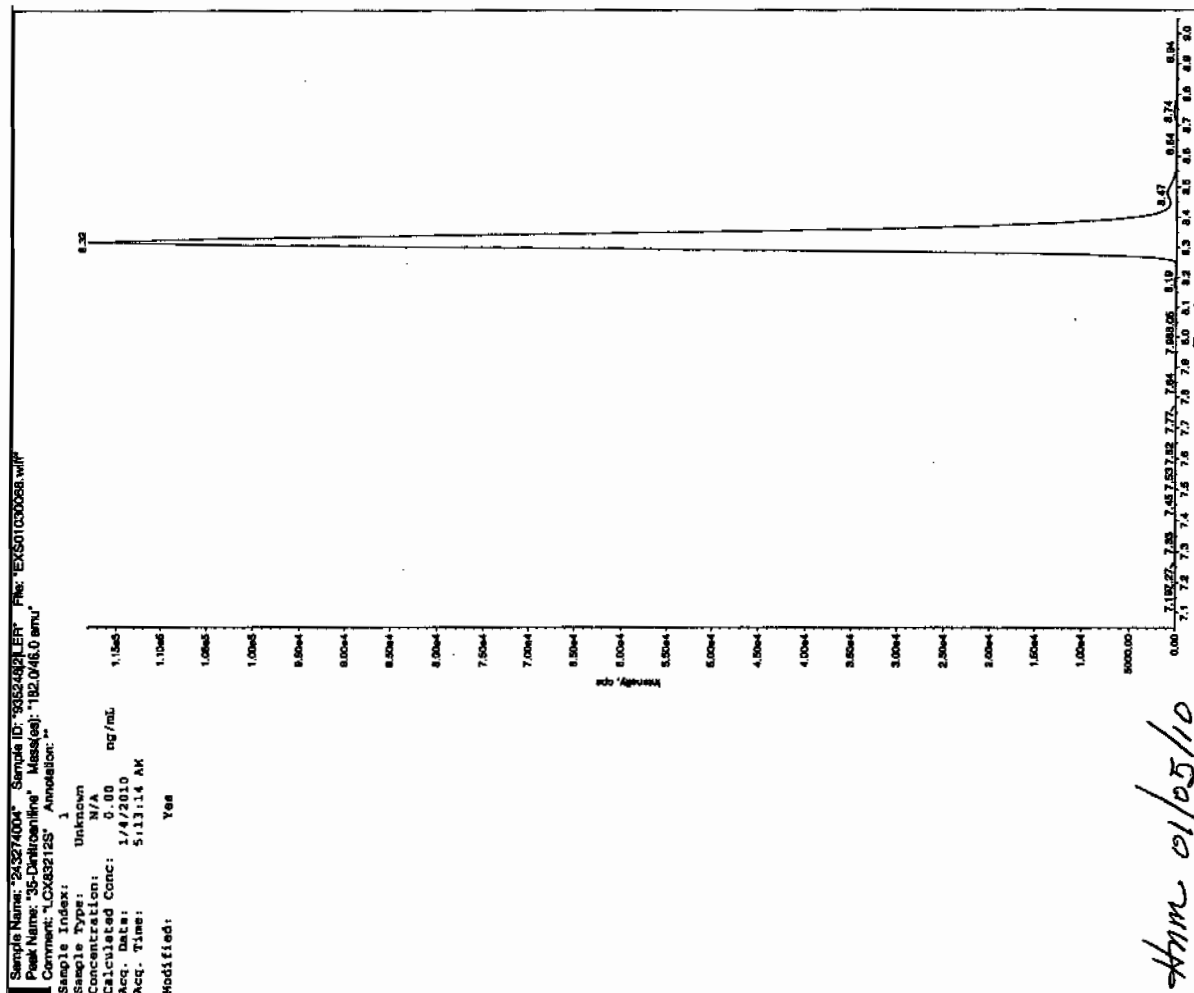
Units: ug/kg

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

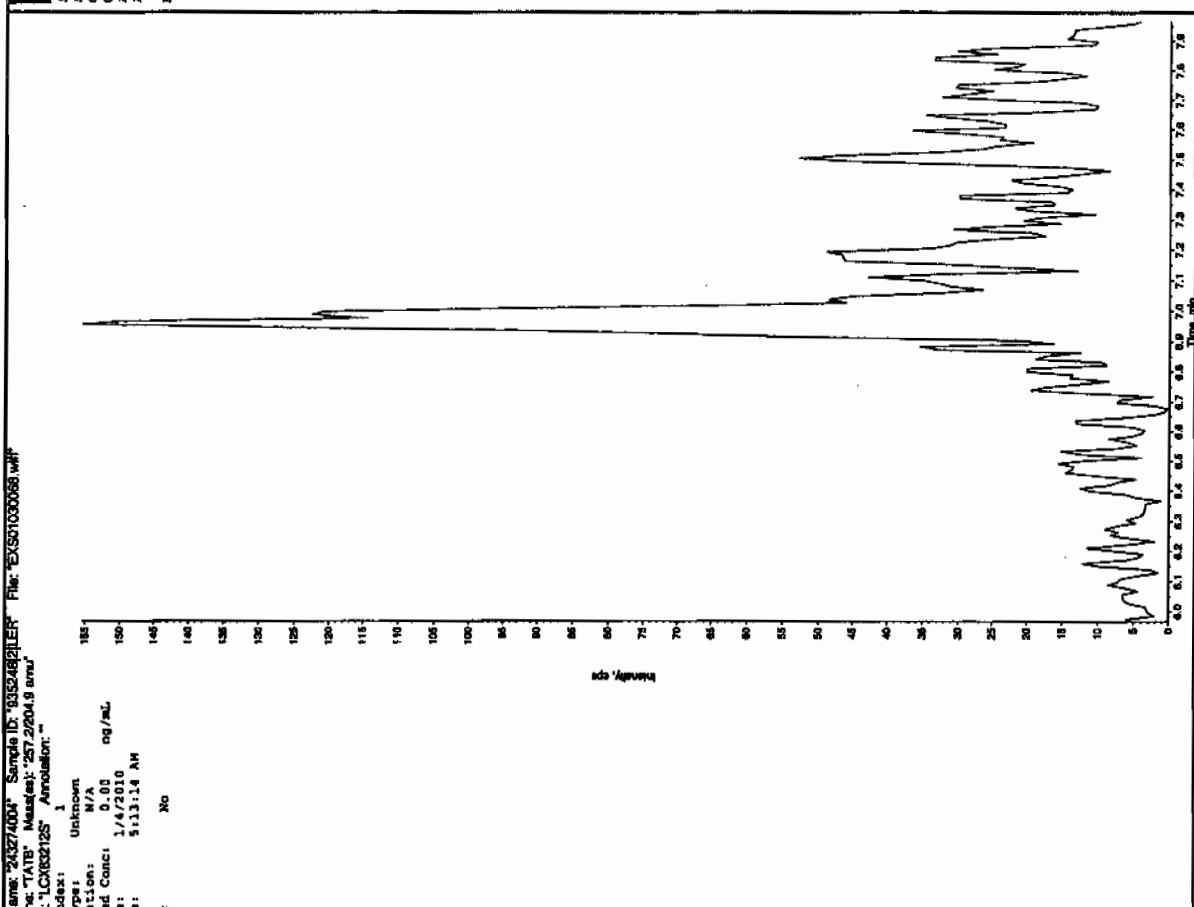
*Concentration =

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

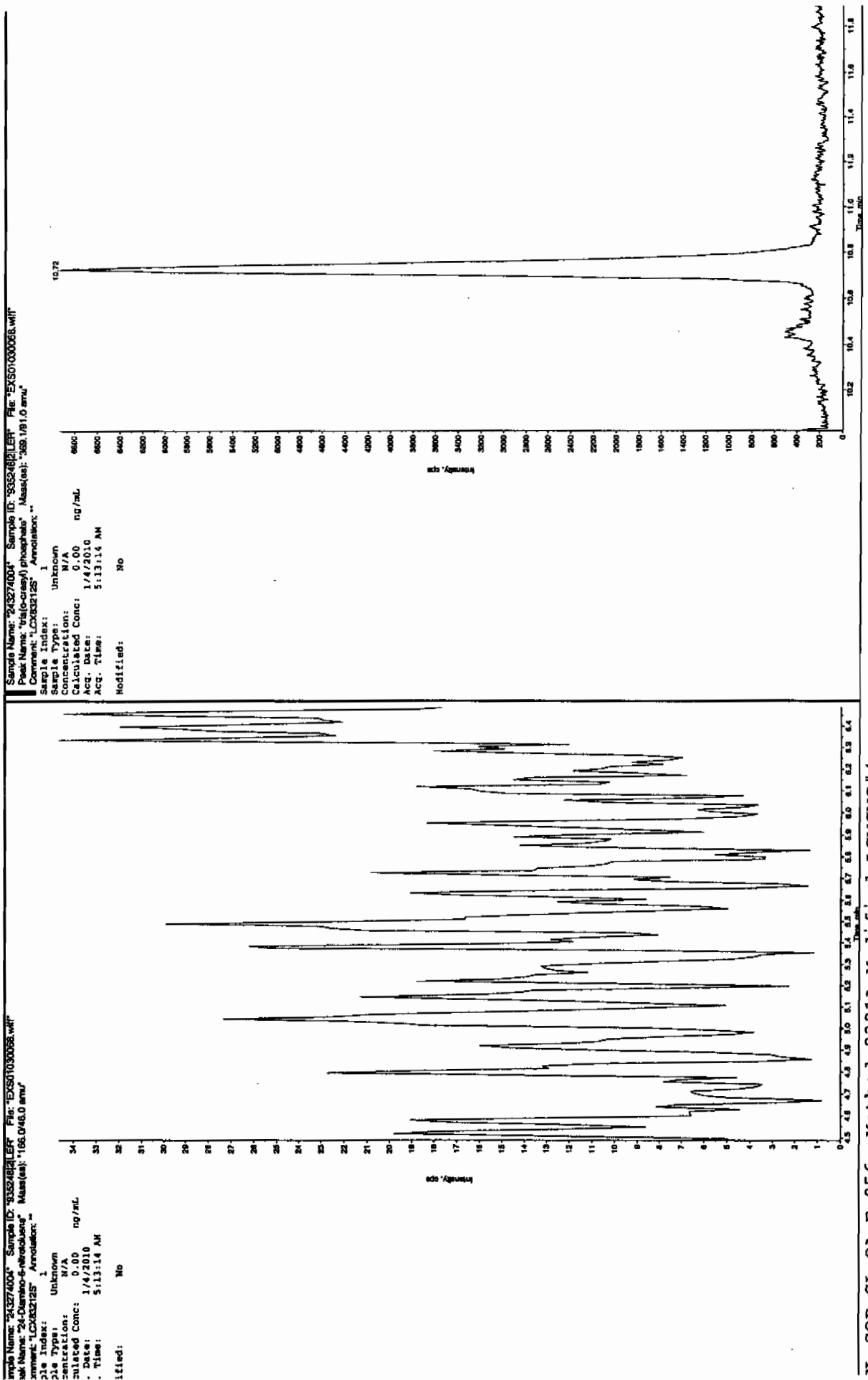
11/17/10
JCL



Amc 01/05/10



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



3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7359

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274005

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102079a

Date Analyzed: 04-JAN-10 03:55

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: Mon Jan 04 12:59:32 2010, Page 157 of 175

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

asset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

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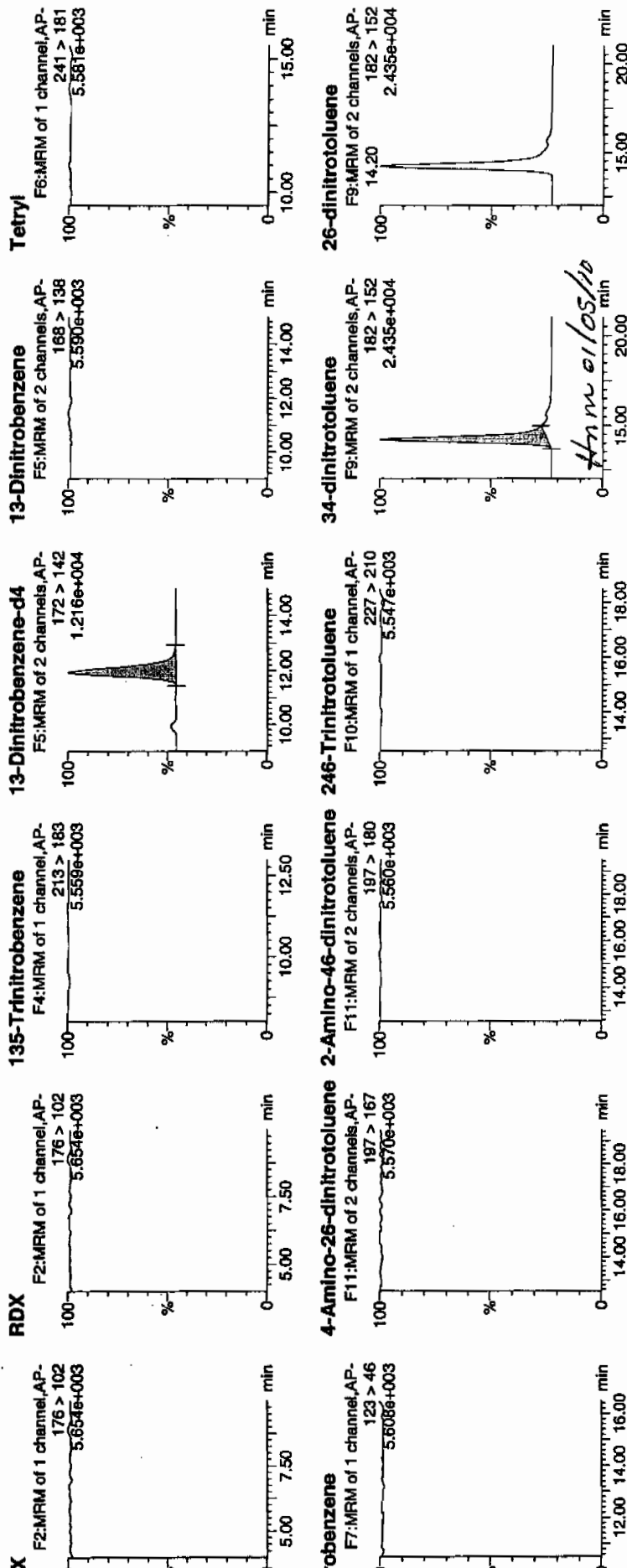
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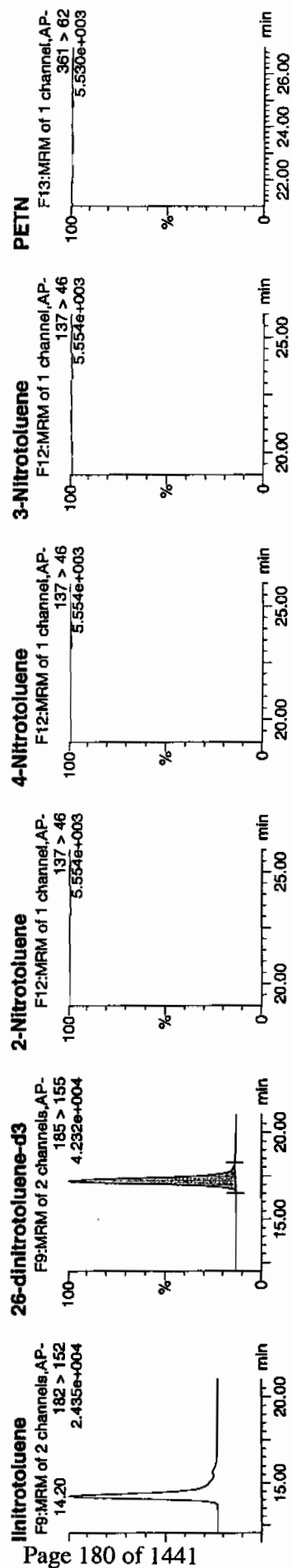
243274005

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WAV 93543 (8) 21

1/4/10





Name	MW	F _w	Area	% Area	Abs Resp	Response	Stage	Mod Date	Vac Line	Flow ml	Var Dec	% Dev	TSSN
HMX	274005												
			176 > 102		2688.199								
RDX	274005												
			176 > 102		2688.199								
135-Trinitrobenzene	274005												
			213 > 183		2688.199								
13-Dinitrobenzene-d4	274005			11.94	2688.199	2688.199	bb			561.7270	112.3	12.3	137.6
13-Dinitrobenzene	274005												
			188 > 138		2688.199								
Tetryl	274005												
			241 > 181		2688.199								
Nitrobenzene	274005												
			123 > 46		2688.199								
4-Amino-26-dinitrotoluene	274005												
			197 > 167		15688.894								
2-Amino-46-dinitrotoluene	274005												
			197 > 180		15688.894								
246-Trinitrotoluene	274005												
			227 > 210		15688.894								
34-dinitrotoluene	274005			14.19	7402.917	7402.917	235.929 bb			284.5430	105.8	5.8	498.6
26-dinitrotoluene	274005												
			182 > 152		15688.894								
24-dinitrotoluene	274005												
			182 > 152		15688.894								
26-dinitrotoluene-d3	274005			17.19	15688.894	15688.894	15688.894 bb			570.6439	114.1	14.1	1484.8
2-Nitrotoluene	274005												
			137 > 46		15688.894								
4-Nitrotoluene	274005												
			137 > 46		15688.894								
3-Nitrotoluene	274005												
			137 > 46		15688.894								
PETN	274005												
			361 > 62		15688.894								

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7359

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274005

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030069.wiff

Date Analyzed: 04-JAN-10 05:28

Units: ng/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

the Name: "243274005" Sample ID: "93524821ER" File: "EXS01030089.will"
Name: "TATS" Mass(es): "257.2/204.9 amu"

Name: "TATS" Mass(es): "257.2204.9 amu"
Ident: "LCX83212S" Annotation: ""

Annotation: 1
Index: 1

Index:	1
Type:	Unknown

Type:	Unknown
Location:	N/A

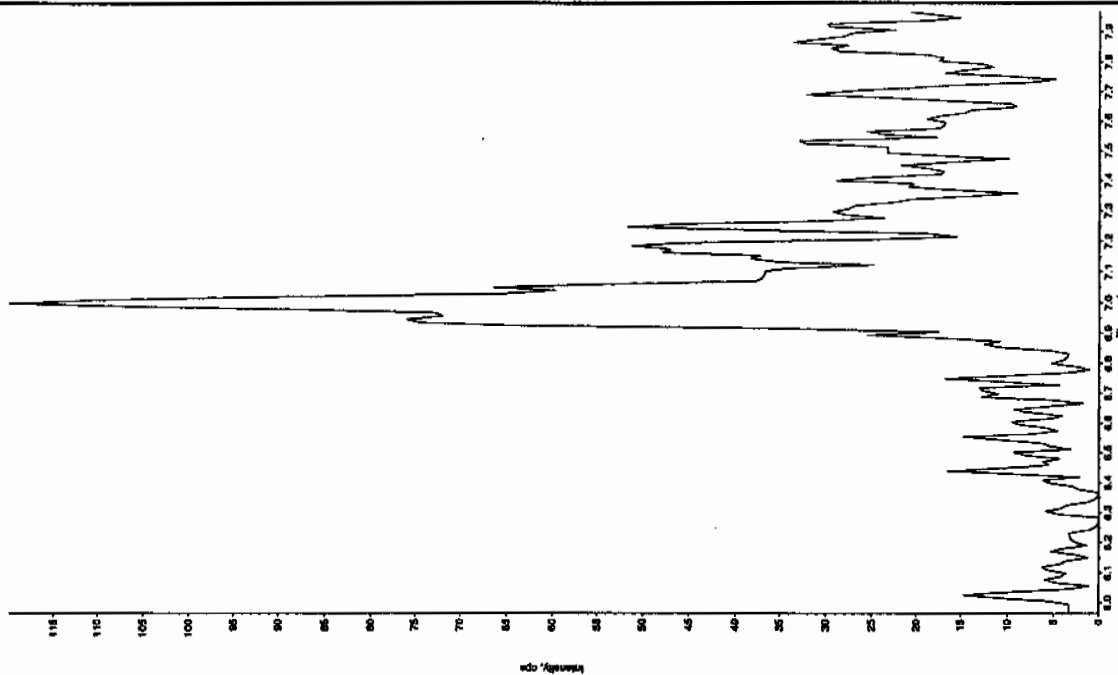
Concentration:	N/A
Estimated Conc:	0.00

ated Conc:	0.00	ng/mL
ate:	1/4/2010	

Date: 1/4/2010
Time: 5:28:57 AM

Time: 5:28:57 AM

ed:



Sample Name: "243274005" Sample ID: "93524621ER" File: "EXS01030069.wiff"
Pack Name: "35-Dinitrocellulose" Mass(es): "182 046.0 amu"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
Compound: "1,3,5-Trinitrobenzene" Annotation: "

Comment: "LCX83212S" Annotation: ""
Carole Index: 1

Sample Index:	1	Unknown
Sample Type:		

Sample Type:	Unknown
Concentration:	N/A

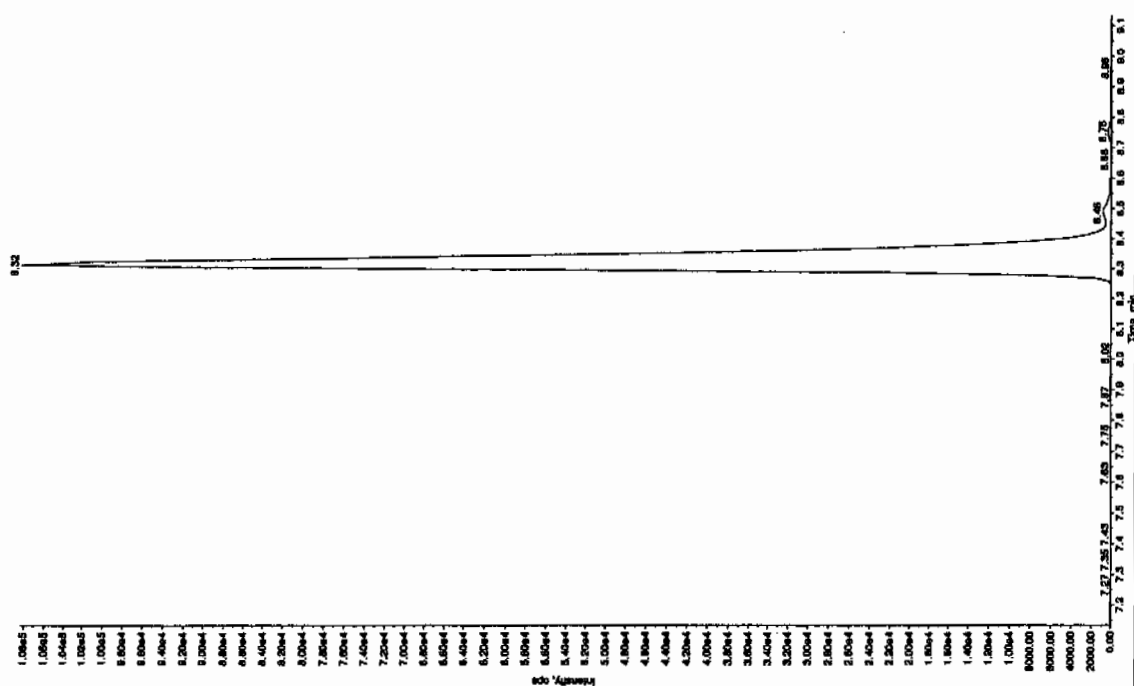
concentration: N/A
calculated Conc: 0.00

Calculated Conc: 0.00 ng/mL
 Recq. Date: 1/4/2010

1/4/2010 5:28:57

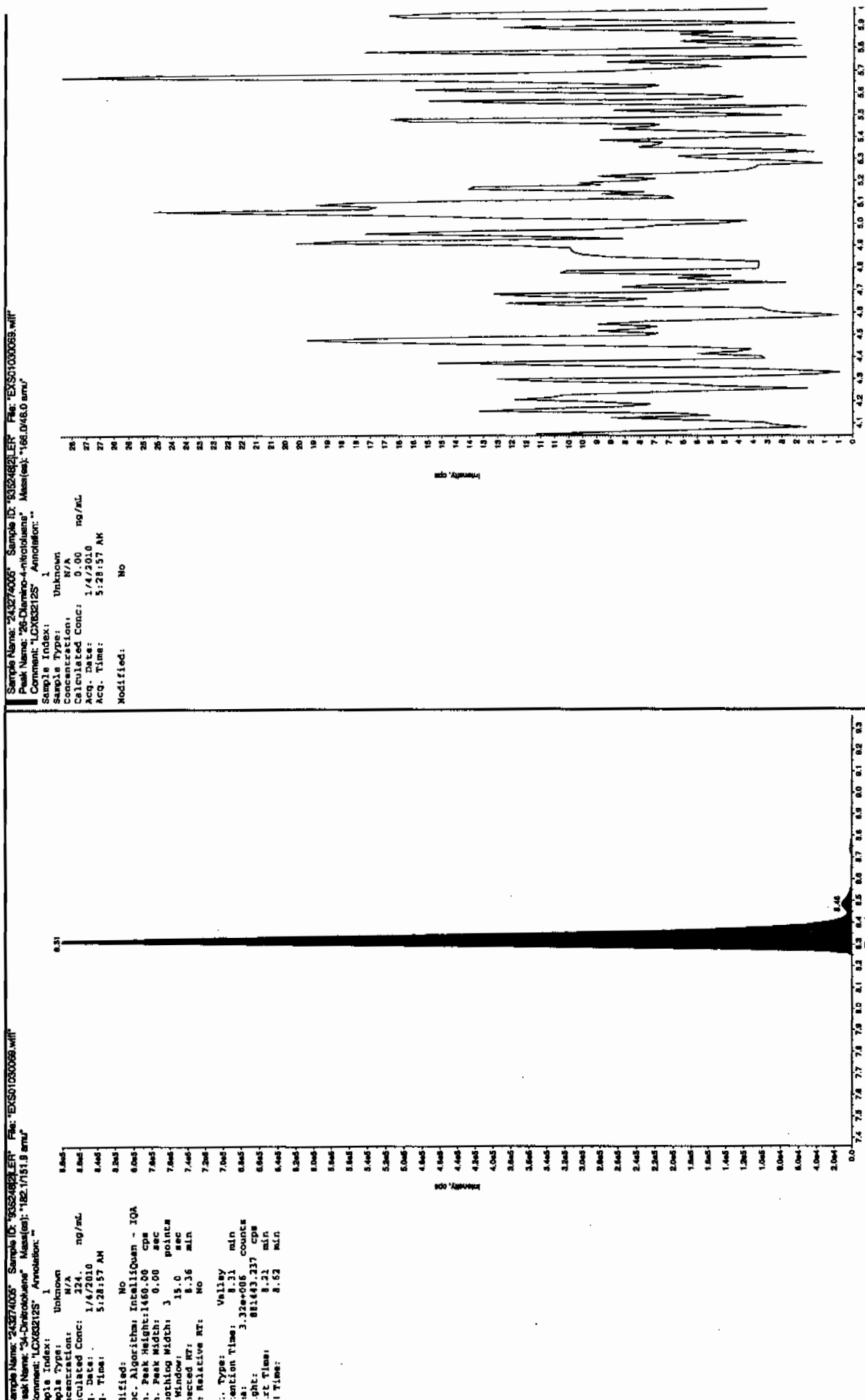
Req. Time: 5:28:57 AM

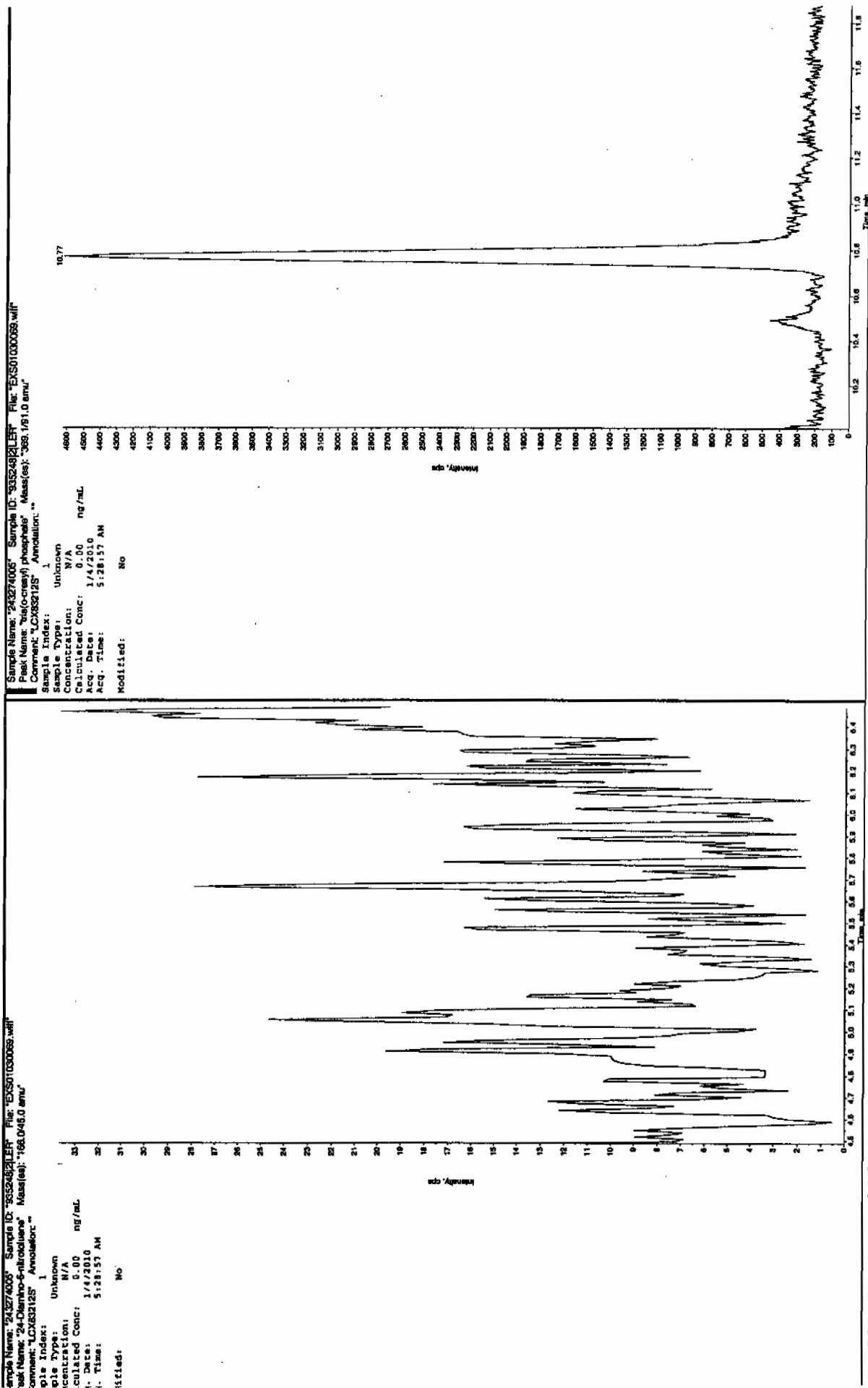
Modified:



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

June 01/05/10





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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7356

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274006

Sample Amount 2

Moisture: 10.3

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102080a

Date Analyzed: 04-JAN-10 04:25

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>		

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qtd, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102080a

Date: 04-Jan-2010

Time: 04:25:12

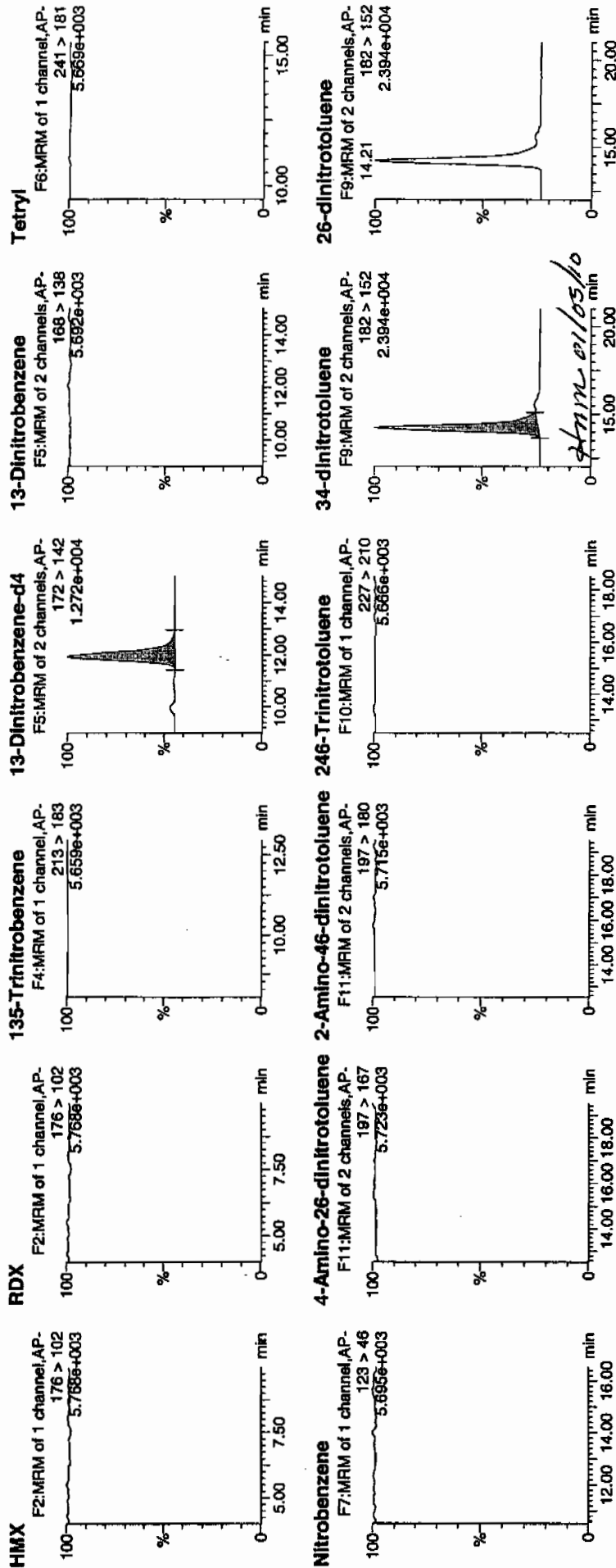
ID: 243274006

Vial: 2:8,B

not
1/4/10

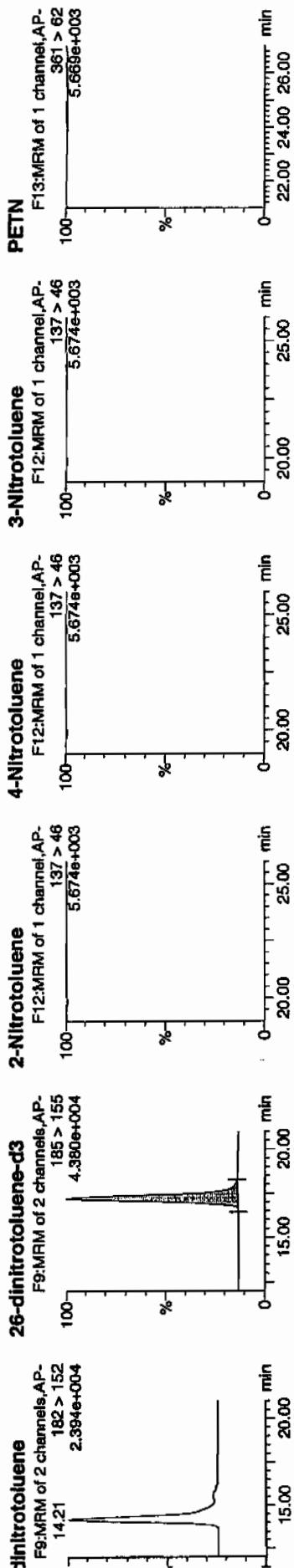
AW 935248 / 5032 / 21

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

aset: C:\MASSLYNX\New_Exp\PRON10210expA.qld, Time: Mon Jan 04 12:58:29 2010



274006	HMIX	176 > 102	2796.819
274006	RDX	176 > 102	2796.819
274006	135-Trinitrobenzene	213 > 183	2796.819
274006	13-Dinitrobenzene-d4	172 > 142	11.95
274006	13-Dinitrobenzene	168 > 138	2796.819
274006	Tetryl	241 > 181	2796.819
274006	Nitrobenzene	123 > 46	2796.819
274006	4-Amino-26-dinitrotoluene	197 > 167	16306.555
274006	2-Amino-46-dinitrotoluene	197 > 180	16306.555
274006	246-Trinitrotoluene	227 > 210	16306.555
274006	34-dinitrotoluene	182 > 152	16306.555
274006	26-dinitrotoluene	182 > 152	16306.555
274006	24-dinitrotoluene	182 > 152	16306.555
274006	26-dinitrotoluene-d3	185 > 155	16306.555
274006	2-Nitrotoluene	137 > 46	16306.555
274006	4-Nitrotoluene	137 > 46	16306.555
274006	3-Nitrotoluene	137 > 46	16306.555
274006	PETN	361 > 62	16306.555

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7356

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274006

Sample Amount 2

Moisture: 10.3

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030070.wiff

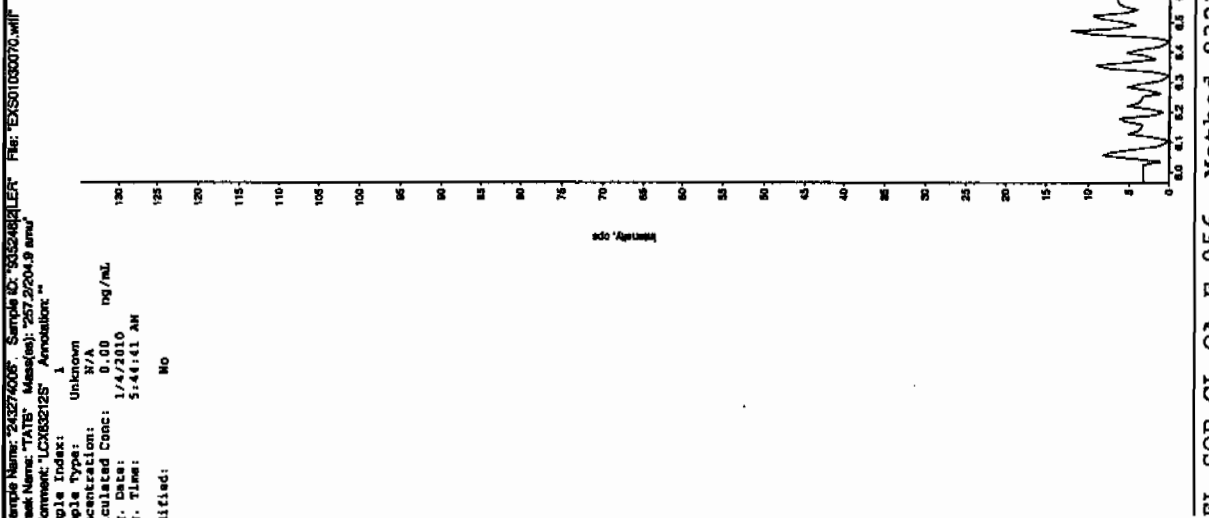
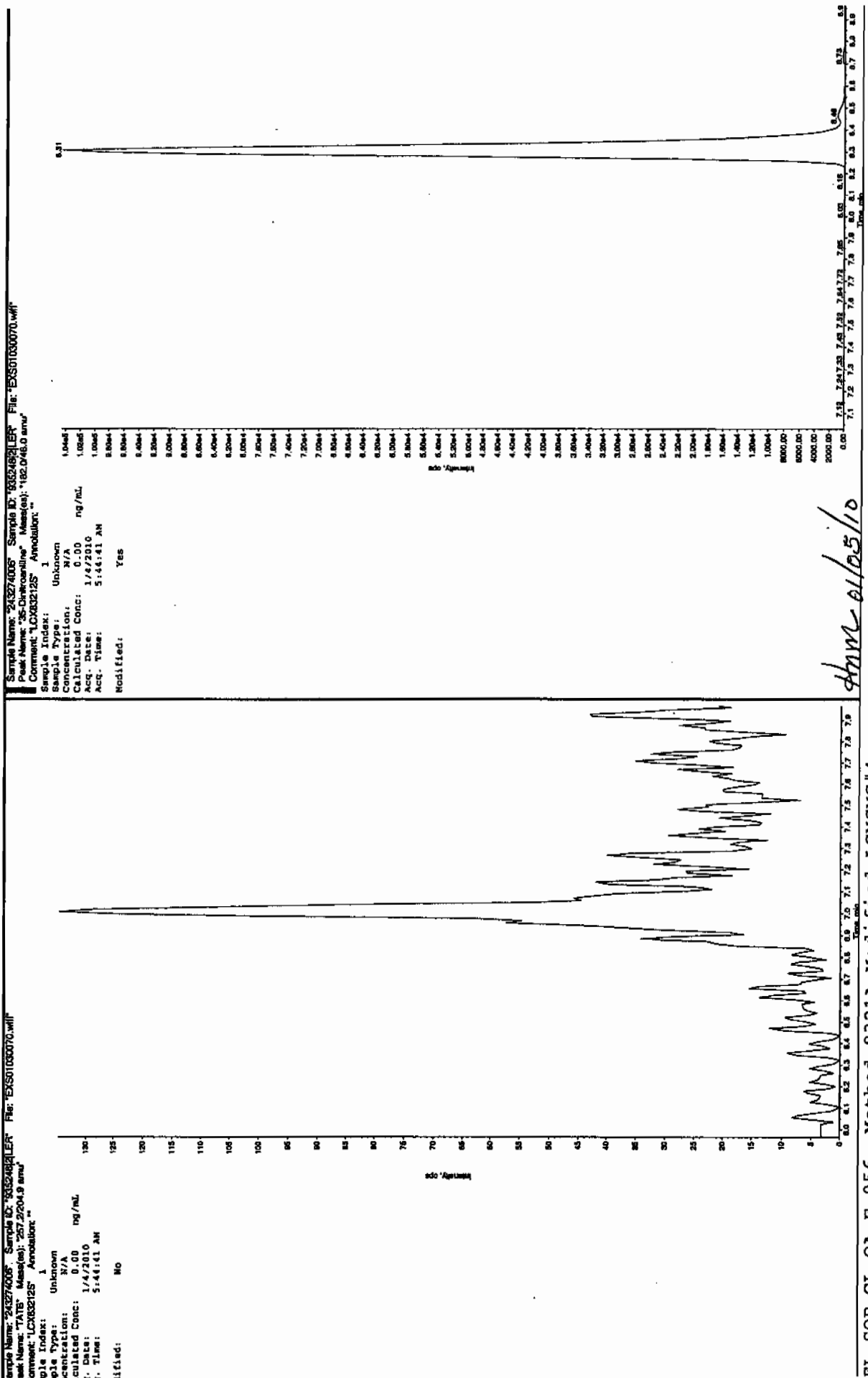
Date Analyzed: 04-JAN-10 05:44

Units: ug/kg

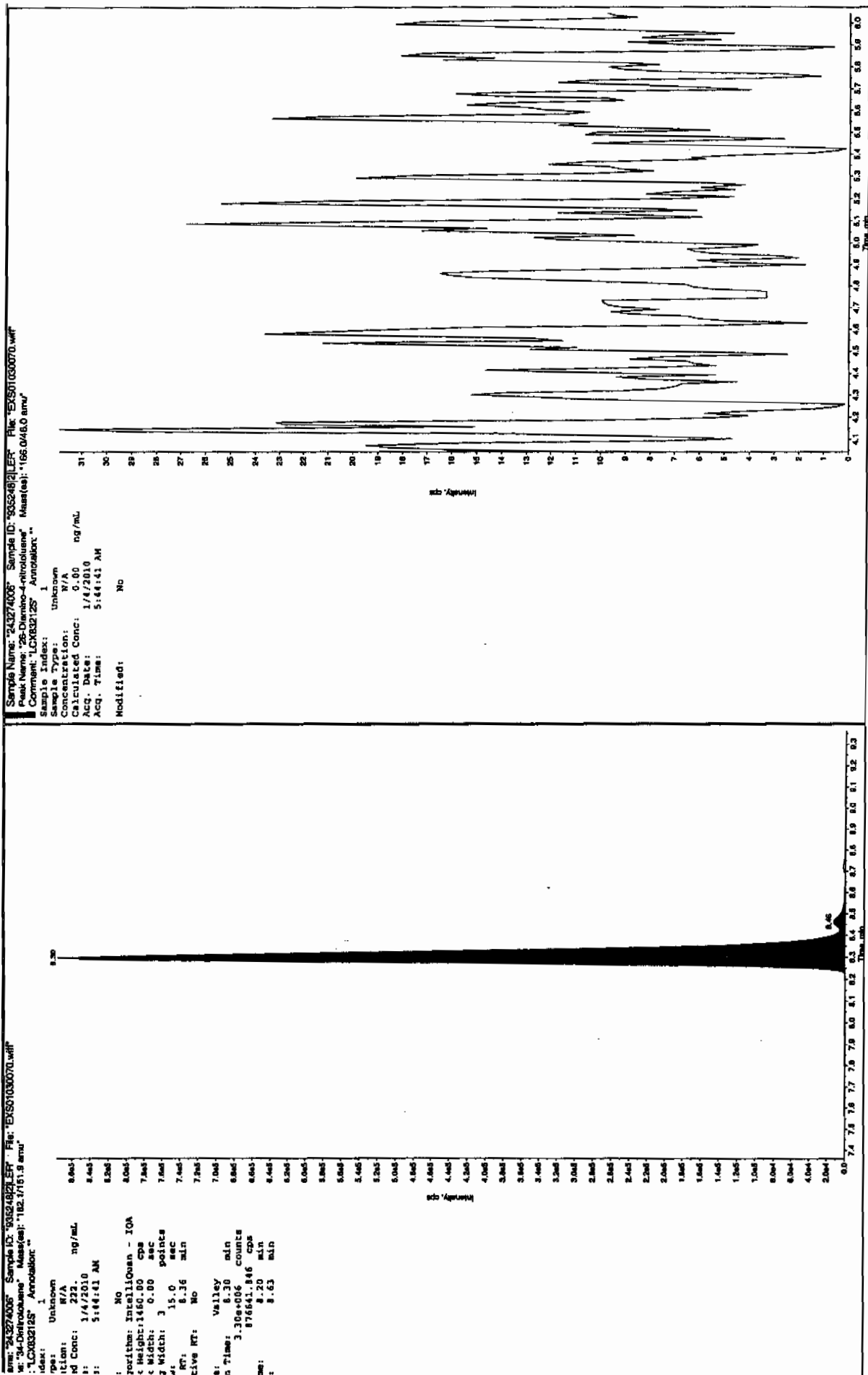
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

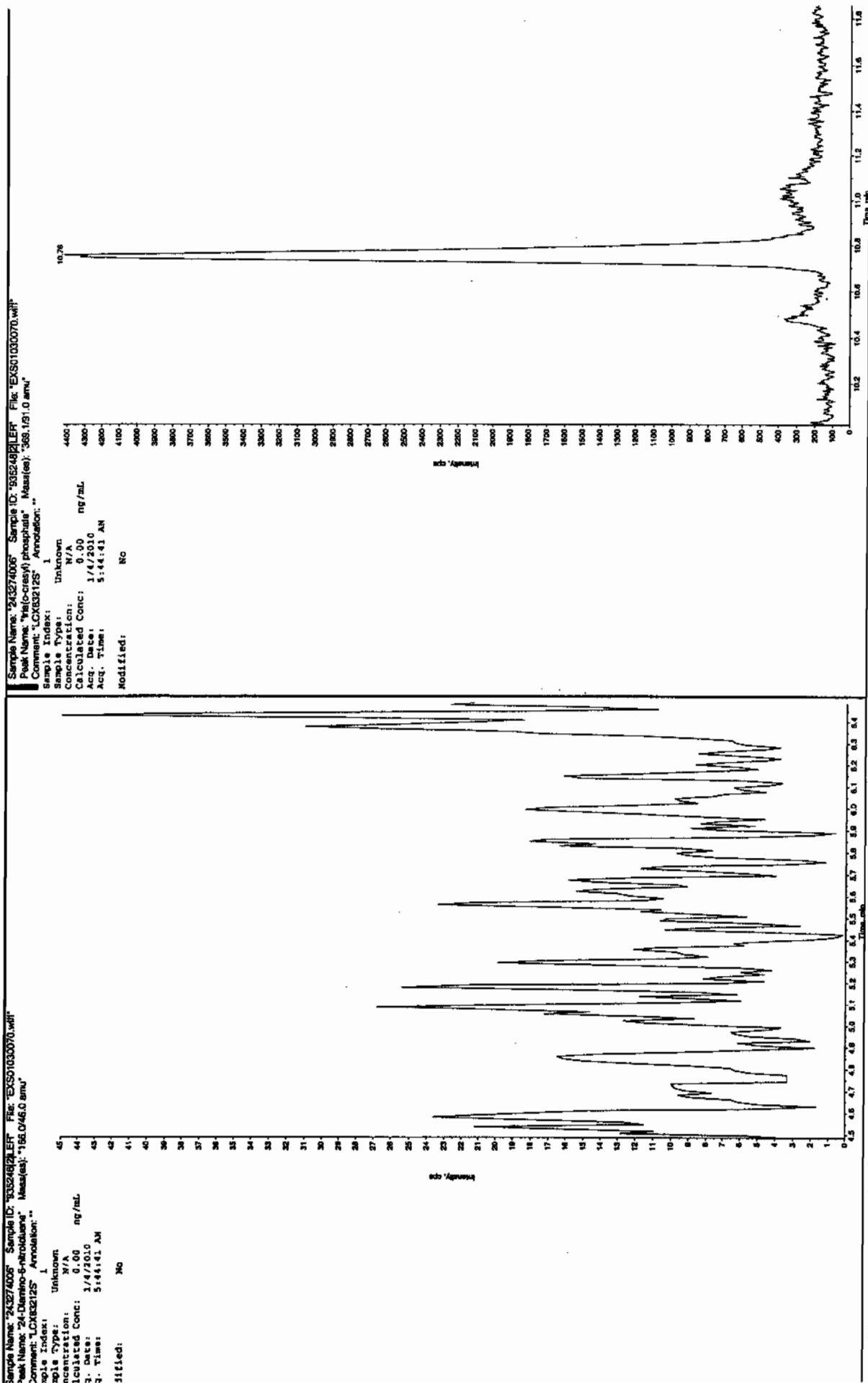
Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor



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



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



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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7353

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274007

Sample Amount 2

Moisture: 17.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102081a

Date Analyzed: 04-JAN-10 04:54

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: Mon Jan 04 12:59:32 2010, Page 161 of 175

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

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102081a

Date: 04-Jan-2010

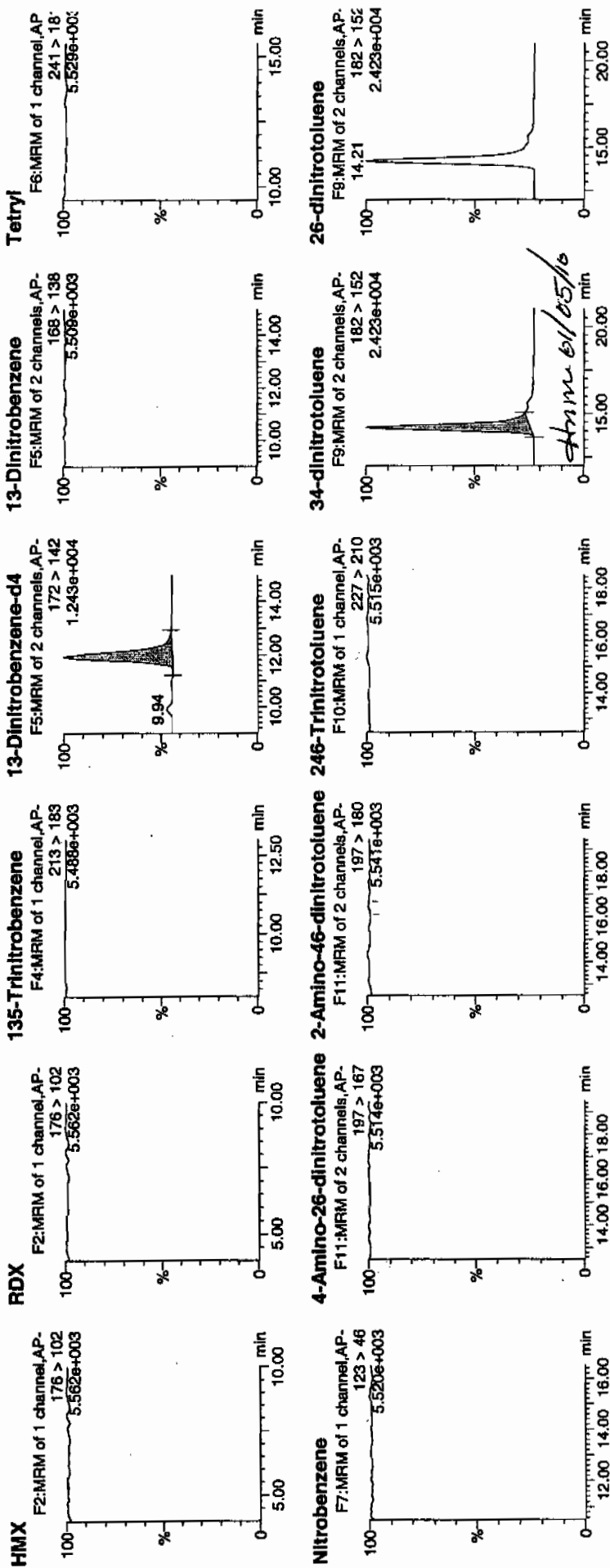
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ID: 243274007

Vial: 2:8,C

14/13

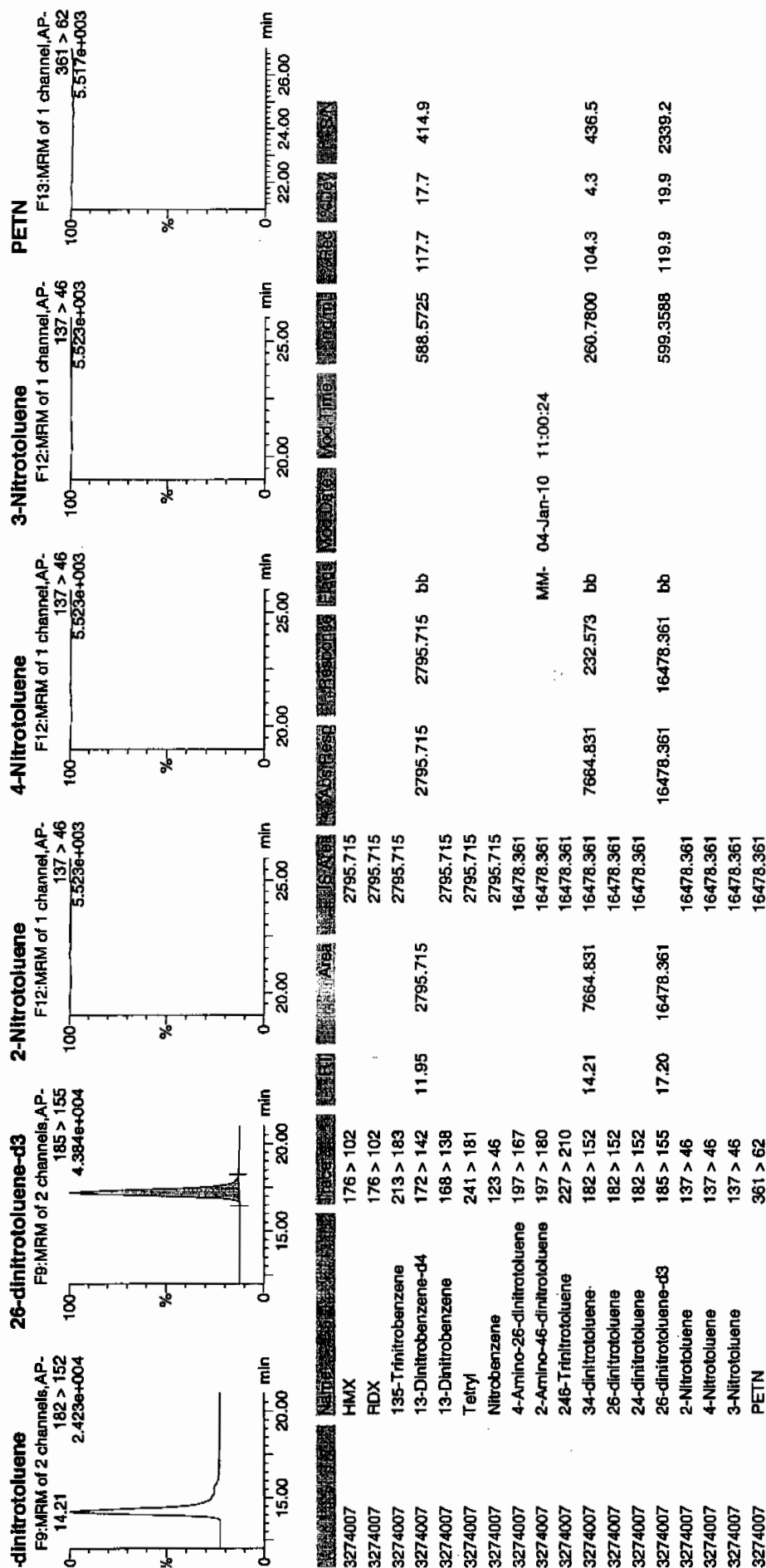
93548 / 8025 / 21



Printed: Mon Jan 04 12:59:32 2010, Page 162 of 175

Identify Sample Report
iL Laboratories, LLC / Analyst : Michael A. Penny

tasest: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7353

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274007

Sample Amount 2

Moisture: 17.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030071.wiff

Date Analyzed: 04-JAN-10 06:00

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

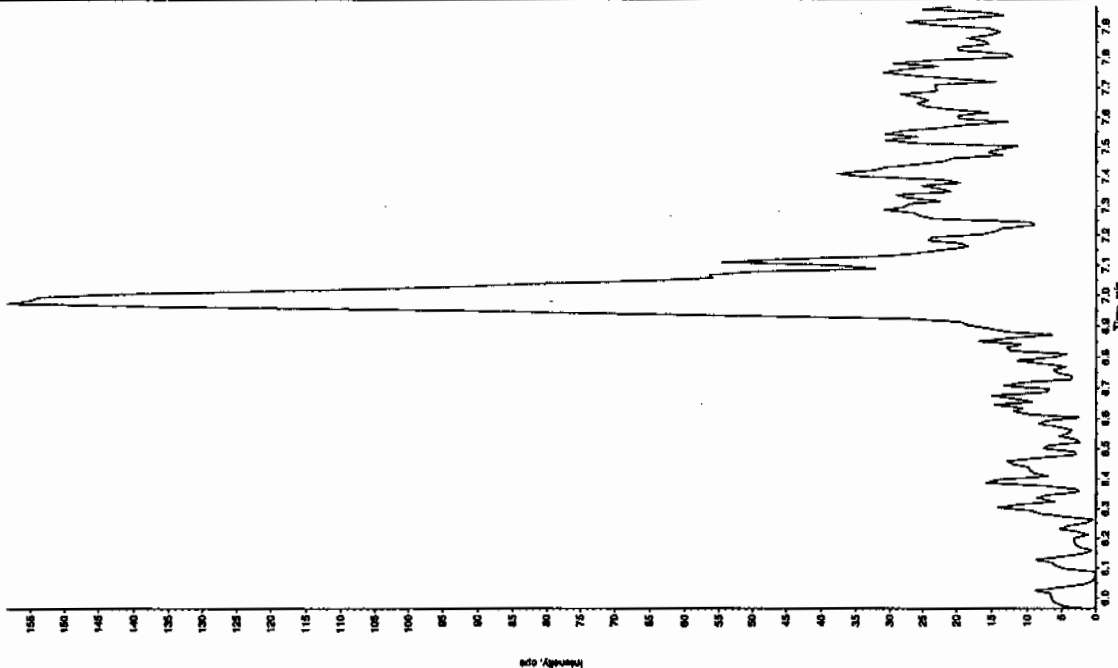
*Concentration =

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

11/10
JLW

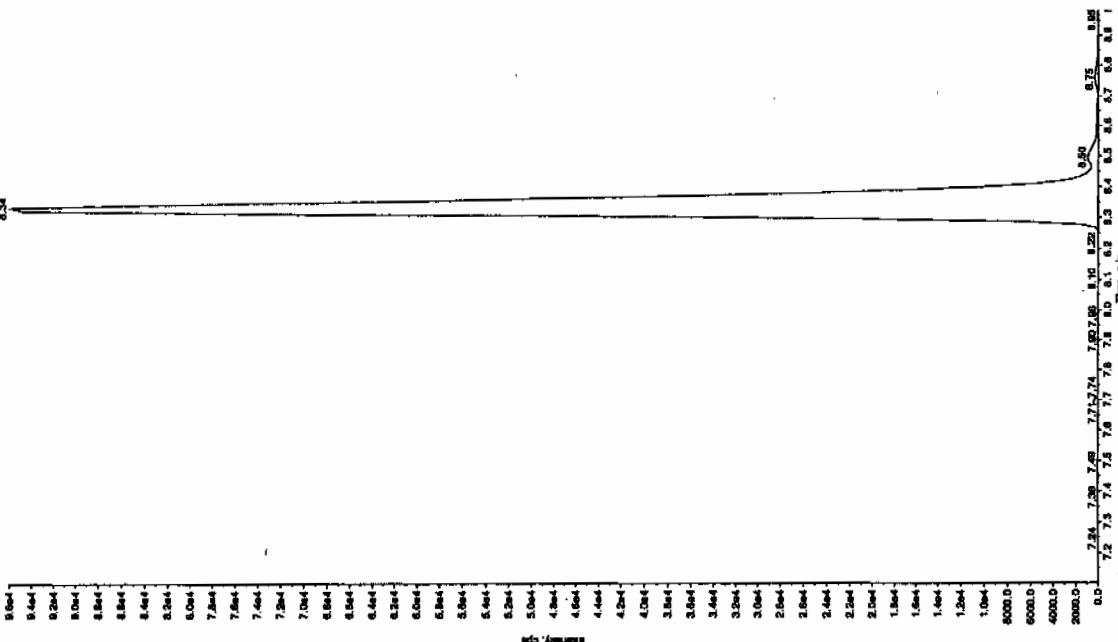
Sample Name: "243274007" Sample ID: "93824821" File: "EXS01030071.wif"
Peak Name: "TATB" Mass(es): "257.2204.9 amu"
Comment: "LCX832125" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/4/2010
Acq. Time: 6:00:23 AM
Modified: No

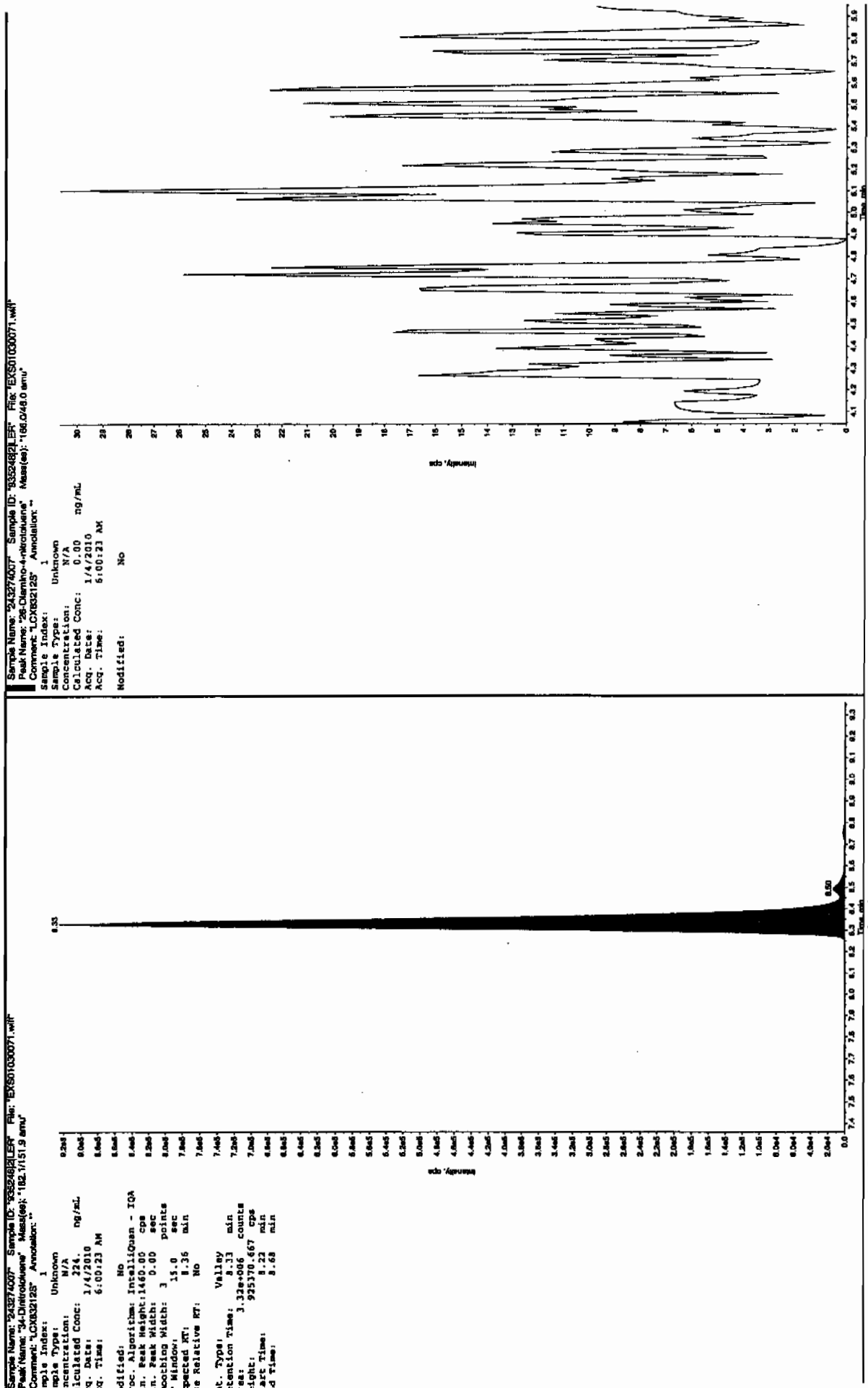


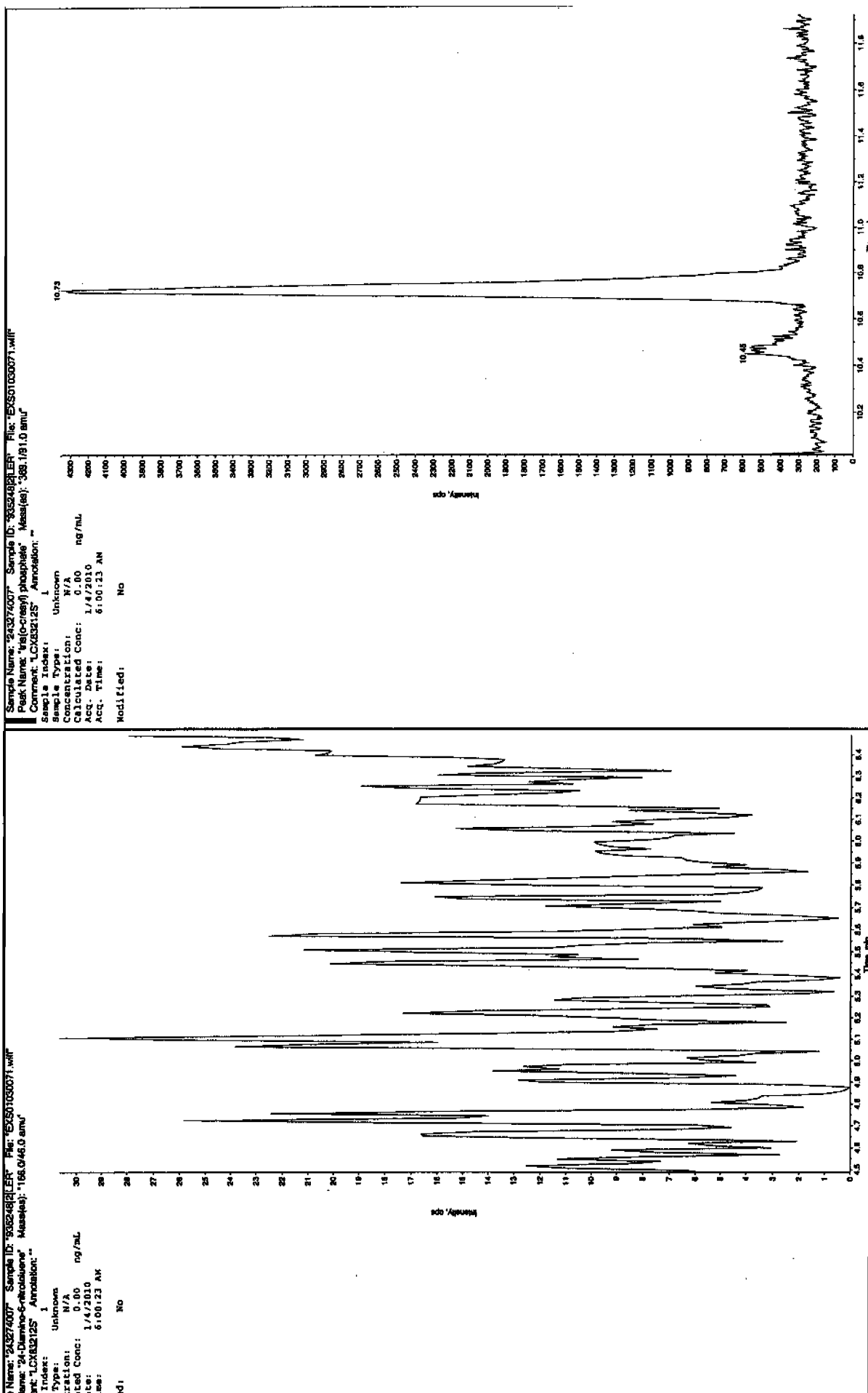
Sample Name: "243274007" Sample ID: "93824821" File: "EXS01030071.wif"
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCX832125" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/4/2010
Acq. Time: 6:00:23 AM
Modified: Yes



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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7354

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274008

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102082a

Date Analyzed: 04-JAN-10 05:24

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

Printed: Mon Jan 04 12:59:32 2010, Page 163 of 175

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

Dataset: C:\MASSLYNX\New_Exp\PRO1010210expA.qid, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP\PRO1010210expA.qid

Date: 04-Jan-2010

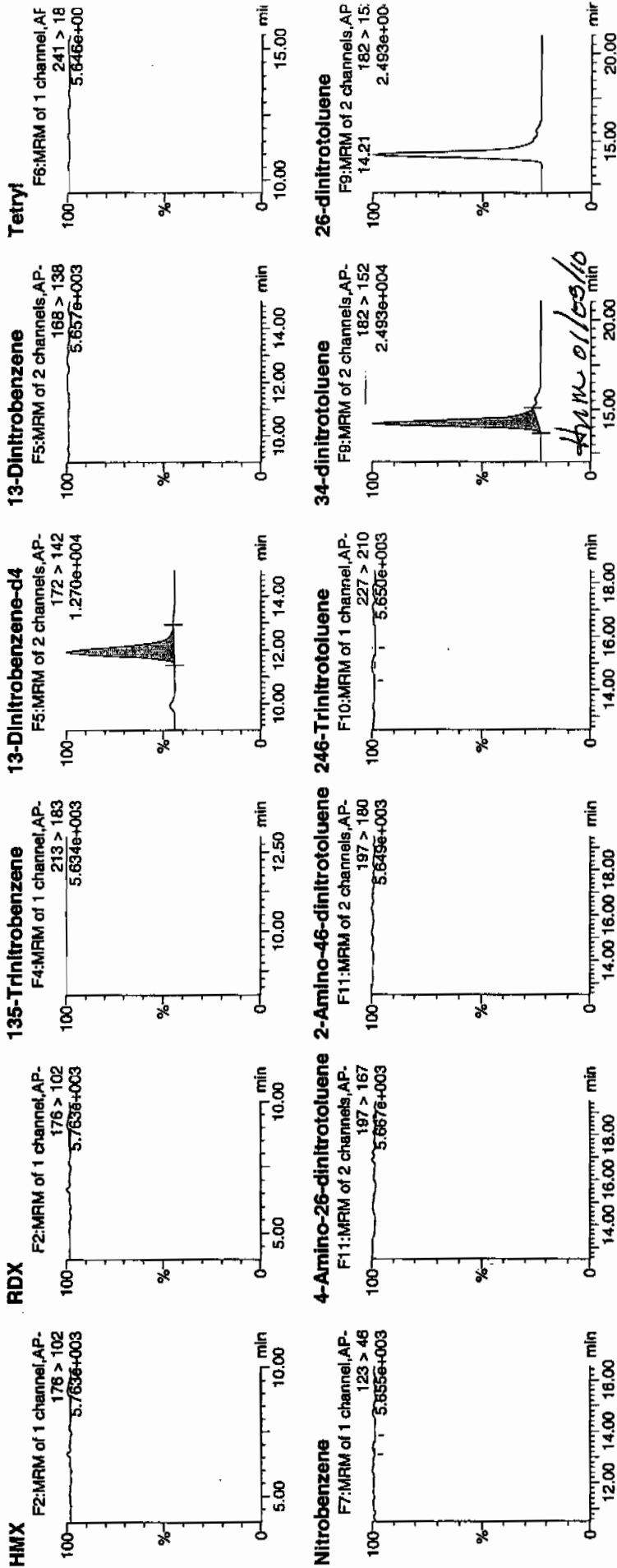
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ID: 243274008

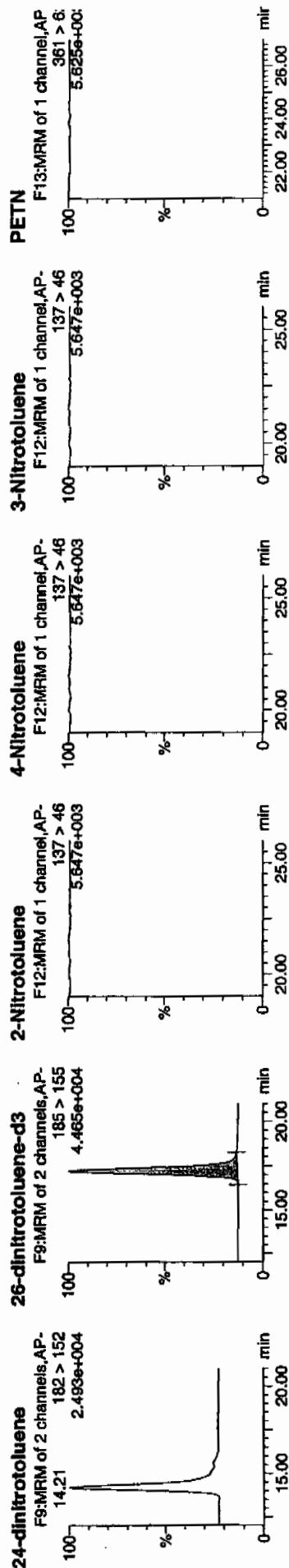
Vial: 2:8,D

1/4/10

121



Dataset: C:\MASSL\YXINew_Exp\PROV010210expA.qld, Time: Mon Jan 04 12:58:29 2010



ID	Name	RT	Area	Height	Width	SN
243274008	HMX	176 > 102	2827.607			
243274008	RDX	176 > 102	2827.607			
243274008	135-Trinitrobenzene	213 > 183	2827.607			
243274008	13-Dinitrobenzene-d4	172 > 142	11.95	2827.607		
243274008	13-Dinitrobenzene	168 > 138	2827.607			
243274008	Tetryl	241 > 181	2827.607			
243274008	Nitrobenzene	123 > 46	16885.939			
243274008	4-Amino-26-dinitrotoluene	197 > 167	16885.939			
243274008	2-Amino-46-dinitrotoluene	197 > 180	16885.939			
243274008	246-Trinitrotoluene	227 > 210	16885.939			
243274008	34-dinitrotoluene	182 > 152	8127.237			
243274008	26-dinitrotoluene	182 > 152	16885.939			
243274008	24-dinitrotoluene	182 > 152	16885.939			
243274008	26-dinitrotoluene-d3	185 > 155	17.20	16885.939		
243274008	2-Nitrotoluene	137 > 46	16885.939			
243274008	4-Nitrotoluene	137 > 46	16885.939			
243274008	3-Nitrotoluene	137 > 46	16885.939			
243274008	PETN	361 > 62				

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7354

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274008

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030072.wiff

Date Analyzed: 04-JAN-10 06:16

Units: ug/kg

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

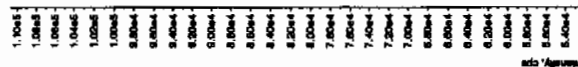
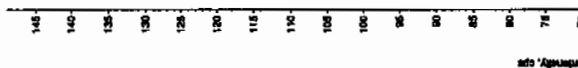
*Concentration =

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

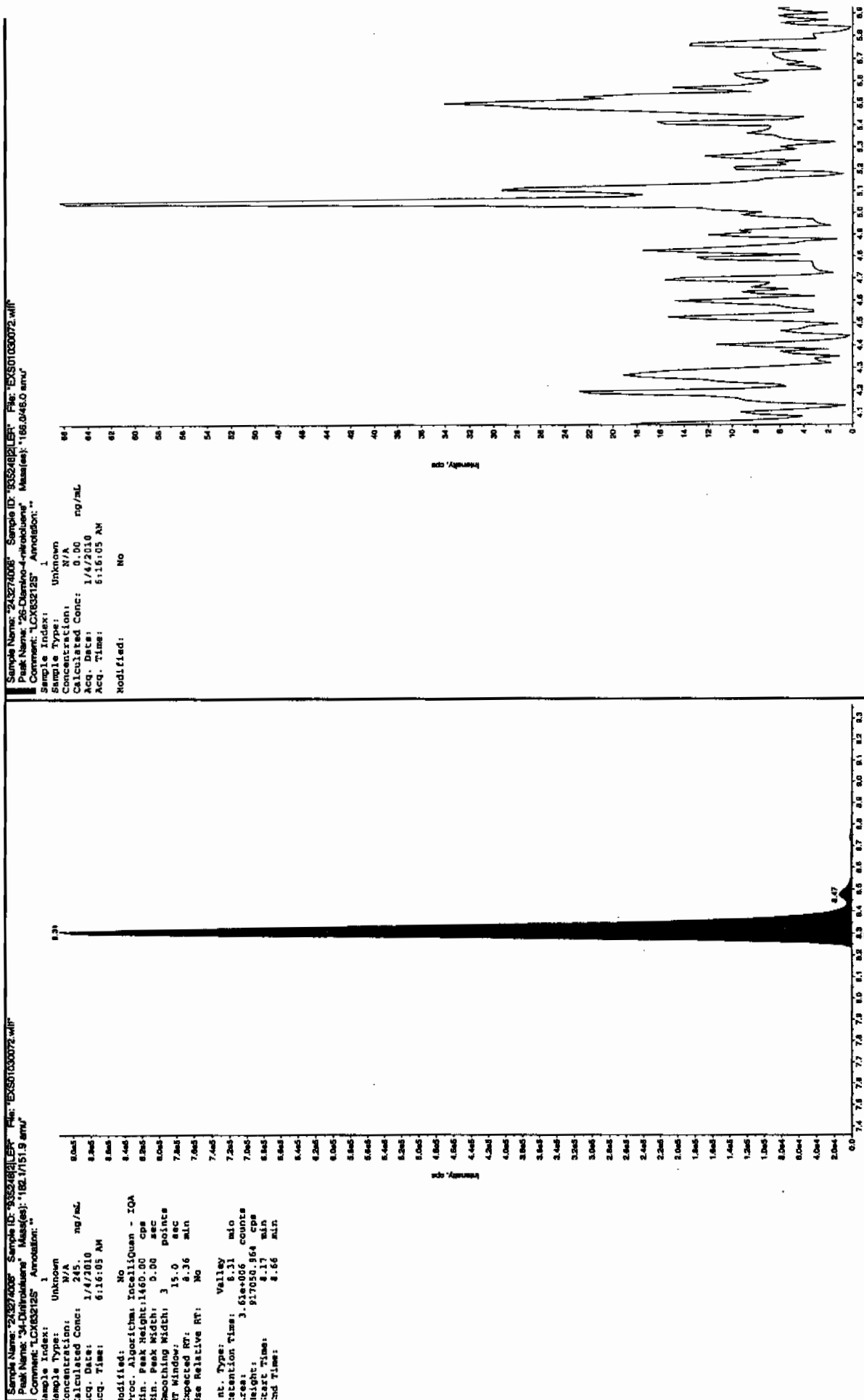
1/13/10
Jha

Sample Name: "243274005" Sample ID: "935248121" File: "EX501030072.wif"
Peak Name: "YATB" Mass(es): "257.2004.8 amu"
Comment: "LCX032125" Annotation: ""

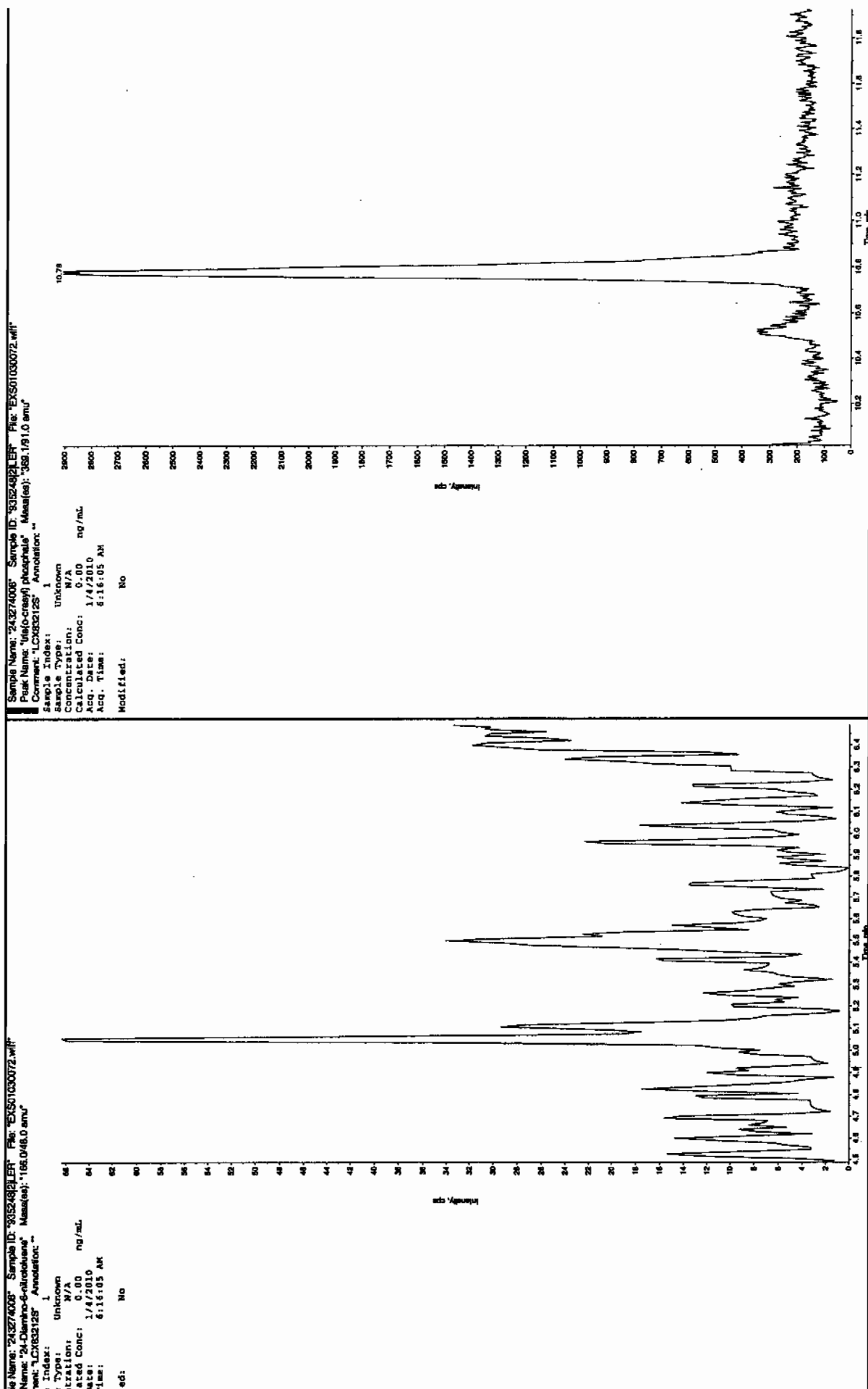
Sample Index: 1
Sample Type: Unknown
Concentration: 0.00 ng/mL
Calculated Conc: 1/4/2010
Acq. Date: 6:16:03 AM
Acq. Time: 6:16:03 AM
Modified: No



Amc 01/05/10



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



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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7355

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274009

Sample Amount 2

Moisture: 12.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102083a

Date Analyzed: 04-JAN-10 05:53

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		

Printed: Mon Jan 04 12:59:32 2010, Page 165 of 175

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

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102083a

Date: 04-Jan-2010

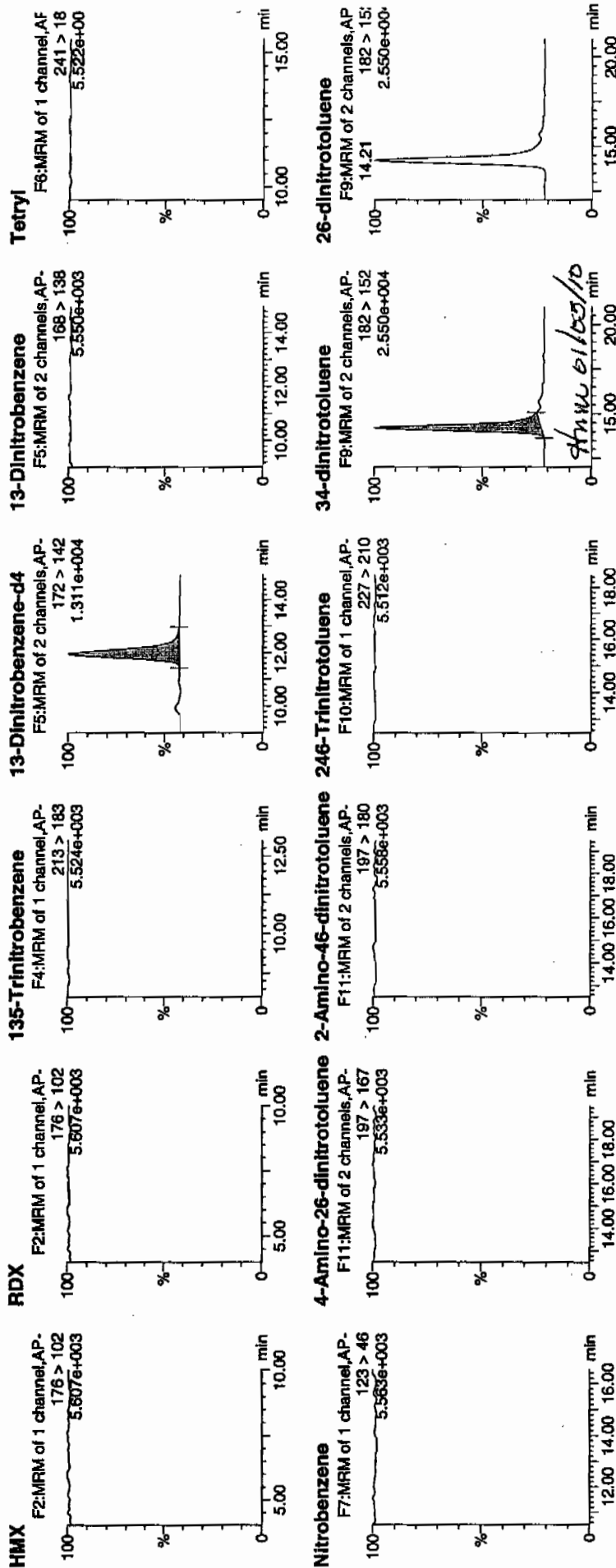
Time: 05:53:43

ID: 243274009

Vial: 2:8,E

147
1/4/10

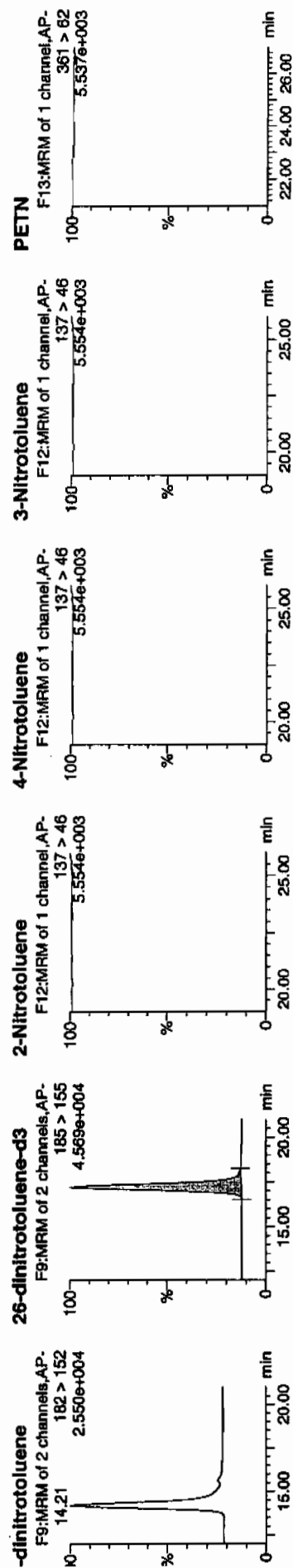
WAV | 935248 | 822 | 21



Quantify Sample Report

EL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	InChI	MW	Area	%Area	Response	Plate	MobilPhase	Volat	Temp	Time	Conc	Peak
HMX	3274009	176 > 102		2940.706								
RDX	3274009	176 > 102		2940.706								
135-Trinitrobenzene	3274009	213 > 183		2940.706								
13-Dinitrobenzene-d4	3274009	172 > 142	11.95	2940.706	2940.706	bb			619.0970	123.8	23.8	409.2
13-Dinitrobenzene	3274009	168 > 138		2940.706								
Tetryl	3274009	241 > 181		2940.706								
Nitrobenzene	3274009	123 > 46		2940.706								
4-Amino-26-dinitrotoluene	3274009	197 > 167		17105.660								
2-Amino-46-dinitrotoluene	3274009	197 > 180		17105.660								
246-Trinitrotoluene	3274009	227 > 210		17105.660								
34-dinitrotoluene	3274009	182 > 152	14.21	8207.658	8207.658	bb			269.0080	107.6	7.6	470.9
26-dinitrotoluene	3274009	182 > 152		17105.660								
24-dinitrotoluene	3274009	182 > 152		17105.660								
26-dinitrotoluene-d3	3274009	185 > 155	17.20	17105.660	17105.660	bb			622.1752	124.4	24.4	1265.0
2-Nitrotoluene	3274009	137 > 46		17105.660								
4-Nitrotoluene	3274009	137 > 46		17105.660								
3-Nitrotoluene	3274009	137 > 46		17105.660								
PETN	3274009	361 > 62		17105.660								

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7355

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274009

Sample Amount 2

Moisture: 12.9

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030073.wiff

Date Analyzed: 04-JAN-10 06:31

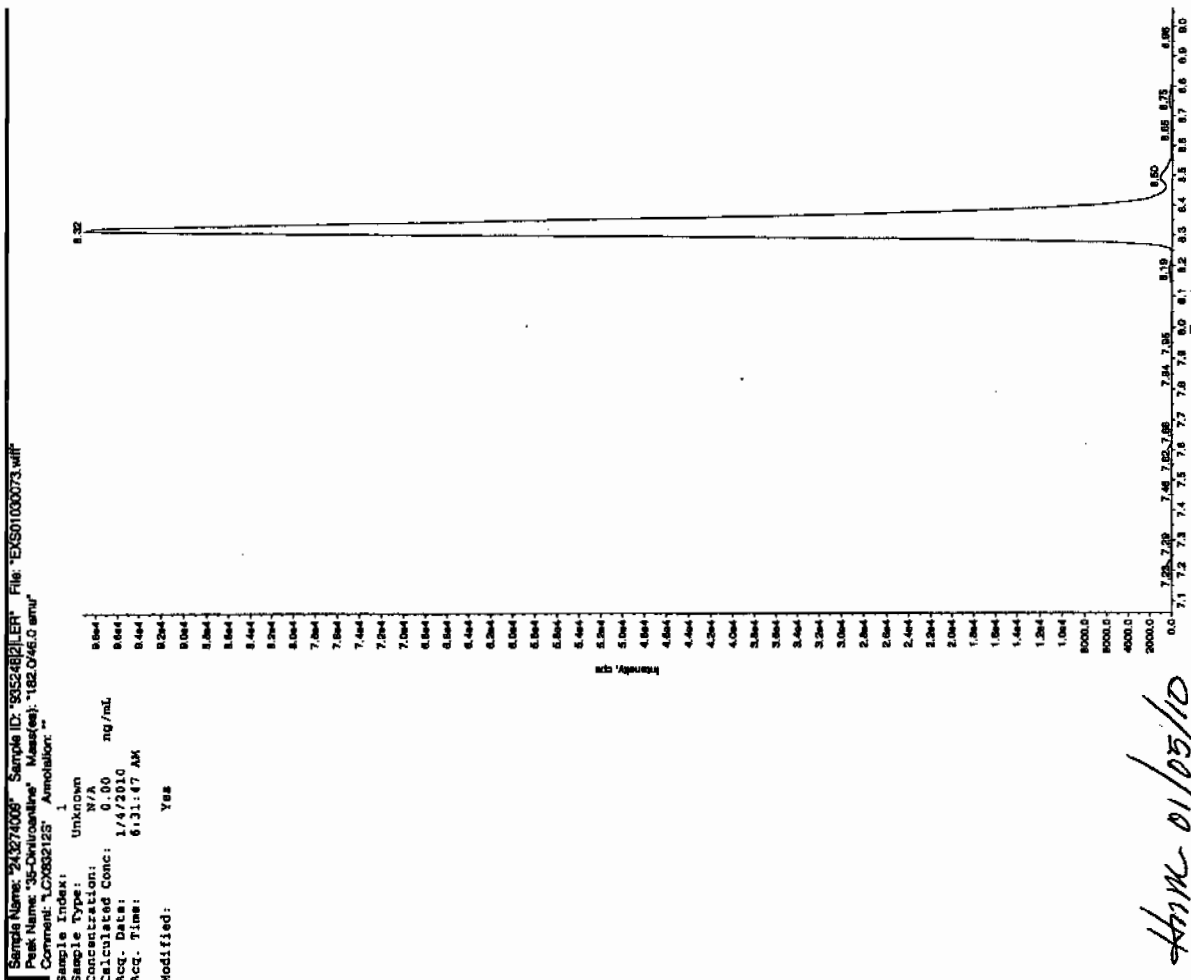
Units: ug/kg

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

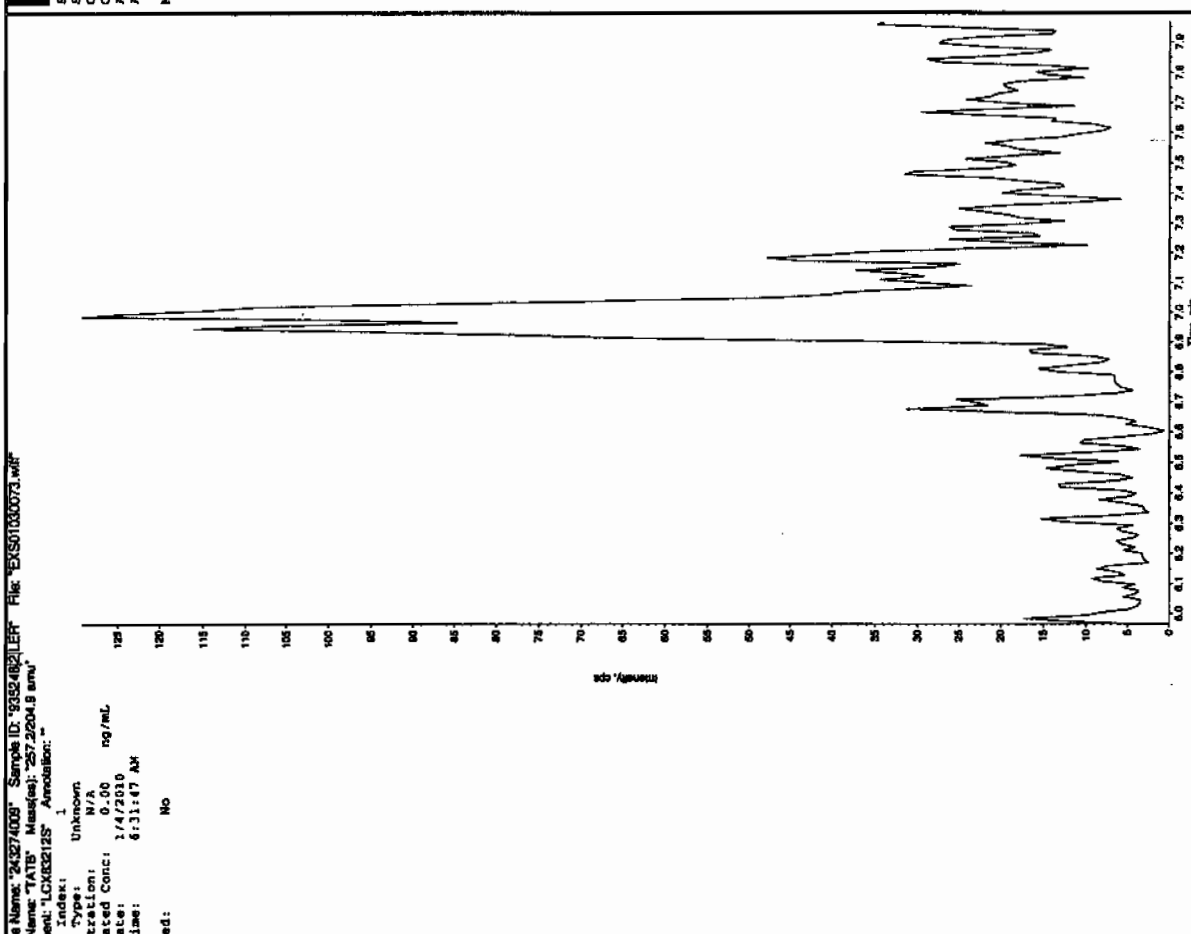
*Concentration =

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

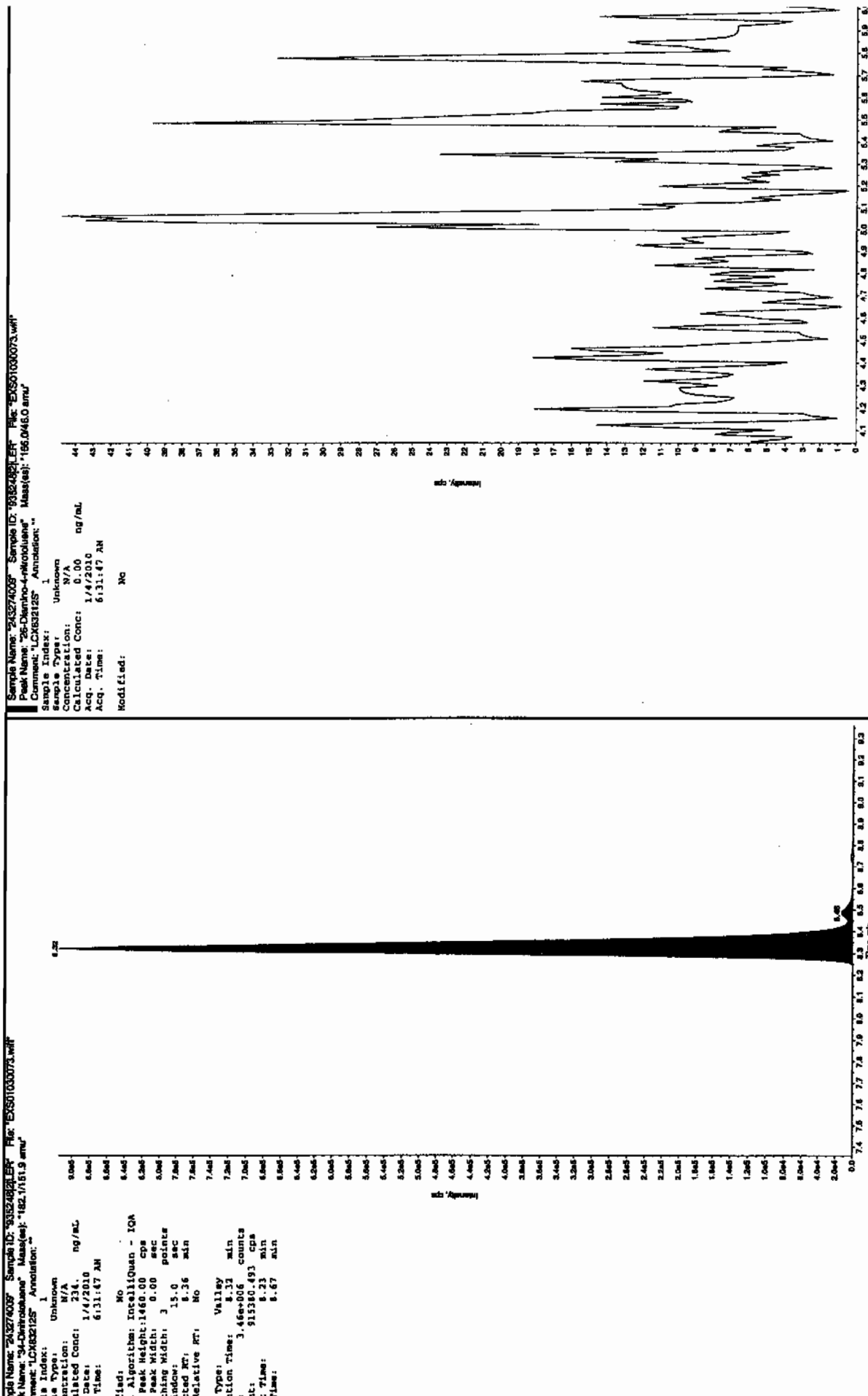
Peak
11/7/10



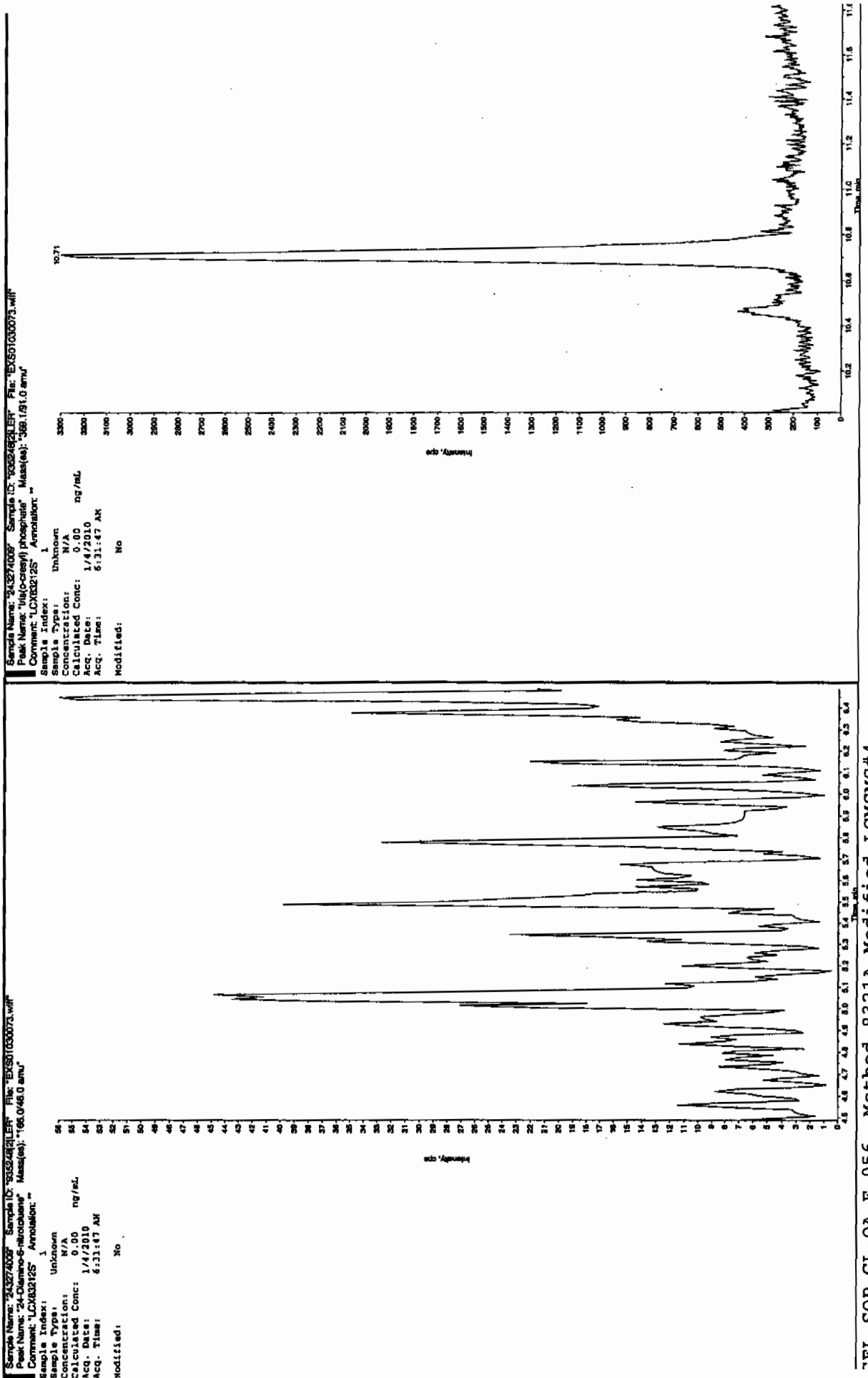
Time 01/05/10



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



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



3EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7364

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274010

Sample Amount 2

Moisture: 12.2

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102084a

Date Analyzed: 04-JAN-10 06:23

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>		

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

Dataset: C:\MASSLYNX\New_Exp.PRO\10210expA.qid, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102084a

Date: 04-Jan-2010

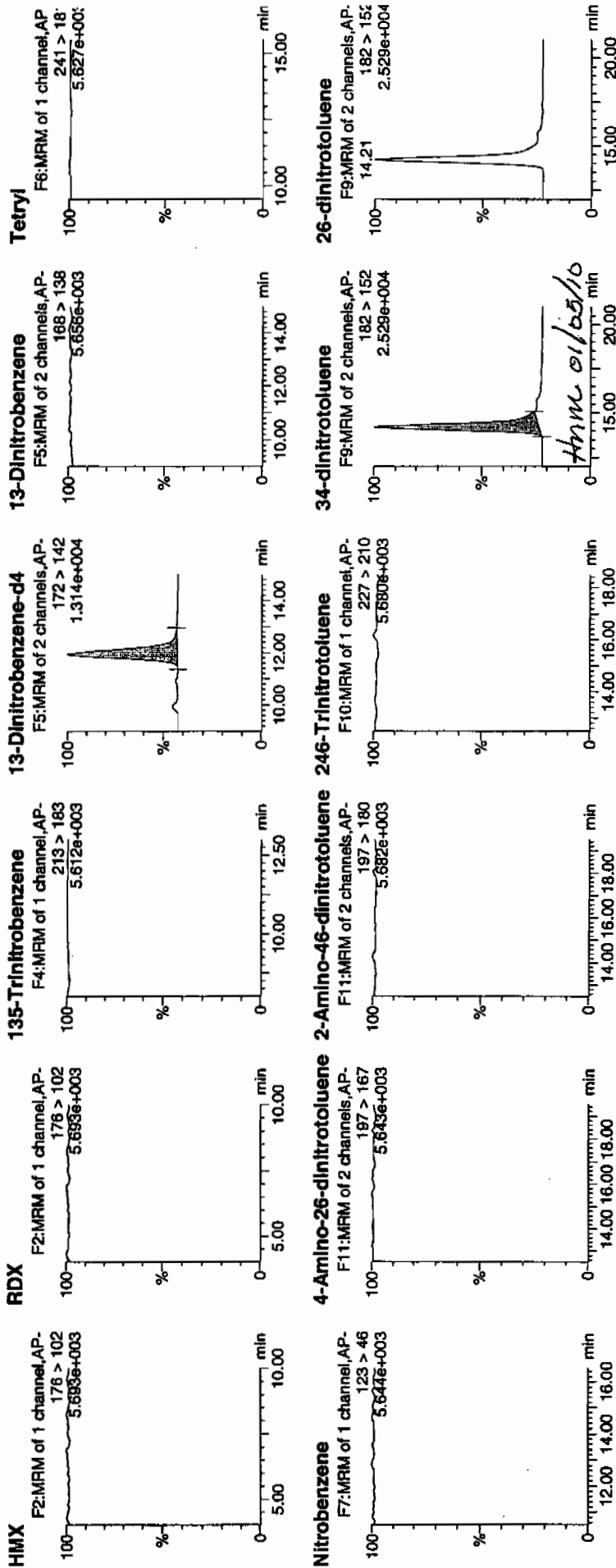
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ID: 243274010

Vial: 2:8,F

1/4/10

935248 / 8225 / 21

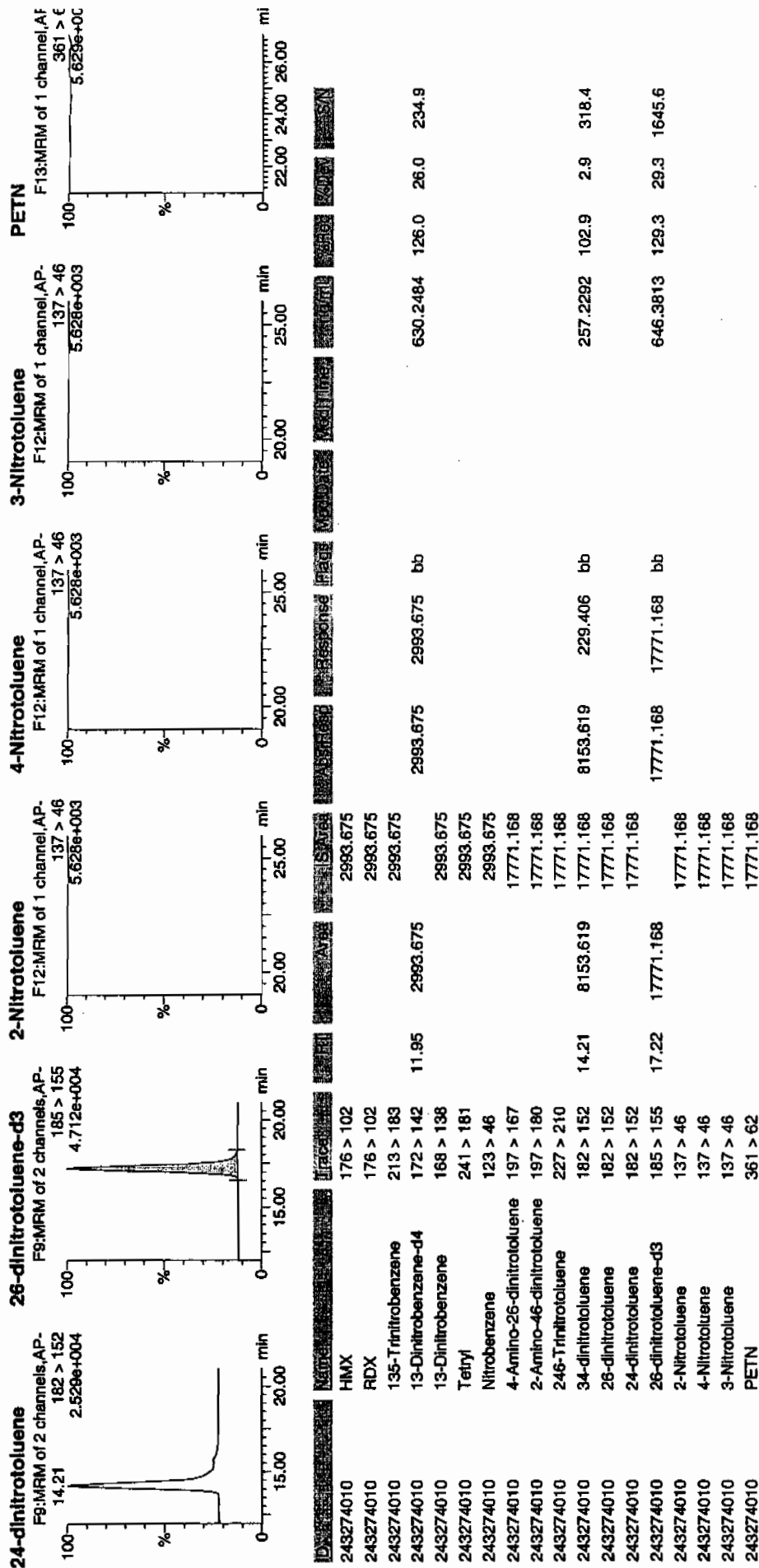


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Mon Jan 04 12:59:32 2010, Page 168 of 175

Dataset: C:\MASSLYNX\New_Exp\PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7364

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 243274010

Sample Amount 2

Moisture: 12.2

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030074.wiff

Date Analyzed: 04-JAN-10 06:47

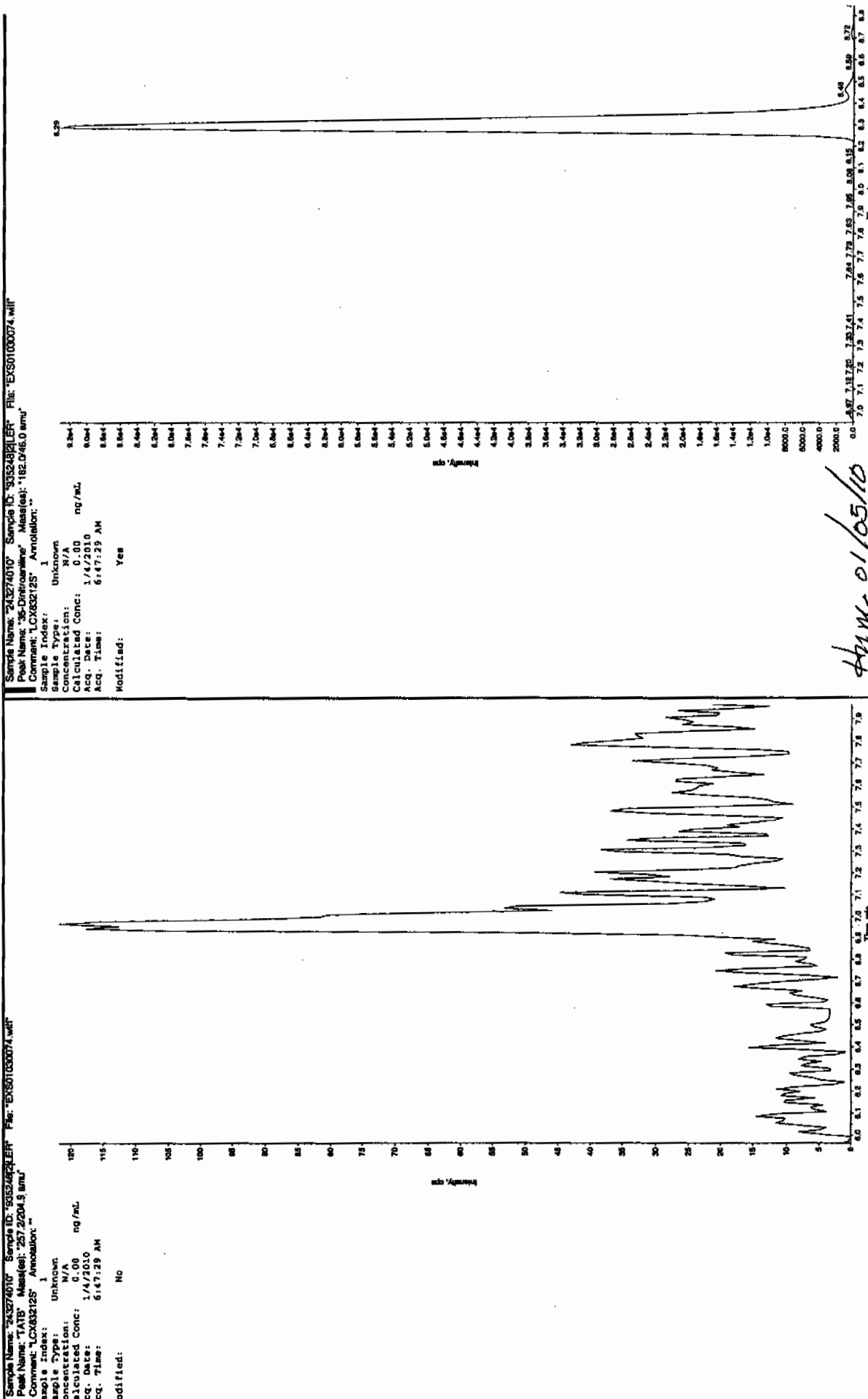
Units: ug/kg

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

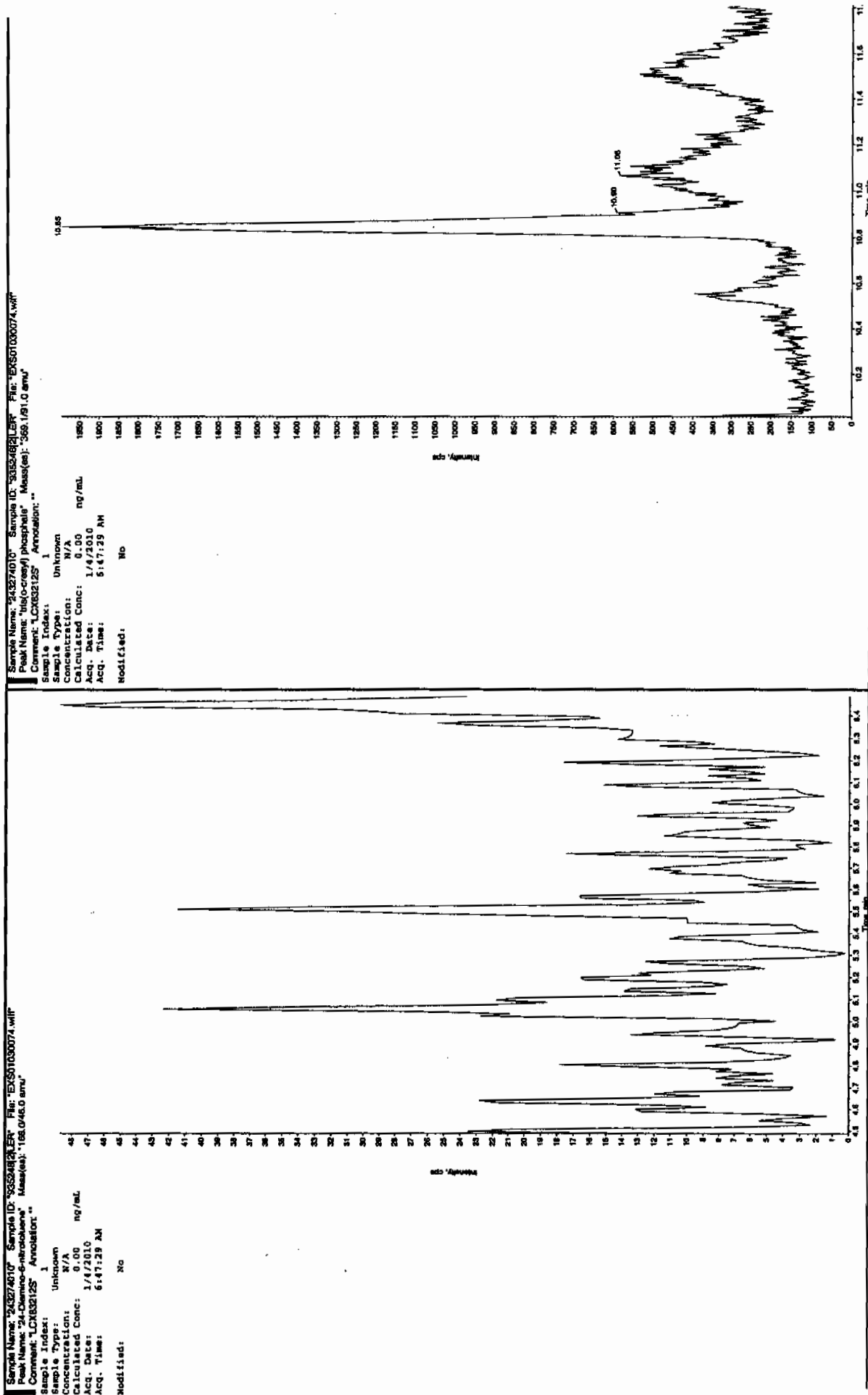
*Concentration =

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

11/17/10
JH



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



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

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)	125	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
PETN	25	50	200	400	800	1000	na	600
Picric Acid	200	400	1600	3200	6400	8000	na	4800
3,4-Dinitrotoluene (Surrogate)	25	50	125	250	375	500	1000	250
Secondary Analytes								
2,4-Diamino-6-nitrotoluene	50	100	250	500	750	1000	2000	500
2,6-Diamino-4-nitrotoluene	50	100	250	500	750	1000	2000	500
3,5-Dinitroaniline	50	100	250	500	750	1000	2000	500
TATB	50	100	250	500	750	1000	2000	500
tris(o-Cresyl)phosphate	50	100	250	500	750	1000	2000	500

All values are ug/L without the prep factor

Calibration Levels 8321A-Modified-EXPL.xls (08/09A)

Calibration Levels 8321A-Modified-EXPL.xls

Form 6

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-989

Lab Code: GEL

Run Date: 02-JAN-10.03-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Parameter	1	2	3	4	5	6	Ave RF	RSD	Q
Calibration Level:	EXP0102003a	EXP0102004a	EXP0102005a	EXP0102006a	EXP0102007a	EXP0102008a			
Data File:									
1,3,5-Trinitrobenzene	4.318	4.089	3.38	3.337	3.596	3.609	3.722	10.642	
1,3-Dinitrobenzene-d4	4.594	4.892	5.245	4.853	4.74	4.176	4.750	7.469	
2,4,6-Trinitrotoluene	.324	.27	.296	.376	.317	.352	0.323	11.715	
2,4-Dinitrotoluene	.333	.257	.23	.238	.248	.25	0.259	14.298	
2,6-Dinitrotoluene	1.056	1.067	1.046	1.047	1.098	1.109	1.071	2.49	
2,6-Dinitrotoluene-d3	26.342	28.851	28.407	29.409	27.735	24.216	27.493	6.991	
2-Amino-4,6-dinitrotoluene	.366	.397	.389	.324	.401	.403	0.380	8.056	
3,4-Dinitrotoluene	.84	.931	.854	.829	.955	.941	0.892	6.336	
4-Amino-2,6-dinitrotoluene	.388	.28	.282	.252	.275	.291	0.295	16.213	
HMX	3.197	3.098	2.824	2.818	3.024	3.057	3.003	5.079	
Nitrobenzene	.952	.969	.952	.998	.968	1.038	0.980	3.385	
PETN	2.383	2.307	2.016	1.75	1.626	1.798	1.980	15.68	
RDX	2.307	2.462	1.821	2.321	2.614	2.547	2.345	12.109	
m-Dinitrobenzene	1.07	1.209	1.189	1.17	1.18	1.201	1.170	4.341	
m-Nitrotoluene	.109	.108	.096	.092	.103	.095	0.101	7.208	
o-Nitrotoluene	.201	.199	.161	.151	.153	.158	0.171	13.445	
p-Nitrotoluene	.077	.116	.082	.076	.082	.079	0.085	17.926	

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

Form 1

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-989

Lab Code: GEL

Run Date: 02-JAN-10.03-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: 2nd Order

	1	2	3	4	5	6	X	X^2	Intercept	COD	Q
Calibration Level:	EXP0102003a	EXP0102004a	EXP0102005a	EXP0102006a	EXP0102007a	EXP0102008a					
Data File:											
Paraname:											
Tetryl	192.024	383.95	1295.68	2365.49	4002.92	4420.34	1.199	-0.0001699	17.217	.9988	

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

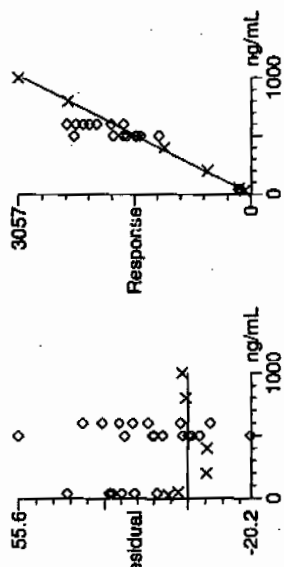
uantify Calibration Report
EL Laboratories, LLC / Analyst : Michael A. Penny

atset: C:\MASSLYNX\New_Exp\PRO1010210expA.qld, Time: Mon Jan 04 12:58:29 2010

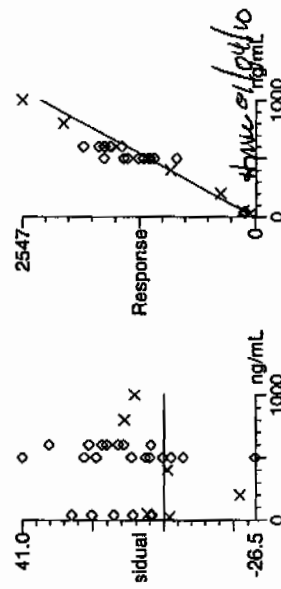
ethod: C:\MASSLYNX\New_Exp\PRO1010210expA.mdb, Time: Mon Jan 04 10:47:42 2010
alibration: Untitled, Time: Mon Jan 04 12:58:28 2010

Compound name: HMX
sponse Factor: 3.00294
IF SD: 0.152528, % Relative SD: 5.07929
sponse type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
ve type: RIF

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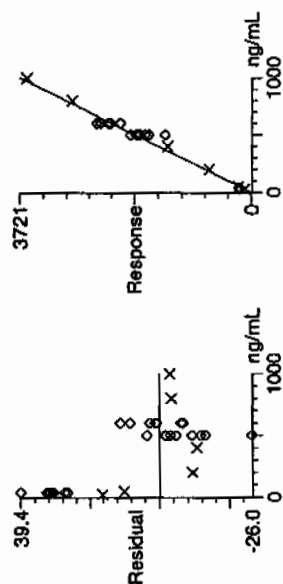
Compound name: RDX
sponse Factor: 2.34556
IF SD: 0.284023, % Relative SD: 12.1089
sponse type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
ve type: RIF



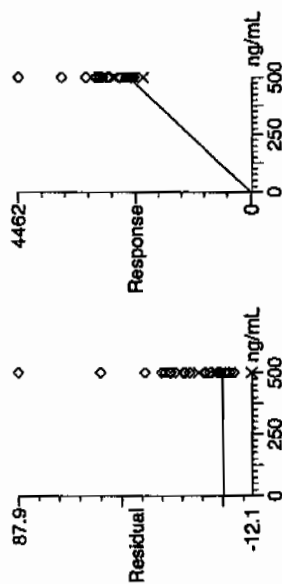
Quantify Calibration Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Compound name: 135-Trinitrobenzene
Response Factor: 3.72139
RRF SD: 0.39604, % Relative SD: 10.6423
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



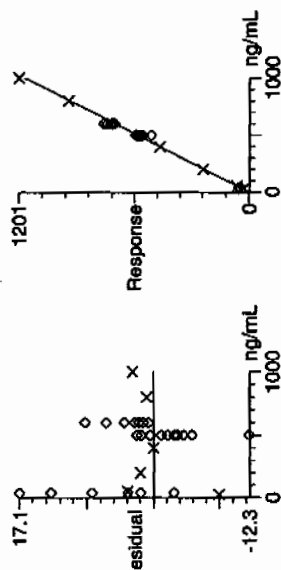
Compound name: 13-Dinitrobenzene-d4
Response Factor: 4.74999
RRF SD: 0.354763, % Relative SD: 7.46871
Response type: External Std, Area
Curve type: RF



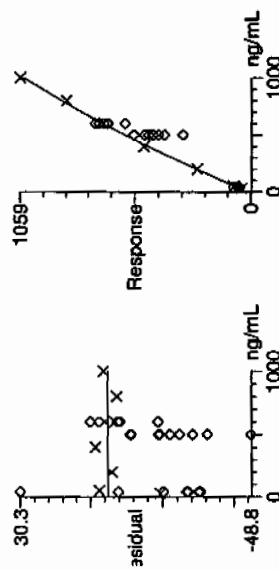
Quantify Calibration Report
 iEL Laboratories, LLC / Analyst: Michael A. Penny

atset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Compound name: 13-Dinitrobenzene
 Response Factor: 1.16963
 RF SD: 0.05077, % Relative SD: 4.3407
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: RF



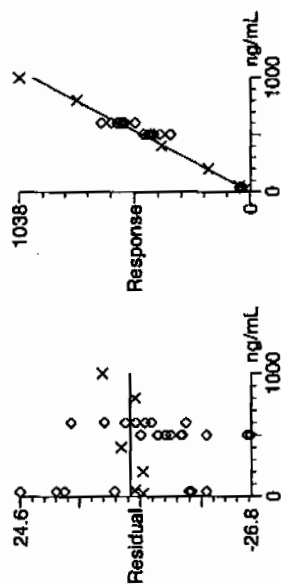
Compound name: Tetraol
 Coefficient of Determination: 0.998799
 Calibration curve: $-0.000169874 \cdot x^2 + 1.199 \cdot x + 17.2166$
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: 2nd Order, Origin: Exclude, Weighting: None



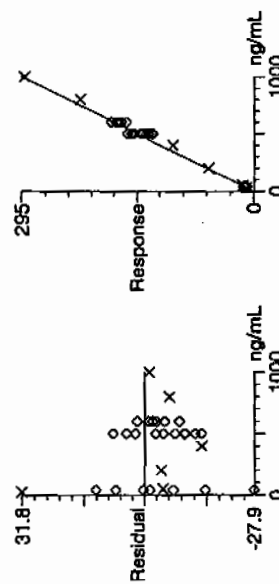
Quantify Calibration Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Compound name: Nitrobenzene
Response Factor: 0.979524
RRF SD: 0.0331575, % Relative SD: 3.38506
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



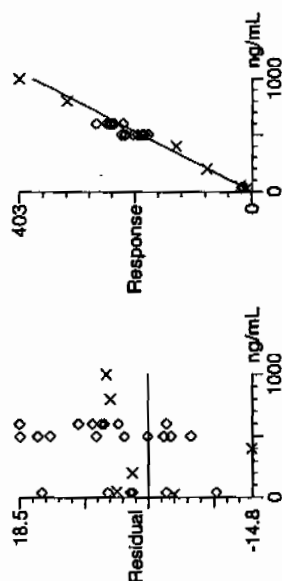
Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.294613
RRF SD: 0.0477657, % Relative SD: 16.2131
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



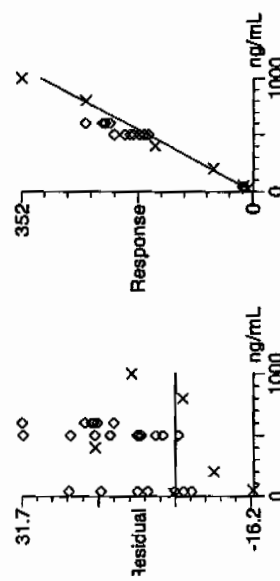
Quantify Calibration Report GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Compound name: 2-Amino-46-dinitrotoluene
Response Factor: 0.379884
RRF SD: 0.0306017, % Relative SD: 8.05555
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



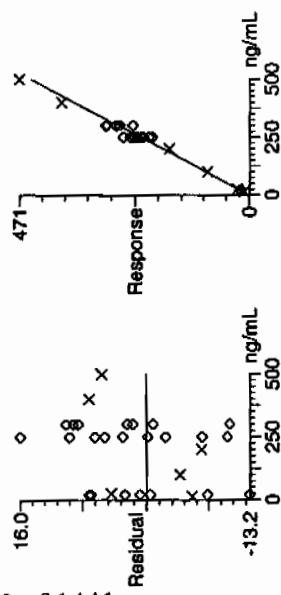
Compound name: 246-Trinitrotoluene
Response Factor: 0.322644
RRF SD: 0.0377987, % Relative SD: 11.7153
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



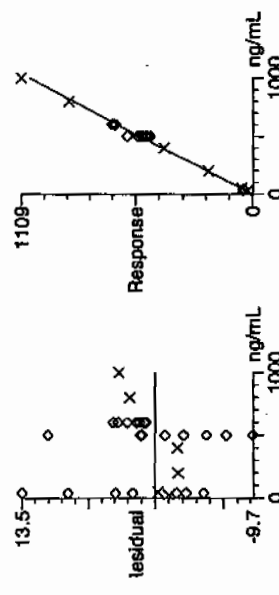
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Compound name: 34-dinitrotoluene
 Response Factor: 0.891834
 RF SD: 0.0565042, % Relative SD: 6.33572
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



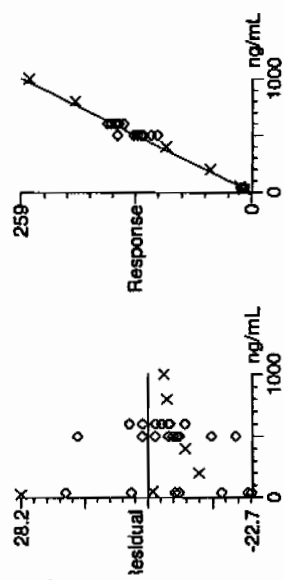
Compound name: 26-dinitrotoluene
 Response Factor: 1.07058
 RF SD: 0.0266558, % Relative SD: 2.48985
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



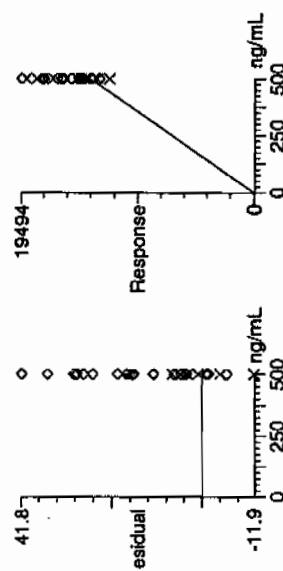
Quantify Calibration Report
IEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO1010210expA.qtd, Time: Mon Jan 04 12:58:29 2010

Compound name: 24-dinitrotoluene
Response Factor: 0.259433
RF SD: 0.0370927, % Relative SD: 14.2976
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



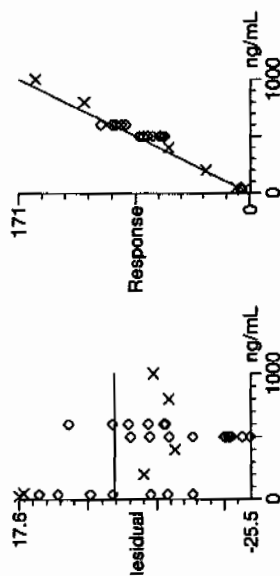
Compound name: 26-dinitrotoluene-d3
Response Factor: 27.4933
RF SD: 1.92214, % Relative SD: 6.9913
Response type: External Std, Area
Curve type: RF



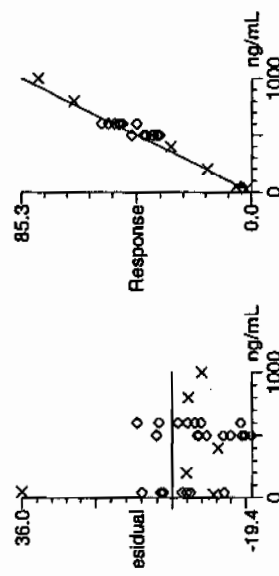
Quantify Calibration Report
iEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qtd, Time: Mon Jan 04 12:58:29 2010

Compound name: 2-Nitrotoluene
Response Factor: 0.170739
RF SD: 0.0229553, % Relative SD: 13.4447
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



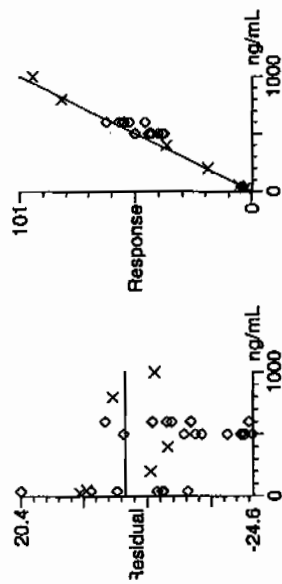
Compound name: 4-Nitrotoluene
Response Factor: 0.0853292
RF SD: 0.0152961, % Relative SD: 17.926
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



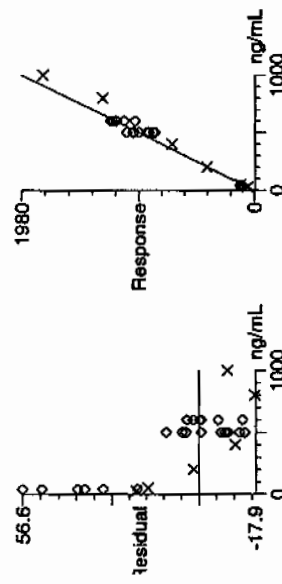
Quantify Calibration Report JEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Compound name: 3-Nitrotoluene
Response Factor: 0.100565
IRF SD: 0.00724884, % Relative SD: 7.20812
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: PETN
Response Factor: 1.98004
IRF SD: 0.310463, % Relative SD: 15.6796
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): 10-989

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0102010a

Analysis Date: 02-JAN-10 17:59

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Nitrobenzene	600	678.114	113	
PETN	600	595.938	99	
RDX	600	679.547	113	
Tetryl	600	618.252	103	
m-Dinitrobenzene	600	603.855	101	
m-Nitrotoluene	600	568.922	95	
o-Nitrotoluene	600	601.903	100	
p-Nitrotoluene	600	618.825	103	
1,3,5-Trinitrobenzene	600	648.798	108	
1,3-Dinitrobenzene-d4	500	485.534	97	
2,4,6-Trinitrotoluene	600	676.637	113	
2,4-Dinitrotoluene	600	570.991	95	
2,6-Dinitrotoluene	600	622.033	104	
2,6-Dinitrotoluene-d3	500	494.502	99	
2-Amino-4,6-dinitrotoluene	600	638.21	106	
3,4-Dinitrotoluene	300	297.504	99	
4-Amino-2,6-dinitrotoluene	600	545.798	91	
HMX	600	557.551	93	

Recovery Limits:

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

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\10210expA.qld, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102010a

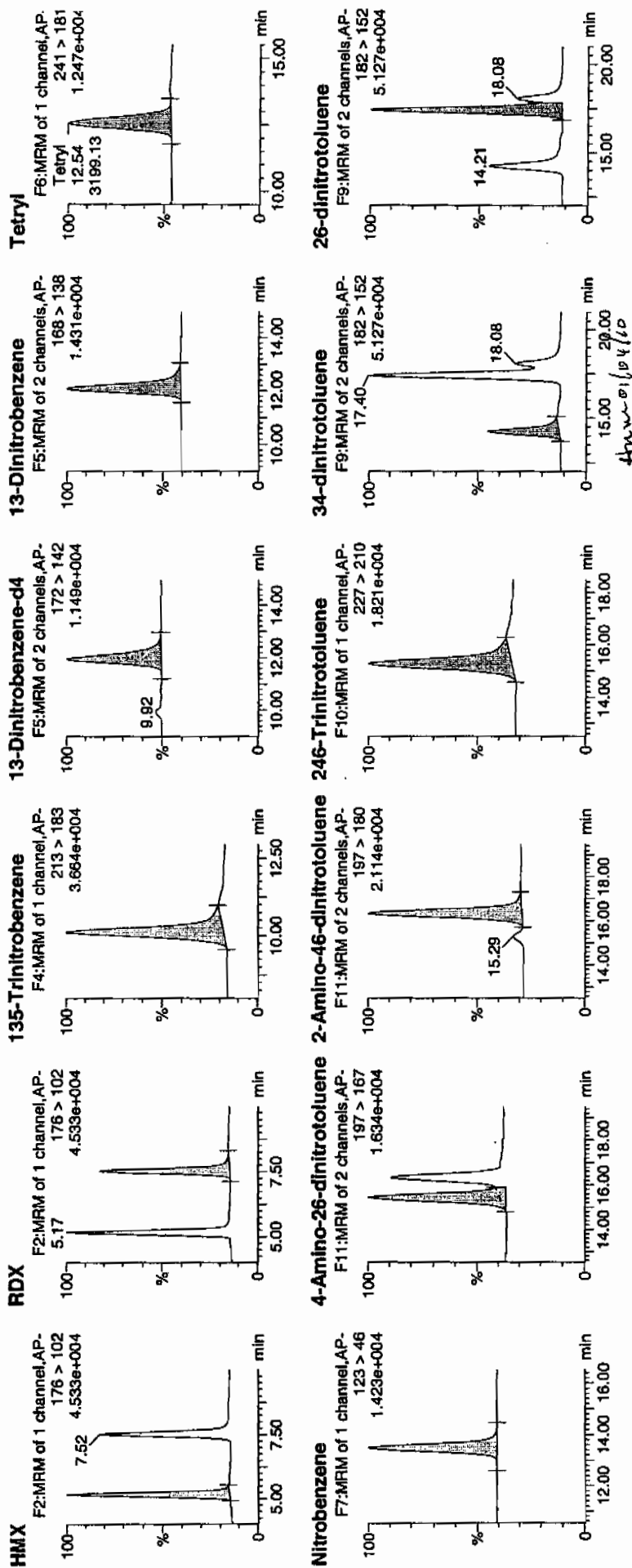
Date: 02-Jan-2010

Time: 17:59:15

ID: WXX100102-07ICV

Vial: 1:1,B

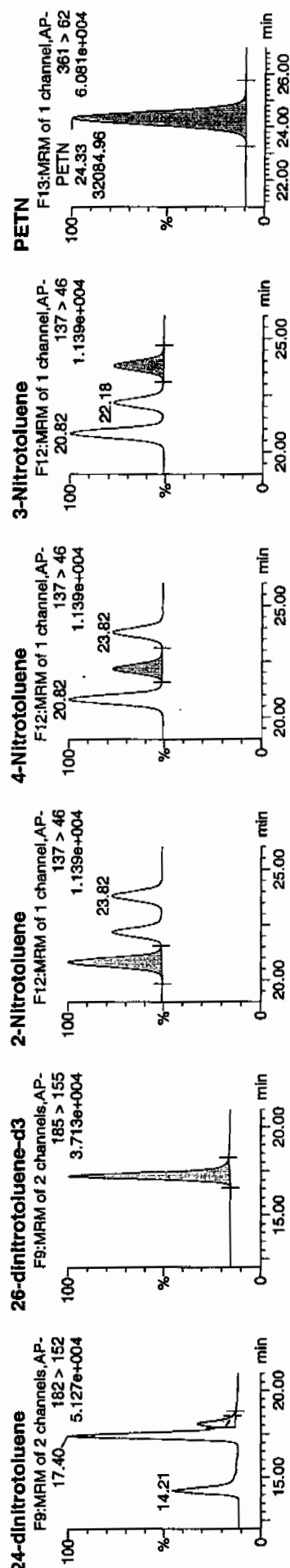
11/4/10



Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Med Time	Exp No	Exp	MSN	
WXX100102-07ICV	HMX	176 > 102	5.17	7722.791	2306.284	7722.791	1674.293	bb		557.5509	92.9	-7.1	842.8	
WXX100102-07ICV	RDX	176 > 102	7.52	7352.066	2306.284	7352.066	1593.920	bb		679.5465	113.3	13.3	689.1	
WXX100102-07ICV	135-Trinitrobenzene	213 > 183	10.11	11136.717	2306.284	11136.717	2414.429	bb		648.7976	108.1	8.1	329.9	
WXX100102-07ICV	13-Dinitrobenzene-d4	172 > 142	11.95	2306.284	2306.284	2306.284	2306.284	bb		485.5343	97.1	-2.9	225.6	
WXX100102-07ICV	13-Dinitrobenzene	168 > 138	12.07	3257.784	2306.284	3257.784	706.284	bb		603.8547	100.6	0.6	714.8	
WXX100102-07ICV	Tetryl	241 > 181	12.54	3199.129	2306.284	3199.129	693.568	bb		618.2521	103.0	3.0	165.1	
WXX100102-07ICV	Nitrobenzene	123 > 46	13.50	3063.801	2306.284	3063.801	664.229	bb		678.1138	113.0	13.0	179.7	
WXX100102-07ICV	4-Amino-26-dinitrotoluene	197 > 167	15.43	4372.283	13595.504	4372.283	160.799	MM	04-Jan-10	10:55:45	545.7977	91.0	-9.0	253.0
WXX100102-07ICV	2-Amino-46-dinitrotoluene	197 > 180	16.34	6592.334	13595.504	6592.334	242.445	bb		638.2098	106.4	6.4	278.8	
WXX100102-07ICV	246-Trinitrotoluene	227 > 210	15.28	5936.142	13595.504	5936.142	218.313	bb		676.6366	112.8	12.8	367.6	
WXX100102-07ICV	34-dinitrotoluene	182 > 152	14.21	7214.438	13595.504	7214.438	265.324	bb		297.5041	99.2	-0.8	236.2	
WXX100102-07ICV	26-dinitrotoluene	182 > 152	17.40	18107.439	13595.504	18107.439	665.935	MM	04-Jan-10	11:09:04	622.0327	103.7	3.7	625.3
WXX100102-07ICV	24-dinitrotoluene	182 > 152	18.08	4027.907	13595.504	4027.907	148.134	MM	04-Jan-10	11:27:40	570.9910	95.2	-4.8	138.8
WXX100102-07ICV	26-dinitrotoluene-d3	185 > 155	17.22	13595.504		13595.504	13595.504	bb		494.5021	98.9	-1.1	1528.4	
WXX100102-07ICV	2-Nitrotoluene	137 > 46	20.82	2794.380	13595.504	2794.380	102.769	bb		601.9030	100.3	0.3	124.4	
WXX100102-07ICV	4-Nitrotoluene	137 > 46	22.18	1435.789	13595.504	1435.789	52.804	bb		618.8249	103.1	3.1	65.9	
WXX100102-07ICV	3-Nitrotoluene	137 > 46	23.82	1555.694	13595.504	1555.694	57.214	bb		568.9215	94.8	-5.2	67.2	
WXX100102-07ICV	PETN	361 > 62	24.33	32084.961	13595.504	32084.961	1179.984	bb		595.9384	99.3	-0.7	9789.9	

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/02/10
 Time of Injection: 1759
 Standard Number: WXX100102-07ICV
 Data File: EXP0102010a

HMX	92.9
RDX	113.3
135-TNB	108.1
13-DNB	100.6
Tetryl	103.0
Nitrobenzene	113.0
4A-26-DNT	91.0
2A-46-DNT	106.4
246-TNT	112.8
34-DNT(surr)	99.2
26-DNT	103.7
24-DNT	95.2
2-NT	100.3
4-NT	103.1
3-NT	94.8
PETN	99.3

11/1/10

Total 1636.7

Average 102.3

Annex 01/04/10

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: 10-982

Lab Code: GEL

Run Date: 02-JAN-10.03-JAN-10

LCMSMS Instrument ID: LCMSMS4

Method: 8321A Modified

HPLC Column: YMC.J-Sphere ODS-H8O

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01030003.wiff	EXS01030004.wiff	EXS01030005.wiff	EXS01030006.wiff	EXS01030007.wiff	EXS01030008.wiff	EXS01030009.wiff					
Parname:												
2,4-Diamino-6-nitrotoluene	145000	283000	723000	1290000	2030000	2670000	5080000	8370	2750	-107	.9998	
2,6-Diamino-4-nitrotoluene	238000	423000	1070000	1840000	2880000	3680000	7470000	86000	3600	.045	.9998	
3,4-Dinitrotoluene	382000	730000	1740000	3570000	5200000	6660000	12100000	-38700	15800	-3.7	.9983	
3,5-Dinitroaniline	597000	1060000	2760000	5020000	7220000	8910000	14700000	102000	10600	-1.65	.9998	
TATB	71500	149000	368000	691000	1050000	1400000	2740000	5520	1410	-.02	1	
tris(o-cresyl) phosphate	1440000	2790000	6700000	12200000	17200000	21700000	33600000	245000	26300	-4.8	1	

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

010310ICAL

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

Fit	Quadratic	Weighting	None	Iterate No
a0	5.52e+003			
a1	1.41e+003			
a2	-0.0198			
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	1.02e+005			
a1	1.06e+004			
a2	-1.65			
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	-3.87e+004			
a1	1.58e+004			
a2	-3.7			
Correlation coefficient 0.9983				
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	8.6e+004			
a1	3.6e+003			
a2	0.0447			
Correlation coefficient 0.9998				
Use Area				

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

8/2/15/10

HAW 01/05/10

010310ICAL

Iterate No

None

weighting

Fit Quadratic
a0 8.37e+003
a1 2.75e+003
a2 -0.107
Correlation coefficient 0.9998
Use Area

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

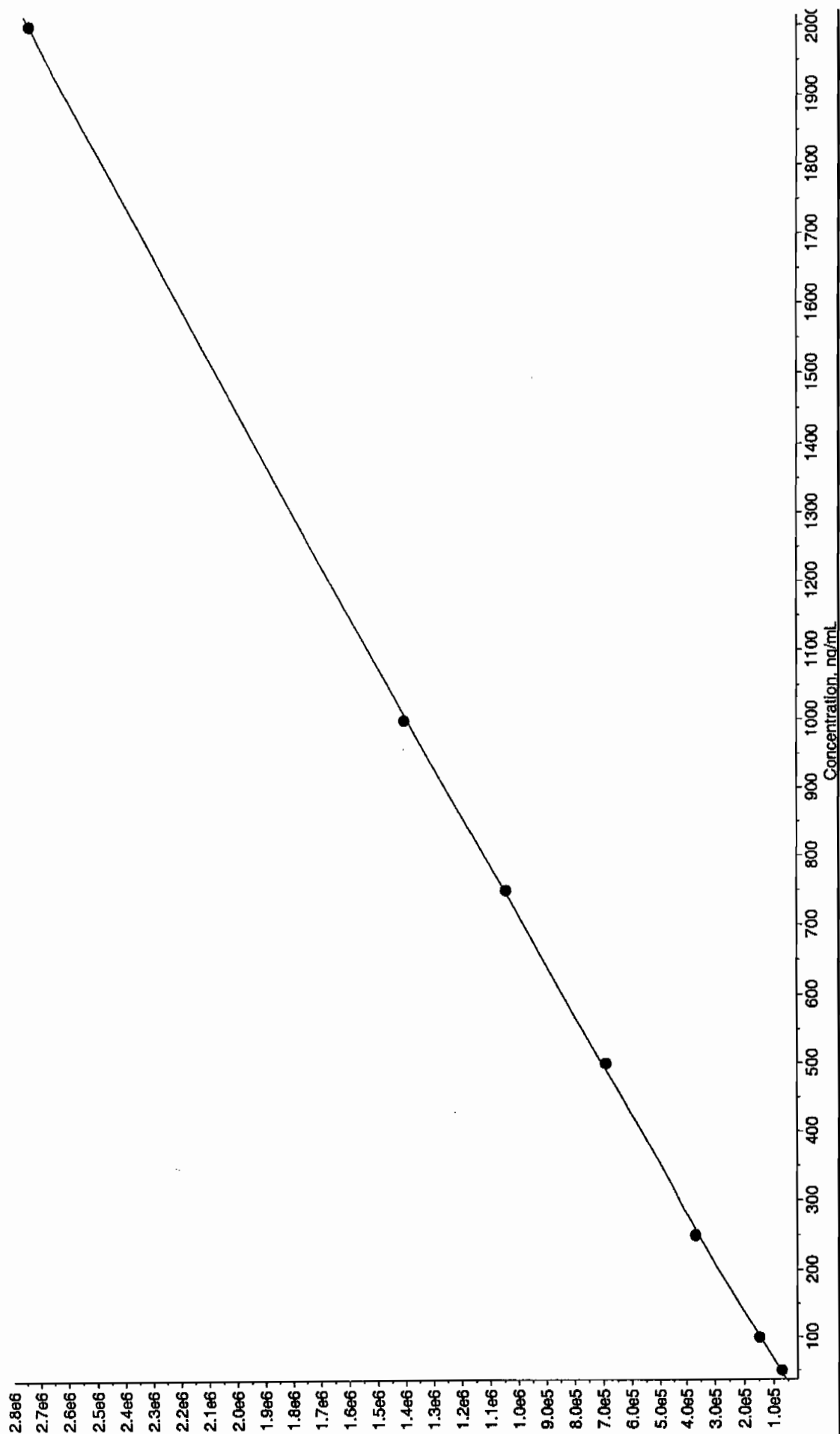
Iterate No

None

weighting

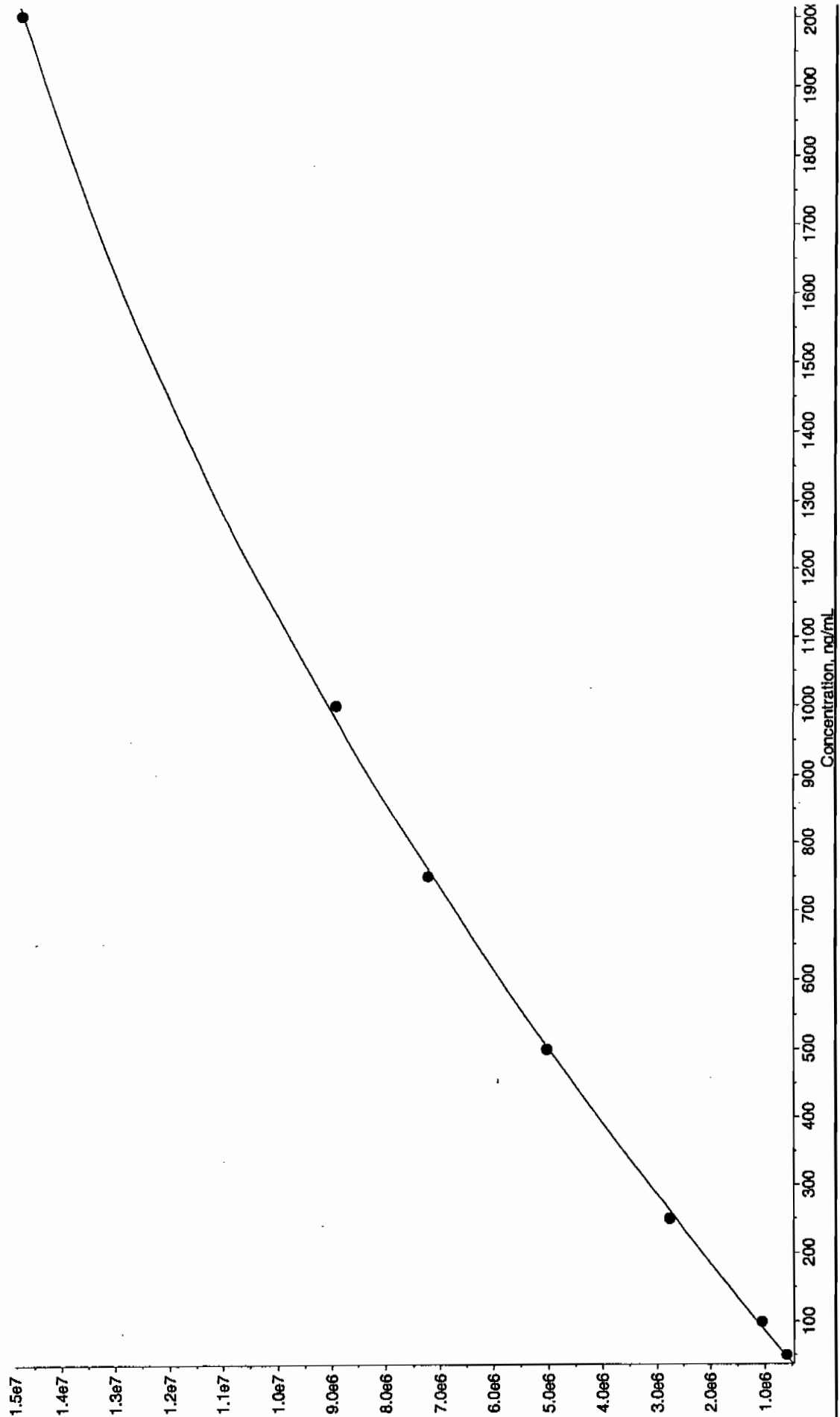
Fit Quadratic
a0 2.45e+005
a1 2.63e+004
a2 -4.8
Correlation coefficient 1.0000
Use Area

010310.rdb (TATB): "Quadratic" Regression ("No" weighting): $y = -0.0198 x^2 + 1.41e+003 x + 5.52e+003$ ($r = 1.0000$)



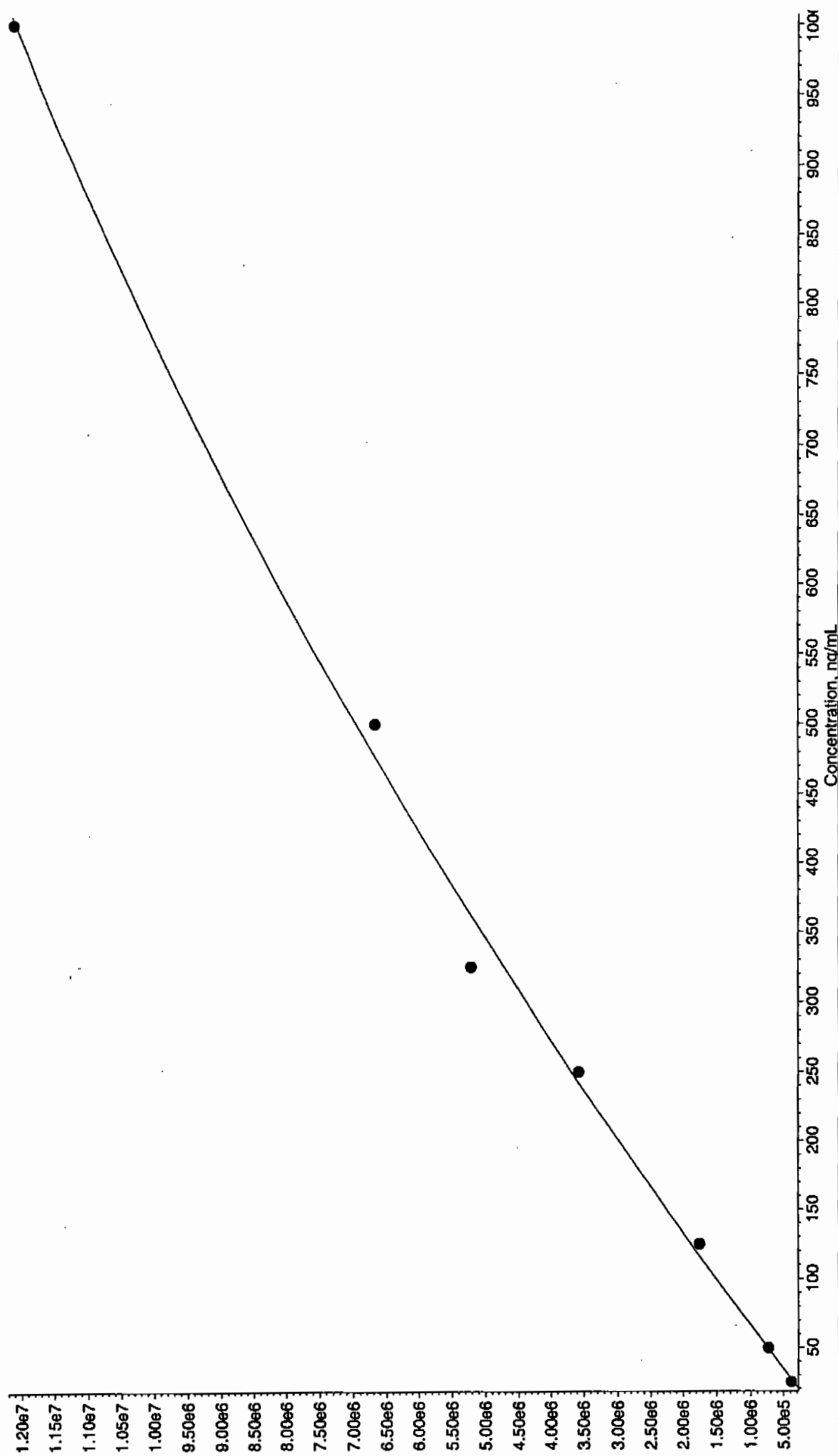
IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

010310.rdb (35-Dinitroaniline): "Quadratic" Regression ("No" weighting): $y = -1.65x^2 + 1.06e+004x + 1.02e+005$ ($r = 0.9998$)



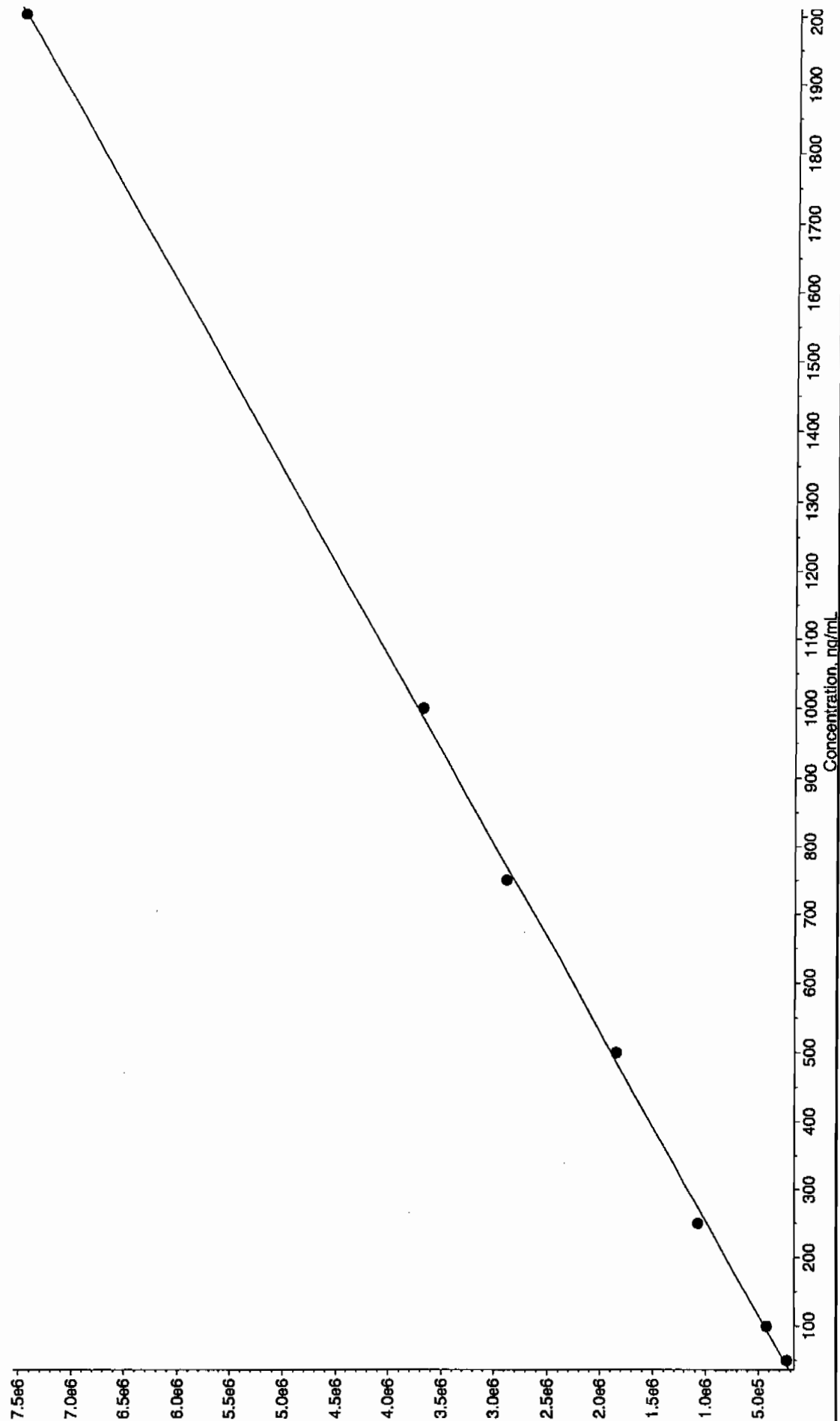
3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

010310.rdb (34-Dinitrotoluene): "Quadratic" Regression ("No" weighting): $y = -3.7 \times 10^{-4} x^2 + 1.58 \times 10^{-4} x + -3.87 \times 10^{-4}$ ($r = 0.9983$)



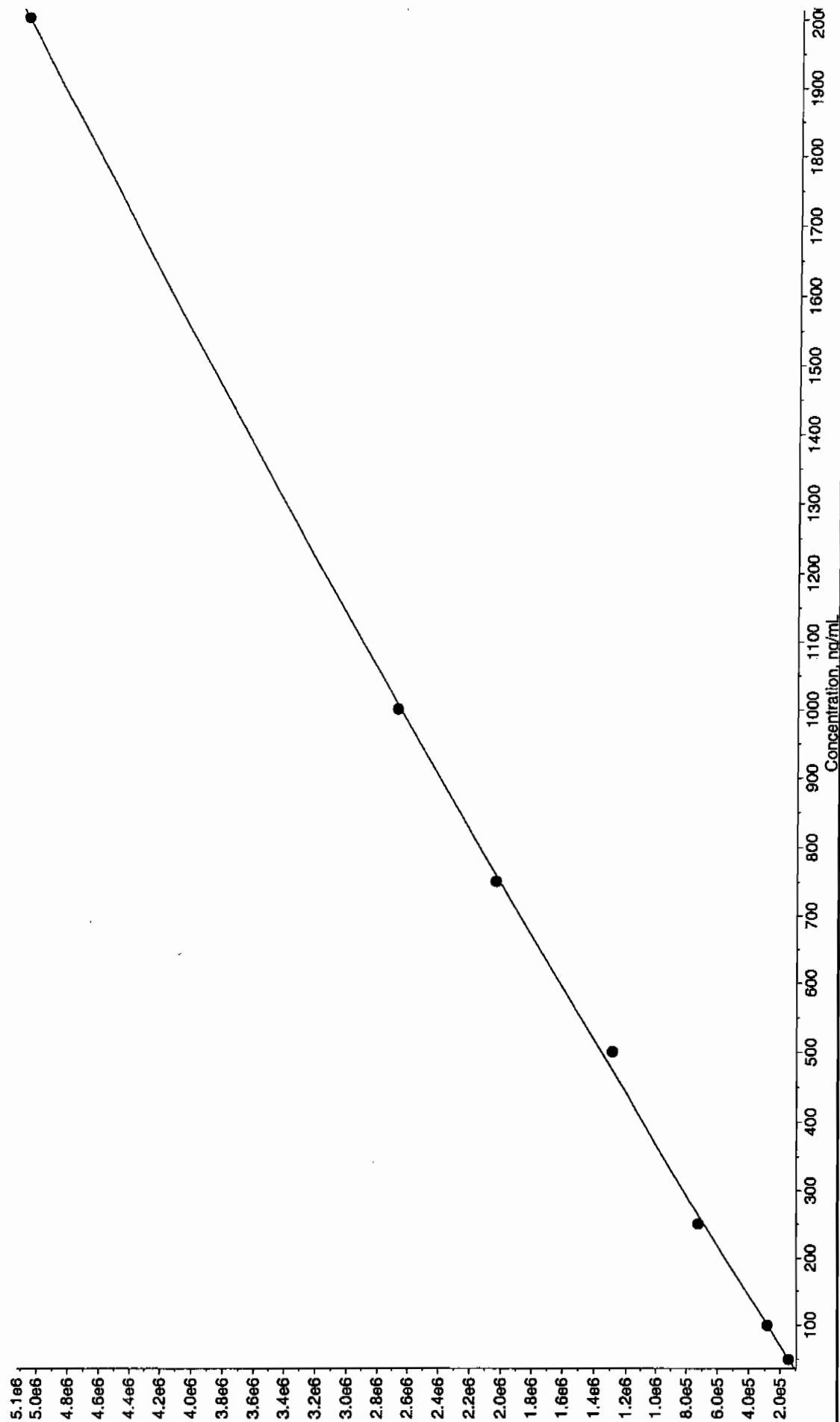
3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

010310.rdb (26-Diamino-4-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = 0.0447 x^2 + 3.6e+003 x + 8.6e+004$ ($r = 0.9998$)



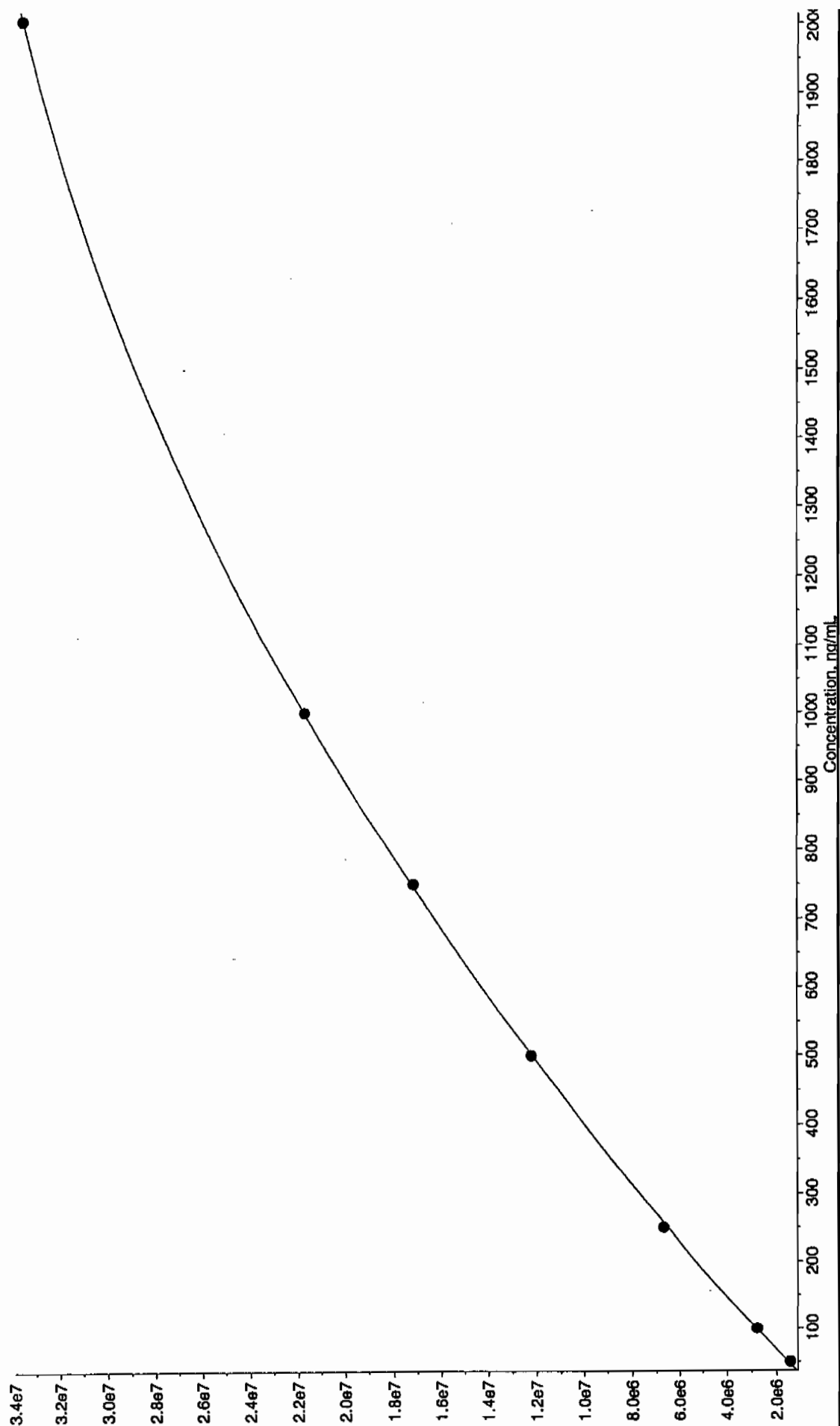
EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

010310.rdb (24-Diamino-6-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.107 x^2 + 2.75e+003 x + 8.37e+003$ ($r = 0.9998$)



3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

010310.rdb (tris(o-cresyl) phosphate): "Quadratic" Regression ("No" weighting): $y = -4.8 \times 10^{-5} x^2 + 2.63 \times 10^{-4} x + 2.45 \times 10^{-5}$ ($r = 1.0000$)



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

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01030011.wiff

Analysis Date: 03-JAN-10 14:17

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	528	106	
2,6-Diamino-4-nitrotoluene	500	626	125	
3,4-Dinitrotoluene	250	234	94	
3,5-Dinitroaniline	500	506	101	
TATB	500	504	101	
tris(o-cresyl) phosphate	500	493	99	

Recovery Limits:

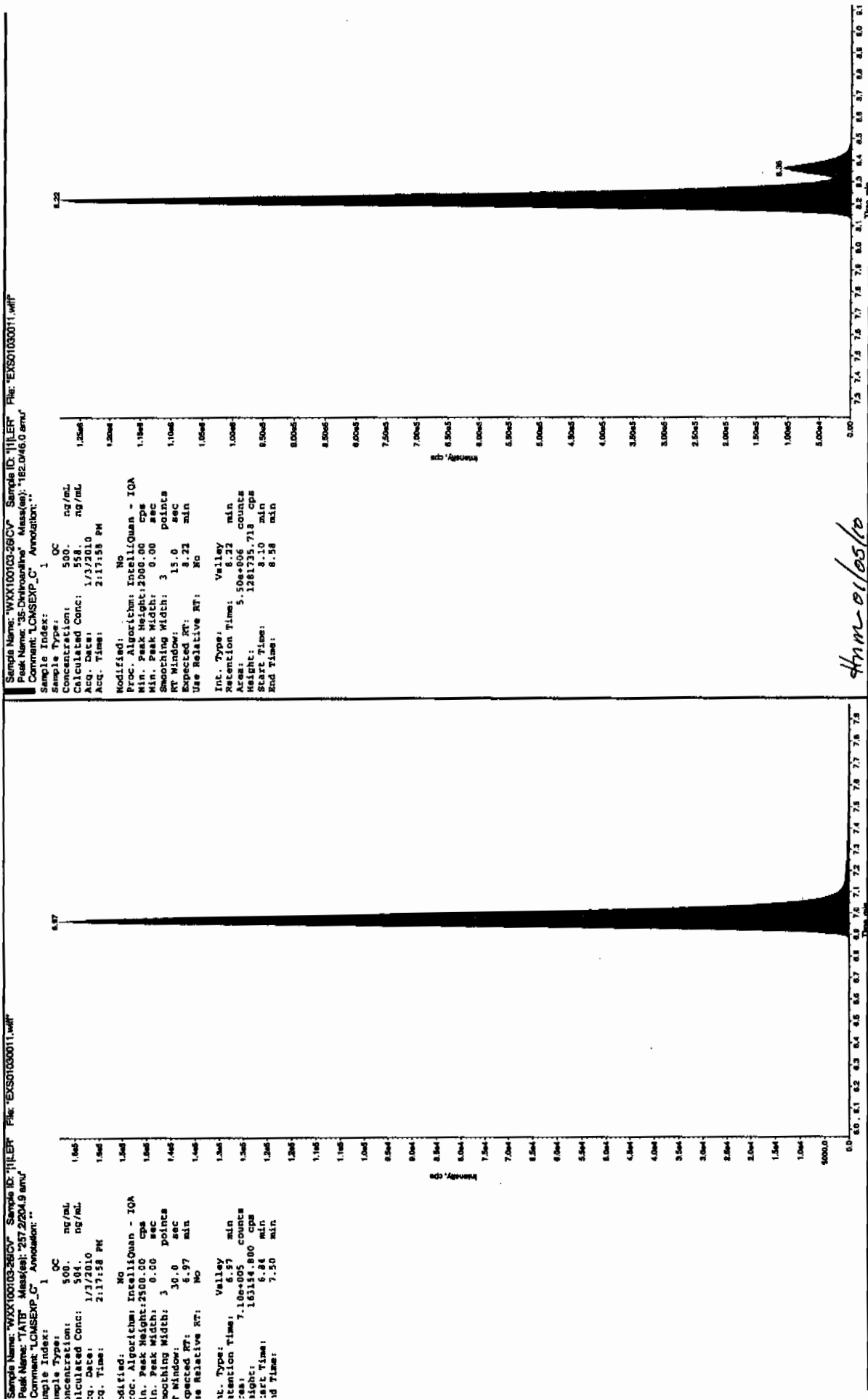
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Before
1/5/10

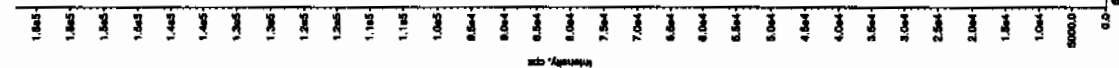


4mm-01/05/10

2020/05/15

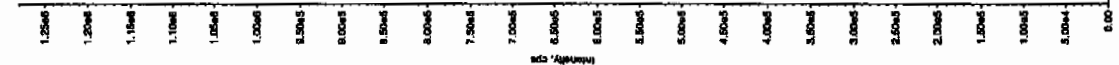
Sample Name: W2X100103-26CVP Sample ID: 11LEP File: EXS01030011.wif
Peak Name: 171B Mass(es): 227.2/224.9 amu
Comment: LCMS-EXP_C Annotation:

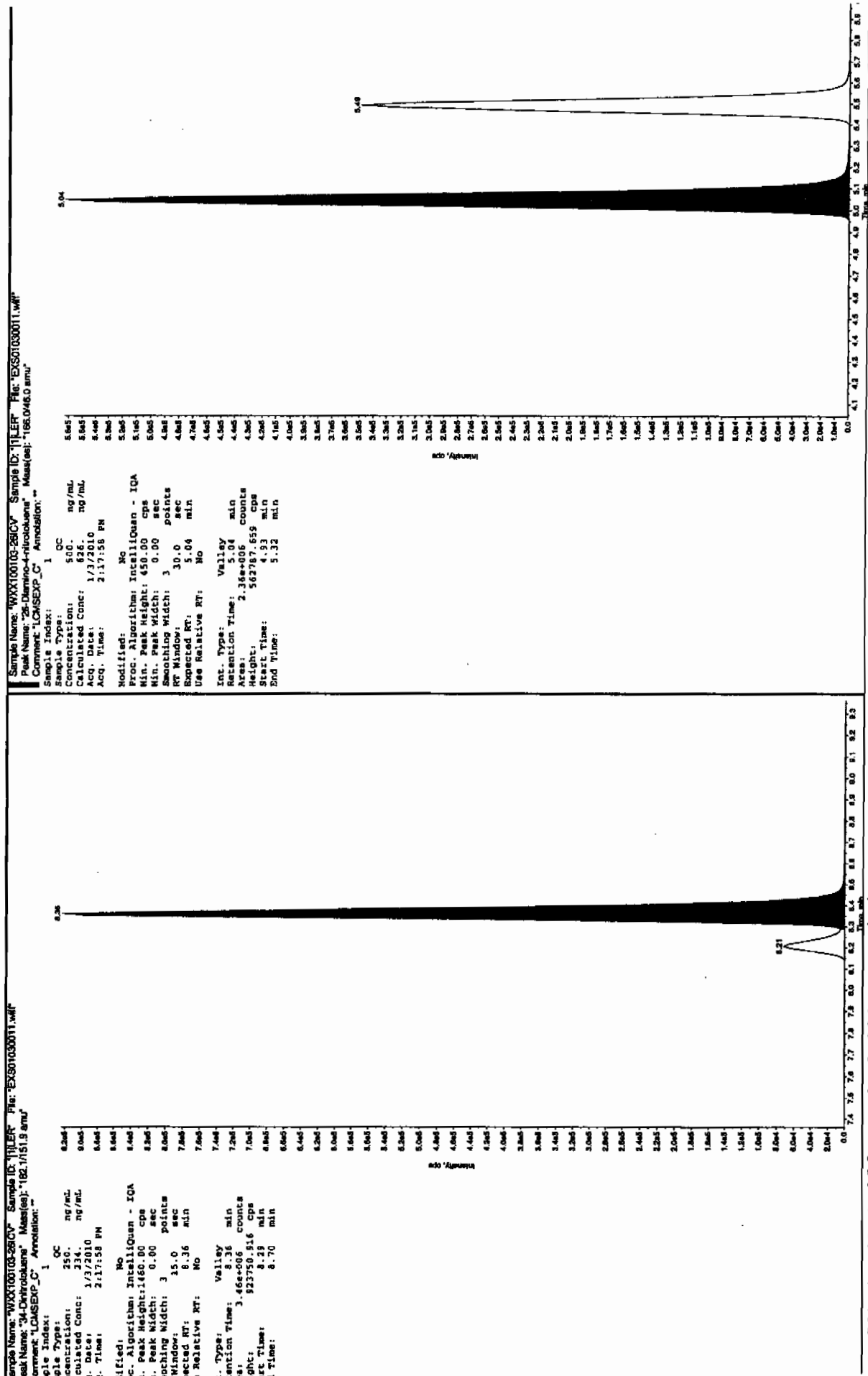
Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 500. ng/mL
Acq. Date: 1/3/2010
Acq. Time: 2:17:58 PM
Modified: No
Proc. Algorithm: IntelliQuan - IDA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.97 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 6.97 min
Area: 7.10e+005 counts
Height: 163154.800 cps
Start Time: 6.84 min
End Time: 7.50 min



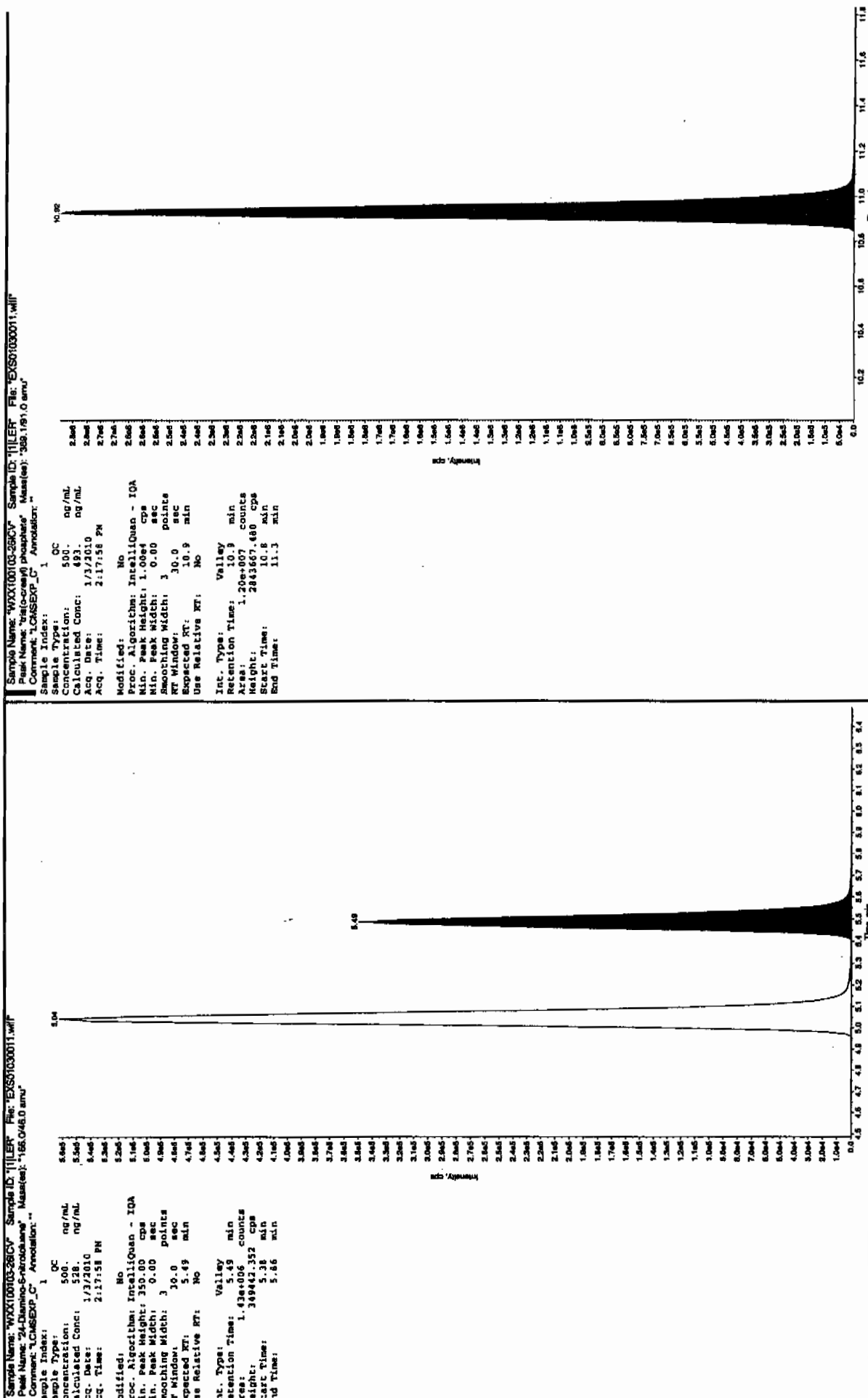
Sample Name: W2X100103-26CVP Sample ID: 11LEP File: EXS01030011.wif
Peak Name: 35-Dinitrochloro Mass(es): 182.0/46.0 amu
Comment: LCMS-EXP_C Annotation:

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 500. ng/mL
Acq. Date: 1/3/2010
Acq. Time: 2:17:58 PM
Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No
Int. Type: Manual
Retention Time: 8.21 min
Area: 5.04e+006 counts
Height: 1294388.300 cps
Start Time: 8.13 min
End Time: 8.34 min





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



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

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102012a

Analysis Date: 02-JAN-10 18:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4,6-Trinitrotoluene	40	40.067	100	
2,4-Dinitrotoluene	40	33.577	84	
2,6-Dinitrotoluene	40	40.896	102	
2,6-Dinitrotoluene-d3	500	581.234	116	
2-Amino-4,6-dinitrotoluene	40	36.157	90	
3,4-Dinitrotoluene	20	17.353	87	
4-Amino-2,6-dinitrotoluene	40	28.823	72	
HMX	40	44.063	110	
Nitrobenzene	40	45.836	115	
PETN	40	48.044	120	
RDX	40	41.645	104	
Tetryl	40	29.408	74	
m-Dinitrobenzene	40	43.162	108	
m-Nitrotoluene	40	42.625	107	
o-Nitrotoluene	40	37.315	93	
p-Nitrotoluene	40	42.834	107	
1,3,5-Trinitrobenzene	40	52.86	132	*
1,3-Dinitrobenzene-d4	500	507.751	102	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Printed: Mon Jan 04 12:59:32 2010, Page 23 of 175

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

Dataset: C:\MASSLYNX\New_Exp\PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0102012a

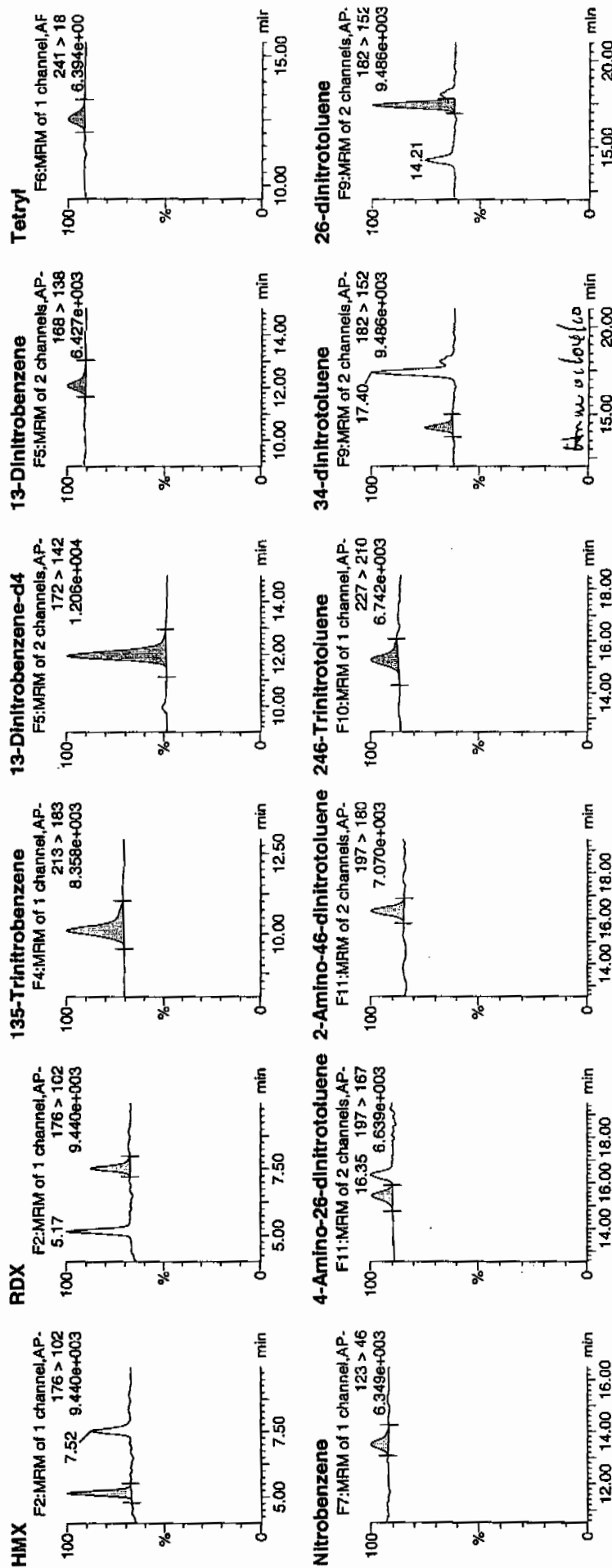
Date: 02-Jan-2010

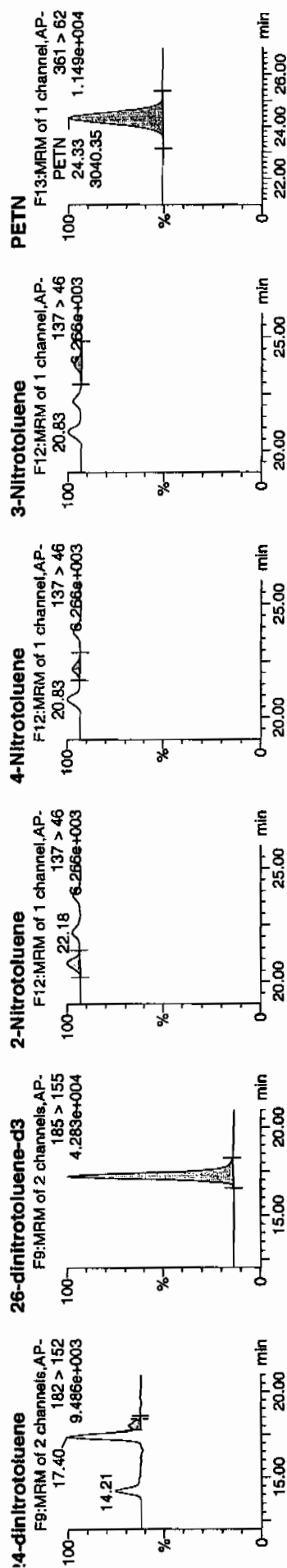
Time: 18:58:28

ID: WXX100102-08CRI

Vial: 1:1,C

1/4/10





Name	Trace	RT	Area	IS Area	Adj. Resp	Response	Flags	Mod. Date	Vol. Time	Int. Time	Area	Peak	Dev	SN
HMX	176 > 102	5.17	638.253	2411.811	638.253	132.318	bb		44.0629	110.2	10.2	53.0		
RDX	176 > 102	7.52	471.179	2411.811	471.179	97.682	bb		41.6452	104.1	4.1	32.8		
135-Trinitrobenzene	213 > 183	10.11	948.858	2411.811	948.858	196.711	bb		52.8595	132.1	32.1	64.6		
13-Dinitrobenzene-d4	172 > 142	11.95	2411.811		2411.811	2411.811	bb		507.7505	101.6	1.6	372.5		
13-Dinitrobenzene	168 > 138	12.07	243.513	2411.811	243.513	50.483	bb		43.1620	107.9	7.9	17.6		
Tetryl	241 > 181	12.54	252.417	2411.811	252.417	52.329	bb		29.4076	73.5	-26.5	22.0		
Nitrobenzene	123 > 46	13.50	216.568	2411.811	216.568	44.897	bb		45.8359	114.6	14.6	11.8		
4-Amino-26-dinitrotoluene	197 > 167	15.43	271.390	15980.059	271.390	8.492	bb		28.8227	72.1	-27.9	18.5		
2-Amino-46-dinitrotoluene	197 > 180	16.34	438.985	15980.059	438.985	13.735	bb		36.1569	90.4	-9.6	17.9		
246-Trinitrotoluene	227 > 210	15.28	413.155	15980.059	413.155	12.927	bb		40.0665	100.2	0.2	20.1		
34-dinitrotoluene	182 > 152	14.21	494.607	15980.059	494.607	15.476	bb		17.3527	86.8	-13.2	28.7		
26-dinitrotoluene	182 > 152	17.40	1399.283	15980.059	1399.283	43.782	MM	04-Jan-10	11:09:20	102.2	2.2	82.6		
24-dinitrotoluene	182 > 152	18.03	278.400	15980.059	278.400	8.711	MM	04-Jan-10	11:27:51	83.9	-16.1	14.5		
26-dinitrotoluene-d3	185 > 155	17.22	15980.059		15980.059	15980.059	bb		581.2343	116.2	16.2	961.0		
2-Nitrotoluene	137 > 46	20.83	203.624	15980.059	203.624	6.371	bb		37.3153	93.3	-6.7	62.6		
4-Nitrotoluene	137 > 46	22.18	116.814	15980.059	116.814	3.655	bb		42.8340	107.1	7.1	36.4		
3-Nitrotoluene	137 > 46	23.81	136.999	15980.059	136.999	4.287	bb		42.6248	106.6	6.6	35.6		
PETN	361 > 62	24.33	3040.349	15980.059	3040.349	95.129	bb		48.0441	120.1	20.1	1192.6		

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/02/10
 Time of Injection 1858
 Standard Number WXX100102-08CRI
 Data File EXP0102012a

HMX	110.2
RDX	104.1
135-TNB	132.1
13-DNB	107.9
Tetryl	73.5
Nitrobenzene	114.6
4A-26-DNT	72.1
2A-46-DNT	90.5
246-TNT	100.2
34-DNT(surr)	86.8
26-DNT	102.2
24-DNT	83.9
2-NT	93.3
4-NT	107.1
3-NT	106.6
PETN	120.1

MAF
1/4/10

Total 1605.2

Average 100.3

47114 01/04/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102021a

Analysis Date: 02-JAN-10 23:23

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Nitrobenzene	600	633.417	106	
PETN	600	622.98	104	
RDX	600	706.774	118	
Tetryl	600	636.049	106	
m-Dinitrobenzene	600	622.779	104	
m-Nitrotoluene	600	622.88	104	
o-Nitrotoluene	600	649.667	108	
p-Nitrotoluene	600	649.407	108	
1,3,5-Trinitrobenzene	600	606.641	101	
1,3-Dinitrobenzene-d4	500	476.598	95	
2,4,6-Trinitrotoluene	600	696.444	116	
2,4-Dinitrotoluene	600	607.153	101	
2,6-Dinitrotoluene	600	625.071	104	
2,6-Dinitrotoluene-d3	500	470.571	94	
2-Amino-4,6-dinitrotoluene	600	661.139	110	
3,4-Dinitrotoluene	300	329.942	110	
4-Amino-2,6-dinitrotoluene	600	586.703	98	
HMX	600	709.225	118	

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

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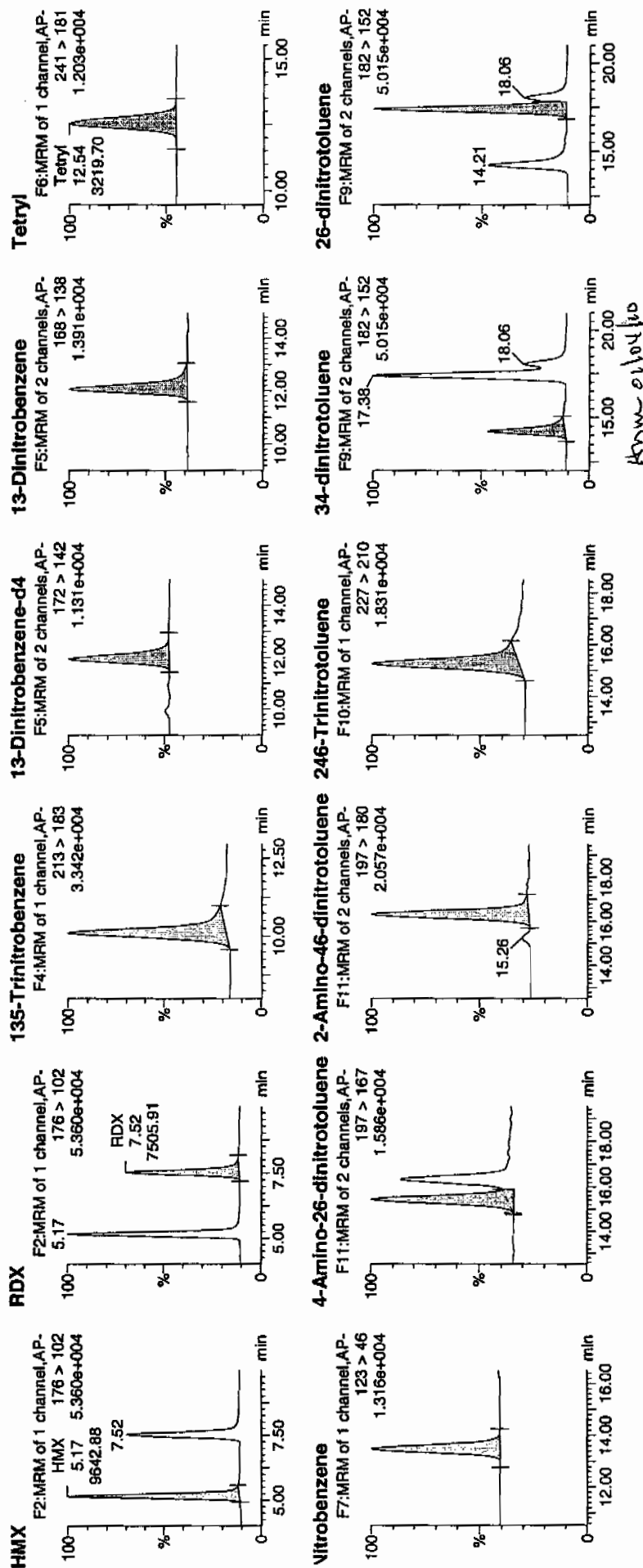
Date: 02-Jan-2010

Time: 23:23:51

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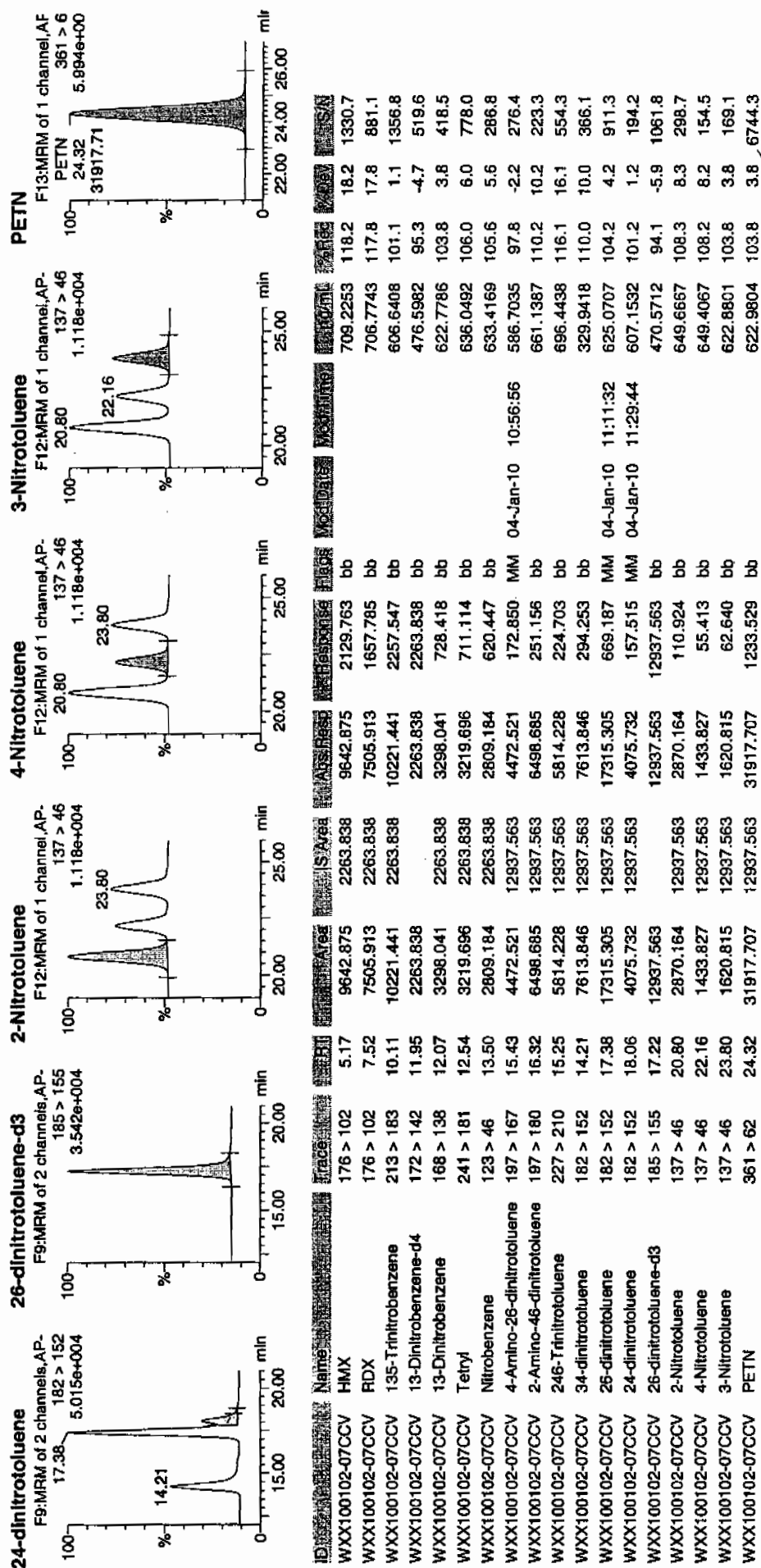
Vial: 1:1,B

14/10



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

Dataset: C:\MASSLYNX\New_Exp\PRO10210expA.qld, Time: Mon Jan 04 12:58:29 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/02/10
 Time of Injection: 2323
 Standard Number: WXX100102-07CCV
 Data File: EXP0102021a

HMX	118.2
RDX	117.8
135-TNB	101.1
13-DNB	103.8
Tetryl	106.0
Nitrobenzene	105.6
4A-26-DNT	97.8
2A-46-DNT	110.2
246-TNT	116.1
34-DNT(surr)	110.0
26-DNT	104.2
24-DNT	101.2
2-NT	108.3
4-NT	108.2
3-NT	103.8
PETN	103.8

11/4/10

Total 1716.1

Average 107.3

Hand pilot 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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102023a

Analysis Date: 03-JAN-10 00:22

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
PETN	40	52.492	131	*
RDX	40	45.747	114	
Tetryl	40	52.106	130	*
m-Dinitrobenzene	40	41.323	103	
m-Nitrotoluene	40	37.206	93	
o-Nitrotoluene	40	34.096	85	
p-Nitrotoluene	40	39.058	98	
1,3,5-Trinitrobenzene	40	55.741	139	*
1,3-Dinitrobenzene-d4	500	541.297	108	
2,4,6-Trinitrotoluene	40	48.756	122	
2,4-Dinitrotoluene	40	30.904	77	
2,6-Dinitrotoluene	40	38.797	97	
2,6-Dinitrotoluene-d3	500	532.643	107	
2-Amino-4,6-dinitrotoluene	40	41.031	103	
3,4-Dinitrotoluene	20	20.541	103	
4-Amino-2,6-dinitrotoluene	40	43.055	108	
HMX	40	47.085	118	
Nitrobenzene	40	41.329	103	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

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\10210expA.qtd, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\data\EXP0102023a

Date: 03-Jan-2010

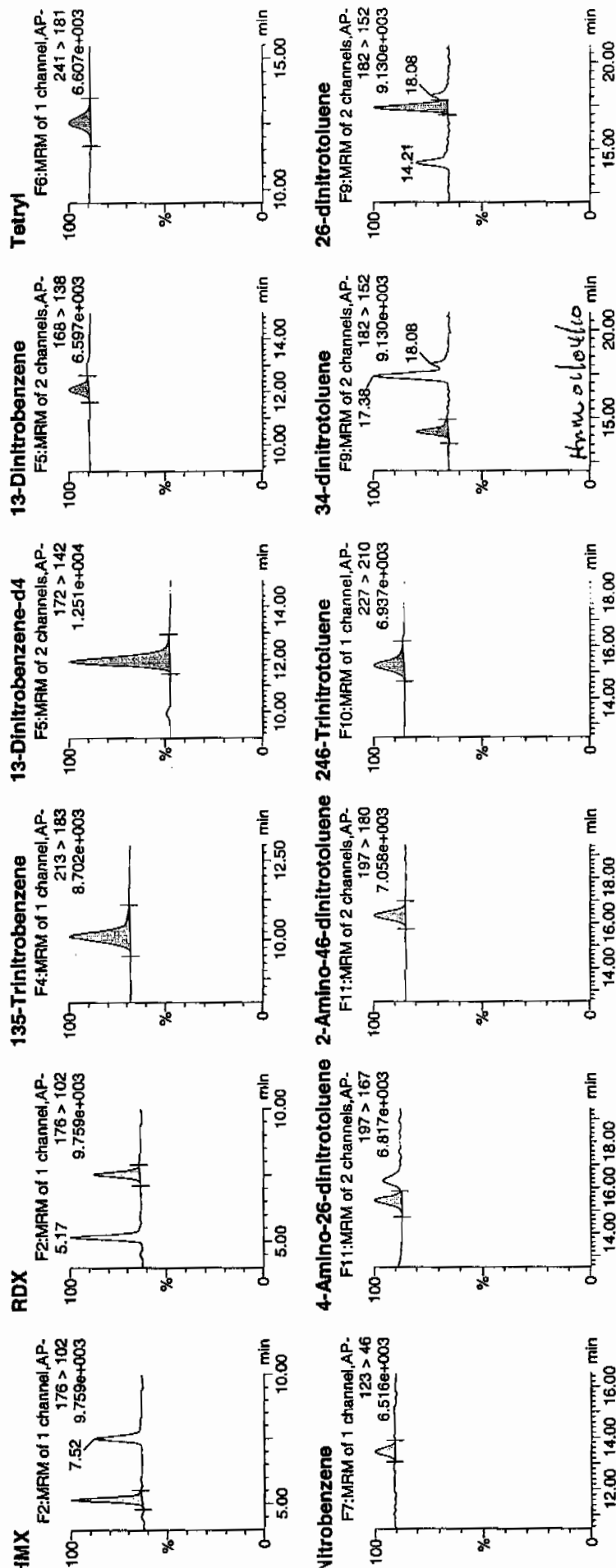
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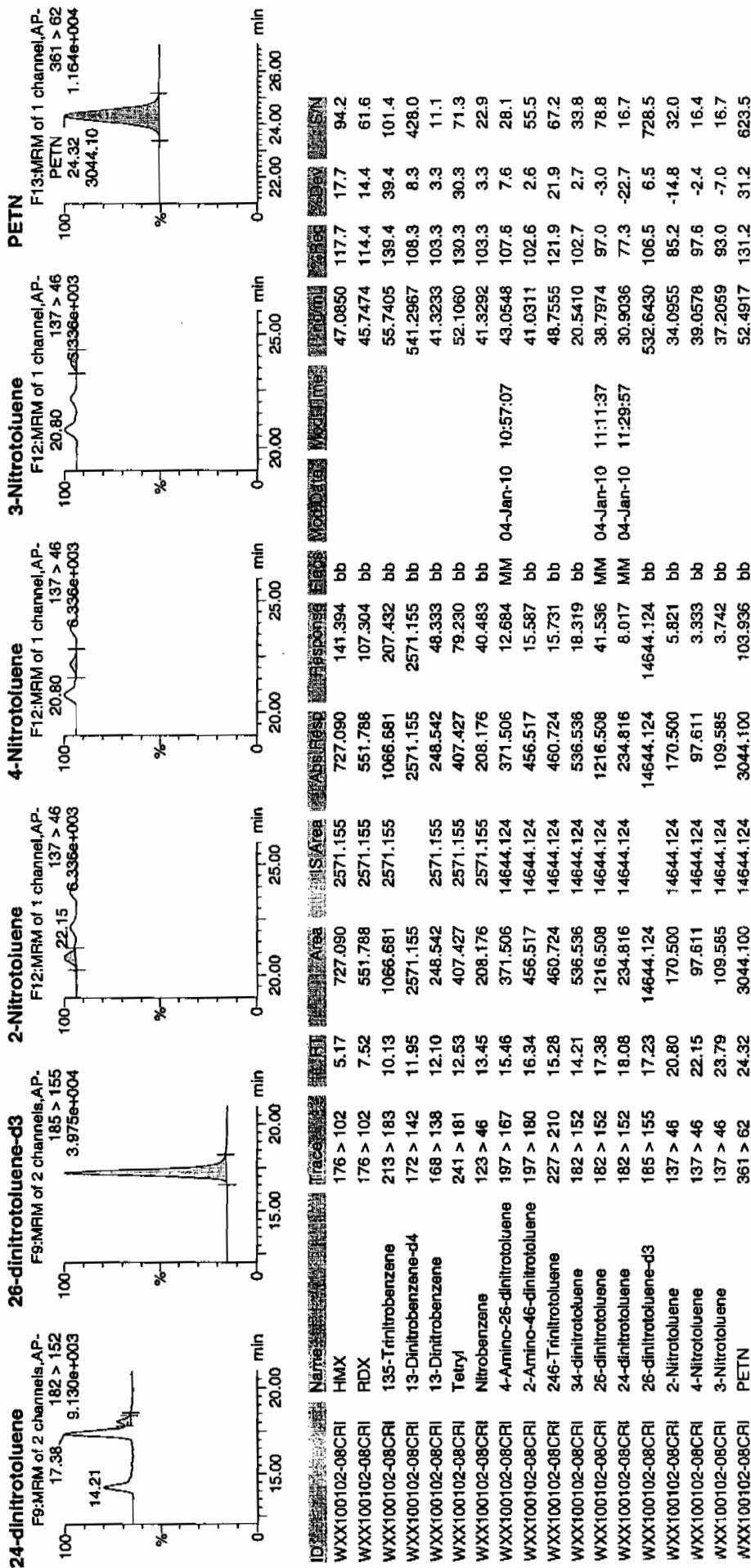
Vial: 1:1,C

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Page 260 of 1441



Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/03/10
 Time of Injection 0022
 Standard Number WXX100102-08CRI
 Data File EXP0102023a

HMX	117.7
RDX	114.4
135-TNB	139.4
13-DNB	103.3
Tetryl	130.3
Nitrobenzene	103.3
4A-26-DNT	107.6
2A-46-DNT	102.6
246-TNT	121.9
34-DNT(surr)	102.7
26-DNT	97.0
24-DNT	77.3
2-NT	85.2
4-NT	97.6
3-NT	93.0
PETN	131.2

MTT
1/4/10

Total 1724.5

Average 107.8

Handwritten: 01/04/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102034a

Analysis Date: 03-JAN-10 05:47

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	604.084	101	
1,3-Dinitrobenzene-d4	500	491.515	98	
2,4,6-Trinitrotoluene	600	700.254	117	
2,4-Dinitrotoluene	600	589.795	98	
2,6-Dinitrotoluene	600	606.761	101	
2,6-Dinitrotoluene-d3	500	584.159	117	
2-Amino-4,6-dinitrotoluene	600	626.242	104	
3,4-Dinitrotoluene	300	267.84	89	
4-Amino-2,6-dinitrotoluene	600	568.309	95	
HMX	600	678.468	113	
Nitrobenzene	600	571.544	95	
PETN	600	516.307	86	
RDX	600	699.252	117	
Tetryl	600	574.755	96	
m-Dinitrobenzene	600	611.266	102	
m-Nitrotoluene	600	456.807	76	*
o-Nitrotoluene	600	544.882	91	
p-Nitrotoluene	600	499.282	83	

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

Printed: Mon Jan 04 12:59:32 2010, Page 67 of 175

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

Dataset: C:\MASSLYNX\New_Exp.PRO\10210expA.qld, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102034a

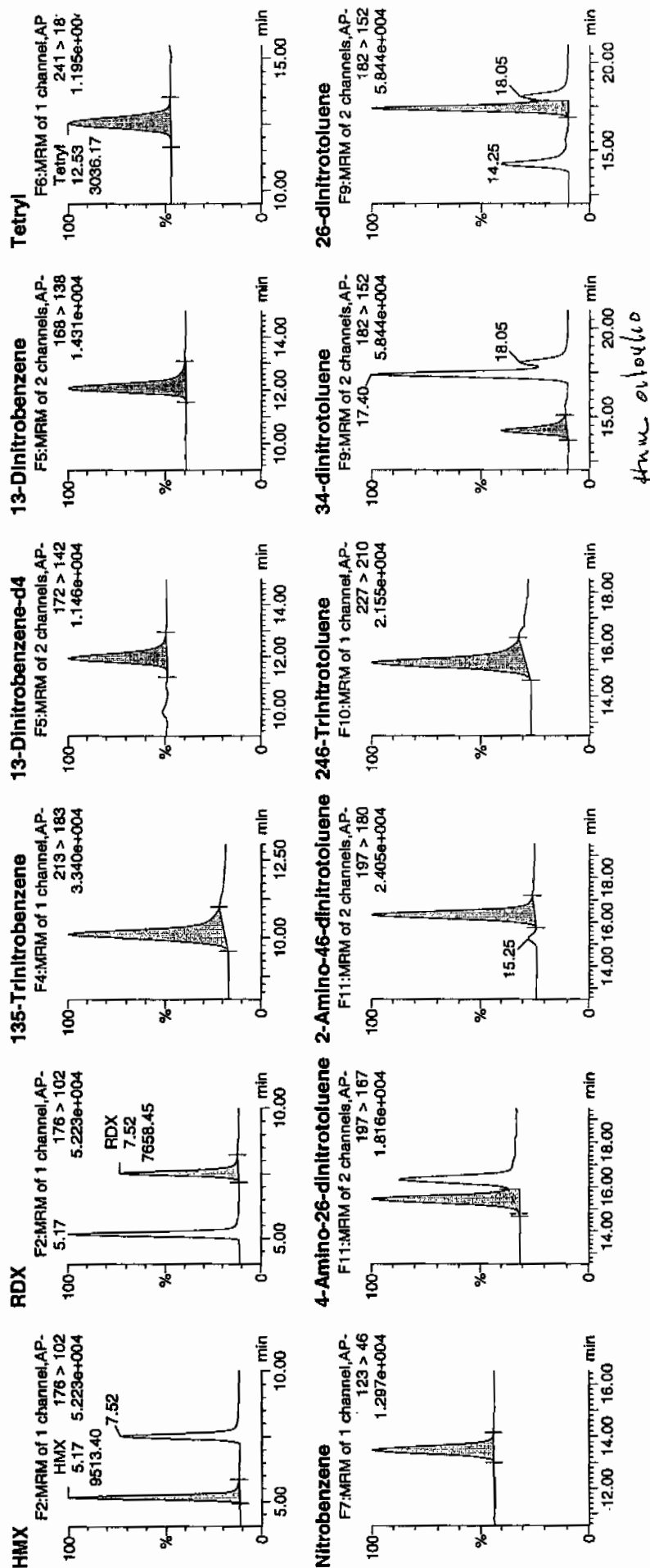
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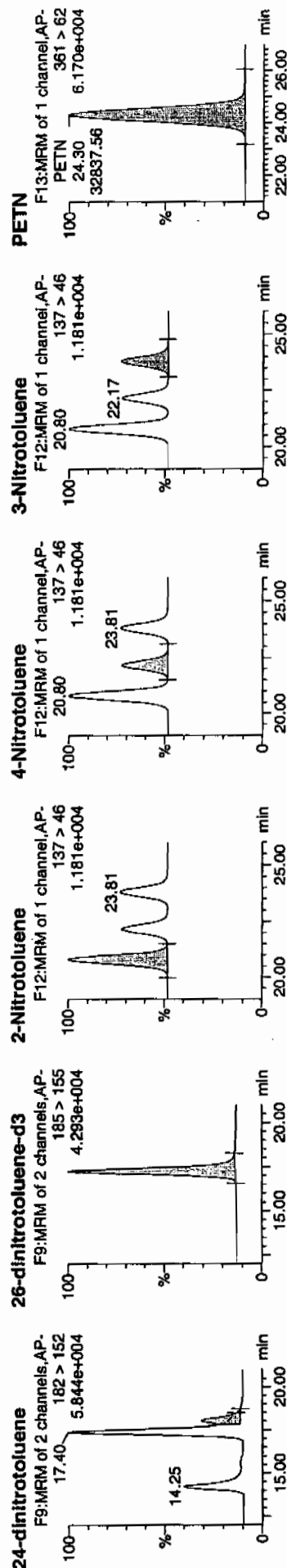
Time: 05:47:01

ID: WXX100102-07CCV

Vial: 1:1,B

14/10





ID	Name	Trace	RT	Area	SArea	AbsResp	Response	Flags	ModDate	MissTime	Home	CalRec	Day	SSN
WXX100102-07CCV	HMX	176 > 102	5.17	9513.398	2334.691	9513.398	2037.400	bb			678.4879	113.1	13.1	1464.2
WXX100102-07CCV	RDX	176 > 102	7.52	7658.448	2334.691	7658.448	1640.142	bb			699.2523	116.5	16.5	1013.0
WXX100102-07CCV	135-Trinitrobenzene	213 > 183	10.13	10496.912	2334.691	10496.912	2248.030	bb			604.0835	100.7	0.7	1543.0
WXX100102-07CCV	13-Dinitrobenzene-d4	172 > 142	11.95	2334.691		2334.691	2334.691	bb			491.5147	98.3	-1.7	145.7
WXX100102-07CCV	13-Dinitrobenzene	168 > 138	12.07	3338.387	2334.691	3338.387	714.953	bb			611.2660	101.9	1.9	2762.2
WXX100102-07CCV	Tetryl	241 > 181	12.53	3036.174	2334.691	3036.174	650.230	bb			574.7553	95.8	-4.2	482.5
WXX100102-07CCV	Nitrobenzene	123 > 46	13.49	2614.112	2334.691	2614.112	559.841	bb			571.5439	95.3	-4.7	196.7
WXX100102-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.45	5378.037	16060.466	5378.037	167.431	MM	04-Jan-10	10:57:51	568.3088	94.7	-5.3	149.6
WXX100102-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.34	7641.534	16060.466	7641.534	237.899	bb			626.2417	104.4	4.4	569.3
WXX100102-07CCV	246-Trinitrotoluene	227 > 210	15.27	7257.167	16060.466	7257.167	225.933	bb			700.2538	116.7	16.7	318.6
WXX100102-07CCV	34-dinitrotoluene	182 > 152	14.25	7672.681	16060.466	7672.681	238.869	bb			267.8396	89.3	-10.7	282.9
WXX100102-07CCV	26-dinitrotoluene	182 > 152	17.40	20865.277	16060.466	20865.277	649.585	MM	04-Jan-10	11:12:30	606.7608	101.1	1.1	851.6
WXX100102-07CCV	24-dinitrotoluene	182 > 152	18.05	4914.897	16060.466	4914.897	153.012	MM	04-Jan-10	11:30:57	589.7955	98.3	-1.7	188.4
WXX100102-07CCV	26-dinitrotoluene-d3	185 > 155	17.22	16060.466		16060.466	16060.466	bb			584.1589	116.8	16.8	1534.4
WXX100102-07CCV	2-Nitrotoluene	137 > 46	20.80	2988.300	16060.466	2988.300	93.033	bb			544.8819	90.8	-9.2	686.6
WXX100102-07CCV	4-Nitrotoluene	137 > 46	22.17	1368.459	16060.466	1368.459	42.603	bb			499.2822	83.2	-16.8	319.9
WXX100102-07CCV	3-Nitrotoluene	137 > 46	23.81	1475.597	16060.466	1475.597	45.939	bb			456.8074	76.1	-23.9	330.4
WXX100102-07CCV	PETN	361 > 62	24.30	32837.559	16060.466	32837.559	1022.310	bb			516.3069	86.1	-13.9	5826.5

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/03/10
 Time of Injection: 0547
 Standard Number: WXX100102-07CCV
 Data File: EXP0102034a

HMX	113.1
RDX	116.5
135-TNB	100.7
13-DNB	101.9
Tetryl	95.8
Nitrobenzene	95.3
4A-26-DNT	94.7
2A-46-DNT	104.4
246-TNT	116.7
34-DNT(surr)	89.3
26-DNT	101.1
24-DNT	98.3
2-NT	90.8
4-NT	83.2
3-NT	76.1
PETN	86.1

*WTR
11/10*

Total 1564.0

Average 97.8

Hmm 01/04/10

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

No single analyte > +/- 60%

Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102036a

Analysis Date: 03-JAN-10 06:46

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.65	132	*
1,3-Dinitrobenzene-d4	500	506.745	101	
2,4,6-Trinitrotoluene	40	42.308	106	
2,4-Dinitrotoluene	40	37.29	93	
2,6-Dinitrotoluene	40	39.158	98	
2,6-Dinitrotoluene-d3	500	556.299	111	
2-Amino-4,6-dinitrotoluene	40	41.09	103	
3,4-Dinitrotoluene	20	20.171	101	
4-Amino-2,6-dinitrotoluene	40	33.796	84	
HMX	40	50.298	126	
Nitrobenzene	40	46.587	116	
PETN	40	54.777	137	*
RDX	40	43.632	109	
Tetryl	40	27.743	69	*
m-Dinitrobenzene	40	45.239	113	
m-Nitrotoluene	40	37.552	94	
o-Nitrotoluene	40	41.767	104	
p-Nitrotoluene	40	41.131	103	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\10210expA.qld, Time: Mon Jan 04 12:58:29 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102036a

Date: 03-Jan-2010

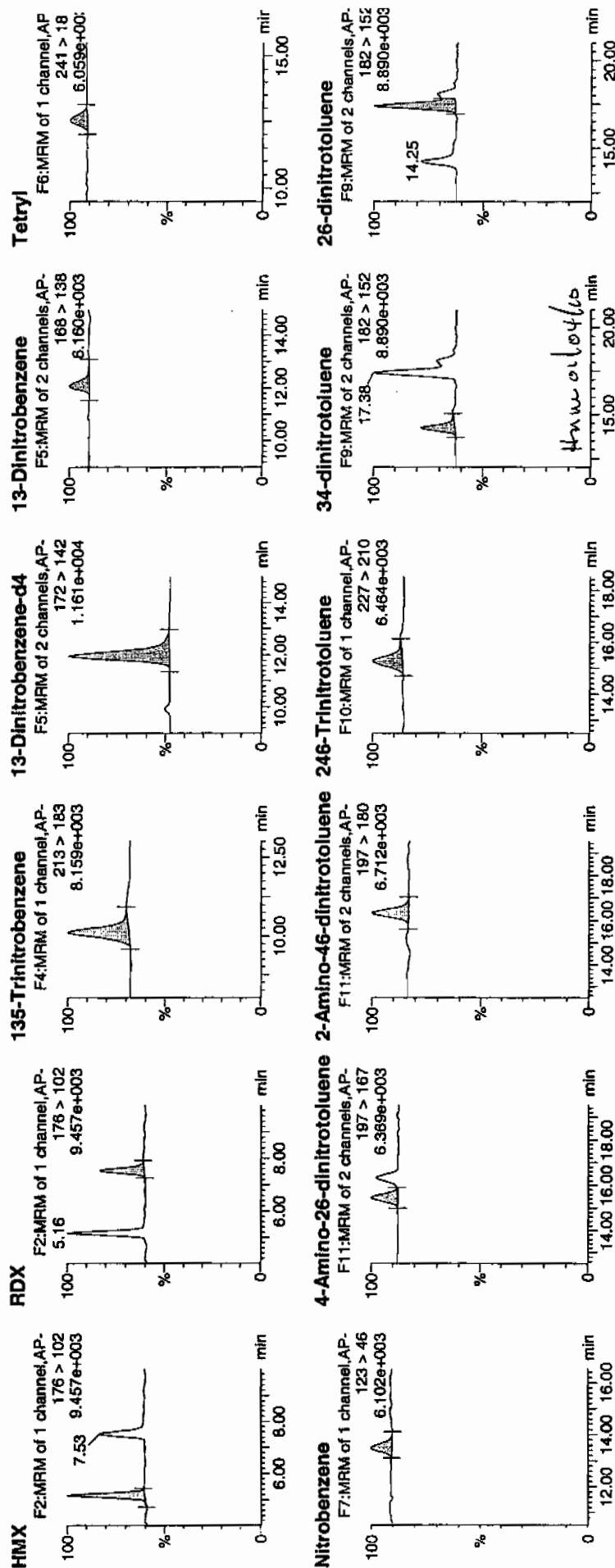
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ID: WXX100102-08CRI

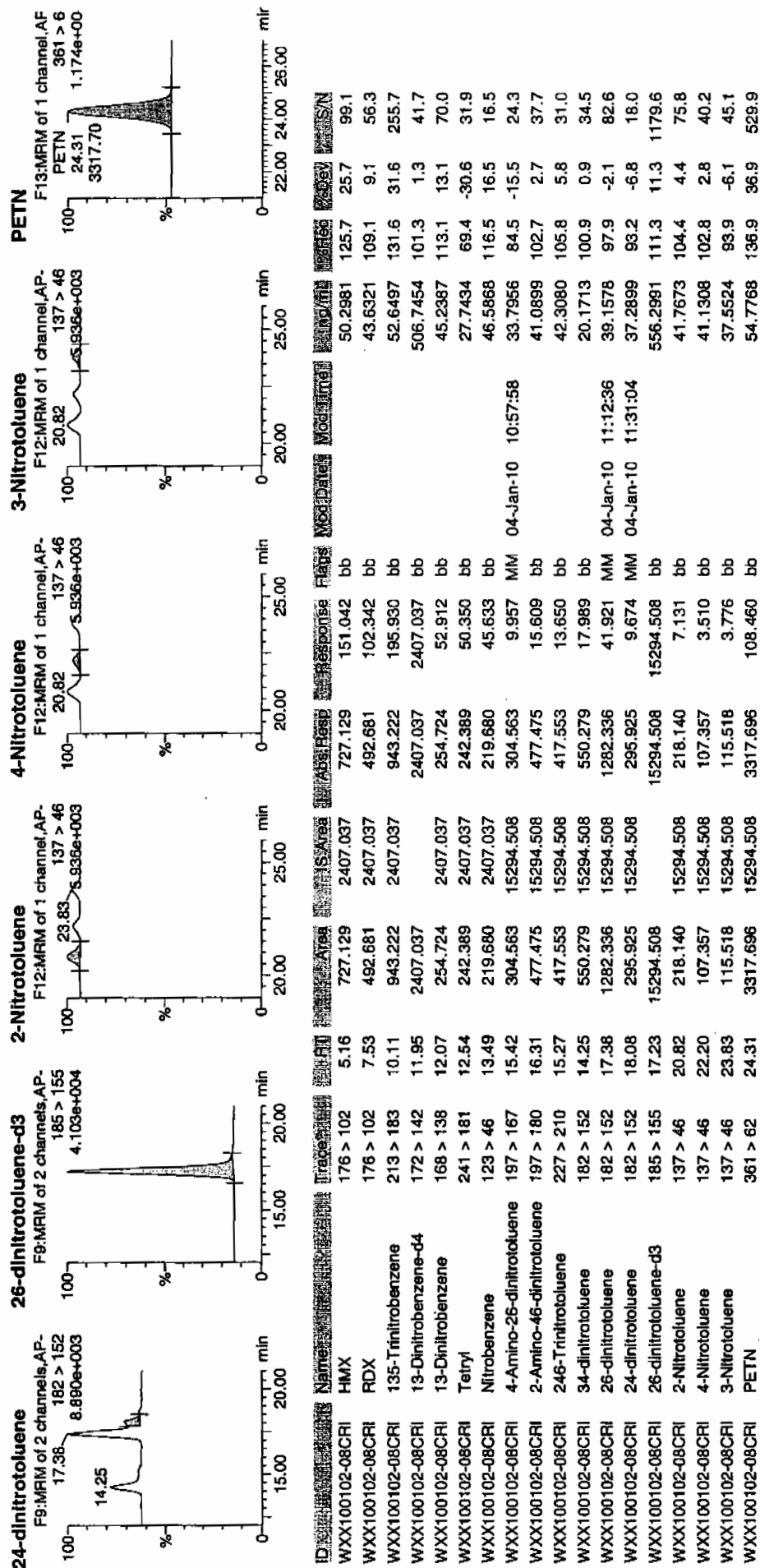
Vial: 1:1,C

AR
1/4/10

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Dataset: C:\MASSLYNX\New_Exp\PRO010210expA.qld, Time: Mon Jan 04 12:58:29 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/03/10
 Time of Injection 0646
 Standard Number WXX100102-08CRI
 Data File EXP0102036a

HMX	125.7
RDX	109.1
135-TNB	131.6
13-DNB	113.1
Tetryl	69.4
Nitrobenzene	116.5
4A-26-DNT	84.5
2A-46-DNT	102.7
246-TNT	105.8
34-DNT(surr)	100.9
26-DNT	97.9
24-DNT	93.2
2-NT	104.4
4-NT	102.8
3-NT	93.9
PETN	136.9
Total	1688.4

Average

105.5

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

1/4/10

1/4/10

7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102047a

Analysis Date: 03-JAN-10 12:10

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3-Dinitrobenzene-d4	500	511.429	102	
2,4,6-Trinitrotoluene	600	789.967	132	*
2,4-Dinitrotoluene	600	581.051	97	
2,6-Dinitrotoluene	600	609.173	102	
2,6-Dinitrotoluene-d3	500	524.072	105	
2-Amino-4,6-dinitrotoluene	600	584.452	97	
3,4-Dinitrotoluene	300	327.362	109	
4-Amino-2,6-dinitrotoluene	600	612.244	102	
HMX	600	770.989	128	*
Nitrobenzene	600	580.085	97	
PETN	600	562.527	94	
RDX	600	670.491	112	
Tetryl	600	575.016	96	
m-Dinitrobenzene	600	636.373	106	
m-Nitrotoluene	600	568.106	95	
o-Nitrotoluene	600	584.607	97	
p-Nitrotoluene	600	567.117	95	
1,3,5-Trinitrobenzene	600	563.784	94	

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

Printed: Mon Jan 04 12:59:32 2010, Page 93 of 175

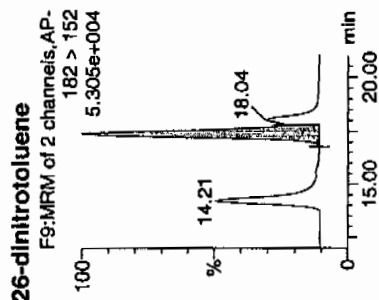
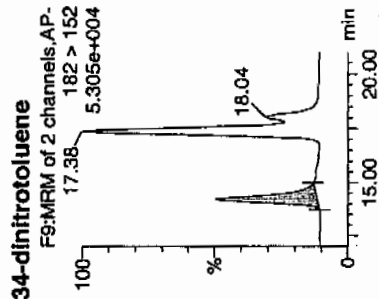
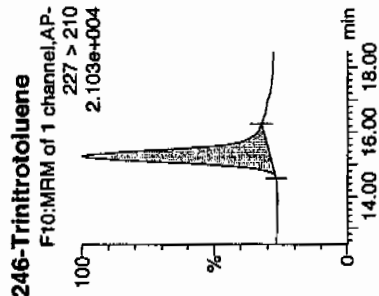
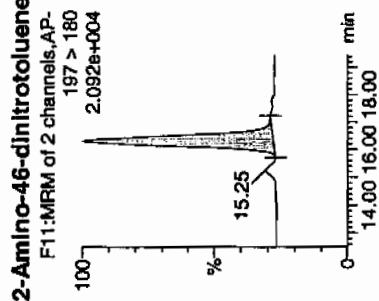
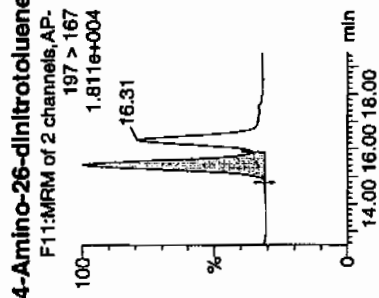
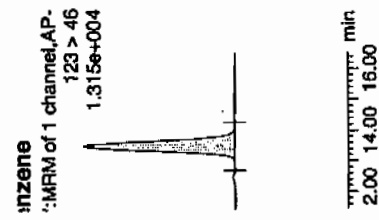
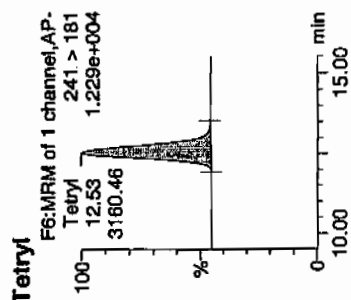
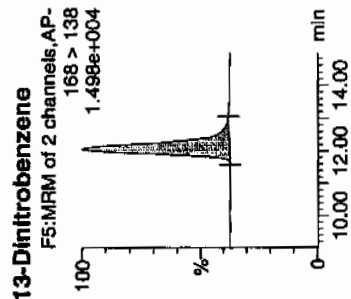
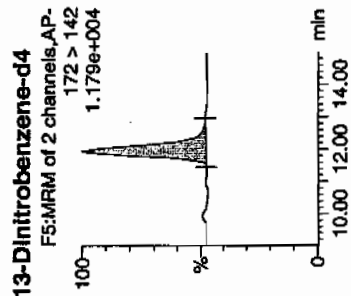
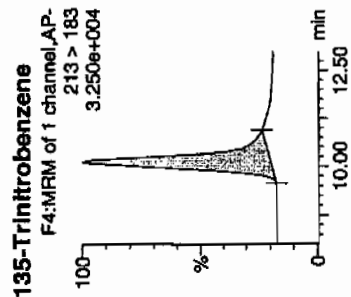
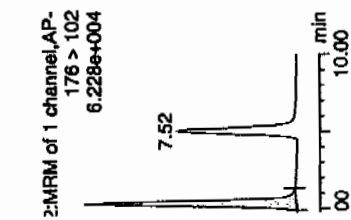
Sample Report
Laboratories, LLC / Analyst: Michael A. Penny

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C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102047a

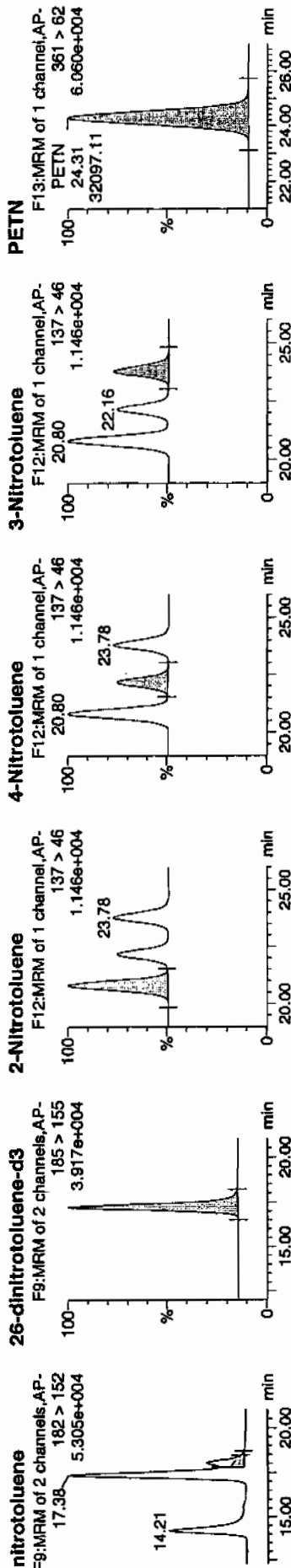
19-Jan-2010
12:10:48
X100102-07CCV
1, B

10/11/10



the w e b o u t

set: C:\MASSLYNX\New_Exp\PROV010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Trace	Area	IS Area	Response	Peak	Vol	Date	Mod	Time	Area	Vol	Date	Mod	Time	Area	Vol	Date	Mod	Time
00102-07CCV	HMV	176 > 102	5.17	11248.720	2429.283	11248.720	2315.235	bb	770.9887	128.5	28.5	1399.5							
00102-07CCV	RDX	176 > 102	7.52	7640.973	2429.283	7640.973	1572.681	bb	670.4913	111.7	11.7	803.7							
00102-07CCV	135-Trinitrobenzene	213 > 183	10.11	10193.561	2429.283	10193.561	2098.060	bb	563.7839	94.0	-6.0	1500.9							
00102-07CCV	13-Dinitrobenzene-d4	172 > 142	11.95	2429.283	2429.283	2429.283	744.319	bb	511.4288	102.3	2.3	316.5							
00102-07CCV	13-Dinitrobenzene	168 > 138	12.07	3616.321	2429.283	3616.321	650.492	bb	636.3731	106.1	6.1	422.7							
00102-07CCV	Tetryl	241 > 181	12.53	3160.460	2429.283	3160.460	588.208	bb	575.0163	95.8	-4.2	213.6							
00102-07CCV	Nitrobenzene	123 > 46	13.50	2760.675	2429.283	2760.675	180.375	MM	580.0854	96.7	-3.3	314.5							
00102-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.43	5197.847	14408.473	5197.847	222.024	bb	612.2436	102.0	2.0	342.2							
00102-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.31	6398.042	14408.473	6398.042	254.878	bb	584.4518	97.4	-2.6	257.9							
00102-07CCV	246-Trinitrotoluene	227 > 210	15.28	7344.803	14408.473	7344.803	291.953	bb	789.9665	131.7	31.7	330.2							
00102-07CCV	34-dinitrotoluene	182 > 152	14.21	8413.181	14408.473	8413.181	291.953	bb	327.3618	109.1	9.1	295.6							
00102-07CCV	26-dinitrotoluene	182 > 152	17.38	18793.477	14408.473	18793.477	652.168	MM	609.1730	101.5	1.5	696.3							
00102-07CCV	24-dinitrotoluene	182 > 152	18.04	4343.969	14408.473	4343.969	150.744	MM	581.0506	96.8	-3.2	148.7							
00102-07CCV	26-dinitrotoluene-d3	185 > 155	17.23	14408.473	14408.473	14408.473	14408.473	bb	524.0718	104.8	4.8	1944.8							
00102-07CCV	2-Nitrotoluene	137 > 46	20.80	2876.376	14408.473	2876.376	99.815	bb	584.6071	97.4	-2.6	165.9							
00102-07CCV	4-Nitrotoluene	137 > 46	22.16	1394.500	14408.473	1394.500	48.392	bb	567.1175	94.5	-5.5	84.9							
00102-07CCV	3-Nitrotoluene	137 > 46	23.78	1646.356	14408.473	1646.356	57.132	bb	568.1059	94.7	-5.3	92.4							
00102-07CCV	PETN	361 > 62	24.31	32097.109	14408.473	32097.109	1113.828	bb	562.5267	93.8	-6.2	3929.2							

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/03/10
 Time of Injection: 1210
 Standard Number: WXX100102-07CCV
 Data File: EXP0102047a

HMX	128.5
RDX	111.7
135-TNB	94.0
13-DNB	106.1
Tetryl	95.8
Nitrobenzene	96.7
4A-26-DNT	102.0
2A-46-DNT	97.4
246-TNT	131.7
34-DNT(surr)	109.1
26-DNT	101.5
24-DNT	96.8
2-NT	97.4
4-NT	94.5
3-NT	94.7
PETN	93.8
Total	1651.7

WAF
1/4/10

Average

103.2

1000-0104/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102049a

Analysis Date: 03-JAN-10 13:09

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4-Dinitrotoluene	40	31.228	78	
2,6-Dinitrotoluene	40	38.104	95	
2,6-Dinitrotoluene-d3	500	556.672	111	
2-Amino-4,6-dinitrotoluene	40	40.889	102	
3,4-Dinitrotoluene	20	21.372	107	
4-Amino-2,6-dinitrotoluene	40	45.169	113	
HMX	40	48.827	122	
Nitrobenzene	40	34.856	87	
PETN	40	55.696	139	*
RDX	40	50.638	127	
Tetryl	40	27.468	69	*
m-Dinitrobenzene	40	40.661	102	
m-Nitrotoluene	40	35.234	88	
o-Nitrotoluene	40	40.147	100	
p-Nitrotoluene	40	38.622	97	
1,3,5-Trinitrobenzene	40	50.451	126	
1,3-Dinitrobenzene-d4	500	614.352	123	
2,4,6-Trinitrotoluene	40	39.34	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

Printed: Mon Jan 04 12:59:32 2010, Page 97 of 175

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

set: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

z: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102049a

03-Jan-2010

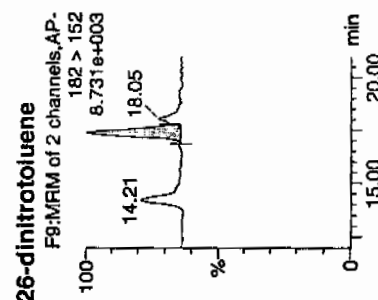
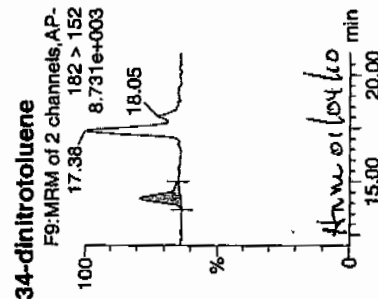
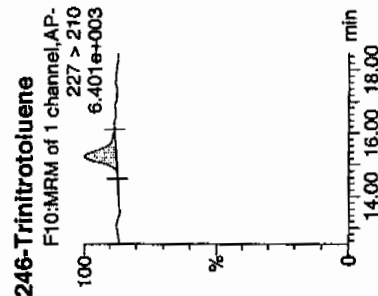
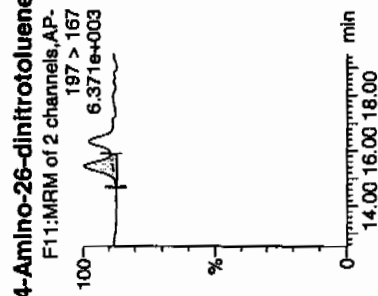
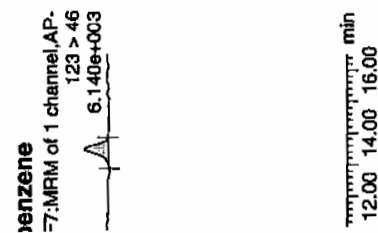
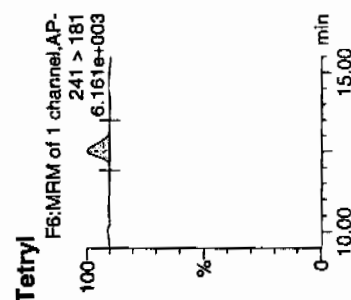
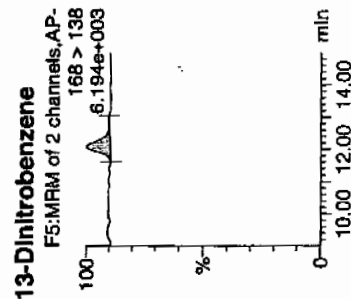
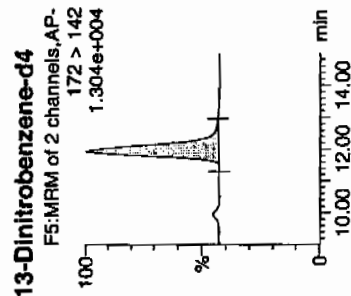
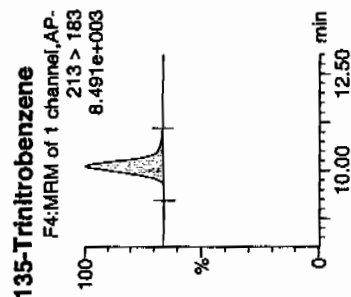
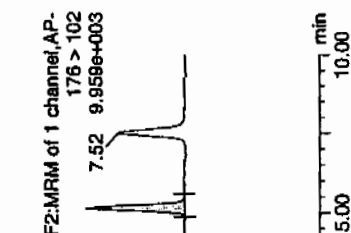
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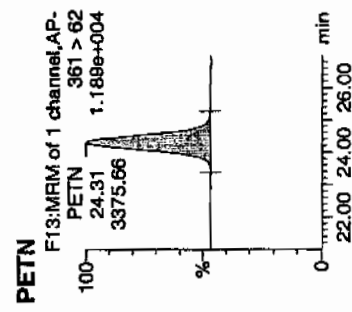
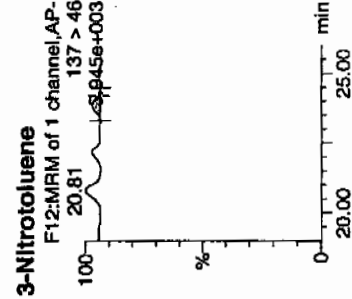
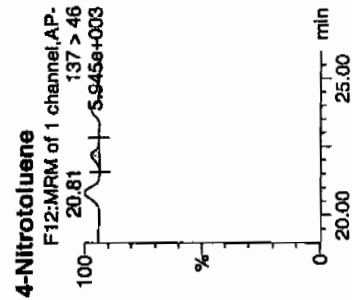
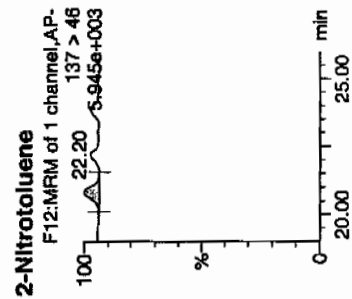
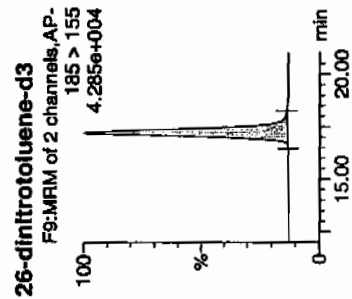
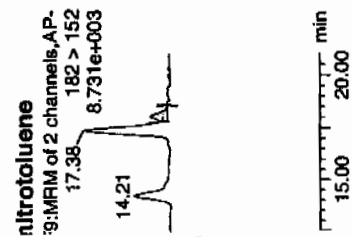
'XX100102-08CRI

1:1,C

1/14/10

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Trace	Name	Tracer	Area	S Area	AbsResp	Response	ModDate	ModTime	InjTime	Flow	Vol	S/N
00102-08CRI	HMX	176 > 102	855.747	2918.169	855.747	146.624	bb		48.8268	122.1	22.1	208.8
00102-08CRI	RDX	176 > 102	693.208	2918.169	693.208	118.774	bb		50.6379	126.6	26.6	137.1
00102-08CRI	135-Trinitrobenzene	213 > 183	1095.764	2918.169	1095.764	187.749	bb		50.4512	126.1	26.1	112.9
00102-08CRI	13-Dinitrobenzene-d4	172 > 142	2918.169		2918.169	2918.169	bb		614.3524	122.9	22.9	884.0
00102-08CRI	13-Dinitrobenzene	168 > 138	277.562	2918.169	277.562	47.558	bb		40.5605	101.7	1.7	39.5
00102-08CRI	Tetryl	241 > 181	291.950	2918.169	291.950	50.023	bb		27.4683	68.7	-31.3	47.8
00102-08CRI	Nitrobenzene	123 > 46	199.263	2918.169	199.263	34.142	bb		34.8555	87.1	-12.9	18.3
00102-08CRI	4-Amino-2,6-dinitrotoluene	197 > 167	407.336	15304.771	407.336	13.307	MM	04-Jan-10	45.1694	112.9	12.9	13.6
00102-08CRI	2-Amino-4,6-dinitrotoluene	197 > 180	475.454	15304.771	475.454	15.533	bb		40.8885	102.2	2.2	39.7
00102-08CRI	2,4,6-Trinitrotoluene	227 > 210	388.516	15304.771	388.516	12.693	bb		39.3395	98.3	-1.7	34.7
00102-08CRI	3,4-dinitrotoluene	182 > 152	583.434	15304.771	583.434	19.061	bb		21.3723	106.9	6.8	23.0
00102-08CRI	2,6-dinitrotoluene	182 > 152	1248.676	15304.771	1248.676	40.794	MM	04-Jan-10	38.1043	95.3	-4.7	54.3
00102-08CRI	2,4-dinitrotoluene	182 > 152	247.987	15304.771	247.987	8.102	MM	04-Jan-10	31.2282	77.1	-21.9	11.3
00102-08CRI	2,6-dinitrotoluene-d3	185 > 155	15304.771		15304.771	15304.771	bb		556.6724	111.3	11.3	1424.4
00102-08CRI	2-Nitrotoluene	137 > 46	209.818	15304.771	209.818	6.855	bb		40.1469	100.4	0.4	42.1
00102-08CRI	4-Nitrotoluene	137 > 46	100.876	15304.771	100.876	3.296	bb		38.6219	96.6	-3.4	24.6
00102-08CRI	3-Nitrotoluene	137 > 46	108.460	15304.771	108.460	3.543	MM	04-Jan-10	35.2344	88.1	-11.9	23.4
00102-08CRI	PETN	361 > 62	3375.655	15304.771	3375.655	110.281	bb		55.6963	139.2	39.2	313.4

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/03/10
 Time of Injection 1309
 Standard Number WXX100102-08CRI
 Data File EXP0102049a

HMX	122.1
RDX	126.6
135-TNB	126.1
13-DNB	101.7
Tetryl	68.7
Nitrobenzene	87.1
4A-26-DNT	112.9
2A-46-DNT	102.2
246-TNT	98.3
34-DNT(surr)	106.9
26-DNT	95.3
24-DNT	78.1
2-NT	100.4
4-NT	96.6
3-NT	88.1
PETN	139.2

Total 1650.3

Average 103.1

Annex 01/04/10

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

*103.1
1/4/10*

7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-982

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102060a

Analysis Date: 03-JAN-10 18:34

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Nitrobenzene	600	526.599	88	
PETN	600	598.946	100	
RDX	600	623.171	104	
Tetryl	600	498.34	83	
m-Dinitrobenzene	600	614.428	102	
m-Nitrotoluene	600	525.204	88	
o-Nitrotoluene	600	542.432	90	
p-Nitrotoluene	600	558.083	93	
1,3,5-Trinitrobenzene	600	560.693	93	
1,3-Dinitrobenzene-d4	500	581.056	116	
2,4,6-Trinitrotoluene	600	702.126	117	
2,4-Dinitrotoluene	600	573.176	96	
2,6-Dinitrotoluene	600	605.415	101	
2,6-Dinitrotoluene-d3	500	517.275	103	
2-Amino-4,6-dinitrotoluene	600	648.81	108	
3,4-Dinitrotoluene	300	307.189	102	
4-Amino-2,6-dinitrotoluene	600	593.052	99	
HMX	600	614.684	102	

Recovery Limits:

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

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Printed: Mon Jan 04 12:59:32 2010, Page 119 of 175

Sample Report
boratories, LLC / Analyst: Michael A. Penny

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3-Jan-2010

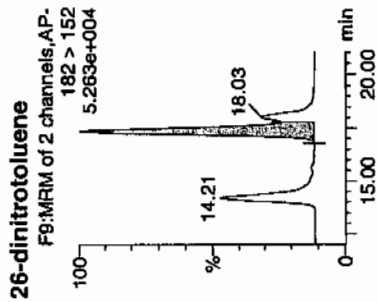
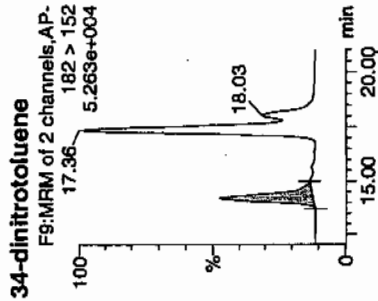
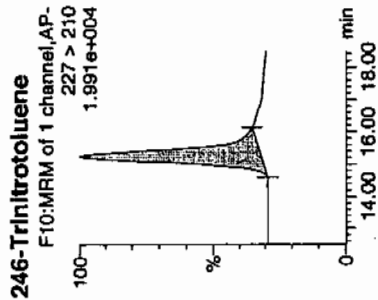
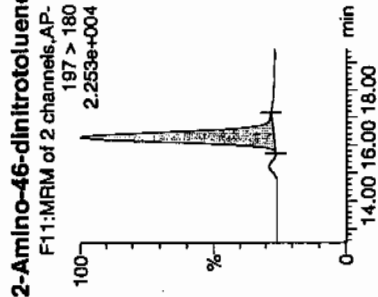
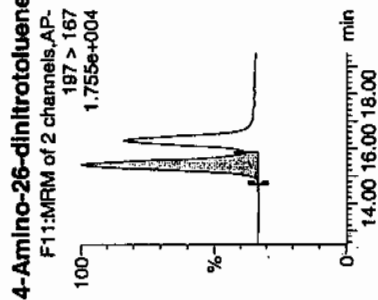
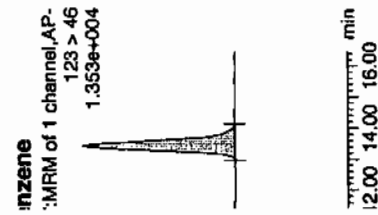
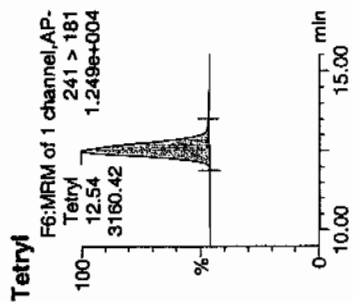
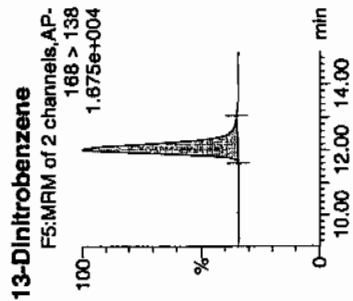
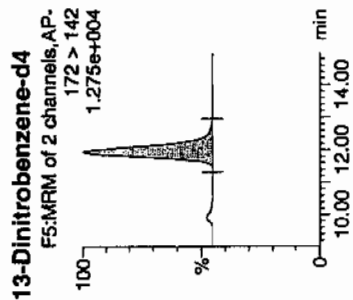
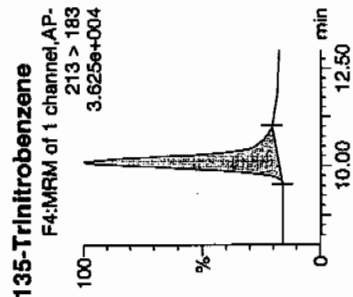
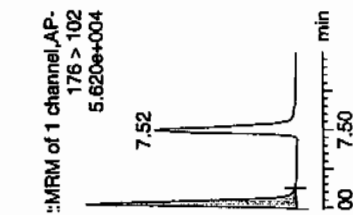
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K100102-07CCV

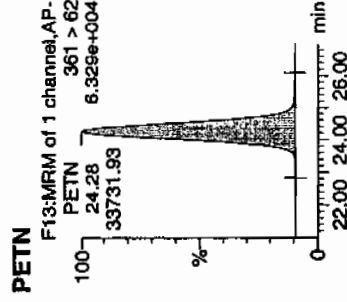
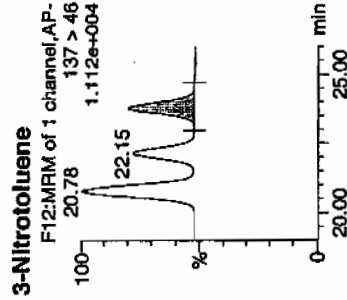
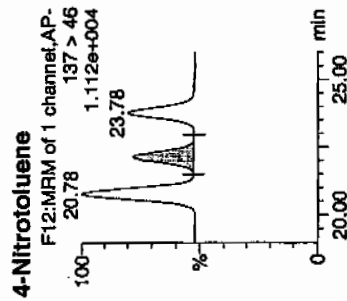
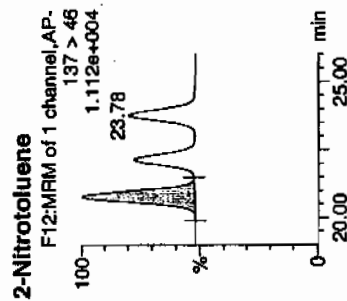
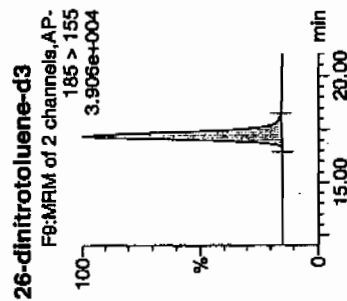
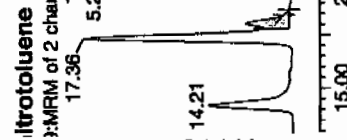
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14/10

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Hum 0160460



Name	RT	Area	Wave	Area	Response	Ratio	Mod	Time	Mod	Time	Mod	Time
0102-07CCV HMX	176 > 102	5.17	10189.199	2760.011	10189.199	1845.862	bb	614.8845	102.4	2.4	2016.0	
0102-07CCV RDX	176 > 102	7.52	8088.546	2760.011	8088.546	1461.687	bb	623.1707	103.9	3.9	1357.6	
0102-07CCV 135-Trinitrobenzene	213 > 183	10.11	11517.848	2760.011	11517.848	2086.558	bb	560.8933	93.4	-6.6	510.3	
0102-07CCV 13-Dinitrobenzene-d4	172 > 142	11.95	2760.011	2760.011	2760.011	2760.011	bb	581.0559	116.2	16.2	333.4	
0102-07CCV 13-Dinitrobenzene	168 > 138	12.04	3966.971	2760.011	3966.971	718.651	bb	614.4282	102.4	2.4	453.0	
0102-07CCV Tetryl	241 > 181	12.54	3160.422	2760.011	3160.422	572.538	bb	498.3396	83.1	-16.9	369.2	
0102-07CCV Nitrobenzene	123 > 46	13.46	2847.319	2760.011	2847.319	515.817	bb	526.5991	87.8	-12.2	347.1	
0102-07CCV 4-Amino-26-dinitrotoluene	197 > 167	15.43	4969.620	14221.611	4969.620	174.721	MM	593.0525	98.8	-1.2	447.3	
0102-07CCV 2-Amino-46-dinitrotoluene	197 > 180	16.28	7010.468	14221.611	7010.468	246.472	bb	648.8104	108.1	8.1	608.7	
0102-07CCV 246-Trinitrotoluene	227 > 210	15.25	6443.432	14221.611	6443.432	226.537	bb	702.1258	117.0	17.0	409.9	
0102-07CCV 34-dinitrotoluene	182 > 152	14.21	7792.348	14221.611	7792.348	273.962	bb	307.1888	102.4	2.4	159.6	
0102-07CCV 26-dinitrotoluene	182 > 152	17.35	18435.311	14221.611	18435.311	648.144	MM	605.4150	100.9	0.9	396.8	
0102-07CCV 26-dinitrotoluene	182 > 152	18.03	4229.525	14221.611	4229.525	148.701	MM	573.1760	95.5	-4.5	84.4	
0102-07CCV 26-dinitrotoluene-d3	185 > 155	17.20	14221.611	14221.611	14221.611	14221.611	bb	517.2752	103.5	3.5	290.2	
0102-07CCV 2-Nitrotoluene	137 > 46	20.78	2634.254	14221.611	2634.254	92.614	bb	542.4319	90.4	-9.6	417.3	
0102-07CCV 4-Nitrotoluene	137 > 46	22.15	1354.489	14221.611	1354.489	47.621	bb	558.0835	93.0	-7.0	221.5	
0102-07CCV 3-Nitrotoluene	137 > 46	23.77	1502.287	14221.611	1502.287	52.817	bb	525.2035	87.5	-12.5	241.4	
0102-07CCV PETN	361 > 62	24.28	33731.926	14221.611	33731.926	1185.939	bb	598.9458	99.8	-0.2	8957.0	

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/03/10
 Time of Injection: 1834
 Standard Number: WXX100102-07CCV
 Data File: EXP0102060a

HMX	102.4
RDX	103.9
135-TNB	93.4
13-DNB	102.4
Tetryl	83.1
Nitrobenzene	87.8
4A-26-DNT	98.8
2A-46-DNT	108.1
246-TNT	117.0
34-DNT(surr)	102.4
26-DNT	100.9
24-DNT	95.5
2-NT	90.4
4-NT	93.0
3-NT	87.5
PETN	99.8

11/4/10

Total 1566.4

Average 97.9

11/4/10
 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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102062a

Analysis Date: 03-JAN-10 19:33

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Tetryl	40	38.577	96	
m-Dinitrobenzene	40	46.839	117	
m-Nitrotoluene	40	37.069	93	
o-Nitrotoluene	40	36.041	90	
p-Nitrotoluene	40	40.836	102	
1,3,5-Trinitrobenzene	40	52.387	131	*
1,3-Dinitrobenzene-d4	500	504.453	101	
2,4,6-Trinitrotoluene	40	43.167	108	
2,4-Dinitrotoluene	40	37.627	94	
2,6-Dinitrotoluene	40	41.593	104	
2,6-Dinitrotoluene-d3	500	524.982	105	
2-Amino-4,6-dinitrotoluene	40	46.186	115	
3,4-Dinitrotoluene	20	18.445	92	
4-Amino-2,6-dinitrotoluene	40	39.412	99	
HMX	40	56.013	140	*
Nitrobenzene	40	49.829	125	
PETN	40	60.169	150	*
RDX	40	45.851	115	

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

Printed: Mon Jan 04 12:59:32 2010, Page 123 of 175

ify Sample Report
laboratories, LLC / Analyst: Michael A. Penny

at: C:\MASSLYNX\New_Exp\PRO1010210expA.qld, Time: Mon Jan 04 12:58:29 2010

C:\MASSLYNX\NEW_EXP\PRO1Data\EXP0102062a

03-Jan-2010

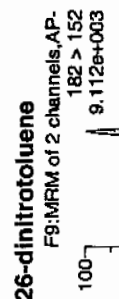
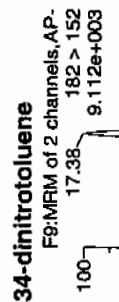
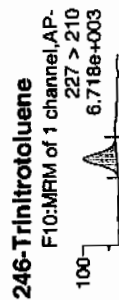
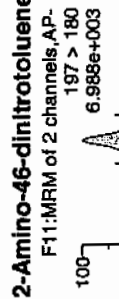
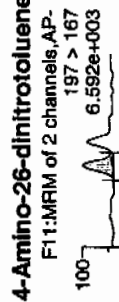
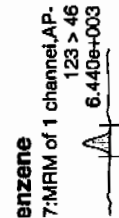
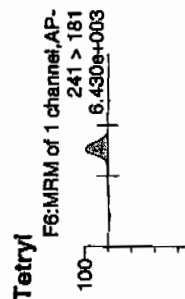
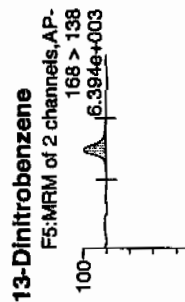
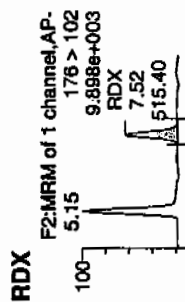
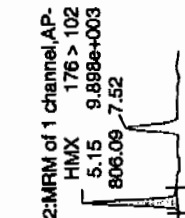
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OX100102-08CRI

:1,C

11/4/10

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GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/03/10
 Time of Injection 1933
 Standard Number WXX100102-08CRI
 Data File EXP0102062a

HMX	140.0
RDX	114.6
135-TNB	131.0
13-DNB	117.1
Tetryl	96.4
Nitrobenzene	124.6
4A-26-DNT	98.5
2A-46-DNT	115.5
246-TNT	107.9
34-DNT(surr)	92.2
26-DNT	104.0
24-DNT	94.1
2-NT	90.1
4-NT	102.1
3-NT	92.7
PETN	150.4

*mtf
1/4/10*

Total 1771.2

Average 110.7

done 01/04/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102073a

Analysis Date: 04-JAN-10 00:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	615.399	103	
1,3-Dinitrobenzene-d4	500	494.555	99	
2,4,6-Trinitrotoluene	600	703.857	117	
2,4-Dinitrotoluene	600	624.595	104	
2,6-Dinitrotoluene	600	616.529	103	
2,6-Dinitrotoluene-d3	500	495.578	99	
2-Amino-4,6-dinitrotoluene	600	711.279	119	
3,4-Dinitrotoluene	300	305.044	102	
4-Amino-2,6-dinitrotoluene	600	580.794	97	
HMX	600	736.915	123	*
Nitrobenzene	600	592.67	99	
PETN	600	611.581	102	
RDX	600	730.048	122	*
Tetryl	600	596.099	99	
m-Dinitrobenzene	600	607.869	101	
m-Nitrotoluene	600	552.647	92	
o-Nitrotoluene	600	562.449	94	
p-Nitrotoluene	600	577.483	96	

Recovery Limits:

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

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

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

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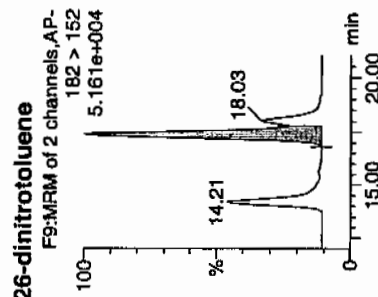
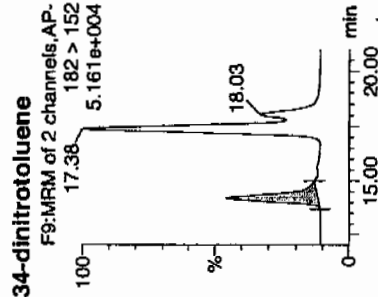
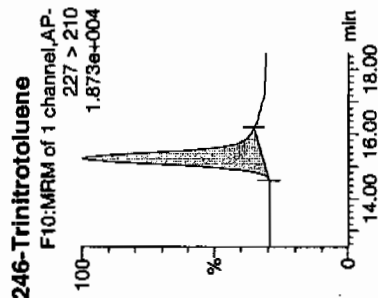
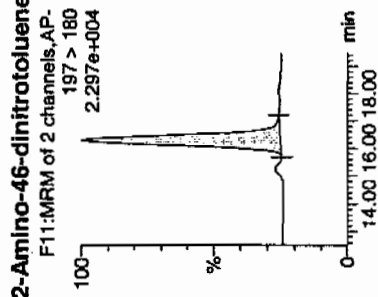
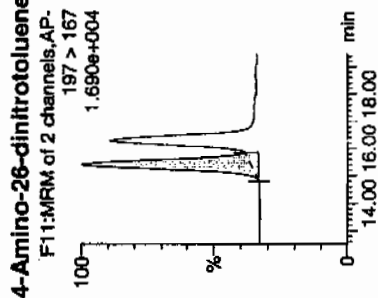
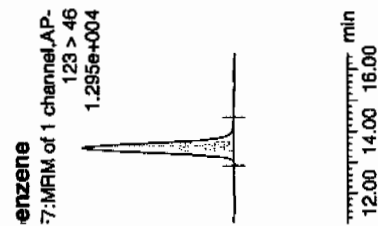
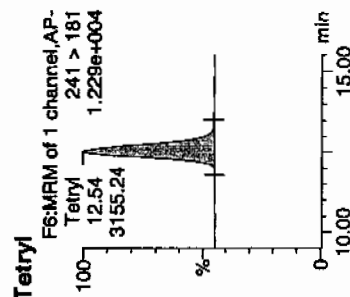
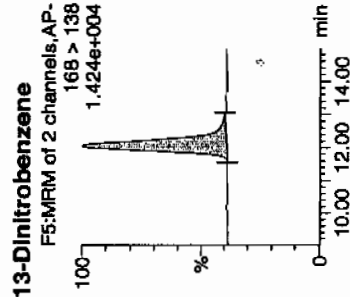
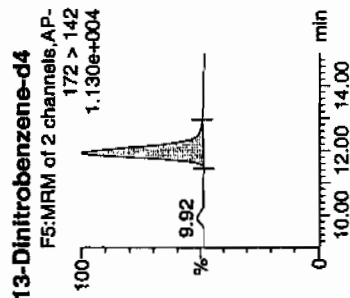
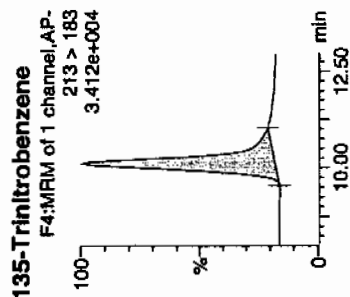
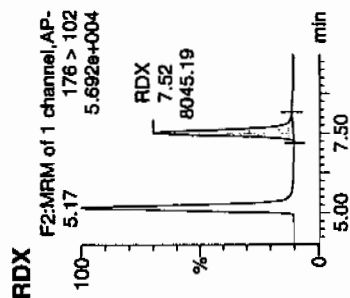
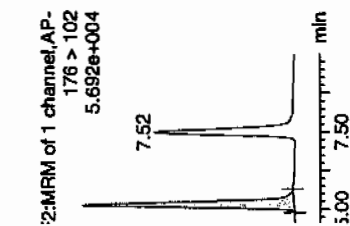
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OX100102-07CCV

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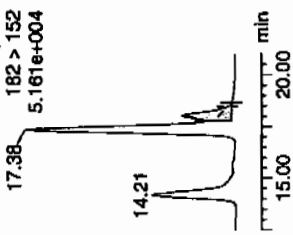


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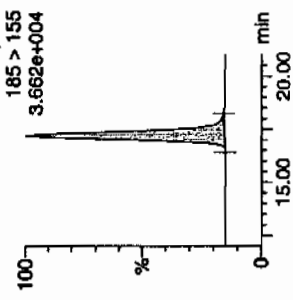
nitrotoluene

ig:MRM of 2 channels,AP-



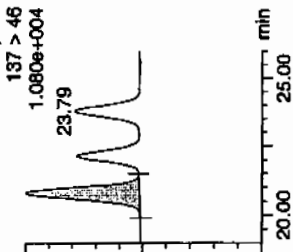
26-dinitrotoluene-d3

F9:MRM of 2 channels,AP-



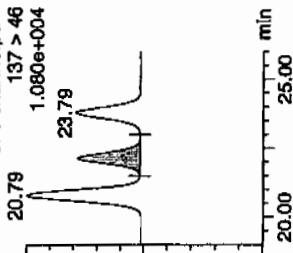
2-Nitrotoluene

F12:MRM of 1 channel, AP-



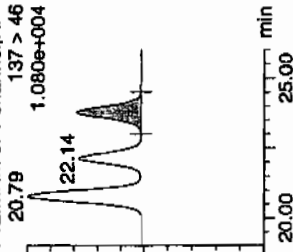
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F12:MRM of 1 channel, AP-



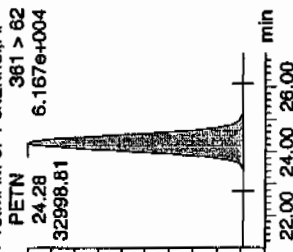
3-Nitrotoluene

F12:MRM of 1 channel_AP-



PETN

F13;MRM of 1 channel,AP-



Matrix	Trace	Area	Area	Area	Response	Plate	ModTime	ModDate	ModUser	ModTime	ModDate	ModUser	
00102-07CCV	HMX	176 > 102	5.17	10396.846	2349.131	10396.846	2212.913	bb		736.9150	122.8	22.8	983.7
00102-07CCV	RDX	176 > 102	7.52	8045.185	2349.131	8045.185	1712.375	bb		730.0479	121.7	21.7	653.3
00102-07CCV	135-Trinitrobenzene	213 > 183	10.11	10759.670	2349.131	10759.670	2290.138	bb		615.3987	102.6	2.6	1477.7
00102-07CCV	13-Dinitrobenzene-d4	172 > 142	11.93	2349.131		2349.131	2349.131	bb		494.5547	98.9	-1.1	616.2
00102-07CCV	13-Dinitrobenzene	168 > 138	12.07	3340.368	2349.131	3340.368	710.980	bb		607.8691	101.3	1.3	399.2
00102-07CCV	Tetryl	241 > 181	12.54	3155.239	2349.131	3155.239	671.576	bb		596.0986	99.3	-0.7	243.3
00102-07CCV	Nitrobenzene	123 > 46	13.46	2727.502	2349.131	2727.502	580.534	bb		592.6696	98.8	-1.2	278.9
00102-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.43	4662.757	13625.096	4662.757	171.109	MM	04-Jan-10	10:59:47	96.8	-3.2	254.7
00102-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.29	7363.092	13625.096	7363.092	270.203	bb		711.2794	118.5	18.5	400.4
00102-07CCV	246-Trinitrotoluene	227 > 210	15.25	6188.388	13625.096	6188.388	227.095	bb		703.8570	117.3	17.3	300.6
00102-07CCV	34-dinitrotoluene	182 > 152	14.22	7413.391	13625.096	7413.391	272.049	bb		305.0444	101.7	1.7	158.6
00102-07CCV	26-dinitrotoluene	182 > 152	17.38	17986.299	13625.096	17986.299	660.043	MM	04-Jan-10	11:26:04	102.8	2.8	411.5
00102-07CCV	24-dinitrotoluene	182 > 152	18.03	4415.634	13625.096	4415.634	162.040	MM	04-Jan-10	11:32:47	104.1	4.1	95.8
00102-07CCV	26-dinitrotoluene-d3	185 > 155	17.20	13625.096		13625.096	13625.096	bb		495.5784	99.1	-0.9	1986.1
00102-07CCV	2-Nitrotoluene	137 > 46	20.79	2616.896	13625.096	2616.896	96.032	bb		562.4491	93.7	-6.3	398.1
00102-07CCV	4-Nitrotoluene	137 > 46	22.14	1342.785	13625.096	1342.785	49.276	bb		577.4832	96.2	-3.8	216.8
00102-07CCV	3-Nitrotoluene	137 > 46	23.79	1514.481	13625.096	1514.481	55.577	bb		552.6469	92.1	-7.9	224.7
00102-07CCV	PETN	361 > 62	24.28	32998.813	13625.096	32998.813	1210.957	bb		611.5809	101.9	1.9	7213.9

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/04/10
 Time of Injection: 0058
 Standard Number: WXX100102-07CCV
 Data File: EXP0102073a

HMX	122.8
RDX	121.7
135-TNB	102.6
13-DNB	101.3
Tetryl	99.3
Nitrobenzene	98.8
4A-26-DNT	96.8
2A-46-DNT	118.5
246-TNT	117.3
34-DNT(surr)	101.7
26-DNT	102.8
24-DNT	104.1
2-NT	93.7
4-NT	96.2
3-NT	92.1
PETN	101.9

MTT
1/4/10

Total 1671.6

Average 104.5

Annex 01/04/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102075a

Analysis Date: 04-JAN-10 01:57

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	50.8	127	
1,3-Dinitrobenzene-d4	500	571.98	114	
2,4,6-Trinitrotoluene	40	38.632	97	
2,4-Dinitrotoluene	40	41.485	104	
2,6-Dinitrotoluene	40	45.398	113	
2,6-Dinitrotoluene-d3	500	492.351	98	
2-Amino-4,6-dinitrotoluene	40	39.008	98	
3,4-Dinitrotoluene	20	19.905	100	
4-Amino-2,6-dinitrotoluene	40	40.139	100	
HMX	40	50.043	125	
Nitrobenzene	40	34.637	87	
PETN	40	62.624	157	*
RDX	40	41.395	103	
Tetryl	40	29.176	73	
m-Dinitrobenzene	40	38.951	97	
m-Nitrotoluene	40	48.141	120	
o-Nitrotoluene	40	44.127	110	
p-Nitrotoluene	40	34.935	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

Printed: Mon Jan 04 12:59:32 2010, Page 149 of 175

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

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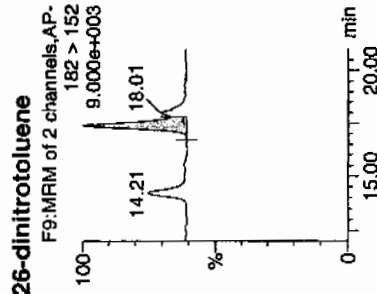
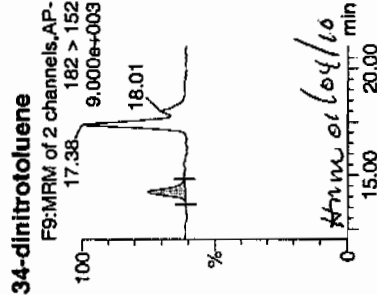
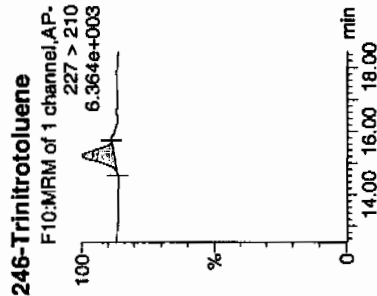
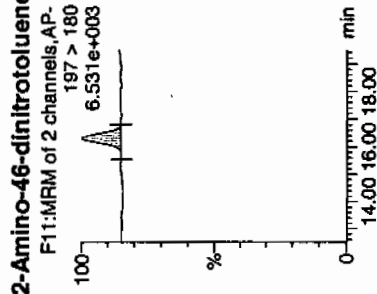
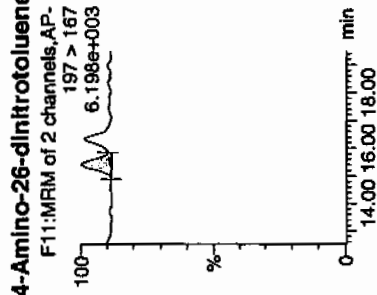
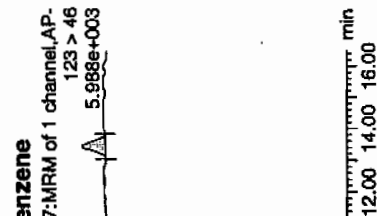
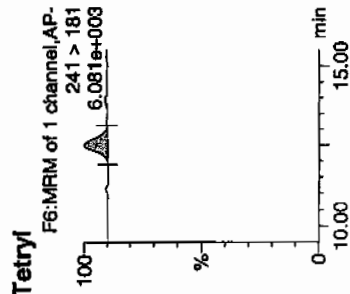
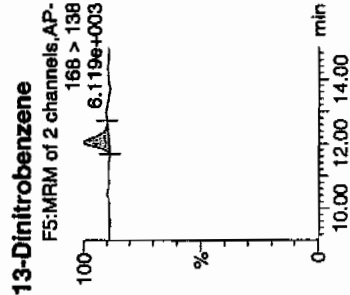
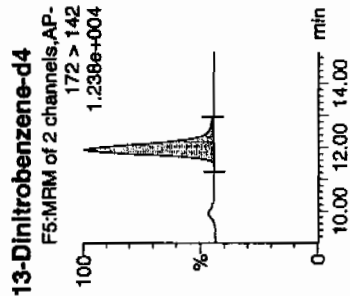
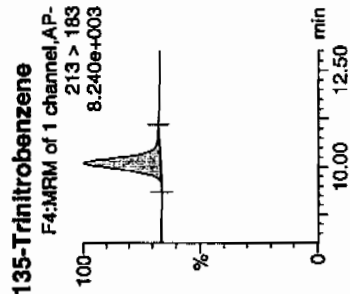
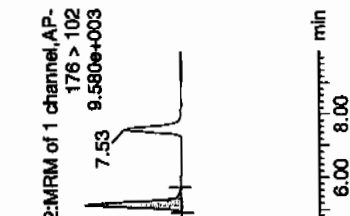
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at: C:\MASSLYNX\New_Exp\PRO1010210expA.qld, Time: Mon Jan 04 12:58:29 2010

nitrotoluene

9:MRM of 2 channels, AP-

182 > 152

9.000e+003

17.38

14.21

min

20.00

15.00

min

20.00

15.00

min

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15.00

min

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min

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26-dinitrotoluene-d3

F9:MRM of 2 channels, AP-

185 > 155

3.678e+004

17.38

14.21

min

20.00

15.00

min

20.00

15.00

min

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20.00

2-Nitrotoluene

F12:MRM of 1 channel, AP-

137 > 46

5.887e+003

23.76

20.79

min

25.00

20.00

min

25.00

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4-Nitrotoluene

F12:MRM of 1 channel, AP-

137 > 46

5.887e+003

23.76

20.79

min

25.00

20.00

min

25.00

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3-Nitrotoluene

F12:MRM of 1 channel, AP-

137 > 46

5.887e+003

23.76

20.79

min

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PETN

F13:MRM of 1 channel, AP-

361 > 62

1.171e+004

3356.97

24.28

min

25.00

22.00

min

25.00

22.00

min

25.00

22.00

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/04/10
 Time of Injection 0157
 Standard Number WXX100102-08CRI
 Data File EXP0102075a

HMX	125.1
RDX	103.5
135-TNB	127.0
13-DNB	97.4
Tetryl	72.9
Nitrobenzene	86.6
4A-26-DNT	100.3
2A-46-DNT	97.5
246-TNT	96.6
34-DNT(surr)	99.5
26-DNT	113.5
24-DNT	103.7
2-NT	110.3
4-NT	87.3
3-NT	120.4
PETN	156.6

*100.3
1/4/10*

Total 1698.2

Average 106.1

Hyman 01/04/10
 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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102085a

Analysis Date: 04-JAN-10 06:52

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	665.652	111	
1,3-Dinitrobenzene-d4	500	527.685	106	
2,4,6-Trinitrotoluene	600	711.691	119	
2,4-Dinitrotoluene	600	551.319	92	
2,6-Dinitrotoluene	600	611.136	102	
2,6-Dinitrotoluene-d3	500	519.633	104	
2-Amino-4,6-dinitrotoluene	600	640.843	107	
3,4-Dinitrotoluene	300	325.457	108	
4-Amino-2,6-dinitrotoluene	600	567.919	95	
HMX	600	809.466	135	*
Nitrobenzene	600	606.221	101	
PETN	600	596.34	99	
RDX	600	799.165	133	*
Tetryl	600	580.309	97	
m-Dinitrobenzene	600	652.456	109	
m-Nitrotoluene	600	546.919	91	
o-Nitrotoluene	600	544.407	91	
p-Nitrotoluene	600	591.997	99	

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

ly Sample Report
boratories, LLC / Analyst : Michael A. Penny

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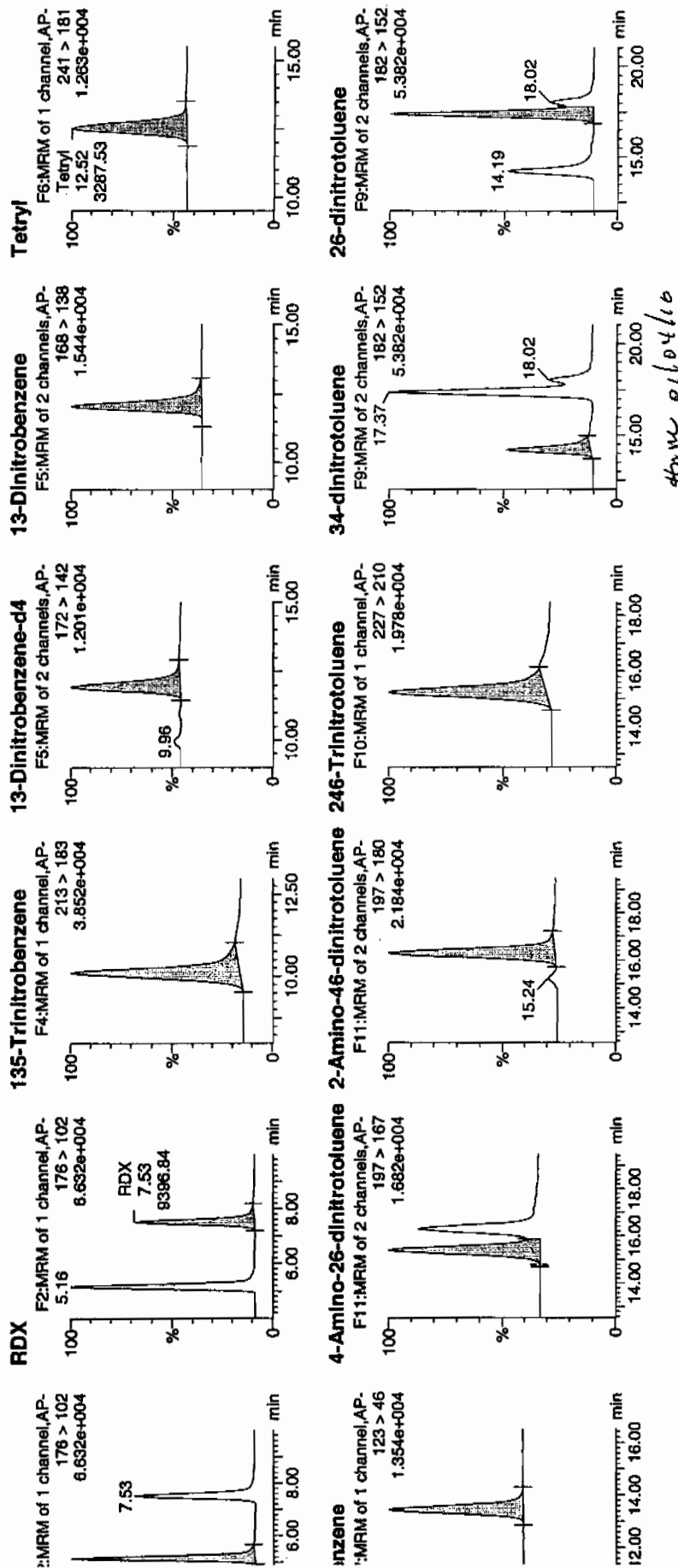
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X100102-07CCV

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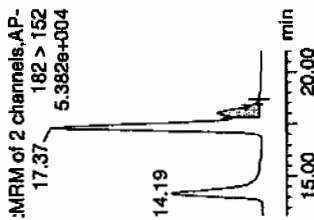


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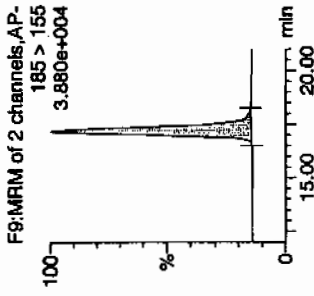
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aboratories, LLC / Analyst : Michael A. Penny

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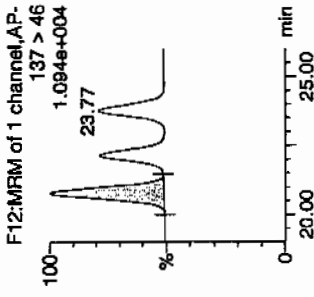
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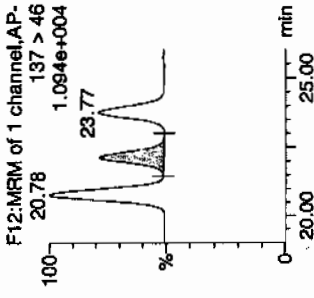
26-dinitrotoluene-d3



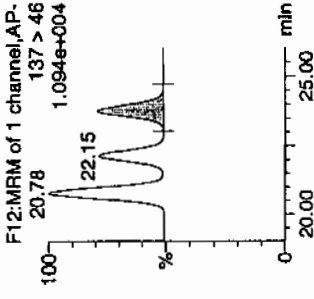
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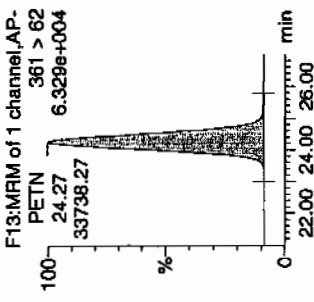
4-Nitrotoluene



3-Nitrotoluene



PETN



Name	Trace	RT	Area	IS Area	Abs Res	Residue	Flags	Mod Time	Exp Date	Lab
0102-07CCV HMX	176 > 102	5.16	12185.505	2506.501	12185.505	2430.780	bb	809.4661	134.9	34.9
0102-07CCV RDX	176 > 102	7.53	9396.838	2506.501	9396.838	1874.493	bb	799.1650	133.2	33.2
0102-07CCV 135-Trinitrobenzene	213 > 183	10.10	12417.952	2506.501	12417.952	2477.149	bb	665.6516	110.9	10.9
0102-07CCV 13-Dinitrobenzene-d4	172 > 142	11.94	2506.501	2506.501	2506.501	2506.501	bb	527.6853	105.5	5.5
0102-07CCV 13-Dinitrobenzene	168 > 138	12.06	3825.569	2506.501	3825.569	763.129	bb	652.4558	108.7	8.7
0102-07CCV Tetryl	241 > 181	12.52	3287.526	2506.501	3287.526	655.800	bb	580.3093	96.7	-3.3
0102-07CCV Nitrobenzene	123 > 46	13.48	2976.761	2506.501	2976.761	593.808	bb	606.2209	101.0	1.0
0102-07CCV 4-Amino-26-dinitrotoluene	197 > 167	15.41	4780.700	14286.441	4780.700	167.316	MM	567.9187	94.7	-5.3
0102-07CCV 2-Amino-46-dinitrotoluene	197 > 180	16.30	6955.946	14286.441	6955.946	243.446	bb	640.8431	106.8	6.8
0102-07CCV 246-Trinitrotoluene	227 > 210	15.23	6560.986	14286.441	6560.986	229.623	bb	711.6911	118.6	18.6
0102-07CCV 34-dinitrotoluene	182 > 152	14.19	8293.384	14286.441	8293.384	290.254	bb	325.4569	108.5	8.5
0102-07CCV 26-dinitrotoluene	182 > 152	17.37	18694.363	14286.441	18694.363	654.269	MM	611.1363	101.9	1.9
0102-07CCV 24-dinitrotoluene	182 > 152	18.02	4086.786	14286.441	4086.786	143.030	MM	551.3191	91.9	-8.1
0102-07CCV 26-dinitrotoluene-d3	185 > 155	17.19	14286.441	14286.441	14286.441	14286.441	bb	519.6332	103.9	3.9
0102-07CCV 2-Nitrotoluene	137 > 46	20.78	2655.897	14286.441	2655.897	92.952	bb	544.4068	90.7	-9.3
0102-07CCV 4-Nitrotoluene	137 > 46	22.15	1443.349	14286.441	1443.349	50.515	bb	591.9974	98.7	-1.3
0102-07CCV 3-Nitrotoluene	137 > 46	23.77	1571.534	14286.441	1571.534	55.001	bb	546.9193	91.2	-8.8
0102-07CCV PETN	361 > 62	24.27	33738.270	14286.441	33738.270	1180.779	bb	596.3400	99.4	-0.6

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/04/10
 Time of Injection: 0652
 Standard Number: WXX100102-07CCV
 Data File: EXP0102085a

HMX	134.9
RDX	133.2
135-TNB	110.9
13-DNB	108.7
Tetryl	96.7
Nitrobenzene	101.0
4A-26-DNT	94.7
2A-46-DNT	106.8
246-TNT	118.6
34-DNT(surr)	108.5
26-DNT	101.9
24-DNT	91.9
2-NT	90.7
4-NT	98.7
3-NT	91.2
PETN	99.4

*WXX
01/04/10*

Total 1687.8

Average 105.5

WXX 01/04/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102087a

Analysis Date: 04-JAN-10 07:51

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,6-Dinitrotoluene-d3	500	517.484	103	
2-Amino-4,6-dinitrotoluene	40	42.354	106	
3,4-Dinitrotoluene	20	21.433	107	
4-Amino-2,6-dinitrotoluene	40	36.992	92	
HMX	40	50.523	126	
Nitrobenzene	40	33.287	83	
PETN	40	60.251	151	*
RDX	40	48.335	121	
Tetryl	40	32.507	81	
m-Dinitrobenzene	40	45.217	113	
m-Nitrotoluene	40	40.62	102	
o-Nitrotoluene	40	45.544	114	
p-Nitrotoluene	40	38.253	96	
1,3,5-Trinitrobenzene	40	52.11	130	*
1,3-Dinitrobenzene-d4	500	536.285	107	
2,4,6-Trinitrotoluene	40	46.16	115	
2,4-Dinitrotoluene	40	47.378	118	
2,6-Dinitrotoluene	40	43.542	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 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

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boratories, LLC / Analyst: Michael A. Penny

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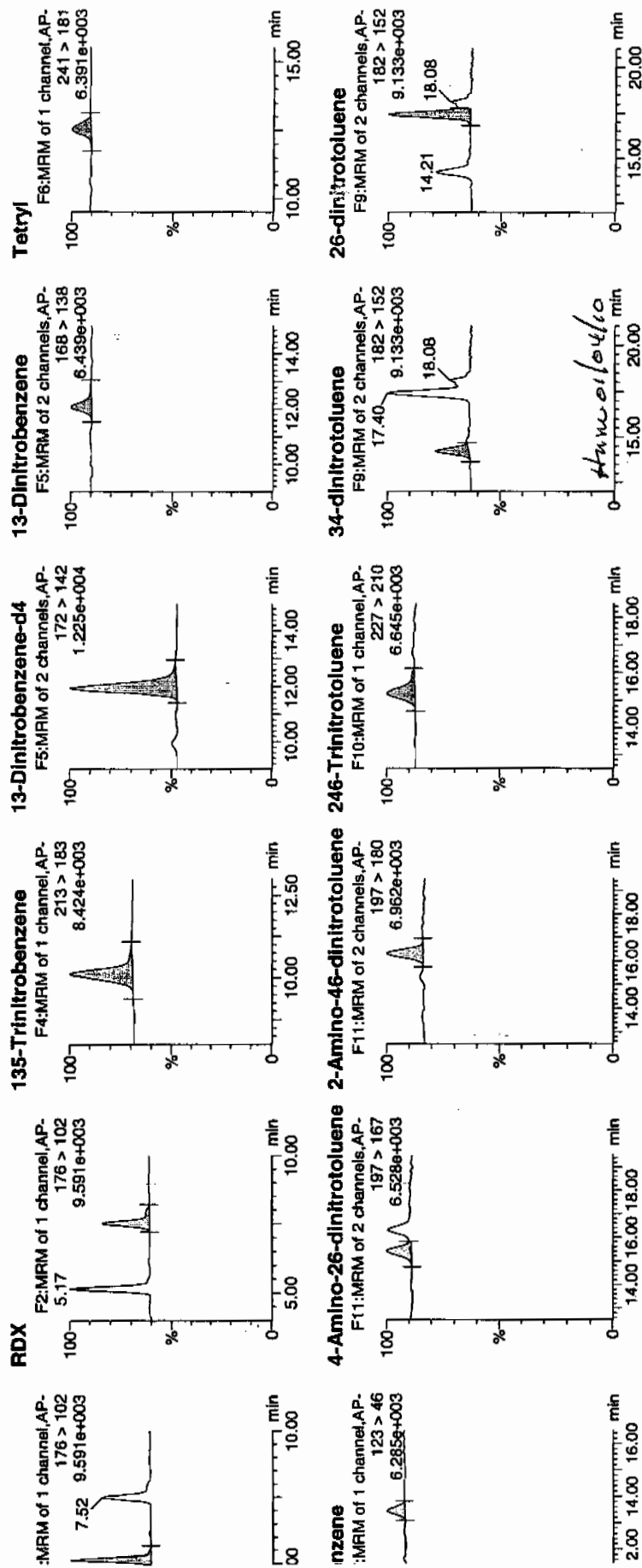
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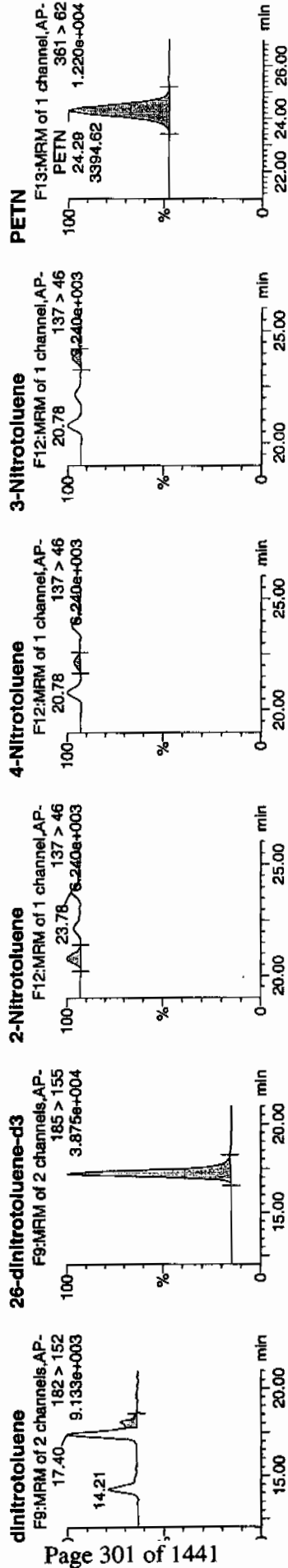
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Sample	Retention Time (min)	Area	Height	Trace	Mod Date	Mod Time	Mod User	SN
X100102-08CRI	176 > 102	5.17	772.954	2547.349	772.954	151.717	bb	165.6
X100102-08CRI	176 > 102	7.52	577.600	2547.349	577.600	113.373	bb	26.3
X100102-08CRI	213 > 183	10.13	987.962	2547.349	987.962	193.920	bb	20.8
X100102-08CRI	172 > 142	11.95	2547.349	2547.349	2547.349	2547.349	bb	30.3
X100102-08CRI	168 > 138	12.10	269.442	2547.349	269.442	52.887	bb	7.3
X100102-08CRI	241 > 181	12.53	285.369	2547.349	285.369	56.013	bb	13.0
X100102-08CRI	123 > 46	13.45	166.114	2547.349	166.114	32.605	bb	18.7
X100102-08CRI	197 > 167	15.42	310.105	14227.341	310.105	10.898	MM	11.0
X100102-08CRI	197 > 180	16.31	457.822	14227.341	457.822	16.090	bb	7.5
X100102-08CRI	227 > 210	15.24	423.781	14227.341	423.781	14.893	bb	5.9
X100102-08CRI	182 > 152	14.21	543.901	14227.341	543.901	19.115	bb	15.4
X100102-08CRI	182 > 152	17.40	1326.429	14227.341	1326.429	46.615	MM	7.2
X100102-08CRI	182 > 152	18.08	349.748	14227.341	349.748	12.291	MM	8.9
X100102-08CRI	185 > 155	17.20	14227.341	14227.341	14227.341	14227.341	bb	103.8
X100102-08CRI	137 > 46	20.78	221.269	14227.341	221.269	7.776	bb	25.1
X100102-08CRI	137 > 46	22.16	92.878	14227.341	92.878	3.264	bb	3.5
X100102-08CRI	137 > 46	23.78	116.235	14227.341	116.235	4.085	bb	1030.3
X100102-08CRI	361 > 62	24.29	3394.619	14227.341	3394.619	119.299	bb	13.9
PETN								47.4
								20.4
								28.5
								391.2

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/04/10
 Time of Injection 0751
 Standard Number WXX100102-08CRI
 Data File EXP0102087a

HMX	126.3
RDX	120.8
135-TNB	130.3
13-DNB	113.0
Tetryl	81.3
Nitrobenzene	83.2
4A-26-DNT	92.5
2A-46-DNT	105.9
246-TNT	115.4
34-DNT(surr)	107.2
26-DNT	108.9
24-DNT	118.4
2-NT	113.9
4-NT	95.6
3-NT	101.5
PETN	150.6

Total 1764.8

Average 110.3

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

No single analyte > +/- 60%

11/4/10

01/04/10

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102098a

Analysis Date: 04-JAN-10 13:16

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
HMX	600	674.044	112	
Nitrobenzene	600	546.392	91	
PETN	600	583.674	97	
RDX	600	682.591	114	
Tetryl	600	474.522	79	*
m-Dinitrobenzene	600	590.138	98	
m-Nitrotoluene	600	580.168	97	
o-Nitrotoluene	600	580.874	97	
p-Nitrotoluene	600	608.591	101	
1,3,5-Trinitrobenzene	600	558.294	93	
1,3-Dinitrobenzene-d4	500	559.344	112	
2,4,6-Trinitrotoluene	600	724.952	121	*
2,4-Dinitrotoluene	600	627.022	105	
2,6-Dinitrotoluene	600	621.496	104	
2,6-Dinitrotoluene-d3	500	507.634	102	
2-Amino-4,6-dinitrotoluene	600	682.514	114	
3,4-Dinitrotoluene	300	338.072	113	
4-Amino-2,6-dinitrotoluene	600	622.379	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

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boratories, LLC / Analyst : Michael A. Penny

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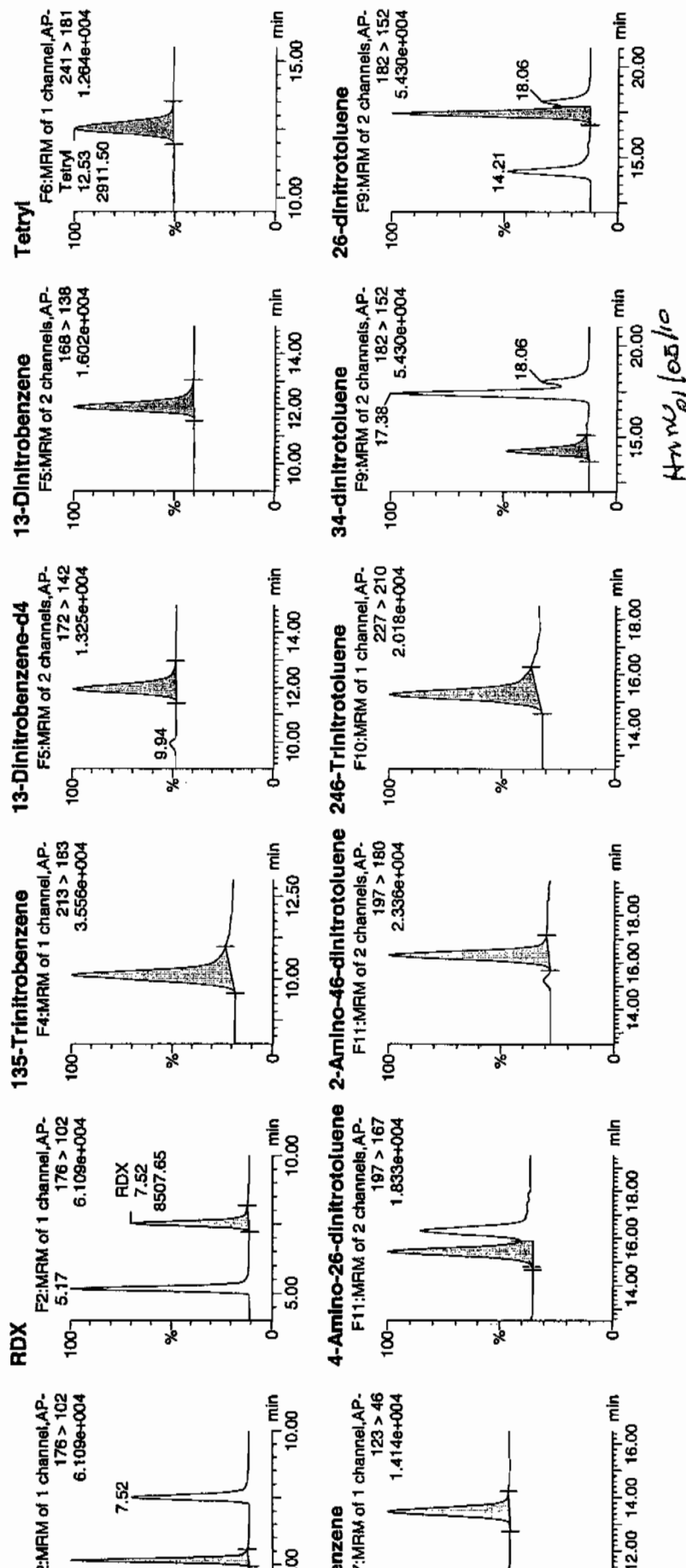
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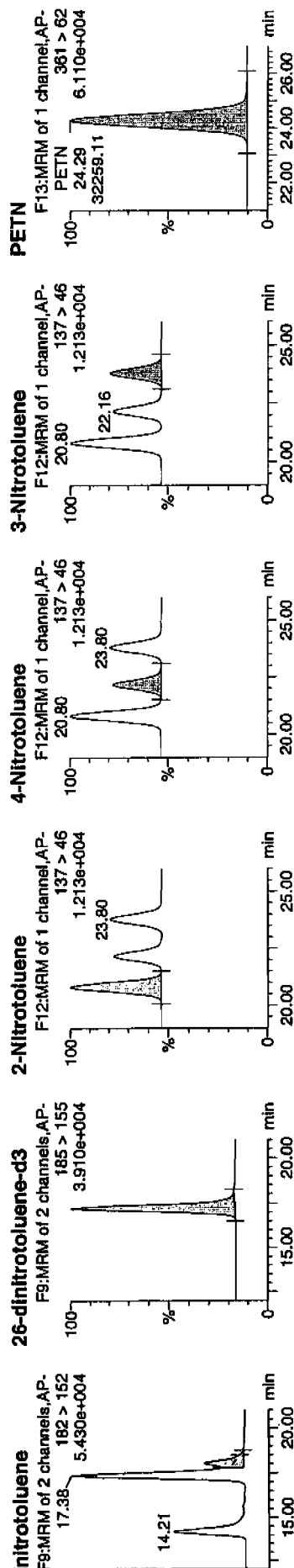
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X100102-07CCV

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Name	Trace	RT	Area	SArea	Abs.Resp	Response	Flags	Mob.Date	Mob.Time	Tox.ML	%Rec	%Dev	SN
HMX	176 > 102	5.17	10755.651	2656.878	10755.651	2024.115	bb		674.0438	112.3	12.3		827.1
RDX	176 > 102	7.52	8507.652	2656.878	8507.652	1601.062	bb		682.5912	113.8	13.8		548.9
135-Trinitrobenzene	213 > 183	10.11	11040.010	2656.878	11040.010	2077.628	bb		558.2937	93.0	-7.0		656.0
13-Dinitrobenzene-d4	172 > 142	11.95	2656.878		2656.878	2656.878	bb		559.3436	111.9	11.9		360.1
13-Dinitrobenzene	168 > 138	12.07	3667.774	2656.878	3667.774	690.241	bb		590.1385	98.4	-1.6		241.3
Tetryl	241 > 181	12.53	2911.497	2656.878	2911.497	547.917	bb		474.5221	79.1	-20.9		222.7
Nitrobenzene	123 > 46	13.50	2843.944	2656.878	2843.944	535.204	bb		546.3919	91.1	-8.9		197.4
4-Amino-26-dinitrotoluene	197 > 167	15.42	5118.155	13956.530	5118.155	183.361	MM	05-Jan-10	08:46:10	622.3787	103.7	3.7	228.1
2-Amino-46-dinitrotoluene	197 > 180	16.31	7237.182	13956.530	7237.182	259.276	bb		682.5141	113.8	13.8		344.3
245-Trinitrotoluene	227 > 210	15.28	6528.902	13956.530	6528.902	233.901	bb		724.9519	120.8	20.8		229.7
34-dinitrotoluene	182 > 152	14.21	8415.905	13956.530	8415.905	301.504	bb		338.0720	112.7	12.7		166.0
26-dinitrotoluene	182 > 152	17.38	18572.238	13956.530	18572.238	665.360	MM	05-Jan-10	08:51:45	621.4959	103.6	3.6	404.4
24-dinitrotoluene	182 > 152	18.06	4540.617	13956.530	4540.617	162.670	MM	05-Jan-10	08:58:40	627.0217	104.5	4.5	92.7
26-dinitrotoluene-d3	185 > 155	17.20	13956.530		13956.530	13956.530	bb		507.6335	101.5	1.5		1035.4
2-Nitrotoluene	137 > 46	20.80	2768.365	13956.530	2768.365	99.178	bb		580.8744	96.8	-3.2		496.1
4-Nitrotoluene	137 > 46	22.16	1449.542	13956.530	1449.542	51.931	bb		608.5914	101.4	1.4		259.9
3-Nitrotoluene	137 > 46	23.80	1628.576	13956.530	1628.576	58.345	bb		580.1684	96.7	-3.3		278.0
PETN	361 > 62	24.29	32259.107	13956.530	32259.107	1155.699	bb		583.6736	97.3	-2.7		9723.2

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/04/10
 Time of Injection: 1316
 Standard Number: WXX100102-07CCV
 Data File: EXP0102098a

HMX	112.3
RDX	113.8
135-TNB	93.0
13-DNB	98.4
Tetryl	79.1
Nitrobenzene	91.1
4A-26-DNT	103.7
2A-46-DNT	113.8
246-TNT	120.8
34-DNT(surr)	112.7
26-DNT	103.6
24-DNT	104.5
2-NT	96.8
4-NT	101.4
3-NT	96.7
PETN	97.3

*mm
1/5/10*

Total 1639.0

Average 102.4

mm 01/05/10
 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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102100a

Analysis Date: 04-JAN-10 14:15

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
HMX	40	53.621	134	*
Nitrobenzene	40	40.803	102	
PETN	40	54.497	136	*
RDX	40	40.271	101	
Tetryl	40	24.068	60	*
m-Dinitrobenzene	40	39.404	99	
m-Nitrotoluene	40	40.148	100	
o-Nitrotoluene	40	43.377	108	
p-Nitrotoluene	40	37.855	95	
1,3,5-Trinitrobenzene	40	50.626	127	
1,3-Dinitrobenzene-d4	500	575.624	115	
2,4,6-Trinitrotoluene	40	59.538	149	*
2,4-Dinitrotoluene	40	34.5	86	
2,6-Dinitrotoluene	40	41.26	103	
2,6-Dinitrotoluene-d3	500	552.754	111	
2-Amino-4,6-dinitrotoluene	40	43.874	110	
3,4-Dinitrotoluene	20	19.865	99	
4-Amino-2,6-dinitrotoluene	40	45.649	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

Printed: Tue Jan 05 09:04:48 2010, Page 25 of 85

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

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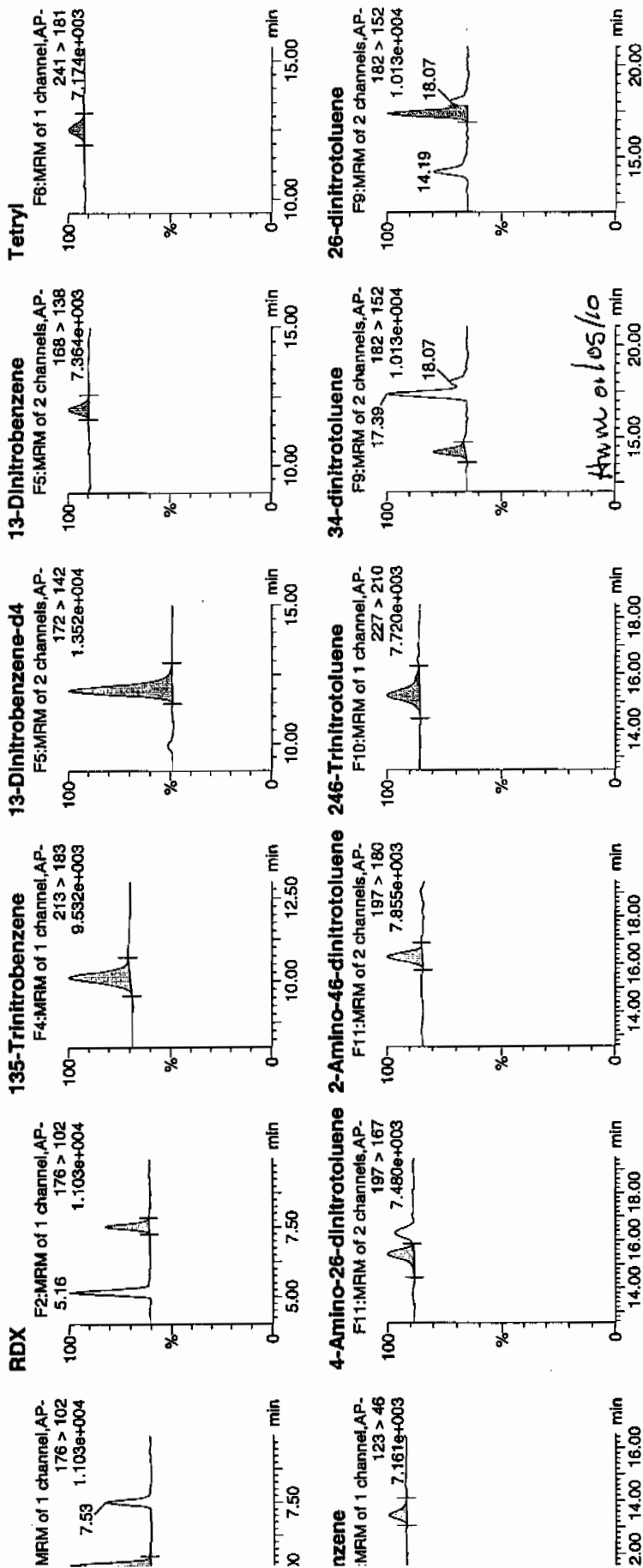
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1-Nitrotoluene



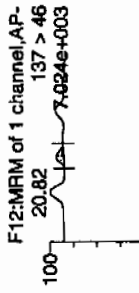
2,6-Dinitrotoluene-d3



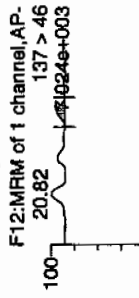
2-Nitrotoluene



4-Nitrotoluene



3-Nitrotoluene



PETN



Name	Area	Height	Width	Area%	Height%	Width%	Area%	Height%	Width%	Area%	Height%	Width%	Area%	Height%	Width%	Area%	Height%	Width%	Area%	Height%	Width%
10102-08CRI	176 > 102	5.16	880.535	2734.208	880.535	161.022	bb	53.6214	134.1	34.1	117.7										
10102-08CRI	176 > 102	7.53	516.530	2734.208	516.530	94.457	bb	40.2705	100.7	0.7	63.3										
10102-08CRI	213 > 183	10.12	1030.236	2734.208	1030.236	188.398	bb	50.6256	126.6	26.6	290.4										
10102-08CRI	172 > 142	11.94	2734.208	2734.208	2734.208	2734.208	bb	575.6237	115.1	15.1	655.5										
10102-08CRI	168 > 138	12.06	252.030	2734.208	252.030	46.088	bb	39.4043	98.5	-1.5	26.2										
10102-08CRI	241 > 181	12.52	251.411	2734.208	251.411	45.975	bb	24.0675	60.2	-39.8	28.0										
10102-08CRI	123 > 46	13.48	218.560	2734.208	218.560	39.968	bb	40.8032	102.0	2.0	24.0										
10102-08CRI	197 > 167	15.41	408.759	15197.035	408.759	13.449	MM	45.6486	114.1	14.1	31.6										
10102-08CRI	2-Amino-26-dinitrotoluene	16.30	506.579	15197.035	506.579	16.667	bb	43.8741	109.7	9.7	54.1										
10102-08CRI	246-Trinitrotoluene	15.23	583.860	15197.035	583.860	19.210	bb	59.5383	148.8	48.8	56.4										
10102-08CRI	34-dinitrotoluene	14.19	538.469	15197.035	538.469	17.716	bb	19.8650	99.3	-0.7	26.4										
10102-08CRI	26-dinitrotoluene	17.39	1342.555	15197.035	1342.555	44.172	MM	41.2596	103.1	3.1	66.9										
10102-08CRI	182 > 152	18.07	272.036	15197.035	272.036	8.950	MM	34.4995	86.2	-13.8	12.6										
10102-08CRI	185 > 155	17.21	15197.035	15197.035	15197.035	15197.035	bb	552.7538	110.6	10.6	1164.8										
10102-08CRI	137 > 46	20.82	225.102	15197.035	225.102	7.406	bb	43.3767	108.4	8.4	33.6										
10102-08CRI	4-Nitrotoluene	22.10	98.178	15197.035	98.178	3.230	bb	37.8554	94.6	-5.4	17.6										
10102-08CRI	3-Nitrotoluene	23.81	122.716	15197.035	122.716	4.037	bb	40.1482	100.4	0.4	19.3										
10102-08CRI	361 > 62	24.29	3279.737	15197.035	3279.737	107.907	bb	54.4973	136.2	36.2	485.5										

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/04/10
 Time of Injection 1415
 Standard Number WXX100102-08CRI
 Data File EXP0102100a

HMX	134.1
RDX	100.7
135-TNB	126.6
13-DNB	98.5
Tetryl	60.2
Nitrobenzene	102.0
4A-26-DNT	114.1
2A-46-DNT	109.7
246-TNT	148.8
34-DNT(surr)	99.3
26-DNT	103.1
24-DNT	86.2
2-NT	108.4
4-NT	94.6
3-NT	100.4
PETN	136.2

*with
1/5/10*

Total 1722.9

Average 107.7

Hmm 01/05/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102109a

Analysis Date: 04-JAN-10 18:41

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	641.866	107	
1,3-Dinitrobenzene-d4	500	512.441	102	
2,4,6-Trinitrotoluene	600	702.421	117	
2,4-Dinitrotoluene	600	532.671	89	
2,6-Dinitrotoluene	600	637.051	106	
2,6-Dinitrotoluene-d3	500	562.692	113	
2-Amino-4,6-dinitrotoluene	600	727.345	121	*
3,4-Dinitrotoluene	300	329.742	110	
4-Amino-2,6-dinitrotoluene	600	638.199	106	
HMX	600	734.288	122	*
Nitrobenzene	600	627.011	105	
PETN	600	564.55	94	
RDX	600	723.793	121	*
Tetryl	600	585.538	98	
m-Dinitrobenzene	600	622.054	104	
m-Nitrotoluene	600	547.379	91	
o-Nitrotoluene	600	586.067	98	
p-Nitrotoluene	600	607.061	101	

Recovery Limits:

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

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Printed: Tue Jan 05 09:04:48 2010, Page 43 of 85

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

Path: C:\MASSLYNX\New_Exp.PRO\10210expA1.qld, Time: Tue Jan 05 09:00:03 2010

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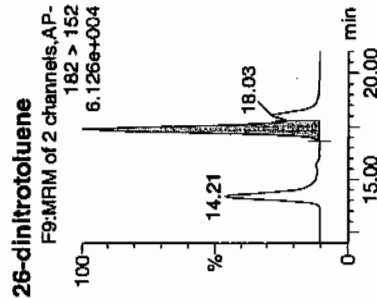
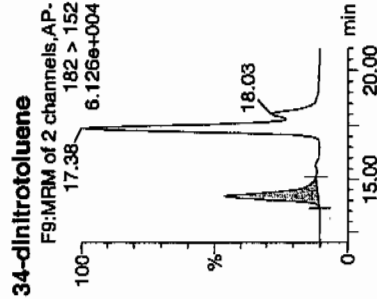
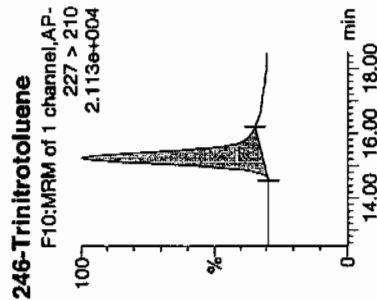
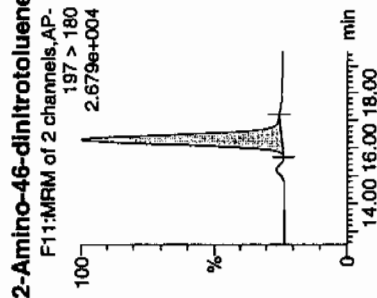
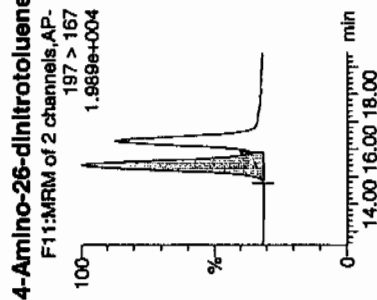
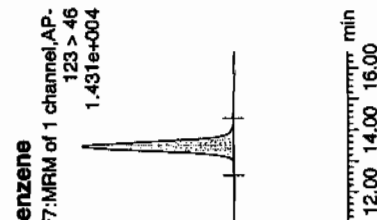
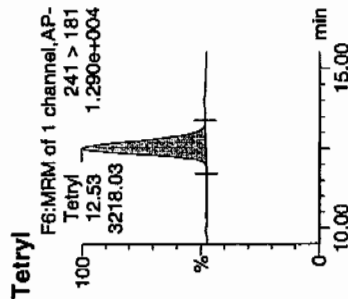
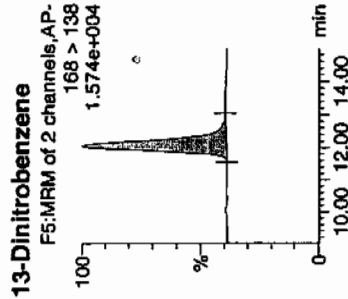
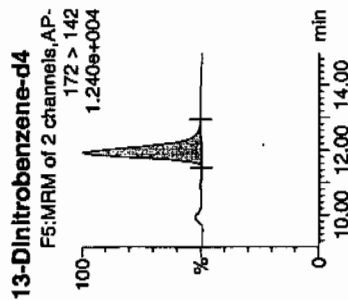
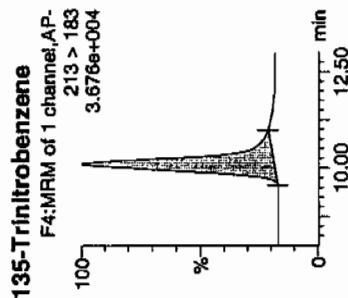
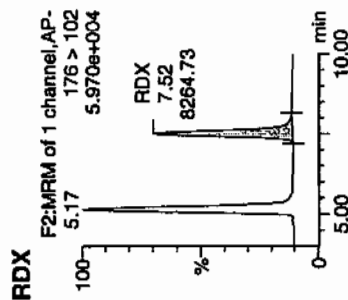
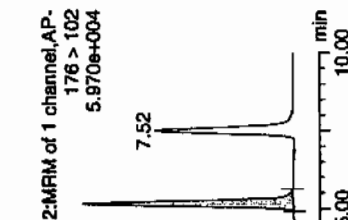
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X100102-07CCV

1.B

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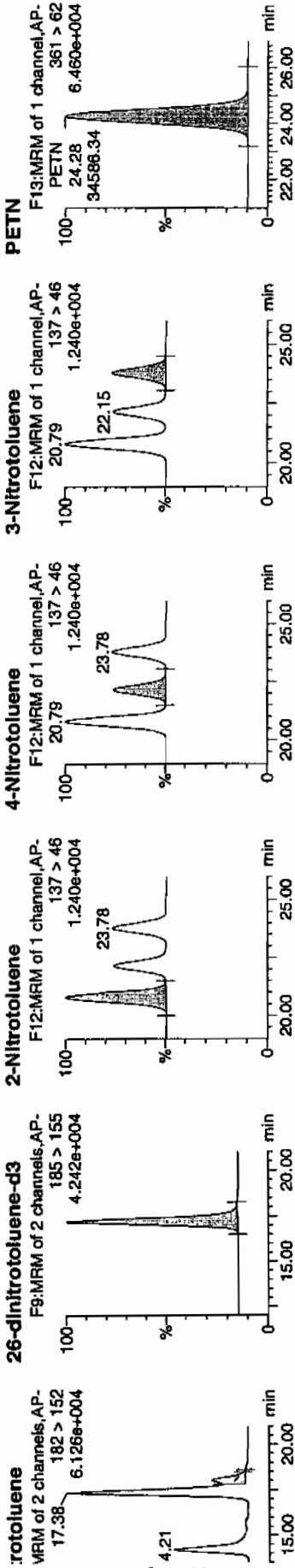


41 MW 81/05/10

Printed: Tue Jan 05 09:04:48 2010, Page 44 of 85

y Sample Report
boratories, LLC / Analyst : Michael A. Penny

: C:\MASSLYN\New_Exp\PRO\010210expA1.qld, Time: Tue Jan 05 09:00:03 2010



Name	Trace	RT	Area	IS Area	Abs. Resp	Response	Flags	Mod	Date	Time	Area	IS Area	Abs. Resp	Response	Flags	Mod	Date	Time
102-07CCV HMX	176 > 102	5.17	10734.468	2434.092	10734.468	2205.025	bb											
102-07CCV RDX	176 > 102	7.52	8264.729	2434.092	8264.729	1697.703	bb											
102-07CCV 135-Trinitrobenzene	213 > 183	10.11	11628.299	2434.092	11628.299	2388.632	bb											
102-07CCV 13-Dinitrobenzene-d4	172 > 142	11.92	2434.092	2434.092	2434.092	2434.092	bb											
102-07CCV 13-Dinitrobenzene	168 > 138	12.07	3541.946	2434.092	3541.946	727.570	bb											
102-07CCV Tetyl	241 > 181	12.53	3218.032	2434.092	3218.032	661.033	bb											
102-07CCV Nitrobenzene	123 > 46	13.45	2989.905	2434.092	2989.905	614.173	bb											
102-07CCV 4-Amino-26-dinitrotoluene	197 > 167	15.42	5817.481	15470.259	5817.481	188.021	MM	05-Jan-10	08:46:45									
102-07CCV 2-Amino-46-dinitrotoluene	197 > 180	16.28	8549.059	15470.259	8549.059	276.306	bb											
102-07CCV 246-Trinitrotoluene	227 > 210	15.24	7012.109	15470.259	7012.109	226.632	bb											
102-07CCV 34-dinitrotoluene	182 > 152	14.21	9098.831	15470.259	9098.831	294.075	bb											
102-07CCV 26-dinitrotoluene	182 > 152	17.38	21101.832	15470.259	21101.832	682.013	MM	05-Jan-10	08:52:18									
102-07CCV 24-dinitrotoluene	182 > 152	18.03	4275.741	15470.259	4275.741	138.192	MM	05-Jan-10	08:58:07									
102-07CCV 26-dinitrotoluene-d3	185 > 155	17.20	15470.259	15470.259	15470.259	15470.259	bb											
102-07CCV 2-Nitrotoluene	137 > 46	20.79	3096.056	15470.259	3096.056	100.065	bb											
102-07CCV 4-Nitrotoluene	137 > 46	22.15	1602.718	15470.259	1602.718	51.800	bb											
102-07CCV 3-Nitrotoluene	137 > 46	23.78	1703.188	15470.259	1703.188	55.047	bb											
102-07CCV PETN	361 > 62	24.28	34586.340	15470.259	34586.340	1117.833	bb											

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/04/10
 Time of Injection: 1841
 Standard Number: WXX100102-07CCV
 Data File: EXP0102109a

HMX	122.4
RDX	120.6
135-TNB	107.0
13-DNB	103.7
Tetryl	97.6
Nitrobenzene	104.5
4A-26-DNT	106.4
2A-46-DNT	121.2
246-TNT	117.1
34-DNT(surr)	109.9
26-DNT	106.2
24-DNT	88.8
2-NT	97.7
4-NT	101.2
3-NT	91.2
PETN	94.1

11/5/10

Total 1689.6

Average 105.6

11/05/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102111a

Analysis Date: 04-JAN-10 19:40

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	54.931	137	*
1,3-Dinitrobenzene-d4	500	577.992	116	
2,4,6-Trinitrotoluene	40	46.8	117	
2,4-Dinitrotoluene	40	35.467	89	
2,6-Dinitrotoluene	40	39.141	98	
2,6-Dinitrotoluene-d3	500	534.675	107	
2-Amino-4,6-dinitrotoluene	40	46.218	116	
3,4-Dinitrotoluene	20	22.115	111	
4-Amino-2,6-dinitrotoluene	40	40.254	101	
HMX	40	51.909	130	
Nitrobenzene	40	37.08	93	
PETN	40	63.694	159	*
RDX	40	48.587	121	
Tetryl	40	29.612	74	
m-Dinitrobenzene	40	42.147	105	
m-Nitrotoluene	40	38.155	95	
o-Nitrotoluene	40	43.943	110	
p-Nitrotoluene	40	48.899	122	

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

Printed: Tue Jan 05 09:04:48 2010, Page 47 of 85

ify Sample Report
aboratories, LLC / Analyst: Michael A. Penny

at: C:\MASSLYNX\New_Exp.PRO\010210expA1.qld, Time: Tue Jan 05 09:00:03 2010

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04-Jan-2010

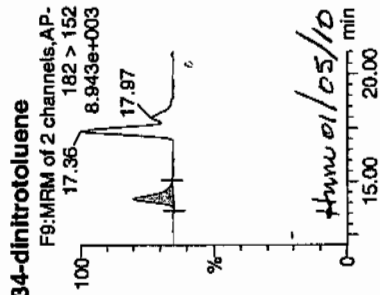
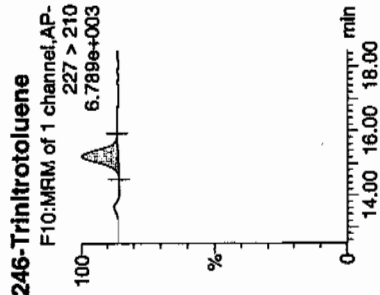
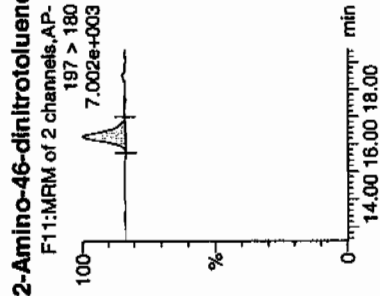
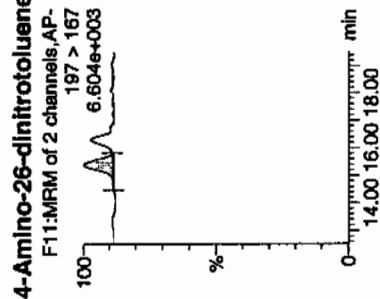
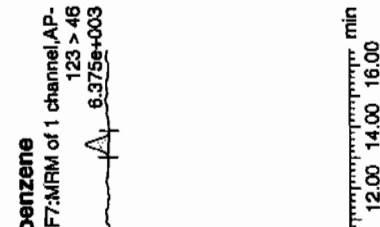
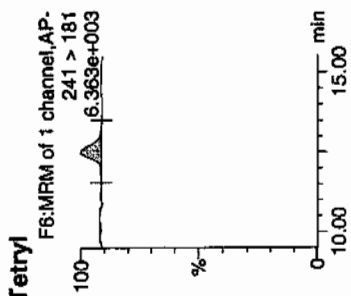
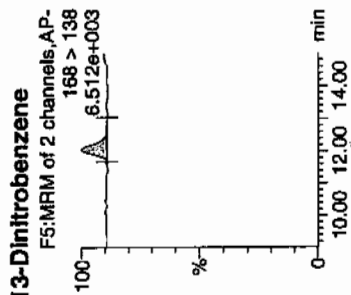
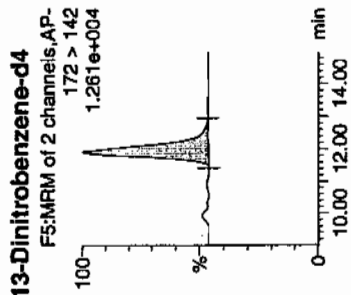
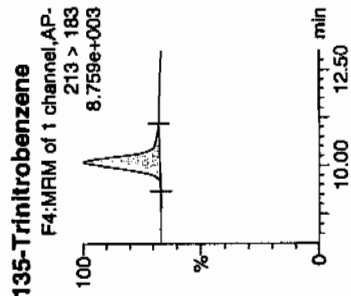
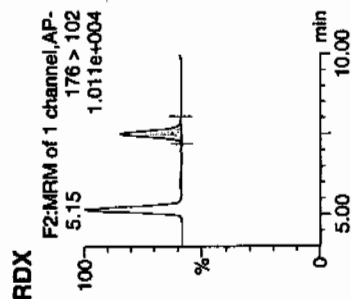
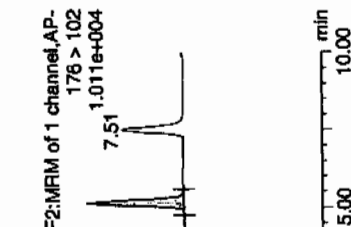
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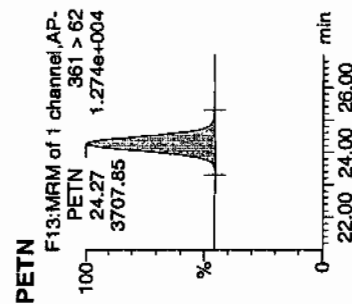
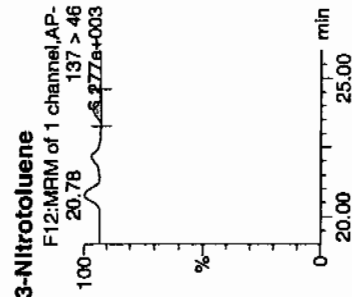
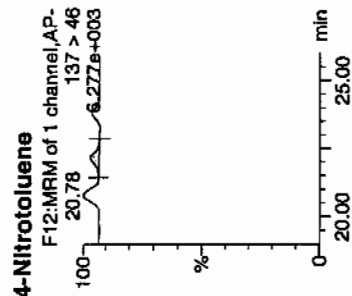
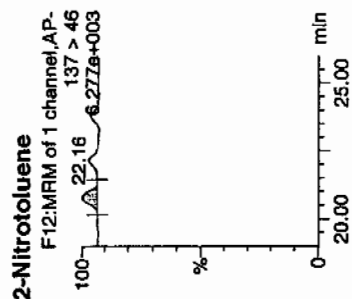
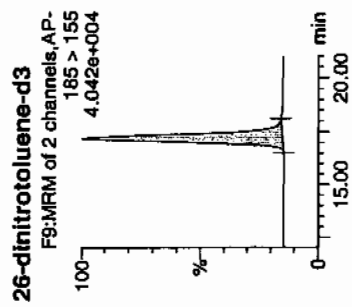
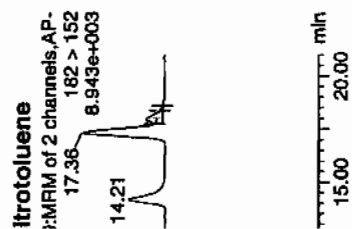
XX100102-08CRI

1:1,C

1/5/10

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Name	Trace	RT	Area	Area	Assigned	Response	Flags	ModDate	ModTime	RawData	Peak	Area	Height
HMX	176 > 102	5.15	855.920	2745.458	855.920	155.879	bb			51.9088	129.8	29.8	174.0
RDX	176 > 102	7.51	625.769	2745.458	625.769	113.984	bb			48.5872	121.5	21.5	110.2
135-Trinitrobenzene	213 > 183	10.11	1122.459	2745.458	1122.459	204.421	bb			54.9314	137.3	37.3	154.5
13-Dinitrobenzene-d4	172 > 142	11.92	2745.458		2745.458	2745.458	bb			577.9921	115.6	15.6	191.8
13-Dinitrobenzene	168 > 138	12.07	270.682	2745.458	270.682	49.296	bb			42.1471	105.4	5.4	32.7
Tetryl	241 > 181	12.53	288.672	2745.458	288.672	52.573	bb			29.6122	74.0	-26.0	40.2
Nitrobenzene	123 > 46	13.45	199.432	2745.458	199.432	36.320	bb			37.0796	92.7	-7.3	12.1
4-Amino-26-dinitrotoluene	197 > 167	15.39	348.666	14699.992	348.666	11.859	MM	05-Jan-10	08:47:02	40.2542	100.6	0.6	22.4
2-Amino-46-dinitrotoluene	197 > 180	16.28	516.184	14699.992	516.184	17.557	bb			46.2176	115.5	15.5	69.0
245-Trinitrotoluene	227 > 210	15.24	443.931	14699.992	443.931	15.100	bb			46.7999	117.0	17.0	63.9
34-dinitrotoluene	182 > 152	14.21	579.856	14699.992	579.856	19.723	bb			22.1151	110.6	10.6	35.3
26-dinitrotoluene	182 > 152	17.36	1231.973	14699.992	1231.973	41.904	MM	05-Jan-10	08:52:24	39.1413	97.9	-2.1	82.2
24-dinitrotoluene	182 > 152	17.97	270.517	14699.992	270.517	9.201	MM	05-Jan-10	08:57:59	35.4669	88.7	-11.3	16.5
26-dinitrotoluene-d3	185 > 155	17.20	14699.992		14699.992	14699.992	bb			534.6751	106.9	6.9	970.9
2-Nitrotoluene	137 > 46	20.78	220.580	14699.992	220.580	7.503	bb			43.9426	109.9	9.9	33.4
4-Nitrotoluene	137 > 46	22.16	122.672	14699.992	122.672	4.173	bb			48.8991	122.2	22.2	19.4
3-Nitrotoluene	137 > 46	23.80	112.808	14699.992	112.808	3.837	bb			38.1545	95.4	-4.6	18.0
PETN	361 > 62	24.27	3707.852	14699.992	3707.852	126.117	bb			63.6943	159.2	59.2	514.1

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/04/10
 Time of Injection 1940
 Standard Number WXX100102-08CRI
 Data File EXP0102111a

HMX	129.8
RDX	121.5
135-TNB	137.3
13-DNB	105.4
Tetryl	74.0
Nitrobenzene	92.7
4A-26-DNT	100.6
2A-46-DNT	115.5
246-TNT	117.0
34-DNT(surr)	110.6
26-DNT	97.9
24-DNT	88.7
2-NT	109.9
4-NT	122.2
3-NT	95.4
PETN	159.2

*MTT
1/5/10*

Total 1777.7

Average 111.1

HTM 01/05/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0102117a

Analysis Date: 04-JAN-10 22:37

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3-Dinitrobenzene-d4	500	556.769	111	
2,4,6-Trinitrotoluene	600	729.557	122	*
2,4-Dinitrotoluene	600	615.823	103	
2,6-Dinitrotoluene	600	625.153	104	
2,6-Dinitrotoluene-d3	500	518.3	104	
2-Amino-4,6-dinitrotoluene	600	689.609	115	
3,4-Dinitrotoluene	300	332.392	111	
4-Amino-2,6-dinitrotoluene	600	636.743	106	
HMX	600	700.952	117	
Nitrobenzene	600	556.062	93	
PETN	600	616.164	103	
RDX	600	711.906	119	
Tetryl	600	533.426	89	
m-Dinitrobenzene	600	581.157	97	
m-Nitrotoluene	600	558.673	93	
o-Nitrotoluene	600	589.627	98	
p-Nitrotoluene	600	603.908	101	
1,3,5-Trinitrobenzene	600	695.886	116	

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

ntify Sample Report

Laboratories, LLC / Analyst : Michael A. Penny

Printed: Tue Jan 05 09:04:48 2010, Page 59 of 85

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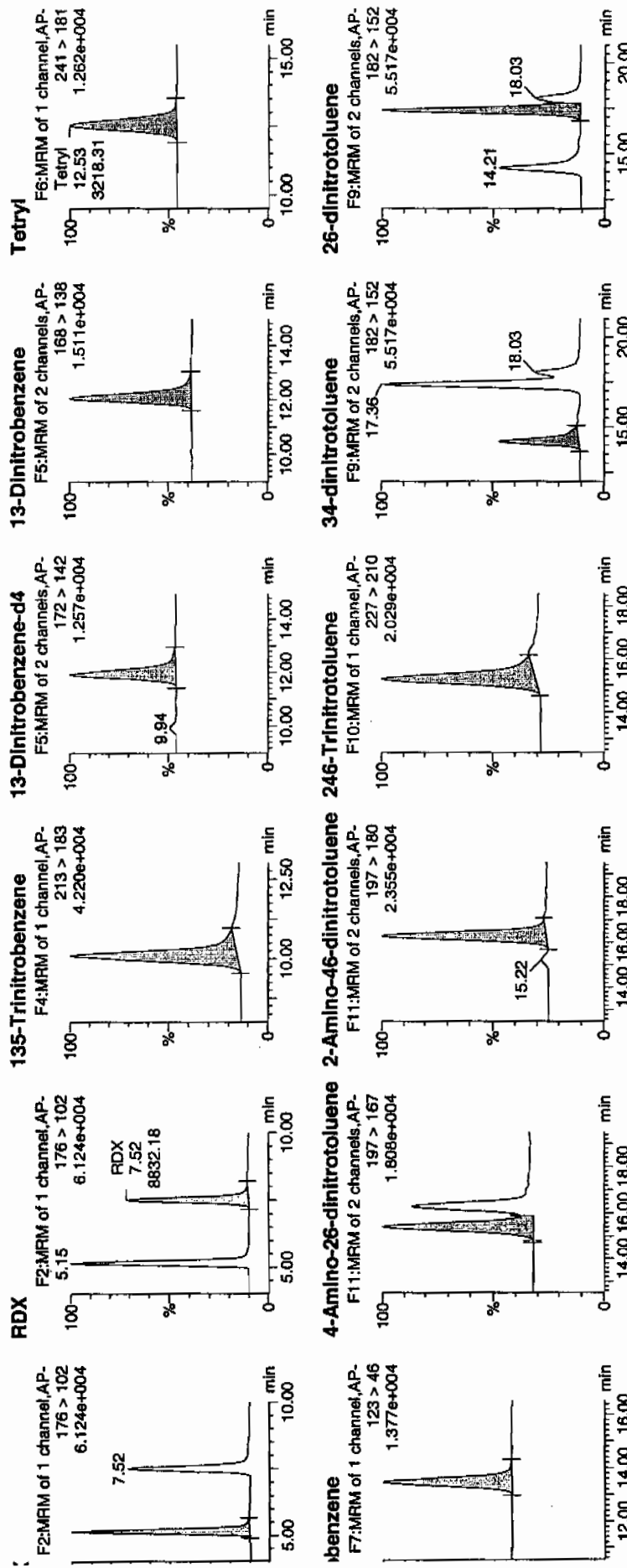
Page 320 of 1441

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VXX100102-07CCV

1:1,B

11/10



4/10/05/10

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/04/10
 Time of Injection: 2237
 Standard Number: WXX100102-07CCV
 Data File: EXP0102117a

HMX	116.8
RDX	118.7
135-TNB	116.0
13-DNB	96.9
Tetryl	88.9
Nitrobenzene	92.7
4A-26-DNT	106.1
2A-46-DNT	114.9
246-TNT	121.6
34-DNT(surr)	110.8
26-DNT	104.2
24-DNT	102.6
2-NT	98.3
4-NT	100.7
3-NT	93.1
PETN	102.7

1/5/10

Total 1685.0

Average 105.3

Sum 01/05/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0102119a

Analysis Date: 04-JAN-10 23:36

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3-Dinitrobenzene-d4	500	554.939	111	
2,4,6-Trinitrotoluene	40	49.002	123	
2,4-Dinitrotoluene	40	38.735	97	
2,6-Dinitrotoluene	40	41.606	104	
2,6-Dinitrotoluene-d3	500	554.179	111	
2-Amino-4,6-dinitrotoluene	40	44.63	112	
3,4-Dinitrotoluene	20	21.008	105	
4-Amino-2,6-dinitrotoluene	40	45.424	114	
HMX	40	52.247	131	*
Nitrobenzene	40	39.977	100	
PETN	40	62.081	155	*
RDX	40	44.612	112	
Tetryl	40	29.341	73	
m-Dinitrobenzene	40	40.253	101	
m-Nitrotoluene	40	42.597	106	
o-Nitrotoluene	40	38.913	97	
p-Nitrotoluene	40	48.671	122	
1,3,5-Trinitrobenzene	40	52.948	132	*

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

ify Sample Report
aboratories, LLC / Analyst : Michael A. Penny

at: C:\MASSLYNX\New_Exp.PRO\010210expA1.qld, Time: Tue Jan 05 09:00:03 2010

: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102119a

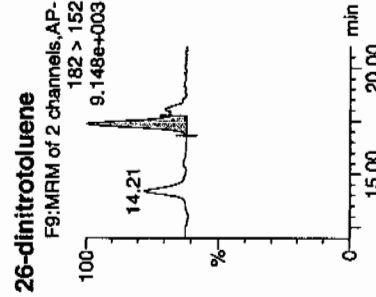
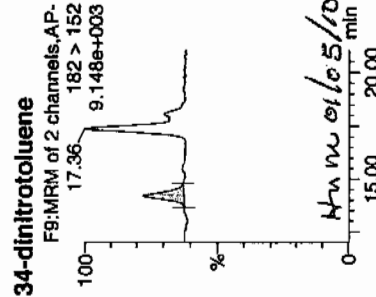
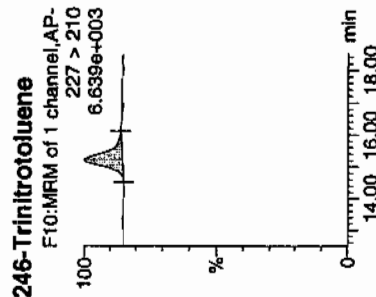
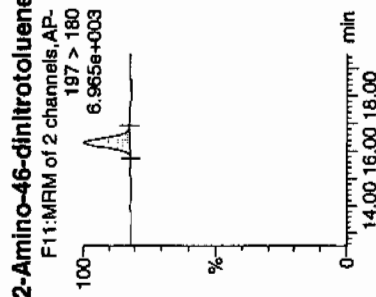
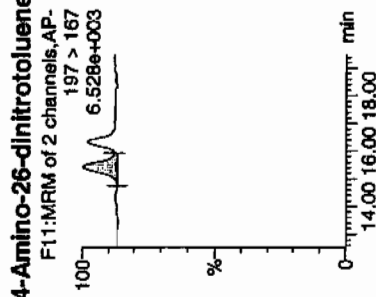
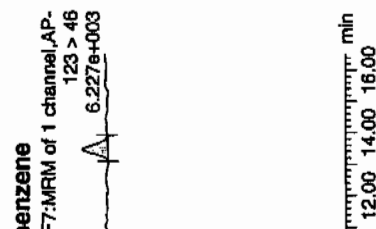
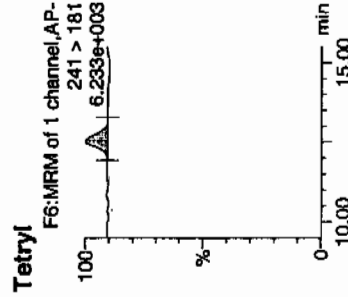
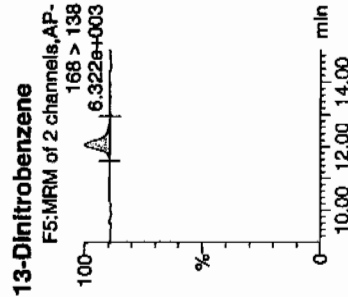
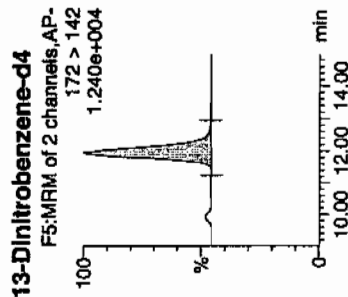
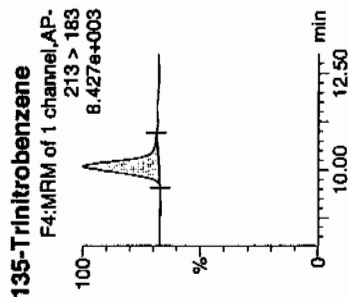
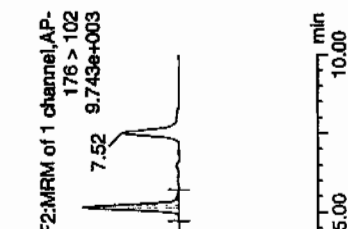
04-Jan-2010

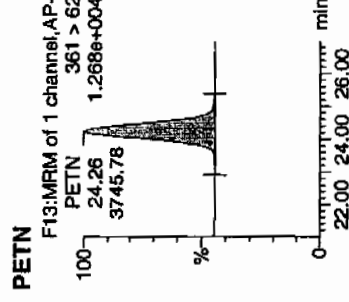
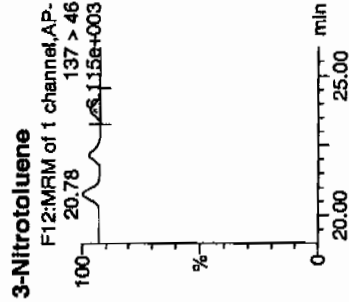
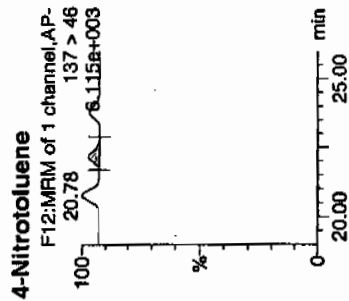
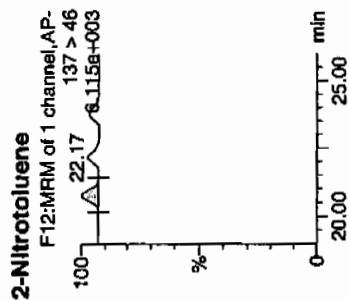
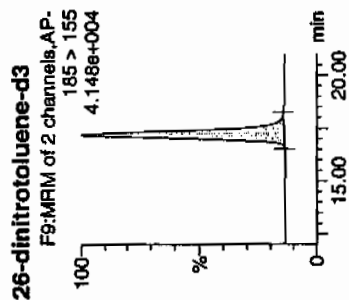
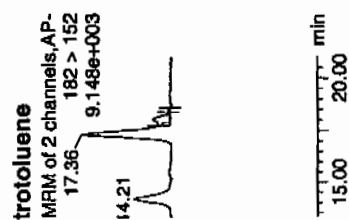
23:36:32

KX100102-08CRI

:1,C

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Name	Trace	Area	IS Area	Response	Mod Date	Vol	Time	Area	Det	SN	
1102-08CRI	176 > 102	5.17	827.139	2635.957	827.139	156.895	bb	52.2472	130.6	30.6	202.2
1102-08CRI	176 > 102	7.52	551.658	2635.957	551.658	104.641	bb	44.6123	111.5	11.5	116.4
1102-08CRI	213 > 183	10.11	1038.769	2635.957	1038.769	197.038	bb	52.9475	132.4	32.4	68.5
1102-08CRI	13-Dinitrobenzene-d4	172 > 142	11.92	2635.957	2635.957	2635.957	bb	554.9392	111.0	11.0	438.1
1102-08CRI	13-Dinitrobenzene	168 > 138	12.07	248.209	2635.957	47.081	bb	40.2534	100.6	0.6	46.5
1102-08CRI	Tetryl	241 > 181	12.53	275.456	2635.957	52.250	bb	29.3406	73.4	-26.6	49.7
1102-08CRI	Nitrobenzene	123 > 46	13.45	206.442	2635.957	39.159	bb	39.9774	99.9	-0.1	18.8
1102-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.42	407.800	15236.208	407.800	MM	05-Jan-10	08:48:49	13.6	27.8
1102-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.28	516.637	15236.208	516.637	bb	16.954	bb	11.6	75.1
1102-08CRI	246-Trinitrotoluene	227 > 210	15.24	481.772	15236.208	481.772	bb	49.0017	122.5	22.5	44.5
1102-08CRI	34-dinitrotoluene	182 > 152	14.21	570.923	15236.208	570.923	db	21.0081	105.0	5.0	29.3
1102-08CRI	26-dinitrotoluene	182 > 152	17.36	1357.320	15236.208	1357.320	MM	05-Jan-10	08:53:38	4.0	72.7
1102-08CRI	24-dinitrotoluene	182 > 152	18.06	306.221	15236.208	306.221	MM	05-Jan-10	08:57:06	96.8	14.4
1102-08CRI	26-dinitrotoluene-d3	185 > 155	17.20	15236.208	15236.208	15236.208	bb	554.1786	110.8	10.8	1025.2
1102-08CRI	2-Nitrotoluene	137 > 46	20.78	202.458	15236.208	202.458	bb	38.9130	97.3	-2.7	39.6
1102-08CRI	4-Nitrotoluene	137 > 46	22.17	126.553	15236.208	126.553	bb	48.6707	121.7	21.7	25.8
1102-08CRI	3-Nitrotoluene	137 > 46	23.77	130.536	15236.208	130.536	bb	42.5968	106.5	6.5	22.6
1102-08CRI	PETN	361 > 62	24.26	3745.778	15236.208	3745.778	bb	62.0812	155.2	55.2	1288.9

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/04/10
 Time of Injection 2336
 Standard Number WXX100102-08CRI
 Data File EXP0102119a

HMX	130.6
RDX	111.5
135-TNB	132.4
13-DNB	100.6
Tetryl	73.4
Nitrobenzene	99.9
4A-26-DNT	113.6
2A-46-DNT	111.6
246-TNT	122.5
34-DNT(surr)	105.0
26-DNT	104.0
24-DNT	96.8
2-NT	97.3
4-NT	121.7
3-NT	106.5
PETN	155.2
Total	1782.6

115/10

Average

111.4

done 01/05/10

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): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01030013.wiff

Analysis Date: 03-JAN-10 14:49

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	97.9	98	
2,6-Diamino-4-nitrotoluene	100	83	83	
3,4-Dinitrotoluene	50	48.3	97	
3,5-Dinitroaniline	100	91.9	92	
TATB	100	105	105	
tris(o-cresyl) phosphate	100	95.1	95	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

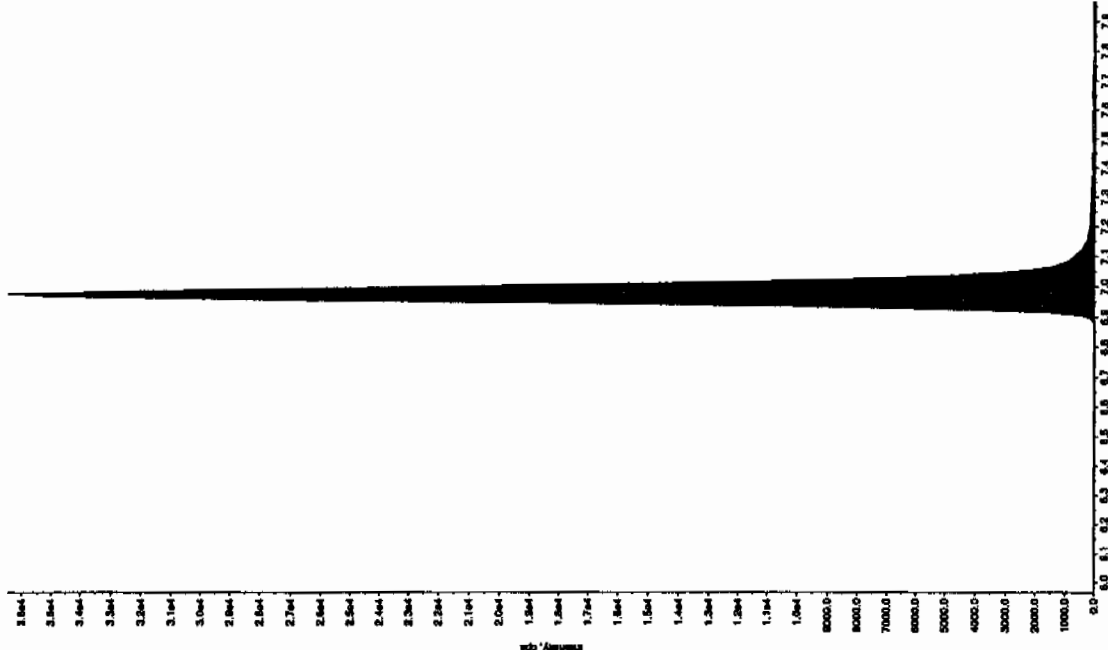
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

11/17/10
Dana

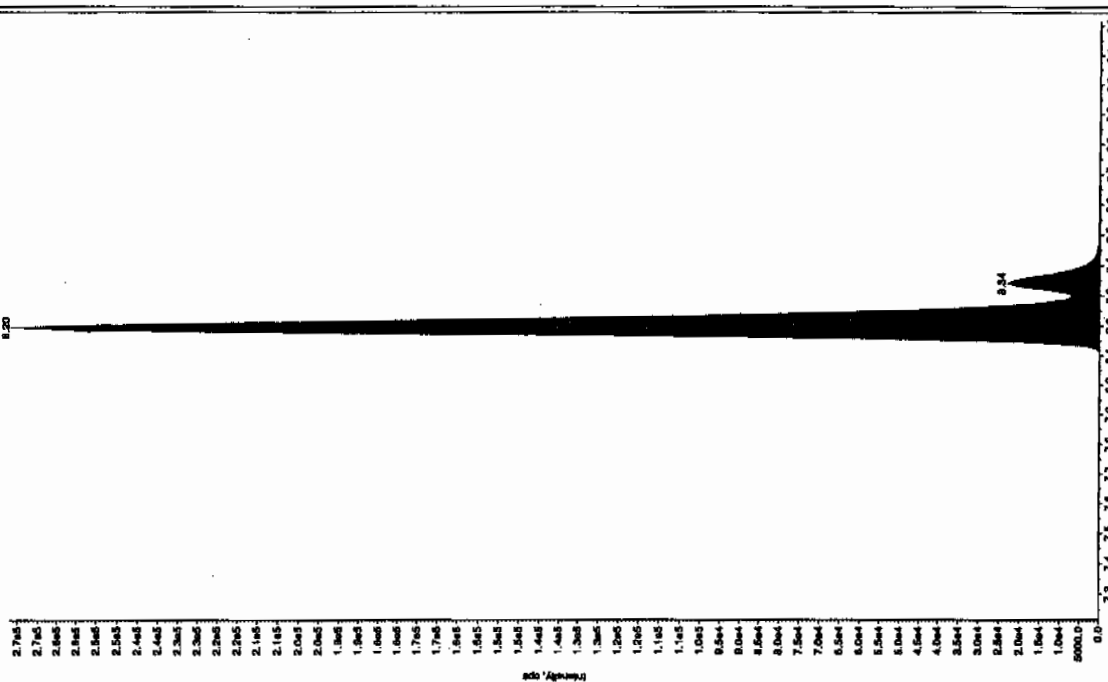
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TATP: Mass(es): 257.2204.9 amu
XSEXP_C_ Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 1.192. ng/mL
Acq. Time: 2:49:22 PM
Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.97 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 6.96 min
Area: 1.53e+005 counts
Height: 36469.727 cps
Start Time: 6.82 min
End Time: 7.47 min

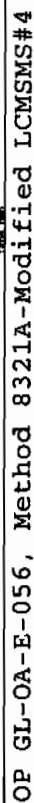


Sample Name: "WXX1001003-270r" Sample ID: "111LRF" File: "EXS01000013.wif"
Peak Name: "36-Dinitroaniline" Mass(es): "182.048.0 amu"
Comment: "LCMSXP_C_ Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 1.192. ng/mL
Acq. Time: 2:49:22 PM
Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 8.20 min
Area: 1.16e+006 counts
Height: 27169.470 cps
Start Time: 8.09 min
End Time: 8.63 min



11/17/10
Dana

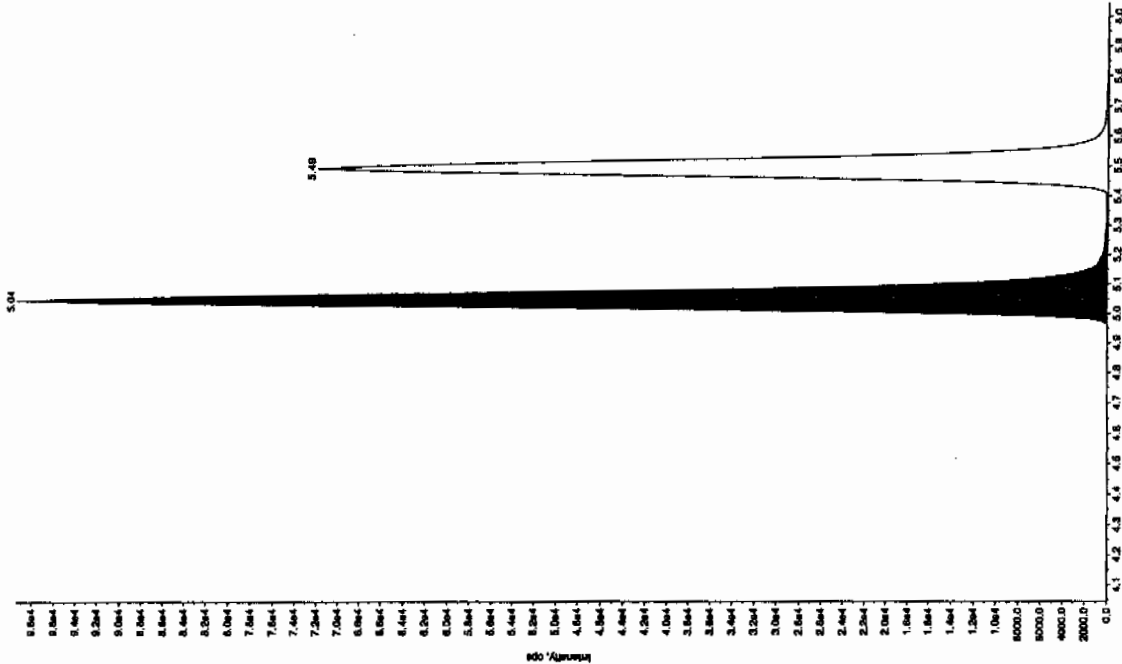
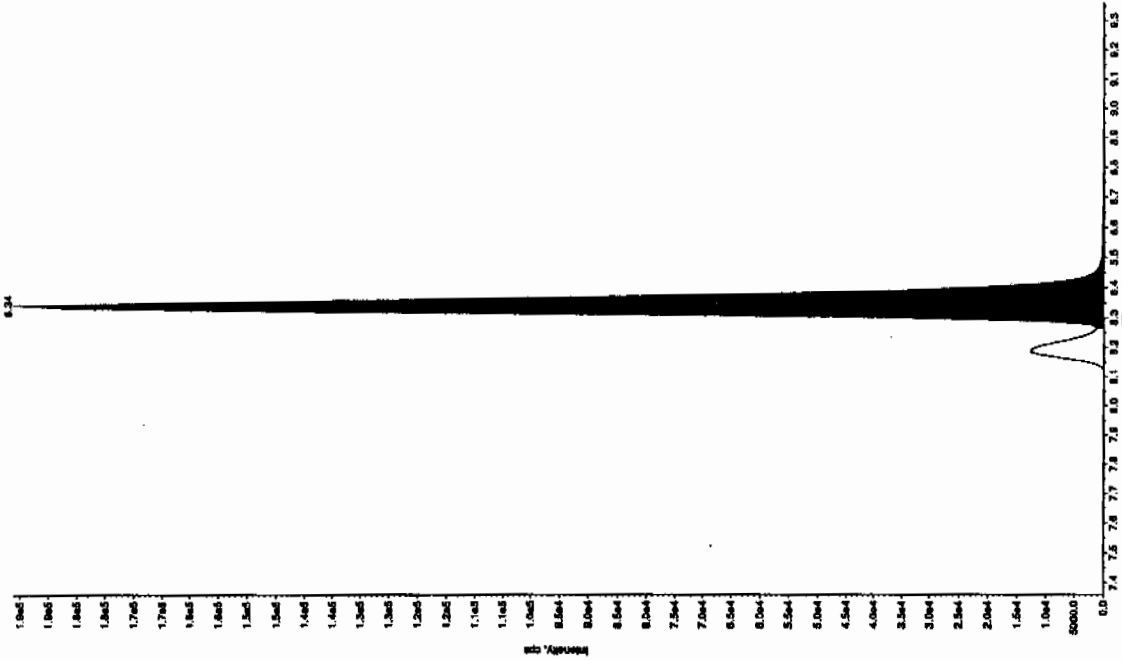


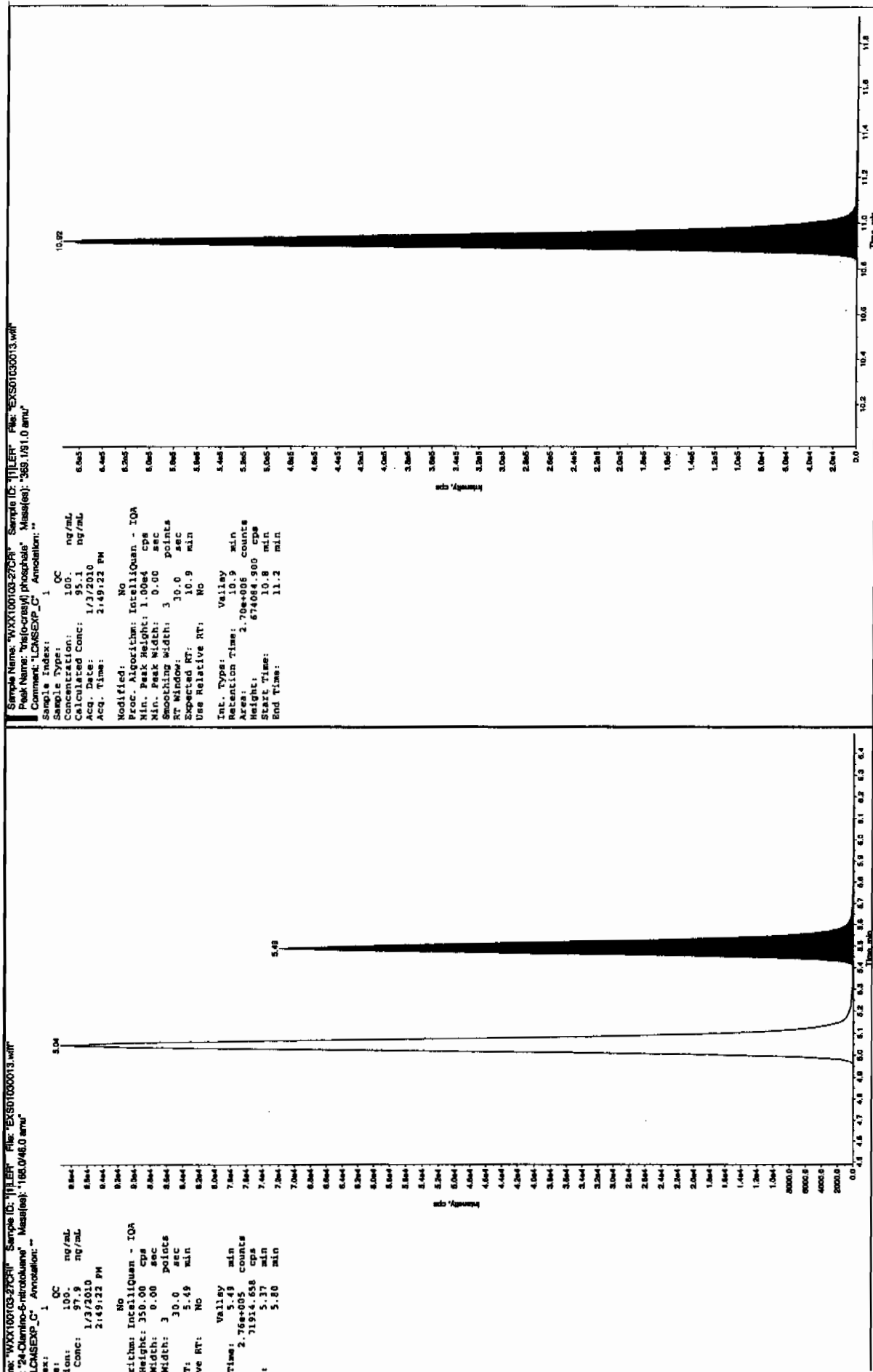
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 Peak Name: "28-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1
 Sample Type: 1 QC
 Concentration: 100 ng/mL
 Calculated Conc: 83.0 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 2:49:22 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.04 min
 Area: 3.85e+005 counts
 Height: 99412.125 cps
 Start Time: 4.90 min
 End Time: 5.32 min

Sample Name: "WXX100103-27C3" Sample ID: "11LER" File: "EX50700013.wif"
 Peak Name: "28-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1 QC
 Concentration: 100 ng/mL
 Calculated Conc: 83.0 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 2:49:22 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.04 min
 Area: 3.85e+005 counts
 Height: 99412.125 cps
 Start Time: 4.90 min
 End Time: 5.32 min





OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01030024.wiff

Analysis Date: 03-JAN-10 17:42

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	522	104	
2,6-Diamino-4-nitrotoluene	500	491	98	
3,4-Dinitrotoluene	250	234	94	
3,5-Dinitroaniline	500	495	99	
TATB	500	505	101	
tris(o-cresyl) phosphate	500	511	102	

Recovery Limits:

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

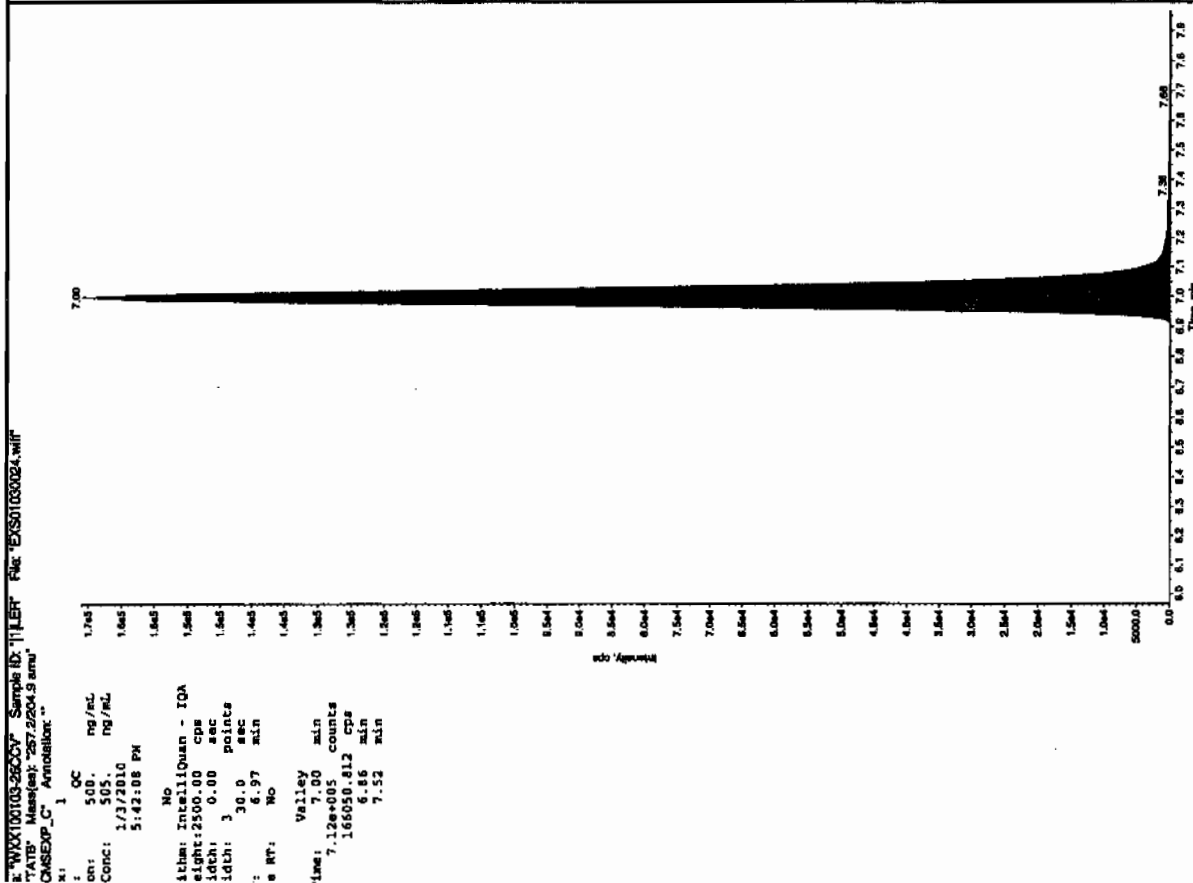
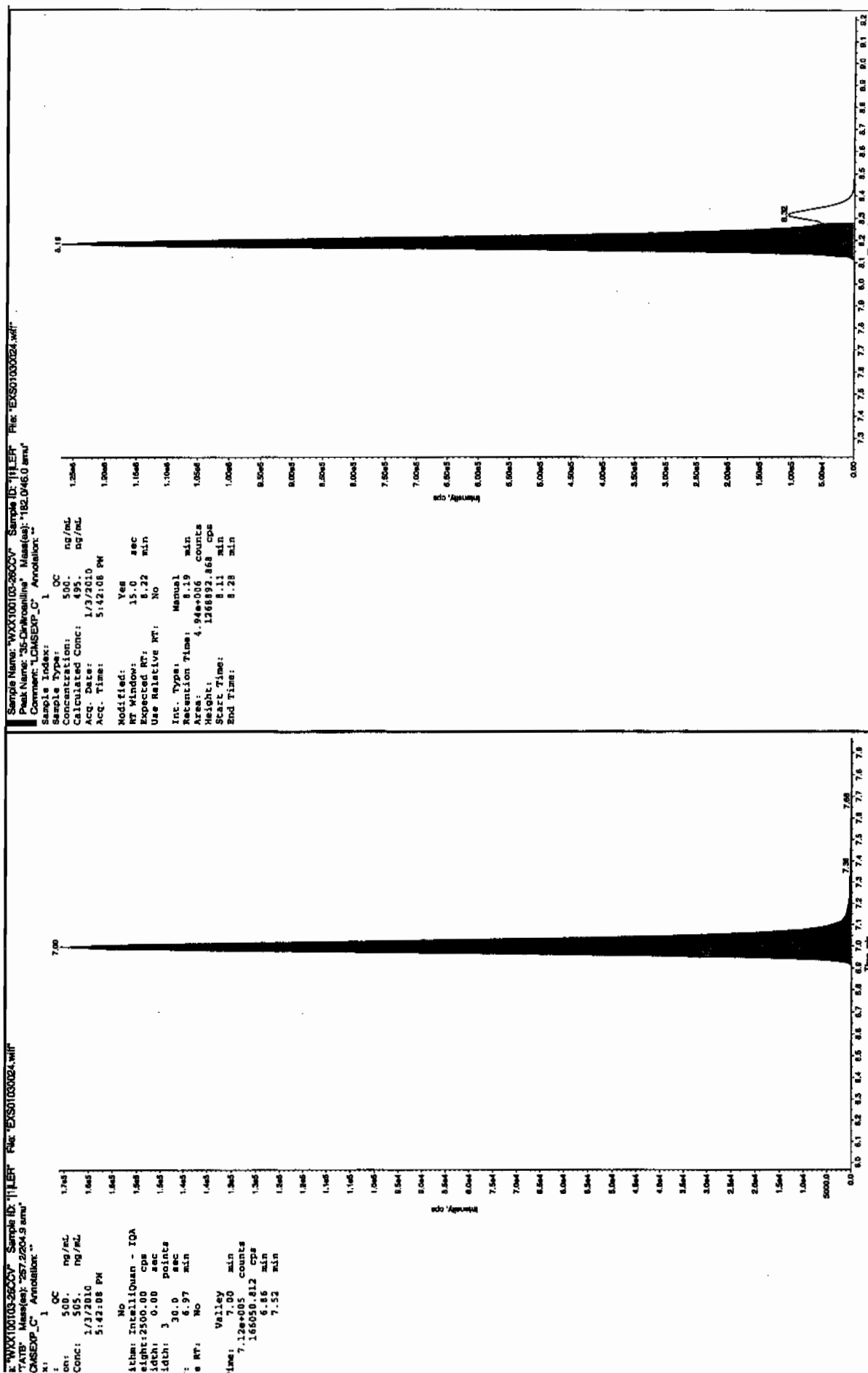
Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

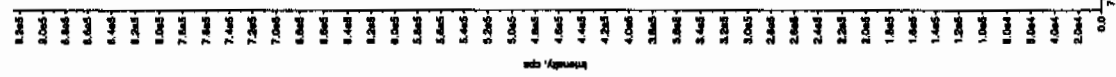


11/11/10
J. J. J.



Sample Name: "WXX100100-2600V" Sample ID: "11ER" File: "EX501030024.wht"
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.17/151.9 amu"
 Comment: "LCMSEXP_C" Annotation: ""

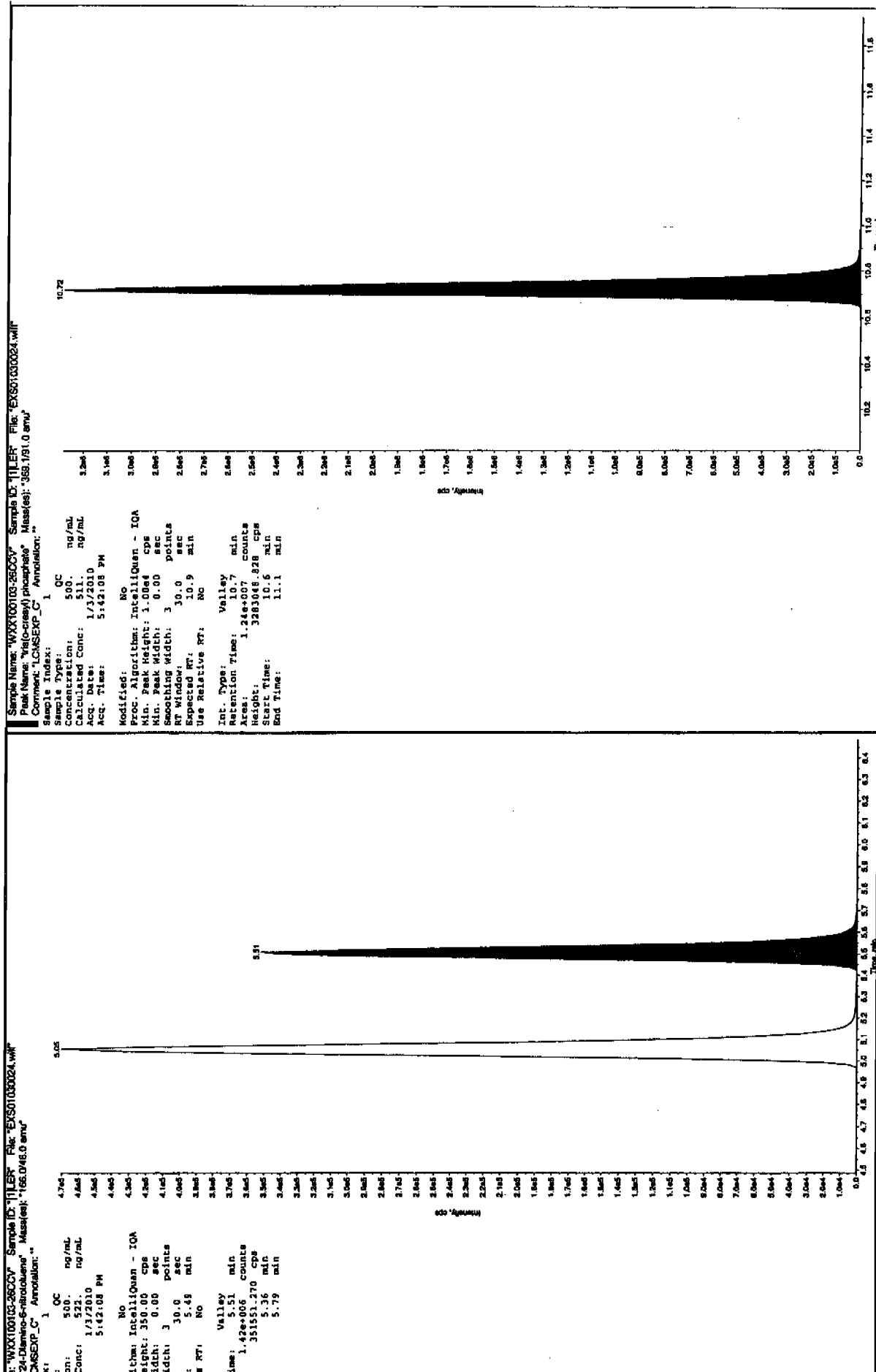
Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 491. ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 5:42:08 PM
 Modified: NO
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: NO
 Int. Type: Valley
 Retention Time: 5.05 min
 Area: 1.85e+006 counts
 Height: 470207.489 cps
 Start Time: 4.95 min
 End Time: 5.34 min



Sample Name: "WXX100100-2600V" Sample ID: "11ER" File: "EX501030024.wht"
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "166.04/6.0 amu"
 Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 491. ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 5:42:08 PM
 Modified: NO
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: NO
 Int. Type: Valley
 Retention Time: 5.05 min
 Area: 1.85e+006 counts
 Height: 470207.489 cps
 Start Time: 4.95 min
 End Time: 5.34 min





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01030026.wiff

Analysis Date: 03-JAN-10 18:13

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	107	107	
2,6-Diamino-4-nitrotoluene	100	94.9	95	
3,4-Dinitrotoluene	50	47.3	95	
3,5-Dinitroaniline	100	91.3	91	
TATB	100	112	112	
tris(o-cresyl) phosphate	100	100	100	

Recovery Limits:

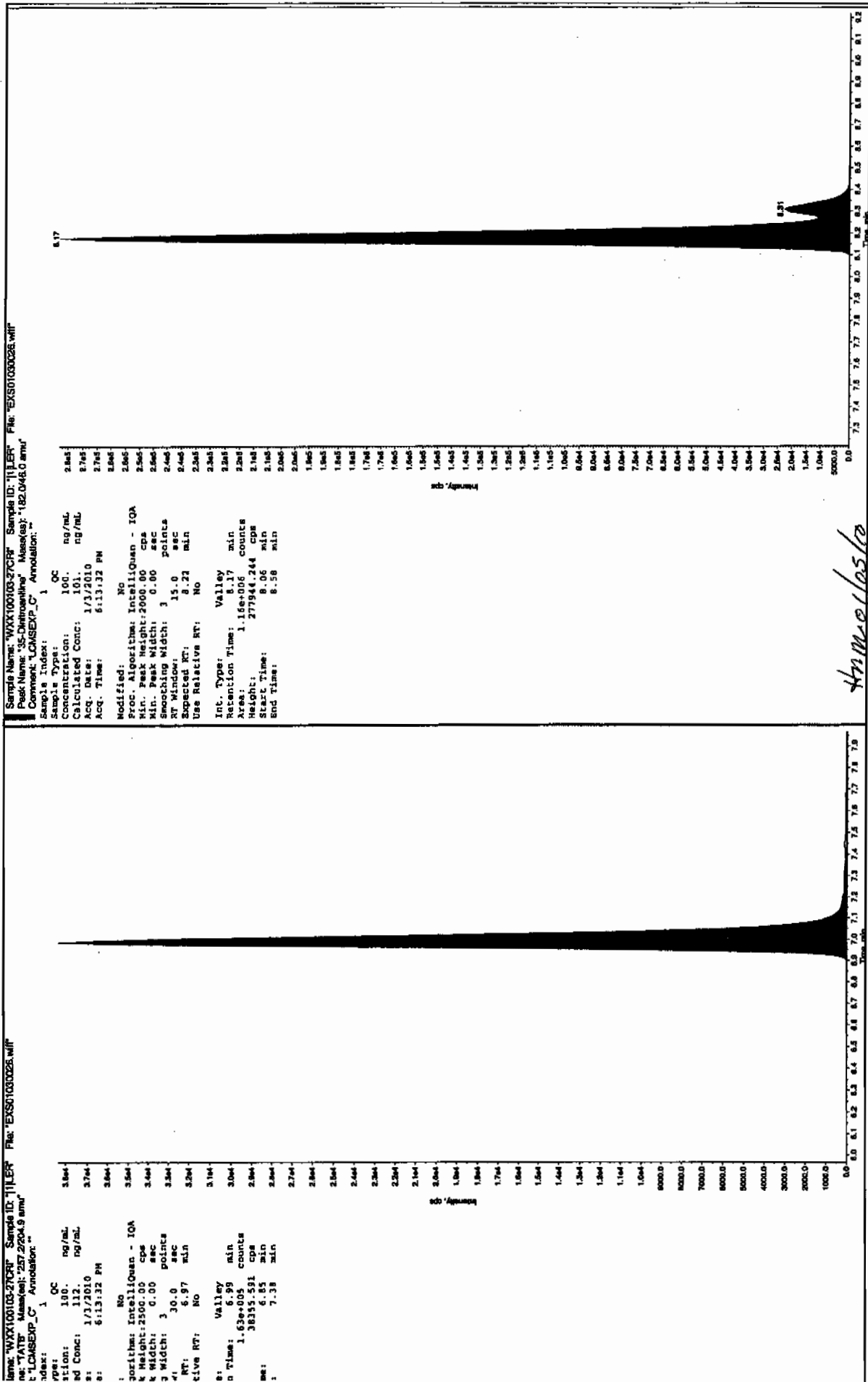
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

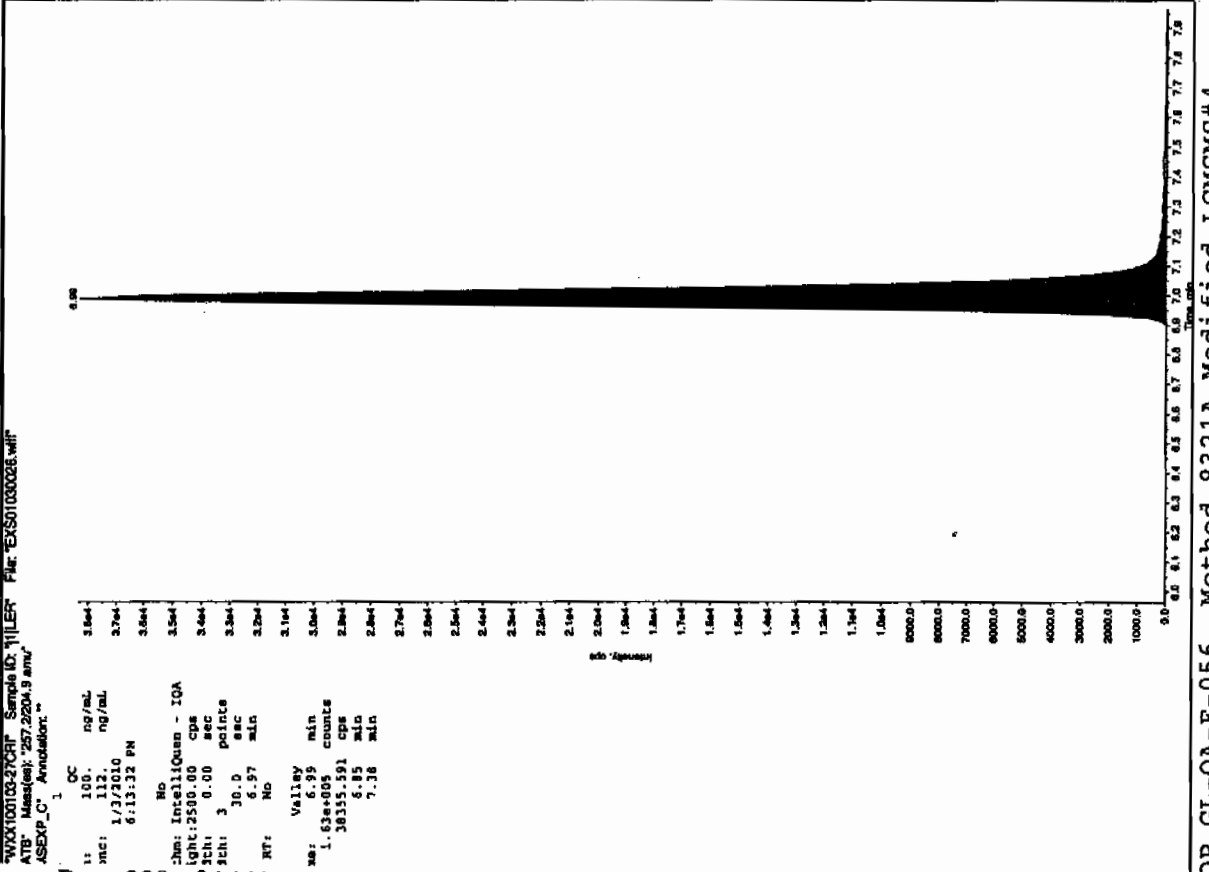
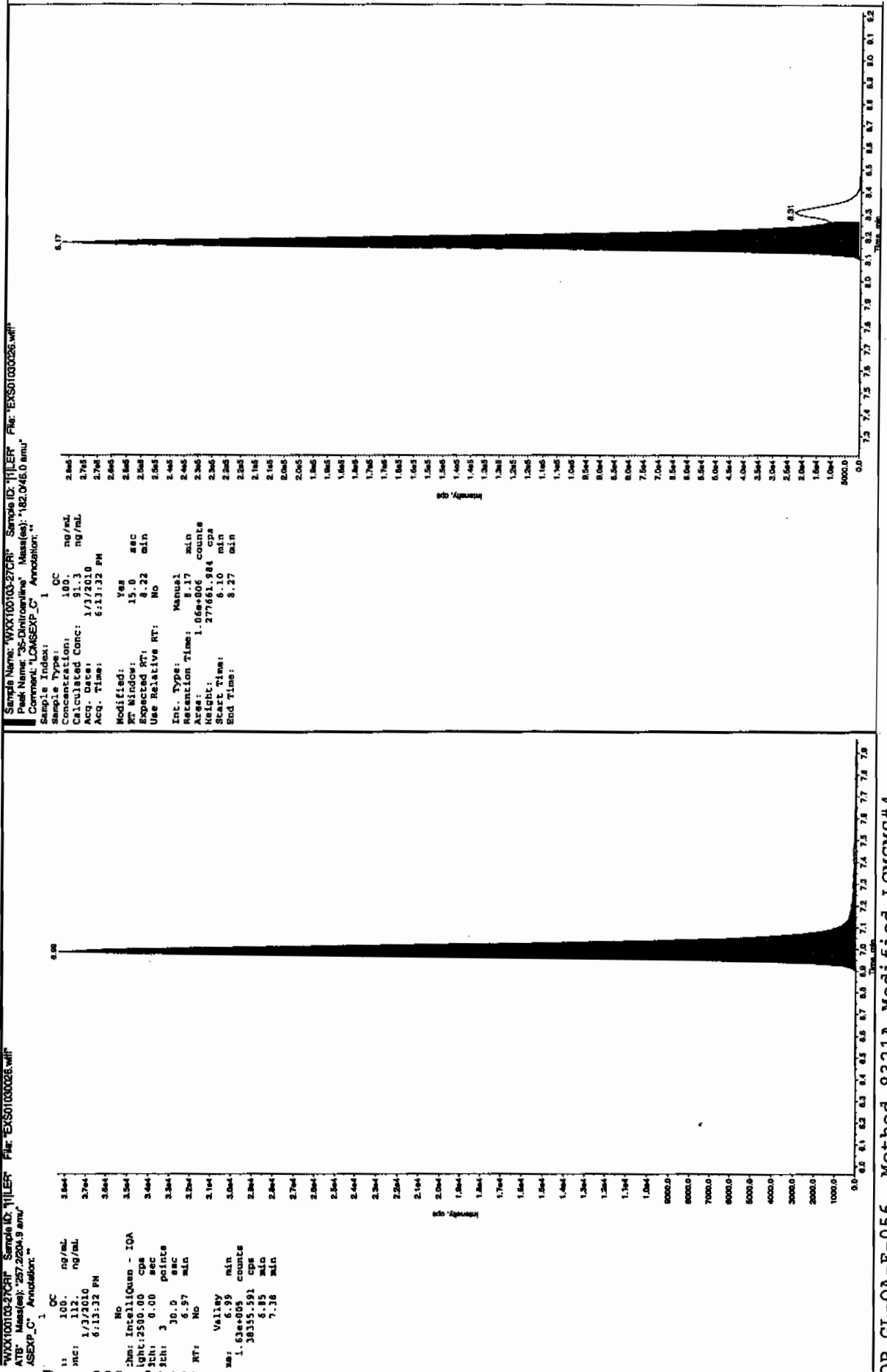
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

11/10/10
H. H. H. H. H.

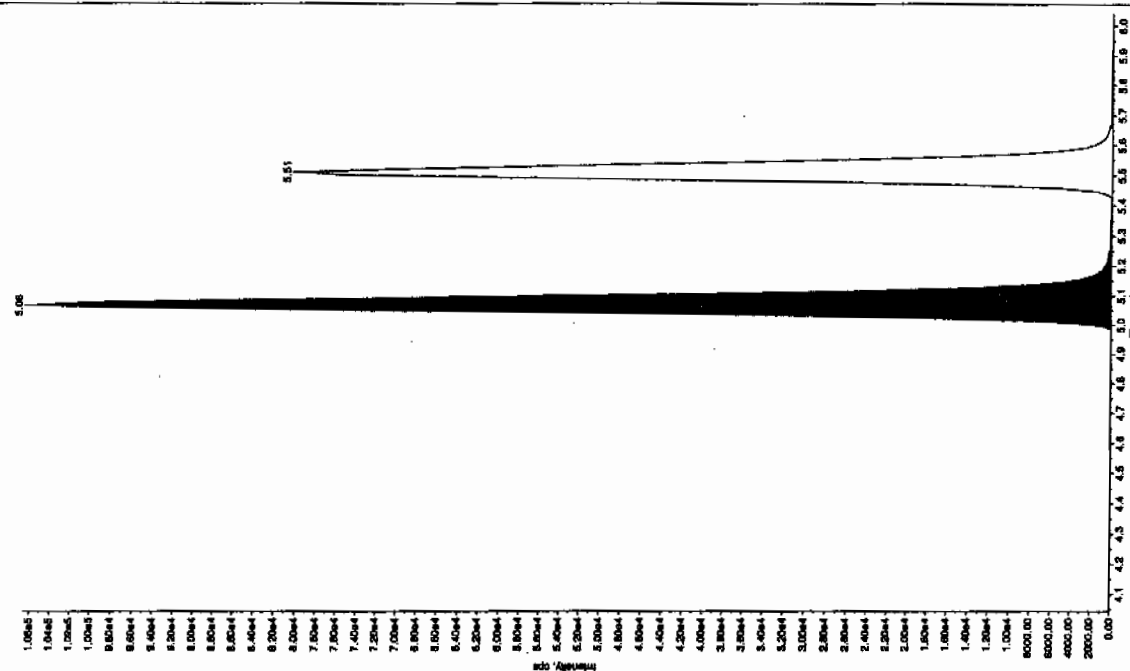


11/19/10
2582



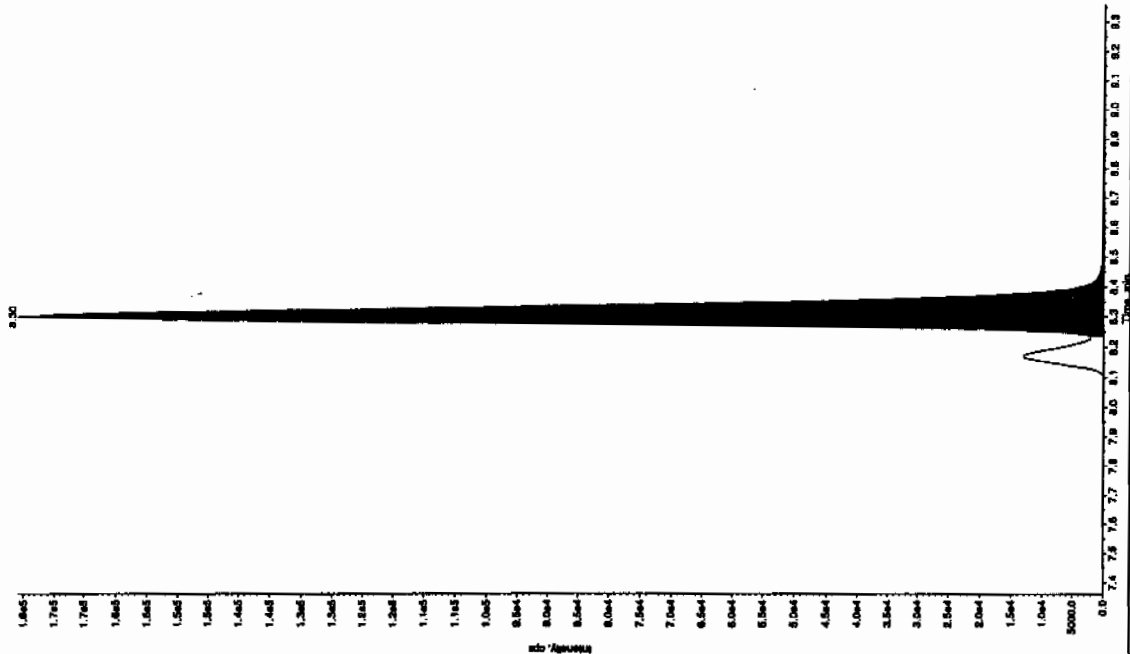
Sample Name: "WXX100103-270R" Sample ID: "TILER" File: "EXS01000028.wif"
 Peak Name: "28-Diamino-4-nitrotoluene" Mass(es): "192.1761.9 amu"
 Comment: "LCMS-EXP_C" Annotation: ""

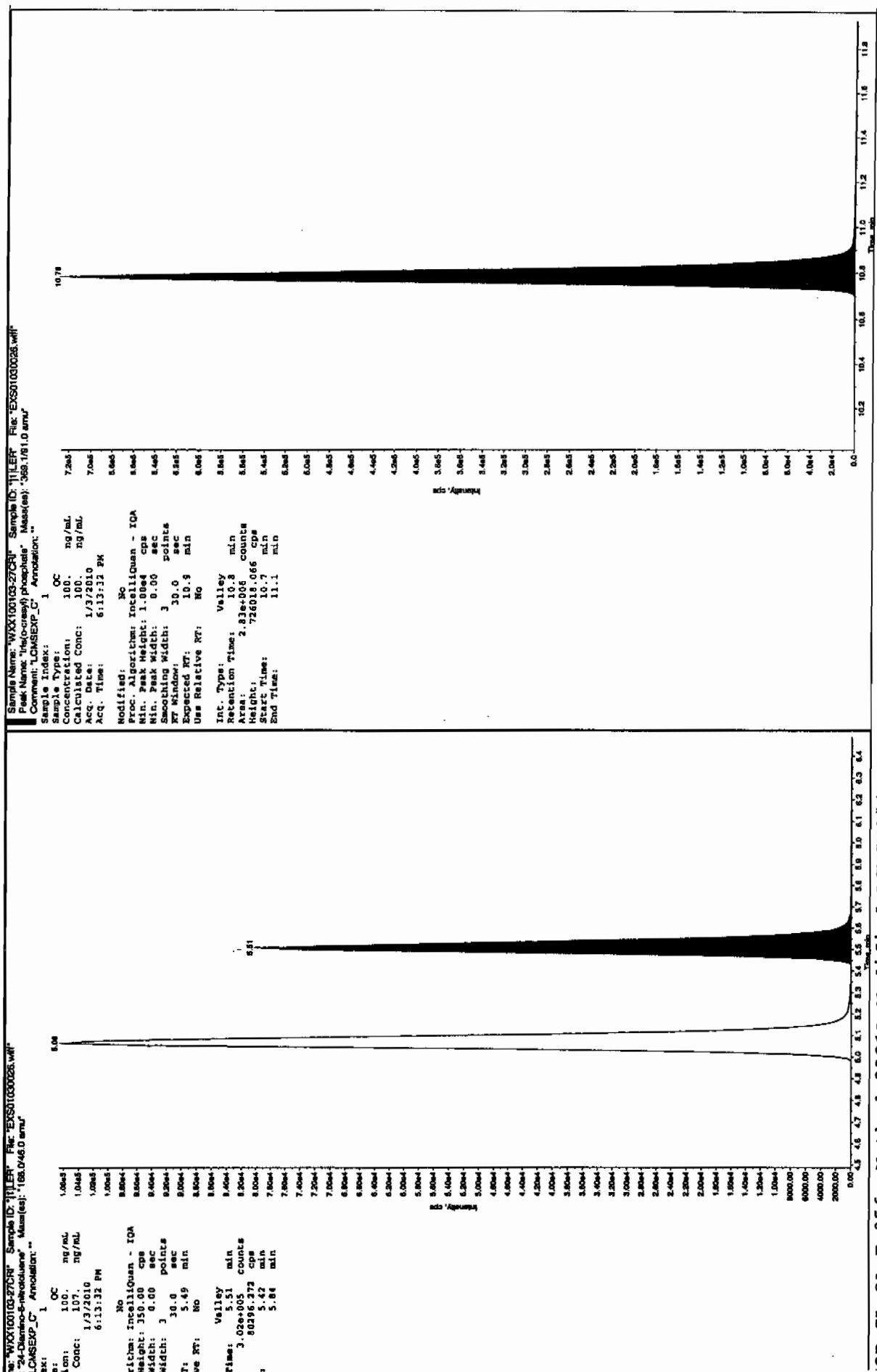
Sample Index: 1
 Sample Type: QC
 Concentration: 100. ng/mL
 Calculated Conc: 94.9 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 6:13:32 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.06 min
 Area: 4.28e+005 counts
 Height: 106606.766 cps
 Start Time: 4.94 min
 End Time: 5.34 min



Sample Name: "WXX100103-270R" Sample ID: "TILER" File: "EXS01000028.wif"
 Peak Name: "34-Dinitrotoluene" Mass(es): "192.1761.9 amu"
 Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 50.0 ng/mL
 Calculated Conc: 47.5 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 6:13:32 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 1450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 15.0 sec
 Expected RT: 8.36 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.30 min
 Area: 7.00e+005 counts
 Height: 175818.848 cps
 Start Time: 8.24 min
 End Time: 8.62 min





7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01030037.wiff

Analysis Date: 03-JAN-10 21:06

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	589	118	
2,6-Diamino-4-nitrotoluene	500	579	116	
3,4-Dinitrotoluene	250	226	91	
3,5-Dinitroaniline	500	461	92	
TATB	500	510	102	
tris(o-cresyl) phosphate	500	503	101	

Recovery Limits:

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

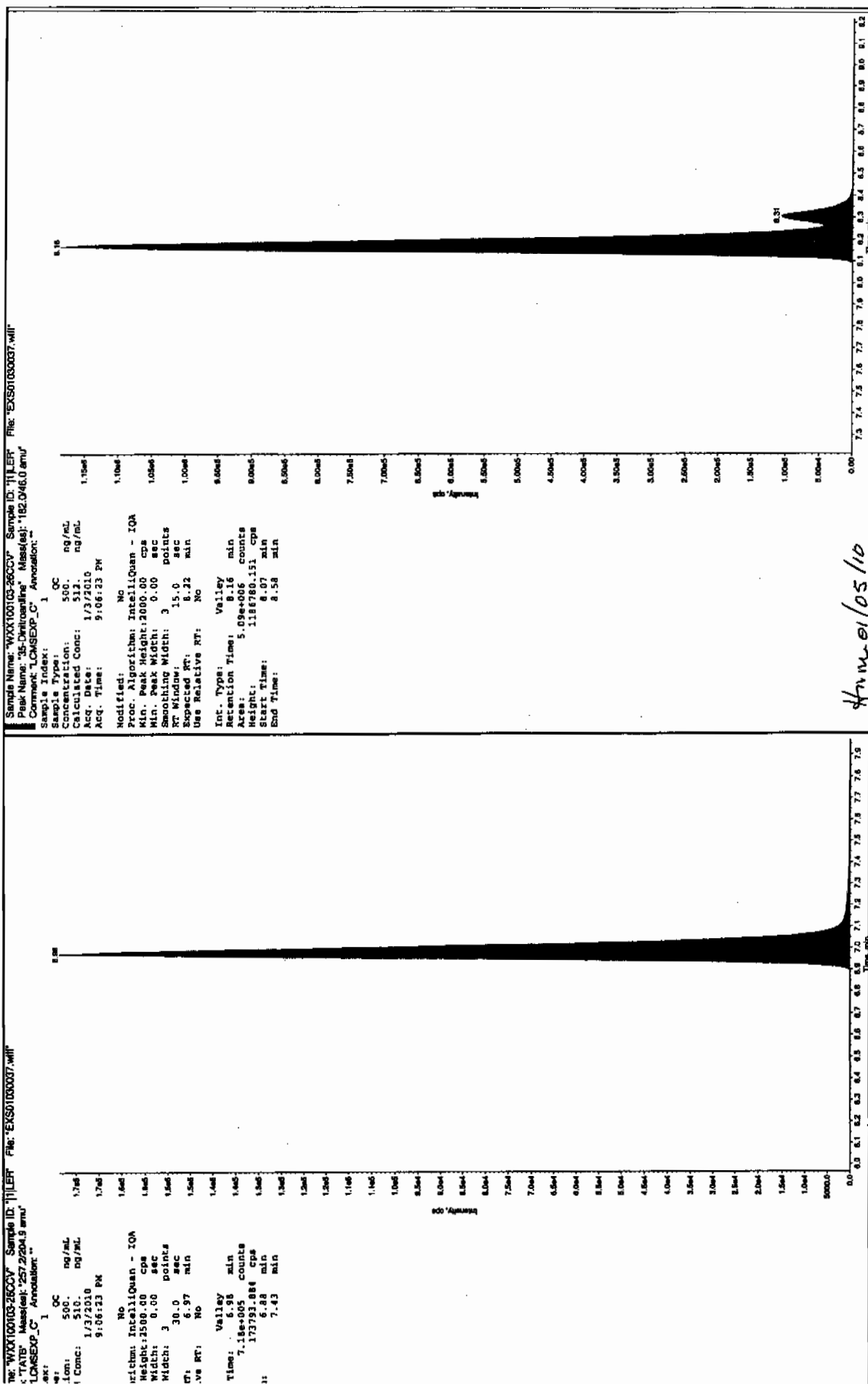
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Reflex
11/17/10



Amr 01/05/10

8221A
11/11/10

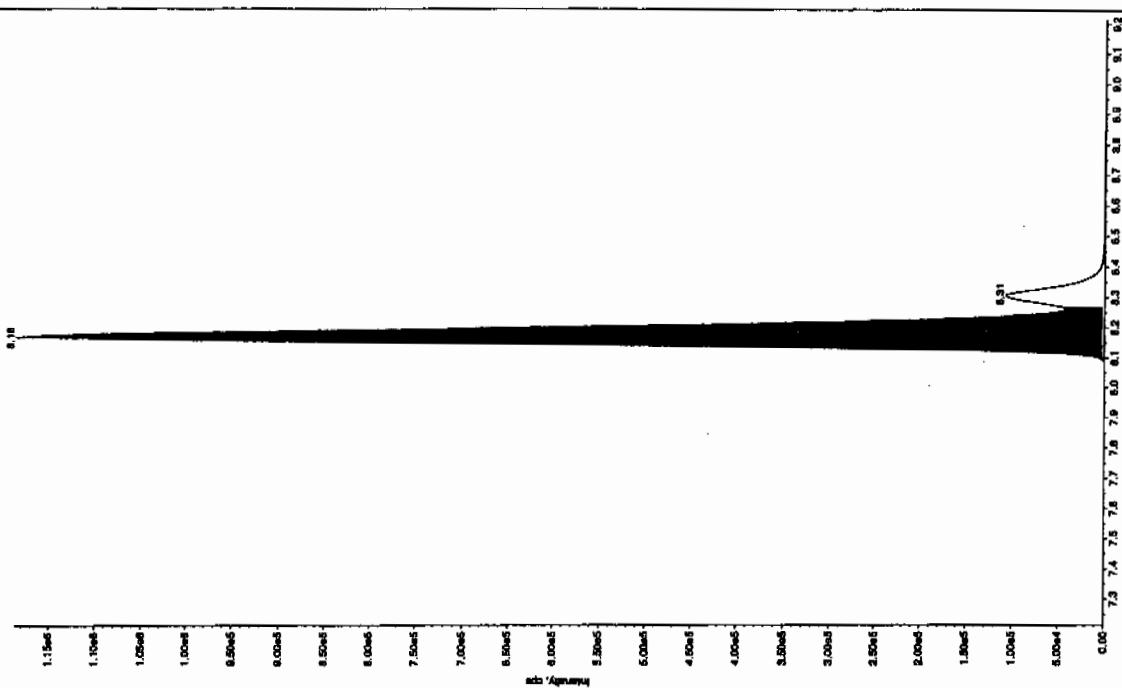
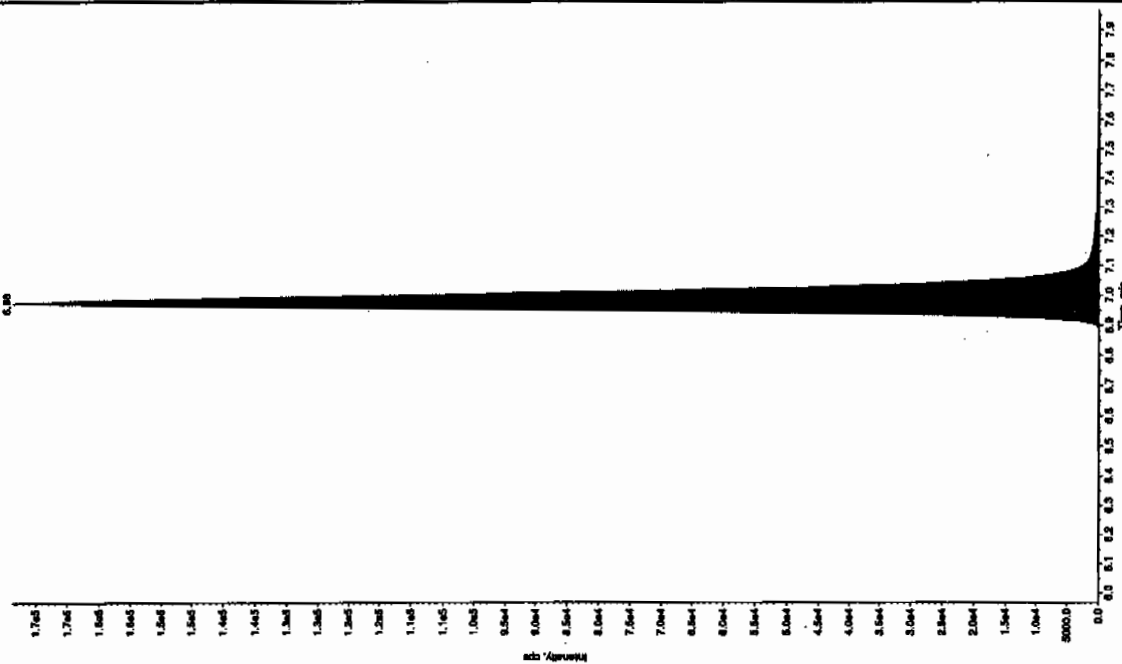
Sample Name: "WXX100103-260CV" Sample ID: "111ER" File: "EX501000037.wif"
Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
Comment: "LCMS-EXP_C" Annotation: ""

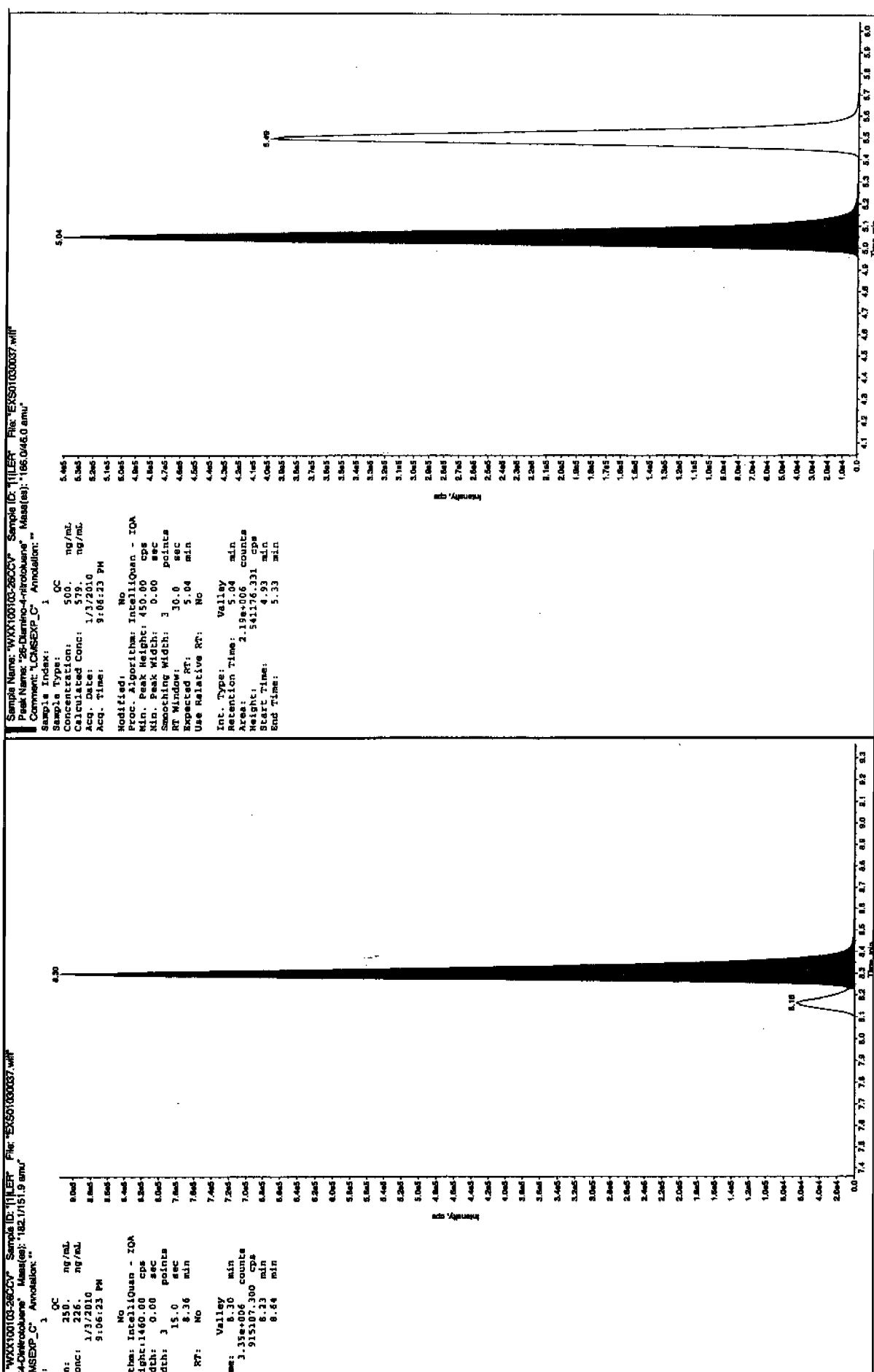
Sample Index: 1

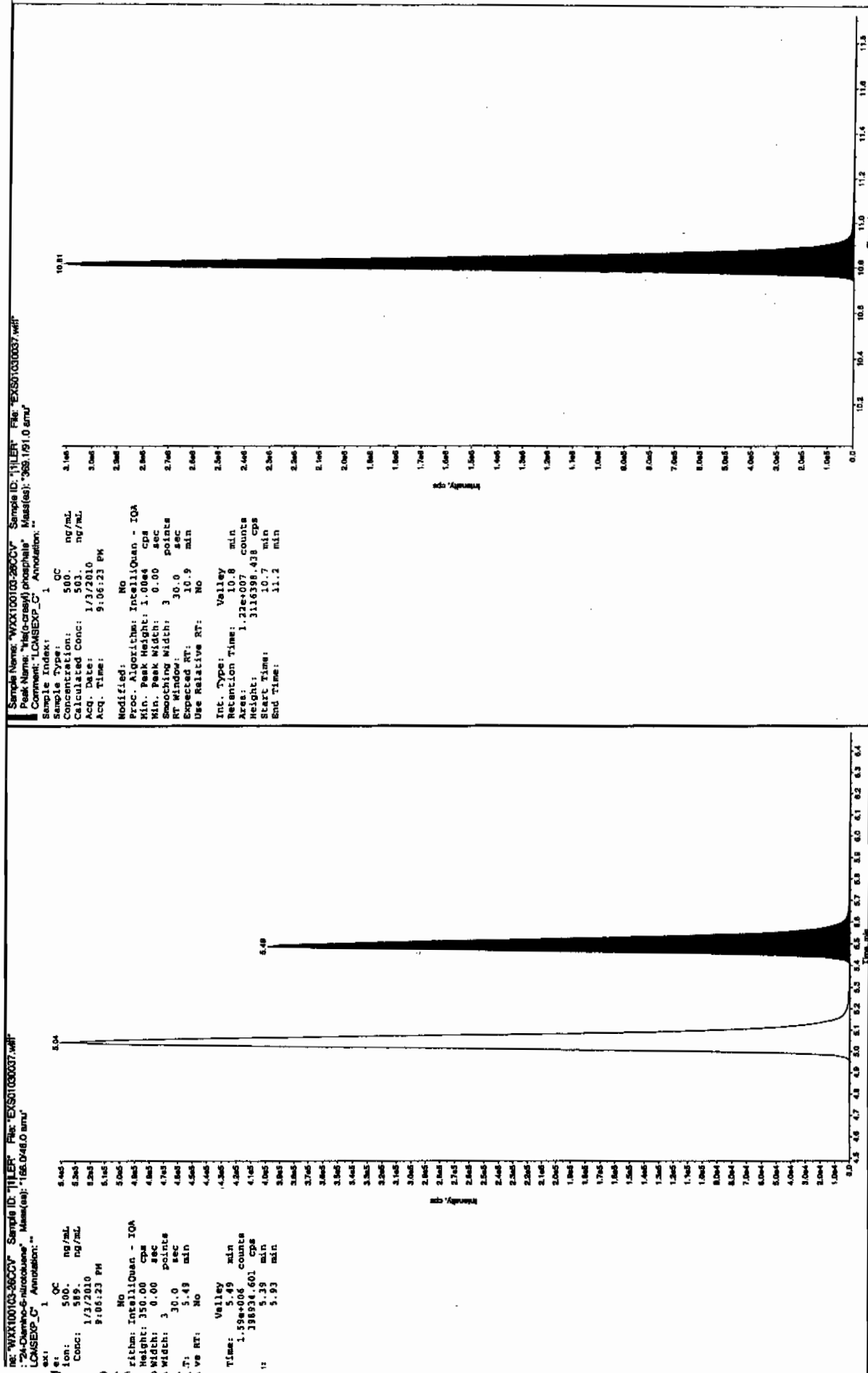
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 460. ng/mL
Acq. Date: 1/3/2010
Acq. Time: 9:06:23 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No
Int. Type: Manual
Retention Time: 8.17 min
Area: 4.54e+006 counts
Height: 1193895.501 cps
Start Time: 8.09 min
End Time: 8.27 min

lchm: IntelliQuan - IOA
Height: 2500.00 cps
Width: 0.00 sec
Width: 3 points
Width: 30.0 sec
Width: 6.97 min
Width: No
Width: Valley
Time: 7.18e+018 counts
Time: 13793.884 cps
Time: 6.88 min
Time: 7.43 min







7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01030039.wiff

Analysis Date: 03-JAN-10 21:37

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
TATB	100	96.3	96	
tris(o-cresyl) phosphate	100	97.8	98	
2,4-Diamino-6-nitrotoluene	100	108	108	
2,6-Diamino-4-nitrotoluene	100	90.5	91	
3,4-Dinitrotoluene	50	47.7	95	
3,5-Dinitroaniline	100	88.8	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

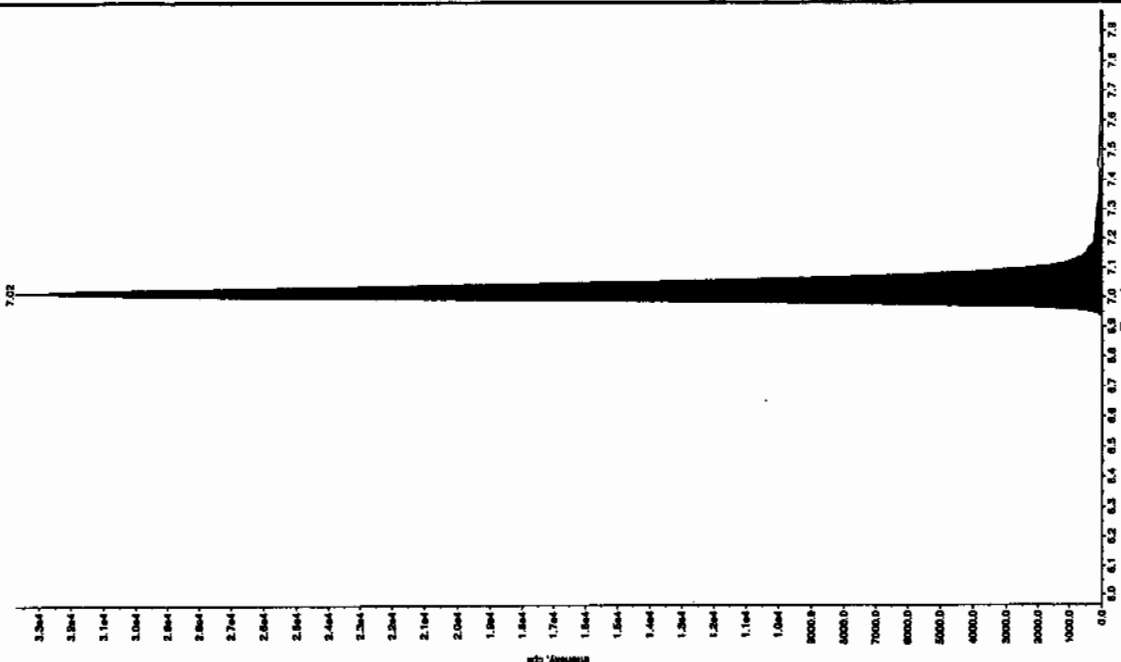
* Value outside of Recovery Limits



11/17/10
Oscar
20

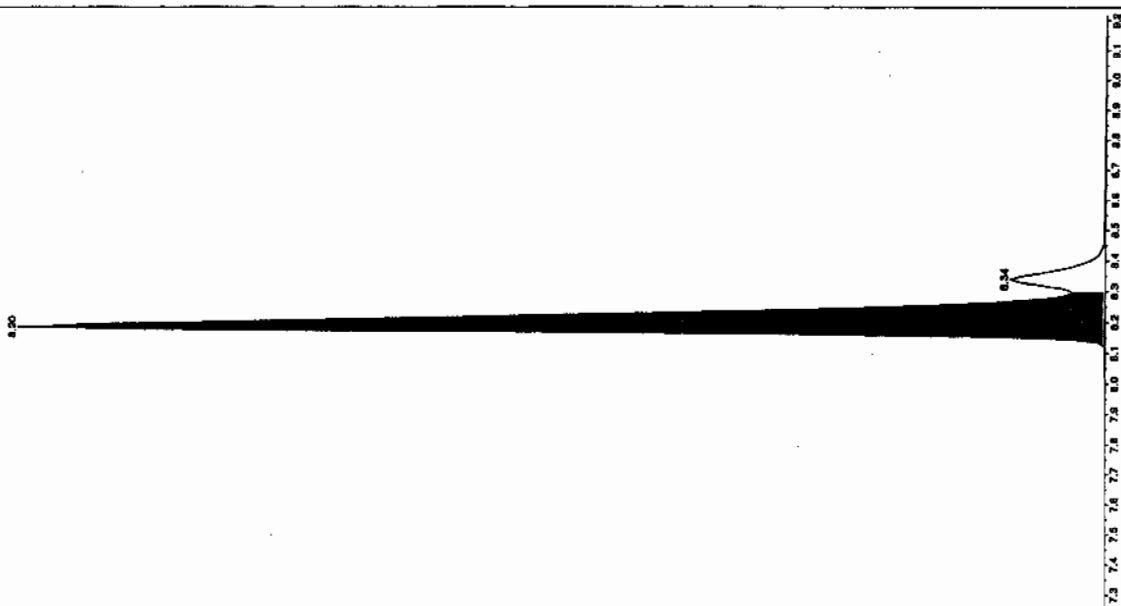
WXX100100-27094 Sample ID: 111ER File: EX501000039.will
ATB: Mass(es): 287.2204.9 amu
MSEXP_C Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 100 ng/mL
Calculated Conc: 8.9 ng/mL
Acq. Date: 1/3/2010
Acq. Time: 9:37:47 PM
Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: NO
Int. Type: Manual
Retention Time: 8.20 min
Area: 1.03e+006 counts
Height: 27147.791 cps
Start Time: 8.12 min
End Time: 8.30 min



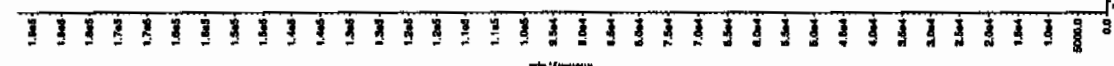
Sample Name: WXX100100-27094 Sample ID: 111ER File: EX501000039.will
Peak Name: 35-Dinitroaniline Mass(es): 182.046.0 amu
Comment: LCMSEXP_C Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 100 ng/mL
Calculated Conc: 8.9 ng/mL
Acq. Date: 1/3/2010
Acq. Time: 9:37:47 PM
Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: NO
Int. Type: Manual
Retention Time: 8.20 min
Area: 1.03e+006 counts
Height: 27147.791 cps
Start Time: 8.12 min
End Time: 8.30 min



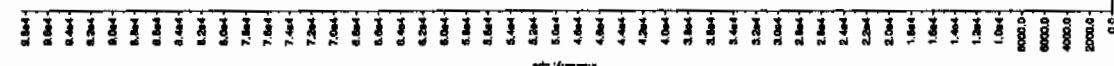
Sample Name: "WXX100103-2709" Sample ID: "111ER" File: "EX501030038.will"
 Peak Name: "28-Diamino-4-nitrotoluene" Mass(es): "182.1/151.9 amu"
 Comment: "LCMS-EXP_C" Annotation: ""

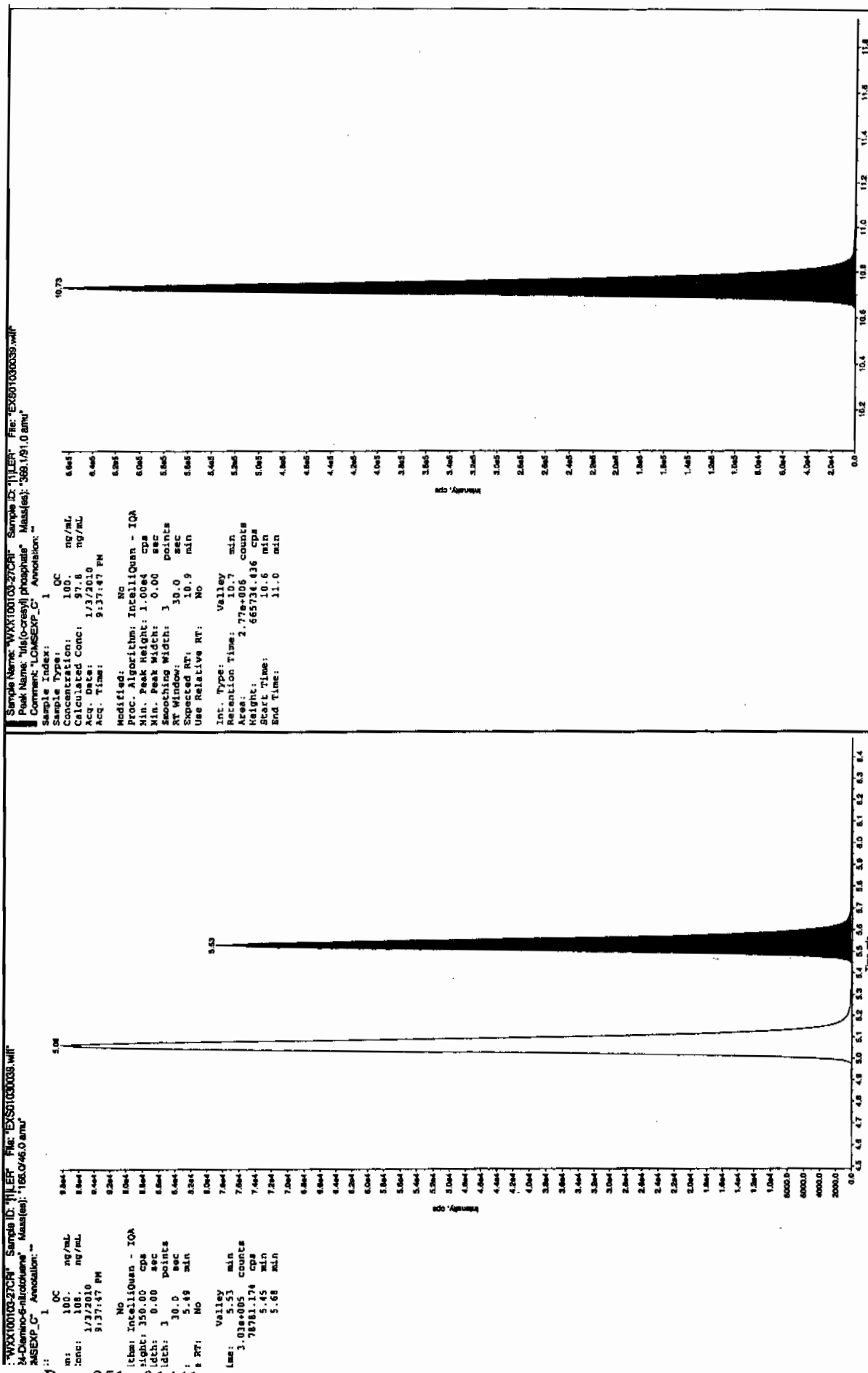
Sample Index: 1
 Sample Type: QC
 Concentration: 100. ng/mL
 Calculated Conc: 98.5 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 9:37:47 PM
 Modified: No
 Method: IntelligQuan - IQA
 Min. Peak Width: 490.00 cps
 Min. Peak Width: 3.000 sec
 Smoothing Width: 30.0 points
 RT Window: 5.04 min
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.06 min
 Area: 4.12e+005 counts
 Height: 98226.295 cps
 Start Time: 4.95 min
 End Time: 5.28 min



Sample Name: "WXX100103-2709" Sample ID: "111ER" File: "EX501030038.will"
 Peak Name: "28-Diamino-4-nitrotoluene" Mass(es): "182.1/151.9 amu"
 Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 100. ng/mL
 Calculated Conc: 98.5 ng/mL
 Acq. Date: 1/3/2010
 Acq. Time: 9:37:47 PM
 Modified: No
 Method: IntelligQuan - IQA
 Min. Peak Width: 490.00 cps
 Min. Peak Width: 3.000 sec
 Smoothing Width: 30.0 points
 RT Window: 5.04 min
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.06 min
 Area: 4.12e+005 counts
 Height: 98226.295 cps
 Start Time: 4.95 min
 End Time: 5.28 min





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

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01030050.wiff

Analysis Date: 04-JAN-10 00:30

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	497	99	
2,6-Diamino-4-nitrotoluene	500	464	93	
3,4-Dinitrotoluene	250	219	88	
3,5-Dinitroaniline	500	464	93	
TATB	500	480	96	
tris(o-cresyl) phosphate	500	514	103	

Recovery Limits:

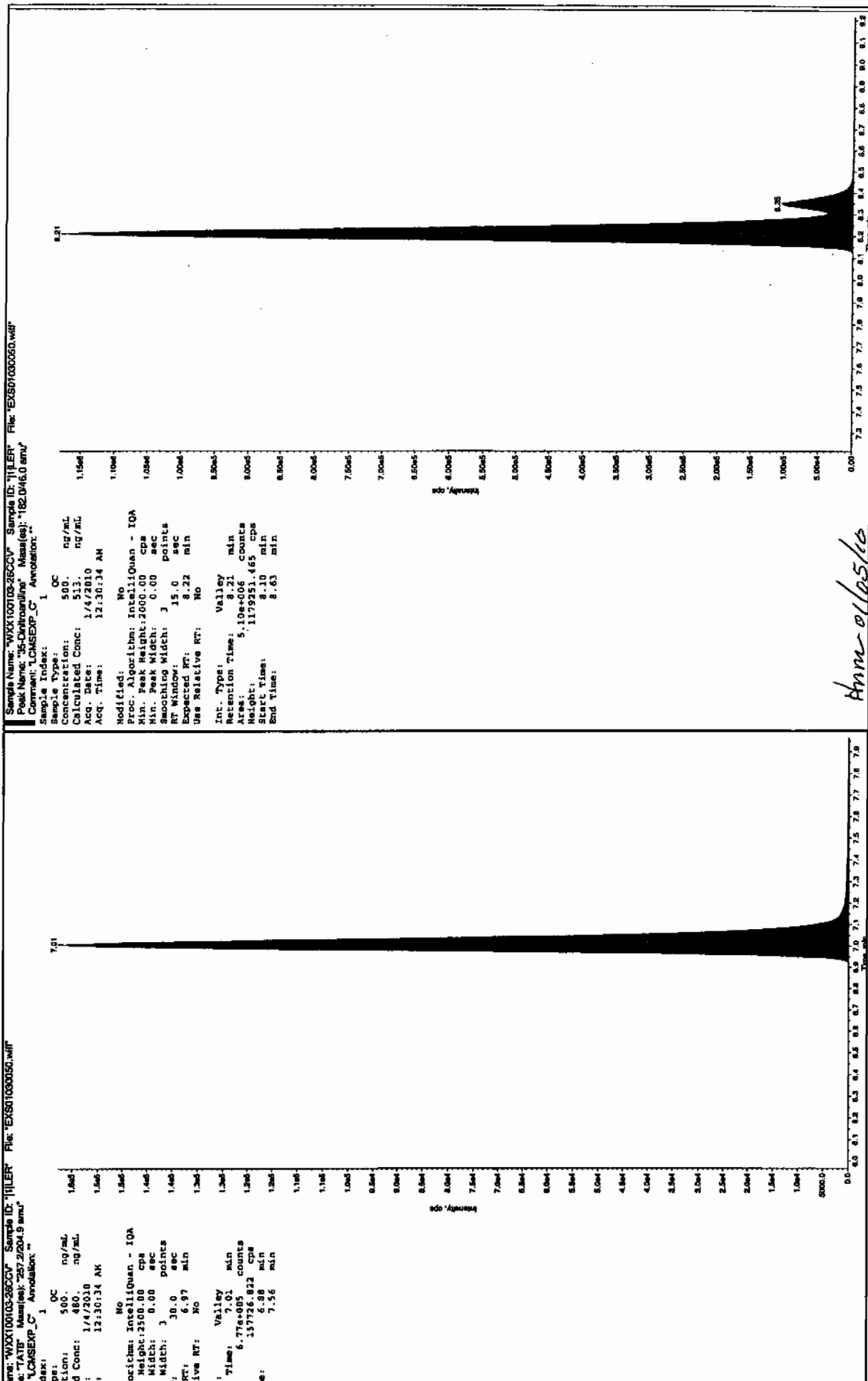
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

11710
Bayer
Dien



Anna-01/05/10

off
2/2/10
11/10

Sample Name: "WXX100103-2800V" Sample ID: "11LEP" File: "EXS01000500.wif"

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

Comment: "LCMSXP_C" Annotation: "

Sample Index: 1

Sample Type: QC

Concentration: 500. ng/mL

Calculated Conc: 454. ng/mL

Acq. Date: 1/4/2010

Acq. Time: 12:30:34 AM

Modified: Yes

RT Window: 15.0 sec

Expected RT: 8.22 min

Use Relative RT: No

Int. Type: Manual

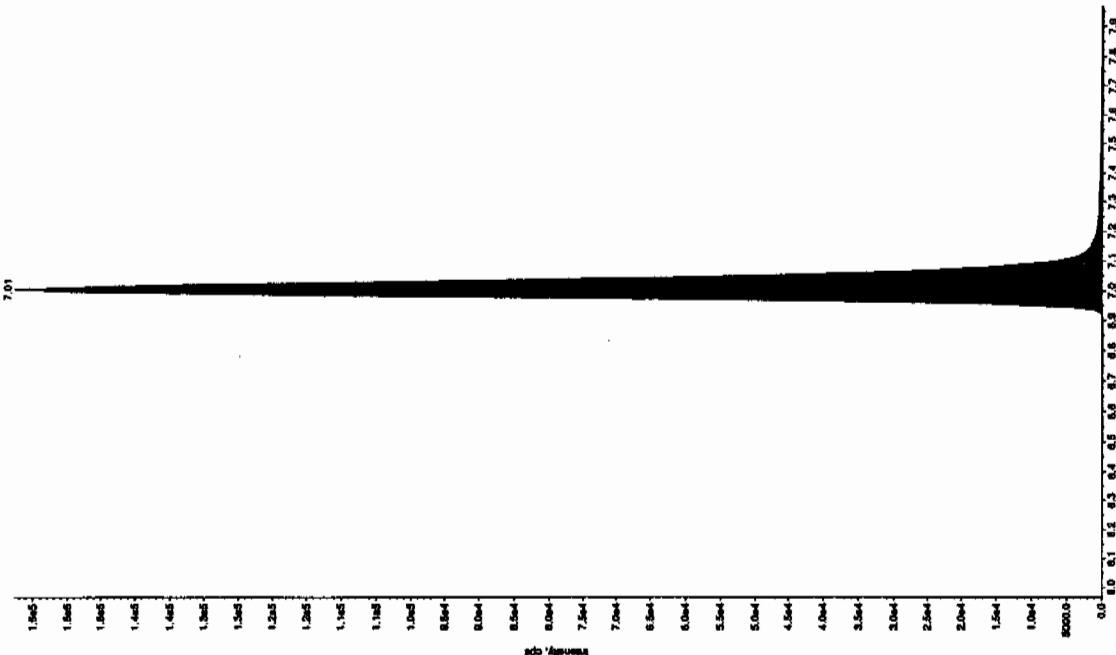
Retention Time: 8.20 min

Height: 4.66e+006 counts

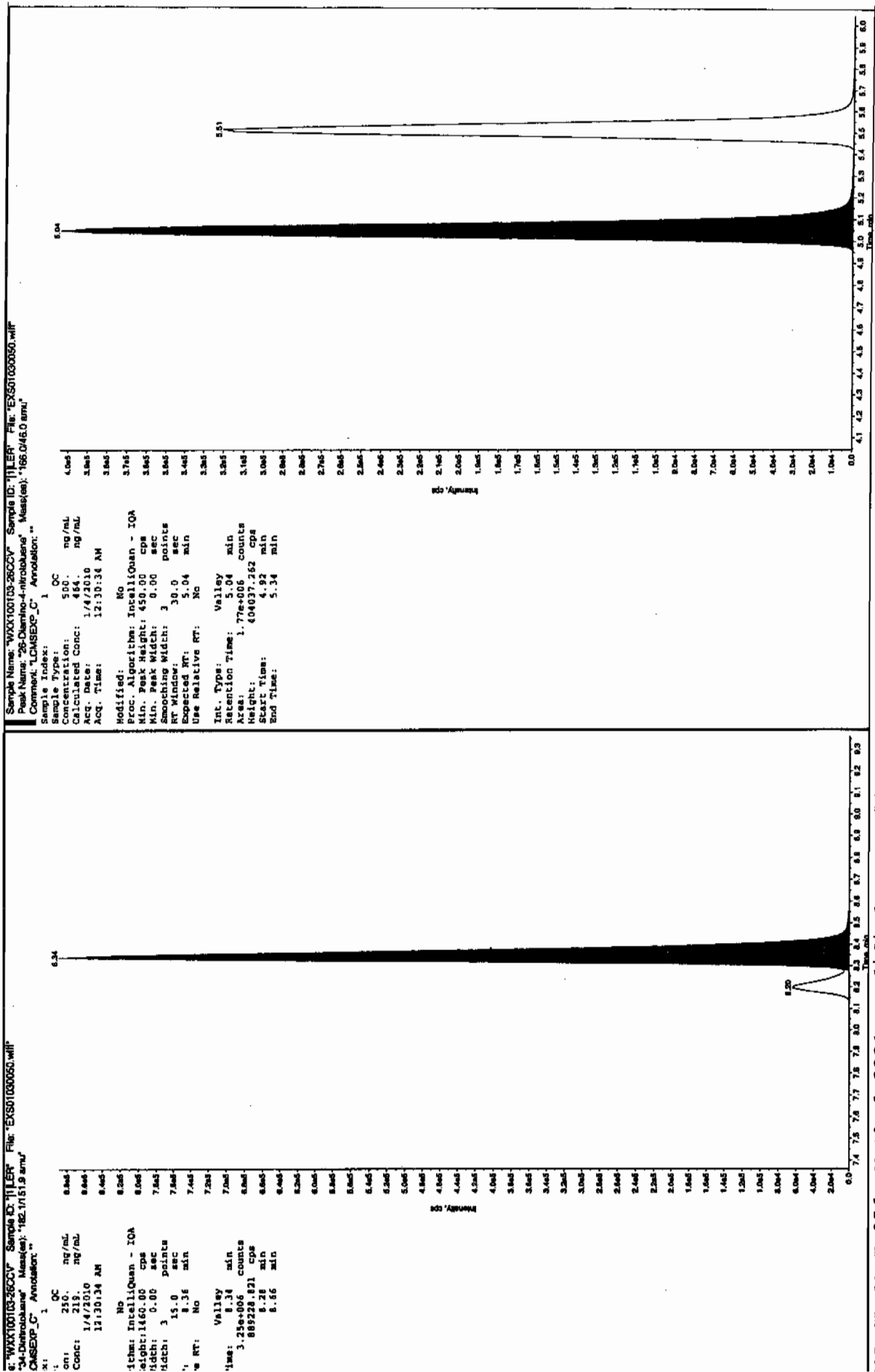
Weight: 117828.837 cps

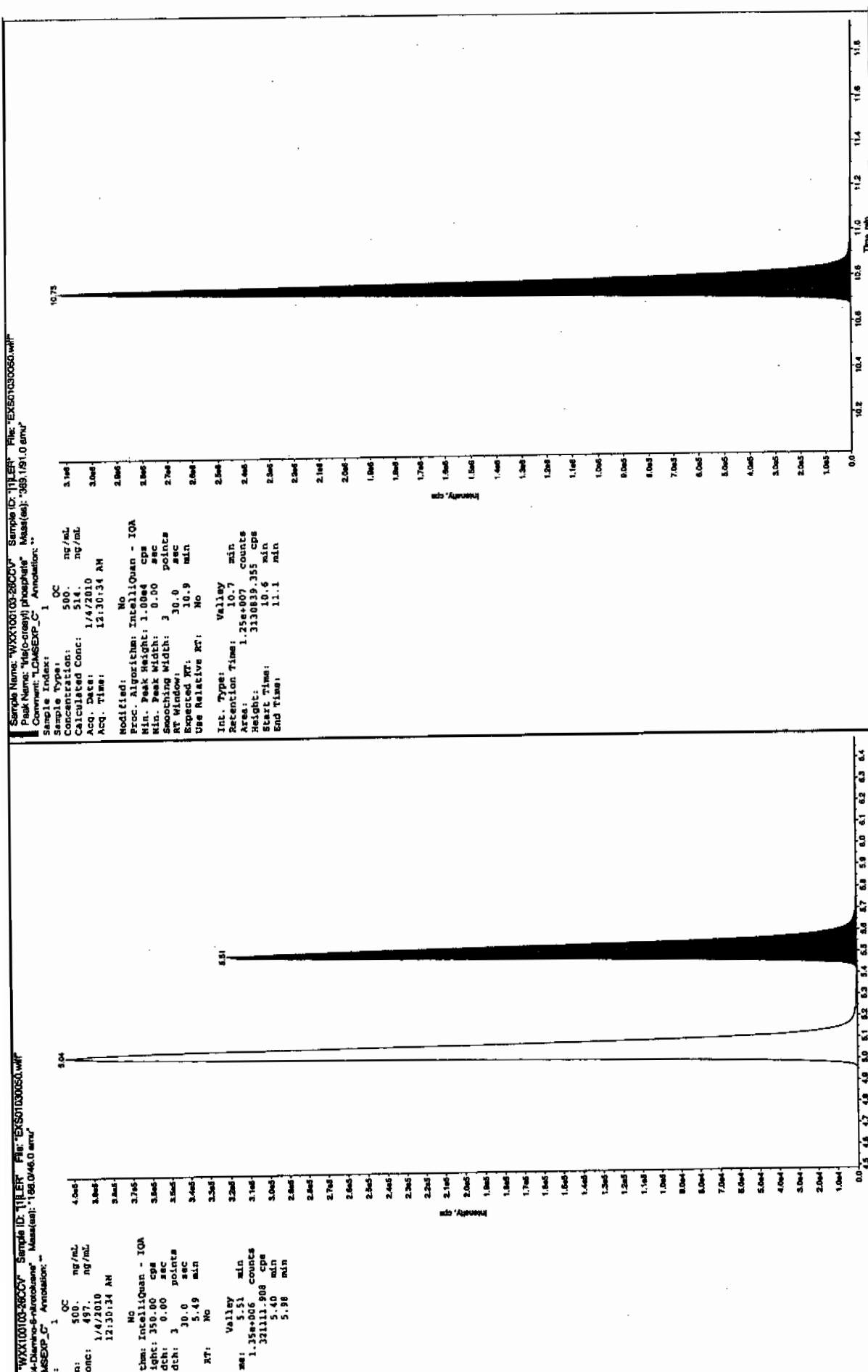
Start Time: 8.13 min

End Time: 8.31 min



Method: IntelliQuan - IQA
Height: 2500.00 cps
Width: 0.00 sec
Width: 3 points
Width: 30.0 sec
RT: 6.97 min
RT: No
Peak: 7.01 min
Height: 6.77e+005 counts
Weight: 157726.822 cps
Start Time: 6.88 min
End Time: 7.56 min





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01030052.wiff

Analysis Date: 04-JAN-10 01:01

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	92.4	92	
2,6-Diamino-4-nitrotoluene	100	74.3	74	
3,4-Dinitrotoluene	50	43.5	87	
3,5-Dinitroaniline	100	81.6	82	
TATB	100	95.8	96	
tris(o-cresyl) phosphate	100	96.8	97	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

*15/12/10
Baker*

Sample Name: "WXX100103-2709" Sample ID: "11111" File: "EXS01000032.wif"
Peak Name: "35-Chloroquinoline" Mass(es): "182.046.0 amu"
Comment: "LCMS-EXP-C" Annotation: ""

Sample Index: 1

Concentration: 100 ng/mL
Calculated Conc: 91.0 ng/mL
Acq. Rate: 1/4/2010
Acq. Time: 1:01:57 AM

Modified: No

Proc. Algorithm: IntelliQuan - IQA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.22 min

Use Relative RT: No

Int. Type: Valley

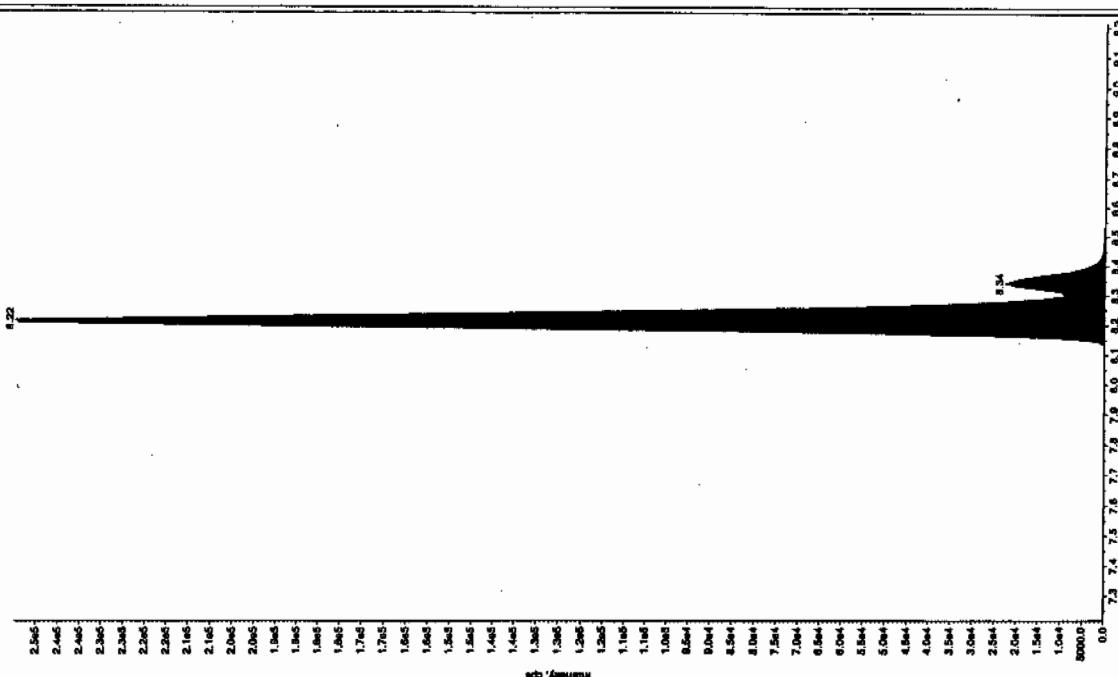
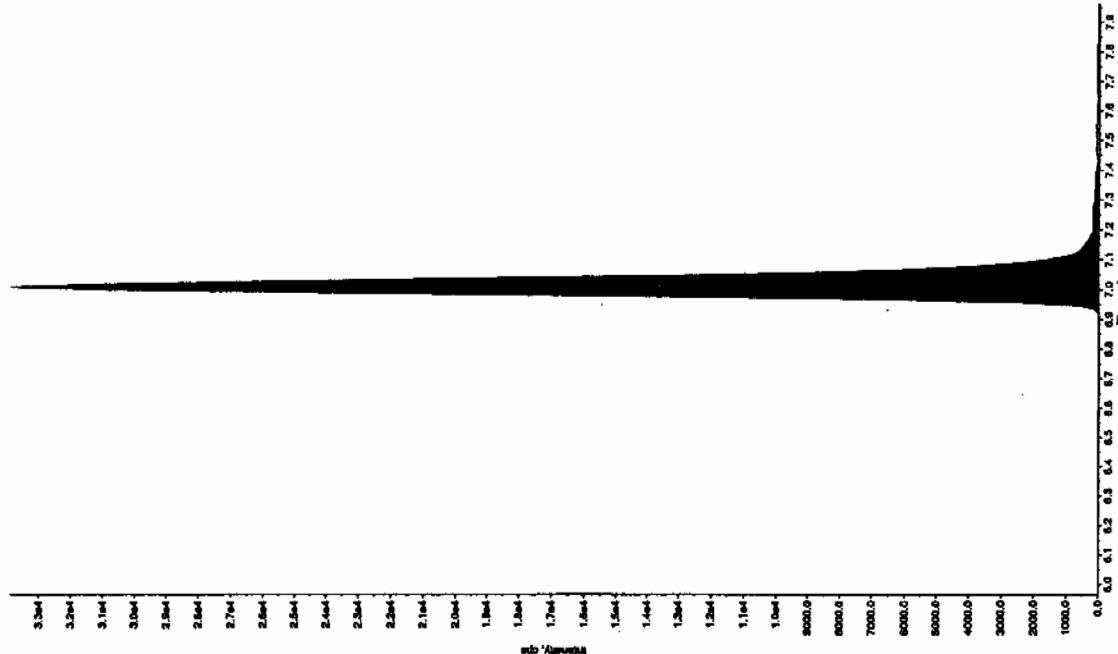
Retention Time: 8.22 min

Area: 1.05e+006 counts

Height: 249619.202 cps

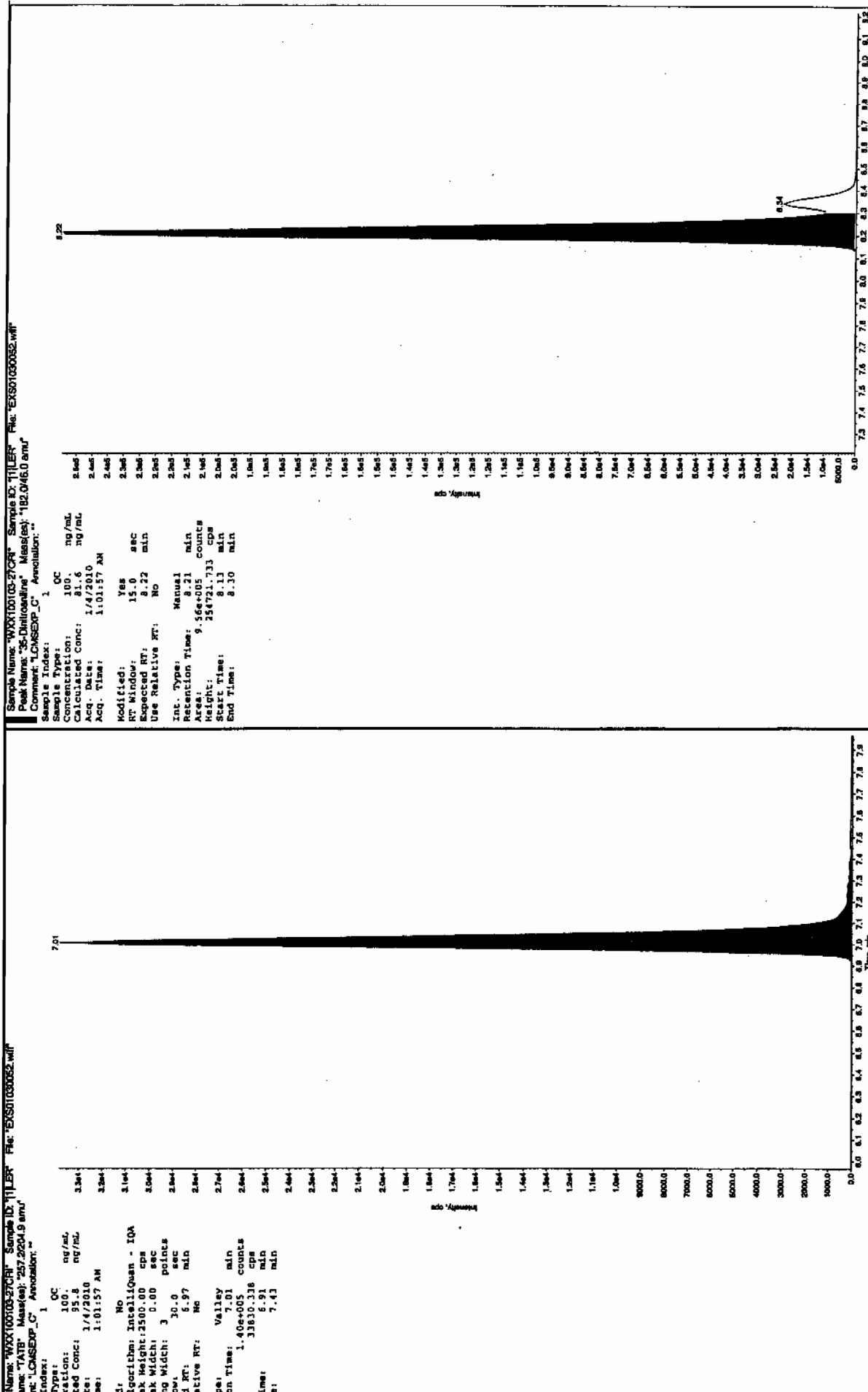
Start Time: 8.10 min

End Time: 8.56 min



4mm 01/05/10

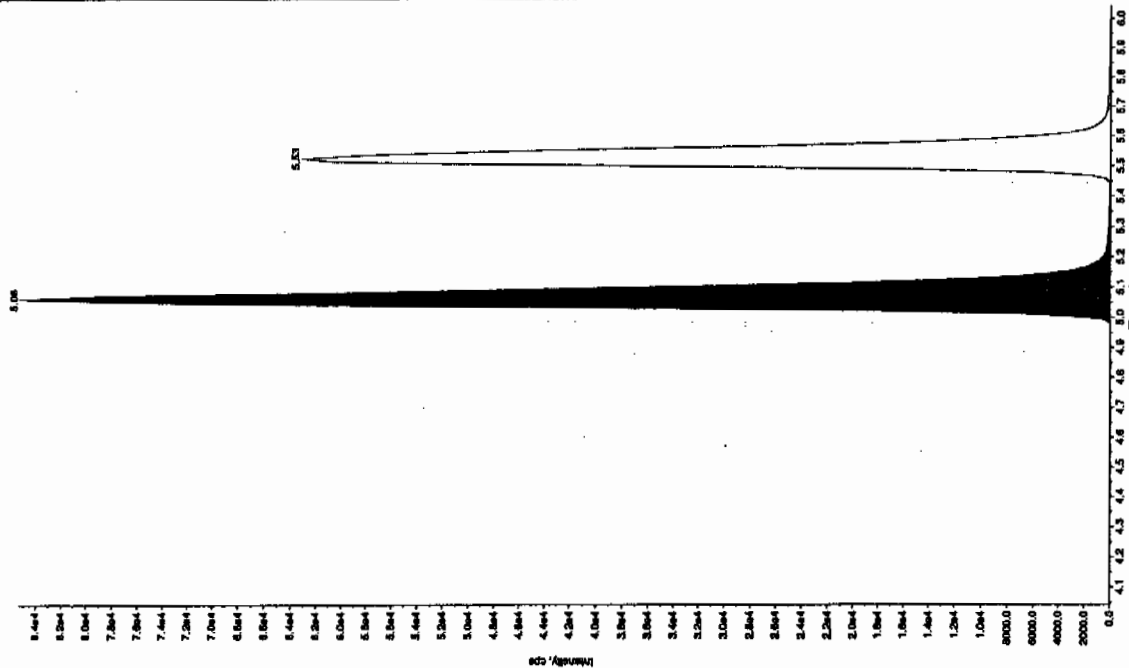
1/13/10
J. J. J.



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

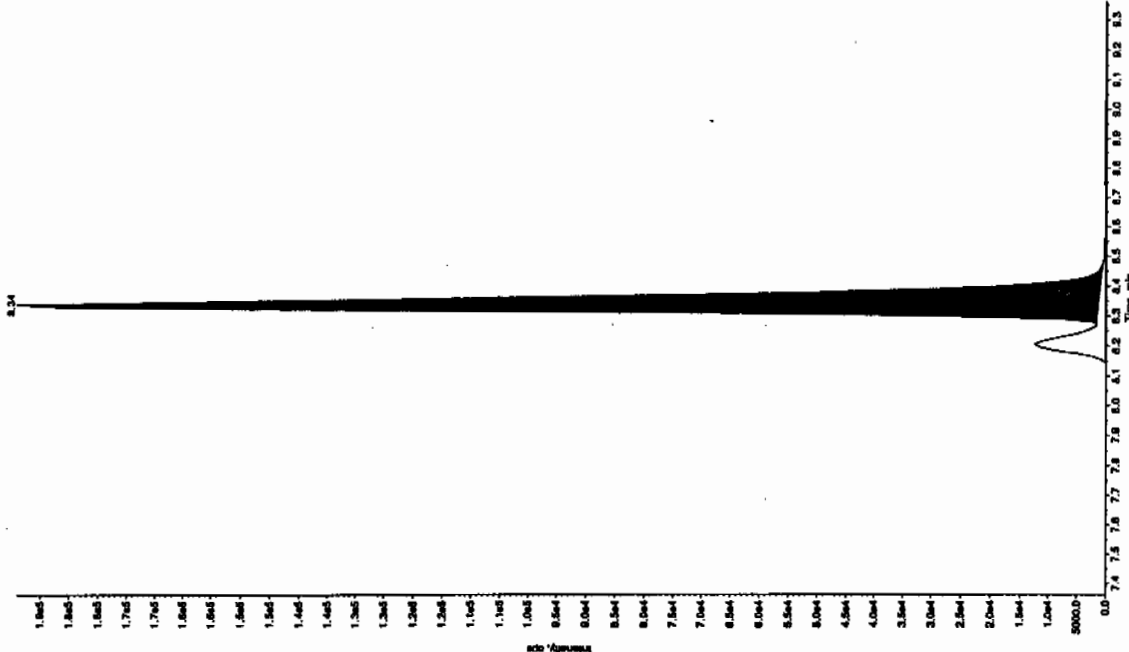
Sample Name: "WXX100100-270R" Sample ID: "111ER" File: "EX801000052.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "182.1/181.9 amu"
 Comment: "LCMS/EXP_C" Annotation: ""

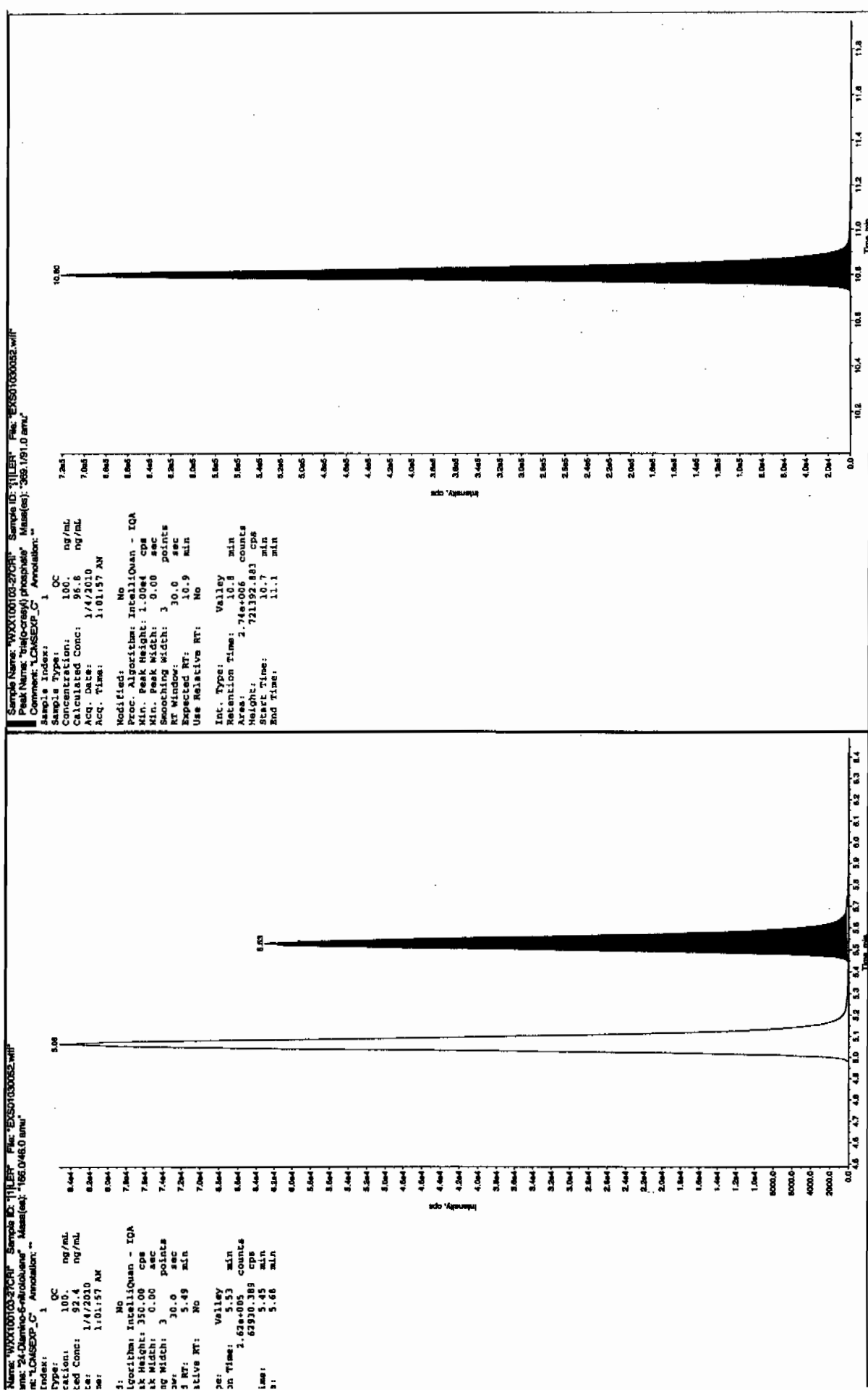
Sample Index: 1
 Sample Type: 100
 Concentration: 74.3 ng/mL
 Calculated Conc: 74.3 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 1:01:57 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.06 min
 Area: 3.54e+005 counts
 Height: 85300.873 cps
 Start Time: 4.93 min
 End Time: 5.34 min



Sample Name: "WXX100100-270R" Sample ID: "111ER" File: "EX801000052.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "182.1/181.9 amu"
 Comment: "LCMS/EXP_C" Annotation: ""

Sample Index: 1
 Sample Type: 100
 Concentration: 74.3 ng/mL
 Calculated Conc: 74.3 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 1:01:57 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.06 min
 Area: 3.54e+005 counts
 Height: 85300.873 cps
 Start Time: 4.93 min
 End Time: 5.34 min





7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01030063.wiff

Analysis Date: 04-JAN-10 03:54

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
3,4-Dinitrotoluene	250	215	86	
3,5-Dinitroaniline	500	447	89	
TATB	500	510	102	
tris(o-cresyl) phosphate	500	495	99	
2,4-Diamino-6-nitrotoluene	500	470	94	
2,6-Diamino-4-nitrotoluene	500	452	90	

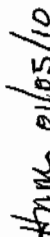
Recovery Limits:

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

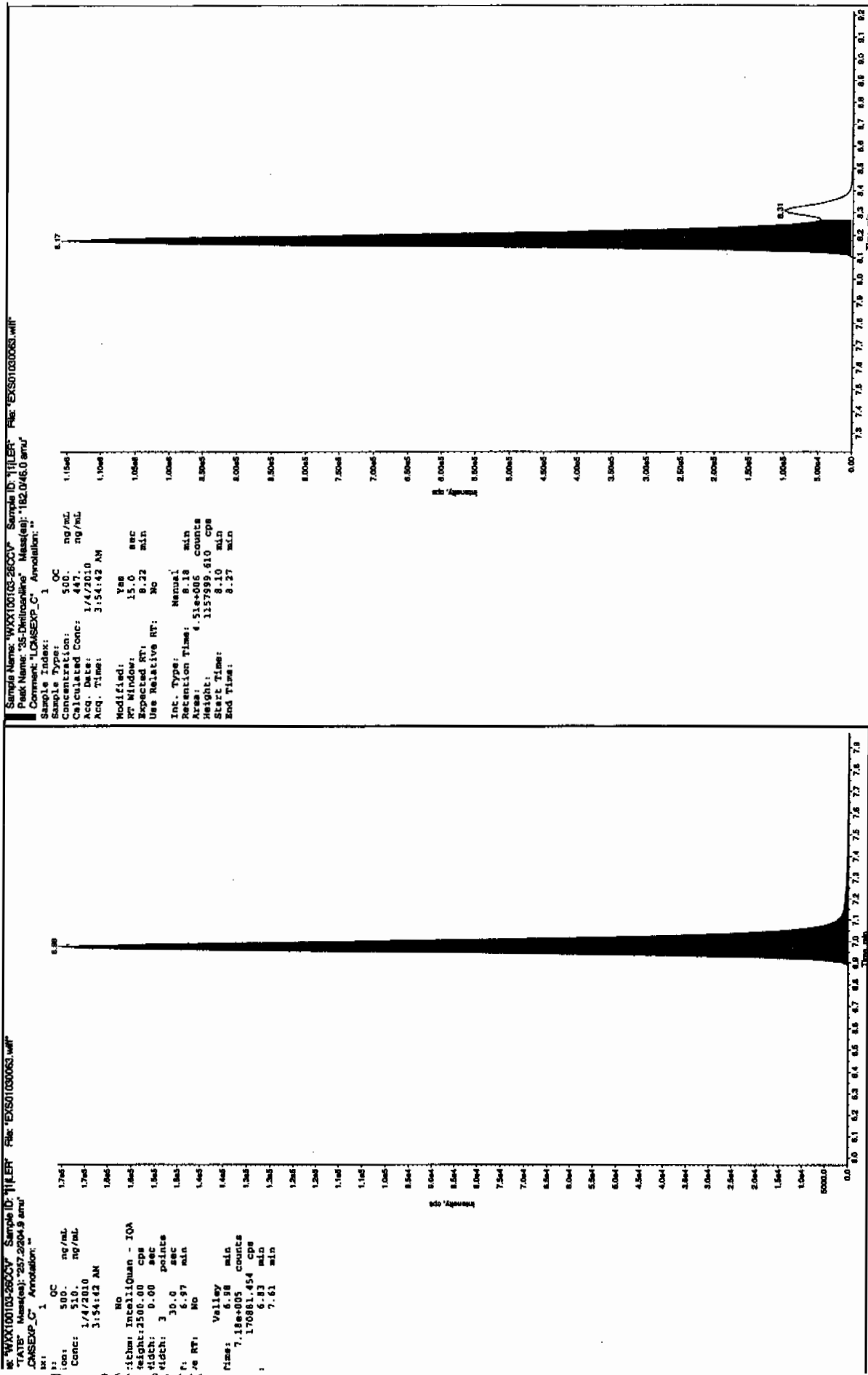
Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

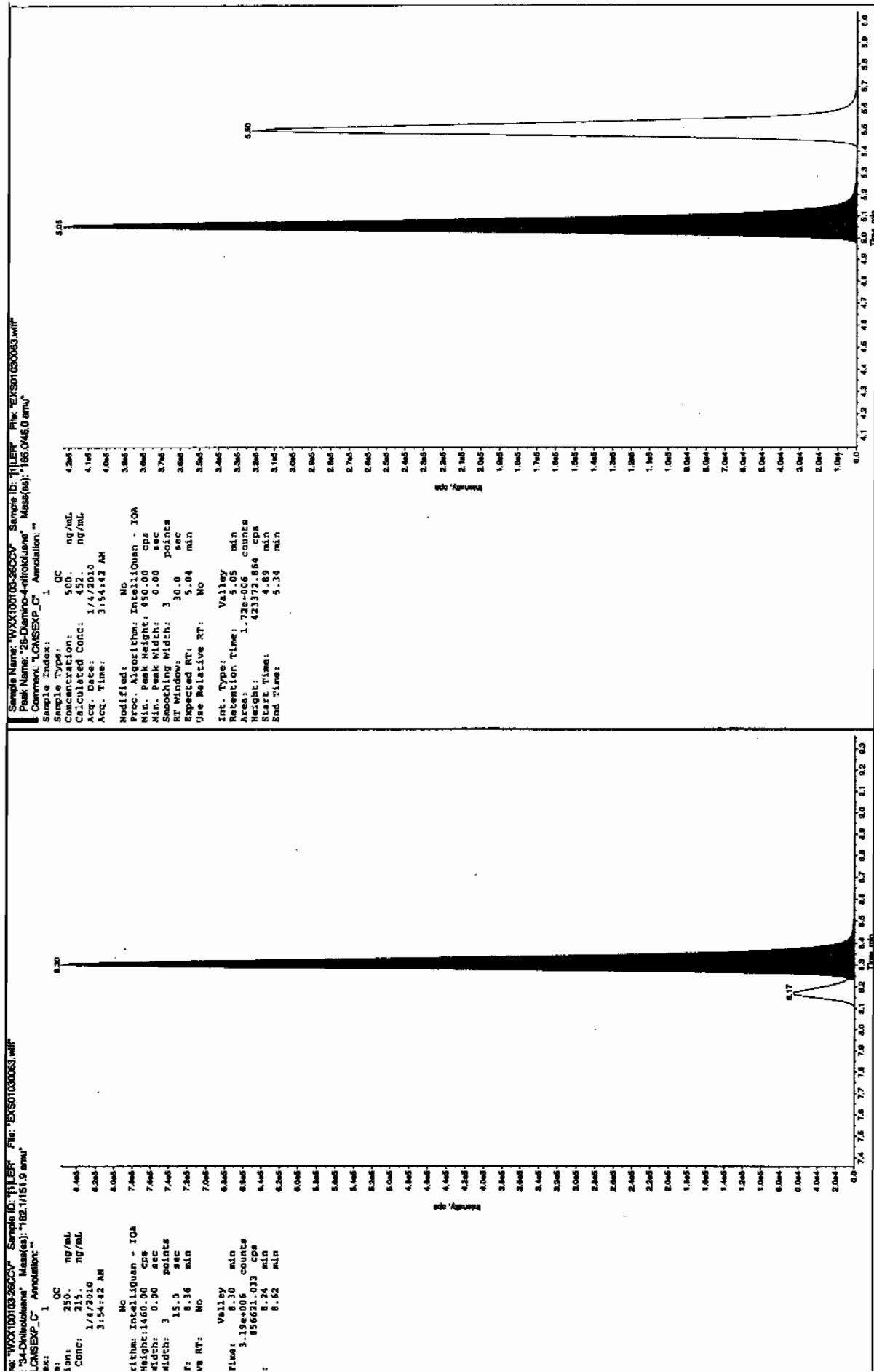
* Value outside of Recovery Limits



02/28/10
11/15/10

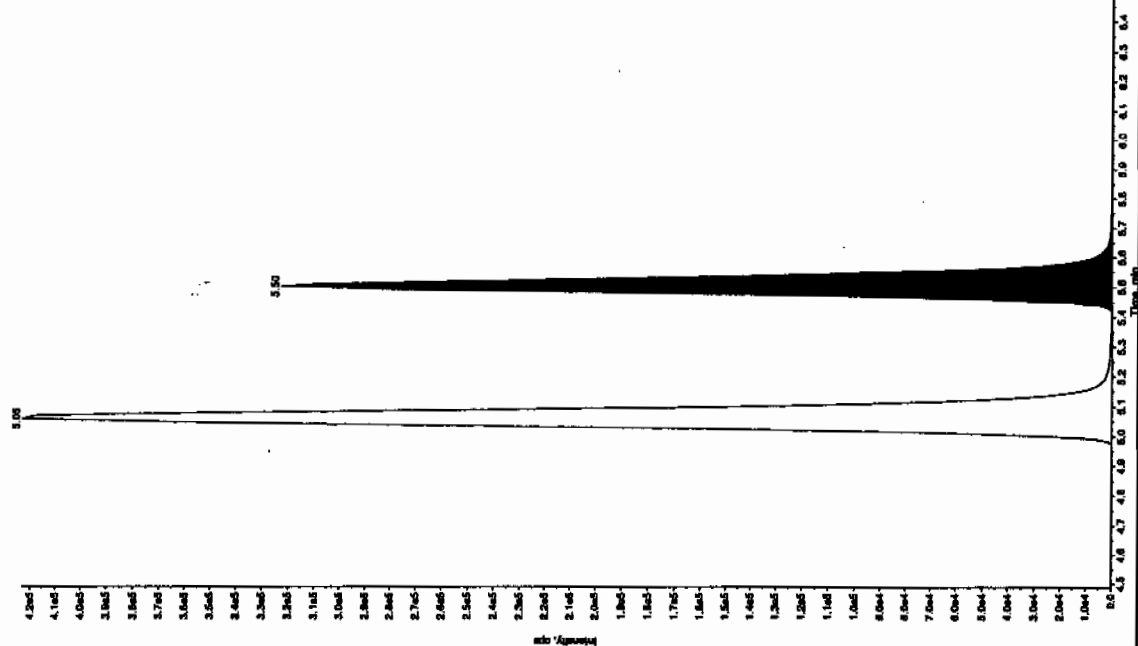


SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



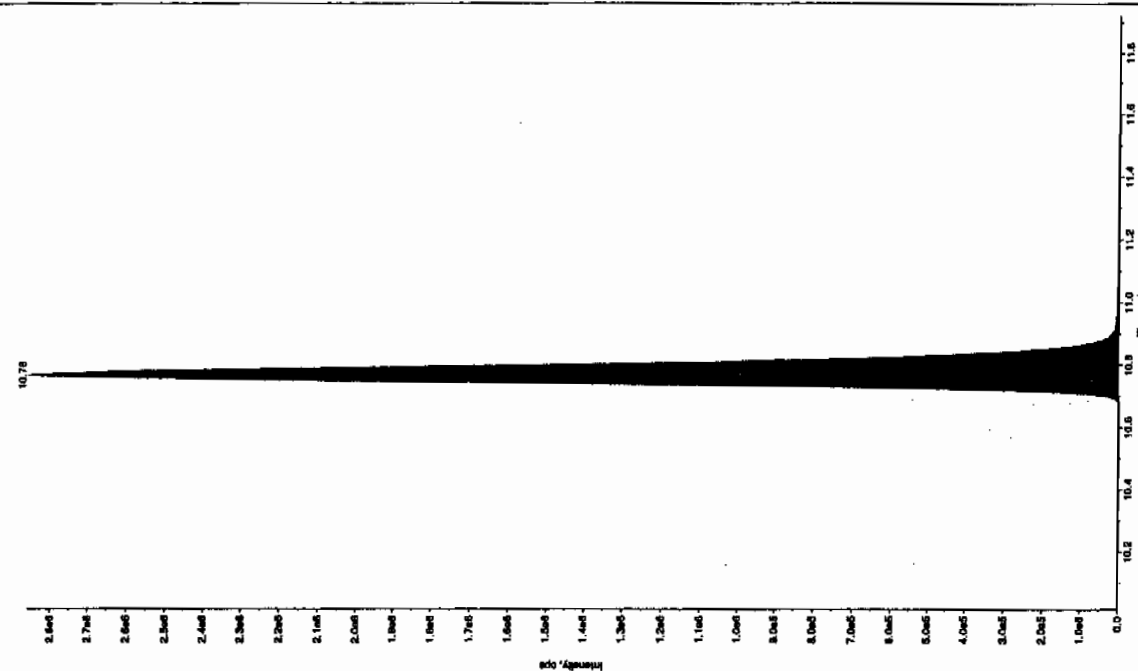
Sample Name: "WXX100103-2805V" Sample ID: "TJLER" File: "EX651030063.wif"
 Peak Name: "24-Diamino-6-nitroindane" Mass(es): "166.048.0 amu"
 Comment: "LCMSXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 495. ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 3:54:42 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 1.00e4 cps
 Min. Peak Width: 3.00 sec
 Max. Peak Width: 30.0 points
 RT Window: 10.9 min
 Expected RT: 10.9 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.8 min
 Area: 1.21e+007 counts
 Height: 2861344.727 cps
 Start Time: 10.7 min
 End Time: 11.1 min



Sample Name: "WXX100103-2805V" Sample ID: "TJLER" File: "EX651030063.wif"
 Peak Name: "bis(crocyli) phosphate" Mass(es): "369.191.0 amu"
 Comment: "LCMSXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 495. ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 3:54:42 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 1.00e4 cps
 Min. Peak Width: 3.00 sec
 Max. Peak Width: 30.0 points
 RT Window: 10.9 min
 Expected RT: 10.9 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.8 min
 Area: 1.21e+007 counts
 Height: 2861344.727 cps
 Start Time: 10.7 min
 End Time: 11.1 min



7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01030065.wiff

Analysis Date: 04-JAN-10 04:26

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	90.4	90	
2,6-Diamino-4-nitrotoluene	100	74.9	75	
3,4-Dinitrotoluene	50	40.7	81	
3,5-Dinitroaniline	100	82.5	83	
TATB	100	100	100	
tris(o-cresyl) phosphate	100	94.7	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

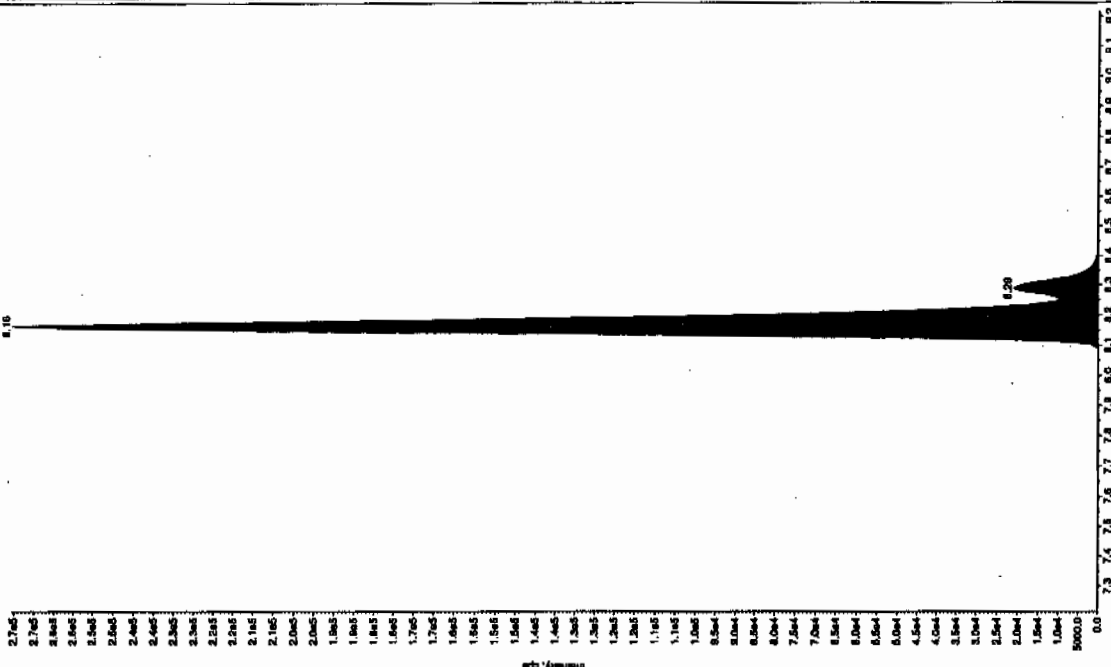
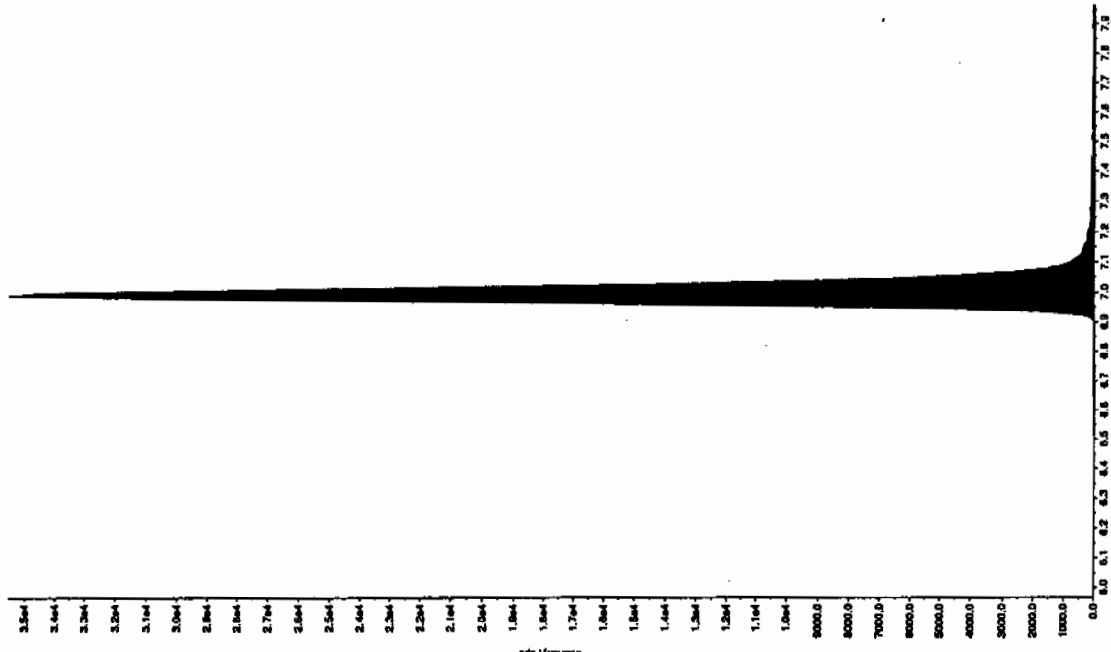
115710
Before

Sample Name: "WXX100103-27CR" Sample ID: "115710" File: "EX501000065.wif"
Peak Name: "35-Quinacrine" Mass(es): "182.046.0 amu"
Comment: "CONSEXP_0" Annotation: ""

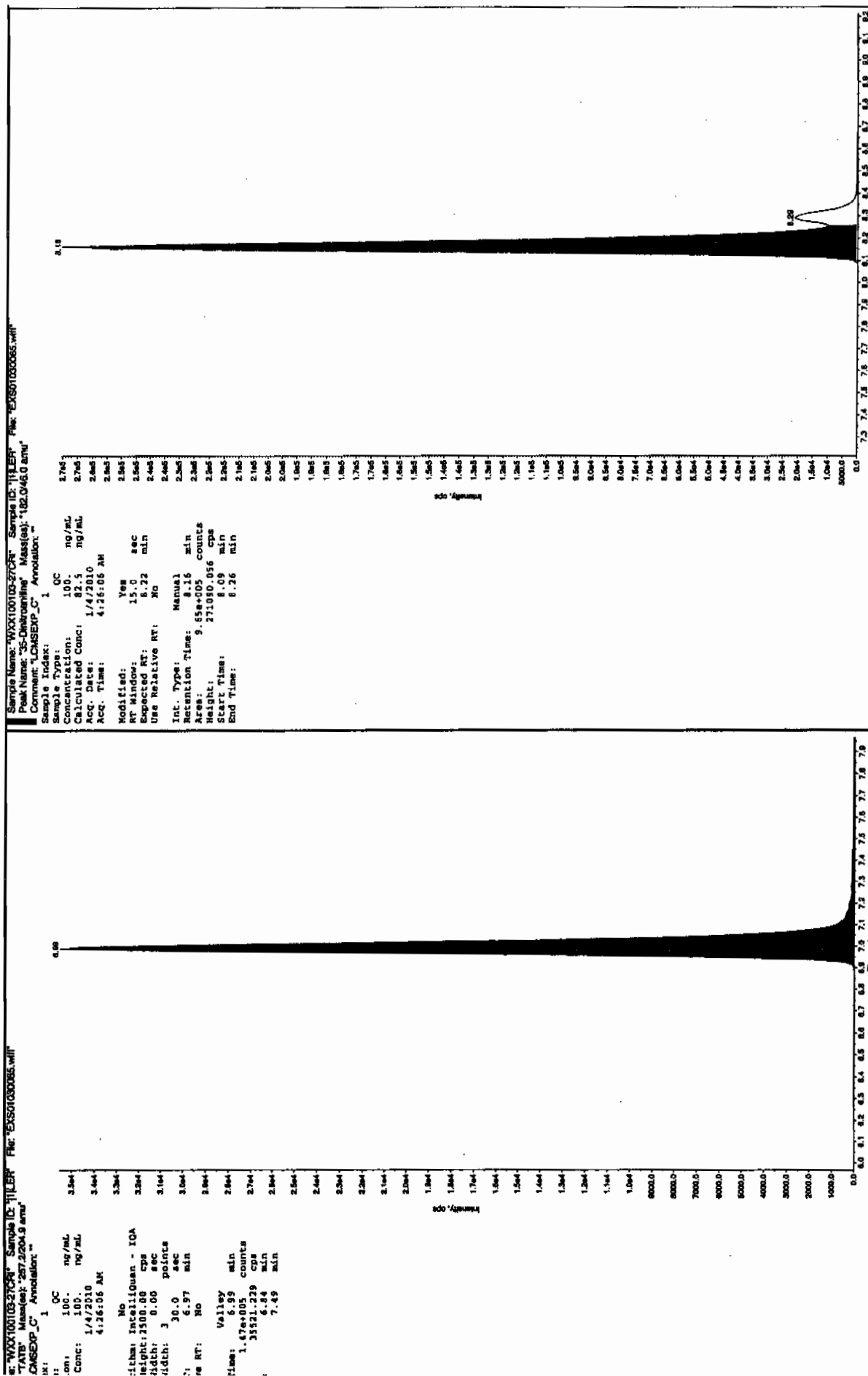
Sample Index: 1
Sample Type: QC
Concentration: 100 ng/mL
Calculated Conc: 91.1 ng/mL
Acq. Date: 1/4/2010
Acq. Time: 4:26:05 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoother Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.16 min
Area: 1.05e+006 counts
Height: 270426.514 cps
Start Time: 8.05 min
End Time: 8.62 min



11/11/10
2010



Sample Name: "WXX100103-2709" Sample ID: "TILER" File: "EX801000084.wif"
 Peak Name: "26-Dienho-4-Hydroxylurea" Mass(es): "162.1151.9 amu"
 Comment: "LCMS-EXP-C" Annotation: "Accident"

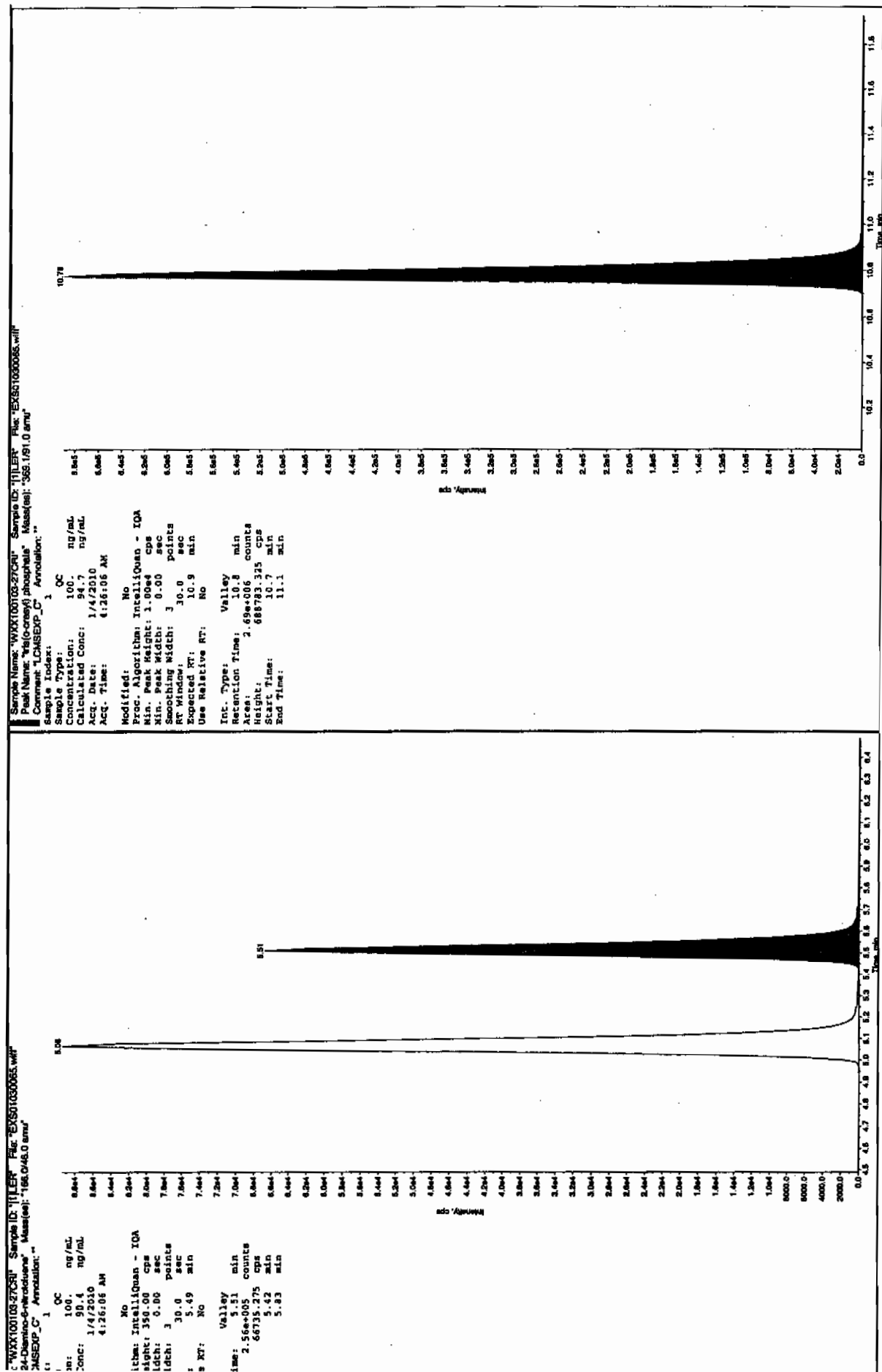
Sample Index: 1 QC
 Sample Type: 100 ng/mL
 Concentration: 74.9 ng/mL
 Calculated Conc: 1/4/2010
 Acq. Date: 4:26:06 AM
 Acq. Time: 4:26:06 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.35 min
 Peak Height: 3.56e+005 counts
 Peak Area: 89428.108 cps
 Start Time: 4.89 min
 End Time: 5.35 min



Sample Name: "WXX100103-2709" Sample ID: "TILER" File: "EX801000084.wif"
 Peak Name: "26-Dienho-4-Hydroxylurea" Mass(es): "162.046.0 amu"
 Comment: "LCMS-EXP-C" Annotation: "Accident"

Sample Index: 1 QC
 Sample Type: 100 ng/mL
 Concentration: 74.9 ng/mL
 Calculated Conc: 1/4/2010
 Acq. Date: 4:26:06 AM
 Acq. Time: 4:26:06 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.35 min
 Peak Height: 3.56e+005 counts
 Peak Area: 89428.108 cps
 Start Time: 4.89 min
 End Time: 5.35 min





7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01030075.wiff

Analysis Date: 04-JAN-10 07:03

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	490	98	
2,6-Diamino-4-nitrotoluene	500	499	100	
3,4-Dinitrotoluene	250	209	84	
3,5-Dinitroaniline	500	468	94	
TATB	500	500	100	
tris(o-cresyl) phosphate	500	489	98	

Recovery Limits:

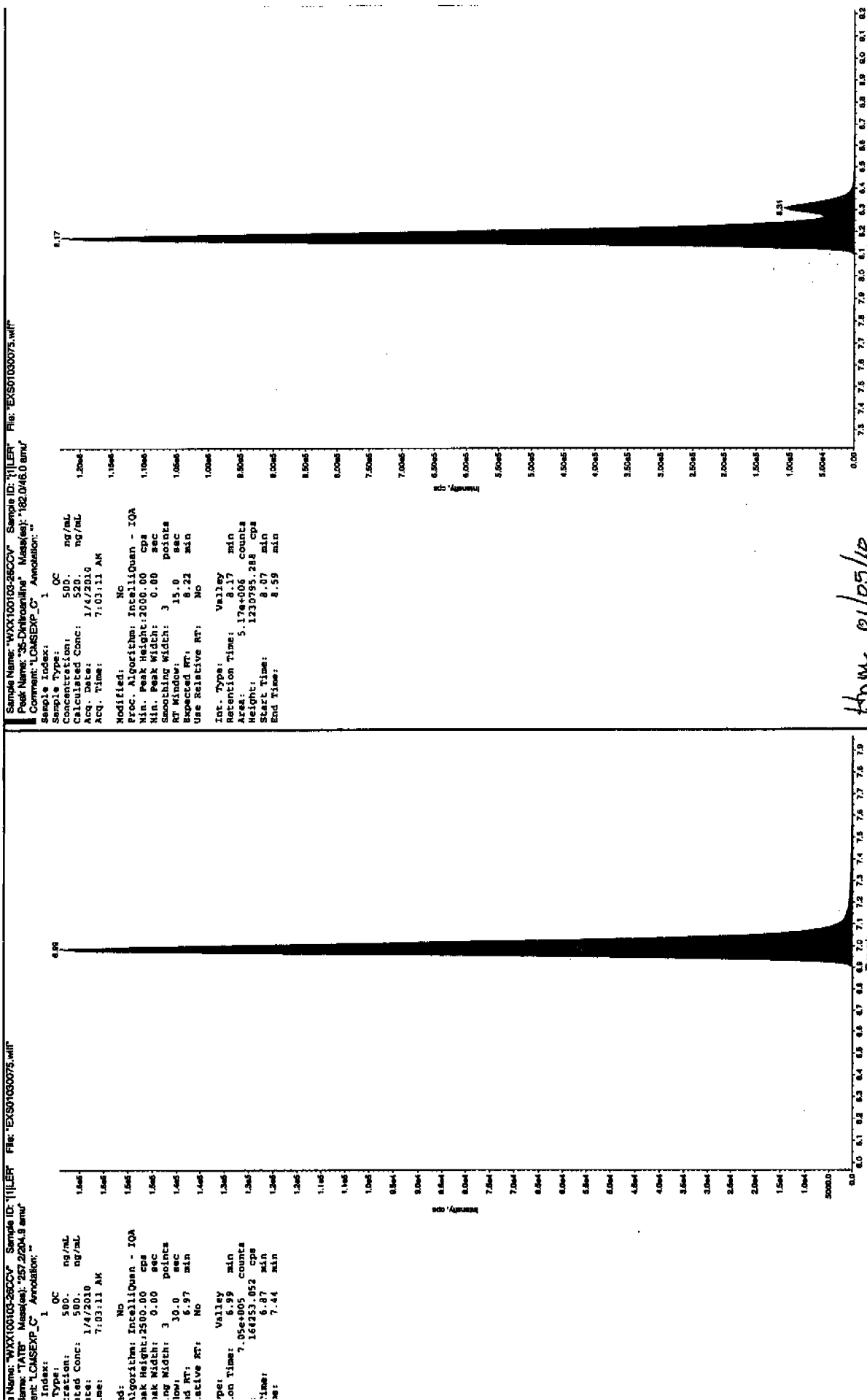
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Before
11/15/10



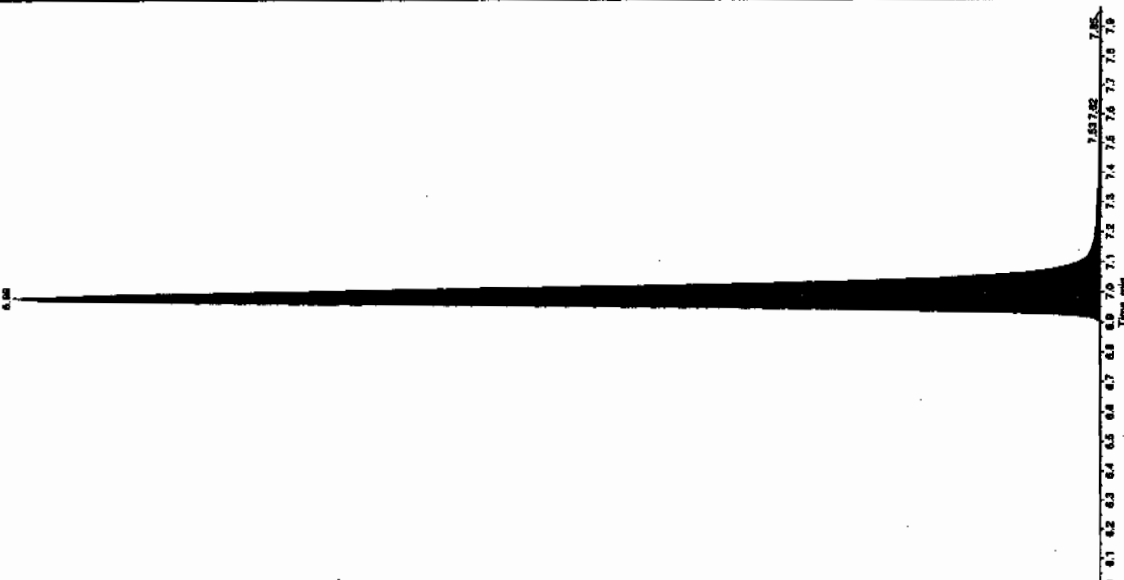
hmm 01/05/10

3300
0000
11/17/10

Sample Name: "WXX100103-2623V" Sample ID: "111ER" File: "EXS01030075.wif"
Peak Name: "35-Dinitroquinone" Mass(es): "182.048.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500 ng/mL
Calculated Conc: 1.4/2010 ng/mL
Acq. Date: 7:03:11 AM
Acq. Time: 7:03:11 AM
Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No
Int. Type: Manual
Retention Time: 8.17 min
Area: 4.70e+006 counts
Height: 1235144.154 cps
Start Time: 8.10 min
End Time: 8.27 min

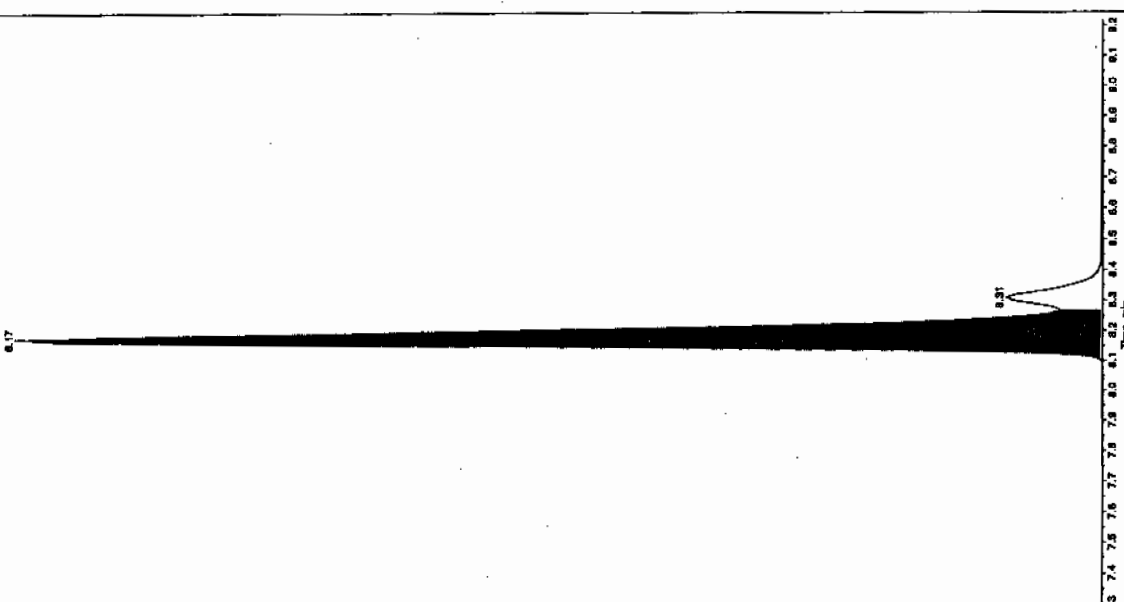
1.4e6
1.2e6
1.0e6
8.0e5
6.0e5
4.0e5
2.0e5
0.0e0
Intensity
cps
8.0 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.9 9.0 9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9 10.0
Time, min



Sample Name: "WXX100103-2623V" Sample ID: "111ER" File: "EXS01030075.wif"
Peak Name: "35-Dinitroquinone" Mass(es): "182.048.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

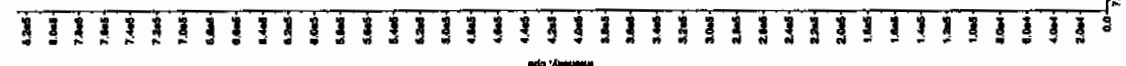
Sample Index: 1
Sample Type: QC
Concentration: 500 ng/mL
Calculated Conc: 1.4/2010 ng/mL
Acq. Date: 7:03:11 AM
Acq. Time: 7:03:11 AM
Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No
Int. Type: Manual
Retention Time: 8.17 min
Area: 4.70e+006 counts
Height: 1235144.154 cps
Start Time: 8.10 min
End Time: 8.27 min

1.4e6
1.2e6
1.0e6
8.0e5
6.0e5
4.0e5
2.0e5
0.0e0
Intensity
cps
8.0 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.9 9.0 9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9 10.0
Time, min



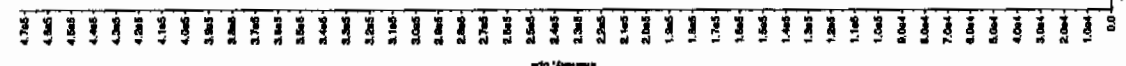
Sample Name: WXX100103-280CV Sample ID: T11ER File: EX501030075.wif
 Peak Name: 25-Diamino-4-nitrofluorene Mass(es): 165.0465.0 amu
 Comment: LCMSEXP_C Annotation: "

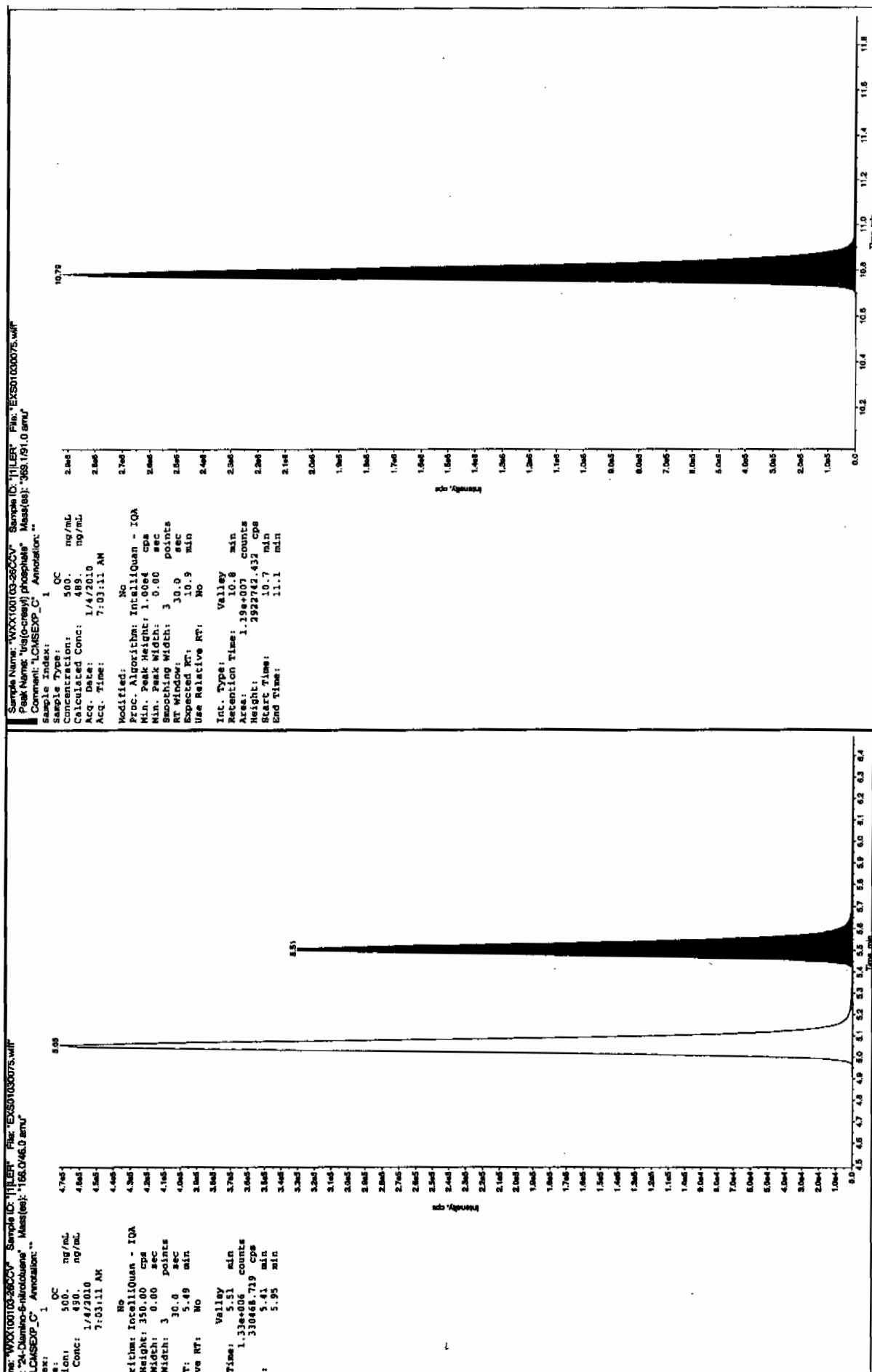
Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 499. ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 7:03:11 AM
 Modified: No
 Method: IntelliQuan - IQA
 Peak Height: 450.00 cps
 Min. Peak Width: 3.00 sec
 Smoothing Width: 30.0 points
 RT Window: 15.0 sec
 Expected RT: 8.36 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.31 min
 Area: 3.11e+006 counts
 Height: 877036.316 cps
 Start Time: 8.24 min
 End Time: 8.54 min



Sample Name: WXX100103-280CV Sample ID: T11ER File: EX501030075.wif
 Peak Name: 25-Diamino-4-nitrofluorene Mass(es): 165.0465.0 amu
 Comment: LCMSEXP_C Annotation: "

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 499. ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 7:03:11 AM
 Modified: No
 Method: IntelliQuan - IQA
 Peak Height: 450.00 cps
 Min. Peak Width: 3.00 sec
 Smoothing Width: 30.0 points
 RT Window: 15.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.05 min
 Area: 1.89e+006 counts
 Height: 471955.475 cps
 Start Time: 4.94 min
 End Time: 5.34 min





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-989

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01030077.wiff

Analysis Date: 04-JAN-10 07:34

LCMSMS ID: 1358

Column ID: Sphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	90.6	91	
2,6-Diamino-4-nitrotoluene	100	73.5	74	
3,4-Dinitrotoluene	50	47	94	
3,5-Dinitroaniline	100	93.4	93	
TATB	100	99.3	99	
tris(o-cresyl) phosphate	100	93.6	94	

Recovery Limits:

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

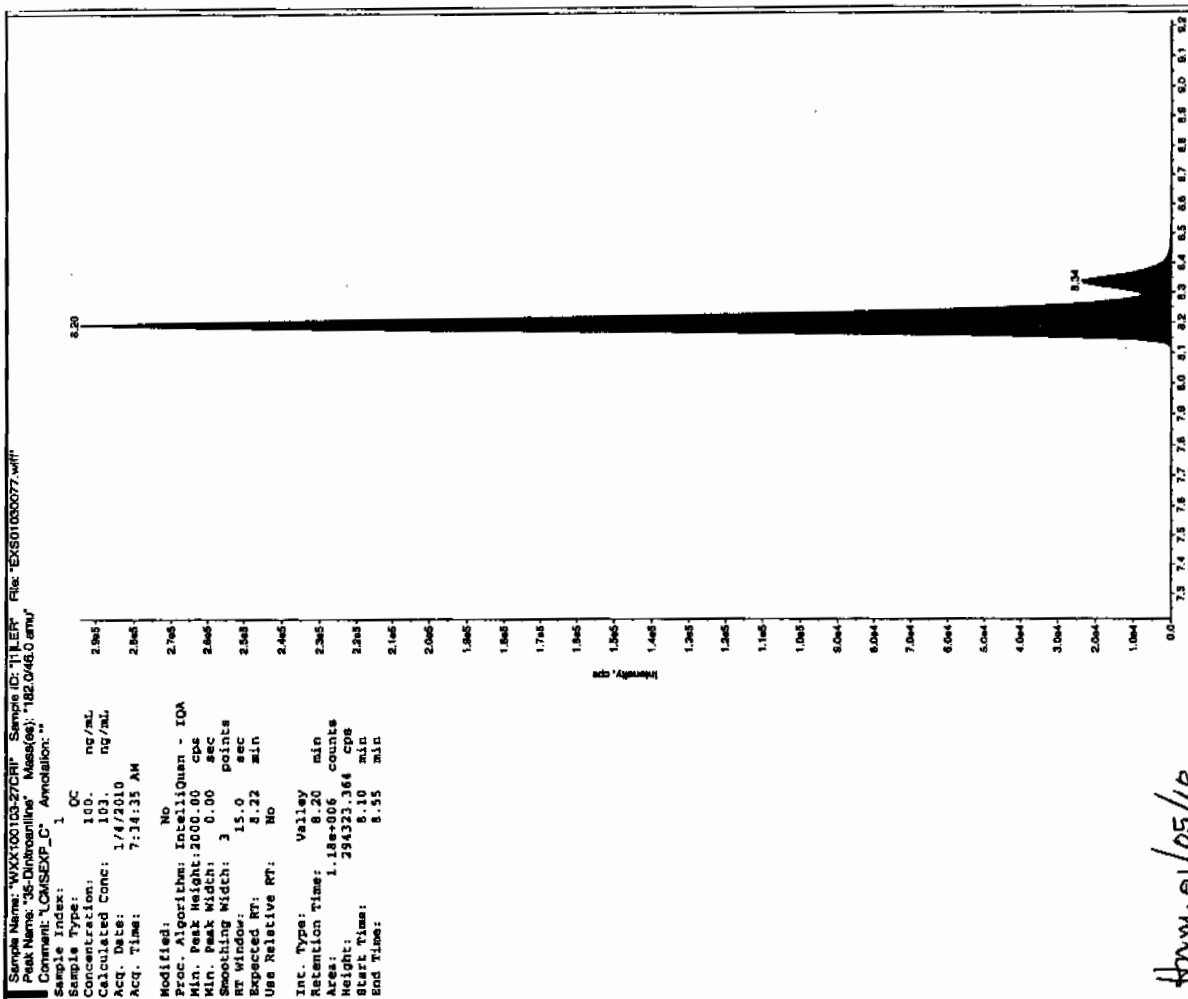
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

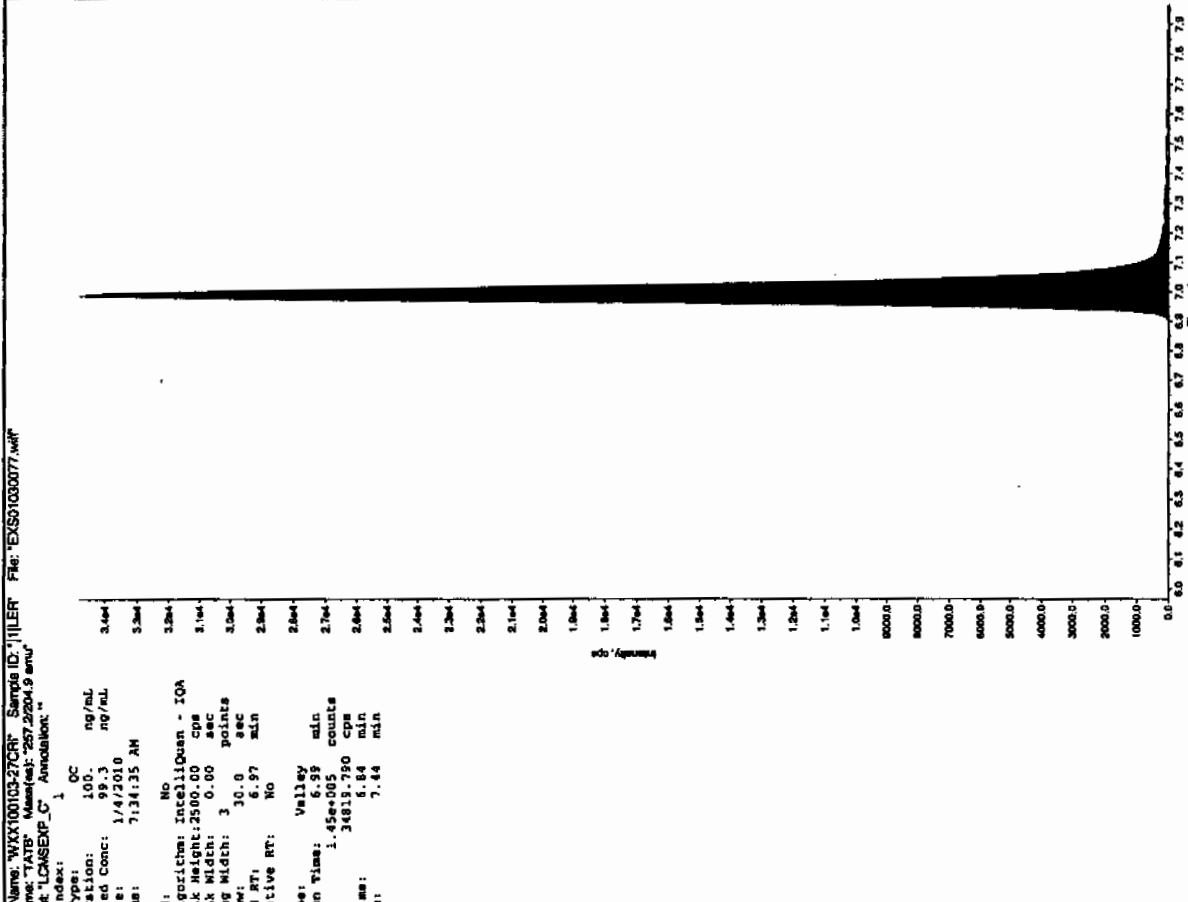
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Before
11/10



Amc 01/05/10



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

11/17/10
J. H. H.

Sample Name: "WXX100103-27C9" Sample ID: "11159" File: "EXS01030077.wif"

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

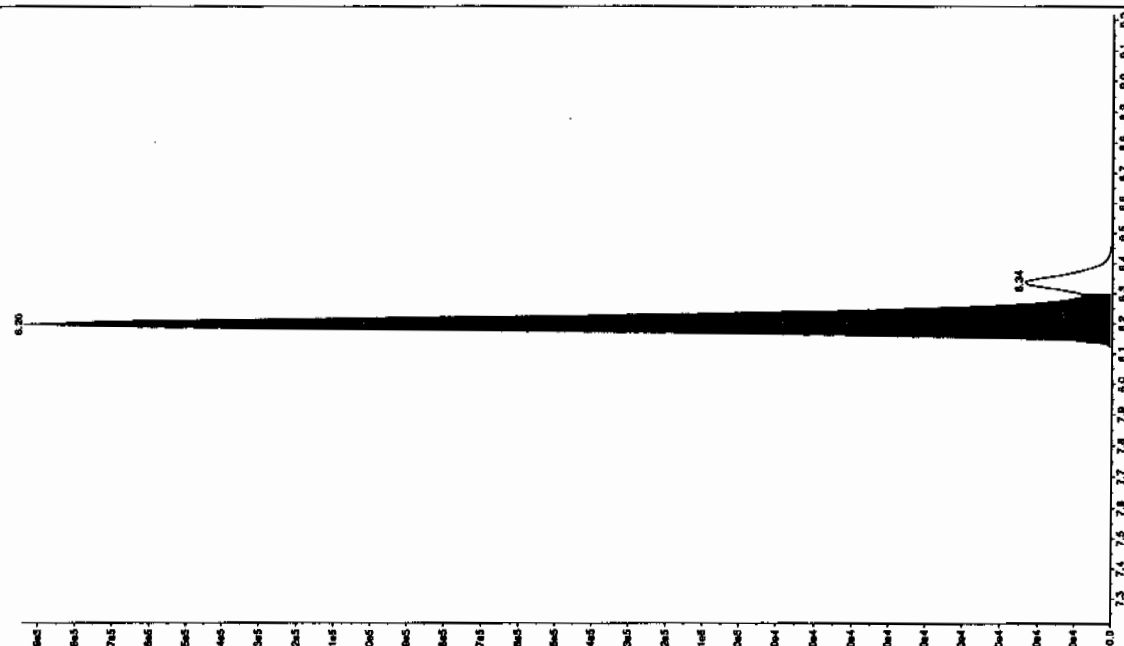
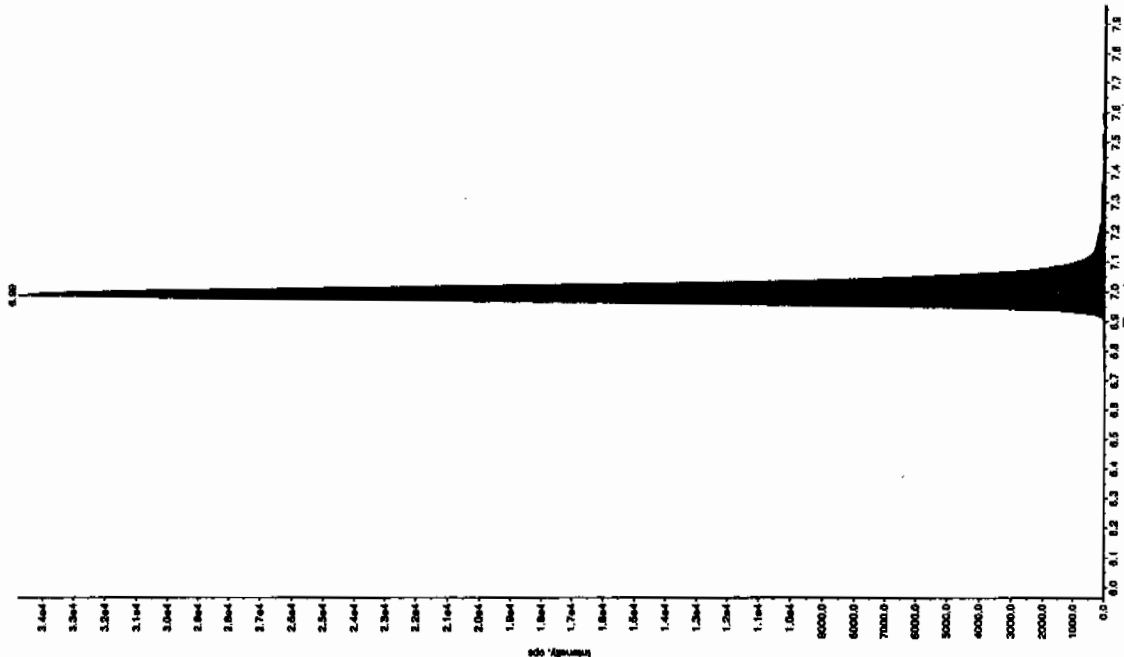
Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1

Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 93.4 ng/mL
Acq. Date: 1/4/2010
Acq. Time: 7:34:35 AM

Modified: Yes
Retention: 15.71 min
Expected RT: 8.22 min
Use Relative RT: No

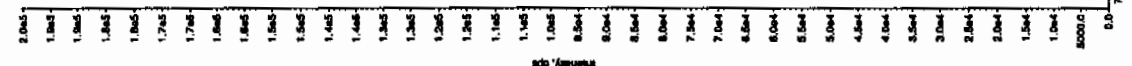
Int. Type: Manual
Retention Time: 8.20 min
Area: 1.08e+006 counts
Height: 293918.854 cps
Start Time: 8.12 min
End Time: 8.30 min



CP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

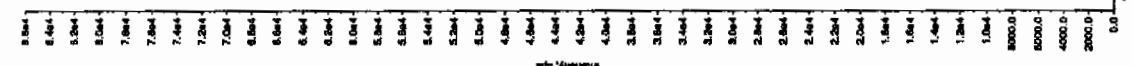
Sample Name: "WXX100103-27C81" Sample ID: "111ER" File: "EX501030077.will"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "182.1/181.9 amu"
 Comment: "LCMSEXP_C" Annotation: ""

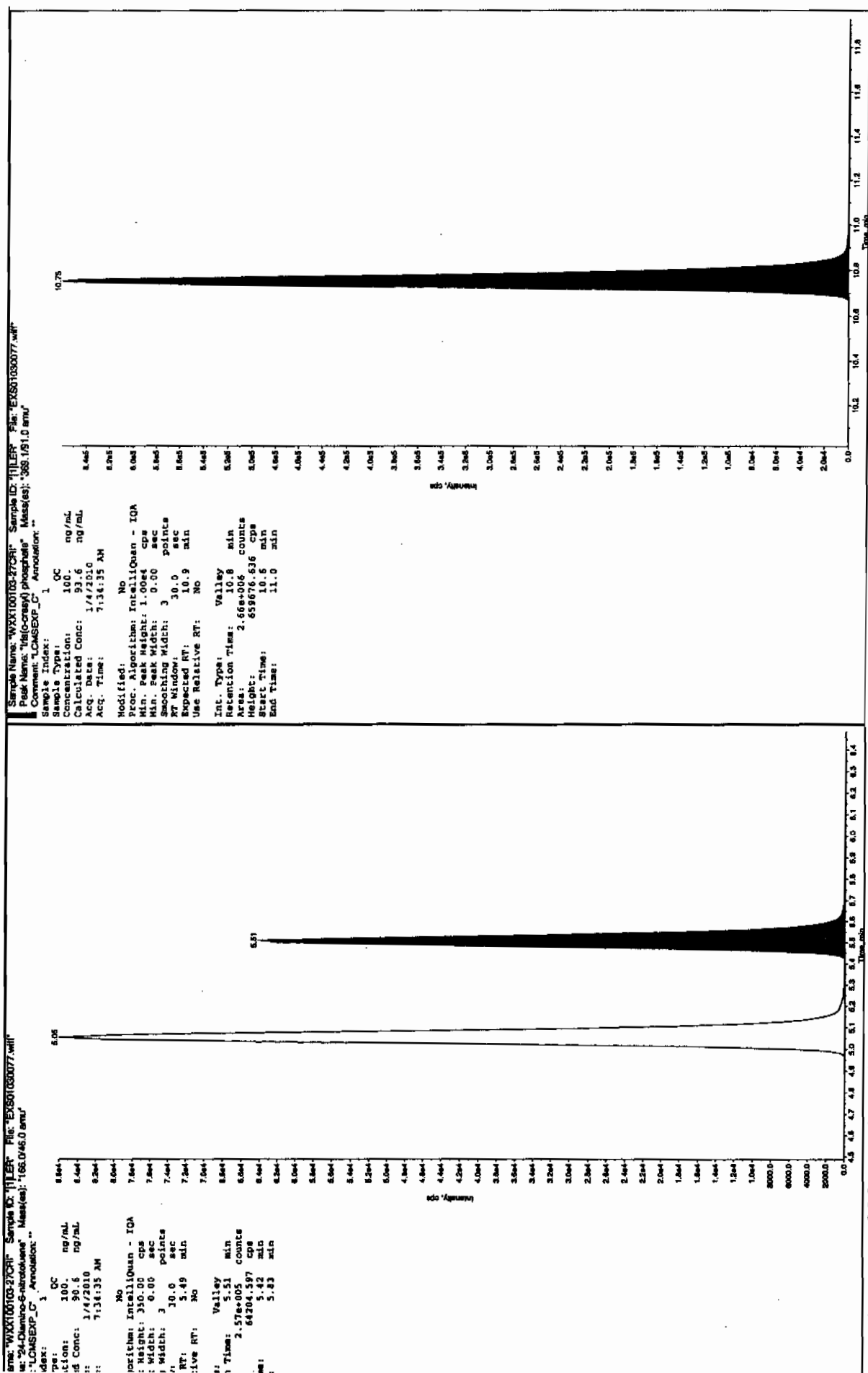
Sample Index: 1
 Sample Type: OC
 Concentration: 100. ng/mL
 Calculated Conc: 73.5 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 7:34:33 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 3.00 sec
 Smoothing Width: 3.00 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.05 min
 Area: 3.51e+005 counts
 Height: 86034.630 cps
 Start Time: 4.93 min
 End Time: 5.33 min



Sample Name: "WXX100103-27C81" Sample ID: "111ER" File: "EX501030077.will"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "156.0/146.0 amu"
 Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
 Sample Type: OC
 Concentration: 100. ng/mL
 Calculated Conc: 73.5 ng/mL
 Acq. Date: 1/4/2010
 Acq. Time: 7:34:33 AM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 3.00 sec
 Smoothing Width: 3.00 points
 RT Window: 30.0 sec
 Expected RT: 5.04 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.05 min
 Area: 3.51e+005 counts
 Height: 86034.630 cps
 Start Time: 4.93 min
 End Time: 5.33 min





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

QUALITY CONTROL DATA

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 935247

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001039

Sample Amount 2

Moisture:

Amount Units g

Date Received: 21-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102054a

Date Analyzed: 03-JAN-10 15:37

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		

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

iset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010

ie: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102054a

3: 03-Jan-2010

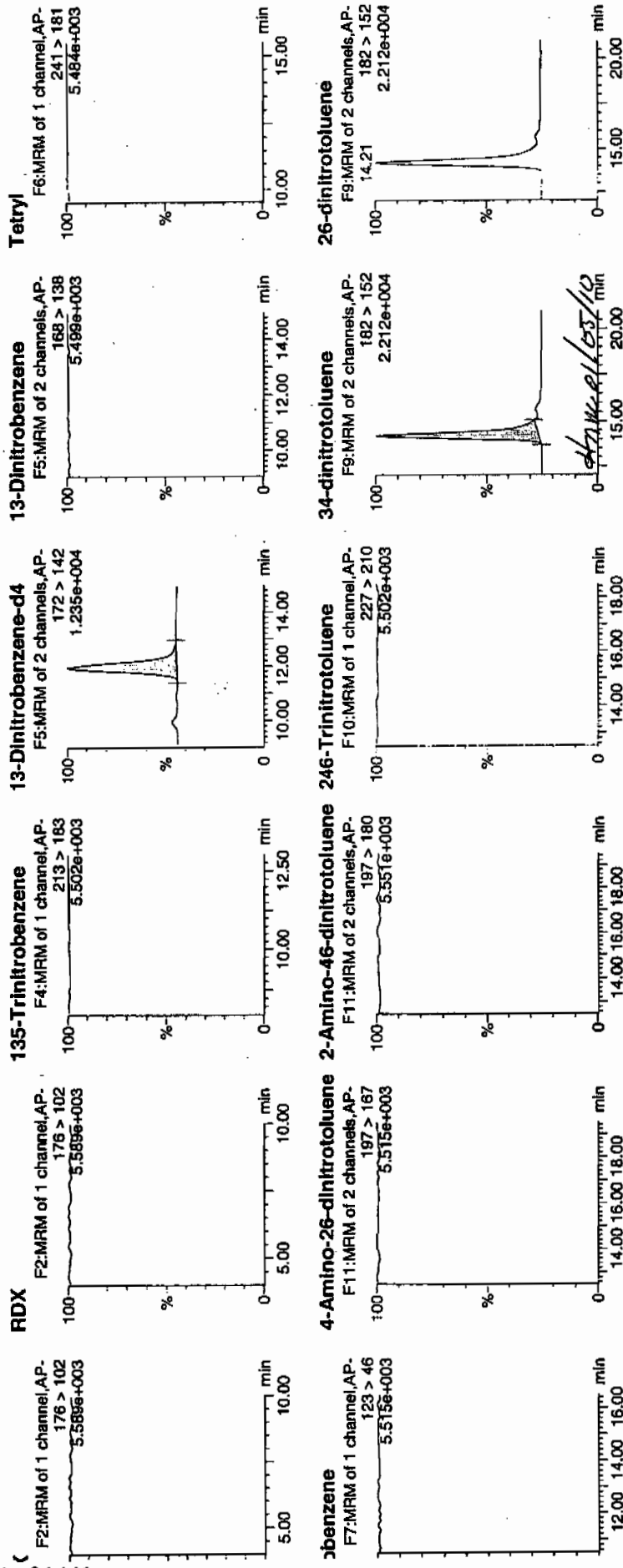
Time: 15:37:24

Page 1202001039

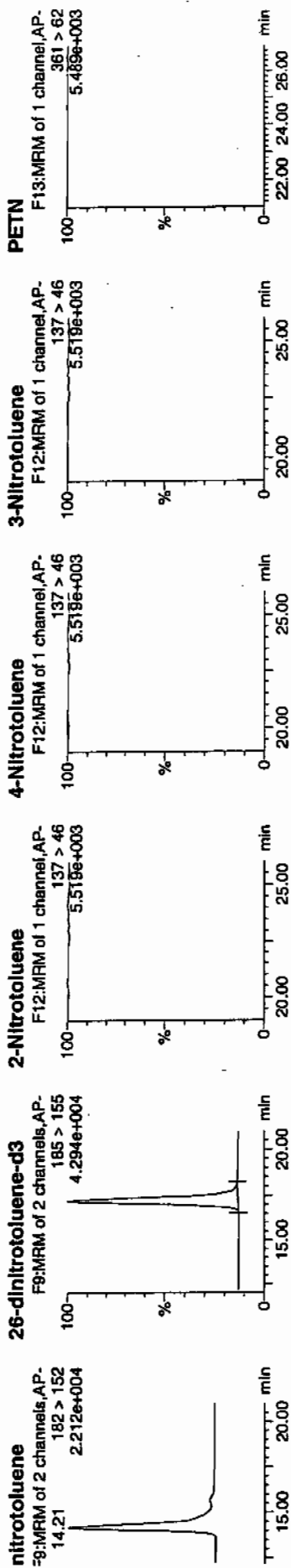
2: 2:5,A

14/10

935243 / 8033 / 121



set: C:\MASSLYN\New_Exp\PRO010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	RT	Trace	Area	Abs. Resp	Response	Flags	Mod. Date	Mod. Time	ng/mL	% Rec	% Dev	SN
X01039	176 > 102	HMX	2755.894	2755.894								
X01039	176 > 102	RDX	2755.894	2755.894								
X01039	213 > 183	135-Trinitrobenzene	2755.894	2755.894								
X01039	172 > 142	13-Dinitrobenzene-d4	11.95	2755.894	2755.894	bb			580.1891	116.0	16.0	244.4
X01039	168 > 138	13-Dinitrobenzene										
X01039	241 > 181	Tetryl										
X01039	123 > 46	Nitrobenzene										
X01039	197 > 167	4-Amino-26-dinitrotoluene										
X01039	197 > 180	2-Amino-46-dinitrotoluene										
X01039	227 > 210	246-Trinitrotoluene										
X01039	182 > 152	34-dinitrotoluene	14.21	6943.927	6943.927	bb			242.0030	96.8	-3.2	562.9
X01039	182 > 152	26-dinitrotoluene										
X01039	182 > 152	24-dinitrotoluene										
X01039	185 > 155	26-dinitrotoluene-d3	17.20	16086.820	16086.820	bb			585.1174	117.0	17.0	1033.6
X01039	137 > 46	2-Nitrotoluene										
X01039	137 > 46	4-Nitrotoluene										
X01039	137 > 46	3-Nitrotoluene										
X01039	361 > 62	PETN										

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 935247

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001039

Sample Amount 2

Moisture:

Amount Units g

Date Received: 21-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030046.wiff

Date Analyzed: 03-JAN-10 23:27

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

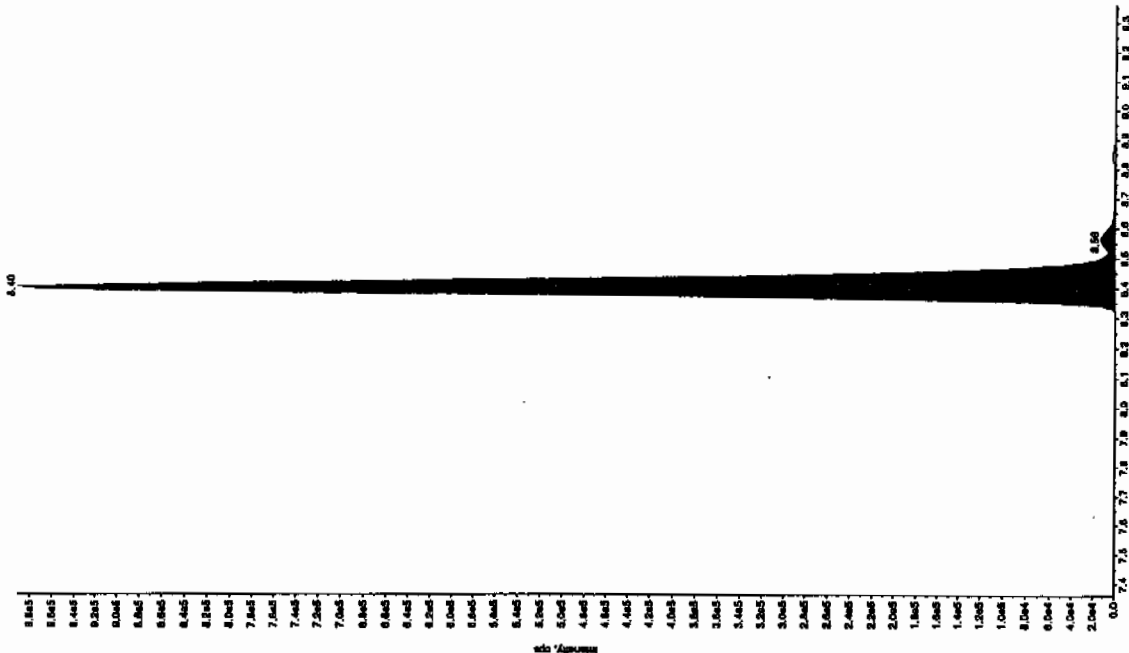
*Concentration =

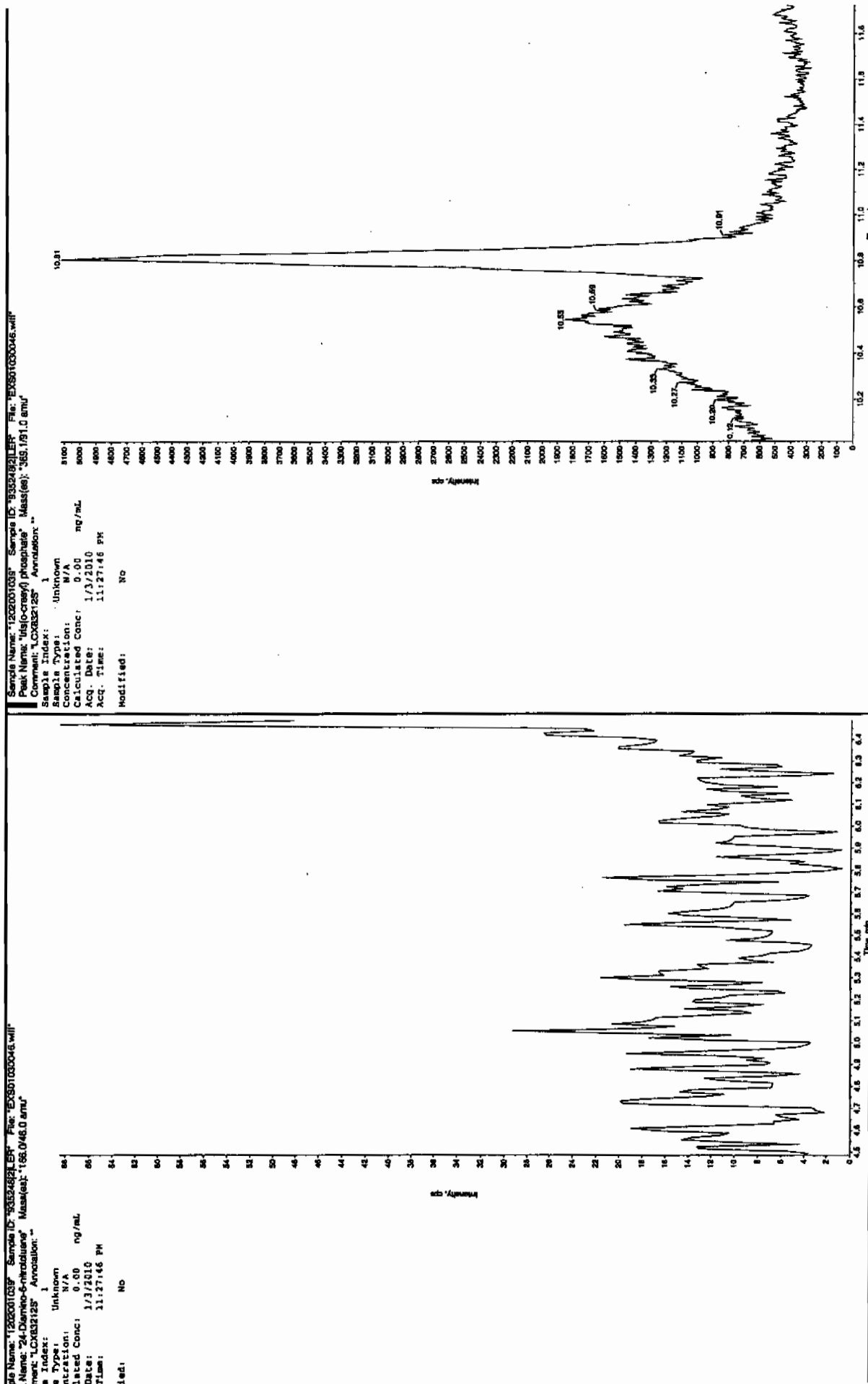
Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

File: "EXS01030048.w" Sample ID: "9352482" Sample Name: "12020703" Comment: "12020703" Peak Name: "28-Dienro-4-nitrofluene" Mass(es): "182.1751.3 amu"

Sample Index: 1 Sample Type: Unknown Concentration: N/A Calculated Conc: 0.00 ng/mL Acq. Date: 1/3/2010 Acq. Time: 11:27:46 PM Modified: No

Peak Name: "28-Dienro-4-nitrofluene" Mass(es): "182.1751.3 amu" Comment: "12020703" Sample ID: "9352482" Sample Name: "12020703" Peak Name: "28-Dienro-4-nitrofluene" Mass(es): "182.1751.3 amu"





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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 935247

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001040

Sample Amount 2

Moisture:

Amount Units g

Date Received: 21-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102115a

Date Analyzed: 04-JAN-10 21:38

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5850	
121-14-2	2,4-Dinitrotoluene	4970	
121-82-4	RDX	5600	
19406-51-0	4-Amino-2,6-dinitrotoluene	5170	
2691-41-0	HMX	5730	
35572-78-2	2-Amino-4,6-dinitrotoluene	5890	
479-45-8	Tetryl	4070	
606-20-2	2,6-Dinitrotoluene	4870	
78-11-5	PETN	4510	
88-72-2	o-Nitrotoluene	4260	
98-95-3	Nitrobenzene	4700	
99-08-1	m-Nitrotoluene	4180	
99-35-4	1,3,5-Trinitrobenzene	5020	
99-65-0	m-Dinitrobenzene	5020	
99-99-0	p-Nitrotoluene	4480	

*Concentration =

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

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

et: C:\MASSLYNX\New_Exp.PRO\010210expA1.qld, Time: Tue Jan 05 09:00:03 2010

;; C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0102115a

04-Jan-2010

21:38:21

02001040

2:5,B

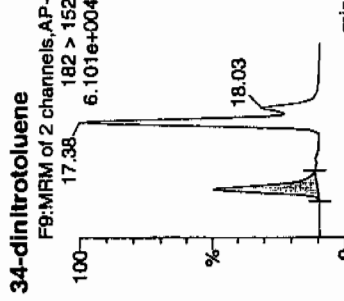
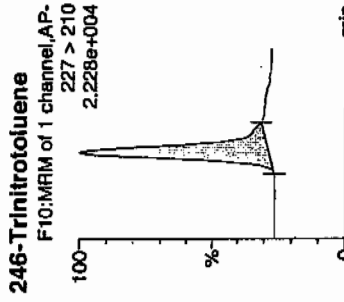
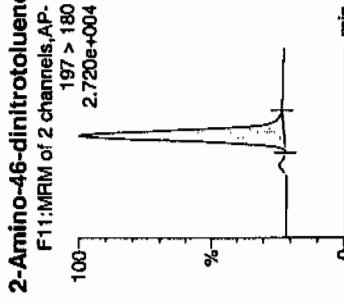
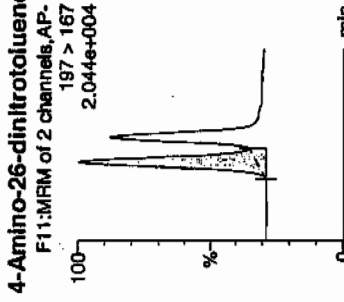
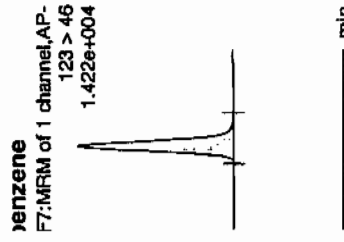
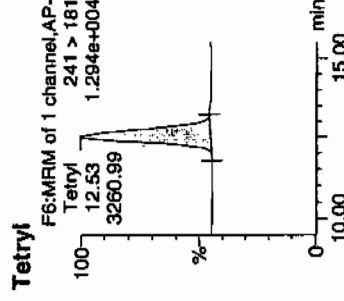
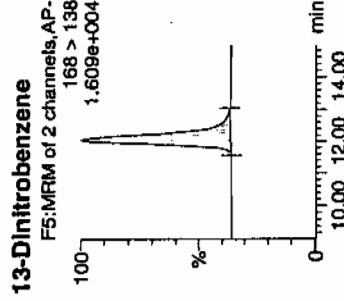
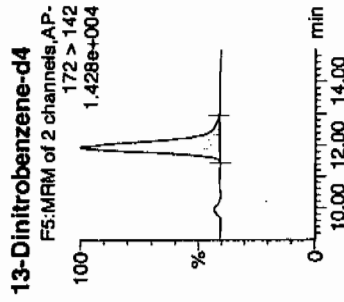
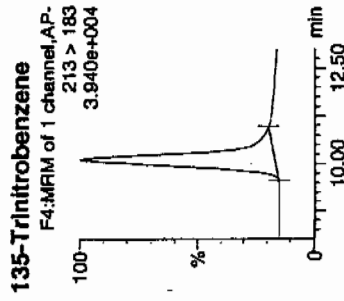
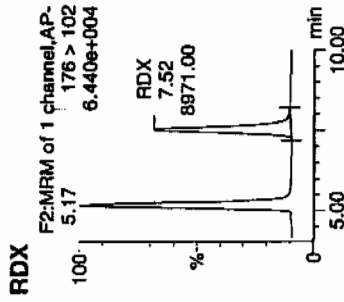
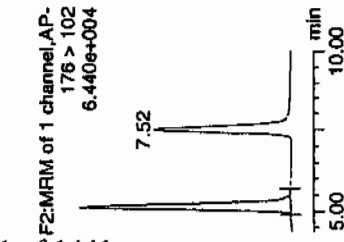
LAU 935248 (803) / 108 / 21

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Confirmed by EXP01021055a



Ann 01/05/10

set: C:\MASSLYNX\New_Exp\PRO1010210expA1.qld, Time: Tue Jan 05 09:00:03 2010

nitrotoluene

F9:MRM of 2 channels, AP-

182 > 152
6.101e+004

17.38 14.21

min

20.00

15.00

min

20.00

min

20.00

26-dinitrotoluene-d3

F9:MRM of 2 channels, AP-

185 > 155
5.360e+004

min

20.00

15.00

min

20.00

min

20.00

2-Nitrotoluene

F12:MRM of 1 channel, AP-

137 > 46
1.183e+004

min

20.00

25.00

min

25.00

min

25.00

4-Nitrotoluene

F12:MRM of 1 channel, AP-

137 > 46
1.183e+004

min

20.00

25.00

min

25.00

min

25.00

3-Nitrotoluene

F12:MRM of 1 channel, AP-

137 > 46
1.183e+004

min

20.00

25.00

min

25.00

min

25.00

PETN

F13:MRM of 1 channel, AP-

361 > 62
6.723e+004

min

22.00

24.00

26.00

min

26.00

26.00

Name	Trace	RT	Area	IS Area	Abs. Resp	Response	Flags	Mod. Date	Mod. Time	ng/mL	%Rec	%Dev	SN
X101040	176 > 102	5.17	11744.563	3414.069	11744.563	1720.024	db			572.7797	114.6	14.6	688.0
X101040	176 > 102	7.52	8971.004	3414.069	8971.004	1313.829	bb			560.1332	112.0	12.0	446.7
X101040	213 > 183	10.11	12760.750	3414.069	12760.750	1868.848	bb			502.1908	100.4	0.4	187.2
X101040	172 > 142	11.95	3414.069	3414.069	3414.069	3414.069	bb			718.7525	143.8	43.8	409.4
X101040	168 > 138	12.07	4012.327	3414.069	4012.327	587.617	bb			502.3969	100.5	0.5	473.4
X101040	241 > 181	12.53	3260.992	3414.069	3260.992	477.581	bb			407.4828	81.5	-18.5	309.9
X101040	123 > 46	13.50	3145.976	3414.069	3145.976	460.737	bb			470.3682	94.1	-5.9	221.1
X101040	197 > 167	15.42	6229.866	20452.643	6229.866	152.300	MM	05-Jan-10	08:47:43	516.9494	103.4	3.4	256.7
X101040	197 > 180	16.31	9155.411	20452.643	9155.411	223.820	bb			589.1800	117.8	17.8	645.9
X101040	227 > 210	15.24	7718.149	20452.643	7718.149	188.683	bb			584.8038	117.0	17.0	846.6
X101040	182 > 152	14.21	10169.635	20452.643	10169.635	248.614	bb			278.7672	111.5	11.5	414.1
X101040	182 > 152	17.38	21306.834	20452.643	21306.834	520.882	MM	05-Jan-10	08:53:14	486.5427	97.3	-2.7	942.4
X101040	182 > 152	18.03	5275.961	20452.643	5275.961	128.980	MM	05-Jan-10	08:57:25	497.1613	99.4	-0.6	210.8
X101040	185 > 155	17.20	20452.643	20452.643	20452.643	20452.643	bb			743.9132	148.8	48.8	2275.6
X101040	137 > 46	20.80	2973.751	20452.643	2973.751	72.698	bb			425.7861	85.2	-14.8	663.2
X101040	137 > 46	22.15	1563.709	20452.643	1563.709	38.228	bb			448.0010	89.6	-10.4	363.2
X101040	137 > 46	23.78	1717.769	20452.643	1717.769	41.994	bb			417.5792	83.5	-16.5	372.8
X101040	361 > 62	24.27	36551.102	20452.643	36551.102	893.554	bb			451.2801	90.3	-9.7	14160.9

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 935247

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001040

Sample Amount 2

Moisture:

Amount Units g

Date Received: 21-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030047.wiff

Date Analyzed: 03-JAN-10 23:43

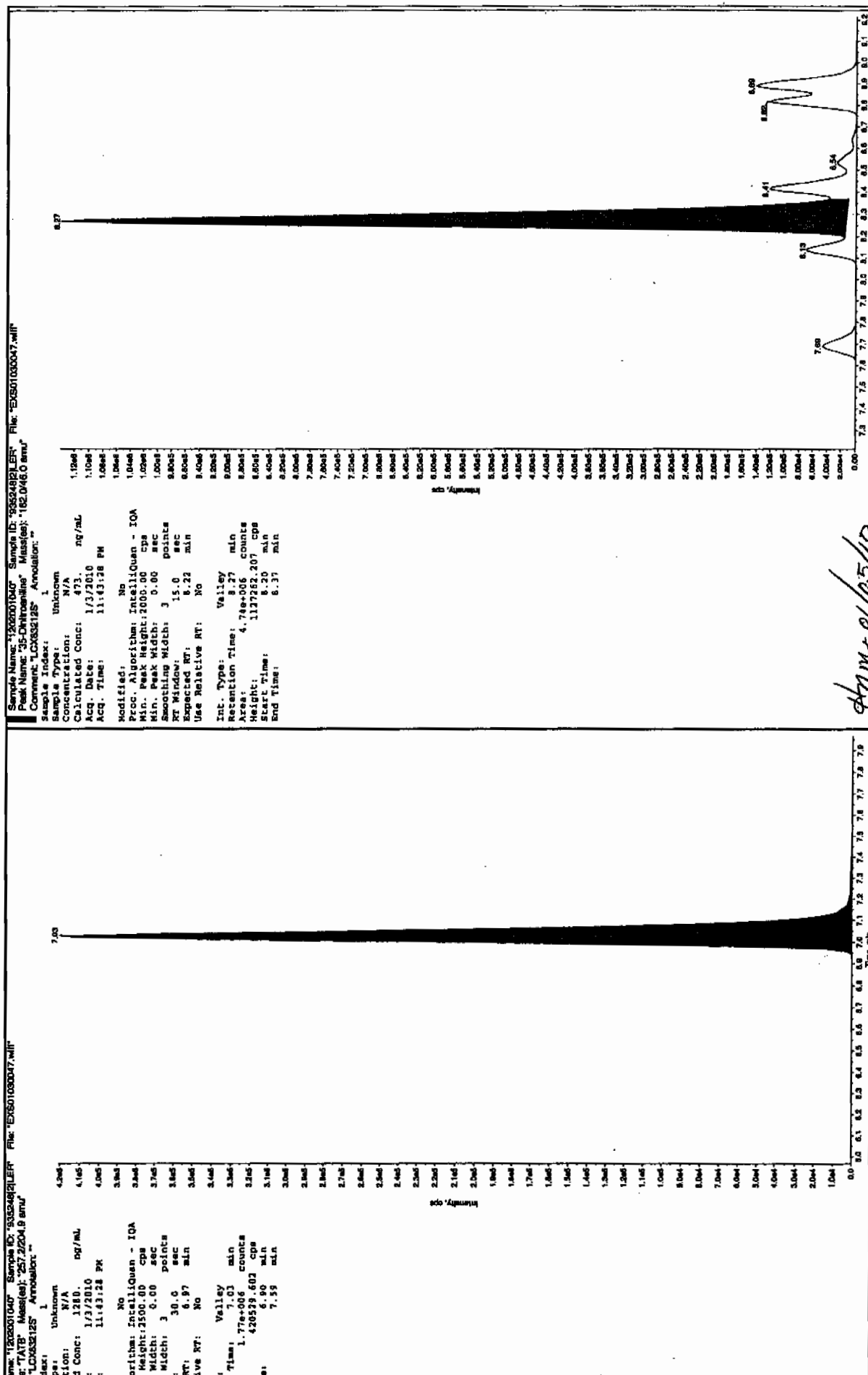
Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	12800	
59229-75-3	2,6-Diamino-4-nitrotoluene	4450	
618-87-1	3,5-Dinitroaniline	4830	
6629-29-4	2,4-Diamino-6-nitrotoluene	3710	
78-30-8	tris(o-cresyl) phosphate	5580	

*Concentration =

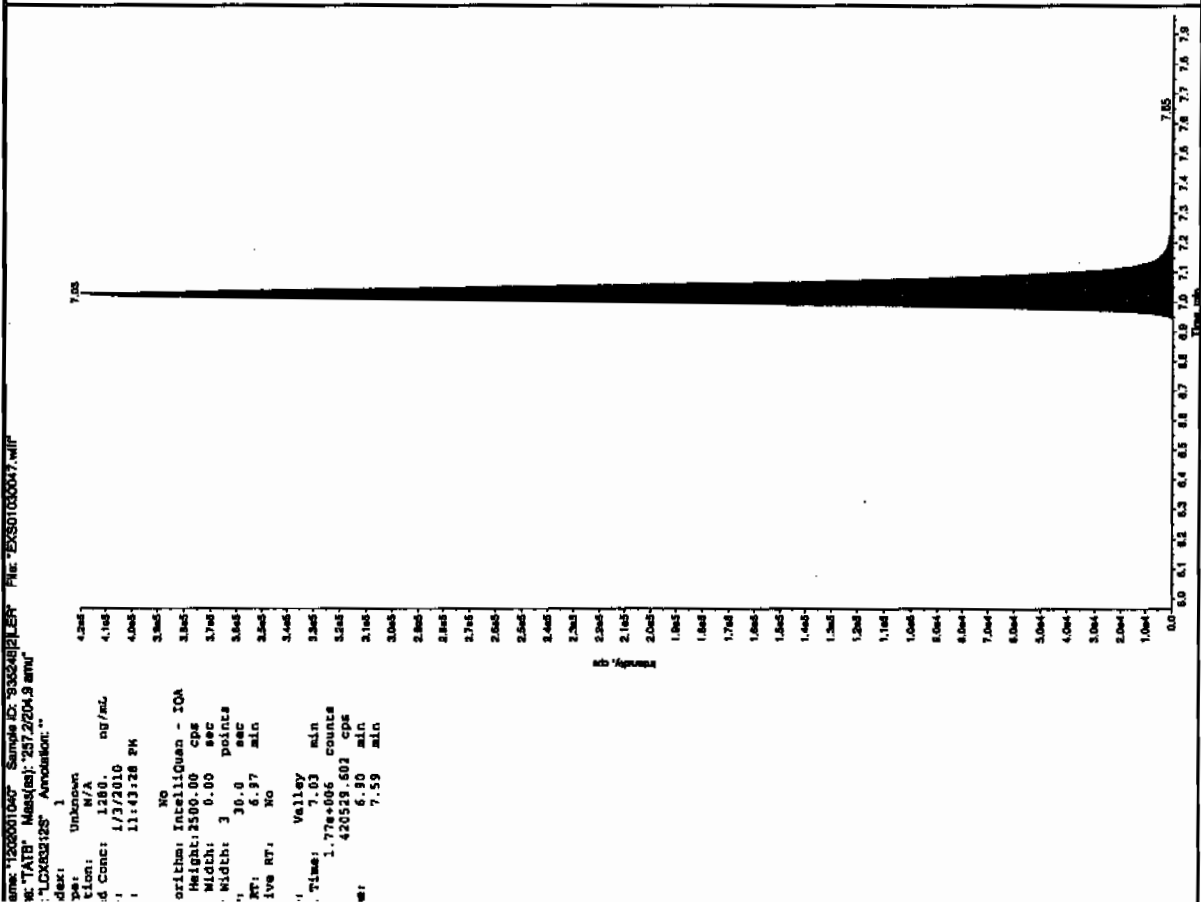
Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

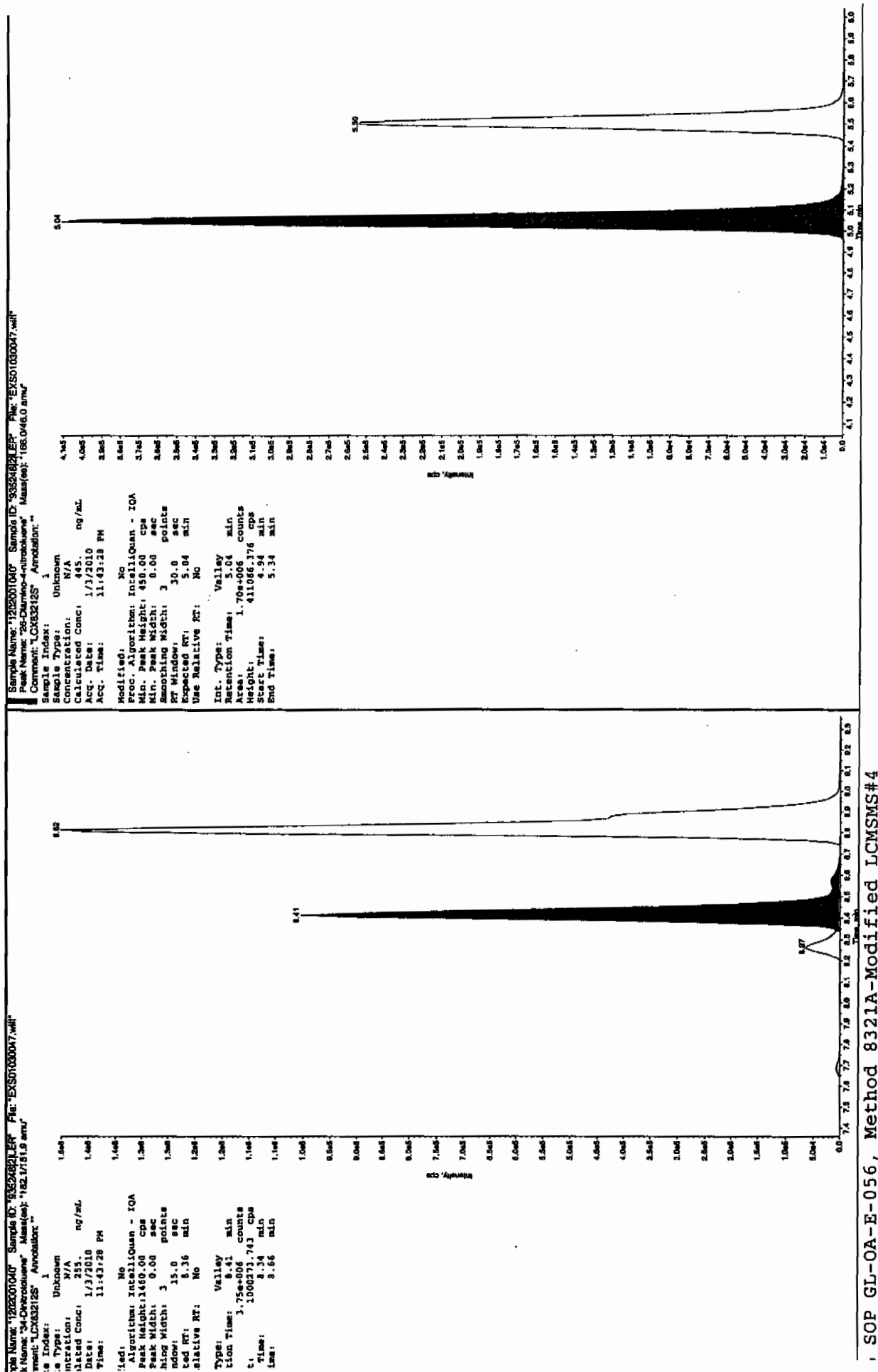
11/17/10
Dea
Bayer

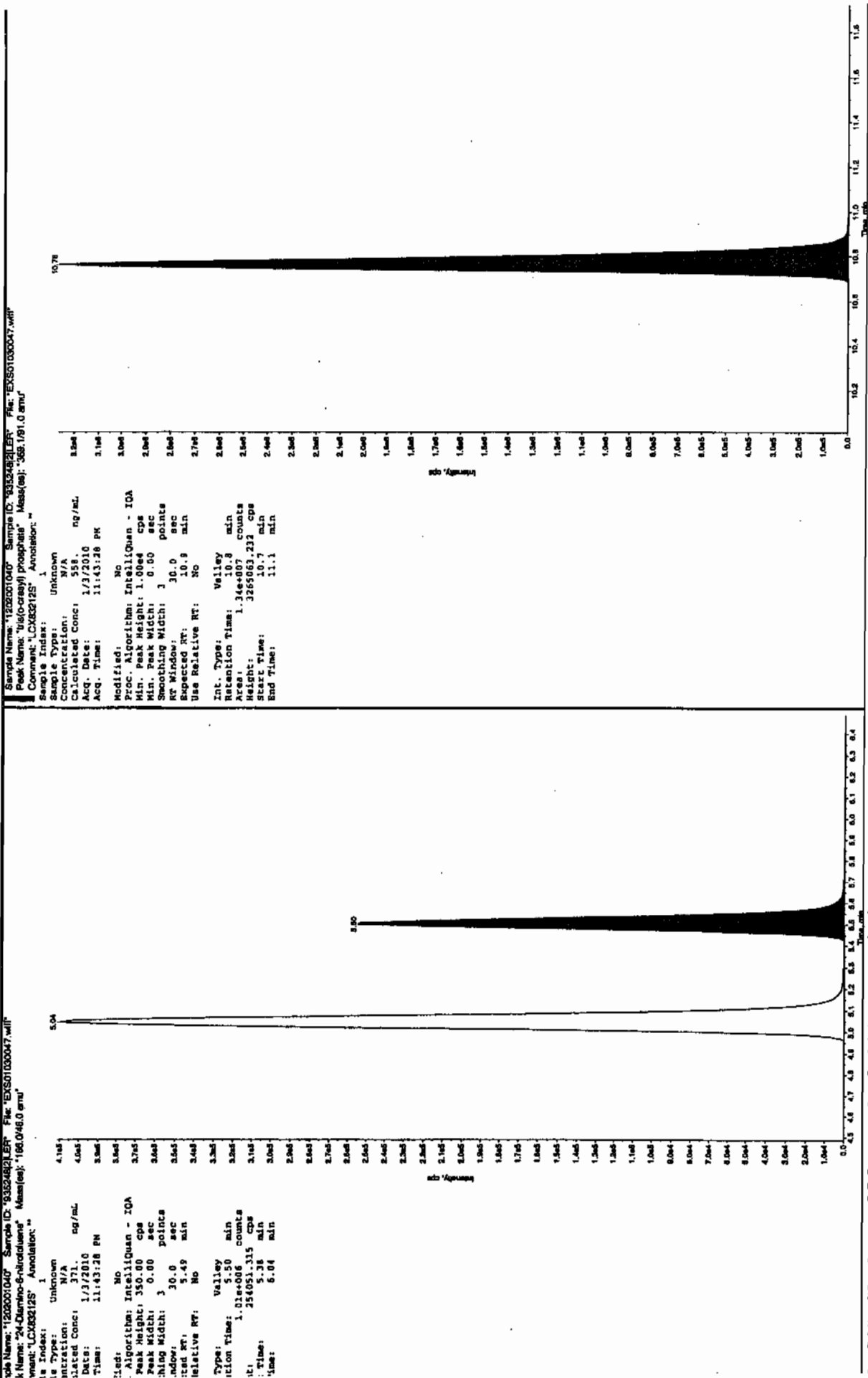


47m 01/05/10

06/22/2008 11/17/10







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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7352(243274001MS)

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001041

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102071a

Date Analyzed: 03-JAN-10 23:59

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5830	
121-14-2	2,4-Dinitrotoluene	5060	
121-82-4	RDX	5280	
19406-51-0	4-Amino-2,6-dinitrotoluene	5120	
2691-41-0	HMX	5550	
35572-78-2	2-Amino-4,6-dinitrotoluene	5710	
479-45-8	Tetryl	4150	
606-20-2	2,6-Dinitrotoluene	5080	
78-11-5	PETN	5270	
88-72-2	o-Nitrotoluene	4490	
98-95-3	Nitrobenzene	4420	
99-08-1	m-Nitrotoluene	4440	
99-35-4	1,3,5-Trinitrobenzene	4840	
99-65-0	m-Dinitrobenzene	4910	
99-99-0	p-Nitrotoluene	4700	

*Concentration =

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

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

set: C:\MASSLYNX\New_Exp.PRO\10210expA.qld, Time: Mon Jan 04 12:58:29 2010

s: C:\MASSLYNX\NEW_EXP.PRO\data\EXP0102071a

P: 03-Jan-2010

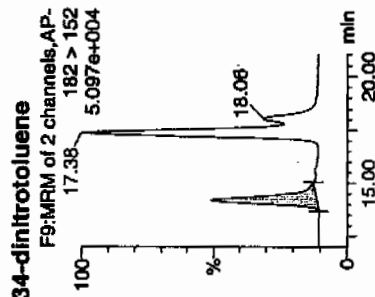
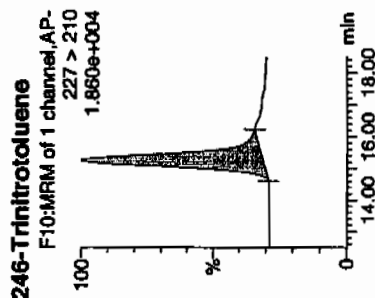
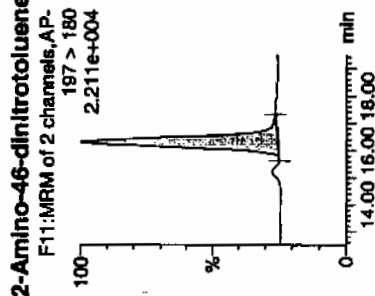
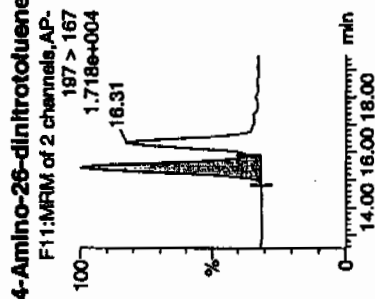
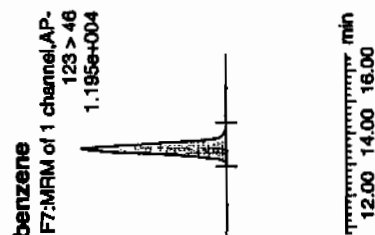
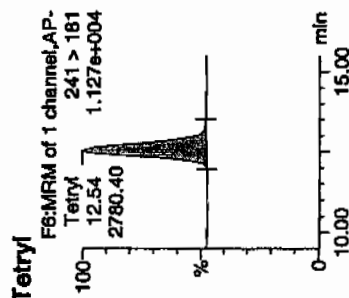
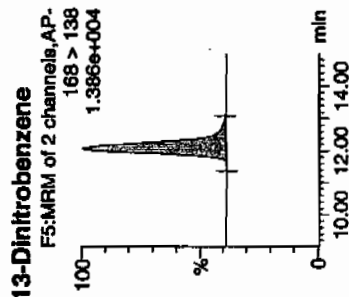
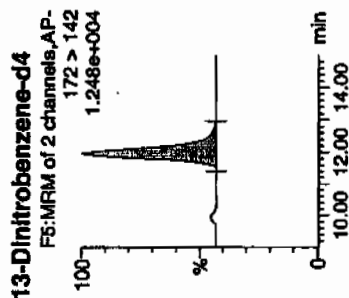
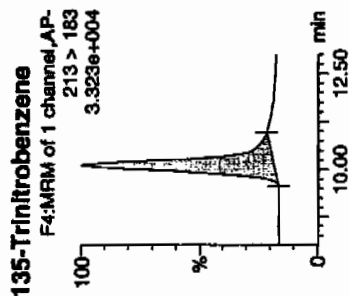
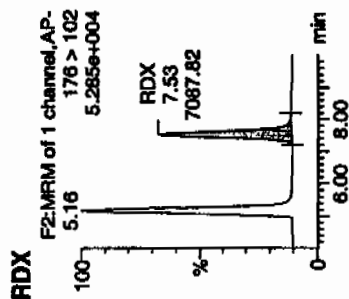
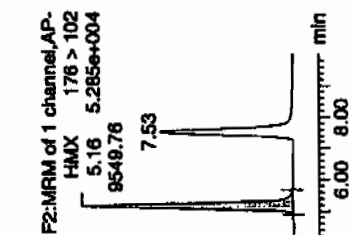
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202001041

2:7,B

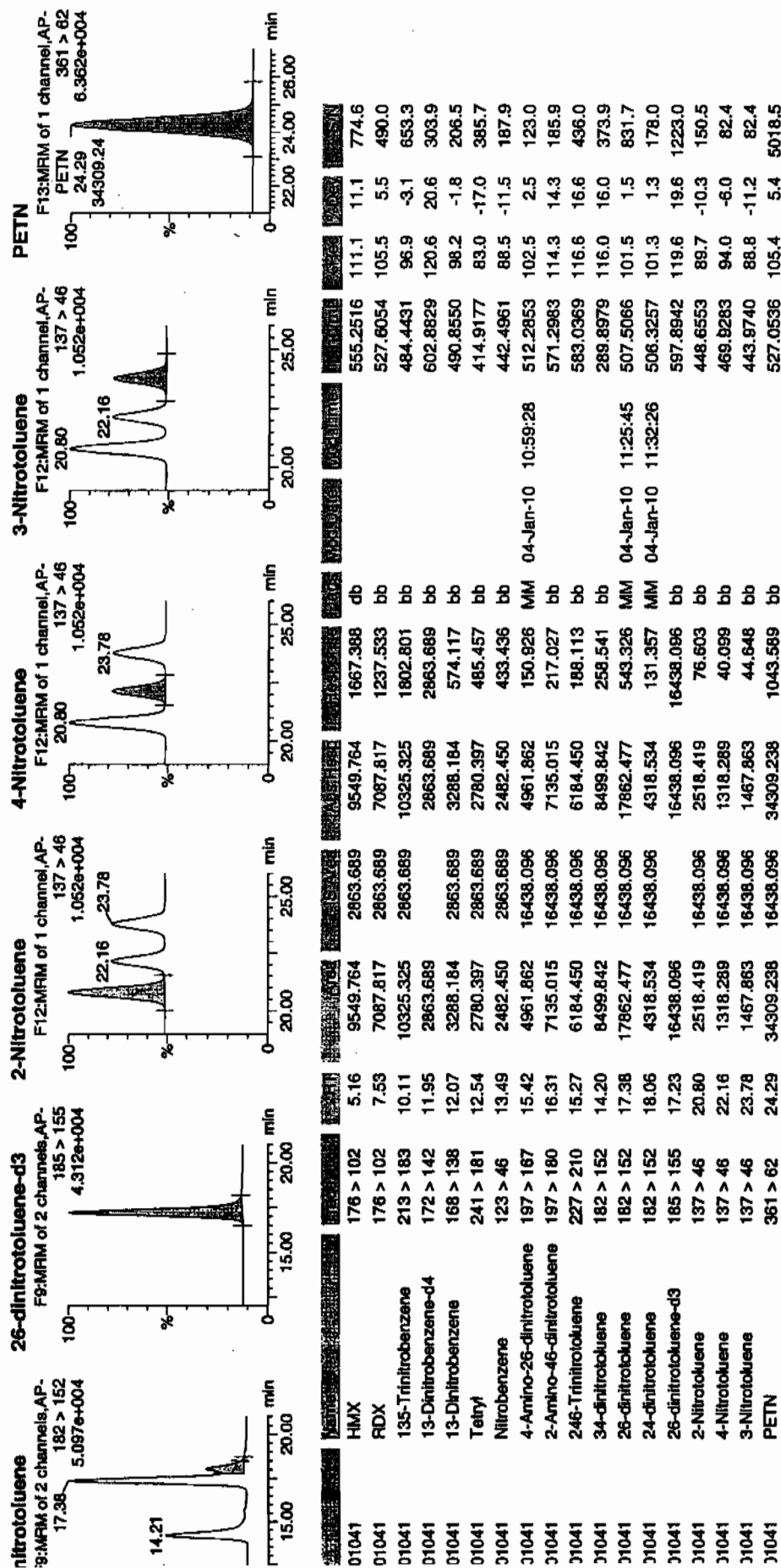
14/10

WAL 935248 / 24327400143 / 21



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01/05/10

et: C:\MASSLYNX\New_Exp\PRO010210expA.qld, Time: Mon Jan 04 12:58:29 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7352(243274001MS)

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001041

Sample Amount 2

Moisture: 2.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030061.wiff

Date Analyzed: 04-JAN-10 03:23

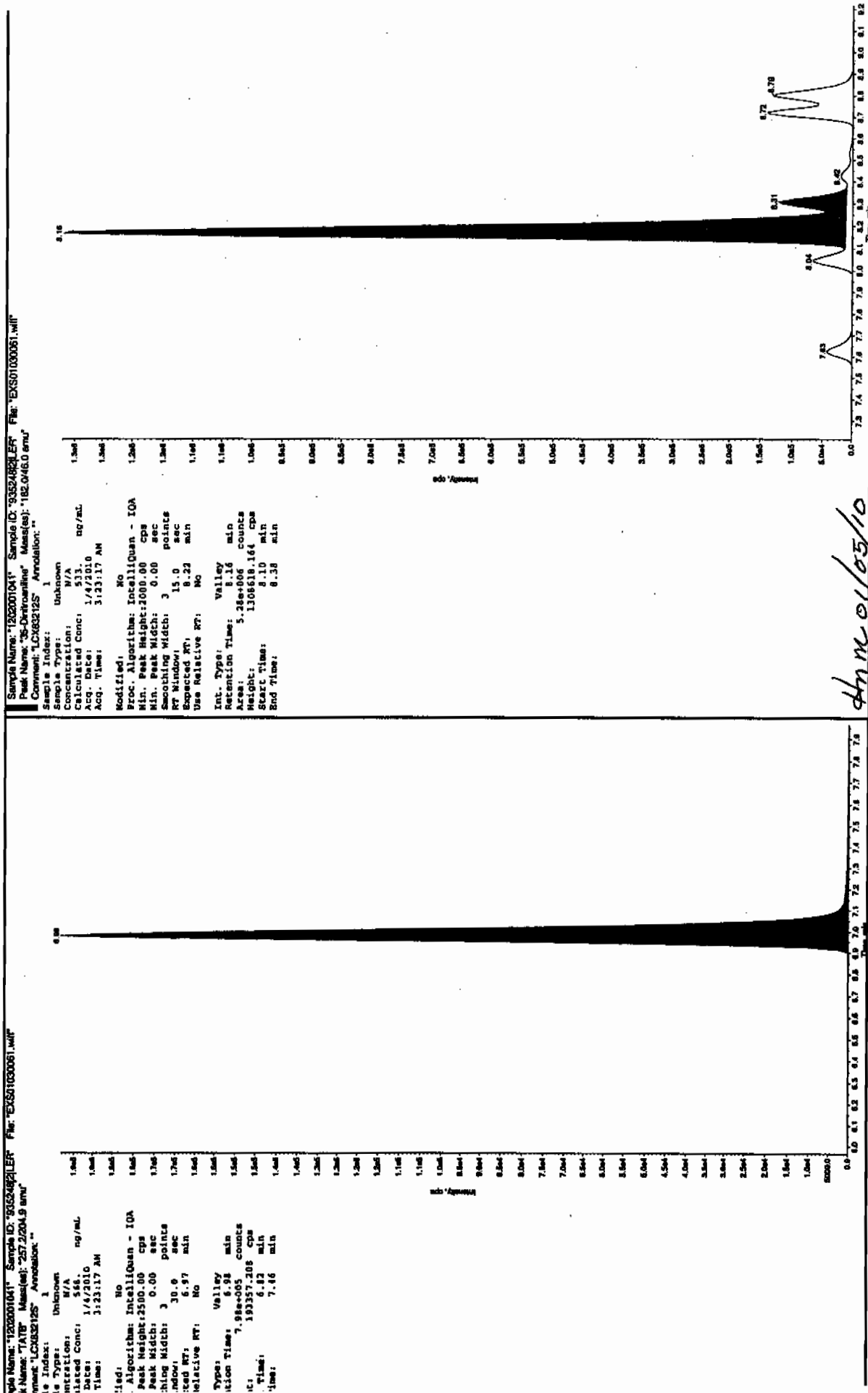
Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	5680	
59229-75-3	2,6-Diamino-4-nitrotoluene	4510	
618-87-1	3,5-Dinitroaniline	5010	
6629-29-4	2,4-Diamino-6-nitrotoluene	4150	
78-30-8	tris(o-cresyl) phosphate	5080	

*Concentration =

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

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Debra



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

11/15/10
2002-08-20

File: "EX601030061.wif"

Sample Name: "1202001041" Sample ID: "93524821" File: "EX601030061.wif"

Peak Name: "55-Divertaniline" Mass(es): "182.046.0 amu"

Comment: "LCX832125" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculation: N/A

Acq. Date: 1/4/2010

Acq. Time: 3:23:17 AM

Modified: Yes

RT Window: 15.0 sec

Expected RT: 8.22 min

Use Relative RT: No

Int. Type: Manual

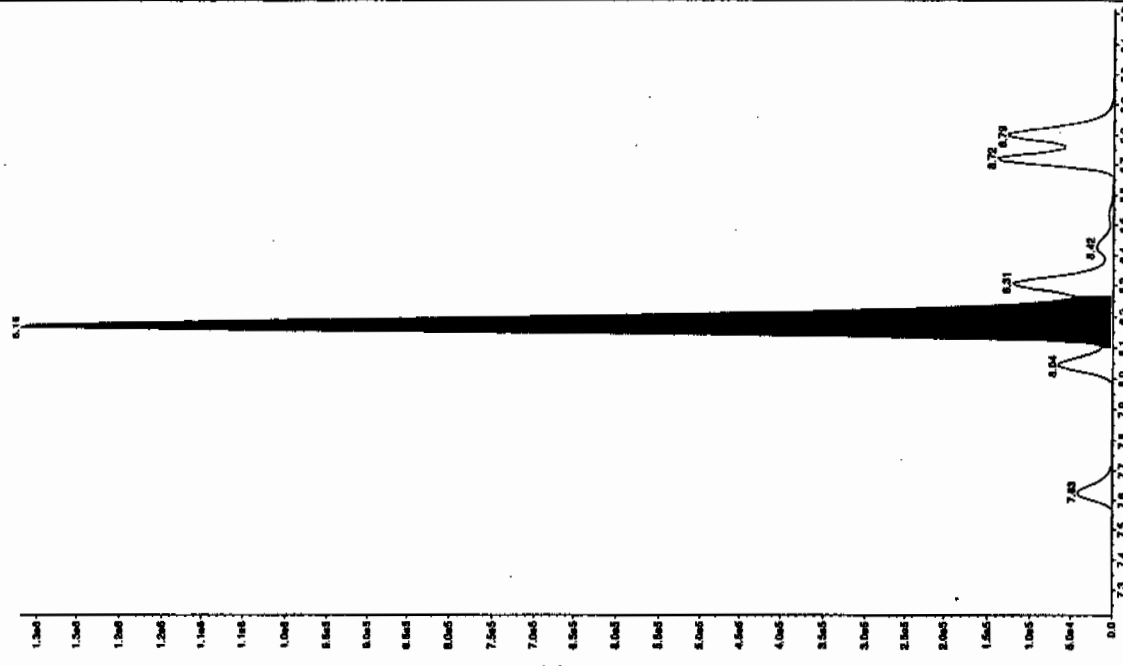
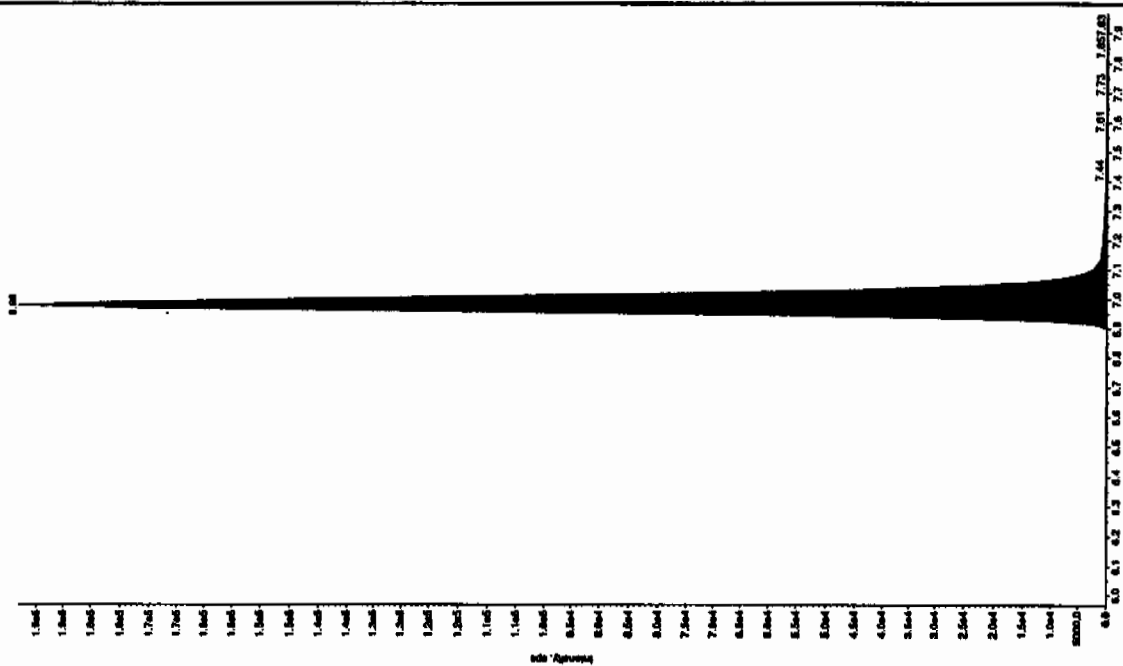
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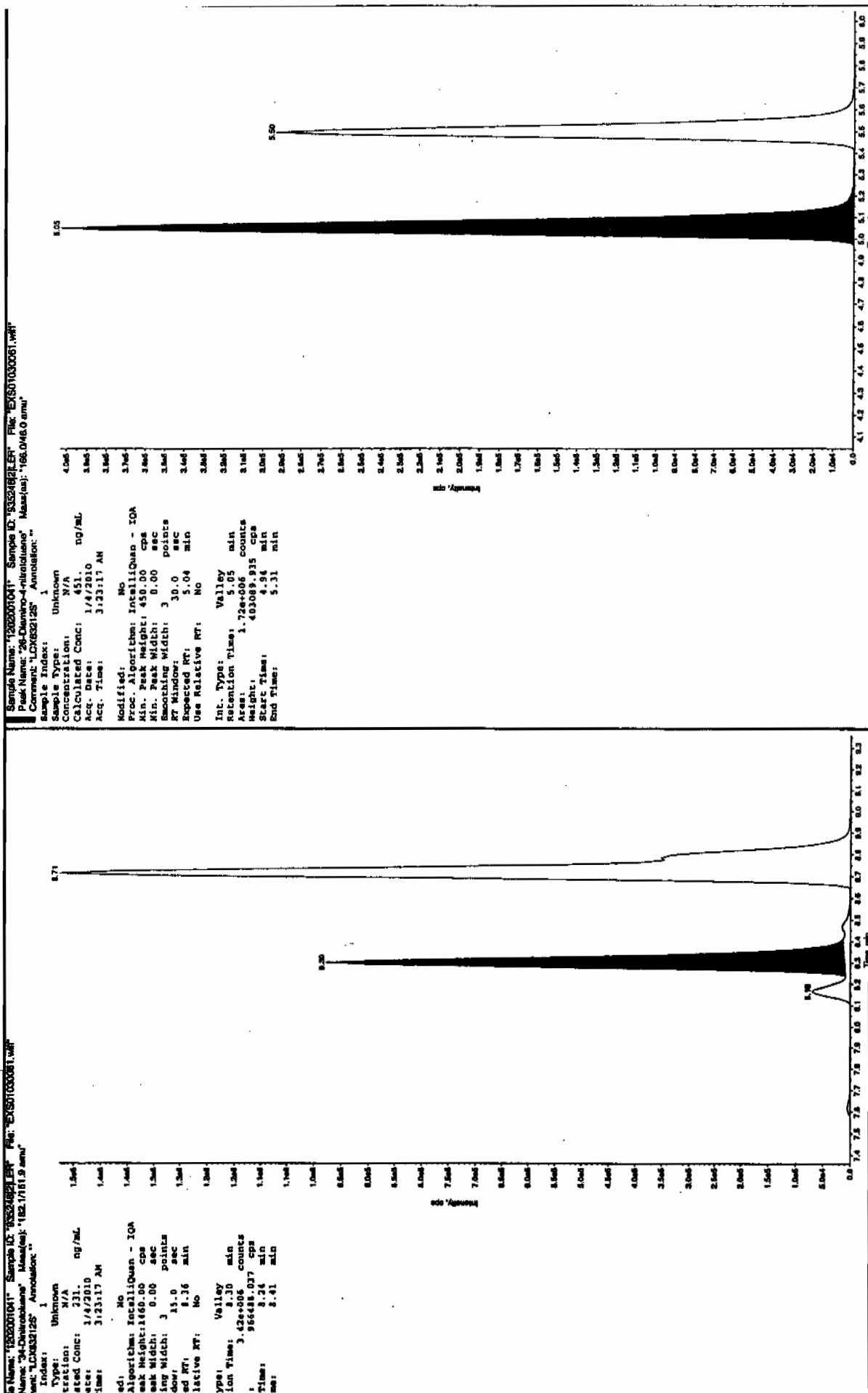
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Start Time: 8.10 min

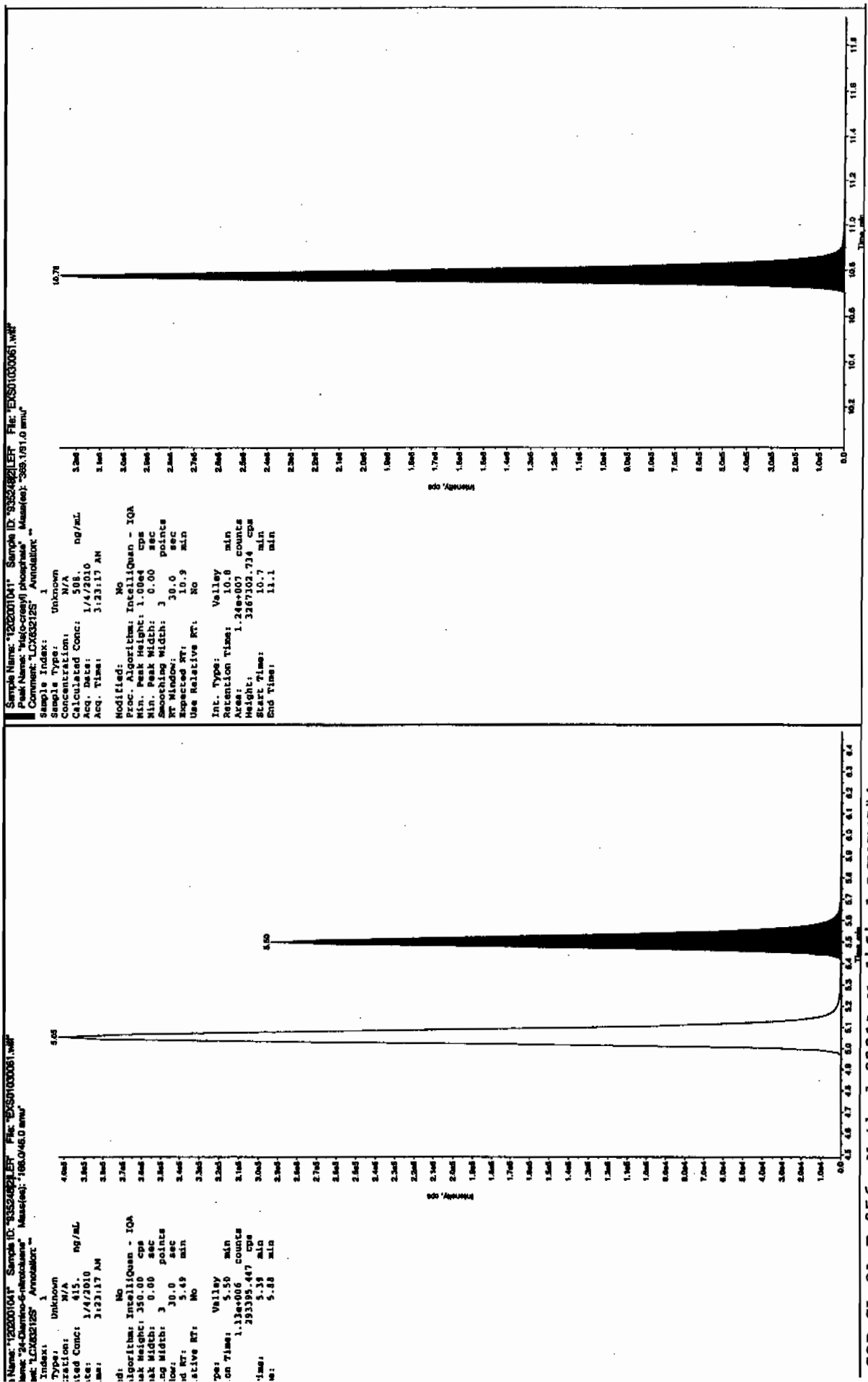
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OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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



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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7352(243274001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001042

Sample Amount 2

Moisture: 9.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0102072a

Date Analyzed: 04-JAN-10 00:29

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	6570	
121-14-2	2,4-Dinitrotoluene	4920	
121-82-4	RDX	5020	
19406-51-0	4-Amino-2,6-dinitrotoluene	5410	
2691-41-0	HMX	5420	
35572-78-2	2-Amino-4,6-dinitrotoluene	5920	
479-45-8	Tetryl	3570	
606-20-2	2,6-Dinitrotoluene	5060	
78-11-5	PETN	5530	
88-72-2	o-Nitrotoluene	4850	
98-95-3	Nitrobenzene	4700	
99-08-1	m-Nitrotoluene	4330	
99-35-4	1,3,5-Trinitrobenzene	4930	
99-65-0	m-Dinitrobenzene	4870	
99-99-0	p-Nitrotoluene	4670	

*Concentration =

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

Printed: Mon Jan 04 12:59:32 2010, Page 143 of 175

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

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04-Jan-2010

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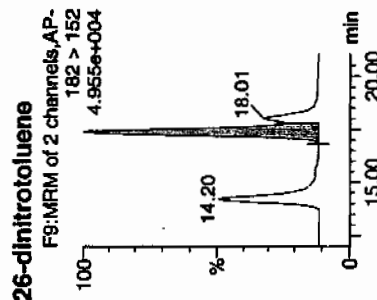
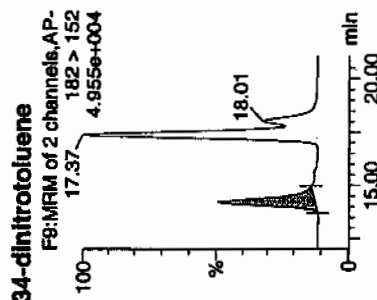
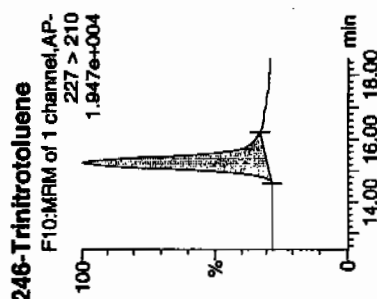
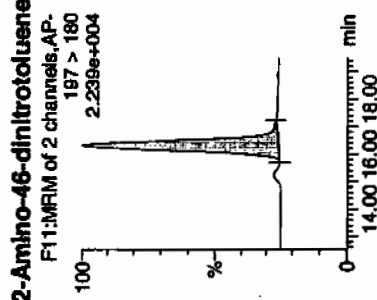
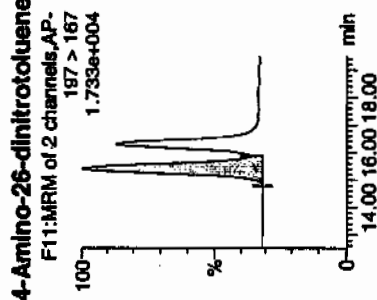
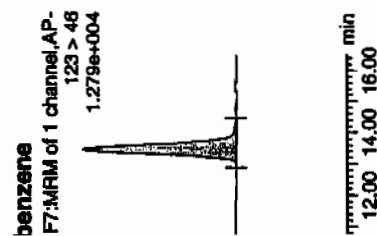
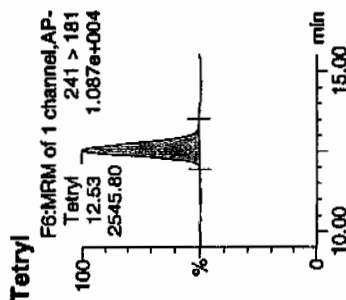
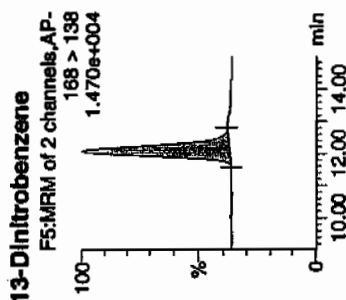
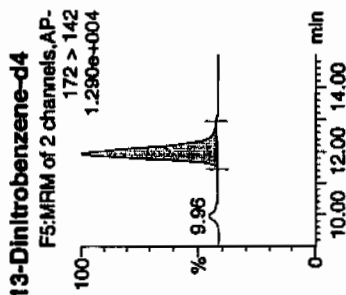
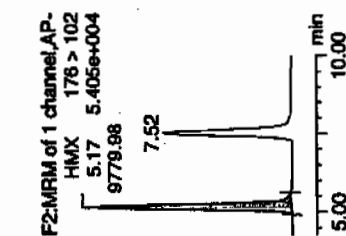
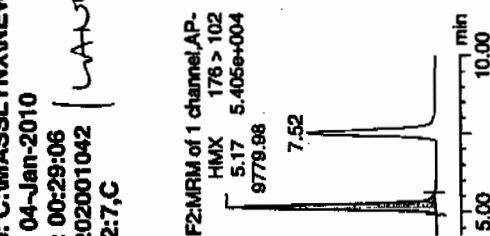
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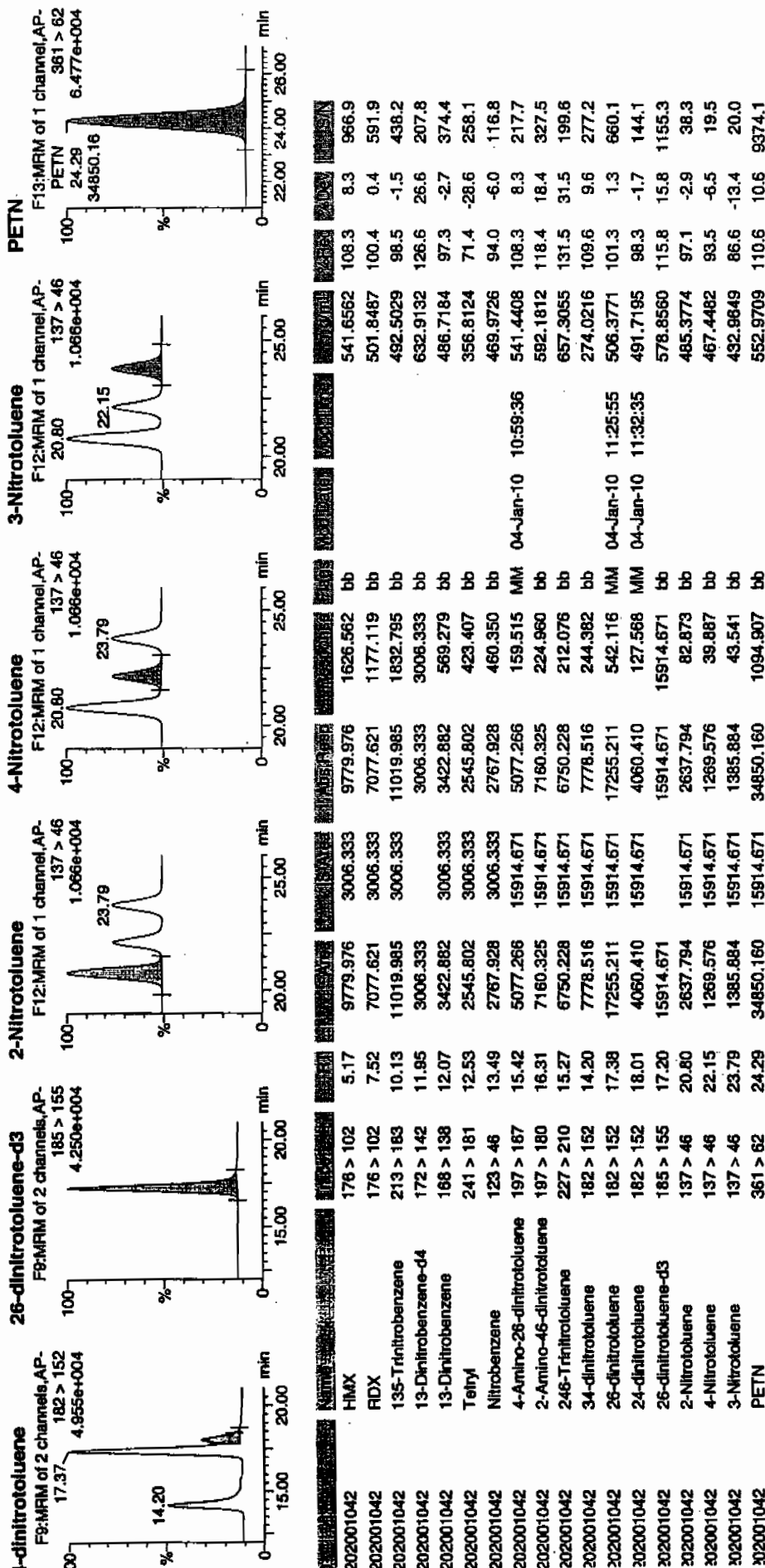
243274001 udd



4mm 01/05/10

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

Dataset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7352(243274001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-989

Matrix: SOIL

GEL Sample ID: 1202001042

Sample Amount 2

Moisture: 2.8

Amount Units g

Date Received: 18-DEC-09

Extraction Type Sonication

Extraction Batch ID: 935247

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01030062.wiff

Date Analyzed: 04-JAN-10 03:39

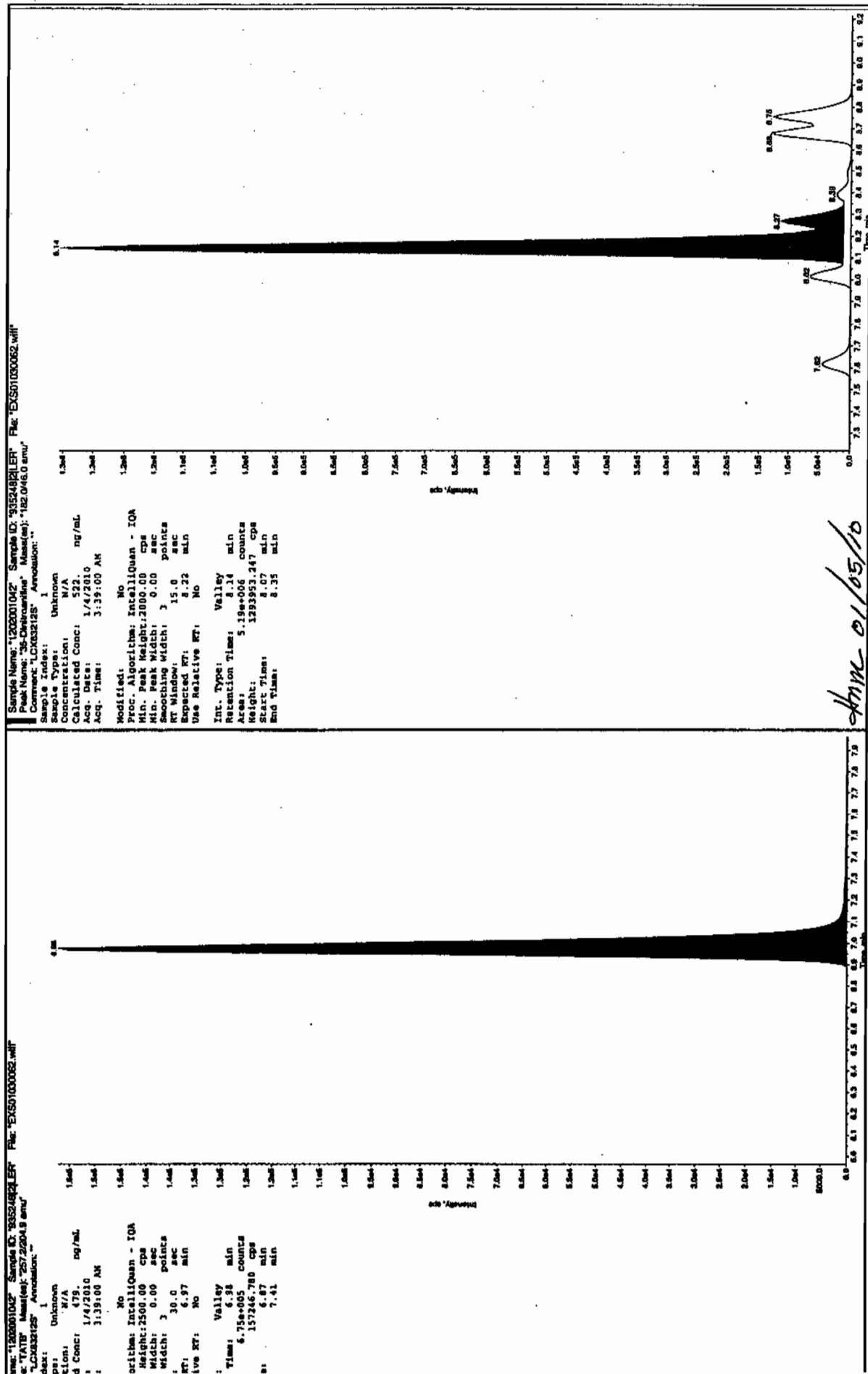
Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	4790	
59229-75-3	2,6-Diamino-4-nitrotoluene	5100	
618-87-1	3,5-Dinitroaniline	4940	
6629-29-4	2,4-Diamino-6-nitrotoluene	4370	
78-30-8	tris(o-cresyl) phosphate	5050	

*Concentration =

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

11/5/10
Bayer



Ann 01/05/10

0628201510

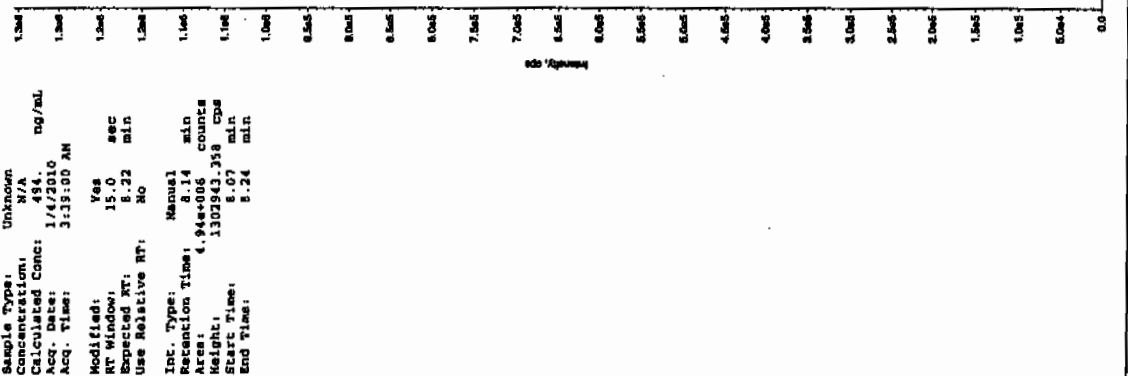
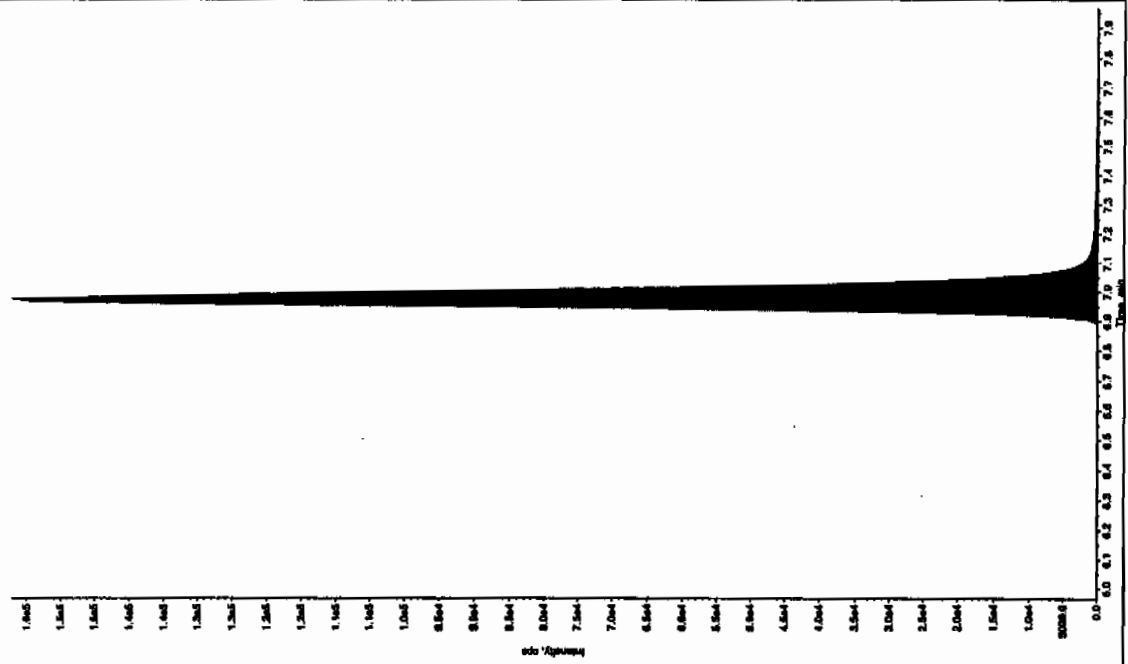
Sample Name: "1202001042" Sample ID: "93534021" File: "EXS01030082.wif"

Peak Name: "TATB" Mass(es): "257.2904.8 amu" Method: "LCMS32125" Annotation: ""

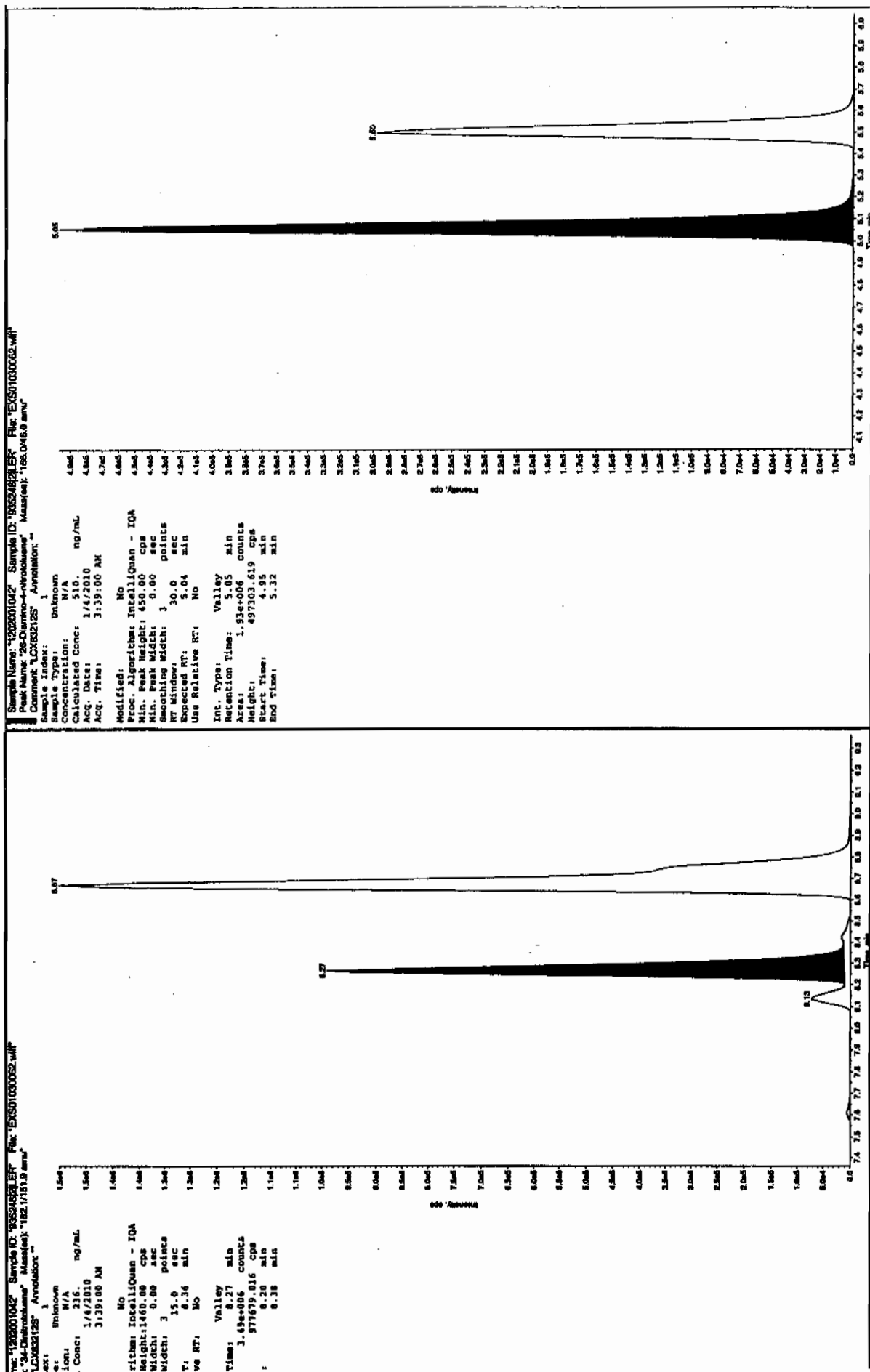
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1/4/2010
Acq. Time: 3:35:00 AM

Modified: No
RT Window: 15.0 sec
Expected RT: 8.22 min
Use Relative RT: No

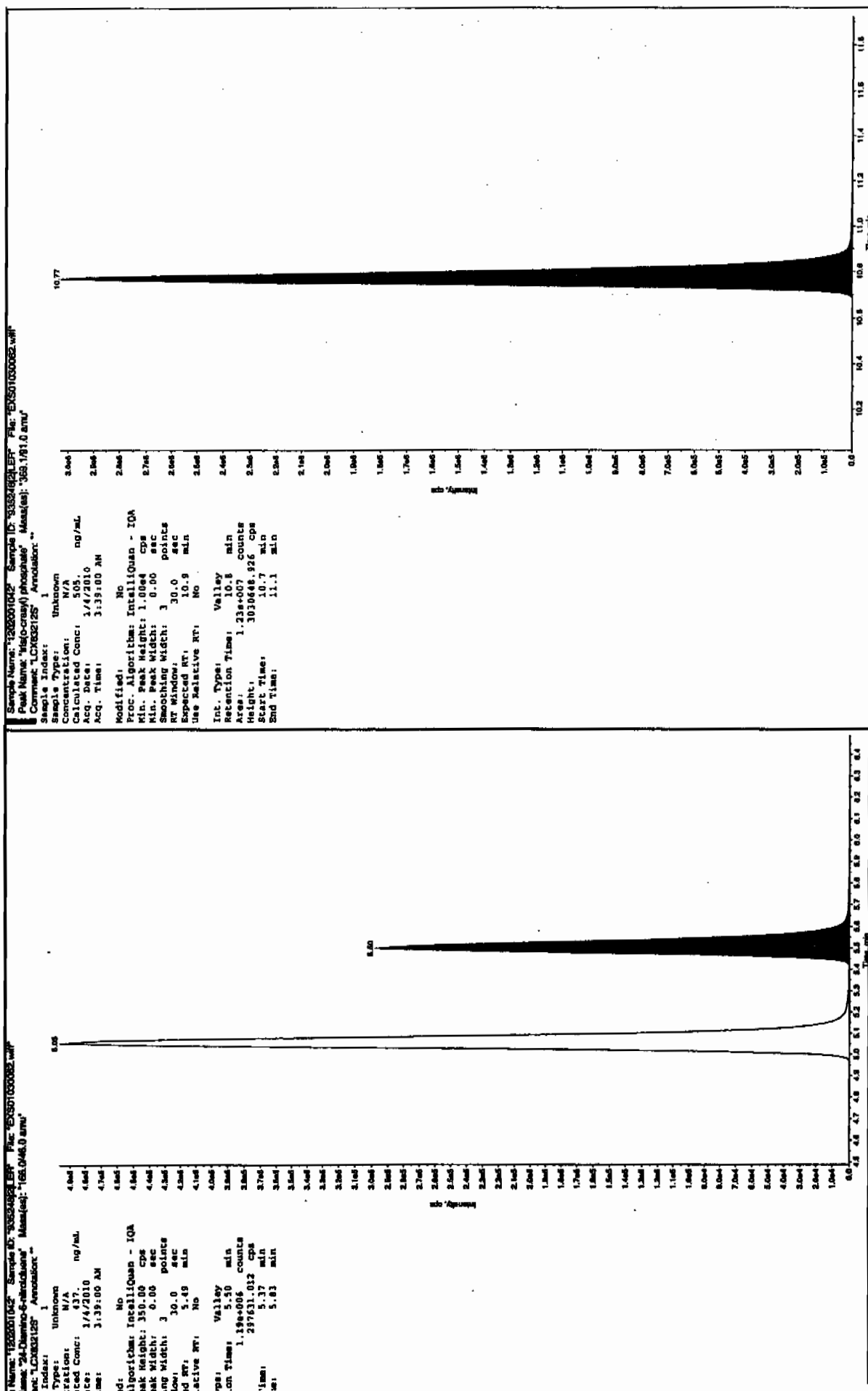
Int. Type: Manual
Retention Time: 8.14 min
Area: 4.94e+006 counts
Height: 1307943.358 cps
Start Time: 8.07 min
End Time: 8.24 min



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



OP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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

MISCELLANEOUS DATA

Prep Logbook Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)

Batch ID: 935247 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)
1202001039 MB	29-DEC-2009 17:24:19	2	10	5
1202001040 LCS	29-DEC-2009 17:24:19	2	10	5
243249001	29-DEC-2009 17:24:19	2	10	5
243249002	29-DEC-2009 17:24:19	2	10	5
243249003	29-DEC-2009 17:24:19	2	10	5
243249004	29-DEC-2009 17:24:19	2	10	5
243249005	29-DEC-2009 17:24:19	2	10	5
243256001	29-DEC-2009 17:24:19	2	10	5
243256002	29-DEC-2009 17:24:19	2	10	5
243256003	29-DEC-2009 17:24:19	2	10	5
243273001	29-DEC-2009 17:24:19	2	10	5
243274001	29-DEC-2009 17:24:19	2	10	5
1202001041 MS (243274001)	29-DEC-2009 17:24:19	2	10	5
1202001042 MSD (243274001)	29-DEC-2009 17:24:19	2	10	5
243274002	29-DEC-2009 17:24:19	2	10	5
243274003	29-DEC-2009 17:24:19	2	10	5
243274004	29-DEC-2009 17:24:19	2	10	5
243274005	29-DEC-2009 17:24:19	2	10	5
243274006	29-DEC-2009 17:24:19	2	10	5
243274007	29-DEC-2009 17:24:19	2	10	5
243274008	29-DEC-2009 17:24:19	2	10	5
243274009	29-DEC-2009 17:24:19	2	10	5
243274010	29-DEC-2009 17:24:19	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202001040	8321 Explosives LCS	DX091127-03	.1	mL	Final Solvent: ACN
LCS	1202001040	8321 LANL Explosives Mix 10mg/L	UX091117-03.1	1	mL	
MS	1202001041	8321 Explosives LCS	DX091127-03	.1	mL	
MS	1202001041	8321 LANL Explosives Mix 10mg/L	UX091117-03.1	1	mL	
MSD	1202001042	8321 Explosives LCS	DX091127-03	.1	mL	
MSD	1202001042	8321 LANL Explosives Mix 10mg/L	UX091117-03.1	1	mL	
SURR	AI	3,4-Dinitrotoluene (8330 Sur.) 100ppm	DX091223-02	.05	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/02/10
 Extr. Injection Volume: 50ul
 Sequence Number: 010210expA
 Initial Calibration Date: 01/02/10
 Method: SW846 8321A-Modified
 Int. Std.: UXX091201-01.3
 Mobile Phase Lot#: 1248119, 1236350
 Standard-Samp Reagent Lot#: 1246693, 1233976
 Reviewed BY *phine*
 Date *2/1/05*
 SOP: GL-OA-E-056 Rev.12
 Alt Check Std. ID: WXX100102-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0102001a	XIBLK01	MAP	1/2/10 13:33			1		USE	B
EXP0102002a	XIBLK01	MAP	1/2/10 14:03			1		USE	B
EXP0102003a	WXXICAL-01	MAP	1/2/10 14:32			1		USE	I
EXP0102004a	WXXICAL-02	MAP	1/2/10 15:02			1		USE	I
EXP0102005a	WXXICAL-03	MAP	1/2/10 15:31			1		USE	I
EXP0102006a	WXXICAL-04	MAP	1/2/10 16:01			1		USE	I
EXP0102007a	WXXICAL-05	MAP	1/2/10 16:30			1		USE	I
EXP0102008a	WXXICAL-06	MAP	1/2/10 17:00			1		USE	I
EXP0102009a	XIBLK02	MAP	1/2/10 17:29			1		USE	B
EXP0102010a	WXXICV	MAP	1/2/10 17:59			1		USE	C
EXP0102011a	XIBLK03	MAP	1/2/10 18:28			1		USE	B
EXP0102012a	WXXCRI	MAP	1/2/10 18:58			1		USE	C
EXP0102013a	1202004190	MAP	1/2/10 19:27	936699	Various	2	LANL	USE	S
EXP0102014a	1202004191	MAP	1/2/10 19:57	936699	Various	2	LANL	USE	S
EXP0102015a	1202005145	MAP	1/2/10 20:26	936699	Various	2	LANL	USE	S
EXP0102016a	243458007	MAP	1/2/10 20:56	936699	10-1044	2	LANL	USE	S
EXP0102017a	243460004	MAP	1/2/10 21:25	936699	10-1049	2	LANL	USE	S
EXP0102018a	243469006	MAP	1/2/10 21:55	936699	10-1052	2	LANL	USE	S
EXP0102019a	1202004194	MAP	1/2/10 22:24	936699	10-1052	2	LANL	USE	S
EXP0102020a	1202004195	MAP	1/2/10 22:54	936699	10-1052	2	LANL	USE	S
EXP0102021a	WXXCCV	MAP	1/2/10 23:23			1		USE	C
EXP0102022a	XIBLK04	MAP	1/2/10 23:53			1		USE	B
EXP0102023a	WXXCRI	MAP	1/3/10 0:22			1		USE	C
EXP0102024a	1202001007	MAP	1/3/10 0:52	935240	10-966	2	LANL	USE	S
EXP0102025a	1202001008	MAP	1/3/10 1:21	935240	10-966	2	LANL	DUSE-RA	S
EXP0102026a	243240001	MAP	1/3/10 1:51	935240	10-966	2	LANL	USE	S
EXP0102027a	1202001009	MAP	1/3/10 2:20	935240	10-966	2	LANL	DUSE-RA	S
EXP0102028a	1202001010	MAP	1/3/10 2:50	935240	10-966	2	LANL	USE	S
EXP0102029a	243240002	MAP	1/3/10 3:19	935240	10-966	2	LANL	DUSE-RA	S

EXP0102030a	243240003	MAP	1/3/10 3:49	935240	10-966	2	LANL	USE	S
EXP0102031a	243240004	MAP	1/3/10 4:18	935240	10-966	2	LANL	USE	S
EXP0102032a	243240005	MAP	1/3/10 4:48	935240	10-966	2	LANL	USE	S
EXP0102033a	243240006	MAP	1/3/10 5:17	935240	10-966	2	LANL	USE	S
EXP0102034a	WXXCCV	MAP	1/3/10 5:47			1		USE	C
EXP0102035a	XIBLK05	MAP	1/3/10 6:16			1		USE	B
EXP0102036a	WXXCRI	MAP	1/3/10 6:46			1		USE	C
EXP0102037a	243240007	MAP	1/3/10 7:15	935240	10-966	2	LANL	USE	S
EXP0102038a	243240008	MAP	1/3/10 7:45	935240	10-966	2	LANL	USE	S
EXP0102039a	243240009	MAP	1/3/10 8:14	935240	10-966	2	LANL	USE	S
EXP0102040a	243240010	MAP	1/3/10 8:44	935240	10-966	2	LANL	USE	S
EXP0102041a	243240011	MAP	1/3/10 9:13	935240	10-966	2	LANL	USE	S
EXP0102042a	243240012	MAP	1/3/10 9:43	935240	10-966	2	LANL	USE	S
EXP0102043a	243240013	MAP	1/3/10 10:12	935240	10-966	2	LANL	USE	S
EXP0102044a	243240014	MAP	1/3/10 10:41	935240	10-966	2	LANL	USE	S
EXP0102045a	243240015	MAP	1/3/10 11:11	935240	10-966	2	LANL	USE	S
EXP0102046a	243240016	MAP	1/3/10 11:41	935240	10-966	2	LANL	USE	S
EXP0102047a	WXXCCV	MAP	1/3/10 12:10			1		USE	C
EXP0102048a	XIBLK06	MAP	1/3/10 12:40			1		USE	B
EXP0102049a	WXXCRI	MAP	1/3/10 13:09			1		USE	C
EXP0102050a	243240017	MAP	1/3/10 13:39	935240	10-966	2	LANL	USE	S
EXP0102051a	243240018	MAP	1/3/10 14:08	935240	10-966	2	LANL	USE	S
EXP0102052a	243240019	MAP	1/3/10 14:38	935240	10-966	2	LANL	USE	S
EXP0102053a	XIBLK07	MAP	1/3/10 15:07			1		USE	B
EXP0102054a	1202001039	MAP	1/3/10 15:37	935248	Various	2	LANL	USE	S
EXP0102055a	1202001040	MAP	1/3/10 16:07	935248	Various	2	LANL	DUSE-RA	S
EXP0102056a	243249001	MAP	1/3/10 16:36	935248	10-971	2	LANL	USE	S
EXP0102057a	243249002	MAP	1/3/10 17:06	935248	10-971	2	LANL	USE	S
EXP0102058a	243249003	MAP	1/3/10 17:35	935248	10-971	2	LANL	USE	S
EXP0102059a	243249004	MAP	1/3/10 18:05	935248	10-971	200	LANL	DUSE	S
EXP0102060a	WXXCCV	MAP	1/3/10 18:34			1		USE	C
EXP0102061a	XIBLK08	MAP	1/3/10 19:04			1		USE	B
EXP0102062a	WXXCRI	MAP	1/3/10 19:33			1		USE	C
EXP0102063a	243249004	MAP	1/3/10 20:03	935248	10-971	2	LANL	DUSE-RA	S
EXP0102064a	XIBLK09	MAP	1/3/10 20:32			1		USE	B
EXP0102065a	243249005	MAP	1/3/10 21:02	935248	10-971	2	LANL	USE	S
EXP0102066a	243256001	MAP	1/3/10 21:31	935248	10-970	2	LANL	USE	S

EXP0102067a	243256002	MAP	1/3/10 22:01	935248	10-970	2	LANL	USE	S
EXP0102068a	243256003	MAP	1/3/10 22:30	935248	10-970	2	LANL	USE	S
EXP0102069a	243273001	MAP	1/3/10 23:00	935248	10-988	2	LANL	USE	S
EXP0102070a	243274001	MAP	1/3/10 23:30	935248	10-989	2	LANL	USE	S
EXP0102071a	1202001041	MAP	1/3/10 23:59	935248	10-989	2	LANL	USE	S
EXP0102072a	1202001042	MAP	1/4/10 0:29	935248	10-989	2	LANL	USE	S
EXP0102073a	WXXCCV	MAP	1/4/10 0:58			1		USE	C
EXP0102074a	XIBLK10	MAP	1/4/10 1:28			1		USE	B
EXP0102075a	WXXCRI	MAP	1/4/10 1:57			1		USE	C
EXP0102076a	243274002	MAP	1/4/10 2:27	935248	10-989	2	LANL	USE	S
EXP0102077a	243274003	MAP	1/4/10 2:56	935248	10-989	2	LANL	USE	S
EXP0102078a	243274004	MAP	1/4/10 3:26	935248	10-989	2	LANL	USE	S
EXP0102079a	243274005	MAP	1/4/10 3:55	935248	10-989	2	LANL	USE	S
EXP0102080a	243274006	MAP	1/4/10 4:25	935248	10-989	2	LANL	USE	S
EXP0102081a	243274007	MAP	1/4/10 4:54	935248	10-989	2	LANL	USE	S
EXP0102082a	243274008	MAP	1/4/10 5:24	935248	10-989	2	LANL	USE	S
EXP0102083a	243274009	MAP	1/4/10 5:53	935248	10-989	2	LANL	USE	S
EXP0102084a	243274010	MAP	1/4/10 6:23	935248	10-989	2	LANL	USE	S
EXP0102085a	WXXCCV	MAP	1/4/10 6:52			1		USE	C
EXP0102086a	XIBLK11	MAP	1/4/10 7:22			1		USE	B
EXP0102087a	WXXCRI	MAP	1/4/10 7:51			1		USE	C
EXP0102088a	1202001043	MAP	1/4/10 8:21	935252	10-991	2	LANL	USE	S
EXP0102089a	1202001044	MAP	1/4/10 8:50	935252	10-991	2	LANL	USE	S
EXP0102090a	243269001	MAP	1/4/10 9:20	935252	10-991	2	LANL	USE	S
EXP0102091a	1202001045	MAP	1/4/10 9:49	935252	10-991	2	LANL	USE	S
EXP0102092a	1202001046	MAP	1/4/10 10:19	935252	10-991	2	LANL	USE	S
EXP0102093a	243269002	MAP	1/4/10 10:48	935252	10-991	2	LANL	USE	S
EXP0102094a	243269003	MAP	1/4/10 11:18	935252	10-991	2	LANL	USE	S
EXP0102095a	243269004	MAP	1/4/10 11:47	935252	10-991	2	LANL	USE	S
EXP0102096a	243269005	MAP	1/4/10 12:17	935252	10-991	2	LANL	USE	S
EXP0102097a	243269006	MAP	1/4/10 12:46	935252	10-991	2	LANL	USE	S
EXP0102098a	WXXCCV	MAP	1/4/10 13:16			1		USE	C
EXP0102099a	XIBLK12	MAP	1/4/10 13:46			1		USE	B
EXP0102100a	WXXCRI	MAP	1/4/10 14:15			1		USE	C
EXP0102101a	243269007	MAP	1/4/10 14:45	935252	10-991	2	LANL	USE	S
EXP0102102a	243269008	MAP	1/4/10 15:14	935252	10-991	2	LANL	USE	S
EXP0102103a	243269009	MAP	1/4/10 15:44	935252	10-991	2	LANL	USE	S

EXP0102104a	243269010	MAP	1/4/10 16:13	935252	10-991	2	LANL	USE	S
EXP0102105a	243269011	MAP	1/4/10 16:43	935252	10-991	2	LANL	USE	S
EXP0102106a	243269012	MAP	1/4/10 17:12	935252	10-991	2	LANL	USE	S
EXP0102107a	243269013	MAP	1/4/10 17:42	935252	10-991	2	LANL	USE	S
EXP0102108a	243269014	MAP	1/4/10 18:11	935252	10-991	2	LANL	USE	S
EXP0102109a	WXXCCV	MAP	1/4/10 18:41			1		USE	C
EXP0102110a	XIBLK13	MAP	1/4/10 19:10			1		USE	B
EXP0102111a	WXXCRI	MAP	1/4/10 19:40			1		USE	C
EXP0102112a	1202001008	MAP	1/4/10 20:09	935240	10-966	2	LANL	USE	S
EXP0102113a	1202001009	MAP	1/4/10 20:39	935240	10-966	2	LANL	USE	S
EXP0102114a	243240002	MAP	1/4/10 21:08	935240	10-966	2	LANL	USE	S
EXP0102115a	1202001040	MAP	1/4/10 21:38	935248	Various	2	LANL	USE	S
EXP0102116a	243249004	MAP	1/4/10 22:07	935248	10-971	2	LANL	USE	S
EXP0102117a	WXXCCV	MAP	1/4/10 22:37			1		USE	C
EXP0102118a	XIBLK14	MAP	1/4/10 23:07			1		USE	B
EXP0102119a	WXXCRI	MAP	1/4/10 23:36			1		USE	C
EXP0102120a	1201993746	MAP	1/5/10 0:06	932033	Various	2	LANL	DUSE-RA	S
EXP0102121a	1201993747	MAP	1/5/10 0:35	932033	Various	2	LANL	DUSE-RA	S
EXP0102122a	242652005	MAP	1/5/10 1:05	932033	10-850	2	LANL	DUSE-RA	S
EXP0102123a	242666005	MAP	1/5/10 1:34	932033	10-868	2	LANL	DUSE-RA	S
EXP0102124a	1201993748	MAP	1/5/10 2:04	932033	10-868	2	LANL	DUSE-RA	S
EXP0102125a	1201993749	MAP	1/5/10 2:33	932033	10-868	2	LANL	DUSE-RA	S
EXP0102126a	242671001	MAP	1/5/10 3:03	932033	10-875	2	LANL	DUSE-RA	S
EXP0102127a	WXXCCV	MAP	1/5/10 3:32			1		USE	C
EXP0102128a	XIBLK15	MAP	1/5/10 4:02			1		USE	B
EXP0102129a	WXXCRI	MAP	1/5/10 4:31			1		USE	C

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 01/03/10
 Extr. Injection Volume: 10uL
 Sequence Number: 010310exs
 Initial Calibration Date: 010310
 Method: 8321A-Modified
 Int. Std.: N/A
 Mobile Phase Lot#: 1236350, 1246467
 Standard-Samp Reagent Lot#: 1233976, 1246693
 Reviewed By: *HL*
 Date: *01/05/10*
 SOP: GL-OA-E-056 Rev.12
 Alt Check Std. ID: WXX100103-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01030001.wiff	XIBLK01	LER	1/3/2010 11:40			1		USE	B
EXS01030002.wiff	XIBLK01	LER	1/3/2010 11:56			1		USE	B
EXS01030003.wiff	WXXICAL-19	LER	1/3/2010 12:12			1		USE	I
EXS01030004.wiff	WXXICAL-20	LER	1/3/2010 12:28			1		USE	I
EXS01030005.wiff	WXXICAL-21	LER	1/3/2010 12:43			1		USE	I
EXS01030006.wiff	WXXICAL-22	LER	1/3/2010 12:59			1		USE	I
EXS01030007.wiff	WXXICAL-23	LER	1/3/2010 13:15			1		USE	I
EXS01030008.wiff	WXXICAL-24	LER	1/3/2010 13:30			1		USE	I
EXS01030009.wiff	WXXICAL-25	LER	1/3/2010 13:46			1		USE	I
EXS01030010.wiff	XIBLK02	LER	1/3/2010 14:02			1		USE	B
EXS01030011.wiff	WXXICV	LER	1/3/2010 14:17			1		USE	C
EXS01030012.wiff	XIBLK03	LER	1/3/2010 14:33			1		USE	B
EXS01030013.wiff	WXXCRI	LER	1/3/2010 14:49			1		USE	C
EXS01030014.wiff	1202001007	LER	1/3/2010 15:05	935240	10-966	2	LANL	USE	S
EXS01030015.wiff	1202001008	LER	1/3/2010 15:20	935240	10-966	2	LANL	USE	S
EXS01030016.wiff	243240001	LER	1/3/2010 15:36	935240	10-966	2	LANL	USE	S
EXS01030017.wiff	1202001009	LER	1/3/2010 15:52	935240	10-966	2	LANL	USE	S
EXS01030018.wiff	1202001010	LER	1/3/2010 16:07	935240	10-966	2	LANL	USE	S
EXS01030019.wiff	243240002	LER	1/3/2010 16:23	935240	10-966	2	LANL	USE	S
EXS01030020.wiff	243240003	LER	1/3/2010 16:39	935240	10-966	2	LANL	USE	S
EXS01030021.wiff	243240004	LER	1/3/2010 16:55	935240	10-966	2	LANL	USE	S
EXS01030022.wiff	243240005	LER	1/3/2010 17:10	935240	10-966	2	LANL	USE	S
EXS01030023.wiff	243240006	LER	1/3/2010 17:26	935240	10-966	2	LANL	USE	S
EXS01030024.wiff	WXXCCV	LER	1/3/2010 17:42			1		USE	C
EXS01030025.wiff	XIBLK04	LER	1/3/2010 17:57			1		USE	B
EXS01030026.wiff	WXXCRI	LER	1/3/2010 18:13			1		USE	C
EXS01030027.wiff	243240007	LER	1/3/2010 18:29	935240	10-966	2	LANL	USE	S
EXS01030028.wiff	243240008	LER	1/3/2010 18:44	935240	10-966	2	LANL	USE	S
EXS01030029.wiff	243240009	LER	1/3/2010 19:00	935240	10-966	2	LANL	USE	S

EXS01030030.wiff	243240010	LER	1/3/2010 19:16	935240	10-966	2	LANL	USE	S
EXS01030031.wiff	243240011	LER	1/3/2010 19:32	935240	10-966	2	LANL	USE	S
EXS01030032.wiff	243240012	LER	1/3/2010 19:47	935240	10-966	2	LANL	USE	S
EXS01030033.wiff	243240013	LER	1/3/2010 20:03	935240	10-966	2	LANL	USE	S
EXS01030034.wiff	243240014	LER	1/3/2010 20:19	935240	10-966	2	LANL	USE	S
EXS01030035.wiff	243240015	LER	1/3/2010 20:34	935240	10-966	2	LANL	USE	S
EXS01030036.wiff	243240016	LER	1/3/2010 20:50	935240	10-966	2	LANL	USE	S
EXS01030037.wiff	WXXCCV	LER	1/3/2010 21:06			1		USE	C
EXS01030038.wiff	XIBLK05	LER	1/3/2010 21:22			1		USE	B
EXS01030039.wiff	WXXCRI	LER	1/3/2010 21:37			1		USE	C
EXS01030040.wiff	243240017	LER	1/3/2010 21:53	935240	10-966	2	LANL	USE	S
EXS01030041.wiff	243240018	LER	1/3/2010 22:09	935240	10-966	2	LANL	USE	S
EXS01030042.wiff	243240019	LER	1/3/2010 22:24	935240	10-966	2	LANL	USE	S
EXS01030043.wiff	XIBLK06	LER	1/3/2010 22:40			1		USE	B
LCS									
EXS01030044.wiff	UXX091117-03.1	LER	1/3/2010 22:56	SCREEN	SOLID	2	O2SI	DUSE-RA	S
EXS01030045.wiff	XIBLK07	LER	1/3/2010 23:12			1		USE	B
EXS01030046.wiff	1202001039	LER	1/3/2010 23:27	935248	VARIOUS	2	LANL	USE	S
EXS01030047.wiff	1202001040	LER	1/3/2010 23:43	935248	VARIOUS	2	LANL	USE	S
EXS01030048.wiff	243249001	LER	1/3/2010 23:59	935248	10-971	2	LANL	USE	S
EXS01030049.wiff	243249002	LER	1/4/2010 0:14	935248	10-971	2	LANL	USE	S
EXS01030050.wiff	WXXCCV	LER	1/4/2010 0:30			1		USE	C
EXS01030051.wiff	XIBLK08	LER	1/4/2010 0:46			1		USE	B
EXS01030052.wiff	WXXCRI	LER	1/4/2010 1:01			1		USE	C
EXS01030053.wiff	243249003	LER	1/4/2010 1:17	935248	10-971	2	LANL	USE	S
EXS01030054.wiff	243249004	LER	1/4/2010 1:33	935248	10-971	2	LANL	USE	S
EXS01030055.wiff	243249005	LER	1/4/2010 1:49	935248	10-971	2	LANL	USE	S
EXS01030056.wiff	243256001	LER	1/4/2010 2:04	935248	10-970	2	LANL	USE	S
EXS01030057.wiff	243256002	LER	1/4/2010 2:20	935248	10-970	2	LANL	USE	S
EXS01030058.wiff	243256003	LER	1/4/2010 2:36	935248	10-970	2	LANL	USE	S
EXS01030059.wiff	243273001	LER	1/4/2010 2:51	935248	10-988	2	LANL	USE	S
EXS01030060.wiff	243274001	LER	1/4/2010 3:07	935248	10-989	2	LANL	USE	S
EXS01030061.wiff	1202001041	LER	1/4/2010 3:23	935248	10-989	2	LANL	USE	S
EXS01030062.wiff	1202001042	LER	1/4/2010 3:39	935248	10-989	2	LANL	USE	S
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EXS01030065.wiff	WXXCRI	LER	1/4/2010 4:26			1		USE	C

EXS01030066.wiff	243274002	LER	1/4/2010 4:41	935248	10-989	2	LANL	USE	S
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EXS01030068.wiff	243274004	LER	1/4/2010 5:13	935248	10-989	2	LANL	USE	S
EXS01030069.wiff	243274005	LER	1/4/2010 5:28	935248	10-989	2	LANL	USE	S
EXS01030070.wiff	243274006	LER	1/4/2010 5:44	935248	10-989	2	LANL	USE	S
EXS01030071.wiff	243274007	LER	1/4/2010 6:00	935248	10-989	2	LANL	USE	S
EXS01030072.wiff	243274008	LER	1/4/2010 6:16	935248	10-989	2	LANL	USE	S
EXS01030073.wiff	243274009	LER	1/4/2010 6:31	935248	10-989	2	LANL	USE	S
EXS01030074.wiff	243274010	LER	1/4/2010 6:47	935248	10-989	2	LANL	USE	S
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EXS01030076.wiff	XIBLK10	LER	1/4/2010 7:18			1		USE	B
EXS01030077.wiff	WXXCRI	LER	1/4/2010 7:34			1		USE	C
EXS01030078.wiff	1202003502	LER	1/4/2010 7:50	936357	VARIOUS	2	LANL	USE	S
EXS01030079.wiff	1202003503	LER	1/4/2010 8:05	936357	VARIOUS	2	LANL	USE	S
EXS01030080.wiff	243393002	LER	1/4/2010 8:21	936357	10-1005	2	LANL	USE	S
EXS01030081.wiff	243399001	LER	1/4/2010 8:37	936357	10-1009-1	2	LANL	USE	S
EXS01030082.wiff	243399002	LER	1/4/2010 8:53	936357	10-1009-1	2	LANL	USE	S
EXS01030083.wiff	243399003	LER	1/4/2010 9:08	936357	10-1009-1	2	LANL	USE	S
EXS01030084.wiff	243399004	LER	1/4/2010 9:24	936357	10-1009-1	2	LANL	USE	S
EXS01030085.wiff	243399005	LER	1/4/2010 9:40	936357	10-1009-1	2	LANL	USE	S
EXS01030086.wiff	WXXCCV	LER	1/4/2010 9:55			1		USE	C
EXS01030087.wiff	XIBLK11	LER	1/4/2010 10:11			1		USE	B
EXS01030088.wiff	WXXCRI	LER	1/4/2010 10:27			1		USE	C
EXS01030089.wiff	243406002	LER	1/4/2010 10:42	936357	10-1011	2	LANL	USE	S
EXS01030090.wiff	1202003504	LER	1/4/2010 10:58	936357	10-1011	2	LANL	USE	S
EXS01030091.wiff	1202003505	LER	1/4/2010 11:14	936357	10-1011	2	LANL	USE	S
EXS01030092.wiff	243406002	LER	1/4/2010 11:30	936357	10-1011	2	LANL	USE	S
EXS01030093.wiff	243406003	LER	1/4/2010 11:45	936357	10-1011	2	LANL	USE	S
EXS01030094.wiff	243406004	LER	1/4/2010 12:01	936357	10-1011	2	LANL	USE	S
EXS01030095.wiff	243406005	LER	1/4/2010 12:17	936357	10-1011	2	LANL	USE	S
EXS01030096.wiff	243406006	LER	1/4/2010 12:32	936357	10-1011	2	LANL	USE	S
EXS01030097.wiff	243406007	LER	1/4/2010 12:48	936357	10-1011	2	LANL	USE	S
EXS01030098.wiff	243406008	LER	1/4/2010 13:04	936357	10-1011	2	LANL	USE	S
EXS01030099.wiff	WXXCCV	LER	1/4/2010 13:20			1		USE	C
EXS01030100.wiff	XIBLK12	LER	1/4/2010 13:35			1		USE	B
EXS01030101.wiff	WXXCRI	LER	1/4/2010 13:51			1		USE	C
EXS01030102.wiff	243406009	LER	1/4/2010 14:07	936357	10-1011	2	LANL	USE	S

EXS01030103.wiff	XIBLK13	LER	1/4/2010 14:22	LCS SCREEN	SOLID	1	USE	B
EXS01030104.wiff	UXX091117-03.1	LER	1/4/2010 14:38			2	USE	S
EXS01030105.wiff	WXXCCV	LER	1/4/2010 14:54			1	USE	C
EXS01030106.wiff	XIBLK14	LER	1/4/2010 15:10			1	USE	B
EXS01030107.wiff	WXXCRI	LER	1/4/2010 15:25			1	USE	C

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: 03-Jan-2010

Pi: 16:07:13

202001040

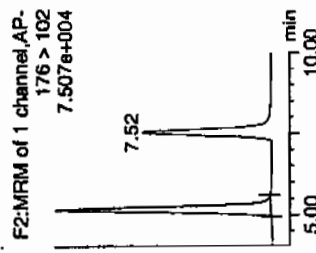
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1435243 (Sues) LC8/24

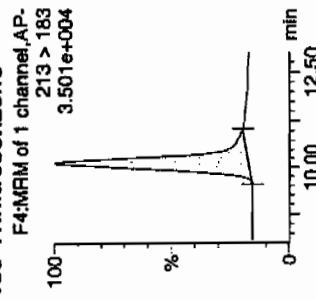
107
1/4/10

base/PA - 12842
COWPENS EX 0102115

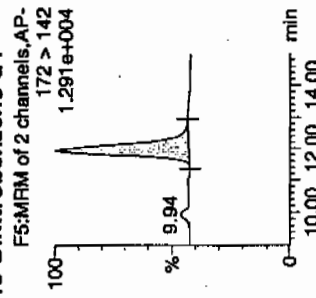
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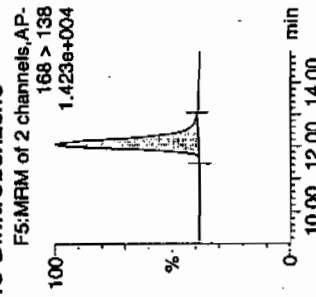
135-Trinitrobenzene



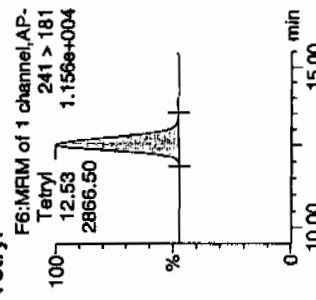
13-Dinitrobenzene-d4



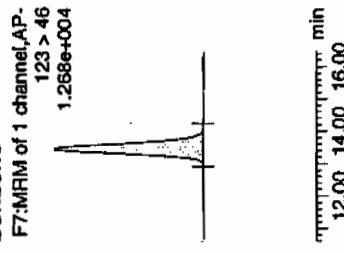
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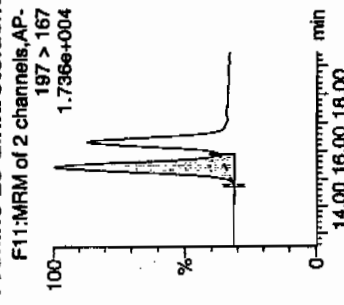
Tetryl



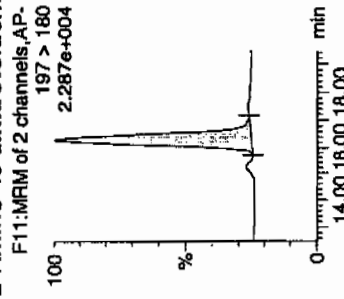
benzene



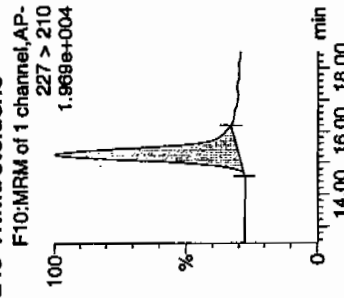
4-Amino-26-dinitrotoluene



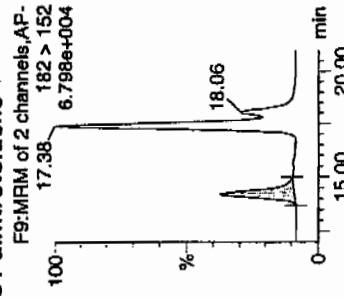
2-Amino-46-dinitrotoluene



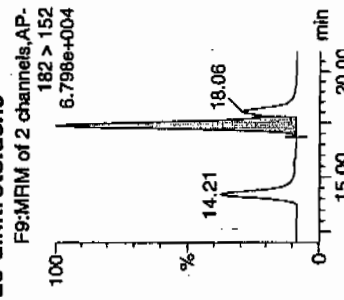
246-Trinitrotoluene



34-dinitrotoluene

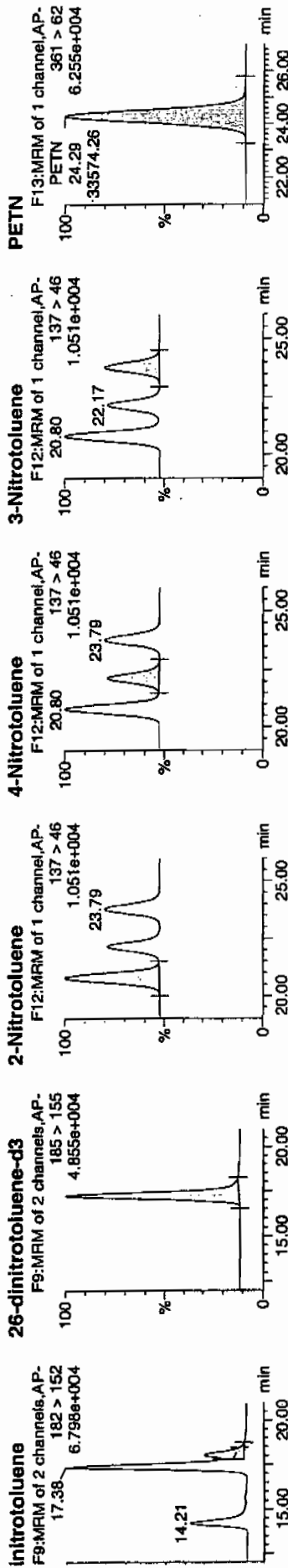


26-dinitrotoluene



MIN 01/05/10

iset: C:\MASSLYNX\New_Exp.PRO\010210expA.qld, Time: Mon Jan 04 12:58:29 2010



Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	Conc./mL	%Rec	%Dev	SN
001040 HMX	176 > 102	5.17	13883.678	2971.832	13883.678	2335.879	bb			777.8633	155.6	55.6	1906.3
001040 RDX	176 > 102	7.52	9830.472	2971.832	9830.472	1653.941	bb			705.1357	141.0	41.0	1130.1
001040 135-Trinitrobenzene	213 > 183	10.13	11439.285	2971.832	11439.285	1924.618	bb			517.1773	103.4	3.4	1208.6
001040 13-Dinitrobenzene-d4	172 > 142	11.95	2971.832	2971.832	2971.832	2971.832	bb			625.6499	125.1	25.1	394.3
001040 13-Dinitrobenzene	168 > 138	12.07	3340.883	2971.832	3340.883	562.091	bb			480.5737	96.1	-3.9	312.4
001040 Tetral	241 > 181	12.53	2866.501	2971.832	2866.501	482.278	bb			411.9147	82.4	-17.6	305.5
001040 Nitrobenzene	123 > 46	13.45	2850.875	2971.832	2850.875	446.000	bb			455.3232	91.1	-8.9	302.6
001040 4-Amino-26-dinitrotoluene	197 > 167	15.43	5155.309	19465.619	5155.309	132.421	MM	04-Jan-10	10:58:59	449.4747	89.9	-10.1	177.2
001040 2-Amino-46-dinitrotoluene	197 > 180	16.31	7402.522	19465.619	7402.522	190.144	bb			500.5311	100.1	0.1	565.9
001040 246-Trinitrotoluene	227 > 210	15.24	6724.107	19465.619	6724.107	172.718	bb			535.3193	107.1	7.1	288.3
001040 34-dinitrotoluene	182 > 152	14.21	8060.137	19465.619	8060.137	207.035	bb			232.1453	92.9	-7.1	273.4
001040 26-dinitrotoluene	182 > 152	17.38	23100.287	19465.619	23100.287	593.361	MM	04-Jan-10	11:24:57	554.2435	110.8	10.8	869.7
001040 24-dinitrotoluene	182 > 152	18.06	5847.844	19465.619	5847.844	150.210	MM	04-Jan-10	11:31:33	578.9922	115.8	15.8	190.0
001040 26-dinitrotoluene-d3	185 > 155	17.25	19465.619	19465.619	19465.619	19465.619	bb			708.0127	141.6	41.6	2732.2
001040 2-Nitrotoluene	137 > 46	20.80	2474.627	19465.619	2474.627	63.564	bb			372.2870	74.5	-25.5	297.8
001040 4-Nitrotoluene	137 > 46	22.17	1338.624	19465.619	1338.624	34.384	bb			402.9609	80.6	-19.4	162.8
001040 3-Nitrotoluene	137 > 46	23.79	1476.087	19465.619	1476.087	37.915	bb			377.0225	75.4	-24.6	172.7
001040 PETN	361 > 62	24.29	33574.258	19465.619	33574.258	862.399	bb			435.5454	87.1	-12.9	10282.0

GEL Laboratories LLC
Form GEL-NCR

NCR Report No.: 776908
Revision No.: 1

COMPANY - WIDE NONCONFORMANCE REPORT

Mo. Day Yr. 05-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: 935248	Sample Numbers: 1202001040		
Potentially affected work order(s)(SDG): 243249(10-971),243256(10-970),243273(10-988),243274(10-989) Application issues: Other Failed Recovery for LCS/LCSD			
Specification and Requirements Nonconformance Description:		NRG Disposition:	
1. The Laboratory Control Sample (1202001040) did not meet spike recovery limits for TATB at 256%. The recovery limits are 47-166%. 2. The internal standard responses were outside of the acceptance criteria in the following sample: 1202001040(LCS). Please see the Form 8 in the data package for the exact recoveries.		1. The Matrix Spike and Matrix Spike Duplicate both met acceptance limits for TATB. Since TATB was not detected in the associated samples, the data are reported with the appropriate NCR. The discrepancy is noted in the case narrative. 2. The sample was re-analyzed and similar recoveries were observed. The re-analysis data are reported with the appropriate NCR. The discrepancy is noted in the case narrative. The confirmation raw data are located in the Miscellaneous Section of the data package.	

Originator's Name:
Michael Penny 05-JAN-10

Data Validator/Group Leader:
Herbert Maier 05-JAN-10

GC
SEMIVOLATILE
PCB
ANALYSIS

PCB Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-989

Method/Analysis Information

Procedure: Analysis of Polychlorinated Biphenyls by ECD
Analytical Method: SW846 8082
Prep Method: SW846 3550B
Analytical Batch Number: 935393
Prep Batch Number: 935357

Sample Analysis

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

Sample ID	Client ID
243274001	RE12-10-7352
243274010	RE12-10-7364
1202001507	Method Blank (MB)
1202001508	Laboratory Control Sample (LCS)
1202001509	243274001(RE12-10-7352) Matrix Spike (MS)
1202001510	243274001(RE12-10-7352) 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 inverted 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

All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Sample 243274001 (RE12-10-7352) 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. Additionally, copper was added to all sample extracts to remove sulfur.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information**Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually

generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data exception report (NCR) Documentation

Data exception report (DER) is for documentation of any procedural anomalies that may deviate from referenced SOP or contractual document. A DER was not required for this SDG.

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
ECD1A.I_1	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP I	30m x 0.25mm, 0.25um (Rtx-CLPesticide)
ECD1A.I_2	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP II	30m x 0.25mm, 0.20um (Rtx-CLPesticideII)

Certification Statement

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

Review Validation

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

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

Reviewer: Jinni Cao

Date: 1/13/10

Roadmap for LANL 10-989 PCB

This roadmap was analyzed by jen01212 on 12-23-2009, 12:57.

This roadmap was reviewed by hea01125 on 12-24-2009, 14:10.

This roadmap was packaged by yml on 01-13-2010, 08:24.

This roadmap was validated by jim01140 on 01-13-2010, 15:59.

Front Sample Column

exclude	manual	datafile	smplid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/040b4001.d	243274001	sample	22-DEC-2009	14:45	10-989.sub	RE12-10-7352	1.00000	935393	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/043b4301.d	243274010	sample	22-DEC-2009	15:17	10-989.sub	RE12-10-7364	1.00000	935393	UPLOAD BOTH, USE HIGHER

Back Sample Column

exclude	manual	datafile	smplid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/040b4001.d	243274001	sample	22-DEC-2009	14:45	10-989.sub	RE12-10-7352	1.00000	935393	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/043b4301.d	243274010	sample	22-DEC-2009	15:17	10-989.sub	RE12-10-7364	1.00000	935393	UPLOAD BOTH, USE HIGHER

Front QC Sample Column

exclude	manual	datafile	smplid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/024f2401-3.d	1202001507	mb	22-DEC-2009	11:57	10-989.sub	PBLK01	1.00000	935393	
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/025f2501-3.d	1202001508	lcs	22-DEC-2009	12:07	10-989.sub	PBLK01LCS	1.00000	935393	
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/041f4101.d	1202001509	ms	22-DEC-2009	14:56	10-989.sub	RE12-10-7352MS	1.00000	935393	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/042f4201.d	1202001510	msd	22-DEC-2009	15:06	10-989.sub	RE12-10-7352MSD	1.00000	935393	UPLOAD BOTH, USE HIGHER

Back QC Sample Column

exclude	manual	datafile	smplid	sampletype	injdate	injtime	sublist	clientid	dilution	prebatchid	comment
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/024b2401-3.d	1202001507	mb	22-DEC-2009	11:57	10-989.sub	PBLK01	1.00000	935393	
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/025b2501-3.d	1202001508	lcs	22-DEC-2009	12:07	10-989.sub	PBLK01LCS	1.00000	935393	
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/041b4101.d	1202001509	ms	22-DEC-2009	14:56	10-989.sub	RE12-10-7352MS	1.00000	935393	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd1a.i/122209.b/042b4201.d	1202001510	msd	22-DEC-2009	15:06	10-989.sub	RE12-10-7352MSD	1.00000	935393	UPLOAD BOTH, USE HIGHER

SAMPLE DATA SUMMARY

PCB

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Certificate of Analysis

Sample Summary

SDG Number: 10-989
Lab Sample ID: 243274001

Date Collected: 12/16/2009 12:00
Date Received: 12/18/2009 09:25
Client: LANL010
Method: SW846 8082
Inst: ECD1A.I
Analyst: JAOC
Aliquot: 30.14 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 9.8
Project: LANL01004
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	3.68	ug/kg	1.22	3.68	1
11104-28-2	Aroclor-1221	U	3.68	ug/kg	1.22	3.68	1
11141-16-5	Aroclor-1232	U	3.68	ug/kg	1.22	3.68	1
53469-21-9	Aroclor-1242	U	3.68	ug/kg	1.22	3.68	1
12672-29-6	Aroclor-1248	U	3.68	ug/kg	1.22	3.68	1
11097-69-1	Aroclor-1254	U	3.68	ug/kg	1.22	3.68	1
11096-82-5	Aroclor-1260	U	3.68	ug/kg	1.22	3.68	1

PCB
Certificate of Analysis
Sample Summary

SDG Number: 10-989
Lab Sample ID: 243274010

Date Collected: 12/16/2009 12:00
Date Received: 12/18/2009 09:25
Client: LANL010
Method: SW846 8082
Inst: ECD1A.I
Analyst: JAOC
Aliquot: 30.07 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 12.2
Project: LANL01004
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	3.79	ug/kg	1.26	3.79	1
11104-28-2	Aroclor-1221	U	3.79	ug/kg	1.26	3.79	1
11141-16-5	Aroclor-1232	U	3.79	ug/kg	1.26	3.79	1
53469-21-9	Aroclor-1242	U	3.79	ug/kg	1.26	3.79	1
12672-29-6	Aroclor-1248	U	3.79	ug/kg	1.26	3.79	1
11097-69-1	Aroclor-1254	U	3.79	ug/kg	1.26	3.79	1
11096-82-5	Aroclor-1260	U	3.79	ug/kg	1.26	3.79	1

QUALITY CONTROL SUMMARY

PCB
Surrogate Recovery Report

Page 1 of 1

SDG Number: 10-989

Matrix Type: SOLID

CAP Column (1) : CLP1

CAP Column (2) : CLP2

Sample ID	Client ID	4CMX 1	4CMX 2	DCB 1	DCB 2
		%REC #	%REC #	%REC #	%REC #
1202001507	MB for batch 935357	63	60	74	73
1202001508	LCS for batch 935357	62	60	73	71
243274001	RE12-10-7352	58	55	64	62
1202001509	RE12-10-7352MS	61	58	66	64
1202001510	RE12-10-7352MSD	61	58	66	65
243274010	RE12-10-7364	56	54	63	60

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

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**Quality Control Summary
Spike Recovery Report**

SDG Number: 10-989

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 935357

Matrix: SOIL

Lab Sample ID:1202001508

Instrument: ECD1A.I

Analysis Date: 12/22/2009 12:07

Dilution: 1

Analyst: JAOC

Prep Batch II 935357

Inj. Vol: 1 uL

Batch ID: 935393

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	21.9	66	41-110
11096-82-5	LCS Aroclor-1260	33.3	0.0	27.1	81	48-110

PCB

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-989

Sample Type: Matrix Spike

Client ID: RE12-10-7352MS

Matrix: R

Lab Sample ID:1202001509

%Moisture: 9.8

Instrument: ECD1A.I

Analysis Date: 12/22/2009 14:56

Dilution: 1

Analyst: JAOC

Prep Batch II 935357

Inj. Vol: 1 uL

Batch ID: 935393

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	MS Aroclor-1016	36.9	0.00 U	24.1	65	23-117
11096-82-5	MS Aroclor-1260	36.9	0.00 U	30.5	83	27-116

PCB

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-989

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-7352MSD

Matrix: R

Lab Sample ID:1202001510

%Moisture: 9.8

Instrument: ECD1A.I

Analysis Date: 12/22/2009 15:06

Dilution: 1

Analyst: JAOC

Prep Batch ID: 935357

Inj. Vol: 1 uL

Batch ID: 935393

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD Aroclor-1016	36.9	0.00	U 24.9	67	23-117	3	0-30
11096-82-5	MSD Aroclor-1260	36.9	0.00	U 30.5	83	27-116	0	0-30

Method Blank Summary

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SDG Number:	10-989	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 935357	Instrument ID:	ECD1AJ_2	Data File:	024b2401-1.d
Lab Sample ID:	1202001507		ECD1AJ_1		024f2401-1.d
Column:	CLP2	Prep Date:	12/21/2009 20:06	Analyzed:	12/22/09 11:57
	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 935357	1202001508	025f2501-1.d 025b2501-1.d	12/22/09	1207
02 RE12-10-7352	243274001	040f4001.d 040b4001.d	12/22/09	1445
03 RE12-10-7352MS	1202001509	041f4101.d 041b4101.d	12/22/09	1456
04 RE12-10-7352MSD	1202001510	042f4201.d 042b4201.d	12/22/09	1506
05 RE12-10-7364	243274010	043f4301.d 043b4301.d	12/22/09	1517

SAMPLE DATA

PCB
Certificate of Analysis
Sample Summary

SDG Number: 10-989
Lab Sample ID: 243274001

Date Collected: 12/16/2009 12:00
Date Received: 12/18/2009 09:25
Client: LANL010
Method: SW846 8082
Inst: ECD1A.1
Analyst: JAOC
Aliquot: 30.14 g
Column: 1 CLP1
 2 CLP2

Matrix: R
% Moisture: 9.8
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE12-10-7352
Batch ID: 935393
Run Date: 12/22/2009 14:45
Prep Date: 12/21/2009 20:06
Data File: 040f4001.d
 040b4001.d

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.68	ug/kg	1.22	3.68	1
11104-28-2	Aroclor-1221	U	3.68	ug/kg	1.22	3.68	1
11141-16-5	Aroclor-1232	U	3.68	ug/kg	1.22	3.68	1
53469-21-9	Aroclor-1242	U	3.68	ug/kg	1.22	3.68	1
12672-29-6	Aroclor-1248	U	3.68	ug/kg	1.22	3.68	1
11097-69-1	Aroclor-1254	U	3.68	ug/kg	1.22	3.68	1
11096-82-5	Aroclor-1260	U	3.68	ug/kg	1.22	3.68	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/040f4001.d
Lab Smp Id: 243274001 Client Smp ID: RE12-10-7352
Inj Date : 22-DEC-2009 14:45
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |243274001|1|
Misc Info : |ECD82P_1S|935393|SVA|LANL|SOIL|RE12-10-7352|||
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 40
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.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	30.14000	Weight of sample extracted (g)
M	9.79470	% 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	1.972	1.971	0.001	43476284	115.730	4.2 80.00- 120.00	100.00

CAS #: 2051-24-3							
\$ 12 Decachlorobiphenyl	5.287	5.286	0.001	40868716	128.704	4.7 80.00- 120.00	100.00

Data File: /chem/eodla.i/122209.b/040f4001.d

Date : 22-DEC-2009 14:45

Client ID: REL2-10-7352

Sample Info: 1243274001/11

Volume Injected (uL): 1.0

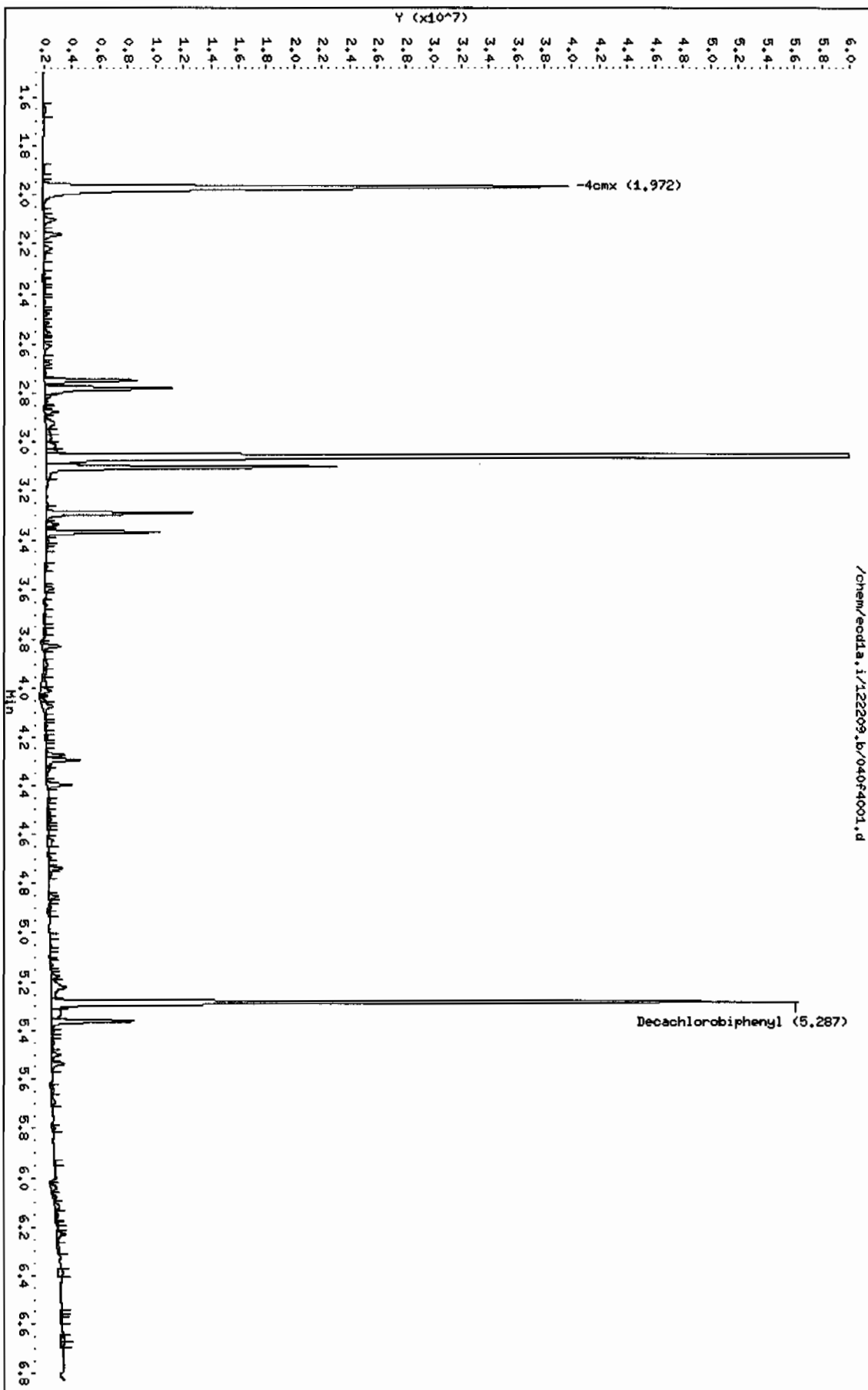
Column phase: CLP1

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Instrument: eodla.i

Operator: JHOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
Data file : /chem/ecdl1a.i/122209.b/040b4001.d
Lab Smp Id: 243274001 Client Smp ID: RE12-10-7352
Inj Date : 22-DEC-2009 14:45
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |243274001|1|
Misc Info : |ECD82P_1S|935393|SVA|LANL|SOIL|RE12-10-7352|||
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 23-Dec-2009 06:44 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 40
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.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	30.14000	Weight of sample extracted (g)
M	9.79470	% Moisture

Cpnd Variable Local Compound Variable

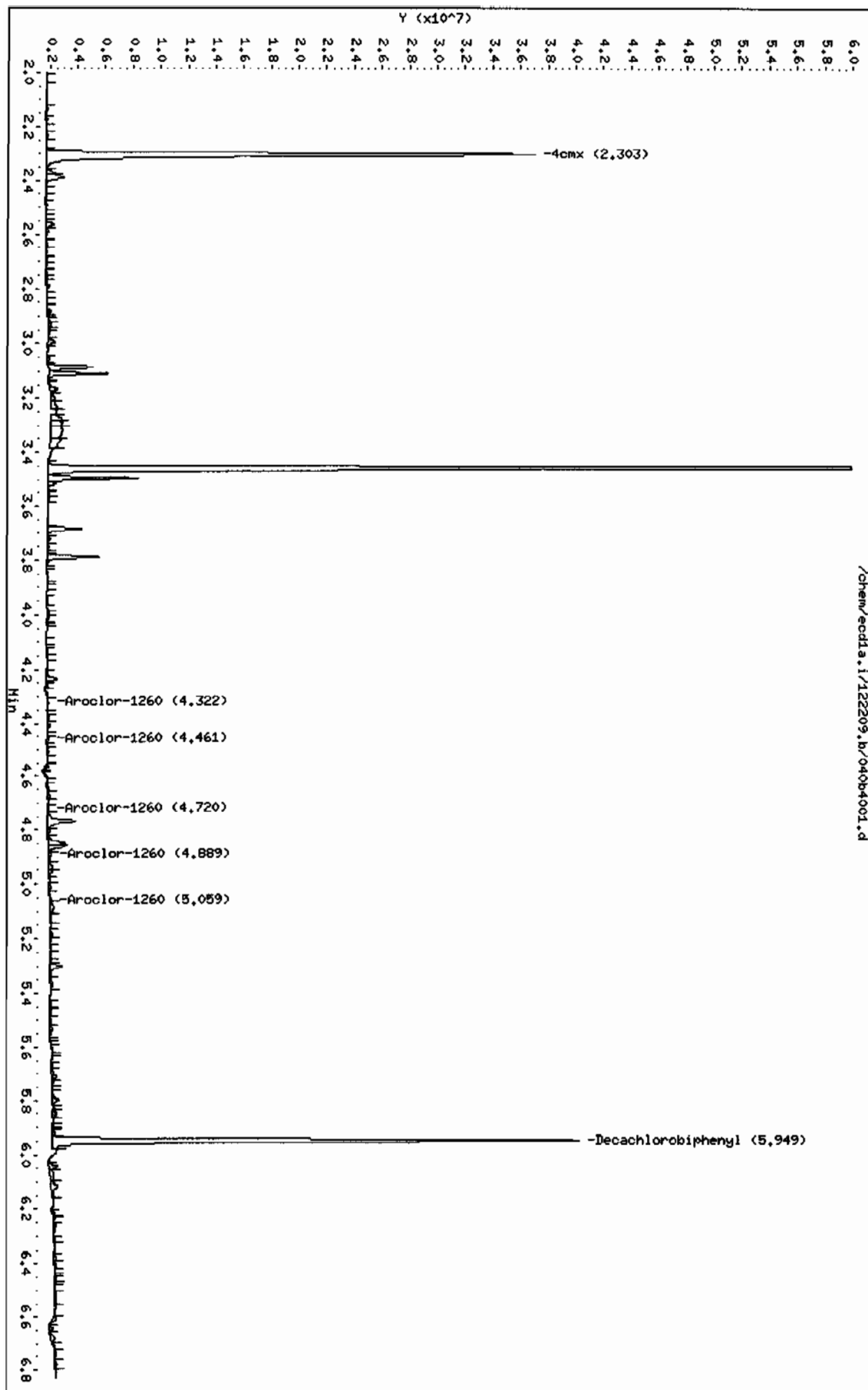
CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
\$ 11 4cmx					CAS #: 877-09-8		
2.303	2.302	0.001	33069100	110.221	4.0 80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.949	5.948	0.001	28885533	123.852	4.6 80.00- 120.00	100.00	

Data File: /chem/ecdia.i/122209.b/040b4001.d
Date: 22-DEC-2009 14:45
Client ID: REL2-10-7352
Sample Info: 124327400111
Volume Injected (uL): 1.0
Column phase: CLP2

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

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PCB

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Certificate of Analysis

Sample Summary

SDG Number: 10-989
Lab Sample ID: 243274010

Date Collected: 12/16/2009 12:00
Date Received: 12/18/2009 09:25
Client: LANL010
Method: SW846 8082
Inst: ECD1A.I
Analyst: JAOC
Aliquot: 30.07 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 12.2
Project: LANL01004
SOP Ref: GL-OA-E-040
Dilution: 1
Inj. Vol: 1 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE12-10-7364
Batch ID: 935393
Run Date: 12/22/2009 15:17
Prcp Date: 12/21/2009 20:06
Data File: 043f4301.d
043b4301.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.79	ug/kg	1.26	3.79	1
11104-28-2	Aroclor-1221	U	3.79	ug/kg	1.26	3.79	1
11141-16-5	Aroclor-1232	U	3.79	ug/kg	1.26	3.79	1
53469-21-9	Aroclor-1242	U	3.79	ug/kg	1.26	3.79	1
12672-29-6	Aroclor-1248	U	3.79	ug/kg	1.26	3.79	1
11097-69-1	Aroclor-1254	U	3.79	ug/kg	1.26	3.79	1
11096-82-5	Aroclor-1260	U	3.79	ug/kg	1.26	3.79	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/043f4301.d
Lab Smp Id: 243274010 Client Smp ID: RE12-10-7364
Inj Date : 22-DEC-2009 15:17
Operator : JAOC Inst ID: ecdla.i
Smp Info : |243274010|1|
Misc Info : |ECD82P_1S|935393|SVA|LANL|SOIL|RE12-10-7364|||
Comment :
Method : /chem/ecdla.i/122209.b/ECD1-F-8082-121409.m
Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 43
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

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	30.07000	Weight of sample extracted (g)
M	12.15350	% Moisture

Cpnd Variable Local Compound Variable

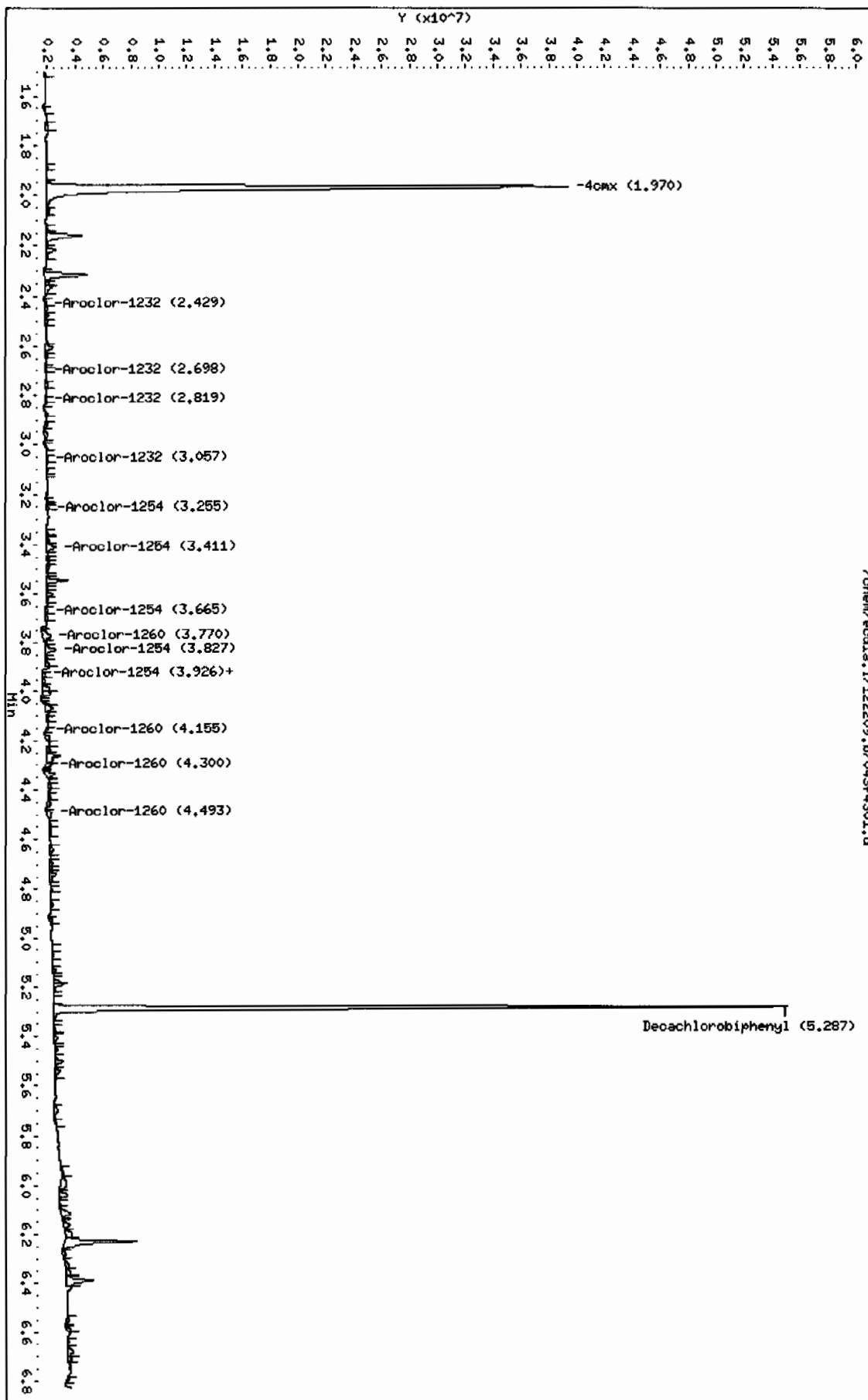
CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	*****	*****	*****	=====
\$ 11 4cmx CAS #: 877-09-8						
1.970	1.971	-0.001	42353386	112.741	4.3 80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
5.287	5.286	0.001	39929424	125.746	4.8 80.00- 120.00	100.00

Data File: /chem/ecdt.a.i/122209.b/043f4301.d
Date: 22-DEC-2009 15:17
Client ID: RE12-10-7364
Sample Info: 124327401011
Volume Injected (ul): 1.0
Column phase: CLP1

Instrument: ecdt.a.i
Operator: JHOC
Column diameter: 0.25

/chem/ecdt.a.i/122209.b/043f4301.d



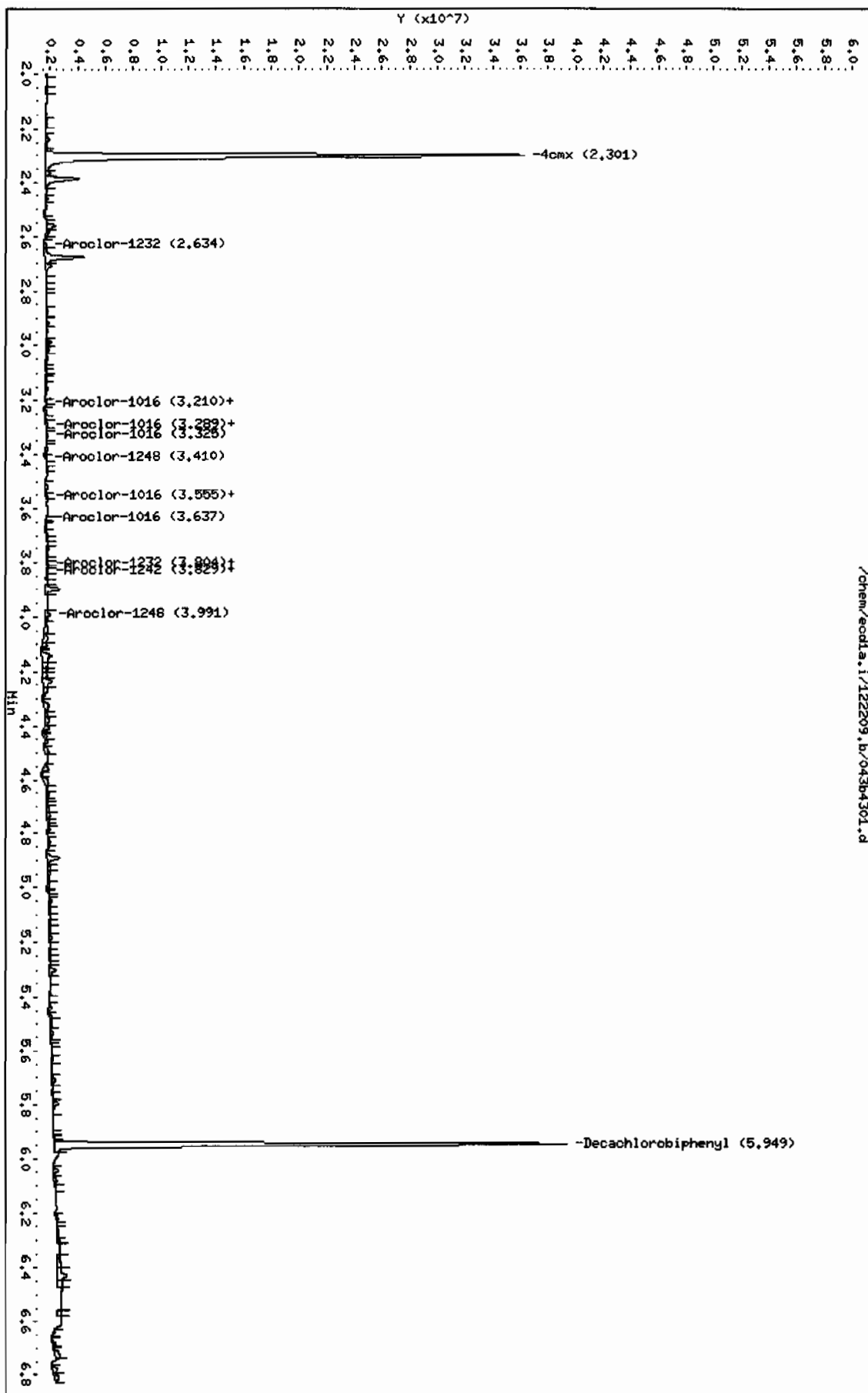
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5.949	5.948	0.001	28150346	120.699	4.6	80.00-	120.00	100.00
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Data File: /chem/eodla.i/122209.b/043b4301.d
Date : 22-DEC-2009 15:17
Client ID: RE12-10-7364
Sample Info: 124327401011
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: eodla.i
Operator: JHCC
Column diameter: 0.25

/chem/eodla.i/122209.b/043b4301.d



STANDARDS DATA

Report Date: 23-Dec-2009 12:05

Calibration History

Method : /chem/ecdla.i/122209.b/ECD1-F-8082-121409.m
Start Cal Date: 14-DEC-2009 05:36
End Cal Date : 14-DEC-2009 12:37

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
14-DEC-2009 11:34	AR1268	/chem/ecdla.i/121409.b/040f4001.d
14-DEC-2009 09:28	AR1248	/chem/ecdla.i/121409.b/028f2801.d
14-DEC-2009 08:25	AR1242	/chem/ecdla.i/121409.b/022f2201.d
14-DEC-2009 07:22	AR1254	/chem/ecdla.i/121409.b/016f1601.d
14-DEC-2009 10:31	AR1660	/chem/ecdla.i/121409.b/034f3401.d
Cal Level: 2 , Cal Amount: 200.00000		
14-DEC-2009 11:44	AR1268	/chem/ecdla.i/121409.b/041f4101.d
14-DEC-2009 09:38	AR1248	/chem/ecdla.i/121409.b/029f2901.d
14-DEC-2009 08:35	AR1242	/chem/ecdla.i/121409.b/023f2301.d
14-DEC-2009 07:32	AR1254	/chem/ecdla.i/121409.b/017f1701.d
14-DEC-2009 10:41	AR1660	/chem/ecdla.i/121409.b/035f3501.d
Cal Level: 3 , Cal Amount: 500.00000		
14-DEC-2009 11:55	AR1268	/chem/ecdla.i/121409.b/042f4201.d
14-DEC-2009 09:49	AR1248	/chem/ecdla.i/121409.b/030f3001.d
14-DEC-2009 08:46	AR1242	/chem/ecdla.i/121409.b/024f2401.d
14-DEC-2009 07:43	AR1254	/chem/ecdla.i/121409.b/018f1801.d
14-DEC-2009 10:52	AR1660	/chem/ecdla.i/121409.b/036f3601.d
Cal Level: 4 , Cal Amount: 1000.00000		
14-DEC-2009 12:37	DDTANALOGSTD	/chem/ecdla.i/121409.b/046f4601.d
14-DEC-2009 09:59	AR1248	/chem/ecdla.i/121409.b/031f3101.d
14-DEC-2009 08:56	AR1242	/chem/ecdla.i/121409.b/025f2501.d
14-DEC-2009 07:53	AR1254	/chem/ecdla.i/121409.b/019f1901.d
14-DEC-2009 11:02	AR1660	/chem/ecdla.i/121409.b/037f3701.d
14-DEC-2009 12:06	AR1268	/chem/ecdla.i/121409.b/043f4301.d
14-DEC-2009 05:58	AR1262	/chem/ecdla.i/121409.b/008f0801.d
14-DEC-2009 05:47	AR1221	/chem/ecdla.i/121409.b/007f0701.d
14-DEC-2009 05:36	AR1232	/chem/ecdla.i/121409.b/006f0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
14-DEC-2009 12:16	AR1268	/chem/ecdla.i/121409.b/044f4401.d
14-DEC-2009 10:10	AR1248	/chem/ecdla.i/121409.b/032f3201.d
14-DEC-2009 09:07	AR1242	/chem/ecdla.i/121409.b/026f2601.d
14-DEC-2009 08:04	AR1254	/chem/ecdla.i/121409.b/020f2001.d
14-DEC-2009 11:13	AR1660	/chem/ecdla.i/121409.b/038f3801.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Report Date: 23-Dec-2009 12:04

Calibration History

Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
Start Cal Date: 11-DEC-2009 10:17
End Cal Date : 14-DEC-2009 12:37

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
14-DEC-2009 11:34	AR1268	/chem/ecdl1a.i/121409.b/040b4001.d
14-DEC-2009 09:28	AR1248	/chem/ecdl1a.i/121409.b/028b2801.d
14-DEC-2009 08:25	AR1242	/chem/ecdl1a.i/121409.b/022b2201.d
14-DEC-2009 07:22	AR1254	/chem/ecdl1a.i/121409.b/016b1601.d
14-DEC-2009 10:31	AR1660	/chem/ecdl1a.i/121409.b/034b3401.d

Cal Level: 2 , Cal Amount: 200.00000		
14-DEC-2009 11:44	AR1268	/chem/ecdl1a.i/121409.b/041b4101.d
14-DEC-2009 09:38	AR1248	/chem/ecdl1a.i/121409.b/029b2901.d
14-DEC-2009 08:35	AR1242	/chem/ecdl1a.i/121409.b/023b2301.d
14-DEC-2009 07:32	AR1254	/chem/ecdl1a.i/121409.b/017b1701.d
14-DEC-2009 10:41	AR1660	/chem/ecdl1a.i/121409.b/035b3501.d

Cal Level: 3 , Cal Amount: 500.00000		
14-DEC-2009 11:55	AR1268	/chem/ecdl1a.i/121409.b/042b4201.d
14-DEC-2009 09:49	AR1248	/chem/ecdl1a.i/121409.b/030b3001.d
14-DEC-2009 08:46	AR1242	/chem/ecdl1a.i/121409.b/024b2401.d
14-DEC-2009 07:43	AR1254	/chem/ecdl1a.i/121409.b/018b1801.d
14-DEC-2009 10:52	AR1660	/chem/ecdl1a.i/121409.b/036b3601.d

Cal Level: 4 , Cal Amount: 1000.00000		
14-DEC-2009 12:37	DDTANALOGSTD	/chem/ecdl1a.i/121409.b/046b4601.d
14-DEC-2009 12:06	AR1268	/chem/ecdl1a.i/121409.b/043b4301.d
14-DEC-2009 05:58	AR1262	/chem/ecdl1a.i/121409.b/008b0801.d
14-DEC-2009 05:47	AR1221	/chem/ecdl1a.i/121409.b/007b0701.d
14-DEC-2009 05:36	AR1232	/chem/ecdl1a.i/121409.b/006b0601.d
14-DEC-2009 09:59	AR1248	/chem/ecdl1a.i/121409.b/031b3101.d
14-DEC-2009 08:56	AR1242	/chem/ecdl1a.i/121409.b/025b2501.d
14-DEC-2009 07:53	AR1254	/chem/ecdl1a.i/121409.b/019b1901.d
14-DEC-2009 11:02	AR1660	/chem/ecdl1a.i/121409.b/037b3701.d

Cal Level: 5 , Cal Amount: 4000.00000		
14-DEC-2009 12:16	AR1268	/chem/ecdl1a.i/121409.b/044b4401.d
14-DEC-2009 10:10	AR1248	/chem/ecdl1a.i/121409.b/032b3201.d
14-DEC-2009 09:07	AR1242	/chem/ecdl1a.i/121409.b/026b2601.d
14-DEC-2009 08:04	AR1254	/chem/ecdl1a.i/121409.b/020b2001.d
14-DEC-2009 11:13	AR1660	/chem/ecdl1a.i/121409.b/038b3801.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 15:27	AR1660	/chem/ecdla.i/122209.b/044b4401.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 13:42	AR1660	/chem/ecdla.i/122209.b/034b3401.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 11:36	AR1660	/chem/ecdla.i/122209.b/022b2201.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 09:19	AR1268	/chem/ecdla.i/122209.b/009b0901.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 09:08	AR1262	/chem/ecdla.i/122209.b/008b0801.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 08:58	AR1221	/chem/ecdla.i/122209.b/007b0701.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 08:47	AR1232	/chem/ecdla.i/122209.b/006b0601.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 08:37	AR1248	/chem/ecdla.i/122209.b/005b0501.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 08:26	AR1242	/chem/ecdla.i/122209.b/004b0401.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 08:16	AR1254	/chem/ecdla.i/122209.b/003b0301.d
Ccal Level: 4 , Ccal Amount: 1000		
22-DEC-2009 08:05	AR1660	/chem/ecdla.i/122209.b/002b0201.d

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd1a.i/122209.b/ECD1-F-8082-121409.m
 Quant Method : ESTD Target Version : 3.50
 Last Update : 23-Dec-2009 06:42 Number of Cpnds : 15
 Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events

Values

```

-----
Initial:Start Threshold 12031.000000
Initial:End Threshold   6015.500000
Initial:Area Threshold  15489.000000
Initial:P-P Resolution   1.000000
Initial:Bunch Factor     2.000000
Initial:Negative Peaks   OFF
Initial:Tension          0.500000
  
```

Compound	RT	RT Window	RF
1 Aroclor-1016	2.427	2.397-2.457	1.387e+04
	2.705	2.675-2.735	1.010e+04
	2.796	2.766-2.826	1.176e+04
	2.835	2.805-2.865	6.599e+03
	3.046	3.016-3.076	8.673e+03
63 4,4-DDD	3.953	3.933-3.973	3.938e+05
64 4,4-DDE	3.603	3.583-3.623	4.795e+05
62 4,4-DDT	4.118	4.098-4.138	3.238e+05
2 Aroclor-1221	2.084	2.054-2.114	4.301e+03
	2.177	2.147-2.207	2.440e+03
	2.203	2.173-2.233	1.027e+04
3 Aroclor-1232	2.428	2.398-2.458	6.717e+03
	2.718	2.688-2.748	8.157e+03
	2.798	2.768-2.828	5.751e+03
	3.047	3.017-3.077	3.954e+03
	3.301	3.271-3.331	3.533e+03
4 Aroclor-1242	2.428	2.398-2.458	1.166e+04
	2.717	2.687-2.747	1.345e+04
	2.836	2.806-2.866	5.506e+03
	3.047	3.017-3.077	7.245e+03
	3.300	3.270-3.330	6.811e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecdla.i/122209.b/ECD1-F-8082-121409.m

Compound	RT	RT Window	RF
5 Aroclor-1248	3.098	3.068-3.128	7.848e+03
	3.249	3.219-3.279	6.870e+03
	3.300	3.271-3.330	1.331e+04
	3.432	3.402-3.462	1.101e+04
6 Aroclor-1254	3.666	3.636-3.696	7.455e+03
	3.275	3.245-3.305	1.249e+04
	3.430	3.400-3.460	1.672e+04
	3.664	3.634-3.694	2.071e+04
7 Aroclor-1260	3.827	3.797-3.857	1.569e+04
	3.936	3.906-3.966	1.517e+04
	3.771	3.741-3.801	1.675e+04
	3.934	3.904-3.964	2.474e+04
8 Aroclor-1262	4.165	4.135-4.195	1.469e+04
	4.307	4.277-4.337	1.518e+04
	4.486	4.456-4.516	3.435e+04
	3.774	3.744-3.804	1.402e+04
9 Aroclor-1268	3.936	3.906-3.966	1.841e+04
	4.167	4.137-4.197	2.251e+04
	4.309	4.279-4.339	2.033e+04
	4.489	4.459-4.519	4.317e+04
M 10 Aroclor-Total	4.674	4.644-4.704	5.438e+04
	4.697	4.667-4.727	5.419e+04
	4.809	4.779-4.839	4.052e+04
	5.013	4.983-5.043	1.833e+04
\$ 11 4cmx	5.179	5.149-5.209	1.233e+05
\$ 12 Decachlorobiphenyl	1.000	0.980-1.020	
	1.971	1.941-2.001	3.757e+05
	5.286	5.256-5.316	3.175e+05

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m
Quant Method : ESTD Target Version : 3.50
Last Update : 23-Dec-2009 06:44 Number of Cpnds : 15
Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events Values

Initial:Start Threshold 7222.000000
Initial:End Threshold 3611.000000
Initial:Area Threshold 6833.000000
Initial:P-P Resolution 0.000000
Initial:Bunch Factor 2.000000
Initial:Negative Peaks OFF
Initial:Tension 0.500000

Compound	RT	RT Window	RF
1 Aroclor-1016	3.199	3.169-3.229	1.261e+04
	3.282	3.252-3.312	9.328e+03
	3.346	3.316-3.376	5.411e+03
	3.572	3.542-3.602	7.052e+03
	3.648	3.618-3.678	6.551e+03
62 4,4-DDT	4.670	4.650-4.690	2.436e+05
63 4,4-DDE	4.139	4.119-4.159	3.580e+05
64 4,4-DDD	4.483	4.463-4.503	2.893e+05
2 Aroclor-1221	2.499	2.469-2.529	3.640e+03
	2.594	2.564-2.624	2.329e+03
	2.635	2.604-2.664	8.119e+03
3 Aroclor-1232	2.635	2.605-2.665	6.156e+03
	3.201	3.171-3.231	6.302e+03
	3.283	3.253-3.313	4.701e+03
	3.574	3.544-3.604	3.243e+03
4 Aroclor-1242	3.807	3.777-3.837	3.151e+03
	3.200	3.170-3.230	1.059e+04
	3.283	3.253-3.313	8.054e+03
	3.574	3.544-3.604	5.962e+03
	3.807	3.777-3.837	6.057e+03
	3.835	3.805-3.865	6.701e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m

Compound	RT	RT Window	RF
5 Aroclor-1248	3.409	3.379-3.439	8.054e+03
	3.574	3.544-3.604	9.874e+03
	3.808	3.778-3.838	1.122e+04
	3.836	3.805-3.865	1.248e+04
	3.972	3.942-4.002	1.210e+04
6 Aroclor-1254	3.407	3.377-3.437	6.435e+03
	3.830	3.800-3.860	1.156e+04
	3.947	3.917-3.977	1.243e+04
	4.223	4.193-4.253	1.688e+04
	4.359	4.329-4.389	1.244e+04
7 Aroclor-1260	4.338	4.308-4.368	1.368e+04
	4.463	4.433-4.493	1.603e+04
	4.729	4.699-4.759	1.256e+04
	4.903	4.873-4.933	1.281e+04
	5.050	5.020-5.080	2.790e+04
8 Aroclor-1262	4.464	4.434-4.494	1.292e+04
	4.731	4.701-4.761	1.831e+04
	4.904	4.874-4.934	1.658e+04
	5.051	5.021-5.081	3.329e+04
	5.264	5.234-5.294	2.297e+04
9 Aroclor-1268	5.263	5.233-5.293	4.358e+04
	5.290	5.260-5.320	4.039e+04
	5.440	5.410-5.470	3.144e+04
	5.605	5.575-5.635	1.427e+04
	5.798	5.768-5.828	8.886e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
\$ 11 4cmx	2.302	2.272-2.332	3.000e+05
\$ 12 Decachlorobiphenyl	5.948	5.918-5.978	2.332e+05

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2009 05:36
 End Cal Date : 14-DEC-2009 12:37
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
 Cal Date : 23-Dec-2009 06:42 jen01212
 Curve Type : Average

Calibration File Names:

Level 1: /chem/ecdl1a.i/121409.b/040f4001.d
 Level 2: /chem/ecdl1a.i/121409.b/041f4101.d
 Level 3: /chem/ecdl1a.i/121409.b/042f4201.d
 Level 4: /chem/ecdl1a.i/121409.b/046f4601.d
 Level 5: /chem/ecdl1a.i/121409.b/044f4401.d

Compound	100.000	200.000	500.000	1000.000	4000.000	RRF	% RSD
-----	-----	-----	-----	-----	-----	-----	-----
1 Aroclor-1016(1)	15975	14641	13829	13236	11653	13867	11.596
(2)	10801	10349	9832	9922	9584	10098	4.757
(3)	13242	12280	11732	11291	10240	11757	9.507
(4)	7178	6867	6609	6421	5920	6599	7.183
(5)	9710	9021	8649	8224	7763	8673	8.604
63 4,4-DDD	++++	++++	++++	393799	++++	393799	0.000
64 4,4-DDE	++++	++++	++++	479509	++++	479509	0.000
62 4,4-DDT	++++	++++	++++	323817	++++	323817	0.000
2 Aroclor-1221(1)	++++	++++	++++	4301	++++	4301	0.000
(2)	++++	++++	++++	2440	++++	2440	0.000
(3)	++++	++++	++++	10272	++++	10272	0.000
3 Aroclor-1232(1)	++++	++++	++++	6717	++++	6717	0.000
(2)	++++	++++	++++	8157	++++	8157	0.000
(3)	++++	++++	++++	5751	++++	5751	0.000
(4)	++++	++++	++++	3954	++++	3954	0.000
(5)	++++	++++	++++	3533	++++	3533	0.000
4 Aroclor-1242(1)	13692	12467	11522	10819	9798	11660	12.846
(2)	14782	14429	13236	12555	12263	13453	8.301
(3)	6076	5890	5423	5191	4949	5506	8.563
(4)	8395	7578	7079	6747	6426	7245	10.645
(5)	7587	7189	6604	6378	6296	6811	8.178
5 Aroclor-1248(1)	9070	8103	7743	7247	7078	7848	10.119
(2)	7785	7181	6827	6444	6114	6870	9.456
(3)	15108	13267	13037	12915	12225	13310	8.094
(4)	12682	11331	10815	10392	9852	11015	9.799
(5)	8605	7806	7405	7124	6336	7455	11.244

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2009 05:36
 End Cal Date : 14-DEC-2009 12:37
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
 Cal Date : 23-Dec-2009 06:42 jen01212
 Curve Type : Average

Compound	100.000 Level 1	200.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
6 Aroclor-1254(1)	14281	12975	12313	11911	10947	12485	9.963
(2)	18803	17181	16666	15949	15010	16722	8.494
(3)	22492	20906	20786	20326	19059	20714	5.957
(4)	16753	15627	15809	15513	14770	15694	4.535
(5)	16595	15169	15433	15075	13591	15172	7.071
7 Aroclor-1260(1)	18145	17177	16842	16407	15189	16752	6.464
(2)	26410	24871	24973	24571	22887	24743	5.081
(3)	16099	14386	14855	14472	13625	14687	6.171
(4)	16517	14719	15311	15032	14343	15185	5.451
(5)	35425	33953	34899	34487	32987	34350	2.719
8 Aroclor-1262(1)	+++++	+++++	+++++	14019	+++++	14019	0.000
(2)	+++++	+++++	+++++	18406	+++++	18406	0.000
(3)	+++++	+++++	+++++	22511	+++++	22511	0.000
(4)	+++++	+++++	+++++	20327	+++++	20327	0.000
(5)	+++++	+++++	+++++	43170	+++++	43170	0.000
9 Aroclor-1268(1)	56914	55996	53872	52565	52528	54375	3.680
(2)	57500	55307	54092	52376	51697	54194	4.300
(3)	43006	41368	40020	38976	39247	40524	4.120
(4)	19620	18932	18085	17425	17569	18326	5.094
(5)	128350	126812	122798	118830	119599	123278	3.436
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 4cmx	367897	454677	359986	359846	335942	375669	12.182
12 Decachlorobiphenyl	316645	388263	307193	296602	278999	317541	13.206

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 11-DEC-2009 10:17
 End Cal Date : 14-DEC-2009 12:37
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
 Cal Date : 23-Dec-2009 06:44 jen01212
 Curve Type : Average

Calibration File Names:

Level 1: /chem/ecdl1a.i/121409.b/040b4001.d
 Level 2: /chem/ecdl1a.i/121409.b/041b4101.d
 Level 3: /chem/ecdl1a.i/121409.b/042b4201.d
 Level 4: /chem/ecdl1a.i/121409.b/046b4601.d
 Level 5: /chem/ecdl1a.i/121409.b/044b4401.d

Compound	100.000	200.000	500.000	1000.000	4000.000	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5			
1 Aroclor-1016(1)	14281	12734	12848	12156	11039	12612	9.333
(2)	10954	9913	9256	8806	7710	9328	13.003
(3)	6310	5679	5380	5089	4598	5411	11.852
(4)	8214	7430	6981	6696	5938	7052	12.003
(5)	7754	6843	6481	6115	5561	6551	12.561
62 4,4-DDT	+++++	+++++	+++++	243613	+++++	243613	0.000
63 4,4-DDE	+++++	+++++	+++++	357996	+++++	357996	0.000
64 4,4-DDD	+++++	+++++	+++++	289343	+++++	289343	0.000
2 Aroclor-1221(1)	+++++	+++++	+++++	3640	+++++	3640	0.000
(2)	+++++	+++++	+++++	2329	+++++	2329	0.000
(3)	+++++	+++++	+++++	8119	+++++	8119	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	6156	+++++	6156	0.000
(2)	+++++	+++++	+++++	6302	+++++	6302	0.000
(3)	+++++	+++++	+++++	4701	+++++	4701	0.000
(4)	+++++	+++++	+++++	3243	+++++	3243	0.000
(5)	+++++	+++++	+++++	3151	+++++	3151	0.000
4 Aroclor-1242(1)	12348	11309	9989	9755	9542	10589	11.338
(2)	9730	8628	7875	7358	6677	8054	14.627
(3)	7163	6326	5763	5452	5107	5962	13.534
(4)	7183	6468	5900	5548	5185	6057	12.997
(5)	7820	7123	6589	6229	5746	6701	11.977
5 Aroclor-1248(1)	9914	8542	7972	7289	6553	8054	15.880
(2)	11996	10356	9798	9046	8173	9874	14.605
(3)	13306	11756	11119	10365	9555	11220	12.723
(4)	14720	13121	12480	11577	10516	12483	12.732
(5)	14361	12633	11977	11210	10342	12104	12.596

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 11-DEC-2009 10:17
 End Cal Date : 14-DEC-2009 12:37
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : Falcon
 Method file : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
 Cal Date : 23-Dec-2009 06:44 jen01212
 Curve Type : Average

	100.000	200.000	500.000	1000.000	4000.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
6 Aroclor-1254(1)	7857	6938	6317	5878	5185	6435	15.850
(2)	13759	12316	11389	10708	9625	11559	13.615
(3)	14674	13172	12243	11576	10492	12431	12.786
(4)	19102	17554	16808	16165	14771	16880	9.533
(5)	14276	12708	12612	11843	10739	12435	10.425
7 Aroclor-1260(1)	15678	14232	13583	13177	11731	13680	10.567
(2)	18142	16574	16035	15527	13867	16029	9.709
(3)	14298	13064	12524	12030	10903	12564	9.989
(4)	14593	13310	12766	12230	11150	12810	9.970
(5)	30553	28626	28257	27276	24777	27898	7.569
8 Aroclor-1262(1)	++++	++++	++++	12922	++++	12922	0.000
(2)	++++	++++	++++	18311	++++	18311	0.000
(3)	++++	++++	++++	16579	++++	16579	0.000
(4)	++++	++++	++++	33287	++++	33287	0.000
(5)	++++	++++	++++	22972	++++	22972	0.000
9 Aroclor-1268(1)	48327	45655	43354	41349	39206	43578	8.193
(2)	44968	41865	39872	38249	36983	40388	7.790
(3)	35350	32573	30975	29630	28674	31440	8.372
(4)	16410	14977	13894	13214	12876	14274	10.077
(5)	96769	92419	87897	84047	83161	88859	6.460
M 10 Aroclor-Total	++++	++++	++++	++++	++++	++++	++++
\$ 11 4cmx	307069	367145	286931	282899	256086	300026	13.893
\$ 12 Decachlorobiphenyl	248884	286011	224119	212175	194946	233227	15.194

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 0805
 Lab File ID: 002F0201 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	13866.870	11819.100	0.01	-14.8	15.0
(2)	10097.726	10041.405	0.01	-0.6	15.0
(3)	11757.020	10232.893	0.01	-13.0	15.0
(4)	6599.010	6218.851	0.01	-5.8	15.0
(5)	8673.402	7893.471	0.01	-9.0	15.0
Aroclor-1260	16752.150	15831.089	0.01	-5.5	15.0
(2)	24742.603	24387.503	0.01	-1.4	15.0
(3)	14687.346	14641.032	0.01	-0.3	15.0
(4)	15184.529	15291.566	0.01	0.7	15.0
(5)	34350.443	35549.448	0.01	3.5	15.0
4cmx	375669.41	339416.84	0.01	-9.6	15.0
Decachlorobiphenyl	317540.53	312855.09	0.01	-1.5	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 0805
 Lab File ID: 002B0201 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	12611.539	12307.559	0.01	-2.4	15.0
(2)	9327.875	7955.901	0.01	-14.7	15.0
(3)	5411.316	4945.153	0.01	-8.6	15.0
(4)	7051.879	6459.718	0.01	-8.4	15.0
(5)	6550.733	5874.937	0.01	-10.3	15.0
Aroclor-1260	13680.027	12456.008	0.01	-8.9	15.0
(2)	16029.019	15351.218	0.01	-4.2	15.0
(3)	12563.933	11813.735	0.01	-6.0	15.0
(4)	12810.076	12208.277	0.01	-4.7	15.0
(5)	27897.674	27912.067	0.01	0.0	15.0
4cmx	300025.77	266655.00	0.01	-11.1	15.0
Decachlorobiphenyl	233227.08	232646.98	0.01	-0.2	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.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 1136
 Lab File ID: 022F2201 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	13866.870	12195.989	0.01	-12.0	15.0
(2)	10097.726	10155.647	0.01	0.6	15.0
(3)	11757.020	10536.169	0.01	-10.4	15.0
(4)	6599.010	6316.222	0.01	-4.3	15.0
(5)	8673.402	8227.877	0.01	-5.1	15.0
Aroclor-1260	16752.150	16412.717	0.01	-2.0	15.0
(2)	24742.603	25383.228	0.01	2.6	15.0
(3)	14687.346	15136.737	0.01	3.0	15.0
(4)	15184.529	15881.438	0.01	4.6	15.0
(5)	34350.443	36861.795	0.01	7.3	15.0
=====	=====	=====	=====	=====	=====
4cmx	375669.41	353567.03	0.01	-5.9	15.0
Decachlorobiphenyl	317540.53	323120.44	0.01	1.8	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.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 1136
 Lab File ID: 022B2201 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	12611.539	12044.894	0.01	-4.5	15.0
(2)	9327.875	7971.400	0.01	-14.5	15.0
(3)	5411.316	5010.350	0.01	-7.4	15.0
(4)	7051.879	6461.988	0.01	-8.4	15.0
(5)	6550.733	5901.695	0.01	-9.9	15.0
Aroclor-1260	13680.027	12441.498	0.01	-9.0	15.0
(2)	16029.019	15419.548	0.01	-3.8	15.0
(3)	12563.933	11883.895	0.01	-5.4	15.0
(4)	12810.076	12259.583	0.01	-4.3	15.0
(5)	27897.674	28019.266	0.01	0.4	15.0
4cmx	300025.77	268297.90	0.01	-10.6	15.0
Decachlorobiphenyl	233227.08	234407.24	0.01	0.5	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 1342
 Lab File ID: 034F3401 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	13866.870	12307.109	0.01	-11.2	15.0
(2)	10097.726	9886.673	0.01	-2.1	15.0
(3)	11757.020	10619.709	0.01	-9.7	15.0
(4)	6599.010	6396.545	0.01	-3.1	15.0
(5)	8673.402	8146.353	0.01	-6.1	15.0
Aroclor-1260	16752.150	16477.385	0.01	-1.6	15.0
(2)	24742.603	25407.089	0.01	2.7	15.0
(3)	14687.346	15258.339	0.01	3.9	15.0
(4)	15184.529	15999.261	0.01	5.4	15.0
(5)	34350.443	36981.333	0.01	7.6	15.0
=====	=====	=====	=====	=====	=====
4cmx	375669.41	355020.73	0.01	-5.5	15.0
Decachlorobiphenyl	317540.53	320715.88	0.01	1.0	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 1342
 Lab File ID: 034B3401 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
Aroclor-1016	12611.539	12230.495	0.01	-3.0	15.0
(2)	9327.875	8013.748	0.01	-14.1	15.0
(3)	5411.316	5019.210	0.01	-7.2	15.0
(4)	7051.879	6532.589	0.01	-7.4	15.0
(5)	6550.733	5980.984	0.01	-8.7	15.0
Aroclor-1260	13680.027	12671.837	0.01	-7.4	15.0
(2)	16029.019	15649.823	0.01	-2.4	15.0
(3)	12563.933	12040.790	0.01	-4.2	15.0
(4)	12810.076	12404.464	0.01	-3.2	15.0
(5)	27897.674	28369.150	0.01	1.7	15.0
=====	=====	=====	=====	=====	=====
4cmx	300025.77	271988.42	0.01	-9.3	15.0
Decachlorobiphenyl	233227.08	232000.37	0.01	-0.5	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 1527
 Lab File ID: 044F4401 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	13866.870	12576.066	0.01	-9.3	15.0
(2)	10097.726	10713.222	0.01	6.1	15.0
(3)	11757.020	10878.773	0.01	-7.5	15.0
(4)	6599.010	6544.137	0.01	-0.8	15.0
(5)	8673.402	8439.862	0.01	-2.7	15.0
Aroclor-1260	16752.150	16868.686	0.01	0.7	15.0
(2)	24742.603	26021.185	0.01	5.2	15.0
(3)	14687.346	15560.653	0.01	5.9	15.0
(4)	15184.529	16290.765	0.01	7.3	15.0
(5)	34350.443	37535.072	0.01	9.3	15.0
4cmx	375669.41	364858.12	0.01	-2.9	15.0
Decachlorobiphenyl	317540.53	323581.44	0.01	1.9	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989
 Instrument ID: ECD1A Calibration Date: 12/22/09 Time: 1527
 Lab File ID: 044B4401 Init. Calib. Date(s): 12/14/09 12/14/09
 Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	12611.539	12223.105	0.01	-3.1	15.0
(2)	9327.875	8174.997	0.01	-12.4	15.0
(3)	5411.316	5090.328	0.01	-5.9	15.0
(4)	7051.879	6438.929	0.01	-8.7	15.0
(5)	6550.733	6113.381	0.01	-6.7	15.0
Aroclor-1260	13680.027	12596.367	0.01	-7.9	15.0
(2)	16029.019	14981.774	0.01	-6.5	15.0
(3)	12563.933	12122.093	0.01	-3.5	15.0
(4)	12810.076	12513.940	0.01	-2.3	15.0
(5)	27897.674	28363.537	0.01	1.7	15.0
4cmx	300025.77	278693.13	0.01	-7.1	15.0
Decachlorobiphenyl	233227.08	221832.89	0.01	-4.9	15.0

FORM VII PEST

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/002f0201.d

Lab Smp Id: WAR091211-60 01

Client Smp ID: AR166001

Inj Date : 22-DEC-2009 08:05

Operator : JAOC

Inst ID: ecd1a.i

Smp Info : |WAR091211-60 01

Misc Info :

Comment :

Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m

Meth Date : 22-Dec-2009 10:30 jen01212

Quant Type: ESTD

Cal Date : 14-DEC-2009 11:34

Cal File: 040f4001.d

Als bottle: 2

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	
1.971	1.971	0.000	33941684	100.000	90.3	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #:	2051-24-3	
5.286	5.286	0.000	31285509	100.000	98.5	80.00- 120.00	100.00

1 Aroclor-1016					CAS #:	12674-11-2	
2.427	2.427	0.000	11819100	1000.00	852	80.00- 120.00	100.00(M)
2.705	2.705	0.000	10041405	1000.00	994	64.96- 104.96	84.96
2.796	2.796	0.000	10232893	1000.00	870	66.58- 106.58	86.58
2.835	2.835	0.000	6218851	1000.00	942	32.62- 72.62	52.62
3.046	3.046	0.000	7893471	1000.00	910	46.79- 86.79	66.79
Average of Peak Amounts =					914		

7 Aroclor-1260					CAS #:	11096-82-5	
3.771	3.771	0.000	15831089	1000.00	945	80.00- 120.00	100.00
3.934	3.934	0.000	24387503	1000.00	986	134.05- 174.05	154.05
4.165	4.165	0.000	14641032	1000.00	997	72.48- 112.48	92.48
4.307	4.307	0.000	15291566	1000.00	1010	76.59- 116.59	96.59
4.486	4.486	0.000	35549448	1000.00	1030	204.55- 244.55	224.55
Average of Peak Amounts =					994		

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/ecdda.i/122209.b/002f0201.d

Date: 22-DEC-2009 06:05

Client ID: AR166001

Sample Info: IMR091211-60 01

Page 1

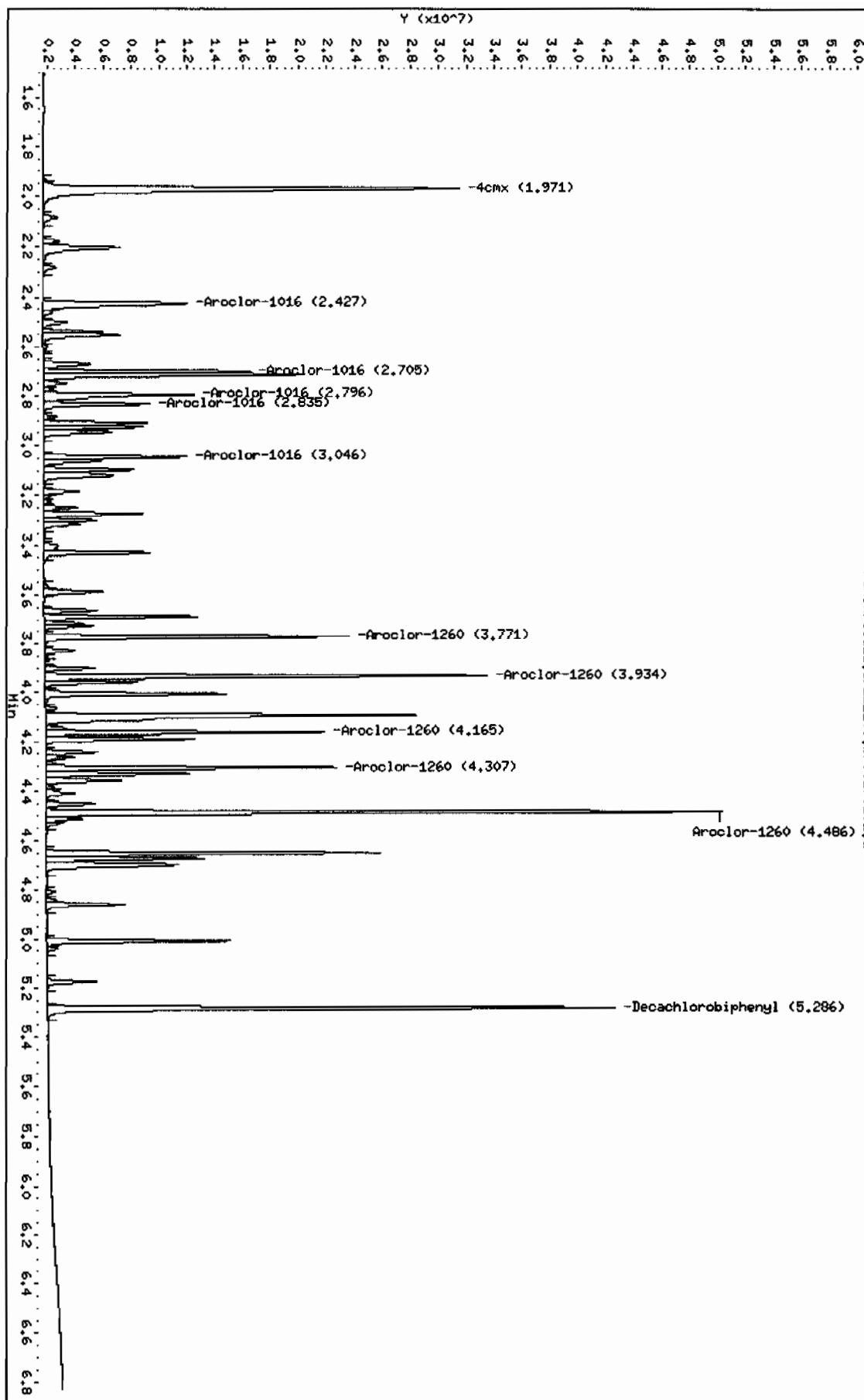
Instrument: ecdda.i

Column phase: CLP1

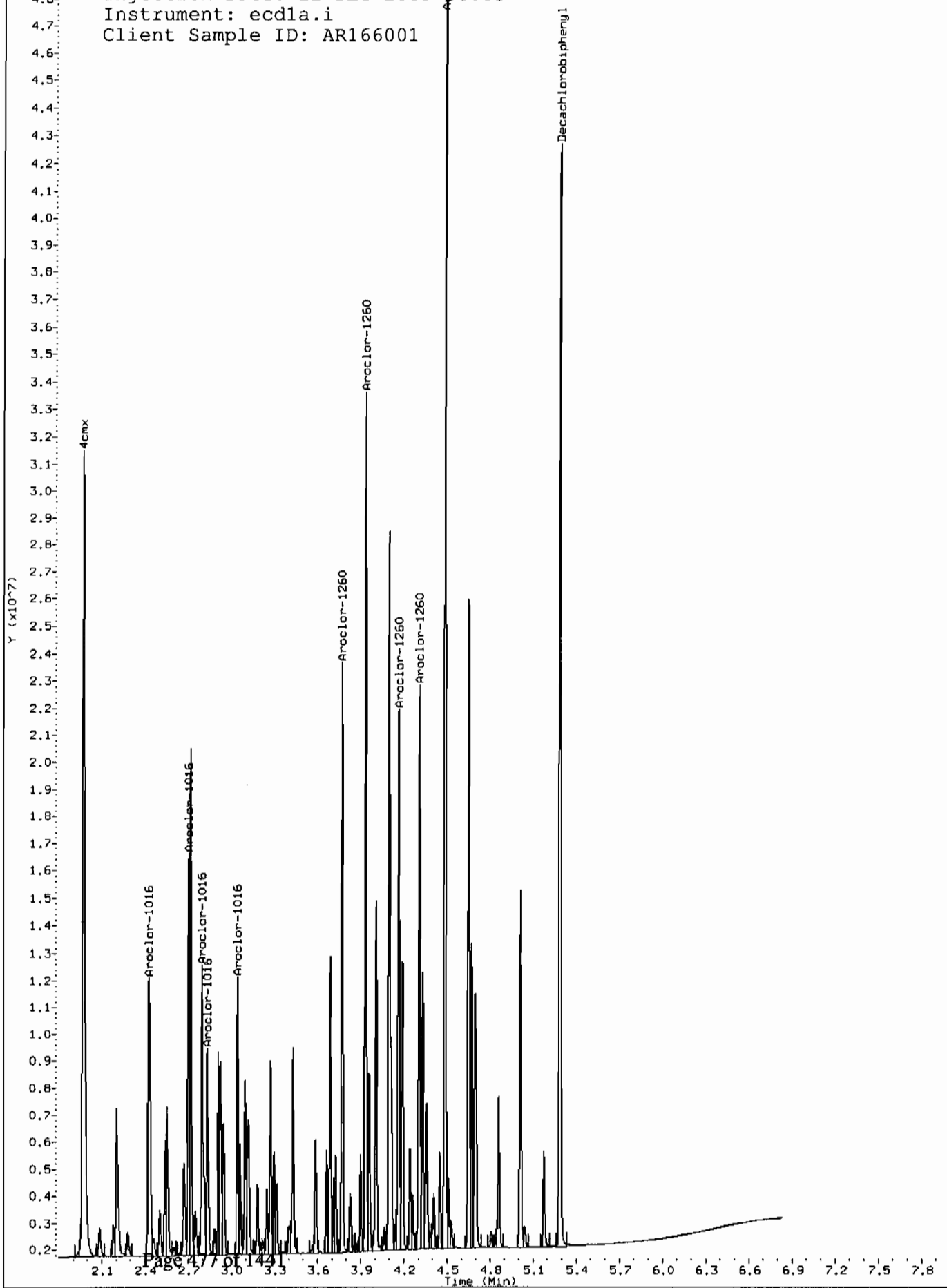
Operator: JMO

Column diameter: 0.25

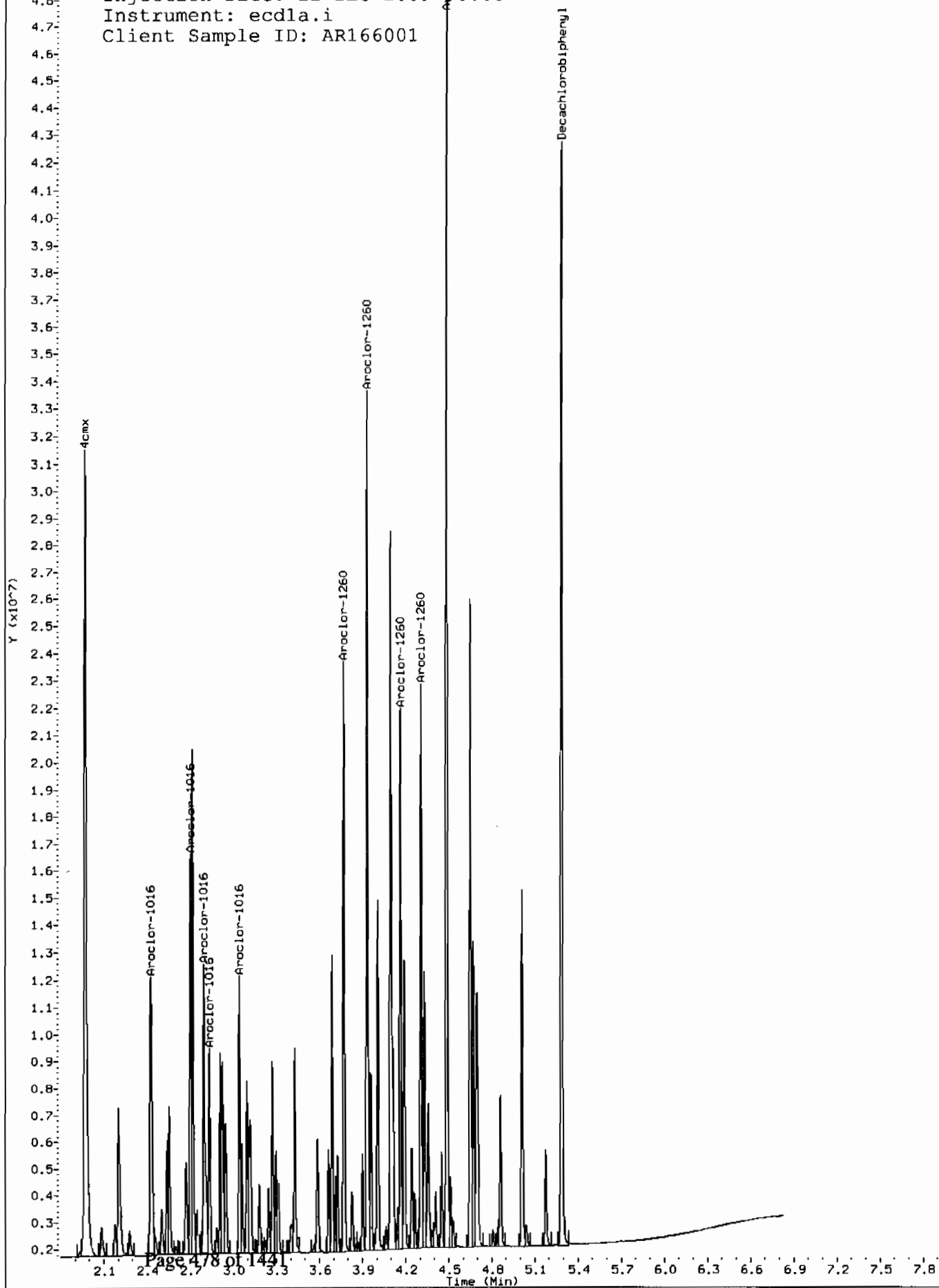
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Comment: Manually Integrated
Data File: /chem/ecdl1a.i/122209.b/002f0201.d
Operator: JAOC
Injection Date: 22-DEC-2009 08:05
Instrument: ecdl1a.i
Client Sample ID: AR166001



Comment: Before manual integration
Data File: /chem/ecdl1.i/122209.b/orig-002f0201.d
Operator: JAOC
Injection Date: 22-DEC-2009 08:05
Instrument: ecd1a.i
Client Sample ID: AR166001



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/002b0201.d
 Lab Smp Id: WAR091211-60 01 Client Smp ID: AR166001
 Inj Date : 22-DEC-2009 08:05
 Operator : JAOC Inst ID: ecdla.i
 Smp Info : |WAR091211-60 01
 Misc Info :
 Comment :
 Method : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m
 Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
 Als bottle: 2 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			
2.302	2.302	0.000	26665500	100.000	88.9	80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.948	5.948	0.000	23264698	100.000	99.8	80.00-	120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2			
3.199	3.199	0.000	12307559	1000.00	976	80.00-	120.00	100.00 (M)
3.282	3.282	0.000	7955901	1000.00	853	44.64-	84.64	64.64
3.346	3.346	0.000	4945153	1000.00	914	20.18-	60.18	40.18
3.572	3.572	0.000	6459718	1000.00	916	32.49-	72.49	52.49
3.648	3.648	0.000	5874937	1000.00	897	27.73-	67.73	47.73
Average of Peak Amounts =					911			

7 Aroclor-1260					CAS #: 11096-82-5			
4.338	4.338	0.000	12456008	1000.00	910	80.00-	120.00	100.00
4.463	4.463	0.000	15351218	1000.00	958	103.24-	143.24	123.24
4.729	4.729	0.000	11813735	1000.00	940	74.84-	114.84	94.84
4.903	4.903	0.000	12208277	1000.00	953	78.01-	118.01	98.01
5.050	5.050	0.000	27912067	1000.00	1000	204.09-	244.09	224.09
Average of Peak Amounts =					952			

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/ecdl.a.i/122209.b/002b0201.d

Date : 22-DEC-2009 08:05

Client ID: PR16001

Sample Info: 1MAR091211-60 01

Page 1

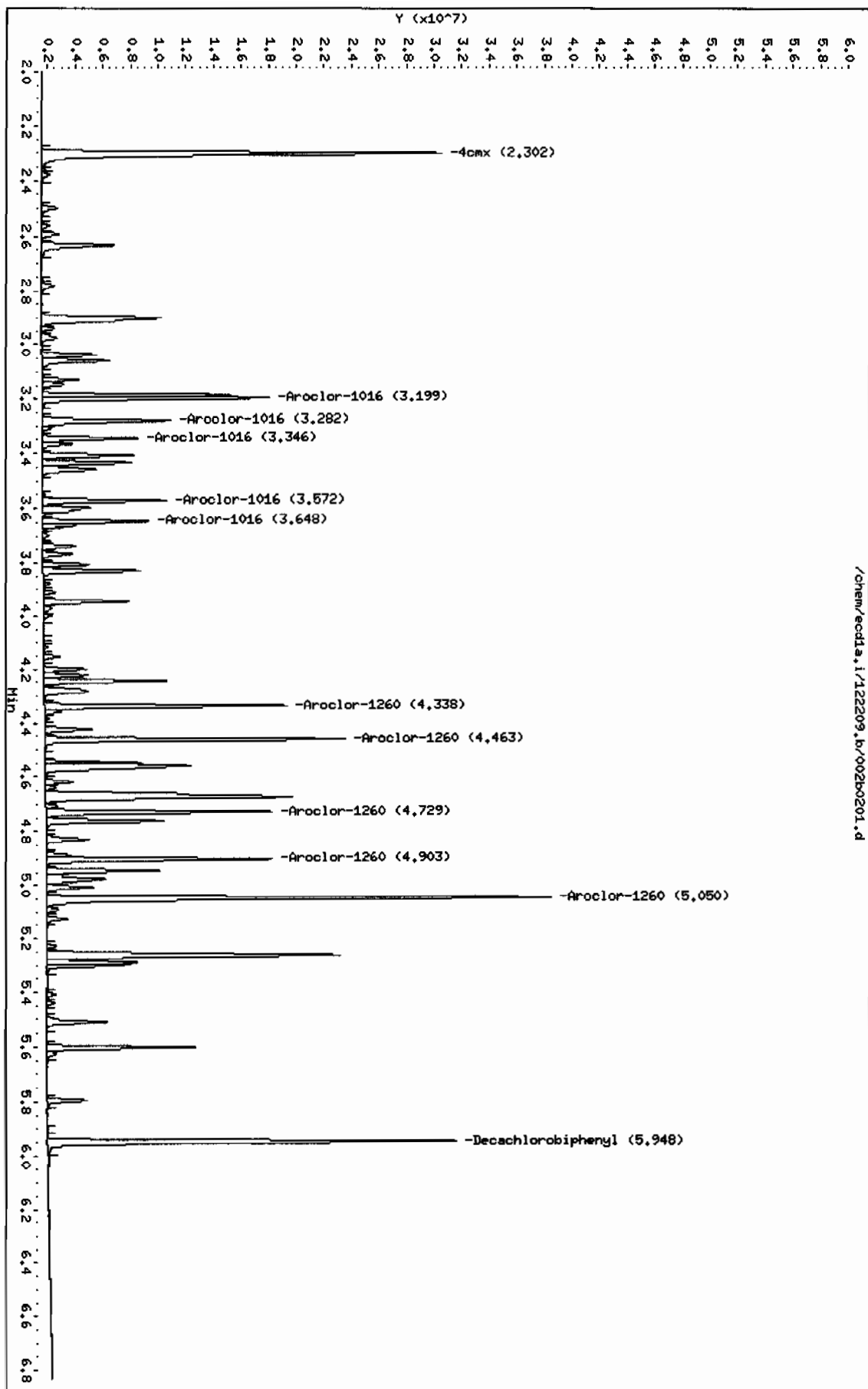
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Column phase: CLP2

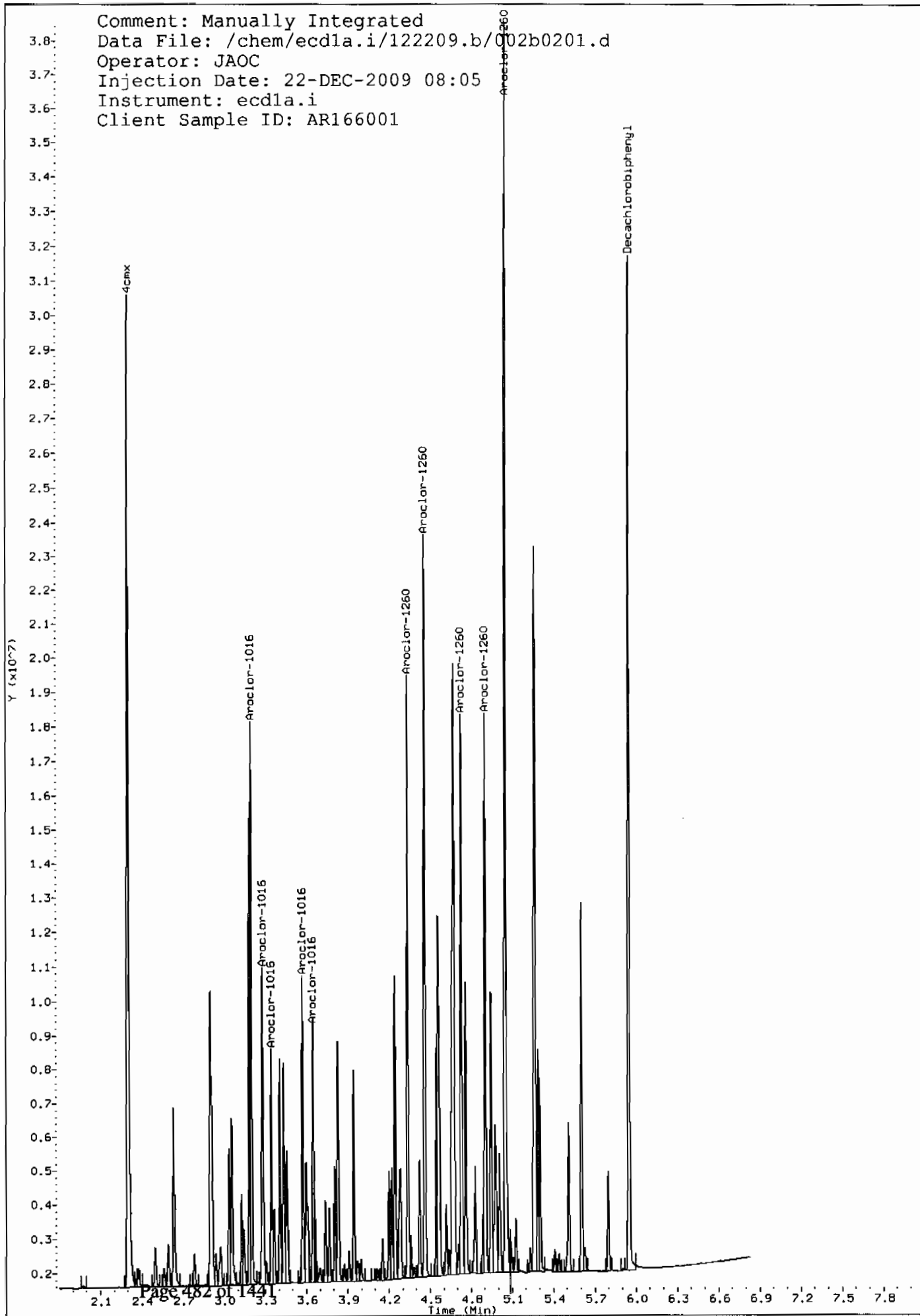
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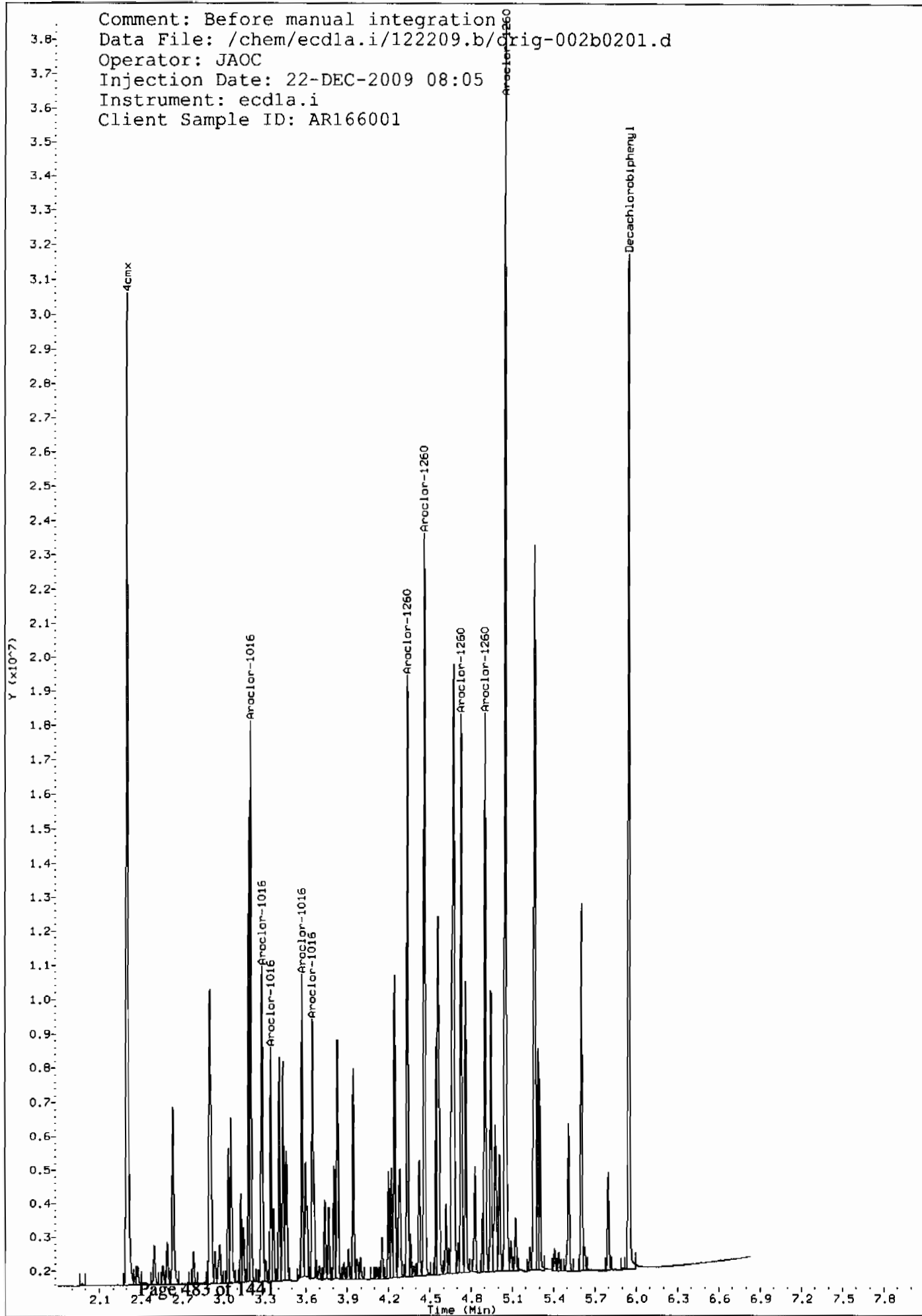
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Comment: Manually Integrated
Data File: /chem/ecdla.i/122209.b/002b0201.d
Operator: JAOC
Injection Date: 22-DEC-2009 08:05
Instrument: ecdla.i
Client Sample ID: AR166001



Comment: Before manual integration
Data File: /chem/ecdl.a.i/122209.b/orig-002b0201.d
Operator: JAOC
Injection Date: 22-DEC-2009 08:05
Instrument: ecdla.i
Client Sample ID: AR166001



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/003f0301.d
 Lab Smp Id: WAR091216-54 Client Smp ID: AR125401
 Inj Date : 22-DEC-2009 08:16
 Operator : JAOC Inst ID: ecdla.i
 Smp Info : |WAR091216-54
 Misc Info :
 Comment :
 Method : /chem/ecdla.i/122209.b/ECD1-F-8082-121409.m
 Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
 Als bottle: 3 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: AR1254.sub
 Target Version: 3.50 Sample Matrix: None

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO

\$ 11 4cmx				CAS #: 877-09-8		
1.972	1.971	0.001	36201001 100.000	96.4	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
5.287	5.286	0.001	33407343 100.000	105	80.00- 120.00	100.00

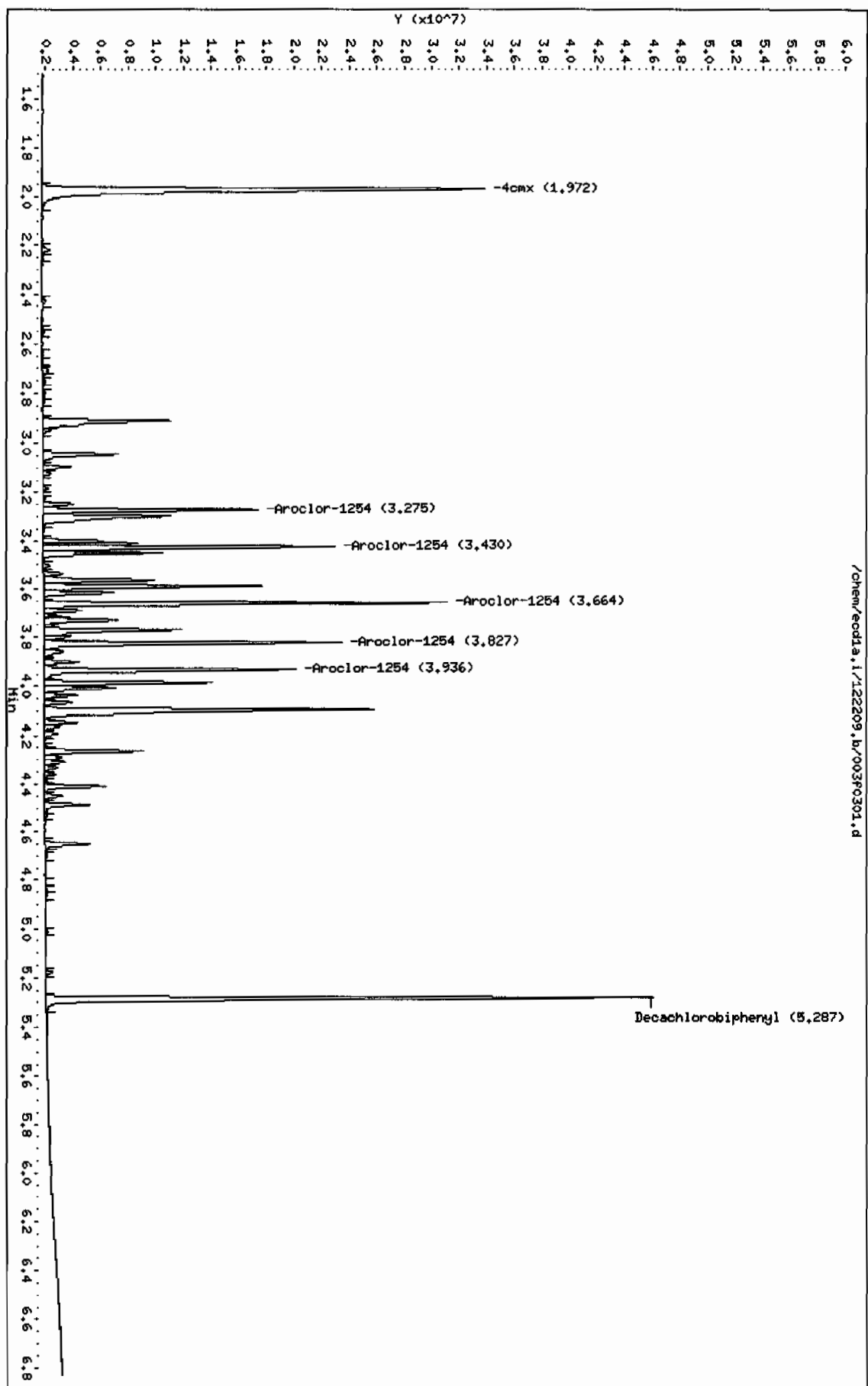
6 Aroclor-1254				CAS #: 11097-69-1		
3.275	3.275	0.000	11604571 1000.00	929	80.00- 120.00	100.00
3.430	3.430	0.000	15968395 1000.00	955	117.60- 157.60	137.60
3.664	3.664	0.000	21043271 1000.00	1020	161.34- 201.34	181.34
3.827	3.827	0.000	16237348 1000.00	1030	119.92- 159.92	139.92
3.936	3.936	0.000	15345718 1000.00	1010	112.24- 152.24	132.24
Average of Peak Amounts =				989		

Data File: /chem/ecda.i/122209.b/003f0301.d
Date : 22-DEC-2009 08:16
Client ID: AR125401
Sample Info: 1MAR091216-54

Column phase: CLP1

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

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/003b0301.d

Lab Smp Id: WAR091216-54

Client Smp ID: AR125401

Inj Date : 22-DEC-2009 08:16

Operator : JAOC

Inst ID: ecd1a.i

Smp Info : |WAR091216-54

Misc Info :

Comment :

Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m

Meth Date : 22-Dec-2009 10:30 jen01212

Quant Type: ESTD

Cal Date : 14-DEC-2009 12:16

Cal File: 044b4401.d

Als bottle: 3

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1254.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE		RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8			
2.302	2.302	0.000	28633491	100.000	95.4	80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.949	5.948	0.001	24780473	100.000	106	80.00-	120.00	100.00

6 Aroclor-1254					CAS #: 11097-69-1			
3.407	3.407	0.000	5816655	1000.00	904	80.00-	120.00	100.00
3.830	3.830	0.000	10553840	1000.00	913	161.44-	201.44	181.44
3.947	3.947	0.000	11728700	1000.00	943	181.64-	221.64	201.64
4.223	4.223	0.000	16524474	1000.00	979	264.09-	304.09	284.09
4.359	4.359	0.000	12248094	1000.00	985	190.57-	230.57	210.57
Average of Peak Amounts =					945			

Data File: /chem/ecdda.i/122209.b/003b0301.d
Date : 22-DEC-2009 08:16
Client ID: R6125401
Sample Info: 14R091216-54

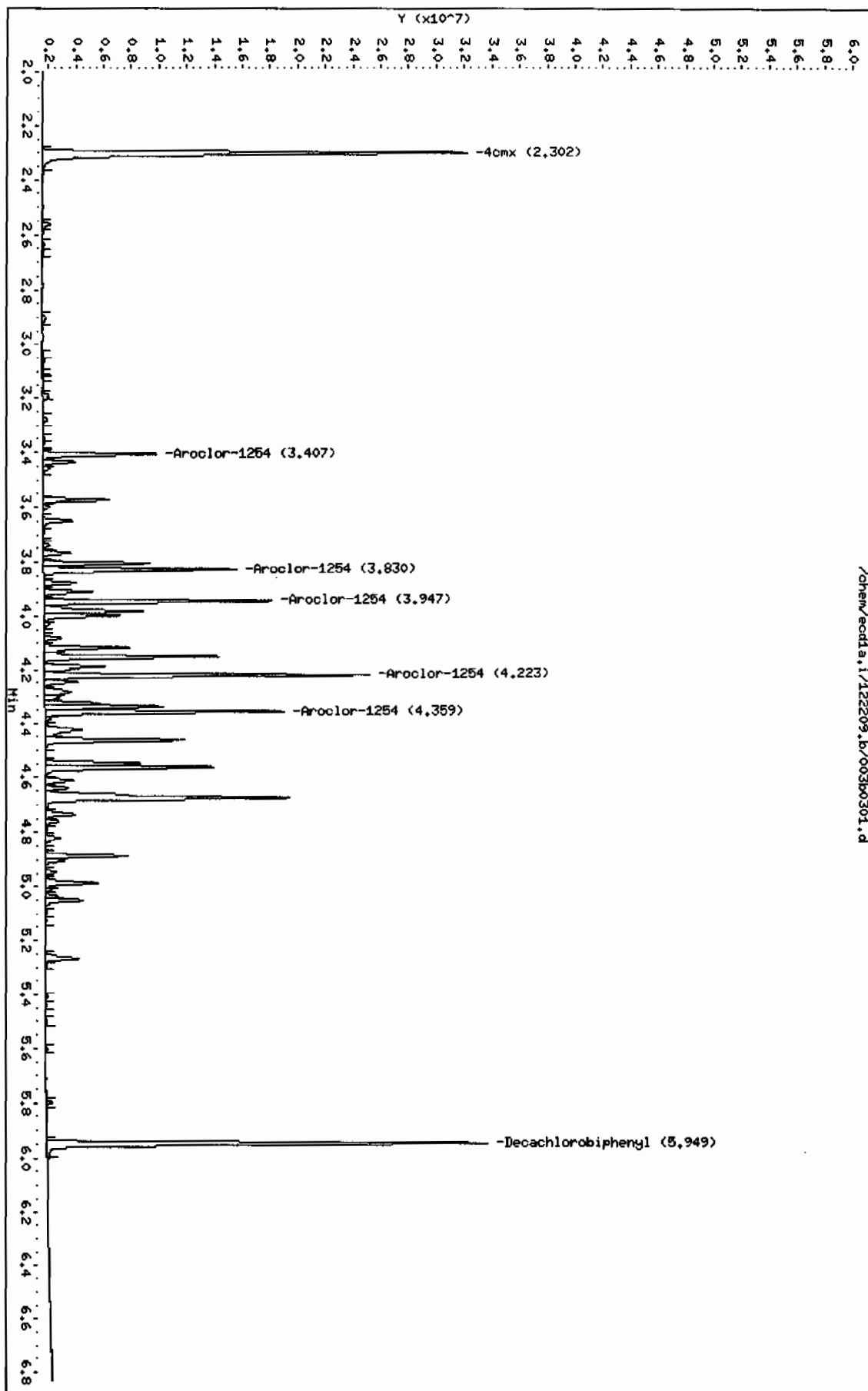
Instrument: ecdda.i

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Column phase: CLP2

Operator: JHOC
Column diameter: 0.25

/chem/ecdda.i/122209.b/003b0301.d



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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/004f0401.d
 Lab Smp Id: WAR091102-42 Client Smp ID: AR124201
 Inj Date : 22-DEC-2009 08:26
 Operator : JAOC Inst ID: ecd1a.i
 Smp Info : |WAR091102-42
 Misc Info :
 Comment :
 Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
 Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.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		
1.971	1.971	0.000	37237901	100.000	99.1	80.00~ 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.288	5.286	0.002	33757311	100.000	106	80.00~ 120.00	100.00

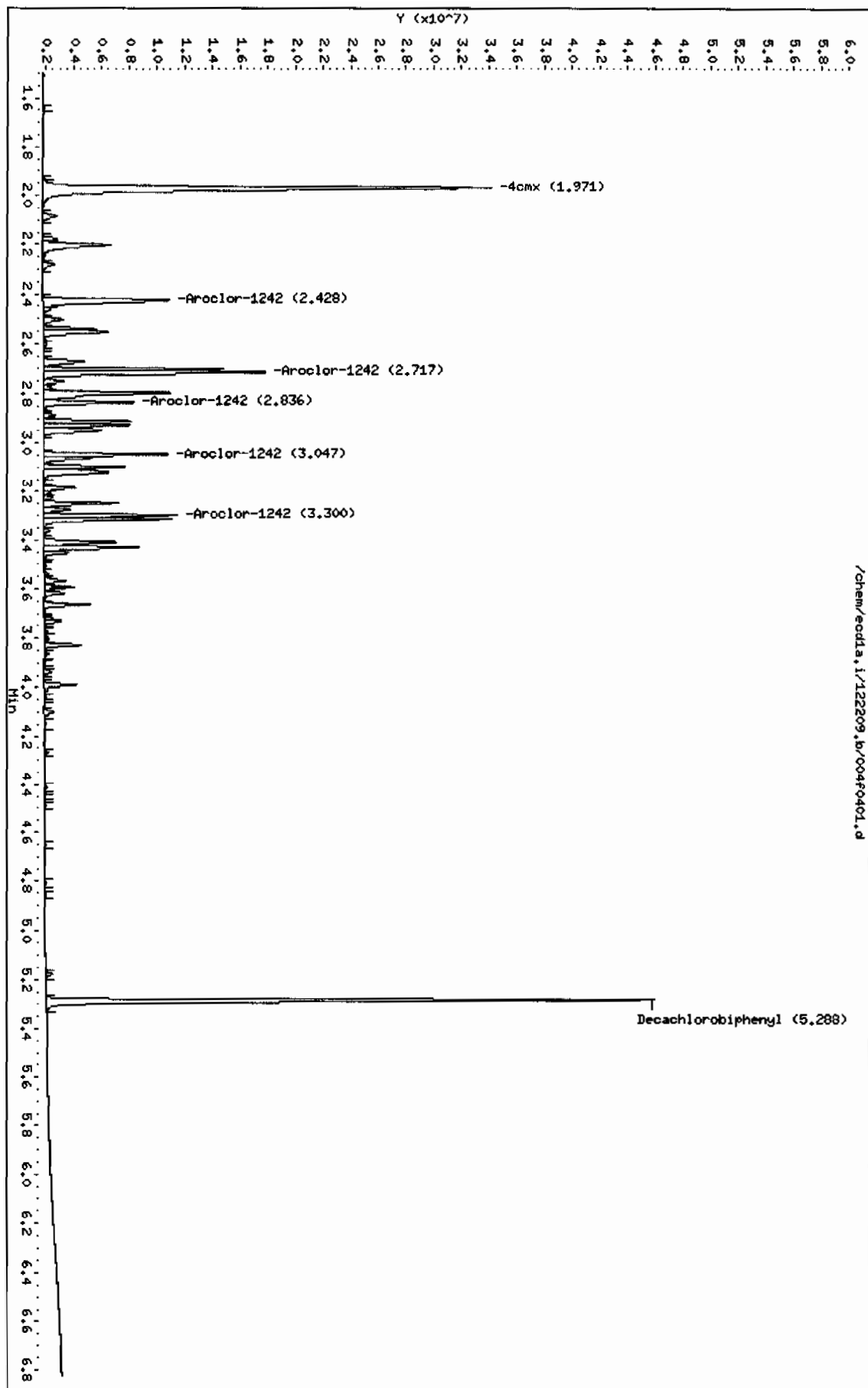
4 Aroclor-1242					CAS #: 53469-21-9		
2.428	2.428	0.000	10444613	1000.00	896	80.00~ 120.00	100.00
2.717	2.717	0.000	13312273	1000.00	990	107.46~ 147.46	127.46
2.836	2.836	0.000	5271178	1000.00	957	30.47~ 70.47	50.47
3.047	3.047	0.000	6995254	1000.00	966	46.97~ 86.97	66.97
3.300	3.300	0.000	6938813	1000.00	1020	46.43~ 86.43	66.43
Average of Peak Amounts =					965		

Data File: /chem/eodla.i/122209.b/004f0401.d
Date : 22-DEC-2009 08:26
Client ID: BR124201
Sample Info: 148R091102-42

Column phase: CLP1

Instrument: eodla.i
Operator: JROC
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/004b0401.d
Lab Smp Id: WAR091102-42 Client Smp ID: AR124201
Inj Date : 22-DEC-2009 08:26
Operator : JAOC Inst ID: ecdla.i
Smp Info : |WAR091102-42
Misc Info :
Comment :
Method : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.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		
2.302	2.302	0.000	29061552	100.000	96.9	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.950	5.948	0.002	25130300	100.000	108	80.00- 120.00	100.00

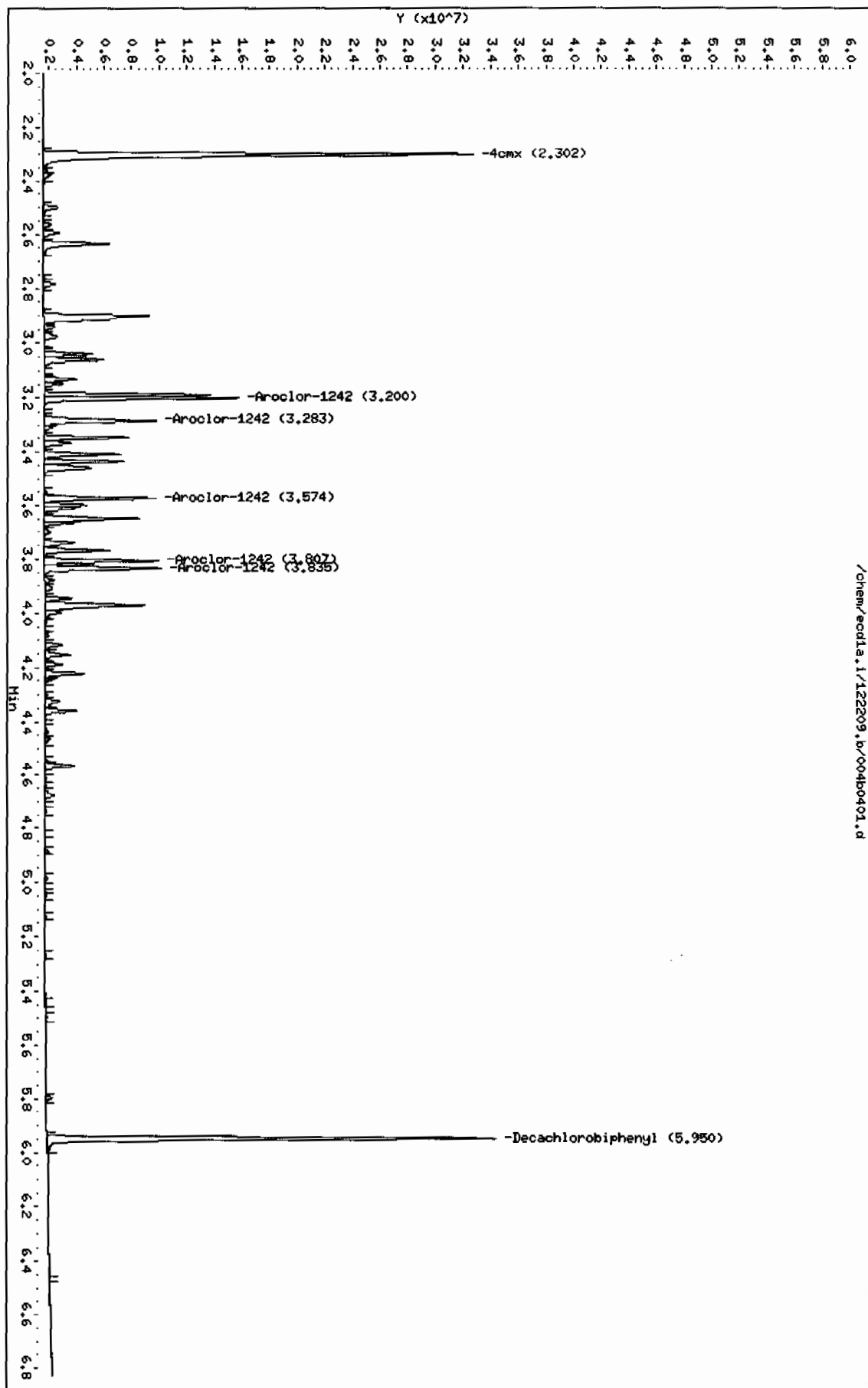
4 Aroclor-1242					CAS #: 53469-21-9		
3.200	3.200	0.000	10099566	1000.00	954	80.00- 120.00	100.00
3.283	3.283	0.000	6910257	1000.00	858	48.42- 88.42	68.42
3.574	3.574	0.000	5687190	1000.00	954	36.31- 76.31	56.31
3.807	3.807	0.000	5862246	1000.00	968	38.04- 78.04	58.04
3.835	3.835	0.000	6495896	1000.00	969	44.32- 84.32	64.32
Average of Peak Amounts =					941		

Data File: /chem/ecdl.a.i/122209.b/004b0401.d
Date: 22-DEC-2009 08:26
Client ID: AR124201
Sample Info: 1MR091102-42

Column Phase: CLP2

Instrument: ecdl.a.i
Operator: JHOC
Column diameter: 0.25

/chem/ecdl.a.i/122209.b/004b0401.d



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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/005f0501.d
 Lab Smp Id: WAR091027-48 Client Smp ID: AR124801
 Inj Date : 22-DEC-2009 08:37
 Operator : JAOC Inst ID: ecdla.i
 Smp Info : |WAR091027-48
 Misc Info :
 Comment :
 Method : /chem/ecdla.i/122209.b/ECD1-F-8082-121409.m
 Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
 Als bottle: 5 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: AR1248.sub
 Target Version: 3.50 Sample Matrix: None

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO

\$ 11 4cmx					CAS #: 877-09-8	
1.970	1.971	-0.001	39993494 100.000	106	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
5.288	5.286	0.002	37162300 100.000	117	80.00- 120.00	100.00

5 Aroclor-1248					CAS #: 12672-29-6	
3.098	3.098	0.000	7931287 1000.00	1010	80.00- 120.00	100.00
3.249	3.249	0.000	7026159 1000.00	1020	68.59- 108.59	88.59
3.300	3.300	0.000	13762481 1000.00	1030	153.52- 193.52	173.52
3.432	3.432	0.000	11051789 1000.00	1000	119.34- 159.34	139.34
3.666	3.666	0.000	7023283 1000.00	942	68.55- 108.55	88.55
Average of Peak Amounts =			1e+03			

Data File: /chem/ecdl1.i/122209.b/006f0601.d

Date : 22-DEC-2009 08:37

Client ID: AR124801

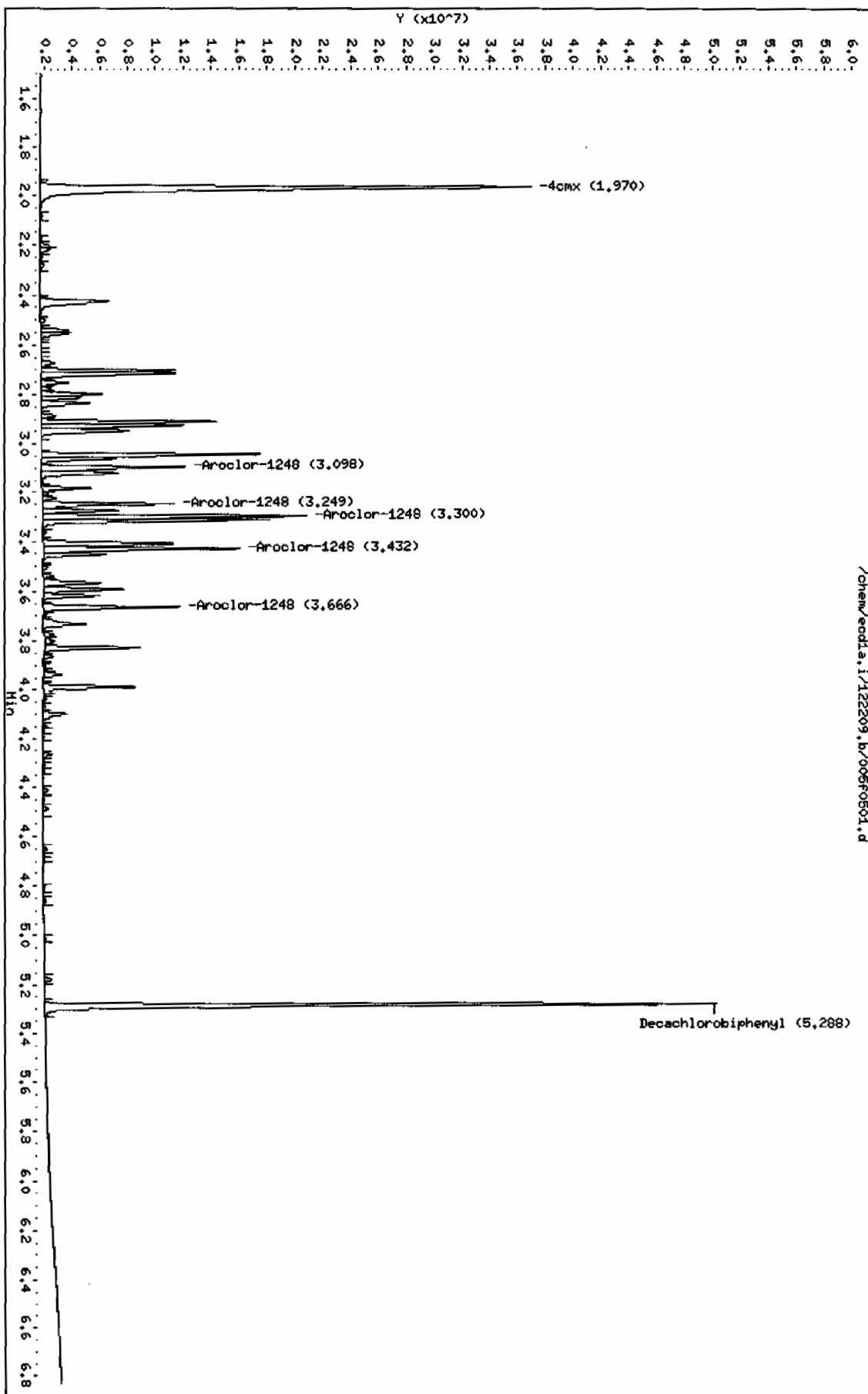
Sample Info: 1MR091027-48

Column phase: CLP1

Instrument: ecdl1.i

Operator: JAO

Column diameter: 0.25



Data File: /chem/ecdla.i/122209.b/005b0501.d
Report Date: 22-Dec-2009 10:46

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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/005b0501.d

Lab Smp Id: WAR091027-48

Client Smp ID: AR124801

Inj Date : 22-DEC-2009 08:37

Operator : JAOC

Inst ID: ecdla.i

Smp Info : |WAR091027-48

Misc Info :

Comment :

Method : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m

Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD

Cal Date : 14-DEC-2009 12:16

Cal File: 044b4401.d

Als bottle: 5

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1248.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
2.302	2.302	0.000	31311883	100.000	104	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.950	5.948	0.002	27622840	100.000	118	80.00- 120.00	100.00

5 Aroclor-1248					CAS #: 12672-29-6		
3.409	3.409	0.000	7605862	1000.00	944	80.00- 120.00	100.00
3.574	3.574	0.000	9578982	1000.00	970	105.94- 145.94	125.94
3.808	3.808	0.000	11087939	1000.00	988	125.78- 165.78	145.78
3.836	3.836	0.000	12233448	1000.00	980	140.84- 180.84	160.84
3.972	3.972	0.000	11853978	1000.00	979	135.85- 175.85	155.85
Average of Peak Amounts =					972		

Data File: /chem/eod1a.i/122209.b/00800501.d

Date : 22-DEC-2009 08:37

Client ID: AR124801

Sample Info: IMR091027-48

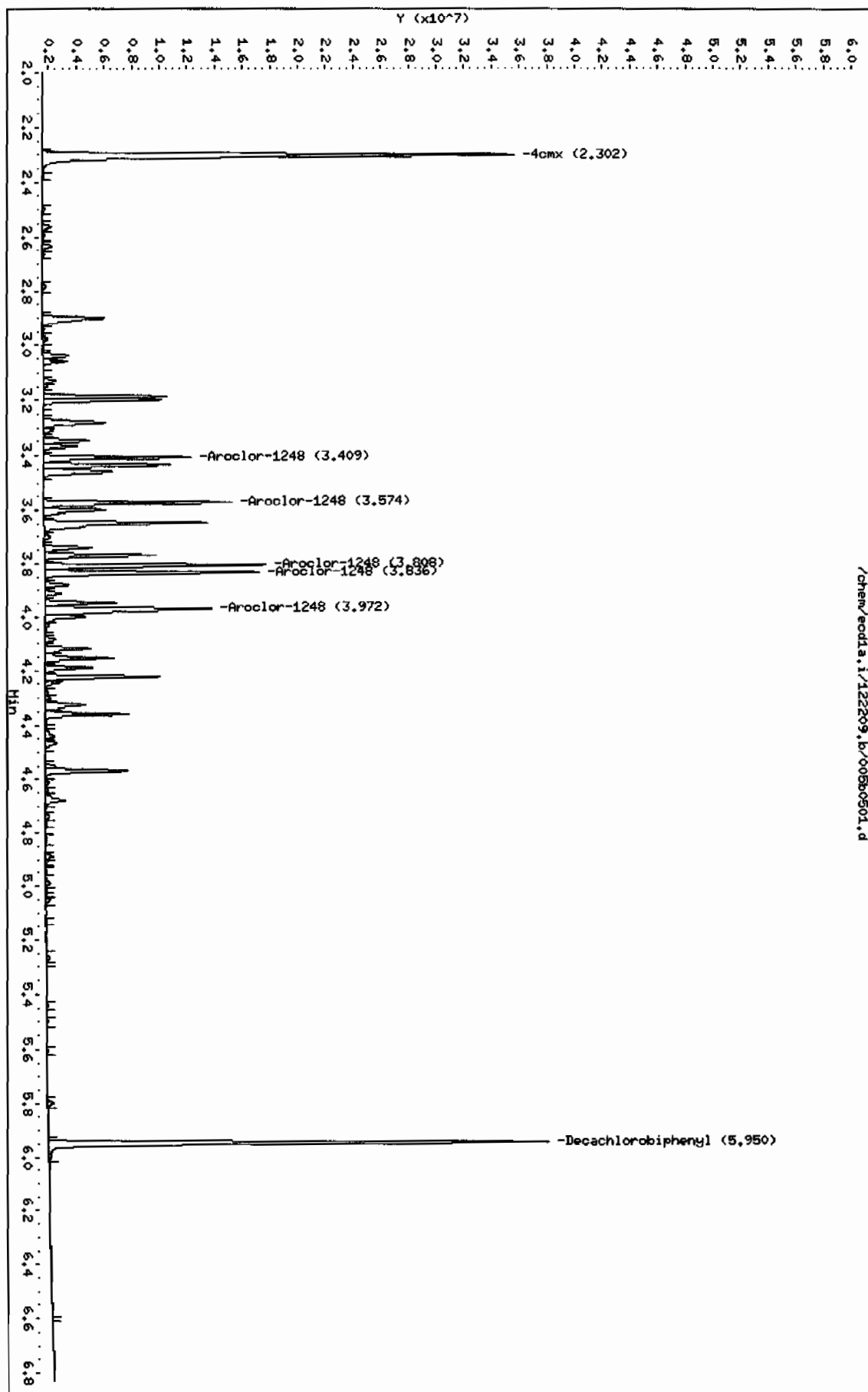
Column phase: CLP2

Instrument: eod1a.i

Operator: JMC

Column diameter: 0.25

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Data File: /chem/ecdl1a.i/122209.b/006f0601.d
Report Date: 22-Dec-2009 10:46

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/006f0601.d
Lab Smp Id: WAR090930-32 Client Smp ID: AR123201
Inj Date : 22-DEC-2009 08:47
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |WAR090930-32
Misc Info :
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS							
			CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
\$ 11 4cmx CAS #: 877-09-8							
1.972	1.971	0.001	50735059	100.000	135 80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3							
5.288	5.286	0.002	46259482	100.000	146 80.00- 120.00	100.00	

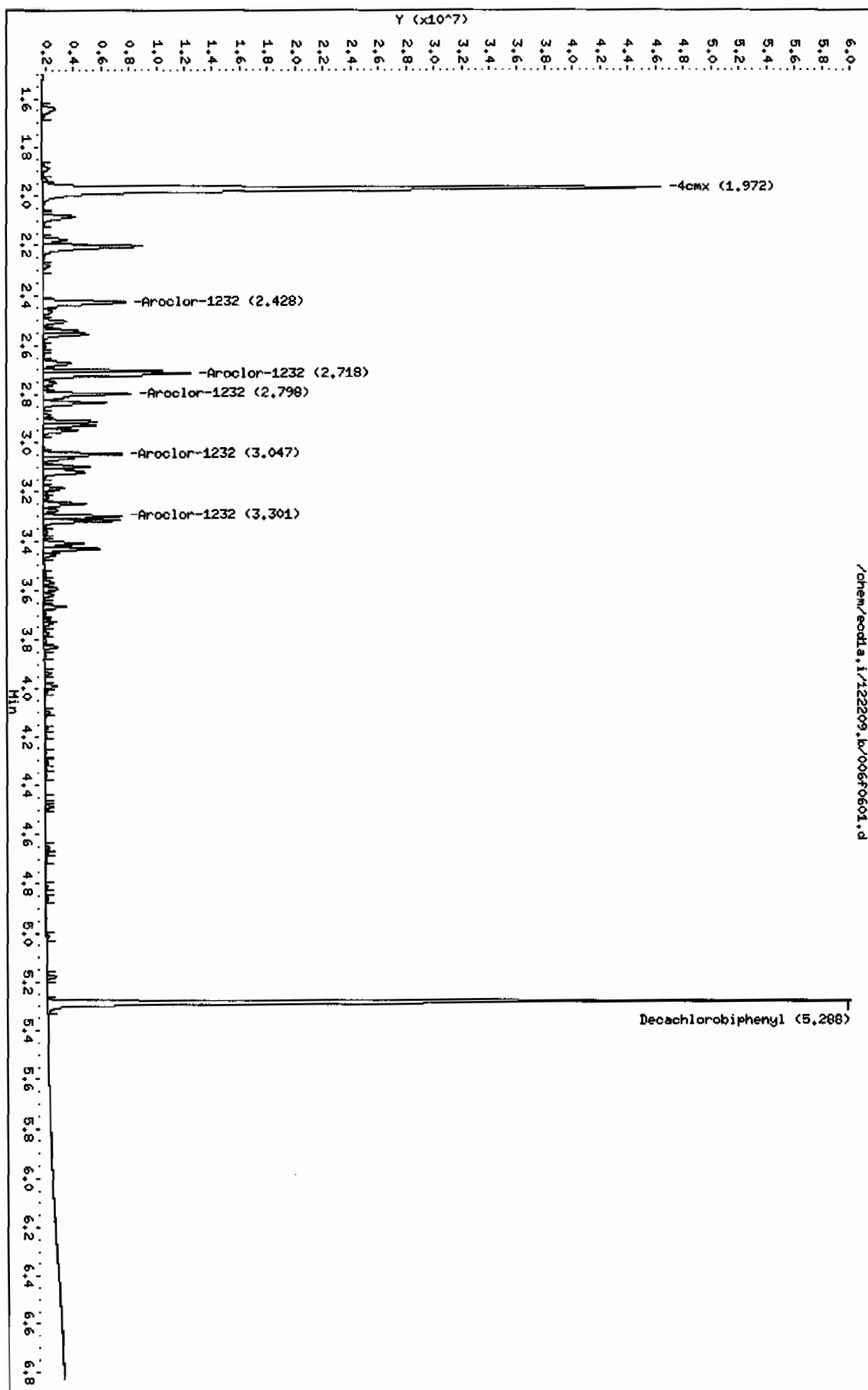
3 Aroclor-1232 CAS #: 11141-16-5							
2.428	2.428	0.000	6887309	1000.00	1020 80.00- 120.00	100.00	
2.718	2.718	0.000	8815316	1000.00	1080 107.99- 147.99	127.99	
2.798	2.798	0.000	5909243	1000.00	1030 65.80- 105.80	85.80	
3.047	3.047	0.000	4340371	1000.00	1100 43.02- 83.02	63.02	
3.301	3.301	0.000	4103939	1000.00	1160 39.59- 79.59	59.59	
Average of Peak Amounts =				1.08e+03			

Data File: /chem/ecdda.i/122209.b/006f0601.d
Date : 22-DEC-2009 08:47
Client ID: PR123201
Sample Info: IMR090930-32

Column phase: CLP1

Instrument: ecdda.i
Operator: J90C
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/006b0601.d
Lab Smp Id: WAR090930-32 Client Smp ID: AR123201
Inj Date : 22-DEC-2009 08:47
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |WAR090930-32
Misc Info :
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	

\$ 11 4cmx					CAS #: 877-09-8		
2.302	2.302	0.000	39340004	100.000	131 80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.950	5.948	0.002	34163690	100.000	146 80.00-	120.00	100.00

3 Aroclor-1232					CAS #: 11141-16-5		
2.635	2.635	0.000	6174849	1000.00	1000 80.00-	120.00	100.00
3.201	3.201	0.000	6712340	1000.00	1060 88.70-	128.70	108.70
3.283	3.283	0.000	4682612	1000.00	996 55.83-	95.83	75.83
3.574	3.574	0.000	3474500	1000.00	1070 36.27-	76.27	56.27
3.807	3.807	0.000	3503346	1000.00	1110 36.74-	76.74	56.74
Average of Peak Amounts =				1.05e+03			

Data File: /chem/eod1a.i/122209.b/006b0601.d

Date: 22-DEC-2009 08:47

Client ID: AR123201

Sample Info: 14R090930-32

Column phase: CLP2

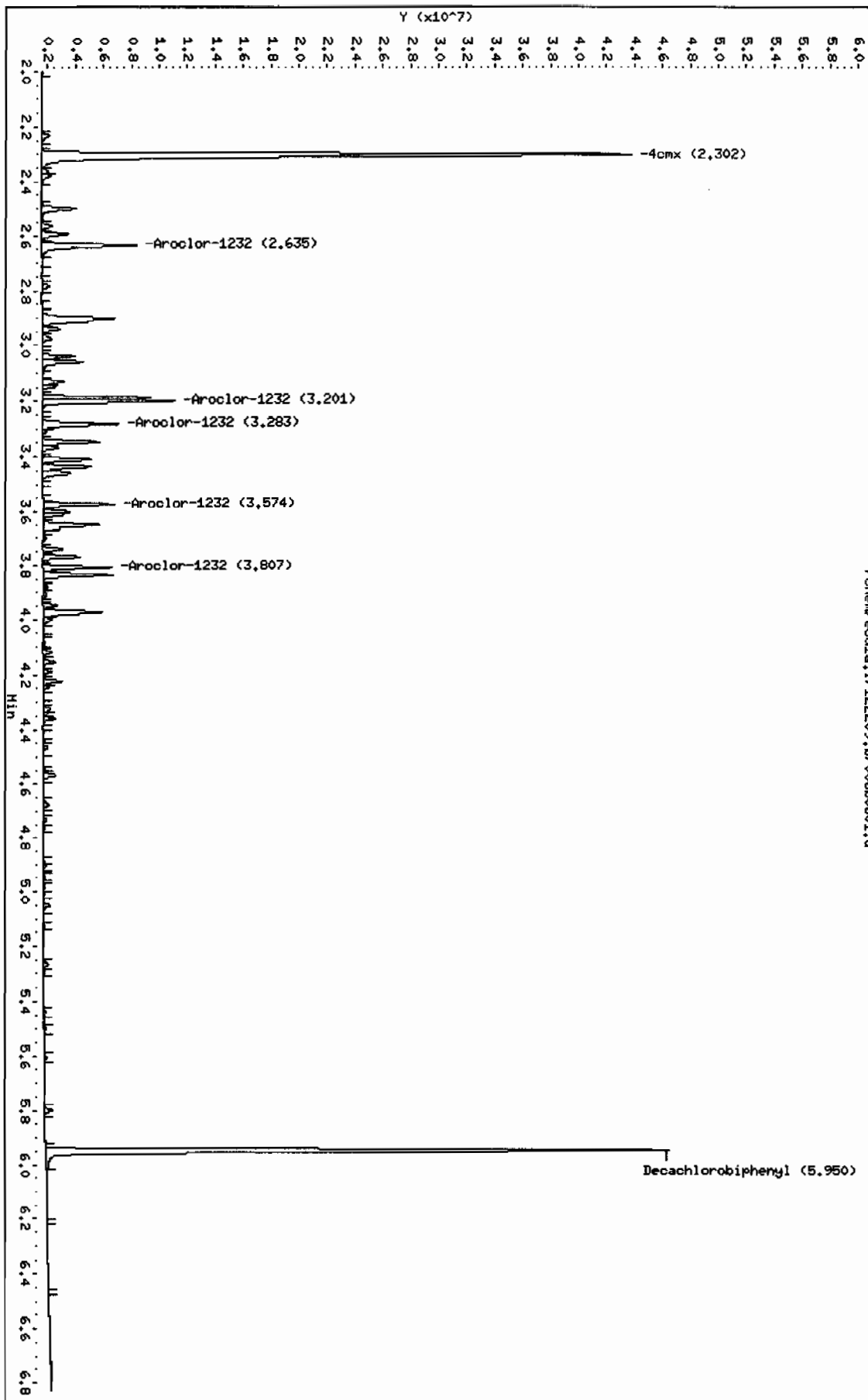
Instrument: eod1a.i

Operator: J40C

Column diameter: 0.25

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/chem/eod1a.i/122209.b/006b0601.d



Data File: /chem/ecdl1a.i/122209.b/007f0701.d
Report Date: 22-Dec-2009 10:46

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/007f0701.d

Lab Smp Id: WAR090803-21

Client Smp ID: AR122101

Inj Date : 22-DEC-2009 08:58

Operator : JAOC

Inst ID: ecd1a.i

Smp Info : |WAR090803-21

Misc Info :

Comment :

Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m

Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD

Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d

Als bottle: 7 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1221.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/L)	TARGET RANGE		RATIO
====	=====	=====	=====	=====	=====	=====		=====
\$ 11 4cmx					CAS #: 877-09-8			
1.970	1.971	-0.001	37237905	100.000	99.1	80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.288	5.286	0.002	34252960	100.000	108	80.00-	120.00	100.00

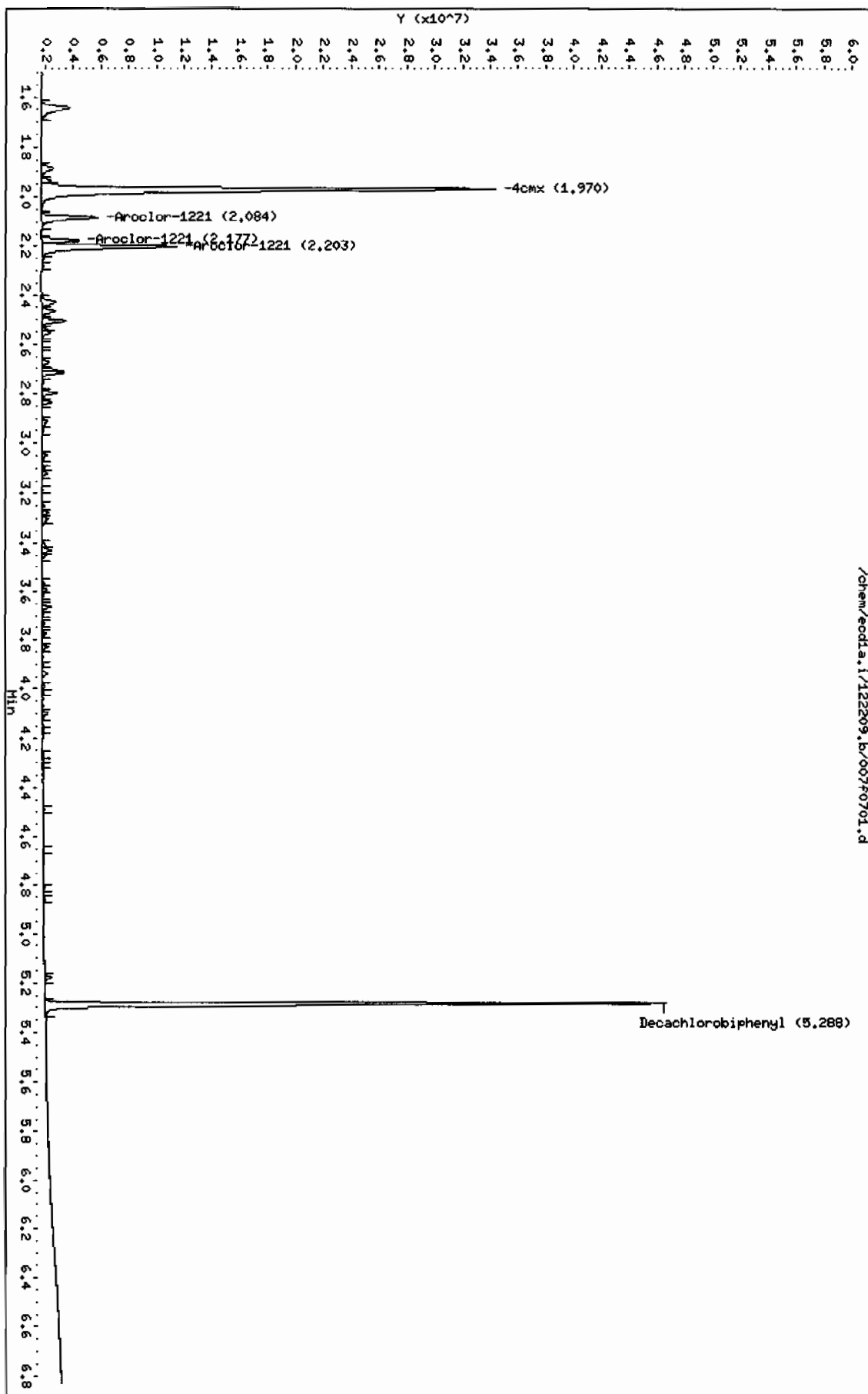
2 Aroclor-1221					CAS #: 11104-28-2			
2.084	2.084	0.000	4275079	1000.00	994	80.00-	120.00	100.00
2.177	2.177	0.000	2404255	1000.00	985	36.24-	76.24	56.24
2.203	2.203	0.000	10269221	1000.00	1000	220.21-	260.21	240.21
Average of Peak Amounts =					993			

Data File: /chem/ecdl1a.i/122209.b/007f0701.d
Date: 22-DEC-2009 08:58
Client ID: AR122101
Sample Info: IWR090803-21

Column phase: CLP1

Instrument: ecdl1a.i
Operator: JROC
Column diameter: 0.25

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Data File: /chem/ecdl1a.i/122209.b/007b0701.d
Report Date: 22-Dec-2009 10:46

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/007b0701.d
Lab Smp Id: WAR090803-21 Client Smp ID: AR122101
Inj Date : 22-DEC-2009 08:58
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |WAR090803-21
Misc Info :
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 22-Dec-2009 10:30 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1221.sub
Target Version: 3.50 Sample Matrix: None

AMOUNTS						
			CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx				CAS #: 877-09-8		
2.301	2.302	-0.001	28811147 100.000	96.0	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
5.950	5.948	0.002	25347070 100.000	109	80.00- 120.00	100.00

2 Aroclor-1221				CAS #: 11104-28-2		
2.499	2.499	0.000	3581860 1000.00	984	80.00- 120.00	100.00
2.594	2.594	0.000	2312559 1000.00	993	44.56- 84.56	64.56
2.635	2.635	0.000	8030890 1000.00	989	204.21- 244.21	224.21
Average of Peak Amounts =				989		

Data File: /chem/ecda.i/122209.b/007b0701.d

Date: 22-DEC-2009 08:58

Client ID: AR122101

Sample Info: IWR090803-21

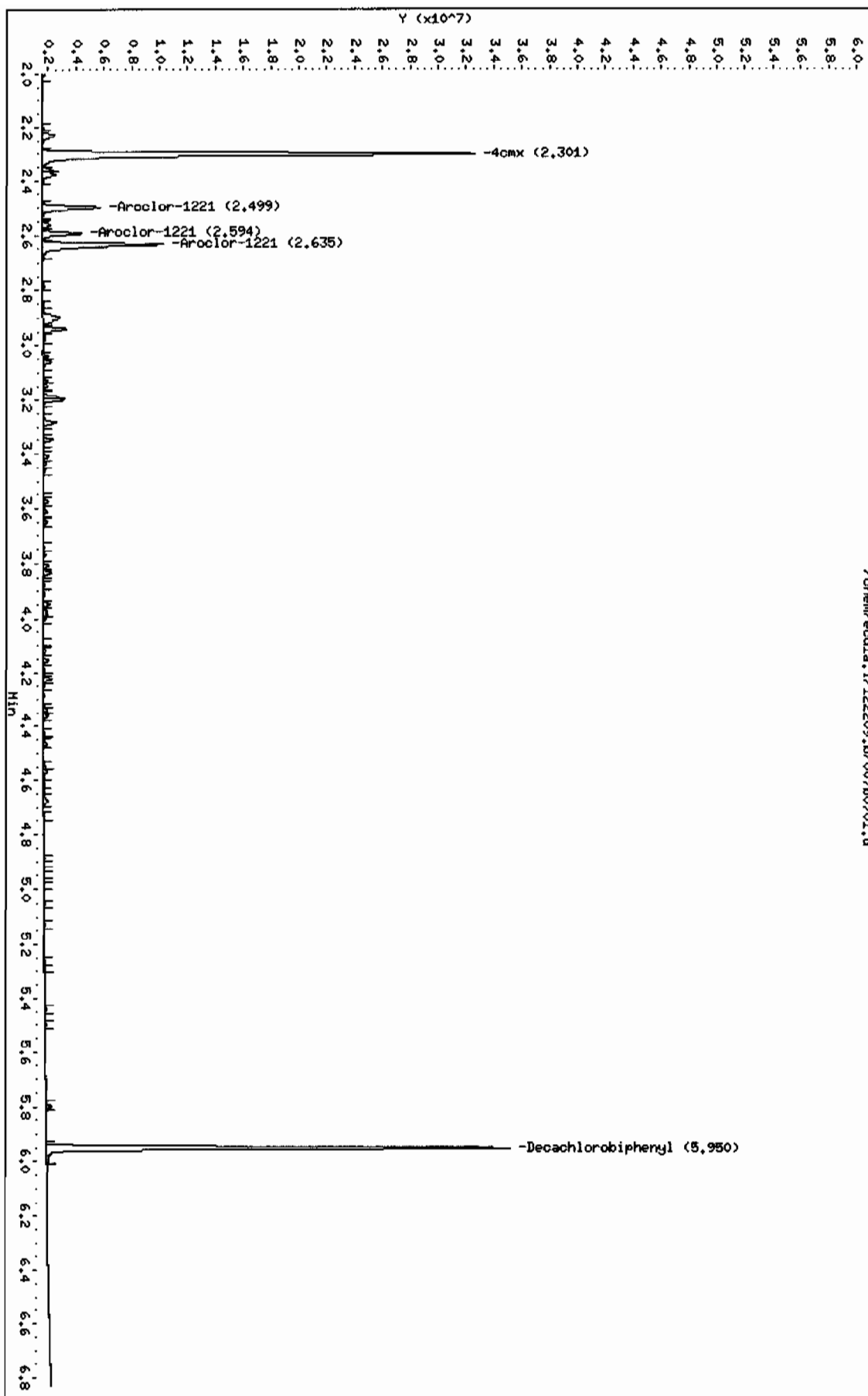
Column phase: CLP2

Instrument: ecda.i

Operator: JROC

Column diameter: 0.25

/chem/ecda.i/122209.b/007b0701.d



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/022f2201.d

Lab Smp Id: WAR091211-60 02

Client Smp ID: AR166002

Inj Date : 22-DEC-2009 11:36

Operator : JAOC

Inst ID: ecd1a.i

Smp Info : |WAR091211-60 02

Misc Info :

Comment :

Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m

Meth Date : 22-Dec-2009 14:00 jen01212 Quant Type: ESTD

Cal Date : 14-DEC-2009 11:34

Cal File: 040f4001.d

Als bottle: 22

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

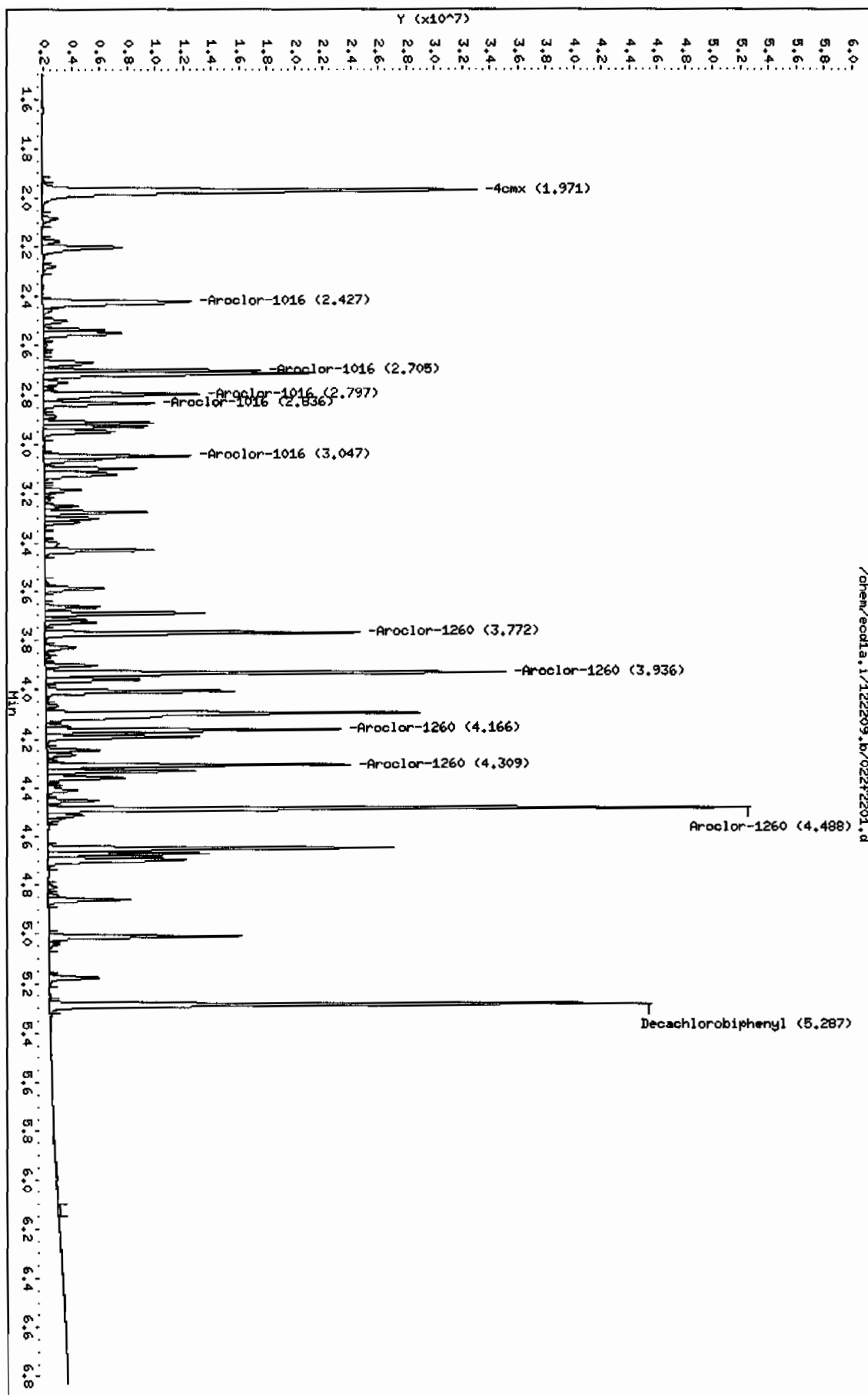
RT	EXP RT	DLT RT	CAL-AMT	ON-COL	RESPONSE (ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
1.971	1.971	0.000	35356703	100.000	94.1	80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.287	5.286	0.001	32312044	100.000	102	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.427	2.427	0.000	12195989	1000.00	880	80.00- 120.00	100.00
2.705	2.705	0.000	10155647	1000.00	1000	60.33- 100.33	83.27
2.797	2.796	0.001	10536169	1000.00	896	66.29- 106.29	86.39
2.836	2.835	0.001	6316222	1000.00	957	31.97- 71.97	51.79
3.047	3.046	0.001	8227877	1000.00	949	46.19- 86.19	67.46
Average of Peak Amounts =					937		
7 Aroclor-1260					CAS #: 11096-82-5		
3.772	3.771	0.001	16412717	1000.00	980	80.00- 120.00	100.00
3.936	3.934	0.002	25383228	1000.00	1020	126.54- 166.54	154.66
4.166	4.165	0.001	15136737	1000.00	1030	71.39- 111.39	92.23
4.309	4.307	0.002	15881438	1000.00	1040	76.29- 116.29	96.76
4.488	4.486	0.002	36861795	1000.00	1070	204.73- 244.73	224.59
Average of Peak Amounts =					1.03e+03		

Data File: /chem/ecdl1.i/122209.b/022f2201.d
Date : 22-DEC-2009 11:36
Client ID: AR166002
Sample Info: IMR091211-60 02

Column phase: CLP1

Instrument: ecdl1.i
Operator: JAOC
Column diameter: 0.25

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Data File: /chem/ecdla.i/122209.b/022b2201.d
Report Date: 22-Dec-2009 14:54

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/022b2201.d
Lab Smp Id: WAR091211-60 02 Client Smp ID: AR166002
Inj Date : 22-DEC-2009 11:36
Operator : JAOC Inst ID: ecdla.i
Smp Info : |WAR091211-60 02
Misc Info :
Comment :
Method : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 22-Dec-2009 13:59 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 22 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		
2.302	2.302	0.000	26829790	100.000	89.4	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.949	5.948	0.001	23440724	100.000	100	80.00- 120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2		
3.199	3.199	0.000	12044893	1000.00	955	80.00- 120.00	100.00 (M)
3.282	3.282	0.000	7971400	1000.00	854	45.52- 85.52	66.18
3.347	3.346	0.001	5010349	1000.00	926	21.04- 61.04	41.60
3.573	3.572	0.001	6461987	1000.00	916	33.41- 73.41	53.65
3.649	3.648	0.001	5901694	1000.00	901	28.90- 68.90	60.03
Average of Peak Amounts =					911		

7 Aroclor-1260					CAS #: 11096-82-5		
4.339	4.338	0.001	12441498	1000.00	909	80.00- 120.00	100.00
4.463	4.463	0.000	15419548	1000.00	962	103.50- 143.50	123.94
4.730	4.729	0.001	11883895	1000.00	946	75.02- 115.02	95.52
4.903	4.903	0.000	12259583	1000.00	957	77.89- 117.89	98.54
5.051	5.050	0.001	28019266	1000.00	1000	203.88- 243.88	225.21
Average of Peak Amounts =					956		

Data File: /chem/ecdl1a.i/122209.b/022b2201.d
Report Date: 22-Dec-2009 14:54

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QC Flag Legend

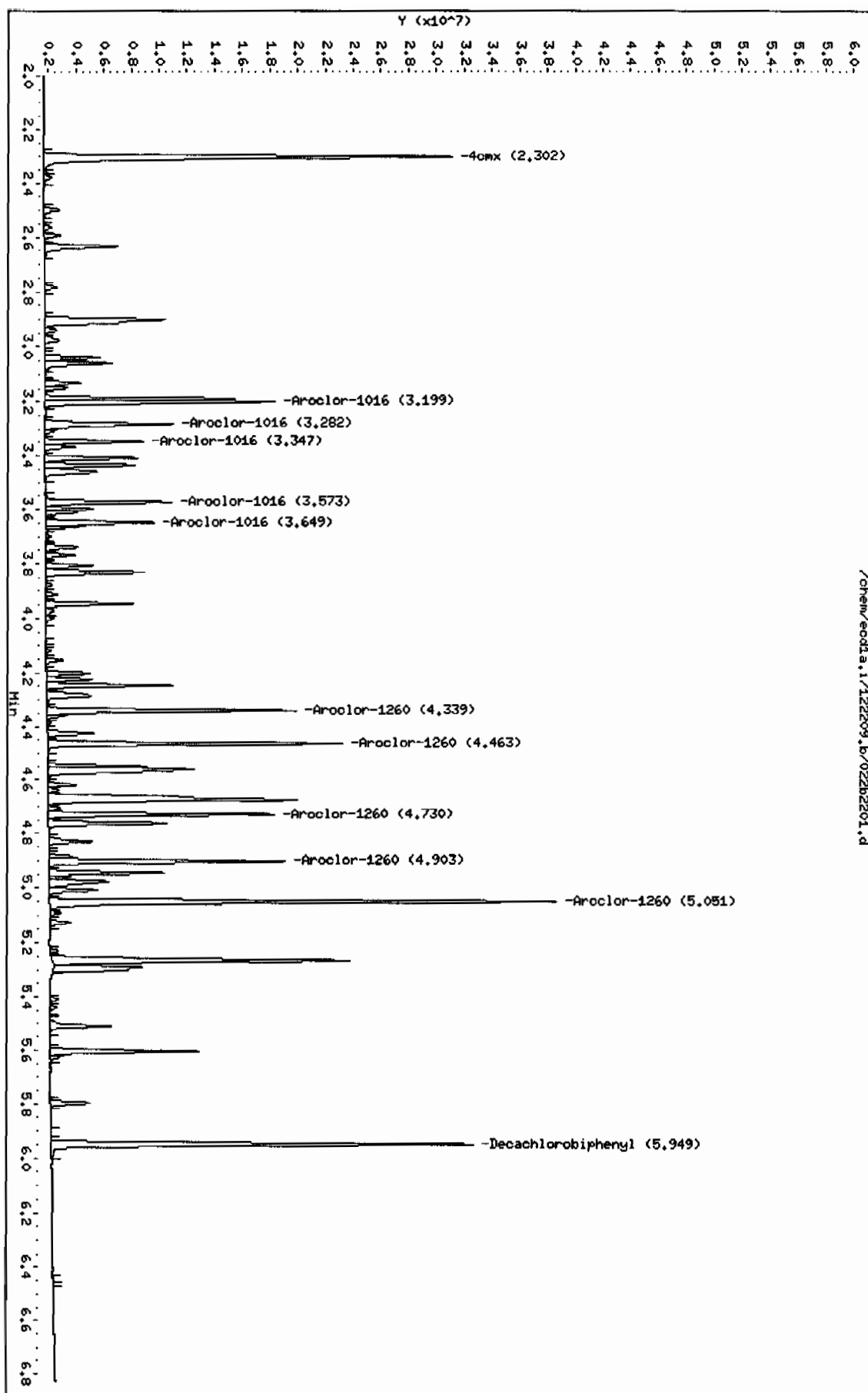
M - Compound response manually integrated.

Data File: /chem/eod1a.i/122209.b/022b2201.d
Date: 22-DEC-2009 11:36
Client ID: AR16002
Sample Info: 14AR091211-60 02

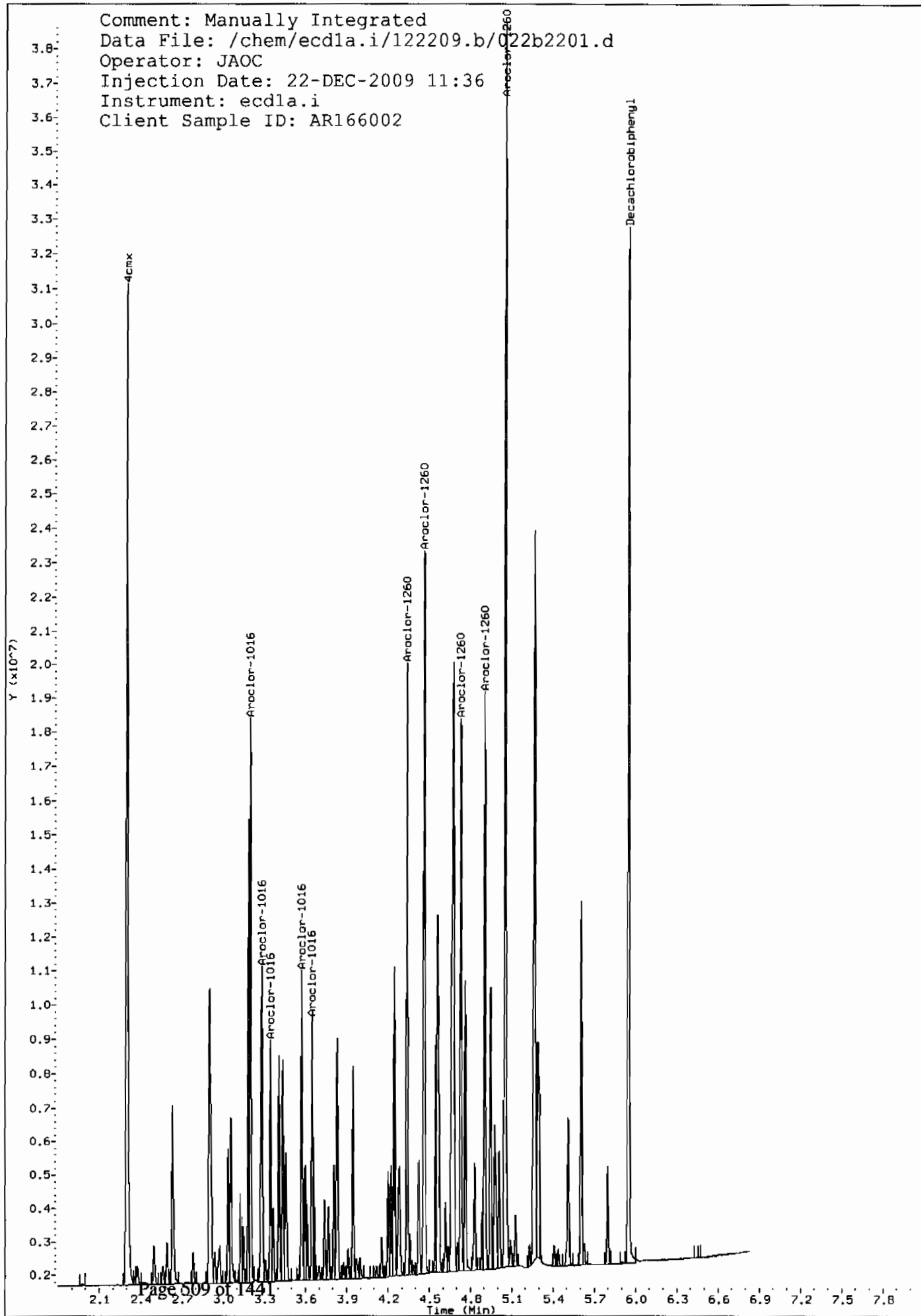
Column phase: CLP2

Instrument: eod1a.i
Operator: JMO
Column diameter: 0.25

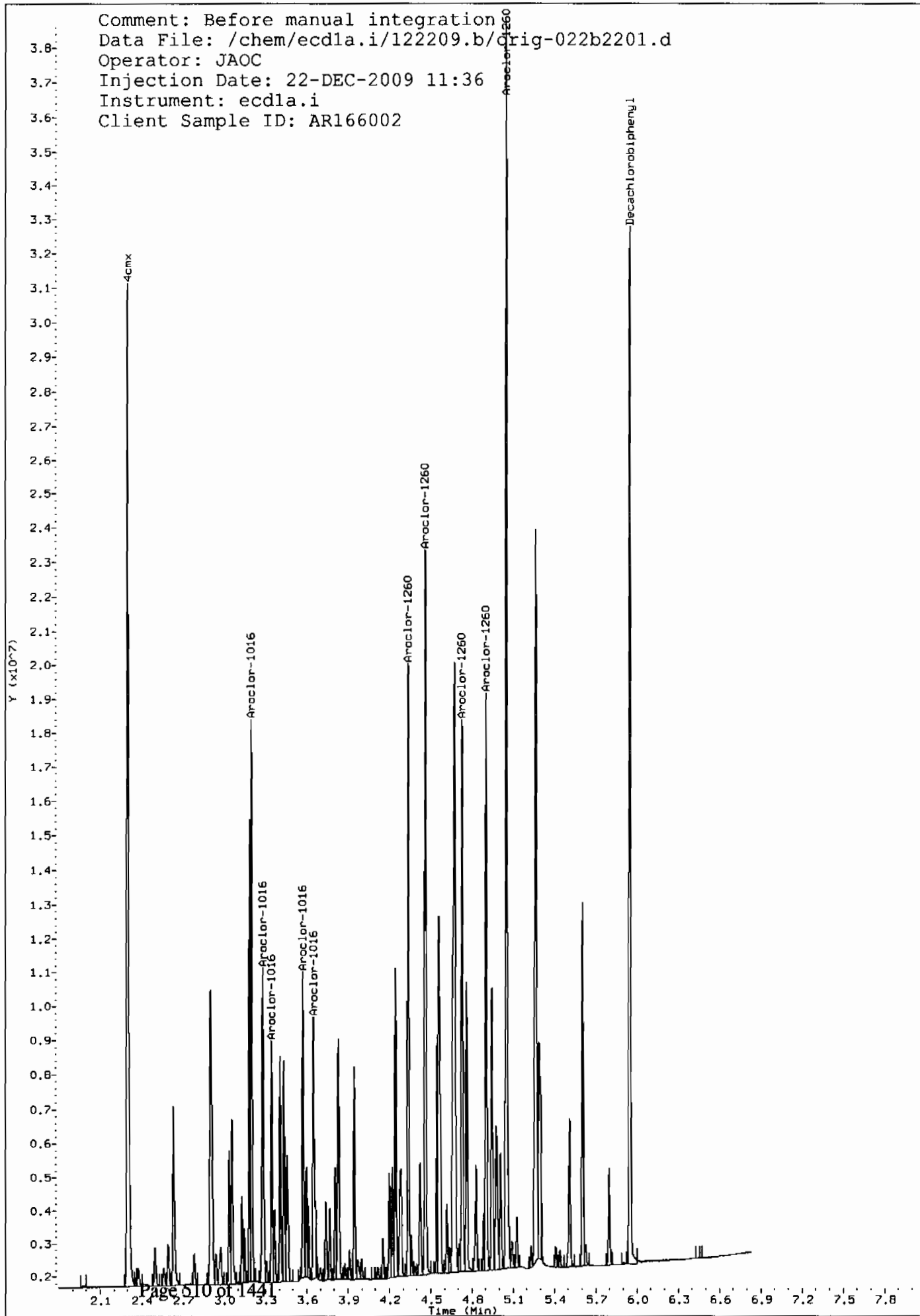
Page 1



Comment: Manually Integrated
Data File: /chem/ecdl1a.i/122209.b/022b2201.d
Operator: JAOC
Injection Date: 22-DEC-2009 11:36
Instrument: ecld1a.i
Client Sample ID: AR166002



Comment: Before manual integration
Data File: /chem/ecdla.i/122209.b/orig-022b2201.d
Operator: JAOC
Injection Date: 22-DEC-2009 11:36
Instrument: ecdla.i
Client Sample ID: AR166002



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/122209.b/034f3401.d
 Lab Smp Id: WAR091211-60 03 Client Smp ID: AR166003
 Inj Date : 22-DEC-2009 13:42
 Operator : JAOC Inst ID: ecd1a.i
 Smp Info : |WAR091211-60 03
 Misc Info :
 Comment :
 Method : /chem/ecd1a.i/122209.b/ECD1-F-8082-121409.m
 Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
 Als bottle: 34 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		
1.971	1.971	0.000	35502073	100.000	94.5 80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
5.288	5.286	0.002	32071588	100.000	101 80.00- 120.00	100.00

1 Aroclor-1016				CAS #: 12674-11-2		
2.428	2.427	0.001	12307109	1000.00	888 80.00- 120.00	100.00
2.705	2.705	0.000	9886673	1000.00	979 65.19- 105.19	80.33
2.798	2.796	0.002	10619709	1000.00	903 66.50- 106.50	86.29
2.835	2.835	0.000	6396545	1000.00	969 32.04- 72.04	51.97
3.046	3.046	0.000	8146353	1000.00	939 47.11- 87.11	66.19
Average of Peak Amounts =				936		

7 Aroclor-1260				CAS #: 11096-82-5		
3.773	3.771	0.002	16477385	1000.00	984 80.00- 120.00	100.00 (M)
3.936	3.934	0.002	25407089	1000.00	1030 134.26- 174.26	154.19
4.166	4.165	0.001	15258339	1000.00	1040 72.25- 112.25	92.60
4.310	4.307	0.003	15999261	1000.00	1050 76.57- 116.57	97.10
4.489	4.486	0.003	36981333	1000.00	1080 202.51- 242.51	224.44
Average of Peak Amounts =				1.04e+03		

QC Flag Legend

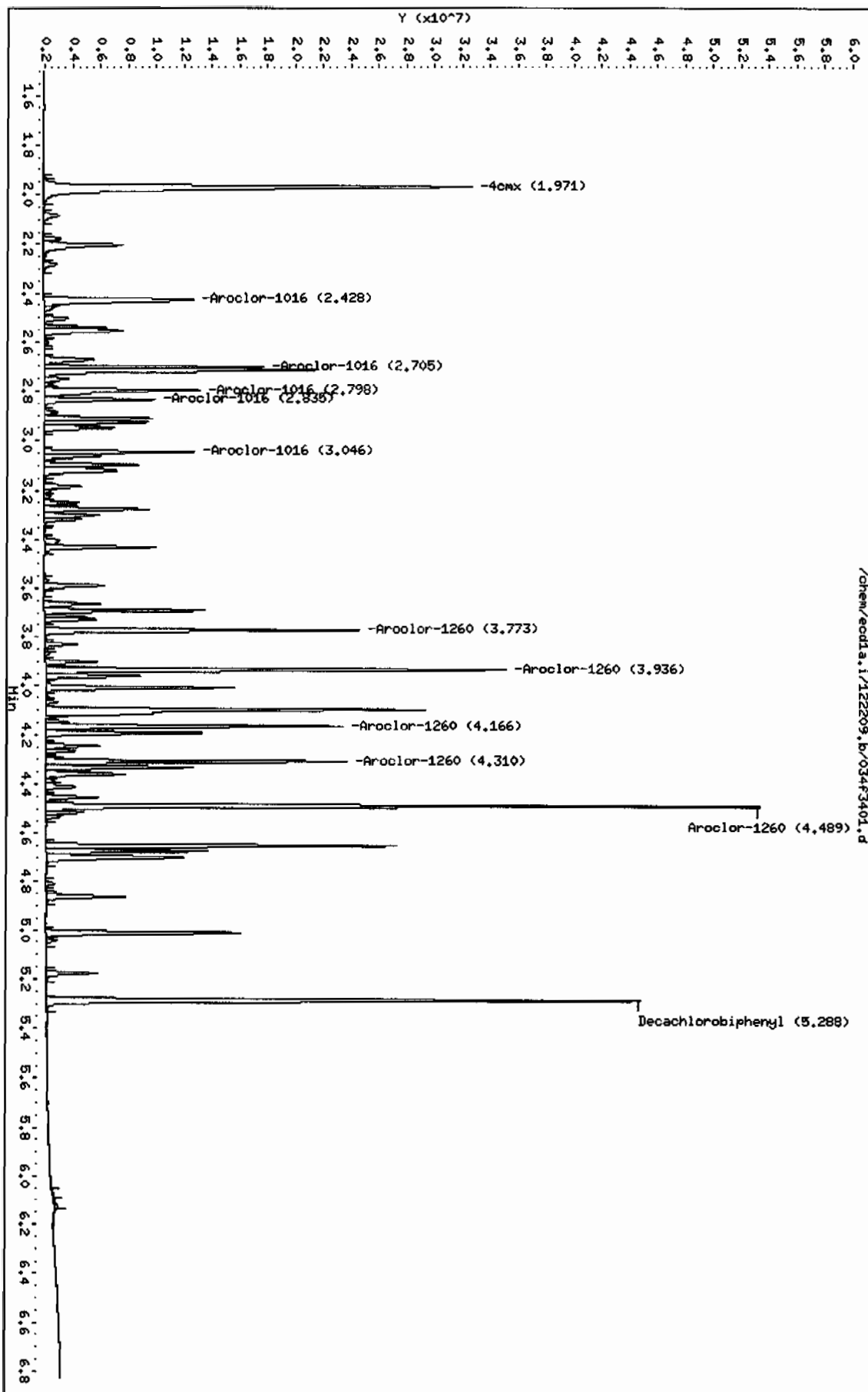
M - Compound response manually integrated.

Data File: /chem/ecda.i/122209.b/034f3401.d
Date: 22-DEC-2009 13:42
Client ID: AR166003
Sample Info: IMR091211-60 03

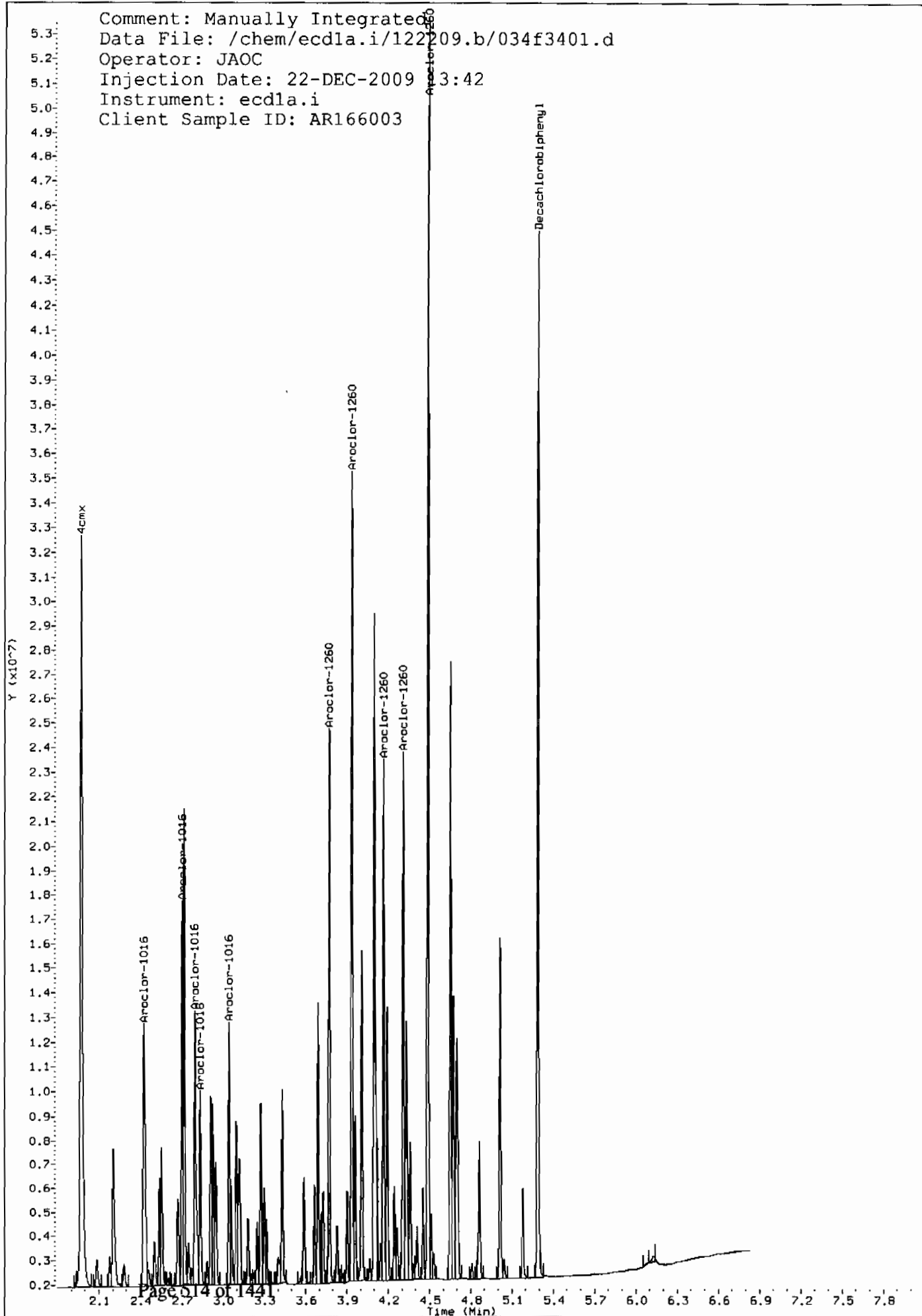
Column phase: CLP1

Instrument: ecda.i
Operator: JADG
Column diameter: 0.25

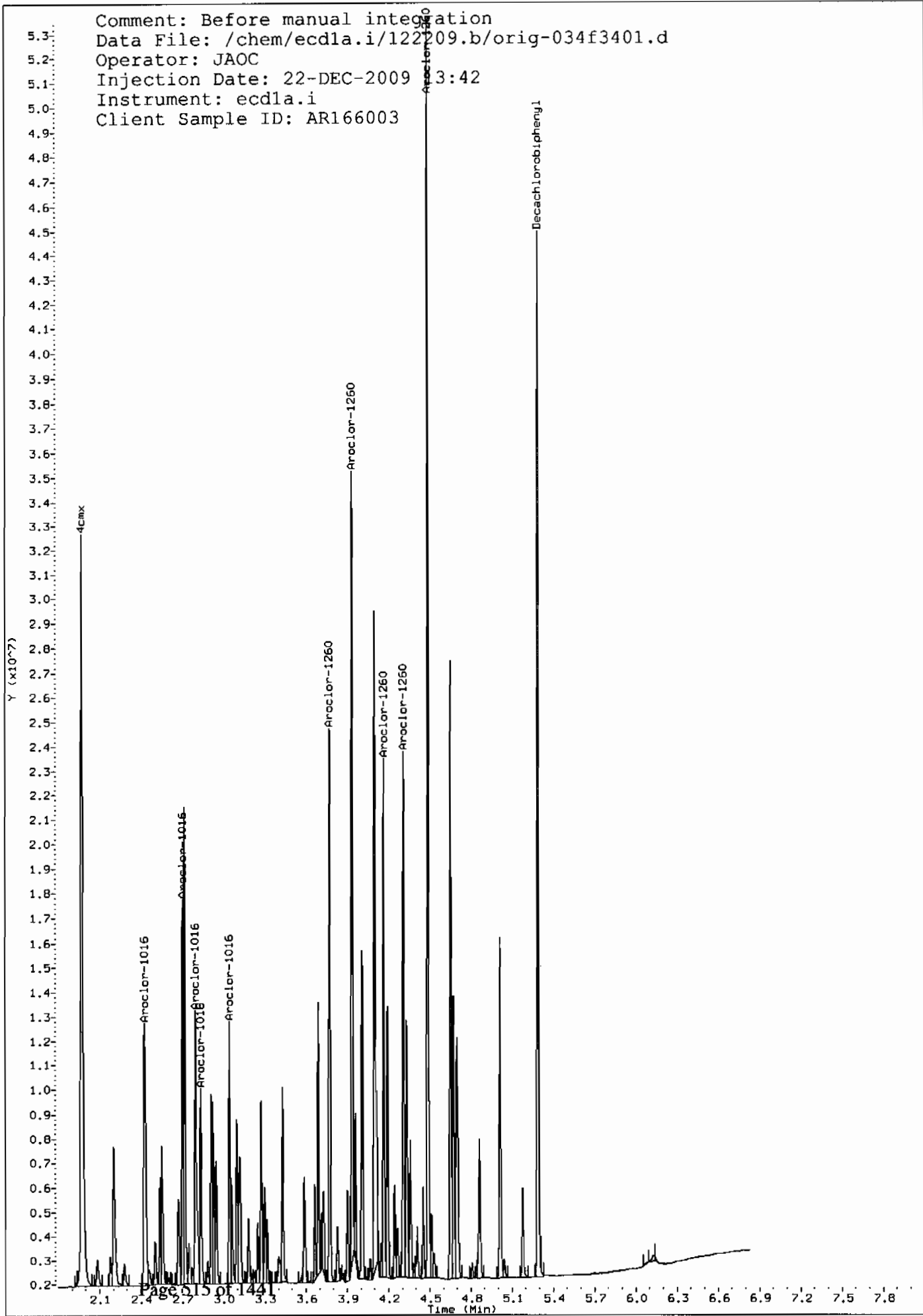
Page 1



Comment: Manually Integrated
Data File: /chem/ecdla.i/122209.b/034f3401.d
Operator: JAOC
Injection Date: 22-DEC-2009 13:42
Instrument: ecdla.i
Client Sample ID: AR166003



Comment: Before manual integration
Data File: /chem/ecdl1.i/122209.b/orig-034f3401.d
Operator: JAOC
Injection Date: 22-DEC-2009 13:42
Instrument: ecd1a.i
Client Sample ID: AR166003



Data File: /chem/ecdl1a.i/122209.b/034b3401.d
 Report Date: 22-Dec-2009 14:56

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/034b3401.d
 Lab Smp Id: WAR091211-60 03 Client Smp ID: AR166003
 Inj Date : 22-DEC-2009 13:42
 Operator : JAOC Inst ID: ecd1a.i
 Smp Info : |WAR091211-60 03
 Misc Info :
 Comment :
 Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
 Meth Date : 22-Dec-2009 13:59 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
 Als bottle: 34 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			
2.302	2.302	0.000	27198842	100.000	90.6	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.950	5.948	0.002	23200037	100.000	99.5	80.00- 120.00	100.00

1 Aroclor-1016				CAS #: 12674-11-2			
3.200	3.199	0.001	12230495	1000.00	970	80.00- 120.00	100.00
3.283	3.282	0.001	8013748	1000.00	859	45.52- 85.52	65.52
3.346	3.346	0.000	5019209	1000.00	928	21.04- 61.04	41.04
3.573	3.572	0.001	6532588	1000.00	926	33.41- 73.41	53.41
3.649	3.648	0.001	5980984	1000.00	913	28.90- 68.90	48.90
Average of Peak Amounts =					919		

7 Aroclor-1260				CAS #: 11096-82-5			
4.340	4.338	0.002	12671837	1000.00	926	80.00- 120.00	100.00
4.464	4.463	0.001	15649823	1000.00	976	103.50- 143.50	123.50
4.730	4.729	0.001	12040790	1000.00	958	75.02- 115.02	95.02
4.904	4.903	0.001	12404464	1000.00	968	77.89- 117.89	97.89
5.050	5.050	0.000	28369149	1000.00	1020	203.88- 243.88	223.88
Average of Peak Amounts =					969		

Data File: /chem/ecdda.i/122209.b/034b3401.d

Date: 22-DEC-2009 13:42

Client ID: AR166003

Sample Info: MAR091211-60 03

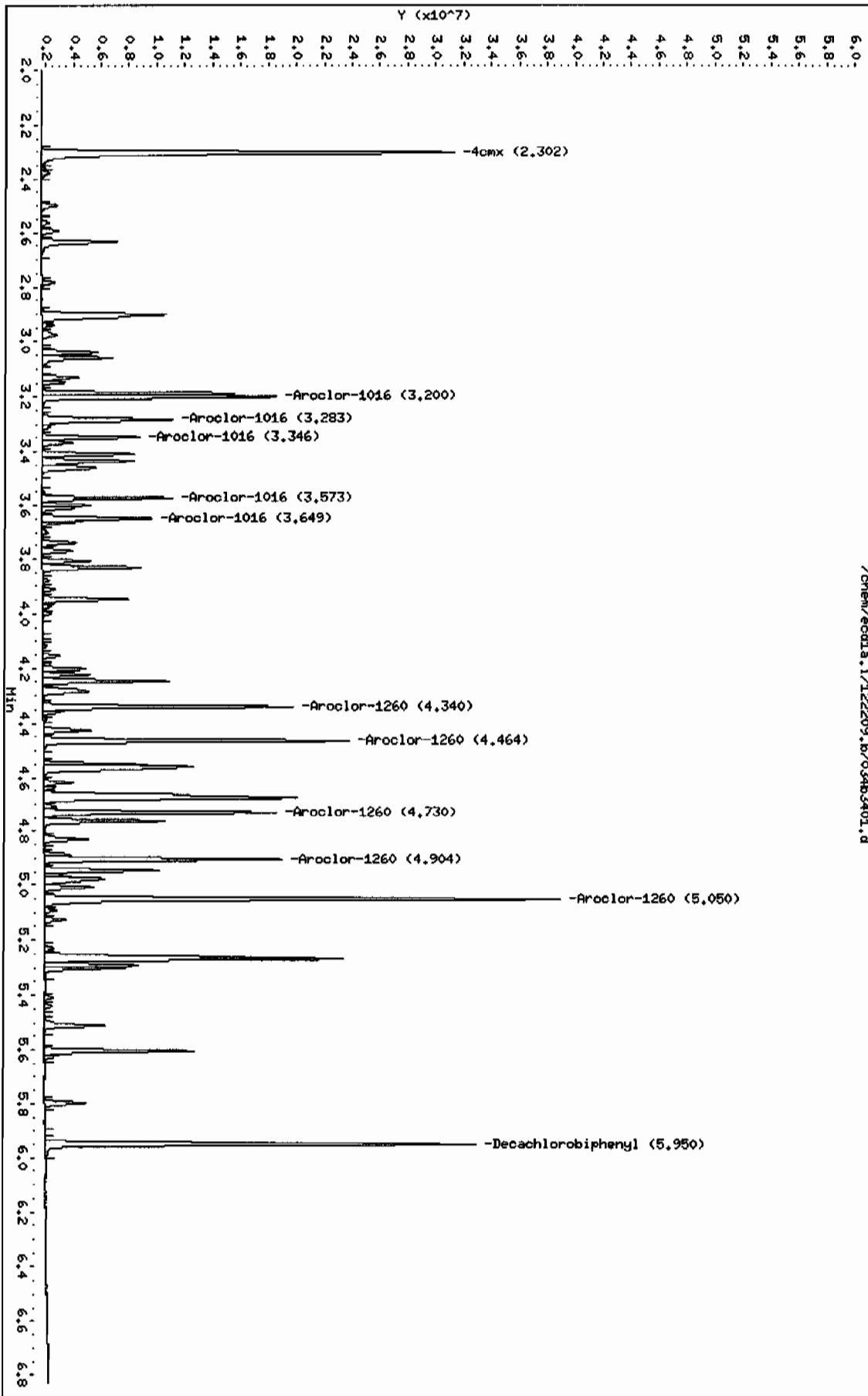
Column phase: CLP2

Instrument: ecdda.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/ecdl1a.i/122209.b/044f4401.d
 Lab Smp Id: WAR091211-60 04 Client Smp ID: AR166004
 Inj Date : 22-DEC-2009 15:27
 Operator : JAOC Inst ID: ecd1a.i
 Smp Info : |WAR091211-60 04
 Misc Info :
 Comment :
 Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
 Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
 Als bottle: 44 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)		RATIO
=====	=====	=====	=====	=====	=====	=====	=====

\$ 11 4cmx					CAS #: 877-09-8		
1.972	1.971	0.001	36485812	100.000	97.1	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.287	5.286	0.001	32358144	100.000	102	80.00- 120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2		
2.428	2.427	0.001	12576066	1000.00	907	80.00- 120.00	100.00
2.706	2.705	0.001	10713222	1000.00	1060	65.19- 105.19	85.19
2.798	2.796	0.002	10878772	1000.00	925	66.50- 106.50	86.50
2.836	2.835	0.001	6544136	1000.00	992	32.04- 72.04	52.04
3.047	3.046	0.001	8439862	1000.00	973	47.11- 87.11	67.11
Average of Peak Amounts =					972		

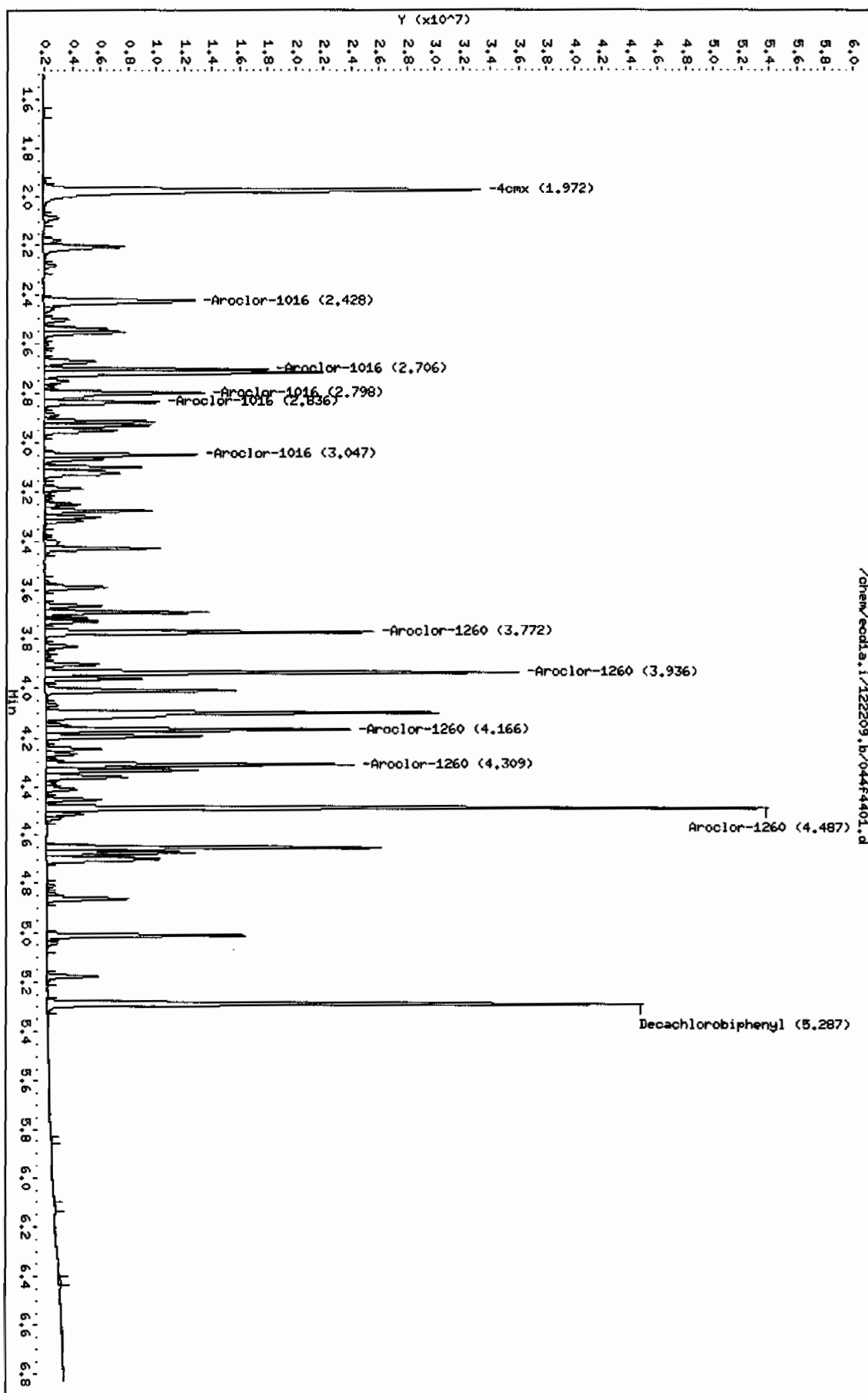
7 Aroclor-1260					CAS #: 11096-82-5		
3.772	3.771	0.001	16868685	1000.00	1010	80.00- 120.00	100.00
3.936	3.934	0.002	26021184	1000.00	1050	134.26- 174.26	154.26
4.166	4.165	0.001	15560652	1000.00	1060	72.25- 112.25	92.25
4.309	4.307	0.002	16290764	1000.00	1070	76.57- 116.57	96.57
4.487	4.486	0.001	37535072	1000.00	1090	202.51- 242.51	222.51
Average of Peak Amounts =					1.06e+03		

Data File: /chem/eodla.i/122209.b/044f4401.d
Date : 22-DEC-2009 15:27
Client ID: AR166004
Sample Info: IMR091211-60 04

Column Phase: CLP1

Instrument: eodla.i
Operator: JROC
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/122209.b/044b4401.d

Lab Smp Id: WAR091211-60 04

Client Smp ID: AR166004

Inj Date : 22-DEC-2009 15:27

Operator : JAOC

Inst ID: ecdla.i

Smp Info : |WAR091211-60 04

Misc Info :

Comment :

Method : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m

Meth Date : 23-Dec-2009 06:44 jen01212

Quant Type: ESTD

Cal Date : 14-DEC-2009 12:16

Cal File: 044b4401.d

Als bottle: 44

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			
2.302	2.302	0.000	27869313	100.000	92.9	80.00-	120.00	100.00

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.949	5.948	0.001	22183289	100.000	95.1	80.00-	120.00	100.00

1 Aroclor-1016					CAS #: 12674-11-2			
3.200	3.199	0.001	12223105	1000.00	969	80.00-	120.00	100.00 (M)
3.282	3.282	0.000	8174997	1000.00	876	46.88-	86.88	66.88
3.347	3.346	0.001	5090328	1000.00	941	21.65-	61.65	41.65
3.573	3.572	0.001	6438929	1000.00	913	32.68-	72.68	52.68
3.649	3.648	0.001	6113381	1000.00	933	30.01-	70.01	50.01
Average of Peak Amounts =					927			

7 Aroclor-1260					CAS #: 11096-82-5			
4.339	4.338	0.001	12596367	1000.00	921	80.00-	120.00	100.00
4.464	4.463	0.001	14981774	1000.00	935	98.94-	138.94	118.94
4.729	4.729	0.000	12122093	1000.00	965	76.23-	116.23	96.23
4.903	4.903	0.000	12513940	1000.00	977	79.35-	119.35	99.35
5.050	5.050	0.000	28363537	1000.00	1020	205.17-	245.17	225.17
Average of Peak Amounts =					963			

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/eodla.i/122209.b/044b4401.d

Date: 22-DEC-2009 15:27

Client ID: AR166004

Sample Info: 14AR091211-60 04

Column phase: CLP2

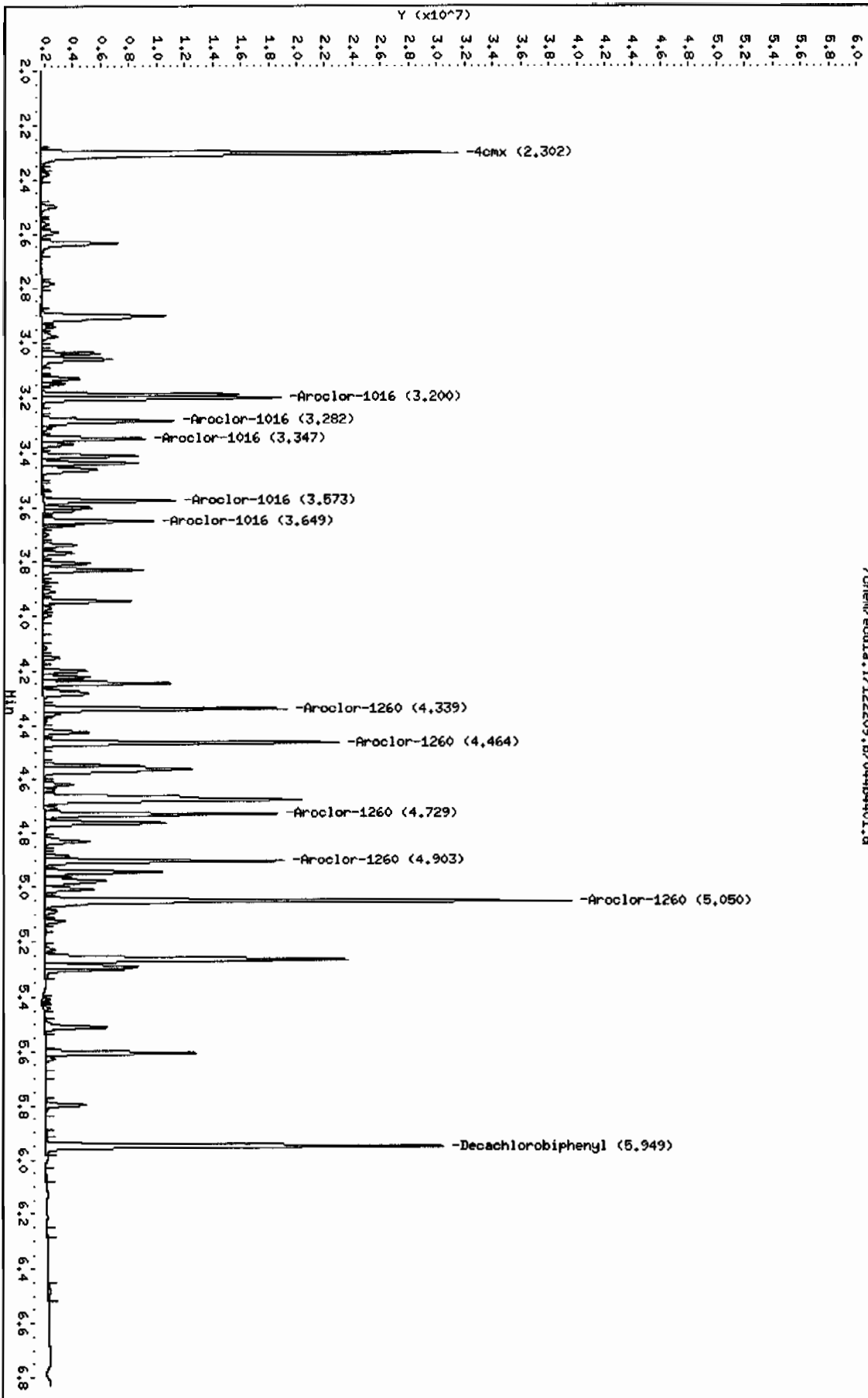
Instrument: eodla.i

Operator: JROC

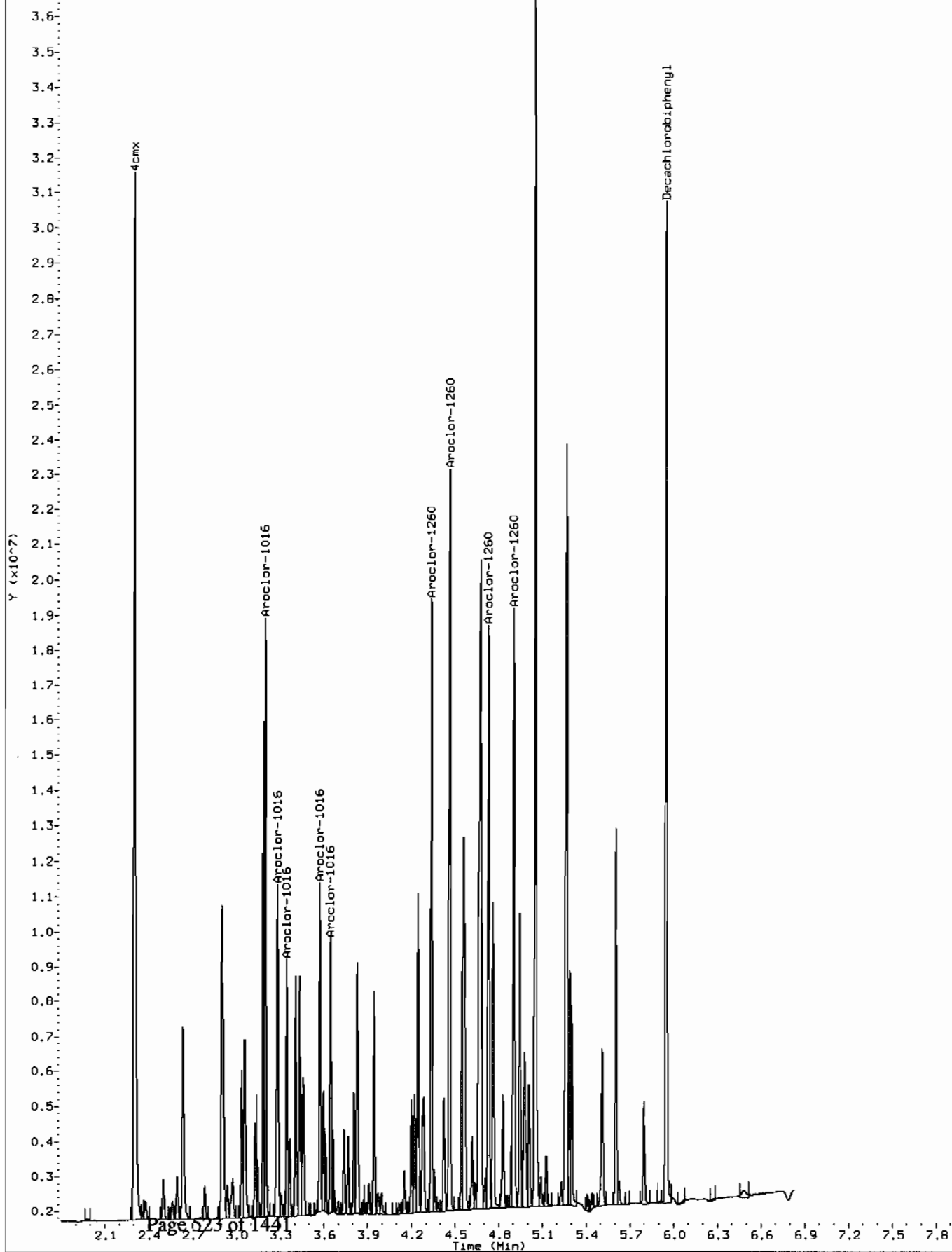
Column diameter: 0.25

/chem/eodla.i/122209.b/044b4401.d

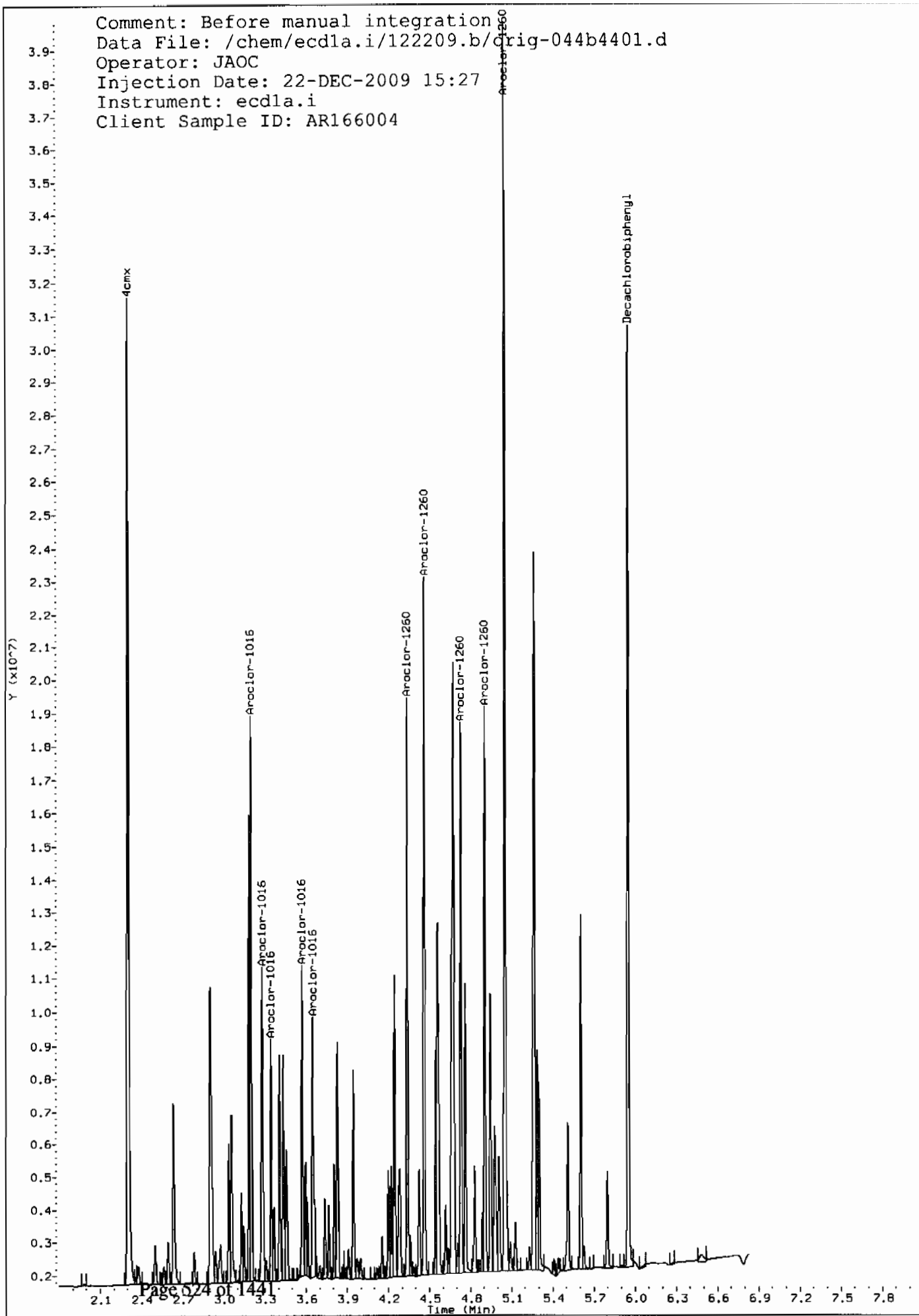
Page 1



Comment: Manually Integrated
Data File: /chem/ecdla.i/122209.b/044b4401.d
Operator: JAOC
Injection Date: 22-DEC-2009 15:27
Instrument: ecdla.i
Client Sample ID: AR166004



Comment: Before manual integration
Data File: /chem/ecdla.i/122209.b/orig-044b4401.d
Operator: JAOC
Injection Date: 22-DEC-2009 15:27
Instrument: ecdla.i
Client Sample ID: AR166004



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.: 10-989

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 1.97				DCB: 5.29			
EPA	LAB	DATE	TIME	S1	DCB		
SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT	RT	#	#
01 PIBLK01	WAR091130-99	12/14/09	0444	1.97	5.29		
02 ZZZZZ	ZZZZZ	12/14/09	0454	1.97	5.29		
03 ZZZZZ	ZZZZZ	12/14/09	0505	1.97	5.29		
04 ZZZZZ	ZZZZZ	12/14/09	0515	1.97	5.29		
05 ZZZZZ	ZZZZZ	12/14/09	0526	1.97	5.29		
06 AR123201	WAR090930-32	12/14/09	0536	1.97	5.29		
07 AR122101	WAR090803-21	12/14/09	0547	1.97	5.29		
08 AR126201	WAR090803-62	12/14/09	0558	1.97	5.29		
09 ZZZZZ	ZZZZZ	12/14/09	0608	1.97	5.29		
10 ZZZZZ	ZZZZZ	12/14/09	0619	1.97	5.29		
11 ZZZZZ	ZZZZZ	12/14/09	0629	1.97	5.29		
12 ZZZZZ	ZZZZZ	12/14/09	0640	1.97	5.29		
13 ZZZZZ	ZZZZZ	12/14/09	0650	1.97	5.29		
14 ZZZZZ	ZZZZZ	12/14/09	0701	1.97	5.29		
15 ZZZZZ	ZZZZZ	12/14/09	0711	1.97	5.29		
16 AR125401	WAR091214-05	12/14/09	0722	1.97	5.29		
17 AR125402	WAR091214-06	12/14/09	0732	1.97	5.29		
18 AR125403	WAR091214-07	12/14/09	0743	1.97	5.29		
19 AR125401	WAR091214-08	12/14/09	0753	1.97	5.29		
20 AR125405	IAR091027-01	12/14/09	0804	1.97	5.29		
21 AR125401	WAR091102-54	12/14/09	0814	1.97	5.29		
22 AR124201	WAR091214-09	12/14/09	0825	1.97	5.29		
23 AR124202	WAR091214-10	12/14/09	0835	1.97	5.29		
24 AR124203	WAR091214-11	12/14/09	0846	1.97	5.29		
25 AR124204	WAR091214-12	12/14/09	0856	1.97	5.29		
26 AR124205	IAR0911111-0	12/14/09	0907	1.97	5.29		
27 AR124201	WAR091102-42	12/14/09	0917	1.97	5.29		
28 AR124801	WAR091214-13	12/14/09	0928	1.97	5.29		
29 AR124802	WAR091214-14	12/14/09	0938	1.97	5.29		
30 AR124803	WAR091214-15	12/14/09	0949	1.97	5.29		
31 AR124804	WAR091214-16	12/14/09	0959	1.97	5.29		
32 AR124805	IAR091027-02	12/14/09	1010	1.97	5.29		

QC LIMITS

S1 = 4cmx (+/- 0.03 MINUTES)

DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

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.: 10-989

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 1.97			DCB: 5.29		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	AR124801	WAR091027-48	12/14/09 1020	1.97	5.29
02	AR166001	WAR091214-01	12/14/09 1031	1.97	5.29
03	AR166002	WAR091214-02	12/14/09 1041	1.97	5.29
04	AR166003	WAR091214-03	12/14/09 1052	1.97	5.29
05	AR166004	WAR091214-04	12/14/09 1102	1.97	5.29
06	AR166005	IAR091102-01	12/14/09 1113	1.97	5.29
07	AR166001	WAR091211-60	12/14/09 1123	1.97	5.29
08	AR126801	WAR091214-17	12/14/09 1134	1.97	5.29
09	AR126802	WAR091214-18	12/14/09 1144	1.97	5.29
10	AR126803	WAR091214-19	12/14/09 1155	1.97	5.29
11	AR126804	WAR091214-20	12/14/09 1206	1.97	5.29
12	AR126805	IAR090817-02	12/14/09 1216	1.97	5.29
13	AR126801	WAR091106-68	12/14/09 1227	1.97	5.29
14	DDTANALOGSTD	WAR091020-DD	12/14/09 1237		
15	PIBLK02	WAR091130-99	12/14/09 1248	1.97	5.29
16	ZZZZZ	ZZZZZ	12/14/09 1258	1.97	5.29
17	ZZZZZ	ZZZZZ	12/14/09 1309	1.97	5.29
18	ZZZZZ	ZZZZZ	12/14/09 1319	1.97	5.29
19	ZZZZZ	ZZZZZ	12/14/09 1330	1.97	5.29
20	ZZZZZ	ZZZZZ	12/14/09 1340	1.97	5.29
21	ZZZZZ	ZZZZZ	12/14/09 1351	1.97	5.29
22	ZZZZZ	ZZZZZ	12/14/09 1403	1.97	5.29
23	ZZZZZ	ZZZZZ	12/14/09 1416	1.97	5.29
24	ZZZZZ	ZZZZZ	12/14/09 1429	1.97	5.29
25	ZZZZZ	ZZZZZ	12/14/09 1441	1.97	5.29
26	AR166002	WAR091211-60	12/14/09 1452	1.97	5.29
27	PIBLK03	WAR091130-99	12/14/09 1502	1.97	5.29
28	ZZZZZ	ZZZZZ	12/14/09 1513	1.97	5.29
29	ZZZZZ	ZZZZZ	12/14/09 1525	1.97	5.29
30	ZZZZZ	ZZZZZ	12/14/09 1538	1.97	5.29
31	ZZZZZ	ZZZZZ	12/14/09 1551	1.97	5.29
32	ZZZZZ	ZZZZZ	12/14/09 1603	1.97	5.27

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

page 2 of 2

FORM VIII PEST

OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 2.30				DCB: 5.94			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	SI RT	#	DCB RT	#
01	PIBLK01	WAR091130-99	12/14/09	0444	2.30	5.95	
02	ZZZZZ	ZZZZZ	12/14/09	0454	2.30	5.94	
03	ZZZZZ	ZZZZZ	12/14/09	0505	2.30	5.95	
04	ZZZZZ	ZZZZZ	12/14/09	0515	2.30	5.95	
05	ZZZZZ	ZZZZZ	12/14/09	0526	2.30	5.95	
06	AR123201	WAR090930-32	12/14/09	0536	2.30	5.95	
07	AR122101	WAR090803-21	12/14/09	0547	2.30	5.95	
08	AR126201	WAR090803-62	12/14/09	0558	2.30	5.94	
09	ZZZZZ	ZZZZZ	12/14/09	0608	2.30	5.94	
10	ZZZZZ	ZZZZZ	12/14/09	0619	2.30	5.95	
11	ZZZZZ	ZZZZZ	12/14/09	0629	2.30	5.94	
12	ZZZZZ	ZZZZZ	12/14/09	0640	2.30	5.94	
13	ZZZZZ	ZZZZZ	12/14/09	0650	2.30	5.95	
14	ZZZZZ	ZZZZZ	12/14/09	0701	2.30	5.94	
15	ZZZZZ	ZZZZZ	12/14/09	0711	2.30	5.95	
16	AR125401	WAR091214-05	12/14/09	0722	2.30	5.94	
17	AR125402	WAR091214-06	12/14/09	0732	2.30	5.94	
18	AR125403	WAR091214-07	12/14/09	0743	2.30	5.94	
19	AR125401	WAR091214-08	12/14/09	0753	2.30	5.94	
20	AR125405	IAR091027-01	12/14/09	0804	2.30	5.95	
21	AR125401	WAR091102-54	12/14/09	0814	2.30	5.94	
22	AR124201	WAR091214-09	12/14/09	0825	2.30	5.94	
23	AR124202	WAR091214-10	12/14/09	0835	2.30	5.94	
24	AR124203	WAR091214-11	12/14/09	0846	2.30	5.94	
25	AR124204	WAR091214-12	12/14/09	0856	2.30	5.94	
26	AR124205	IAR0911111-0	12/14/09	0907	2.30	5.94	
27	AR124201	WAR091102-42	12/14/09	0917	2.30	5.94	
28	AR124801	WAR091214-13	12/14/09	0928	2.30	5.94	
29	AR124802	WAR091214-14	12/14/09	0938	2.30	5.94	
30	AR124803	WAR091214-15	12/14/09	0949	2.30	5.94	
31	AR124804	WAR091214-16	12/14/09	0959	2.30	5.94	
32	AR124805	IAR091027-02	12/14/09	1010	2.30	5.94	

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

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.: 10-989

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 2.30				DCB: 5.94			
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	DCB RT
	=====	=====	=====	=====	=====		=====
01	AR124801	WAR091027-48	12/14/09	1020	2.30		5.95
02	AR166001	WAR091214-01	12/14/09	1031	2.30		5.94
03	AR166002	WAR091214-02	12/14/09	1041	2.30		5.94
04	AR166003	WAR091214-03	12/14/09	1052	2.30		5.94
05	AR166004	WAR091214-04	12/14/09	1102	2.30		5.94
06	AR166005	IAR091102-01	12/14/09	1113	2.30		5.94
07	AR166001	WAR091211-60	12/14/09	1123	2.30		5.94
08	AR126801	WAR091214-17	12/14/09	1134	2.30		5.95
09	AR126802	WAR091214-18	12/14/09	1144	2.30		5.94
10	AR126803	WAR091214-19	12/14/09	1155	2.30		5.94
11	AR126804	WAR091214-20	12/14/09	1206	2.30		5.94
12	AR126805	IAR090817-02	12/14/09	1216	2.30		5.94
13	AR126801	WAR091106-68	12/14/09	1227	2.30		5.94
14	DDTANALOGSTD	WAR091020-DD	12/14/09	1237			
15	P1BLK02	WAR091130-99	12/14/09	1248	2.30		5.94
16	ZZZZZ	ZZZZZ	12/14/09	1258	2.30		5.94
17	ZZZZZ	ZZZZZ	12/14/09	1309	2.30		5.94
18	ZZZZZ	ZZZZZ	12/14/09	1319	2.30		5.94
19	ZZZZZ	ZZZZZ	12/14/09	1330	2.30		5.94
20	ZZZZZ	ZZZZZ	12/14/09	1340	2.30		5.94
21	ZZZZZ	ZZZZZ	12/14/09	1351	2.30		5.94
22	ZZZZZ	ZZZZZ	12/14/09	1403	2.30		5.94
23	ZZZZZ	ZZZZZ	12/14/09	1416	2.30		5.94
24	ZZZZZ	ZZZZZ	12/14/09	1429	2.30		5.94
25	ZZZZZ	ZZZZZ	12/14/09	1441	2.30		5.94
26	AR166002	WAR091211-60	12/14/09	1452	2.30		5.94
27	P1BLK03	WAR091130-99	12/14/09	1502	2.30		5.94
28	ZZZZZ	ZZZZZ	12/14/09	1513	2.30		5.94
29	ZZZZZ	ZZZZZ	12/14/09	1525	2.30		5.94
30	ZZZZZ	ZZZZZ	12/14/09	1538	2.30		5.94
31	ZZZZZ	ZZZZZ	12/14/09	1551	2.30		5.94
32	ZZZZZ	ZZZZZ	12/14/09	1603	2.30		5.94

QC LIMITS

S1 = 4cmx (+/- 0.03 MINUTES)

DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

page 2 of 2

FORM VIII PEST

OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-989

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 1.97			DCB: 5.29		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/22/09 0755	1.97	5.28
02	AR166001	WAR091211-60	12/22/09 0805	1.97	5.29
03	AR125401	WAR091216-54	12/22/09 0816	1.97	5.29
04	AR124201	WAR091102-42	12/22/09 0826	1.97	5.29
05	AR124801	WAR091027-48	12/22/09 0837	1.97	5.29
06	AR123201	WAR090930-32	12/22/09 0847	1.97	5.29
07	AR122101	WAR090803-21	12/22/09 0858	1.97	5.29
08	AR126201	WAR090803-62	12/22/09 0908	1.97	5.29
09	AR126801	WAR091106-68	12/22/09 0919	1.97	5.29
10	DDTANALOGSTD	WAR091219-DD	12/22/09 0929		
11	PIBLK02	WAR091130-99	12/22/09 0940	1.97	5.29
12	ZZZZZ	ZZZZZ	12/22/09 0950	1.97	5.29
13	ZZZZZ	ZZZZZ	12/22/09 1001	1.97	5.29
14	ZZZZZ	ZZZZZ	12/22/09 1011	1.97	5.29
15	ZZZZZ	ZZZZZ	12/22/09 1022	1.97	5.29
16	ZZZZZ	ZZZZZ	12/22/09 1032	1.97	5.29
17	ZZZZZ	ZZZZZ	12/22/09 1043	1.97	5.29
18	ZZZZZ	ZZZZZ	12/22/09 1053	1.97	5.29
19	ZZZZZ	ZZZZZ	12/22/09 1104	1.97	5.29
20	ZZZZZ	ZZZZZ	12/22/09 1115	1.97	5.29
21	ZZZZZ	ZZZZZ	12/22/09 1125	1.97	5.29
22	AR166002	WAR091211-60	12/22/09 1136	1.97	5.29
23	PIBLK03	WAR091130-99	12/22/09 1146	1.97	5.29
24	PBLK01	1202001507	12/22/09 1157	1.97	5.29
25	PBLK01LCS	1202001508	12/22/09 1207	1.97	5.29
26	ZZZZZ	ZZZZZ	12/22/09 1218	1.97	5.29
27	ZZZZZ	ZZZZZ	12/22/09 1228	1.97	5.29
28	ZZZZZ	ZZZZZ	12/22/09 1239	1.97	5.29
29	ZZZZZ	ZZZZZ	12/22/09 1249	1.97	5.29
30	ZZZZZ	ZZZZZ	12/22/09 1300	1.97	5.29
31	ZZZZZ	ZZZZZ	12/22/09 1310	1.97	5.29
32	ZZZZZ	ZZZZZ	12/22/09 1321	1.97	5.29

QC LIMITS

S1 = 4cmx (+/- 0.03 MINUTES)

DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

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.: 10-989

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
S1 : 1.97			DCB: 5.29			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	DCB RT
01	ZZZZZ	12/22/09	1331	1.97		5.29
02	AR166003	12/22/09	1342	1.97		5.29
03	PIBLK04	12/22/09	1353	1.97		5.29
04	ZZZZZ	12/22/09	1403	1.97		5.29
05	ZZZZZ	12/22/09	1414	1.97		5.29
06	ZZZZZ	12/22/09	1424	1.97		5.29
07	ZZZZZ	12/22/09	1435	1.97		5.29
08	RE12-10-7352	12/22/09	1445	1.97		5.29
09	RE12-10-7352MS	12/22/09	1456	1.97		5.29
10	RE12-10-7352MSD	12/22/09	1506	1.97		5.29
11	RE12-10-7364	12/22/09	1517	1.97		5.29
12	AR166004	12/22/09	1527	1.97		5.29
13	PIBLK05	12/22/09	1538	1.97		5.29
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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.: 10-989

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 2.30				DCB: 5.95			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	DCB RT	#
01	PIBLK01	WAR091130-99	12/22/09	0755	2.30	5.95	
02	AR166001	WAR091211-60	12/22/09	0805	2.30	5.95	
03	AR125401	WAR091216-54	12/22/09	0816	2.30	5.95	
04	AR124201	WAR091102-42	12/22/09	0826	2.30	5.95	
05	AR124801	WAR091027-48	12/22/09	0837	2.30	5.95	
06	AR123201	WAR090930-32	12/22/09	0847	2.30	5.95	
07	AR122101	WAR090803-21	12/22/09	0858	2.30	5.95	
08	AR126201	WAR090803-62	12/22/09	0908	2.30	5.95	
09	AR126801	WAR091106-68	12/22/09	0919	2.30	5.95	
10	DDTANALOGSTD	WAR091219-DD	12/22/09	0929			
11	PIBLK02	WAR091130-99	12/22/09	0940	2.30	5.95	
12	ZZZZZ	ZZZZZ	12/22/09	0950	2.30	5.95	
13	ZZZZZ	ZZZZZ	12/22/09	1001	2.30	5.95	
14	ZZZZZ	ZZZZZ	12/22/09	1011	2.30	5.95	
15	ZZZZZ	ZZZZZ	12/22/09	1022	2.30	5.95	
16	ZZZZZ	ZZZZZ	12/22/09	1032	2.30	5.95	
17	ZZZZZ	ZZZZZ	12/22/09	1043	2.30	5.95	
18	ZZZZZ	ZZZZZ	12/22/09	1053	2.30	5.95	
19	ZZZZZ	ZZZZZ	12/22/09	1104	2.30	5.95	
20	ZZZZZ	ZZZZZ	12/22/09	1114	2.30	5.95	
21	ZZZZZ	ZZZZZ	12/22/09	1125	2.30	5.95	
22	AR166002	WAR091211-60	12/22/09	1136	2.30	5.95	
23	PIBLK03	WAR091130-99	12/22/09	1146	2.30	5.95	
24	PBLK01	1202001507	12/22/09	1157	2.30	5.95	
25	PBLK01LCS	1202001508	12/22/09	1207	2.30	5.95	
26	ZZZZZ	ZZZZZ	12/22/09	1218	2.30	5.95	
27	ZZZZZ	ZZZZZ	12/22/09	1228	2.30	5.95	
28	ZZZZZ	ZZZZZ	12/22/09	1239	2.30	5.95	
29	ZZZZZ	ZZZZZ	12/22/09	1249	2.30	5.95	
30	ZZZZZ	ZZZZZ	12/22/09	1300	2.30	5.95	
31	ZZZZZ	ZZZZZ	12/22/09	1310	2.30	5.95	
32	ZZZZZ	ZZZZZ	12/22/09	1321	2.30	5.95	

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.: 10-989

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
S1 : 2.30			DCB: 5.95			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	DCB RT
01	ZZZZZ	12/22/09	1331	2.30		5.95
02	AR166003	WAR091211-60	1342	2.30		5.95
03	PIBLK04	WAR091130-99	1353	2.30		5.95
04	ZZZZZ	12/22/09	1403	2.30		5.95
05	ZZZZZ	12/22/09	1414	2.30		5.95
06	ZZZZZ	12/22/09	1424	2.30		5.95
07	ZZZZZ	12/22/09	1435	2.30		5.95
08	RE12-10-7352	243274001	1445	2.30		5.95
09	RE12-10-7352MS	1202001509	1456	2.30		5.95
10	RE12-10-7352MSD	1202001510	1506	2.30		5.95
11	RE12-10-7364	243274010	1517	2.30		5.95
12	AR166004	WAR091211-60	1527	2.30		5.95
13	PIBLK05	WAR091130-99	1538	2.30		5.95
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

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: 10-989

Client ID: LCS for batch 935357

Lab Sample ID: 1202001508

Data File: 025f2501.d

Data File: 025b2501.d

Inst: ECD1A.I_1

Inst: ECD1A.I_2

Column: CLP1

Column: CLP2

Analyzed: 22-DEC-09 12:07

Analyzed: 22-DEC-09 12:07

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							.00975
Column 1	1	2.43	2.4 – 2.46	21.1	21.9	ug/kg	
	2	2.7	2.67 – 2.73	22.5		ug/kg	
	3	2.8	2.77 – 2.83	21.1		ug/kg	
	4	2.83	2.8 – 2.86	22.3		ug/kg	
	5	3.05	3.02 – 3.08	22.6		ug/kg	
Column 2	1	3.2	3.17 – 3.23	23.2	21.9	ug/kg	
	2	3.28	3.25 – 3.31	20.8		ug/kg	
	3	3.35	3.32 – 3.38	21.5		ug/kg	
	4	3.57	3.54 – 3.6	22.1		ug/kg	
	5	3.65	3.62 – 3.68	22.1		ug/kg	
Aroclor-1260							5.36
Column 1	1	3.77	3.74 – 3.8	25.3	27.2	ug/kg	
	2	3.94	3.9 – 3.96	26.8		ug/kg	
	3	4.17	4.13 – 4.19	27.3		ug/kg	
	4	4.31	4.28 – 4.34	27.3		ug/kg	
	5	4.49	4.46 – 4.52	29		ug/kg	
Column 2	1	4.34	4.31 – 4.37	24	25.7	ug/kg	
	2	4.46	4.43 – 4.49	25.6		ug/kg	
	3	4.73	4.7 – 4.76	25.5		ug/kg	
	4	4.9	4.87 – 4.93	26		ug/kg	
	5	5.05	5.02 – 5.08	27.6		ug/kg	

Identification Summary

Page 1 of 1

SDG Number: 10-989

Client ID: RE12-10-7352MS

Lab Sample ID: 1202001509

Data File: 041f4101.d

Data File: 041b4101.d

Inst: ECD1A.I_1

Inst: ECD1A.I_2

Column: CLP1

Column: CLP2

Analyzed: 22-DEC-09 14:56

Analyzed: 22-DEC-09 14:56

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							6.38
Column 1	1	2.43	2.4 – 2.46	23.7	24.1	ug/kg	
	2	2.71	2.67 – 2.73	25.2		ug/kg	
	3	2.8	2.77 – 2.83	26.5		ug/kg	
	4	2.84	2.8 – 2.86	24.2		ug/kg	
	5	3.05	3.02 – 3.08	20.8		ug/kg	
Column 2	1	3.2	3.17 – 3.23	23.8	25.7	ug/kg	
	2	3.28	3.25 – 3.31	26.4		ug/kg	
	3	3.35	3.32 – 3.38	28.9		ug/kg	
	4	3.57	3.54 – 3.6	22.6		ug/kg	
	5	3.65	3.62 – 3.68	26.5		ug/kg	
Aroclor-1260							11.7
Column 1	1	3.77	3.74 – 3.8	29.1	30.5	ug/kg	
	2	3.94	3.9 – 3.96	29.2		ug/kg	
	3	4.17	4.13 – 4.19	30.4		ug/kg	
	4	4.31	4.28 – 4.34	32.8		ug/kg	
	5	4.49	4.46 – 4.52	30.8		ug/kg	
Column 2	1	4.34	4.31 – 4.37	25.6	27.1	ug/kg	
	2	4.46	4.43 – 4.49	26.6		ug/kg	
	3	4.73	4.7 – 4.76	26.6		ug/kg	
	4	4.9	4.87 – 4.93	27.5		ug/kg	
	5	5.05	5.02 – 5.08	29.1		ug/kg	

Identification Summary

Page 1 of 1

SDG Number: 10-989

Client ID: RE12-10-7352MSD

Lab Sample ID: 1202001510

Data File: 042f4201.d

Data File: 042b4201.d

Inst: ECD1A.I_1

Inst: ECD1A.I_2

Column: CLP1

Column: CLP2

Analyzed: 22-DEC-09 15:06

Analyzed: 22-DEC-09 15:06

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							4.35
Column 1	1	2.43	2.4 - 2.46	23.2		ug/kg	
	2	2.71	2.67 - 2.73	26.9		ug/kg	
	3	2.8	2.77 - 2.83	26.9		ug/kg	
	4	2.84	2.8 - 2.86	25.3		ug/kg	
	5	3.05	3.02 - 3.08	22.2		ug/kg	
					24.9		
Column 2	1	3.2	3.17 - 3.23	23.9		ug/kg	
	2	3.28	3.25 - 3.31	26.5		ug/kg	
	3	3.35	3.32 - 3.38	29.1		ug/kg	
	4	3.57	3.54 - 3.6	23.2		ug/kg	
	5	3.65	3.62 - 3.68	27.3		ug/kg	
					26		
Aroclor-1260							8.06
Column 1	1	3.77	3.74 - 3.8	30.1		ug/kg	
	2	3.94	3.9 - 3.96	30.5		ug/kg	
	3	4.17	4.13 - 4.19	29.2		ug/kg	
	4	4.31	4.28 - 4.34	31.4		ug/kg	
	5	4.49	4.46 - 4.52	31.5		ug/kg	
					30.5		
Column 2	1	4.34	4.31 - 4.37	26.7		ug/kg	
	2	4.46	4.43 - 4.49	27.8		ug/kg	
	3	4.73	4.7 - 4.76	27.6		ug/kg	
	4	4.9	4.87 - 4.93	28.5		ug/kg	
	5	5.05	5.02 - 5.08	30.4		ug/kg	
					28.2		

QUALITY CONTROL DATA

PCB
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 10-989

Matrix: SOIL

Lab Sample ID: 1202001507

Client Sample: QC for batch 935357

Client: LANL010

Project: QC

Client ID: MB for batch 935357

Method: SW846 8082

SOP Ref: GL-OA-E-040

Batch ID: 935393

Inst: ECD1A.I

Dilution: 1

Run Date: 12/22/2009 11:57

Analyst: JAOC

Inj. Vol: 1 uL

Prep Date: 12/21/2009 20:06

Aliquot: 30 g

Final Volume: 1 mL

Data File: 024f2401-1.d

Column: 1 CLP1

Level: LOW

024b2401-1.d

2 CLP2

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.33	ug/kg	1.11	3.33	1
11104-28-2	Aroclor-1221	U	3.33	ug/kg	1.11	3.33	1
11141-16-5	Aroclor-1232	U	3.33	ug/kg	1.11	3.33	1
53469-21-9	Aroclor-1242	U	3.33	ug/kg	1.11	3.33	1
12672-29-6	Aroclor-1248	U	3.33	ug/kg	1.11	3.33	1
11097-69-1	Aroclor-1254	U	3.33	ug/kg	1.11	3.33	1
11096-82-5	Aroclor-1260	U	3.33	ug/kg	1.11	3.33	1

Data File: /chem/ecdl1a.i/122209.b/024f2401-3.d
Report Date: 23-Dec-2009 11:58

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/024f2401-3.d
Lab Smp Id: 1202001507 Client Smp ID: PBLK01
Inj Date : 22-DEC-2009 11:57
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |1202001507|1|
Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|MB|||
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 24 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.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						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx CAS #: 877-09-8						
1.972	1.971	0.001	47264058 125.813	4.2	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
5.287	5.286	0.001	46979061 147.947	4.9	80.00- 120.00	100.00

Data File: /chem/ecdda.i/122209.b/024f2401-3.d

Date : 22-DEC-2009 11:57

Client ID: PBLK01

Sample Info: 11202001507111

Volume Injected (ul): 1.0

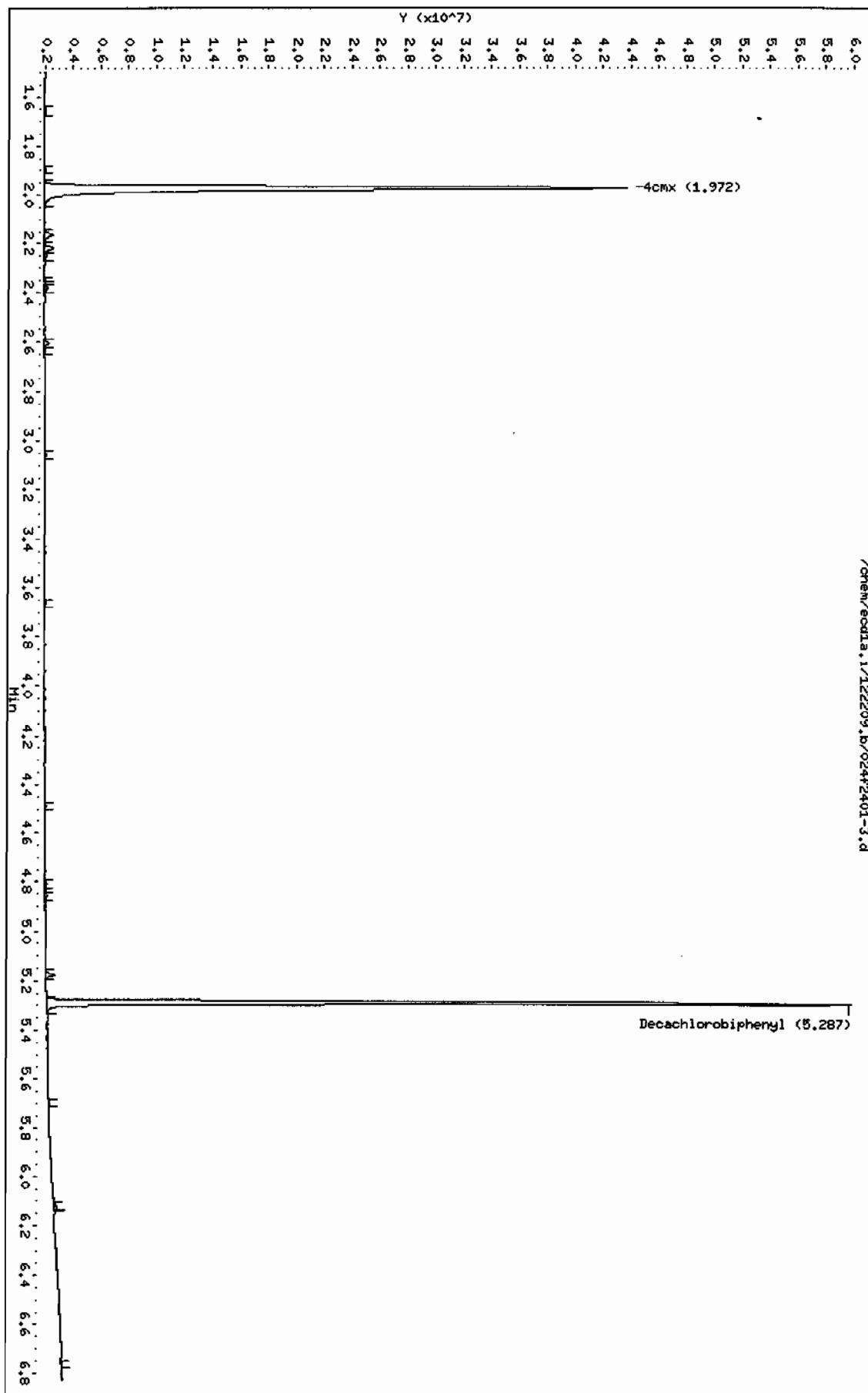
Column phase: CLP1

Instrument: ecdda.i

Operator: JHDC

Column diameter: 0.25

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Data File: /chem/ecdla.i/122209.b/024b2401-3.d
 Report Date: 23-Dec-2009 11:57

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
 Data file : /chem/ecdla.i/122209.b/024b2401-3.d
 Lab Smp Id: 1202001507 Client Smp ID: PBLK01
 Inj Date : 22-DEC-2009 11:57
 Operator : JAOC Inst ID: ecdla.i
 Smp Info : |1202001507|1|
 Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|MB|||
 Comment :
 Method : /chem/ecdla.i/122209.b/ECD1-B-8082-121409.m
 Meth Date : 23-Dec-2009 06:44 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
 Als bottle: 24 QC Sample: BLANK
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: 10-989.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	
2.302	2.302	0.000	36277461	120.914	4.0 80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
5.948	5.948	0.000	33838380	145.088	4.8 80.00- 120.00	100.00

Data File: /chem/eodla.i/122209.b/024b2401-3.d

Date: 22-DEC-2009 11:57

Client ID: PBLK01

Sample Info: 1120200150711

Volume Injected (uL): 1.0

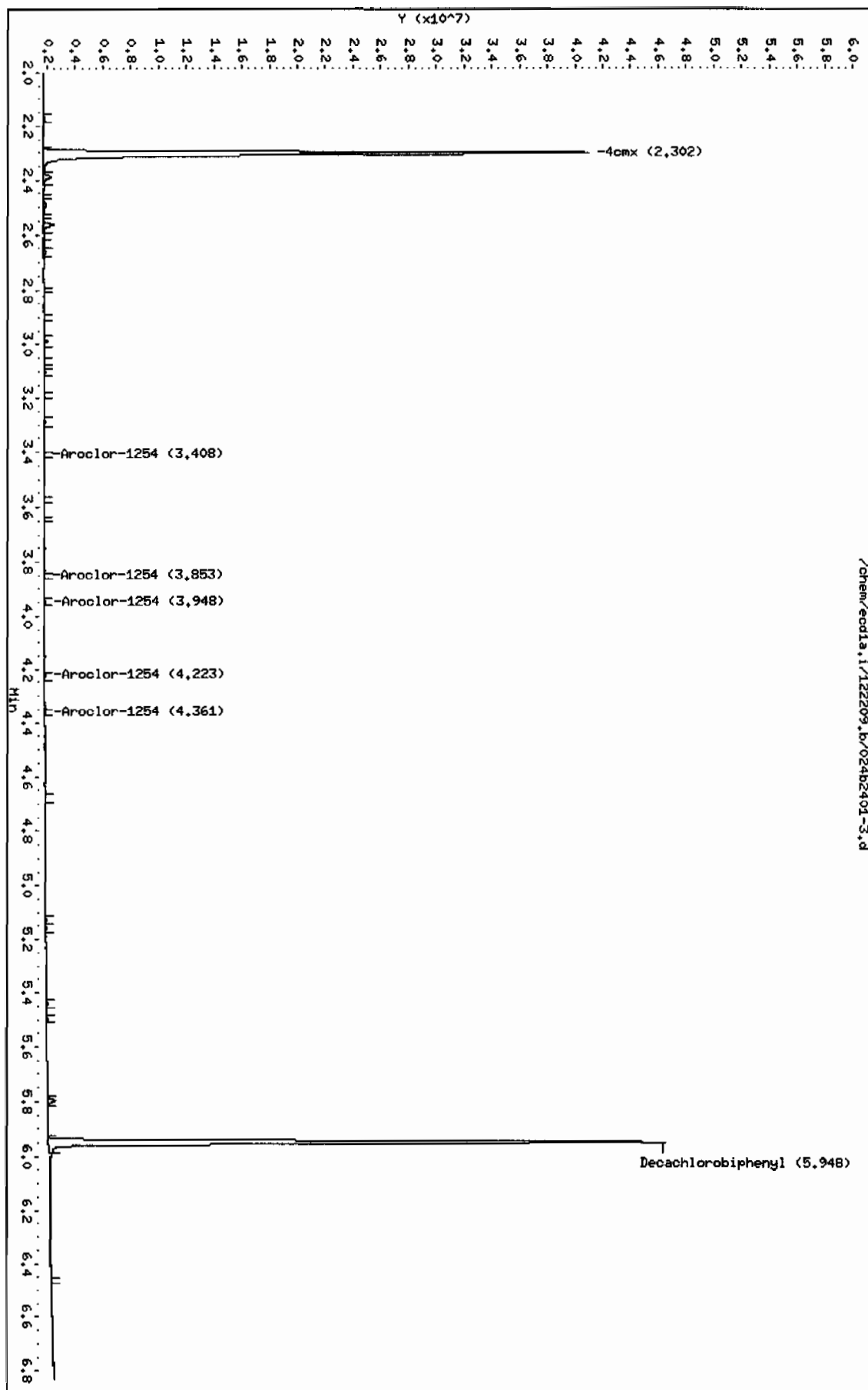
Column phase: CLP2

Instrument: eodla.i

Operator: JROC

Column diameter: 0.25

Page 1



PCB
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 10-989

Matrix: SOIL

Lab Sample ID: 1202001508

Client Sample: QC for batch 935357

Client: LANL010

Project: QC

Client ID: LCS for batch 935357

Method: SW846 8082

SOP Ref: GL-OA-E-040

Batch ID: 935393

Inst: ECD1A.1

Dilution: 1

Run Date: 12/22/2009 12:07

Analyst: JAOC

Inj. Vol: 1 uL

Prep Date: 12/21/2009 20:06

Aliquot: 30 g

Final Volume: 1 mL

Data File: 025f2501-1.d

Column: 1 CLP1

Level: LOW

025b2501-1.d

2 CLP2

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		21.9	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		27.1	ug/kg	1.11	3.33	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL
Data file : /chem/ecdla.i/122209.b/025f2501-3.d
Lab Smp Id: 1202001508 Client Smp ID: PBLK01LCS
Inj Date : 22-DEC-2009 12:07
Operator : JAOC Inst ID: ecdla.i
Smp Info : |1202001508|1|
Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|LCS|1|1|
Comment :
Method : /chem/ecdla.i/122209.b/ECD1-F-8082-121409.m
Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 25 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.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			
1.971	1.971	0.000	46943582	124.960	4.2 80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.286	5.286	0.000	46455035	146.296	4.9 80.00- 120.00	100.00	

1 Aroclor-1016			CAS #: 12674-11-2				
2.427	2.427	0.000	8785579	633.566	21.1 80.00- 120.00	100.00	
2.705	2.705	0.000	6826997	676.092	22.5 65.19- 105.19	77.71	
2.797	2.796	0.001	7437715	632.619	21.1 66.50- 106.50	84.66	
2.835	2.835	0.000	4418736	669.606	22.3 32.04- 72.04	50.30	

CONCENTRATIONS								
RT	EXP RT	DLT RT	ON-COL		FINAL	TARGET RANGE	RATIO	
			RESPONSE	(ug/L)	(ug/Kg)			
==	=====	=====	=====	=====	=====	=====	=====	
1 Aroclor-1016 (continued)								
3.046	3.046	0.000	5880773	678.024	22.6	47.11- 87.11	66.94	
Average of Peak Concentrations =					21.9			

7 Aroclor-1260					CAS #: 11096-82-5			
3.772	3.771	0.001	12731136	759.970	25.3	80.00- 120.00	100.00	
3.936	3.934	0.002	19869687	803.056	26.8	134.26- 174.26	156.07	
4.166	4.165	0.001	12036575	819.520	27.3	72.25- 112.25	94.54	
4.309	4.307	0.002	12447890	819.775	27.3	76.57- 116.57	97.78	
4.488	4.486	0.002	29918254	870.971	29.0	202.51- 242.51	235.00	
Average of Peak Concentrations =					27.1			

Data File: /chem/ecod1a.i/122209.b/025f2501-3.d

Date : 22-DEC-2009 12:07

Client ID: PBLK01LCS

Sample Info: 1120200150811

Volume Injected (uL): 1.0

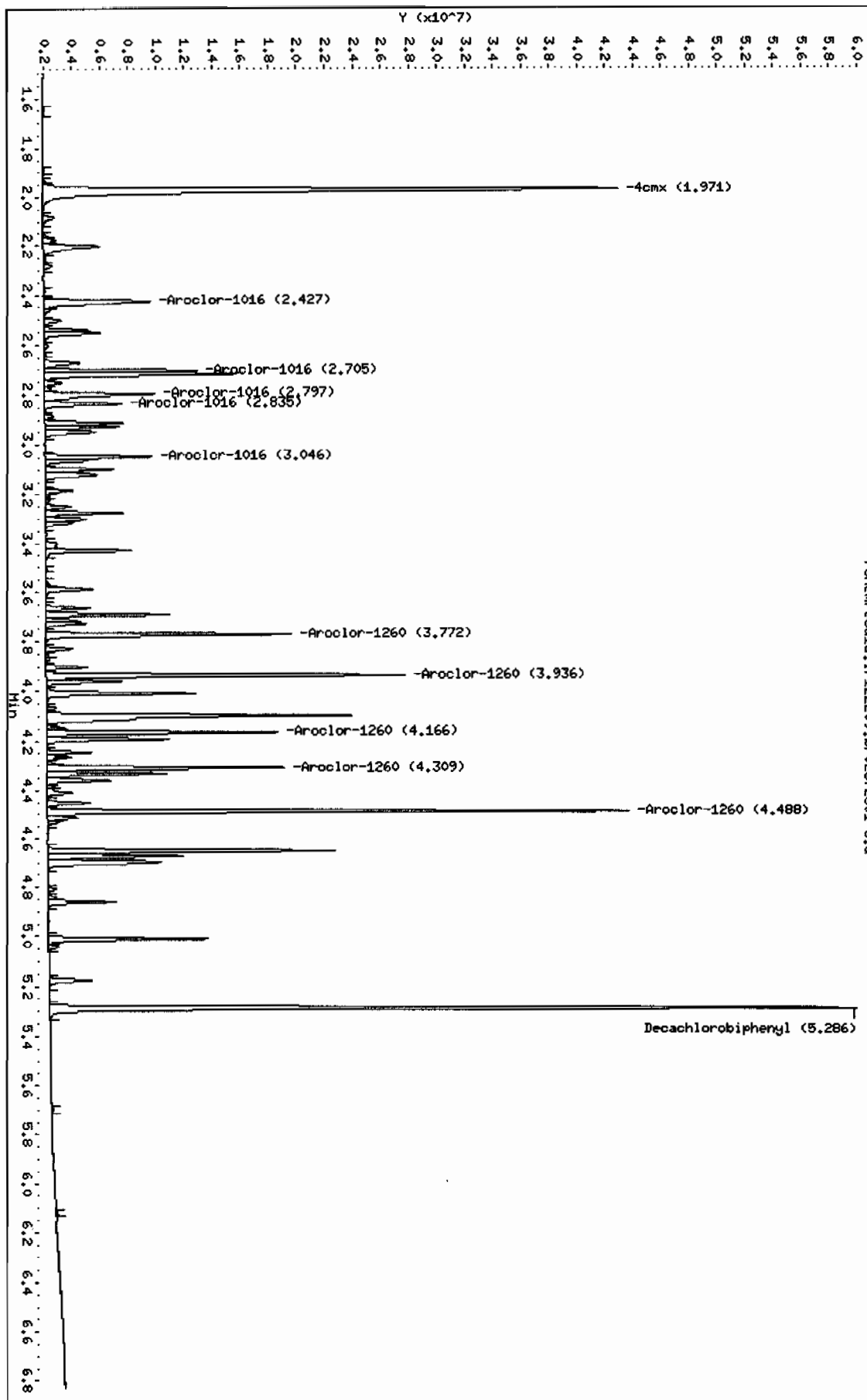
Column phase: CLP1

Instrument: ecod1a.i

Operator: JHOC

Column diameter: 0.25

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Data File: /chem/ecdl1a.i/122209.b/025b2501-3.d
 Report Date: 23-Dec-2009 11:57

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL
 Data file : /chem/ecdl1a.i/122209.b/025b2501-3.d
 Lab Smp Id: 1202001508 Client Smp ID: PBLK01LCS
 Inj Date : 22-DEC-2009 12:07
 Operator : JAOC Inst ID: ecd1a.i
 Smp Info : |1202001508|1|
 Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|LCS|||
 Comment :
 Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
 Meth Date : 23-Dec-2009 06:44 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
 Als bottle: 25 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: 10-989.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		
2.301	2.302	-0.001	35826232 119.411	4.0	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
5.948	5.948	0.000	32997561 141.483	4.7	80.00- 120.00	100.00

1 Aroclor-1016				CAS #: 12674-11-2		
3.199	3.199	0.000	8761104 694.690	23.2	80.00- 120.00	100.00
3.282	3.282	0.000	5812365 623.118	20.8	46.88- 86.88	66.34
3.346	3.346	0.000	3493102 645.518	21.5	21.65- 61.65	39.87
3.573	3.572	0.001	4683367 664.130	22.1	32.68- 72.68	53.46

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====	=====	=====		
1 Aroclor-1016 (continued)									
3.649	3.648	0.001	4341646	662.773	22.1	30.01-	70.01	49.56	
Average of Peak Concentrations =					21.9				

7 Aroclor-1260					CAS #: 11096-82-5				
4.339	4.338	0.001	9842996	719.516	24.0	80.00-	120.00	100.00	
4.464	4.463	0.001	12323981	768.854	25.6	98.94-	138.94	125.21	
4.730	4.729	0.001	9604344	764.438	25.5	76.23-	116.23	97.58	
4.903	4.903	0.000	9990404	779.886	26.0	79.35-	119.35	101.50	
5.050	5.050	0.000	23095644	827.870	27.6	205.17-	245.17	234.64	
Average of Peak Concentrations =					25.7				

Data File: /chem/ecda.i/122209.b/025b2501-3.d

Date: 22-DEC-2009 12:07

Client ID: PBLK01LCS

Sample Info: 11202001508111

Volume Injected (ul): 1.0

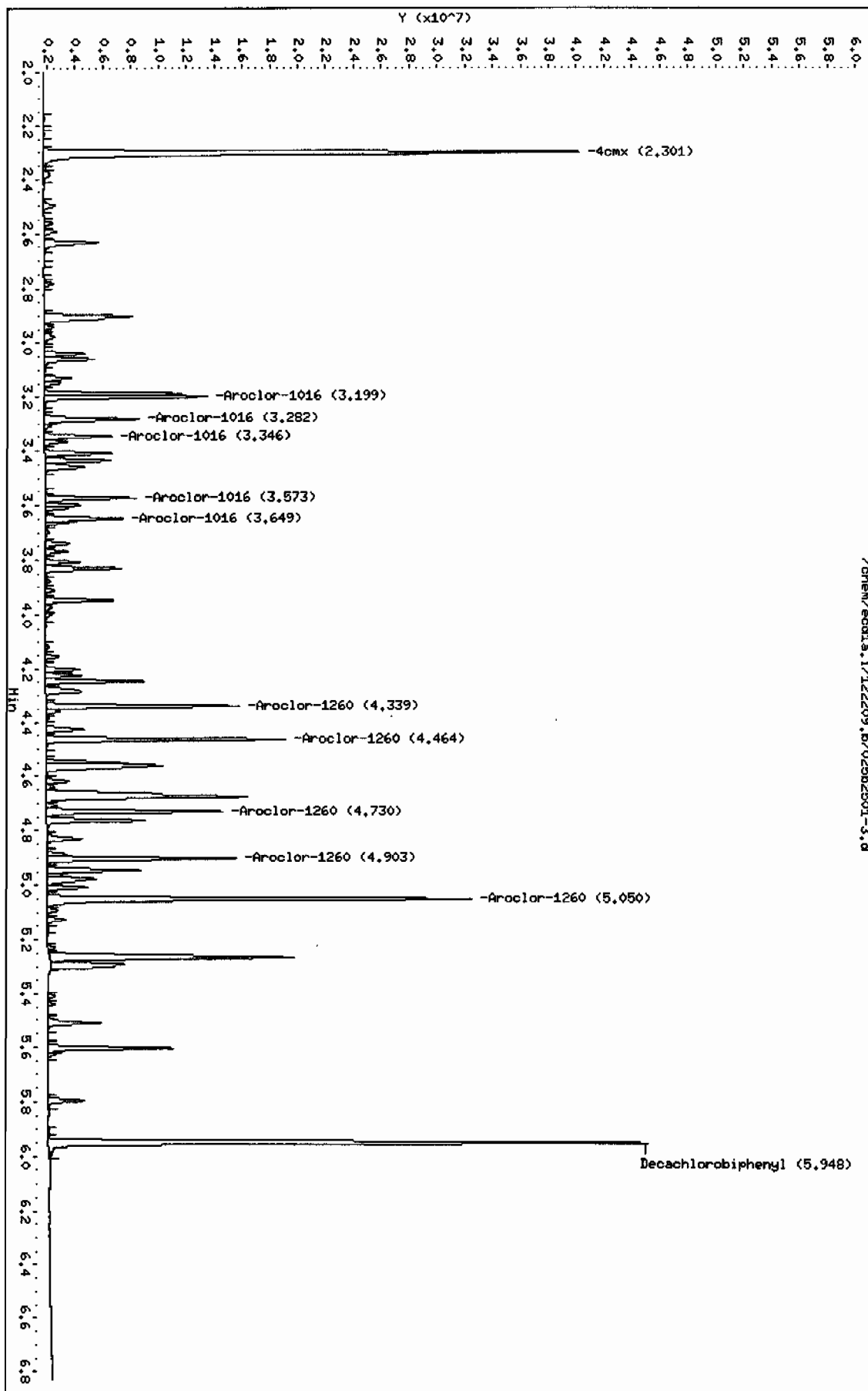
Column phase: CLP2

Instrument: ecda.i

Operator: JADC

Column diameter: 0.25

/chem/ecda.i/122209.b/025b2501-3.d



PCB
Certificate of Analysis
Sample Summary

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SDG Number:	10-989	Date Collected:	12/16/2009 12:00	Matrix:	R
Lab Sample ID:	1202001509	Date Received:	12/18/2009 09:25	%Moisture:	9.8
Client Sample:	QC for batch 935357	Client:	LANL010	Project:	QC
Client ID:	RE12-10-7352MS	Method:	SW846 8082	SOP Ref:	GL-OA-E-040
Batch ID:	935393	Inst:	ECD1A.I	Dilution:	1
Run Date:	12/22/2009 14:56	Analyst:	JAOC	Inj. Vol:	1 uL
Prep Date:	12/21/2009 20:06	Aliquot:	30.02 g	Final Volume:	1 mL
Data File:	041f4101.d	Column:	1 CLP1	Level:	LOW
	041b4101.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		24.1	ug/kg	1.23	3.69	1
11104-28-2	Aroclor-1221	U	3.69	ug/kg	1.23	3.69	1
11141-16-5	Aroclor-1232	U	3.69	ug/kg	1.23	3.69	1
53469-21-9	Aroclor-1242	U	3.69	ug/kg	1.23	3.69	1
12672-29-6	Aroclor-1248	U	3.69	ug/kg	1.23	3.69	1
11097-69-1	Aroclor-1254	U	3.69	ug/kg	1.23	3.69	1
11096-82-5	Aroclor-1260		30.5	ug/kg	1.23	3.69	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/041f4101.d
 Lab Smp Id: 1202001509 Client Smp ID: RE12-10-7352MS
 Inj Date : 22-DEC-2009 14:56
 Operator : JAOC Inst ID: ecd1a.i
 Smp Info : |1202001509|1|
 Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|MS|||
 Comment :
 Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
 Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
 Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
 Als bottle: 41 QC Sample: MS
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: 10-989.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	30.02000	Weight of sample extracted (g)
M	9.79470	% 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			
1.972	1.971	0.001	45548248	121.246	4.5	80.00- 120.00	100.00	

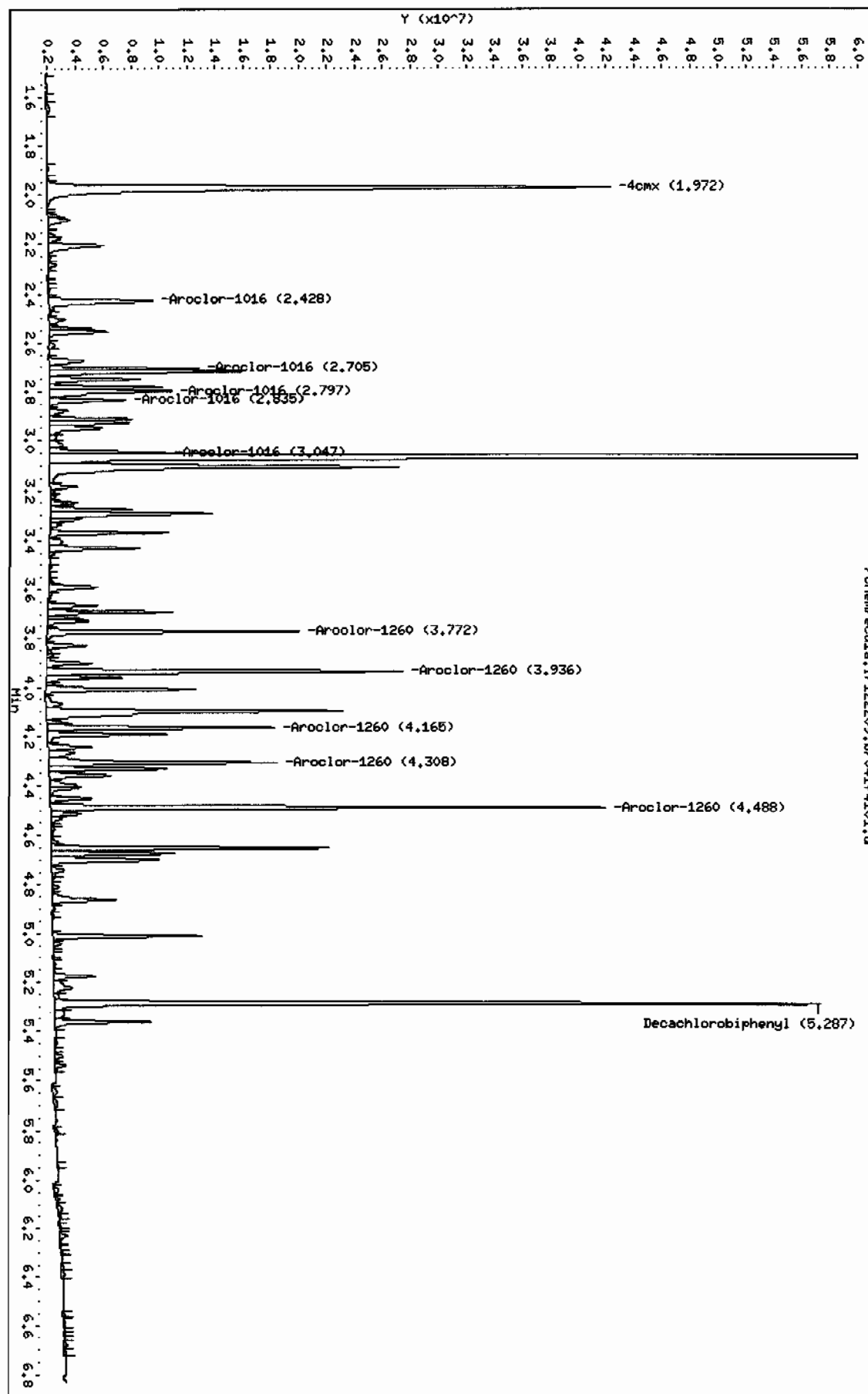
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.287	5.286	0.001	41757542	131.503	4.8	80.00- 120.00	100.00	

1 Aroclor-1016					CAS #: 12674-11-2			
2.428	2.427	0.001	8917469	643.077	23.7	80.00- 120.00	100.00	
2.705	2.705	0.000	6895523	682.879	25.2	65.19- 105.19	77.33	
2.797	2.796	0.001	8433875	717.348	26.5	66.50- 106.50	94.58	
2.835	2.835	0.000	4318050	654.348	24.2	32.04- 72.04	48.42	
3.047	3.046	0.001	4874837	562.044	20.8	47.11- 87.11	54.67	
Average of Peak Concentrations =					24.1			

CONCENTRATIONS							
RT	EXP RT	DLT RT	ON-COL		FINAL		RATIO
			RESPONSE	(ug/L)	(ug/Kg)	TARGET RANGE	
==	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260					CAS #: 11096-82-5		
3.772	3.771	0.001	13189999	787.362	29.1	80.00- 120.00	100.00
3.936	3.934	0.002	19554769	790.328	29.2	134.26- 174.26	148.25
4.165	4.165	0.000	12102233	823.990	30.4	72.25- 112.25	91.75
4.308	4.307	0.001	13504795	889.379	32.8	76.57- 116.57	102.39
4.488	4.486	0.002	28658539	834.299	30.8	202.51- 242.51	217.27
Average of Peak Concentrations =					30.5		

Data File: /chem/eod1a.i/122209.b/041f4101.d
Date: 22-DEC-2009 14:56
Client ID: REL2-10-7352MS
Sample Info: 1120200150911
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: eod1a.i
Operator: JHOC
Column diameter: 0.25



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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/122209.b/041b4101.d
Lab Smp Id: 1202001509 Client Smp ID: RE12-10-7352MS
Inj Date : 22-DEC-2009 14:56
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |1202001509|1|
Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|MS|1|
Comment :
Method : /chem/ecd1a.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 23-Dec-2009 06:44 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 41 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.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	30.02000	Weight of sample extracted (g)
M	9.79470	% 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			
2.303	2.302	0.001	34882093	116.264	4.3	80.00- 120.00	100.00	

\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.949	5.948	0.001	29723878	127.446	4.7	80.00- 120.00	100.00	

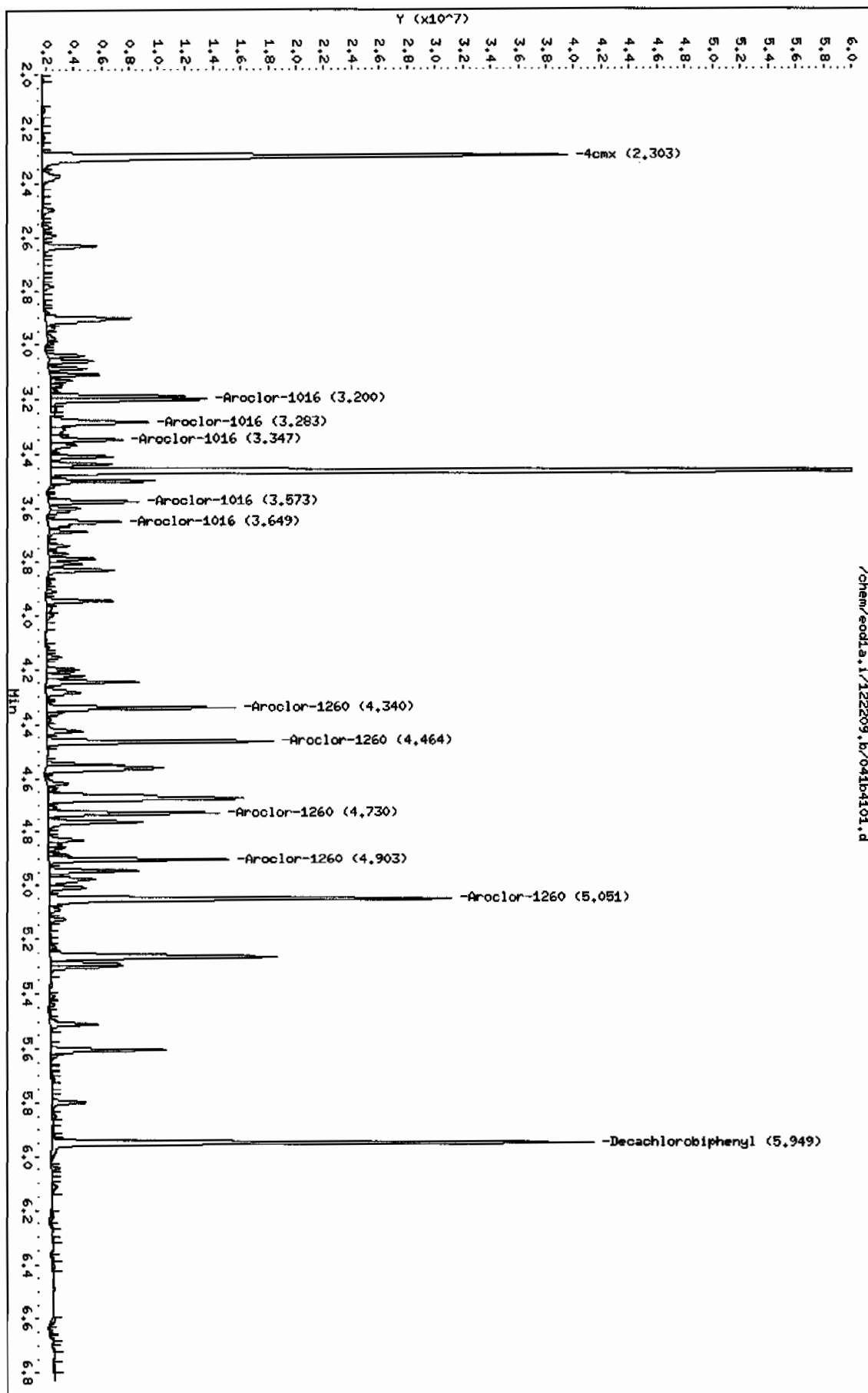
1 Aroclor-1016					CAS #: 12674-11-2			
3.200	3.199	0.001	8140755	645.501	23.8	80.00- 120.00	100.00	
3.283	3.282	0.001	6678679	715.992	26.4	46.88- 86.88	82.04	
3.347	3.346	0.001	4233213	782.289	28.9	21.65- 61.65	52.00	
3.573	3.572	0.001	4321988	612.885	22.6	32.68- 72.68	53.09	
3.649	3.648	0.001	4701736	717.742	26.5	30.01- 70.01	57.76	
Average of Peak Concentrations =					25.6			

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL		FINAL	
			RESPONSE	(ug/L)	(ug/Kg)	TARGET RANGE
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.340	4.338	0.002	9489576	693.681	25.6	80.00- 120.00
4.464	4.463	0.001	11540856	719.998	26.6	98.94- 138.94
4.730	4.729	0.001	9056698	720.849	26.6	76.23- 116.23
4.903	4.903	0.000	9546017	745.196	27.5	79.35- 119.35
5.051	5.050	0.001	22016938	789.203	29.1	205.17- 245.17
Average of Peak Concentrations *			27.1			

Data File: /chem/eodla.i/122209.b/041b4101.d
Date: 22-DEC-2009 14:56
Client ID: RE12-10-7352MS
Sample Info: 1202001509111
Volume Injected (uL): 1.0
Column phase: CLP2

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

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PCB
Certificate of Analysis
Sample Summary

Page 1 of 1

SDG Number: 10-989
Lab Sample ID: 1202001510
Client Sample: QC for batch 935357
Client ID: RE12-10-7352MSD
Batch ID: 935393
Run Date: 12/22/2009 15:06
Prep Date: 12/21/2009 20:06
Data File: 042f4201.d
042b4201.d

Date Collected: 12/16/2009 12:00
Date Received: 12/18/2009 09:25
Client: LANL010
Method: SW846 8082
Inst: ECD1A.J
Analyst: JAOC
Aliquot: 30.01 g
Column: 1 CLP1
2 CLP2

Matrix: R
%Moisture: 9.8
Project: QC
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		24.9	ug/kg	1.23	3.69	1
11104-28-2	Aroclor-1221	U	3.69	ug/kg	1.23	3.69	1
11141-16-5	Aroclor-1232	U	3.69	ug/kg	1.23	3.69	1
53469-21-9	Aroclor-1242	U	3.69	ug/kg	1.23	3.69	1
12672-29-6	Aroclor-1248	U	3.69	ug/kg	1.23	3.69	1
11097-69-1	Aroclor-1254	U	3.69	ug/kg	1.23	3.69	1
11096-82-5	Aroclor-1260		30.5	ug/kg	1.23	3.69	1

Data File: /chem/ecdl1a.i/122209.b/042f4201.d
Report Date: 23-Dec-2009 11:55

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/042f4201.d
Lab Smp Id: 1202001510 Client Smp ID: RE12-10-7352MSD
Inj Date : 22-DEC-2009 15:06
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |1202001510|1|
Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|MSD|1|1|
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-F-8082-121409.m
Meth Date : 23-Dec-2009 06:42 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 42 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: $\text{Amt} * \text{DF} * \text{Uf} * \text{Vt} / (\text{Vi} * \text{Ws} * (100 - \text{M}) / 100) * \text{CpndVariable}$

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	30.01000	Weight of sample extracted (g)
M	9.79470	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE (ug/L)	ON-COL	FINAL	TARGET RANGE	RATIO
CAS #: 877-09-8							
1.971	1.971	0.000	45616082 121.426	4.5	80.00- 120.00	100.00	
CAS #: 2051-24-3							
5.287	5.286	0.001	41952079 132.116	4.9	80.00- 120.00	100.00	
CAS #: 12674-11-2							
2.428	2.427	0.001	8717913 628.686	23.2	80.00- 120.00	100.00	
2.705	2.705	0.000	7343052 727.199	26.9	65.19- 105.19	84.23	
2.797	2.796	0.001	8568068 728.762	26.9	66.50- 106.50	98.28	
2.835	2.835	0.000	4514084 684.055	25.3	32.04- 72.04	51.78	
3.047	3.046	0.001	5213832 601.129	22.2	47.11- 87.11	59.81	
Average of Peak Concentrations =				24.9			

CONCENTRATIONS							
			ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET RANGE	RATIO
=====	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5				
3.773	3.771	0.002	13668321	815.914	30.1	80.00- 120.00	100.00
3.935	3.934	0.001	20415030	825.096	30.5	134.26- 174.26	149.36
4.165	4.165	0.000	11609553	790.446	29.2	72.25- 112.25	84.94
4.308	4.307	0.001	12914492	850.503	31.4	76.57- 116.57	94.48
4.488	4.486	0.002	29312497	853.337	31.5	202.51- 242.51	214.46
Average of Peak Concentrations =					30.5		

Data File: /chem/ecdl1a.i/122209.b/042f4201.d

Date: 22-DEC-2009 15:06

Client ID: RE12-10-7352HSD

Sample Info: 11202001B10111

Volume Injected (uL): 1.0

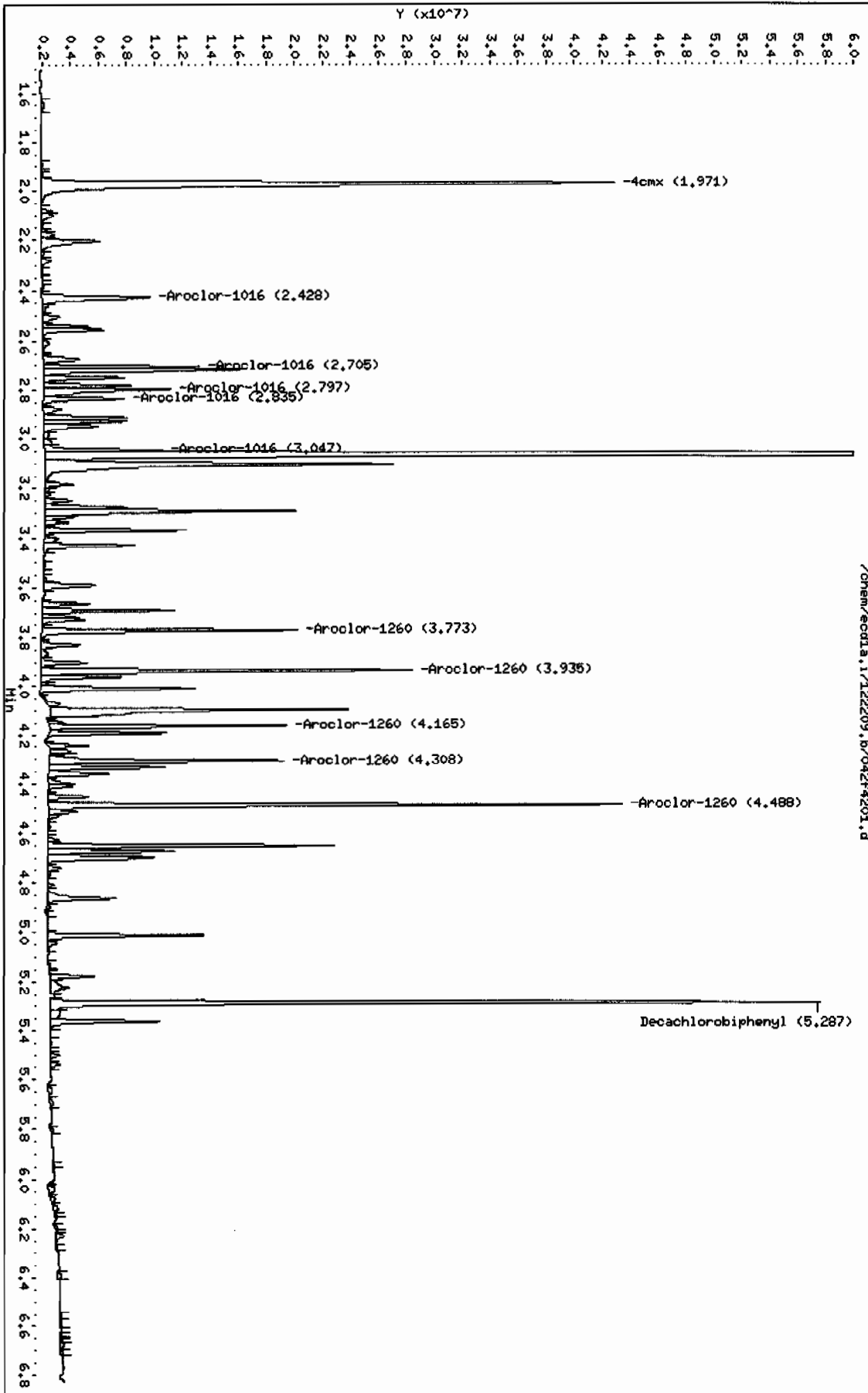
Column phase: CLP1

Instrument: ecdl1a.i

Operator: JHOC

Column diameter: 0.25

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Data File: /chem/ecdl1a.i/122209.b/042b4201.d
Report Date: 23-Dec-2009 11:54

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdl1a.i/122209.b/042b4201.d
Lab Smp Id: 1202001510 Client Smp ID: RE12-10-7352MSD
Inj Date : 22-DEC-2009 15:06
Operator : JAOC Inst ID: ecd1a.i
Smp Info : |1202001510|1|
Misc Info : |ECD82P_1S|935393|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecdl1a.i/122209.b/ECD1-B-8082-121409.m
Meth Date : 23-Dec-2009 06:44 jen01212 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 42 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-989.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	30.01000	Weight of sample extracted (g)
M	9.79470	% 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		
2.302	2.302	0.000	34824282	116.071	4.3 80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.948	5.948	0.000	30260536	129.747	4.8 80.00- 120.00	100.00	
1 Aroclor-1016					CAS #: 12674-11-2		
3.199	3.199	0.000	8173859	648.125	23.9 80.00- 120.00	100.00	
3.283	3.282	0.001	6691403	717.356	26.5 46.88- 86.88	81.86	
3.347	3.346	0.001	4263313	787.851	29.1 21.65- 61.65	52.16	
3.573	3.572	0.001	4423157	627.231	23.2 32.68- 72.68	54.11	
3.649	3.648	0.001	4840945	738.993	27.3 30.01- 70.01	59.22	
Average of Peak Concentrations =				26.0			

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.339	4.338	0.001	9883833	722.501	26.7 80.00- 120.00	100.00
4.464	4.463	0.001	12060963	752.446	27.8 98.94- 138.94	122.03
4.730	4.729	0.001	9376541	746.306	27.6 76.23- 116.23	94.87
4.903	4.903	0.000	9874401	770.831	28.5 79.35- 119.35	99.90
5.051	5.050	0.001	22960048	823.009	30.4 205.17- 245.17	232.30
Average of Peak Concentrations =			28.2			

Data File: /chem/ecda.i/122209.b/042b4201.d

Date : 22-DEC-2009 15:06

Client ID: RE12-10-7362MSD

Sample Info: 1120200181011

Volume Injected (uL): 1.0

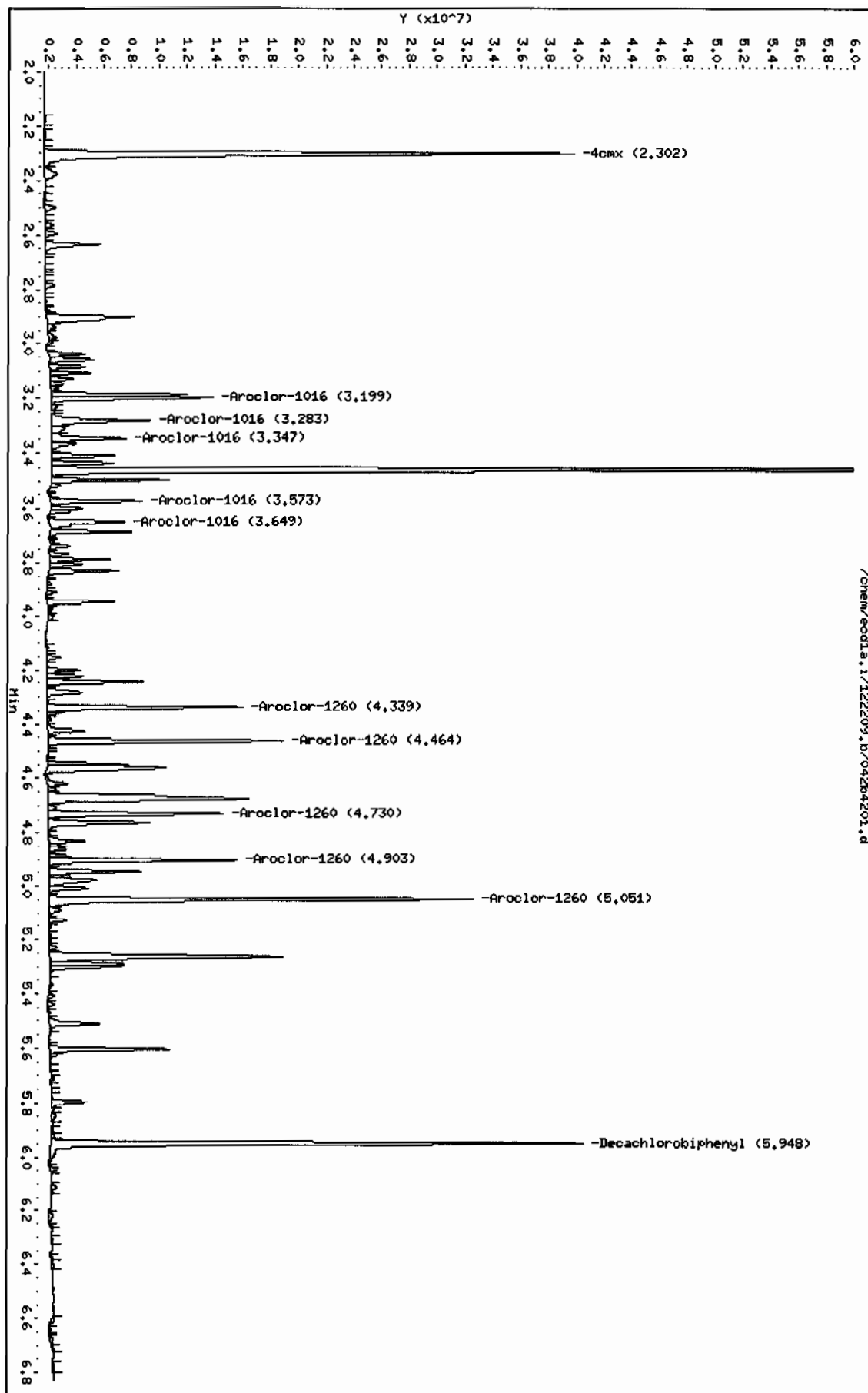
Column phase: CLP2

Instrument: ecda.i

Operator: JROC

Column diameter: 0.25

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MISCELLANEOUS DATA

INSTRUMENT ID: FCDT

DATE: 12/15/2009

METHOD: ECD1-F-8082-121409.m

OPERATOR:YS1

REVIEWED BY:

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1

DATE: _____

Calibration & QC Information

Initial Calibration Dates: See Calibration History and Standard Logbook.

Initial Calibration Std ID's: See Calibration History and Standard Logbook.

GEL SOP GL-OA-E-040 Polychlorinated Biphenyl: EPA 8082

Chromatogram Abbreviation Legend: AB-Assign Baseline, AP-Assign Peak,

DNC-Do Not Call, DMP-Doesn't Match Pattern, NC-Not Confirmed, RT-Retention Time,

BF-Before, AF-After.

Sequence Number: /chem/ecdl.a.i/121409.b

Injection Volume: 0.5 ul

Data File	GEI Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 01	YS1	14-DEC-2009 04:44		121409	1.01		CLEAN
002f0201.d	WAR091211-60 01	YS1	14-DEC-2009 04:54		121409	1.01		DUSE RE-ICAL
003f0301.d	WAR091102-54	YS1	14-DEC-2009 05:05		121409	1.01		DUSE RE-ICAL
004f0401.d	WAR091102-42	YS1	14-DEC-2009 05:15		121409	1.01		DUSE RE-ICAL
005f0501.d	WAR091027-48	YS1	14-DEC-2009 05:26		121409	1.01		DUSE RE-ICAL
006f0601.d	WAR090930-32	YS1	14-DEC-2009 05:36		121409	1.01		PATTERN ONLY
007f0701.d	WAR090803-21	YS1	14-DEC-2009 05:47		121409	1.01		PATTERN ONLY
008f0801.d	WAR090803-62	YS1	14-DEC-2009 05:58		121409	1.01		PATTERN ONLY
009f0901.d	WAR091106-68	YS1	14-DEC-2009 06:08		121409	1.01		DUSE RE-ICAL
010f1001.d	1560-1	YS1	14-DEC-2009 06:19		121409	1.01		DUSE
011f1101.d	1560-2	YS1	14-DEC-2009 06:29		121409	1.01		DUSE
012f1201.d	1560-3	YS1	14-DEC-2009 06:40		121409	1.01		DUSE
013f1301.d	1560-4	YS1	14-DEC-2009 06:50		121409	1.01		DUSE
014f1401.d	1AR091102-01	YS1	14-DEC-2009 07:01		121409	1.01		DUSE
015f1501.d	WAR091211-60 01	YS1	14-DEC-2009 07:11		121409	1.01		DUSE

Instrument Batch: /chem/ecdla.i/121409.b

Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
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016f1601.d	WAR091214-05 54	YS1	14-DEC-2009 07:22		121409		1.0		AR1254 I-CAL LEVEL 1
017f1701.d	WAR091214-06 54	YS1	14-DEC-2009 07:32		121409		1.0		AR1254 I-CAL LEVEL 2
018f1801.d	WAR091214-07 54	YS1	14-DEC-2009 07:43		121409		1.0		AR1254 I-CAL LEVEL 3
019f1901.d	WAR091214-08 54	YS1	14-DEC-2009 07:53		121409		1.0		AR1254 I-CAL LEVEL 4
020f2001.d	IAR091027-01	YS1	14-DEC-2009 08:04		121409		1.0		AR1254 I-CAL LEVEL 5
021f2101.d	WAR091102-54	YS1	14-DEC-2009 08:14		121409		1.0		PASSED ON BOTH COLUMNS
022f2201.d	WAR091214-09 42	YS1	14-DEC-2009 08:25		121409		1.0		AR1242 I-CAL LEVEL 1
023f2301.d	WAR091214-10 42	YS1	14-DEC-2009 08:35		121409		1.0		AR1242 I-CAL LEVEL 2
024f2401.d	WAR091214-11 42	YS1	14-DEC-2009 08:46		121409		1.0		AR1242 I-CAL LEVEL 3
025f2501.d	WAR091214-12 42	YS1	14-DEC-2009 08:56		121409		1.0		AR1242 I-CAL LEVEL 4
026f2601.d	IAR091111-01	YS1	14-DEC-2009 09:07		121409		1.0		AR1242 I-CAL LEVEL 5
027f2701.d	WAR091102-42	YS1	14-DEC-2009 09:17		121409		1.0		PASSED ON BOTH COLUMNS
028f2801.d	WAR091214-13 48	YS1	14-DEC-2009 09:28		121409		1.0		AR1248 I-CAL LEVEL 1
029f2901.d	WAR091214-14 48	YS1	14-DEC-2009 09:38		121409		1.0		AR1248 I-CAL LEVEL 2
030f3001.d	WAR091214-15 48	YS1	14-DEC-2009 09:49		121409		1.0		AR1248 I-CAL LEVEL 3
031f3101.d	WAR091214-16 48	YS1	14-DEC-2009 09:59		121409		1.0		AR1248 I-CAL LEVEL 4
032f3201.d	IAR091027-02	YS1	14-DEC-2009 10:10		121409		1.0		AR1248 I-CAL LEVEL 5
033f3301.d	WAR091027-48	YS1	14-DEC-2009 10:20		121409		1.0		PASSED ON BOTH COLUMNS
034f3401.d	WAR091214-01 60	YS1	14-DEC-2009 10:31		121409		1.0		AR1660 I-CAL LEVEL 1
035f3501.d	WAR091214-02 60	YS1	14-DEC-2009 10:41		121409		1.0		AR1660 I-CAL LEVEL 2

Instrument Batch: /chem/ecdl1a.i/121409.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	WAR091214-03 60	YS1	14-DEC-2009 10:52		121409		1.0	AR1660 I-CAL LEVEL 3
037f3701.d	WAR091214-04 60	YS1	14-DEC-2009 11:02		121409		1.0	AR1660 I-CAL LEVEL 4
038f3801.d	IAR091102-01	YS1	14-DEC-2009 11:13		121409		1.0	AR1660 I-CAL LEVEL 5
039f3901.d	WAR091211-60 01	YS1	14-DEC-2009 11:23		121409		1.0	PASSED ON BOTH COLUMNS
040f4001.d	WAR091214-17 68	YS1	14-DEC-2009 11:34		121409		1.0	AR1268 I-CAL LEVEL 1

041f4101.d	WAR091214-18 68	YS1	14-DEC-2009 11:44	121409	1.0	ARI268 I-CAL LEVEL 2
042f4201.d	WAR091214-19 68	YS1	14-DEC-2009 11:55	121409	1.0	ARI268 I-CAL LEVEL 3
043f4301.d	WAR091214-20 68	YS1	14-DEC-2009 12:06	121409	1.0	ARI268 I-CAL LEVEL 4
044f4401.d	WAR091214-21 68	YS1	14-DEC-2009 12:16	121409	1.0	ARI268 I-CAL LEVEL 5
045f4501.d	WAR091106-68	YS1	14-DEC-2009 12:27	121409	1.0	PASSED ON BOTH COLUMNS
046f4601.d	WAR091020-DDT	YS1	14-DEC-2009 12:37	121409	1.0	DDT ANALOG STANDARD
047f4701.d	WAR091130-99 02	YS1	14-DEC-2009 12:48	121409	1.0	CLEAN
048f4801.d	1201991693	YS1	14-DEC-2009 12:58	931140	1.0	QC A UPLOAD BOTH COLUMNS, USE HIGHER
049f4901.d	1201991694	YS1	14-DEC-2009 13:09	931140	1.0	QC A UPLOAD BOTH COLUMNS, USE HIGHER
050f5001.d	242297001	YS1	14-DEC-2009 13:19	931140	1.0	LANL UPLOAD BOTH COLUMNS, USE HIGHER
051f5101.d	242297002	YS1	14-DEC-2009 13:30	931140	10.0	LANL UPLOAD BOTH COLUMNS, USE HIGHER
052f5201.d	242297003	YS1	14-DEC-2009 13:40	931140	1.0	LANL UPLOAD BOTH COLUMNS, USE HIGHER
053f5301.d	242297004	YS1	14-DEC-2009 13:51	931140	5.0	LANL UPLOAD BOTH COLUMNS, USE HIGHER
054f5401.d	242297005	YS1	14-DEC-2009 14:03	931140	5.0	LANL UPLOAD BOTH COLUMNS, USE HIGHER
055f5501.d	242297006	YS1	14-DEC-2009 14:16	931140	10.0	LANL UPLOAD BOTH COLUMNS, USE HIGHER

Instrument Batch: /chem/ecdla.i/121409.b

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Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
056f5601.d	242297007	YS1	14-DEC-2009 14:29	931140	10-782	5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
057f5701.d	242297008	YS1	14-DEC-2009 14:41	931140	10-782	25.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
058f5801.d	WAR091211-60 02	YS1	14-DEC-2009 14:52	121409	1.0			PASSED ON BOTH COLUMNS
059f5901.d	WAR091130-99 03	YS1	14-DEC-2009 15:02	121409	1.0			CLEAN
060f6001.d	242297009	YS1	14-DEC-2009 15:13	931140	10-782	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
061f6101.d	242297010	YS1	14-DEC-2009 15:25	931140	10-782	1.0	LANL	DCB LOW RE
062f6201.d	242297011	YS1	14-DEC-2009 15:38	931140	10-782	5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
063f6301.d	242297012	YS1	14-DEC-2009 15:51	931140	10-782	5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
064f6401.d	242297013	YS1	14-DEC-2009 16:03	931140	10-782	10.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER

065f6501.d	1242305004	YS1	14-DEC-2009 16:16	931140	10-786	5.0 LANL	UPLOAD BOTH COLUMNS, USE HIGHER
066f6601.d	1201991695	YS1	14-DEC-2009 16:28	931140	10-786	5.0 QC A	UPLOAD BOTH COLUMNS, USE HIGHER
067f6701.d	1201991696	YS1	14-DEC-2009 16:41	931140	10-786	5.0 QC A	UPLOAD BOTH COLUMNS, USE HIGHER
068f6801.d	1242305005	YS1	14-DEC-2009 16:53	931140	10-786	5.0 LANL	UPLOAD BOTH COLUMNS, USE HIGHER
069f6901.d	1242305006	YS1	14-DEC-2009 17:06	931140	10-786	5.0 LANL	UPLOAD BOTH COLUMNS, USE HIGHER
070f7001.d	WAR091211-60 03	YS1	14-DEC-2009 17:19		121409	1.0	PASSED ON BOTH COLUMNS
071f7101.d	WAR091130-99 04	YS1	14-DEC-2009 17:31		121409	1.0	CLEAN
072f7201.d	1201992645	YS1	14-DEC-2009 17:44	931553	1242521	1.0 QC A	UPLOAD BOTH COLUMNS, USE HIGHER
073f7301.d	1201992646	YS1	14-DEC-2009 17:57	931553	1242521	1.0 QC A	UPLOAD BOTH COLUMNS, USE HIGHER
074f7401.d	1242264001	YS1	14-DEC-2009 18:09	931553	1242264	5.0 ENRG	UPLOAD BOTH COLUMNS, USE HIGHER
075f7501.d	1242521001	YS1	14-DEC-2009 18:22	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER

Instrument Batch: /chem/ecdl1a.i/121409.b

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Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
076f7601.d	1201992647	YS1	14-DEC-2009 18:35	931553	1242521	5.0 QC A	UPLOAD BOTH COLUMNS, USE HIGHER	
077f7701.d	1201992648	YS1	14-DEC-2009 18:47	931553	1242521	5.0 QC A	UPLOAD BOTH COLUMNS, USE HIGHER	
078f7801.d	1242521002	YS1	14-DEC-2009 19:00	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
079f7901.d	1242521003	YS1	14-DEC-2009 19:12	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
080f8001.d	1242521004	YS1	14-DEC-2009 19:25	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
081f8101.d	1242521005	YS1	14-DEC-2009 19:38	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
082f8201.d	WAR091211-60 04	YS1	14-DEC-2009 19:50		121409	1.0	PASSED ON BOTH COLUMNS	
083f8301.d	WAR091130-99 05	YS1	14-DEC-2009 20:03		121409	1.0	CLEAN	
084f8401.d	1242521006	YS1	14-DEC-2009 20:15	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
085f8501.d	1242521007	YS1	14-DEC-2009 20:28	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
086f8601.d	1242521008	YS1	14-DEC-2009 20:41	931553	1242521	5.0 EMSC	UPLOAD BOTH COLUMNS, USE HIGHER	
087f8701.d	WAR091211-60 05	YS1	14-DEC-2009 20:53		121409	1.0	PASSED ON BOTH COLUMNS	
088f8801.d	WAR091130-99 06	YS1	14-DEC-2009 21:06		121409	1.0	CLEAN	
089f8901.d	1242297010	YS1	14-DEC-2009 21:19	931140	10-782	1.0 LANL		

090f9001.d	WAR091211-60 06	YS1	14-DEC-2009 21:31	1	121409	1	1.01	PASSED ON BOTH COLUMNS	1
091f9101.d	WAR091130-99 07	YS1	14-DEC-2009 21:44	1	121409	1	1.01	CLEAN	1
092f9201.d	11660	YS1	14-DEC-2009 21:56	1	121409	1	1.01	screen	1
093f9301.d	11660	YS1	14-DEC-2009 22:09	1	121409	1	1.01	screen	1
094f9401.d	11660	YS1	14-DEC-2009 22:22	1	121409	1	1.01	screen	1

Instrument Batch: /chem/ecdl.a.i/121409.b

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GEL ORGANIC RUN LOG

INSTRUMENT ID: ECD1

DATE: 12/23/2009

METHOD: ECD1-F-8082-121409.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 Standard Logbook.

Initial Calibration Std ID's: See Calibration History and Standard Logbook.

GEL SOP GL-OA-E-040 Polychlorinated Biphenyl: EPA 8082

Chromatogram Abbreviation Legend: AB-Assign Baseline, AP-Assign Peak,
DNC-Do Not Call, DMP-Doesn't Match Pattern, NC-Not Confirmed, RT-Retention Time,
BF-Before, AF-After.

Sequence Number: /chem/ecd1a.i/122209.b

Injection Volume: 0.5 ul

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 01	JAOC	12-DEC-2009 07:55		122209	1.0I	CLEAN	
002f0201.d	WAR091211-60 01	JAOC	12-DEC-2009 08:05		122209	1.0I	PASSES BOTH COLUMNS	
003f0301.d	WAR091216-54	JAOC	12-DEC-2009 08:16		122209	1.0I	PASSES BOTH COLUMNS	
004f0401.d	WAR091102-42	JAOC	12-DEC-2009 08:26		122209	1.0I	PASSES BOTH COLUMNS	
005f0501.d	WAR091027-48	JAOC	12-DEC-2009 08:37		122209	1.0I	PASSES BOTH COLUMNS	
006f0601.d	WAR090930-32	JAOC	12-DEC-2009 08:47		122209	1.0I	PATTERN ONLY	
007f0701.d	WAR090803-21	JAOC	12-DEC-2009 08:58		122209	1.0I	PATTERN ONLY	
008f0801.d	WAR090803-62	JAOC	12-DEC-2009 09:08		122209	1.0I	PATTERN ONLY	
009f0901.d	WAR091106-68	JAOC	12-DEC-2009 09:19		122209	1.0I	PATTERN ONLY	
010f1001.d	WAR091219-DDT	JAOC	12-DEC-2009 09:29		122209	1.0I	DDT	
011f1101.d	WAR091130-99 02	JAOC	12-DEC-2009 09:40		122209	1.0I	CLEAN	
012f1201.d	1202000305	JAOC	12-DEC-2009 09:50	934936	1242826	1.0IQC A	UPLOAD BOTH, USE HIGHER	
013f1301.d	1202000306	JAOC	12-DEC-2009 10:01	934936	1242826	1.0IQC A	UPLOAD BOTH, USE HIGHER	
014f1401.d	1242826001	JAOC	12-DEC-2009 10:11	934936	1242826	1.0ISCEG	UPLOAD BOTH, USE HIGHER	
015f1501.d	1202000307	JAOC	12-DEC-2009 10:22	934936	1242826	1.0IQC A	UPLOAD BOTH, USE HIGHER	

Instrument Batch: /chem/ecd1a.i/122209.b

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Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
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016f1601.d	1202000308	JAO	22-DEC-2009 10:32	934936	1242826	1.0 QC A	UPLOAD BOTH, USE HIGHER
017f1701.d	242826002	JAO	22-DEC-2009 10:43	934936	1242826	1.0 SCEG	UPLOAD BOTH, USE HIGHER
018f1801.d	242826003	JAO	22-DEC-2009 10:53	934936	1242826	1.0 SCEG	UPLOAD BOTH, USE HIGHER
019f1901.d	242826004	JAO	22-DEC-2009 11:04	934936	1242826	1.0 SCEG	UPLOAD BOTH, USE HIGHER
020f2001.d	242826005	JAO	22-DEC-2009 11:15	934936	1242826	1.0 SCEG	UPLOAD BOTH, USE HIGHER
021f2101.d	242826006	JAO	22-DEC-2009 11:25	934936	1242826	1.0 SCEG	UPLOAD BOTH, USE HIGHER
022f2201.d	WAR091211-60 02	JAO	22-DEC-2009 11:36	122209	1.0	PASSES BOTH COLUMNS	
023f2301.d	WAR091130-99 03	JAO	22-DEC-2009 11:46	122209	1.0	CLEAN	
024f2401.d	1202001507	JAO	22-DEC-2009 11:57	935393	110-939	1.0 QC A	UPLOAD BOTH, USE HIGHER
025f2501.d	1202001508	JAO	22-DEC-2009 12:07	935393	110-939	1.0 QC A	UPLOAD BOTH, USE HIGHER
026f2601.d	242937001	JAO	22-DEC-2009 12:18	935393	110-917	1.0 LANL	DUSE, NO HITS CONFIRMS ORGINAL SAMPLE
027f2701.d	243007002	JAO	22-DEC-2009 12:28	935393	110-939	1.0 LANL	UPLOAD BOTH, USE HIGHER
028f2801.d	243033001	JAO	22-DEC-2009 12:39	935393	110-940	1.0 LANL	UPLOAD BOTH, USE HIGHER
029f2901.d	243033002	JAO	22-DEC-2009 12:49	935393	110-940	1.0 LANL	UPLOAD BOTH, USE HIGHER
030f3001.d	243033003	JAO	22-DEC-2009 13:00	935393	110-940	1.0 LANL	UPLOAD BOTH, USE HIGHER
031f3101.d	243033004	JAO	22-DEC-2009 13:10	935393	110-940	1.0 LANL	UPLOAD BOTH, USE HIGHER
032f3201.d	243033005	JAO	22-DEC-2009 13:21	935393	110-940	1.0 LANL	UPLOAD BOTH, USE HIGHER
033f3301.d	243033006	JAO	22-DEC-2009 13:31	935393	110-940	1.0 LANL	UPLOAD BOTH, USE HIGHER
034f3401.d	WAR091211-60 03	JAO	22-DEC-2009 13:42	122209	1.0	PASSES BOTH COLUMNS	
035f3501.d	WAR091130-99 04	JAO	22-DEC-2009 13:53	122209	1.0	CLEAN	

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Instrument Batch: /chem/ecdl.a.i/122209.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	243033007	JAO	22-DEC-2009 14:03	935393	110-940	1.0 LANL		UPLOAD BOTH, USE HIGHER
037f3701.d	243033008	JAO	22-DEC-2009 14:14	935393	110-940	1.0 LANL		UPLOAD BOTH, USE HIGHER
038f3801.d	243033009	JAO	22-DEC-2009 14:24	935393	110-940	1.0 LANL		UPLOAD BOTH, USE HIGHER
039f3901.d	243273001	JAO	22-DEC-2009 14:35	935393	110-988	1.0 LANL		UPLOAD BOTH, USE HIGHER
040f4001.d	243274001	JAO	22-DEC-2009 14:45	935393	110-989	1.0 LANL		UPLOAD BOTH, USE HIGHER

1041f4101.d	1202001509	JROC	122-DEC-2009 14:56	935393	10-989	1.0 QC A	UPLOAD BOTH, USE HIGHER
1042f44201.d	1202001510	JROC	122-DEC-2009 15:06	935393	10-989	1.0 QC A	UPLOAD BOTH, USE HIGHER
1043f4301.d	1243274010	JROC	122-DEC-2009 15:17	935393	10-989	1.0 LANL	UPLOAD BOTH, USE HIGHER
1044f4401.d	WAR091211-60 04	JROC	122-DEC-2009 15:27		122209	1.0	PASSES BOTH COLUMNS
1045f4501.d	WAR091130-99 05	JROC	122-DEC-2009 15:38		122209	1.0	CLEAN

Prep Logbook Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 935357
 Analyst: Andrew Schwennin
 Method: SW846 3550B

Verified by: _____

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)
1202001507 MB	21-DEC-2009 20:06:26	30	H2SO4/KM2	2	9	1	0.03333	
1202001508 LCS	21-DEC-2009 20:06:26	30	H2SO4/KM2	2	9	1	0.03333	
242937001 - 2	21-DEC-2009 20:06:26	30.02	H2SO4/KM2	2	9	1	0.03331	
243007002	21-DEC-2009 20:06:26	30.05	H2SO4/KM2	2	9	1	0.03328	
243033001	21-DEC-2009 20:06:26	30.09	H2SO4/KM2	2	9	1	0.03323	
243033002	21-DEC-2009 20:06:26	30.01	H2SO4/KM2	2	9	1	0.03332	
243033003	21-DEC-2009 20:06:26	30.02	H2SO4/KM2	2	9	1	0.03331	
243033004	21-DEC-2009 20:06:26	30.03	H2SO4/KM2	2	9	1	0.0333	
243033005	21-DEC-2009 20:06:26	30.04	H2SO4/KM2	2	9	1	0.03329	
243033006	21-DEC-2009 20:06:26	30.18	H2SO4/KM2	2	9	1	0.03313	
243033007	21-DEC-2009 20:06:26	30.05	H2SO4/KM2	2	9	1	0.03328	
243033008	21-DEC-2009 20:06:26	30.02	H2SO4/KM2	2	9	1	0.03331	
243033009	21-DEC-2009 20:06:26	30.02	H2SO4/KM2	2	9	1	0.03331	
243273001	21-DEC-2009 20:06:26	30.14	H2SO4/KM2	2	9	1	0.03318	
243274001	21-DEC-2009 20:06:26	30.14	H2SO4/KM2	2	9	1	0.03318	
1202001509 MS (243274001)	21-DEC-2009 20:06:26	30.02	H2SO4/KM2	2	9	1	0.03331	
1202001510 MSD (243274001)	21-DEC-2009 20:06:26	30.01	H2SO4/KM2	2	9	1	0.03332	
243274010	21-DEC-2009 20:06:26	30.07	H2SO4/KM2	2	9	1	0.03326	
Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:		
LCS	1202001508	PCB Laboratory Control	WE091210-07	1	mL	Clean up Date: 12/21/09		
MS	1202001509	PCB Laboratory Control	WE091210-07	1	mL	Clean up Initials: AJS		
MSD	1202001510	PCB Laboratory Control	WE091210-07	1	mL	Verified By: AV		
SURR	ALL	PEST LOW LEVEL SURROGATE 200 UG/L	UTE091130-15	1	mL	Final Solvent: Hexane		
REGNT	ALL	1:1 sulfuric acid	1133264e	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	1242582	30	g			

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-989**

Method/Analysis Information

Procedure: Dry Weight-Percent Moisture

Analytical Method:

Analytical Batch Number: 935190

Sample ID	Client ID
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364
1202000890	243274001(RE12-10-7352) 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: 243274001 (RE12-10-7352). The QC was from LANL work order 243274.

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:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

Not Applicable. The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	AM241
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	935836
Prep Batch Number:	935182

Sample ID	Client ID
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364
1202002408	Method Blank (MB)
1202002409	243274006(RE12-10-7356) Sample Duplicate (DUP)
1202002410	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 1202002408 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243274006 (RE12-10-7356). The QC was from LANL work order 243274.

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:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOPU
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	935838
Prep Batch Number:	935182

Sample ID	Client ID
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364
1202002411	Method Blank (MB)
1202002412	243274006(RE12-10-7356) Sample Duplicate (DUP)
1202002413	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 1202002411 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243274006 (RE12-10-7356). The QC was from LANL work order 243274.

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:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) 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:	938206
Prep Batch Number:	935182

Sample ID	Client ID
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364
1202007528	Method Blank (MB)
1202007529	243274010(RE12-10-7364) Sample Duplicate (DUP)
1202007530	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 1202007528 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 243274010 (RE12-10-7364). The QC was from LANL work order 243274.

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 1202007528 (MB) was recounted due to high carrier/tracer yield. Samples were repped due to high relative percent difference/relative error ratio.

Miscellaneous Information:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) 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:	935341
Prep Batch Number:	935182

Sample ID	Client ID
243274001	RE12-10-7352
243274002	RE12-10-7360
243274003	RE12-10-7358
243274004	RE12-10-7357
243274005	RE12-10-7359
243274006	RE12-10-7356
243274007	RE12-10-7353
243274008	RE12-10-7354
243274009	RE12-10-7355
243274010	RE12-10-7364
1202001375	Method Blank (MB)
1202001376	243274001(RE12-10-7352) Sample Duplicate (DUP)
1202001377	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in January 2009, February 2009, April 2009, June 2009, July 2009, August 2009 and October 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: 243274001 (RE12-10-7352). The QC was from LANL work order 243274.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank results for Pb-212, Ra-224, Tl-208 and U-235 for sample 1202001375 (MB) are greater

than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank results for Pb-212, Ra-224, Tl-208 and U-235 for sample 1202001375 (MB) are greater than the decision level but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high counting uncertainty.	Cesium-137	243274003	RE12-10-7358
		Mercury-203	243274008	RE12-10-7354
		Thorium-234	243274001	RE12-10-7352
UI	Data rejected due to high peak-width.	Cadmium-109	243274008	RE12-10-7354
UI	Data rejected due to interference.	Bismuth-211	243274001	RE12-10-7352
			243274002	RE12-10-7360
			243274003	RE12-10-7358
			243274004	RE12-10-7357
			243274005	RE12-10-7359

			243274006	RE12-10-7356
			243274007	RE12-10-7353
			243274008	RE12-10-7354
			243274009	RE12-10-7355
			243274010	RE12-10-7364
			1202001376	RE12-10-7352(243274001DUP)
		Cadmium-109	243274001	RE12-10-7352
			243274002	RE12-10-7360
			243274003	RE12-10-7358
			243274004	RE12-10-7357
			243274005	RE12-10-7359
			243274006	RE12-10-7356
			243274007	RE12-10-7353
			243274009	RE12-10-7355
			243274010	RE12-10-7364
			1202001376	RE12-10-7352(243274001DUP)
		Radium-224	243274001	RE12-10-7352
			243274002	RE12-10-7360
			243274003	RE12-10-7358
			243274004	RE12-10-7357
			243274006	RE12-10-7356
			243274007	RE12-10-7353
			243274008	RE12-10-7354
			243274009	RE12-10-7355
			243274010	RE12-10-7364
			1202001376	RE12-10-7352(243274001DUP)
UI	Data rejected due to low abundance.	Americium-241	1202001376	RE12-10-7352(243274001DUP)
		Cesium-134	243274001	RE12-10-7352
			243274002	RE12-10-7360

	243274004	RE12-10-7357
	243274007	RE12-10-7353
	243274010	RE12-10-7364
Strontium-85	243274003	RE12-10-7358
	243274007	RE12-10-7353
	1202001375	MB for batch 935341
	1202001376	RE12-10-7352(243274001DUP)

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: Kath Bellath 1/21/10

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC

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

Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-989 GEL Work Order: 243274

The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by



GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7352
Sample ID: 243274001
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 9.79%

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	-0.000589	0.0241	+/-0.00173	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0179	+/-0.0011	0.050	pCi/g		KXM4	12/29/09	1535	935838	3
Plutonium-239/240	U	0.0011	0.0201	+/-0.0011	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.786	0.107	+/-0.0762	0.100	pCi/g		KXM4	01/07/10	1757	938206	4
Uranium-235/236		0.0724	0.0663	+/-0.0219	0.100	pCi/g						
Uranium-238		0.848	0.062	+/-0.0807	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0196	0.0727	+/-0.0236	0.200	pCi/g		MXR1	12/30/09	2247	935341	7
Bismuth-211	UI	3.08	0.239	+/-0.215		pCi/g						
Bismuth-214		0.922	0.0854	+/-0.0738	0.200	pCi/g						
Cadmium-109	UI	2.17	0.640	+/-0.280		pCi/g						
Cerium-139	U	0.00869	0.0328	+/-0.00941	0.050	pCi/g						
Cesium-134	UI	0.0766	0.0737	+/-0.0303	0.100	pCi/g						
Cesium-137	U	-0.0089	0.0478	+/-0.0149	0.100	pCi/g						
Cobalt-60	U	0.0118	0.0497	+/-0.0147	0.100	pCi/g						
Europium-152	U	0.00648	0.114	+/-0.0352	0.200	pCi/g						
Lanthanum-140	U	0.00249	0.0996	+/-0.0346		pCi/g						
Lead-212		1.46	0.0579	+/-0.0755	0.100	pCi/g						
Lead-214		1.07	0.0834	+/-0.0799	0.100	pCi/g						
Mercury-203	U	-0.0237	0.0459	+/-0.0146	0.100	pCi/g						
Potassium-40		23.3	0.442	+/-0.968	1.00	pCi/g						
Radium-223	U	0.060	0.737	+/-0.237		pCi/g						
Radium-224	UI	4.38	0.659	+/-0.449		pCi/g						
Radium-226		0.922	0.0854	+/-0.0738		pCi/g						
Radium-228		1.47	0.165	+/-0.150	0.500	pCi/g						
Ruthenium-106	U	0.0189	0.414	+/-0.125	0.800	pCi/g						

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Certificate of Analysis

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7352
Sample ID: 243274001

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	-0.00088	0.0602	+/-0.0186	0.080	pCi/g						
Strontium-85	U	0.0145	0.0436	+/-0.0142		pCi/g						
Thallium-208		0.520	0.0467	+/-0.0397	0.080	pCi/g						
Thorium-227	U	-0.00998	0.434	+/-0.131		pCi/g						
Thorium-231	U	0.060	0.737	+/-0.237		pCi/g						
Thorium-234	UI	0.760	0.685	+/-0.399	2.00	pCi/g						
Tin-113	U	0.00321	0.0545	+/-0.0158	0.100	pCi/g						
Uranium-235	U	0.121	0.236	+/-0.0703	0.500	pCi/g						
Yttrium-88	U	0.00383	0.0381	+/-0.0112	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	86.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	87.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.6	(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

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 12, 2010

Client Sample ID: RE12-10-7352
Sample ID: 243274001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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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
The above sample is reported on a dry weight basis.

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7360
Sample ID: 243274002
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 11.1%

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	0.00683	0.0244	+/-0.00293	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00106	0.0173	+/-0.00107	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.00106	0.0195	+/-0.00107	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.811	0.116	+/-0.0807	0.100	pCi/g		KXM4	01/07/10	1757	938206	4
Uranium-235/236	U	0.065	0.0723	+/-0.018	0.100	pCi/g						
Uranium-238		0.793	0.0675	+/-0.0793	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0382	0.172	+/-0.0476	0.200	pCi/g		MXR1	12/30/09	2252	935341	7
Bismuth-211	UI	3.35	0.220	+/-0.184		pCi/g						
Bismuth-214		1.09	0.0797	+/-0.0676	0.200	pCi/g						
Cadmium-109	UI	3.11	0.897	+/-0.333		pCi/g						
Cerium-139	U	-0.00578	0.0315	+/-0.00953	0.050	pCi/g						
Cesium-134	UI	0.119	0.0666	+/-0.0234	0.100	pCi/g						
Cesium-137	U	0.0337	0.0496	+/-0.0139	0.100	pCi/g						
Cobalt-60	U	-0.000183	0.0422	+/-0.0129	0.100	pCi/g						
Europium-152	U	0.0375	0.109	+/-0.0315	0.200	pCi/g						
Lanthanum-140	U	-0.0475	0.0778	+/-0.0261		pCi/g						
Lead-212		1.53	0.0595	+/-0.0662	0.100	pCi/g						
Lead-214		1.17	0.0767	+/-0.0708	0.100	pCi/g						
Mercury-203	U	0.0376	0.0413	+/-0.0182	0.100	pCi/g						
Potassium-40		26.6	0.385	+/-1.13	1.00	pCi/g						
Radium-223	U	-0.00728	0.733	+/-0.245		pCi/g						
Radium-224	UI	4.58	0.677	+/-0.473		pCi/g						
Radium-226		1.09	0.0797	+/-0.0676		pCi/g						
Radium-228		1.65	0.141	+/-0.128	0.500	pCi/g						
Ruthenium-106	U	-0.0981	0.349	+/-0.106	0.800	pCi/g						
Sodium-22	U	-0.00906	0.0464	+/-0.0144	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 12, 2010

Client Sample ID:			RE12-10-7360		Project:		LANL01004				
Sample ID:			243274002		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	0.0193	0.043	+/-0.0144		pCi/g					
Thallium-208		0.462	0.0411	+/-0.0303	0.080	pCi/g					
Thorium-227	U	0.180	0.426	+/-0.121		pCi/g					
Thorium-231	U	-0.00728	0.733	+/-0.245		pCi/g					
Thorium-234	U	0.0473	1.56	+/-0.451	2.00	pCi/g					
Tin-113	U	-0.0132	0.0451	+/-0.0138	0.100	pCi/g					
Uranium-235	U	0.0612	0.237	+/-0.0716	0.500	pCi/g					
Yttrium-88	U	0.0162	0.0431	+/-0.0121	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.7	(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

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Certificate of Analysis

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7360
Sample ID: 243274002
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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 12, 2010

Client Sample ID: RE12-10-7358
Sample ID: 243274003
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 11%

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	0.00201	0.0252	+/-0.00242	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0224	+/-0.00138	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0069	0.0252	+/-0.00311	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.110	+/-0.0954	0.100	pCi/g		KXM4	01/07/10	1757	938206	4
Uranium-235/236	U	0.0571	0.0684	+/-0.0175	0.100	pCi/g						
Uranium-238		1.14	0.0639	+/-0.103	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0106	0.220	+/-0.0726	0.200	pCi/g		MXR1	12/30/09	2306	935341	7
Bismuth-211	UI	4.20	0.261	+/-0.216		pCi/g						
Bismuth-214		1.36	0.0897	+/-0.0822	0.200	pCi/g						
Cadmium-109	UI	3.66	0.936	+/-0.450		pCi/g						
Cerium-139	U	-0.00458	0.0389	+/-0.0112	0.050	pCi/g						
Cesium-134	U	0.0638	0.0707	+/-0.0278	0.100	pCi/g						
Cesium-137	UI	0.058	0.0475	+/-0.0261	0.100	pCi/g						
Cobalt-60	U	0.0439	0.0536	+/-0.0142	0.100	pCi/g						
Europium-152	U	-0.0337	0.133	+/-0.0421	0.200	pCi/g						
Lanthanum-140	U	0.0391	0.0972	+/-0.0307		pCi/g						
Lead-212		1.80	0.0732	+/-0.0792	0.100	pCi/g						
Lead-214		1.46	0.091	+/-0.0843	0.100	pCi/g						
Mercury-203	U	0.025	0.0559	+/-0.0182	0.100	pCi/g						
Potassium-40		19.5	0.399	+/-0.923	1.00	pCi/g						
Radium-223	U	0.350	0.891	+/-0.295		pCi/g						
Radium-224	UI	4.63	0.833	+/-0.515		pCi/g						
Radium-226		1.36	0.0897	+/-0.0822		pCi/g						
Radium-228		1.74	0.164	+/-0.150	0.500	pCi/g						
Ruthenium-106	U	-0.0367	0.393	+/-0.117	0.800	pCi/g						
Sodium-22	U	0.0107	0.0543	+/-0.0158	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7358
Sample ID: 243274003
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	0.052	0.0519	+/-0.0165		pCi/g						
Thallium-208		0.608	0.0435	+/-0.0391	0.080	pCi/g						
Thorium-227	U	-0.263	0.492	+/-0.151		pCi/g						
Thorium-231	U	0.350	0.891	+/-0.295		pCi/g						
Thorium-234	U	1.35	1.84	+/-0.706	2.00	pCi/g						
Tin-113	U	-0.0482	0.0529	+/-0.0173	0.100	pCi/g						
Uranium-235	U	0.251	0.297	+/-0.0869	0.500	pCi/g						
Yttrium-88	U	-0.00364	0.0402	+/-0.0127	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	95.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	66.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.3	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7358 Project: LANL01004
Sample ID: 243274003 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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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
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 12, 2010

Client Sample ID: RE12-10-7357
Sample ID: 243274004
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 10.4%

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	0.00236	0.0275	+/-0.00387	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00421	0.0171	+/-0.00211	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0179	0.0192	+/-0.00467	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.45	0.105	+/-0.125	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0585	0.065	+/-0.0162	0.100	pCi/g						
Uranium-238		1.51	0.0607	+/-0.130	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0251	0.052	+/-0.0172	0.200	pCi/g		MXR1	12/30/09	2306	935341	7
Bismuth-211	UI	4.55	0.197	+/-0.288		pCi/g						
Bismuth-214		1.36	0.0763	+/-0.100	0.200	pCi/g						
Cadmium-109	UI	3.61	0.501	+/-0.277		pCi/g						
Cerium-139	U	0.00725	0.029	+/-0.00832	0.050	pCi/g						
Cesium-134	UI	0.112	0.0653	+/-0.0233	0.100	pCi/g						
Cesium-137		0.244	0.0452	+/-0.0297	0.100	pCi/g						
Cobalt-60	U	-0.00116	0.0438	+/-0.0134	0.100	pCi/g						
Europium-152	U	-0.0169	0.101	+/-0.0298	0.200	pCi/g						
Lanthanum-140	U	-0.0664	0.0896	+/-0.0304		pCi/g						
Lead-212		1.76	0.0573	+/-0.107	0.100	pCi/g						
Lead-214		1.58	0.0687	+/-0.108	0.100	pCi/g						
Mercury-203	U	0.0144	0.043	+/-0.0144	0.100	pCi/g						
Potassium-40		20.3	0.335	+/-1.04	1.00	pCi/g						
Radium-223	U	0.0929	0.711	+/-0.230		pCi/g						
Radium-224	UI	4.68	0.652	+/-0.442		pCi/g						
Radium-226		1.36	0.0763	+/-0.100		pCi/g						
Radium-228		1.63	0.151	+/-0.135	0.500	pCi/g						
Ruthenium-106	U	0.279	0.405	+/-0.113	0.800	pCi/g						
Sodium-22	U	-0.00892	0.0525	+/-0.0162	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7357
Sample ID: 243274004
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	0.0235	0.0442	+/-0.0146		pCi/g					
Thallium-208		0.593	0.0405	+/-0.0449	0.080	pCi/g					
Thorium-227	U	-0.0964	0.398	+/-0.123		pCi/g					
Thorium-231	U	0.0929	0.711	+/-0.230		pCi/g					
Thorium-234		1.59	0.521	+/-0.343	2.00	pCi/g					
Tin-113	U	-0.00594	0.0473	+/-0.0141	0.100	pCi/g					
Uranium-235	U	0.111	0.210	+/-0.0619	0.500	pCi/g					
Yttrium-88	U	-7.47E-05	0.0366	+/-0.0112	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	80.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	102	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7357
Sample ID: 243274004

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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 12, 2010

Client Sample ID: RE12-10-7359
Sample ID: 243274005
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-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	0.00821	0.0247	+/-0.00647	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.000973	0.0158	+/-0.000975	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0175	0.0178	+/-0.00422	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.34	0.113	+/-0.117	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236		0.099	0.070	+/-0.0222	0.100	pCi/g						
Uranium-238		1.69	0.0654	+/-0.143	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0566	0.0987	+/-0.0285	0.200	pCi/g		MXR1	12/31/09	1435	935341	7
Bismuth-211	UI	2.83	0.345	+/-0.238		pCi/g						
Bismuth-214		0.885	0.118	+/-0.0886	0.200	pCi/g						
Cadmium-109	UI	2.75	1.07	+/-0.416		pCi/g						
Cerium-139	U	-0.049	0.0448	+/-0.0144	0.050	pCi/g						
Cesium-134	U	0.0487	0.0937	+/-0.0258	0.100	pCi/g						
Cesium-137		0.677	0.0717	+/-0.0551	0.100	pCi/g						
Cobalt-60	U	0.0368	0.0775	+/-0.0214	0.100	pCi/g						
Europium-152	U	-0.0412	0.151	+/-0.063	0.200	pCi/g						
Lanthanum-140	U	-0.0595	0.140	+/-0.0471		pCi/g						
Lead-212		1.05	0.0998	+/-0.0879	0.100	pCi/g						
Lead-214		0.986	0.120	+/-0.0866	0.100	pCi/g						
Mercury-203	U	0.0169	0.067	+/-0.0189	0.100	pCi/g						
Potassium-40		17.1	0.627	+/-0.902	1.00	pCi/g						
Radium-223	U	-0.228	1.14	+/-0.341		pCi/g						
Radium-224	U	1.02	1.05	+/-0.284		pCi/g						
Radium-226		0.885	0.118	+/-0.0886		pCi/g						
Radium-228		1.25	0.226	+/-0.159	0.500	pCi/g						
Ruthenium-106	U	-0.234	0.547	+/-0.171	0.800	pCi/g						
Sodium-22	U	-0.019	0.0826	+/-0.0254	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID:			RE12-10-7359		Project:		LANL01004				
Sample ID:			243274005		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	0.0606	0.070	+/-0.021		pCi/g					
Thallium-208		0.370	0.0651	+/-0.0471	0.080	pCi/g					
Thorium-227	U	-0.0659	0.633	+/-0.182		pCi/g					
Thorium-231	U	-0.228	1.14	+/-0.341		pCi/g					
Thorium-234		2.50	0.931	+/-0.495	2.00	pCi/g					
Tin-113	U	-0.0369	0.0699	+/-0.0221	0.100	pCi/g					
Uranium-235	U	0.118	0.343	+/-0.0993	0.500	pCi/g					
Yttrium-88	U	-0.0272	0.0528	+/-0.0187	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	95.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	94.9	(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

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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 12, 2010

Client Sample ID: RE12-10-7359
Sample ID: 243274005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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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Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7356
Sample ID: 243274006
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 10.3%

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	0.00224	0.0267	+/-0.00259	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00103	0.0168	+/-0.00146	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.00	0.0189	+/-0.00146	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.518	0.110	+/-0.0568	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0219	0.0683	+/-0.00993	0.100	pCi/g						
Uranium-238		0.564	0.0638	+/-0.061	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.00336	0.105	+/-0.0352	0.200	pCi/g		MXR1	12/31/09	1435	935341	7
Bismuth-211	UI	3.17	0.300	+/-0.286		pCi/g						
Bismuth-214		0.959	0.130	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	2.67	0.950	+/-0.406		pCi/g						
Cerium-139	U	-0.0332	0.0464	+/-0.0146	0.050	pCi/g						
Cesium-134	U	0.0473	0.112	+/-0.0312	0.100	pCi/g						
Cesium-137	U	0.0139	0.078	+/-0.0233	0.100	pCi/g						
Cobalt-60	U	0.0129	0.0843	+/-0.0252	0.100	pCi/g						
Europium-152	U	0.0215	0.154	+/-0.0529	0.200	pCi/g						
Lanthanum-140	U	-0.162	0.116	+/-0.0526		pCi/g						
Lead-212		1.34	0.092	+/-0.082	0.100	pCi/g						
Lead-214		1.10	0.105	+/-0.103	0.100	pCi/g						
Mercury-203	U	-0.0235	0.0696	+/-0.0222	0.100	pCi/g						
Potassium-40		28.2	0.695	+/-1.34	1.00	pCi/g						
Radium-223	U	-0.455	1.08	+/-0.377		pCi/g						
Radium-224	UI	4.17	1.05	+/-0.550		pCi/g						
Radium-226		0.959	0.130	+/-0.102		pCi/g						
Radium-228		1.56	0.249	+/-0.203	0.500	pCi/g						
Ruthenium-106	U	0.0553	0.579	+/-0.174	0.800	pCi/g						
Sodium-22	U	0.0185	0.0958	+/-0.0285	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7356
Sample ID: 243274006

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	0.0244	0.0715	+/-0.0204		pCi/g					
Thallium-208		0.470	0.0681	+/-0.0537	0.080	pCi/g					
Thorium-227	U	-0.0778	0.609	+/-0.189		pCi/g					
Thorium-231	U	-0.455	1.08	+/-0.377		pCi/g					
Thorium-234	U	0.355	0.894	+/-0.438	2.00	pCi/g					
Tin-113	U	-0.0186	0.0849	+/-0.0256	0.100	pCi/g					
Uranium-235	U	0.129	0.352	+/-0.103	0.500	pCi/g					
Yttrium-88	U	-0.0264	0.0413	+/-0.0173	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	100	(50%-105%)

Notes:

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

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- < Result is less than value reported
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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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7356 Project: LANL01004
Sample ID: 243274006 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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 12, 2010

Client Sample ID: RE12-10-7353
Sample ID: 243274007
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 17.8%

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	0.00183	0.0239	+/-0.00149	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0173	+/-0.0015	0.050	pCi/g		KXM4	12/29/09	1536	935838	3
Plutonium-239/240	U	0.0106	0.0194	+/-0.0034	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.08	0.105	+/-0.0978	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0546	0.0654	+/-0.0156	0.100	pCi/g						
Uranium-238		1.26	0.0611	+/-0.110	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.118	0.274	+/-0.0897	0.200	pCi/g		MXR1	12/31/09	1435	935341	7
Bismuth-211	UI	3.38	0.239	+/-0.197		pCi/g						
Bismuth-214		0.961	0.088	+/-0.0753	0.200	pCi/g						
Cadmium-109	UI	3.44	1.05	+/-0.497		pCi/g						
Cerium-139	U	-0.00484	0.0408	+/-0.0117	0.050	pCi/g						
Cesium-134	UI	0.0939	0.0692	+/-0.0243	0.100	pCi/g						
Cesium-137		0.336	0.0455	+/-0.0334	0.100	pCi/g						
Cobalt-60	U	-0.0258	0.0437	+/-0.0147	0.100	pCi/g						
Europium-152	U	0.0208	0.128	+/-0.0439	0.200	pCi/g						
Lanthanum-140	U	0.0848	0.116	+/-0.0339		pCi/g						
Lead-212		1.33	0.0712	+/-0.0647	0.100	pCi/g						
Lead-214		1.18	0.0833	+/-0.0751	0.100	pCi/g						
Mercury-203	U	0.0509	0.0566	+/-0.0158	0.100	pCi/g						
Potassium-40		19.8	0.423	+/-0.939	1.00	pCi/g						
Radium-223	U	-0.411	0.854	+/-0.272		pCi/g						
Radium-224	UI	3.54	0.809	+/-0.559		pCi/g						
Radium-226		0.961	0.088	+/-0.0753		pCi/g						
Radium-228		1.18	0.154	+/-0.131	0.500	pCi/g						
Ruthenium-106	U	0.00414	0.403	+/-0.123	0.800	pCi/g						
Sodium-22	U	-0.0372	0.052	+/-0.0174	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7353
Sample ID: 243274007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.130	0.0608	+/-0.017		pCi/g						
Thallium-208		0.403	0.0487	+/-0.0329	0.080	pCi/g						
Thorium-227	U	-0.106	0.515	+/-0.155		pCi/g						
Thorium-231	U	-0.411	0.854	+/-0.272		pCi/g						
Thorium-234	U	2.05	2.13	+/-1.01	2.00	pCi/g						
Tin-113	U	0.00756	0.0603	+/-0.0174	0.100	pCi/g						
Uranium-235	U	-0.122	0.286	+/-0.0912	0.500	pCi/g						
Yttrium-88	U	0.00369	0.0389	+/-0.0116	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	102	(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 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

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Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7353 Project: LANL01004
Sample ID: 243274007 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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 12, 2010

Client Sample ID: RE12-10-7354
Sample ID: 243274008
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 6.86%

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	0.00509	0.0227	+/-0.00244	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0192	+/-0.00118	0.050	pCi/g		KXM4	12/29/09	1104	935838	3
Plutonium-239/240	U	7.04E-11	0.0216	+/-0.00167	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.504	0.112	+/-0.056	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0535	0.0693	+/-0.0159	0.100	pCi/g						
Uranium-238		0.458	0.0648	+/-0.0528	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0903	0.201	+/-0.0655	0.200	pCi/g		MXR1	12/31/09	1436	935341	7
Bismuth-211	UI	2.99	0.352	+/-0.271		pCi/g						
Bismuth-214		1.03	0.110	+/-0.0984	0.200	pCi/g						
Cadmium-109	UI	4.27	1.09	+/-0.703		pCi/g						
Cerium-139	U	-0.0102	0.0474	+/-0.0152	0.050	pCi/g						
Cesium-134	U	0.0659	0.093	+/-0.0256	0.100	pCi/g						
Cesium-137	U	-0.0434	0.051	+/-0.0175	0.100	pCi/g						
Cobalt-60	U	0.0045	0.0659	+/-0.0203	0.100	pCi/g						
Europium-152	U	-0.0768	0.155	+/-0.0573	0.200	pCi/g						
Lanthanum-140	U	-0.0742	0.108	+/-0.040		pCi/g						
Lead-212		1.63	0.0886	+/-0.104	0.100	pCi/g						
Lead-214		1.04	0.123	+/-0.098	0.100	pCi/g						
Mercury-203	UI	0.0603	0.0596	+/-0.0308	0.100	pCi/g						
Potassium-40		33.4	0.571	+/-1.76	1.00	pCi/g						
Radium-223	U	-0.0272	1.09	+/-0.378		pCi/g						
Radium-224	UI	4.84	1.01	+/-0.806		pCi/g						
Radium-226		1.03	0.110	+/-0.0984		pCi/g						
Radium-228		1.82	0.224	+/-0.180	0.500	pCi/g						
Ruthenium-106	U	0.313	0.553	+/-0.159	0.800	pCi/g						
Sodium-22	U	-0.01	0.0728	+/-0.0234	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 12, 2010

Client Sample ID: RE12-10-7354
Sample ID: 243274008

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	0.0634	0.0713	+/-0.0222		pCi/g					
Thallium-208		0.520	0.063	+/-0.0496	0.080	pCi/g					
Thorium-227	U	-0.0549	0.624	+/-0.188		pCi/g					
Thorium-231	U	-0.0272	1.09	+/-0.378		pCi/g					
Thorium-234	U	1.58	1.77	+/-0.692	2.00	pCi/g					
Tin-113	U	-0.0196	0.0709	+/-0.0224	0.100	pCi/g					
Uranium-235	U	0.131	0.359	+/-0.109	0.500	pCi/g					
Yttrium-88	U	1.44E-05	0.0572	+/-0.0176	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.4	(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
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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

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7354 Project: LANL01004
Sample ID: 243274008 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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 12, 2010

Client Sample ID: RE12-10-7355
Sample ID: 243274009
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 12.9%

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	-0.000401	0.028	+/-0.00142	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00117	0.0191	+/-0.00203	0.050	pCi/g		KXM4	12/29/09	1104	935838	3
Plutonium-239/240	U	0.00938	0.0215	+/-0.00335	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.11	0.111	+/-0.100	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236	U	0.0574	0.0688	+/-0.0164	0.100	pCi/g						
Uranium-238		1.30	0.0642	+/-0.114	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0451	0.0769	+/-0.0223	0.200	pCi/g		MXR1	12/31/09	1436	935341	7
Bismuth-211	UI	4.16	0.306	+/-0.281		pCi/g						
Bismuth-214		1.10	0.121	+/-0.112	0.200	pCi/g						
Cadmium-109	UI	3.01	0.718	+/-0.343		pCi/g						
Cerium-139	U	0.0179	0.0423	+/-0.0115	0.050	pCi/g						
Cesium-134	U	0.0849	0.105	+/-0.0284	0.100	pCi/g						
Cesium-137		0.212	0.0836	+/-0.0378	0.100	pCi/g						
Cobalt-60	U	0.0291	0.0815	+/-0.0222	0.100	pCi/g						
Europium-152	U	-0.0091	0.134	+/-0.0407	0.200	pCi/g						
Lanthanum-140	U	-0.138	0.136	+/-0.0556		pCi/g						
Lead-212		1.57	0.0749	+/-0.0935	0.100	pCi/g						
Lead-214		1.45	0.107	+/-0.105	0.100	pCi/g						
Mercury-203	U	0.0153	0.0573	+/-0.0182	0.100	pCi/g						
Potassium-40		18.4	0.669	+/-1.15	1.00	pCi/g						
Radium-223	U	0.246	0.984	+/-0.318		pCi/g						
Radium-224	UI	1.36	0.855	+/-0.476		pCi/g						
Radium-226		1.10	0.121	+/-0.112		pCi/g						
Radium-228		1.53	0.199	+/-0.173	0.500	pCi/g						
Ruthenium-106	U	-0.196	0.464	+/-0.187	0.800	pCi/g						
Sodium-22	U	-0.003	0.0931	+/-0.0289	0.080	pCi/g						

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7355
Sample ID: 243274009
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	0.00222	0.0604	+/-0.0176		pCi/g					
Thallium-208		0.498	0.0606	+/-0.046	0.080	pCi/g					
Thorium-227	U	-0.384	0.514	+/-0.167		pCi/g					
Thorium-231	U	0.246	0.984	+/-0.318		pCi/g					
Thorium-234		1.49	0.720	+/-0.405	2.00	pCi/g					
Tin-113	U	0.0247	0.069	+/-0.020	0.100	pCi/g					
Uranium-235	U	0.185	0.287	+/-0.0841	0.500	pCi/g					
Yttrium-88	U	-0.0401	0.049	+/-0.0213	0.100	pCi/g					

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.0	(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

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

Report Date: January 12, 2010

Client Sample ID: RE12-10-7355 Project: LANL01004
Sample ID: 243274009 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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 12, 2010

Client Sample ID: RE12-10-7364
Sample ID: 243274010
Matrix: R
Collect Date: 16-DEC-09
Receive Date: 18-DEC-09
Collector: Client
Moisture: 12.2%

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	0.00168	0.0231	+/-0.00141	0.050	pCi/g		KXM4	12/30/09	1044	935836	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00258	0.0209	+/-0.00224	0.050	pCi/g		KXM4	12/29/09	1104	935838	3
Plutonium-239/240	U	0.00645	0.0236	+/-0.0029	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.111	+/-0.106	0.100	pCi/g		KXM4	01/07/10	1758	938206	4
Uranium-235/236		0.0797	0.0689	+/-0.0197	0.100	pCi/g						
Uranium-238		1.19	0.0644	+/-0.107	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0696	0.327	+/-0.101	0.200	pCi/g		MXR1	12/31/09	1437	935341	7
Bismuth-211	UI	3.25	0.319	+/-0.239		pCi/g						
Bismuth-214		0.924	0.118	+/-0.0907	0.200	pCi/g						
Cadmium-109	UI	2.40	1.42	+/-0.563		pCi/g						
Cerium-139	U	-0.0199	0.0489	+/-0.0146	0.050	pCi/g						
Cesium-134	UI	0.104	0.082	+/-0.0304	0.100	pCi/g						
Cesium-137		0.202	0.0652	+/-0.0344	0.100	pCi/g						
Cobalt-60	U	0.0052	0.0549	+/-0.0164	0.100	pCi/g						
Europium-152	U	-0.0557	0.156	+/-0.0538	0.200	pCi/g						
Lanthanum-140	U	-0.0281	0.133	+/-0.0419		pCi/g						
Lead-212		1.36	0.0903	+/-0.0703	0.100	pCi/g						
Lead-214		1.13	0.113	+/-0.0881	0.100	pCi/g						
Mercury-203	U	0.023	0.0682	+/-0.0214	0.100	pCi/g						
Potassium-40		18.9	0.419	+/-1.02	1.00	pCi/g						
Radium-223	U	-0.376	1.06	+/-0.363		pCi/g						
Radium-224	UI	3.71	1.03	+/-0.548		pCi/g						
Radium-226		0.924	0.118	+/-0.0907		pCi/g						
Radium-228		1.30	0.214	+/-0.161	0.500	pCi/g						
Ruthenium-106	U	-0.00201	0.515	+/-0.154	0.800	pCi/g						
Sodium-22	U	-0.00498	0.0746	+/-0.0229	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 12, 2010

Client Sample ID:			RE12-10-7364		Project:		LANL01004				
Sample ID:			243274010		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	0.0455	0.0631	+/-0.0172		pCi/g					
Thallium-208		0.539	0.0525	+/-0.0412	0.080	pCi/g					
Thorium-227	U	-0.0762	0.638	+/-0.192		pCi/g					
Thorium-231	U	-0.376	1.06	+/-0.363		pCi/g					
Thorium-234		2.97	2.49	+/-0.935	2.00	pCi/g					
Tin-113	U	0.0244	0.0802	+/-0.0226	0.100	pCi/g					
Uranium-235	U	0.0821	0.372	+/-0.108	0.500	pCi/g					
Yttrium-88	U	0.0357	0.0628	+/-0.0157	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 EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	97.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	78.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.7	(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

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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 12, 2010

Client Sample ID: RE12-10-7364
Sample ID: 243274010

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ 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

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QC Summary

Report Date: January 12, 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: 243274

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch	935836									
QC1202002409	243274006	DUP								
Americium-241	U	0.00224	U	-0.00182	pCi/g	0.462		(0-1) KXM4		12/30/0910:44
	TPU:	+/-0.00259		+/-0.0018						
	Yield:	90.4		85.4						
QC1202002410	LCS									
Americium-241	33.2			32.3	pCi/g		97.3	(75%-125%)		
	TPU:			+/-2.28						
	Yield:			95.8						
QC1202002408	MB									
Americium-241	U	-0.0039	U	-0.0039	pCi/g					
	TPU:	+/-0.00714		+/-0.00714						
	Yield:			86.6						
Batch	935838									
QC1202002412	243274006	DUP								
Plutonium-238	U	-0.00103	U	1.35E-10	pCi/g	0.139		(0-1) KXM4		12/29/0911:04
	TPU:	+/-0.00146		+/-0.00227						
	Yield:	94.4		89.2						
Plutonium-239/240	U	0.00	U	0.00227	pCi/g	0.369		(0-1)		
	TPU:	+/-0.00146		+/-0.00161						
	Yield:	94.4		89.2						
QC1202002413	LCS									
Plutonium-238				6.40	pCi/g			(75%-125%)		
	TPU:			+/-0.487						
	Yield:			97.1						
Plutonium-239/240	41.8			36.9	pCi/g		88.4	(75%-125%)		
	TPU:			+/-2.31						
	Yield:			97.1						
QC1202002411	MB									
Plutonium-238	U	0.00144	U	0.00144	pCi/g					
	TPU:	+/-0.00693		+/-0.00693						
	Yield:			97.4						
Plutonium-239/240	U	0.00289	U	0.00289	pCi/g					
	TPU:	+/-0.00354		+/-0.00354						
	Yield:			97.4						
Batch	938206									
QC1202007529	243274010	DUP								
Uranium-233/234		1.16		1.10	pCi/g	0.146		(0-1) KXM4		01/07/1009:01
	TPU:	+/-0.106		+/-0.0965						
	Yield:	99.7		90.9						
Uranium-235/236		0.0797		0.0638	pCi/g	0.213		(0-1)		
	TPU:	+/-0.0197		+/-0.0178						
	Yield:	99.7		90.9						
Uranium-238		1.19		1.14	pCi/g	0.107		(0-1)		
	TPU:	+/-0.107		+/-0.0993						

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QC Summary

Workorder: 243274

Page 2 of 6

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time										
Rad Alpha Spec																					
Batch	938206																				
		Yield:	99.7	90.9																	
QC1202007530	LCS																				
Uranium-233/234				5.39	pCi/g			(75%-125%)													
		TPU:		+/-0.489																	
		Yield:		104																	
Uranium-235/236				0.301	pCi/g			(75%-125%)													
		TPU:		+/-0.0745																	
		Yield:		104																	
Uranium-238	5.75			5.90	pCi/g		103	(75%-125%)													
		TPU:		+/-0.527																	
		Yield:		104																	
QC1202007528	MB																				
Uranium-233/234			U	-0.00205	pCi/g					01/08/10	12:40										
		TPU:		+/-0.0029																	
		Yield:		103																	
Uranium-235/236			U	0.00414	pCi/g																
		TPU:		+/-0.00294																	
		Yield:		103																	
Uranium-238			U	0.00168	pCi/g																
		TPU:		+/-0.00168																	
		Yield:		103																	
Rad Gamma Spec																					
Batch	935341																				
QC1202001376	243274001	DUP																			
Americium-241		U	0.0196	UI	0.122	pCi/g	0.883	(0-1)	MXR1	12/31/09	15:32										
		TPU:	+/-0.0236		+/-0.0345																
Bismuth-211		UI	3.08	UI	3.43	pCi/g	0.371	(0-1)													
		TPU:	+/-0.215		+/-0.246																
Bismuth-214			0.922		1.19	pCi/g	0.767	(0-1)													
		TPU:	+/-0.0738		+/-0.100																
Cadmium-109		UI	2.17	UI	3.34	pCi/g	0.864	(0-1)													
		TPU:	+/-0.280		+/-0.393																
Cerium-139		U	0.00869	U	0.000361	pCi/g	0.170	(0-1)													
		TPU:	+/-0.00941		+/-0.0152																
Cesium-134		UI	0.0766	U	0.0881	pCi/g	0.103	(0-1)													
		TPU:	+/-0.0303		+/-0.0255																
Cesium-137		U	-0.0089	U	0.0397	pCi/g	0.677	(0-1)													
		TPU:	+/-0.0149		+/-0.021																
Cobalt-60		U	0.0118	U	0.00938	pCi/g	0.0345	(0-1)													
		TPU:	+/-0.0147		+/-0.0209																
Europium-152		U	0.00648	U	0.00153	pCi/g	0.0265	(0-1)													
		TPU:	+/-0.0352		+/-0.0582																
Lanthanum-140		U	0.00249	U	-0.0594	pCi/g	0.393	(0-1)													
		TPU:	+/-0.0346		+/-0.0442																
Lead-212			1.46		1.52	pCi/g	0.184	(0-1)													
		TPU:	+/-0.0755		+/-0.0983																
Lead-214			1.07		1.19	pCi/g	0.348	(0-1)													
		TPU:	+/-0.0799		+/-0.091																
Mercury-203		U	-0.0237	U	0.0443	pCi/g	0.928	(0-1)													
		TPU:	+/-0.0146		+/-0.022																

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QC Summary

Workorder: 243274

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Parname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	935341										
Potassium-40		23.3		23.6	pCi/g	0.0676		(0-1)			
	TPU:	+/-0.968		+/-1.10							
Radium-223	U	0.060	U	0.256	pCi/g	0.159		(0-1)			
	TPU:	+/-0.237		+/-0.381							
Radium-224	UI	4.38	UI	4.36	pCi/g	0.00943		(0-1)			
	TPU:	+/-0.449		+/-0.771							
Radium-226		0.922		1.19	pCi/g	0.767		(0-1)			
	TPU:	+/-0.0738		+/-0.100							
Radium-228		1.47		1.44	pCi/g	0.0534		(0-1)			
	TPU:	+/-0.150		+/-0.160							
Ruthenium-106	U	0.0189	U	0.273	pCi/g	0.415		(0-1)			
	TPU:	+/-0.125		+/-0.182							
Sodium-22	U	-0.00088	U	-0.0304	pCi/g	0.335		(0-1)			
	TPU:	+/-0.0186		+/-0.0254							
Strontium-85	U	0.0145	UI	0.104	pCi/g	1.19		(0-1)			
	TPU:	+/-0.0142		+/-0.0234							
Thallium-208		0.520		0.489	pCi/g	0.189		(0-1)			
	TPU:	+/-0.0397		+/-0.0416							
Thorium-227	U	-0.00998	U	-0.0889	pCi/g	0.119		(0-1)			
	TPU:	+/-0.131		+/-0.201							
Thorium-231	U	0.060	U	0.256	pCi/g	0.159		(0-1)			
	TPU:	+/-0.237		+/-0.381							
Thorium-234	UI	0.760	U	0.918	pCi/g	0.103		(0-1)			
	TPU:	+/-0.399		+/-0.365							
Tin-113	U	0.00321	U	-0.03	pCi/g	0.415		(0-1)			
	TPU:	+/-0.0158		+/-0.0243							
Uranium-235	U	0.121	U	0.013	pCi/g	0.304		(0-1)			
	TPU:	+/-0.0703		+/-0.108							
Yttrium-88	U	0.00383	U	3.03E-05	pCi/g	0.0657		(0-1)			
	TPU:	+/-0.0112		+/-0.0177							
QC1202001377	LCS										
Americium-241	15.9			14.0	pCi/g		88.2	(75%-125%)		12/31/09	15:32
	TPU:			+/-0.637							
Bismuth-211				2.17	pCi/g						
	TPU:			+/-0.337							
Bismuth-214				0.791	pCi/g						
	TPU:			+/-0.127							
Cadmium-109				33.6	pCi/g						
	TPU:			+/-2.02							
Cerium-139			U	-0.0153	pCi/g						
	TPU:			+/-0.0235							
Cesium-134			U	0.142	pCi/g						
	TPU:			+/-0.0475							
Cesium-137	5.58			5.92	pCi/g		106	(75%-125%)			
	TPU:			+/-0.299							
Cobalt-60	6.51			6.79	pCi/g		104	(75%-125%)			
	TPU:			+/-0.329							
Europium-152			U	-0.0758	pCi/g						
	TPU:			+/-0.098							
Lanthanum-140			U	0.0545	pCi/g						
	TPU:			+/-0.0479							

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QC Summary

Workorder: 243274

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	935341								
Lead-212			0.957	pCi/g					
	TPU:		+/-0.0927						
Lead-214			0.756	pCi/g					
	TPU:		+/-0.119						
Mercury-203		U	-0.021	pCi/g					
	TPU:		+/-0.032						
Potassium-40		U	0.374	pCi/g					
	TPU:		+/-0.242						
Radium-223		U	-1.06	pCi/g					
	TPU:		+/-0.593						
Radium-224			2.41	pCi/g					
	TPU:		+/-0.593						
Radium-226			0.791	pCi/g					
	TPU:		+/-0.127						
Radium-228			0.843	pCi/g					
	TPU:		+/-0.268						
Ruthenium-106		U	0.104	pCi/g					
	TPU:		+/-0.300						
Sodium-22		U	-0.042	pCi/g					
	TPU:		+/-0.0248						
Strontium-85		U	0.055	pCi/g					
	TPU:		+/-0.0377						
Thallium-208			0.265	pCi/g					
	TPU:		+/-0.0537						
Thorium-227		U	0.456	pCi/g					
	TPU:		+/-0.315						
Thorium-231		U	-1.06	pCi/g					
	TPU:		+/-0.593						
Thorium-234		U	-1.83	pCi/g					
	TPU:		+/-0.819						
Tin-113		U	-0.000604	pCi/g					
	TPU:		+/-0.041						
Uranium-235		U	-0.0481	pCi/g					
	TPU:		+/-0.151						
Yttrium-88		U	-0.00278	pCi/g					
	TPU:		+/-0.0251						
QC1202001375	MB								
Americium-241		U	-0.00986	pCi/g					12/31/0914:42
	TPU:		+/-0.0708						
Bismuth-211		U	-0.0369	pCi/g					
	TPU:		+/-0.0765						
Bismuth-214		U	0.0405	pCi/g					
	TPU:		+/-0.0369						
Cadmium-109		U	-0.724	pCi/g					
	TPU:		+/-0.262						
Cerium-139		U	-0.00354	pCi/g					
	TPU:		+/-0.00786						
Cesium-134		U	0.0127	pCi/g					
	TPU:		+/-0.0123						
Cesium-137		U	-0.0099	pCi/g					
	TPU:		+/-0.0115						

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QC Summary

Workorder: 243274

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	935341										
Cobalt-60			U	-0.0098	pCi/g						
	TPU:			+/-0.0111							
Europium-152			U	0.0181	pCi/g						
	TPU:			+/-0.0314							
Lanthanum-140			U	-0.000683	pCi/g						
	TPU:			+/-0.0175							
Lead-212			U	0.0721	pCi/g						
	TPU:			+/-0.0382							
Lead-214			U	-0.0223	pCi/g						
	TPU:			+/-0.0262							
Mercury-203			U	-0.0312	pCi/g						
	TPU:			+/-0.0116							
Potassium-40			U	-0.119	pCi/g						
	TPU:			+/-0.125							
Radium-223			U	-0.28	pCi/g						
	TPU:			+/-0.212							
Radium-224			U	0.519	pCi/g						
	TPU:			+/-0.198							
Radium-226			U	0.0405	pCi/g						
	TPU:			+/-0.0369							
Radium-228			U	-0.0115	pCi/g						
	TPU:			+/-0.0414							
Ruthenium-106			U	-0.137	pCi/g						
	TPU:			+/-0.0911							
Sodium-22			U	0.00114	pCi/g						
	TPU:			+/-0.00914							
Strontium-85			UI	0.0645	pCi/g						
	TPU:			+/-0.0124							
Thallium-208			U	0.0448	pCi/g						
	TPU:			+/-0.0148							
Thorium-227			U	-0.0659	pCi/g						
	TPU:			+/-0.113							
Thorium-231			U	-0.28	pCi/g						
	TPU:			+/-0.212							
Thorium-234			U	-1.27	pCi/g						
	TPU:			+/-0.589							
Tin-113			U	0.0141	pCi/g						
	TPU:			+/-0.0124							
Uranium-235			U	0.149	pCi/g						
	TPU:			+/-0.0596							
Yttrium-88			U	0.00767	pCi/g						
	TPU:			+/-0.0121							

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: 243274

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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, Rev 9

Batch# 935836 Product: Am Date: 12/31/09

Critera:	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 big 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 critera.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance critera.	✓		
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 critera.	✓		
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	✓		
Ht 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 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:

Debbie Green 12/31/09

Secondary Review Performed By:

Sup MLT 1/4/10

1/15
LANL

Am/Cm Que Sheet

22-DEC-09

Batch #: 935836
 Tracer(s): Am241/Cm244
 LCS Isotope(s): Am241/Cm244
 Spike Isotope(s): Am241/Cm244
 Prep Date: 11-25-09
 Initials: KM
 Analyst: KXM4
 First Client Due Date: 15-JAN-10
 Internal Due Date: 04-JAN-10
 Expiration Date: 5-11-10
 Expiration Date: 4-30-10
 Expiration Date: NA
 Balance ID: 19350208
 Pipet ID: 797105B
 Comments: Vol: 0.1mL
 Vol(s): 0.1g / NA
 Vol(s): NA / NA
 Witness: NA 12-23-09

Sample ID	Client Description	Type	Hazard	Min	Code	CRDL	Matrix	Client	Collection Date	Pos.	Label #	Alquot	Am/Cm	Det #
243273001-1	RE12-10-7351	SAMPLE	.05	pCi/g	SOIL	LANL010	15-DEC-09	1	1	1.259	83			
243274001-1	RE12-10-7352	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	2	2	1.259	84			
243274002-1	RE12-10-7360	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	3	3	1.255	85			
243274003-1	RE12-10-7358	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	4	4	1.254	86			
243274004-1	RE12-10-7357	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	5	5	1.253	87			
243274005-1	RE12-10-7359	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	6	6	1.257	88			
243274006-1	RE12-10-7356	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	7	7	1.253	89			
243274007-1	RE12-10-7353	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	8	8	1.259	90			
243274008-1	RE12-10-7354	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	9	9	1.254	91			
243274009-1	RE12-10-7355	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	10	10	1.255	92			
243274010-1	RE12-10-7364	SAMPLE	.05	pCi/g	SOIL	LANL010	16-DEC-09	11	11	1.251	93			
1202092408-1	MB for batch 935836	MB	.05	pCi/g	QC ACCOUNT	QC ACCOUNT	16-DEC-09	12	12	1.251	1072			
1202092409-1	RE12-10-7356(243274006DUP)	DUP	.05	pCi/g	SOIL	QC ACCOUNT	16-DEC-09	13	13	1.255	73			
1202092410-1	LCS for batch 935836	LCS	.05	pCi/g	SOIL	QC ACCOUNT	16-DEC-09	14	14	0.103	74			

12/31/09

Choose SOP Used: GL-RAD-A-011
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: DL

12/31/09

GEL Laboratories LLC, Radiochemistry Division

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11/2/10

Blank Correction Report

Batch ID 935836

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202002409	DUP	Americium-241	1.26 g	-0.00182	0.0018	0.0251	-.00309524	pCi/g	NO
1202002410	LCS	Americium-241	0.103 g	32.3	2.28	0.284	-.03786408	pCi/g	NO
1202002408	MB	Americium-241	1.00 g	-0.0039	0.00714	0.0318	-.0039	pCi/g	NO
243273001	RE12-10-7351	Americium-241	1.26 g	0.022	0.00669	0.0224	-.00309524	pCi/g	NO
243274001	RE12-10-7352	Americium-241	1.26 g	-0.000589	0.00173	0.0241	-.00309524	pCi/g	NO
243274002	RE12-10-7360	Americium-241	1.26 g	0.00683	0.00283	0.0244	-.00309524	pCi/g	NO
243274003	RE12-10-7358	Americium-241	1.25 g	0.00201	0.00242	0.0252	-.00312	pCi/g	NO
243274004	RE12-10-7357	Americium-241	1.25 g	0.00236	0.00387	0.0275	-.00312	pCi/g	NO
243274005	RE12-10-7359	Americium-241	1.26 g	0.00821	0.00647	0.0247	-.00309524	pCi/g	NO
243274006	RE12-10-7356	Americium-241	1.25 g	0.00224	0.00259	0.0267	-.00312	pCi/g	NO
243274007	RE12-10-7353	Americium-241	1.26 g	0.00183	0.00149	0.0239	-.00309524	pCi/g	NO
243274008	RE12-10-7354	Americium-241	1.25 g	0.00509	0.00244	0.0227	-.00312	pCi/g	NO
243274009	RE12-10-7355	Americium-241	1.26 g	-0.000401	0.00142	0.028	-.00309524	pCi/g	NO
243274010	RE12-10-7364	Americium-241	1.25 g	0.00168	0.00141	0.0231	-.00312	pCi/g	NO

SDM
1/4/10

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274001_AM
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :78265
AVERAGE %EFFICIENCY :33.9057
% YIELD : 86.246

COUNT DATE:30-DEC-2009 10:44:23
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 : 2.91660 dpm
RESULTS : 2.51544 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B084.CNF;1005
BKG DATE : 27-DEC-2009
EFF FILE : W084.CNF;291
CAL DATE : 10-DEC-2009

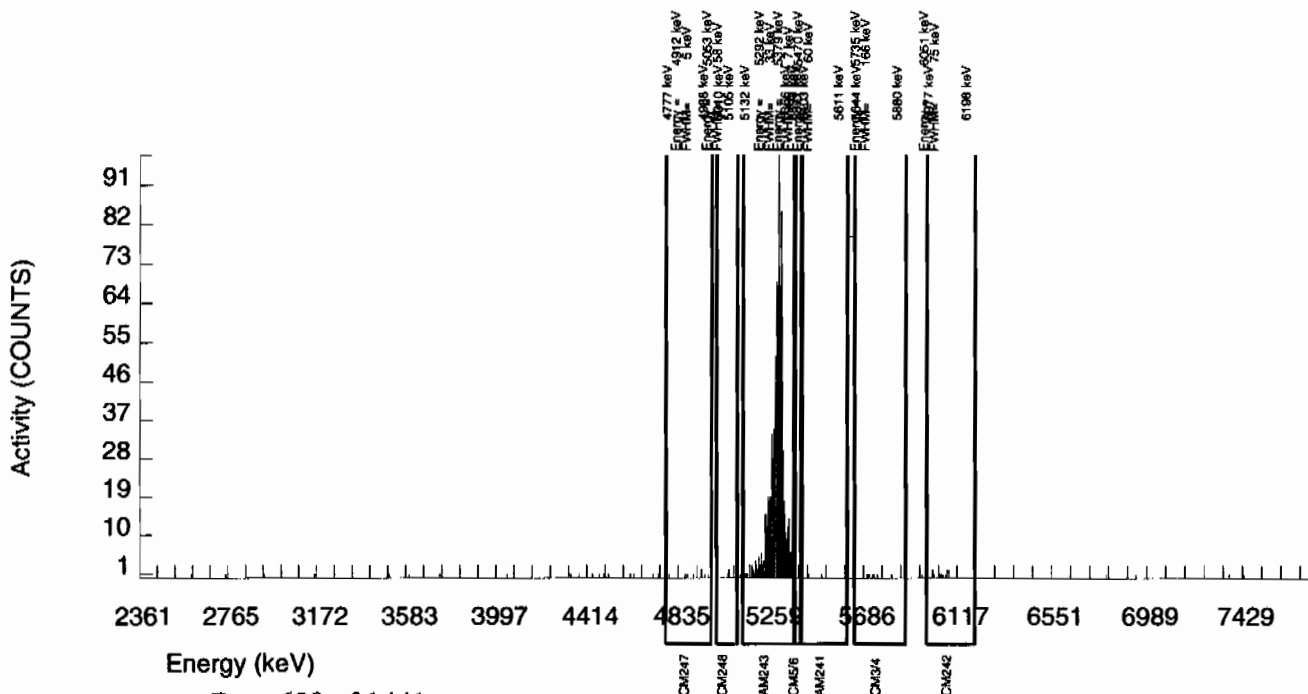
NUCLIDE ACTIVITY SUMMARY

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	9.000	6.000	3.000	4.8778	100.0000	7.35E-03	4.27E-03	1.39E-02	3.11E-02	4.24E-03
CM-5/6	5386.000	15.000	15.000	0.000	19.8796	86.09000	2.13E-02	5.65E-03	6.57E-02	1.35E-01	5.50E-03
AM-241	5479.150	2.000	-0.481	1.000	3.6563	99.94000	-5.89E-04	1.73E-03	1.04E-02	2.41E-02	1.73E-03
CM-242	6102.000	12.000	11.000	1.000	3.7846	100.0000	1.43E-02	4.78E-03	1.08E-02	2.49E-02	4.70E-03
AM243	5270.000	853.000	851.000	2.000	1.4142	99.78000	1.04E+00	7.22E-02	4.03E-03	1.14E-02	3.59E-02
CM-247	4946.000	8.000	4.000	4.000	18.5713	79.30000	6.17E-03	5.36E-03	6.67E-02	1.37E-01	5.34E-03
CM-248	5078.600	7.000	6.000	1.000	26.3889	91.00000	8.07E-03	3.83E-03	8.25E-02	1.69E-01	3.80E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274002_AM
SAMPLE QTY: 1.255 G

DETECTOR NUMBER :78776
AVERAGE %EFFICIENCY :32.7690
% YIELD : 88.713

COUNT DATE:30-DEC-2009 10:44:23
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 : 2.91660 dpm
RESULTS : 2.58741 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B085.CNF;1006
BKG DATE : 27-DEC-2009
EFF FILE : W085.CNF;298
CAL DATE : 10-DEC-2009

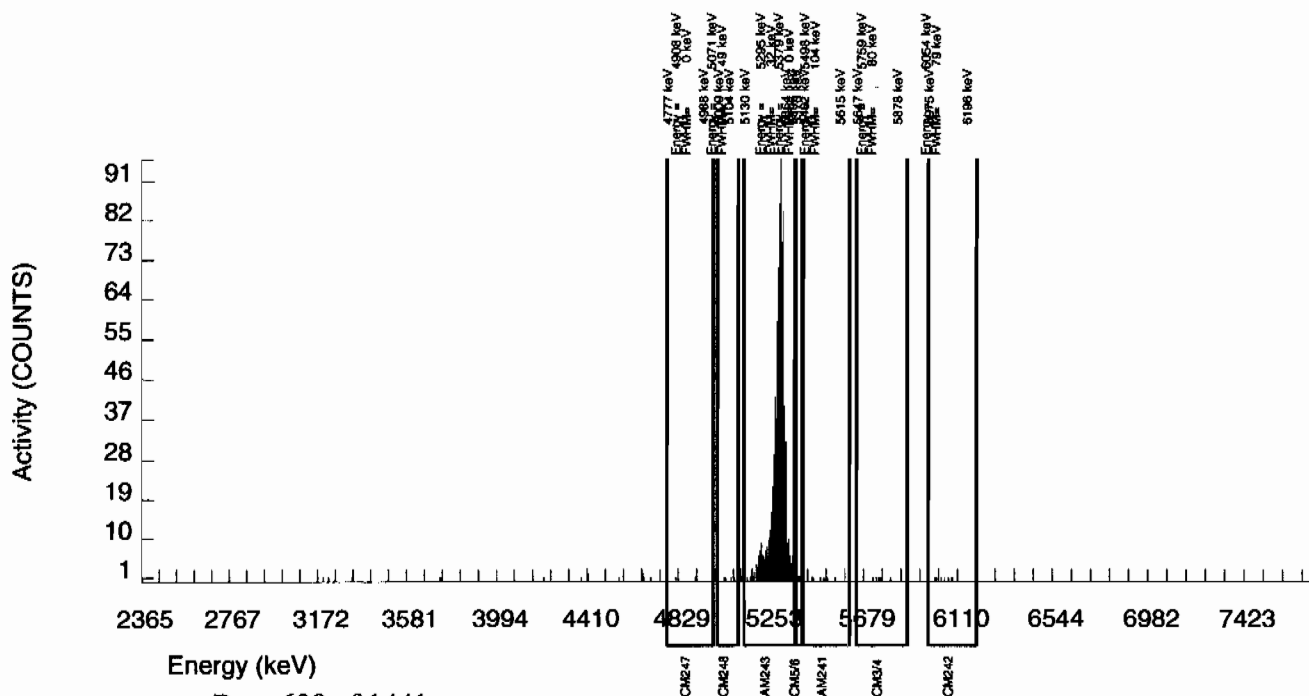
NUCLIDE ACTIVITY SUMMARY

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	5.000	2.000	3.000	4.8778	100.0000	2.47E-03	3.50E-03	1.40E-02	3.14E-02	3.50E-03
CM-5/6	5386.000	10.000	10.000	0.000	19.8796	86.09000	1.43E-02	4.62E-03	6.63E-02	1.37E-01	4.54E-03
AM-241	5479.150	7.000	5.528	0.000	3.6563	99.94000	6.83E-03	2.93E-03	1.05E-02	2.44E-02	2.90E-03
CM-242	6102.000	7.000	7.000	0.000	3.7846	100.0000	9.20E-03	3.52E-03	1.09E-02	2.51E-02	3.48E-03
AM243	5270.000	849.000	846.000	3.000	1.7321	99.78000	1.05E+00	7.26E-02	4.99E-03	1.33E-02	3.61E-02
CM-247	4946.000	3.000	1.000	2.000	18.5713	79.30000	1.56E-03	3.48E-03	6.73E-02	1.39E-01	3.48E-03
CM-248	5078.600	5.000	5.000	0.000	26.3889	91.00000	6.78E-03	3.06E-03	8.33E-02	1.70E-01	3.03E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274003_AM SAMPLE QTY: 1.254 G	
DETECTOR NUMBER :78198 AVERAGE %EFFICIENCY :29.5330 % YIELD : 95.292		COUNT DATE:30-DEC-2009 10:44:23 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 : 2.91660 dpm RESULTS : 2.77929 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B086.CNF;1007 BKG DATE : 27-DEC-2009 EFF FILE : W086.CNF;279 CAL DATE : 10-DEC-2009

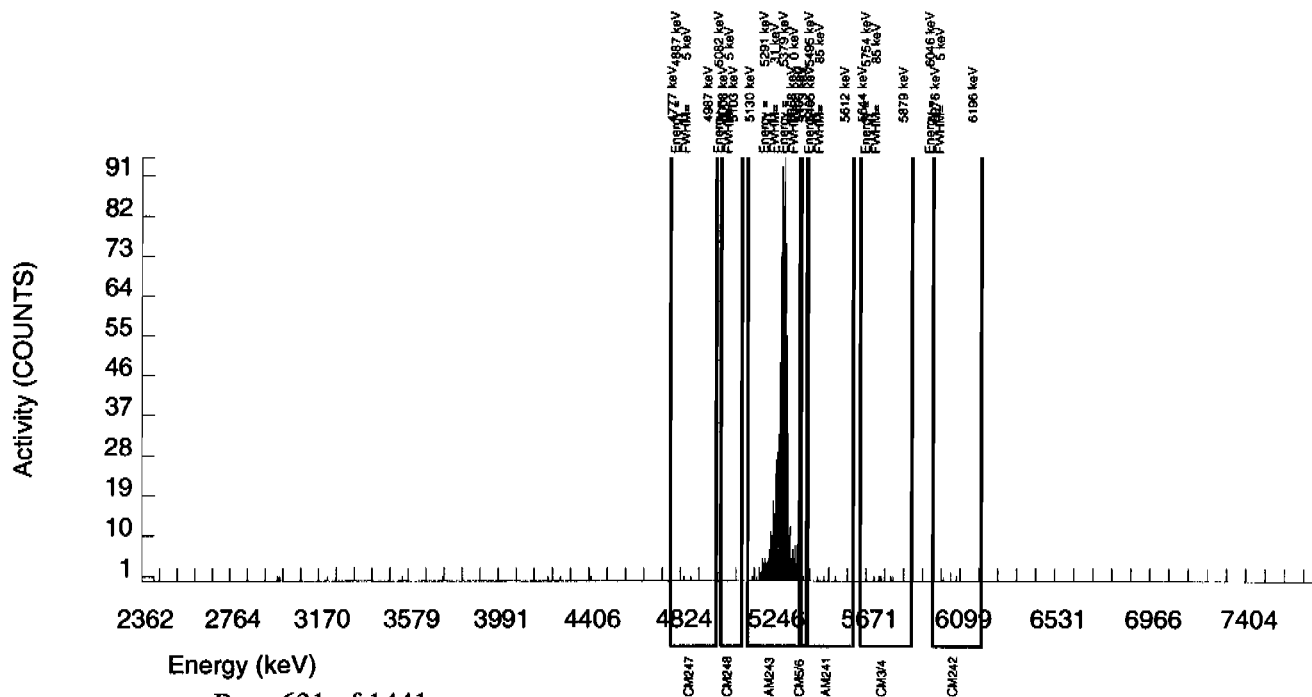
NUCLIDE ACTIVITY SUMMARY

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	6.000	5.000	1.000	4.8778	100.0000	6.39E-03	3.40E-03	1.45E-02	3.24E-02	3.38E-03
CM-5/6	5386.000	8.000	8.000	0.000	19.8796	86.09000	1.19E-02	4.25E-03	6.86E-02	1.41E-01	4.19E-03
AM-241	5479.150	4.000	1.575	1.000	3.6563	99.94000	2.01E-03	2.42E-03	1.09E-02	2.52E-02	2.41E-03
CM-242	6102.000	5.000	5.000	0.000	3.7846	100.0000	6.80E-03	3.07E-03	1.12E-02	2.59E-02	3.04E-03
AM243	5270.000	822.000	819.000	3.000	1.7321	99.78000	1.05E+00	7.33E-02	5.15E-03	1.38E-02	3.67E-02
CM-247	4946.000	4.000	-2.000	6.000	18.5713	79.30000	-3.22E-03	5.09E-03	6.95E-02	1.43E-01	5.09E-03
CM-248	5078.600	1.000	-2.000	3.000	26.3889	91.00000	-2.81E-03	2.81E-03	8.61E-02	1.76E-01	2.81E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274004_AM
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :78199
AVERAGE %EFFICIENCY :31.9208
% YIELD : 80.844

COUNT DATE:30-DEC-2009 10:44:23
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 : 2.91660 dpm
RESULTS : 2.35789 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B087.CNF;1014
BKG DATE : 27-DEC-2009
EFF FILE : W087.CNF;272
CAL DATE : 10-DEC-2009

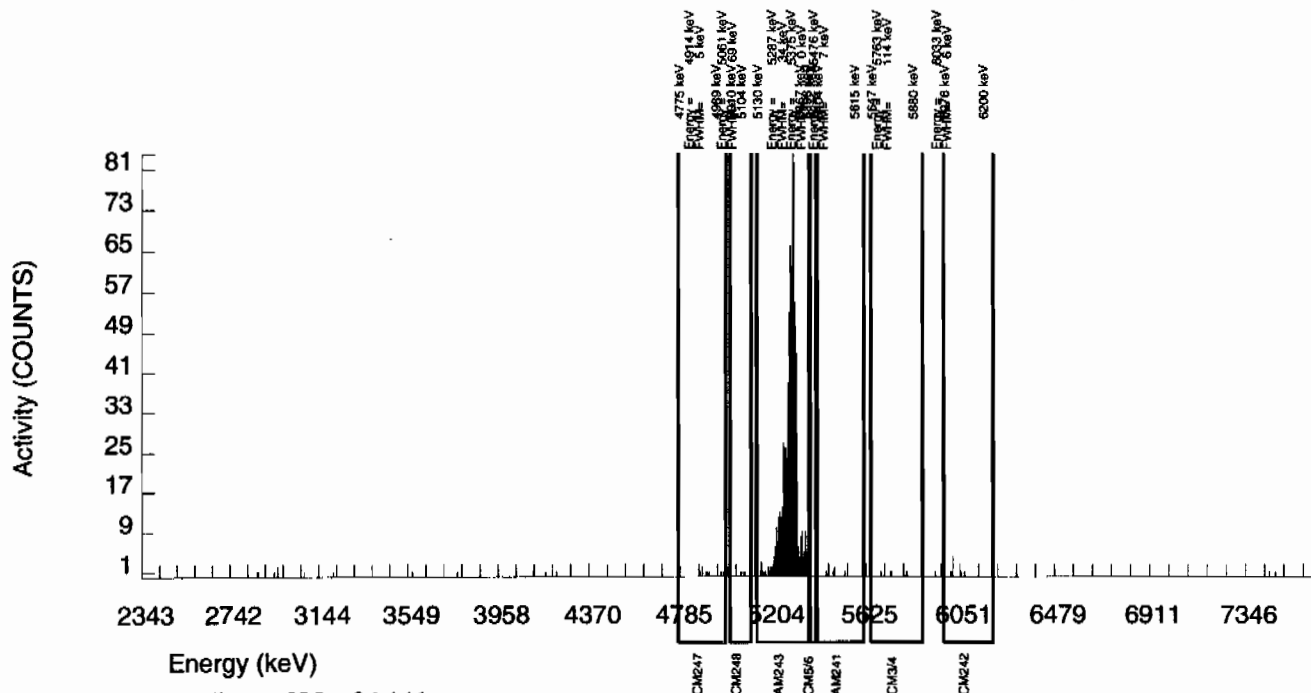
NUCLIDE ACTIVITY SUMMARY

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	5.000	4.000	1.000	4.8778	100.0000	5.58E-03	3.43E-03	1.58E-02	3.54E-02	3.42E-03
CM-5/6	5386.000	6.000	4.000	2.000	19.8796	86.09000	6.47E-03	4.59E-03	7.48E-02	1.54E-01	4.58E-03
AM-241	5479.150	6.000	1.693	3.000	3.6563	99.94000	2.36E-03	3.87E-03	1.19E-02	2.75E-02	3.87E-03
CM-242	6102.000	8.000	8.000	0.000	3.7846	100.0000	1.19E-02	4.26E-03	1.23E-02	2.83E-02	4.20E-03
AM243	5270.000	756.000	751.000	5.000	2.2361	99.78000	1.05E+00	7.51E-02	7.26E-03	1.83E-02	3.85E-02
CM-247	4946.000	9.000	5.000	4.000	18.5713	79.30000	8.78E-03	6.36E-03	7.59E-02	1.57E-01	6.33E-03
CM-248	5078.600	5.000	1.000	4.000	26.3889	91.00000	1.53E-03	4.59E-03	9.40E-02	1.92E-01	4.59E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274005_AM SAMPLE QTY: 1.257 G	
DETECTOR NUMBER :33452 AVERAGE %EFFICIENCY :30.2890 % YIELD : 94.502		COUNT DATE:30-DEC-2009 10:44:23 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 : 2.91660 dpm RESULTS : 2.75625 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B088.CNF;1002 BKG DATE : 27-DEC-2009 EFF FILE : W088.CNF;282 CAL DATE : 10-DEC-2009

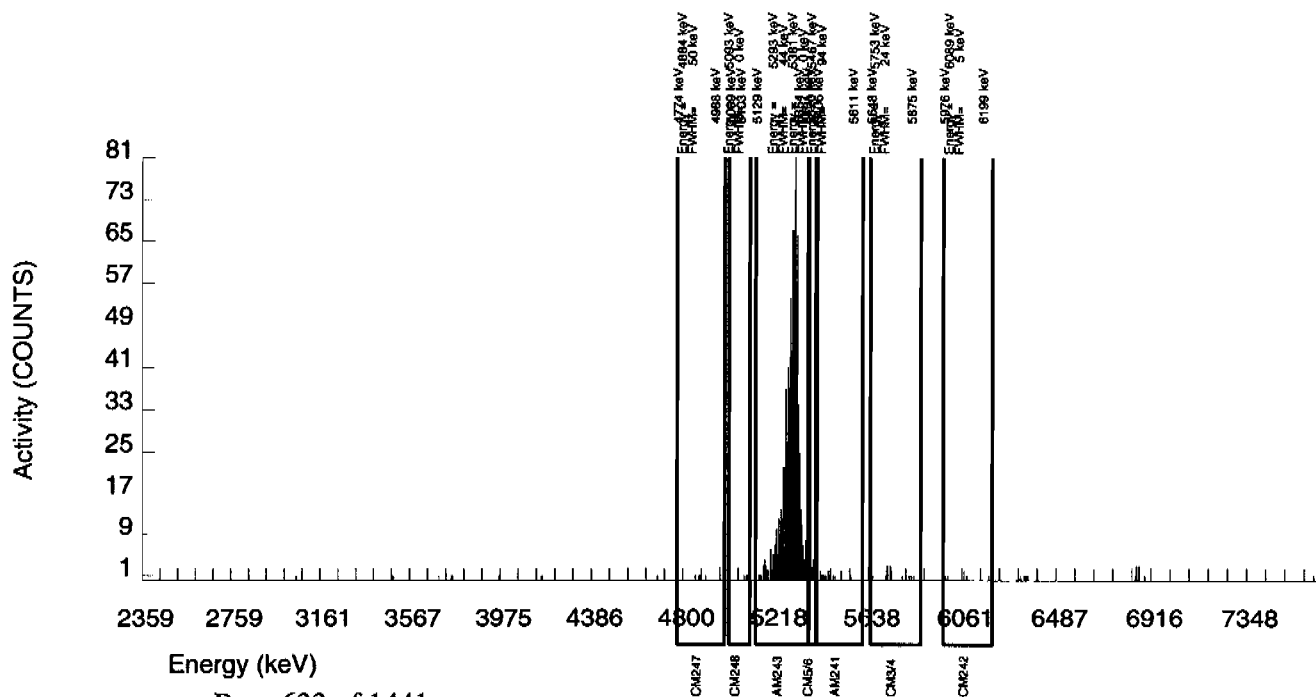
NUCLIDE ACTIVITY SUMMARY

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	17.000	8.000	9.000	4.8778	100.0000	1.00E-02	6.42E-03	1.42E-02	3.18E-02	6.39E-03
CM-5/6	5386.000	22.000	20.000	2.000	19.8796	86.09000	2.91E-02	7.34E-03	6.73E-02	1.38E-01	7.12E-03
AM-241	5479.150	18.000	6.550	10.000	3.6563	99.94000	8.21E-03	6.47E-03	1.07E-02	2.47E-02	6.46E-03
CM-242	6102.000	8.000	6.000	2.000	3.7846	100.0000	8.00E-03	4.24E-03	1.10E-02	2.54E-02	4.22E-03
AM243	5270.000	834.000	833.000	1.000	1.0000	99.78000	1.05E+00	7.27E-02	2.92E-03	9.24E-03	3.63E-02
CM-247	4946.000	4.000	1.000	3.000	18.5713	79.30000	1.58E-03	4.18E-03	6.82E-02	1.41E-01	4.18E-03
CM-248	5078.600	4.000	3.000	1.000	26.3889	91.00000	4.13E-03	3.09E-03	8.45E-02	1.73E-01	3.08E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274006_AM
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :78262
AVERAGE %EFFICIENCY :29.3731
% YIELD : 90.430

COUNT DATE:30-DEC-2009 10:44:24
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 : 2.91660 dpm
RESULTS : 2.63747 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B089.CNF;699
BKG DATE : 27-DEC-2009
EFF FILE : W089.CNF;191
CAL DATE : 10-DEC-2009

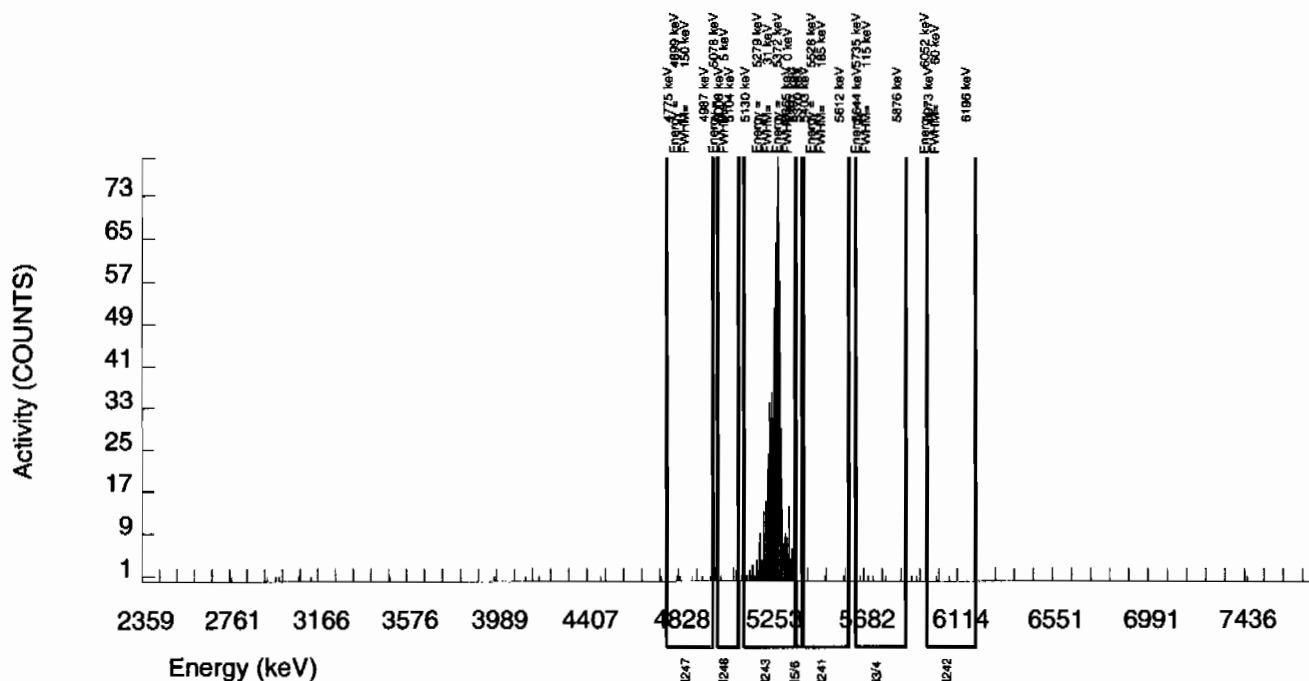
NUCLIDE ACTIVITY SUMMARY

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	5.000	5.000	0.000	4.8778	100.0000	6.78E-03	3.06E-03	1.54E-02	3.44E-02	3.03E-03
CM-5/6	5386.000	3.000	3.000	0.000	19.8796	86.09000	4.72E-03	2.74E-03	7.27E-02	1.50E-01	2.72E-03
AM-241	5479.150	4.000	1.655	1.000	3.6563	99.94000	2.24E-03	2.59E-03	1.15E-02	2.67E-02	2.59E-03
CM-242	6102.000	2.000	2.000	0.000	3.7846	100.0000	2.88E-03	2.05E-03	1.19E-02	2.75E-02	2.04E-03
AM243	5270.000	773.000	773.000	0.000	0.0000	99.78000	1.05E+00	7.43E-02	0.00E+00	3.68E-03	3.77E-02
CM-247	4946.000	5.000	3.000	2.000	18.5713	79.30000	5.12E-03	4.53E-03	7.37E-02	1.52E-01	4.52E-03
CM-248	5078.600	4.000	3.000	1.000	26.3889	91.00000	4.46E-03	3.34E-03	9.13E-02	1.87E-01	3.33E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274007_AM
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :78263
AVERAGE %EFFICIENCY :32.7658
% YIELD : 89.980

COUNT DATE:30-DEC-2009 10:44:24
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 : 2.91660 dpm
RESULTS : 2.62436 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B090.CNF;709
BKG DATE : 27-DEC-2009
EFF FILE : W090.CNF;197
CAL DATE : 10-DEC-2009

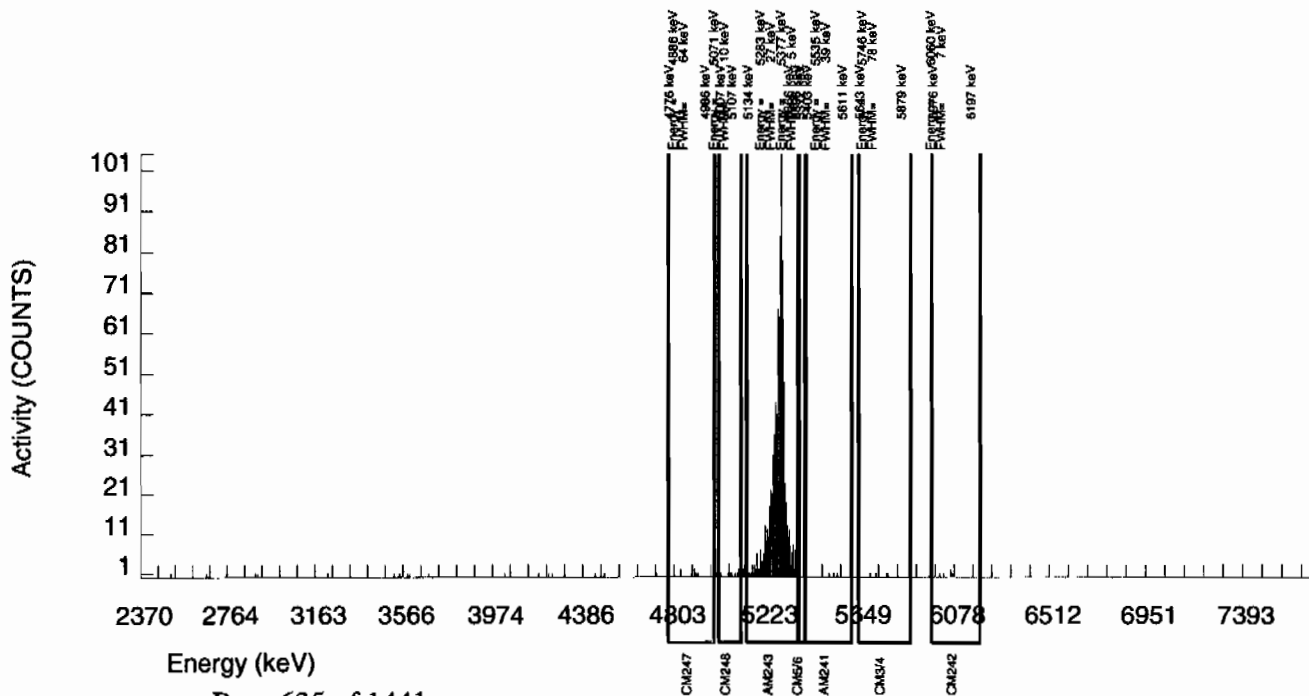
NUCLIDE ACTIVITY SUMMARY

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	5.000	5.000	0.000	4.8778	100.0000	6.08E-03	2.74E-03	1.38E-02	3.08E-02	2.72E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8796	86.09000	1.41E-03	1.41E-03	6.52E-02	1.34E-01	1.41E-03
AM-241	5479.150	3.000	1.507	0.000	3.6563	99.94000	1.83E-03	1.49E-03	1.03E-02	2.39E-02	1.49E-03
CM-242	6102.000	7.000	6.000	1.000	3.7846	100.0000	7.75E-03	3.69E-03	1.07E-02	2.47E-02	3.66E-03
AM243	5270.000	859.000	858.000	1.000	1.0000	99.78000	1.04E+00	7.35E-02	2.83E-03	8.95E-03	3.57E-02
CM-247	4946.000	7.000	3.000	4.000	18.5713	79.30000	4.59E-03	5.08E-03	6.61E-02	1.36E-01	5.08E-03
CM-248	5078.600	11.000	11.000	0.000	26.3889	91.00000	1.47E-02	4.51E-03	8.19E-02	1.67E-01	4.42E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274008_AM
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :78259
AVERAGE %EFFICIENCY :34.6765
% YIELD : 89.977

COUNT DATE:30-DEC-2009 10:44:24
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 : 2.91660 dpm
RESULTS : 2.62426 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B091.CNF;707
BKG DATE : 27-DEC-2009
EFF FILE : W091.CNF;188
CAL DATE : 10-DEC-2009

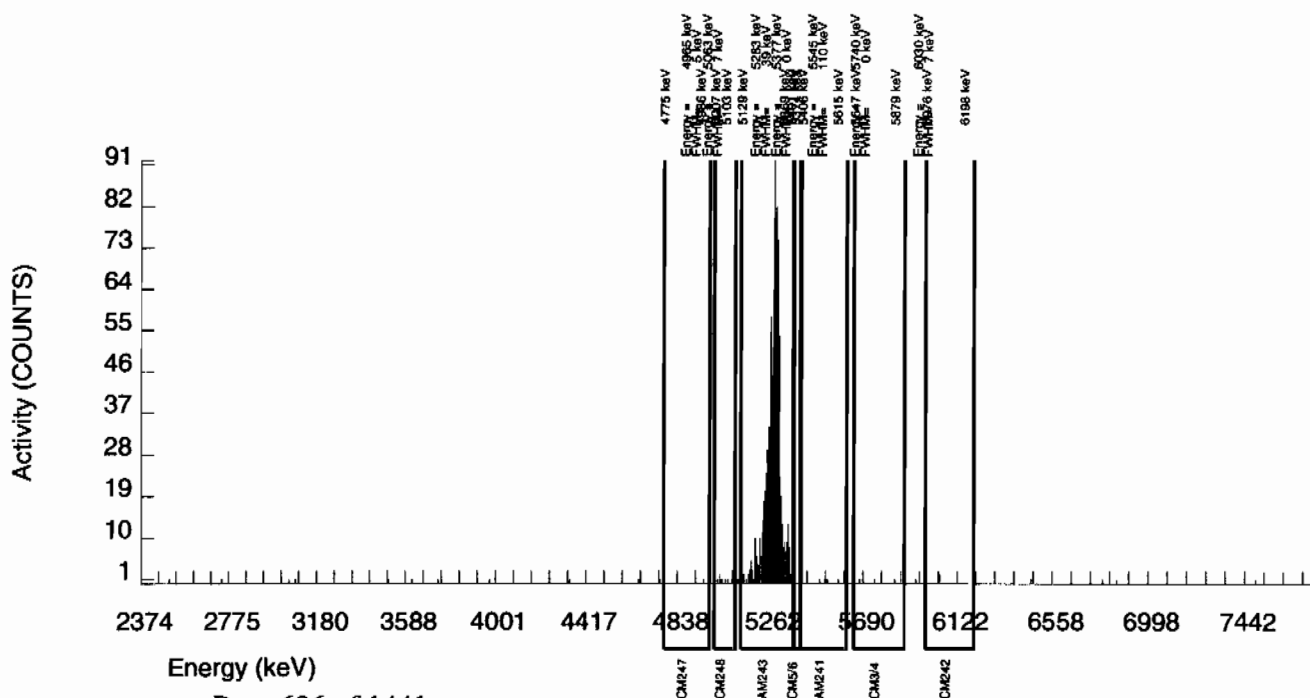
NUCLIDE ACTIVITY SUMMARY

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	5.000	5.000	0.000	4.8778	100.0000	5.77E-03	2.60E-03	1.31E-02	2.92E-02	2.58E-03
CM-5/6	5386.000	4.000	4.000	0.000	19.8796	86.09000	5.35E-03	2.69E-03	6.18E-02	1.27E-01	2.67E-03
AM-241	5479.150	6.000	4.420	0.000	3.6563	99.94000	5.09E-03	2.44E-03	9.80E-03	2.27E-02	2.42E-03
CM-242	6102.000	4.000	4.000	0.000	3.7846	100.0000	4.90E-03	2.47E-03	1.01E-02	2.34E-02	2.45E-03
AM243	5270.000	908.000	908.000	0.000	0.0000	99.78000	1.05E+00	7.28E-02	0.00E+00	3.13E-03	3.48E-02
CM-247	4946.000	1.000	1.000	0.000	18.5713	79.30000	1.45E-03	1.45E-03	6.27E-02	1.29E-01	1.45E-03
CM-248	5078.600	10.000	9.000	1.000	26.3889	91.00000	1.14E-02	4.25E-03	7.77E-02	1.59E-01	4.20E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274009_AM
SAMPLE QTY: 1.255 G

DETECTOR NUMBER :79457
AVERAGE %EFFICIENCY :31.2136
% YIELD : 81.134

COUNT DATE:30-DEC-2009 10:44:24
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 : 2.91660 dpm
RESULTS : 2.36636 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B092.CNF;710
BKG DATE : 27-DEC-2009
EFF FILE : W092.CNF;231
CAL DATE : 10-DEC-2009

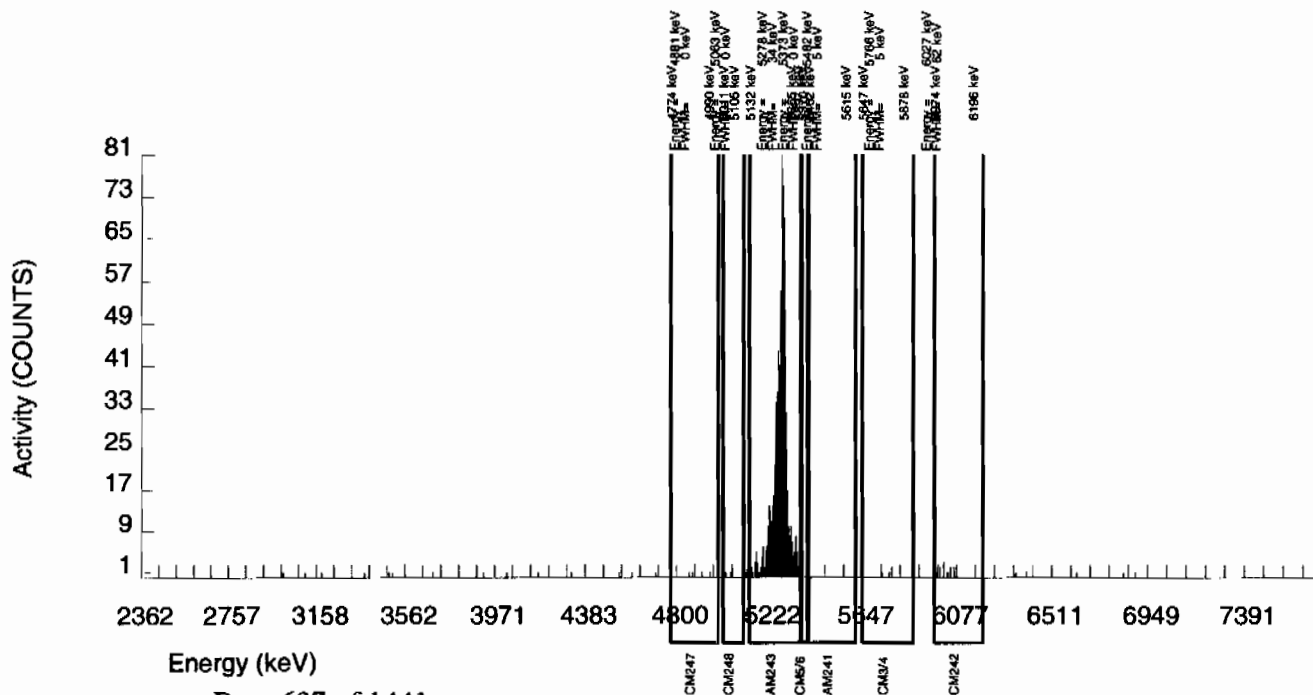
NUCLIDE ACTIVITY SUMMARY

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	5.000	5.000	0.000	4.8778	100.0000	7.10E-03	3.21E-03	1.61E-02	3.60E-02	3.17E-03
CM-5/6	5386.000	4.000	4.000	0.000	19.8796	86.09000	6.59E-03	3.32E-03	7.61E-02	1.57E-01	3.29E-03
AM-241	5479.150	1.000	-0.283	0.000	3.6563	99.94000	-4.01E-04	1.42E-03	1.21E-02	2.80E-02	1.42E-03
CM-242	6102.000	14.000	14.000	0.000	3.7846	100.0000	2.11E-02	5.80E-03	1.25E-02	2.88E-02	5.65E-03
AM243	5270.000	738.000	737.000	1.000	1.0000	99.78000	1.05E+00	7.66E-02	3.30E-03	1.05E-02	3.86E-02
CM-247	4946.000	6.000	1.000	5.000	18.5713	79.30000	1.79E-03	5.93E-03	7.72E-02	1.59E-01	5.93E-03
CM-248	5078.600	3.000	1.000	2.000	26.3889	91.00000	1.56E-03	3.48E-03	9.56E-02	1.95E-01	3.48E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274010_AM
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :33206
AVERAGE %EFFICIENCY :31.6591
% YIELD : 97.359

COUNT DATE:30-DEC-2009 10:44:24
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 : 2.91660 dpm
RESULTS : 2.83956 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B093.CNF;698
BKG DATE : 27-DEC-2009
EFF FILE : W093.CNF;197
CAL DATE : 10-DEC-2009

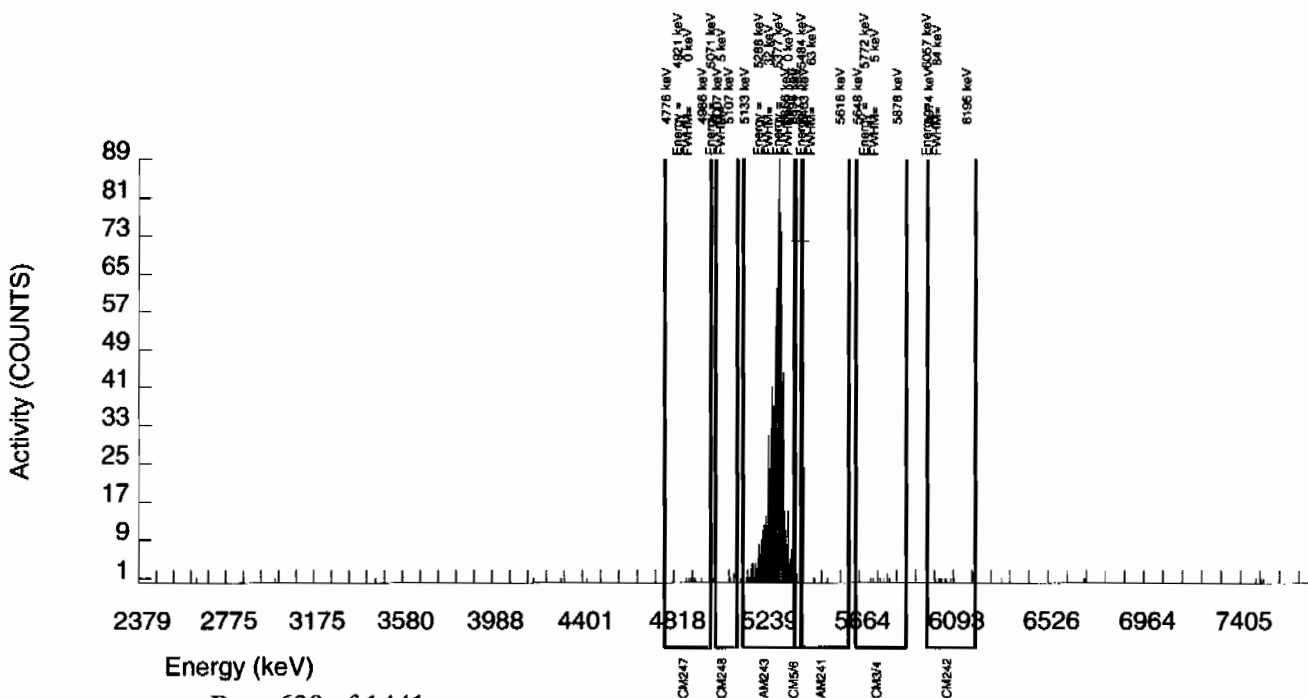
NUCLIDE ACTIVITY SUMMARY

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	7.000	6.000	1.000	4.8778	100.0000	7.02E-03	3.34E-03	1.33E-02	2.97E-02	3.31E-03
CM-5/6	5386.000	15.000	14.000	1.000	19.8796	86.09000	1.90E-02	5.55E-03	6.28E-02	1.29E-01	5.43E-03
AM-241	5479.150	3.000	1.439	0.000	3.6563	99.94000	1.68E-03	1.41E-03	9.94E-03	2.31E-02	1.40E-03
CM-242	6102.000	8.000	7.000	1.000	3.7846	100.0000	8.71E-03	3.77E-03	1.03E-02	2.37E-02	3.73E-03
AM243	5270.000	898.000	897.000	1.000	1.0000	99.78000	1.05E+00	7.33E-02	2.72E-03	8.62E-03	3.51E-02
CM-247	4946.000	7.000	4.000	3.000	18.5713	79.30000	5.89E-03	4.67E-03	6.36E-02	1.31E-01	4.66E-03
CM-248	5078.600	4.000	4.000	0.000	26.3889	91.00000	5.13E-03	2.59E-03	7.88E-02	1.61E-01	2.57E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836 SAMPLE DATE : 23-DEC-2009 00:00:00		SAMPLE ID : S1202002408_AM SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :45-149AA3 AVERAGE %EFFICIENCY :32.2571 % YIELD : 86.606		COUNT DATE:30-DEC-2009 10:44:21 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 : 2.52593 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B072.CNF;1083 BKG DATE : 27-DEC-2009 EFF FILE : W072.CNF;273 CAL DATE : 10-DEC-2009

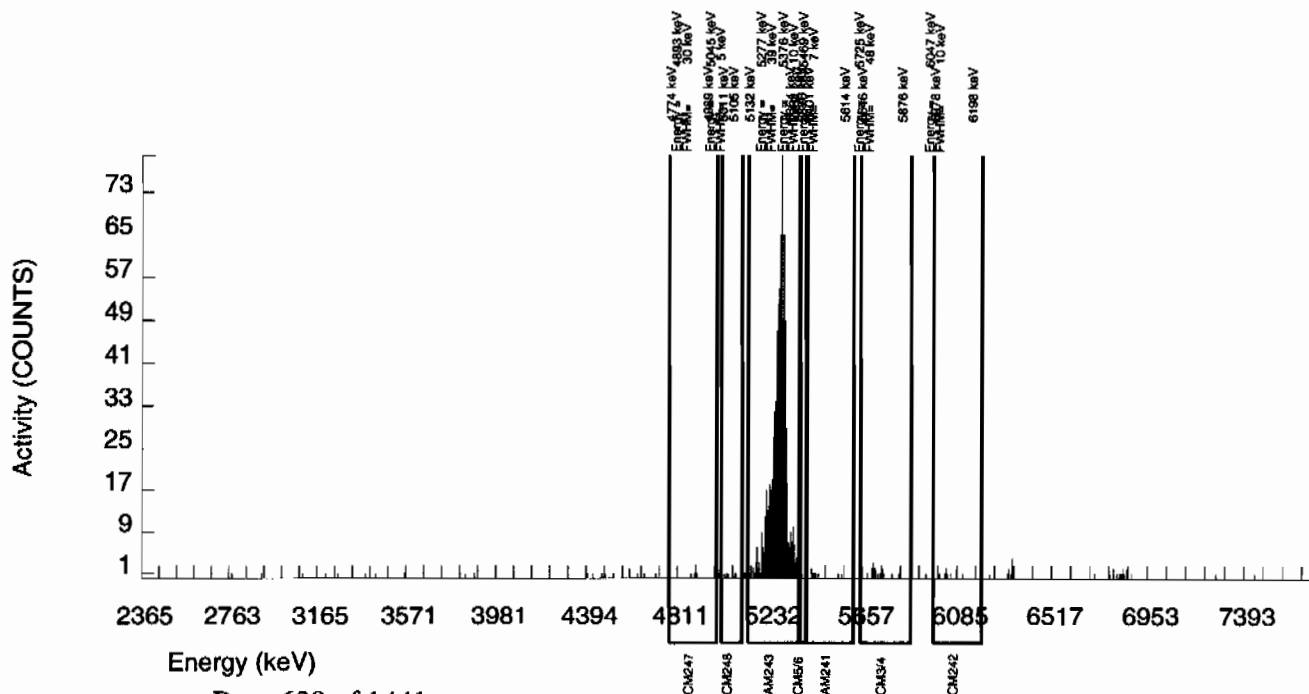
NUCLIDE ACTIVITY SUMMARY

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	20.000	9.000	11.000	4.8778	100.0000	1.45E-02	9.03E-03	1.83E-02	4.10E-02	8.98E-03
CM-5/6	5386.000	9.000	8.000	1.000	19.8796	86.09000	1.50E-02	5.99E-03	8.66E-02	1.78E-01	5.92E-03
AM-241	5479.150	10.000	-2.415	11.000	3.6563	99.94000	-3.90E-03	7.14E-03	1.37E-02	3.18E-02	7.14E-03
CM-242	6102.000	8.000	4.000	4.000	3.7846	100.0000	6.67E-03	5.79E-03	1.42E-02	3.28E-02	5.77E-03
AM243	5270.000	817.000	813.000	4.000	2.0000	99.78000	1.31E+00	9.21E-02	7.52E-03	1.94E-02	4.63E-02
CM-247	4946.000	3.000	-1.000	4.000	18.5713	79.30000	-2.03E-03	5.38E-03	8.78E-02	1.81E-01	5.38E-03
CM-248	5078.600	7.000	4.000	3.000	26.3889	91.00000	7.09E-03	5.62E-03	1.09E-01	2.22E-01	5.60E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S1202002409_AM
SAMPLE QTY: 1.255 G

DETECTOR NUMBER :78775
AVERAGE %EFFICIENCY :33.0537
% YIELD : 85.350

COUNT DATE:30-DEC-2009 10:44:21
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 : 2.91660 dpm
RESULTS : 2.48932 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B073.CNF;1085
BKG DATE : 27-DEC-2009
EFF FILE : W073.CNF;281
CAL DATE : 10-DEC-2009

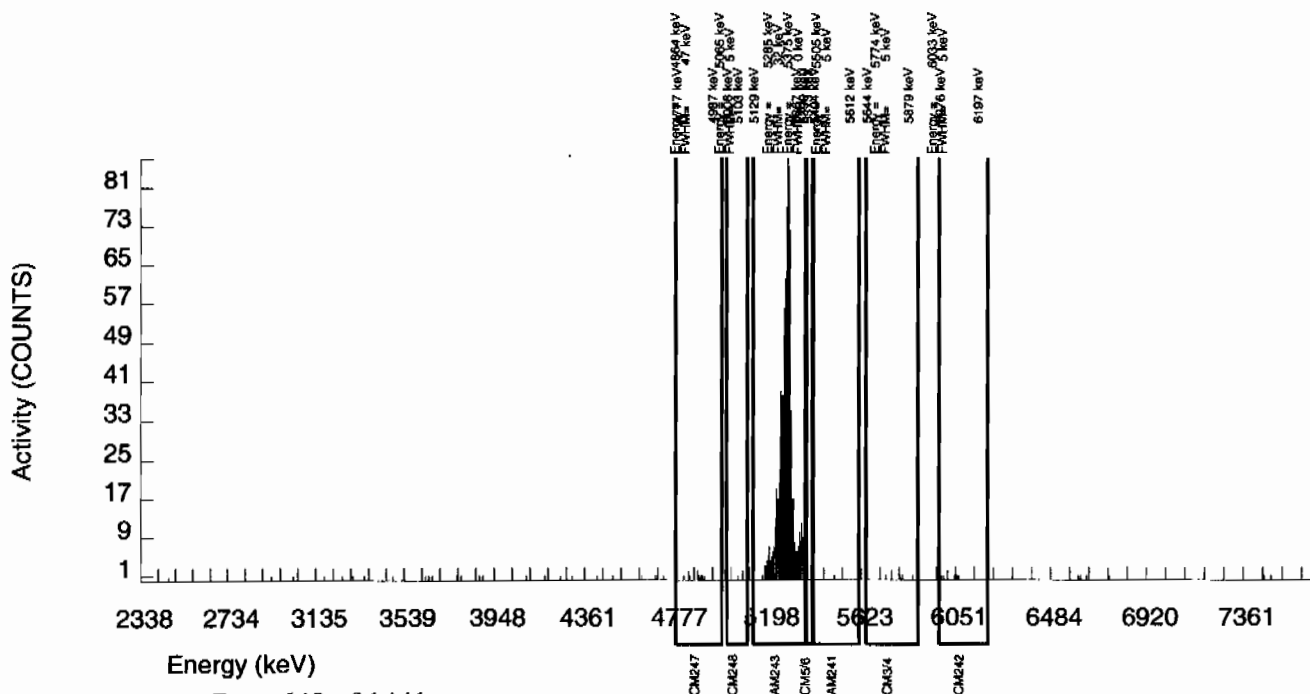
NUCLIDE ACTIVITY SUMMARY

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	7.000	5.000	2.000	4.8778	100.0000	6.37E-03	3.84E-03	1.44E-02	3.23E-02	3.82E-03
CM-5/6	5386.000	2.000	2.000	0.000	19.8796	86.09000	2.96E-03	2.10E-03	6.83E-02	1.41E-01	2.09E-03
AM-241	5479.150	1.000	-1.429	1.000	3.6563	99.94000	-1.82E-03	1.80E-03	1.08E-02	2.51E-02	1.80E-03
CM-242	6102.000	10.000	10.000	0.000	3.7846	100.0000	1.35E-02	4.36E-03	1.12E-02	2.59E-02	4.28E-03
AM243	5270.000	822.000	821.000	1.000	1.0000	99.78000	1.05E+00	7.30E-02	2.97E-03	9.39E-03	3.66E-02
CM-247	4946.000	12.000	6.000	6.000	18.5713	79.30000	9.63E-03	6.83E-03	6.93E-02	1.43E-01	6.81E-03
CM-248	5078.600	4.000	2.000	2.000	26.3889	91.00000	2.80E-03	3.43E-03	8.58E-02	1.75E-01	3.42E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

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: 935836
SAMPLE DATE : 23-DEC-2009 00:00:00

SAMPLE ID : S1202002410_AM
SAMPLE QTY: 0.103 G

DETECTOR NUMBER :78266
AVERAGE %EFFICIENCY :31.6766
% YIELD : 95.786

COUNT DATE:30-DEC-2009 10:44:21
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 : 2.79370 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B074.CNF;1107
BKG DATE : 27-DEC-2009
EFF FILE : W074.CNF;328
CAL DATE : 10-DEC-2009

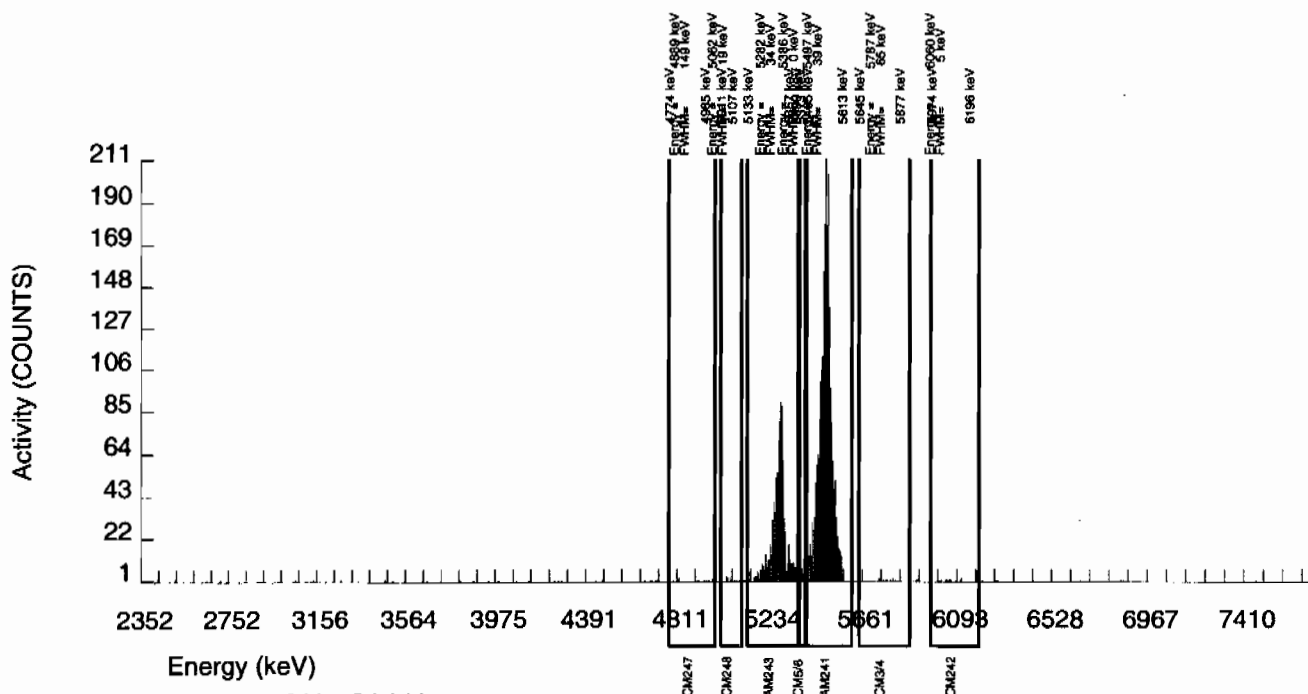
NUCLIDE ACTIVITY SUMMARY

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	10.000	7.000	3.000	4.8778	100.0000	1.01E-01	5.25E-02	1.64E-01	3.66E-01	5.20E-02
CM-5/6	5386.000	30.000	30.000	0.000	19.8796	86.09000	5.02E-01	9.77E-02	7.74E-01	1.59E+00	9.17E-02
AM-241	5479.150	2242.000	2236.463	4.000	3.6563	99.94000	3.23E+01	2.28E+00	1.23E-01	2.84E-01	6.83E-01
CM-242	6102.000	9.000	7.000	2.000	3.7846	100.0000	1.04E-01	4.99E-02	1.27E-01	2.93E-01	4.94E-02
AM243	5270.000	885.000	883.000	2.000	1.4142	99.78000	1.28E+01	9.61E-01	4.75E-02	1.34E-01	4.30E-01
CM-247	4946.000	12.000	9.000	3.000	18.5713	79.30000	1.64E-01	7.13E-02	7.85E-01	1.62E+00	7.04E-02
CM-248	5078.600	12.000	11.000	1.000	26.3889	91.00000	1.74E-01	5.83E-02	9.72E-01	1.99E+00	5.71E-02

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev 9

Batch: 935838 Product: Pu Date: 12/30/09

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 RDU/ 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 RDU/ 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.			MA
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 non-conformances completed, if applicable.			MA
Batch non-conformances second reviewed and disposition verified to be completed.			MA
Aliquot Correction completed if required.			MA
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: Deirdre Green 12/30/09Secondary Review Performed By: E. [Signature] 12/30/09

Plutonium Que Sheet

22-DEC-09

Batch #: 935838 Analyst: KXM4 First Client Due Date: 15-JAN-10 Internal Due Date: 04-JAN-10
 Tracer Isotope(s): Pu-239/238 Tracer Code: 1374-A Expiration Date: 12-8-10 Vol: 0.121
 LCS Isotope(s): Pu-239/238 LCS Code: 8810244-D Expiration Date: 8-30-20 Vol: 0.15
 Spike Isotope(s): Pu-239/238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 12-23-09 Initials: LN Pipet ID: 1971058 Balance ID: 19350208 Witness: NA 12-23-09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot	Pu	Det #
243273001-1	RE12-10-7351	SAMPLE		.05 pCi/g	SOIL	LANL010	15-DEC-09	1	1	1.254		220	
243274001-1	RE12-10-7352	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	2	2	1.254		221	
243274002-1	RE12-10-7360	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	3	3	1.255		222	
243274003-1	RE12-10-7358	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	4	4	1.254		225	
243274004-1	RE12-10-7357	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	5	5	1.253		226	
243274005-1	RE12-10-7359	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	6	6	1.254		227	
243274006-1	RE12-10-7356	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	7	7	1.253		228	
243274007-1	RE12-10-7353	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	8	8	1.254		229	
243274008-1	RE12-10-7354	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	9	9	1.254	107		
243274009-1	RE12-10-7355	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	10	10	1.255	108		
243274010-1	RE12-10-7364	SAMPLE		.05 pCi/g	SOIL	LANL010	16-DEC-09	11	11	1.251	109		
1202002411-1	MB for batch 935838	MB		.05 pCi/g	SOIL	QC ACCOUNT		12	12	1.254	110		
1202002412-1	RE12-10-7356(243274006DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT		13	13	1.255	111		
1202002413-1	LCS for batch 935838	LCS		.05 pCi/g	SOIL	QC ACCOUNT		14	14	0.103	112		

Wet/Dry

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Choose SOP Used: (GL-RAD-A-01) GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

GEL Laboratories LLC, Radiochemistry Division

Page: 1 of 1

Data Reviewed By: [Signature] 12/30/09

Blank Correction Report

Batch ID 935838

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202002412	DUP	Plutonium-238	1.26 g	1.35E-10	0.00227	0.0184	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00227	0.00161	0.0207	.002293651	pCi/g	YES
1202002413	LCS	Plutonium-238	0.103 g	6.40	0.487	0.232	.013980583	pCi/g	NO
		Plutonium-239/240	0.103 g	36.9	2.31	0.261	.028058252	pCi/g	NO
1202002411	MB	Plutonium-238	1.00 g	0.00144	0.00693	0.0235	.00144	pCi/g	YES
		Plutonium-239/240	1.00 g	0.00289	0.00354	0.0264	.00289	pCi/g	YES
243273001	RE12-10-7351	Plutonium-238	1.26 g	0.00117	0.00117	0.019	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0387	0.00701	0.0214	.002293651	pCi/g	NO
243274001	RE12-10-7352	Plutonium-238	1.26 g	0.00	0.0011	0.0179	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0011	0.0011	0.0201	.002293651	pCi/g	YES
243274002	RE12-10-7360	Plutonium-238	1.26 g	0.00106	0.00107	0.0173	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00106	0.00107	0.0195	.002293651	pCi/g	YES
243274003	RE12-10-7358	Plutonium-238	1.25 g	0.00	0.00138	0.0224	.001152	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0069	0.00311	0.0252	.002312	pCi/g	YES
243274004	RE12-10-7357	Plutonium-238	1.25 g	0.00421	0.00211	0.0171	.001152	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0179	0.00467	0.0192	.002312	pCi/g	NO
243274005	RE12-10-7359	Plutonium-238	1.26 g	0.000973	0.000975	0.0158	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0175	0.00422	0.0178	.002293651	pCi/g	NO
243274006	RE12-10-7356	Plutonium-238	1.25 g	-0.00103	0.00148	0.0168	.001152	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00	0.00146	0.0189	.002312	pCi/g	YES
243274007	RE12-10-7353	Plutonium-238	1.26 g	0.00	0.0015	0.0173	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0106	0.0034	0.0194	.002293651	pCi/g	YES
243274008	RE12-10-7354	Plutonium-238	1.25 g	0.00	0.00118	0.0192	.001152	pCi/g	YES
		Plutonium-239/240	1.25 g	7.04E-11	0.00167	0.0216	.002312	pCi/g	YES
243274009	RE12-10-7355	Plutonium-238	1.26 g	0.00117	0.00203	0.0191	.001142857	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00938	0.00335	0.0215	.002293651	pCi/g	YES
243274010	RE12-10-7364	Plutonium-238	1.25 g	-0.00258	0.00224	0.0209	.001152	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00645	0.0029	0.0236	.002312	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274001_PU
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :79414
AVERAGE %EFFICIENCY :37.2887
% YIELD : 87.216

COUNT DATE:29-DEC-2009 15:35:57
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

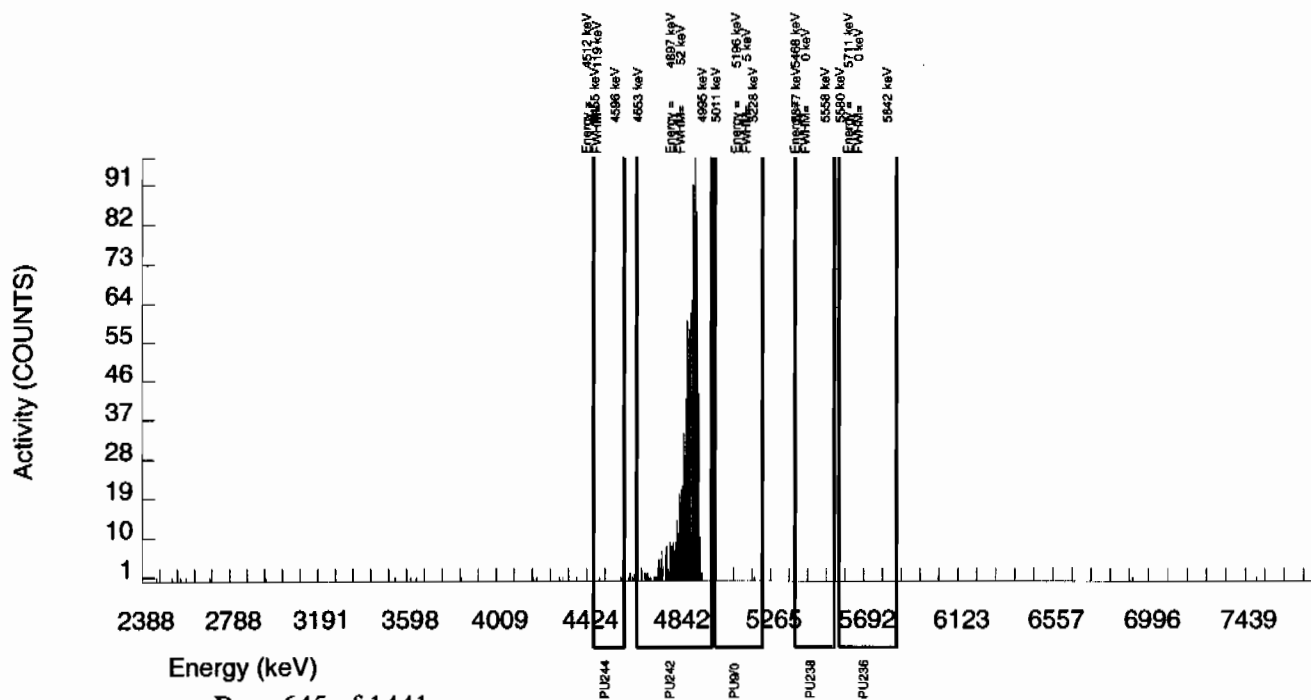
MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B221.CNF;64
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 27-DEC-2009
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W221.CNF;24
		RESULTS : 2.95264 dpm	CAL DATE : 28-DEC-2009

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	1.000	1.000	0.000	3.3488	99.90000	1.10E-03	1.10E-03	8.58E-03	2.01E-02	1.10E-03
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	1.11E-03	5.19E-03	1.34E-02	1.11E-03
PU-238	5499.000	0.000	0.000	0.000	2.9082	99.90000	0.00E+00	1.10E-03	7.45E-03	1.79E-02	1.10E-03
PU242	4890.000	1101.000	1101.000	0.000	0.0000	100.0000	1.21E+00	7.04E-02	0.00E+00	2.98E-03	3.65E-02
PU-244	4589.000	3.000	3.000	0.000	6.8218	99.90000	3.30E-03	1.91E-03	1.75E-02	3.79E-02	1.91E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274002_PU
SAMPLE QTY: 1.255 G

DETECTOR NUMBER :79415
AVERAGE %EFFICIENCY :35.6666
% YIELD : 94.661

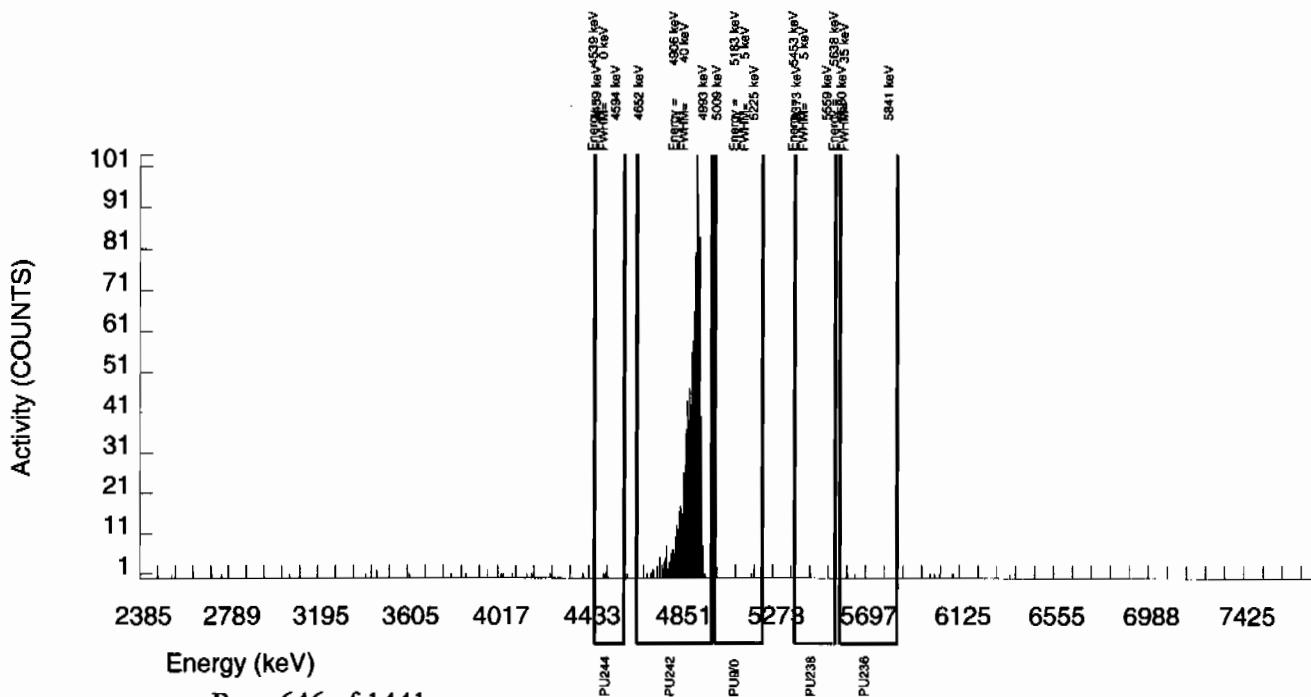
COUNT DATE:29-DEC-2009 15:36:00
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B222.CNF;64
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 27-DEC-2009
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W222.CNF;24
		RESULTS : 3.20467 dpm	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	1.000	1.000	0.000	3.3488	99.90000	1.06E-03	1.07E-03	8.29E-03	1.95E-02	1.06E-03
PU-236	5749.000	2.000	2.000	0.000	2.0294	100.0000	2.15E-03	1.52E-03	5.02E-03	1.29E-02	1.52E-03
PU-238	5499.000	1.000	1.000	0.000	2.9082	99.90000	1.06E-03	1.07E-03	7.20E-03	1.73E-02	1.06E-03
PU242	4890.000	1145.000	1143.000	2.000	1.4142	100.0000	1.22E+00	7.00E-02	3.50E-03	9.88E-03	3.60E-02
PU-244	4589.000	3.000	3.000	0.000	6.8218	99.90000	3.19E-03	1.85E-03	1.69E-02	3.67E-02	1.84E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274003_PU
SAMPLE QTY: 1.254 G

DETECTOR NUMBER : 79418
AVERAGE %EFFICIENCY : 39.4165
% YIELD : 66.096

COUNT DATE: 29-DEC-2009 15:36:02
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

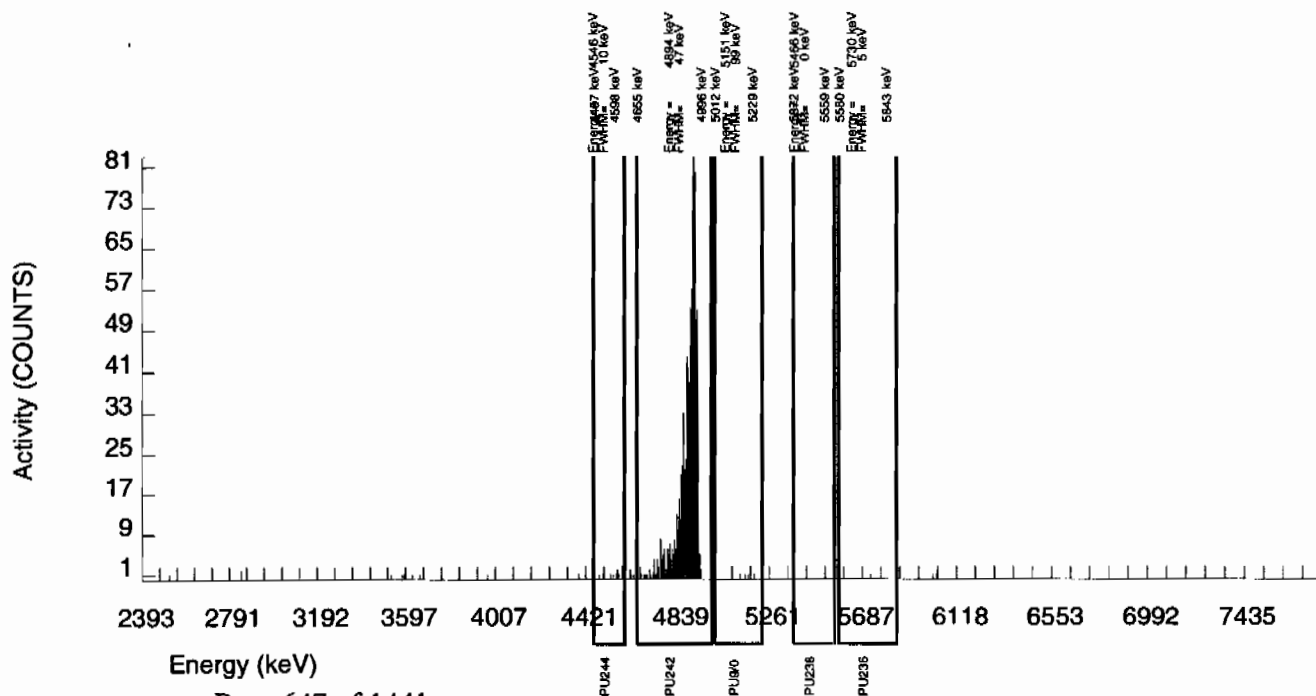
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.23764 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B225.CNF;64
BKG DATE : 27-DEC-2009
EFF FILE : W225.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	5.000	5.000	0.000	3.3488	99.90000	6.90E-03	3.11E-03	1.08E-02	2.52E-02	3.09E-03
PU-236	5749.000	1.000	1.000	0.000	2.0294	100.0000	1.39E-03	1.39E-03	6.51E-03	1.68E-02	1.39E-03
PU-238	5499.000	0.000	0.000	0.000	2.9082	99.90000	0.00E+00	1.38E-03	9.34E-03	2.24E-02	1.38E-03
PU242	4890.000	882.000	882.000	0.000	0.0000	100.0000	1.22E+00	7.53E-02	0.00E+00	3.74E-03	4.09E-02
PU-244	4589.000	8.000	8.000	0.000	6.8218	99.90000	1.10E-02	3.95E-03	2.19E-02	4.75E-02	3.90E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

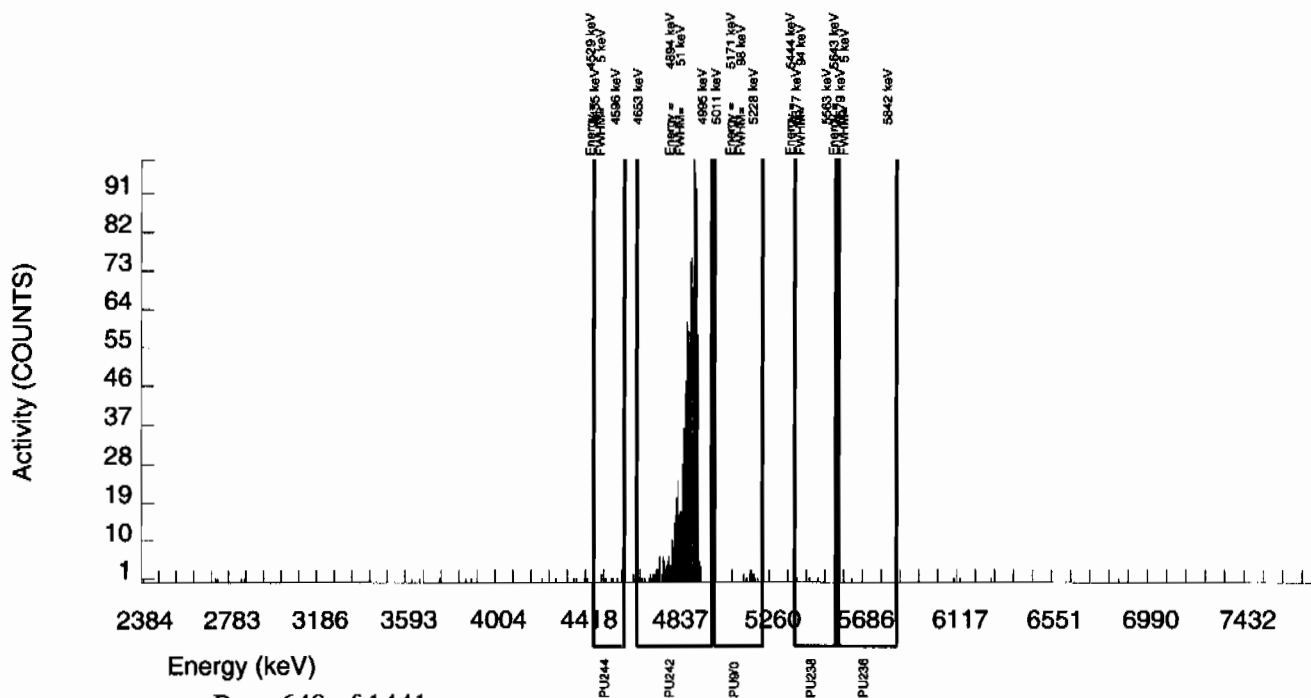
BATCH NUMBER: 935838 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274004_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :79419 AVERAGE %EFFICIENCY :37.3342 % YIELD : 91.698		COUNT DATE:29-DEC-2009 15:36:04 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	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 : 3.10439 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B226.CNF;64 BKG DATE : 27-DEC-2009 EFF FILE : W226.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	18.000	17.000	1.000	3.3488	99.90000	1.79E-02	4.67E-03	8.19E-03	1.92E-02	4.58E-03
PU-236	5749.000	1.000	0.000	1.000	2.0294	100.0000	0.00E+00	1.50E-03	4.96E-03	1.28E-02	1.50E-03
PU-238	5499.000	4.000	4.000	0.000	2.9082	99.90000	4.21E-03	2.11E-03	7.11E-03	1.71E-02	2.10E-03
PU242	4890.000	1159.000	1159.000	0.000	0.0000	100.0000	1.22E+00	6.98E-02	0.00E+00	2.85E-03	3.57E-02
PU-244	4589.000	6.000	6.000	0.000	6.8218	99.90000	6.31E-03	2.59E-03	1.67E-02	3.62E-02	2.57E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274005_PU
SAMPLE QTY: 1.257 G

DETECTOR NUMBER :79420
AVERAGE %EFFICIENCY :38.4824
% YIELD : 95.794

COUNT DATE:29-DEC-2009 15:36:08
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 : 3.24304 dpm

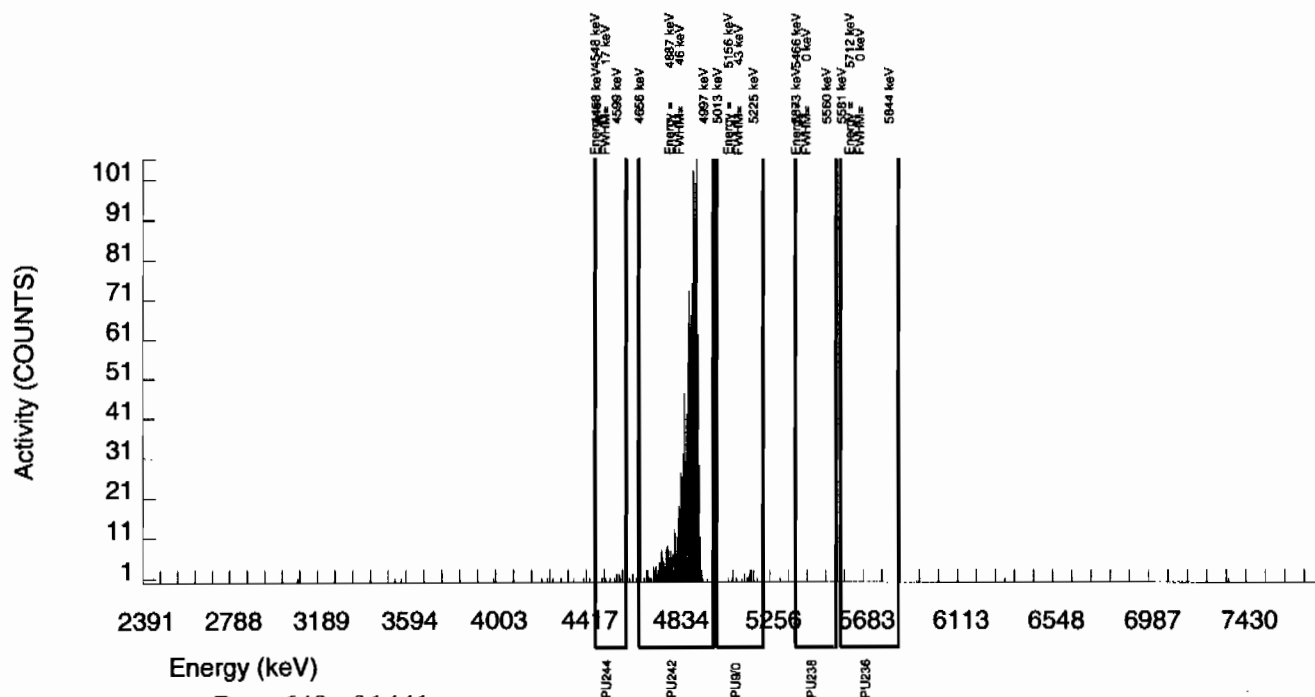
LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B227.CNF;64
BKG DATE : 27-DEC-2009
EFF FILE : W227.CNF;24
CAL DATE : 28-DEC-2009

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	18.000	18.000	0.000	3.3488	99.90000	1.75E-02	4.22E-03	7.58E-03	1.78E-02	4.13E-03
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	9.82E-04	4.59E-03	1.18E-02	9.81E-04
PU-238	5499.000	1.000	1.000	0.000	2.9082	99.90000	9.73E-04	9.75E-04	6.58E-03	1.58E-02	9.73E-04
PU242	4890.000	1249.000	1248.000	1.000	1.0000	100.0000	1.21E+00	6.83E-02	2.26E-03	7.16E-03	3.44E-02
PU-244	4589.000	9.000	9.000	0.000	6.8218	99.90000	8.76E-03	2.95E-03	1.54E-02	3.35E-02	2.92E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



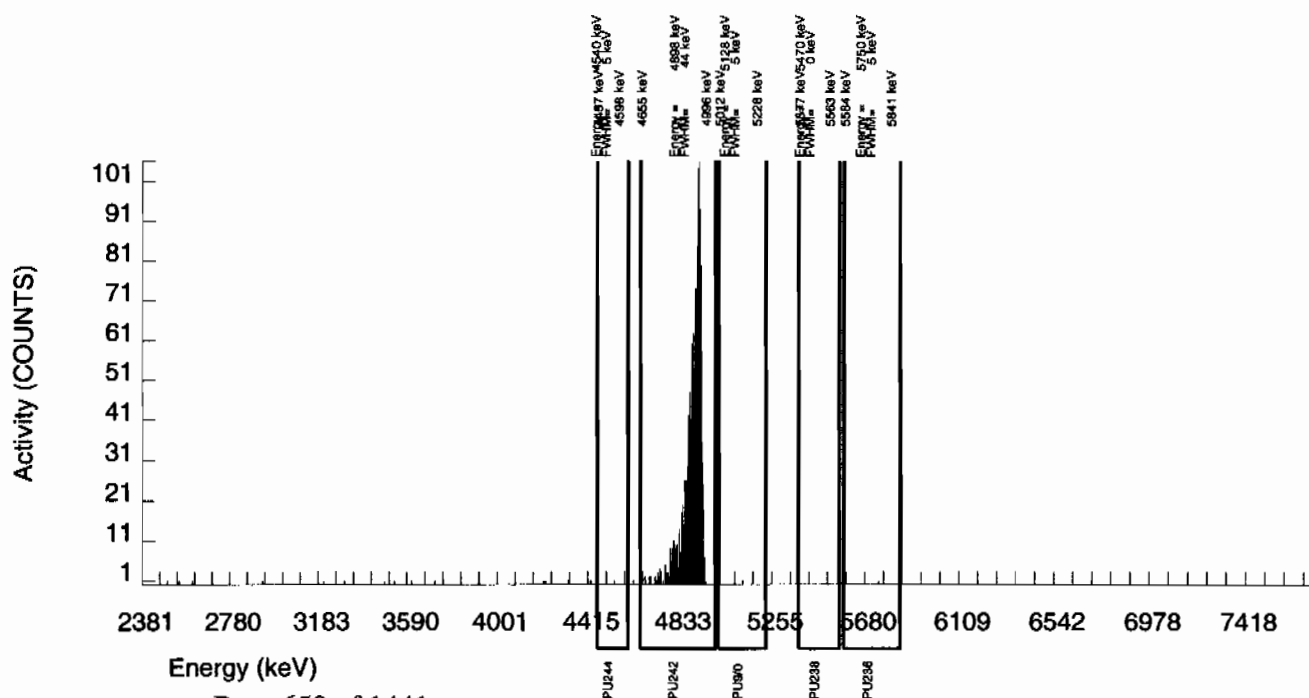
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274006_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :79421 AVERAGE %EFFICIENCY :36.8770 % YIELD : 94.437		COUNT DATE:29-DEC-2009 15:36:10 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 : 3.19711 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B228.CNF;64 BKG DATE : 27-DEC-2009 EFF FILE : W228.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	1.000	0.000	1.000	3.3488	99.90000	0.00E+00	1.46E-03	8.05E-03	1.89E-02	1.46E-03
PU-236	5749.000	1.000	1.000	0.000	2.0294	100.0000	1.04E-03	1.04E-03	4.87E-03	1.25E-02	1.04E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9082	99.90000	-1.03E-03	1.46E-03	6.99E-03	1.68E-02	1.46E-03
PU242	4890.000	1180.000	1179.000	1.000	1.0000	100.0000	1.22E+00	6.95E-02	2.40E-03	7.60E-03	3.55E-02
PU-244	4589.000	1.000	0.000	1.000	6.8218	99.90000	0.00E+00	1.46E-03	1.64E-02	3.56E-02	1.46E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274007_PU
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :79422
AVERAGE %EFFICIENCY :37.2913
% YIELD : 90.378

COUNT DATE:29-DEC-2009 15:36:13
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

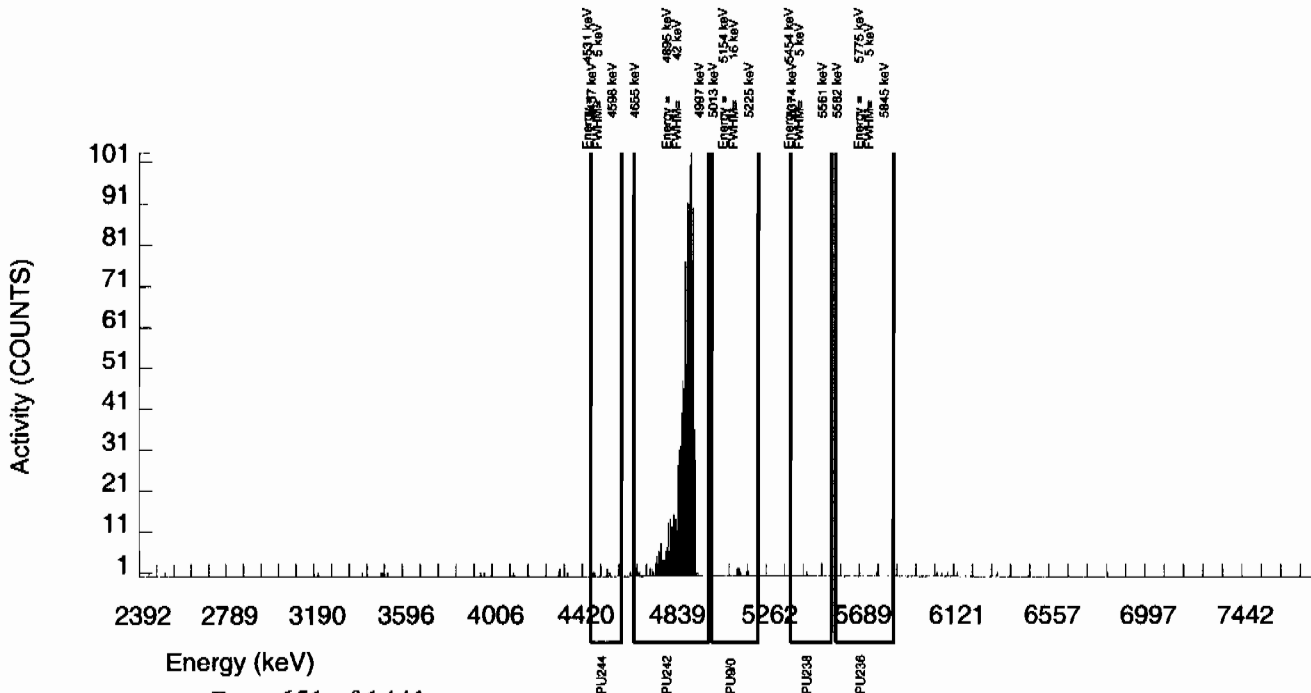
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.05970 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B229.CNF;64
BKG DATE : 27-DEC-2009
EFF FILE : W229.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	10.000	10.000	0.000	3.3488	99.90000	1.06E-02	3.40E-03	8.28E-03	1.94E-02	3.36E-03
PU-236	5749.000	1.000	1.000	0.000	2.0294	100.0000	1.07E-03	1.07E-03	5.01E-03	1.29E-02	1.07E-03
PU-238	5499.000	1.000	0.000	1.000	2.9082	99.90000	0.00E+00	1.50E-03	7.19E-03	1.73E-02	1.50E-03
PU242	4890.000	1141.000	1141.000	0.000	0.0000	100.0000	1.21E+00	6.97E-02	0.00E+00	2.88E-03	3.59E-02
PU-244	4589.000	6.000	6.000	0.000	6.8218	99.90000	6.38E-03	2.62E-03	1.69E-02	3.66E-02	2.60E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274008_PU
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :67578
AVERAGE %EFFICIENCY :30.5972
% YIELD : 99.436

COUNT DATE:29-DEC-2009 11:04:26
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

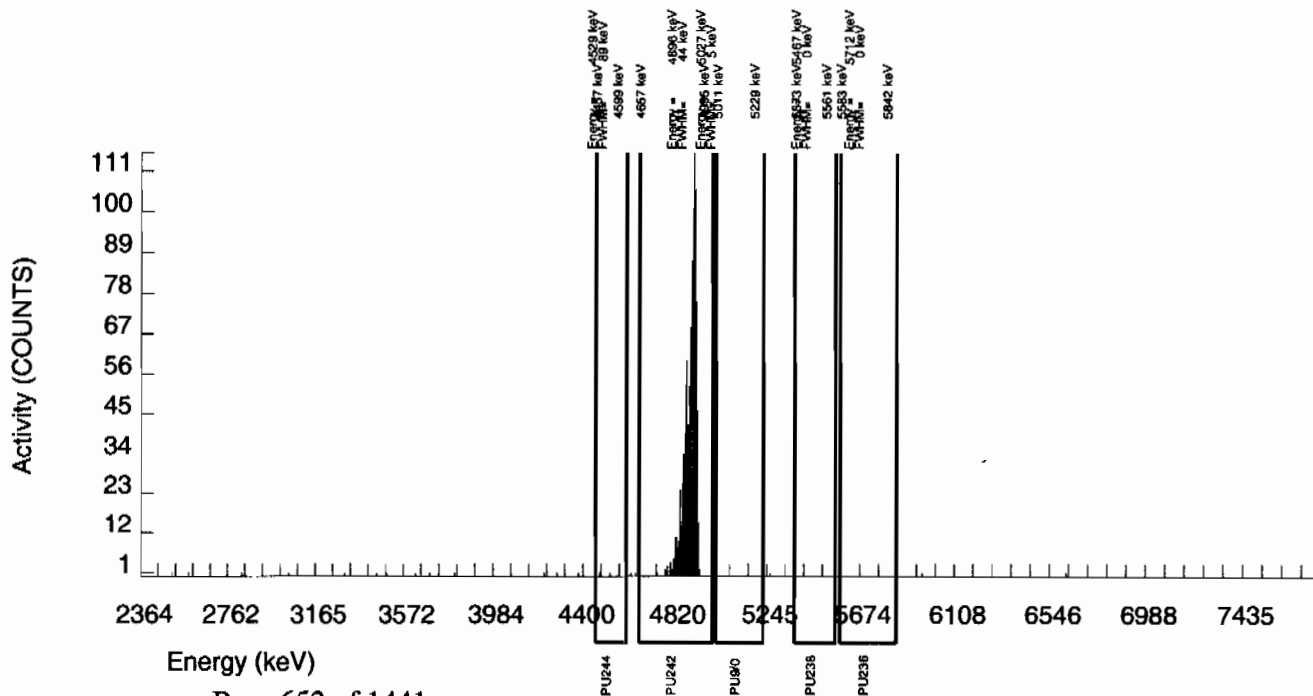
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.36632 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B107.CNF;668
BKG DATE : 27-DEC-2009
EFF FILE : W107.CNF;228
CAL DATE : 10-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	1.000	0.000	1.000	3.3488	99.90000	7.04E-11	1.67E-03	9.21E-03	2.16E-02	1.67E-03
PU-236	5749.000	0.000	-1.000	1.000	2.0294	100.0000	-1.19E-03	1.69E-03	5.57E-03	1.43E-02	1.69E-03
PU-238	5499.000	0.000	0.000	0.000	2.9082	99.90000	0.00E+00	1.18E-03	8.00E-03	1.92E-02	1.18E-03
PU242	4890.000	1033.000	1030.000	3.000	1.7321	100.0000	1.22E+00	7.23E-02	4.76E-03	1.27E-02	3.80E-02
PU-244	4589.000	3.000	3.000	0.000	6.8218	99.90000	3.55E-03	2.05E-03	1.88E-02	4.07E-02	2.05E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

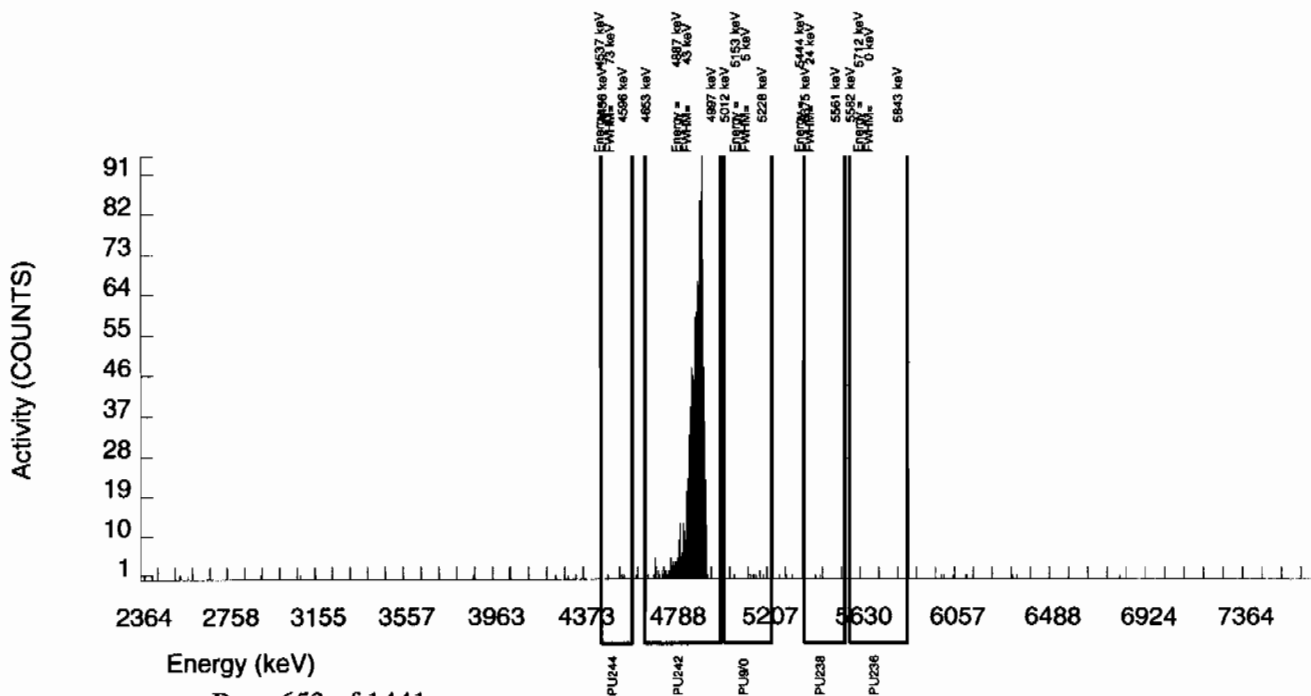
BATCH NUMBER: 935838 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274009_PU SAMPLE QTY: 1.255 G	
DETECTOR NUMBER :78778 AVERAGE %EFFICIENCY :33.5822 % YIELD : 91.213		COUNT DATE:29-DEC-2009 11:04:26 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	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 : 3.08794 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B108.CNF;666 BKG DATE : 27-DEC-2009 EFF FILE : W108.CNF;209 CAL DATE : 10-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	8.000	8.000	0.000	3.3488	99.90000	9.38E-03	3.35E-03	9.14E-03	2.15E-02	3.32E-03
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	1.18E-03	5.53E-03	1.42E-02	1.18E-03
PU-238	5499.000	2.000	1.000	1.000	2.9082	99.90000	1.17E-03	2.03E-03	7.94E-03	1.90E-02	2.03E-03
PU242	4890.000	1039.000	1037.000	2.000	1.4142	100.0000	1.22E+00	7.21E-02	3.86E-03	1.09E-02	3.78E-02
PU-244	4589.000	3.000	2.000	1.000	6.8218	99.90000	2.35E-03	2.35E-03	1.86E-02	4.04E-02	2.35E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274010_PU
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :79463
AVERAGE %EFFICIENCY :35.6057
% YIELD : 78.480

COUNT DATE:29-DEC-2009 11:04:26
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 : 2.65688 dpm

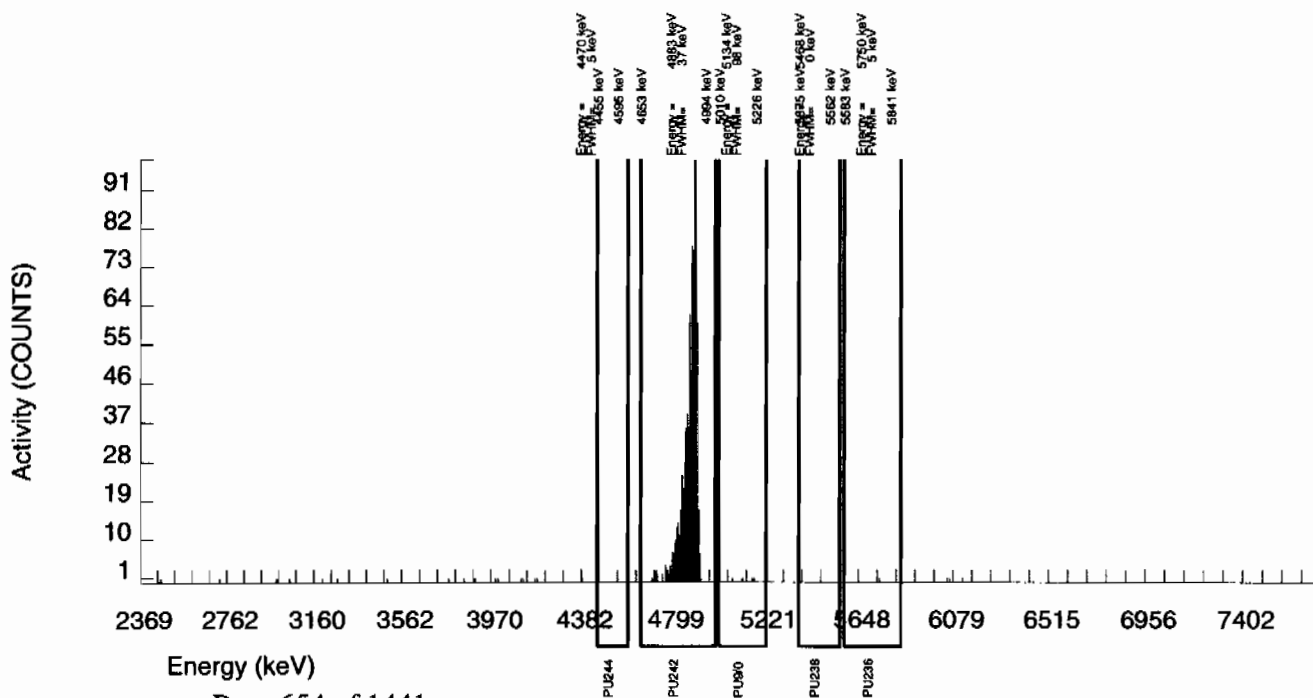
LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B109.CNF;664
BKG DATE : 27-DEC-2009
EFF FILE : W109.CNF;190
CAL DATE : 10-DEC-2009

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	5.000	5.000	0.000	3.3488	99.90000	6.45E-03	2.90E-03	1.00E-02	2.36E-02	2.88E-03
PU-236	5749.000	1.000	1.000	0.000	2.0294	100.0000	1.30E-03	1.30E-03	6.08E-03	1.57E-02	1.30E-03
PU-238	5499.000	0.000	-2.000	2.000	2.9082	99.90000	-2.58E-03	2.24E-03	8.73E-03	2.09E-02	2.23E-03
PU242	4890.000	949.000	946.000	3.000	1.7321	100.0000	1.22E+00	7.42E-02	5.19E-03	1.39E-02	3.98E-02
PU-244	4589.000	1.000	0.000	1.000	6.8218	99.90000	7.69E-11	1.83E-03	2.05E-02	4.44E-02	1.82E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 23-DEC-2009 00:00:00

SAMPLE ID : S1202002411_PU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :67602
AVERAGE %EFFICIENCY :32.0568
% YIELD : 97.396

COUNT DATE:29-DEC-2009 11:04:26
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :KXM4

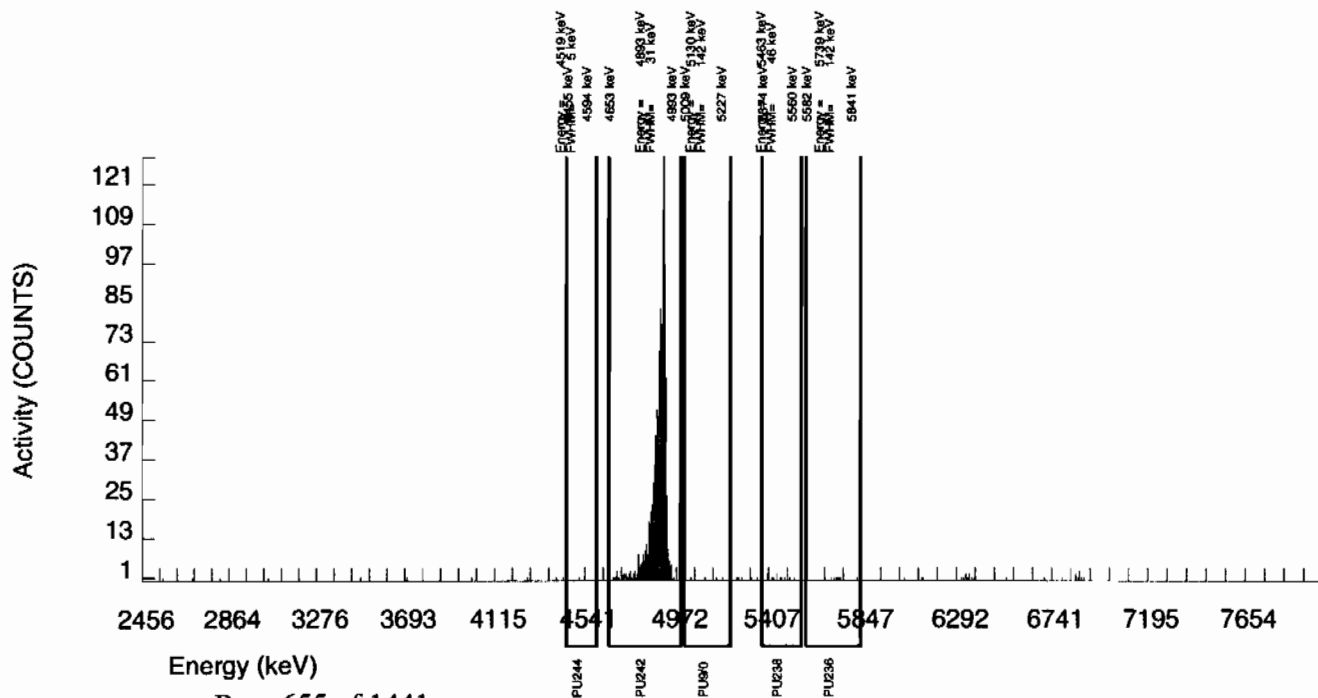
MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_PU.N
ID : 0244-B	ID : 0244-B	ID : 1374-A	BKG FILE : B110.CNF;668
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG DATE : 27-DEC-2009
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	EFF FILE : W110.CNF;209
		RESULTS : 3.29727 dpm	CAL DATE : 10-DEC-2009

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	4.000	2.000	2.000	3.3488	99.90000	2.89E-03	3.54E-03	1.13E-02	2.64E-02	3.54E-03
PU-236	5749.000	9.000	-2.000	11.000	2.0294	100.0000	-2.90E-03	6.48E-03	6.81E-03	1.75E-02	6.48E-03
PU-238	5499.000	12.000	1.000	11.000	2.9082	99.90000	1.44E-03	6.93E-03	9.77E-03	2.35E-02	6.93E-03
PU242	4890.000	1061.000	1057.000	4.000	2.0000	100.0000	1.52E+00	9.02E-02	6.71E-03	1.73E-02	4.71E-02
PU-244	4589.000	1.000	1.000	0.000	6.8218	99.90000	1.44E-03	1.45E-03	2.29E-02	4.98E-02	1.44E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S1202002412_PU
SAMPLE QTY: 1.255 G

DETECTOR NUMBER :79462
AVERAGE %EFFICIENCY :35.5462
% YIELD : 89.248

COUNT DATE:29-DEC-2009 11:04:26
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

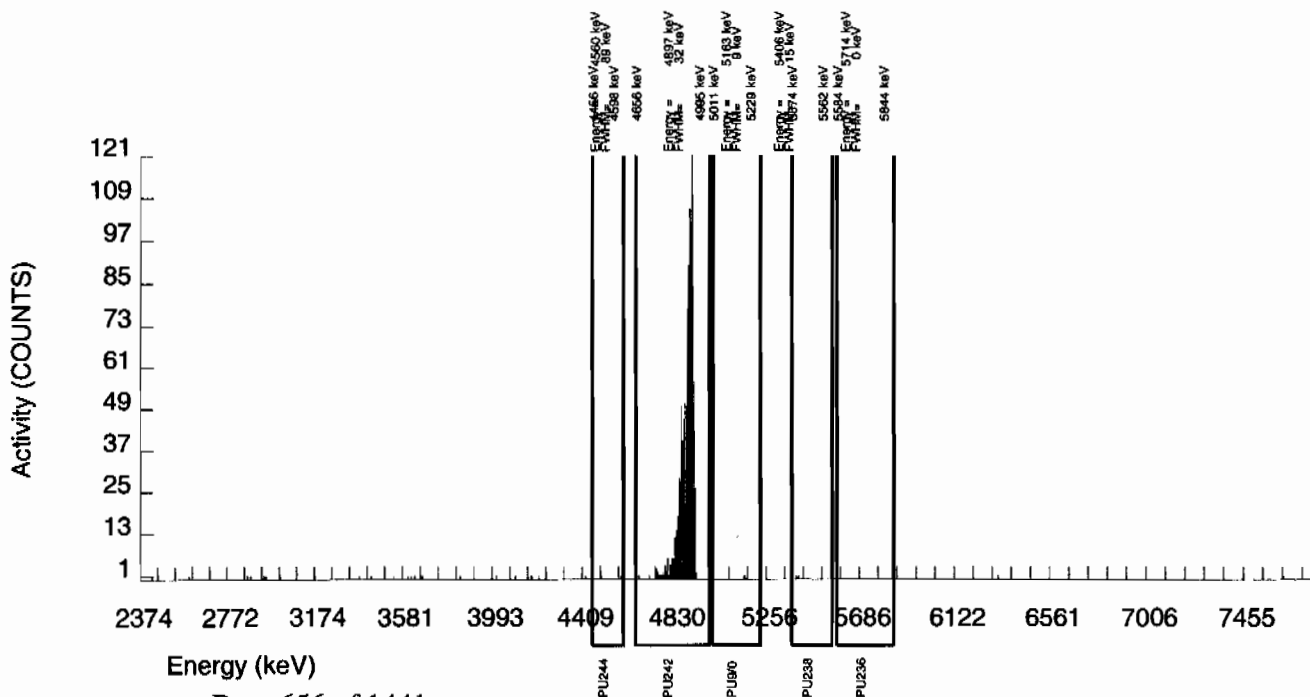
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.02142 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B111.CNF;663
BKG DATE : 27-DEC-2009
EFF FILE : W111.CNF;205
CAL DATE : 10-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	2.000	2.000	0.000	3.3488	99.90000	2.27E-03	1.61E-03	8.82E-03	2.07E-02	1.60E-03
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	1.14E-03	5.34E-03	1.37E-02	1.14E-03
PU-238	5499.000	2.000	0.000	2.000	2.9082	99.90000	1.35E-10	2.27E-03	7.66E-03	1.84E-02	2.27E-03
PU242	4890.000	1080.000	1074.000	6.000	2.4495	100.0000	1.22E+00	7.15E-02	6.45E-03	1.60E-02	3.73E-02
PU-244	4589.000	3.000	3.000	0.000	6.8218	99.90000	3.40E-03	1.97E-03	1.80E-02	3.90E-02	1.96E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 935838
SAMPLE DATE : 23-DEC-2009 00:00:00

SAMPLE ID : S1202002413_PU
SAMPLE QTY: 0.103 G

DETECTOR NUMBER :78261
AVERAGE %EFFICIENCY :31.5612
% YIELD : 97.053

COUNT DATE:29-DEC-2009 11:04:26
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

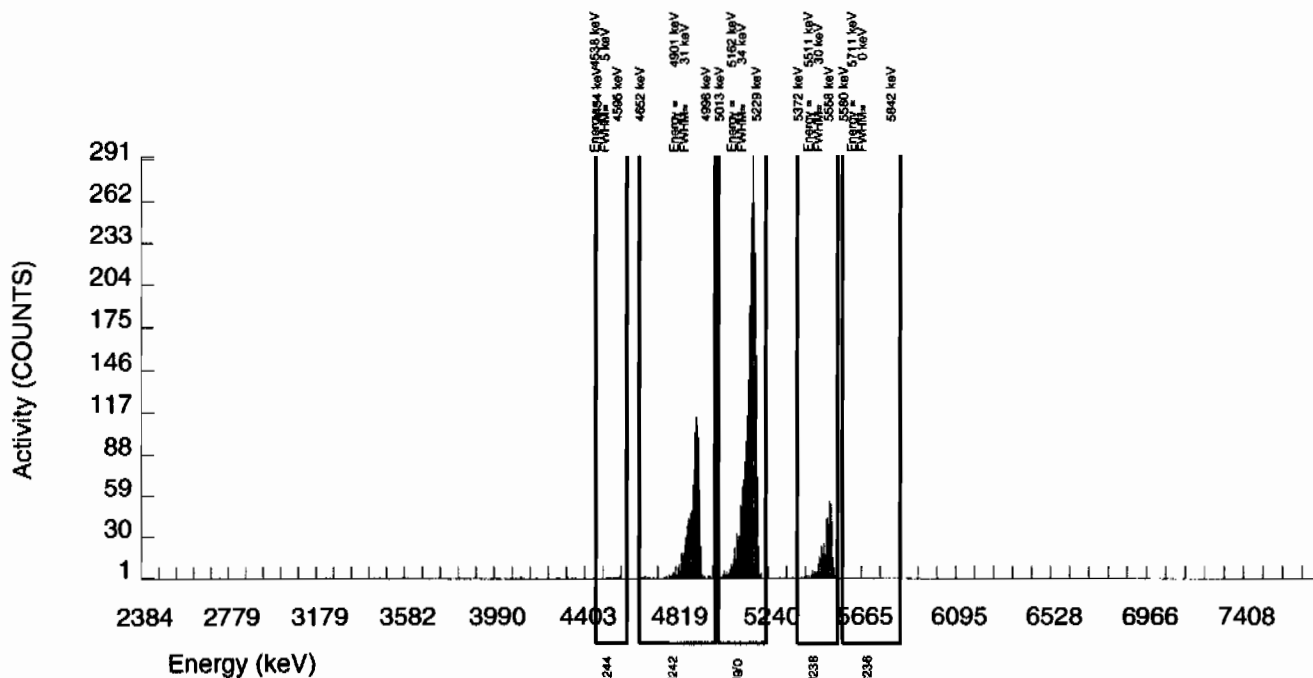
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.28568 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B112.CNF;671
BKG DATE : 27-DEC-2009
EFF FILE : W112.CNF;216
CAL DATE : 10-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	2588.000	2585.000	3.000	3.3488	99.90000	3.69E+01	2.31E+00	1.11E-01	2.61E-01	7.27E-01
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	1.44E-02	6.74E-02	1.74E-01	1.43E-02
PU-238	5499.000	450.000	448.000	2.000	2.9082	99.90000	6.40E+00	4.87E-01	9.67E-02	2.32E-01	3.04E-01
PU242	4890.000	1039.000	1037.000	2.000	1.4142	100.0000	1.48E+01	9.93E-01	4.70E-02	1.33E-01	4.61E-01
PU-244	4589.000	12.000	12.000	0.000	6.8218	99.90000	1.71E-01	5.05E-02	2.27E-01	4.92E-01	4.95E-02

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Radiochemistry Batch Checklist, Rev 9

Batch# 938206 Product: U Date: 1/11/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
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.			NA
Smears Taken for Radioactive batches.			NA
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.			NA
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)	/		NA
Batch entered into Case Narrative.	/		
Batch non-conformances completed, if applicable.			NA
Batch non-conformances second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
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: [Signature] 1/11/10Secondary Review Performed By: JapLM-1- 1/12/10

Uranium Que Sheet

04-JAN-10

Batch #: 938206 Analyst: KXM4 First Client Due Date: 15-JAN-10 Internal Due Date: 09-JAN-10
 Tracer Isotope: U-232/236 Tracer Code: 1283-H Expiration Date: 12-9-10 Vol: 0.1ml
 LCS Isotope: U-238 LCS Code: SM 0244-A Expiration Date: 10-31-10 Vol: 0.1g
 Spike Isotope: U-238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 1-4-10 Initials: KM Pipet ID: 297058 Balance ID: 5040212

Witness: AKS 1/4/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot	U	Det #
243273001-3	RE12-10-7351	SAMPLE		.1 pCi/g	SOIL	LANL010	15-DEC-09	1	1	0.513	137		
243274001-3	RE12-10-7352	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	2	2	0.519	138		
243274002-3	RE12-10-7360	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	3	3	0.513	139		
243274003-3	RE12-10-7358	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	4	4	0.502	140		
243274004-3	RE12-10-7357	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	5	5	0.517	141		
243274005-3	RE12-10-7359	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	6	6	0.505	142		
243274006-3	RE12-10-7356	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	7	7	0.519	143		
243274007-3	RE12-10-7353	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	8	8	0.519	144		
243274008-3	RE12-10-7354	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	9	9	0.509	145		
243274009-3	RE12-10-7355	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	10	10	0.512	146		
243274010-3	RE12-10-7364	SAMPLE		.1 pCi/g	SOIL	LANL010	16-DEC-09	11	11	0.511	147		
1262007528-1	MB for batch 938206	MB		UCF pCi/g to pCi	SOIL	QC ACCOUNT		12	12	0.511	148		
1262007529-3	RE12-10-7364(243274010DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	16-DEC-09	13	13	0.511	149		
1262007530-1	LCS for batch 938206	LCS		UCF pCi/g to pCi	SOIL	QC ACCOUNT		14	14	0.511	150		

0.103

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: AKS 1/11/10

AKS 1/12/10

Blank Correction Report

Batch ID 938206

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202007529	DUP	Uranium-233/234	0.541 g	1.10	0.0965	0.0941	-.00378928	pCi/g	NO
		Uranium-235/236	0.541 g	0.0638	0.0178	0.0584	.007862495	pCi/g	NO
		Uranium-238	0.541 g	1.14	0.0993	0.0546	.003105360	pCi/g	NO
1202007530	LCS	Uranium-233/234	0.103 g	5.39	0.489	0.419	-.01990291	pCi/g	NO
		Uranium-235/236	0.103 g	0.301	0.0745	0.260	.040194175	pCi/g	NO
		Uranium-238	0.103 g	5.90	0.527	0.243	.016310680	pCi/g	NO
1202007528	MB	Uranium-233/234	1.00 g	-0.00205	0.0029	0.0519	-.00205	pCi/g	NO
		Uranium-235/236	1.00 g	0.00414	0.00294	0.0322	.00414	pCi/g	YES
		Uranium-238	1.00 g	0.00168	0.00168	0.0301	.00168	pCi/g	YES
243273001	RE12-10-7351	Uranium-233/234	0.513 g	1.54	0.131	0.106	-.00399610	pCi/g	NO
		Uranium-235/236	0.513 g	0.0929	0.0209	0.0657	.008070175	pCi/g	NO
		Uranium-238	0.513 g	1.88	0.154	0.0614	.003274854	pCi/g	NO
243274001	RE12-10-7352	Uranium-233/234	0.519 g	0.786	0.0762	0.107	-.00394990	pCi/g	NO
		Uranium-235/236	0.519 g	0.0724	0.0219	0.0663	.007976879	pCi/g	NO
		Uranium-238	0.519 g	0.848	0.0807	0.062	.003236994	pCi/g	NO
243274002	RE12-10-7360	Uranium-233/234	0.513 g	0.811	0.0807	0.116	-.00399610	pCi/g	NO
		Uranium-235/236	0.513 g	0.065	0.018	0.0723	.008070175	pCi/g	NO
		Uranium-238	0.513 g	0.793	0.0793	0.0675	.003274854	pCi/g	NO
243274003	RE12-10-7358	Uranium-233/234	0.502 g	1.04	0.0954	0.110	-.00408367	pCi/g	NO
		Uranium-235/236	0.502 g	0.0571	0.0175	0.0684	.008247012	pCi/g	NO
		Uranium-238	0.502 g	1.14	0.103	0.0639	.003346614	pCi/g	NO
243274004	RE12-10-7357	Uranium-233/234	0.517 g	1.45	0.125	0.105	-.00396518	pCi/g	NO
		Uranium-235/236	0.517 g	0.0585	0.0162	0.065	.008007737	pCi/g	NO
		Uranium-238	0.517 g	1.51	0.130	0.0607	.003249516	pCi/g	NO
243274005	RE12-10-7359	Uranium-233/234	0.505 g	1.34	0.117	0.113	-.00405941	pCi/g	NO
		Uranium-235/236	0.505 g	0.099	0.0222	0.070	.008188020	pCi/g	NO
		Uranium-238	0.505 g	1.89	0.143	0.0654	.003326733	pCi/g	NO
243274006	RE12-10-7356	Uranium-233/234	0.519 g	0.518	0.0568	0.110	-.00394990	pCi/g	NO
		Uranium-235/236	0.519 g	0.0219	0.00993	0.0683	.007976879	pCi/g	YES
		Uranium-238	0.519 g	0.564	0.061	0.0638	.003236994	pCi/g	NO
243274007	RE12-10-7353	Uranium-233/234	0.519 g	1.08	0.0978	0.105	-.00394990	pCi/g	NO
		Uranium-235/236	0.519 g	0.0546	0.0156	0.0654	.007976879	pCi/g	NO
		Uranium-238	0.519 g	1.26	0.110	0.0611	.003236994	pCi/g	NO
243274008	RE12-10-7354	Uranium-233/234	0.509 g	0.504	0.056	0.112	-.00402750	pCi/g	NO
		Uranium-235/236	0.509 g	0.0535	0.0159	0.0693	.008133595	pCi/g	NO
		Uranium-238	0.509 g	0.458	0.0528	0.0648	.003300589	pCi/g	NO
243274009	RE12-10-7355	Uranium-233/234	0.512 g	1.11	0.100	0.111	-.00400391	pCi/g	NO
		Uranium-235/236	0.512 g	0.0574	0.0164	0.0688	.008085938	pCi/g	NO
		Uranium-238	0.512 g	1.30	0.114	0.0642	.00328125	pCi/g	NO
243274010	RE12-10-7364	Uranium-233/234	0.511 g	1.16	0.106	0.111	-.00401174	pCi/g	NO
		Uranium-235/236	0.511 g	0.0797	0.0197	0.0689	.008101781	pCi/g	NO

BA 11/2/10

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
243274010	RE12-10-7364	Uranium-238	0.511 g	1.19	0.107	0.0644	.003287671	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274001_UU SAMPLE QTY: 0.519 G	
DETECTOR NUMBER :65877 AVERAGE %EFFICIENCY :25.5394 % YIELD : 98.569		COUNT DATE: 7-JAN-2010 17:57:53 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 : 4.51151 dpm RESULTS : 4.44694 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B138.CNF;385 BKG DATE : 3-JAN-2010 EFF FILE : W138.CNF;100 CAL DATE : 15-DEC-2009

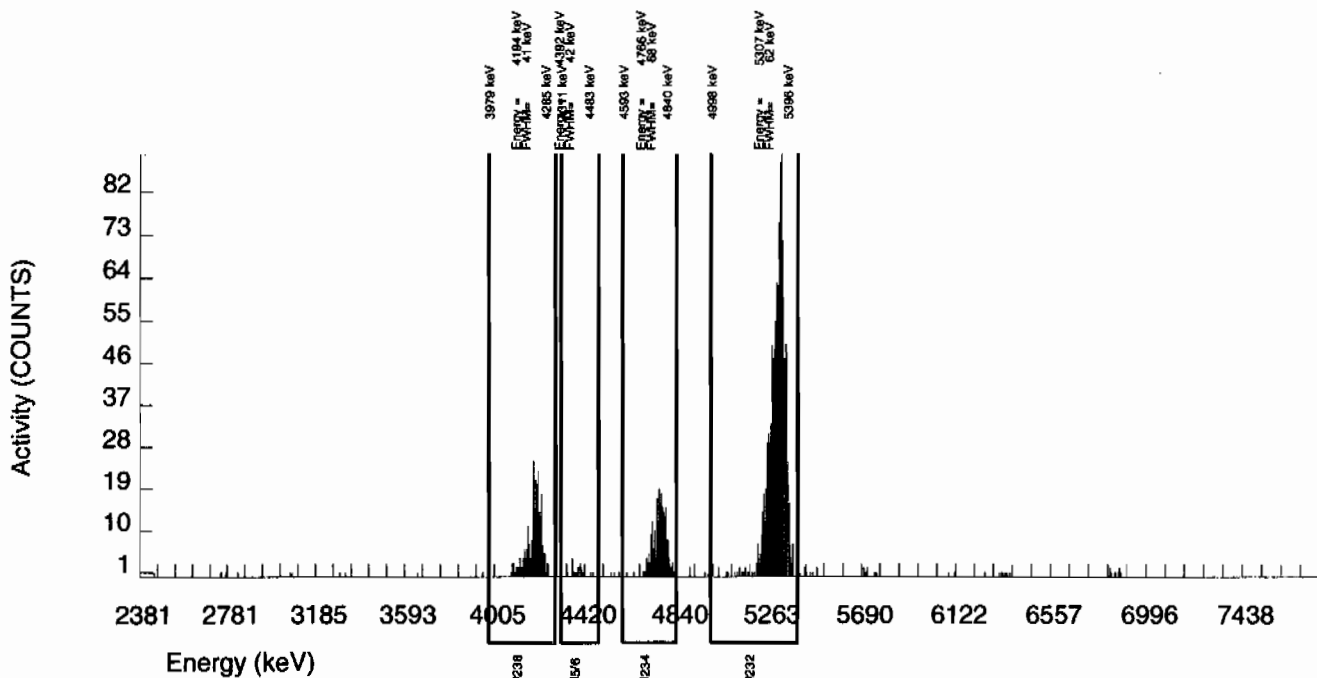
NUCLIDE ACTIVITY SUMMARY

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	231.000	227.853	2.000	6.0782	100.0000	7.86E-01	7.62E-02	4.88E-02	1.07E-01	5.25E-02
U232	5302.100	1137.000	1135.000	2.000	1.4142	100.0000	3.92E+00	2.99E-01	1.13E-02	3.20E-02	1.16E-01
U-235	4391.000	21.000	17.000	4.000	2.7628	80.90000	7.24E-02	2.19E-02	2.74E-02	6.63E-02	2.13E-02
U-238	4184.730	247.000	246.000	1.000	3.2810	100.0000	8.48E-01	8.07E-02	2.63E-02	6.20E-02	5.43E-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: 938206
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274002_UU
SAMPLE QTY: 0.513 G

DETECTOR NUMBER :76231
AVERAGE %EFFICIENCY :24.8776
% YIELD : 93.969

COUNT DATE: 7-JAN-2010 17:57:55
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 : 4.51151 dpm
RESULTS : 4.23943 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B139.CNF;382
BKG DATE : 3-JAN-2010
EFF FILE : W139.CNF;100
CAL DATE : 15-DEC-2009

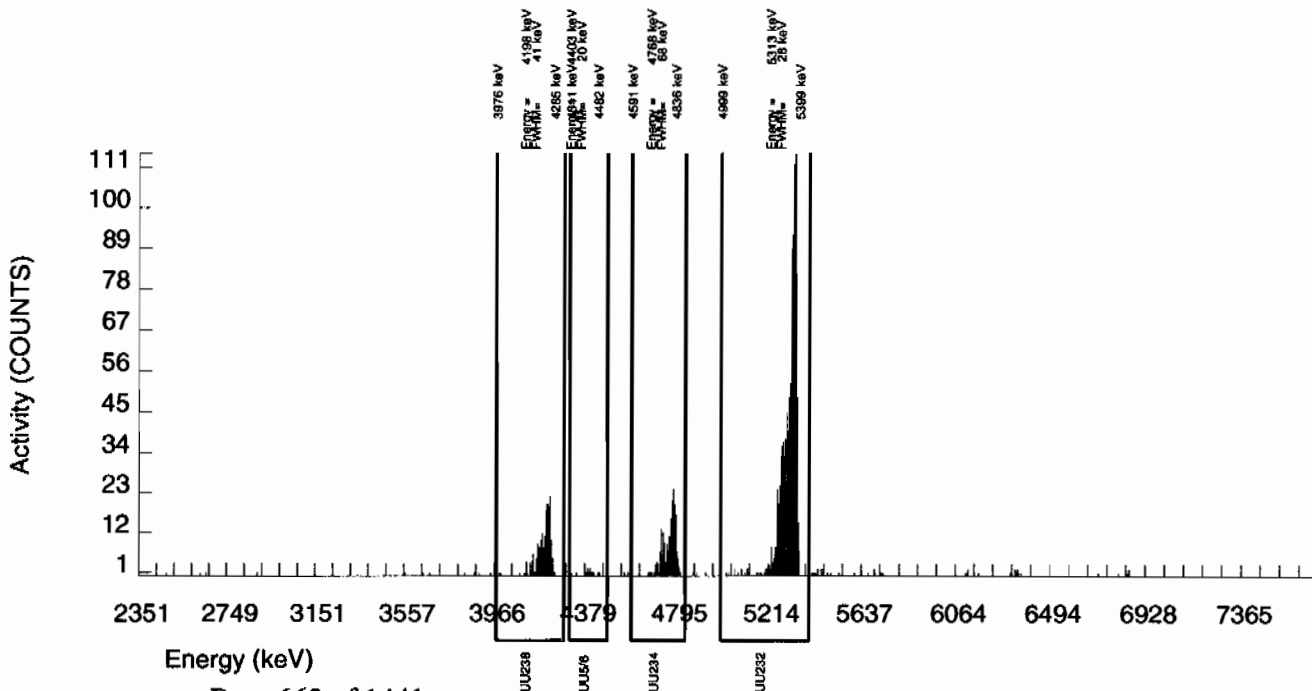
NUCLIDE ACTIVITY SUMMARY

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	218.000	215.934	1.000	6.0782	100.0000	8.11E-01	8.07E-02	5.31E-02	1.16E-01	5.54E-02
U232	5302.100	1061.000	1054.000	7.000	2.6458	100.0000	3.96E+00	3.12E-01	2.31E-02	5.64E-02	1.23E-01
U-235	4391.000	14.000	14.000	0.000	2.7628	80.90000	6.50E-02	1.80E-02	2.98E-02	7.23E-02	1.74E-02
U-238	4184.730	212.000	211.000	1.000	3.2810	100.0000	7.93E-01	7.93E-02	2.87E-02	6.75E-02	5.48E-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: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274003_UU SAMPLE QTY: 0.502 G	
DETECTOR NUMBER :78771 AVERAGE %EFFICIENCY :25.6838 % YIELD : 98.274		COUNT DATE: 7-JAN-2010 17:57:58 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 : 4.51151 dpm RESULTS : 4.43363 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B140.CNF;382 BKG DATE : 3-JAN-2010 EFF FILE : W140.CNF;105 CAL DATE : 15-DEC-2009

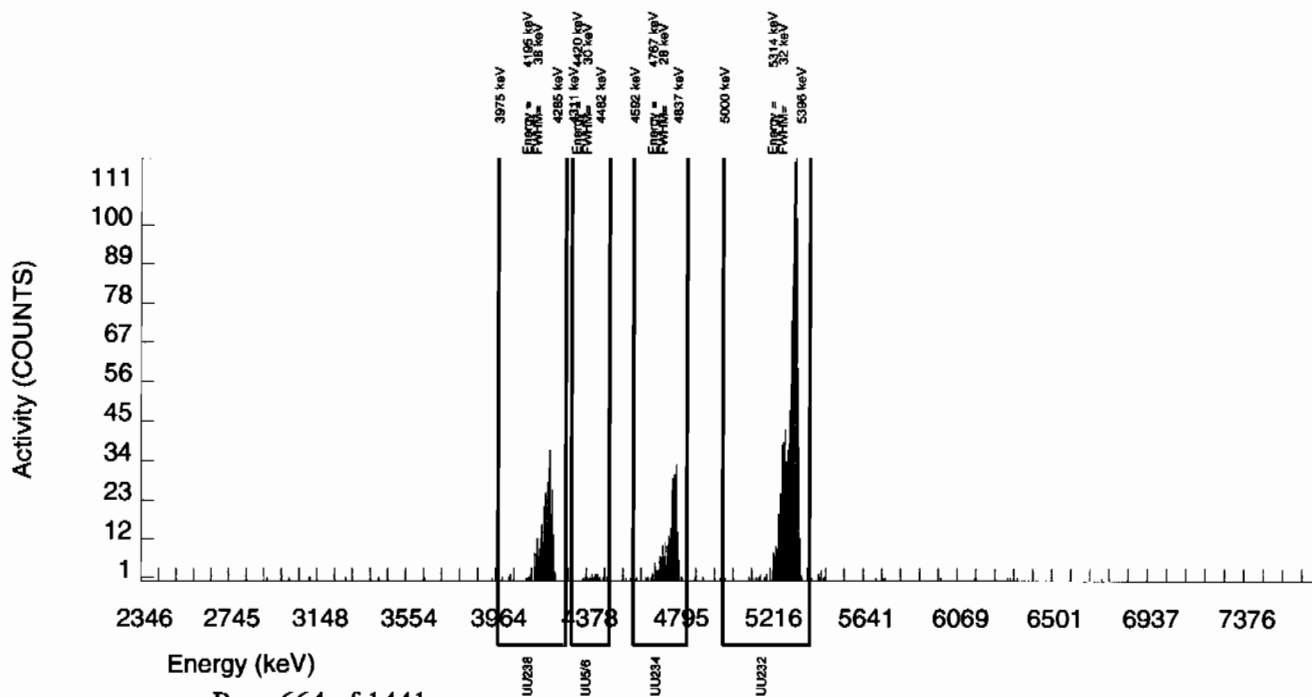
NUCLIDE ACTIVITY SUMMARY

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	295.000	292.850	1.000	6.0782	100.0000	1.04E+00	9.54E-02	5.03E-02	1.10E-01	6.10E-02
U232	5302.100	1143.000	1138.000	5.000	2.2361	100.0000	4.05E+00	3.09E-01	1.85E-02	4.66E-02	1.21E-01
U-235	4391.000	14.000	13.000	1.000	2.7628	80.90000	5.71E-02	1.75E-02	2.82E-02	6.84E-02	1.70E-02
U-238	4184.730	323.000	322.000	1.000	3.2810	100.0000	1.14E+00	1.03E-01	2.71E-02	6.39E-02	6.40E-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: 938206
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274004_UU
SAMPLE QTY: 0.517 G

DETECTOR NUMBER :76232
AVERAGE %EFFICIENCY :25.4146
% YIELD : 101.496

COUNT DATE: 7-JAN-2010 17:58:00
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 : 4.51151 dpm
RESULTS : 4.57902 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B141.CNF;385
BKG DATE : 3-JAN-2010
EFF FILE : W141.CNF;103
CAL DATE : 15-DEC-2009

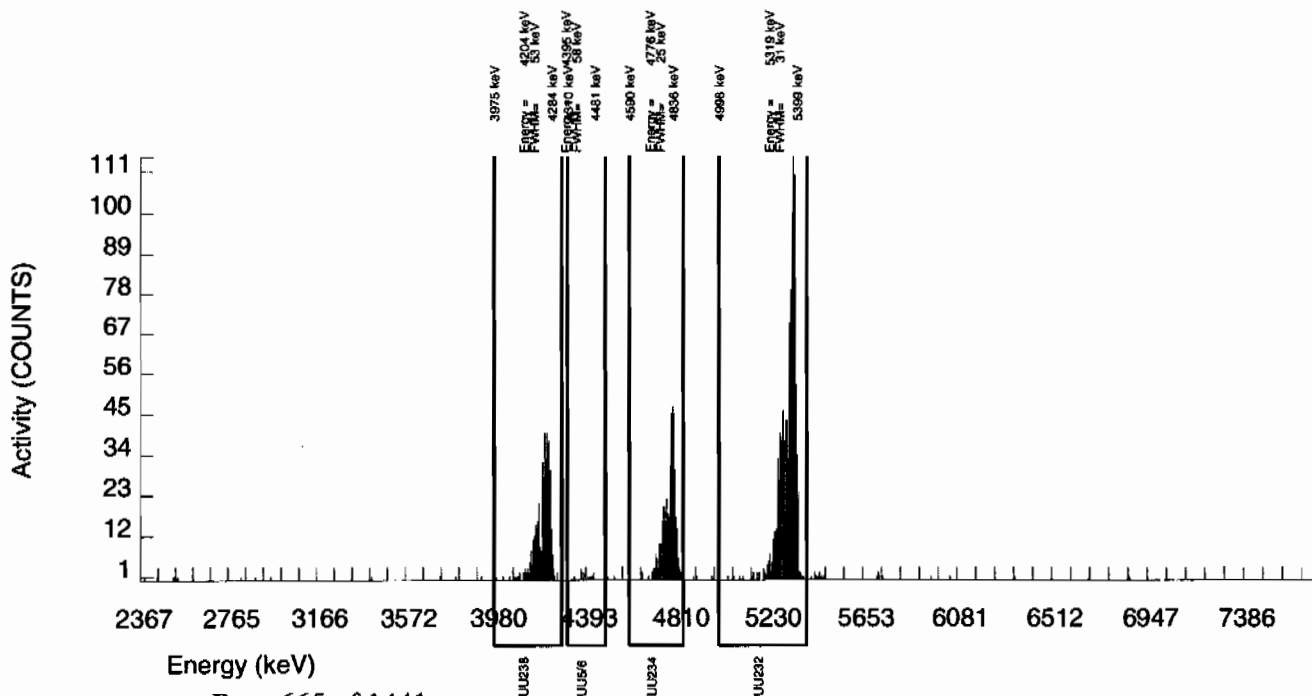
NUCLIDE ACTIVITY SUMMARY

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	429.000	427.824	0.000	6.0782	100.0000	1.45E+00	1.25E-01	4.78E-02	1.05E-01	6.99E-02
U232	5302.100	1167.000	1163.000	4.000	2.0000	100.0000	3.93E+00	3.04E-01	1.57E-02	4.06E-02	1.16E-01
U-235	4391.000	14.000	14.000	0.000	2.7628	80.90000	5.85E-02	1.62E-02	2.68E-02	6.50E-02	1.56E-02
U-238	4184.730	450.000	447.000	3.000	3.2810	100.0000	1.51E+00	1.30E-01	2.58E-02	6.07E-02	7.19E-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: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274005_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :64261 AVERAGE %EFFICIENCY :25.8181 % YIELD : 94.928		COUNT DATE: 7-JAN-2010 17:58:03 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 : 4.51151 dpm RESULTS : 4.28268 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B142.CNF;379 BKG DATE : 3-JAN-2010 EFF FILE : W142.CNF;107 CAL DATE : 15-DEC-2009

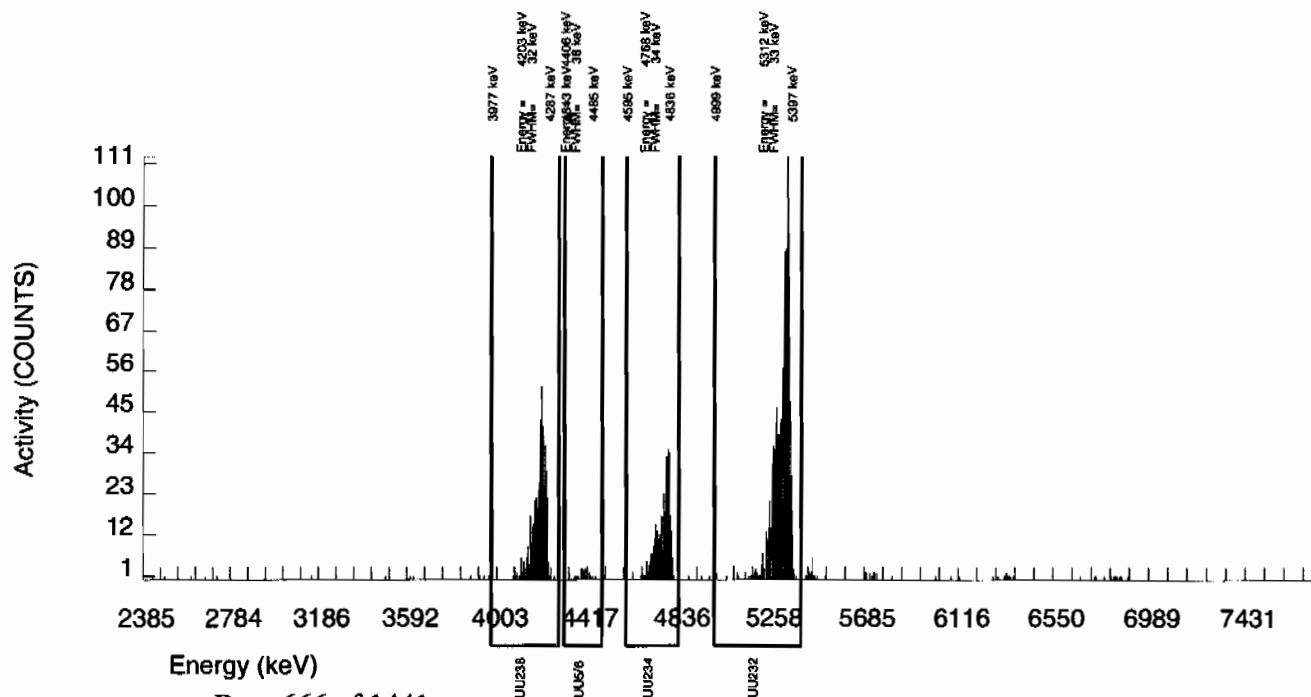
NUCLIDE ACTIVITY SUMMARY

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	369.000	366.883	1.000	6.0782	100.0000	1.34E+00	1.17E-01	5.15E-02	1.13E-01	6.99E-02
U232	5302.100	1117.000	1105.000	12.000	3.4641	100.0000	4.02E+00	3.10E-01	2.93E-02	6.85E-02	1.22E-01
U-235	4391.000	22.000	22.000	0.000	2.7628	80.90000	9.90E-02	2.22E-02	2.89E-02	7.00E-02	2.11E-02
U-238	4184.730	464.000	463.000	1.000	3.2810	100.0000	1.69E+00	1.43E-01	2.78E-02	6.54E-02	7.85E-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: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274006_UU SAMPLE QTY: 0.519 G	
DETECTOR NUMBER :65882 AVERAGE %EFFICIENCY :24.3752 % YIELD : 100.365		COUNT DATE: 7-JAN-2010 17:58:05 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 : 4.51151 dpm RESULTS : 4.52797 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B143.CNF;382 BKG DATE : 3-JAN-2010 EFF FILE : W143.CNF;110 CAL DATE : 15-DEC-2009

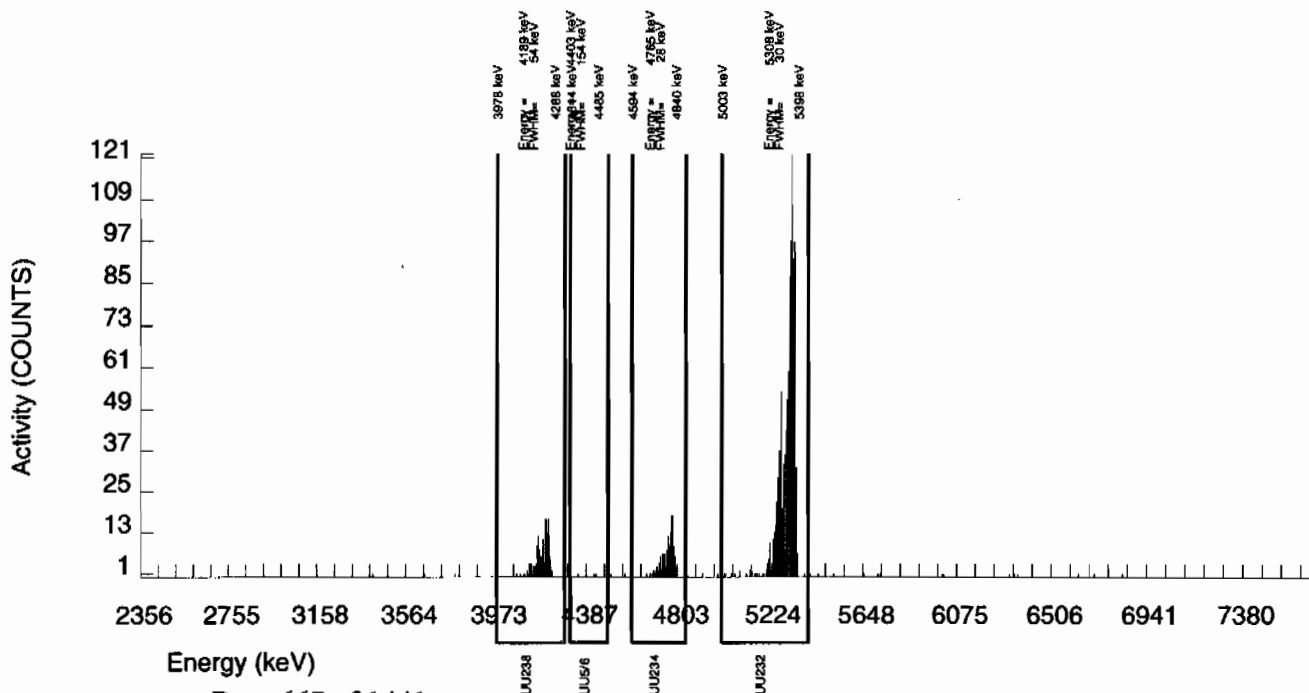
NUCLIDE ACTIVITY SUMMARY

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	147.000	145.885	0.000	6.0782	100.0000	5.18E-01	5.68E-02	5.02E-02	1.10E-01	4.29E-02
U232	5302.100	1105.000	1103.000	2.000	1.4142	100.0000	3.92E+00	3.05E-01	1.17E-02	3.30E-02	1.18E-01
U-235	4391.000	5.000	5.000	0.000	2.7628	80.90000	2.19E-02	9.93E-03	2.82E-02	6.83E-02	9.81E-03
U-238	4184.730	162.000	159.000	3.000	3.2810	100.0000	5.64E-01	6.10E-02	2.71E-02	6.38E-02	4.56E-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: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274007_UU SAMPLE QTY: 0.519 G	
DETECTOR NUMBER :75551 AVERAGE %EFFICIENCY :25.1537 % YIELD : 101.579		COUNT DATE: 7-JAN-2010 17:58:08 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 : 4.51151 dpm RESULTS : 4.58275 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B144.CNF;381 BKG DATE : 3-JAN-2010 EFF FILE : W144.CNF;104 CAL DATE : 15-DEC-2009

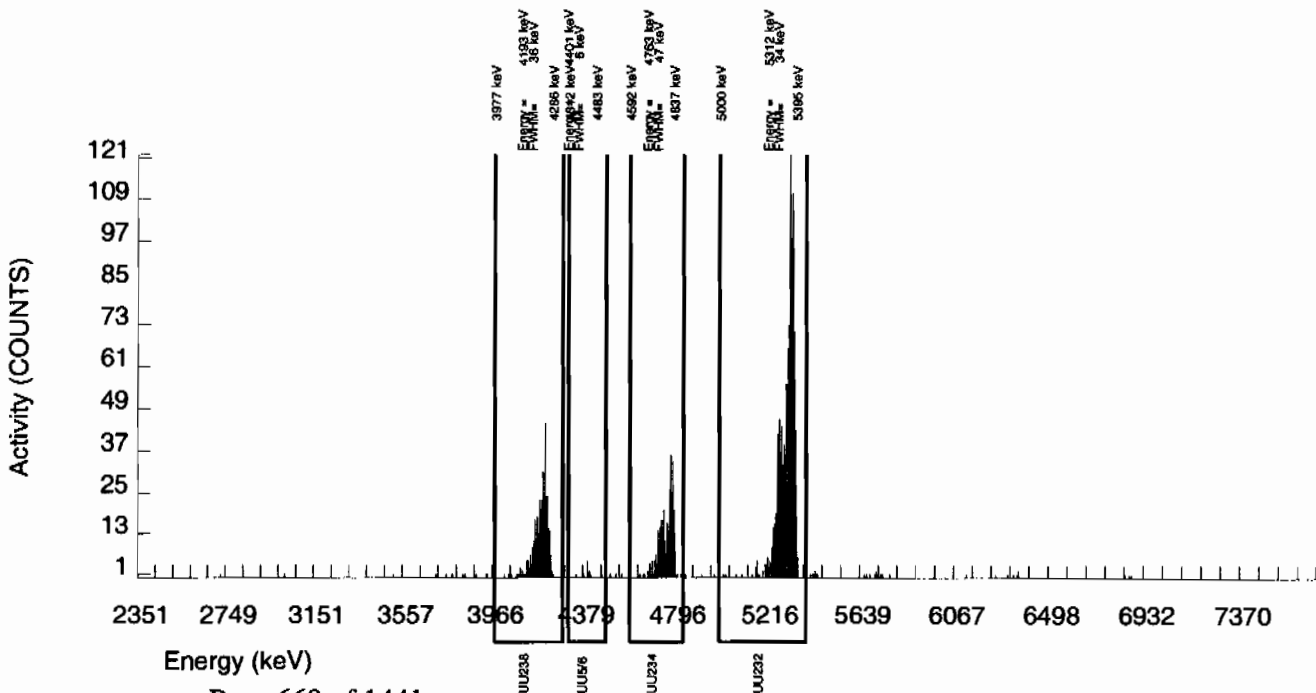
NUCLIDE ACTIVITY SUMMARY

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	324.000	318.835	4.000	6.0782	100.0000	1.08E+00	9.78E-02	4.80E-02	1.05E-01	6.14E-02
U232	5302.100	1156.000	1152.000	4.000	2.0000	100.0000	3.92E+00	2.99E-01	1.58E-02	4.08E-02	1.16E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	5.46E-02	1.56E-02	2.70E-02	6.54E-02	1.51E-02
U-238	4184.730	372.000	370.000	2.000	3.2810	100.0000	1.26E+00	1.10E-01	2.59E-02	6.11E-02	6.57E-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: 938206
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274008_UU
SAMPLE QTY: 0.509 G

DETECTOR NUMBER :72526
AVERAGE %EFFICIENCY :24.9446
% YIELD : 98.430

COUNT DATE: 7-JAN-2010 17:58:10
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 : 4.51151 dpm
RESULTS : 4.44066 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B145.CNF;379
BKG DATE : 3-JAN-2010
EFF FILE : W145.CNF;109
CAL DATE : 15-DEC-2009

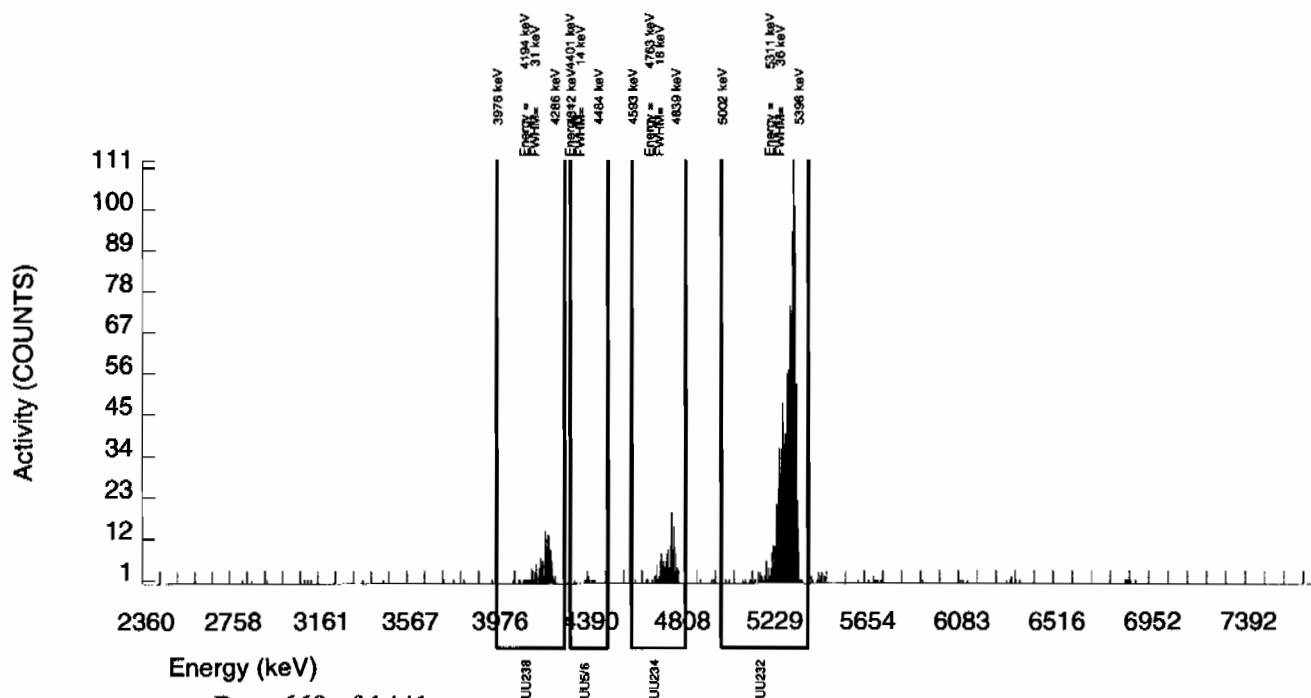
NUCLIDE ACTIVITY SUMMARY

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	141.000	139.881	0.000	6.0782	100.0000	5.04E-01	5.60E-02	5.10E-02	1.12E-01	4.26E-02
U232	5302.100	1116.000	1107.000	9.000	3.0000	100.0000	3.99E+00	3.12E-01	2.52E-02	6.01E-02	1.21E-01
U-235	4391.000	12.000	12.000	0.000	2.7628	80.90000	5.35E-02	1.59E-02	2.86E-02	6.93E-02	1.54E-02
U-238	4184.730	129.000	127.000	2.000	3.2810	100.0000	4.58E-01	5.28E-02	2.75E-02	6.48E-02	4.13E-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: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S0243274009_UU SAMPLE QTY: 0.512 G	
DETECTOR NUMBER :72527 AVERAGE %EFFICIENCY :24.8694 % YIELD : 98.995		COUNT DATE: 7-JAN-2010 17:58:13 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 : 4.51151 dpm RESULTS : 4.46616 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B146.CNF;384 BKG DATE : 3-JAN-2010 EFF FILE : W146.CNF;111 CAL DATE : 15-DEC-2009

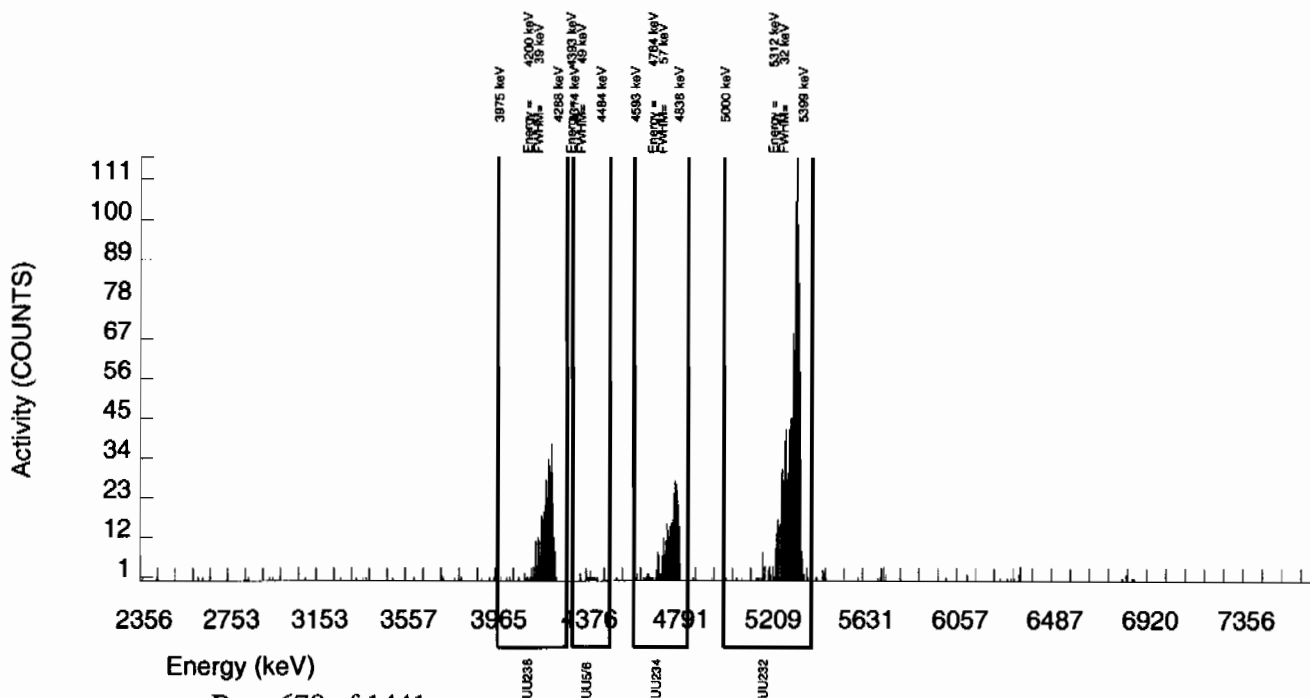
NUCLIDE ACTIVITY SUMMARY

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	312.000	309.878	1.000	6.0782	100.0000	1.11E+00	1.00E-01	5.05E-02	1.11E-01	6.31E-02
U232	5302.100	1113.000	1110.000	3.000	1.7321	100.0000	3.97E+00	3.04E-01	1.44E-02	3.85E-02	1.19E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	5.74E-02	1.64E-02	2.84E-02	6.88E-02	1.59E-02
U-238	4184.730	365.000	364.000	1.000	3.2810	100.0000	1.30E+00	1.14E-01	2.73E-02	6.42E-02	6.84E-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: 938206
SAMPLE DATE : 16-DEC-2009 00:00:00

SAMPLE ID : S0243274010_UU
SAMPLE QTY: 0.511 G

DETECTOR NUMBER :75550
AVERAGE %EFFICIENCY :24.6783
% YIELD : 99.672

COUNT DATE: 7-JAN-2010 17:58:16
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_UU.N
ID : 0244-A	ID : 0244-A	ID : 1283-H	BKG FILE : B147.CNF;384
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG DATE : 3-JAN-2010
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.51151 dpm	EFF FILE : W147.CNF;110
		RESULTS : 4.49670 dpm	CAL DATE : 15-DEC-2009

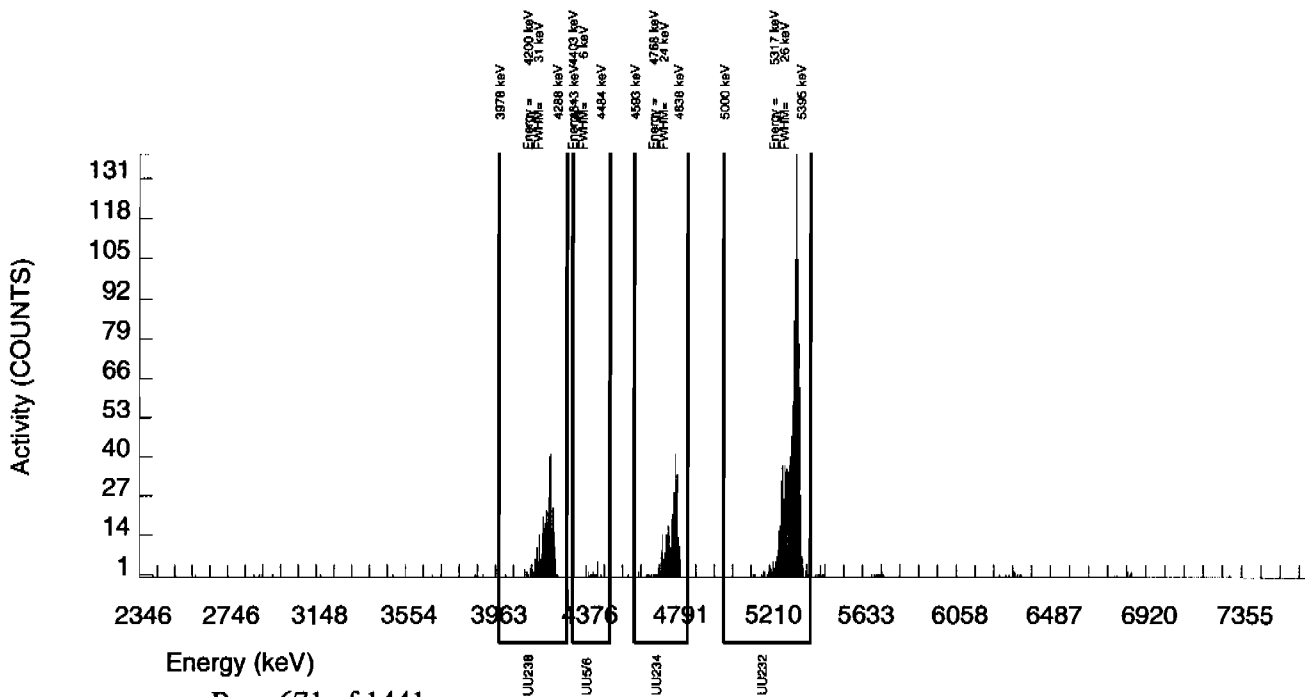
NUCLIDE ACTIVITY SUMMARY

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	327.000	323.879	2.000	6.0782	100.0000	1.16E+00	1.06E-01	5.07E-02	1.11E-01	6.49E-02
U232	5302.100	1117.000	1109.000	8.000	2.8284	100.0000	3.98E+00	3.10E-01	2.36E-02	5.69E-02	1.20E-01
U-235	4391.000	18.000	18.000	0.000	2.7628	80.90000	7.97E-02	1.97E-02	2.85E-02	6.89E-02	1.88E-02
U-238	4184.730	331.000	331.000	0.000	3.2810	100.0000	1.19E+00	1.07E-01	2.74E-02	6.44E-02	6.52E-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: 938206 SAMPLE DATE : 4-JAN-2010 00:00:00.		SAMPLE ID : S1202007528_UU SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :45-142V3 AVERAGE %EFFICIENCY :25.9872 % YIELD : 103.444		COUNT DATE: 8-JAN-2010 12:40:55 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 : 4.50915 dpm RESULTS : 4.66446 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

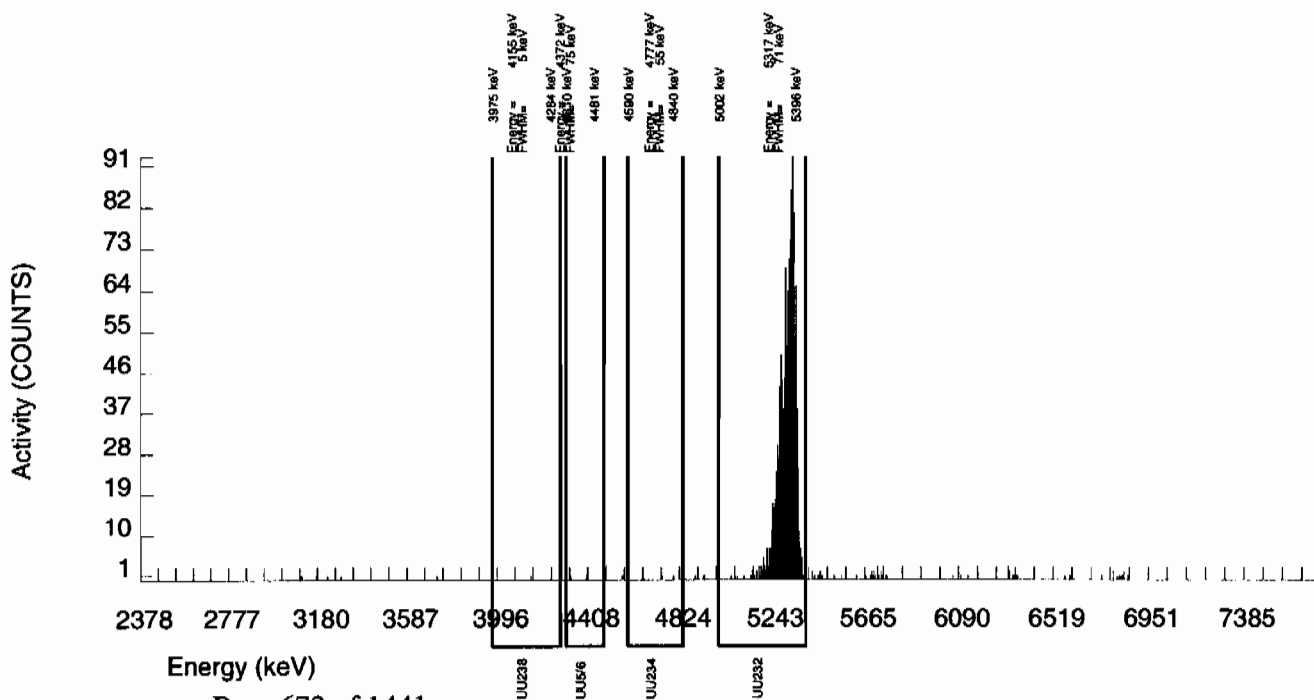
NUCLIDE ACTIVITY SUMMARY

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	2.000	-1.225	2.000	6.0782	100.0000	-2.05E-03	2.90E-03	2.37E-02	5.19E-02	2.90E-03
U232	5302.100	1219.000	1212.000	7.000	2.6458	100.0000	2.03E+00	1.53E-01	1.03E-02	2.52E-02	5.87E-02
U-235	4391.000	2.000	2.000	0.000	2.7628	80.90000	4.14E-03	2.94E-03	1.33E-02	3.22E-02	2.93E-03
U-238	4184.730	1.000	1.000	0.000	3.2810	100.0000	1.68E-03	1.68E-03	1.28E-02	3.01E-02	1.68E-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: 938206 SAMPLE DATE : 16-DEC-2009 00:00:00		SAMPLE ID : S1202007529_UU SAMPLE QTY: 0.541 G	
DETECTOR NUMBER :67047 AVERAGE %EFFICIENCY :30.1536 % YIELD : 90.914		COUNT DATE: 7-JAN-2010 09:01:35 ELAPSED LIVE TIME(SEC): 59999.99 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 : 4.51151 dpm RESULTS : 4.10158 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B021.CNF;1093 BKG DATE : 3-JAN-2010 EFF FILE : W021.CNF;326 CAL DATE : 4-JAN-2010

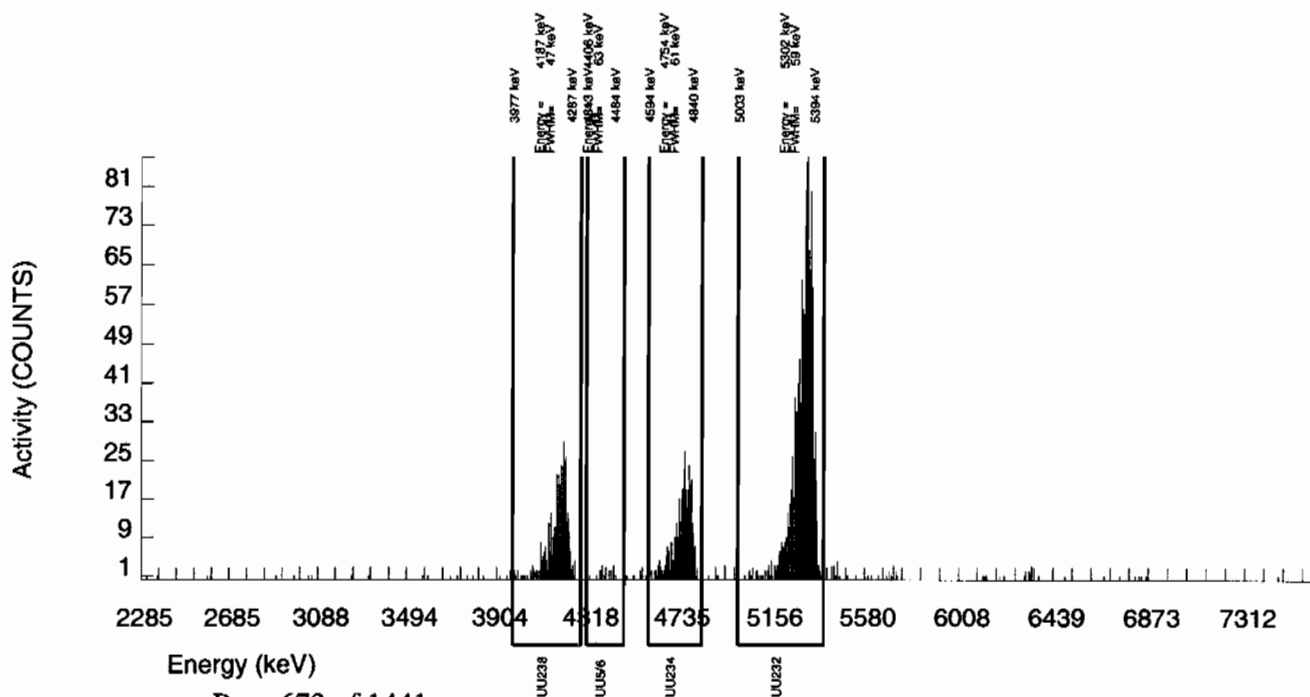
NUCLIDE ACTIVITY SUMMARY

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
U-3/4	4763.020	366.000	362.750	2.000	6.0782	100.0000	1.10E+00	9.65E-02	4.29E-02	9.41E-02	5.82E-02
U232	5302.100	1245.000	1236.000	9.000	3.0000	100.0000	3.76E+00	2.84E-01	2.12E-02	5.06E-02	1.08E-01
U-235	4391.000	19.000	17.000	2.000	2.7628	80.90000	6.38E-02	1.78E-02	2.41E-02	5.84E-02	1.72E-02
U-238	4184.730	378.000	376.000	2.000	3.2810	100.0000	1.14E+00	9.93E-02	2.32E-02	5.46E-02	5.92E-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: 938206 SAMPLE DATE : 4-JAN-2010 00:00:00.		SAMPLE ID : S1202007530_UU SAMPLE QTY: 0.103 G	
DETECTOR NUMBER :72530 AVERAGE %EFFICIENCY :31.2191 % YIELD : 103.583		COUNT DATE: 7-JAN-2010 09:01:35 ELAPSED LIVE TIME(SEC): 59999.99 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 : 4.50915 dpm RESULTS : 4.67070 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B022.CNF;1097 BKG DATE : 3-JAN-2010 EFF FILE : W022.CNF;316 CAL DATE : 4-JAN-2010

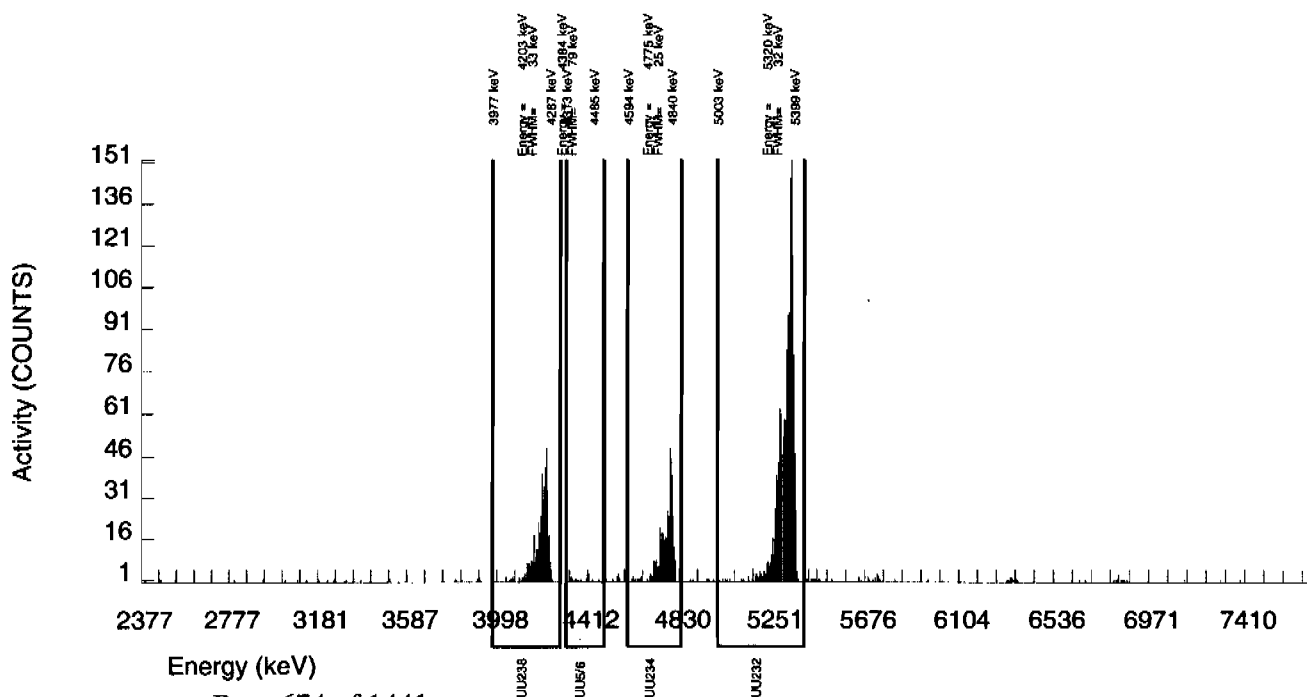
NUCLIDE ACTIVITY SUMMARY

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
U-3/4	4763.020	403.000	398.526	3.000	6.0782	100.0000	5.39E+00	4.89E-01	1.91E-01	4.19E-01	2.72E-01
U232	5302.100	1466.000	1458.000	8.000	2.8284	100.0000	1.97E+01	1.58E+00	8.90E-02	2.15E-01	5.19E-01
U-235	4391.000	18.000	18.000	0.000	2.7628	80.90000	3.01E-01	7.45E-02	1.07E-01	2.60E-01	7.09E-02
U-238	4184.730	436.000	436.000	0.000	3.2810	100.0000	5.90E+00	5.27E-01	1.03E-01	2.43E-01	2.82E-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# 935341 Product: OS Date: 11/11/10

Critera:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
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.	✓		GOOD
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%.			NA
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.			NA
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.			NA
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)			NA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed. if applicable.			NO
Batch non-conformances second reviewed and disposition verified to be completed.			NO
Aliquot Correction completed if required.			NO
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		NONE

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Heather E. McCarty 11/11/10

Secondary Review Performed By: Robert 11/15/10

1115

LAM Page 675 of 1441

Gamma Spec Que Sheet 16-12/29/09

12/21/2009

Batch #: 935341 Analyst: MXR1 ✓ First Client Due Date: 01/15/2010 Internal Due Date: 01/04/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: Ma Expiration Date: Ma Vol: Ma Nominal Concentration: Ma

Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: Am241: 15.91
CS137: 5.574
Co60: 6.50x

Initials: MS Prep Date: 12/22/09 Library: SOLID Witness: Ma COW: 6.50x

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry (1/g/F)	Detector	Sealing Date/Time (if Applicable)
243273001-1	RE12-10-7351	SAMPLE		LANL010	SOIL	15-DEC-09 12:00:00	156.78	15	12/22/09
243274001-1	RE12-10-7352	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	132.93	17	
243274002-1	RE12-10-7360	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	131.64	12	
243274003-1	RE12-10-7358	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	128.02	1	
243274004-1	RE12-10-7357	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	132.02	25	
243274005-1	RE12-10-7359	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	152.20	13	
243274006-1	RE12-10-7356	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	124.07	17	
243274007-1	RE12-10-7353	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	130.53	18	
243274008-1	RE12-10-7354	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	103.79	20	
243274009-1	RE12-10-7355	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	137.32	21	
243274010-1	RE12-10-7364	SAMPLE		LANL010	SOIL	16-DEC-09 12:00:00	147.40	23	
1202001375-1	MB	MB		QC ACCOUNT	SOIL	12/22/09	156.78	15	
1202001376-1	DUP RE12-10-7352(243274001)	DUP		QC ACCOUNT	SOIL	16-DEC-09 12:00:00	132.93	5	
1202001377-1	LCS	LCS		QC ACCOUNT	SOIL	12/22/09	155.44	7	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Heather McCarty 11/4/10
 ✓ no history
 ✓ dates
 12/15/10
 Page 1 of 1

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
935341	243273001	SAMPLE	30-DEC-09		Americium-241	0.09678	0.2899	0.200
					Thorium-234	0.8245	2.11	2.00
935341	243274001	SAMPLE	30-DEC-09					
935341	243274002	SAMPLE	30-DEC-09					
935341	243274003	SAMPLE	30-DEC-09		Americium-241	-0.01055	0.2202	0.200
935341	243274004	SAMPLE	30-DEC-09					
935341	243274005	SAMPLE	31-DEC-09		Sodium-22	-0.01901	0.0826	0.080
935341	243274006	SAMPLE	31-DEC-09		Cesium-134	0.04731	0.112	0.100
					Sodium-22	0.01852	0.09582	0.080
935341	243274007	SAMPLE	31-DEC-09		Americium-241	-0.1181	0.2739	0.200
					Thorium-234	2.053	2.132	2.00
935341	243274008	SAMPLE	31-DEC-09		Americium-241	0.09029	0.2012	0.200
935341	243274009	SAMPLE	31-DEC-09		Cesium-134	0.08491	0.1051	0.100
					Sodium-22	-0.003	0.09307	0.080
935341	243274010	SAMPLE	31-DEC-09		Americium-241	0.06963	0.3272	0.200
935341	1202001375	MB	31-DEC-09		Americium-241	-0.00986	0.2569	0.200
935341	1202001376	DUP	31-DEC-09		Cerium-139	0.00036	0.05077	0.050
935341	1202001377	LCS	31-DEC-09		Cerium-139	-0.01529	0.07807	0.050
					Cesium-134	0.1419	0.1744	0.100
					Europium-152	-0.07584	0.3176	0.200
					Mercury-203	-0.02099	0.1101	0.100
					Ruthenium-106	0.1038	1.043	0.800
					Thorium-234	-1.834	2.477	2.00
					Tin-113	-0.0006	0.1393	0.100
					Uranium-235	-0.0481	0.5104	0.500

GEL QUALS

Batch ID: 935341

Report run on: January 4, 2010 3:10 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243274001-1 30-DEC-2009 22:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.109			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.675			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.05916			
243274001-1 30-DEC-2009 22:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.083			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.173			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.0766		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.378			
	Thorium-234	UI	UI	UI	Data rejected due to high counting uncertainty.		.7604		2	2
243274002-1 30-DEC-2009 22:52	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.351			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.109			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1187		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.575			
243274003-1 30-DEC-2009 23:06	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.203			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.657			
	Cesium-137	UI	UI	UI	Data rejected due to high counting uncertainty.		.05904		.1	.1
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.05199			
	Ra-226				Data rejected due to interference		4.63			
243274004-1 30-DEC-2009 23:06	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.553			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.613			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1117		.1	.1
	Ra-226				Data rejected due to interference		4.68			

GEL QUALS

Batch ID: 935341

Report run on: January 4, 2010 3:10 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243274005-1 31-DEC-2009 14:35	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.834			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.747			
243274006-1 31-DEC-2009 14:35	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.665			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.171			
	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.382			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.441			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09385		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.537			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1299			
243274008-1 31-DEC-2009 14:36	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.986			
	Cadmium-109	UI	UI	UI	Data rejected due to high peak-width.		4.273			
	Mercury-203	UI	UI	UI	Data rejected due to high counting uncertainty.		.06032		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.836			
243274009-1 31-DEC-2009 14:36	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.156			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.01			
	Radium-224	UI	UI	UI	Data rejected due to interference.		1.36			
243274010-1 31-DEC-2009 14:37	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.253			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.403			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1044		.1	.1

GEL QUALS

Batch ID: 935341

Report run on: January 4, 2010 3:10 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243274010-1 31-DEC-2009 14:37	Radium-224	UI	UI	UI	Data rejected due to interference.		3.711			
1202001375-1 MB 31-DEC-2009 14:42	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.06453			
1202001376-1 DUP 31-DEC-2009 15:32	Americium-241	UI	UI	UI	Data rejected due to low abundance.		.1222		.2	.2
	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.425			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.335			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.355			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1041			

Gamma Review Report based on Result > MDA for Batch:935341

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
243273001	15-DEC-09 12:00	30-DEC-09 22:47	15.4	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy	***FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	✓	0.8035	0.08675	pCi/g	0.1301	N	910.9	3 1.615	IDENTIFIED	9.256	✓
Americium-243	✓	0.2123	0.03375	pCi/g	0.07445	N	74.13	1 1.439	IDENTIFIED	14.89	✓
Annihilation Rad.	HE	0.04556	0.02288	pCi/g	0.03354	N	510.5	1 2.086	IDENTIFIED	50.13	✓
Barium-137m	✓	0.5526	0.02919	pCi/g	0.03823	N	661.3	2 1.64	IDENTIFIED	4.645	✓
Bismuth-211	✓	2.109	0.1845	pCi/g	0.235	Y	351.4	4 1.392	IDENTIFIED	8.048	✓
Bismuth-212	✓	0.6993	0.1611	pCi/g	0.263	N	727.3	1 1.666	IDENTIFIED	22.7	✓
Bismuth-214	✓	0.6121	0.05506	pCi/g	0.07426	0.200	608.9	4 1.723	IDENTIFIED	8.193	✓
Cerium-143	—	733.2	118.9	pCi/g	0	N	0	14 0	SHORT_HLIF	0	✓
Cesium-135	HE	0.2121	0.05387	pCi/g	0.2004	N	0	14 0	NOT_IDENTI	0	✓
Cesium-137	✓	0.5841	0.0309	pCi/g	0.04041	0.100	661.3	2 1.64	IDENTIFIED	4.645	✓
Gross Gamma	—	5.689	0.9657	pCi/g	2.578	N	0				✓
Iodine-133	HE	2878	2551	pCi/g	0	N	0	14 0	SHORT_HLIF	0	✓
Iodine-135	HE	6.81E+14	4.36E+15	pCi/g	0	N	0	14 0	SHORT_HLIF	0	✓
Krypton-85	HE	11.49	2.77	pCi/g	9.159	N	0	14 0	NOT_IDENTI	0	✓
Lead-212	✓	0.9139	0.05097	pCi/g	0.06307	0.100	238.1	4 1.415	IDENTIFIED	3.738	✓
Lead-214	✓	0.7335	0.06697	pCi/g	0.08188	0.100	351.4	4 1.392	IDENTIFIED	8.048	✓
Lutetium-177	—	2.565	0.4996	pCi/g	1.434	N	0	14 0	FAIL_ABUND	0	✓
Niobium-95m	—	0.8465	0.06609	pCi/g	0.2155	N	0	14 0	NOT_IDENTI	0	✓
Niobium-97	—	3.89E+05	61460	pCi/g	0	N	0	14 0	SHORT_HLIF	0	✓
Polonium-212	NR	0.9139	0.05097	pCi/g	0.06307	N	238.1	4 1.415	IDENTIFIED	3.738	✓
Polonium-214	NR	0.7335	0.06697	pCi/g	0.08188	N	351.4	4 1.392	IDENTIFIED	8.048	✓
Polonium-216	NR	0.9139	0.05097	pCi/g	0.06307	N	238.1	4 1.415	IDENTIFIED	3.738	✓
Polonium-218	NR	0.7335	0.06697	pCi/g	0.08188	N	351.4	4 1.392	IDENTIFIED	8.048	✓
Potassium-40	✓	17.77	0.8401	pCi/g	0.3619	1.00	1461	1 2.051	IDENTIFIED	2.782	✓
Radium-224	✓	2.675	0.3561	pCi/g	0.7174	Y	241.2	1 1.668	IDENTIFIED	12.85	✓
Radium-226	✓	0.6121	0.05506	pCi/g	0.07426	Y	608.9	4 1.723	IDENTIFIED	8.193	✓
Radium-228	✓	0.8035	0.08675	pCi/g	0.1301	0.500	910.9	3 1.615	IDENTIFIED	9.256	✓
Silver-110m	HE	0.07441	0.01473	pCi/g	0.04959	N	0	14 0	NOT_IDENTI	0	✓
Sodium-24	HE	1.89E+05	3.80E+05	pCi/g	0	N	0	14 0	SHORT_HLIF	0	✓
Strontium-85	LA	0.05916	0.01426	pCi/g	0.04715	Y	0	14 0	NOT_IDENTI	0	✓ UI Data rejected due to low abundance.
Thallium-200	HE	154.4	193.3	pCi/g	0	N	0	14 0	SHORT_HLIF	0	✓
Thallium-208	✓	0.2695	0.02419	pCi/g	0.03764	0.080	583	1 1.711	IDENTIFIED	8.392	✓
Thorium-228	✓	0.9281	0.05176	pCi/g	0.06405	N	238.1	4 1.415	IDENTIFIED	3.738	✓
Thorium-230	✓	0.6121	0.05506	pCi/g	0.07425	N	608.9	4 1.723	IDENTIFIED	8.193	✓
Thorium-232	✓	0.8035	0.08675	pCi/g	0.1301	N	910.9	3 1.615	IDENTIFIED	9.256	✓
Titanium-44	—	0.1124	0.01642	pCi/g	0.05387	N	0	14 0	NOT_IDENTI	0	✓
Uranium-234	✓	0.6121	0.05506	pCi/g	0.07425	N	608.9	4 1.723	IDENTIFIED	8.193	✓
Zirconium-97	—	6.11E+06	1.07E+06	pCi/g	0	N	0	14 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	
243274001	16-DEC-09 12:00	30-DEC-09 22:47	14.4	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy	***FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	✓	1.471	0.1495	pCi/g	0.165	N	911	3 1.515	IDENTIFIED	8.779	✓
Americium-243	✓	0.2976	0.02074	pCi/g	0.04028	N	73.97	1 0.8786	IDENTIFIED	5.518	✓
Annihilation Rad.	—	0.1075	0.02622	pCi/g	0.03449	N	510.3	1 2.225	IDENTIFIED	24.15	✓
Bismuth-211	✓	3.083	0.2153	pCi/g	0.2391	Y	351.3	4 1.164	IDENTIFIED	5.989	✓
Bismuth-212	—	1.145	0.1757	pCi/g	0.5556	N	0	10 0	FAIL_ABUND	0	✓
Bismuth-214	✓	0.9223	0.07377	pCi/g	0.08541	0.200	609	4 1.375	IDENTIFIED	6.622	✓
Cadmium-109	✓	2.173	0.2799	pCi/g	0.6402	Y	89.02	1 1.111	IDENTIFIED	12.22	✓
Cerium-143	—	801.4	111.7	pCi/g	0	N	0	10 0	SHORT_HLIF	0	✓
Cesium-134	—	0.0766	0.03027	pCi/g	0.07368	0.100	0	10 0	FAIL_ABUND	0	✓ UI Data rejected due to low abundance.
Cesium-135	HE	0.2156	0.07887	pCi/g	0.1602	N	269.3	1 1.084	IDENTIFIED	36.3	✓
Curium-243	HE	0.1088	0.02878	pCi/g	0.1059	N	0	10 0	FAIL_ABUND	0	✓
Gross Gamma	—	8.175	1.114	pCi/g	3.167	N	0				✓
Iodine-133	HE	1285	1321	pCi/g	0	N	0	10 0	SHORT_HLIF	0	✓

Iodine-135	HE	8.56E+14	4.97E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	✓
Lead-212	✓	1.46	0.07554	pCi/g	0.05786	0.100	237.9	4	1.048	IDENTIFIED	2.738	✓
Lead-214	✓	1.072	0.07994	pCi/g	0.0834	0.100	351.3	4	1.164	IDENTIFIED	5.989	✓
Lutetium-177	—	2.587	0.4971	pCi/g	1.32	N	0	10	0	FAIL_ABUND	0	✓
Neptunium-237	INT	1.022	0.1403	pCi/g	0.1843	N	86.37	2	1.214	IDENTIFIED	8.102	✓
Niobium-95m	—	0.314	0.0514	pCi/g	0.1694	N	0	10	0	NOT_IDENTI	0	✓
Polonium-212	NR	1.46	0.07554	pCi/g	0.05786	N	237.9	4	1.048	IDENTIFIED	2.738	✓
Polonium-214	NR	1.072	0.07994	pCi/g	0.0834	N	351.3	4	1.164	IDENTIFIED	5.989	✓
Polonium-216	NR	1.46	0.07554	pCi/g	0.05786	N	237.9	4	1.048	IDENTIFIED	2.738	✓
Polonium-218	NR	1.072	0.07994	pCi/g	0.0834	N	351.3	4	1.164	IDENTIFIED	5.989	✓
Potassium-40	✓	23.31	0.9675	pCi/g	0.4417	1.00	1461	1	2.096	IDENTIFIED	2.789	✓
Radium-224	INT	4.378	0.449	pCi/g	0.659	Y	240.9	1	1.748	IDENTIFIED	9.538	✓
Radium-226	✓	0.9223	0.07377	pCi/g	0.08541	Y	609	4	1.375	IDENTIFIED	6.622	✓
Radium-228	✓	1.471	0.1495	pCi/g	0.165	0.500	911	3	1.515	IDENTIFIED	8.779	✓
Thallium-200	—	234.3	105.4	pCi/g	0	N	0	10	0	SHORT_HLIF	0	✓
Thallium-208	✓	0.5198	0.03971	pCi/g	0.0467	0.080	582.7	1	1.57	IDENTIFIED	6.533	✓
Thorium-228	✓	1.482	0.07663	pCi/g	0.0587	N	237.9	4	1.048	IDENTIFIED	2.738	✓
Thorium-230	✓	0.9222	0.07376	pCi/g	0.08541	N	609	4	1.375	IDENTIFIED	6.622	✓
Thorium-232	✓	1.471	0.1495	pCi/g	0.165	N	911	3	1.515	IDENTIFIED	8.779	✓
Thorium-234	PUNC	0.7604	0.3985	pCi/g	0.6854	2.00	62.41	2	0.7089	IDENTIFIED	51.62	✓
Tin-126	INT	0.3481	0.03153	pCi/g	0.06292	N	86.37	2	1.214	IDENTIFIED	8.102	✓
Total Uranium	✓	2.3185	1.19E-06	ug/g	1.0216	N	0	0	0	0	0	✓
Uranium-234	✓	0.9222	0.07376	pCi/g	0.08541	N	609	4	1.375	IDENTIFIED	6.622	✓
Uranium-238	HE	0.7604	0.3985	pCi/g	0.6854	N	62.41	2	0.7089	IDENTIFIED	51.62	✓
Zirconium-97	—	1.56E+06	4.19E+05	pCi/g	0	N	0	10	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
243274002	16-DEC-09 12:00	30-DEC-09 22:52	14.5	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.652	0.1283	pCi/g	0.1414	N	910.8	3	1.856	IDENTIFIED 5.494
Americium-243	INT	0.3803	0.03006	pCi/g	0.05932	N	74.7	1	1.086	IDENTIFIED 7.136
Annihilation Rad.	—	0.09666	0.02515	pCi/g	0.03109	N	510.6	1	1.422	IDENTIFIED 25.84
Bismuth-211	INT	3.351	0.1839	pCi/g	0.2201	Y	351.7	4	1.335	IDENTIFIED 4.498
Bismuth-212	—	1.078	0.1716	pCi/g	0.4722	N	0	8	0	FAIL_ABUND 0
Bismuth-214	✓	1.088	0.06758	pCi/g	0.07971	0.200	609	4	1.469	IDENTIFIED 4.655
Cadmium-109	INT	3.109	0.3332	pCi/g	0.8974	Y	87.07	3	0.9969	IDENTIFIED 10.03
Cerium-143	✓	490.5	66.78	pCi/g	0	N	0	8	0	SHORT_HLIF 0
Cesium-134	✓	0.1187	0.02341	pCi/g	0.0666	0.100	0	8	0	FAIL_ABUND 0
Gross Gamma	✓	8.786	1.061	pCi/g	2.443	N	0	0	0	0
Lead-212	✓	1.53	0.06622	pCi/g	0.05951	0.100	238.5	4	1.083	IDENTIFIED 2.476
Lead-214	✓	1.166	0.07082	pCi/g	0.07674	0.100	351.7	4	1.335	IDENTIFIED 4.498
Lutetium-177	—	2.799	0.5094	pCi/g	1.272	N	0	8	0	FAIL_ABUND 0
Neptunium-237	INT	0.8981	0.1336	pCi/g	0.2743	N	87.07	3	0.9969	IDENTIFIED 10.03
Polonium-212	NR	1.53	0.06622	pCi/g	0.05951	N	238.5	4	1.083	IDENTIFIED 2.476
Polonium-214	NR	1.166	0.07082	pCi/g	0.07674	N	351.7	4	1.335	IDENTIFIED 4.498
Polonium-216	NR	1.53	0.06622	pCi/g	0.05951	N	238.5	4	1.083	IDENTIFIED 2.476
Polonium-218	NR	1.166	0.07082	pCi/g	0.07674	N	351.7	4	1.335	IDENTIFIED 4.498
Potassium-40	✓	26.59	1.128	pCi/g	0.3845	1.00	1460	1	2.146	IDENTIFIED 2.3
Radium-224	INT	4.575	0.4733	pCi/g	0.6773	Y	241.3	1	1.855	IDENTIFIED 9.971
Radium-226	✓	1.088	0.06758	pCi/g	0.07971	Y	609	4	1.469	IDENTIFIED 4.655
Radium-228	✓	1.652	0.1283	pCi/g	0.1414	0.500	910.8	3	1.856	IDENTIFIED 5.494
Rhenium-188	HE	0.1951	0.0539	pCi/g	0.1912	N	0	8	0	NOT_IDENTI 0
Technetium-99m	HE	3.13E+14	2.32E+15	pCi/g	0	N	0	8	0	SHORT_HLIF 0
Thallium-208	✓	0.4624	0.03032	pCi/g	0.04112	0.080	583	1	1.531	IDENTIFIED 5.495
Thorium-228	✓	1.552	0.06718	pCi/g	0.06038	N	238.5	4	1.083	IDENTIFIED 2.476
Thorium-230	✓	1.088	0.06758	pCi/g	0.07971	N	609	4	1.469	IDENTIFIED 4.655
Thorium-232	✓	1.652	0.1283	pCi/g	0.1414	N	910.8	3	1.856	IDENTIFIED 5.494
Tin-126	INT	0.3058	0.03278	pCi/g	0.08871	N	87.07	3	0.9969	IDENTIFIED 10.03
Titanium-44	✓	0.3402	0.02023	pCi/g	0.05022	N	0	8	0	FAIL_ABUND 0
Uranium-234	✓	1.088	0.06758	pCi/g	0.07971	N	609	4	1.469	IDENTIFIED 4.655
Zirconium-97	—	1.58E+06	3.79E+05	pCi/g	0	N	0	8	0	SHORT_HLIF 0

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243274003	16-DEC-09 12:00	30-DEC-09 23:06	14.5	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.74	0.1503	pCi/g	0.1639	N	910.9	3 1.548	IDENTIFIED	7.006
Americium-243	✗	0.3218	0.03091	pCi/g	0.07702	N	74.88	1 1.015	IDENTIFIED	8.631
Annihilation Rad.	—	0.1186	0.02659	pCi/g	0.03733	N	510.9	1 1.951	IDENTIFIED	22.24
Barium-137m	HE	0.0549	0.02467	pCi/g	0.04495	N	661.1	2 1.191	IDENTIFIED	44.86
Bismuth-211	✗	4.203	0.2161	pCi/g	0.261	Y	352	4 1.338	IDENTIFIED	4.053
Bismuth-212	—	1.397	0.2087	pCi/g	0.5396	N	0	9 0	FAIL_ABUND	0
Bismuth-214	✓	1.361	0.08216	pCi/g	0.08965	0.200	609.3	4 1.497	IDENTIFIED	4.765
Cadmium-109	✗	3.657	0.45	pCi/g	0.9359	Y	87.27	3 1.279	IDENTIFIED	11.43
Cerium-143	—	428.7	66.1	pCi/g	0	N	0	9 0	SHORT_HLIF	0
Cesium-135	HE	0.2421	0.06785	pCi/g	0.2183	N	0	9 0	NOT_IDENTI	0
Cesium-137	↑UNC	0.05804	0.02607	pCi/g	0.04752	0.100	661.1	2 1.191	IDENTIFIED	44.86
Gross Gamma	—	9.075	1.277	pCi/g	3.473	N	0			
Krypton-85	HE	10.21	3.238	pCi/g	10.18	N	0	9 0	NOT_IDENTI	0
Lead-212	✓	1.798	0.07921	pCi/g	0.0732	0.100	238.9	4 1.215	IDENTIFIED	2.476
Lead-214	✓	1.462	0.08429	pCi/g	0.09099	0.100	352	4 1.338	IDENTIFIED	4.053
Lutetium-177	HE	2.359	0.5533	pCi/g	1.487	N	0	9 0	FAIL_ABUND	0
Neptunium-237	✗	1.056	0.1697	pCi/g	0.2755	N	87.27	3 1.279	IDENTIFIED	11.43
Niobium-97	HE	15950	22840	pCi/g	0	N	0	9 0	SHORT_HLIF	0
Polonium-212	NR	1.798	0.07921	pCi/g	0.0732	N	238.9	4 1.215	IDENTIFIED	2.476
Polonium-214	NR	1.462	0.08429	pCi/g	0.09099	N	352	4 1.338	IDENTIFIED	4.053
Polonium-216	NR	1.798	0.07921	pCi/g	0.0732	N	238.9	4 1.215	IDENTIFIED	2.476
Polonium-218	NR	1.462	0.08429	pCi/g	0.09099	N	352	4 1.338	IDENTIFIED	4.053
Potassium-40	✓	19.51	0.9225	pCi/g	0.3985	1.00	1460	1 1.92	IDENTIFIED	3.117
Radium-224	✗	4.629	0.5146	pCi/g	0.8331	Y	241.7	1 1.708	IDENTIFIED	10.74
Radium-226	✓	1.361	0.08216	pCi/g	0.08965	Y	609.3	4 1.497	IDENTIFIED	4.765
Radium-228	✓	1.74	0.1503	pCi/g	0.1639	0.500	910.9	3 1.548	IDENTIFIED	7.006
Strontium-85	LA	0.05199	0.0165	pCi/g	0.05187	Y	0	9 0	NOT_IDENTI	0
Thallium-208	✓	0.6079	0.03909	pCi/g	0.04354	0.080	583	1 1.451	IDENTIFIED	5.596
Thorium-228	✓	1.824	0.08036	pCi/g	0.07427	N	238.9	4 1.215	IDENTIFIED	2.476
Thorium-230	✓	1.361	0.08216	pCi/g	0.08964	N	609.3	4 1.497	IDENTIFIED	4.765
Thorium-232	✓	1.74	0.1503	pCi/g	0.1639	N	910.9	3 1.548	IDENTIFIED	7.006
Tin-126	✗	0.3597	0.04427	pCi/g	0.09258	N	87.27	3 1.279	IDENTIFIED	11.43
Titanium-44	—	0.3692	0.02658	pCi/g	0.06632	N	0	9 0	FAIL_ABUND	0
Total Uranium	—	4.1327	2.10E-06	ug/g	2.7386	N	0			
Uranium-234	✓	1.361	0.08216	pCi/g	0.08964	N	609.3	4 1.497	IDENTIFIED	4.765
Zirconium-97	—	1.44E+06	4.45E+05	pCi/g	0	N	0	9 0	SHORT_HLIF	0

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243274004	16-DEC-09 12:00	30-DEC-09 23:06	14.5	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.625	0.1351	pCi/g	0.1509	N	911	3 1.599	IDENTIFIED	5.815
Americium-243	✗	0.3702	0.02324	pCi/g	0.03203	N	74.78	1 0.8446	IDENTIFIED	3.686
Annihilation Rad.	—	0.1371	0.02642	pCi/g	0.03129	N	510.4	1 1.549	IDENTIFIED	18.57
Barium-137m	✓	0.2303	0.02808	pCi/g	0.04275	N	661.5	2 1.276	IDENTIFIED	10.86
Bismuth-211	✓	1.549	0.2473	pCi/g	0.4005	N	46.41	3 0.973	IDENTIFIED	15.11
Bismuth-210	✗	4.553	0.2882	pCi/g	0.1971	Y	351.8	4 1.236	IDENTIFIED	3.523
Bismuth-212	✓	1.069	0.1876	pCi/g	0.33	N	727	1 1.597	IDENTIFIED	16.49
Bismuth-214	✓	1.355	0.1002	pCi/g	0.0763	0.200	609.2	4 1.393	IDENTIFIED	4.272
Cadmium-109	✗	3.613	0.2767	pCi/g	0.5014	Y	87.23	3 1.194	IDENTIFIED	5.478
Cerium-143	—	403.4	61.65	pCi/g	0	N	0	10 0	SHORT_HLIF	0
Cesium-134	LA	0.1117	0.02334	pCi/g	0.06525	0.100	0	10 0	FAIL_ABUND	0
Cesium-135	HE	0.2257	0.05459	pCi/g	0.1723	N	0	10 0	NOT_IDENTI	0
Cesium-137	✓	0.2435	0.02969	pCi/g	0.04519	0.100	661.5	2 1.276	IDENTIFIED	10.86
Gold-195	HE	0.2039	0.05562	pCi/g	0.1917	N	0	10 0	FAIL_ABUND	0
Gross Gamma	—	9.442	1.056	pCi/g	3.328	N	0			
Lead-210	✓	1.549	0.2473	pCi/g	0.4005	N	46.41	3 0.973	IDENTIFIED	15.11
Lead-212	✓	1.763	0.1074	pCi/g	0.05726	0.100	238.6	4 0.9778	IDENTIFIED	2.168
Lead-214	✓	1.584	0.1084	pCi/g	0.06873	0.100	351.8	4 1.236	IDENTIFIED	3.523

Lutetium-177	—	3.056	0.4775	pCi/g	1.201	N	0	10	0	FAIL_ABUND	0	Γ
Neptunium-237	IN	1.044	0.1341	pCi/g	0.1554	N	87.23	3	1.194	IDENTIFIED	5.478	Γ
Niobium-95	HE	0.05806	0.01726	pCi/g	0.05569	N	0	10	0	NOT_IDENT	0	Γ
Niobium-97	HE	11640	21230	pCi/g	0	N	0	10	0	SHORT_HLIF	0	Γ
Polonium-210	✓	1.549	0.2454	pCi/g	0.4005	N	46.41	3	0.973	IDENTIFIED	15.11	Γ
Polonium-212	NR	1.763	0.1074	pCi/g	0.05726	N	238.6	4	0.9778	IDENTIFIED	2.168	Γ
Polonium-214	NR	1.584	0.1084	pCi/g	0.06873	N	351.8	4	1.236	IDENTIFIED	3.523	Γ
Polonium-216	NR	1.763	0.1074	pCi/g	0.05726	N	238.6	4	0.9778	IDENTIFIED	2.168	Γ
Polonium-218	NR	1.584	0.1084	pCi/g	0.06873	N	351.8	4	1.236	IDENTIFIED	3.523	Γ
Potassium-40	✓	20.33	1.035	pCi/g	0.3354	1.00	1461	1	1.917	IDENTIFIED	2.796	Γ
Radium-224	IN	4.676	0.4416	pCi/g	0.6524	Y	241.6	1	1.533	IDENTIFIED	7.844	Γ
Radium-226	✓	1.355	0.1002	pCi/g	0.0763	Y	609.2	4	1.393	IDENTIFIED	4.272	Γ
Radium-228	✓	1.625	0.1351	pCi/g	0.1509	0.500	911	3	1.599	IDENTIFIED	5.815	Γ
Technetium-99m	HE	7.14E+14	1.87E+15	pCi/g	0	N	0	10	0	SHORT_HLIF	0	Γ
Thallium-208	✓	0.5931	0.04491	pCi/g	0.04051	0.080	583	1	1.315	IDENTIFIED	5.057	Γ
Thorium-228	✓	1.789	0.109	pCi/g	0.0581	N	238.6	4	0.9778	IDENTIFIED	2.168	Γ
Thorium-230	✓	1.355	0.1002	pCi/g	0.0763	N	609.2	4	1.393	IDENTIFIED	4.272	Γ
Thorium-232	✓	1.625	0.1351	pCi/g	0.1509	N	911	3	1.599	IDENTIFIED	5.815	Γ
Thorium-234	✓	1.589	0.3427	pCi/g	0.5212	2.00	63.22	2	0.717	IDENTIFIED	19.45	Γ
Tin-126	IN	0.3555	0.02723	pCi/g	0.04923	N	87.23	3	1.194	IDENTIFIED	5.478	Γ
Titanium-44	—	0.3745	0.02173	pCi/g	0.03085	N	0	10	0	FAIL_ABUND	0	Γ
Total Uranium	—	4.7799	1.02E-06	ug/g	0.77723	N	0	0	0			Γ
Uranium-234	✓	1.355	0.1002	pCi/g	0.0763	N	609.2	4	1.393	IDENTIFIED	4.272	Γ
Uranium-238	✓	1.589	0.3427	pCi/g	0.5212	N	63.22	2	0.717	IDENTIFIED	19.45	Γ
Zirconium-97	—	1.54E+06	3.78E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	Γ

*** = Number of isotopes identified with a skyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
243274005	16-DEC-09 12:00	31-DEC-09 14:35	15.1	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ 1.248	0.1588	pCi/g	0.2256	N	910.9	3	1.76	IDENTIFIED	11.62	Γ		
Americium-243	IN 0.2491	0.02642	pCi/g	0.05666	N	74.76	1	1.108	IDENTIFIED	9.687	Γ		
Annihilation Rad.	— 0.1322	0.03418	pCi/g	0.04954	N	510.4	1	1.569	IDENTIFIED	25.62	Γ		
Barium-137m	✓ 0.6407	0.05207	pCi/g	0.06787	N	661.5	2	1.636	IDENTIFIED	7.03	Γ		
Bismuth-210	✓ 1.998	0.3906	pCi/g	0.7232	N	46.48	3	1.199	IDENTIFIED	19.13	Γ		
Bismuth-211	IN 2.834	0.2376	pCi/g	0.3446	Y	351.7	4	1.286	IDENTIFIED	7.554	Γ	W	
Bismuth-214	✓ 0.8846	0.08863	pCi/g	0.1181	0.200	609	4	1.742	IDENTIFIED	8.863	Γ		
Cadmium-109	IN 2.747	0.4157	pCi/g	1.071	Y	87.18	3	1.234	IDENTIFIED	14.6	Γ	W	
Cerium-143	— 604	104.3	pCi/g	0	N	0	8	0	SHORT_HLIF	0	Γ		
Cesium-137	✓ 0.6773	0.05507	pCi/g	0.07174	0.100	661.5	2	1.636	IDENTIFIED	7.03	Γ		
Gross Gamma	— 6.782	1.054	pCi/g	3.353	N	0	0	0			Γ		
Lead-210	✓ 1.998	0.3906	pCi/g	0.7232	N	46.48	3	1.199	IDENTIFIED	19.13	Γ		
Lead-212	✓ 1.051	0.08794	pCi/g	0.09983	0.100	238.4	4	1.192	IDENTIFIED	7.029	Γ		
Lead-214	✓ 0.9857	0.08656	pCi/g	0.1201	0.100	351.7	4	1.286	IDENTIFIED	7.554	Γ		
Lutetium-177	HE 1.911	0.6114	pCi/g	1.832	N	0	8	0	FAIL_ABUND	0	Γ		
Neptunium-237	IN 0.7929	0.1452	pCi/g	0.3315	N	87.18	3	1.234	IDENTIFIED	14.6	Γ		
Niobium-97	HE 1.36E+05	71690	pCi/g	0	N	0	8	0	SHORT_HLIF	0	Γ		
Polonium-210	✓ 1.998	0.3886	pCi/g	0.7232	N	46.48	3	1.199	IDENTIFIED	19.13	Γ		
Polonium-212	NR 1.051	0.08794	pCi/g	0.09983	N	238.4	4	1.192	IDENTIFIED	7.029	Γ		
Polonium-214	NR 0.9857	0.08656	pCi/g	0.1201	N	351.7	4	1.286	IDENTIFIED	7.554	Γ		
Polonium-216	NR 1.051	0.08794	pCi/g	0.09983	N	238.4	4	1.192	IDENTIFIED	7.029	Γ		
Polonium-218	NR 0.9857	0.08656	pCi/g	0.1201	N	351.7	4	1.286	IDENTIFIED	7.554	Γ		
Potassium-40	✓ 17.11	0.902	pCi/g	0.6267	1.00	1460	1	2.128	IDENTIFIED	4.294	Γ		
Radium-226	✓ 0.8846	0.08863	pCi/g	0.1181	Y	609	4	1.742	IDENTIFIED	8.863	Γ		
Radium-228	✓ 1.248	0.1588	pCi/g	0.2256	0.500	910.9	3	1.76	IDENTIFIED	11.62	Γ		
Sodium-24	HE 55560	4.58E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	Γ		
Technetium-99m	— 3.52E+15	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	Γ		
Thallium-200	HE 48.07	238.5	pCi/g	0	N	0	8	0	SHORT_HLIF	0	Γ		
Thallium-208	✓ 0.37	0.04712	pCi/g	0.06509	0.080	583.2	1	1.749	IDENTIFIED	12.04	Γ		
Thorium-228	✓ 1.067	0.08928	pCi/g	0.1013	N	238.4	4	1.192	IDENTIFIED	7.029	Γ		
Thorium-230	✓ 0.8846	0.08863	pCi/g	0.1181	N	609	4	1.742	IDENTIFIED	8.863	Γ		
Thorium-232	✓ 1.248	0.1588	pCi/g	0.2256	N	910.9	3	1.76	IDENTIFIED	11.62	Γ		
Thorium-234	✓ 2.502	0.4946	pCi/g	0.9305	2.00	63.2	2	1.306	IDENTIFIED	17.51	Γ		
Tin-126	IN 0.27	0.04086	pCi/g	0.1143	N	87.18	3	1.234	IDENTIFIED	14.6	Γ		

Titanium-44	—	0.2501	0.02067	pCi/g	0.05087	N	0	8	0	FAIL_ABUND 0	┐
Total Uranium	—	7.4993	1.47E-06	ug/g	1.3872	N			0		┐
Uranium-234	✓	0.8846	0.08863	pCi/g	0.1181	N	609	4	1.742	IDENTIFIED 8.863	┐
Uranium-238	✓	2.502	0.4946	pCi/g	0.9305	N	63.2	2	1.306	IDENTIFIED 17.51	┐
Zirconium-97	—	4.02E+06	1.10E+06	pCi/g	0	N	0	8	0	SHORT_HLIF 0	┐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
243274006	16-DEC-09 12:00	31-DEC-09 14:35	15.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	✓	1.557	0.2026	pCi/g	0.2488	N	911	3	1.57	IDENTIFIED 11.96	┐
Americium-243	┐	0.3857	0.03243	pCi/g	0.05901	N	74.01	1	1.128	IDENTIFIED 7.253	┐
Annihilation Rad.	HE	0.1482	0.04969	pCi/g	0.05412	N	510.9	1	2.454	IDENTIFIED 33.36	┐
Bismuth-211	┐	3.171	0.2856	pCi/g	0.3004	Y	351.2	4	1.314	IDENTIFIED 8.257	┐ W
Bismuth-212	HE	1.392	0.2981	pCi/g	0.8149	N	0	7	0	FAIL_ABUND 0	┐
Bismuth-214	✓	0.9588	0.1024	pCi/g	0.1299	0.200	608.8	4	1.337	IDENTIFIED 9.692	┐
Cadmium-109	┐	2.665	0.4062	pCi/g	0.9504	Y	89.1	1	1.206	IDENTIFIED 14.69	┐ W
Cerium-143	—	1066	161.3	pCi/g	0	N	0	7	0	SHORT_HLIF 0	┐
Cesium-135	HE	0.4181	0.1112	pCi/g	0.2395	N	269.4	1	1.814	IDENTIFIED 26.22	┐
Gross Gamma	—	8.34	1.508	pCi/g	3.381	N	0				┐
Iodine-123	HE	9.15E+05	2.61E+06	pCi/g	0	N	0	7	0	SHORT_HLIF 0	┐
Lead-212	✓	1.34	0.08195	pCi/g	0.09199	0.100	237.9	4	0.9863	IDENTIFIED 4.259	┐
Lead-214	✓	1.103	0.1034	pCi/g	0.1048	0.100	351.2	4	1.314	IDENTIFIED 8.257	┐
Lutetium-177	HE	2.417	0.757	pCi/g	1.979	N	0	7	0	FAIL_ABUND 0	┐
Neptunium-237	┐	1.194	0.1857	pCi/g	0.2734	N	86.43	2	1.273	IDENTIFIED 10.91	┐
Niobium-95m	HE	0.34	0.07181	pCi/g	0.2427	N	0	7	0	NOT_IDENTI 0	┐
Niobium-97	HE	1800	59550	pCi/g	0	N	0	7	0	SHORT_HLIF 0	┐
Polonium-212	NR	1.34	0.08195	pCi/g	0.09199	N	237.9	4	0.9863	IDENTIFIED 4.259	┐
Polonium-214	NR	1.103	0.1034	pCi/g	0.1048	N	351.2	4	1.314	IDENTIFIED 8.257	┐
Polonium-216	NR	1.34	0.08195	pCi/g	0.09199	N	237.9	4	0.9863	IDENTIFIED 4.259	┐
Polonium-218	NR	1.103	0.1034	pCi/g	0.1048	N	351.2	4	1.314	IDENTIFIED 8.257	┐
Potassium-40	✓	28.23	1.342	pCi/g	0.6954	1.00	1461	1	1.847	IDENTIFIED 3.626	┐
Radium-224	┐	4.171	0.5498	pCi/g	1.048	Y	241	1	1.536	IDENTIFIED 12.63	┐ W
Radium-226	✓	0.9588	0.1024	pCi/g	0.1299	Y	608.8	4	1.337	IDENTIFIED 9.692	┐
Radium-228	✓	1.557	0.2026	pCi/g	0.2488	0.500	911	3	1.57	IDENTIFIED 11.96	┐
Thallium-208	✓	0.4695	0.05367	pCi/g	0.06806	0.080	582.7	1	1.388	IDENTIFIED 10.72	┐
Thorium-228	✓	1.361	0.0832	pCi/g	0.09339	N	237.9	4	0.9863	IDENTIFIED 4.259	┐
Thorium-230	✓	0.9588	0.1024	pCi/g	0.1299	N	608.8	4	1.337	IDENTIFIED 9.692	┐
Thorium-232	✓	1.557	0.2026	pCi/g	0.2488	N	911	3	1.57	IDENTIFIED 11.96	┐
Tin-126	┐	0.4066	0.04732	pCi/g	0.09331	N	86.43	2	1.273	IDENTIFIED 10.91	┐
Uranium-234	✓	0.9588	0.1024	pCi/g	0.1299	N	608.8	4	1.337	IDENTIFIED 9.692	┐
Zirconium-97	—	4.89E+06	1.20E+06	pCi/g	0	N	0	7	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	
243274007	16-DEC-09 12:00	31-DEC-09 14:35	15.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	✓	1.177	0.1313	pCi/g	0.1542	N	911.3	3	1.609	IDENTIFIED 8.975	┐
Americium-243	┐	0.3335	0.0377	pCi/g	0.08076	N	75.1	1	1.185	IDENTIFIED 10.5	┐
Annihilation Rad.	HE	0.08726	0.02824	pCi/g	0.03129	N	511.2	1	2.082	IDENTIFIED 32.19	┐
Barium-137m	✓	0.3179	0.03161	pCi/g	0.04308	N	661.8	2	1.542	IDENTIFIED 9.183	┐
Bismuth-211	┐	3.382	0.1971	pCi/g	0.239	Y	352.2	4	1.299	IDENTIFIED 4.863	┐ W
Bismuth-212	┐	1.319	0.1559	pCi/g	0.5216	N	0	9	0	FAIL_ABUND 0	┐
Bismuth-214	✓	0.9605	0.07527	pCi/g	0.08804	0.200	609.5	4	1.633	IDENTIFIED 6.439	┐
Cadmium-109	┐	3.441	0.4973	pCi/g	1.05	Y	87.5	3	1.312	IDENTIFIED 13.7	┐ W
Cerium-143	✓	417.3	78.47	pCi/g	0	N	0	9	0	SHORT_HLIF 0	┐
Cesium-134	SA	0.09385	0.02425	pCi/g	0.06919	0.100	0	9	0	FAIL_ABUND 0	┐ UI Data rejected due to low abundance.
Cesium-137	✓	0.3361	0.03343	pCi/g	0.04554	0.100	661.8	2	1.542	IDENTIFIED 9.183	┐
Gross Gamma	┐	7.793	1.01	pCi/g	2.115	N	0				┐
Krypton-85	✓	25.34	3.305	pCi/g	11.86	N	0	9	0	NOT_IDENTI 0	┐
Lead-212	✓	1.331	0.06468	pCi/g	0.07121	0.100	238.9	4	1.171	IDENTIFIED 3.294	┐
Lead-214	✓	1.177	0.07511	pCi/g	0.08328	0.100	352.2	4	1.299	IDENTIFIED 4.863	┐
Lutetium-177	—	3.067	0.6401	pCi/g	1.591	N	0	9	0	FAIL_ABUND 0	┐

Neptunium-237	INT	0.9932	0.1764	pCi/g	0.3098	N	87.5	3	1.312	IDENTIFIED	13.7	✓
Niobium-97	HE	69150	39960	pCi/g	0	N	0	9	0	SHORT_HLIF	0	✓
Polonium-212	NR	1.331	0.06468	pCi/g	0.07121	N	238.9	4	1.171	IDENTIFIED	3.294	✓
Polonium-214	NR	1.177	0.07511	pCi/g	0.08328	N	352.2	4	1.299	IDENTIFIED	4.863	✓
Polonium-216	NR	1.331	0.06468	pCi/g	0.07121	N	238.9	4	1.171	IDENTIFIED	3.294	✓
Polonium-218	NR	1.177	0.07511	pCi/g	0.08328	N	352.2	4	1.299	IDENTIFIED	4.863	✓
Potassium-40	✓	19.77	0.9387	pCi/g	0.4232	1.00	1461	1	2.286	IDENTIFIED	2.856	✓
Radium-224	INT	3.537	0.5591	pCi/g	0.8093	Y	241.8	1	1.767	IDENTIFIED	15.56	✓
Radium-226	✓	0.9605	0.07527	pCi/g	0.08804	Y	609.5	4	1.633	IDENTIFIED	6.439	✓
Radium-228	✓	1.177	0.1313	pCi/g	0.1542	0.500	911.3	3	1.609	IDENTIFIED	8.975	✓
Strontium-85	✓	0.1299	0.01695	pCi/g	0.06078	Y	0	9	0	NOT_IDENTI	0	✓ UI Data rejected due to low abundance.
Thallium-208	✓	0.4029	0.03287	pCi/g	0.04871	0.080	583.3	1	1.43	IDENTIFIED	7.153	✓
Thorium-228	✓	1.351	0.06566	pCi/g	0.07229	N	238.9	4	1.171	IDENTIFIED	3.294	✓
Thorium-230	✓	0.9605	0.07527	pCi/g	0.08804	N	609.5	4	1.633	IDENTIFIED	6.439	✓
Thorium-232	✓	1.177	0.1313	pCi/g	0.1542	N	911.3	3	1.609	IDENTIFIED	8.975	✓
Tin-126	INT	0.3382	0.04888	pCi/g	0.1039	N	87.5	3	1.312	IDENTIFIED	13.7	✓
Titanium-44	—	0.2883	0.02449	pCi/g	0.07585	N	0	9	0	FAIL_ABUND	0	✓
Total Uranium	—	6.0522	3.01E-06	ug/g	3.1735	N	0	0	0	FAIL_ABUND	0	✓
Uranium-234	✓	0.9605	0.07527	pCi/g	0.08804	N	609.5	4	1.633	IDENTIFIED	6.439	✓
Zirconium-97	—	3.41E+06	7.27E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	✓

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243274008	16-DEC-09 12:00	31-DEC-09 14:36	15.1	SAMPLE	LOAD	1	LANL	LANL10041GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.821	0.1798	pCi/g	0.2241	N	911.1	3	1.67	IDENTIFIED 7.744
Americium-243	INT	0.3705	0.03755	pCi/g	0.07912	N	74.9	1	1.092	IDENTIFIED 9.298
Annihilation Rad.	HE	0.1071	0.03512	pCi/g	0.04814	N	510.7	1	2.215	IDENTIFIED 32.47
Bismuth-210	HE	3.566	1.889	pCi/g	3.454	N	46.67	3	1.468	IDENTIFIED 52.78
Bismuth-211	INT	2.986	0.2709	pCi/g	0.3521	Y	351.8	4	1.358	IDENTIFIED 7.707
Bismuth-212	—	1.29	0.2621	pCi/g	0.7289	N	0	10	0	FAIL_ABUND 0
Bismuth-214	✓	1.027	0.09843	pCi/g	0.1098	0.200	609.3	4	1.409	IDENTIFIED 7.798
Cadmium-109	✓	4.273	0.703	pCi/g	1.088	Y	88.03	2	3.409	IDENTIFIED 15.76
Cerium-143	—	583.9	109.1	pCi/g	0	N	0	10	0	SHORT_HLIF 0
Gross Gamma	—	9.332	1.554	pCi/g	3.297	N	0	0	0	SHORT_HLIF 0
Iodine-133	HE	1964	2803	pCi/g	0	N	0	10	0	SHORT_HLIF 0
Iodine-135	HE	8.00E+14	3.23E+15	pCi/g	0	N	0	10	0	SHORT_HLIF 0
Lead-210	HE	3.566	1.889	pCi/g	3.454	N	46.67	3	1.468	IDENTIFIED 52.78
Lead-212	✓	1.632	0.1041	pCi/g	0.08859	0.100	238.6	4	1.185	IDENTIFIED 3.526
Lead-214	✓	1.039	0.09804	pCi/g	0.1227	0.100	351.8	4	1.358	IDENTIFIED 7.707
Lutetium-177	HE	2.333	0.9224	pCi/g	2.107	N	0	10	0	FAIL_ABUND 0
Mercury-203	✓	0.06032	0.03079	pCi/g	0.05958	0.100	277.7	1	1.568	IDENTIFIED 50.79
Neptunium-237	—	0.8693	0.1804	pCi/g	0.4252	N	0	10	0	NOT_IDENTI
Polonium-210	HE	3.566	1.888	pCi/g	3.454	N	46.67	3	1.468	IDENTIFIED 52.78
Polonium-212	NR	1.632	0.1041	pCi/g	0.08859	N	238.6	4	1.185	IDENTIFIED 3.526
Polonium-214	NR	1.039	0.09804	pCi/g	0.1227	N	351.8	4	1.358	IDENTIFIED 7.707
Polonium-216	NR	1.632	0.1041	pCi/g	0.08859	N	238.6	4	1.185	IDENTIFIED 3.526
Polonium-218	NR	1.039	0.09804	pCi/g	0.1227	N	351.8	4	1.358	IDENTIFIED 7.707
Potassium-40	✓	33.44	1.76	pCi/g	0.5706	1.00	1461	1	1.738	IDENTIFIED 2.949
Radium-224	INT	4.836	0.8059	pCi/g	1.008	Y	241.5	1	1.973	IDENTIFIED 15.95
Radium-226	✓	1.027	0.09843	pCi/g	0.1098	Y	609.3	4	1.409	IDENTIFIED 7.798
Radium-228	✓	1.821	0.1798	pCi/g	0.2241	0.500	911.1	3	1.67	IDENTIFIED 7.744
Sodium-24	HE	34580	3.42E+05	pCi/g	0	N	0	10	0	SHORT_HLIF 0
Thallium-200	HE	194.2	229	pCi/g	0	N	0	10	0	SHORT_HLIF 0
Thallium-208	✓	0.5197	0.0496	pCi/g	0.06297	0.080	583.3	1	1.444	IDENTIFIED 8.042
Thorium-228	✓	1.657	0.1057	pCi/g	0.08994	N	238.6	4	1.185	IDENTIFIED 3.526
Thorium-230	✓	1.027	0.09843	pCi/g	0.1098	N	609.3	4	1.409	IDENTIFIED 7.798
Thorium-232	✓	1.821	0.1798	pCi/g	0.2241	N	911.1	3	1.67	IDENTIFIED 7.744
Tin-126	INT	0.42	0.0691	pCi/g	0.1073	N	88.03	2	3.409	IDENTIFIED 15.76
Titanium-44	—	0.337	0.02604	pCi/g	0.0756	N	0	10	0	FAIL_ABUND 0
Total Uranium	—	4.7459	2.06E-06	ug/g	2.635	N	0	0	0	FAIL_ABUND 0
Uranium-234	✓	1.027	0.09843	pCi/g	0.1098	N	609.3	4	1.409	IDENTIFIED 7.798
Zirconium-97	—	3.15E+06	9.48E+05	pCi/g	0	N	0	10	0	SHORT_HLIF 0

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243274009	16-DEC-09 12:00	31-DEC-09 14:36	15.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.527	0.1726	pCi/g	0.1991	N	911.1 3	1.468 IDENTIFIED 9.774	✓	
Americium-243	✓	0.327	0.02263	pCi/g	0.04684	N	74.9 1	0.6909 IDENTIFIED 5.465	✓	
Annihilation Rad.	—	0.1248	0.03444	pCi/g	0.05011	N	511 1	1.97 IDENTIFIED 27.18	✓	
Barium-137m	✓	0.2009	0.0357	pCi/g	0.07906	N	661.7 2	1.143 IDENTIFIED 16.89	✓	
Bismuth-210	✓	1.386	0.3274	pCi/g	0.6069	N	46.35 3	0.631 IDENTIFIED 23.13	✓	
Bismuth-211	✓	4.156	0.2807	pCi/g	0.3063	Y	351.9 4	1.057 IDENTIFIED 5.029	✓	
Bismuth-212	HE	1.176	0.2272	pCi/g	0.7324	N	0 8 0	FAIL_ABUND 0	✓	
Bismuth-214	✓	1.102	0.1117	pCi/g	0.1207	0.200	609.3 4	1.335 IDENTIFIED 8.229	✓	
Cadmium-109	✓	3.01	0.3431	pCi/g	0.718	Y	87.22 3	1.02 IDENTIFIED 10.4	✓	
Cerium-143	—	303.1	74.26	pCi/g	0	N	0 8 0	SHORT_HLIF 0	✓	
Cesium-135	HE	0.2535	0.07049	pCi/g	0.2449	N	0 8 0	NOT_IDENTI 0	✓	
Cesium-137	✓	0.2124	0.03775	pCi/g	0.08357	0.100	661.7 2	1.143 IDENTIFIED 16.89	✓	
Gross Gamma	—	8.285	1.126	pCi/g	3.265	N	0		✓	
Iodine-123	HE	2.68E+05	2.10E+06	pCi/g	0	N	0 8 0	SHORT_HLIF 0	✓	
Iodine-135	HE	8.83E+14	3.25E+15	pCi/g	0	N	0 8 0	SHORT_HLIF 0	✓	
Lead-210	✓	1.386	0.3274	pCi/g	0.6069	N	46.35 3	0.631 IDENTIFIED 23.13	✓	
Lead-212	✓	1.567	0.09347	pCi/g	0.07492	0.100	238.6 4	0.8696 IDENTIFIED 3.295	✓	
Lead-214	✓	1.446	0.1047	pCi/g	0.1069	0.100	351.9 4	1.057 IDENTIFIED 5.029	✓	
Lutetium-177	HE	2.839	0.624	pCi/g	1.797	N	0 8 0	FAIL_ABUND 0	✓	
Neptunium-237	✓	0.8689	0.1336	pCi/g	0.1915	N	87.22 3	1.02 IDENTIFIED 10.4	✓	
Polonium-210	✓	1.386	0.3262	pCi/g	0.6069	N	46.35 3	0.631 IDENTIFIED 23.13	✓	
Polonium-212	NR	1.567	0.09347	pCi/g	0.07492	N	238.6 4	0.8696 IDENTIFIED 3.295	✓	
Polonium-214	NR	1.446	0.1047	pCi/g	0.1069	N	351.9 4	1.057 IDENTIFIED 5.029	✓	
Polonium-216	NR	1.567	0.09347	pCi/g	0.07492	N	238.6 4	0.8696 IDENTIFIED 3.295	✓	
Polonium-218	NR	1.446	0.1047	pCi/g	0.1069	N	351.9 4	1.057 IDENTIFIED 5.029	✓	
Potassium-40	✓	18.35	1.146	pCi/g	0.6692	1.00	1461 1	2.068 IDENTIFIED 4.561	✓	
Radium-224	✓	1.36	0.4756	pCi/g	0.8549	Y	240.7 1	1.168 IDENTIFIED 34.69	✓	
Radium-226	✓	1.102	0.1117	pCi/g	0.1207	Y	609.3 4	1.335 IDENTIFIED 8.229	✓	
Radium-228	✓	1.527	0.1726	pCi/g	0.1991	0.500	911.1 3	1.468 IDENTIFIED 9.774	✓	
Thallium-208	✓	0.4977	0.04603	pCi/g	0.06056	0.080	583.2 1	1.042 IDENTIFIED 7.475	✓	
Thorium-228	✓	1.591	0.09489	pCi/g	0.07606	N	238.6 4	0.8696 IDENTIFIED 3.295	✓	
Thorium-230	✓	1.102	0.1117	pCi/g	0.1207	N	609.3 4	1.335 IDENTIFIED 8.229	✓	
Thorium-232	✓	1.527	0.1726	pCi/g	0.1991	N	911.1 3	1.468 IDENTIFIED 9.774	✓	
Thorium-234	✓	1.487	0.4047	pCi/g	0.7195	2.00	63.43 2	0.7214 IDENTIFIED 25.74	✓	
Tin-126	✓	0.2959	0.03373	pCi/g	0.06831	N	87.22 3	1.02 IDENTIFIED 10.4	✓	
Titanium-44	—	0.3603	0.02085	pCi/g	0.03988	N	0 8 0	FAIL_ABUND 0	✓	
Total Uranium	—	4.5104	1.20E-06	ug/g	1.0729	N	0		✓	
Uranium-234	✓	1.102	0.1117	pCi/g	0.1207	N	609.3 4	1.335 IDENTIFIED 8.229	✓	
Uranium-238	HE	1.487	0.4047	pCi/g	0.7195	N	63.43 2	0.7214 IDENTIFIED 25.74	✓	
Zirconium-97	HE	1.47E+06	8.48E+05	pCi/g	0	N	0 8 0	SHORT_HLIF 0	✓	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243274010	16-DEC-09 12:00	31-DEC-09 14:37	15.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	✓	1.297	0.1611	pCi/g	0.2138	N	910.8 3	1.858 IDENTIFIED 11	✓	
Americium-243	✓	0.3683	0.043	pCi/g	0.1022	N	74.66 1	1.357 IDENTIFIED 10.8	✓	
Annihilation Rad.	—	0.145	0.03286	pCi/g	0.04392	N	510.7 1	2.659 IDENTIFIED 22.48	✓	
Barium-137m	✓	0.1911	0.0325	pCi/g	0.06169	N	660.9 2	1.557 IDENTIFIED 16.81	✓	
Bismuth-211	✓	3.253	0.2387	pCi/g	0.3186	Y	351.6 4	1.165 IDENTIFIED 6.576	✓	
Bismuth-212	HE	0.8514	0.2294	pCi/g	0.6133	N	0 14 0	FAIL_ABUND 0	✓	
Bismuth-214	✓	0.9239	0.09073	pCi/g	0.1182	0.200	608.9 4	1.435 IDENTIFIED 9.072	✓	
Cadmium-109	✓	2.403	0.5628	pCi/g	1.415	Y	87.38 3	0.8006 IDENTIFIED 22.91	✓	
Cerium-143	—	1063	144.9	pCi/g	0	N	0 14 0	SHORT_HLIF 0	✓	
Cesium-134	✓	0.1044	0.03043	pCi/g	0.08203	0.100	0 14 0	FAIL_ABUND 0	✓	Data rejected due to low abundance.
Cesium-135	HE	0.3819	0.09267	pCi/g	0.3049	N	0 14 0	NOT_IDENTI 0	✓	
Cesium-137	✓	0.202	0.03436	pCi/g	0.06522	0.100	660.9 2	1.557 IDENTIFIED 16.81	✓	
Gross Gamma	—	7.485	1.207	pCi/g	3.257	N	0		✓	
Iodine-123	HE	5.01E+05	2.90E+06	pCi/g	0	N	0 14 0	SHORT_HLIF 0	✓	

Iodine-133	HE	1427	3005	pCi/g	0	N	0	14	0	SHORT_HLIF	0	✓
Iodine-135	HE	4.16E+15	2.69E+15	pCi/g	0	N	0	14	0	SHORT_HLIF	0	✓
Lead-212	✓	1.362	0.07025	pCi/g	0.09025	0.100	238.4	4	1.155	IDENTIFIED	3.697	✓
Lead-214	✓	1.132	0.08813	pCi/g	0.1131	0.100	351.6	4	1.165	IDENTIFIED	6.576	✓
Neptunium-237	HE	0.6937	0.1775	pCi/g	0.4581	N	87.38	3	0.8006	IDENTIFIED	22.91	✓
Niobium-95m	—	0.5445	0.07785	pCi/g	0.2651	N	0	14	0	NOT_IDENTI	0	✓
Niobium-97	—	1.69E+05	56580	pCi/g	0	N	0	14	0	SHORT_HLIF	0	✓
Polonium-212	NR	1.362	0.07025	pCi/g	0.09025	N	238.4	4	1.155	IDENTIFIED	3.697	✓
Polonium-214	NR	1.132	0.08813	pCi/g	0.1131	N	351.6	4	1.165	IDENTIFIED	6.576	✓
Polonium-216	NR	1.362	0.07025	pCi/g	0.09025	N	238.4	4	1.155	IDENTIFIED	3.697	✓
Polonium-218	NR	1.132	0.08813	pCi/g	0.1131	N	351.6	4	1.165	IDENTIFIED	6.576	✓
Potassium-40	✓	18.92	1.018	pCi/g	0.4185	1.00	1460	1	2.341	IDENTIFIED	3.864	✓
Radium-224	✓	3.711	0.5482	pCi/g	1.027	Y	241.4	1	1.631	IDENTIFIED	14.5	✓ UI
Radium-226	✓	0.9239	0.09073	pCi/g	0.1182	Y	608.9	4	1.435	IDENTIFIED	9.072	✓
Radium-228	✓	1.297	0.1611	pCi/g	0.2138	0.500	910.8	3	1.858	IDENTIFIED	11	✓
Sodium-24	—	6.72E+05	2.89E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0	✓
Technetium-99m	—	2.02E+16	0	pCi/g	0	N	0	14	0	SHORT_HLIF	0	✓
Thallium-200	HE	337.5	224	pCi/g	0	N	0	14	0	SHORT_HLIF	0	✓
Thallium-208	✓	0.5393	0.04118	pCi/g	0.05252	0.080	582.6	1	1.581	IDENTIFIED	6.911	✓
Thorium-228	✓	1.383	0.07131	pCi/g	0.09162	N	238.4	4	1.155	IDENTIFIED	3.697	✓
Thorium-230	✓	0.9239	0.09073	pCi/g	0.1182	N	608.9	4	1.435	IDENTIFIED	9.072	✓
Thorium-232	✓	1.297	0.1611	pCi/g	0.2138	N	910.8	3	1.858	IDENTIFIED	11	✓
Thorium-234	✓	2.968	0.9346	pCi/g	2.49	2.00	63.38	2	1.223	IDENTIFIED	30.17	✓
Tin-126	HE	0.2362	0.05532	pCi/g	0.1399	N	87.38	3	0.8006	IDENTIFIED	22.91	✓
Titanium-44	—	0.329	0.02709	pCi/g	0.0842	N	0	14	0	FAIL_ABUND	0	✓
Total Uranium	✓	8.8675	2.78E-06	ug/g	3.7065	N	0					✓
Uranium-234	✓	0.9239	0.09073	pCi/g	0.1182	N	608.9	4	1.435	IDENTIFIED	9.072	✓
Uranium-238	HE	2.968	0.9346	pCi/g	2.49	N	63.38	2	1.223	IDENTIFIED	30.17	✓
Zirconium-97	—	6.34E+06	1.02E+06	pCi/g	0	N	0	14	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
1202001375		31-DEC-09 14:42	0	MB	LOAD	1		GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL Energy	***FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Annihilation Rad. HE	0.03862	0.01496	pCi/g	0.02443	N	512.4	1 1.731	IDENTIFIED	38.64	✓
Krypton-85	HE	13.34	2.554	pCi/g	9.952	N	0 5 0	NOT_IDENTI	0	✓
Niobium-97	HE	38.55	124.5	pCi/g	0	N	0 5 0	SHORT_HLIF	0	✓
Strontium-85	✓	0.06453	0.01236	pCi/g	0.04816	Y	0 5 0	NOT_IDENTI	0	✓ UI Data rejected due to low abundance.
Thallium-200	HE	1.719	4.362	pCi/g	0	N	0 5 0	SHORT_HLIF	0	✓
Zirconium-97	—	21310	2980	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
1202001376	16-DEC-09 12:00	31-DEC-09 15:32	15.1	DUP	LOAD	1		LANL01004 GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL Energy	***FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	✓	1.438	0.1595	pCi/g	0.235	N	910.9 3 1.858	IDENTIFIED	9.206	✓
Americium-241	✓	0.1222	0.0345	pCi/g	0.113	0.200	0 12 0	NOT_IDENTI	0	✓ UI Data rejected due to low abundance.
Americium-243	✓	0.3803	0.03238	pCi/g	0.0637	N	74.76 1 1.484	IDENTIFIED	7.56	✓
Annihilation Rad.	HE	0.09447	0.03285	pCi/g	0.0513	N	510.7 1 1.214	IDENTIFIED	34.62	✓
Bismuth-210	HE	1.182	0.3943	pCi/g	0.898	N	46.47 3 1.329	IDENTIFIED	33.12	✓
Bismuth-211	✓	3.425	0.2459	pCi/g	0.3452	Y	351.9 4 1.278	IDENTIFIED	5.995	✓ UI
Bismuth-212	✓	1.224	0.2306	pCi/g	0.7103	N	0 12 0	FAIL_ABUND	0	✓
Bismuth-214	✓	1.189	0.1002	pCi/g	0.1272	0.200	609.3 4 1.646	IDENTIFIED	7.304	✓
Cadmium-109	✓	3.335	0.3925	pCi/g	1.095	Y	87.25 3 1.104	IDENTIFIED	11.14	✓ UI
Cerium-143	—	612	113.8	pCi/g	0	N	0 12 0	SHORT_HLIF	0	✓
Gold-195	HE	0.4525	0.1098	pCi/g	0.3589	N	0 12 0	FAIL_ABUND	0	✓
Gross Gamma	—	8.184	1.226	pCi/g	3.675	N	0			✓
Iodine-123	HE	4.73E+06	3.14E+06	pCi/g	0	N	0 12 0	SHORT_HLIF	0	✓
Krypton-85	HE	20.29	4.566	pCi/g	15.58	N	0 12 0	NOT_IDENTI	0	✓
Lead-210	HE	1.182	0.3943	pCi/g	0.898	N	46.47 3 1.329	IDENTIFIED	33.12	✓
Lead-212	✓	1.524	0.09831	pCi/g	0.09125	0.100	238.7 4 1.209	IDENTIFIED	3.541	✓
Lead-214	✓	1.191	0.091	pCi/g	0.1167	0.100	351.9 4 1.278	IDENTIFIED	5.995	✓
Lutetium-177	HE	2.252	0.707	pCi/g	2.086	N	0 12 0	FAIL_ABUND	0	✓

Neptunium-237	ICT	0.9625	0.1506	pCi/g	0.3445	N	87.25	3	1.104	IDENTIFIED	11.14	✓
Niobium-95m	HE	0.2795	0.07486	pCi/g	0.245	N	0	12	0	NOT_IDENTI	0	✓
Polonium-210	HE	1.182	0.3937	pCi/g	0.898	N	46.47	3	1.329	IDENTIFIED	33.12	✓
Polonium-212	NR	1.524	0.09831	pCi/g	0.09125	N	238.7	4	1.209	IDENTIFIED	3.541	✓
Polonium-214	NR	1.191	0.091	pCi/g	0.1167	N	351.9	4	1.278	IDENTIFIED	5.995	✓
Polonium-216	NR	1.524	0.09831	pCi/g	0.09125	N	238.7	4	1.209	IDENTIFIED	3.541	✓
Polonium-218	NR	1.191	0.091	pCi/g	0.1167	N	351.9	4	1.278	IDENTIFIED	5.995	✓
Potassium-40	✓	23.59	1.102	pCi/g	0.5967	1.00	1461	1	2.133	IDENTIFIED	3.488	✓
Radium-224	ICT	4.355	0.7706	pCi/g	1.038	Y	241.7	1	2.235	IDENTIFIED	17.01	✓
Radium-226	✓	1.189	0.1002	pCi/g	0.1272	Y	609.3	4	1.646	IDENTIFIED	7.304	✓
Radium-228	✓	1.438	0.1595	pCi/g	0.235	0.500	910.9	3	1.858	IDENTIFIED	9.206	✓
Sodium-24	HE	1.31E+05	3.89E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	✓
Strontium-85	✓	0.1041	0.02342	pCi/g	0.07989	Y	0	12	0	NOT_IDENTI	0	✓
Thallium-208	✓	0.489	0.04156	pCi/g	0.06209	0.080	583.2	1	1.656	IDENTIFIED	7.662	✓
Thorium-228	✓	1.547	0.09981	pCi/g	0.09263	N	238.7	4	1.209	IDENTIFIED	3.541	✓
Thorium-230	✓	1.189	0.1002	pCi/g	0.1272	N	609.3	4	1.646	IDENTIFIED	7.304	✓
Thorium-232	✓	1.438	0.1595	pCi/g	0.235	N	910.9	3	1.858	IDENTIFIED	9.206	✓
Tin-126	INT+✓	0.3278	0.03858	pCi/g	0.1075	N	87.25	3	1.104	IDENTIFIED	11.14	✓
Titanium-44	—	0.3375	0.02188	pCi/g	0.06515	N	0	12	0	FAIL_ABUND	0	✓
Total Uranium	✓	2.7362	1.09E-06	ug/g	1.624	N	0					✓
Uranium-234	✓	1.189	0.1002	pCi/g	0.1272	N	609.3	4	1.646	IDENTIFIED	7.304	✓
Zirconium-97	—	5.08E+06	1.09E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	✓

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202001377		31-DEC-09 15:32	0	ICS	LOAD	1		GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 HE	0.8426	0.2675	pCi/g	0.458	N	910.7	3	1.098	IDENTIFIED	31.2
Americium-241 ✓	14.04	0.6372	pCi/g	0.4164	0.200	59.43	1	1.03	IDENTIFIED	2.212
Americium-243 HE	0.1849	0.04457	pCi/g	0.122	N	74.78	1	1.106	IDENTIFIED	23.77
Barium-137m	5.601	0.2822	pCi/g	0.1116	N	661.7	2	1.432	IDENTIFIED	2.411
Bismuth-211	2.174	0.3366	pCi/g	0.6369	Y	352	4	1.219	IDENTIFIED	14.82
Bismuth-214	0.7911	0.1268	pCi/g	0.2168	0.200	609.8	4	1.764	IDENTIFIED	15.17
Cadmium-109	33.61	2.02	pCi/g	1.95	Y	88.04	2	1.074	IDENTIFIED	3.734
Cesium-137 ✓	5.921	0.2988	pCi/g	0.118	0.100	661.7	2	1.432	IDENTIFIED	2.411
Cobalt-57	0.2238	0.03446	pCi/g	0.06053	N	122	1	1.111	IDENTIFIED	14.79
Cobalt-60 ✓	6.786	0.3287	pCi/g	0.09138	0.100	1333	1	1.931	IDENTIFIED	2.587
Gross Gamma	27.63	3.838	pCi/g	5.84	N	0				
Iodine-123 HE	5963	4130	pCi/g	0	N	0	7	0	SHORT_HLIF	0
Iodine-135 HE	1.96E+09	3.26E+09	pCi/g	0	N	0	7	0	SHORT_HLIF	0
Lead-212	0.9569	0.09267	pCi/g	0.1604	0.100	238.6	4	1.17	IDENTIFIED	8.421
Lead-214	0.7562	0.1187	pCi/g	0.2085	0.100	352	4	1.219	IDENTIFIED	14.82
Neptunium-237	4.968	0.6136	pCi/g	1.023	N	0	7	0	NOT_IDENTI	0
Niobium-97 HE	471.4	538.5	pCi/g	0	N	0	7	0	SHORT_HLIF	0
Polonium-212	0.9569	0.09267	pCi/g	0.1604	N	238.6	4	1.17	IDENTIFIED	8.421
Polonium-214	0.7562	0.1187	pCi/g	0.2085	N	352	4	1.219	IDENTIFIED	14.82
Polonium-216	0.9569	0.09267	pCi/g	0.1604	N	238.6	4	1.17	IDENTIFIED	8.421
Polonium-218	0.7562	0.1187	pCi/g	0.2085	N	352	4	1.219	IDENTIFIED	14.82
Radium-224	2.41	0.5928	pCi/g	2.069	Y	241.5	1	1.629	IDENTIFIED	24.23
Radium-226	0.7911	0.1268	pCi/g	0.2168	Y	609.8	4	1.764	IDENTIFIED	15.17
Radium-228	0.8426	0.2675	pCi/g	0.458	0.500	910.7	3	1.098	IDENTIFIED	31.2
Sodium-24 HE	605.8	889.8	pCi/g	0	N	0	7	0	SHORT_HLIF	0
Thallium-200 HE	1.354	12.6	pCi/g	0	N	0	7	0	SHORT_HLIF	0
Thallium-208	0.2654	0.05365	pCi/g	0.1211	0.080	583.1	1	1.528	IDENTIFIED	19.64
Thorium-228	0.9661	0.09356	pCi/g	0.162	N	238.6	4	1.17	IDENTIFIED	8.421
Thorium-230	0.7911	0.1268	pCi/g	0.2168	N	609.8	4	1.764	IDENTIFIED	15.17
Thorium-232 HE	0.8426	0.2675	pCi/g	0.458	N	910.7	3	1.098	IDENTIFIED	31.2
Tin-126	3.331	0.2002	pCi/g	0.1937	N	88.04	2	1.074	IDENTIFIED	3.734
Titanium-44	0.2025	0.03119	pCi/g	0.08973	N	0	7	0	FAIL_ABUND	0
Uranium-234	0.7911	0.1268	pCi/g	0.2168	N	609.8	4	1.764	IDENTIFIED	15.17

*** = 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
935341	243274010	SAMPLE	31-DEC-09	Gross Gamma	7.485	1.207	pCi/g	1.579	N
				Iodine-123	5.01E+05	2.80E+06	pCi/g	0	N
				Iodine-133	1427	3005	pCi/g	0	N
				Iodine-135	4.18E+15	2.89E+15	pCi/g	0	N
				Krypton-85	8.876	3.348	pCi/g	6.158	N
				Lead-212	1.362	0.07025	pCi/g	0.04515	0.100
				Lead-214	1.132	0.08813	pCi/g	0.0566	0.100
				Niobium-97	1.69E+05	56580	pCi/g	0	N
				Potassium-40	18.92	1.018	pCi/g	0.2094	1.00
				Promethium-149	93.54	44.34	pCi/g	81.18	N
				Radium-224	3.711	0.5482	pCi/g	0.5138	Y
				Radium-226	8.9239	0.09073	pCi/g	0.05912	Y
				Radium-228	1.297	0.1811	pCi/g	0.107	0.500
				Sodium-24	6.72E+05	2.89E+05	pCi/g	0	N
				Strontium-85	0.04551	0.01716	pCi/g	0.03157	Y
				Technetium-99m	2.02E+16	0	pCi/g	0	N
				Thallium-200	337.5	224	pCi/g	0	N
				Thallium-208	0.5393	0.04118	pCi/g	0.02628	0.080
				Thorium-234	2.968	0.9346	pCi/g	1.246	2.00
				Yttrium-88	0.03568	0.01569	pCi/g	0.03141	0.100
				Zirconium-97	6.34E+06	1.02E+06	pCi/g	0	N
935341	1202001375	MB	31-DEC-09	Krypton-85	13.34	2.554	pCi/g	4.979	N
				Lead-212	0.0721	0.03815	pCi/g	0.04242	0.100
				Niobium-97	38.55	124.5	pCi/g	0	N
				Radium-224	0.519	0.1979	pCi/g	0.3815	Y
				Strontium-85	0.06453	0.01236	pCi/g	0.02409	Y QUAL
				Thallium-208	0.04475	0.01482	pCi/g	0.02596	0.080
				Uranium-235	0.1485	0.05956	pCi/g	0.1106	0.500
				Zirconium-97	21310	2980	pCi/g	0	N
935341	1202001376	DUP	31-DEC-09	Americium-241	0.1222	0.0345	pCi/g	0.05653	0.200
				Bismuth-211	3.425	0.2459	pCi/g	0.1727	Y
				Bismuth-214	1.189	0.1002	pCi/g	0.06366	0.200
				Cadmium-109	3.335	0.3925	pCi/g	0.548	Y
				Caesium-143	612	113.8	pCi/g	0	N
				Cesium-134	6.08809	0.0255	pCi/g	0.04825	0.100
				Cesium-137	0.03974	0.02103	pCi/g	0.03693	0.100
				Gross Gamma	8.184	1.226	pCi/g	1.791	N

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 02:48:52.78

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274001.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 22:47:57
Sample ID          : G243274001 Sample quantity : 1.32930E+02 GRAM
Detector name      : GAM17 Detector geometry: CAN
Elapsed live time  : 0 04:00:00.00 Elapsed real time: 0 04:00:17.43 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	45.77*	82	655	0.94	92.99	89	8	5.69E-03	59.8	
2	0	62.41*	136	1295	0.71	126.27	121	10	9.45E-03	51.6	
3	3	73.97*	925	671	0.88	149.37	143	16	6.43E-02	5.5	6.61E-01
4	3	76.25*	1519	717	0.93	153.93	143	16	1.05E-01	3.9	
5	7	83.34*	296	688	1.69	168.10	164	28	2.05E-02	16.9	1.11E+00
6	7	86.37*	600	589	1.21	174.15	164	28	4.17E-02	8.1	
7	7	89.02	367	579	1.11	179.44	164	28	2.55E-02	12.2	
8	7	91.97*	490	649	1.36	185.34	164	28	3.40E-02	10.9	
9	0	128.18	145	476	0.96	257.73	254	7	1.01E-02	26.3	
10	0	185.30*	344	509	1.35	371.91	368	11	2.39E-02	14.5	
11	0	208.51	205	396	1.01	418.31	414	9	1.43E-02	18.8	
12	5	237.91*	1911	215	1.05	477.07	471	18	1.33E-01	2.7	1.68E+00
13	5	240.86	502	309	1.75	482.96	471	18	3.49E-02	9.5	
14	0	269.30	92	314	1.08	539.82	537	9	6.36E-03	36.3	
15	0	294.47*	545	342	1.21	590.13	584	13	3.78E-02	8.4	
16	0	298.92	114	362	1.44	599.04	596	13	7.93E-03	35.2	
17	0	327.06	86	190	1.16	655.28	652	8	5.98E-03	29.7	
18	0	337.94*	314	300	1.20	677.04	671	12	2.18E-02	12.8	
19	0	351.25*	837	344	1.16	703.65	697	14	5.81E-02	6.0	
20	0	462.17	104	152	1.34	925.40	921	10	7.23E-03	24.1	
21	0	510.27*	158	172	2.23	1021.55	1014	15	1.10E-02	24.1	
22	0	582.72*	566	155	1.57	1166.40	1161	14	3.93E-02	6.5	
23	0	608.98*	529	148	1.38	1218.91	1213	12	3.68E-02	6.6	
24	0	726.66*	142	73	1.38	1454.20	1449	10	9.84E-03	14.6	
25	0	770.08	88	171	4.78	1541.02	1531	20	6.08E-03	38.4	
26	0	794.90	56	106	1.29	1590.63	1584	12	3.89E-03	39.3	
27	0	860.78	62	92	1.59	1722.37	1714	11	4.33E-03	32.2	
28	0	910.96*	347	114	1.52	1822.70	1817	15	2.41E-02	8.8	
29	0	968.10*	320	168	5.86	1936.97	1924	26	2.22E-02	12.5	
30	0	1120.51	142	69	1.81	2241.76	2237	13	9.89E-03	14.4	
31	0	1237.94	55	61	1.36	2476.59	2472	9	3.83E-03	28.8	
32	0	1377.70	37	18	1.91	2756.11	2752	8	2.58E-03	25.7	
33	0	1460.90	1406	21	2.10	2922.51	2912	21	9.76E-02	2.8	
34	0	1591.40	48	32	0.66	3183.54	3175	20	3.33E-03	33.3	
35	0	1730.42	22	25	1.34	3461.63	3454	16	1.53E-03	54.3	
36	0	1764.79*	79	6	2.59	3530.37	3524	12	5.48E-03	14.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 02:48:55

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274001.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 22:47:57
 Sample ID : G243274001 Sample quantity : 132.93 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA17 Detector geometry: CAN
 Elapsed live time: 0 04:00:00.00 Elapsed real time: 0 04:00:17.43 0.1%
 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	*	2.331E+01	1.935E+00	4.410E-01	2.711E-02	52.869
CD-109	+	88.03	*	2.173E+00	5.598E-01	6.090E-01	4.905E-02	3.568
SN-126		64.28		-1.392E-01	1.917E-01	2.589E-01	3.973E-02	-0.538
	+	86.94		1.447E+00	6.414E-01	2.484E-01	1.025E-01	5.826
	+	87.57	*	3.481E-01	6.306E-02	5.985E-02	4.826E-03	5.817
CS-135	+	268.24	*	2.156E-01	1.577E-01	1.553E-01	1.398E-02	1.389
TL-208		277.35		2.956E-01	2.626E-01	4.378E-01	5.054E-02	0.675
	+	510.84		4.979E-01	2.463E-01	1.564E-01	1.678E-02	3.183
	+	583.14	*	5.198E-01	7.943E-02	4.587E-02	3.637E-03	11.331
	+	860.37		5.580E-01	3.623E-01	3.711E-01	3.028E-02	1.503
BI-210	+	46.50	*	4.359E-01	5.229E-01	4.971E-01	3.978E-02	0.877
PB-210	+	46.50	*	4.359E-01	5.229E-01	4.971E-01	3.978E-02	0.877
PO-210	+	46.50	*	4.359E-01	5.226E-01	4.971E-01	3.460E-02	0.877
BI-211	+	72.87		1.547E+01	2.155E+00	1.980E+00	1.693E-01	7.809
	+	351.07	*	3.083E+00	4.305E-01	2.328E-01	1.673E-02	13.239
PB-212	+	74.81		1.836E+00	3.080E-01	2.358E-01	2.975E-02	7.786
	+	77.11		1.793E+00	2.067E-01	1.407E-01	1.182E-02	12.743
	+	87.30		1.610E+00	3.332E-01	2.766E-01	3.555E-02	5.821
	+	238.63	*	1.460E+00	1.511E-01	5.597E-02	4.911E-03	26.096
	+	300.09		1.380E+00	9.805E-01	7.510E-01	7.022E-02	1.837
PO-212	+	74.81		1.836E+00	3.080E-01	2.358E-01	2.975E-02	7.786
	+	77.11		1.793E+00	2.067E-01	1.407E-01	1.182E-02	12.743
	+	87.30		1.610E+00	3.332E-01	2.766E-01	3.555E-02	5.821
		115.19		4.332E-01	2.105E+00	3.555E+00	3.698E-01	0.122
	+	238.63	*	1.460E+00	1.511E-01	5.597E-02	4.911E-03	26.096
	+	300.09		1.380E+00	9.805E-01	7.510E-01	7.022E-02	1.837
BI-214	+	609.31	*	9.223E-01	1.475E-01	8.396E-02	7.534E-03	10.984
	+	1120.29		1.328E+00	4.011E-01	4.160E-01	3.714E-02	3.193
	+	1764.49		1.043E+00	3.024E-01	2.216E-01	1.274E-02	4.709
PB-214	+	74.81		3.163E+00	4.992E-01	4.063E-01	4.574E-02	7.786
	+	77.11		3.074E+00	4.247E-01	2.412E-01	2.735E-02	12.743
	+	87.30		2.758E+00	5.430E-01	4.738E-01	5.289E-02	5.821
	+	241.98		2.309E+00	4.909E-01	3.375E-01	3.172E-02	6.840
	+	295.21		1.154E+00	2.231E-01	1.368E-01	1.317E-02	8.434

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.072E+00	1.599E-01	8.120E-02	7.201E-03	13.205
	+	74.81		3.163E+00	4.992E-01	4.063E-01	4.574E-02	7.786
	+	77.11		3.074E+00	4.247E-01	2.412E-01	2.735E-02	12.743
	+	87.30		2.758E+00	5.430E-01	4.738E-01	5.289E-02	5.821
	+	241.98		2.309E+00	4.909E-01	3.375E-01	3.172E-02	6.840
PO-216	+	295.21		1.154E+00	2.231E-01	1.368E-01	1.317E-02	8.434
	+	351.92	*	1.072E+00	1.599E-01	8.120E-02	7.201E-03	13.205
	+	74.81		1.836E+00	3.080E-01	2.358E-01	2.975E-02	7.786
	+	77.11		1.793E+00	2.067E-01	1.407E-01	1.182E-02	12.743
	+	87.30		1.610E+00	3.332E-01	2.766E-01	3.555E-02	5.821
PO-218	+	238.63	*	1.460E+00	1.511E-01	5.597E-02	4.911E-03	26.096
	+	300.09		1.380E+00	9.805E-01	7.510E-01	7.022E-02	1.837
	+	74.81		3.163E+00	4.992E-01	4.063E-01	4.574E-02	7.786
	+	77.11		3.074E+00	4.247E-01	2.412E-01	2.735E-02	12.743
	+	87.30		2.758E+00	5.430E-01	4.738E-01	5.289E-02	5.821
RA-224	+	241.98		2.309E+00	4.909E-01	3.375E-01	3.172E-02	6.840
	+	295.21		1.154E+00	2.231E-01	1.368E-01	1.317E-02	8.434
	+	351.92	*	1.072E+00	1.599E-01	8.120E-02	7.201E-03	13.205
	+	240.98	*	4.378E+00	8.980E-01	6.376E-01	4.809E-02	6.866
	+	609.31	*	9.223E-01	1.475E-01	8.396E-02	7.534E-03	10.984
RA-226	+	1120.29		1.328E+00	4.011E-01	4.160E-01	3.714E-02	3.193
	+	1764.49		1.043E+00	3.024E-01	2.216E-01	1.274E-02	4.709
	+	338.32		1.269E+00	6.121E-01	2.579E-01	1.055E-01	4.923
	+	911.07	*	1.471E+00	2.989E-01	1.633E-01	1.671E-02	9.007
	+	969.11		2.385E+00	8.082E-01	2.989E-01	6.811E-02	7.980
AC-228	+	338.32		1.269E+00	6.121E-01	2.579E-01	1.055E-01	4.923
	+	911.07	*	1.471E+00	2.989E-01	1.633E-01	1.671E-02	9.007
	+	969.11		2.385E+00	8.082E-01	2.989E-01	6.811E-02	7.980
	+	74.81		1.862E+00	2.604E-01	2.392E-01	2.046E-02	7.786
	+	77.11		1.819E+00	2.097E-01	1.428E-01	1.199E-02	12.743
TH-228	+	87.30		1.633E+00	2.959E-01	2.806E-01	2.265E-02	5.821
	+	238.63	*	1.482E+00	1.533E-01	5.678E-02	4.983E-03	26.096
	+	300.09		1.400E+00	1.287E+00	7.619E-01	4.503E-01	1.837
	+	609.31	*	9.222E-01	1.475E-01	8.396E-02	7.534E-03	10.984
	+	1120.29		1.328E+00	4.011E-01	4.160E-01	3.714E-02	3.193
TH-230	+	1764.49		1.043E+00	3.024E-01	2.216E-01	1.274E-02	4.709
	+	338.32		1.269E+00	3.351E-01	2.579E-01	1.761E-02	4.923
	+	911.07	*	1.471E+00	2.989E-01	1.633E-01	1.671E-02	9.007
	+	969.11		2.385E+00	8.082E-01	2.989E-01	6.811E-02	7.980
	+	63.29	*	7.604E-01	7.971E-01	6.485E-01	1.177E-01	1.173
TH-234	+	92.38		1.959E+00	5.523E-01	4.144E-01	7.449E-02	4.729
	+	609.31	*	9.222E-01	1.475E-01	8.396E-02	7.534E-03	10.984
	+	1120.29		1.328E+00	4.011E-01	4.160E-01	3.714E-02	3.193
	+	1764.49		1.043E+00	3.024E-01	2.216E-01	1.274E-02	4.709
	+	86.50	*	1.022E+00	2.807E-01	1.753E-01	3.885E-02	5.832
NP-237	+	95.87		-6.718E-01	5.802E-01	8.047E-01	1.984E-01	-0.835
	+	63.29	*	7.604E-01	7.971E-01	6.485E-01	1.177E-01	1.173
	+	92.38		1.959E+00	4.561E-01	4.144E-01	3.478E-02	4.729
	+	74.67	*	2.976E-01	4.147E-02	3.822E-02	3.242E-03	7.787
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		3.833E+01	6.944E+00	6.577E+00	5.320E-01	5.829
		117.66		-4.469E-01	2.184E+00	3.633E+00	3.867E-01	-0.123
		142.18		6.308E+00	1.174E+01	1.893E+01	1.795E+00	0.333
ANH-511	+	511.00	*	1.075E-01	5.244E-02	3.380E-02	2.284E-03	3.182

---- 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	*	-4.035E-02	2.357E-01	3.856E-01	2.843E-02	-0.105
NA-22		1274.54	*	-8.804E-04	3.720E-02	5.999E-02	3.400E-03	-0.015
NA-24		1368.53	*	-6.634E-02	3.720E-02	Half-Life too short		
AL-26		1129.67		-4.109E-01	1.374E+00	2.186E+00	1.292E-01	-0.188
		1808.65	*	-1.742E-03	2.407E-02	3.897E-02	2.228E-03	-0.045
TI-44		67.85		1.190E-03	1.696E-02	2.794E-02	2.443E-03	0.043
		78.38	*	7.555E-03	1.693E-02	2.436E-02	2.035E-03	0.310
SC-46		889.25	*	-3.492E-02	3.125E-02	4.708E-02	3.450E-03	-0.742
	+	1120.51		2.262E-01	6.665E-02	1.015E-01	6.079E-03	2.228
V-48		944.10		1.114E-01	6.569E-01	1.105E+00	7.862E-02	0.101
		983.50	*	2.171E-03	5.026E-02	8.338E-02	5.773E-03	0.026
		1312.09		-9.180E-04	6.516E-02	1.049E-01	5.970E-03	-0.009
CR-51		320.08	*	-3.206E-02	2.414E-01	4.073E-01	3.106E-02	-0.079
MN-52		744.21		6.131E-02	1.842E-01	3.018E-01	2.299E-02	0.203
		848.13		-2.020E+00	4.463E+00	7.169E+00	5.353E-01	-0.282
		935.52		1.657E-01	1.915E-01	3.379E-01	2.417E-02	0.490
		1246.25		7.803E-01	5.752E+00	9.417E+00	5.293E-01	0.083
		1333.61		4.840E-01	3.716E+00	5.783E+00	3.303E-01	0.084
		1434.06	*	-1.734E-01	1.807E-01	2.687E-01	1.553E-02	-0.645
MN-54		834.83	*	-1.552E-02	3.018E-02	4.866E-02	3.651E-03	-0.319
CO-56		846.75	*	-6.933E-03	2.803E-02	4.590E-02	3.429E-03	-0.151
		977.42		7.848E-01	2.512E+00	3.744E+00	2.604E-01	0.210
		1037.82		-1.394E-01	2.381E-01	3.703E-01	2.663E-02	-0.376
		1175.09		-5.236E-01	1.913E+00	3.045E+00	1.682E-01	-0.172
	+	1238.25		1.435E-01	8.319E-02	1.368E-01	8.191E-03	1.049
		1360.21		-2.973E-01	8.012E-01	1.228E+00	7.042E-02	-0.242
		1771.40		-4.317E-01	2.432E-01	2.939E-01	1.689E-02	-1.469
CO-57		122.06	*	-2.394E-03	1.499E-02	2.494E-02	2.767E-03	-0.096
		136.48		4.323E-03	1.324E-01	2.205E-01	2.320E-02	0.020
CO-58		810.76	*	-1.137E-02	3.031E-02	4.940E-02	3.744E-03	-0.230
FE-59		142.65		1.606E+00	1.777E+00	2.892E+00	2.730E-01	0.555
		192.34		5.439E-01	6.115E-01	1.027E+00	1.304E-01	0.530
		1099.22	*	4.898E-02	7.303E-02	1.261E-01	8.959E-03	0.388
		1291.56		-1.325E-01	1.117E-01	1.593E-01	1.167E-02	-0.832
CO-60		1173.22		1.176E-03	3.797E-02	6.197E-02	3.420E-03	0.019
		1332.49	*	1.184E-02	2.935E-02	4.950E-02	2.826E-03	0.239
ZN-65		1115.52	*	1.099E-01	8.613E-02	1.381E-01	8.339E-03	0.796
GE-68		1077.35	*	3.712E-01	1.073E+00	1.808E+00	1.143E-01	0.205
AS-73		53.44	*	9.245E-03	1.559E-01	2.357E-01	1.913E-02	0.039
AS-74		595.88	*	2.885E-02	7.142E-02	1.135E-01	8.241E-03	0.254

Sample ID : G243274001

Acquisition date : 30-DEC-2009 22:47:57

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75	634.78			-1.241E-01	2.838E-01	4.443E-01	3.303E-02	-0.279
	66.05			-1.244E+00	1.978E+00	2.693E+00	2.855E-01	-0.462
	96.73			-1.998E-01	4.740E-01	6.877E-01	9.429E-02	-0.291
	121.11			3.981E-02	7.900E-02	1.343E-01	1.763E-02	0.296
	136.00			2.793E-03	2.466E-02	4.119E-02	4.138E-03	0.068
	198.60			-1.048E+00	1.204E+00	1.828E+00	1.560E-01	-0.573
	264.65	*		-8.420E-03	3.090E-02	4.626E-02	3.490E-03	-0.182
	279.53			-4.892E-02	7.785E-02	1.201E-01	9.371E-03	-0.407
	303.91			7.643E-01	1.547E+00	2.257E+00	2.366E-01	0.339
	400.65			2.233E-02	1.843E-01	3.103E-01	2.837E-02	0.072
BR-77	87.88		+	3.915E+02	1.009E+02	1.464E+02	1.179E+01	2.675
	200.40			6.103E-01	8.860E+01	1.443E+02	1.078E+01	0.004
	239.00		+	1.954E+02	1.822E+01	2.211E+01	1.668E+00	8.841
	249.79			-5.248E+00	3.687E+01	5.881E+01	4.431E+00	-0.089
	281.68			2.337E+01	5.175E+01	8.431E+01	6.254E+00	0.277
	297.23			7.023E+01	3.524E+01	4.781E+01	3.493E+00	1.469
	303.76			6.301E+01	1.106E+02	1.622E+02	1.176E+01	0.388
	439.47			6.124E+00	8.829E+01	1.474E+02	9.145E+00	0.042
	484.57			-9.167E+01	1.370E+02	2.161E+02	1.419E+01	-0.424
	520.65	*		-1.774E+00	6.411E+00	1.033E+01	7.051E-01	-0.172
SR-82	574.64			1.046E+02	1.259E+02	2.171E+02	1.552E+01	0.482
	578.91			2.103E+01	5.930E+01	8.754E+01	6.280E+00	0.240
	585.48			2.610E+02	1.306E+02	2.145E+02	1.546E+01	1.217
	755.35			5.344E+01	1.207E+02	1.988E+02	1.514E+01	0.269
	817.79			-4.399E+01	9.095E+01	1.390E+02	1.048E+01	-0.316
	698.33			4.295E+00	2.889E+01	4.686E+01	3.558E+00	0.092
	776.49	*		-2.590E-01	3.253E-01	4.348E-01	3.305E-02	-0.596
	1395.20			-5.217E+00	8.398E+00	1.309E+01	7.538E-01	-0.399
	520.41	*		-1.481E-02	5.055E-02	8.137E-02	5.552E-03	-0.182
	529.64			4.872E-02	7.462E-02	1.278E-01	8.800E-03	0.381
RB-83	552.65			-7.713E-02	1.452E-01	2.283E-01	1.604E-02	-0.338
	881.50	*		-2.853E-03	5.722E-02	9.503E-02	6.993E-03	-0.030
RB-84	513.99	*		2.855E+00	5.569E+00	8.393E+00	5.689E-01	0.340
KR-85	513.99	*		1.454E-02	2.836E-02	4.275E-02	2.898E-03	0.340
SR-85	1076.63	*		1.929E-01	6.626E-01	1.112E+00	7.039E-02	0.174
RB-86	898.02			-2.060E-02	3.299E-02	5.210E-02	3.826E-03	-0.395
Y-88	1836.01	*		3.827E-03	2.248E-02	3.815E-02	2.178E-03	0.100
ZR-88	392.90	*		1.032E-02	2.135E-02	3.666E-02	2.122E-03	0.281
Y-91	1204.90	*		1.043E+01	1.569E+01	2.678E+01	1.491E+00	0.389
NB-94	702.63	*		5.735E-03	2.913E-02	4.738E-02	3.599E-03	0.121
NB-95	871.10			1.035E-02	2.568E-02	4.424E-02	3.272E-03	0.234
	765.79	*		2.466E-02	3.870E-02	6.007E-02	4.572E-03	0.410
NB-95M	235.69	*		3.140E-01	1.028E-01	1.638E-01	1.465E-02	1.917
ZR-95	724.18			9.068E-02	8.507E-02	1.311E-01	1.107E-02	0.692
NB-97	756.15	*		-4.120E-03	6.045E-02	9.591E-02	8.240E-03	-0.043
	657.90	*		-1.996E-02	6.045E-02	Half-Life too short		
ZR-97	1024.50			2.228E+00	6.045E-02	Half-Life too short		
	254.15			1.180E+00	6.045E-02	Half-Life too short		
	355.39			9.064E-03	6.045E-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
MO-99		507.63	*	1.560E+00	6.045E-02	Half-Life	too short	
		602.52		-6.982E-01	6.045E-02	Half-Life	too short	
		1021.30		-2.312E+00	6.045E-02	Half-Life	too short	
		1147.95		-1.997E+00	6.045E-02	Half-Life	too short	
		1362.66		-2.957E-01	6.045E-02	Half-Life	too short	
		1750.46		-2.749E+00	6.045E-02	Half-Life	too short	
		140.51		-1.171E+01	1.463E+01	2.301E+01	6.448E+00	-0.509
		181.06		-5.935E+00	1.008E+01	1.421E+01	2.520E+00	-0.418
		366.43		1.362E+01	5.096E+01	8.691E+01	5.508E+00	0.157
		739.58	*	-4.747E-01	8.617E+00	1.371E+01	2.007E+00	-0.035
TC-99M		778.00		-1.644E+01	2.593E+01	3.543E+01	2.693E+00	-0.464
		140.51	*	-3.518E+09	2.593E+01	Half-Life	too short	
RH-101	+	127.23		5.072E-02	2.727E-02	3.704E-02	3.961E-03	1.369
RH-102		198.01	*	-1.329E-03	2.182E-02	3.437E-02	2.564E-03	-0.039
		325.23		7.940E-02	1.620E-01	2.503E-01	1.755E-02	0.317
		418.52		-1.156E-01	2.084E-01	3.368E-01	2.028E-02	-0.343
		475.06	*	-5.949E-03	2.084E-02	3.383E-02	2.197E-03	-0.176
		631.29		1.706E-03	4.265E-02	6.925E-02	5.138E-03	0.025
RU-103		697.49		2.550E-02	6.552E-02	1.080E-01	8.201E-03	0.236
		766.84		9.915E-02	1.038E-01	1.643E-01	1.251E-02	0.603
		1046.59		-2.982E-02	9.136E-02	1.459E-01	9.545E-03	-0.204
		1112.84		1.509E-01	2.115E-01	3.550E-01	2.147E-02	0.425
		497.08	*	-1.349E-02	2.890E-02	4.605E-02	6.015E-03	-0.293
RH-106	+	610.33		9.850E+00	2.050E+00	2.073E+00	3.329E-01	4.751
		511.85		8.544E-01	1.721E-01	3.055E-01	2.067E-02	2.796
RU-106		621.84	*	1.888E-02	2.496E-01	4.068E-01	5.123E-02	0.046
		1050.47		1.076E-01	1.908E+00	3.151E+00	2.053E-01	0.034
		511.85		8.544E-01	1.721E-01	3.055E-01	2.067E-02	2.796
AG-108M		621.84	*	1.888E-02	2.496E-01	4.068E-01	5.123E-02	0.046
		1050.47		1.076E-01	1.908E+00	3.151E+00	2.053E-01	0.034
		433.93	*	1.343E-02	2.387E-02	4.095E-02	2.714E-03	0.328
AG-110M		614.37		1.688E-02	3.101E-02	4.646E-02	3.597E-03	0.363
		722.95		-1.753E-02	3.770E-02	4.986E-02	3.985E-03	-0.352
		657.75	*	-1.295E-02	2.732E-02	4.245E-02	3.316E-03	-0.305
		677.61		3.300E-02	2.369E-01	3.855E-01	3.022E-02	0.086
		706.67		-1.511E-01	1.756E-01	2.628E-01	2.069E-02	-0.575
IN-111		763.93		8.194E-02	1.377E-01	2.141E-01	1.688E-02	0.383
		884.67		3.154E-02	3.870E-02	6.846E-02	5.251E-03	0.461
		937.48		-1.267E-01	9.055E-02	1.319E-01	9.913E-03	-0.961
		1384.27		1.189E-02	1.336E-01	2.165E-01	1.323E-02	0.055
		171.28		-2.339E-02	5.438E-01	8.923E-01	6.545E-02	-0.026
IN-113M		245.39	*	-1.454E-01	6.311E-01	8.895E-01	6.707E-02	-0.163
SN-113		391.69	*	3.210E-03	3.152E-02	5.311E-02	3.275E-03	0.060
IN-114M		391.69	*	3.210E-03	3.152E-02	5.311E-02	3.275E-03	0.060
CD-115		190.27	*	5.131E-02	1.281E-01	1.909E-01	1.418E-02	0.269
SN-117M		260.90		-1.743E+01	7.338E+01	1.161E+02	8.720E+00	-0.150
		492.35		1.572E+01	2.189E+01	3.770E+01	2.498E+00	0.417
		527.90	*	2.275E+00	6.330E+00	1.065E+01	7.316E-01	0.214
		156.02		-4.727E-01	1.421E+00	2.319E+00	1.914E-01	-0.204

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	158.56	*		-3.039E-02	3.319E-02	5.272E-02	4.227E-03	-0.576
	563.90	*		1.171E+00	1.441E+00	2.467E+00	1.750E-01	0.475
	692.80			3.206E+00	3.007E+01	4.870E+01	3.694E+00	0.066
I-123	159.00	*		-6.939E-01	3.007E+01	Half-Life	too short	
	528.96			3.579E+01	3.007E+01	Half-Life	too short	
TE-123M	159.00	*		-7.552E-03	1.761E-02	2.857E-02	2.295E-03	-0.264
I-124	602.71	*		-1.465E-01	5.144E-01	7.102E-01	5.180E-02	-0.206
	722.78			-1.910E+00	3.534E+00	4.629E+00	3.524E-01	-0.413
	1325.50			-1.537E+01	2.327E+01	3.434E+01	1.959E+00	-0.447
SB-124	1376.25	+		4.293E+01	2.219E+01	4.540E+01	2.608E+00	0.946
	1509.49			1.175E+01	1.090E+01	2.037E+01	1.183E+00	0.577
	1691.02			1.726E+00	3.220E+00	5.685E+00	3.290E-01	0.304
	602.71			-9.375E-03	3.293E-02	4.546E-02	3.317E-03	-0.206
	645.85			1.585E-01	4.079E-01	6.773E-01	5.463E-02	0.234
	709.31			-2.092E-01	2.252E+00	3.585E+00	2.726E-01	-0.058
	713.82			-5.153E-01	1.358E+00	2.111E+00	2.392E-01	-0.244
	722.78			-1.772E-01	3.280E-01	4.295E-01	3.361E-02	-0.413
	968.20	+		2.438E+01	6.347E+00	6.113E+00	4.280E-01	3.988
	1045.16			-4.089E-01	1.869E+00	3.011E+00	1.973E-01	-0.136
	1325.50			-1.523E+00	2.307E+00	3.403E+00	1.941E-01	-0.447
	1368.21			-5.144E-01	1.476E+00	2.270E+00	2.688E-01	-0.227
SB-125	1436.60			-6.164E-01	3.252E+00	5.336E+00	3.084E-01	-0.116
	1691.02	*		3.777E-02	7.048E-02	1.244E-01	7.819E-03	0.304
	427.89	*		3.455E-02	6.597E-02	1.131E-01	7.167E-03	0.306
	463.38	+		6.285E-01	3.067E-01	4.258E-01	3.102E-02	1.476
	600.56			-1.661E-02	1.331E-01	2.144E-01	1.721E-02	-0.077
TE-125M	635.90			-7.419E-02	2.210E-01	3.486E-01	2.870E-02	-0.213
	109.28	*		1.144E+00	5.186E+00	8.784E+00	9.987E-01	0.130
I-126	388.63			-3.295E-02	1.392E-01	2.306E-01	1.349E-02	-0.143
	666.33	*		7.088E-02	1.346E-01	2.254E-01	1.700E-02	0.314
	753.82			1.834E+00	1.245E+00	2.187E+00	1.666E-01	0.839
SB-126	223.80			7.587E-01	2.536E+00	4.155E+00	3.130E-01	0.183
	278.60			-5.426E-01	1.670E+00	2.620E+00	1.948E-01	-0.207
	296.50			4.822E+00	1.200E+00	1.805E+00	1.320E-01	2.671
	414.70			5.829E-02	5.260E-02	9.273E-02	5.553E-03	0.629
	415.30			2.319E+00	4.407E+00	7.557E+00	4.530E-01	0.307
	555.20			-8.290E-01	2.773E+00	4.434E+00	3.122E-01	-0.187
	573.80			7.317E-01	7.204E-01	1.257E+00	8.980E-02	0.582
	593.00			-3.168E-01	6.995E-01	1.100E+00	7.974E-02	-0.288
	656.30			6.719E-02	2.504E+00	4.049E+00	3.042E-01	0.017
	666.33			2.958E-02	5.618E-02	9.407E-02	7.094E-03	0.314
	675.00			1.793E+00	1.433E+00	2.524E+00	1.908E-01	0.710
	695.00			-3.525E-02	6.384E-02	9.836E-02	7.464E-03	-0.358
	697.00			6.314E-02	2.202E-01	3.606E-01	2.738E-02	0.175
	720.50	*		1.263E-02	1.211E-01	1.807E-01	1.376E-02	0.070
	856.80			1.876E-01	3.741E-01	5.746E-01	4.276E-02	0.326
	989.30			-2.100E-01	9.510E-01	1.540E+00	1.062E-01	-0.136
	1034.80			2.699E+00	6.553E+00	1.117E+01	7.397E-01	0.242
	1213.00			3.022E+00	3.850E+00	6.614E+00	3.689E-01	0.457

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	+	61.10		2.786E+01	2.893E+01	2.656E+01	3.003E+00	1.049
		252.40		-1.782E+00	2.783E+00	4.166E+00	1.740E+00	-0.428
		290.80		6.980E+00	1.348E+01	1.976E+01	1.979E+00	0.353
		411.60		-1.034E+01	8.657E+00	1.338E+01	1.913E+00	-0.773
		444.90		3.772E+00	6.329E+00	1.086E+01	1.178E+00	0.347
		473.00		6.020E-02	1.048E+00	1.741E+00	1.978E-01	0.035
		543.00		4.926E-01	1.148E+01	1.885E+01	2.511E+00	0.026
		603.60		2.914E-01	8.754E+00	1.248E+01	1.430E+00	0.023
		685.20	*	2.224E-01	1.001E+00	1.637E+00	1.705E-01	0.136
		698.50		1.178E+00	1.177E+01	1.903E+01	2.882E+00	0.062
		722.20		-1.407E+01	2.402E+01	3.125E+01	3.189E+00	-0.450
		783.80		1.808E+00	2.544E+00	4.469E+00	5.163E-01	0.405
XE-127		57.60		1.112E+00	1.616E+00	2.384E+00	2.098E-01	0.466
		145.22		-2.715E-01	4.294E-01	6.950E-01	6.409E-02	-0.391
		172.10		-3.931E-02	7.559E-02	1.216E-01	8.923E-03	-0.323
		202.84	*	2.233E-02	3.040E-02	5.084E-02	3.802E-03	0.439
		374.96		9.237E-02	1.340E-01	2.330E-01	1.435E-02	0.396
I-131		80.18		1.983E+00	2.360E+00	3.042E+00	2.539E-01	0.652
		284.30		-8.667E-02	1.047E+00	1.597E+00	1.264E-01	-0.054
		364.48	*	-1.051E-02	7.550E-02	1.262E-01	8.823E-03	-0.083
		636.97		1.518E-01	1.191E+00	1.945E+00	1.554E-01	0.078
TE-132		722.89		-2.952E+00	6.006E+00	7.917E+00	6.073E-01	-0.373
		49.72		1.457E+00	2.163E+00	3.481E+00	3.415E-01	0.419
		111.76		1.675E+00	1.523E+01	2.568E+01	3.055E+00	0.065
		116.30		-6.290E+00	1.400E+01	2.309E+01	2.832E+00	-0.272
BA-133		228.16	*	-1.767E-01	3.992E-01	6.307E-01	9.480E-02	-0.280
		53.15		-2.755E-01	6.775E-01	1.007E+00	8.122E-02	-0.274
		79.62		4.882E-03	7.446E-01	9.162E-01	1.379E-01	0.005
		81.00		1.329E-02	4.870E-02	6.945E-02	1.090E-02	0.191
		276.40		3.122E-01	2.580E-01	4.297E-01	5.922E-02	0.727
		302.84		1.892E-02	1.096E-01	1.563E-01	1.945E-02	0.121
I-133	+	356.01	*	-2.468E-03	3.247E-02	4.806E-02	5.741E-03	-0.051
		383.85		-8.568E-02	2.106E-01	3.454E-01	3.786E-02	-0.248
		510.53		6.632E-01	2.106E-01	Half-Life	too short	
		529.87	*	1.285E-03	2.106E-01	Half-Life	too short	
		706.58		-2.508E-01	2.106E-01	Half-Life	too short	
		856.28		1.190E-01	2.106E-01	Half-Life	too short	
		875.33		6.753E-03	2.106E-01	Half-Life	too short	
		1236.41		2.438E-01	2.106E-01	Half-Life	too short	
		1298.22		1.240E-01	2.106E-01	Half-Life	too short	
		475.35		-2.545E-01	1.354E+00	2.213E+00	1.438E-01	-0.115
CS-134		563.23		4.420E-01	2.920E-01	5.182E-01	3.725E-02	0.853
		569.32		-1.564E-01	1.490E-01	2.242E-01	1.629E-02	-0.697
		604.70		-2.201E-02	3.022E-02	3.987E-02	2.922E-03	-0.552
		795.84	*	7.660E-02	6.054E-02	7.277E-02	5.566E-03	1.053
		801.93		-4.274E-02	3.314E-01	5.333E-01	4.066E-02	-0.080
		1038.57		-1.034E+00	2.972E+00	4.733E+00	3.122E-01	-0.218
		1167.94		1.372E+00	2.177E+00	3.715E+00	2.069E-01	0.369
		1365.15		-5.378E-01	9.659E-01	1.437E+00	9.072E-02	-0.374

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135	288.45			-3.850E+09	9.659E-01	Half-Life	too short	
	417.63			-9.126E+08	9.659E-01	Half-Life	too short	
	546.56			-5.141E+08	9.659E-01	Half-Life	too short	
	836.80			1.655E+09	9.659E-01	Half-Life	too short	
	1038.76			-1.080E+09	9.659E-01	Half-Life	too short	
	1124.00			5.547E+09	9.659E-01	Half-Life	too short	
	1131.51			-2.404E+07	9.659E-01	Half-Life	too short	
	1260.41	*		8.564E+08	9.659E-01	Half-Life	too short	
	1457.56			5.307E+10	9.659E-01	Half-Life	too short	
	1678.03			8.915E+08	9.659E-01	Half-Life	too short	
	1706.46			3.074E+09	9.659E-01	Half-Life	too short	
	1791.20			2.447E+09	9.659E-01	Half-Life	too short	
CS-136	66.91			7.054E-03	2.836E-01	4.401E-01	6.834E-02	0.016
	86.29		+	4.396E+00	8.998E-01	1.105E+00	1.382E-01	3.978
	153.22			-9.186E-02	4.276E-01	6.856E-01	6.540E-02	-0.134
	163.89			3.184E-01	6.788E-01	1.101E+00	9.549E-02	0.289
	176.55			-1.250E-01	2.204E-01	3.530E-01	2.802E-02	-0.354
	273.65			-6.355E-01	3.620E-01	4.505E-01	3.653E-02	-1.411
	340.57			2.889E-02	8.368E-02	1.279E-01	9.092E-03	0.226
	818.51			-2.015E-02	5.955E-02	9.235E-02	6.970E-03	-0.218
	1048.07	*		2.792E-03	8.271E-02	1.364E-01	9.556E-03	0.020
	1235.34			3.147E-01	5.671E-01	8.365E-01	8.261E-02	0.376
BA-137M	661.65	*		-8.420E-03	2.822E-02	4.448E-02	3.350E-03	-0.189
CS-137	661.65	*		-8.901E-03	2.983E-02	4.702E-02	3.550E-03	-0.189
CE-139	165.85	*		8.689E-03	1.881E-02	3.149E-02	2.303E-03	0.276
BA-140	162.64			3.815E-02	4.772E-01	7.636E-01	6.254E-02	0.050
	304.84			1.743E-01	9.250E-01	1.319E+00	3.644E-01	0.132
LA-140	423.70			-9.196E-02	1.332E+00	2.211E+00	7.038E-01	-0.042
	537.32	*		-3.492E-02	1.906E-01	3.080E-01	1.008E-01	-0.113
	328.77			1.579E-01	2.266E-01	3.528E-01	2.665E-02	0.448
	432.53			-1.577E+00	1.458E+00	2.267E+00	1.524E-01	-0.696
	487.03			1.780E-02	9.455E-02	1.580E-01	1.148E-02	0.113
	751.79			-2.099E-01	1.512E+00	2.388E+00	2.065E-01	-0.088
	815.85			-1.177E-01	2.535E-01	4.048E-01	3.506E-02	-0.291
	867.82			-3.073E-01	9.921E-01	1.612E+00	1.279E-01	-0.191
	919.63			1.671E+00	2.159E+00	3.631E+00	3.467E-01	0.460
	925.24			-2.082E-01	8.158E-01	1.324E+00	1.038E-01	-0.157
	1596.49	*		2.492E-03	6.928E-02	9.962E-02	5.791E-03	0.025
CE-141	145.44	*		-2.956E-02	3.878E-02	6.240E-02	5.834E-03	-0.474
CE-143	57.37			1.333E-04	3.878E-02	Half-Life	too short	
	231.56			6.712E-04	3.878E-02	Half-Life	too short	
	293.26	*		8.014E-04	3.878E-02	Half-Life	too short	
	350.59		+	1.783E-02	3.878E-02	Half-Life	too short	
	490.36			4.615E-04	3.878E-02	Half-Life	too short	
	664.57			2.484E-04	3.878E-02	Half-Life	too short	
CE-144	721.93			-3.719E-04	3.878E-02	Half-Life	too short	
	80.11			1.021E+00	1.145E+00	1.480E+00	1.228E-01	0.689
	133.54	*		-6.407E-02	1.272E-01	2.074E-01	3.419E-02	-0.309
PM-144	476.78			6.802E-03	4.953E-02	8.257E-02	6.229E-03	0.082

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-3.965E-03	2.423E-02	3.881E-02	2.965E-03	-0.102
		696.49	*	9.498E-03	2.947E-02	4.838E-02	3.674E-03	0.196
		778.57		2.509E-01	1.885E+00	2.928E+00	2.226E-01	0.086
PR-144		696.49	*	6.434E-01	1.996E+00	3.277E+00	2.488E-01	0.196
		1489.15		6.084E+00	7.948E+00	1.467E+01	8.510E-01	0.415
PM-146		453.90	*	4.788E-02	3.279E-02	5.834E-02	5.241E-03	0.821
		633.02		1.917E-01	1.085E+00	1.776E+00	6.590E-01	0.108
		735.90		-5.307E-02	1.242E-01	1.902E-01	5.384E-02	-0.279
		747.13		-2.016E-02	7.695E-02	1.202E-01	1.617E-02	-0.168
ND-147	+	91.11		9.476E-01	2.232E-01	2.780E-01	2.510E-02	3.409
		319.41		-2.811E-01	2.246E+00	3.521E+00	2.495E-01	-0.080
		439.89		7.813E-01	4.111E+00	6.908E+00	4.291E-01	0.113
		531.02	*	7.844E-02	3.923E-01	6.522E-01	9.147E-02	0.120
PM-149		285.90	*	-1.184E+01	5.489E+01	8.293E+01	1.235E+01	-0.143
EU-152		121.78		-6.658E-03	4.359E-02	7.254E-02	8.783E-03	-0.092
		244.69		-2.309E-02	2.221E-01	3.159E-01	2.382E-02	-0.073
		344.27	*	6.476E-03	7.032E-02	1.111E-01	8.199E-03	0.058
		443.98		2.832E-01	7.004E-01	1.190E+00	7.432E-02	0.238
		778.89		4.097E-02	2.115E-01	3.421E-01	2.600E-02	0.120
		867.32		-2.577E-01	6.188E-01	9.964E-01	7.382E-02	-0.259
		964.01		6.129E-01	2.568E-01	4.813E-01	3.380E-02	1.273
		1085.78		-6.039E-02	3.180E-01	5.124E-01	3.209E-02	-0.118
		1112.02		3.017E-02	2.909E-01	4.795E-01	2.904E-02	0.063
		1407.95		9.729E-02	1.494E-01	2.665E-01	1.536E-02	0.365
GD-153		69.67		8.110E-03	6.851E-01	1.061E+00	9.199E-02	0.008
	+	83.37		2.993E+01	1.040E+01	1.283E+01	1.051E+00	2.334
		97.43	*	4.037E-02	4.634E-02	7.432E-02	6.545E-03	0.543
		103.18		8.060E-02	6.131E-02	1.067E-01	9.924E-03	0.755
EU-154		123.07		-1.728E-02	3.130E-02	5.121E-02	6.798E-03	-0.337
		247.94		9.459E-02	2.319E-01	3.799E-01	4.060E-02	0.249
		591.81		-1.145E-01	4.704E-01	7.515E-01	8.035E-02	-0.152
		723.30		-1.130E-02	1.525E-01	2.111E-01	1.821E-02	-0.054
		756.87		-8.696E-02	6.402E-01	1.010E+00	1.138E-01	-0.086
		873.19		9.379E-02	2.298E-01	3.954E-01	4.511E-02	0.237
		996.32		-1.909E-01	2.973E-01	4.612E-01	7.830E-02	-0.414
		1004.76		-8.564E-02	1.807E-01	2.875E-01	2.981E-02	-0.298
		1274.45	*	-4.062E-03	1.038E-01	1.672E-01	1.547E-02	-0.024
EU-155		48.70		-1.436E-01	3.123E-01	4.417E-01	3.237E-02	-0.325
		60.01		1.136E+00	1.526E+00	2.248E+00	2.042E-01	0.505
	+	86.54		4.192E-01	7.611E-02	1.049E-01	8.592E-03	3.995
		105.31	*	1.305E-02	6.253E-02	1.060E-01	1.016E-02	0.123
TB-160	+	86.79		1.113E+00	2.017E-01	2.778E-01	2.247E-02	4.007
		197.04		1.236E-01	3.681E-01	5.891E-01	4.393E-02	0.210
		215.65		5.011E-01	4.821E-01	8.135E-01	6.115E-02	0.616
	+	298.57		1.996E-01	1.413E-01	1.392E-01	1.015E-02	1.434
		879.36	*	-6.721E-03	1.133E-01	1.880E-01	1.385E-02	-0.036
		962.29		5.315E-01	5.035E-01	7.949E-01	5.589E-02	0.669
		966.15		8.562E-01	2.094E-01	4.048E-01	2.839E-02	2.115
		1177.93		7.381E-02	3.001E-01	4.981E-01	2.753E-02	0.148

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		-4.486E-02	5.595E-01	8.972E-01	5.069E-02	-0.050
		80.57		-6.066E-03	1.547E-01	1.897E-01	1.571E-02	-0.032
	+	184.41		1.361E-01	4.085E-02	4.768E-02	3.529E-03	2.855
		280.46		-1.801E-02	5.942E-02	9.323E-02	6.921E-03	-0.193
		410.95		-1.946E-02	1.889E-01	3.140E-01	1.870E-02	-0.062
		711.68	*	-1.076E-03	4.876E-02	7.804E-02	5.935E-03	-0.014
TM-171		752.31		1.566E-01	2.427E-01	4.053E-01	3.087E-02	0.386
		810.29		-3.572E-02	4.970E-02	7.539E-02	5.696E-03	-0.474
		51.35		-1.339E+00	4.915E+00	7.337E+00	5.700E-01	-0.183
		52.39		-1.841E+00	2.807E+00	4.127E+00	3.277E-01	-0.446
		59.40		2.436E+00	8.044E+00	1.167E+01	1.061E+00	0.209
		66.72	*	-3.802E+00	1.189E+01	1.641E+01	1.443E+00	-0.232
LU-176	+	88.36		5.070E-01	1.306E-01	1.838E-01	1.485E-02	2.759
		201.83		1.043E-02	1.877E-02	3.121E-02	2.333E-03	0.334
		306.84	*	-5.564E-03	1.728E-02	2.544E-02	1.837E-03	-0.219
LU-177		401.10		-1.513E-01	4.821E+00	8.054E+00	4.723E-01	-0.019
		112.95		1.186E+00	9.075E-01	1.574E+00	1.603E-01	0.753
	+	208.36	*	2.587E+00	9.942E-01	1.274E+00	9.549E-02	2.031
LU-177M		52.97		-1.613E-01	3.009E-01	4.446E-01	3.573E-02	-0.363
		54.07		-5.383E-02	1.621E-01	2.505E-01	2.058E-02	-0.215
	+	61.30		8.098E-01	8.392E-01	8.091E-01	7.304E-02	1.001
		121.62		3.920E-02	2.205E-01	3.713E-01	4.100E-02	0.106
		147.16		-7.594E-02	3.915E-01	6.440E-01	5.830E-02	-0.118
		171.86		-1.647E-01	3.090E-01	4.969E-01	3.646E-02	-0.331
		218.09		8.521E-02	5.431E-01	8.859E-01	6.664E-02	0.096
	+	268.79		1.081E+00	7.887E-01	9.817E-01	7.345E-02	1.101
		319.02		-4.739E-02	1.804E-01	2.805E-01	1.988E-02	-0.169
		367.43		8.444E-01	6.304E-01	1.127E+00	7.121E-02	0.749
		413.65	*	1.580E-02	1.312E-01	2.205E-01	1.318E-02	0.072
		56.28		1.228E-01	2.129E-01	3.392E-01	2.910E-02	0.362
HF-181		57.53		9.167E-02	1.357E-01	2.001E-01	1.758E-02	0.458
		65.20		-1.555E-01	3.667E-01	5.042E-01	4.465E-02	-0.308
		133.02		-2.260E-03	4.015E-02	6.676E-02	6.833E-03	-0.034
		136.25		4.660E-03	2.873E-01	4.783E-01	4.771E-02	0.010
		345.85		3.838E-02	1.480E-01	2.245E-01	1.507E-02	0.171
		482.03	*	1.010E-02	3.067E-02	5.169E-02	3.385E-03	0.195
W-181		56.28		4.848E-02	8.391E-02	1.337E-01	1.147E-02	0.363
		57.53		3.612E-02	5.350E-02	7.889E-02	6.931E-03	0.458
		65.20	*	-6.082E-02	1.435E-01	1.972E-01	1.747E-02	-0.308
TA-182		67.75		-5.209E-03	3.863E-02	6.611E-02	5.785E-03	-0.079
		100.10		-8.944E-02	9.894E-02	1.618E-01	1.462E-02	-0.553
		152.43		1.859E-01	2.203E-01	3.654E-01	3.137E-02	0.509
		222.10		4.658E-03	2.235E-01	3.620E-01	2.726E-02	0.013
		1001.68		9.445E-01	1.619E+00	2.794E+00	1.906E-01	0.338
	+	1121.28		6.256E-01	1.843E-01	2.867E-01	1.715E-02	2.182
RE-183		1189.05		-3.503E-02	2.363E-01	3.792E-01	2.102E-02	-0.092
		1221.42	*	1.425E-01	1.715E-01	2.948E-01	1.647E-02	0.483
		1230.97		3.039E-01	4.185E-01	6.793E-01	3.805E-02	0.447
		57.98		3.047E-03	5.582E-02	8.029E-02	7.114E-03	0.038

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		7.812E-03	3.271E-02	4.734E-02	4.299E-03	0.165
		67.20		-1.479E-03	7.520E-02	1.165E-01	1.022E-02	-0.013
		162.32	*	-1.377E-02	7.181E-02	1.137E-01	8.709E-03	-0.121
	+	208.81		2.466E+00	9.475E-01	1.208E+00	9.058E-02	2.041
		291.72		4.865E-01	6.825E-01	1.012E+00	7.440E-02	0.481
		57.98		1.127E-02	2.064E-01	2.969E-01	2.631E-02	0.038
		59.32		2.887E-02	1.209E-01	1.749E-01	1.589E-02	0.165
		67.20		-5.467E-03	2.780E-01	4.308E-01	3.779E-02	-0.013
		161.27		6.479E-02	2.288E-01	3.687E-01	2.860E-02	0.176
		216.55		1.024E-01	1.707E-01	2.836E-01	2.132E-02	0.361
		252.85	*	-6.121E-02	1.599E-01	2.518E-01	1.896E-02	-0.243
		318.01		1.839E-02	3.137E-01	4.974E-01	3.531E-02	0.037
		792.07		5.257E-01	8.886E-01	1.374E+00	1.042E-01	0.382
		903.28		3.154E-01	8.243E-01	1.377E+00	1.002E-01	0.229
OS-185		920.93		-1.571E-01	3.437E-01	5.482E-01	3.953E-02	-0.287
		59.72		5.021E-02	9.026E-02	1.321E-01	1.202E-02	0.380
	+	61.14		8.841E-02	9.161E-02	8.509E-02	7.688E-03	1.039
		69.30		3.254E-04	1.212E-01	1.877E-01	1.630E-02	0.002
		592.07		-5.174E-01	1.918E+00	3.058E+00	2.215E-01	-0.169
		646.12	*	-6.507E-04	3.560E-02	5.745E-02	4.296E-03	-0.011
		717.42		3.111E-01	7.249E-01	1.199E+00	9.127E-02	0.259
		874.81		9.218E-02	4.562E-01	7.732E-01	5.708E-02	0.119
		880.27		3.761E-01	6.171E-01	1.076E+00	7.922E-02	0.350
		155.03	*	-1.772E-02	1.084E-01	1.781E-01	1.486E-02	-0.100
RE-188		477.96		2.678E-01	2.253E+00	3.752E+00	2.445E-01	0.071
		633.10		4.711E-01	2.182E+00	3.587E+00	2.664E-01	0.131
	+	63.58		3.037E+01	3.147E+01	2.904E+01	2.592E+00	1.046
		227.08		-4.569E+00	8.301E+00	1.307E+01	9.852E-01	-0.350
IR-192		290.67	*	2.474E+00	5.177E+00	7.575E+00	5.574E-01	0.327
	+	295.96		8.746E-01	1.603E-01	1.794E-01	1.325E-02	4.876
		308.46		-1.842E-02	6.337E-02	9.857E-02	7.153E-03	-0.187
		316.51	*	5.585E-04	2.349E-02	3.719E-02	2.655E-03	0.015
		468.07		1.926E-02	5.235E-02	8.244E-02	5.976E-03	0.234
		604.41		-2.849E-01	4.079E-01	5.387E-01	6.565E-02	-0.529
AU-195		612.46		-6.014E-01	5.825E-01	7.317E-01	6.444E-02	-0.822
		65.12		-2.863E-02	6.636E-02	9.119E-02	8.079E-03	-0.314
		66.83		1.302E-03	3.506E-02	5.443E-02	4.783E-03	0.024
	+	75.70		1.579E+00	1.820E-01	2.291E-01	1.935E-02	6.890
		98.88	*	9.316E-02	1.294E-01	2.143E-01	1.913E-02	0.435
		129.76		9.073E-01	1.981E+00	3.021E+00	3.170E-01	0.300
		367.94	*	2.343E-04	1.981E+00	Half-Life	too short	
TL-200		579.30		1.572E-03	1.981E+00	Half-Life	too short	
		828.27		-2.207E-04	1.981E+00	Half-Life	too short	
		1205.75		9.256E-04	1.981E+00	Half-Life	too short	
	+	68.90		6.364E-01	1.653E+00	2.590E+00	2.254E-01	0.246
TL-201		70.82		-3.382E-01	1.004E+00	1.536E+00	1.326E-01	-0.220
		80.30		1.795E+00	2.352E+00	3.021E+00	2.504E-01	0.594
		135.34		-5.743E+00	1.380E+01	2.262E+01	2.273E+00	-0.254
		167.43	*	-1.900E+00	3.864E+00	6.235E+00	4.560E-01	-0.305

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		6.369E-02	1.655E-01	2.593E-01	2.257E-02	0.246
		70.82		-3.376E-02	1.003E-01	1.534E-01	1.323E-02	-0.220
		80.30		1.792E-01	2.349E-01	3.016E-01	2.500E-02	0.594
		439.56	*	3.961E-03	4.954E-02	8.274E-02	5.135E-03	0.048
HG-203		70.83		-1.473E-01	4.465E-01	6.826E-01	9.290E-02	-0.216
	+	72.87		3.048E+00	5.227E-01	5.643E-01	7.424E-02	5.401
	+	82.60		2.209E+00	8.033E-01	9.241E-01	1.247E-01	2.390
		279.20	*	-2.371E-02	2.916E-02	4.454E-02	3.436E-03	-0.532
BI-207	+	72.80		9.017E-01	1.257E-01	1.639E-01	1.402E-02	5.502
	+	74.97		5.342E-01	7.444E-02	1.241E-01	1.051E-02	4.305
	+	84.90		7.909E-01	1.433E-01	1.719E-01	1.400E-02	4.600
		569.67		-2.125E-02	2.279E-02	3.459E-02	2.464E-03	-0.614
		1063.62	*	5.709E-02	4.310E-02	7.800E-02	5.012E-03	0.732
		1770.23		4.031E-02	4.032E-01	5.834E-01	3.352E-02	0.069
TL-207		81.07		2.818E-02	1.075E-01	1.533E-01	1.267E-02	0.184
	+	83.78		2.557E-01	8.889E-02	1.087E-01	8.891E-03	2.352
		94.90		-4.567E-02	1.270E-01	1.905E-01	1.638E-02	-0.240
		122.32		-1.773E-01	1.042E+00	1.733E+00	2.006E-01	-0.102
		144.24		2.784E-01	4.509E-01	7.275E-01	7.464E-02	0.383
		154.21		1.510E-01	2.546E-01	4.289E-01	3.989E-02	0.352
	+	269.46		2.537E-01	1.852E-01	2.357E-01	1.811E-02	1.076
		323.87	*	5.998E-02	4.739E-01	7.163E-01	1.217E-01	0.084
	+	338.28		5.300E+00	1.475E+00	1.770E+00	1.971E-01	2.994
		445.03		9.173E-01	1.646E+00	2.818E+00	2.967E-01	0.326
PO-209		260.50		1.325E+00	6.412E+00	1.038E+01	7.794E-01	0.128
		262.80		4.221E+00	1.786E+01	2.893E+01	2.171E+00	0.146
		896.60	*	-3.882E+00	6.018E+00	9.492E+00	6.929E-01	-0.409
PB-211		404.84	*	-1.084E+00	9.686E-01	1.065E+00	6.639E-01	-1.018
		427.08		1.597E-01	1.480E+00	2.476E+00	1.531E+00	0.064
		831.96		-6.524E-01	1.045E+00	1.530E+00	9.568E-01	-0.426
BI-212	+	727.18	*	1.145E+00	3.514E-01	5.479E-01	5.017E-02	2.090
		785.46		4.007E-01	1.423E+00	2.437E+00	1.850E-01	0.164
		1620.62		1.353E+00	1.070E+00	2.034E+00	1.182E-01	0.665
PO-215		81.07		2.818E-02	1.075E-01	1.533E-01	1.267E-02	0.184
	+	83.78		2.557E-01	8.889E-02	1.087E-01	8.891E-03	2.352
		94.90		-4.567E-02	1.270E-01	1.905E-01	1.638E-02	-0.240
		122.32		-1.773E-01	1.042E+00	1.733E+00	2.006E-01	-0.102
		144.24		2.784E-01	4.509E-01	7.275E-01	7.464E-02	0.383
		154.21		1.510E-01	2.546E-01	4.289E-01	3.989E-02	0.352
	+	269.46		2.537E-01	1.852E-01	2.357E-01	1.811E-02	1.076
		323.87	*	5.998E-02	4.739E-01	7.163E-01	1.217E-01	0.084
	+	338.28		5.300E+00	1.475E+00	1.770E+00	1.971E-01	2.994
		445.03		9.173E-01	1.646E+00	2.818E+00	2.967E-01	0.326
RN-219		271.23		1.872E-01	1.881E-01	2.826E-01	2.649E-02	0.662
		401.81	*	5.158E-02	2.941E-01	4.964E-01	6.768E-02	0.104
RN-220		549.76	*	4.672E+00	1.931E+01	3.212E+01	2.251E+00	0.145
RA-223		81.07		2.818E-02	1.075E-01	1.533E-01	1.267E-02	0.184
	+	83.78		2.557E-01	8.889E-02	1.087E-01	8.891E-03	2.352
		94.90		-4.567E-02	1.270E-01	1.905E-01	1.638E-02	-0.240

---- 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		-1.773E-01	1.042E+00	1.733E+00	2.006E-01	-0.102
		144.24		2.784E-01	4.509E-01	7.275E-01	7.464E-02	0.383
		154.21		1.510E-01	2.546E-01	4.289E-01	3.989E-02	0.352
	+	269.46		2.537E-01	1.852E-01	2.357E-01	1.811E-02	1.076
		323.87	*	5.998E-02	4.739E-01	7.163E-01	1.217E-01	0.084
	+	338.28		5.300E+00	1.475E+00	1.770E+00	1.971E-01	2.994
		445.03		9.173E-01	1.646E+00	2.818E+00	2.967E-01	0.326
		79.80		2.361E-01	9.316E-01	1.161E+00	2.483E-01	0.203
		236.00		1.306E+00	2.565E-01	3.749E-01	4.316E-02	3.483
		256.20	*	-9.976E-03	2.628E-01	4.207E-01	6.209E-02	-0.024
TH-227		286.10		-1.362E-01	1.113E+00	1.690E+00	2.101E-01	-0.081
	+	299.80		2.557E+00	1.852E+00	1.794E+00	3.027E-01	1.425
		304.40		1.295E+00	1.359E+00	2.026E+00	3.613E-01	0.639
		334.20		-1.376E+00	1.819E+00	2.561E+00	4.791E-01	-0.537
		79.80		2.361E-01	9.317E-01	1.161E+00	2.515E-01	0.203
		94.00		1.817E+00	1.104E+00	1.678E+00	3.647E-01	1.083
		236.00		1.306E+00	2.473E-01	3.749E-01	3.848E-02	3.483
		256.20	*	-9.976E-03	2.628E-01	4.207E-01	7.389E-02	-0.024
		286.10		-1.362E-01	1.121E+00	1.690E+00	1.695E+00	-0.081
	+	299.80		2.557E+00	1.852E+00	1.794E+00	3.027E-01	1.425
TH-229		304.40		1.295E+00	1.359E+00	2.026E+00	3.613E-01	0.639
		334.20		-1.376E+00	1.819E+00	2.561E+00	4.791E-01	-0.537
	+	85.43		7.806E-01	1.414E-01	1.855E-01	1.508E-02	4.207
	+	88.47		2.919E-01	7.520E-02	1.055E-01	8.537E-03	2.765
		100.00		-7.992E-02	1.034E-01	1.700E-01	1.534E-02	-0.470
		193.63	*	-2.602E-01	3.368E-01	5.318E-01	3.958E-02	-0.489
		210.97		3.920E-01	4.996E-01	7.558E-01	5.672E-02	0.519
	PA-231	283.67	*	-2.906E-01	1.093E+00	1.715E+00	2.492E-01	-0.169
		301.29		4.652E-01	4.207E-01	6.350E-01	7.197E-02	0.733
	TH-231	81.07		2.818E-02	1.075E-01	1.533E-01	1.267E-02	0.184
U-231	+	83.78		2.557E-01	8.889E-02	1.087E-01	8.891E-03	2.352
		94.90		-4.567E-02	1.270E-01	1.905E-01	1.638E-02	-0.240
		122.32		-1.773E-01	1.042E+00	1.733E+00	2.006E-01	-0.102
		144.24		2.784E-01	4.509E-01	7.275E-01	7.464E-02	0.383
		154.21		1.510E-01	2.546E-01	4.289E-01	3.989E-02	0.352
	+	269.46		2.537E-01	1.852E-01	2.357E-01	1.811E-02	1.076
		323.87	*	5.998E-02	4.739E-01	7.163E-01	1.217E-01	0.084
	+	338.28		5.300E+00	1.475E+00	1.770E+00	1.971E-01	2.994
		445.03		9.173E-01	1.646E+00	2.818E+00	2.967E-01	0.326
	+	84.21		9.931E+00	3.452E+00	4.181E+00	3.414E-01	2.375
PA-233	+	92.29		6.744E+00	1.570E+00	2.111E+00	1.770E-01	3.195
		95.87	*	-6.866E-01	5.715E-01	8.225E-01	7.137E-02	-0.835
		108.00		-2.695E-02	1.023E+00	1.720E+00	1.674E-01	-0.016
	+	75.28		2.562E+01	4.393E+00	3.771E+00	5.754E-01	6.793
	+	86.59		6.815E+00	2.126E+00	1.704E+00	4.543E-01	3.999
	+	300.12		7.128E-01	5.122E-01	4.975E-01	7.035E-02	1.433
		311.98	*	7.132E-03	4.321E-02	6.903E-02	5.150E-03	0.103
		340.50		1.333E-01	4.198E-01	6.390E-01	1.485E-01	0.209
		398.62		7.624E-01	1.506E+00	2.566E+00	6.637E-01	0.297

---- 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		5.098E-01	1.220E+00	2.073E+00	4.280E-01	0.246
		63.00		8.864E-01	9.256E-01	9.245E-01	1.450E-01	0.959
		94.67		-1.120E-02	9.085E-02	1.377E-01	1.704E-02	-0.081
		98.44		7.012E-02	6.597E-02	8.976E-02	5.011E-02	0.781
		99.86		-1.232E-01	2.609E-01	4.339E-01	3.910E-02	-0.284
		111.00		-2.352E-02	1.073E-01	1.789E-01	2.346E-02	-0.131
		131.20		7.489E-02	7.091E-02	1.105E-01	1.147E-02	0.678
		152.70		6.560E-02	2.158E-01	3.519E-01	5.988E-02	0.186
		186.00		4.901E+00	2.079E+00	1.718E+00	5.310E-01	2.852
		226.40		-5.787E-02	2.625E-01	4.199E-01	5.258E-02	-0.138
		227.20		-1.567E-01	2.821E-01	4.441E-01	3.347E-02	-0.353
		248.90		8.239E-02	5.422E-01	8.771E-01	1.931E-01	0.094
		293.70		5.538E+00	1.310E+00	1.268E+00	2.118E-01	4.367
		369.80		-3.430E-01	6.026E-01	9.768E-01	2.047E-01	-0.351
		568.70		-2.594E-01	7.324E-01	1.164E+00	8.290E-02	-0.223
		569.50		-1.815E-01	2.027E-01	3.086E-01	2.199E-02	-0.588
		574.00		1.267E+00	1.068E+00	1.882E+00	1.345E-01	0.673
		699.00		9.868E-02	6.176E-01	1.002E+00	1.868E-01	0.098
	706.10		-6.751E-01	9.438E-01	1.356E+00	6.022E-01	-0.498	
	733.00		-2.699E-01	3.217E-01	4.497E-01	9.815E-02	-0.600	
	742.81		3.695E-01	1.196E+00	1.914E+00	1.284E+00	0.193	
	796.30		1.490E+00	1.238E+00	1.386E+00	3.705E-01	1.075	
	805.60		-4.072E-02	7.780E-01	1.301E+00	3.951E-01	-0.031	
	819.60		-1.290E-01	1.009E+00	1.588E+00	6.002E-01	-0.081	
	826.30		-1.039E-01	6.492E-01	1.072E+00	4.775E-01	-0.097	
	831.60		-1.568E-01	4.872E-01	7.927E-01	2.342E-01	-0.198	
	876.40		-5.783E-03	6.645E-01	1.107E+00	1.137E+00	-0.005	
	880.51		1.881E-01	2.258E-01	3.994E-01	2.941E-02	0.471	
	883.24		-7.569E-02	2.399E-01	3.811E-01	2.556E-01	-0.199	
	899.00		-1.915E-01	7.112E-01	1.152E+00	5.007E-01	-0.166	
	925.00		-2.048E-01	8.785E-01	1.429E+00	1.028E-01	-0.143	
	926.50		3.454E-02	1.338E-01	2.265E-01	5.624E-02	0.152	
	946.00	*	-4.903E-02	2.424E-01	3.950E-01	7.156E-02	-0.124	
	949.00		7.019E-02	3.670E-01	6.172E-01	4.378E-02	0.114	
	980.50		-9.774E-02	5.444E-01	8.852E-01	6.142E-02	-0.110	
	1394.10		-6.677E-01	9.869E-01	1.355E+00	8.779E-01	-0.493	
PA-234M		766.42		1.006E+01	1.194E+01	1.712E+01	8.659E+00	0.588
		1001.03	*	4.019E-01	3.760E+00	6.257E+00	5.295E-01	0.064
U-235	+	89.95		2.929E+00	1.150E+00	1.037E+00	3.188E-01	2.825
	+	93.35		2.356E+00	8.338E-01	6.225E-01	1.742E-01	3.784
		105.00		4.640E-01	6.288E-01	1.057E+00	3.182E-01	0.439
		143.76	*	1.214E-01	1.406E-01	2.266E-01	4.050E-02	0.536
		163.35		8.133E-02	3.124E-01	5.028E-01	9.364E-02	0.162
	+	185.71		1.815E-01	5.446E-02	6.447E-02	4.776E-03	2.815
NP-236		205.31		4.754E-02	3.713E-01	5.425E-01	1.009E-01	0.088
		94.67		-8.152E-03	6.891E-02	1.045E-01	8.964E-03	-0.078
		98.44		5.306E-02	4.042E-02	6.786E-02	6.033E-03	0.782
		111.00		-1.779E-02	8.113E-02	1.354E-01	1.354E-02	-0.131
		160.31	*	-3.637E-02	4.952E-02	7.925E-02	6.222E-03	-0.459

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		-1.197E-02	8.693E-02	1.462E-01	1.314E-02	-0.082
		117.00	*	-5.072E-02	1.112E-01	1.832E-01	1.939E-02	-0.277
	+	209.75		1.957E+00	7.522E-01	9.327E-01	6.996E-02	2.098
		228.18		-6.577E-02	1.489E-01	2.357E-01	1.777E-02	-0.279
		277.60		1.086E-01	1.264E-01	2.096E-01	1.559E-02	0.518
AM-241		334.30		-7.753E-01	1.022E+00	1.452E+00	1.000E-01	-0.534
		59.54	*	1.955E-02	4.721E-02	6.875E-02	6.670E-03	0.284
CM-243		99.55		-1.232E-02	8.945E-02	1.505E-01	1.352E-02	-0.082
		103.76	*	1.088E-01	5.756E-02	1.010E-01	9.441E-03	1.077
		117.00		-5.218E-02	1.144E-01	1.885E-01	1.994E-02	-0.277
	+	209.75		1.929E+00	7.414E-01	9.194E-01	6.897E-02	2.098
		228.18		-6.646E-02	1.505E-01	2.381E-01	1.795E-02	-0.279
AM-246		277.60		1.095E-01	1.275E-01	2.113E-01	1.572E-02	0.518
		798.80		2.725E-02	1.196E-01	1.792E-01	1.357E-02	0.152
		1036.00		9.656E-03	2.309E-01	3.813E-01	2.521E-02	0.025
		1062.04		-4.665E-02	1.920E-01	3.089E-01	1.988E-02	-0.151
		1078.86	*	-2.774E-02	1.203E-01	1.935E-01	1.222E-02	-0.143
CM-247		278.00		2.476E-01	5.239E-01	8.541E-01	6.353E-02	0.290
		287.40		1.496E-01	8.204E-01	1.318E+00	9.731E-02	0.114
		402.60	*	5.888E-03	2.615E-02	4.426E-02	2.601E-03	0.133
CF-249		252.85		-2.303E-01	6.016E-01	9.474E-01	7.133E-02	-0.243
		333.44		-3.278E-02	1.323E-01	1.948E-01	1.344E-02	-0.168
		387.95	*	-6.264E-03	2.829E-02	4.690E-02	2.751E-03	-0.134
CF-251		176.60	*	-7.268E-02	7.956E-02	1.254E-01	9.233E-03	-0.580
		227.00		-1.189E-01	2.499E-01	3.950E-01	2.977E-02	-0.301
		285.00		6.843E-01	1.259E+00	1.980E+00	1.465E-01	0.346

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]G243274001
* Acquisition date   : 30-DEC-2009 22:47:57 Detector SN#      :
* Detector ID        : GAM17 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 04:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 04:00:17.43 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243274001 Analyst initials: MXR1
* Batch Number       : 935341 Sample Quantity : 1.3293E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 27-JAN-2009 16:21:14 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	2.331E+01	1.896E+00	4.417E-01	0.000E+00
CD-109	2.173E+00	5.486E-01	6.402E-01	0.000E+00
SN-126	3.481E-01	6.180E-02	6.292E-02	0.000E+00
CS-135	2.156E-01	1.546E-01	1.602E-01	0.000E+00
TL-208	5.198E-01	7.784E-02	4.670E-02	0.000E+00
BI-210	4.359E-01	5.124E-01	5.280E-01	0.000E+00
PB-210	4.359E-01	5.124E-01	5.280E-01	0.000E+00
PO-210	4.359E-01	5.121E-01	5.280E-01	0.000E+00
BI-211	3.083E+00	4.219E-01	2.391E-01	0.000E+00
PB-212	1.460E+00	1.480E-01	5.786E-02	0.000E+00
PO-212	1.460E+00	1.480E-01	5.786E-02	0.000E+00
BI-214	9.223E-01	1.446E-01	8.541E-02	0.000E+00
PB-214	1.072E+00	1.567E-01	8.340E-02	0.000E+00
PO-214	1.072E+00	1.567E-01	8.340E-02	0.000E+00
PO-216	1.460E+00	1.480E-01	5.786E-02	0.000E+00
PO-218	1.072E+00	1.567E-01	8.340E-02	0.000E+00
RA-224	4.378E+00	8.800E-01	6.590E-01	0.000E+00
RA-226	9.223E-01	1.446E-01	8.541E-02	0.000E+00
AC-228	1.471E+00	2.929E-01	1.650E-01	0.000E+00
RA-228	1.471E+00	2.929E-01	1.650E-01	0.000E+00
TH-228	1.482E+00	1.502E-01	5.870E-02	0.000E+00
TH-230	9.222E-01	1.446E-01	8.541E-02	0.000E+00
TH-232	1.471E+00	2.929E-01	1.650E-01	0.000E+00
TH-234	7.604E-01	7.811E-01	6.854E-01	0.000E+00
U-234	9.222E-01	1.446E-01	8.541E-02	0.000E+00
NP-237	1.022E+00	2.751E-01	1.843E-01	0.000E+00
U-238	7.604E-01	7.811E-01	6.854E-01	0.000E+00
AM-243	2.976E-01	4.064E-02	4.028E-02	0.000E+00
ANH-511	1.075E-01	5.140E-02	3.449E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line Activity	K.L. Act error	MDA
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Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-4.035E-02	2.310E-01	3.939E-01	0.000E+00	NOT IDENT.
NA-22	-8.804E-04	3.646E-02	6.024E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	3.110E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.742E-03	2.359E-02	3.888E-02	0.000E+00	NOT IDENT.
TI-44	7.555E-03	1.659E-02	2.566E-02	0.000E+00	NOT IDENT.
SC-46	-3.492E-02	3.062E-02	4.757E-02	0.000E+00	FAIL ABUN
V-48	2.171E-03	4.925E-02	8.411E-02	0.000E+00	NOT IDENT.
CR-51	-3.206E-02	2.366E-01	4.190E-01	0.000E+00	NOT IDENT.
MN-52	-1.734E-01	1.771E-01	2.692E-01	0.000E+00	NOT IDENT.
MN-54	-1.552E-02	2.957E-02	4.923E-02	0.000E+00	NOT IDENT.
CO-56	-6.933E-03	2.747E-02	4.643E-02	0.000E+00	FAIL ABUN
CO-57	-2.394E-03	1.469E-02	2.607E-02	0.000E+00	NOT IDENT.
CO-58	-1.137E-02	2.970E-02	5.000E-02	0.000E+00	NOT IDENT.
FE-59	4.898E-02	7.157E-02	1.270E-01	0.000E+00	NOT IDENT.
CO-60	1.184E-02	2.876E-02	4.966E-02	0.000E+00	NOT IDENT.
ZN-65	1.099E-01	8.440E-02	1.389E-01	0.000E+00	NOT IDENT.
GE-68	3.712E-01	1.051E+00	1.820E+00	0.000E+00	NOT IDENT.
AS-73	9.245E-03	1.528E-01	2.498E-01	0.000E+00	NOT IDENT.
AS-74	2.885E-02	6.999E-02	1.155E-01	0.000E+00	NOT IDENT.
SE-75	-8.420E-03	3.028E-02	4.774E-02	0.000E+00	NOT IDENT.
BR-77	-1.774E+00	6.283E+00	1.054E+01	0.000E+00	FAIL ABUN
SR-82	-2.590E-01	3.188E-01	4.404E-01	0.000E+00	NOT IDENT.
RB-83	-1.481E-02	4.954E-02	8.301E-02	0.000E+00	NOT IDENT.
RB-84	-2.853E-03	5.607E-02	9.605E-02	0.000E+00	NOT IDENT.
KR-85	2.855E+00	5.457E+00	8.563E+00	0.000E+00	NOT IDENT.
SR-85	1.454E-02	2.780E-02	4.362E-02	0.000E+00	NOT IDENT.
RB-86	1.929E-01	6.493E-01	1.120E+00	0.000E+00	NOT IDENT.
Y-88	3.827E-03	2.203E-02	3.806E-02	0.000E+00	NOT IDENT.
ZR-88	1.032E-02	2.092E-02	3.758E-02	0.000E+00	NOT IDENT.
Y-91	1.043E+01	1.538E+01	2.692E+01	0.000E+00	NOT IDENT.
NB-94	5.735E-03	2.854E-02	4.807E-02	0.000E+00	NOT IDENT.
NB-95	2.466E-02	3.792E-02	6.087E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.007E-01	1.694E-01	0.000E+00	NOT IDENT.
ZR-95	-4.120E-03	5.924E-02	9.720E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.036E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.205E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.747E-01	8.445E+00	1.390E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.308E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.329E-03	2.139E-02	3.564E-02	0.000E+00	FAIL ABUN
RH-102	-5.949E-03	2.043E-02	3.457E-02	0.000E+00	NOT IDENT.
RU-103	-1.349E-02	2.832E-02	4.701E-02	0.000E+00	FAIL ABUN
RH-106	1.888E-02	2.446E-01	4.137E-01	0.000E+00	NOT IDENT.
RU-106	1.888E-02	2.446E-01	4.137E-01	0.000E+00	NOT IDENT.
AG-108M	1.343E-02	2.339E-02	4.190E-02	0.000E+00	NOT IDENT.
AG-110M	-1.295E-02	2.678E-02	4.313E-02	0.000E+00	NOT IDENT.
IN-111	-1.454E-01	6.185E-01	9.192E-01	0.000E+00	NOT IDENT.
IN-113M	3.210E-03	3.089E-02	5.445E-02	0.000E+00	NOT IDENT.
SN-113	3.210E-03	3.089E-02	5.445E-02	0.000E+00	NOT IDENT.
IN-114M	5.131E-02	1.256E-01	1.981E-01	0.000E+00	NOT IDENT.
CD-115	2.275E+00	6.203E+00	1.086E+01	0.000E+00	NOT IDENT.
SN-117M	-3.039E-02	3.253E-02	5.489E-02	0.000E+00	NOT IDENT.
SB-122	1.171E+00	1.412E+00	2.513E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.586E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-7.552E-03	1.726E-02	2.974E-02	0.000E+00	NOT IDENT.
I-124	-1.465E-01	5.042E-01	7.226E-01	0.000E+00	FAIL ABUN
SB-124	3.777E-02	6.907E-02	1.243E-01	0.000E+00	FAIL ABUN
SB-125	3.455E-02	6.465E-02	1.157E-01	0.000E+00	FAIL ABUN
TE-125M	1.144E+00	5.082E+00	9.201E+00	0.000E+00	NOT IDENT.
I-126	7.088E-02	1.320E-01	2.290E-01	0.000E+00	NOT IDENT.
SB-126	1.263E-02	1.187E-01	1.833E-01	0.000E+00	NOT IDENT.
SB-127	2.224E-01	9.812E-01	1.661E+00	0.000E+00	FAIL ABUN
XE-127	2.233E-02	2.979E-02	5.271E-02	0.000E+00	NOT IDENT.
I-131	-1.051E-02	7.399E-02	1.295E-01	0.000E+00	NOT IDENT.
TE-132	-1.767E-01	3.912E-01	6.525E-01	0.000E+00	NOT IDENT.
BA-133	-2.468E-03	3.183E-02	4.935E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.589E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.933E-02	7.368E-02	0.000E+00	FAIL ABUN
I-135	0.000E+00	9.741E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.792E-03	8.106E-02	1.374E-01	0.000E+00	FAIL ABUN
BA-137M	-8.420E-03	2.766E-02	4.519E-02	0.000E+00	NOT IDENT.
CS-137	-8.901E-03	2.924E-02	4.777E-02	0.000E+00	NOT IDENT.
CE-139	8.689E-03	1.844E-02	3.276E-02	0.000E+00	NOT IDENT.
BA-140	-3.492E-02	1.868E-01	3.140E-01	0.000E+00	NOT IDENT.
LA-140	2.492E-03	6.789E-02	9.961E-02	0.000E+00	NOT IDENT.
CE-141	-2.956E-02	3.801E-02	6.506E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.189E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-6.407E-02	1.246E-01	2.165E-01	0.000E+00	NOT IDENT.
PM-144	9.498E-03	2.888E-02	4.910E-02	0.000E+00	NOT IDENT.
PR-144	6.434E-01	1.956E+00	3.326E+00	0.000E+00	NOT IDENT.
PM-146	4.788E-02	3.213E-02	5.965E-02	0.000E+00	NOT IDENT.
ND-147	7.844E-02	3.845E-01	6.650E-01	0.000E+00	FAIL ABUN
PM-149	-1.184E+01	5.379E+01	8.548E+01	0.000E+00	NOT IDENT.
EU-152	6.476E-03	6.891E-02	1.141E-01	0.000E+00	NOT IDENT.
GD-153	4.037E-02	4.541E-02	7.800E-02	0.000E+00	FAIL ABUN
EU-154	-4.062E-03	1.017E-01	1.678E-01	0.000E+00	NOT IDENT.
EU-155	1.305E-02	6.128E-02	1.111E-01	0.000E+00	FAIL ABUN
TB-160	-6.721E-03	1.110E-01	1.900E-01	0.000E+00	FAIL ABUN
HO-166M	-1.076E-03	4.778E-02	7.917E-02	0.000E+00	FAIL ABUN
TM-171	-3.802E+00	1.165E+01	1.733E+01	0.000E+00	NOT IDENT.
LU-176	-5.564E-03	1.694E-02	2.619E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	9.743E-01	1.320E+00	0.000E+00	FAIL ABUN
LU-177M	1.580E-02	1.286E-01	2.258E-01	0.000E+00	FAIL ABUN
HF-181	1.010E-02	3.005E-02	5.280E-02	0.000E+00	NOT IDENT.
W-181	-6.082E-02	1.406E-01	2.084E-01	0.000E+00	NOT IDENT.
TA-182	1.425E-01	1.681E-01	2.962E-01	0.000E+00	FAIL ABUN
RE-183	-1.377E-02	7.037E-02	1.183E-01	0.000E+00	FAIL ABUN
RE-184	-6.121E-02	1.567E-01	2.601E-01	0.000E+00	NOT IDENT.
OS-185	-6.507E-04	3.489E-02	5.839E-02	0.000E+00	FAIL ABUN
RE-188	-1.772E-02	1.062E-01	1.854E-01	0.000E+00	NOT IDENT.
W-188	2.474E+00	5.074E+00	7.805E+00	0.000E+00	FAIL ABUN
IR-192	5.585E-04	2.302E-02	3.826E-02	0.000E+00	FAIL ABUN
AU-195	9.316E-02	1.268E-01	2.248E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.066E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.900E+00	3.787E+00	6.485E+00	0.000E+00	NOT IDENT.
TL-202	3.961E-03	4.855E-02	8.465E-02	0.000E+00	NOT IDENT.
HG-203	-2.371E-02	2.858E-02	4.593E-02	0.000E+00	FAIL ABUN
BI-207	5.709E-02	4.224E-02	7.857E-02	0.000E+00	FAIL ABUN
TL-207	5.998E-02	4.644E-01	7.367E-01	0.000E+00	FAIL ABUN
PO-209	-3.882E+00	5.897E+00	9.590E+00	0.000E+00	NOT IDENT.
PB-211	-1.084E+00	9.492E-01	1.091E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.443E-01	5.556E-01	0.000E+00	FAIL ABUN
PO-215	5.998E-02	4.644E-01	7.367E-01	0.000E+00	FAIL ABUN
RN-219	5.158E-02	2.882E-01	5.086E-01	0.000E+00	NOT IDENT.
RN-220	4.672E+00	1.892E+01	3.273E+01	0.000E+00	NOT IDENT.
RA-223	5.998E-02	4.644E-01	7.367E-01	0.000E+00	FAIL ABUN
AC-227	-9.976E-03	2.576E-01	4.344E-01	0.000E+00	FAIL ABUN
TH-227	-9.976E-03	2.576E-01	4.344E-01	0.000E+00	FAIL ABUN
TH-229	-2.602E-01	3.300E-01	5.517E-01	0.000E+00	FAIL ABUN
PA-231	-2.906E-01	1.071E+00	1.768E+00	0.000E+00	NOT IDENT.
TH-231	5.998E-02	4.644E-01	7.367E-01	0.000E+00	FAIL ABUN
U-231	-6.866E-01	5.600E-01	8.634E-01	0.000E+00	FAIL ABUN
PA-233	7.132E-03	4.234E-02	7.104E-02	0.000E+00	FAIL ABUN
PA-234	-4.903E-02	2.376E-01	3.987E-01	0.000E+00	FAIL ABUN
PA-234M	4.019E-01	3.685E+00	6.310E+00	0.000E+00	NOT IDENT.
U-235	1.214E-01	1.378E-01	2.362E-01	0.000E+00	FAIL ABUN
NP-236	-3.637E-02	4.853E-02	8.249E-02	0.000E+00	NOT IDENT.
NP-239	-5.072E-02	1.089E-01	1.917E-01	0.000E+00	FAIL ABUN
AM-241	1.955E-02	4.626E-02	7.273E-02	0.000E+00	NOT IDENT.
CM-243	0.000E+00	5.641E-02	1.059E-01	0.000E+00	FAIL ABUN
AM-246	-2.774E-02	1.179E-01	1.949E-01	0.000E+00	NOT IDENT.
CM-247	5.888E-03	2.563E-02	4.535E-02	0.000E+00	NOT IDENT.
CF-249	-6.264E-03	2.773E-02	4.808E-02	0.000E+00	NOT IDENT.
CF-251	-7.268E-02	7.797E-02	1.303E-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]G243274001.CNF;1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 22:47:57
Sample ID        : G243274001 Sample quantity : 1.32930E+02 GRAM
Detector name    : GAM17 Detector geometry: CAN
Elapsed live time: 0 04:00:00.00 Elapsed real time: 0 04:00:17.43 0.1%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 935341 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	1406	10.67*	7.981E-01	2.331E+01	2.331E+01	8.30
CD-109	88.03	367	3.72*	6.558E+00	2.126E+00	2.173E+00	25.77
SN-126	64.28	-----	9.60	6.653E+00	-----	Line Not Found	-----
	86.94	600	8.90	6.582E+00	1.447E+00	1.447E+00	44.32
	87.57	600	37.00*	6.582E+00	3.481E-01	3.481E-01	18.12
CS-135	268.24	92	16.00*	3.747E+00	2.156E-01	2.156E-01	73.16
TL-208	277.35	-----	6.80	3.655E+00	-----	Line Not Found	-----
	510.84	158	21.60	2.075E+00	4.979E-01	4.979E-01	49.47
	583.14	566	84.20*	1.825E+00	5.198E-01	5.198E-01	15.28
	860.37	62	12.46	1.267E+00	5.580E-01	5.580E-01	64.93
BI-210	46.50	82	4.05*	6.555E+00	4.354E-01	4.359E-01	119.94
PB-210	46.50	82	4.05*	6.555E+00	4.354E-01	4.359E-01	119.94
PO-210	46.50	82	4.05*	6.555E+00	4.354E-01	4.359E-01	119.87
BI-211	72.87	925	1.27	6.652E+00	1.547E+01	1.547E+01	13.94
	351.07	837	12.94*	2.961E+00	3.083E+00	3.083E+00	13.97
PB-212	74.81	925	10.70	6.652E+00	1.836E+00	1.836E+00	16.78
	77.11	1519	18.00	6.645E+00	1.793E+00	1.793E+00	11.53
	87.30	600	8.00	6.582E+00	1.610E+00	1.610E+00	20.69
	238.63	1911	44.60*	4.143E+00	1.460E+00	1.460E+00	10.34
	300.09	114	3.41	3.426E+00	1.380E+00	1.380E+00	71.07
PO-212	74.81	925	10.70	6.652E+00	1.836E+00	1.836E+00	16.78
	77.11	1519	18.00	6.645E+00	1.793E+00	1.793E+00	11.53
	87.30	600	8.00	6.582E+00	1.610E+00	1.610E+00	20.69
	115.19	-----	0.60	6.204E+00	-----	Line Not Found	-----
	238.63	1911	44.60*	4.143E+00	1.460E+00	1.460E+00	10.34
	300.09	114	3.41	3.426E+00	1.380E+00	1.380E+00	71.07
BI-214	609.31	529	46.30*	1.750E+00	9.222E-01	9.223E-01	16.00
	1120.29	142	15.10	1.003E+00	1.328E+00	1.328E+00	30.20
	1764.49	79	15.80	6.761E-01	1.043E+00	1.043E+00	28.98
PB-214	74.81	925	6.21	6.652E+00	3.163E+00	3.163E+00	15.78
	77.11	1519	10.50	6.645E+00	3.074E+00	3.074E+00	13.82
	87.30	600	4.67	6.582E+00	2.758E+00	2.758E+00	19.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	502	7.49	4.103E+00	2.309E+00	2.309E+00	21.27
	295.21	545	19.20	3.471E+00	1.154E+00	1.154E+00	19.34
	351.92	837	37.20*	2.961E+00	1.072E+00	1.072E+00	14.91
	74.81	925	6.21	6.652E+00	3.163E+00	3.163E+00	15.78
	77.11	1519	10.50	6.645E+00	3.074E+00	3.074E+00	13.82
	87.30	600	4.67	6.582E+00	2.758E+00	2.758E+00	19.69
PO-216	241.98	502	7.49	4.103E+00	2.309E+00	2.309E+00	21.27
	295.21	545	19.20	3.471E+00	1.154E+00	1.154E+00	19.34
	351.92	837	37.20*	2.961E+00	1.072E+00	1.072E+00	14.91
	74.81	925	10.70	6.652E+00	1.836E+00	1.836E+00	16.78
	77.11	1519	18.00	6.645E+00	1.793E+00	1.793E+00	11.53
	87.30	600	8.00	6.582E+00	1.610E+00	1.610E+00	20.69
PO-218	238.63	1911	44.60*	4.143E+00	1.460E+00	1.460E+00	10.34
	300.09	114	3.41	3.426E+00	1.380E+00	1.380E+00	71.07
	74.81	925	6.21	6.652E+00	3.163E+00	3.163E+00	15.78
	77.11	1519	10.50	6.645E+00	3.074E+00	3.074E+00	13.82
	87.30	600	4.67	6.582E+00	2.758E+00	2.758E+00	19.69
	241.98	502	7.49	4.103E+00	2.309E+00	2.309E+00	21.27
RA-224	295.21	545	19.20	3.471E+00	1.154E+00	1.154E+00	19.34
	351.92	837	37.20*	2.961E+00	1.072E+00	1.072E+00	14.91
	240.98	502	3.95*	4.103E+00	4.378E+00	4.378E+00	20.51
	609.31	529	46.30*	1.750E+00	9.222E-01	9.223E-01	16.00
	1120.29	142	15.10	1.003E+00	1.328E+00	1.328E+00	30.20
	1764.49	79	15.80	6.761E-01	1.043E+00	1.043E+00	28.98
AC-228	338.32	314	11.40	3.068E+00	1.269E+00	1.269E+00	48.22
	911.07	347	27.70*	1.204E+00	1.471E+00	1.471E+00	20.32
	969.11	320	16.60	1.140E+00	2.385E+00	2.385E+00	33.88
	338.32	314	11.40	3.068E+00	1.269E+00	1.269E+00	48.22
	911.07	347	27.70*	1.204E+00	1.471E+00	1.471E+00	20.32
	969.11	320	16.60	1.140E+00	2.385E+00	2.385E+00	33.88
TH-228	74.81	925	10.70	6.652E+00	1.836E+00	1.862E+00	13.98
	77.11	1519	18.00	6.645E+00	1.793E+00	1.819E+00	11.53
	87.30	600	8.00	6.582E+00	1.610E+00	1.633E+00	18.12
	238.63	1911	44.60*	4.143E+00	1.460E+00	1.482E+00	10.34
	300.09	114	3.41	3.426E+00	1.380E+00	1.400E+00	91.96
	609.31	529	46.30*	1.750E+00	9.222E-01	9.222E-01	16.00
TH-230	1120.29	142	15.10	1.003E+00	1.328E+00	1.328E+00	30.20
	1764.49	79	15.80	6.761E-01	1.043E+00	1.043E+00	28.98
	338.32	314	11.40	3.068E+00	1.269E+00	1.269E+00	26.40
	911.07	347	27.70*	1.204E+00	1.471E+00	1.471E+00	20.32
	969.11	320	16.60	1.140E+00	2.385E+00	2.385E+00	33.88
	63.29	136	3.80*	6.647E+00	7.604E-01	7.604E-01	104.82
TH-234	92.38	490	5.41	6.528E+00	1.959E+00	1.959E+00	28.19
	609.31	529	46.30*	1.750E+00	9.222E-01	9.222E-01	16.00
	1120.29	142	15.10	1.003E+00	1.328E+00	1.328E+00	30.20
	1764.49	79	15.80	6.761E-01	1.043E+00	1.043E+00	28.98
	86.50	600	12.60*	6.582E+00	1.022E+00	1.022E+00	27.46
	95.87	-----	2.60	6.484E+00	-----	Line Not Found	-----
U-238	63.29	136	3.80*	6.647E+00	7.604E-01	7.604E-01	104.82

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	490	5.41	6.528E+00	1.959E+00	1.959E+00	23.28
AM-243	74.67	925	66.00*	6.652E+00	2.976E-01	2.976E-01	13.94
	86.72	600	0.34	6.582E+00	3.833E+01	3.833E+01	18.12
	117.66	-----	0.55	6.163E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.726E+00	-----	Line Not Found	-----
ANH-511	511.00	158	100.00*	2.075E+00	1.075E-01	1.075E-01	48.77

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	2.331E+01	2.331E+01	0.194E+01	8.30	
CD-109	464.00D	1.02	2.126E+00	2.173E+00	0.560E+00	25.77	
SN-126	1.00E+05Y	1.00	3.481E-01	3.481E-01	0.631E-01	18.12	
CS-135	2.30E+06Y	1.00	2.156E-01	2.156E-01	1.577E-01	73.16	
TL-208	1.41E+10Y	1.00	5.198E-01	5.198E-01	0.794E-01	15.28	
BI-210	22.26Y	1.00	4.354E-01	4.359E-01	5.229E-01	119.94	
PB-210	22.26Y	1.00	4.354E-01	4.359E-01	5.229E-01	119.94	
PO-210	22.26Y	1.00	4.354E-01	4.359E-01	5.226E-01	119.87	
BI-211	7.04E+08Y	1.00	3.083E+00	3.083E+00	0.431E+00	13.97	
PB-212	1.41E+10Y	1.00	1.460E+00	1.460E+00	0.151E+00	10.34	
PO-212	1.41E+10Y	1.00	1.460E+00	1.460E+00	0.151E+00	10.34	
BI-214	1600.00Y	1.00	9.222E-01	9.223E-01	1.475E-01	16.00	
PB-214	1600.00Y	1.00	1.072E+00	1.072E+00	0.160E+00	14.91	
PO-214	1600.00Y	1.00	1.072E+00	1.072E+00	0.160E+00	14.91	
PO-216	1.41E+10Y	1.00	1.460E+00	1.460E+00	0.151E+00	10.34	
PO-218	1600.00Y	1.00	1.072E+00	1.072E+00	0.160E+00	14.91	
RA-224	1.41E+10Y	1.00	4.378E+00	4.378E+00	0.898E+00	20.51	
RA-226	1600.00Y	1.00	9.222E-01	9.223E-01	1.475E-01	16.00	
AC-228	1.41E+10Y	1.00	1.471E+00	1.471E+00	0.299E+00	20.32	
RA-228	1.41E+10Y	1.00	1.471E+00	1.471E+00	0.299E+00	20.32	
TH-228	1.91Y	1.01	1.460E+00	1.482E+00	0.153E+00	10.34	
TH-230	4.47E+09Y	1.00	9.222E-01	9.222E-01	1.475E-01	16.00	
TH-232	1.41E+10Y	1.00	1.471E+00	1.471E+00	0.299E+00	20.32	
TH-234	4.47E+09Y	1.00	7.604E-01	7.604E-01	7.971E-01	104.82	
U-234	4.47E+09Y	1.00	9.222E-01	9.222E-01	1.475E-01	16.00	
NP-237	2.14E+06Y	1.00	1.022E+00	1.022E+00	0.281E+00	27.46	
U-238	4.47E+09Y	1.00	7.604E-01	7.604E-01	7.971E-01	104.82	
AM-243	7380.00Y	1.00	2.976E-01	2.976E-01	0.415E-01	13.94	
ANH-511	1.00E+09Y	1.00	1.075E-01	1.075E-01	0.524E-01	48.77	

Total Activity : 5.540E+01 5.547E+01

Grand Total Activity : 5.540E+01 5.547E+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
7	83.34	296	688	1.69	168.10	164	28	2.05E-02	33.8	6.61E+00	T
0	128.18	145	476	0.96	257.73	254	7	1.01E-02	52.7	5.98E+00	T
0	185.30	344	509	1.35	371.91	368	11	2.39E-02	29.1	4.95E+00	T
0	208.51	205	396	1.01	418.31	414	9	1.43E-02	37.7	4.57E+00	T
0	327.06	86	190	1.16	655.28	652	8	5.98E-03	59.3	3.16E+00	
0	462.17	104	152	1.34	925.40	921	10	7.23E-03	48.3	2.28E+00	T
0	726.66	142	73	1.38	1454.20	1449	10	9.84E-03	29.3	1.48E+00	T
0	770.08	88	171	4.78	1541.02	1531	20	6.08E-03	76.9	1.40E+00	
0	794.90	56	106	1.29	1590.63	1584	12	3.89E-03	78.7	1.36E+00	T
0	1237.94	55	61	1.36	2476.59	2472	9	3.83E-03	57.7	9.20E-01	T
0	1377.70	37	18	1.91	2756.11	2752	8	2.58E-03	51.4	8.39E-01	T
0	1591.40	48	32	0.66	3183.54	3175	20	3.33E-03	66.7	7.41E-01	
0	1730.42	22	25	1.34	3461.63	3454	16	1.53E-03	****	6.88E-01	

Flags: "T" = Tentatively associated


```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                                *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274001.CNF;1
* Acquisition date   : 30-DEC-2009 22:47:57   Detector SN#      :
* Detector ID        : GAM17                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 04:00:00.00          Abundance limit      : 75.00000
* Elapsed real time  : 0 04:00:17.43          Half life ratio     : 8.00000
*****
*                               SAMPLE DATA                                *
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G243274001             Analyst initials  : MXR1
* Batch Number       : 935341                 Sample Quantity   : 1.32930E+02 GRAM
*****
*                               QC DATA                                  *
*
* CALIB. DATE/TIME   : 27-JAN-2009 16:21:14.8MS 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	2.331E+01	1.935E+00	4.410E-01	2.711E-02	52.869
CD-109	2.173E+00	5.598E-01	6.090E-01	4.905E-02	3.568
SN-126	3.481E-01	6.306E-02	5.985E-02	4.826E-03	5.817
CS-135	2.156E-01	1.577E-01	1.553E-01	1.398E-02	1.389
TL-208	5.198E-01	7.943E-02	4.587E-02	3.637E-03	11.331
BI-210	4.359E-01	5.229E-01	4.971E-01	3.978E-02	0.877
PB-210	4.359E-01	5.229E-01	4.971E-01	3.978E-02	0.877
PO-210	4.359E-01	5.226E-01	4.971E-01	3.460E-02	0.877
BI-211	3.083E+00	4.305E-01	2.328E-01	1.673E-02	13.239
PB-212	1.460E+00	1.511E-01	5.597E-02	4.911E-03	26.096
PO-212	1.460E+00	1.511E-01	5.597E-02	4.911E-03	26.096
BI-214	9.223E-01	1.475E-01	8.396E-02	7.534E-03	10.984
PB-214	1.072E+00	1.599E-01	8.120E-02	7.201E-03	13.205
PO-214	1.072E+00	1.599E-01	8.120E-02	7.201E-03	13.205
PO-216	1.460E+00	1.511E-01	5.597E-02	4.911E-03	26.096
PO-218	1.072E+00	1.599E-01	8.120E-02	7.201E-03	13.205
RA-224	4.378E+00	8.980E-01	6.376E-01	4.809E-02	6.866
RA-226	9.223E-01	1.475E-01	8.396E-02	7.534E-03	10.984

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.471E+00	2.989E-01	1.633E-01	1.671E-02	9.007
RA-228	1.471E+00	2.989E-01	1.633E-01	1.671E-02	9.007
TH-228	1.482E+00	1.533E-01	5.678E-02	4.983E-03	26.096
TH-230	9.222E-01	1.475E-01	8.396E-02	7.534E-03	10.984
TH-232	1.471E+00	2.989E-01	1.633E-01	1.671E-02	9.007
TH-234	7.604E-01	7.971E-01	6.485E-01	1.177E-01	1.173
U-234	9.222E-01	1.475E-01	8.396E-02	7.534E-03	10.984
NP-237	1.022E+00	2.807E-01	1.753E-01	3.885E-02	5.832
U-238	7.604E-01	7.971E-01	6.485E-01	1.177E-01	1.173
AM-243	2.976E-01	4.147E-02	3.822E-02	3.242E-03	7.787
ANH-511	1.075E-01	5.244E-02	3.380E-02	2.284E-03	3.182

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.035E-02		2.357E-01	3.856E-01	2.843E-02	-0.105
NA-22	-8.804E-04		3.720E-02	5.999E-02	3.400E-03	-0.015
NA-24	-6.634E-02		1.587E-01	Half-Life too short		
AL-26	-1.742E-03		2.407E-02	3.897E-02	2.228E-03	-0.045
TI-44	7.555E-03		1.693E-02	2.436E-02	2.035E-03	0.310
SC-46	-3.492E-02		3.125E-02	4.708E-02	3.450E-03	-0.742
V-48	2.171E-03		5.026E-02	8.338E-02	5.773E-03	0.026
CR-51	-3.206E-02		2.414E-01	4.073E-01	3.106E-02	-0.079
MN-52	-1.734E-01		1.807E-01	2.687E-01	1.553E-02	-0.645
MN-54	-1.552E-02		3.018E-02	4.866E-02	3.651E-03	-0.319
CO-56	-6.933E-03		2.803E-02	4.590E-02	3.429E-03	-0.151
CO-57	-2.394E-03		1.499E-02	2.494E-02	2.767E-03	-0.096
CO-58	-1.137E-02		3.031E-02	4.940E-02	3.744E-03	-0.230
FE-59	4.898E-02		7.303E-02	1.261E-01	8.959E-03	0.388
CO-60	1.184E-02		2.935E-02	4.950E-02	2.826E-03	0.239
ZN-65	1.099E-01		8.613E-02	1.381E-01	8.339E-03	0.796
GE-68	3.712E-01		1.073E+00	1.808E+00	1.143E-01	0.205
AS-73	9.245E-03		1.559E-01	2.357E-01	1.913E-02	0.039
AS-74	2.885E-02		7.142E-02	1.135E-01	8.241E-03	0.254
SE-75	-8.420E-03		3.090E-02	4.626E-02	3.490E-03	-0.182
BR-77	-1.774E+00		6.411E+00	1.033E+01	7.051E-01	-0.172
SR-82	-2.590E-01		3.253E-01	4.348E-01	3.305E-02	-0.596
RB-83	-1.481E-02		5.055E-02	8.137E-02	5.552E-03	-0.182
RB-84	-2.853E-03		5.722E-02	9.503E-02	6.993E-03	-0.030
KR-85	2.855E+00		5.569E+00	8.393E+00	5.689E-01	0.340
SR-85	1.454E-02		2.836E-02	4.275E-02	2.898E-03	0.340
RB-86	1.929E-01		6.626E-01	1.112E+00	7.039E-02	0.174
Y-88	3.827E-03		2.248E-02	3.815E-02	2.178E-03	0.100
ZR-88	1.032E-02		2.135E-02	3.666E-02	2.122E-03	0.281
Y-91	1.043E+01		1.569E+01	2.678E+01	1.491E+00	0.389
NB-94	5.735E-03		2.913E-02	4.738E-02	3.599E-03	0.121
NB-95	2.466E-02		3.870E-02	6.007E-02	4.572E-03	0.410

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	3.140E-01		1.028E-01	1.638E-01	1.465E-02	1.917
ZR-95	-4.120E-03		6.045E-02	9.591E-02	8.240E-03	-0.043
NB-97	-1.996E-02		2.059E-02	Half-Life	too short	
ZR-97	1.560E+00		4.186E-01	Half-Life	too short	
MO-99	-4.747E-01		8.617E+00	1.371E+01	2.007E+00	-0.035
TC-99M	-3.518E+09		2.198E+09	Half-Life	too short	
RH-101	-1.329E-03		2.182E-02	3.437E-02	2.564E-03	-0.039
RH-102	-5.949E-03		2.084E-02	3.383E-02	2.197E-03	-0.176
RU-103	-1.349E-02		2.890E-02	4.605E-02	6.015E-03	-0.293
RH-106	1.888E-02		2.496E-01	4.068E-01	5.123E-02	0.046
RU-106	1.888E-02		2.496E-01	4.068E-01	3.002E-02	0.046
AG-108M	1.343E-02		2.387E-02	4.095E-02	2.714E-03	0.328
AG-110M	-1.295E-02		2.732E-02	4.245E-02	3.316E-03	-0.305
IN-111	-1.454E-01		6.311E-01	8.895E-01	6.707E-02	-0.163
IN-113M	3.210E-03		3.152E-02	5.311E-02	3.275E-03	0.060
SN-113	3.210E-03		3.152E-02	5.311E-02	3.275E-03	0.060
IN-114M	5.131E-02		1.281E-01	1.909E-01	1.418E-02	0.269
CD-115	2.275E+00		6.330E+00	1.065E+01	7.316E-01	0.214
SN-117M	-3.039E-02		3.319E-02	5.272E-02	4.227E-03	-0.576
SB-122	1.171E+00		1.441E+00	2.467E+00	1.750E-01	0.475
I-123	-6.939E-01		8.091E-01	Half-Life	too short	
TE-123M	-7.552E-03		1.761E-02	2.857E-02	2.295E-03	-0.264
I-124	-1.465E-01		5.144E-01	7.102E-01	5.180E-02	-0.206
SB-124	3.777E-02		7.048E-02	1.244E-01	7.819E-03	0.304
SB-125	3.455E-02		6.597E-02	1.131E-01	7.167E-03	0.306
TE-125M	1.144E+00		5.186E+00	8.784E+00	9.987E-01	0.130
I-126	7.088E-02		1.346E-01	2.254E-01	1.700E-02	0.314
SB-126	1.263E-02		1.211E-01	1.807E-01	1.376E-02	0.070
SB-127	2.224E-01		1.001E+00	1.637E+00	1.705E-01	0.136
XE-127	2.233E-02		3.040E-02	5.084E-02	3.802E-03	0.439
I-131	-1.051E-02		7.550E-02	1.262E-01	8.823E-03	-0.083
TE-132	-1.767E-01		3.992E-01	6.307E-01	9.480E-02	-0.280
BA-133	-2.468E-03		3.247E-02	4.806E-02	5.741E-03	-0.051
I-133	1.285E-03		1.321E-03	Half-Life	too short	
CS-134	7.660E-02	+	6.054E-02	7.277E-02	5.566E-03	1.053
I-135	8.564E+08		4.970E+08	Half-Life	too short	
CS-136	2.792E-03		8.271E-02	1.364E-01	9.556E-03	0.020
BA-137M	-8.420E-03		2.822E-02	4.448E-02	3.350E-03	-0.189
CS-137	-8.901E-03		2.983E-02	4.702E-02	3.550E-03	-0.189
CE-139	8.689E-03		1.881E-02	3.149E-02	2.303E-03	0.276
BA-140	-3.492E-02		1.906E-01	3.080E-01	1.008E-01	-0.113
LA-140	2.492E-03		6.928E-02	9.962E-02	5.791E-03	0.025
CE-141	-2.956E-02		3.878E-02	6.240E-02	5.834E-03	-0.474
CE-143	8.014E-04	+	1.117E-04	Half-Life	too short	
CE-144	-6.407E-02		1.272E-01	2.074E-01	3.419E-02	-0.309
PM-144	9.498E-03		2.947E-02	4.838E-02	3.674E-03	0.196
PR-144	6.434E-01		1.996E+00	3.277E+00	2.488E-01	0.196
PM-146	4.788E-02		3.279E-02	5.834E-02	5.241E-03	0.821

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	7.844E-02		3.923E-01	6.522E-01	9.147E-02	0.120
PM-149	-1.184E+01		5.489E+01	8.293E+01	1.235E+01	-0.143
EU-152	6.476E-03		7.032E-02	1.111E-01	8.199E-03	0.058
GD-153	4.037E-02		4.634E-02	7.432E-02	6.545E-03	0.543
EU-154	-4.062E-03		1.038E-01	1.672E-01	1.547E-02	-0.024
EU-155	1.305E-02		6.253E-02	1.060E-01	1.016E-02	0.123
TB-160	-6.721E-03		1.133E-01	1.880E-01	1.385E-02	-0.036
HO-166M	-1.076E-03		4.876E-02	7.804E-02	5.935E-03	-0.014
TM-171	-3.802E+00		1.189E+01	1.641E+01	1.443E+00	-0.232
LU-176	-5.564E-03		1.728E-02	2.544E-02	1.837E-03	-0.219
LU-177	2.587E+00	+	9.942E-01	1.274E+00	9.549E-02	2.031
LU-177M	1.580E-02		1.312E-01	2.205E-01	1.318E-02	0.072
HF-181	1.010E-02		3.067E-02	5.169E-02	3.385E-03	0.195
W-181	-6.082E-02		1.435E-01	1.972E-01	1.747E-02	-0.308
TA-182	1.425E-01		1.715E-01	2.948E-01	1.647E-02	0.483
RE-183	-1.377E-02		7.181E-02	1.137E-01	8.709E-03	-0.121
RE-184	-6.121E-02		1.599E-01	2.518E-01	1.896E-02	-0.243
OS-185	-6.507E-04		3.560E-02	5.745E-02	4.296E-03	-0.011
RE-188	-1.772E-02		1.084E-01	1.781E-01	1.486E-02	-0.100
W-188	2.474E+00		5.177E+00	7.575E+00	5.574E-01	0.327
IR-192	5.585E-04		2.349E-02	3.719E-02	2.655E-03	0.015
AU-195	9.316E-02		1.294E-01	2.143E-01	1.913E-02	0.435
TL-200	2.343E-04		1.054E-04	Half-Life too short		
TL-201	-1.900E+00		3.864E+00	6.235E+00	4.560E-01	-0.305
TL-202	3.961E-03		4.954E-02	8.274E-02	5.135E-03	0.048
HG-203	-2.371E-02		2.916E-02	4.454E-02	3.436E-03	-0.532
BI-207	5.709E-02		4.310E-02	7.800E-02	5.012E-03	0.732
TL-207	5.998E-02		4.739E-01	7.163E-01	1.217E-01	0.084
PO-209	-3.882E+00		6.018E+00	9.492E+00	6.929E-01	-0.409
PB-211	-1.084E+00		9.686E-01	1.065E+00	6.639E-01	-1.018
BI-212	1.145E+00	+	3.514E-01	5.479E-01	5.017E-02	2.090
PO-215	5.998E-02		4.739E-01	7.163E-01	1.217E-01	0.084
RN-219	5.158E-02		2.941E-01	4.964E-01	6.768E-02	0.104
RN-220	4.672E+00		1.931E+01	3.212E+01	2.251E+00	0.145
RA-223	5.998E-02		4.739E-01	7.163E-01	1.217E-01	0.084
AC-227	-9.976E-03		2.628E-01	4.207E-01	6.209E-02	-0.024
TH-227	-9.976E-03		2.628E-01	4.207E-01	7.389E-02	-0.024
TH-229	-2.602E-01		3.368E-01	5.318E-01	3.958E-02	-0.489
PA-231	-2.906E-01		1.093E+00	1.715E+00	2.492E-01	-0.169
TH-231	5.998E-02		4.739E-01	7.163E-01	1.217E-01	0.084
U-231	-6.866E-01		5.715E-01	8.225E-01	7.137E-02	-0.835
PA-233	7.132E-03		4.321E-02	6.903E-02	5.150E-03	0.103
PA-234	-4.903E-02		2.424E-01	3.950E-01	7.156E-02	-0.124
PA-234M	4.019E-01		3.760E+00	6.257E+00	5.295E-01	0.064
U-235	1.214E-01		1.406E-01	2.266E-01	4.050E-02	0.536
NP-236	-3.637E-02		4.952E-02	7.925E-02	6.222E-03	-0.459
NP-239	-5.072E-02		1.112E-01	1.832E-01	1.939E-02	-0.277
AM-241	1.955E-02		4.721E-02	6.875E-02	6.670E-03	0.284

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.088E-01		5.756E-02	1.010E-01	9.441E-03	1.077
AM-246	-2.774E-02		1.203E-01	1.935E-01	1.222E-02	-0.143
CM-247	5.888E-03		2.615E-02	4.426E-02	2.601E-03	0.133
CF-249	-6.264E-03		2.829E-02	4.690E-02	2.751E-03	-0.134
CF-251	-7.268E-02		7.956E-02	1.254E-01	9.233E-03	-0.580

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]G243274001          *
* Acquisition date   : 30-DEC-2009 22:47:57 Detector SN#      :             *
* Detector ID        : GAM17                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                           Energy tolerance: 1.500      *
* Elapsed live time  : 0 04:00:00.00                               Abundance limit : 75.000     *
* Elapsed real time  : 0 04:00:17.43                               Half life ratio  : 8.000     *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274001                               Analyst initials: MXR1       *
* Batch Number       : 935341                                   Sample Quantity : 1.3293E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000     *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 27-JAN-2009 16:21:14 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	2.331E+01	1.896E+00	2.210E-01	9.675E-01
CD-109	2.173E+00	5.486E-01	3.203E-01	2.799E-01
SN-126	3.481E-01	6.180E-02	3.148E-02	3.153E-02
CS-135	2.156E-01	1.546E-01	8.016E-02	7.887E-02
TL-208	5.198E-01	7.784E-02	2.336E-02	3.971E-02
BI-210	4.359E-01	5.124E-01	2.641E-01	2.614E-01
PB-210	4.359E-01	5.124E-01	2.641E-01	2.614E-01
PO-210	4.359E-01	5.121E-01	2.641E-01	2.613E-01
BI-211	3.083E+00	4.219E-01	1.196E-01	2.153E-01
PB-212	1.460E+00	1.480E-01	2.895E-02	7.554E-02
PO-212	1.460E+00	1.480E-01	2.895E-02	7.554E-02
BI-214	9.223E-01	1.446E-01	4.273E-02	7.377E-02
PB-214	1.072E+00	1.567E-01	4.172E-02	7.994E-02
PO-214	1.072E+00	1.567E-01	4.172E-02	7.994E-02
PO-216	1.460E+00	1.480E-01	2.895E-02	7.554E-02
PO-218	1.072E+00	1.567E-01	4.172E-02	7.994E-02
RA-224	4.378E+00	8.800E-01	3.297E-01	4.490E-01
RA-226	9.223E-01	1.446E-01	4.273E-02	7.377E-02
AC-228	1.471E+00	2.929E-01	8.253E-02	1.495E-01
RA-228	1.471E+00	2.929E-01	8.253E-02	1.495E-01
TH-228	1.482E+00	1.502E-01	2.937E-02	7.663E-02
TH-230	9.222E-01	1.446E-01	4.273E-02	7.376E-02
TH-232	1.471E+00	2.929E-01	8.253E-02	1.495E-01
TH-234	7.604E-01	7.811E-01	3.429E-01	3.985E-01
U-234	9.222E-01	1.446E-01	4.273E-02	7.376E-02
NP-237	1.022E+00	2.751E-01	9.221E-02	1.403E-01
U-238	7.604E-01	7.811E-01	3.429E-01	3.985E-01
AM-243	2.976E-01	4.064E-02	2.015E-02	2.074E-02
ANH-511	1.075E-01	5.140E-02	1.725E-02	2.622E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-4.035E-02	2.310E-01	1.971E-01	1.179E-01	NOT IDENT.
NA-22	-8.804E-04	3.646E-02	3.014E-02	1.860E-02	NOT IDENT.
NA-24	-6.634E+04	3.110E+05	0.000E+00	1.587E+05	SHORT HLIF
AL-26	-1.742E-03	2.359E-02	1.945E-02	1.204E-02	NOT IDENT.
TI-44	7.555E-03	1.659E-02	1.284E-02	8.465E-03	NOT IDENT.
SC-46	-3.492E-02	3.062E-02	2.380E-02	1.562E-02	FAIL ABUN
V-48	2.171E-03	4.925E-02	4.208E-02	2.513E-02	NOT IDENT.
CR-51	-3.206E-02	2.366E-01	2.096E-01	1.207E-01	NOT IDENT.
MN-52	-1.734E-01	1.771E-01	1.347E-01	9.037E-02	NOT IDENT.
MN-54	-1.552E-02	2.957E-02	2.463E-02	1.509E-02	NOT IDENT.
CO-56	-6.933E-03	2.747E-02	2.323E-02	1.402E-02	FAIL ABUN
CO-57	-2.394E-03	1.469E-02	1.304E-02	7.495E-03	NOT IDENT.
CO-58	-1.137E-02	2.970E-02	2.502E-02	1.515E-02	NOT IDENT.
FE-59	4.898E-02	7.157E-02	6.351E-02	3.651E-02	NOT IDENT.
CO-60	1.184E-02	2.876E-02	2.484E-02	1.467E-02	NOT IDENT.
ZN-65	1.099E-01	8.440E-02	6.951E-02	4.306E-02	NOT IDENT.
GE-68	3.712E-01	1.051E+00	9.108E-01	5.365E-01	NOT IDENT.
AS-73	9.245E-03	1.528E-01	1.250E-01	7.796E-02	NOT IDENT.
AS-74	2.885E-02	6.999E-02	5.778E-02	3.571E-02	NOT IDENT.
SE-75	-8.420E-03	3.028E-02	2.389E-02	1.545E-02	NOT IDENT.
BR-77	-1.774E+00	6.283E+00	5.273E+00	3.205E+00	FAIL ABUN
SR-82	-2.590E-01	3.188E-01	2.203E-01	1.626E-01	NOT IDENT.
RB-83	-1.481E-02	4.954E-02	4.153E-02	2.527E-02	NOT IDENT.
RB-84	-2.853E-03	5.607E-02	4.805E-02	2.861E-02	NOT IDENT.
KR-85	2.855E+00	5.457E+00	4.284E+00	2.784E+00	NOT IDENT.
SR-85	1.454E-02	2.780E-02	2.182E-02	1.418E-02	NOT IDENT.
RB-86	1.929E-01	6.493E-01	5.602E-01	3.313E-01	NOT IDENT.
Y-88	3.827E-03	2.203E-02	1.904E-02	1.124E-02	NOT IDENT.
ZR-88	1.032E-02	2.092E-02	1.880E-02	1.067E-02	NOT IDENT.
Y-91	1.043E+01	1.538E+01	1.347E+01	7.846E+00	NOT IDENT.
NB-94	5.735E-03	2.854E-02	2.405E-02	1.456E-02	NOT IDENT.
NB-95	2.466E-02	3.792E-02	3.045E-02	1.935E-02	NOT IDENT.
NB-95M	3.140E-01	1.007E-01	8.474E-02	5.140E-02	NOT IDENT.
ZR-95	-4.120E-03	5.924E-02	4.863E-02	3.022E-02	NOT IDENT.
NB-97	-1.996E+04	4.036E+04	0.000E+00	2.059E+04	SHORT HLIF
ZR-97	1.560E+06	8.205E+05	0.000E+00	4.186E+05	SHORT HLIF
MO-99	-4.747E-01	8.445E+00	6.956E+00	4.309E+00	NOT IDENT.
TC-99M	-3.518E+15	4.308E+15	0.000E+00	2.198E+15	SHORT HLIF
RH-101	-1.329E-03	2.139E-02	1.783E-02	1.091E-02	FAIL ABUN
RH-102	-5.949E-03	2.043E-02	1.729E-02	1.042E-02	NOT IDENT.
RU-103	-1.349E-02	2.832E-02	2.352E-02	1.445E-02	FAIL ABUN
RH-106	1.888E-02	2.446E-01	2.069E-01	1.248E-01	NOT IDENT.
RU-106	1.888E-02	2.446E-01	2.069E-01	1.248E-01	NOT IDENT.
AG-108M	1.343E-02	2.339E-02	2.096E-02	1.193E-02	NOT IDENT.
AG-110M	-1.295E-02	2.678E-02	2.158E-02	1.366E-02	NOT IDENT.
IN-111	-1.454E-01	6.185E-01	4.599E-01	3.155E-01	NOT IDENT.
IN-113M	3.210E-03	3.089E-02	2.724E-02	1.576E-02	NOT IDENT.
SN-113	3.210E-03	3.089E-02	2.724E-02	1.576E-02	NOT IDENT.
IN-114M	5.131E-02	1.256E-01	9.911E-02	6.406E-02	NOT IDENT.
CD-115	2.275E+00	6.203E+00	5.432E+00	3.165E+00	NOT IDENT.
SN-117M	-3.039E-02	3.253E-02	2.746E-02	1.660E-02	NOT IDENT.
SB-122	1.171E+00	1.412E+00	1.257E+00	7.205E-01	NOT IDENT.
I-123	-6.939E+05	1.586E+06	0.000E+00	8.091E+05	SHORT HLIF
TE-123M	-7.552E-03	1.726E-02	1.488E-02	8.806E-03	NOT IDENT.
I-124	-1.465E-01	5.042E-01	3.615E-01	2.572E-01	FAIL ABUN
SB-124	3.777E-02	6.907E-02	6.218E-02	3.524E-02	FAIL ABUN
SB-125	3.455E-02	6.465E-02	5.790E-02	3.299E-02	FAIL ABUN
TE-125M	1.144E+00	5.082E+00	4.603E+00	2.593E+00	NOT IDENT.
I-126	7.088E-02	1.320E-01	1.146E-01	6.732E-02	NOT IDENT.
SB-126	1.263E-02	1.187E-01	9.171E-02	6.055E-02	NOT IDENT.
SB-127	2.224E-01	9.812E-01	8.312E-01	5.006E-01	FAIL ABUN
XE-127	2.233E-02	2.979E-02	2.637E-02	1.520E-02	NOT IDENT.
I-131	-1.051E-02	7.399E-02	6.481E-02	3.775E-02	NOT IDENT.
TE-132	-1.767E-01	3.912E-01	3.264E-01	1.996E-01	NOT IDENT.
BA-133	-2.468E-03	3.183E-02	2.469E-02	1.624E-02	NOT IDENT.
I-133	1.285E+03	2.589E+03	0.000E+00	1.321E+03	SHORT HLIF
CS-134	7.660E-02	5.933E-02	3.686E-02	3.027E-02	FAIL ABUN
I-135	8.564E+14	9.741E+14	0.000E+00	4.970E+14	SHORT HLIF
CS-136	2.792E-03	8.106E-02	6.874E-02	4.135E-02	FAIL ABUN
BA-137M	-8.420E-03	2.766E-02	2.261E-02	1.411E-02	NOT IDENT.
CS-137	-8.901E-03	2.924E-02	2.390E-02	1.492E-02	NOT IDENT.
CE-139	8.689E-03	1.844E-02	1.639E-02	9.406E-03	NOT IDENT.
BA-140	-3.492E-02	1.868E-01	1.571E-01	9.531E-02	NOT IDENT.
LA-140	2.492E-03	6.789E-02	4.984E-02	3.464E-02	NOT IDENT.
CE-141	-2.956E-02	3.801E-02	3.255E-02	1.939E-02	NOT IDENT.
CE-143	8.014E+02	2.189E+02	0.000E+00	1.117E+02	SHORT HLIF

CE-144	-6.407E-02	1.246E-01	1.083E-01	6.358E-02	NOT IDENT.
PM-144	9.498E-03	2.888E-02	2.457E-02	1.474E-02	NOT IDENT.
PR-144	6.434E-01	1.956E+00	1.664E+00	9.982E-01	NOT IDENT.
PM-146	4.788E-02	3.213E-02	2.984E-02	1.639E-02	NOT IDENT.
ND-147	7.844E-02	3.845E-01	3.327E-01	1.961E-01	FAIL ABUN
PM-149	-1.184E+01	5.379E+01	4.276E+01	2.744E+01	NOT IDENT.
EU-152	6.476E-03	6.891E-02	5.710E-02	3.516E-02	NOT IDENT.
GD-153	4.037E-02	4.541E-02	3.902E-02	2.317E-02	FAIL ABUN
EU-154	-4.062E-03	1.017E-01	8.397E-02	5.190E-02	NOT IDENT.
EU-155	1.305E-02	6.128E-02	5.560E-02	3.127E-02	FAIL ABUN
TB-160	-6.721E-03	1.110E-01	9.508E-02	5.664E-02	FAIL ABUN
HO-166M	-1.076E-03	4.778E-02	3.961E-02	2.438E-02	FAIL ABUN
TM-171	-3.802E+00	1.165E+01	8.672E+00	5.945E+00	NOT IDENT.
LU-176	-5.564E-03	1.694E-02	1.310E-02	8.642E-03	FAIL ABUN
LU-177	2.587E+00	9.743E-01	6.603E-01	4.971E-01	FAIL ABUN
LU-177M	1.580E-02	1.286E-01	1.130E-01	6.562E-02	FAIL ABUN
HF-181	1.010E-02	3.005E-02	2.642E-02	1.533E-02	NOT IDENT.
W-181	-6.082E-02	1.406E-01	1.042E-01	7.174E-02	NOT IDENT.
TA-182	1.425E-01	1.681E-01	1.482E-01	8.575E-02	FAIL ABUN
RE-183	-1.377E-02	7.037E-02	5.921E-02	3.591E-02	FAIL ABUN
RE-184	-6.121E-02	1.567E-01	1.301E-01	7.996E-02	NOT IDENT.
OS-185	-6.507E-04	3.489E-02	2.921E-02	1.780E-02	FAIL ABUN
RE-188	-1.772E-02	1.062E-01	9.277E-02	5.420E-02	NOT IDENT.
W-188	2.474E+00	5.074E+00	3.905E+00	2.589E+00	FAIL ABUN
IR-192	5.585E-04	2.302E-02	1.914E-02	1.175E-02	FAIL ABUN
AU-195	9.316E-02	1.268E-01	1.125E-01	6.470E-02	FAIL ABUN
TL-200	2.343E+02	2.066E+02	0.000E+00	1.054E+02	SHORT HLIF
TL-201	-1.900E+00	3.787E+00	3.244E+00	1.932E+00	NOT IDENT.
TL-202	3.961E-03	4.855E-02	4.235E-02	2.477E-02	NOT IDENT.
HG-203	-2.371E-02	2.858E-02	2.298E-02	1.458E-02	FAIL ABUN
BI-207	5.709E-02	4.224E-02	3.931E-02	2.155E-02	FAIL ABUN
TL-207	5.998E-02	4.644E-01	3.686E-01	2.369E-01	FAIL ABUN
PO-209	-3.882E+00	5.897E+00	4.798E+00	3.009E+00	NOT IDENT.
PB-211	-1.084E+00	9.492E-01	5.458E-01	4.843E-01	NOT IDENT.
BI-212	1.145E+00	3.443E-01	2.780E-01	1.757E-01	FAIL ABUN
PO-215	5.998E-02	4.644E-01	3.686E-01	2.369E-01	FAIL ABUN
RN-219	5.158E-02	2.882E-01	2.545E-01	1.470E-01	NOT IDENT.
RN-220	4.672E+00	1.892E+01	1.638E+01	9.655E+00	NOT IDENT.
RA-223	5.998E-02	4.644E-01	3.686E-01	2.369E-01	FAIL ABUN
AC-227	-9.976E-03	2.576E-01	2.173E-01	1.314E-01	FAIL ABUN
TH-227	-9.976E-03	2.576E-01	2.173E-01	1.314E-01	FAIL ABUN
TH-229	-2.602E-01	3.300E-01	2.760E-01	1.684E-01	FAIL ABUN
PA-231	-2.906E-01	1.071E+00	8.846E-01	5.463E-01	NOT IDENT.
TH-231	5.998E-02	4.644E-01	3.686E-01	2.369E-01	FAIL ABUN
U-231	-6.866E-01	5.600E-01	4.320E-01	2.857E-01	FAIL ABUN
PA-233	7.132E-03	4.234E-02	3.554E-02	2.160E-02	FAIL ABUN
PA-234	-4.903E-02	2.376E-01	1.995E-01	1.212E-01	FAIL ABUN
PA-234M	4.019E-01	3.685E+00	3.157E+00	1.880E+00	NOT IDENT.
U-235	1.214E-01	1.378E-01	1.182E-01	7.028E-02	FAIL ABUN
NP-236	-3.637E-02	4.853E-02	4.127E-02	2.476E-02	NOT IDENT.
NP-239	-5.072E-02	1.089E-01	9.591E-02	5.558E-02	FAIL ABUN
AM-241	1.955E-02	4.626E-02	3.639E-02	2.360E-02	NOT IDENT.
CM-243	1.088E-01	5.641E-02	5.297E-02	2.878E-02	FAIL ABUN
AM-246	-2.774E-02	1.179E-01	9.750E-02	6.017E-02	NOT IDENT.
CM-247	5.888E-03	2.563E-02	2.269E-02	1.307E-02	NOT IDENT.
CF-249	-6.264E-03	2.773E-02	2.406E-02	1.415E-02	NOT IDENT.
CF-251	-7.268E-02	7.797E-02	6.520E-02	3.978E-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	403.3925
46.50	403.3925
46.50	403.3925
48.70	439.4172
49.72	390.0718
51.35	424.2899
52.39	459.1883
52.97	457.5782
53.15	457.8224
53.44	423.3375
54.07	474.7256
56.28	498.3726
56.28	498.3773
57.37	0.0000
57.53	519.2057
57.53	519.2090
57.60	519.3082
57.98	571.8461
57.98	571.8461
59.32	588.6484
59.32	588.6484
59.40	588.7788
59.54	589.0046
59.72	589.2947
60.01	570.1587
61.10	619.3641
61.14	619.4315
61.30	619.6987
63.00	622.5143
63.29	622.9902
63.29	622.9902
63.58	648.2067
64.28	659.3095
65.12	642.5303
65.20	642.6644
65.20	642.6644
66.05	672.2891
66.72	661.7989
66.83	671.1332
66.91	671.2686
67.20	671.7653
67.20	671.7653
67.75	684.3671
67.85	672.3650
68.90	662.0947
68.90	662.0947
69.30	701.6672
69.67	702.3112
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70.83	728.2504
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74.81	652.9773
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74.81	652.9773
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77.11	656.4864
77.11	656.4864

77.11	656.4864
77.11	656.4864
77.11	656.4864
77.11	656.4864
77.11	656.4864
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79.62	553.0732
79.80	527.5616
79.80	527.5616
80.11	458.3983
80.18	458.4690
80.30	458.5939
80.30	458.5939
80.57	528.4750
81.00	510.9219
81.07	511.0005
81.07	511.0005
81.07	511.0005
81.07	511.0005
82.60	485.9758
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83.78	487.2343
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83.78	487.2343
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87.57	491.2161
87.88	491.5369
88.03	491.6929
88.36	492.0351
88.47	492.1497
89.95	493.6731
91.11	494.8557
92.29	496.0556
92.38	496.1472
92.38	496.1472
93.35	497.1237
94.00	424.3921
94.67	466.1290
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94.90	469.0059
94.90	469.0059
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98.44	401.3855
98.88	407.9803
99.55	452.3111
99.55	452.3111
99.86	461.5283
100.00	471.4930
100.10	471.5869
103.18	411.3553
103.76	395.5863
105.00	419.0864
105.31	434.6928
108.00	389.6279
109.28	389.6274

111.00	419.1461
111.00	419.1461
111.76	416.9749
112.95	380.2879
115.19	397.4304
116.30	391.7493
117.00	390.3791
117.00	390.3791
117.66	367.7241
121.11	341.0852
121.62	355.3311
121.78	372.1741
122.06	371.4182
122.32	374.3744
122.32	374.3744
122.32	374.3744
122.32	374.3744
123.07	395.3585
127.23	419.6741
129.76	411.5011
131.20	350.0875
133.02	391.3719
133.54	403.0764
135.34	404.2135
136.00	391.3037
136.25	398.1213
136.48	398.2617
140.51	434.2909
140.51	0.0000
142.18	383.4871
142.65	364.5230
143.76	364.1688
144.24	370.2109
144.24	370.2109
144.24	370.2109
144.24	370.2109
145.22	407.4431
145.44	407.5762
147.16	359.2289
152.43	350.2792
152.70	377.7447
153.22	401.4717
154.21	369.7559
154.21	369.7559
154.21	369.7559
154.21	369.7559
155.03	381.9385
156.02	396.2039
158.56	370.0600
159.00	0.0000
159.00	354.5288
160.31	361.0929
161.27	325.0207
162.32	352.2011
162.64	343.4454
163.35	342.7900
163.89	329.1597
165.85	335.0083
167.43	359.6266
171.28	330.4330
171.86	353.7325
172.10	349.8343
176.55	327.6680
176.60	343.8202
181.06	333.1115
184.41	322.2953
185.71	321.2869
186.00	321.4055
190.27	313.8660
192.34	305.4021
193.63	360.4640
197.04	298.8574
198.01	311.6249
198.60	340.8509
200.40	324.9655
201.83	314.0703
202.84	309.2330
205.31	314.8201

208.36	299.6826
208.81	299.8369
209.75	288.0876
209.75	288.0876
210.97	249.0761
215.65	267.2915
216.55	272.8469
218.09	275.4301
222.10	279.8361
223.80	272.8906
226.40	283.2797
227.00	287.7389
227.08	290.9728
227.20	291.0115
228.16	291.3104
228.18	291.3159
228.18	291.3159
231.56	0.0000
235.69	296.3307
236.00	306.1445
236.00	306.1445
238.63	246.8840
238.63	246.8840
238.63	246.8840
238.63	246.8840
239.00	246.9791
240.98	247.4824
241.98	247.7352
241.98	247.7352
241.98	247.7352
244.69	217.3670
245.39	225.6987
247.94	215.3485
248.90	233.0619
249.79	242.0312
252.40	266.8145
252.85	259.2437
252.85	259.2437
254.15	0.0000
256.20	250.1805
256.20	250.1805
260.50	222.4528
260.90	242.4675
262.80	219.6200
264.65	229.3445
268.24	202.3670
268.79	214.1836
269.46	235.5291
269.46	235.5291
269.46	235.5291
269.46	235.5291
271.23	236.4788
273.65	321.0651
276.40	216.8344
277.35	222.6493
277.60	230.5708
277.60	230.5708
278.00	238.5345
278.60	254.4247
279.20	273.7161
279.53	265.9129
280.46	241.3291
281.68	214.5038
283.67	236.3794
284.30	220.6723
285.00	193.6344
285.90	215.3233
286.10	210.8280
286.10	210.8280
287.40	195.1867
288.45	0.0000
290.67	174.1359
290.80	174.1545
291.72	186.2593
293.26	0.0000
293.70	191.7207
295.21	191.9771
295.21	191.9771

295.21	191.9771
295.96	123.4951
296.50	123.5522
297.23	123.6313
298.57	123.7764
299.80	177.2607
299.80	177.2607
300.09	177.3047
300.09	177.3047
300.09	177.3047
300.09	177.3047
300.12	177.3079
301.29	177.4902
302.84	196.7064
303.76	176.1405
303.91	176.1638
304.40	155.5032
304.40	155.5032
304.84	183.2194
306.84	181.4555
308.46	179.1620
311.98	172.7420
316.51	176.8911
318.01	184.1019
319.02	188.9209
319.41	188.9835
320.08	191.7119
323.87	177.0337
323.87	177.0337
323.87	177.0337
323.87	177.0337
325.23	180.0437
328.77	215.8286
333.44	215.2269
334.20	228.1082
334.20	228.1082
334.30	228.1279
338.28	188.3402
338.28	188.3402
338.28	188.3402
338.28	188.3402
338.32	188.3467
338.32	188.3467
338.32	188.3467
340.50	165.1754
340.57	165.1867
344.27	178.5187
345.85	183.0313
350.59	0.0000
351.07	184.8487
351.92	184.9681
351.92	184.9681
351.92	184.9681
355.39	0.0000
356.01	167.1748
364.48	167.7042
366.43	166.1314
367.43	140.8188
367.94	0.0000
369.80	179.2888
374.96	146.1694
383.85	169.1842
387.95	169.6812
388.63	167.9173
391.69	161.8114
391.69	161.8114
392.90	148.0688
398.62	152.3812
400.65	163.7620
401.10	165.6745
401.81	158.3063
402.60	154.6650
404.84	206.2298
410.95	191.1660
411.60	216.5625
413.65	168.0474
414.70	136.2251
415.30	148.4987

415.76	152.3051
417.63	0.0000
418.52	162.9478
423.70	150.2829
427.08	142.0944
427.89	133.6398
432.53	162.5695
433.93	133.2196
439.47	144.2053
439.56	144.2145
439.89	139.4681
443.98	132.1735
444.90	125.5430
445.03	125.5530
445.03	125.5530
445.03	125.5530
445.03	125.5530
453.90	116.6261
463.38	158.2345
468.07	128.3564
473.00	115.0903
475.06	125.0000
475.35	122.0913
476.78	125.1309
477.59	131.0598
477.96	125.2207
482.03	116.7012
484.57	127.6851
487.03	111.1499
490.36	0.0000
492.35	107.5547
497.08	119.7297
507.63	0.0000
510.53	0.0000
510.84	113.7078
511.00	113.7191
511.85	121.3588
511.85	121.3588
513.99	111.9146
513.99	111.9146
520.41	115.3334
520.65	115.3474
527.90	95.6784
528.96	0.0000
529.64	91.7387
529.87	0.0000
531.02	101.8969
537.32	116.4284
543.00	115.7778
546.56	0.0000
549.76	100.9124
552.65	110.2610
555.20	102.2339
563.23	102.6733
563.90	117.0894
568.70	109.1475
569.32	125.6636
569.50	119.4976
569.67	119.5082
573.80	82.5977
574.00	79.5073
574.64	86.7660
578.91	97.7245
579.30	0.0000
583.14	115.1632
585.48	104.7067
591.81	105.2566
592.07	106.3112
593.00	113.6603
595.88	88.7639
600.56	107.8187
602.52	0.0000
602.71	112.3362
602.71	112.3362
603.60	107.3531
604.41	132.5680
604.70	132.5873
609.31	107.2419

609.31	107.2419
609.31	107.2419
609.31	107.2419
610.33	82.4698
612.46	116.2556
614.37	84.3213
618.01	100.3142
621.84	100.5026
621.84	100.5026
631.29	96.7153
633.02	94.6684
633.10	94.6739
634.78	111.7836
635.90	109.7141
636.97	102.3105
645.85	98.4659
646.12	109.1812
656.30	94.6521
657.75	104.4035
657.90	0.0000
661.65	105.6712
661.65	105.6712
664.57	0.0000
666.33	88.6115
666.33	88.6115
675.00	67.2676
677.61	86.9019
685.20	97.0124
692.80	100.6278
695.00	121.5316
696.49	110.6537
696.49	110.6537
697.00	109.5856
697.49	109.6100
698.33	116.2286
698.50	118.4315
699.00	116.2642
702.63	115.3532
706.10	124.3335
706.58	0.0000
706.67	121.0645
709.31	101.3718
711.68	94.8577
713.82	105.9873
717.42	88.4644
720.50	93.0106
721.93	0.0000
722.20	101.0581
722.78	101.0832
722.78	101.0832
722.89	101.0887
722.95	101.0915
723.30	90.4652
724.18	86.9487
727.18	101.2780
733.00	103.0580
735.90	98.0923
739.58	101.5946
742.81	93.9078
744.21	88.3711
747.13	97.4422
751.79	113.3445
752.31	95.4097
753.82	80.8682
755.35	95.5316
756.15	98.9355
756.87	93.3421
763.93	79.7070
765.79	91.8103
766.42	97.8544
766.84	99.3787
776.49	92.2148
778.00	93.7846
778.57	79.1094
778.89	79.4443
783.80	82.7865
785.46	93.7662
792.07	85.1940

795.84	88.3712
796.30	94.4834
798.80	77.7970
801.93	81.4583
805.60	83.5152
810.29	86.4290
810.76	84.6059
815.85	80.1691
817.79	76.5420
818.51	76.5643
819.60	71.0596
826.30	81.4236
828.27	0.0000
831.60	86.2271
831.96	95.5114
834.83	101.1869
836.80	0.0000
846.75	68.0793
848.13	69.0480
856.28	0.0000
856.80	62.4105
860.37	79.6813
867.32	72.3699
867.82	69.5629
871.10	62.1199
873.19	64.9941
874.81	69.7454
875.33	0.0000
876.40	74.5023
879.36	79.3037
880.27	67.0530
880.51	65.1710
881.50	81.2570
883.24	82.2549
884.67	61.4866
889.25	88.1207
896.60	84.5587
898.02	82.7010
899.00	87.4854
903.28	74.0750
911.07	68.7656
911.07	68.7656
911.07	68.7656
919.63	56.2830
920.93	70.9251
925.00	65.2690
925.24	65.2740
926.50	62.4229
935.52	67.4382
937.48	94.4805
944.10	61.8438
946.00	75.4216
949.00	74.5336
962.29	84.2757
964.01	73.9479
966.15	74.0017
968.20	74.0536
969.11	74.0759
969.11	74.0759
969.11	74.0759
977.42	57.0174
980.50	61.6434
983.50	56.8091
989.30	67.7147
996.32	79.6790
1001.03	75.8627
1001.68	67.0106
1004.76	78.9160
1021.30	0.0000
1024.50	0.0000
1034.80	56.7829
1036.00	61.7881
1037.82	68.8046
1038.57	65.8292
1038.76	0.0000
1045.16	63.9688
1046.59	71.0000
1048.07	66.0290

1050.47	72.0879
1050.47	72.0879
1062.04	77.3797
1063.62	55.2981
1076.63	73.6951
1077.35	73.7129
1078.86	77.7896
1085.78	68.8434
1099.22	62.0157
1112.02	92.8751
1112.84	85.0749
1115.52	68.1152
1120.29	92.0874
1120.29	92.0874
1120.29	92.0874
1120.29	92.0874
1120.51	85.9523
1121.28	85.9728
1124.00	0.0000
1129.67	75.9295
1131.51	0.0000
1147.95	0.0000
1167.94	77.8345
1173.22	81.0735
1175.09	87.3551
1177.93	77.0207
1189.05	71.0016
1204.90	76.5716
1205.75	0.0000
1213.00	78.8489
1221.42	84.3047
1230.97	80.5688
1235.34	96.9751
1236.41	0.0000
1238.25	86.8207
1246.25	79.5850
1260.41	0.0000
1271.85	57.7046
1274.45	66.3019
1274.54	66.3019
1291.56	83.7967
1298.22	0.0000
1312.09	52.9310
1325.50	44.4454
1325.50	44.4454
1332.49	34.7531
1333.61	34.7625
1360.21	42.6601
1362.66	0.0000
1365.15	40.5248
1368.21	44.9398
1368.53	0.0000
1376.25	35.1469
1384.27	39.6211
1394.10	40.4551
1395.20	42.3052
1407.95	35.9833
1434.06	46.4315
1436.60	43.6724
1457.56	0.0000
1460.81	32.7142
1489.15	15.9977
1509.49	22.6943
1596.49	23.1514
1620.62	19.3970
1678.03	0.0000
1691.02	22.6500
1691.02	22.6500
1706.46	0.0000
1750.46	0.0000
1764.49	13.0005
1764.49	13.0005
1764.49	13.0005
1764.49	13.0005
1770.23	15.4474
1771.40	45.0659
1791.20	0.0000
1808.65	16.1452

1836.01

10.1461

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274001

Total Uranium Activity	2.3185E+00	ug/g
Total Uranium Counting Unc.	2.3248E+00	ug/g
Total Uranium Tpu	1.1861E-06	ug/g
Total Uranium Mda	1.0216E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 935341                          SAMPLE ID   : G243274001
*  ANALYST       : MXR1                             DETECTOR    : GAM17
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00          COUNT TIME   : 0 04:00:00.00
*  ANALYSIS DATE : 30-DEC-2009 22:47:57.99          SAMPLE ALQT  : 132.930 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.175E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.114E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.167E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.547E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 02:52:30.48

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274002.CNF;1
Sample date     : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 22:52:04
Sample ID       : G243274002      Sample quantity   : 1.31640E+02 GRAM
Detector name   : GAM12           Detector geometry: CAN
Elapsed live time: 0 04:00:00.00 Elapsed real time: 0 04:00:02.89 0.0%
Energy tolerance : 1.50000 keV    Analyst Initials  : MXR1
Abundance limit  : 75.00000       Sensitivity     : 5.00000
Batch ID        : 935341          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	3	74.70*	807	850	1.09	148.90	142	19	5.60E-02	7.1	1.69E+00
2	3	77.03	1122	698	0.96	153.55	142	19	7.79E-02	4.8	
3	2	87.07	448	638	1.00	173.65	171	11	3.11E-02	10.0	1.82E+00
4	2	89.80	247	502	0.77	179.10	171	11	1.72E-02	15.1	
5	0	92.88*	500	1015	1.67	185.26	182	12	3.47E-02	14.3	
6	0	129.01	81	740	0.84	257.57	253	9	5.66E-03	61.3	
7	0	185.66*	416	833	1.17	370.91	364	14	2.89E-02	16.0	
8	0	209.34*	263	547	1.06	418.30	414	10	1.83E-02	18.0	
9	6	238.49*	2401	371	1.08	476.63	471	23	1.67E-01	2.5	1.31E+00
10	6	241.32	631	467	1.86	482.30	471	23	4.38E-02	10.0	
11	0	270.00	209	444	1.79	539.68	535	11	1.45E-02	20.7	
12	0	277.75	74	364	0.81	555.19	550	9	5.13E-03	48.3	
13	0	295.10*	630	390	1.22	589.90	585	10	4.37E-02	7.3	
14	0	299.75	130	335	1.21	599.20	595	9	9.01E-03	26.9	
15	0	327.86	167	328	1.43	655.45	650	10	1.16E-02	21.8	
16	0	338.14*	504	287	1.08	676.01	670	10	3.50E-02	7.8	
17	0	351.68*	1144	346	1.34	703.11	698	12	7.95E-02	4.5	
18	0	462.66	123	188	1.82	925.14	921	9	8.56E-03	21.9	
19	0	510.61*	189	340	1.42	1021.09	1013	16	1.32E-02	25.8	
20	0	582.98*	684	163	1.53	1165.86	1161	11	4.75E-02	5.5	
21	0	609.02*	853	154	1.47	1217.96	1211	12	5.92E-02	4.7	
22	0	726.69	185	147	1.38	1453.35	1447	13	1.29E-02	15.3	
23	0	768.51	94	178	1.64	1537.00	1531	16	6.51E-03	33.4	
24	0	794.97	121	107	1.37	1589.94	1584	12	8.43E-03	19.4	
25	0	859.17*	93	150	1.86	1718.37	1711	18	6.49E-03	33.1	
26	0	910.78*	548	70	1.86	1821.59	1814	14	3.80E-02	5.5	
27	2	964.48	110	88	2.20	1929.01	1922	30	7.61E-03	20.0	1.86E+00
28	2	968.75	368	73	1.95	1937.55	1922	30	2.56E-02	7.0	
29	0	1120.26	246	88	1.64	2240.59	2235	15	1.71E-02	10.6	
30	0	1237.46*	100	179	7.31	2474.98	2462	20	6.97E-03	34.5	
31	0	1378.10	38	44	1.70	2756.24	2750	13	2.66E-03	40.5	
32	0	1460.34*	2263	84	2.15	2920.71	2911	19	1.57E-01	2.3	
33	0	1510.49	28	37	2.99	3020.97	3012	17	1.93E-03	56.3	
34	0	1763.87*	168	4	1.82	3527.61	3519	18	1.17E-02	8.8	
35	0	1847.30	27	23	1.60	3694.42	3688	12	1.84E-03	41.6	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 22:52:04
Sample ID        : G243274002 Sample quantity : 131.64 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA12 Detector geometry: CAN
Elapsed live time: 0 04:00:00.00 Elapsed real time: 0 04:00:02.89 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	*	2.659E+01	2.256E+00	3.840E-01	2.738E-02	69.237
CD-109	+	88.03	*	3.109E+00	6.664E-01	8.553E-01	6.545E-02	3.635
SN-126		64.28		-9.208E-02	3.409E-01	5.519E-01	7.751E-02	-0.167
	+	86.94		1.271E+00	5.821E-01	3.538E-01	1.456E-01	3.593
	+	87.57	*	3.058E-01	6.556E-02	8.454E-02	6.443E-03	3.618
HG-203		70.83		4.887E-01	7.169E-01	1.105E+00	1.374E-01	0.442
		72.87		9.999E-01	4.145E-01	6.958E-01	8.378E-02	1.437
		82.60		6.930E-03	8.152E-01	1.118E+00	1.446E-01	0.006
	+	279.20	*	3.756E-02	3.638E-02	4.007E-02	2.410E-03	0.937
TL-208	+	277.35		3.439E-01	3.345E-01	3.722E-01	3.898E-02	0.924
	+	510.84		4.475E-01	2.358E-01	1.412E-01	1.457E-02	3.170
	+	583.14	*	4.624E-01	6.064E-02	4.043E-02	2.892E-03	11.439
	+	860.37		5.948E-01	3.974E-01	2.958E-01	2.585E-02	2.011
BI-211		72.87		5.074E+00	2.041E+00	3.531E+00	2.369E-01	1.437
	+	351.07	*	3.351E+00	3.677E-01	2.146E-01	1.349E-02	15.616
PB-212	+	74.81		2.346E+00	4.307E-01	3.468E-01	4.008E-02	6.764
	+	77.11		1.844E+00	2.192E-01	1.968E-01	1.362E-02	9.368
	+	87.30		1.415E+00	3.346E-01	3.921E-01	4.925E-02	3.607
	+	238.63	*	1.530E+00	1.324E-01	5.765E-02	4.093E-03	26.540
	+	300.09		1.275E+00	6.932E-01	7.899E-01	6.448E-02	1.614
PO-212	+	74.81		2.346E+00	4.307E-01	3.468E-01	4.008E-02	6.764
	+	77.11		1.844E+00	2.192E-01	1.968E-01	1.362E-02	9.368
	+	87.30		1.415E+00	3.346E-01	3.921E-01	4.925E-02	3.607
		115.19		-1.001E-01	2.311E+00	3.791E+00	2.405E-01	-0.026
	+	238.63	*	1.530E+00	1.324E-01	5.765E-02	4.093E-03	26.540
	+	300.09		1.275E+00	6.932E-01	7.899E-01	6.448E-02	1.614
BI-214	+	609.31	*	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
	+	1120.29		1.630E+00	3.745E-01	3.018E-01	2.741E-02	5.402
	+	1764.49		1.533E+00	2.856E-01	1.953E-01	1.157E-02	7.847
PB-214	+	74.81		4.042E+00	7.056E-01	5.975E-01	6.009E-02	6.764
	+	77.11		3.160E+00	4.464E-01	3.374E-01	3.473E-02	9.368
	+	87.30		2.423E+00	5.520E-01	6.717E-01	7.272E-02	3.607
	+	241.98		2.413E+00	5.172E-01	3.472E-01	2.732E-02	6.949
	+	295.21		1.087E+00	1.832E-01	1.421E-01	1.199E-02	7.653

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.166E+00	1.416E-01	7.481E-02	6.111E-03	15.581
	+	74.81		4.042E+00	7.056E-01	5.975E-01	6.009E-02	6.764
	+	77.11		3.160E+00	4.464E-01	3.374E-01	3.473E-02	9.368
	+	87.30		2.423E+00	5.520E-01	6.717E-01	7.272E-02	3.607
	+	241.98		2.413E+00	5.172E-01	3.472E-01	2.732E-02	6.949
PO-216	+	295.21		1.087E+00	1.832E-01	1.421E-01	1.199E-02	7.653
	+	351.92	*	1.166E+00	1.416E-01	7.481E-02	6.111E-03	15.581
	+	74.81		2.346E+00	4.307E-01	3.468E-01	4.008E-02	6.764
	+	77.11		1.844E+00	2.192E-01	1.968E-01	1.362E-02	9.368
	+	87.30		1.415E+00	3.346E-01	3.921E-01	4.925E-02	3.607
PO-218	+	238.63	*	1.530E+00	1.324E-01	5.765E-02	4.093E-03	26.540
	+	300.09		1.275E+00	6.932E-01	7.899E-01	6.448E-02	1.614
	+	74.81		4.042E+00	7.056E-01	5.975E-01	6.009E-02	6.764
	+	77.11		3.160E+00	4.464E-01	3.374E-01	3.473E-02	9.368
	+	87.30		2.423E+00	5.520E-01	6.717E-01	7.272E-02	3.607
RA-224	+	241.98		2.413E+00	5.172E-01	3.472E-01	2.732E-02	6.949
	+	295.21		1.087E+00	1.832E-01	1.421E-01	1.199E-02	7.653
	+	351.92	*	1.166E+00	1.416E-01	7.481E-02	6.111E-03	15.581
	+	240.98	*	4.575E+00	9.466E-01	6.561E-01	3.619E-02	6.973
	+	609.31	*	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
AC-228	+	1120.29		1.630E+00	3.745E-01	3.018E-01	2.741E-02	5.402
	+	1764.49		1.533E+00	2.856E-01	1.953E-01	1.157E-02	7.847
	+	338.32		1.624E+00	7.087E-01	2.256E-01	9.193E-02	7.197
	+	911.07	*	1.652E+00	2.566E-01	1.400E-01	1.538E-02	11.793
	+	969.11		1.956E+00	5.285E-01	2.435E-01	5.615E-02	8.032
TH-228	+	338.32		1.624E+00	7.087E-01	2.256E-01	9.193E-02	7.197
	+	911.07	*	1.652E+00	2.566E-01	1.400E-01	1.538E-02	11.793
	+	969.11		1.956E+00	5.285E-01	2.435E-01	5.615E-02	8.032
	+	74.81		2.380E+00	3.771E-01	3.518E-01	2.425E-02	6.764
	+	77.11		1.870E+00	2.224E-01	1.997E-01	1.382E-02	9.368
TH-230	+	87.30		1.435E+00	3.076E-01	3.978E-01	3.024E-02	3.607
	+	238.63	*	1.552E+00	1.344E-01	5.848E-02	4.153E-03	26.540
	+	300.09		1.294E+00	1.032E+00	8.014E-01	4.722E-01	1.614
	+	609.31	*	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
	+	1120.29		1.630E+00	3.745E-01	3.018E-01	2.741E-02	5.402
TH-232	+	1764.49		1.533E+00	2.856E-01	1.953E-01	1.157E-02	7.847
	+	338.32		1.624E+00	2.703E-01	2.256E-01	1.278E-02	7.197
	+	911.07	*	1.652E+00	2.566E-01	1.400E-01	1.538E-02	11.793
	+	969.11		1.956E+00	5.285E-01	2.435E-01	5.615E-02	8.032
	+	609.31	*	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
U-234	+	1120.29		1.630E+00	3.745E-01	3.018E-01	2.741E-02	5.402
	+	1764.49		1.533E+00	2.856E-01	1.953E-01	1.157E-02	7.847
	+	86.50	*	8.981E-01	2.672E-01	2.614E-01	5.742E-02	3.436
	+	95.87		-4.628E-01	6.464E-01	9.176E-01	2.214E-01	-0.504
	+	74.67	*	3.803E-01	6.011E-02	5.639E-02	3.832E-03	6.744
AM-243	+	86.72		3.368E+01	7.220E+00	9.778E+00	7.388E-01	3.444
	+	117.66		-2.405E+00	2.432E+00	3.854E+00	2.428E-01	-0.624
	+	142.18		-7.364E+00	1.220E+01	1.883E+01	1.066E+00	-0.391
	+	511.00	*	9.666E-02	5.030E-02	3.050E-02	1.859E-03	3.169

---- 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	*	-7.096E-02	2.238E-01	3.540E-01	2.436E-02	-0.200
NA-22		1274.54	*	-9.064E-03	2.886E-02	4.624E-02	2.978E-03	-0.196
NA-24		1368.53	*	-2.020E-01	2.886E-02	Half-Life	too short	
AL-26		1129.67		8.797E-01	1.238E+00	2.063E+00	1.258E-01	0.426
		1808.65	*	-8.401E-03	1.578E-02	2.344E-02	1.345E-03	-0.358
TI-44		67.85		-1.276E-02	2.890E-02	4.813E-02	3.133E-03	-0.265
	+	78.38	*	3.402E-01	4.046E-02	4.778E-02	3.342E-03	7.120
SC-46		889.25	*	-1.858E-02	2.727E-02	4.189E-02	3.472E-03	-0.443
	+	1120.51		2.776E-01	6.107E-02	9.172E-02	5.699E-03	3.027
V-48		944.10		2.524E-02	6.026E-01	9.742E-01	7.824E-02	0.026
		983.50	*	-4.357E-02	4.755E-02	7.052E-02	5.433E-03	-0.618
		1312.09		2.128E-02	5.310E-02	8.992E-02	6.102E-03	0.237
CR-51		320.08	*	1.435E-01	2.342E-01	3.980E-01	2.530E-02	0.360
MN-52		744.21		5.326E-02	1.581E-01	2.651E-01	1.894E-02	0.201
		848.13		3.524E+00	4.285E+00	7.346E+00	5.851E-01	0.480
		935.52		2.086E-01	1.699E-01	2.953E-01	2.391E-02	0.706
		1246.25		-8.989E-01	4.789E+00	7.611E+00	4.689E-01	-0.118
		1333.61		-2.695E-01	2.958E+00	4.800E+00	3.352E-01	-0.056
		1434.06	*	1.206E-01	1.463E-01	2.576E-01	1.770E-02	0.468
MN-54		834.83	*	6.151E-04	2.592E-02	4.228E-02	3.324E-03	0.015
CO-56		846.75	*	7.721E-03	2.703E-02	4.481E-02	3.565E-03	0.172
		977.42		-1.062E-01	2.322E+00	3.196E+00	2.479E-01	-0.033
		1037.82		4.163E-02	2.164E-01	3.666E-01	2.832E-02	0.114
		1175.09		1.047E+00	1.558E+00	2.687E+00	1.482E-01	0.389
	+	1238.25		1.860E-01	1.288E-01	1.171E-01	7.537E-03	1.589
		1360.21		2.150E-02	6.340E-01	1.040E+00	7.237E-02	0.021
		1771.40		8.774E-02	1.416E-01	2.298E-01	1.355E-02	0.382
CO-57		122.06	*	2.597E-03	1.581E-02	2.604E-02	1.628E-03	0.100
		136.48		-1.164E-01	1.344E-01	2.121E-01	1.426E-02	-0.549
CO-58		810.76	*	7.584E-03	2.663E-02	4.430E-02	3.409E-03	0.171
FE-59		142.65		-9.252E-02	1.839E+00	2.889E+00	1.632E-01	-0.032
		192.34		3.002E-01	6.187E-01	1.002E+00	1.157E-01	0.300
		1099.22	*	-5.806E-02	6.102E-02	9.453E-02	6.982E-03	-0.614
		1291.56		1.049E-02	8.635E-02	1.431E-01	1.152E-02	0.073
CO-60		1173.22		1.238E-02	3.170E-02	5.378E-02	2.956E-03	0.230
		1332.49	*	-1.832E-04	2.570E-02	4.205E-02	2.937E-03	-0.004
ZN-65		1115.52	*	1.526E-02	7.061E-02	1.032E-01	6.489E-03	0.148
GE-68		1077.35	*	6.791E-02	8.782E-01	1.472E+00	9.925E-02	0.046
AS-73		53.44	*	-2.938E-01	5.033E-01	8.413E-01	5.432E-02	-0.349
AS-74		595.88	*	1.877E-02	5.749E-02	9.792E-02	6.233E-03	0.192
		634.78		-9.492E-02	2.516E-01	4.105E-01	2.645E-02	-0.231
SE-75		66.05		-1.378E+00	3.058E+00	5.096E+00	4.449E-01	-0.270
		96.73		-4.747E-01	5.235E-01	7.427E-01	9.405E-02	-0.639
		121.11		-6.039E-03	8.535E-02	1.395E-01	1.329E-02	-0.043
		136.00		-1.643E-02	2.516E-02	4.003E-02	2.364E-03	-0.410
		198.60		2.652E-01	1.216E+00	1.948E+00	1.309E-01	0.136
		264.65	*	1.592E-02	2.976E-02	4.528E-02	2.567E-03	0.352
		279.53		6.587E-03	7.344E-02	1.087E-01	6.663E-03	0.061
		303.91		7.217E-01	1.475E+00	2.216E+00	2.098E-01	0.326

---- 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		-4.833E-02	1.736E-01	2.793E-01	2.496E-02	-0.173
		87.88		5.606E+02	1.202E+02	1.832E+02	1.400E+01	3.061
		200.40		4.973E+01	9.204E+01	1.490E+02	7.905E+00	0.334
	+	239.00		2.049E+02	1.517E+01	2.156E+01	1.188E+00	9.501
		249.79		6.411E+00	3.679E+01	5.804E+01	3.223E+00	0.110
		281.68		1.338E+01	5.143E+01	7.681E+01	4.341E+00	0.174
		297.23		1.146E+02	4.241E+01	5.542E+01	3.146E+00	2.068
		303.76		3.039E+01	1.068E+02	1.588E+02	9.024E+00	0.191
		439.47		-4.905E+00	7.687E+01	1.241E+02	7.147E+00	-0.040
		484.57		-5.755E+01	1.326E+02	2.079E+02	1.244E+01	-0.277
		520.65	*	-2.760E+00	5.869E+00	9.107E+00	5.585E-01	-0.303
		574.64		-7.957E+01	1.154E+02	1.864E+02	1.176E+01	-0.427
		578.91		3.832E+01	5.118E+01	7.897E+01	4.993E+00	0.485
		585.48		5.993E+02	1.322E+02	2.322E+02	1.472E+01	2.581
		755.35		1.084E+02	9.569E+01	1.673E+02	1.210E+01	0.648
		817.79		-8.943E+01	7.070E+01	1.034E+02	7.990E+00	-0.865
SR-82		698.33		-4.444E+00	2.331E+01	3.813E+01	2.584E+00	-0.117
	*	776.49		-2.356E-01	3.121E-01	4.118E-01	3.047E-02	-0.572
		1395.20		-2.174E+00	6.903E+00	1.087E+01	7.525E-01	-0.200
RB-83	*	520.41		-1.510E-02	4.599E-02	7.203E-02	4.416E-03	-0.210
		529.64		-6.782E-02	7.261E-02	1.090E-01	6.721E-03	-0.622
		552.65		-3.761E-04	1.307E-01	2.199E-01	1.373E-02	-0.002
RB-84	*	881.50		4.435E-02	4.632E-02	8.004E-02	6.586E-03	0.554
KR-85	*	513.99		3.792E+00	5.660E+00	8.276E+00	5.054E-01	0.458
SR-85	*	513.99		1.931E-02	2.883E-02	4.216E-02	2.574E-03	0.458
RB-86	*	1076.63		-6.681E-02	5.469E-01	9.049E-01	6.108E-02	-0.074
Y-88		898.02		-3.165E-03	2.912E-02	4.676E-02	3.928E-03	-0.068
ZR-88	*	1836.01		1.617E-02	2.414E-02	4.326E-02	2.435E-03	0.374
		392.90		-1.852E-02	1.962E-02	3.045E-02	1.670E-03	-0.608
Y-91	*	1204.90		3.572E+00	1.277E+01	2.147E+01	1.241E+00	0.166
NB-94	*	702.63		9.232E-03	2.329E-02	3.931E-02	2.677E-03	0.235
		871.10		1.154E-03	2.210E-02	3.601E-02	2.934E-03	0.032
NB-95	*	765.79		2.268E-02	3.314E-02	4.940E-02	3.613E-03	0.459
NB-95M	*	235.69		7.759E-02	8.689E-02	1.344E-01	9.802E-03	0.577
ZR-95		724.18		8.407E-02	7.277E-02	1.131E-01	8.916E-03	0.743
NB-97	*	756.15		3.710E-02	4.912E-02	8.418E-02	6.952E-03	0.441
		657.90		-5.490E-02	4.912E-02	Half-Life	too short	
ZR-97	*	1024.50		2.670E+00	4.912E-02	Half-Life	too short	
		254.15		-1.572E+00	4.912E-02	Half-Life	too short	
		355.39		-2.532E-01	4.912E-02	Half-Life	too short	
		507.63		1.578E+00	4.912E-02	Half-Life	too short	
		602.52		-1.016E-01	4.912E-02	Half-Life	too short	
		1021.30		-4.165E+00	4.912E-02	Half-Life	too short	
		1147.95		-5.823E-01	4.912E-02	Half-Life	too short	
		1362.66		1.195E+00	4.912E-02	Half-Life	too short	
		1750.46		3.415E-01	4.912E-02	Half-Life	too short	
		140.51		1.035E+00	1.531E+01	2.423E+01	6.524E+00	0.043
MO-99		181.06		-6.377E+00	1.037E+01	1.423E+01	2.411E+00	-0.448
		366.43		9.109E-01	4.667E+01	7.671E+01	4.289E+00	0.012

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58		*	3.081E-01	6.814E+00	1.124E+01	1.616E+00	0.027
	778.00			-9.875E+00	2.159E+01	3.335E+01	2.472E+00	-0.296
TC-99M	140.51		*	3.130E+08	2.159E+01	Half-Life too short		
RH-101	127.23			2.826E-02	2.252E-02	3.452E-02	2.095E-03	0.818
	198.01		*	-1.288E-03	2.219E-02	3.522E-02	1.863E-03	-0.037
	325.23			1.543E-01	1.640E-01	2.509E-01	1.425E-02	0.615
RH-102	418.52			-3.042E-01	1.966E-01	2.929E-01	1.652E-02	-1.039
	475.06		*	-3.256E-03	2.051E-02	3.275E-02	1.945E-03	-0.099
	631.29			1.275E-02	3.737E-02	6.343E-02	4.084E-03	0.201
	697.49			-3.329E-02	5.428E-02	8.659E-02	5.862E-03	-0.384
	766.84			8.805E-02	8.714E-02	1.326E-01	9.713E-03	0.664
	1046.59			-4.904E-04	7.933E-02	1.326E-01	9.394E-03	-0.004
	1112.84			9.595E-03	1.685E-01	2.611E-01	1.648E-02	0.037
RU-103	497.08		*	2.465E-03	2.708E-02	4.369E-02	5.573E-03	0.056
	610.33			1.162E+01	2.115E+00	1.988E+00	3.112E-01	5.843
RH-106	511.85		+	4.822E-01	2.509E-01	2.947E-01	1.797E-02	1.636
	621.84		*	-9.814E-02	2.116E-01	3.431E-01	4.136E-02	-0.286
	1050.47			9.628E-01	1.606E+00	2.786E+00	1.963E-01	0.346
RU-106	511.85		+	4.822E-01	2.509E-01	2.947E-01	1.797E-02	1.636
	621.84		*	-9.814E-02	2.113E-01	3.431E-01	2.203E-02	-0.286
	1050.47			9.628E-01	1.606E+00	2.786E+00	1.963E-01	0.346
AG-108M	433.93		*	-8.009E-03	2.139E-02	3.398E-02	2.117E-03	-0.236
	614.37			2.676E-02	3.001E-02	4.634E-02	3.177E-03	0.578
	722.95			3.297E-03	3.110E-02	4.483E-02	3.312E-03	0.074
AG-110M	657.75		*	-4.346E-02	2.615E-02	3.796E-02	2.587E-03	-1.145
	677.61			2.470E-02	2.014E-01	3.362E-01	2.328E-02	0.073
	706.67			-1.014E-02	1.479E-01	2.433E-01	1.737E-02	-0.042
	763.93			7.400E-02	1.163E-01	1.748E-01	1.326E-02	0.423
	884.67			9.497E-03	3.424E-02	5.658E-02	4.833E-03	0.168
	937.48			5.841E-03	7.890E-02	1.279E-01	1.076E-02	0.046
	1384.27			7.287E-02	1.160E-01	1.773E-01	1.283E-02	0.411
IN-111	171.28			-2.224E-01	5.444E-01	8.606E-01	4.427E-02	-0.258
	245.39		*	-6.556E-01	6.014E-01	8.411E-01	4.656E-02	-0.780
IN-113M	391.69		*	-1.320E-02	2.766E-02	4.406E-02	2.594E-03	-0.300
SN-113	391.69		*	-1.320E-02	2.766E-02	4.406E-02	2.594E-03	-0.300
IN-114M	190.27		*	-5.607E-02	1.315E-01	1.825E-01	9.571E-03	-0.307
CD-115	260.90			-5.489E+01	6.507E+01	1.056E+02	5.910E+00	-0.520
	492.35			8.955E+00	1.988E+01	3.276E+01	1.971E+00	0.273
	527.90		*	6.661E+00	5.931E+00	1.010E+01	6.219E-01	0.660
SN-117M	156.02			2.130E-01	1.381E+00	2.242E+00	1.197E-01	0.095
	158.56		*	-1.674E-02	3.381E-02	5.357E-02	2.830E-03	-0.313
SB-122	563.90		*	8.619E-02	1.128E+00	1.903E+00	1.195E-01	0.045
	692.80			1.827E+01	2.468E+01	4.251E+01	2.862E+00	0.430
I-123	159.00		*	-7.527E-01	2.468E+01	Half-Life too short		
	528.96			-3.848E+01	2.468E+01	Half-Life too short		
TE-123M	159.00		*	-8.164E-03	1.811E-02	2.873E-02	1.539E-03	-0.284
I-124	602.71		*	5.464E-02	4.498E-01	6.602E-01	4.213E-02	0.083
	722.78			2.737E-02	2.914E+00	4.167E+00	2.905E-01	0.007
	1325.50			5.774E+00	2.283E+01	3.816E+01	2.639E+00	0.151

----- 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		3.535E+01	2.185E+01	3.636E+01	2.526E+00	0.972
	+	1509.49		1.371E+01	1.547E+01	1.702E+01	1.145E+00	0.806
		1691.02		5.097E-01	2.134E+00	3.667E+00	2.276E-01	0.139
		602.71		3.496E-03	2.878E-02	4.224E-02	2.697E-03	0.083
		645.85		1.967E-02	2.997E-01	5.005E-01	3.572E-02	0.039
		709.31		1.946E-01	1.912E+00	3.175E+00	2.179E-01	0.061
		713.82		-6.687E-01	1.088E+00	1.723E+00	1.873E-01	-0.388
		722.78		2.539E-03	2.703E-01	3.864E-01	2.783E-02	0.007
	+	968.20		1.999E+01	3.221E+00	5.281E+00	4.138E-01	3.786
		1045.16		-2.084E-02	1.710E+00	2.857E+00	2.029E-01	-0.007
		1325.50		5.719E-01	2.262E+00	3.780E+00	2.614E-01	0.151
		1368.21		-9.543E-01	1.157E+00	1.718E+00	2.143E-01	-0.556
		1436.60		-8.316E-01	2.543E+00	3.989E+00	2.739E-01	-0.209
		1691.02	*	1.115E-02	4.668E-02	8.022E-02	5.353E-03	0.139
SB-125		427.89	*	-9.958E-03	6.064E-02	9.760E-02	5.802E-03	-0.102
	+	463.38		5.665E-01	2.515E-01	3.734E-01	2.552E-02	1.517
		600.56		5.227E-02	1.203E-01	2.008E-01	1.448E-02	0.260
		635.90		-1.855E-01	1.963E-01	3.093E-01	2.274E-02	-0.600
TE-125M		109.28	*	2.208E+00	5.888E+00	9.807E+00	8.454E-01	0.225
I-126		388.63		-9.882E-03	1.331E-01	2.114E-01	1.161E-02	-0.047
		666.33	*	-1.113E-02	1.236E-01	2.041E-01	1.331E-02	-0.055
SB-126		753.82		8.544E-01	9.951E-01	1.715E+00	1.238E-01	0.498
		223.80		6.927E-01	2.449E+00	4.191E+00	2.277E-01	0.165
	+	278.60		2.196E+00	2.127E+00	2.570E+00	1.451E-01	0.854
	+	296.50		1.046E+01	1.636E+00	2.176E+00	1.235E-01	4.805
		414.70		1.161E-02	4.796E-02	7.899E-02	4.438E-03	0.147
		415.30		7.092E-01	3.988E+00	6.548E+00	3.681E-01	0.108
		555.20		1.114E+00	2.570E+00	4.418E+00	2.762E-01	0.252
		573.80		-6.801E-01	6.587E-01	1.041E+00	6.568E-02	-0.653
		593.00		-4.105E-01	5.688E-01	9.115E-01	5.796E-02	-0.450
		656.30		-4.162E+00	2.341E+00	3.346E+00	2.167E-01	-1.244
		666.33		-4.643E-03	5.159E-02	8.518E-02	5.553E-03	-0.055
		675.00		-8.374E-01	1.263E+00	2.005E+00	1.321E-01	-0.418
		695.00		-8.132E-03	5.155E-02	8.448E-02	5.702E-03	-0.096
		697.00		-1.559E-01	1.825E-01	2.867E-01	1.940E-02	-0.544
SB-127		720.50	*	7.483E-02	1.033E-01	1.569E-01	1.091E-02	0.477
		856.80		3.138E-01	3.253E-01	5.009E-01	4.024E-02	0.626
		989.30		3.713E-01	8.114E-01	1.349E+00	1.032E-01	0.275
		1034.80		3.750E+00	6.004E+00	1.044E+01	7.527E-01	0.359
		1213.00		-1.927E+00	3.179E+00	5.042E+00	2.952E-01	-0.382
		61.10		-1.730E+01	3.255E+01	5.427E+01	5.034E+00	-0.319
		252.40		2.634E-02	2.410E+00	4.059E+00	1.683E+00	0.006
		290.80		-2.107E+01	1.458E+01	1.958E+01	1.733E+00	-1.076
		411.60		-1.220E+00	7.715E+00	1.247E+01	1.765E+00	-0.098
		444.90		5.587E+00	5.612E+00	9.531E+00	1.010E+00	0.586
		473.00		3.742E-01	1.057E+00	1.733E+00	1.917E-01	0.216
		543.00		-7.526E+00	9.714E+00	1.561E+01	2.020E+00	-0.482
		603.60		9.734E-01	7.581E+00	1.113E+01	1.214E+00	0.087
		685.20	*	6.036E-01	7.911E-01	1.366E+00	1.337E-01	0.442

---- 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		-1.983E+00	9.437E+00	1.541E+01	2.274E+00	-0.129
		722.20		-1.257E+00	1.976E+01	2.808E+01	2.733E+00	-0.045
		783.80		3.278E+00	2.401E+00	4.185E+00	4.798E-01	0.783
		57.60		-3.790E+00	3.662E+00	6.014E+00	3.801E-01	-0.630
		145.22		1.418E-01	4.409E-01	7.223E-01	4.035E-02	0.196
		172.10		-1.018E-02	7.506E-02	1.199E-01	6.171E-03	-0.085
		202.84	*	-1.084E-02	3.069E-02	4.809E-02	2.557E-03	-0.225
I-131		374.96		-1.767E-01	1.383E-01	2.088E-01	1.160E-02	-0.846
		80.18		-1.026E+00	2.845E+00	4.213E+00	3.018E-01	-0.244
		284.30		-9.194E-01	9.057E-01	1.450E+00	9.153E-02	-0.634
		364.48	*	3.260E-03	7.079E-02	1.165E-01	7.329E-03	0.028
		636.97		2.807E-01	1.044E+00	1.762E+00	1.247E-01	0.159
TE-132		722.89		3.507E-01	4.954E+00	7.121E+00	5.010E-01	0.049
		49.72		-6.689E+00	1.008E+01	1.683E+01	1.531E+00	-0.398
		111.76		-1.025E+01	1.691E+01	2.725E+01	2.456E+00	-0.376
		116.30		-8.774E+00	1.544E+01	2.485E+01	2.223E+00	-0.353
BA-133		228.16	*	-2.453E-01	3.805E-01	6.285E-01	8.864E-02	-0.390
		53.15		-9.933E-01	2.180E+00	3.659E+00	2.366E-01	-0.271
		79.62		-2.422E-01	8.473E-01	1.258E+00	1.812E-01	-0.192
		81.00		-7.613E-02	6.739E-02	9.552E-02	1.445E-02	-0.797
	+	276.40		3.398E-01	3.315E-01	4.221E-01	5.442E-02	0.805
I-133		302.84		7.969E-03	1.024E-01	1.505E-01	1.746E-02	0.053
		356.01	*	-2.892E-04	3.086E-02	4.451E-02	5.107E-03	-0.006
		383.85		-1.327E-01	1.971E-01	3.111E-01	3.336E-02	-0.426
	+	510.53		5.974E-01	1.971E-01	Half-Life	too short	
		529.87	*	-2.527E-03	1.971E-01	Half-Life	too short	
		706.58		-1.219E-02	1.971E-01	Half-Life	too short	
		856.28		2.061E-01	1.971E-01	Half-Life	too short	
		875.33		2.437E-03	1.971E-01	Half-Life	too short	
	+	1236.41		8.234E-01	1.971E-01	Half-Life	too short	
		1298.22		-9.387E-02	1.971E-01	Half-Life	too short	
CS-134		475.35		2.271E-01	1.344E+00	2.184E+00	1.297E-01	0.104
		563.23		4.870E-02	2.321E-01	3.944E-01	2.520E-02	0.123
		569.32		1.526E-01	1.266E-01	2.252E-01	1.454E-02	0.678
		604.70		1.573E-02	2.366E-02	3.616E-02	2.320E-03	0.435
	+	795.84	*	1.187E-01	4.682E-02	6.583E-02	5.019E-03	1.802
		801.93		-9.913E-02	2.890E-01	4.329E-01	3.315E-02	-0.229
CS-135		1038.57		-2.304E-01	2.753E+00	4.581E+00	3.285E-01	-0.050
		1167.94		1.917E-01	1.778E+00	2.965E+00	1.652E-01	0.065
		1365.15		-2.787E-01	7.788E-01	1.224E+00	9.101E-02	-0.228
		268.24	*	1.708E-01	1.139E-01	1.795E-01	1.350E-02	0.952
	I-135	288.45		1.237E+09	1.139E-01	Half-Life	too short	
		417.63		-4.562E+09	1.139E-01	Half-Life	too short	
		546.56		6.669E+08	1.139E-01	Half-Life	too short	
		836.80		2.194E+09	1.139E-01	Half-Life	too short	
		1038.76		-4.631E+08	1.139E-01	Half-Life	too short	
		1124.00		1.075E+08	1.139E-01	Half-Life	too short	
I-135		1131.51		9.050E+08	1.139E-01	Half-Life	too short	
		1260.41	*	-5.187E+08	1.139E-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		1.689E+11	1.139E-01	Half-Life	too short	
		1678.03		7.173E+08	1.139E-01	Half-Life	too short	
		1706.46		7.030E+08	1.139E-01	Half-Life	too short	
		1791.20		2.621E+08	1.139E-01	Half-Life	too short	
		66.91		-3.582E-02	4.719E-01	7.942E-01	1.140E-01	-0.045
	+	86.29		3.862E+00	9.062E-01	1.298E+00	1.576E-01	2.976
		153.22		3.253E-02	4.076E-01	6.605E-01	4.562E-02	0.049
		163.89		-7.820E-02	6.817E-01	1.070E+00	7.228E-02	-0.073
		176.55		1.332E-01	2.345E-01	3.831E-01	2.284E-02	0.348
		273.65		-3.532E-01	4.434E-01	4.396E-01	2.843E-02	-0.803
		340.57		1.204E-01	8.786E-02	1.368E-01	8.253E-03	0.880
		818.51		-1.693E-02	4.506E-02	7.138E-02	5.525E-03	-0.237
BA-137M		1048.07	*	8.430E-03	7.388E-02	1.244E-01	9.345E-03	0.068
		1235.34		7.229E-01	4.261E-01	7.559E-01	7.665E-02	0.956
		661.65	*	3.186E-02	2.632E-02	4.621E-02	2.995E-03	0.690
		661.65	*	3.368E-02	2.782E-02	4.884E-02	3.177E-03	0.690
CE-139		165.85	*	-5.780E-03	1.906E-02	3.033E-02	1.554E-03	-0.191
BA-140		162.64		7.929E-02	4.790E-01	7.599E-01	4.551E-02	0.104
		304.84		2.261E-01	8.346E-01	1.301E+00	3.548E-01	0.174
LA-140		423.70		-1.336E-01	1.246E+00	2.013E+00	6.392E-01	-0.066
		537.32	*	2.088E-02	1.651E-01	2.800E-01	9.125E-02	0.075
	+	328.77		6.430E-01	2.834E-01	3.543E-01	2.263E-02	1.815
		432.53		3.991E-01	1.304E+00	2.150E+00	1.362E-01	0.186
		487.03		7.002E-02	9.080E-02	1.521E-01	1.024E-02	0.460
		751.79		-1.299E+00	1.169E+00	1.779E+00	1.474E-01	-0.730
		815.85		-5.158E-02	1.963E-01	3.139E-01	2.765E-02	-0.164
		867.82		-3.963E-01	1.022E+00	1.371E+00	1.179E-01	-0.289
		919.63		-3.946E-01	1.759E+00	2.791E+00	2.880E-01	-0.141
		925.24		1.245E-01	7.061E-01	1.156E+00	1.010E-01	0.108
CE-141		1596.49	*	-4.750E-02	5.213E-02	7.780E-02	5.067E-03	-0.611
		145.44	*	1.224E-02	3.964E-02	6.492E-02	3.779E-03	0.189
CE-143		57.37		-5.163E-04	3.964E-02	Half-Life	too short	
		231.56		-2.391E-05	3.964E-02	Half-Life	too short	
		293.26	*	4.905E-04	3.964E-02	Half-Life	too short	
	+	350.59		1.941E-02	3.964E-02	Half-Life	too short	
		490.36		-8.651E-04	3.964E-02	Half-Life	too short	
		664.57		-4.198E-04	3.964E-02	Half-Life	too short	
		721.93		-3.979E-06	3.964E-02	Half-Life	too short	
		80.11		-5.409E-01	1.379E+00	2.039E+00	1.448E-01	-0.265
		133.54	*	5.689E-02	1.347E-01	2.121E-01	3.020E-02	0.268
PM-144		476.78		1.688E-02	4.639E-02	7.615E-02	5.380E-03	0.222
		618.01		5.921E-03	2.210E-02	3.740E-02	2.517E-03	0.158
		696.49	*	-2.067E-02	2.373E-02	3.719E-02	2.516E-03	-0.556
		778.57		-5.695E-02	1.649E+00	2.695E+00	2.000E-01	-0.021
		696.49	*	-1.400E+00	1.608E+00	2.519E+00	1.703E-01	-0.556
PR-144		1489.15		-1.680E+00	8.234E+00	1.303E+01	8.824E-01	-0.129
PM-146		453.90	*	3.522E-03	2.876E-02	4.679E-02	4.045E-03	0.075
		633.02		6.595E-01	9.760E-01	1.635E+00	6.037E-01	0.403
		735.90		2.179E-03	9.995E-02	1.647E-01	4.642E-02	0.013

----- 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		2.600E-02	6.429E-02	1.081E-01	1.427E-02	0.240
		91.11		5.416E-01	1.694E-01	3.105E-01	2.546E-02	1.744
		319.41		9.179E-01	2.001E+00	3.382E+00	1.923E-01	0.271
		439.89		-1.509E+00	3.630E+00	5.744E+00	3.311E-01	-0.263
PM-149	*	531.02		-3.226E-01	3.772E-01	5.662E-01	7.748E-02	-0.570
		285.90		-1.678E+01	4.839E+01	7.965E+01	1.124E+01	-0.211
		121.78		-1.995E-03	4.610E-02	7.539E-02	5.997E-03	-0.026
		244.69		-3.588E-01	1.953E-01	3.054E-01	1.689E-02	-1.175
EU-152	*	344.27		3.748E-02	6.301E-02	1.066E-01	6.829E-03	0.352
		443.98		1.751E-01	6.138E-01	1.009E+00	5.838E-02	0.173
		778.89		1.462E-02	1.925E-01	3.168E-01	2.350E-02	0.046
		867.32		-8.659E-02	6.222E-01	8.587E-01	6.970E-02	-0.101
	+	964.01		6.703E-01	2.730E-01	3.979E-01	3.132E-02	1.685
		1085.78		-6.521E-02	2.785E-01	4.569E-01	3.035E-02	-0.143
		1112.02		1.607E-01	2.265E-01	3.782E-01	2.391E-02	0.425
		1407.95		1.530E-01	1.195E-01	2.180E-01	1.506E-02	0.702
GD-153		69.67		-6.547E-02	1.150E+00	1.737E+00	1.142E-01	-0.038
		83.37		1.101E+01	1.119E+01	1.565E+01	1.144E+00	0.703
		97.43	*	-2.572E-03	5.382E-02	7.973E-02	5.544E-03	-0.032
		103.18		-7.684E-02	6.633E-02	1.052E-01	7.033E-03	-0.730
EU-154		123.07		-9.626E-03	3.265E-02	5.290E-02	5.112E-03	-0.182
		247.94		-4.389E-02	2.498E-01	3.680E-01	3.455E-02	-0.119
		591.81		-2.665E-01	3.912E-01	6.276E-01	6.347E-02	-0.425
		723.30		3.383E-02	1.319E-01	1.925E-01	1.554E-02	0.176
		756.87		3.849E-01	5.395E-01	9.213E-01	1.016E-01	0.418
		873.19		1.576E-01	1.861E-01	3.201E-01	3.818E-02	0.492
		996.32		-2.117E-01	2.437E-01	3.799E-01	6.568E-02	-0.557
		1004.76		-1.739E-02	1.437E-01	2.392E-01	2.593E-02	-0.073
EU-155	*	1274.45		-2.533E-02	8.066E-02	1.292E-01	1.259E-02	-0.196
		48.70		-2.037E+00	1.440E+00	2.344E+00	1.531E-01	-0.869
		60.01		1.053E+00	3.069E+00	5.246E+00	3.296E-01	0.201
		86.54		3.683E-01	7.908E-02	1.250E-01	9.549E-03	2.947
TB-160	+	105.31	*	7.897E-02	6.983E-02	1.188E-01	8.008E-03	0.665
		86.79		9.781E-01	2.097E-01	3.305E-01	2.499E-02	2.960
		197.04		-6.341E-02	3.781E-01	5.981E-01	3.160E-02	-0.106
		215.65		2.579E-01	4.957E-01	7.992E-01	4.307E-02	0.323
	+	298.57		1.845E-01	9.968E-02	1.310E-01	7.439E-03	1.408
		879.36	*	-2.064E-02	9.085E-02	1.447E-01	1.188E-02	-0.143
		962.29		5.665E-01	4.373E-01	6.723E-01	5.301E-02	0.843
		966.15		1.206E+00	2.081E-01	3.816E-01	2.997E-02	3.160
		1177.93		1.875E-03	2.517E-01	4.168E-01	2.309E-02	0.004
		1271.85		-4.497E-01	4.705E-01	7.119E-01	4.558E-02	-0.632
		80.57		-3.225E-02	1.776E-01	2.647E-01	1.887E-02	-0.122
		184.41		1.405E-01	4.565E-02	4.430E-02	2.310E-03	3.171
HO-166M	+	280.46		3.618E-03	5.716E-02	8.448E-02	4.772E-03	0.043
		410.95		1.008E-01	1.722E-01	2.878E-01	1.611E-02	0.350
		711.68	*	1.467E-02	4.091E-02	6.894E-02	4.745E-03	0.213
		752.31		-9.173E-02	1.889E-01	3.008E-01	2.168E-02	-0.305
		810.29		-4.077E-03	4.145E-02	6.725E-02	5.156E-03	-0.061

---- 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		8.977E+00	1.832E+01	3.167E+01	2.064E+00	0.283
		52.39		8.164E-01	9.426E+00	1.610E+01	1.044E+00	0.051
		59.40		5.588E+00	1.635E+01	2.795E+01	1.753E+00	0.200
		66.72	*	-2.698E+00	1.783E+01	2.995E+01	1.939E+00	-0.090
LU-176	+	88.36		7.254E-01	1.555E-01	2.317E-01	1.766E-02	3.130
		201.83		-1.365E-03	1.904E-02	3.017E-02	1.603E-03	-0.045
		306.84	*	-5.696E-03	1.573E-02	2.575E-02	1.464E-03	-0.221
		401.10		-1.138E+00	4.598E+00	7.412E+00	4.104E-01	-0.154
LU-177	+	112.95		4.306E-01	9.913E-01	1.651E+00	1.055E-01	0.261
		208.36	*	2.799E+00	1.019E+00	1.229E+00	6.574E-02	2.278
LU-177M	+	52.97		-4.306E-01	9.845E-01	1.654E+00	1.070E-01	-0.260
		54.07		-2.152E-01	5.177E-01	8.696E-01	5.596E-02	-0.248
		61.30		-3.812E-01	9.432E-01	1.579E+00	9.978E-02	-0.241
		121.62		-1.890E-02	2.355E-01	3.847E-01	2.402E-02	-0.049
		147.16		-4.202E-01	4.144E-01	6.472E-01	3.586E-02	-0.649
		171.86		-1.210E-02	3.062E-01	4.908E-01	2.526E-02	-0.025
		218.09		-4.256E-01	5.804E-01	8.905E-01	4.811E-02	-0.478
		268.79		2.035E+00	8.486E-01	9.670E-01	5.434E-02	2.105
		319.02		9.632E-03	1.607E-01	2.672E-01	1.519E-02	0.036
		367.43		1.177E-02	5.894E-01	9.686E-01	5.411E-02	0.012
		413.65	*	-7.999E-02	1.219E-01	1.919E-01	1.077E-02	-0.417
		56.28		-1.168E-01	5.718E-01	9.653E-01	6.140E-02	-0.121
		57.53		-3.242E-01	3.085E-01	5.065E-01	3.202E-02	-0.640
		65.20		-2.274E-01	5.974E-01	9.986E-01	6.416E-02	-0.228
HF-181		133.02		1.279E-02	4.559E-02	6.716E-02	3.961E-03	0.190
		136.25		-1.796E-01	2.900E-01	4.619E-01	2.684E-02	-0.389
		345.85		-3.116E-02	1.347E-01	2.031E-01	1.148E-02	-0.153
		482.03	*	-7.005E-03	2.790E-02	4.422E-02	2.640E-03	-0.158
		56.28		-4.620E-02	2.253E-01	3.803E-01	2.419E-02	-0.121
		57.53		-1.279E-01	1.217E-01	1.997E-01	1.263E-02	-0.640
W-181	+	65.20	*	-8.898E-02	2.337E-01	3.907E-01	2.510E-02	-0.228
		67.75		-2.996E-02	6.875E-02	1.145E-01	7.450E-03	-0.262
TA-182		100.10		-6.862E-03	1.195E-01	1.832E-01	1.249E-02	-0.037
		152.43		-1.232E-02	2.112E-01	3.407E-01	1.847E-02	-0.036
		222.10		-3.191E-02	2.180E-01	3.682E-01	1.997E-02	-0.087
		1001.68		6.029E-01	1.488E+00	2.345E+00	1.768E-01	0.257
		1121.28		7.678E-01	1.689E-01	2.545E-01	1.579E-02	3.017
		1189.05		8.491E-03	2.287E-01	3.791E-01	2.138E-02	0.022
RE-183	+	1221.42	*	-1.664E-01	1.497E-01	2.301E-01	1.365E-02	-0.723
		1230.97		-1.829E-01	4.304E-01	5.880E-01	3.540E-02	-0.311
		57.98		-1.101E-01	1.211E-01	1.998E-01	1.260E-02	-0.551
		59.32		1.082E-02	6.702E-02	1.141E-01	7.157E-03	0.095
		67.20		-3.669E-02	1.239E-01	2.073E-01	1.345E-02	-0.177
		162.32	*	2.891E-02	7.186E-02	1.149E-01	5.975E-03	0.252
RE-184	+	208.81		2.667E+00	9.707E-01	1.176E+00	6.293E-02	2.268
		291.72		-7.276E-01	6.949E-01	9.611E-01	5.448E-02	-0.757
		57.98		-4.073E-01	4.480E-01	7.389E-01	4.661E-02	-0.551
		59.32		3.999E-02	2.477E-01	4.216E-01	2.645E-02	0.095
		67.20		-1.357E-01	4.580E-01	7.662E-01	4.971E-02	-0.177

---- 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		9.830E-02	2.260E-01	3.696E-01	1.930E-02	0.266
		216.55		8.950E-02	1.767E-01	2.846E-01	1.535E-02	0.314
		252.85	*	-1.031E-01	1.461E-01	2.395E-01	1.333E-02	-0.431
		318.01		-4.105E-02	2.773E-01	4.568E-01	2.597E-02	-0.090
		792.07		9.259E-01	7.473E-01	1.171E+00	8.809E-02	0.791
		903.28		2.440E-01	8.322E-01	1.194E+00	9.938E-02	0.204
		920.93		-6.725E-02	2.986E-01	4.737E-01	3.885E-02	-0.142
		59.72		3.759E-02	1.813E-01	3.088E-01	1.938E-02	0.122
		61.14		-5.096E-02	1.031E-01	1.722E-01	1.087E-02	-0.296
		69.30		-3.562E-02	2.040E-01	3.069E-01	2.014E-02	-0.116
		592.07		-9.672E-01	1.584E+00	2.556E+00	1.625E-01	-0.378
		646.12	*	-3.266E-03	2.577E-02	4.252E-02	2.748E-03	-0.077
		717.42		-2.181E-01	5.960E-01	9.605E-01	6.655E-02	-0.227
		874.81		-4.016E-03	3.699E-01	5.996E-01	4.902E-02	-0.007
		880.27		7.284E-02	5.179E-01	8.484E-01	6.972E-02	0.086
RE-188		155.03	*	1.951E-01	1.078E-01	1.839E-01	9.857E-03	1.061
		477.96		-6.075E-01	2.141E+00	3.392E+00	2.019E-01	-0.179
		633.10		1.289E+00	1.899E+00	3.278E+00	2.111E-01	0.393
W-188		63.58		6.960E+00	3.528E+01	5.785E+01	3.690E+00	0.120
		227.08		-4.822E-01	7.823E+00	1.323E+01	7.210E-01	-0.036
IR-192		290.67	*	-7.368E+00	5.558E+00	7.559E+00	4.284E-01	-0.975
	+	295.96		8.243E-01	1.293E-01	1.836E-01	1.059E-02	4.489
		308.46		-1.461E-02	5.984E-02	9.841E-02	5.660E-03	-0.148
		316.51	*	-2.075E-02	2.128E-02	3.371E-02	1.926E-03	-0.616
		468.07		-1.291E-02	4.962E-02	7.258E-02	4.920E-03	-0.178
		604.41		1.417E-01	3.231E-01	4.852E-01	5.658E-02	0.292
AU-195		612.46		6.471E-01	5.505E-01	8.614E-01	6.929E-02	0.751
		65.12		-5.304E-02	1.089E-01	1.815E-01	1.166E-02	-0.292
		66.83		-1.132E-02	5.876E-02	9.859E-02	6.384E-03	-0.115
	+	75.70		1.228E+00	1.941E-01	3.035E-01	2.078E-02	4.045
		98.88	*	1.717E-01	1.637E-01	2.391E-01	1.644E-02	0.718
TL-200	+	129.76		2.283E+00	2.801E+00	3.184E+00	1.908E-01	0.717
		367.94	*	-1.217E-04	2.801E+00	Half-Life	too short	
		579.30		5.410E-04	2.801E+00	Half-Life	too short	
		828.27		-8.449E-04	2.801E+00	Half-Life	too short	
TL-201		1205.75		-3.998E-04	2.801E+00	Half-Life	too short	
		68.90		-1.810E+00	2.889E+00	4.276E+00	2.799E-01	-0.423
		70.82		1.091E+00	1.611E+00	2.489E+00	1.648E-01	0.438
		80.30		-8.718E-01	2.841E+00	4.216E+00	2.998E-01	-0.207
		135.34		-1.189E+01	1.399E+01	2.209E+01	1.289E+00	-0.538
TL-202		167.43	*	2.058E+00	3.840E+00	6.288E+00	3.223E-01	0.327
		68.90		-1.810E-01	2.891E-01	4.277E-01	2.800E-02	-0.423
		70.82		1.088E-01	1.607E-01	2.483E-01	1.644E-02	0.438
		80.30		-8.701E-02	2.836E-01	4.208E-01	2.992E-02	-0.207
BI-207		439.56	*	-4.373E-03	4.299E-02	6.926E-02	3.989E-03	-0.063
		72.80		2.543E-01	1.177E-01	2.029E-01	1.360E-02	1.254
	+	74.97		6.826E-01	1.079E-01	1.541E-01	1.050E-02	4.428
		84.90		1.888E-01	1.336E-01	2.037E-01	1.511E-02	0.927
		569.67		2.776E-02	1.971E-02	3.537E-02	2.227E-03	0.785

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		1063.62	*	7.419E-03	3.641E-02	6.160E-02	4.250E-03	0.120
		1770.23		-8.793E-02	3.001E-01	3.944E-01	2.328E-02	-0.223
		81.07		-1.698E-01	1.470E-01	2.106E-01	1.508E-02	-0.806
		83.78		8.557E-02	8.910E-02	1.343E-01	9.858E-03	0.637
		94.90		1.938E-01	1.547E-01	2.401E-01	1.706E-02	0.807
		122.32		1.988E-01	1.096E+00	1.805E+00	1.278E-01	0.110
		144.24		2.418E-01	4.626E-01	7.388E-01	5.232E-02	0.327
		154.21		2.185E-01	2.519E-01	4.183E-01	2.790E-02	0.522
	+	269.46		4.778E-01	1.994E-01	2.366E-01	1.394E-02	2.020
		323.87	*	-7.278E-03	4.905E-01	7.133E-01	1.175E-01	-0.010
PO-209	+	338.28		6.780E+00	1.277E+00	1.690E+00	1.767E-01	4.012
		445.03		1.117E+00	1.477E+00	2.482E+00	2.547E-01	0.450
		260.50		-6.321E+00	5.882E+00	9.457E+00	5.289E-01	-0.668
		262.80		4.208E+00	1.597E+01	2.709E+01	1.517E+00	0.155
		896.60	*	-6.784E-01	5.145E+00	8.249E+00	6.885E-01	-0.082
BI-210		46.50	*	9.732E-01	2.174E+00	3.594E+00	2.707E-01	0.271
PB-210		46.50	*	9.732E-01	2.174E+00	3.594E+00	2.707E-01	0.271
PO-210		46.50	*	9.732E-01	2.174E+00	3.594E+00	2.305E-01	0.271
PB-211		404.84	*	-3.283E-01	6.910E-01	1.051E+00	6.552E-01	-0.312
BI-212		427.08		-4.082E-01	1.366E+00	2.145E+00	1.325E+00	-0.190
		831.96		-1.668E-01	8.173E-01	1.302E+00	8.147E-01	-0.128
	+	727.18	*	1.078E+00	3.433E-01	4.660E-01	4.035E-02	2.313
		785.46		1.025E+00	1.275E+00	2.181E+00	1.630E-01	0.470
		1620.62		8.781E-01	9.488E-01	1.720E+00	1.108E-01	0.511
PO-215		81.07		-1.698E-01	1.470E-01	2.106E-01	1.508E-02	-0.806
		83.78		8.557E-02	8.910E-02	1.343E-01	9.858E-03	0.637
		94.90		1.938E-01	1.547E-01	2.401E-01	1.706E-02	0.807
		122.32		1.988E-01	1.096E+00	1.805E+00	1.278E-01	0.110
		144.24		2.418E-01	4.626E-01	7.388E-01	5.232E-02	0.327
		154.21		2.185E-01	2.519E-01	4.183E-01	2.790E-02	0.522
	+	269.46		4.778E-01	1.994E-01	2.366E-01	1.394E-02	2.020
		323.87	*	-7.278E-03	4.905E-01	7.133E-01	1.175E-01	-0.010
	+	338.28		6.780E+00	1.277E+00	1.690E+00	1.767E-01	4.012
		445.03		1.117E+00	1.477E+00	2.482E+00	2.547E-01	0.450
RN-219	+	271.23		6.131E-01	2.579E-01	2.953E-01	2.357E-02	2.076
		401.81	*	7.418E-02	2.796E-01	4.616E-01	6.231E-02	0.161
RN-220		549.76	*	-1.077E+01	1.723E+01	2.802E+01	1.747E+00	-0.384
RA-223		81.07		-1.698E-01	1.470E-01	2.106E-01	1.508E-02	-0.806
		83.78		8.557E-02	8.910E-02	1.343E-01	9.858E-03	0.637
		94.90		1.938E-01	1.547E-01	2.401E-01	1.706E-02	0.807
		122.32		1.988E-01	1.096E+00	1.805E+00	1.278E-01	0.110
		144.24		2.418E-01	4.626E-01	7.388E-01	5.232E-02	0.327
		154.21		2.185E-01	2.519E-01	4.183E-01	2.790E-02	0.522
	+	269.46		4.778E-01	1.994E-01	2.366E-01	1.394E-02	2.020
		323.87	*	-7.278E-03	4.905E-01	7.133E-01	1.175E-01	-0.010
	+	338.28		6.780E+00	1.277E+00	1.690E+00	1.767E-01	4.012
		445.03		1.117E+00	1.477E+00	2.482E+00	2.547E-01	0.450
AC-227		79.80		-3.830E-01	1.074E+00	1.588E+00	3.324E-01	-0.241
		236.00		5.192E-01	1.783E-01	2.840E-01	2.921E-02	1.828

----- 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	*	1.801E-01	2.403E-01	4.128E-01	5.726E-02	0.436
		286.10		4.584E-01	9.629E-01	1.636E+00	1.880E-01	0.280
	+	299.80		2.363E+00	1.327E+00	1.736E+00	2.819E-01	1.361
		304.40		4.325E-01	1.324E+00	1.970E+00	3.400E-01	0.220
		334.20		5.030E-01	1.648E+00	2.432E+00	4.449E-01	0.207
		79.80		-3.830E-01	1.075E+00	1.588E+00	3.369E-01	-0.241
	+	94.00		8.516E+00	3.029E+00	2.435E+00	5.173E-01	3.497
		236.00		5.192E-01	1.762E-01	2.840E-01	2.517E-02	1.828
		256.20	*	1.801E-01	2.409E-01	4.128E-01	6.946E-02	0.436
		286.10		4.584E-01	1.065E+00	1.636E+00	1.638E+00	0.280
TH-229	+	299.80		2.363E+00	1.327E+00	1.736E+00	2.819E-01	1.361
		304.40		4.325E-01	1.324E+00	1.970E+00	3.400E-01	0.220
		334.20		5.030E-01	1.648E+00	2.432E+00	4.449E-01	0.207
		85.43		1.704E-01	1.372E-01	2.082E-01	1.553E-02	0.818
	+	88.47		2.236E-01	6.944E-02	1.328E-01	1.011E-02	1.683
		100.00		9.812E-03	1.247E-01	1.921E-01	1.310E-02	0.051
		193.63	*	-5.861E-02	3.399E-01	5.380E-01	2.832E-02	-0.109
		210.97		8.280E-01	5.678E-01	8.326E-01	4.466E-02	0.995
	PA-231	283.67	*	-1.120E-01	9.577E-01	1.593E+00	2.185E-01	-0.070
		301.29		6.756E-01	4.386E-01	6.828E-01	7.092E-02	0.989
TH-231		81.07		-1.698E-01	1.470E-01	2.106E-01	1.508E-02	-0.806
		83.78		8.557E-02	8.910E-02	1.343E-01	9.858E-03	0.637
		94.90		1.938E-01	1.547E-01	2.401E-01	1.706E-02	0.807
		122.32		1.988E-01	1.096E+00	1.805E+00	1.278E-01	0.110
		144.24		2.418E-01	4.626E-01	7.388E-01	5.232E-02	0.327
		154.21		2.185E-01	2.519E-01	4.183E-01	2.790E-02	0.522
	+	269.46		4.778E-01	1.994E-01	2.366E-01	1.394E-02	2.020
		323.87	*	-7.278E-03	4.905E-01	7.133E-01	1.175E-01	-0.010
	+	338.28		6.780E+00	1.277E+00	1.690E+00	1.767E-01	4.012
		445.03		1.117E+00	1.477E+00	2.482E+00	2.547E-01	0.450
U-231		84.21		4.809E+00	3.408E+00	5.198E+00	3.831E-01	0.925
	+	92.29		7.589E+00	2.232E+00	2.421E+00	1.764E-01	3.135
		95.87	*	-4.732E-01	6.518E-01	9.382E-01	6.609E-02	-0.504
		108.00		-1.692E-01	1.209E+00	1.985E+00	1.293E-01	-0.085
	PA-233	75.28		1.992E+01	4.039E+00	4.655E+00	6.711E-01	4.279
	+	86.59		5.987E+00	1.990E+00	2.035E+00	5.391E-01	2.942
	+	300.12		6.589E-01	3.649E-01	4.864E-01	6.510E-02	1.355
		311.98	*	-2.911E-03	4.001E-02	6.623E-02	4.008E-03	-0.044
		340.50		7.482E-01	4.761E-01	7.039E-01	1.614E-01	1.063
		398.62		1.117E-01	1.387E+00	2.273E+00	5.863E-01	0.049
PA-234		415.76		6.723E-01	1.084E+00	1.805E+00	3.707E-01	0.372
		63.00		4.941E-02	1.055E+00	1.724E+00	2.478E-01	0.029
		94.67		2.731E-01	1.179E-01	1.838E-01	2.098E-02	1.485
		98.44		4.212E-02	7.155E-02	9.741E-02	5.411E-02	0.432
		99.86		1.511E-01	3.262E-01	4.898E-01	3.344E-02	0.308
		111.00		-1.500E-01	1.197E-01	1.875E-01	1.995E-02	-0.800
		131.20		1.724E-02	7.415E-02	1.091E-01	6.491E-03	0.158
		152.70		-2.715E-03	2.058E-01	3.326E-01	5.212E-02	-0.008
	+	186.00		5.057E+00	2.237E+00	1.699E+00	5.175E-01	2.976

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		226.40		1.098E-01	2.484E-01	4.266E-01	4.857E-02	0.257
		227.20		-6.252E-02	2.669E-01	4.488E-01	2.446E-02	-0.139
		248.90		6.527E-02	5.657E-01	8.458E-01	1.812E-01	0.077
	+	293.70		5.219E+00	1.131E+00	1.134E+00	1.818E-01	4.605
		369.80		-1.778E-01	5.667E-01	9.144E-01	1.898E-01	-0.194
		568.70		3.809E-01	6.364E-01	1.102E+00	6.934E-02	0.346
		569.50		2.222E-01	1.759E-01	3.137E-01	1.975E-02	0.708
		574.00		-1.045E+00	9.777E-01	1.542E+00	9.725E-02	-0.678
		699.00		1.240E-01	4.841E-01	8.110E-01	1.486E-01	0.153
		706.10		-1.286E-01	7.421E-01	1.210E+00	5.359E-01	-0.106
		733.00		1.046E-01	2.844E-01	4.178E-01	9.041E-02	0.250
		742.81		2.043E-01	9.848E-01	1.624E+00	1.089E+00	0.126
	+	796.30		2.307E+00	1.085E+00	1.258E+00	3.363E-01	1.834
		805.60		1.890E-01	7.219E-01	1.195E+00	3.631E-01	0.158
		819.60		1.088E-01	7.704E-01	1.268E+00	4.799E-01	0.086
		826.30		-4.102E-01	5.891E-01	8.655E-01	3.859E-01	-0.474
		831.60		-3.835E-01	4.470E-01	6.619E-01	1.961E-01	-0.579
		876.40		-4.328E-01	6.974E-01	8.152E-01	8.378E-01	-0.531
		880.51		3.708E-02	1.889E-01	3.106E-01	2.553E-02	0.119
		883.24		1.571E-01	2.239E-01	3.381E-01	2.271E-01	0.465
		899.00		1.603E-01	5.973E-01	9.783E-01	4.271E-01	0.164
		925.00		2.500E-02	7.739E-01	1.253E+00	1.024E-01	0.020
		926.50		-6.808E-02	1.219E-01	1.864E-01	4.684E-02	-0.365
		946.00	*	-8.273E-02	2.154E-01	3.364E-01	6.221E-02	-0.246
		949.00		2.127E-01	3.159E-01	5.326E-01	4.257E-02	0.399
		980.50		4.341E-01	5.050E-01	8.432E-01	6.518E-02	0.515
		1394.10		-2.734E-02	7.377E-01	1.198E+00	7.771E-01	-0.023
PA-234M		766.42		1.205E+01	1.080E+01	1.398E+01	7.063E+00	0.862
		1001.03	*	1.224E+00	3.343E+00	5.243E+00	4.745E-01	0.233
TH-234		63.29	*	4.728E-02	9.024E-01	1.476E+00	2.513E-01	0.032
	+	92.38		2.204E+00	7.369E-01	7.059E-01	1.234E-01	3.122
U-235	+	89.95		2.244E+00	9.632E-01	1.202E+00	3.674E-01	1.866
	+	93.35		2.649E+00	1.052E+00	8.424E-01	2.327E-01	3.145
		105.00		1.037E+00	7.422E-01	1.169E+00	3.428E-01	0.887
		143.76	*	6.124E-02	1.432E-01	2.277E-01	3.698E-02	0.269
		163.35		-4.553E-02	3.112E-01	4.880E-01	8.681E-02	-0.093
	+	185.71		1.873E-01	6.087E-02	6.305E-02	3.291E-03	2.971
		205.31		-1.029E-01	3.779E-01	5.139E-01	9.166E-02	-0.200
NP-236		94.67		2.093E-01	8.756E-02	1.396E-01	9.942E-03	1.499
		98.44		3.182E-02	5.116E-02	7.364E-02	5.081E-03	0.432
		111.00		-1.134E-01	9.003E-02	1.418E-01	9.124E-03	-0.800
		160.31	*	-1.517E-03	5.110E-02	8.229E-02	4.315E-03	-0.018
U-238		63.29	*	4.728E-02	9.024E-01	1.476E+00	2.513E-01	0.032
	+	92.38		2.204E+00	6.482E-01	7.059E-01	5.139E-02	3.122
NP-239		99.55		7.439E-02	1.096E-01	1.659E-01	1.135E-02	0.448
		117.00	*	-1.137E-01	1.218E-01	1.935E-01	1.221E-02	-0.588
	+	209.75		2.117E+00	7.705E-01	9.450E-01	5.062E-02	2.240
		228.18		-1.049E-01	1.421E-01	2.347E-01	1.281E-02	-0.447
	+	277.60		1.659E-01	1.606E-01	2.027E-01	1.143E-02	0.818

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		2.133E-01	9.298E-01	1.368E+00	7.757E-02	0.156
AM-241		59.54	*	3.823E-02	9.514E-02	1.629E-01	1.158E-02	0.235
CM-243		99.55		7.654E-02	1.128E-01	1.707E-01	1.168E-02	0.448
		103.76	*	-1.543E-02	6.117E-02	1.002E-01	6.675E-03	-0.154
		117.00		-1.170E-01	1.253E-01	1.990E-01	1.256E-02	-0.588
	+	209.75		2.087E+00	7.595E-01	9.316E-01	4.990E-02	2.240
		228.18		-1.059E-01	1.436E-01	2.372E-01	1.294E-02	-0.447
	+	277.60		1.672E-01	1.619E-01	2.043E-01	1.153E-02	0.818
AM-246		798.80		3.218E-02	9.846E-02	1.438E-01	1.090E-02	0.224
		1036.00		1.555E-01	2.024E-01	3.554E-01	2.558E-02	0.438
		1062.04		3.213E-02	1.562E-01	2.644E-01	1.828E-02	0.122
		1078.86	*	9.655E-02	9.933E-02	1.757E-01	1.181E-02	0.550
CM-247	+	278.00		6.878E-01	6.662E-01	8.273E-01	4.669E-02	0.831
		287.40		7.360E-01	7.840E-01	1.354E+00	7.668E-02	0.543
		402.60	*	7.225E-03	2.516E-02	4.158E-02	2.306E-03	0.174
CF-249		252.85		-3.880E-01	5.496E-01	9.008E-01	5.013E-02	-0.431
		333.44		3.675E-02	1.315E-01	1.812E-01	1.028E-02	0.203
		387.95	*	2.260E-02	2.704E-02	4.482E-02	2.463E-03	0.504
CF-251		176.60	*	4.761E-02	8.357E-02	1.365E-01	7.059E-03	0.349
		227.00		-8.092E-03	2.364E-01	4.002E-01	2.181E-02	-0.020
		285.00		-1.379E+00	1.126E+00	1.787E+00	1.011E-01	-0.772

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]G243274002  *
* Acquisition date   : 30-DEC-2009 22:52:04 Detector SN#      :      *
* Detector ID        : GAM12                                           *
* Geometry           : CAN                                             *
* Sensitivity         : 5.000                                           *
* Energy tolerance    : 1.500                                           *
* Elapsed live time   : 0 04:00:00.00 Abundance limit : 75.000        *
* Elapsed real time   : 0 04:00:02.89 Half life ratio : 8.000         *
*****
*                               SAMPLE DATA                              *
*                               *                                         *
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID    *
* Sample ID          : G243274002 Analyst initials: MXR1             *
* Batch Number       : 935341 Sample Quantity : 1.3164E+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	2.659E+01	2.211E+00	3.845E-01	0.000E+00
CD-109	3.109E+00	6.531E-01	8.974E-01	0.000E+00
SN-126	3.058E-01	6.425E-02	8.871E-02	0.000E+00
HG-203	3.756E-02	3.566E-02	4.127E-02	0.000E+00
TL-208	4.624E-01	5.943E-02	4.112E-02	0.000E+00
BI-211	3.351E+00	3.604E-01	2.201E-01	0.000E+00
PB-212	1.530E+00	1.298E-01	5.951E-02	0.000E+00
PO-212	1.530E+00	1.298E-01	5.951E-02	0.000E+00
BI-214	1.088E+00	1.325E-01	7.971E-02	0.000E+00
PB-214	1.166E+00	1.388E-01	7.674E-02	0.000E+00
PO-214	1.166E+00	1.388E-01	7.674E-02	0.000E+00
PO-216	1.530E+00	1.298E-01	5.951E-02	0.000E+00
PO-218	1.166E+00	1.388E-01	7.674E-02	0.000E+00
RA-224	4.575E+00	9.277E-01	6.773E-01	0.000E+00
RA-226	1.088E+00	1.325E-01	7.971E-02	0.000E+00
AC-228	1.652E+00	2.514E-01	1.414E-01	0.000E+00
RA-228	1.652E+00	2.514E-01	1.414E-01	0.000E+00
TH-228	1.552E+00	1.317E-01	6.038E-02	0.000E+00
TH-230	1.088E+00	1.325E-01	7.971E-02	0.000E+00
TH-232	1.652E+00	2.514E-01	1.414E-01	0.000E+00
U-234	1.088E+00	1.325E-01	7.971E-02	0.000E+00
NP-237	8.981E-01	2.619E-01	2.743E-01	0.000E+00
AM-243	3.803E-01	5.891E-02	5.932E-02	0.000E+00
ANH-511	9.666E-02	4.929E-02	3.109E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-7.096E-02	2.194E-01	3.613E-01	0.000E+00 NOT IDENT.
NA-22	-9.064E-03	2.828E-02	4.641E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.363E+05	0.000E+00	0.000E+00 SHORT HLIF

AL-26	-8.401E-03	1.546E-02	2.338E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.965E-02	5.022E-02	0.000E+00	FAIL ABUN
SC-46	-1.858E-02	2.672E-02	4.230E-02	0.000E+00	FAIL ABUN
V-48	-4.357E-02	4.660E-02	7.109E-02	0.000E+00	NOT IDENT.
CR-51	1.435E-01	2.295E-01	4.089E-01	0.000E+00	NOT IDENT.
MN-52	1.206E-01	1.433E-01	2.580E-01	0.000E+00	NOT IDENT.
MN-54	6.151E-04	2.540E-02	4.275E-02	0.000E+00	NOT IDENT.
CO-56	7.721E-03	2.649E-02	4.529E-02	0.000E+00	FAIL ABUN
CO-57	2.597E-03	1.550E-02	2.718E-02	0.000E+00	NOT IDENT.
CO-58	7.584E-03	2.610E-02	4.481E-02	0.000E+00	NOT IDENT.
FE-59	-5.806E-02	5.980E-02	9.511E-02	0.000E+00	NOT IDENT.
CO-60	-1.832E-04	2.519E-02	4.217E-02	0.000E+00	NOT IDENT.
ZN-65	1.526E-02	6.920E-02	1.038E-01	0.000E+00	NOT IDENT.
GE-68	6.791E-02	8.606E-01	1.482E+00	0.000E+00	NOT IDENT.
AS-73	-2.938E-01	4.933E-01	8.897E-01	0.000E+00	NOT IDENT.
AS-74	1.877E-02	5.634E-02	9.956E-02	0.000E+00	NOT IDENT.
SE-75	1.592E-02	2.916E-02	4.667E-02	0.000E+00	NOT IDENT.
BR-77	-2.760E+00	5.752E+00	9.281E+00	0.000E+00	FAIL ABUN
SR-82	-2.356E-01	3.059E-01	4.168E-01	0.000E+00	NOT IDENT.
RB-83	-1.510E-02	4.507E-02	7.340E-02	0.000E+00	NOT IDENT.
RB-84	4.435E-02	4.540E-02	8.084E-02	0.000E+00	NOT IDENT.
KR-85	3.792E+00	5.547E+00	8.436E+00	0.000E+00	NOT IDENT.
SR-85	1.931E-02	2.826E-02	4.297E-02	0.000E+00	NOT IDENT.
RB-86	-6.681E-02	5.360E-01	9.108E-01	0.000E+00	NOT IDENT.
Y-88	1.617E-02	2.366E-02	4.314E-02	0.000E+00	NOT IDENT.
ZR-88	-1.852E-02	1.922E-02	3.118E-02	0.000E+00	NOT IDENT.
Y-91	3.572E+00	1.251E+01	2.157E+01	0.000E+00	NOT IDENT.
NB-94	9.232E-03	2.282E-02	3.985E-02	0.000E+00	NOT IDENT.
NB-95	2.268E-02	3.248E-02	5.001E-02	0.000E+00	NOT IDENT.
NB-95M	7.759E-02	8.515E-02	1.388E-01	0.000E+00	NOT IDENT.
ZR-95	3.710E-02	4.814E-02	8.524E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.830E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.432E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.081E-01	6.677E+00	1.139E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.538E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.288E-03	2.174E-02	3.647E-02	0.000E+00	NOT IDENT.
RH-102	-3.256E-03	2.010E-02	3.343E-02	0.000E+00	NOT IDENT.
RU-103	2.465E-03	2.654E-02	4.456E-02	0.000E+00	FAIL ABUN
RH-106	-9.814E-02	2.073E-01	3.485E-01	0.000E+00	FAIL ABUN
RU-106	-9.814E-02	2.071E-01	3.485E-01	0.000E+00	FAIL ABUN
AG-108M	-8.009E-03	2.097E-02	3.473E-02	0.000E+00	NOT IDENT.
AG-110M	-4.346E-02	2.563E-02	3.853E-02	0.000E+00	NOT IDENT.
IN-111	-6.556E-01	5.894E-01	8.680E-01	0.000E+00	NOT IDENT.
IN-113M	-1.320E-02	2.710E-02	4.512E-02	0.000E+00	NOT IDENT.
SN-113	-1.320E-02	2.710E-02	4.512E-02	0.000E+00	NOT IDENT.
IN-114M	-5.607E-02	1.288E-01	1.891E-01	0.000E+00	NOT IDENT.
CD-115	6.661E+00	5.813E+00	1.029E+01	0.000E+00	NOT IDENT.
SN-117M	-1.674E-02	3.314E-02	5.568E-02	0.000E+00	NOT IDENT.
SB-122	8.619E-02	1.105E+00	1.936E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.636E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-8.164E-03	1.775E-02	2.986E-02	0.000E+00	NOT IDENT.
I-124	5.464E-02	4.408E-01	6.712E-01	0.000E+00	FAIL ABUN
SB-124	1.115E-02	4.575E-02	8.011E-02	0.000E+00	FAIL ABUN
SB-125	-9.958E-03	5.943E-02	9.979E-02	0.000E+00	FAIL ABUN
TE-125M	2.208E+00	5.771E+00	1.025E+01	0.000E+00	NOT IDENT.
I-126	-1.113E-02	1.212E-01	2.072E-01	0.000E+00	NOT IDENT.
SB-126	7.483E-02	1.012E-01	1.590E-01	0.000E+00	FAIL ABUN
SB-127	6.036E-01	7.752E-01	1.386E+00	0.000E+00	NOT IDENT.
XE-127	-1.084E-02	3.008E-02	4.978E-02	0.000E+00	NOT IDENT.
I-131	3.260E-03	6.937E-02	1.195E-01	0.000E+00	NOT IDENT.
TE-132	-2.453E-01	3.729E-01	6.494E-01	0.000E+00	NOT IDENT.
BA-133	-2.892E-04	3.024E-02	4.565E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.495E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.588E-02	6.660E-02	0.000E+00	FAIL ABUN
CS-135	1.708E-01	1.116E-01	1.849E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.705E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.430E-03	7.240E-02	1.253E-01	0.000E+00	FAIL ABUN
BA-137M	3.186E-02	2.579E-02	4.690E-02	0.000E+00	NOT IDENT.
CS-137	3.368E-02	2.726E-02	4.957E-02	0.000E+00	NOT IDENT.
CE-139	-5.780E-03	1.868E-02	3.150E-02	0.000E+00	NOT IDENT.
BA-140	2.088E-02	1.618E-01	2.852E-01	0.000E+00	NOT IDENT.
LA-140	-4.750E-02	5.109E-02	7.777E-02	0.000E+00	FAIL ABUN
CE-141	1.224E-02	3.885E-02	6.757E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.309E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.689E-02	1.320E-01	2.211E-01	0.000E+00	NOT IDENT.
PM-144	-2.067E-02	2.326E-02	3.771E-02	0.000E+00	NOT IDENT.
PR-144	-1.400E+00	1.575E+00	2.555E+00	0.000E+00	NOT IDENT.
PM-146	3.522E-03	2.818E-02	4.779E-02	0.000E+00	NOT IDENT.

ND-147	-3.226E-01	3.697E-01	5.768E-01	0.000E+00	FAIL ABUN
PM-149	-1.678E+01	4.743E+01	8.199E+01	0.000E+00	NOT IDENT.
EU-152	3.748E-02	6.175E-02	1.093E-01	0.000E+00	FAIL ABUN
GD-153	-2.572E-03	5.274E-02	8.352E-02	0.000E+00	NOT IDENT.
EU-154	-2.533E-02	7.904E-02	1.297E-01	0.000E+00	NOT IDENT.
EU-155	7.897E-02	6.844E-02	1.243E-01	0.000E+00	FAIL ABUN
TB-160	-2.064E-02	8.903E-02	1.462E-01	0.000E+00	FAIL ABUN
HO-166M	1.467E-02	4.009E-02	6.988E-02	0.000E+00	FAIL ABUN
TM-171	-2.698E+00	1.747E+01	3.157E+01	0.000E+00	NOT IDENT.
LU-176	-5.696E-03	1.542E-02	2.648E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	9.983E-01	1.272E+00	0.000E+00	FAIL ABUN
LU-177M	-7.999E-02	1.194E-01	1.963E-01	0.000E+00	FAIL ABUN
HF-181	-7.005E-03	2.734E-02	4.512E-02	0.000E+00	NOT IDENT.
W-181	-8.898E-02	2.290E-01	4.118E-01	0.000E+00	NOT IDENT.
TA-182	-1.664E-01	1.467E-01	2.311E-01	0.000E+00	FAIL ABUN
RE-183	2.891E-02	7.043E-02	1.194E-01	0.000E+00	FAIL ABUN
RE-184	-1.031E-01	1.432E-01	2.470E-01	0.000E+00	NOT IDENT.
OS-185	-3.266E-03	2.526E-02	4.317E-02	0.000E+00	NOT IDENT.
RE-188	0.000E+00	1.057E-01	1.912E-01	0.000E+00	NOT IDENT.
W-188	-7.368E+00	5.447E+00	7.779E+00	0.000E+00	NOT IDENT.
IR-192	-2.075E-02	2.086E-02	3.464E-02	0.000E+00	FAIL ABUN
AU-195	1.717E-01	1.604E-01	2.503E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.988E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.058E+00	3.763E+00	6.530E+00	0.000E+00	NOT IDENT.
TL-202	-4.373E-03	4.213E-02	7.078E-02	0.000E+00	NOT IDENT.
BI-207	7.419E-03	3.568E-02	6.202E-02	0.000E+00	FAIL ABUN
TL-207	-7.278E-03	4.807E-01	7.327E-01	0.000E+00	FAIL ABUN
PO-209	-6.784E-01	5.042E+00	8.329E+00	0.000E+00	NOT IDENT.
BI-210	9.732E-01	2.130E+00	3.809E+00	0.000E+00	NOT IDENT.
PB-210	9.732E-01	2.130E+00	3.809E+00	0.000E+00	NOT IDENT.
PO-210	9.732E-01	2.130E+00	3.809E+00	0.000E+00	NOT IDENT.
PB-211	-3.283E-01	6.772E-01	1.076E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.364E-01	4.722E-01	0.000E+00	FAIL ABUN
PO-215	-7.278E-03	4.807E-01	7.327E-01	0.000E+00	FAIL ABUN
RN-219	7.418E-02	2.741E-01	4.725E-01	0.000E+00	FAIL ABUN
RN-220	-1.077E+01	1.688E+01	2.853E+01	0.000E+00	NOT IDENT.
RA-223	-7.278E-03	4.807E-01	7.327E-01	0.000E+00	FAIL ABUN
AC-227	1.801E-01	2.355E-01	4.257E-01	0.000E+00	FAIL ABUN
TH-227	1.801E-01	2.361E-01	4.257E-01	0.000E+00	FAIL ABUN
TH-229	-5.861E-02	3.331E-01	5.573E-01	0.000E+00	FAIL ABUN
PA-231	-1.120E-01	9.385E-01	1.640E+00	0.000E+00	NOT IDENT.
TH-231	-7.278E-03	4.807E-01	7.327E-01	0.000E+00	FAIL ABUN
U-231	-4.732E-01	6.388E-01	9.830E-01	0.000E+00	FAIL ABUN
PA-233	-2.911E-03	3.921E-02	6.808E-02	0.000E+00	FAIL ABUN
PA-234	-8.273E-02	2.111E-01	3.393E-01	0.000E+00	FAIL ABUN
PA-234M	1.224E+00	3.276E+00	5.283E+00	0.000E+00	NOT IDENT.
TH-234	4.728E-02	8.844E-01	1.556E+00	0.000E+00	FAIL ABUN
U-235	6.124E-02	1.403E-01	2.370E-01	0.000E+00	FAIL ABUN
NP-236	-1.517E-03	5.008E-02	8.551E-02	0.000E+00	NOT IDENT.
U-238	4.728E-02	8.844E-01	1.556E+00	0.000E+00	FAIL ABUN
NP-239	-1.137E-01	1.194E-01	2.021E-01	0.000E+00	FAIL ABUN
AM-241	3.823E-02	9.324E-02	1.720E-01	0.000E+00	NOT IDENT.
CM-243	-1.543E-02	5.994E-02	1.049E-01	0.000E+00	FAIL ABUN
AM-246	9.655E-02	9.734E-02	1.768E-01	0.000E+00	NOT IDENT.
CM-247	7.225E-03	2.465E-02	4.256E-02	0.000E+00	FAIL ABUN
CF-249	2.260E-02	2.650E-02	4.590E-02	0.000E+00	NOT IDENT.
CF-251	4.761E-02	8.190E-02	1.416E-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]G243274002.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 22:52:04
Sample ID          : G243274002 Sample quantity      : 1.31640E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 04:00:00.00 Elapsed real time: 0 04:00:02.89 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials    : MXR1
Abundance limit    : 75.00000 Sensitivity          : 5.00000
Batch ID           : 935341 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	2263	10.67*	1.137E+00	2.659E+01	2.659E+01	8.49
CD-109	88.03	448	3.72*	5.642E+00	3.042E+00	3.109E+00	21.44
SN-126	64.28	-----	9.60	3.338E+00	-----	Line Not Found	-----
	86.94	448	8.90	5.642E+00	1.271E+00	1.271E+00	45.78
	87.57	448	37.00*	5.642E+00	3.058E-01	3.058E-01	21.44
HG-203	70.83	-----	4.75	4.155E+00	-----	Line Not Found	-----
	72.87	-----	8.00	4.387E+00	-----	Line Not Found	-----
	82.60	-----	3.55	5.314E+00	-----	Line Not Found	-----
	279.20	74	77.30*	4.500E+00	3.025E-02	3.756E-02	96.88
TL-208	277.35	74	6.80	4.500E+00	3.439E-01	3.439E-01	97.26
	510.84	189	21.60	2.795E+00	4.475E-01	4.475E-01	52.70
	583.14	684	84.20*	2.505E+00	4.624E-01	4.624E-01	13.11
	860.37	93	12.46	1.797E+00	5.948E-01	5.948E-01	66.81
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	1144	12.94*	3.763E+00	3.351E+00	3.351E+00	10.97
PB-212	74.81	807	10.70	4.584E+00	2.346E+00	2.346E+00	18.36
	77.11	1122	18.00	4.819E+00	1.844E+00	1.844E+00	11.89
	87.30	448	8.00	5.642E+00	1.415E+00	1.415E+00	23.66
	238.63	2401	44.60*	5.016E+00	1.530E+00	1.530E+00	8.66
	300.09	130	3.41	4.252E+00	1.275E+00	1.275E+00	54.35
PO-212	74.81	807	10.70	4.584E+00	2.346E+00	2.346E+00	18.36
	77.11	1122	18.00	4.819E+00	1.844E+00	1.844E+00	11.89
	87.30	448	8.00	5.642E+00	1.415E+00	1.415E+00	23.66
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	2401	44.60*	5.016E+00	1.530E+00	1.530E+00	8.66
	300.09	130	3.41	4.252E+00	1.275E+00	1.275E+00	54.35
BI-214	609.31	853	46.30*	2.415E+00	1.088E+00	1.088E+00	12.43
	1120.29	246	15.10	1.423E+00	1.630E+00	1.630E+00	22.97
	1764.49	168	15.80	9.904E-01	1.533E+00	1.533E+00	18.64
PB-214	74.81	807	6.21	4.584E+00	4.042E+00	4.042E+00	17.46
	77.11	1122	10.50	4.819E+00	3.160E+00	3.160E+00	14.12
	87.30	448	4.67	5.642E+00	2.423E+00	2.423E+00	22.78

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	631	7.49	4.975E+00	2.413E+00	2.413E+00	21.44
	295.21	630	19.20	4.302E+00	1.087E+00	1.087E+00	16.85
	351.92	1144	37.20*	3.763E+00	1.166E+00	1.166E+00	12.15
	74.81	807	6.21	4.584E+00	4.042E+00	4.042E+00	17.46
	77.11	1122	10.50	4.819E+00	3.160E+00	3.160E+00	14.12
	87.30	448	4.67	5.642E+00	2.423E+00	2.423E+00	22.78
PO-216	241.98	631	7.49	4.975E+00	2.413E+00	2.413E+00	21.44
	295.21	630	19.20	4.302E+00	1.087E+00	1.087E+00	16.85
	351.92	1144	37.20*	3.763E+00	1.166E+00	1.166E+00	12.15
	74.81	807	10.70	4.584E+00	2.346E+00	2.346E+00	18.36
	77.11	1122	18.00	4.819E+00	1.844E+00	1.844E+00	11.89
	87.30	448	8.00	5.642E+00	1.415E+00	1.415E+00	23.66
PO-218	238.63	2401	44.60*	5.016E+00	1.530E+00	1.530E+00	8.66
	300.09	130	3.41	4.252E+00	1.275E+00	1.275E+00	54.35
	74.81	807	6.21	4.584E+00	4.042E+00	4.042E+00	17.46
	77.11	1122	10.50	4.819E+00	3.160E+00	3.160E+00	14.12
	87.30	448	4.67	5.642E+00	2.423E+00	2.423E+00	22.78
	241.98	631	7.49	4.975E+00	2.413E+00	2.413E+00	21.44
RA-224	295.21	630	19.20	4.302E+00	1.087E+00	1.087E+00	16.85
	351.92	1144	37.20*	3.763E+00	1.166E+00	1.166E+00	12.15
	240.98	631	3.95*	4.975E+00	4.575E+00	4.575E+00	20.69
	609.31	853	46.30*	2.415E+00	1.088E+00	1.088E+00	12.43
	1120.29	246	15.10	1.423E+00	1.630E+00	1.630E+00	22.97
	1764.49	168	15.80	9.904E-01	1.533E+00	1.533E+00	18.64
AC-228	338.32	504	11.40	3.879E+00	1.624E+00	1.624E+00	43.65
	911.07	548	27.70*	1.707E+00	1.652E+00	1.652E+00	15.53
	969.11	368	16.60	1.617E+00	1.956E+00	1.956E+00	27.02
	338.32	504	11.40	3.879E+00	1.624E+00	1.624E+00	43.65
	911.07	548	27.70*	1.707E+00	1.652E+00	1.652E+00	15.53
	969.11	368	16.60	1.617E+00	1.956E+00	1.956E+00	27.02
TH-228	74.81	807	10.70	4.584E+00	2.346E+00	2.380E+00	15.85
	77.11	1122	18.00	4.819E+00	1.844E+00	1.870E+00	11.89
	87.30	448	8.00	5.642E+00	1.415E+00	1.435E+00	21.44
	238.63	2401	44.60*	5.016E+00	1.530E+00	1.552E+00	8.66
	300.09	130	3.41	4.252E+00	1.275E+00	1.294E+00	79.75
	609.31	853	46.30*	2.415E+00	1.088E+00	1.088E+00	12.43
TH-230	1120.29	246	15.10	1.423E+00	1.630E+00	1.630E+00	22.97
	1764.49	168	15.80	9.904E-01	1.533E+00	1.533E+00	18.64
	338.32	504	11.40	3.879E+00	1.624E+00	1.624E+00	16.65
	911.07	548	27.70*	1.707E+00	1.652E+00	1.652E+00	15.53
	969.11	368	16.60	1.617E+00	1.956E+00	1.956E+00	27.02
	609.31	853	46.30*	2.415E+00	1.088E+00	1.088E+00	12.43
U-234	1120.29	246	15.10	1.423E+00	1.630E+00	1.630E+00	22.97
	1764.49	168	15.80	9.904E-01	1.533E+00	1.533E+00	18.64
	86.50	448	12.60*	5.642E+00	8.981E-01	8.981E-01	29.76
	95.87	-----	2.60	6.124E+00	-----	Line Not Found	-----
	74.67	807	66.00*	4.584E+00	3.803E-01	3.803E-01	15.81
	86.72	448	0.34	5.642E+00	3.368E+01	3.368E+01	21.44
AM-243	117.66	-----	0.55	6.624E+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	6.534E+00	-----	Line Not Found	-----
ANH-511	511.00	189	100.00*	2.795E+00	9.666E-02	9.666E-02	52.04

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G243274002

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Acquisition date : 30-DEC-2009 22:52:04

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	2.659E+01	2.659E+01	0.226E+01	8.49	
CD-109	464.00D	1.02	3.042E+00	3.109E+00	0.666E+00	21.44	
SN-126	1.00E+05Y	1.00	3.058E-01	3.058E-01	0.656E-01	21.44	
HG-203	46.60D	1.24	3.025E-02	3.756E-02	3.638E-02	96.88	
TL-208	1.41E+10Y	1.00	4.624E-01	4.624E-01	0.606E-01	13.11	
BI-211	7.04E+08Y	1.00	3.351E+00	3.351E+00	0.368E+00	10.97	
PB-212	1.41E+10Y	1.00	1.530E+00	1.530E+00	0.132E+00	8.66	
PO-212	1.41E+10Y	1.00	1.530E+00	1.530E+00	0.132E+00	8.66	
BI-214	1600.00Y	1.00	1.088E+00	1.088E+00	0.135E+00	12.43	
PB-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.142E+00	12.15	
PO-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.142E+00	12.15	
PO-216	1.41E+10Y	1.00	1.530E+00	1.530E+00	0.132E+00	8.66	
PO-218	1600.00Y	1.00	1.166E+00	1.166E+00	0.142E+00	12.15	
RA-224	1.41E+10Y	1.00	4.575E+00	4.575E+00	0.947E+00	20.69	
RA-226	1600.00Y	1.00	1.088E+00	1.088E+00	0.135E+00	12.43	
AC-228	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.257E+00	15.53	
RA-228	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.257E+00	15.53	
TH-228	1.91Y	1.01	1.530E+00	1.552E+00	0.134E+00	8.66	
TH-230	4.47E+09Y	1.00	1.088E+00	1.088E+00	0.135E+00	12.43	
TH-232	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.257E+00	15.53	
U-234	4.47E+09Y	1.00	1.088E+00	1.088E+00	0.135E+00	12.43	
NP-237	2.14E+06Y	1.00	8.981E-01	8.981E-01	2.672E-01	29.76	
AM-243	7380.00Y	1.00	3.803E-01	3.803E-01	0.601E-01	15.81	
ANH-511	1.00E+09Y	1.00	9.666E-02	9.666E-02	5.030E-02	52.04	
Total Activity :			5.865E+01	5.875E+01			

Grand Total Activity : 5.865E+01 5.875E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243274002

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Acquisition date : 30-DEC-2009 22:52:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	89.80	247	502	0.77	179.10	171	11	1.72E-02	30.1	5.81E+00	T
0	92.88	500	1015	1.67	185.26	182	12	3.47E-02	28.5	5.98E+00	T
0	129.01	81	740	0.84	257.57	253	9	5.66E-03	****	6.64E+00	T
0	185.66	416	833	1.17	370.91	364	14	2.89E-02	32.1	5.86E+00	T
0	209.34	263	547	1.06	418.30	414	10	1.83E-02	36.0	5.46E+00	T
0	270.00	209	444	1.79	539.68	535	11	1.45E-02	41.3	4.59E+00	T
0	327.86	167	328	1.43	655.45	650	10	1.16E-02	43.6	3.97E+00	T
0	462.66	123	188	1.82	925.14	921	9	8.56E-03	43.9	3.03E+00	T
0	726.69	185	147	1.38	1453.35	1447	13	1.29E-02	30.6	2.08E+00	T
0	768.51	94	178	1.64	1537.00	1531	16	6.51E-03	66.7	1.98E+00	
0	794.97	121	107	1.37	1589.94	1584	12	8.43E-03	38.7	1.92E+00	T
2	964.48	110	88	2.20	1929.01	1922	30	7.61E-03	40.0	1.62E+00	T
0	1237.46	100	179	7.31	2474.98	2462	20	6.97E-03	68.9	1.31E+00	T
0	1378.10	38	44	1.70	2756.24	2750	13	2.66E-03	81.1	1.19E+00	
0	1510.49	28	37	2.99	3020.97	3012	17	1.93E-03	****	1.11E+00	T
0	1847.30	27	23	1.60	3694.42	3688	12	1.84E-03	83.2	9.62E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274002.CNF;1
* Acquisition date   : 30-DEC-2009 22:52:04   Detector SN#      :
* Detector ID        : GAM12                  Sensitivity         : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 04:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 04:00:02.89          Half life ratio     : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library    : SOLID
* Sample ID          : G243274002            Analyst initials   : MXR1
* Batch Number       : 935341                Sample Quantity    : 1.31640E+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	2.659E+01	2.256E+00	3.840E-01	2.738E-02	69.237
CD-109	3.109E+00	6.664E-01	8.553E-01	6.545E-02	3.635
SN-126	3.058E-01	6.556E-02	8.454E-02	6.443E-03	3.618
HG-203	3.756E-02	3.638E-02	4.007E-02	2.410E-03	0.937
TL-208	4.624E-01	6.064E-02	4.043E-02	2.892E-03	11.439
BI-211	3.351E+00	3.677E-01	2.146E-01	1.349E-02	15.616
PB-212	1.530E+00	1.324E-01	5.765E-02	4.093E-03	26.540
PO-212	1.530E+00	1.324E-01	5.765E-02	4.093E-03	26.540
BI-214	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
PB-214	1.166E+00	1.416E-01	7.481E-02	6.111E-03	15.581
PO-214	1.166E+00	1.416E-01	7.481E-02	6.111E-03	15.581
PO-216	1.530E+00	1.324E-01	5.765E-02	4.093E-03	26.540
PO-218	1.166E+00	1.416E-01	7.481E-02	6.111E-03	15.581
RA-224	4.575E+00	9.466E-01	6.561E-01	3.619E-02	6.973
RA-226	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
AC-228	1.652E+00	2.566E-01	1.400E-01	1.538E-02	11.793
RA-228	1.652E+00	2.566E-01	1.400E-01	1.538E-02	11.793
TH-228	1.552E+00	1.344E-01	5.848E-02	4.153E-03	26.540

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
TH-232	1.652E+00	2.566E-01	1.400E-01	1.538E-02	11.793
U-234	1.088E+00	1.352E-01	7.842E-02	6.456E-03	13.868
NP-237	8.981E-01	2.672E-01	2.614E-01	5.742E-02	3.436
AM-243	3.803E-01	6.011E-02	5.639E-02	3.832E-03	6.744
ANH-511	9.666E-02	5.030E-02	3.050E-02	1.859E-03	3.169

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-7.096E-02		2.238E-01	3.540E-01	2.436E-02	-0.200
NA-22	-9.064E-03		2.886E-02	4.624E-02	2.978E-03	-0.196
NA-24	-2.020E-01		1.206E-01	Half-Life too short		
AL-26	-8.401E-03		1.578E-02	2.344E-02	1.345E-03	-0.358
TI-44	3.402E-01	+	4.046E-02	4.778E-02	3.342E-03	7.120
SC-46	-1.858E-02		2.727E-02	4.189E-02	3.472E-03	-0.443
V-48	-4.357E-02		4.755E-02	7.052E-02	5.433E-03	-0.618
CR-51	1.435E-01		2.342E-01	3.980E-01	2.530E-02	0.360
MN-52	1.206E-01		1.463E-01	2.576E-01	1.770E-02	0.468
MN-54	6.151E-04		2.592E-02	4.228E-02	3.324E-03	0.015
CO-56	7.721E-03		2.703E-02	4.481E-02	3.565E-03	0.172
CO-57	2.597E-03		1.581E-02	2.604E-02	1.628E-03	0.100
CO-58	7.584E-03		2.663E-02	4.430E-02	3.409E-03	0.171
FE-59	-5.806E-02		6.102E-02	9.453E-02	6.982E-03	-0.614
CO-60	-1.832E-04		2.570E-02	4.205E-02	2.937E-03	-0.004
ZN-65	1.526E-02		7.061E-02	1.032E-01	6.489E-03	0.148
GE-68	6.791E-02		8.782E-01	1.472E+00	9.925E-02	0.046
AS-73	-2.938E-01		5.033E-01	8.413E-01	5.432E-02	-0.349
AS-74	1.877E-02		5.749E-02	9.792E-02	6.233E-03	0.192
SE-75	1.592E-02		2.976E-02	4.528E-02	2.567E-03	0.352
BR-77	-2.760E+00		5.869E+00	9.107E+00	5.585E-01	-0.303
SR-82	-2.356E-01		3.121E-01	4.118E-01	3.047E-02	-0.572
RB-83	-1.510E-02		4.599E-02	7.203E-02	4.416E-03	-0.210
RB-84	4.435E-02		4.632E-02	8.004E-02	6.586E-03	0.554
KR-85	3.792E+00		5.660E+00	8.276E+00	5.054E-01	0.458
SR-85	1.931E-02		2.883E-02	4.216E-02	2.574E-03	0.458
RB-86	-6.681E-02		5.469E-01	9.049E-01	6.108E-02	-0.074
Y-88	1.617E-02		2.414E-02	4.326E-02	2.435E-03	0.374
ZR-88	-1.852E-02		1.962E-02	3.045E-02	1.670E-03	-0.608
Y-91	3.572E+00		1.277E+01	2.147E+01	1.241E+00	0.166
NB-94	9.232E-03		2.329E-02	3.931E-02	2.677E-03	0.235
NB-95	2.268E-02		3.314E-02	4.940E-02	3.613E-03	0.459
NB-95M	7.759E-02		8.689E-02	1.344E-01	9.802E-03	0.577
ZR-95	3.710E-02		4.912E-02	8.418E-02	6.952E-03	0.441
NB-97	-5.490E-02		1.954E-02	Half-Life too short		
ZR-97	1.578E+00		3.792E-01	Half-Life too short		
MO-99	3.081E-01		6.814E+00	1.124E+01	1.616E+00	0.027

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	3.130E+08		2.315E+09	Half-Life too short		
RH-101	-1.288E-03		2.219E-02	3.522E-02	1.863E-03	-0.037
RH-102	-3.256E-03		2.051E-02	3.275E-02	1.945E-03	-0.099
RU-103	2.465E-03		2.708E-02	4.369E-02	5.573E-03	0.056
RH-106	-9.814E-02		2.116E-01	3.431E-01	4.136E-02	-0.286
RU-106	-9.814E-02		2.113E-01	3.431E-01	2.203E-02	-0.286
AG-108M	-8.009E-03		2.139E-02	3.398E-02	2.117E-03	-0.236
AG-110M	-4.346E-02		2.615E-02	3.796E-02	2.587E-03	-1.145
IN-111	-6.556E-01		6.014E-01	8.411E-01	4.656E-02	-0.780
IN-113M	-1.320E-02		2.766E-02	4.406E-02	2.594E-03	-0.300
SN-113	-1.320E-02		2.766E-02	4.406E-02	2.594E-03	-0.300
IN-114M	-5.607E-02		1.315E-01	1.825E-01	9.571E-03	-0.307
CD-115	6.661E+00		5.931E+00	1.010E+01	6.219E-01	0.660
SN-117M	-1.674E-02		3.381E-02	5.357E-02	2.830E-03	-0.313
SB-122	8.619E-02		1.128E+00	1.903E+00	1.195E-01	0.045
I-123	-7.527E-01		8.348E-01	Half-Life too short		
TE-123M	-8.164E-03		1.811E-02	2.873E-02	1.539E-03	-0.284
I-124	5.464E-02		4.498E-01	6.602E-01	4.213E-02	0.083
SB-124	1.115E-02		4.668E-02	8.022E-02	5.353E-03	0.139
SB-125	-9.958E-03		6.064E-02	9.760E-02	5.802E-03	-0.102
TE-125M	2.208E+00		5.888E+00	9.807E+00	8.454E-01	0.225
I-126	-1.113E-02		1.236E-01	2.041E-01	1.331E-02	-0.055
SB-126	7.483E-02		1.033E-01	1.569E-01	1.091E-02	0.477
SB-127	6.036E-01		7.911E-01	1.366E+00	1.337E-01	0.442
XE-127	-1.084E-02		3.069E-02	4.809E-02	2.557E-03	-0.225
I-131	3.260E-03		7.079E-02	1.165E-01	7.329E-03	0.028
TE-132	-2.453E-01		3.805E-01	6.285E-01	8.864E-02	-0.390
BA-133	-2.892E-04		3.086E-02	4.451E-02	5.107E-03	-0.006
I-133	-2.527E-03		1.273E-03	Half-Life too short		
CS-134	1.187E-01	+	4.682E-02	6.583E-02	5.019E-03	1.802
CS-135	1.708E-01		1.139E-01	1.795E-01	1.350E-02	0.952
I-135	-5.187E+08		4.441E+08	Half-Life too short		
CS-136	8.430E-03		7.388E-02	1.244E-01	9.345E-03	0.068
BA-137M	3.186E-02		2.632E-02	4.621E-02	2.995E-03	0.690
CS-137	3.368E-02		2.782E-02	4.884E-02	3.177E-03	0.690
CE-139	-5.780E-03		1.906E-02	3.033E-02	1.554E-03	-0.191
BA-140	2.088E-02		1.651E-01	2.800E-01	9.125E-02	0.075
LA-140	-4.750E-02		5.213E-02	7.780E-02	5.067E-03	-0.611
CE-141	1.224E-02		3.964E-02	6.492E-02	3.779E-03	0.189
CE-143	4.905E-04		6.678E-05	Half-Life too short		
CE-144	5.689E-02		1.347E-01	2.121E-01	3.020E-02	0.268
PM-144	-2.067E-02		2.373E-02	3.719E-02	2.516E-03	-0.556
PR-144	-1.400E+00		1.608E+00	2.519E+00	1.703E-01	-0.556
PM-146	3.522E-03		2.876E-02	4.679E-02	4.045E-03	0.075
ND-147	-3.226E-01		3.772E-01	5.662E-01	7.748E-02	-0.570
PM-149	-1.678E+01		4.839E+01	7.965E+01	1.124E+01	-0.211
EU-152	3.748E-02		6.301E-02	1.066E-01	6.829E-03	0.352
GD-153	-2.572E-03		5.382E-02	7.973E-02	5.544E-03	-0.032

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-2.533E-02		8.066E-02	1.292E-01	1.259E-02	-0.196
EU-155	7.897E-02		6.983E-02	1.188E-01	8.008E-03	0.665
TB-160	-2.064E-02		9.085E-02	1.447E-01	1.188E-02	-0.143
HO-166M	1.467E-02		4.091E-02	6.894E-02	4.745E-03	0.213
TM-171	-2.698E+00		1.783E+01	2.995E+01	1.939E+00	-0.090
LU-176	-5.696E-03		1.573E-02	2.575E-02	1.464E-03	-0.221
LU-177	2.799E+00	+	1.019E+00	1.229E+00	6.574E-02	2.278
LU-177M	-7.999E-02		1.219E-01	1.919E-01	1.077E-02	-0.417
HF-181	-7.005E-03		2.790E-02	4.422E-02	2.640E-03	-0.158
W-181	-8.898E-02		2.337E-01	3.907E-01	2.510E-02	-0.228
TA-182	-1.664E-01		1.497E-01	2.301E-01	1.365E-02	-0.723
RE-183	2.891E-02		7.186E-02	1.149E-01	5.975E-03	0.252
RE-184	-1.031E-01		1.461E-01	2.395E-01	1.333E-02	-0.431
OS-185	-3.266E-03		2.577E-02	4.252E-02	2.748E-03	-0.077
RE-188	1.951E-01		1.078E-01	1.839E-01	9.857E-03	1.061
W-188	-7.368E+00		5.558E+00	7.559E+00	4.284E-01	-0.975
IR-192	-2.075E-02		2.128E-02	3.371E-02	1.926E-03	-0.616
AU-195	1.717E-01		1.637E-01	2.391E-01	1.644E-02	0.718
TL-200	-1.217E-04		1.015E-04	Half-Life too short		
TL-201	2.058E+00		3.840E+00	6.288E+00	3.223E-01	0.327
TL-202	-4.373E-03		4.299E-02	6.926E-02	3.989E-03	-0.063
BI-207	7.419E-03		3.641E-02	6.160E-02	4.250E-03	0.120
TL-207	-7.278E-03		4.905E-01	7.133E-01	1.175E-01	-0.010
PO-209	-6.784E-01		5.145E+00	8.249E+00	6.885E-01	-0.082
BI-210	9.732E-01		2.174E+00	3.594E+00	2.707E-01	0.271
PB-210	9.732E-01		2.174E+00	3.594E+00	2.707E-01	0.271
PO-210	9.732E-01		2.174E+00	3.594E+00	2.305E-01	0.271
PB-211	-3.283E-01		6.910E-01	1.051E+00	6.552E-01	-0.312
BI-212	1.078E+00	+	3.433E-01	4.660E-01	4.035E-02	2.313
PO-215	-7.278E-03		4.905E-01	7.133E-01	1.175E-01	-0.010
RN-219	7.418E-02		2.796E-01	4.616E-01	6.231E-02	0.161
RN-220	-1.077E+01		1.723E+01	2.802E+01	1.747E+00	-0.384
RA-223	-7.278E-03		4.905E-01	7.133E-01	1.175E-01	-0.010
AC-227	1.801E-01		2.403E-01	4.128E-01	5.726E-02	0.436
TH-227	1.801E-01		2.409E-01	4.128E-01	6.946E-02	0.436
TH-229	-5.861E-02		3.399E-01	5.380E-01	2.832E-02	-0.109
PA-231	-1.120E-01		9.577E-01	1.593E+00	2.185E-01	-0.070
TH-231	-7.278E-03		4.905E-01	7.133E-01	1.175E-01	-0.010
U-231	-4.732E-01		6.518E-01	9.382E-01	6.609E-02	-0.504
PA-233	-2.911E-03		4.001E-02	6.623E-02	4.008E-03	-0.044
PA-234	-8.273E-02		2.154E-01	3.364E-01	6.221E-02	-0.246
PA-234M	1.224E+00		3.343E+00	5.243E+00	4.745E-01	0.233
TH-234	4.728E-02		9.024E-01	1.476E+00	2.513E-01	0.032
U-235	6.124E-02		1.432E-01	2.277E-01	3.698E-02	0.269
NP-236	-1.517E-03		5.110E-02	8.229E-02	4.315E-03	-0.018
U-238	4.728E-02		9.024E-01	1.476E+00	2.513E-01	0.032
NP-239	-1.137E-01		1.218E-01	1.935E-01	1.221E-02	-0.588
AM-241	3.823E-02		9.514E-02	1.629E-01	1.158E-02	0.235

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.543E-02		6.117E-02	1.002E-01	6.675E-03	-0.154
AM-246	9.655E-02		9.933E-02	1.757E-01	1.181E-02	0.550
CM-247	7.225E-03		2.516E-02	4.158E-02	2.306E-03	0.174
CF-249	2.260E-02		2.704E-02	4.482E-02	2.463E-03	0.504
CF-251	4.761E-02		8.357E-02	1.365E-01	7.059E-03	0.349

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]G243274002          *
* Acquisition date   : 30-DEC-2009 22:52:04 Detector SN#      :             *
* Detector ID        : GAM12                                           Sensitivity      : 5.000          *
* Geometry           : CAN                                           Energy tolerance : 1.500          *
* Elapsed live time  : 0 04:00:00.00 Abundance limit         : 75.000         *
* Elapsed real time  : 0 04:00:02.89 Half life ratio         : 8.000          *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library    : SOLID          *
* Sample ID          : G243274002 Analyst initials          : MXR1            *
* Batch Number       : 935341 Sample Quantity               : 1.3164E+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	2.659E+01	2.211E+00	1.924E-01	1.128E+00
CD-109	3.109E+00	6.531E-01	4.490E-01	3.332E-01
SN-126	3.058E-01	6.425E-02	4.438E-02	3.278E-02
HG-203	3.756E-02	3.566E-02	2.065E-02	1.819E-02
TL-208	4.624E-01	5.943E-02	2.057E-02	3.032E-02
BI-211	3.351E+00	3.604E-01	1.101E-01	1.839E-01
PB-212	1.530E+00	1.298E-01	2.977E-02	6.622E-02
PO-212	1.530E+00	1.298E-01	2.977E-02	6.622E-02
BI-214	1.088E+00	1.325E-01	3.988E-02	6.758E-02
PB-214	1.166E+00	1.388E-01	3.839E-02	7.082E-02
PO-214	1.166E+00	1.388E-01	3.839E-02	7.082E-02
PO-216	1.530E+00	1.298E-01	2.977E-02	6.622E-02
PO-218	1.166E+00	1.388E-01	3.839E-02	7.082E-02
RA-224	4.575E+00	9.277E-01	3.388E-01	4.733E-01
RA-226	1.088E+00	1.325E-01	3.988E-02	6.758E-02
AC-228	1.652E+00	2.514E-01	7.072E-02	1.283E-01
RA-228	1.652E+00	2.514E-01	7.072E-02	1.283E-01
TH-228	1.552E+00	1.317E-01	3.021E-02	6.718E-02
TH-230	1.088E+00	1.325E-01	3.988E-02	6.758E-02
TH-232	1.652E+00	2.514E-01	7.072E-02	1.283E-01
U-234	1.088E+00	1.325E-01	3.988E-02	6.758E-02
NP-237	8.981E-01	2.619E-01	1.372E-01	1.336E-01
AM-243	3.803E-01	5.891E-02	2.968E-02	3.006E-02
ANH-511	9.666E-02	4.929E-02	1.556E-02	2.515E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-7.096E-02	2.194E-01	1.808E-01	1.119E-01 NOT IDENT.
NA-22	-9.064E-03	2.828E-02	2.322E-02	1.443E-02 NOT IDENT.
NA-24	-2.020E+05	2.363E+05	0.000E+00	1.206E+05 SHORT HLIF

AL-26	-8.401E-03	1.546E-02	1.170E-02	7.890E-03	NOT IDENT.
TI-44	3.402E-01	3.965E-02	2.513E-02	2.023E-02	FAIL ABUN
SC-46	-1.858E-02	2.672E-02	2.116E-02	1.363E-02	FAIL ABUN
V-48	-4.357E-02	4.660E-02	3.557E-02	2.378E-02	NOT IDENT.
CR-51	1.435E-01	2.295E-01	2.046E-01	1.171E-01	NOT IDENT.
MN-52	1.206E-01	1.433E-01	1.291E-01	7.314E-02	NOT IDENT.
MN-54	6.151E-04	2.540E-02	2.139E-02	1.296E-02	NOT IDENT.
CO-56	7.721E-03	2.649E-02	2.266E-02	1.351E-02	FAIL ABUN
CO-57	2.597E-03	1.550E-02	1.360E-02	7.907E-03	NOT IDENT.
CO-58	7.584E-03	2.610E-02	2.242E-02	1.331E-02	NOT IDENT.
FE-59	-5.806E-02	5.980E-02	4.759E-02	3.051E-02	NOT IDENT.
CO-60	-1.832E-04	2.519E-02	2.110E-02	1.285E-02	NOT IDENT.
ZN-65	1.526E-02	6.920E-02	5.191E-02	3.531E-02	NOT IDENT.
GE-68	6.791E-02	8.606E-01	7.413E-01	4.391E-01	NOT IDENT.
AS-73	-2.938E-01	4.933E-01	4.451E-01	2.517E-01	NOT IDENT.
AS-74	1.877E-02	5.634E-02	4.981E-02	2.875E-02	NOT IDENT.
SE-75	1.592E-02	2.916E-02	2.335E-02	1.488E-02	NOT IDENT.
BR-77	-2.760E+00	5.752E+00	4.643E+00	2.935E+00	FAIL ABUN
SR-82	-2.356E-01	3.059E-01	2.085E-01	1.561E-01	NOT IDENT.
RB-83	-1.510E-02	4.507E-02	3.672E-02	2.300E-02	NOT IDENT.
RB-84	4.435E-02	4.540E-02	4.045E-02	2.316E-02	NOT IDENT.
KR-85	3.792E+00	5.547E+00	4.220E+00	2.830E+00	NOT IDENT.
SR-85	1.931E-02	2.826E-02	2.150E-02	1.442E-02	NOT IDENT.
RB-86	-6.681E-02	5.360E-01	4.557E-01	2.734E-01	NOT IDENT.
Y-88	1.617E-02	2.366E-02	2.158E-02	1.207E-02	NOT IDENT.
ZR-88	-1.852E-02	1.922E-02	1.560E-02	9.808E-03	NOT IDENT.
Y-91	3.572E+00	1.251E+01	1.079E+01	6.384E+00	NOT IDENT.
NB-94	9.232E-03	2.282E-02	1.994E-02	1.164E-02	NOT IDENT.
NB-95	2.268E-02	3.248E-02	2.502E-02	1.657E-02	NOT IDENT.
NB-95M	7.759E-02	8.515E-02	6.942E-02	4.345E-02	NOT IDENT.
ZR-95	3.710E-02	4.814E-02	4.265E-02	2.456E-02	NOT IDENT.
NB-97	-5.490E+04	3.830E+04	0.000E+00	1.954E+04	SHORT HLIF
ZR-97	1.578E+06	7.432E+05	0.000E+00	3.792E+05	SHORT HLIF
MO-99	3.081E-01	6.677E+00	5.698E+00	3.407E+00	NOT IDENT.
TC-99M	3.130E+14	4.538E+15	0.000E+00	2.315E+15	SHORT HLIF
RH-101	-1.288E-03	2.174E-02	1.825E-02	1.109E-02	NOT IDENT.
RH-102	-3.256E-03	2.010E-02	1.672E-02	1.026E-02	NOT IDENT.
RU-103	2.465E-03	2.654E-02	2.229E-02	1.354E-02	FAIL ABUN
RH-106	-9.814E-02	2.073E-01	1.744E-01	1.058E-01	FAIL ABUN
RU-106	-9.814E-02	2.071E-01	1.744E-01	1.057E-01	FAIL ABUN
AG-108M	-8.009E-03	2.097E-02	1.738E-02	1.070E-02	NOT IDENT.
AG-110M	-4.346E-02	2.563E-02	1.928E-02	1.308E-02	NOT IDENT.
IN-111	-6.556E-01	5.894E-01	4.342E-01	3.007E-01	NOT IDENT.
IN-113M	-1.320E-02	2.710E-02	2.257E-02	1.383E-02	NOT IDENT.
SN-113	-1.320E-02	2.710E-02	2.257E-02	1.383E-02	NOT IDENT.
IN-114M	-5.607E-02	1.288E-01	9.459E-02	6.573E-02	NOT IDENT.
CD-115	6.661E+00	5.813E+00	5.146E+00	2.966E+00	NOT IDENT.
SN-117M	-1.674E-02	3.314E-02	2.785E-02	1.691E-02	NOT IDENT.
SB-122	8.619E-02	1.105E+00	9.687E-01	5.638E-01	NOT IDENT.
I-123	-7.527E+05	1.636E+06	0.000E+00	8.348E+05	SHORT HLIF
TE-123M	-8.164E-03	1.775E-02	1.494E-02	9.054E-03	NOT IDENT.
I-124	5.464E-02	4.408E-01	3.358E-01	2.249E-01	FAIL ABUN
SB-124	1.115E-02	4.575E-02	4.008E-02	2.334E-02	FAIL ABUN
SB-125	-9.958E-03	5.943E-02	4.992E-02	3.032E-02	FAIL ABUN
TE-125M	2.208E+00	5.771E+00	5.130E+00	2.944E+00	NOT IDENT.
I-126	-1.113E-02	1.212E-01	1.036E-01	6.181E-02	NOT IDENT.
SB-126	7.483E-02	1.012E-01	7.954E-02	5.165E-02	FAIL ABUN
SB-127	6.036E-01	7.752E-01	6.933E-01	3.955E-01	NOT IDENT.
XE-127	-1.084E-02	3.008E-02	2.491E-02	1.535E-02	NOT IDENT.
I-131	3.260E-03	6.937E-02	5.978E-02	3.539E-02	NOT IDENT.
TE-132	-2.453E-01	3.729E-01	3.249E-01	1.903E-01	NOT IDENT.
BA-133	-2.892E-04	3.024E-02	2.284E-02	1.543E-02	FAIL ABUN
I-133	-2.527E+03	2.495E+03	0.000E+00	1.273E+03	SHORT HLIF
CS-134	1.187E-01	4.588E-02	3.332E-02	2.341E-02	FAIL ABUN
CS-135	1.708E-01	1.116E-01	9.251E-02	5.693E-02	NOT IDENT.
I-135	-5.187E+14	8.705E+14	0.000E+00	4.441E+14	SHORT HLIF
CS-136	8.430E-03	7.240E-02	6.268E-02	3.694E-02	FAIL ABUN
BA-137M	3.186E-02	2.579E-02	2.346E-02	1.316E-02	NOT IDENT.
CS-137	3.368E-02	2.726E-02	2.480E-02	1.391E-02	NOT IDENT.
CE-139	-5.780E-03	1.868E-02	1.576E-02	9.532E-03	NOT IDENT.
BA-140	2.088E-02	1.618E-01	1.427E-01	8.254E-02	NOT IDENT.
LA-140	-4.750E-02	5.109E-02	3.891E-02	2.607E-02	FAIL ABUN
CE-141	1.224E-02	3.885E-02	3.380E-02	1.982E-02	NOT IDENT.
CE-143	4.905E+02	1.309E+02	0.000E+00	6.678E+01	SHORT HLIF
CE-144	5.689E-02	1.320E-01	1.106E-01	6.737E-02	NOT IDENT.
PM-144	-2.067E-02	2.326E-02	1.887E-02	1.187E-02	NOT IDENT.
PR-144	-1.400E+00	1.575E+00	1.278E+00	8.038E-01	NOT IDENT.
PM-146	3.522E-03	2.818E-02	2.391E-02	1.438E-02	NOT IDENT.

ND-147	-3.226E-01	3.697E-01	2.886E-01	1.886E-01	FAIL ABUN
PM-149	-1.678E+01	4.743E+01	4.102E+01	2.420E+01	NOT IDENT.
EU-152	3.748E-02	6.175E-02	5.471E-02	3.151E-02	FAIL ABUN
GD-153	-2.572E-03	5.274E-02	4.179E-02	2.691E-02	NOT IDENT.
EU-154	-2.533E-02	7.904E-02	6.487E-02	4.033E-02	NOT IDENT.
EU-155	7.897E-02	6.844E-02	6.219E-02	3.492E-02	FAIL ABUN
TB-160	-2.064E-02	8.903E-02	7.314E-02	4.543E-02	FAIL ABUN
HO-166M	1.467E-02	4.009E-02	3.496E-02	2.046E-02	FAIL ABUN
TM-171	-2.698E+00	1.747E+01	1.579E+01	8.915E+00	NOT IDENT.
LU-176	-5.696E-03	1.542E-02	1.325E-02	7.866E-03	FAIL ABUN
LU-177	2.799E+00	9.983E-01	6.362E-01	5.094E-01	FAIL ABUN
LU-177M	-7.999E-02	1.194E-01	9.821E-02	6.093E-02	FAIL ABUN
HF-181	-7.005E-03	2.734E-02	2.257E-02	1.395E-02	NOT IDENT.
W-181	-8.898E-02	2.290E-01	2.060E-01	1.169E-01	NOT IDENT.
TA-182	-1.664E-01	1.467E-01	1.156E-01	7.484E-02	FAIL ABUN
RE-183	2.891E-02	7.043E-02	5.974E-02	3.593E-02	FAIL ABUN
RE-184	-1.031E-01	1.432E-01	1.236E-01	7.305E-02	NOT IDENT.
OS-185	-3.266E-03	2.526E-02	2.160E-02	1.289E-02	NOT IDENT.
RE-188	1.951E-01	1.057E-01	9.564E-02	5.390E-02	NOT IDENT.
W-188	-7.368E+00	5.447E+00	3.892E+00	2.779E+00	NOT IDENT.
IR-192	-2.075E-02	2.086E-02	1.733E-02	1.064E-02	FAIL ABUN
AU-195	1.717E-01	1.604E-01	1.252E-01	8.186E-02	FAIL ABUN
TL-200	-1.217E+02	1.988E+02	0.000E+00	1.015E+02	SHORT HLIF
TL-201	2.058E+00	3.763E+00	3.267E+00	1.920E+00	NOT IDENT.
TL-202	-4.373E-03	4.213E-02	3.541E-02	2.150E-02	NOT IDENT.
BI-207	7.419E-03	3.568E-02	3.103E-02	1.821E-02	FAIL ABUN
TL-207	-7.278E-03	4.807E-01	3.666E-01	2.453E-01	FAIL ABUN
PO-209	-6.784E-01	5.042E+00	4.167E+00	2.573E+00	NOT IDENT.
BI-210	9.732E-01	2.130E+00	1.906E+00	1.087E+00	NOT IDENT.
PB-210	9.732E-01	2.130E+00	1.906E+00	1.087E+00	NOT IDENT.
PO-210	9.732E-01	2.130E+00	1.906E+00	1.087E+00	NOT IDENT.
PB-211	-3.283E-01	6.772E-01	5.383E-01	3.455E-01	NOT IDENT.
BI-212	1.078E+00	3.364E-01	2.363E-01	1.716E-01	FAIL ABUN
PO-215	-7.278E-03	4.807E-01	3.666E-01	2.453E-01	FAIL ABUN
RN-219	7.418E-02	2.741E-01	2.364E-01	1.398E-01	FAIL ABUN
RN-220	-1.077E+01	1.688E+01	1.427E+01	8.613E+00	NOT IDENT.
RA-223	-7.278E-03	4.807E-01	3.666E-01	2.453E-01	FAIL ABUN
AC-227	1.801E-01	2.355E-01	2.130E-01	1.202E-01	FAIL ABUN
TH-227	1.801E-01	2.361E-01	2.130E-01	1.205E-01	FAIL ABUN
TH-229	-5.861E-02	3.331E-01	2.788E-01	1.699E-01	FAIL ABUN
PA-231	-1.120E-01	9.385E-01	8.204E-01	4.788E-01	NOT IDENT.
TH-231	-7.278E-03	4.807E-01	3.666E-01	2.453E-01	FAIL ABUN
U-231	-4.732E-01	6.388E-01	4.918E-01	3.259E-01	FAIL ABUN
PA-233	-2.911E-03	3.921E-02	3.406E-02	2.000E-02	FAIL ABUN
PA-234	-8.273E-02	2.111E-01	1.698E-01	1.077E-01	FAIL ABUN
PA-234M	1.224E+00	3.276E+00	2.643E+00	1.672E+00	NOT IDENT.
TH-234	4.728E-02	8.844E-01	7.787E-01	4.512E-01	FAIL ABUN
U-235	6.124E-02	1.403E-01	1.186E-01	7.160E-02	FAIL ABUN
NP-236	-1.517E-03	5.008E-02	4.278E-02	2.555E-02	NOT IDENT.
U-238	4.728E-02	8.844E-01	7.787E-01	4.512E-01	FAIL ABUN
NP-239	-1.137E-01	1.194E-01	1.011E-01	6.090E-02	FAIL ABUN
AM-241	3.823E-02	9.324E-02	8.605E-02	4.757E-02	NOT IDENT.
CM-243	-1.543E-02	5.994E-02	5.247E-02	3.058E-02	FAIL ABUN
AM-246	9.655E-02	9.734E-02	8.845E-02	4.966E-02	NOT IDENT.
CM-247	7.225E-03	2.465E-02	2.129E-02	1.258E-02	FAIL ABUN
CF-249	2.260E-02	2.650E-02	2.296E-02	1.352E-02	NOT IDENT.
CF-251	4.761E-02	8.190E-02	7.087E-02	4.178E-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	408.1180
46.50	408.1180
46.50	408.1180
48.70	493.0866
49.72	470.7987
51.35	438.8960
52.39	452.4567
52.97	486.1660
53.15	486.4432
53.44	493.8200
54.07	488.7234
56.28	503.4287
56.28	503.4331
57.37	0.0000
57.53	542.1880
57.53	542.1912
57.60	542.3028
57.98	546.4345
57.98	546.4345
59.32	547.7275
59.32	547.7275
59.40	539.0333
59.54	539.2555
59.72	557.2007
60.01	558.5579
61.10	646.3262
61.14	646.4013
61.30	651.1334
63.00	630.2302
63.29	644.1265
63.29	644.1265
63.58	623.2237
64.28	645.0221
65.12	706.6060
65.20	696.8964
65.20	696.8964
66.05	694.0296
66.72	671.8773
66.83	672.0822
66.91	661.4169
67.20	668.2485
67.20	668.2485
67.75	671.9454
67.85	672.1309
68.90	691.6850
68.90	691.6850
69.30	669.2930
69.67	678.1200
70.82	647.3851
70.82	647.3851
70.83	647.4032
72.80	658.0265
72.87	658.1472
72.87	658.1472
74.67	661.1569
74.81	661.3909
74.81	661.3909
74.81	661.3909
74.81	661.3909
74.81	661.3909
74.81	661.3909
74.81	661.3909
74.97	661.6561
75.28	662.1699
75.70	662.8647
77.11	665.1833
77.11	665.1833

77.11	665.1833
77.11	665.1833
77.11	665.1833
77.11	665.1833
77.11	665.1833
78.38	667.2531
79.62	618.5276
79.80	618.7947
79.80	618.7947
80.11	617.8599
80.18	617.9610
80.30	618.1397
80.30	618.1397
80.57	618.5377
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81.07	694.9343
81.07	694.9343
81.07	694.9343
81.07	694.9343
82.60	656.2001
83.37	606.6666
83.78	628.8718
83.78	628.8718
83.78	628.8718
83.78	628.8718
84.21	595.6236
84.90	613.5376
85.43	689.3024
86.29	762.9821
86.50	774.6983
86.54	774.7692
86.59	774.8566
86.72	775.0858
86.79	775.2065
86.94	715.8214
87.30	716.4020
87.30	716.4020
87.30	716.4020
87.30	716.4020
87.30	716.4020
87.30	716.4020
87.30	716.4020
87.57	716.8403
87.88	717.3402
88.03	717.5825
88.36	718.1131
88.47	718.2900
89.95	563.3690
91.11	564.8119
92.29	566.2668
92.38	566.3780
92.38	566.3780
93.35	514.2661
94.00	514.9852
94.67	515.7178
94.67	515.7233
94.90	515.9766
94.90	515.9766
94.90	515.9766
94.90	515.9766
95.87	537.3148
95.87	537.3148
96.73	532.4905
97.43	502.7549
98.44	467.4083
98.44	467.4107
98.88	435.7733
99.55	457.6834
99.55	457.6834
99.86	457.9753
100.00	478.1686
100.10	481.1932
103.18	539.0955
103.76	510.2828
105.00	469.2436
105.31	491.1879
108.00	545.2408
109.28	502.9462

111.00	559.3473
111.00	559.3473
111.76	553.1793
112.95	517.4625
115.19	519.6335
116.30	512.6614
117.00	518.3529
117.00	518.3529
117.66	516.9661
121.11	464.4295
121.62	460.7935
121.78	460.9252
122.06	452.0142
122.32	452.2224
122.32	452.2224
122.32	452.2224
122.32	452.2224
123.07	476.2289
127.23	455.1075
129.76	503.4157
131.20	478.3333
133.02	465.8249
133.54	458.7681
135.34	506.0730
136.00	510.7841
136.25	504.7545
136.48	518.4764
140.51	514.5500
140.51	0.0000
142.18	557.9595
142.65	527.8802
143.76	500.3726
144.24	494.4242
144.24	494.4242
144.24	494.4242
144.24	494.4242
145.22	497.2992
145.44	490.0783
147.16	521.0533
152.43	470.8369
152.70	477.4384
153.22	483.1559
154.21	449.6210
154.21	449.6210
154.21	449.6210
154.21	449.6210
155.03	411.5898
156.02	457.2835
158.56	471.9380
159.00	0.0000
159.00	474.3974
160.31	465.5882
161.27	445.6879
162.32	446.3669
162.64	455.2435
163.35	464.3894
163.89	461.4932
165.85	467.1458
167.43	424.5428
171.28	437.8147
171.86	433.7751
172.10	433.9198
176.55	445.4219
176.60	445.4526
181.06	453.7000
184.41	408.8087
185.71	409.5049
186.00	409.6613
190.27	455.8351
192.34	434.4761
193.63	465.7087
197.04	485.8843
198.01	476.2426
198.60	474.3171
200.40	450.3018
201.83	453.3814
202.84	457.3771
205.31	416.3215

208.36	410.9546
208.81	395.0515
209.75	395.4982
209.75	395.4982
210.97	377.5981
215.65	404.0778
216.55	401.0155
218.09	450.6418
222.10	422.0273
223.80	400.8682
226.40	378.2487
227.00	390.8561
227.08	390.8933
227.20	398.8864
228.16	418.7533
228.18	424.0649
228.18	424.0649
231.56	0.0000
235.69	420.4830
236.00	407.7944
236.00	407.7944
238.63	378.0446
238.63	378.0446
238.63	378.0446
238.63	378.0446
239.00	378.1931
240.98	379.0063
241.98	379.4130
241.98	379.4130
241.98	379.4130
244.69	380.5135
245.39	338.4866
247.94	327.8477
248.90	318.0601
249.79	324.3877
252.40	326.4807
252.85	354.7614
252.85	354.7614
254.15	0.0000
256.20	312.2883
256.20	312.2883
260.50	334.6977
260.90	322.0239
262.80	284.1493
264.65	277.6999
268.24	311.1374
268.79	298.0289
269.46	309.1144
269.46	309.1144
269.46	309.1144
269.46	309.1144
271.23	327.2188
273.65	381.7362
276.40	328.8717
277.35	295.7037
277.60	272.3331
277.60	272.3331
278.00	272.4403
278.60	288.9823
279.20	284.6814
279.53	284.7700
280.46	276.0728
281.68	276.3934
283.67	295.6280
284.30	328.5698
285.00	337.2198
285.90	314.0676
286.10	279.4341
286.10	279.4341
287.40	276.0198
288.45	0.0000
290.67	370.6636
290.80	376.7395
291.72	358.9640
293.26	0.0000
293.70	296.1581
295.21	313.2189
295.21	313.2189

295.21	313.2189
295.96	253.6259
296.50	253.7486
297.23	253.9203
298.57	254.2311
299.80	296.3038
299.80	296.3038
300.09	297.9047
300.09	297.9047
300.09	297.9047
300.09	297.9047
300.12	297.9095
301.29	310.4027
302.84	284.9330
303.76	279.0705
303.91	265.3797
304.40	267.0245
304.40	267.0245
304.84	270.9475
306.84	280.0346
308.46	267.0415
311.98	256.3544
316.51	267.9805
318.01	249.0281
319.02	247.3164
319.41	241.6000
320.08	247.5430
323.87	280.9477
323.87	280.9477
323.87	280.9477
323.87	280.9477
325.23	262.6308
328.77	293.0386
333.44	260.1593
334.20	256.8025
334.20	256.8025
334.30	256.8225
338.28	226.2516
338.28	226.2516
338.28	226.2516
338.28	226.2516
338.32	226.2621
338.32	226.2621
338.32	226.2621
340.50	248.7073
340.57	248.7189
344.27	237.8338
345.85	262.1835
350.59	0.0000
351.07	249.0735
351.92	249.2459
351.92	249.2459
351.92	249.2459
355.39	0.0000
356.01	224.7566
364.48	220.6512
366.43	218.9780
367.43	223.1687
367.94	0.0000
369.80	237.6781
374.96	266.9366
383.85	233.1127
387.95	192.9884
388.63	210.4541
391.69	205.8121
391.69	205.8121
392.90	225.4684
398.62	217.1527
400.65	237.0576
401.10	241.2589
401.81	223.8475
402.60	225.0054
404.84	262.5886
410.95	235.7044
411.60	252.4366
413.65	246.5616
414.70	201.9748
415.30	202.0606

415.76	186.5002
417.63	0.0000
418.52	247.4078
423.70	210.5875
427.08	196.3791
427.89	196.4904
432.53	180.2524
433.93	192.0281
439.47	178.9849
439.56	178.9952
439.89	187.5115
443.98	167.8437
444.90	153.0659
445.03	161.5835
445.03	161.5835
445.03	161.5835
445.03	161.5835
453.90	178.5766
463.38	213.4701
468.07	201.4522
473.00	187.2917
475.06	196.2095
475.35	190.8242
476.78	177.9761
477.59	197.6101
477.96	195.4852
482.03	172.0314
484.57	190.8455
487.03	160.5558
490.36	0.0000
492.35	155.6072
497.08	164.8521
507.63	0.0000
510.53	0.0000
510.84	165.1218
511.00	165.1377
511.85	165.2218
511.85	165.2218
513.99	193.6333
513.99	193.6333
520.41	161.6028
520.65	166.0881
527.90	130.9716
528.96	0.0000
529.64	179.2871
529.87	0.0000
531.02	178.3121
537.32	161.1787
543.00	172.5435
546.56	0.0000
549.76	171.3920
552.65	160.7692
555.20	154.6311
563.23	153.4969
563.90	153.5543
568.70	142.0468
569.32	132.9285
569.50	132.9426
569.67	128.3687
573.80	176.4469
574.00	176.4656
574.64	173.7683
578.91	135.1582
579.30	0.0000
583.14	165.3346
585.48	154.1341
591.81	149.3967
592.07	147.5641
593.00	151.3480
595.88	141.3496
600.56	154.3353
602.52	0.0000
602.71	160.2124
602.71	160.2124
603.60	155.6193
604.41	144.7865
604.70	137.0238
609.31	174.8131

609.31	174.8131
609.31	174.8131
609.31	174.8131
610.33	184.2742
612.46	161.0297
614.37	151.7993
618.01	157.1007
621.84	152.6937
621.84	152.6937
631.29	143.0113
633.02	135.5498
633.10	135.5567
634.78	172.6734
635.90	182.2641
636.97	154.8142
645.85	111.6185
646.12	116.4034
656.30	182.1931
657.75	194.7977
657.90	0.0000
661.65	153.8242
661.65	153.8242
664.57	0.0000
666.33	164.7712
666.33	164.7712
675.00	142.2376
677.61	127.8814
685.20	113.7579
692.80	126.8484
695.00	153.3510
696.49	167.1425
696.49	167.1425
697.00	174.0237
697.49	172.1070
698.33	160.4365
698.50	160.4485
699.00	143.8526
702.63	147.0337
706.10	161.0131
706.58	0.0000
706.67	159.0930
709.31	145.5177
711.68	129.9278
713.82	141.8766
717.42	136.1908
720.50	113.6495
721.93	0.0000
722.20	130.2201
722.78	130.2555
722.78	130.2555
722.89	130.2619
722.95	130.2651
723.30	131.9336
724.18	130.3359
727.18	133.8168
733.00	117.6024
735.90	124.3866
739.58	128.5780
742.81	136.7458
744.21	134.8319
747.13	128.0063
751.79	154.3196
752.31	138.3201
753.82	120.3574
755.35	112.4074
756.15	120.4775
756.87	121.5199
763.93	104.0952
765.79	122.6617
766.42	115.9714
766.84	127.7614
776.49	150.2310
778.00	145.2615
778.57	137.8627
778.89	138.8965
783.80	125.9769
785.46	131.1479
792.07	101.9482

795.84	107.2123
796.30	115.7433
798.80	95.4183
801.93	126.6776
805.60	127.1272
810.29	122.2365
810.76	109.9310
815.85	97.8064
817.79	112.3078
818.51	97.9108
819.60	89.7060
826.30	120.9676
828.27	0.0000
831.60	134.6941
831.96	117.0968
834.83	128.6439
836.80	0.0000
846.75	108.4078
848.13	96.9938
856.28	0.0000
856.80	81.9765
860.37	99.5575
867.32	96.3239
867.82	101.5968
871.10	91.5539
873.19	73.7239
874.81	88.5240
875.33	0.0000
876.40	101.2313
879.36	97.1233
880.27	96.1010
880.51	96.1099
881.50	84.5254
883.24	91.9808
884.67	100.4945
889.25	115.5065
896.60	106.2622
898.02	110.5736
899.00	106.3599
903.28	113.6328
911.07	99.7181
911.07	99.7181
911.07	99.7181
919.63	93.2467
920.93	95.4360
925.00	90.2098
925.24	84.8479
926.50	107.4512
935.52	95.9466
937.48	108.9621
944.10	99.4907
946.00	112.5439
949.00	96.4159
962.29	116.1042
964.01	96.9331
966.15	97.0070
968.20	97.0765
969.11	97.1091
969.11	97.1091
969.11	97.1091
977.42	94.8403
980.50	79.1182
983.50	107.4698
989.30	82.4139
996.32	110.1514
1001.03	84.5860
1001.68	87.3636
1004.76	104.9476
1021.30	0.0000
1024.50	0.0000
1034.80	95.7913
1036.00	86.5253
1037.82	102.4044
1038.57	109.8760
1038.76	0.0000
1045.16	105.4547
1046.59	103.6334
1048.07	106.4900

1050.47	96.2901
1050.47	96.2901
1062.04	97.5931
1063.62	101.3994
1076.63	109.3730
1077.35	105.6243
1078.86	89.6346
1085.78	107.8027
1099.22	113.0151
1112.02	96.1201
1112.84	110.6427
1115.52	109.6415
1120.29	95.6014
1120.29	95.6014
1120.29	95.6014
1120.29	95.6014
1120.51	95.6095
1121.28	95.6339
1124.00	0.0000
1129.67	98.9504
1131.51	0.0000
1147.95	0.0000
1167.94	115.4410
1173.22	109.7952
1175.09	103.0541
1177.93	114.8167
1189.05	131.7920
1204.90	110.8344
1205.75	0.0000
1213.00	133.7090
1221.42	167.5444
1230.97	167.7254
1235.34	125.6719
1236.41	0.0000
1238.25	108.6563
1246.25	112.6190
1260.41	0.0000
1271.85	93.9847
1274.45	85.0484
1274.54	85.0519
1291.56	84.4478
1298.22	0.0000
1312.09	66.7278
1325.50	73.0605
1325.50	73.0605
1332.49	59.9819
1333.61	56.9479
1360.21	50.1843
1362.66	0.0000
1365.15	51.2756
1368.21	60.5557
1368.53	0.0000
1376.25	47.6060
1384.27	40.6383
1394.10	44.4330
1395.20	49.6133
1407.95	37.3330
1434.06	38.6260
1436.60	51.1852
1457.56	0.0000
1460.81	49.3944
1489.15	44.4507
1509.49	37.2260
1596.49	44.6669
1620.62	38.3646
1678.03	0.0000
1691.02	22.8131
1691.02	22.8131
1706.46	0.0000
1750.46	0.0000
1764.49	21.2450
1764.49	21.2450
1764.49	21.2450
1764.49	21.2450
1770.23	20.3035
1771.40	13.5391
1791.20	0.0000
1808.65	17.5430

1836.01

22.5428

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274002

Total Uranium Activity	1.6899E-01	ug/g
Total Uranium Counting Unc.	2.6319E+00	ug/g
Total Uranium Tpu	1.3428E-06	ug/g
Total Uranium Mda	2.3173E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 935341                          SAMPLE ID   : G243274002
*  ANALYST       : MXR1                             DETECTOR    : GAM12
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00          COUNT TIME   : 0 04:00:00.00
*  ANALYSIS DATE : 30-DEC-2009 22:52:04.96          SAMPLE ALQT  : 131.640 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.786E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.061E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.443E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.193E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 03:06:36.51

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274003.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 23:06:16
Sample ID          : G243274003          Sample quantity  : 1.28020E+02 GRAM
Detector name      : GAM01              Detector geometry: CAN
Elapsed live time  : 0 04:00:00.00      Elapsed real time: 0 04:00:02.26  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 935341             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	63.36*	95	733	0.95	127.49	124	7	6.62E-03	51.5	
2	3	74.88	592	844	1.01	150.52	146	13	4.11E-02	8.6	2.37E+00
3	3	77.13*	1060	892	1.12	155.03	146	13	7.36E-02	5.8	
4	6	84.25*	129	910	1.31	169.27	164	30	8.97E-03	40.6	3.36E+00
5	6	87.27	467	842	1.28	175.31	164	30	3.24E-02	11.4	
6	6	89.84	290	769	1.27	180.44	164	30	2.01E-02	18.0	
7	6	92.84*	501	781	1.44	186.45	164	30	3.48E-02	12.5	
8	0	129.13	90	684	1.06	259.02	256	8	6.25E-03	51.3	
9	0	186.17*	332	893	1.42	373.09	367	13	2.31E-02	20.0	
10	0	209.77	192	550	1.33	420.27	416	9	1.33E-02	23.3	
11	3	238.85*	2431	366	1.22	478.43	474	16	1.69E-01	2.5	1.28E+00
12	3	241.72	549	476	1.71	484.17	474	16	3.82E-02	10.7	
13	0	269.95	221	530	1.77	540.63	534	13	1.53E-02	22.5	
14	0	277.67	115	351	1.55	556.07	552	9	8.01E-03	30.8	
15	0	295.46	694	444	1.26	591.63	586	11	4.82E-02	7.0	
16	0	300.49	175	424	1.14	601.68	597	12	1.22E-02	24.7	
17	0	328.31	188	335	1.40	657.32	651	12	1.31E-02	20.8	
18	0	338.44	440	342	1.28	677.58	673	9	3.06E-02	8.9	
19	0	352.02*	1223	286	1.34	704.73	699	11	8.49E-02	4.1	
20	0	409.02	104	150	0.76	818.71	815	8	7.20E-03	22.9	
21	0	462.91	159	238	1.41	926.46	921	12	1.11E-02	20.9	
22	0	510.88*	197	246	1.95	1022.38	1015	15	1.37E-02	22.2	
23	0	582.96*	762	203	1.45	1166.50	1159	15	5.29E-02	5.6	
24	0	609.27*	904	176	1.50	1219.11	1213	14	6.28E-02	4.8	
25	0	661.14	66	207	1.19	1322.81	1320	12	4.58E-03	44.9	
26	0	727.67	203	135	1.37	1455.83	1448	15	1.41E-02	14.5	
27	0	768.18	77	87	1.23	1536.83	1533	8	5.37E-03	24.0	
28	0	794.93	55	129	1.15	1590.30	1583	12	3.82E-03	43.4	
29	0	859.81	84	140	1.52	1720.02	1715	14	5.85E-03	31.4	
30	0	910.87*	484	127	1.55	1822.09	1814	15	3.36E-02	7.0	
31	1	964.42	92	71	1.92	1929.15	1923	27	6.37E-03	21.7	9.73E-01
32	1	968.67*	320	63	1.80	1937.65	1923	27	2.22E-02	7.8	
33	0	1120.26*	153	105	1.59	2240.68	2234	12	1.06E-02	16.2	
34	0	1237.44	68	142	1.52	2474.91	2470	15	4.71E-03	39.8	
35	0	1377.40*	51	54	1.67	2754.67	2746	18	3.57E-03	36.9	
36	0	1408.37	29	47	1.18	2816.56	2810	13	2.04E-03	51.0	
37	0	1460.33*	1370	63	1.92	2920.41	2910	21	9.51E-02	3.1	
38	0	1589.81	90	42	5.61	3179.20	3170	21	6.25E-03	20.9	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1729.65	35	32	1.03	3458.69	3449	16	2.46E-03	39.4	
40	0	1764.50*	131	17	1.87	3528.32	3521	16	9.13E-03	12.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 03:06:38

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274003.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 23:06:16
 Sample ID : G243274003 Sample quantity : 128.02 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA1 Detector geometry: CAN
 Elapsed live time: 0 04:00:00.00 Elapsed real time: 0 04:00:02.26 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

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	*	1.951E+01	1.845E+00	3.985E-01	2.832E-02	48.972
CD-109	+	88.03	*	3.657E+00	9.001E-01	8.969E-01	8.255E-02	4.077
SN-126	+	64.28		5.344E-01	5.565E-01	6.708E-01	1.008E-01	0.797
	+	86.94		1.496E+00	7.082E-01	3.716E-01	1.541E-01	4.024
	+	87.57	*	3.597E-01	8.855E-02	8.871E-02	8.139E-03	4.055
BA-137M	+	661.65	*	5.490E-02	4.933E-02	4.440E-02	2.242E-03	1.237
CS-137	+	661.65	*	5.804E-02	5.215E-02	4.693E-02	2.383E-03	1.237
TL-208	+	277.35		6.267E-01	3.922E-01	4.902E-01	5.188E-02	1.278
	+	510.84		5.493E-01	2.504E-01	1.700E-01	1.701E-02	3.232
	+	583.14	*	6.079E-01	7.818E-02	4.292E-02	2.719E-03	14.164
	+	860.37		6.384E-01	4.044E-01	3.499E-01	2.644E-02	1.825
BI-211	+	72.87		7.239E+00	2.918E+00	4.442E+00	3.721E-01	1.630
	+	351.07	*	4.203E+00	4.322E-01	2.553E-01	1.617E-02	16.461
PB-212	+	74.81		1.985E+00	4.240E-01	4.526E-01	5.697E-02	4.385
	+	77.11		2.001E+00	2.881E-01	2.551E-01	2.173E-02	7.845
	+	87.30		1.664E+00	4.420E-01	4.116E-01	5.580E-02	4.042
	+	238.63	*	1.798E+00	1.584E-01	7.119E-02	5.187E-03	25.258
	+	300.09		2.020E+00	1.012E+00	9.085E-01	7.524E-02	2.223
PO-212	+	74.81		1.985E+00	4.240E-01	4.526E-01	5.697E-02	4.385
	+	77.11		2.001E+00	2.881E-01	2.551E-01	2.173E-02	7.845
	+	87.30		1.664E+00	4.420E-01	4.116E-01	5.580E-02	4.042
	+	115.19		3.267E+00	2.888E+00	4.739E+00	3.082E-01	0.689
	+	238.63	*	1.798E+00	1.584E-01	7.119E-02	5.187E-03	25.258
	+	300.09		2.020E+00	1.012E+00	9.085E-01	7.524E-02	2.223
BI-214	+	609.31	*	1.361E+00	1.643E-01	8.843E-02	6.556E-03	15.391
	+	1120.29		1.217E+00	4.095E-01	3.157E-01	2.808E-02	3.855
	+	1764.49		1.457E+00	3.697E-01	1.961E-01	1.167E-02	7.430
PB-214	+	74.81		3.420E+00	7.042E-01	7.798E-01	8.752E-02	4.385
	+	77.11		3.430E+00	5.587E-01	4.372E-01	4.998E-02	7.845
	+	87.30		2.850E+00	7.352E-01	7.052E-01	8.438E-02	4.042
	+	241.98		2.441E+00	5.598E-01	4.288E-01	3.446E-02	5.693
	+	295.21		1.401E+00	2.300E-01	1.668E-01	1.428E-02	8.396
	+	351.92	*	1.462E+00	1.686E-01	8.901E-02	7.301E-03	16.425
PO-214	+	74.81		3.420E+00	7.042E-01	7.798E-01	8.752E-02	4.385

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.430E+00	5.587E-01	4.372E-01	4.998E-02	7.845
	+	87.30		2.850E+00	7.352E-01	7.052E-01	8.438E-02	4.042
	+	241.98		2.441E+00	5.598E-01	4.288E-01	3.446E-02	5.693
	+	295.21		1.401E+00	2.300E-01	1.668E-01	1.428E-02	8.396
	+	351.92	*	1.462E+00	1.686E-01	8.901E-02	7.301E-03	16.425
PO-216	+	74.81		1.985E+00	4.240E-01	4.526E-01	5.697E-02	4.385
	+	77.11		2.001E+00	2.881E-01	2.551E-01	2.173E-02	7.845
	+	87.30		1.664E+00	4.420E-01	4.116E-01	5.580E-02	4.042
	+	238.63	*	1.798E+00	1.584E-01	7.119E-02	5.187E-03	25.258
	+	300.09		2.020E+00	1.012E+00	9.085E-01	7.524E-02	2.223
PO-218	+	74.81		3.420E+00	7.042E-01	7.798E-01	8.752E-02	4.385
	+	77.11		3.430E+00	5.587E-01	4.372E-01	4.998E-02	7.845
	+	87.30		2.850E+00	7.352E-01	7.052E-01	8.438E-02	4.042
	+	241.98		2.441E+00	5.598E-01	4.288E-01	3.446E-02	5.693
	+	295.21		1.401E+00	2.300E-01	1.668E-01	1.428E-02	8.396
	+	351.92	*	1.462E+00	1.686E-01	8.901E-02	7.301E-03	16.425
RA-224	+	240.98	*	4.629E+00	1.029E+00	8.103E-01	4.661E-02	5.713
RA-226	+	609.31	*	1.361E+00	1.643E-01	8.843E-02	6.556E-03	15.391
	+	1120.29		1.217E+00	4.095E-01	3.157E-01	2.808E-02	3.855
	+	1764.49		1.457E+00	3.697E-01	1.961E-01	1.167E-02	7.430
AC-228	+	338.32		1.665E+00	7.411E-01	3.140E-01	1.280E-01	5.302
	+	911.07	*	1.740E+00	3.005E-01	1.627E-01	1.644E-02	10.694
	+	969.11		2.031E+00	5.601E-01	2.597E-01	5.906E-02	7.822
RA-228	+	338.32		1.665E+00	7.411E-01	3.140E-01	1.280E-01	5.302
	+	911.07	*	1.740E+00	3.005E-01	1.627E-01	1.644E-02	10.694
	+	969.11		2.031E+00	5.601E-01	2.597E-01	5.906E-02	7.822
TH-228	+	74.81		2.014E+00	3.875E-01	4.592E-01	3.906E-02	4.385
	+	77.11		2.030E+00	2.922E-01	2.588E-01	2.205E-02	7.845
	+	87.30		1.688E+00	4.155E-01	4.176E-01	3.822E-02	4.042
	+	238.63	*	1.824E+00	1.607E-01	7.223E-02	5.263E-03	25.258
	+	300.09		2.049E+00	1.576E+00	9.218E-01	5.433E-01	2.223
TH-230	+	609.31	*	1.361E+00	1.643E-01	8.842E-02	6.555E-03	15.391
	+	1120.29		1.217E+00	4.095E-01	3.157E-01	2.808E-02	3.855
	+	1764.49		1.457E+00	3.697E-01	1.961E-01	1.167E-02	7.430
TH-232	+	338.32		1.665E+00	3.130E-01	3.140E-01	1.805E-02	5.302
	+	911.07	*	1.740E+00	3.005E-01	1.627E-01	1.644E-02	10.694
	+	969.11		2.031E+00	5.601E-01	2.597E-01	5.906E-02	7.822
TH-234	+	63.29	*	1.350E+00	1.412E+00	1.754E+00	3.135E-01	0.770
	+	92.38		2.484E+00	7.660E-01	5.774E-01	1.042E-01	4.303
U-234	+	609.31	*	1.361E+00	1.643E-01	8.842E-02	6.555E-03	15.391
	+	1120.29		1.217E+00	4.095E-01	3.157E-01	2.808E-02	3.855
	+	1764.49		1.457E+00	3.697E-01	1.961E-01	1.167E-02	7.430
NP-237	+	86.50	*	1.056E+00	3.393E-01	2.640E-01	5.952E-02	4.002
		95.87		-8.764E-02	8.207E-01	1.163E+00	2.843E-01	-0.075
U-238	+	63.29	*	1.350E+00	1.412E+00	1.754E+00	3.135E-01	0.770
	+	92.38		2.484E+00	6.563E-01	5.774E-01	4.927E-02	4.303
AM-243	+	74.67	*	3.218E-01	6.182E-02	7.363E-02	6.205E-03	4.370
	+	86.72		3.962E+01	9.751E+00	9.871E+00	8.990E-01	4.013
		117.66		-3.550E+00	3.078E+00	4.688E+00	2.982E-01	-0.757

Sample ID : G243274003

Acquisition date : 30-DEC-2009 23:06:16

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	142.18			8.214E+00	1.315E+01	2.264E+01	1.289E+00	0.363
ANH-511	+	511.00	*	1.186E-01	5.319E-02	3.672E-02	2.034E-03	3.231

---- 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	*	-5.647E-03	2.497E-01	3.998E-01	2.613E-02	-0.014
NA-22		1274.54	*	1.069E-02	3.162E-02	5.421E-02	3.474E-03	0.197
NA-24		1368.53	*	-1.343E-01	3.162E-02	Half-Life too short		
AL-26		1129.67		-1.764E-01	1.281E+00	2.035E+00	1.194E-01	-0.087
		1808.65	*	-2.497E-03	2.228E-02	3.558E-02	2.051E-03	-0.070
TI-44		67.85		-5.872E-03	4.059E-02	6.223E-02	5.174E-03	-0.094
	+	78.38	*	3.692E-01	5.316E-02	6.345E-02	5.442E-03	5.820
SC-46		889.25	*	-7.985E-03	2.747E-02	4.381E-02	3.079E-03	-0.182
	+	1120.51		2.073E-01	6.838E-02	1.023E-01	6.073E-03	2.026
V-48		944.10		2.362E-01	6.552E-01	1.096E+00	7.620E-02	0.215
		983.50	*	2.475E-02	5.331E-02	8.963E-02	6.077E-03	0.276
		1312.09		-2.065E-02	5.671E-02	9.131E-02	6.155E-03	-0.226
CR-51		320.08	*	-3.830E-01	2.910E-01	4.477E-01	2.897E-02	-0.856
MN-52		744.21		-5.461E-02	1.755E-01	2.843E-01	1.631E-02	-0.192
		848.13		-2.402E+00	4.644E+00	7.311E+00	4.863E-01	-0.329
		935.52		1.017E-01	1.997E-01	3.265E-01	2.280E-02	0.312
		1246.25		-5.867E+00	5.614E+00	7.517E+00	4.618E-01	-0.781
		1333.61		3.231E+00	3.266E+00	5.928E+00	4.108E-01	0.545
		1434.06	*	1.012E-01	1.549E-01	2.747E-01	1.879E-02	0.369
MN-54		834.83	*	8.489E-03	2.902E-02	4.853E-02	3.170E-03	0.175
CO-56		846.75	*	2.561E-03	2.977E-02	4.911E-02	3.260E-03	0.052
		977.42		-1.045E-01	2.349E+00	3.276E+00	2.230E-01	-0.032
		1037.82		9.095E-03	2.280E-01	3.701E-01	2.624E-02	0.025
		1175.09		8.831E-01	1.673E+00	2.907E+00	1.605E-01	0.304
	+	1238.25		1.517E-01	1.211E-01	1.351E-01	8.674E-03	1.123
		1360.21		1.640E-01	6.756E-01	1.151E+00	7.961E-02	0.142
		1771.40		-1.019E-01	1.655E-01	1.876E-01	1.111E-02	-0.543
CO-57		122.06	*	4.403E-03	2.022E-02	3.229E-02	1.983E-03	0.136
		136.48		9.372E-02	1.580E-01	2.652E-01	1.781E-02	0.353
CO-58		810.76	*	2.450E-03	2.758E-02	4.566E-02	2.898E-03	0.054
FE-59		142.65		2.600E+00	2.123E+00	3.562E+00	2.025E-01	0.730
		192.34		4.941E-01	7.785E-01	1.236E+00	1.441E-01	0.400
		1099.22	*	-3.948E-02	7.284E-02	1.122E-01	7.906E-03	-0.352
		1291.56		-5.400E-02	8.979E-02	1.418E-01	1.138E-02	-0.381
CO-60		1173.22		8.109E-03	3.327E-02	5.679E-02	3.126E-03	0.143
		1332.49	*	4.389E-02	2.841E-02	5.351E-02	3.708E-03	0.820
ZN-65		1115.52	*	-6.262E-02	8.249E-02	1.044E-01	6.252E-03	-0.600
GE-68		1077.35	*	7.194E-01	1.008E+00	1.712E+00	1.069E-01	0.420
AS-73		53.44	*	5.350E-01	7.074E-01	1.178E+00	1.002E-01	0.454
AS-74		595.88	*	-1.128E-02	6.811E-02	1.130E-01	6.048E-03	-0.100
		634.78		-2.113E-02	2.651E-01	4.404E-01	2.285E-02	-0.048
SE-75		66.05		-1.792E-01	4.446E+00	6.408E+00	6.532E-01	-0.028

Sample ID : G243274003

Acquisition date : 30-DEC-2009 23:06:16

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-5.153E-01	6.793E-01	9.311E-01	1.233E-01	-0.553
		121.11		-1.602E-02	1.083E-01	1.709E-01	1.619E-02	-0.094
		136.00		8.697E-03	2.968E-02	4.946E-02	2.914E-03	0.176
		198.60		2.404E-01	1.348E+00	2.268E+00	1.567E-01	0.106
		264.65	*	-7.638E-03	3.753E-02	5.388E-02	3.170E-03	-0.142
		279.53		5.646E-02	9.669E-02	1.441E-01	9.094E-03	0.392
		303.91		2.691E-01	1.803E+00	2.618E+00	2.505E-01	0.103
		400.65		-6.526E-02	2.148E-01	3.427E-01	3.041E-02	-0.190
BR-77	+	87.88		6.614E+02	1.628E+02	2.250E+02	2.070E+01	2.940
		200.40		5.396E+01	1.020E+02	1.733E+02	9.605E+00	0.311
	+	239.00		2.415E+02	1.831E+01	2.514E+01	1.444E+00	9.608
		249.79		-1.693E+01	4.203E+01	6.860E+01	3.968E+00	-0.247
		281.68		2.456E+01	6.529E+01	9.635E+01	5.635E+00	0.255
		297.23		2.938E+02	5.974E+01	8.275E+01	4.840E+00	3.550
		303.76		-1.140E+01	1.313E+02	1.881E+02	1.099E+01	-0.061
		439.47		1.832E+01	9.668E+01	1.573E+02	8.675E+00	0.116
		484.57		2.123E+01	1.518E+02	2.453E+02	1.361E+01	0.087
		520.65	*	7.582E-01	6.520E+00	1.048E+01	5.793E-01	0.072
		574.64		6.383E+01	1.310E+02	2.204E+02	1.194E+01	0.290
		578.91		2.061E+01	6.142E+01	9.200E+01	4.974E+00	0.224
		585.48		9.907E+02	1.675E+02	3.041E+02	1.638E+01	3.258
		755.35		7.473E+01	1.115E+02	1.914E+02	1.117E+01	0.390
		817.79		-1.352E+01	8.100E+01	1.314E+02	8.385E+00	-0.103
SR-82		698.33		-1.798E+01	2.619E+01	4.168E+01	2.231E+00	-0.431
		776.49	*	-3.389E-01	2.778E-01	4.170E-01	2.509E-02	-0.813
		1395.20		-5.133E+00	7.822E+00	1.202E+01	8.279E-01	-0.427
RB-83		520.41	*	8.115E-03	5.140E-02	8.285E-02	4.580E-03	0.098
		529.64		3.517E-04	7.835E-02	1.321E-01	7.287E-03	0.003
		552.65		-1.367E-02	1.452E-01	2.429E-01	1.330E-02	-0.056
RB-84		881.50	*	9.238E-03	5.235E-02	8.674E-02	6.033E-03	0.107
KR-85		513.99	*	1.021E+01	6.477E+00	1.002E+01	5.545E-01	1.019
SR-85		513.99	*	5.199E-02	3.300E-02	5.103E-02	2.825E-03	1.019
RB-86		1076.63	*	2.139E-01	6.115E-01	1.014E+00	6.334E-02	0.211
Y-88		898.02		9.802E-03	3.235E-02	5.399E-02	3.865E-03	0.182
		1836.01	*	-3.637E-03	2.544E-02	4.037E-02	2.285E-03	-0.090
ZR-88		392.90	*	-9.463E-03	2.292E-02	3.634E-02	1.964E-03	-0.260
Y-91		1204.90	*	1.075E+01	1.458E+01	2.555E+01	1.476E+00	0.421
NB-94		702.63	*	2.454E-02	2.586E-02	4.517E-02	2.433E-03	0.543
		871.10		3.560E-03	2.553E-02	4.222E-02	2.896E-03	0.084
NB-95		765.79	*	3.674E-02	3.805E-02	5.870E-02	3.478E-03	0.626
NB-95M		235.69	*	1.835E-02	1.054E-01	1.552E-01	1.160E-02	0.118
ZR-95		724.18		1.209E-02	8.158E-02	1.187E-01	7.909E-03	0.102
		756.15	*	3.410E-02	5.603E-02	9.590E-02	6.777E-03	0.356
NB-97		657.90	*	1.595E-02	5.603E-02	Half-Life	too short	
		1024.50		-2.430E-01	5.603E-02	Half-Life	too short	
ZR-97		254.15		1.943E+00	5.603E-02	Half-Life	too short	
		355.39		-2.400E-01	5.603E-02	Half-Life	too short	
		507.63	*	1.436E+00	5.603E-02	Half-Life	too short	
		602.52		-7.976E-01	5.603E-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			-1.866E+00	5.603E-02	Half-Life	too short	
	1147.95			8.335E-02	5.603E-02	Half-Life	too short	
	1362.66			7.542E-01	5.603E-02	Half-Life	too short	
	1750.46			2.428E+00	5.603E-02	Half-Life	too short	
MO-99	140.51			-3.984E+01	2.070E+01	2.714E+01	7.310E+00	-1.468
	181.06			-5.440E+00	1.272E+01	1.846E+01	3.141E+00	-0.295
	366.43			-1.018E+01	5.799E+01	9.356E+01	5.238E+00	-0.109
	739.58	*		2.004E+00	7.675E+00	1.289E+01	1.772E+00	0.155
	778.00			-1.489E+01	2.113E+01	3.304E+01	1.993E+00	-0.451
TC-99M	140.51	*		-1.235E+10	2.113E+01	Half-Life	too short	
RH-101	127.23			5.610E-03	2.883E-02	4.087E-02	2.448E-03	0.137
	198.01	*		-4.891E-03	2.481E-02	4.129E-02	2.282E-03	-0.118
	325.23			6.677E-02	1.995E-01	2.916E-01	1.690E-02	0.229
RH-102	418.52			-2.389E-01	2.230E-01	3.387E-01	1.854E-02	-0.705
	475.06	*		-3.758E-03	2.312E-02	3.673E-02	2.037E-03	-0.102
	631.29			1.047E-02	4.236E-02	7.169E-02	3.732E-03	0.146
	697.49			2.943E-03	5.868E-02	9.766E-02	5.220E-03	0.030
	766.84	+		1.961E-01	9.471E-02	1.637E-01	9.712E-03	1.198
	1046.59			-3.711E-02	8.295E-02	1.287E-01	8.291E-03	-0.288
	1112.84			-7.030E-02	2.043E-01	2.872E-01	1.722E-02	-0.245
RU-103	497.08	*		4.267E-03	3.301E-02	5.320E-02	6.666E-03	0.080
	610.33	+		1.454E+01	2.613E+00	2.390E+00	3.641E-01	6.084
RH-106	511.85	+		5.919E-01	2.653E-01	3.383E-01	1.873E-02	1.750
	621.84	*		-3.671E-02	2.340E-01	3.873E-01	4.444E-02	-0.095
	1050.47			5.693E-03	1.771E+00	2.864E+00	1.838E-01	0.002
RU-106	511.85	+		5.919E-01	2.653E-01	3.383E-01	1.873E-02	1.750
	621.84	*		-3.671E-02	2.340E-01	3.873E-01	2.033E-02	-0.095
	1050.47			5.693E-03	1.771E+00	2.864E+00	1.838E-01	0.002
AG-108M	433.93	*		-4.623E-04	2.709E-02	4.190E-02	2.525E-03	-0.011
	614.37			1.559E-02	3.108E-02	4.707E-02	2.738E-03	0.331
	722.95			-2.863E-02	3.499E-02	4.630E-02	2.810E-03	-0.618
AG-110M	657.75	*		1.271E-02	2.948E-02	4.423E-02	2.431E-03	0.287
	677.61			3.589E-02	2.346E-01	3.936E-01	2.194E-02	0.091
	706.67			-1.207E-01	1.661E-01	2.635E-01	1.526E-02	-0.458
	763.93			-8.978E-02	1.449E-01	1.952E-01	1.222E-02	-0.460
	884.67			-4.453E-03	3.759E-02	6.090E-02	4.461E-03	-0.073
	937.48			-7.840E-02	8.606E-02	1.299E-01	9.557E-03	-0.604
	1384.27			5.269E-02	1.379E-01	2.078E-01	1.495E-02	0.254
IN-111	171.28			-5.039E-01	6.591E-01	1.084E+00	5.817E-02	-0.465
	245.39	*		-4.269E-01	8.053E-01	1.112E+00	6.417E-02	-0.384
IN-113M	391.69	*		-4.815E-02	3.457E-02	5.182E-02	3.015E-03	-0.929
SN-113	391.69	*		-4.815E-02	3.457E-02	5.182E-02	3.015E-03	-0.929
IN-114M	190.27	*		-1.030E-01	1.582E-01	2.272E-01	1.245E-02	-0.453
CD-115	260.90			2.646E+01	8.335E+01	1.395E+02	8.110E+00	0.190
	492.35			-2.004E+00	2.445E+01	3.895E+01	2.161E+00	-0.051
	527.90	*		3.348E+00	6.525E+00	1.130E+01	6.235E-01	0.296
SN-117M	156.02			-1.212E+00	1.660E+00	2.746E+00	1.504E-01	-0.441
	158.56	*		-1.349E-02	4.018E-02	6.718E-02	3.656E-03	-0.201
SB-122	563.90	*		1.038E+00	1.351E+00	2.357E+00	1.284E-01	0.440

---- 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		-1.076E-04	2.853E+01	4.737E+01	2.513E+00	0.000
		159.00	*	-2.124E-01	2.853E+01	Half-Life too short		
		528.96		5.390E+01	2.853E+01	Half-Life too short		
TE-123M		159.00	*	-2.276E-03	2.140E-02	3.602E-02	1.988E-03	-0.063
I-124		602.71	*	-1.561E-01	5.398E-01	7.686E-01	4.094E-02	-0.203
		722.78		-3.764E+00	3.420E+00	4.402E+00	2.446E-01	-0.855
		1325.50		-3.329E+00	2.361E+01	3.880E+01	2.663E+00	-0.086
+		1376.25		5.129E+01	3.801E+01	4.240E+01	2.927E+00	1.210
		1509.49		2.944E+01	1.131E+01	2.294E+01	1.541E+00	1.283
		1691.02		-1.697E+00	2.332E+00	3.323E+00	2.068E-01	-0.511
SB-124		602.71		-9.972E-03	3.448E-02	4.910E-02	2.616E-03	-0.203
		645.85		-4.196E-02	3.777E-01	6.254E-01	3.729E-02	-0.067
		709.31		3.956E-01	2.107E+00	3.533E+00	1.923E-01	0.112
+		713.82		-3.830E-01	1.246E+00	2.025E+00	2.031E-01	-0.189
		722.78		-3.485E-01	3.168E-01	4.076E-01	2.381E-02	-0.855
		968.20		2.077E+01	3.536E+00	6.029E+00	4.130E-01	3.444
+		1045.16		-1.582E+00	1.788E+00	2.657E+00	1.714E-01	-0.595
		1325.50		-3.293E-01	2.335E+00	3.837E+00	2.634E-01	-0.086
		1368.21		-5.331E-01	1.337E+00	1.947E+00	2.424E-01	-0.274
+		1436.60		2.405E+00	2.628E+00	4.779E+00	3.267E-01	0.503
		1691.02	*	-3.706E-02	5.096E-02	7.258E-02	4.855E-03	-0.511
		427.89	*	1.432E-02	7.395E-02	1.205E-01	6.933E-03	0.119
SB-125		463.38		8.622E-01	3.647E-01	4.583E-01	2.998E-02	1.881
		600.56		1.256E-01	1.358E-01	2.380E-01	1.502E-02	0.528
		635.90		6.525E-02	2.062E-01	3.503E-01	2.198E-02	0.186
TE-125M		109.28	*	3.783E+00	7.541E+00	1.218E+01	1.087E+00	0.311
I-126		388.63		9.580E-02	1.512E-01	2.528E-01	1.372E-02	0.379
		666.33	*	-2.724E-03	1.569E-01	2.265E-01	1.152E-02	-0.012
		753.82		6.950E-01	1.120E+00	1.919E+00	1.117E-01	0.362
SB-126		223.80		-9.389E-02	3.043E+00	5.063E+00	2.873E-01	-0.019
		278.60		4.004E+00	2.481E+00	3.259E+00	1.905E-01	1.228
		296.50		1.347E+01	2.046E+00	2.825E+00	1.653E-01	4.770
+		414.70		9.268E-03	5.856E-02	9.217E-02	5.038E-03	0.101
		415.30		1.194E+00	4.594E+00	7.526E+00	4.115E-01	0.159
		555.20		1.629E+00	2.874E+00	4.977E+00	2.722E-01	0.327
+		573.80		3.114E-01	7.377E-01	1.266E+00	6.865E-02	0.246
		593.00		1.918E-01	6.776E-01	1.153E+00	6.181E-02	0.166
		656.30		-6.275E-01	2.868E+00	4.072E+00	2.068E-01	-0.154
+		666.33		-1.137E-03	6.549E-02	9.453E-02	4.809E-03	-0.012
		675.00		-3.520E-02	1.477E+00	2.453E+00	1.265E-01	-0.014
		695.00		5.870E-02	5.791E-02	1.016E-01	5.406E-03	0.578
+		697.00		3.080E-02	1.979E-01	3.314E-01	1.770E-02	0.093
		720.50	*	2.782E-03	1.214E-01	1.748E-01	9.680E-03	0.016
		856.80		1.567E-01	3.704E-01	5.489E-01	3.694E-02	0.285
+		989.30		-5.346E-01	9.073E-01	1.398E+00	9.438E-02	-0.383
		1034.80		2.327E+00	6.091E+00	1.018E+01	6.626E-01	0.229
		1213.00		-2.441E+00	3.406E+00	5.421E+00	3.171E-01	-0.450
SB-127		61.10		4.286E+01	4.676E+01	6.976E+01	7.563E+00	0.614
		252.40		-1.656E+00	3.048E+00	4.817E+00	1.999E+00	-0.344

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		290.80		-1.347E+01	1.727E+01	2.381E+01	2.136E+00	-0.566
		411.60		2.818E+00	9.784E+00	1.409E+01	1.987E+00	0.200
		444.90		-1.715E-01	7.173E+00	1.153E+01	1.206E+00	-0.015
		473.00		-4.736E-01	1.212E+00	1.900E+00	2.063E-01	-0.249
		543.00		-8.439E+00	1.117E+01	1.794E+01	2.263E+00	-0.470
		603.60		1.458E+00	8.955E+00	1.320E+01	1.362E+00	0.110
		685.20	*	-2.338E-01	9.008E-01	1.471E+00	1.306E-01	-0.159
		698.50		-7.914E+00	1.064E+01	1.678E+01	2.377E+00	-0.472
		722.20		-9.187E+00	2.284E+01	3.158E+01	2.773E+00	-0.291
		783.80		1.705E+00	2.509E+00	4.300E+00	4.568E-01	0.396
XE-127		57.60		-1.144E+00	5.057E+00	8.158E+00	6.961E-01	-0.140
		145.22		8.054E-02	5.498E-01	8.990E-01	5.073E-02	0.090
		172.10		-7.172E-02	9.064E-02	1.489E-01	7.999E-03	-0.482
		202.84	*	-9.703E-03	3.503E-02	5.808E-02	3.228E-03	-0.167
		374.96		9.268E-02	1.600E-01	2.668E-01	1.477E-02	0.347
I-131		80.18		-3.359E+00	5.051E+00	5.466E+00	4.767E-01	-0.615
		284.30		-5.580E-01	1.113E+00	1.797E+00	1.166E-01	-0.311
		364.48	*	-2.749E-03	8.789E-02	1.428E-01	8.999E-03	-0.019
		636.97		4.037E-01	1.113E+00	1.895E+00	1.126E-01	0.213
		722.89		-6.510E+00	5.783E+00	7.420E+00	4.182E-01	-0.877
TE-132		49.72		-2.036E+00	1.526E+01	2.478E+01	2.553E+00	-0.082
		111.76		-1.925E+01	2.151E+01	3.316E+01	3.060E+00	-0.581
		116.30		8.580E+00	1.933E+01	3.112E+01	2.810E+00	0.276
		228.16	*	-2.153E-01	4.674E-01	7.642E-01	1.085E-01	-0.282
BA-133		53.15		1.703E+00	3.064E+00	5.075E+00	4.314E-01	0.336
		79.62		-3.692E-01	1.491E+00	1.655E+00	2.522E-01	-0.223
		81.00		-1.998E-02	1.079E-01	1.202E-01	1.914E-02	-0.166
	+	276.40		6.192E-01	3.903E-01	5.168E-01	6.710E-02	1.198
		302.84		7.162E-02	1.240E-01	1.840E-01	2.150E-02	0.389
		356.01	*	8.102E-04	3.579E-02	5.113E-02	5.876E-03	0.016
		383.85		-2.443E-01	2.427E-01	3.721E-01	3.981E-02	-0.657
I-133	+	510.53		7.391E-01	2.427E-01	Half-Life	too short	
		529.87	*	-4.033E-04	2.427E-01	Half-Life	too short	
		706.58		-1.108E-01	2.427E-01	Half-Life	too short	
		856.28		-7.365E-02	2.427E-01	Half-Life	too short	
		875.33		-1.671E-02	2.427E-01	Half-Life	too short	
	+	1236.41		6.765E-01	2.427E-01	Half-Life	too short	
		1298.22		-5.901E-02	2.427E-01	Half-Life	too short	
CS-134		475.35		1.715E-01	1.495E+00	2.413E+00	1.339E-01	0.071
		563.23		1.393E-01	2.750E-01	4.739E-01	2.644E-02	0.294
		569.32		-1.217E-01	1.589E-01	2.424E-01	1.362E-02	-0.502
		604.70		-1.143E-02	2.947E-02	4.161E-02	2.228E-03	-0.275
	+	795.84	*	6.381E-02	5.559E-02	7.003E-02	4.393E-03	0.911
		801.93		-3.078E-01	3.250E-01	4.746E-01	2.993E-02	-0.649
		1038.57		1.802E-01	2.800E+00	4.554E+00	2.955E-01	0.040
		1167.94		-1.114E+00	1.762E+00	2.817E+00	1.564E-01	-0.395
		1365.15		4.245E-01	8.779E-01	1.530E+00	1.131E-01	0.278
CS-135		268.24	*	2.421E-01	1.357E-01	2.126E-01	1.633E-02	1.138
I-135		288.45		9.533E+08	1.357E-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		417.63		-3.915E+09	1.357E-01	Half-Life	too short	
		546.56		9.010E+08	1.357E-01	Half-Life	too short	
		836.80		2.858E+09	1.357E-01	Half-Life	too short	
		1038.76		1.346E+08	1.357E-01	Half-Life	too short	
		1124.00		-3.985E+09	1.357E-01	Half-Life	too short	
		1131.51		2.725E+07	1.357E-01	Half-Life	too short	
		1260.41	*	-1.381E+08	1.357E-01	Half-Life	too short	
		1457.56		1.082E+11	1.357E-01	Half-Life	too short	
		1678.03		1.317E+09	1.357E-01	Half-Life	too short	
		1706.46		2.977E+09	1.357E-01	Half-Life	too short	
		1791.20		-7.336E+08	1.357E-01	Half-Life	too short	
	+	66.91		6.507E-01	6.979E-01	1.031E+00	1.574E-01	0.631
		86.29		4.546E+00	1.200E+00	1.538E+00	2.024E-01	2.955
		153.22		4.405E-01	4.823E-01	8.334E-01	5.833E-02	0.529
		163.89		-1.019E-01	7.788E-01	1.308E+00	9.039E-02	-0.078
		176.55		1.852E-01	2.790E-01	4.773E-01	2.940E-02	0.388
		273.65		6.120E-02	5.265E-01	5.568E-01	3.702E-02	0.110
		340.57		3.981E-01	1.251E-01	2.027E-01	1.238E-02	1.964
		818.51		2.103E-02	5.222E-02	8.832E-02	5.649E-03	0.238
		1048.07	*	-5.302E-03	7.571E-02	1.216E-01	8.409E-03	-0.044
		1235.34		6.709E-01	4.916E-01	7.883E-01	7.987E-02	0.851
CE-139		165.85	*	-4.584E-03	2.246E-02	3.763E-02	2.010E-03	-0.122
BA-140		162.64		1.398E-01	5.515E-01	9.367E-01	5.766E-02	0.149
		304.84		1.717E-01	1.077E+00	1.563E+00	4.267E-01	0.110
		423.70		9.913E-01	1.503E+00	2.454E+00	7.786E-01	0.404
LA-140	+	537.32	*	1.447E-01	2.012E-01	3.418E-01	1.110E-01	0.423
		328.77		8.504E-01	3.588E-01	4.196E-01	2.721E-02	2.027
		432.53		-8.536E-01	1.598E+00	2.501E+00	1.535E-01	-0.341
		487.03		1.666E-02	1.051E-01	1.699E-01	1.078E-02	0.098
		751.79		-1.576E+00	1.333E+00	2.027E+00	1.439E-01	-0.778
		815.85		-1.615E-01	2.235E-01	3.461E-01	2.649E-02	-0.467
		867.82		-8.169E-01	1.142E+00	1.573E+00	1.164E-01	-0.519
		919.63		-1.532E+00	1.948E+00	2.958E+00	2.785E-01	-0.518
		925.24		1.687E-01	8.207E-01	1.359E+00	1.043E-01	0.124
		1596.49	*	3.910E-02	6.137E-02	9.737E-02	6.344E-03	0.402
CE-141		145.44	*	2.039E-02	4.706E-02	8.058E-02	4.736E-03	0.253
CE-143		57.37		-2.263E-04	4.706E-02	Half-Life	too short	
		231.56		-4.289E-04	4.706E-02	Half-Life	too short	
		293.26	*	4.287E-04	4.706E-02	Half-Life	too short	
	+	350.59		2.446E-02	4.706E-02	Half-Life	too short	
		490.36		-5.840E-05	4.706E-02	Half-Life	too short	
		664.57		1.139E-03	4.706E-02	Half-Life	too short	
		721.93		-2.104E-04	4.706E-02	Half-Life	too short	
CE-144		80.11		-1.654E+00	2.448E+00	2.647E+00	2.294E-01	-0.625
		133.54	*	-6.152E-02	1.820E-01	2.512E-01	3.572E-02	-0.245
PM-144		476.78		2.502E-02	5.236E-02	8.624E-02	5.806E-03	0.290
		618.01		-5.553E-03	2.367E-02	3.901E-02	2.203E-03	-0.142
		696.49	*	1.282E-02	2.607E-02	4.450E-02	2.377E-03	0.288
		778.57		6.924E-02	1.639E+00	2.709E+00	1.636E-01	0.026

---- 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	*	8.682E-01	1.766E+00	3.015E+00	1.609E-01	0.288
		1489.15		-6.997E+00	8.475E+00	1.246E+01	8.414E-01	-0.562
PM-146		453.90	*	-2.178E-03	3.523E-02	5.646E-02	4.768E-03	-0.039
		633.02		-6.275E-01	1.108E+00	1.748E+00	6.422E-01	-0.359
		735.90		-1.128E-02	1.104E-01	1.764E-01	4.913E-02	-0.064
		747.13		3.444E-02	7.161E-02	1.217E-01	1.520E-02	0.283
ND-147	+	91.11		7.163E-01	2.663E-01	3.893E-01	3.667E-02	1.840
		319.41		-2.811E+00	2.522E+00	3.923E+00	2.282E-01	-0.717
		439.89		2.126E-01	4.572E+00	7.383E+00	4.074E-01	0.029
		531.02	*	1.121E-01	4.104E-01	7.010E-01	9.395E-02	0.160
PM-149		285.90	*	-3.361E+01	5.939E+01	9.532E+01	1.353E+01	-0.353
EU-152		121.78		1.374E-02	5.878E-02	9.393E-02	7.397E-03	0.146
		244.69		2.363E-01	2.774E-01	4.208E-01	2.427E-02	0.561
		344.27	*	-3.367E-02	8.413E-02	1.301E-01	8.417E-03	-0.259
		443.98		1.084E-01	7.768E-01	1.260E+00	6.957E-02	0.086
		778.89		1.670E-02	1.900E-01	3.151E-01	1.902E-02	0.053
		867.32		-5.112E-01	7.415E-01	9.700E-01	6.622E-02	-0.527
	+	964.01		6.698E-01	2.937E-01	4.506E-01	3.095E-02	1.486
		1085.78		-8.501E-02	2.911E-01	4.573E-01	2.829E-02	-0.186
		1112.02		-8.062E-02	2.813E-01	4.152E-01	2.491E-02	-0.194
	+	1407.95		2.095E-01	2.141E-01	2.716E-01	1.866E-02	0.771
GD-153		69.67		-9.363E-01	1.449E+00	2.182E+00	1.816E-01	-0.429
	+	83.37		1.821E+01	1.486E+01	1.974E+01	1.750E+00	0.922
		97.43	*	-4.303E-02	6.996E-02	9.684E-02	7.664E-03	-0.444
		103.18		-1.318E-01	8.536E-02	1.286E-01	9.463E-03	-1.025
EU-154		123.07		2.299E-02	4.124E-02	6.649E-02	6.379E-03	0.346
		247.94		-1.198E-01	2.932E-01	4.443E-01	4.233E-02	-0.270
		591.81		-2.140E-01	4.695E-01	7.655E-01	7.290E-02	-0.280
		723.30		-1.333E-01	1.456E-01	1.904E-01	1.311E-02	-0.700
		756.87		3.025E-01	6.096E-01	1.036E+00	1.053E-01	0.292
		873.19		2.769E-02	2.217E-01	3.662E-01	4.061E-02	0.076
		996.32		-4.162E-01	3.112E-01	4.395E-01	7.438E-02	-0.947
		1004.76		-3.460E-01	1.825E-01	2.464E-01	2.534E-02	-1.404
		1274.45	*	2.988E-02	8.839E-02	1.515E-01	1.473E-02	0.197
EU-155		48.70		1.066E-01	2.231E+00	3.647E+00	2.870E-01	0.029
		60.01		2.678E+00	4.581E+00	6.780E+00	5.753E-01	0.395
	+	86.54		4.332E-01	1.068E-01	1.454E-01	1.334E-02	2.980
		105.31	*	8.822E-02	8.709E-02	1.428E-01	1.043E-02	0.618
TB-160	+	86.79		1.151E+00	2.832E-01	3.868E-01	3.525E-02	2.975
		197.04		-3.018E-01	4.201E-01	6.875E-01	3.797E-02	-0.439
		215.65		-2.136E-01	5.632E-01	8.956E-01	5.044E-02	-0.238
		298.57		2.187E-01	1.338E-01	1.595E-01	9.326E-03	1.371
		879.36	*	-8.063E-03	1.047E-01	1.703E-01	1.181E-02	-0.047
		962.29		8.133E-01	4.587E-01	7.471E-01	5.137E-02	1.089
		966.15		1.297E+00	2.226E-01	4.261E-01	2.923E-02	3.043
		1177.93		-1.315E-01	2.694E-01	4.366E-01	2.421E-02	-0.301
		1271.85		-3.290E-02	5.154E-01	8.560E-01	5.455E-02	-0.038
HO-166M		80.57		1.953E-02	3.002E-01	3.393E-01	2.949E-02	0.058
		184.41		9.335E-02	3.237E-02	5.044E-02	2.746E-03	1.851

---- 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		1.895E-02	7.297E-02	1.071E-01	6.261E-03	0.177
		410.95		1.071E-01	2.206E-01	3.220E-01	1.757E-02	0.333
		711.68	*	4.570E-03	4.579E-02	7.636E-02	4.172E-03	0.060
		752.31		-1.152E-01	2.205E-01	3.522E-01	2.046E-02	-0.327
		810.29		-8.621E-03	4.226E-02	6.841E-02	4.319E-03	-0.126
		51.35		-2.224E+01	2.679E+01	4.235E+01	3.546E+00	-0.525
		52.39		8.382E-01	1.361E+01	2.222E+01	1.880E+00	0.038
		59.40		6.778E+00	2.461E+01	3.604E+01	3.066E+00	0.188
		66.72	*	2.430E+01	2.589E+01	3.852E+01	3.204E+00	0.631
		88.36		8.533E-01	2.100E-01	2.922E-01	2.673E-02	2.920
LU-176	+	201.83		-2.119E-02	2.168E-02	3.511E-02	1.949E-03	-0.603
		306.84	*	1.155E-02	2.152E-02	3.194E-02	1.865E-03	0.362
		401.10		-4.531E+00	5.679E+00	8.842E+00	4.802E-01	-0.512
LU-177		112.95		-1.331E+00	1.313E+00	1.946E+00	1.292E-01	-0.684
	+	208.36	*	2.359E+00	1.107E+00	1.443E+00	8.065E-02	1.635
LU-177M		52.97		5.103E-01	1.377E+00	2.269E+00	1.927E-01	0.225
		54.07		3.476E-01	7.257E-01	1.199E+00	1.022E-01	0.290
		61.30		1.423E+00	1.346E+00	2.020E+00	1.704E-01	0.705
		121.62		7.830E-02	3.006E-01	4.808E-01	2.957E-02	0.163
		147.16		-5.969E-01	4.940E-01	8.072E-01	4.530E-02	-0.739
		171.86		-2.989E-01	3.665E-01	6.016E-01	3.230E-02	-0.497
		218.09		-3.844E-01	6.327E-01	1.033E+00	5.832E-02	-0.372
	+	268.79		2.497E+00	1.136E+00	1.148E+00	6.695E-02	2.175
		319.02		-1.314E-01	2.046E-01	3.258E-01	1.894E-02	-0.403
		367.43		-2.351E-01	7.222E-01	1.157E+00	6.466E-02	-0.203
HF-181		413.65	*	2.044E-01	1.485E-01	2.300E-01	1.256E-02	0.889
		56.28		-5.355E-01	7.941E-01	1.261E+00	1.078E-01	-0.425
		57.53		-1.119E-01	4.261E-01	6.866E-01	5.860E-02	-0.163
		65.20		-4.235E-02	8.817E-01	1.271E+00	1.060E-01	-0.033
		133.02		-1.285E-02	5.776E-02	8.023E-02	4.703E-03	-0.160
		136.25		1.916E-01	3.427E-01	5.750E-01	3.334E-02	0.333
		345.85		-4.374E-02	1.803E-01	2.538E-01	1.451E-02	-0.172
		482.03	*	9.438E-03	3.309E-02	5.391E-02	2.991E-03	0.175
		56.28		-2.110E-01	3.129E-01	4.970E-01	4.246E-02	-0.424
		57.53		-4.430E-02	1.680E-01	2.707E-01	2.310E-02	-0.164
W-181		65.20	*	-1.657E-02	3.449E-01	4.972E-01	4.145E-02	-0.033
		67.75		4.071E-02	9.514E-02	1.484E-01	1.234E-02	0.274
		100.10		1.441E-01	1.469E-01	2.334E-01	1.783E-02	0.617
TA-182		152.43		1.446E-01	2.541E-01	4.359E-01	2.411E-02	0.332
		222.10		9.765E-02	2.697E-01	4.543E-01	2.574E-02	0.215
		1001.68		2.770E+00	1.789E+00	3.034E+00	2.030E-01	0.913
	+	1121.28		5.732E-01	1.891E-01	2.810E-01	1.666E-02	2.040
		1189.05		-2.227E-01	2.132E-01	3.282E-01	1.851E-02	-0.679
		1221.42	*	-2.713E-02	1.545E-01	2.558E-01	1.515E-02	-0.106
		1230.97		-1.345E-01	4.002E-01	5.578E-01	3.351E-02	-0.241
		57.98		2.400E-02	1.656E-01	2.703E-01	2.305E-02	0.089
		59.32		2.630E-02	1.007E-01	1.474E-01	1.255E-02	0.178
		67.20		1.646E-01	1.816E-01	2.698E-01	2.244E-02	0.610
RE-183		162.32	*	3.087E-02	8.246E-02	1.405E-01	7.570E-03	0.220

---- 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		2.246E+00	1.054E+00	1.393E+00	7.793E-02	1.612
		291.72		-3.161E-01	8.212E-01	1.160E+00	6.788E-02	-0.272
		57.98		8.876E-02	6.125E-01	9.996E-01	8.525E-02	0.089
		59.32		9.716E-02	3.722E-01	5.447E-01	4.635E-02	0.178
		67.20		6.086E-01	6.713E-01	9.975E-01	8.296E-02	0.610
		161.27		-2.502E-03	2.673E-01	4.509E-01	2.436E-02	-0.006
		216.55		-3.589E-01	1.972E-01	3.069E-01	1.730E-02	-1.170
		252.85	*	-1.764E-02	1.773E-01	2.926E-01	1.695E-02	-0.060
		318.01		4.826E-02	3.493E-01	5.757E-01	3.349E-02	0.084
		792.07		9.070E-03	8.610E-01	1.229E+00	7.565E-02	0.007
OS-185		903.28		3.549E-02	8.797E-01	1.247E+00	8.845E-02	0.028
		920.93		-1.061E-01	3.293E-01	5.227E-01	3.677E-02	-0.203
		59.72		3.713E-03	2.743E-01	3.976E-01	3.379E-02	0.009
		61.14		1.387E-01	1.476E-01	2.207E-01	1.863E-02	0.628
		69.30		-2.402E-01	2.603E-01	3.882E-01	3.229E-02	-0.619
		592.07		-9.292E-01	1.903E+00	3.099E+00	1.662E-01	-0.300
		646.12	*	-2.482E-03	3.229E-02	5.358E-02	2.750E-03	-0.046
		717.42		4.169E-01	6.805E-01	1.169E+00	6.443E-02	0.357
		874.81		-1.415E-01	4.418E-01	7.050E-01	4.861E-02	-0.201
		880.27		8.290E-02	5.845E-01	9.661E-01	6.709E-02	0.086
RE-188		155.03	*	3.576E-02	1.288E-01	2.193E-01	1.205E-02	0.163
		477.96		-9.621E-01	2.381E+00	3.725E+00	2.066E-01	-0.258
		633.10		-1.229E+00	2.181E+00	3.519E+00	1.829E-01	-0.349
W-188	+	63.58		5.393E+01	5.576E+01	7.577E+01	6.340E+00	0.712
		227.08		2.793E+00	1.031E+01	1.667E+01	9.487E-01	0.168
IR-192		290.67	*	-5.292E+00	6.623E+00	9.136E+00	5.346E-01	-0.579
	+	295.96		1.062E+00	1.616E-01	2.269E-01	1.348E-02	4.680
		308.46		-8.333E-03	7.471E-02	1.220E-01	7.203E-03	-0.068
		316.51	*	1.216E-02	2.724E-02	4.547E-02	2.660E-03	0.267
		468.07		-6.243E-03	6.209E-02	8.630E-02	5.580E-03	-0.072
AU-195		604.41		-1.318E-01	3.977E-01	5.638E-01	6.266E-02	-0.234
		612.46		1.022E+00	6.235E-01	1.002E+00	7.201E-02	1.020
		65.12		9.643E-03	1.605E-01	2.323E-01	1.936E-02	0.042
		66.83		7.796E-02	8.577E-02	1.275E-01	1.060E-02	0.612
	+	75.70		1.039E+00	1.996E-01	3.694E-01	3.126E-02	2.813
		98.88	*	2.652E-01	2.029E-01	2.958E-01	2.295E-02	0.897
TL-200	+	129.76		2.832E+00	2.912E+00	3.858E+00	2.289E-01	0.734
		367.94	*	-9.302E-05	2.912E+00	Half-Life	too short	
		579.30		2.626E-03	2.912E+00	Half-Life	too short	
		828.27		1.941E-03	2.912E+00	Half-Life	too short	
TL-201		1205.75		1.234E-03	2.912E+00	Half-Life	too short	
		68.90		-3.873E+00	3.497E+00	5.463E+00	4.543E-01	-0.709
		70.82		3.622E-01	2.188E+00	3.168E+00	2.641E-01	0.114
		80.30		-3.279E+00	5.045E+00	5.464E+00	4.741E-01	-0.600
TL-202		135.34		-4.363E+00	1.629E+01	2.746E+01	1.597E+00	-0.159
		167.43	*	1.282E+00	4.582E+00	7.781E+00	4.159E-01	0.165
		68.90		-3.868E-01	3.493E-01	5.456E-01	4.538E-02	-0.709
		70.82		3.607E-02	2.179E-01	3.155E-01	2.630E-02	0.114
		80.30		-3.267E-01	5.026E-01	5.444E-01	4.724E-02	-0.600

---- 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	*	9.765E-03	5.403E-02	8.787E-02	4.846E-03	0.111
		70.83		1.692E-01	9.690E-01	1.403E+00	1.884E-01	0.121
		72.87		1.427E+00	5.925E-01	8.755E-01	1.142E-01	1.630
		82.60		8.973E-01	9.726E-01	1.427E+00	1.979E-01	0.629
BI-207		279.20	*	2.502E-02	3.640E-02	5.447E-02	3.379E-03	0.459
		72.80		3.709E-01	1.685E-01	2.557E-01	2.141E-02	1.450
	+	74.97		5.776E-01	1.110E-01	1.834E-01	1.548E-02	3.149
	+	84.90		2.359E-01	1.926E-01	2.546E-01	2.284E-02	0.927
		569.67		-2.121E-02	2.428E-02	3.666E-02	1.991E-03	-0.579
TL-207		1063.62	*	-1.071E-02	4.263E-02	6.748E-02	4.275E-03	-0.159
		1770.23		-8.544E-02	3.084E-01	3.937E-01	2.334E-02	-0.217
		81.07		-2.329E-01	2.488E-01	2.642E-01	2.304E-02	-0.881
	+	83.78		1.556E-01	1.270E-01	1.668E-01	1.483E-02	0.933
		94.90		7.566E-01	2.095E-01	3.244E-01	2.662E-02	2.332
		122.32		6.605E-01	1.398E+00	2.250E+00	1.571E-01	0.294
		144.24		6.278E-01	5.482E-01	9.174E-01	6.532E-02	0.684
		154.21		1.835E-01	2.987E-01	5.127E-01	3.472E-02	0.358
	+	269.46		5.862E-01	2.668E-01	2.815E-01	1.716E-02	2.082
		323.87	*	3.496E-01	5.891E-01	8.705E-01	1.438E-01	0.402
PO-209	+	338.28		6.952E+00	1.443E+00	2.013E+00	2.114E-01	3.454
		445.03		-1.043E-01	1.863E+00	2.990E+00	3.025E-01	-0.035
		260.50		4.930E+00	7.474E+00	1.265E+01	7.356E-01	0.390
		262.80		-1.508E+01	2.135E+01	3.309E+01	1.926E+00	-0.456
		896.60	*	5.232E+00	5.724E+00	9.951E+00	7.061E-01	0.526
BI-210		46.50	*	1.533E+00	3.363E+00	5.570E+00	4.412E-01	0.275
PB-210		46.50	*	1.533E+00	3.363E+00	5.570E+00	4.412E-01	0.275
PO-210		46.50	*	1.533E+00	3.362E+00	5.570E+00	3.824E-01	0.275
PB-211		404.84	*	2.415E-01	8.929E-01	1.267E+00	7.896E-01	0.191
BI-212		427.08		-6.575E-01	1.728E+00	2.655E+00	1.640E+00	-0.248
		831.96		-9.721E-01	1.094E+00	1.379E+00	8.603E-01	-0.705
	+	727.18	*	1.397E+00	4.175E-01	5.337E-01	4.035E-02	2.618
		785.46		1.177E+00	1.365E+00	2.367E+00	1.443E-01	0.497
		1620.62		1.046E+00	9.773E-01	1.800E+00	1.161E-01	0.581
PO-215		81.07		-2.329E-01	2.488E-01	2.642E-01	2.304E-02	-0.881
	+	83.78		1.556E-01	1.270E-01	1.668E-01	1.483E-02	0.933
		94.90		7.566E-01	2.095E-01	3.244E-01	2.662E-02	2.332
		122.32		6.605E-01	1.398E+00	2.250E+00	1.571E-01	0.294
		144.24		6.278E-01	5.482E-01	9.174E-01	6.532E-02	0.684
		154.21		1.835E-01	2.987E-01	5.127E-01	3.472E-02	0.358
	+	269.46		5.862E-01	2.668E-01	2.815E-01	1.716E-02	2.082
		323.87	*	3.496E-01	5.891E-01	8.705E-01	1.438E-01	0.402
	+	338.28		6.952E+00	1.443E+00	2.013E+00	2.114E-01	3.454
		445.03		-1.043E-01	1.863E+00	2.990E+00	3.025E-01	-0.035
RN-219	+	271.23		7.521E-01	3.446E-01	3.650E-01	2.967E-02	2.061
		401.81	*	-2.756E-01	3.497E-01	5.419E-01	7.290E-02	-0.509
RN-220		549.76	*	-8.573E+00	1.949E+01	3.198E+01	1.752E+00	-0.268
RA-223		81.07		-2.329E-01	2.488E-01	2.642E-01	2.304E-02	-0.881
	+	83.78		1.556E-01	1.270E-01	1.668E-01	1.483E-02	0.933
		94.90		7.566E-01	2.095E-01	3.244E-01	2.662E-02	2.332

---- 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		6.605E-01	1.398E+00	2.250E+00	1.571E-01	0.294
		144.24		6.278E-01	5.482E-01	9.174E-01	6.532E-02	0.684
		154.21		1.835E-01	2.987E-01	5.127E-01	3.472E-02	0.358
	+	269.46		5.862E-01	2.668E-01	2.815E-01	1.716E-02	2.082
		323.87	*	3.496E-01	5.891E-01	8.705E-01	1.438E-01	0.402
	+	338.28		6.952E+00	1.443E+00	2.013E+00	2.114E-01	3.454
		445.03		-1.043E-01	1.863E+00	2.990E+00	3.025E-01	-0.035
		79.80		-1.025E+00	1.914E+00	2.078E+00	4.470E-01	-0.493
		236.00		2.754E-01	2.009E-01	3.076E-01	3.204E-02	0.895
		256.20	*	-2.633E-01	3.009E-01	4.784E-01	6.680E-02	-0.550
		286.10		-1.037E-01	1.188E+00	1.950E+00	2.260E-01	-0.053
	+	299.80		3.743E+00	1.947E+00	2.084E+00	3.397E-01	1.797
TH-227		304.40		3.365E-01	1.631E+00	2.376E+00	4.113E-01	0.142
		334.20		8.655E-01	2.376E+00	2.943E+00	5.392E-01	0.294
		79.80		-1.025E+00	1.915E+00	2.078E+00	4.527E-01	-0.493
	+	94.00		9.600E+00	3.181E+00	3.164E+00	6.854E-01	3.034
		236.00		2.754E-01	2.004E-01	3.076E-01	2.773E-02	0.895
		256.20	*	-2.633E-01	3.019E-01	4.784E-01	8.086E-02	-0.550
		286.10		-1.037E-01	1.193E+00	1.950E+00	1.954E+00	-0.053
	+	299.80		3.743E+00	1.947E+00	2.084E+00	3.397E-01	1.797
		304.40		3.365E-01	1.631E+00	2.376E+00	4.113E-01	0.142
		334.20		8.655E-01	2.376E+00	2.943E+00	5.392E-01	0.294
	+	85.43		2.329E-01	1.901E-01	2.594E-01	2.337E-02	0.898
	+	88.47		4.912E-01	1.209E-01	1.678E-01	1.532E-02	2.927
PA-231		100.00		2.159E-01	1.519E-01	2.438E-01	1.865E-02	0.885
		193.63	*	4.672E-01	3.916E-01	6.773E-01	3.726E-02	0.690
	+	210.97		1.770E+00	8.300E-01	1.045E+00	5.856E-02	1.694
		283.67	*	2.557E-01	1.233E+00	1.980E+00	2.732E-01	0.129
	+	301.29		1.497E+00	7.561E-01	8.337E-01	8.735E-02	1.796
		81.07		-2.329E-01	2.488E-01	2.642E-01	2.304E-02	-0.881
	+	83.78		1.556E-01	1.270E-01	1.668E-01	1.483E-02	0.933
		94.90		7.566E-01	2.095E-01	3.244E-01	2.662E-02	2.332
		122.32		6.605E-01	1.398E+00	2.250E+00	1.571E-01	0.294
		144.24		6.278E-01	5.482E-01	9.174E-01	6.532E-02	0.684
		154.21		1.835E-01	2.987E-01	5.127E-01	3.472E-02	0.358
	+	269.46		5.862E-01	2.668E-01	2.815E-01	1.716E-02	2.082
U-231		323.87	*	3.496E-01	5.891E-01	8.705E-01	1.438E-01	0.402
	+	338.28		6.952E+00	1.443E+00	2.013E+00	2.114E-01	3.454
		445.03		-1.043E-01	1.863E+00	2.990E+00	3.025E-01	-0.035
	+	84.21		6.054E+00	4.942E+00	6.436E+00	5.742E-01	0.941
	+	92.29		8.569E+00	2.264E+00	2.968E+00	2.536E-01	2.887
		95.87	*	-8.976E-02	8.403E-01	1.191E+00	9.634E-02	-0.075
		108.00		-8.419E-01	1.535E+00	2.402E+00	1.675E-01	-0.350
	+	75.28		1.685E+01	3.881E+00	5.588E+00	8.523E-01	3.016
	+	86.59		7.043E+00	2.491E+00	2.365E+00	6.381E-01	2.977
	+	300.12		1.044E+00	5.343E-01	5.823E-01	7.836E-02	1.792
		311.98	*	1.817E-02	4.990E-02	8.308E-02	5.140E-03	0.219
		340.50		2.200E+00	8.004E-01	1.036E+00	2.378E-01	2.123
PA-233		398.62		5.105E-01	1.717E+00	2.812E+00	7.248E-01	0.182

----- 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		2.126E-01	1.281E+00	2.087E+00	4.278E-01	0.102
		63.00		1.574E+00	1.640E+00	2.298E+00	3.533E-01	0.685
		94.67		6.047E-01	1.560E-01	2.452E-01	2.976E-02	2.467
		98.44		4.146E-02	8.698E-02	1.190E-01	6.623E-02	0.348
		99.86		5.685E-01	3.854E-01	6.194E-01	4.747E-02	0.918
		111.00		-1.648E-02	1.496E-01	2.372E-01	2.573E-02	-0.069
		131.20		8.666E-02	9.428E-02	1.374E-01	8.107E-03	0.631
		152.70		2.062E-01	2.468E-01	4.229E-01	6.644E-02	0.488
		186.00		4.629E+00	2.332E+00	2.067E+00	6.303E-01	2.240
		226.40		3.411E-02	3.258E-01	5.242E-01	6.030E-02	0.065
		227.20		9.893E-02	3.504E-01	5.670E-01	3.227E-02	0.174
		248.90		2.012E-01	6.153E-01	1.030E+00	2.212E-01	0.195
		293.70		4.841E+00	1.049E+00	1.284E+00	2.067E-01	3.771
		369.80		-4.320E-01	6.963E-01	1.090E+00	2.262E-01	-0.396
		568.70		-5.949E-02	7.995E-01	1.270E+00	6.902E-02	-0.047
		569.50		-1.965E-01	2.185E-01	3.302E-01	1.794E-02	-0.595
		574.00		6.351E-01	1.107E+00	1.915E+00	1.038E-01	0.332
		699.00		-6.715E-01	5.712E-01	8.602E-01	1.535E-01	-0.781
		706.10		-2.202E-01	8.224E-01	1.333E+00	5.875E-01	-0.165
		733.00		-1.748E-01	2.989E-01	3.992E-01	8.471E-02	-0.438
		742.81		-3.900E-02	1.080E+00	1.780E+00	1.191E+00	-0.022
		796.30		1.241E+00	1.127E+00	1.372E+00	3.618E-01	0.905
		805.60		5.159E-01	7.480E-01	1.263E+00	3.798E-01	0.409
		819.60		9.346E-01	9.471E-01	1.558E+00	5.856E-01	0.600
		826.30		2.234E-01	6.129E-01	1.020E+00	4.526E-01	0.219
		831.60		-5.503E-01	4.950E-01	7.018E-01	2.056E-01	-0.784
		876.40		-5.730E-02	6.295E-01	1.018E+00	1.045E+00	-0.056
		880.51		3.922E-02	2.093E-01	3.472E-01	2.412E-02	0.113
		883.24		5.208E-02	2.167E-01	3.562E-01	2.388E-01	0.146
		899.00		9.930E-02	6.529E-01	1.076E+00	4.674E-01	0.092
		925.00		2.439E-01	8.646E-01	1.441E+00	1.012E-01	0.169
		926.50		-1.161E-02	1.422E-01	2.304E-01	5.708E-02	-0.050
		946.00	*	2.504E-02	2.312E-01	3.794E-01	6.850E-02	0.066
		949.00		-7.129E-02	3.529E-01	5.655E-01	3.919E-02	-0.126
		980.50		-3.567E-01	5.496E-01	8.432E-01	5.729E-02	-0.423
		1394.10		-1.324E-01	8.103E-01	1.312E+00	8.510E-01	-0.101
PA-234M	+	766.42		1.779E+01	1.375E+01	1.691E+01	8.515E+00	1.052
		1001.03	*	6.348E+00	4.107E+00	6.946E+00	5.804E-01	0.914
U-235	+	89.95		2.965E+00	1.406E+00	1.469E+00	4.545E-01	2.019
		93.35		2.987E+00	1.121E+00	1.027E+00	2.870E-01	2.909
		105.00		9.646E-01	8.920E-01	1.396E+00	4.113E-01	0.691
		143.76	*	2.507E-01	1.738E-01	2.862E-01	4.653E-02	0.876
		163.35		-9.831E-03	3.558E-01	5.996E-01	1.070E-01	-0.016
NP-236	+	185.71		1.715E-01	6.938E-02	7.615E-02	4.152E-03	2.252
		205.31		3.451E-01	4.438E-01	6.682E-01	1.197E-01	0.517
		94.67		4.615E-01	1.112E-01	1.862E-01	1.533E-02	2.479
		98.44		3.131E-02	6.345E-02	8.994E-02	7.022E-03	0.348
		111.00		-1.247E-02	1.131E-01	1.794E-01	1.214E-02	-0.069
		160.31	*	1.052E-02	6.021E-02	1.021E-01	5.530E-03	0.103

---- 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		1.836E-01	1.298E-01	2.084E-01	1.603E-02	0.881
		117.00	*	-2.538E-02	1.511E-01	2.387E-01	1.527E-02	-0.106
	+	209.75		1.783E+00	8.362E-01	1.099E+00	6.152E-02	1.622
		228.18		-8.024E-02	1.738E-01	2.848E-01	1.622E-02	-0.282
	+	277.60		3.022E-01	1.873E-01	2.517E-01	1.471E-02	1.201
AM-241		334.30		4.863E-01	1.344E+00	1.667E+00	9.611E-02	0.292
		59.54	*	-1.055E-02	1.453E-01	2.098E-01	1.918E-02	-0.050
	CM-243	99.55		1.890E-01	1.335E-01	2.144E-01	1.649E-02	0.881
		103.76	*	-4.016E-02	7.701E-02	1.207E-01	8.821E-03	-0.333
		117.00		-2.611E-02	1.555E-01	2.456E-01	1.571E-02	-0.106
AM-246	+	209.75		1.757E+00	8.243E-01	1.083E+00	6.064E-02	1.622
		228.18		-8.107E-02	1.756E-01	2.877E-01	1.639E-02	-0.282
	+	277.60		3.047E-01	1.888E-01	2.537E-01	1.483E-02	1.201
		798.80		-2.970E-02	1.227E-01	1.707E-01	1.061E-02	-0.174
		1036.00		-1.794E-02	2.191E-01	3.519E-01	2.288E-02	-0.051
CM-247		1062.04		3.685E-02	1.837E-01	3.012E-01	1.911E-02	0.122
		1078.86	*	9.340E-03	1.153E-01	1.872E-01	1.167E-02	0.050
	+	278.00		1.253E+00	7.766E-01	1.034E+00	6.046E-02	1.212
		287.40		2.290E-01	9.431E-01	1.568E+00	9.174E-02	0.146
		402.60	*	9.896E-03	3.081E-02	5.062E-02	2.751E-03	0.195
CF-249		252.85		-6.637E-02	6.669E-01	1.101E+00	6.377E-02	-0.060
		333.44		1.137E-01	1.976E-01	2.165E-01	1.249E-02	0.525
		387.95	*	2.739E-02	3.076E-02	5.202E-02	2.827E-03	0.527
CF-251		176.60	*	6.037E-02	9.940E-02	1.699E-01	9.167E-03	0.355
		227.00		8.187E-02	3.111E-01	5.030E-01	2.863E-02	0.163
		285.00		-1.013E+00	1.370E+00	2.188E+00	1.280E-01	-0.463

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]G243274003      *
* Acquisition date   : 30-DEC-2009 23:06:16 Detector SN#      :              *
* Detector ID        : GAM01                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 04:00:00.00           Abundance limit : 75.000        *
* Elapsed real time  : 0 04:00:02.26           Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274003           Analyst initials: MXR1          *
* Batch Number       : 935341              Sample Quantity : 1.2802E+02 GRAM   *
* Recovery           : 1.00000             Carrier Weight  : 0.00000         *
*****
*
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                    *
* CALIB. DATE/TIME   : 29-JAN-2009 10:38:56 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	1.951E+01	1.808E+00	3.985E-01	0.000E+00
CD-109	3.657E+00	8.821E-01	9.359E-01	0.000E+00
SN-126	3.597E-01	8.678E-02	9.258E-02	0.000E+00
BA-137M	5.490E-02	4.834E-02	4.495E-02	0.000E+00
CS-137	5.804E-02	5.111E-02	4.752E-02	0.000E+00
TL-208	6.079E-01	7.662E-02	4.354E-02	0.000E+00
BI-211	4.203E+00	4.235E-01	2.610E-01	0.000E+00
PB-212	1.798E+00	1.552E-01	7.320E-02	0.000E+00
PO-212	1.798E+00	1.552E-01	7.320E-02	0.000E+00
BI-214	1.361E+00	1.610E-01	8.965E-02	0.000E+00
PB-214	1.462E+00	1.652E-01	9.099E-02	0.000E+00
PO-214	1.462E+00	1.652E-01	9.099E-02	0.000E+00
PO-216	1.798E+00	1.552E-01	7.320E-02	0.000E+00
PO-218	1.462E+00	1.652E-01	9.099E-02	0.000E+00
RA-224	4.629E+00	1.009E+00	8.331E-01	0.000E+00
RA-226	1.361E+00	1.610E-01	8.965E-02	0.000E+00
AC-228	1.740E+00	2.945E-01	1.639E-01	0.000E+00
RA-228	1.740E+00	2.945E-01	1.639E-01	0.000E+00
TH-228	1.824E+00	1.575E-01	7.427E-02	0.000E+00
TH-230	1.361E+00	1.610E-01	8.964E-02	0.000E+00
TH-232	1.740E+00	2.945E-01	1.639E-01	0.000E+00
TH-234	1.350E+00	1.384E+00	1.839E+00	0.000E+00
U-234	1.361E+00	1.610E-01	8.964E-02	0.000E+00
NP-237	1.056E+00	3.325E-01	2.755E-01	0.000E+00
U-238	1.350E+00	1.384E+00	1.839E+00	0.000E+00
AM-243	3.218E-01	6.058E-02	7.702E-02	0.000E+00
ANH-511	1.186E-01	5.212E-02	3.733E-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	-5.647E-03	2.447E-01	4.068E-01	0.000E+00	NOT IDENT.
NA-22	1.069E-02	3.099E-02	5.433E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	3.000E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.497E-03	2.184E-02	3.546E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.209E-02	6.632E-02	0.000E+00	FAIL ABUN
SC-46	-7.985E-03	2.692E-02	4.416E-02	0.000E+00	FAIL ABUN
V-48	2.475E-02	5.225E-02	9.020E-02	0.000E+00	NOT IDENT.
CR-51	-3.830E-01	2.852E-01	4.583E-01	0.000E+00	NOT IDENT.
MN-52	1.012E-01	1.518E-01	2.748E-01	0.000E+00	NOT IDENT.
MN-54	8.489E-03	2.844E-02	4.896E-02	0.000E+00	NOT IDENT.
CO-56	2.561E-03	2.917E-02	4.953E-02	0.000E+00	FAIL ABUN
CO-57	4.403E-03	1.981E-02	3.353E-02	0.000E+00	NOT IDENT.
CO-58	2.450E-03	2.703E-02	4.608E-02	0.000E+00	NOT IDENT.
FE-59	-3.948E-02	7.139E-02	1.127E-01	0.000E+00	NOT IDENT.
CO-60	4.389E-02	2.784E-02	5.359E-02	0.000E+00	NOT IDENT.
ZN-65	-6.262E-02	8.084E-02	1.049E-01	0.000E+00	NOT IDENT.
GE-68	7.194E-01	9.875E-01	1.721E+00	0.000E+00	NOT IDENT.
AS-73	5.350E-01	6.933E-01	1.238E+00	0.000E+00	NOT IDENT.
AS-74	-1.128E-02	6.675E-02	1.146E-01	0.000E+00	NOT IDENT.
SE-75	-7.638E-03	3.678E-02	5.532E-02	0.000E+00	NOT IDENT.
BR-77	7.582E-01	6.389E+00	1.065E+01	0.000E+00	FAIL ABUN
SR-82	-3.389E-01	2.723E-01	4.211E-01	0.000E+00	NOT IDENT.
RB-83	8.115E-03	5.038E-02	8.420E-02	0.000E+00	NOT IDENT.
RB-84	9.238E-03	5.130E-02	8.743E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.347E+00	1.018E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.234E-02	5.187E-02	0.000E+00	NOT IDENT.
RB-86	2.139E-01	5.993E-01	1.019E+00	0.000E+00	NOT IDENT.
Y-88	-3.637E-03	2.493E-02	4.023E-02	0.000E+00	NOT IDENT.
ZR-88	-9.463E-03	2.246E-02	3.708E-02	0.000E+00	NOT IDENT.
Y-91	1.075E+01	1.429E+01	2.563E+01	0.000E+00	NOT IDENT.
NB-94	2.454E-02	2.534E-02	4.569E-02	0.000E+00	NOT IDENT.
NB-95	3.674E-02	3.729E-02	5.930E-02	0.000E+00	NOT IDENT.
NB-95M	1.835E-02	1.033E-01	1.596E-01	0.000E+00	NOT IDENT.
ZR-95	3.410E-02	5.491E-02	9.690E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.476E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.725E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.004E+00	7.522E+00	1.303E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.313E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.891E-03	2.432E-02	4.257E-02	0.000E+00	NOT IDENT.
RH-102	-3.758E-03	2.265E-02	3.738E-02	0.000E+00	FAIL ABUN
RU-103	4.267E-03	3.235E-02	5.410E-02	0.000E+00	FAIL ABUN
RH-106	-3.671E-02	2.294E-01	3.925E-01	0.000E+00	FAIL ABUN
RU-106	-3.671E-02	2.293E-01	3.925E-01	0.000E+00	FAIL ABUN
AG-108M	-4.623E-04	2.655E-02	4.270E-02	0.000E+00	NOT IDENT.
AG-110M	1.271E-02	2.889E-02	4.479E-02	0.000E+00	NOT IDENT.
IN-111	-4.269E-01	7.891E-01	1.143E+00	0.000E+00	NOT IDENT.
IN-113M	-4.815E-02	3.388E-02	5.289E-02	0.000E+00	NOT IDENT.
SN-113	-4.815E-02	3.388E-02	5.289E-02	0.000E+00	NOT IDENT.
IN-114M	-1.030E-01	1.550E-01	2.345E-01	0.000E+00	NOT IDENT.
CD-115	3.348E+00	6.394E+00	1.148E+01	0.000E+00	NOT IDENT.
SN-117M	-1.349E-02	3.937E-02	6.951E-02	0.000E+00	NOT IDENT.
SB-122	1.038E+00	1.324E+00	2.393E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.958E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.276E-03	2.097E-02	3.727E-02	0.000E+00	NOT IDENT.
I-124	-1.561E-01	5.290E-01	7.794E-01	0.000E+00	FAIL ABUN
SB-124	-3.706E-02	4.994E-02	7.242E-02	0.000E+00	FAIL ABUN
SB-125	1.432E-02	7.247E-02	1.228E-01	0.000E+00	FAIL ABUN
TE-125M	3.783E+00	7.390E+00	1.267E+01	0.000E+00	NOT IDENT.
I-126	-2.724E-03	1.538E-01	2.293E-01	0.000E+00	NOT IDENT.
SB-126	2.782E-03	1.190E-01	1.768E-01	0.000E+00	FAIL ABUN
SB-127	-2.338E-01	8.828E-01	1.489E+00	0.000E+00	NOT IDENT.
XE-127	-9.703E-03	3.433E-02	5.987E-02	0.000E+00	NOT IDENT.
I-131	-2.749E-03	8.614E-02	1.459E-01	0.000E+00	NOT IDENT.
TE-132	-2.153E-01	4.580E-01	7.864E-01	0.000E+00	NOT IDENT.
BA-133	8.102E-04	3.508E-02	5.226E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.722E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.381E-02	5.448E-02	7.070E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.330E-01	2.183E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.117E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.302E-03	7.420E-02	1.223E-01	0.000E+00	FAIL ABUN
CE-139	-4.584E-03	2.201E-02	3.891E-02	0.000E+00	NOT IDENT.
BA-140	1.447E-01	1.972E-01	3.472E-01	0.000E+00	NOT IDENT.
LA-140	3.910E-02	6.014E-02	9.724E-02	0.000E+00	FAIL ABUN
CE-141	2.039E-02	4.612E-02	8.348E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.296E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-6.152E-02	1.784E-01	2.605E-01	0.000E+00	NOT IDENT.
PM-144	1.282E-02	2.555E-02	4.503E-02	0.000E+00	NOT IDENT.
PR-144	8.682E-01	1.731E+00	3.050E+00	0.000E+00	NOT IDENT.

PM-146	-2.178E-03	3.452E-02	5.750E-02	0.000E+00	NOT IDENT.
ND-147	1.121E-01	4.022E-01	7.122E-01	0.000E+00	FAIL ABUN
PM-149	-3.361E+01	5.820E+01	9.776E+01	0.000E+00	NOT IDENT.
EU-152	-3.367E-02	8.245E-02	1.330E-01	0.000E+00	FAIL ABUN
GD-153	-4.303E-02	6.856E-02	1.009E-01	0.000E+00	FAIL ABUN
EU-154	2.988E-02	8.662E-02	1.518E-01	0.000E+00	NOT IDENT.
EU-155	8.822E-02	8.535E-02	1.486E-01	0.000E+00	FAIL ABUN
TB-160	-8.063E-03	1.027E-01	1.717E-01	0.000E+00	FAIL ABUN
HO-166M	4.570E-03	4.487E-02	7.723E-02	0.000E+00	NOT IDENT.
TM-171	2.430E+01	2.537E+01	4.036E+01	0.000E+00	NOT IDENT.
LU-176	1.155E-02	2.109E-02	3.272E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.085E+00	1.487E+00	0.000E+00	FAIL ABUN
LU-177M	2.044E-01	1.455E-01	2.345E-01	0.000E+00	FAIL ABUN
HF-181	9.438E-03	3.243E-02	5.485E-02	0.000E+00	NOT IDENT.
W-181	-1.657E-02	3.380E-01	5.211E-01	0.000E+00	NOT IDENT.
TA-182	-2.713E-02	1.514E-01	2.565E-01	0.000E+00	FAIL ABUN
RE-183	3.087E-02	8.081E-02	1.453E-01	0.000E+00	FAIL ABUN
RE-184	-1.764E-02	1.737E-01	3.006E-01	0.000E+00	NOT IDENT.
OS-185	-2.482E-03	3.164E-02	5.427E-02	0.000E+00	NOT IDENT.
RE-188	3.576E-02	1.263E-01	2.270E-01	0.000E+00	NOT IDENT.
W-188	-5.292E+00	6.491E+00	9.367E+00	0.000E+00	FAIL ABUN
IR-192	1.216E-02	2.670E-02	4.656E-02	0.000E+00	FAIL ABUN
AU-195	2.652E-01	1.989E-01	3.081E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.429E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.282E+00	4.491E+00	8.044E+00	0.000E+00	NOT IDENT.
TL-202	9.765E-03	5.295E-02	8.953E-02	0.000E+00	NOT IDENT.
HG-203	2.502E-02	3.567E-02	5.588E-02	0.000E+00	NOT IDENT.
BI-207	-1.071E-02	4.178E-02	6.783E-02	0.000E+00	FAIL ABUN
TL-207	3.496E-01	5.774E-01	8.910E-01	0.000E+00	FAIL ABUN
PO-209	5.232E+00	5.610E+00	1.003E+01	0.000E+00	NOT IDENT.
BI-210	1.533E+00	3.296E+00	5.866E+00	0.000E+00	NOT IDENT.
PB-210	1.533E+00	3.296E+00	5.866E+00	0.000E+00	NOT IDENT.
PO-210	1.533E+00	3.295E+00	5.866E+00	0.000E+00	NOT IDENT.
PB-211	2.415E-01	8.750E-01	1.293E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.091E-01	5.396E-01	0.000E+00	FAIL ABUN
PO-215	3.496E-01	5.774E-01	8.910E-01	0.000E+00	FAIL ABUN
RN-219	-2.756E-01	3.427E-01	5.528E-01	0.000E+00	FAIL ABUN
RN-220	-8.573E+00	1.910E+01	3.247E+01	0.000E+00	NOT IDENT.
RA-223	3.496E-01	5.774E-01	8.910E-01	0.000E+00	FAIL ABUN
AC-227	-2.633E-01	2.948E-01	4.915E-01	0.000E+00	FAIL ABUN
TH-227	-2.633E-01	2.959E-01	4.915E-01	0.000E+00	FAIL ABUN
TH-229	4.672E-01	3.838E-01	6.987E-01	0.000E+00	FAIL ABUN
PA-231	2.557E-01	1.208E+00	2.031E+00	0.000E+00	FAIL ABUN
TH-231	3.496E-01	5.774E-01	8.910E-01	0.000E+00	FAIL ABUN
U-231	-8.976E-02	8.235E-01	1.241E+00	0.000E+00	FAIL ABUN
PA-233	1.817E-02	4.890E-02	8.508E-02	0.000E+00	FAIL ABUN
PA-234	2.504E-02	2.266E-01	3.820E-01	0.000E+00	FAIL ABUN
PA-234M	6.348E+00	4.025E+00	6.988E+00	0.000E+00	NOT IDENT.
U-235	2.507E-01	1.704E-01	2.965E-01	0.000E+00	FAIL ABUN
NP-236	1.052E-02	5.900E-02	1.056E-01	0.000E+00	NOT IDENT.
NP-239	-2.538E-02	1.481E-01	2.481E-01	0.000E+00	FAIL ABUN
AM-241	-1.055E-02	1.424E-01	2.202E-01	0.000E+00	NOT IDENT.
CM-243	-4.016E-02	7.547E-02	1.257E-01	0.000E+00	FAIL ABUN
AM-246	9.340E-03	1.130E-01	1.881E-01	0.000E+00	NOT IDENT.
CM-247	9.896E-03	3.020E-02	5.165E-02	0.000E+00	FAIL ABUN
CF-249	2.739E-02	3.015E-02	5.310E-02	0.000E+00	NOT IDENT.
CF-251	6.037E-02	9.741E-02	1.755E-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]G243274003.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 23:06:16
Sample ID          : G243274003 Sample quantity : 1.28020E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time  : 0 04:00:00.00 Elapsed real time: 0 04:00:02.26 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	1370	10.67*	9.645E-01	1.951E+01	1.951E+01	9.45
CD-109	88.03	467	3.72*	5.143E+00	3.578E+00	3.657E+00	24.61
SN-126	64.28	95	9.60	2.726E+00	5.344E-01	5.344E-01	104.13
	86.94	467	8.90	5.143E+00	1.496E+00	1.496E+00	47.35
	87.57	467	37.00*	5.143E+00	3.597E-01	3.597E-01	24.61
BA-137M	661.65	66	89.98*	1.960E+00	5.485E-02	5.490E-02	89.85
CS-137	661.65	66	85.12*	1.960E+00	5.798E-02	5.804E-02	89.85
TL-208	277.35	115	6.80	3.969E+00	6.267E-01	6.267E-01	62.59
	510.84	197	21.60	2.437E+00	5.493E-01	5.493E-01	45.60
	583.14	762	84.20*	2.183E+00	6.079E-01	6.079E-01	12.86
	860.37	84	12.46	1.552E+00	6.384E-01	6.384E-01	63.35
BI-211	72.87	-----	1.27	3.875E+00	-----	Line Not Found	-----
	351.07	1223	12.94*	3.296E+00	4.203E+00	4.203E+00	10.28
PB-212	74.81	592	10.70	4.090E+00	1.985E+00	1.985E+00	21.36
	77.11	1060	18.00	4.316E+00	2.001E+00	2.001E+00	14.40
	87.30	467	8.00	5.143E+00	1.664E+00	1.664E+00	26.57
	238.63	2431	44.60*	4.445E+00	1.798E+00	1.798E+00	8.81
	300.09	175	3.41	3.734E+00	2.020E+00	2.020E+00	50.09
PO-212	74.81	592	10.70	4.090E+00	1.985E+00	1.985E+00	21.36
	77.11	1060	18.00	4.316E+00	2.001E+00	2.001E+00	14.40
	87.30	467	8.00	5.143E+00	1.664E+00	1.664E+00	26.57
	115.19	-----	0.60	6.067E+00	-----	Line Not Found	-----
	238.63	2431	44.60*	4.445E+00	1.798E+00	1.798E+00	8.81
	300.09	175	3.41	3.734E+00	2.020E+00	2.020E+00	50.09
BI-214	609.31	904	46.30*	2.102E+00	1.361E+00	1.361E+00	12.07
	1120.29	153	15.10	1.218E+00	1.217E+00	1.217E+00	33.65
	1764.49	131	15.80	8.368E-01	1.457E+00	1.457E+00	25.37
PB-214	74.81	592	6.21	4.090E+00	3.420E+00	3.420E+00	20.59
	77.11	1060	10.50	4.316E+00	3.430E+00	3.430E+00	16.29
	87.30	467	4.67	5.143E+00	2.850E+00	2.850E+00	25.79
	241.98	549	7.49	4.406E+00	2.441E+00	2.441E+00	22.93
	295.21	694	19.20	3.783E+00	1.401E+00	1.401E+00	16.42

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	1223	37.20*	3.296E+00	1.462E+00	1.462E+00	11.53
	74.81	592	6.21	4.090E+00	3.420E+00	3.420E+00	20.59
	77.11	1060	10.50	4.316E+00	3.430E+00	3.430E+00	16.29
	87.30	467	4.67	5.143E+00	2.850E+00	2.850E+00	25.79
	241.98	549	7.49	4.406E+00	2.441E+00	2.441E+00	22.93
PO-216	295.21	694	19.20	3.783E+00	1.401E+00	1.401E+00	16.42
	351.92	1223	37.20*	3.296E+00	1.462E+00	1.462E+00	11.53
	74.81	592	10.70	4.090E+00	1.985E+00	1.985E+00	21.36
	77.11	1060	18.00	4.316E+00	2.001E+00	2.001E+00	14.40
	87.30	467	8.00	5.143E+00	1.664E+00	1.664E+00	26.57
PO-218	238.63	2431	44.60*	4.445E+00	1.798E+00	1.798E+00	8.81
	300.09	175	3.41	3.734E+00	2.020E+00	2.020E+00	50.09
	74.81	592	6.21	4.090E+00	3.420E+00	3.420E+00	20.59
	77.11	1060	10.50	4.316E+00	3.430E+00	3.430E+00	16.29
	87.30	467	4.67	5.143E+00	2.850E+00	2.850E+00	25.79
RA-224	241.98	549	7.49	4.406E+00	2.441E+00	2.441E+00	22.93
	295.21	694	19.20	3.783E+00	1.401E+00	1.401E+00	16.42
	351.92	1223	37.20*	3.296E+00	1.462E+00	1.462E+00	11.53
	240.98	549	3.95*	4.406E+00	4.629E+00	4.629E+00	22.23
	609.31	904	46.30*	2.102E+00	1.361E+00	1.361E+00	12.07
AC-228	1120.29	153	15.10	1.218E+00	1.217E+00	1.217E+00	33.65
	1764.49	131	15.80	8.368E-01	1.457E+00	1.457E+00	25.37
	338.32	440	11.40	3.400E+00	1.665E+00	1.665E+00	44.51
	911.07	484	27.70*	1.473E+00	1.740E+00	1.740E+00	17.28
	969.11	320	16.60	1.392E+00	2.031E+00	2.031E+00	27.57
RA-228	338.32	440	11.40	3.400E+00	1.665E+00	1.665E+00	44.51
	911.07	484	27.70*	1.473E+00	1.740E+00	1.740E+00	17.28
	969.11	320	16.60	1.392E+00	2.031E+00	2.031E+00	27.57
	74.81	592	10.70	4.090E+00	1.985E+00	2.014E+00	19.25
	77.11	1060	18.00	4.316E+00	2.001E+00	2.030E+00	14.40
TH-228	87.30	467	8.00	5.143E+00	1.664E+00	1.688E+00	24.61
	238.63	2431	44.60*	4.445E+00	1.798E+00	1.824E+00	8.81
	300.09	175	3.41	3.734E+00	2.020E+00	2.049E+00	76.90
	609.31	904	46.30*	2.102E+00	1.361E+00	1.361E+00	12.07
	1120.29	153	15.10	1.218E+00	1.217E+00	1.217E+00	33.65
TH-230	1764.49	131	15.80	8.368E-01	1.457E+00	1.457E+00	25.37
	338.32	440	11.40	3.400E+00	1.665E+00	1.665E+00	18.80
	911.07	484	27.70*	1.473E+00	1.740E+00	1.740E+00	17.28
	969.11	320	16.60	1.392E+00	2.031E+00	2.031E+00	27.57
	63.29	95	3.80*	2.726E+00	1.350E+00	1.350E+00	104.57
TH-232	92.38	501	5.41	5.467E+00	2.484E+00	2.484E+00	30.83
	609.31	904	46.30*	2.102E+00	1.361E+00	1.361E+00	12.07
	1120.29	153	15.10	1.218E+00	1.217E+00	1.217E+00	33.65
	1764.49	131	15.80	8.368E-01	1.457E+00	1.457E+00	25.37
	86.50	467	12.60*	5.143E+00	1.056E+00	1.056E+00	32.12
NP-237	95.87	-----	2.60	5.609E+00	-----	Line Not Found	-----
	63.29	95	3.80*	2.726E+00	1.350E+00	1.350E+00	104.57
	92.38	501	5.41	5.467E+00	2.484E+00	2.484E+00	26.42
	74.67	592	66.00*	4.090E+00	3.218E-01	3.218E-01	19.21

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	467	0.34	5.143E+00	3.962E+01	3.962E+01	24.61
	117.66	-----	0.55	6.083E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.960E+00	-----	Line Not Found	-----
ANH-511	511.00	197	100.00*	2.437E+00	1.186E-01	1.186E-01	44.83

Flag: "*" = Keyline

Total number of lines in spectrum 40
Number of unidentified lines 3
Number of lines tentatively identified by NID 37 92.50%

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	1.951E+01	1.951E+01	0.184E+01	9.45	
CD-109	464.00D	1.02	3.578E+00	3.657E+00	0.900E+00	24.61	
SN-126	1.00E+05Y	1.00	3.597E-01	3.597E-01	0.885E-01	24.61	
BA-137M	30.17Y	1.00	5.485E-02	5.490E-02	4.933E-02	89.85	
CS-137	30.17Y	1.00	5.798E-02	5.804E-02	5.215E-02	89.85	
TL-208	1.41E+10Y	1.00	6.079E-01	6.079E-01	0.782E-01	12.86	
BI-211	7.04E+08Y	1.00	4.203E+00	4.203E+00	0.432E+00	10.28	
PB-212	1.41E+10Y	1.00	1.798E+00	1.798E+00	0.158E+00	8.81	
PO-212	1.41E+10Y	1.00	1.798E+00	1.798E+00	0.158E+00	8.81	
BI-214	1600.00Y	1.00	1.361E+00	1.361E+00	0.164E+00	12.07	
PB-214	1600.00Y	1.00	1.462E+00	1.462E+00	0.169E+00	11.53	
PO-214	1600.00Y	1.00	1.462E+00	1.462E+00	0.169E+00	11.53	
PO-216	1.41E+10Y	1.00	1.798E+00	1.798E+00	0.158E+00	8.81	
PO-218	1600.00Y	1.00	1.462E+00	1.462E+00	0.169E+00	11.53	
RA-224	1.41E+10Y	1.00	4.629E+00	4.629E+00	1.029E+00	22.23	
RA-226	1600.00Y	1.00	1.361E+00	1.361E+00	0.164E+00	12.07	
AC-228	1.41E+10Y	1.00	1.740E+00	1.740E+00	0.301E+00	17.28	
RA-228	1.41E+10Y	1.00	1.740E+00	1.740E+00	0.301E+00	17.28	
TH-228	1.91Y	1.01	1.798E+00	1.824E+00	0.161E+00	8.81	
TH-230	4.47E+09Y	1.00	1.361E+00	1.361E+00	0.164E+00	12.07	
TH-232	1.41E+10Y	1.00	1.740E+00	1.740E+00	0.301E+00	17.28	
TH-234	4.47E+09Y	1.00	1.350E+00	1.350E+00	1.412E+00	104.57	
U-234	4.47E+09Y	1.00	1.361E+00	1.361E+00	0.164E+00	12.07	
NP-237	2.14E+06Y	1.00	1.056E+00	1.056E+00	0.339E+00	32.12	
U-238	4.47E+09Y	1.00	1.350E+00	1.350E+00	1.412E+00	104.57	
AM-243	7380.00Y	1.00	3.218E-01	3.218E-01	0.618E-01	19.21	
ANH-511	1.00E+09Y	1.00	1.186E-01	1.186E-01	0.532E-01	44.83	
Total Activity :			5.944E+01	5.955E+01			

Grand Total Activity : 5.944E+01 5.955E+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	84.25	129	910	1.31	169.27	164	30	8.97E-03	81.1	4.93E+00	T
6	89.84	290	769	1.27	180.44	164	30	2.01E-02	35.9	5.30E+00	T
0	129.13	90	684	1.06	259.02	256	8	6.25E-03	****	6.08E+00	T
0	186.17	332	893	1.42	373.09	367	13	2.31E-02	40.1	5.26E+00	T
0	209.77	192	550	1.33	420.27	416	9	1.33E-02	46.6	4.87E+00	T
0	269.95	221	530	1.77	540.63	534	13	1.53E-02	45.1	4.06E+00	T
0	328.31	188	335	1.40	657.32	651	12	1.31E-02	41.7	3.48E+00	T
0	409.02	104	150	0.76	818.71	815	8	7.20E-03	45.7	2.92E+00	
0	462.91	159	238	1.41	926.46	921	12	1.11E-02	41.8	2.64E+00	T
0	727.67	203	135	1.37	1455.83	1448	15	1.41E-02	28.9	1.80E+00	T
0	768.18	77	87	1.23	1536.83	1533	8	5.37E-03	47.9	1.72E+00	T
0	794.93	55	129	1.15	1590.30	1583	12	3.82E-03	86.9	1.67E+00	T
1	964.42	92	71	1.92	1929.15	1923	27	6.37E-03	43.3	1.40E+00	T
0	1237.44	68	142	1.52	2474.91	2470	15	4.71E-03	79.6	1.11E+00	T
0	1377.40	51	54	1.67	2754.67	2746	18	3.57E-03	73.8	1.01E+00	T
0	1408.37	29	47	1.18	2816.56	2810	13	2.04E-03	****	9.94E-01	T
0	1589.81	90	42	5.61	3179.20	3170	21	6.25E-03	41.7	9.01E-01	
0	1729.65	35	32	1.03	3458.69	3449	16	2.46E-03	78.9	8.48E-01	

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]G243274003.CNF;1
* Acquisition date   : 30-DEC-2009 23:06:16   Detector SN#      :
* Detector ID        : GAM01                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 04:00:00.00          Abundance limit      : 75.00000
* Elapsed real time  : 0 04:00:02.26          Half life ratio     : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G243274003            Analyst initials    : MXR1
* Batch Number       : 935341                Sample Quantity    : 1.28020E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 29-JAN-2009 10:38:56.1MS 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	1.951E+01	1.845E+00	3.985E-01	2.832E-02	48.972
CD-109	3.657E+00	9.001E-01	8.969E-01	8.255E-02	4.077
SN-126	3.597E-01	8.855E-02	8.871E-02	8.139E-03	4.055
BA-137M	5.490E-02	4.933E-02	4.440E-02	2.242E-03	1.237
CS-137	5.804E-02	5.215E-02	4.693E-02	2.383E-03	1.237
TL-208	6.079E-01	7.818E-02	4.292E-02	2.719E-03	14.164
BI-211	4.203E+00	4.322E-01	2.553E-01	1.617E-02	16.461
PB-212	1.798E+00	1.584E-01	7.119E-02	5.187E-03	25.258
PO-212	1.798E+00	1.584E-01	7.119E-02	5.187E-03	25.258
BI-214	1.361E+00	1.643E-01	8.843E-02	6.556E-03	15.391
PB-214	1.462E+00	1.686E-01	8.901E-02	7.301E-03	16.425
PO-214	1.462E+00	1.686E-01	8.901E-02	7.301E-03	16.425
PO-216	1.798E+00	1.584E-01	7.119E-02	5.187E-03	25.258
PO-218	1.462E+00	1.686E-01	8.901E-02	7.301E-03	16.425
RA-224	4.629E+00	1.029E+00	8.103E-01	4.661E-02	5.713
RA-226	1.361E+00	1.643E-01	8.843E-02	6.556E-03	15.391
AC-228	1.740E+00	3.005E-01	1.627E-01	1.644E-02	10.694
RA-228	1.740E+00	3.005E-01	1.627E-01	1.644E-02	10.694

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.824E+00	1.607E-01	7.223E-02	5.263E-03	25.258
TH-230	1.361E+00	1.643E-01	8.842E-02	6.555E-03	15.391
TH-232	1.740E+00	3.005E-01	1.627E-01	1.644E-02	10.694
TH-234	1.350E+00	1.412E+00	1.754E+00	3.135E-01	0.770
U-234	1.361E+00	1.643E-01	8.842E-02	6.555E-03	15.391
NP-237	1.056E+00	3.393E-01	2.640E-01	5.952E-02	4.002
U-238	1.350E+00	1.412E+00	1.754E+00	3.135E-01	0.770
AM-243	3.218E-01	6.182E-02	7.363E-02	6.205E-03	4.370
ANH-511	1.186E-01	5.319E-02	3.672E-02	2.034E-03	3.231

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.647E-03		2.497E-01	3.998E-01	2.613E-02	-0.014
NA-22	1.069E-02		3.162E-02	5.421E-02	3.474E-03	0.197
NA-24	-1.343E-01		1.531E-01	Half-Life	too short	
AL-26	-2.497E-03		2.228E-02	3.558E-02	2.051E-03	-0.070
TI-44	3.692E-01	+	5.316E-02	6.345E-02	5.442E-03	5.820
SC-46	-7.985E-03		2.747E-02	4.381E-02	3.079E-03	-0.182
V-48	2.475E-02		5.331E-02	8.963E-02	6.077E-03	0.276
CR-51	-3.830E-01		2.910E-01	4.477E-01	2.897E-02	-0.856
MN-52	1.012E-01		1.549E-01	2.747E-01	1.879E-02	0.369
MN-54	8.489E-03		2.902E-02	4.853E-02	3.170E-03	0.175
CO-56	2.561E-03		2.977E-02	4.911E-02	3.260E-03	0.052
CO-57	4.403E-03		2.022E-02	3.229E-02	1.983E-03	0.136
CO-58	2.450E-03		2.758E-02	4.566E-02	2.898E-03	0.054
FE-59	-3.948E-02		7.284E-02	1.122E-01	7.906E-03	-0.352
CO-60	4.389E-02		2.841E-02	5.351E-02	3.708E-03	0.820
ZN-65	-6.262E-02		8.249E-02	1.044E-01	6.252E-03	-0.600
GE-68	7.194E-01		1.008E+00	1.712E+00	1.069E-01	0.420
AS-73	5.350E-01		7.074E-01	1.178E+00	1.002E-01	0.454
AS-74	-1.128E-02		6.811E-02	1.130E-01	6.048E-03	-0.100
SE-75	-7.638E-03		3.753E-02	5.388E-02	3.170E-03	-0.142
BR-77	7.582E-01		6.520E+00	1.048E+01	5.793E-01	0.072
SR-82	-3.389E-01		2.778E-01	4.170E-01	2.509E-02	-0.813
RB-83	8.115E-03		5.140E-02	8.285E-02	4.580E-03	0.098
RB-84	9.238E-03		5.235E-02	8.674E-02	6.033E-03	0.107
KR-85	1.021E+01		6.477E+00	1.002E+01	5.545E-01	1.019
SR-85	5.199E-02		3.300E-02	5.103E-02	2.825E-03	1.019
RB-86	2.139E-01		6.115E-01	1.014E+00	6.334E-02	0.211
Y-88	-3.637E-03		2.544E-02	4.037E-02	2.285E-03	-0.090
ZR-88	-9.463E-03		2.292E-02	3.634E-02	1.964E-03	-0.260
Y-91	1.075E+01		1.458E+01	2.555E+01	1.476E+00	0.421
NB-94	2.454E-02		2.586E-02	4.517E-02	2.433E-03	0.543
NB-95	3.674E-02		3.805E-02	5.870E-02	3.478E-03	0.626
NB-95M	1.835E-02		1.054E-01	1.552E-01	1.160E-02	0.118
ZR-95	3.410E-02		5.603E-02	9.590E-02	6.777E-03	0.356

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.595E-02		2.284E-02	Half-Life	too short	
ZR-97	1.436E+00		4.451E-01	Half-Life	too short	
MO-99	2.004E+00		7.675E+00	1.289E+01	1.772E+00	0.155
TC-99M	-1.235E+10		3.221E+09	Half-Life	too short	
RH-101	-4.891E-03		2.481E-02	4.129E-02	2.282E-03	-0.118
RH-102	-3.758E-03		2.312E-02	3.673E-02	2.037E-03	-0.102
RU-103	4.267E-03		3.301E-02	5.320E-02	6.666E-03	0.080
RH-106	-3.671E-02		2.340E-01	3.873E-01	4.444E-02	-0.095
RU-106	-3.671E-02		2.340E-01	3.873E-01	2.033E-02	-0.095
AG-108M	-4.623E-04		2.709E-02	4.190E-02	2.525E-03	-0.011
AG-110M	1.271E-02		2.948E-02	4.423E-02	2.431E-03	0.287
IN-111	-4.269E-01		8.053E-01	1.112E+00	6.417E-02	-0.384
IN-113M	-4.815E-02		3.457E-02	5.182E-02	3.015E-03	-0.929
SN-113	-4.815E-02		3.457E-02	5.182E-02	3.015E-03	-0.929
IN-114M	-1.030E-01		1.582E-01	2.272E-01	1.245E-02	-0.453
CD-115	3.348E+00		6.525E+00	1.130E+01	6.235E-01	0.296
SN-117M	-1.349E-02		4.018E-02	6.718E-02	3.656E-03	-0.201
SB-122	1.038E+00		1.351E+00	2.357E+00	1.284E-01	0.440
I-123	-2.124E-01		9.990E-01	Half-Life	too short	
TE-123M	-2.276E-03		2.140E-02	3.602E-02	1.988E-03	-0.063
I-124	-1.561E-01		5.398E-01	7.686E-01	4.094E-02	-0.203
SB-124	-3.706E-02		5.096E-02	7.258E-02	4.855E-03	-0.511
SB-125	1.432E-02		7.395E-02	1.205E-01	6.933E-03	0.119
TE-125M	3.783E+00		7.541E+00	1.218E+01	1.087E+00	0.311
I-126	-2.724E-03		1.569E-01	2.265E-01	1.152E-02	-0.012
SB-126	2.782E-03		1.214E-01	1.748E-01	9.680E-03	0.016
SB-127	-2.338E-01		9.008E-01	1.471E+00	1.306E-01	-0.159
XE-127	-9.703E-03		3.503E-02	5.808E-02	3.228E-03	-0.167
I-131	-2.749E-03		8.789E-02	1.428E-01	8.999E-03	-0.019
TE-132	-2.153E-01		4.674E-01	7.642E-01	1.085E-01	-0.282
BA-133	8.102E-04		3.579E-02	5.113E-02	5.876E-03	0.016
I-133	-4.033E-04		1.389E-03	Half-Life	too short	
CS-134	6.381E-02	+	5.559E-02	7.003E-02	4.393E-03	0.911
CS-135	2.421E-01		1.357E-01	2.126E-01	1.633E-02	1.138
I-135	-1.381E+08		4.651E+08	Half-Life	too short	
CS-136	-5.302E-03		7.571E-02	1.216E-01	8.409E-03	-0.044
CE-139	-4.584E-03		2.246E-02	3.763E-02	2.010E-03	-0.122
BA-140	1.447E-01		2.012E-01	3.418E-01	1.110E-01	0.423
LA-140	3.910E-02		6.137E-02	9.737E-02	6.344E-03	0.402
CE-141	2.039E-02		4.706E-02	8.058E-02	4.736E-03	0.253
CE-143	4.287E-04		6.610E-05	Half-Life	too short	
CE-144	-6.152E-02		1.820E-01	2.512E-01	3.572E-02	-0.245
PM-144	1.282E-02		2.607E-02	4.450E-02	2.377E-03	0.288
PR-144	8.682E-01		1.766E+00	3.015E+00	1.609E-01	0.288
PM-146	-2.178E-03		3.523E-02	5.646E-02	4.768E-03	-0.039
ND-147	1.121E-01		4.104E-01	7.010E-01	9.395E-02	0.160
PM-149	-3.361E+01		5.939E+01	9.532E+01	1.353E+01	-0.353
EU-152	-3.367E-02		8.413E-02	1.301E-01	8.417E-03	-0.259

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-4.303E-02		6.996E-02	9.684E-02	7.664E-03	-0.444
EU-154	2.988E-02		8.839E-02	1.515E-01	1.473E-02	0.197
EU-155	8.822E-02		8.709E-02	1.428E-01	1.043E-02	0.618
TB-160	-8.063E-03		1.047E-01	1.703E-01	1.181E-02	-0.047
HO-166M	4.570E-03		4.579E-02	7.636E-02	4.172E-03	0.060
TM-171	2.430E+01		2.589E+01	3.852E+01	3.204E+00	0.631
LU-176	1.155E-02		2.152E-02	3.194E-02	1.865E-03	0.362
LU-177	2.359E+00	+	1.107E+00	1.443E+00	8.065E-02	1.635
LU-177M	2.044E-01		1.485E-01	2.300E-01	1.256E-02	0.889
HF-181	9.438E-03		3.309E-02	5.391E-02	2.991E-03	0.175
W-181	-1.657E-02		3.449E-01	4.972E-01	4.145E-02	-0.033
TA-182	-2.713E-02		1.545E-01	2.558E-01	1.515E-02	-0.106
RE-183	3.087E-02		8.246E-02	1.405E-01	7.570E-03	0.220
RE-184	-1.764E-02		1.773E-01	2.926E-01	1.695E-02	-0.060
OS-185	-2.482E-03		3.229E-02	5.358E-02	2.750E-03	-0.046
RE-188	3.576E-02		1.288E-01	2.193E-01	1.205E-02	0.163
W-188	-5.292E+00		6.623E+00	9.136E+00	5.346E-01	-0.579
IR-192	1.216E-02		2.724E-02	4.547E-02	2.660E-03	0.267
AU-195	2.652E-01		2.029E-01	2.958E-01	2.295E-02	0.897
TL-200	-9.302E-05		1.239E-04	Half-Life too short		
TL-201	1.282E+00		4.582E+00	7.781E+00	4.159E-01	0.165
TL-202	9.765E-03		5.403E-02	8.787E-02	4.846E-03	0.111
HG-203	2.502E-02		3.640E-02	5.447E-02	3.379E-03	0.459
BI-207	-1.071E-02		4.263E-02	6.748E-02	4.275E-03	-0.159
TL-207	3.496E-01		5.891E-01	8.705E-01	1.438E-01	0.402
PO-209	5.232E+00		5.724E+00	9.951E+00	7.061E-01	0.526
BI-210	1.533E+00		3.363E+00	5.570E+00	4.412E-01	0.275
PB-210	1.533E+00		3.363E+00	5.570E+00	4.412E-01	0.275
PO-210	1.533E+00		3.362E+00	5.570E+00	3.824E-01	0.275
PB-211	2.415E-01		8.929E-01	1.267E+00	7.896E-01	0.191
BI-212	1.397E+00	+	4.175E-01	5.337E-01	4.035E-02	2.618
PO-215	3.496E-01		5.891E-01	8.705E-01	1.438E-01	0.402
RN-219	-2.756E-01		3.497E-01	5.419E-01	7.290E-02	-0.509
RN-220	-8.573E+00		1.949E+01	3.198E+01	1.752E+00	-0.268
RA-223	3.496E-01		5.891E-01	8.705E-01	1.438E-01	0.402
AC-227	-2.633E-01		3.009E-01	4.784E-01	6.680E-02	-0.550
TH-227	-2.633E-01		3.019E-01	4.784E-01	8.086E-02	-0.550
TH-229	4.672E-01		3.916E-01	6.773E-01	3.726E-02	0.690
PA-231	2.557E-01		1.233E+00	1.980E+00	2.732E-01	0.129
TH-231	3.496E-01		5.891E-01	8.705E-01	1.438E-01	0.402
U-231	-8.976E-02		8.403E-01	1.191E+00	9.634E-02	-0.075
PA-233	1.817E-02		4.990E-02	8.308E-02	5.140E-03	0.219
PA-234	2.504E-02		2.312E-01	3.794E-01	6.850E-02	0.066
PA-234M	6.348E+00		4.107E+00	6.946E+00	5.804E-01	0.914
U-235	2.507E-01		1.738E-01	2.862E-01	4.653E-02	0.876
NP-236	1.052E-02		6.021E-02	1.021E-01	5.530E-03	0.103
NP-239	-2.538E-02		1.511E-01	2.387E-01	1.527E-02	-0.106
AM-241	-1.055E-02		1.453E-01	2.098E-01	1.918E-02	-0.050

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.016E-02		7.701E-02	1.207E-01	8.821E-03	-0.333
AM-246	9.340E-03		1.153E-01	1.872E-01	1.167E-02	0.050
CM-247	9.896E-03		3.081E-02	5.062E-02	2.751E-03	0.195
CF-249	2.739E-02		3.076E-02	5.202E-02	2.827E-03	0.527
CF-251	6.037E-02		9.940E-02	1.699E-01	9.167E-03	0.355

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]G243274003          *
* Acquisition date   : 30-DEC-2009 23:06:16 Detector SN# :                  *
* Detector ID        : GAM01 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 04:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 04:00:02.26 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274003 Analyst initials: MXR1                 *
* Batch Number       : 935341 Sample Quantity : 1.2802E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 29-JAN-2009 10:38:56 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	1.951E+01	1.808E+00	1.994E-01	9.225E-01
CD-109	3.657E+00	8.821E-01	4.682E-01	4.500E-01
SN-126	3.597E-01	8.678E-02	4.632E-02	4.427E-02
BA-137M	5.490E-02	4.834E-02	2.249E-02	2.467E-02
CS-137	5.804E-02	5.111E-02	2.377E-02	2.607E-02
TL-208	6.079E-01	7.662E-02	2.178E-02	3.909E-02
BI-211	4.203E+00	4.235E-01	1.306E-01	2.161E-01
PB-212	1.798E+00	1.552E-01	3.662E-02	7.921E-02
PO-212	1.798E+00	1.552E-01	3.662E-02	7.921E-02
BI-214	1.361E+00	1.610E-01	4.485E-02	8.216E-02
PB-214	1.462E+00	1.652E-01	4.552E-02	8.429E-02
PO-214	1.462E+00	1.652E-01	4.552E-02	8.429E-02
PO-216	1.798E+00	1.552E-01	3.662E-02	7.921E-02
PO-218	1.462E+00	1.652E-01	4.552E-02	8.429E-02
RA-224	4.629E+00	1.009E+00	4.168E-01	5.146E-01
RA-226	1.361E+00	1.610E-01	4.485E-02	8.216E-02
AC-228	1.740E+00	2.945E-01	8.199E-02	1.503E-01
RA-228	1.740E+00	2.945E-01	8.199E-02	1.503E-01
TH-228	1.824E+00	1.575E-01	3.716E-02	8.036E-02
TH-230	1.361E+00	1.610E-01	4.485E-02	8.216E-02
TH-232	1.740E+00	2.945E-01	8.199E-02	1.503E-01
TH-234	1.350E+00	1.384E+00	9.203E-01	7.060E-01
U-234	1.361E+00	1.610E-01	4.485E-02	8.216E-02
NP-237	1.056E+00	3.325E-01	1.378E-01	1.697E-01
U-238	1.350E+00	1.384E+00	9.203E-01	7.060E-01
AM-243	3.218E-01	6.058E-02	3.853E-02	3.091E-02
ANH-511	1.186E-01	5.212E-02	1.868E-02	2.659E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-5.647E-03	2.447E-01	2.035E-01	1.248E-01	NOT IDENT.
NA-22	1.069E-02	3.099E-02	2.718E-02	1.581E-02	NOT IDENT.
NA-24	-1.343E+05	3.000E+05	0.000E+00	1.531E+05	SHORT HLIF
AL-26	-2.497E-03	2.184E-02	1.774E-02	1.114E-02	NOT IDENT.
TI-44	3.692E-01	5.209E-02	3.318E-02	2.658E-02	FAIL ABUN
SC-46	-7.985E-03	2.692E-02	2.209E-02	1.374E-02	FAIL ABUN
V-48	2.475E-02	5.225E-02	4.513E-02	2.666E-02	NOT IDENT.
CR-51	-3.830E-01	2.852E-01	2.293E-01	1.455E-01	NOT IDENT.
MN-52	1.012E-01	1.518E-01	1.375E-01	7.746E-02	NOT IDENT.
MN-54	8.489E-03	2.844E-02	2.450E-02	1.451E-02	NOT IDENT.
CO-56	2.561E-03	2.917E-02	2.478E-02	1.488E-02	FAIL ABUN
CO-57	4.403E-03	1.981E-02	1.678E-02	1.011E-02	NOT IDENT.
CO-58	2.450E-03	2.703E-02	2.305E-02	1.379E-02	NOT IDENT.
FE-59	-3.948E-02	7.139E-02	5.638E-02	3.642E-02	NOT IDENT.
CO-60	4.389E-02	2.784E-02	2.681E-02	1.420E-02	NOT IDENT.
ZN-65	-6.262E-02	8.084E-02	5.248E-02	4.125E-02	NOT IDENT.
GE-68	7.194E-01	9.875E-01	8.608E-01	5.038E-01	NOT IDENT.
AS-73	5.350E-01	6.933E-01	6.193E-01	3.537E-01	NOT IDENT.
AS-74	-1.128E-02	6.675E-02	5.735E-02	3.406E-02	NOT IDENT.
SE-75	-7.638E-03	3.678E-02	2.768E-02	1.877E-02	NOT IDENT.
BR-77	7.582E-01	6.389E+00	5.328E+00	3.260E+00	FAIL ABUN
SR-82	-3.389E-01	2.723E-01	2.107E-01	1.389E-01	NOT IDENT.
RB-83	8.115E-03	5.038E-02	4.212E-02	2.570E-02	NOT IDENT.
RB-84	9.238E-03	5.130E-02	4.374E-02	2.617E-02	NOT IDENT.
KR-85	1.021E+01	6.347E+00	5.094E+00	3.238E+00	NOT IDENT.
SR-85	5.199E-02	3.234E-02	2.595E-02	1.650E-02	NOT IDENT.
RB-86	2.139E-01	5.993E-01	5.096E-01	3.058E-01	NOT IDENT.
Y-88	-3.637E-03	2.493E-02	2.013E-02	1.272E-02	NOT IDENT.
ZR-88	-9.463E-03	2.246E-02	1.855E-02	1.146E-02	NOT IDENT.
Y-91	1.075E+01	1.429E+01	1.282E+01	7.290E+00	NOT IDENT.
NB-94	2.454E-02	2.534E-02	2.286E-02	1.293E-02	NOT IDENT.
NB-95	3.674E-02	3.729E-02	2.967E-02	1.903E-02	NOT IDENT.
NB-95M	1.835E-02	1.033E-01	7.987E-02	5.272E-02	NOT IDENT.
ZR-95	3.410E-02	5.491E-02	4.848E-02	2.802E-02	NOT IDENT.
NB-97	1.595E+04	4.476E+04	0.000E+00	2.284E+04	SHORT HLIF
ZR-97	1.436E+06	8.725E+05	0.000E+00	4.451E+05	SHORT HLIF
MO-99	2.004E+00	7.522E+00	6.521E+00	3.838E+00	NOT IDENT.
TC-99M	-1.235E+16	6.313E+15	0.000E+00	3.221E+15	SHORT HLIF
RH-101	-4.891E-03	2.432E-02	2.130E-02	1.241E-02	NOT IDENT.
RH-102	-3.758E-03	2.265E-02	1.870E-02	1.156E-02	FAIL ABUN
RU-103	4.267E-03	3.235E-02	2.707E-02	1.651E-02	FAIL ABUN
RH-106	-3.671E-02	2.294E-01	1.964E-01	1.170E-01	FAIL ABUN
RU-106	-3.671E-02	2.293E-01	1.964E-01	1.170E-01	FAIL ABUN
AG-108M	-4.623E-04	2.655E-02	2.136E-02	1.355E-02	NOT IDENT.
AG-110M	1.271E-02	2.889E-02	2.241E-02	1.474E-02	NOT IDENT.
IN-111	-4.269E-01	7.891E-01	5.720E-01	4.026E-01	NOT IDENT.
IN-113M	-4.815E-02	3.388E-02	2.646E-02	1.729E-02	NOT IDENT.
SN-113	-4.815E-02	3.388E-02	2.646E-02	1.729E-02	NOT IDENT.
IN-114M	-1.030E-01	1.550E-01	1.173E-01	7.909E-02	NOT IDENT.
CD-115	3.348E+00	6.394E+00	5.743E+00	3.262E+00	NOT IDENT.
SN-117M	-1.349E-02	3.937E-02	3.477E-02	2.009E-02	NOT IDENT.
SB-122	1.038E+00	1.324E+00	1.197E+00	6.755E-01	NOT IDENT.
I-123	-2.124E+05	1.958E+06	0.000E+00	9.990E+05	SHORT HLIF
TE-123M	-2.276E-03	2.097E-02	1.864E-02	1.070E-02	NOT IDENT.
I-124	-1.561E-01	5.290E-01	3.899E-01	2.699E-01	FAIL ABUN
SB-124	-3.706E-02	4.994E-02	3.623E-02	2.548E-02	FAIL ABUN
SB-125	1.432E-02	7.247E-02	6.146E-02	3.698E-02	FAIL ABUN
TE-125M	3.783E+00	7.390E+00	6.339E+00	3.770E+00	NOT IDENT.
I-126	-2.724E-03	1.538E-01	1.147E-01	7.847E-02	NOT IDENT.
SB-126	2.782E-03	1.190E-01	8.844E-02	6.070E-02	FAIL ABUN
SB-127	-2.338E-01	8.828E-01	7.449E-01	4.504E-01	NOT IDENT.
XE-127	-9.703E-03	3.433E-02	2.995E-02	1.752E-02	NOT IDENT.
I-131	-2.749E-03	8.614E-02	7.302E-02	4.395E-02	NOT IDENT.
TE-132	-2.153E-01	4.580E-01	3.934E-01	2.337E-01	NOT IDENT.
BA-133	8.102E-04	3.508E-02	2.615E-02	1.790E-02	FAIL ABUN
I-133	-4.033E+02	2.722E+03	0.000E+00	1.389E+03	SHORT HLIF
CS-134	6.381E-02	5.448E-02	3.537E-02	2.780E-02	FAIL ABUN
CS-135	2.421E-01	1.330E-01	1.092E-01	6.785E-02	NOT IDENT.
I-135	-1.381E+14	9.117E+14	0.000E+00	4.651E+14	SHORT HLIF
CS-136	-5.302E-03	7.420E-02	6.117E-02	3.785E-02	FAIL ABUN
CE-139	-4.584E-03	2.201E-02	1.947E-02	1.123E-02	NOT IDENT.
BA-140	1.447E-01	1.972E-01	1.737E-01	1.006E-01	NOT IDENT.
LA-140	3.910E-02	6.014E-02	4.865E-02	3.068E-02	FAIL ABUN
CE-141	2.039E-02	4.612E-02	4.176E-02	2.353E-02	NOT IDENT.
CE-143	4.287E+02	1.296E+02	0.000E+00	6.610E+01	SHORT HLIF
CE-144	-6.152E-02	1.784E-01	1.303E-01	9.101E-02	NOT IDENT.
PM-144	1.282E-02	2.555E-02	2.253E-02	1.304E-02	NOT IDENT.
PR-144	8.682E-01	1.731E+00	1.526E+00	8.830E-01	NOT IDENT.

PM-146	-2.178E-03	3.452E-02	2.877E-02	1.761E-02	NOT IDENT.
ND-147	1.121E-01	4.022E-01	3.563E-01	2.052E-01	FAIL ABUN
PM-149	-3.361E+01	5.820E+01	4.891E+01	2.969E+01	NOT IDENT.
EU-152	-3.367E-02	8.245E-02	6.656E-02	4.207E-02	FAIL ABUN
GD-153	-4.303E-02	6.856E-02	5.048E-02	3.498E-02	FAIL ABUN
EU-154	2.988E-02	8.662E-02	7.594E-02	4.419E-02	NOT IDENT.
EU-155	8.822E-02	8.535E-02	7.436E-02	4.354E-02	FAIL ABUN
TB-160	-8.063E-03	1.027E-01	8.590E-02	5.237E-02	FAIL ABUN
HO-166M	4.570E-03	4.487E-02	3.864E-02	2.289E-02	NOT IDENT.
TM-171	2.430E+01	2.537E+01	2.019E+01	1.294E+01	NOT IDENT.
LU-176	1.155E-02	2.109E-02	1.637E-02	1.076E-02	FAIL ABUN
LU-177	2.359E+00	1.085E+00	7.437E-01	5.533E-01	FAIL ABUN
LU-177M	2.044E-01	1.455E-01	1.173E-01	7.423E-02	FAIL ABUN
HF-181	9.438E-03	3.243E-02	2.744E-02	1.655E-02	NOT IDENT.
W-181	-1.657E-02	3.380E-01	2.607E-01	1.725E-01	NOT IDENT.
TA-182	-2.713E-02	1.514E-01	1.283E-01	7.726E-02	FAIL ABUN
RE-183	3.087E-02	8.081E-02	7.270E-02	4.123E-02	FAIL ABUN
RE-184	-1.764E-02	1.737E-01	1.504E-01	8.864E-02	NOT IDENT.
OS-185	-2.482E-03	3.164E-02	2.715E-02	1.614E-02	NOT IDENT.
RE-188	3.576E-02	1.263E-01	1.136E-01	6.442E-02	NOT IDENT.
W-188	-5.292E+00	6.491E+00	4.686E+00	3.312E+00	FAIL ABUN
IR-192	1.216E-02	2.670E-02	2.329E-02	1.362E-02	FAIL ABUN
AU-195	2.652E-01	1.989E-01	1.541E-01	1.015E-01	FAIL ABUN
TL-200	-9.302E+01	2.429E+02	0.000E+00	1.239E+02	SHORT HLIF
TL-201	1.282E+00	4.491E+00	4.024E+00	2.291E+00	NOT IDENT.
TL-202	9.765E-03	5.295E-02	4.479E-02	2.701E-02	NOT IDENT.
HG-203	2.502E-02	3.567E-02	2.796E-02	1.820E-02	NOT IDENT.
BI-207	-1.071E-02	4.178E-02	3.393E-02	2.132E-02	FAIL ABUN
TL-207	3.496E-01	5.774E-01	4.458E-01	2.946E-01	FAIL ABUN
PO-209	5.232E+00	5.610E+00	5.017E+00	2.862E+00	NOT IDENT.
BI-210	1.533E+00	3.296E+00	2.935E+00	1.681E+00	NOT IDENT.
PB-210	1.533E+00	3.296E+00	2.935E+00	1.681E+00	NOT IDENT.
PO-210	1.533E+00	3.295E+00	2.935E+00	1.681E+00	NOT IDENT.
PB-211	2.415E-01	8.750E-01	6.468E-01	4.464E-01	NOT IDENT.
BI-212	1.397E+00	4.091E-01	2.700E-01	2.087E-01	FAIL ABUN
PO-215	3.496E-01	5.774E-01	4.458E-01	2.946E-01	FAIL ABUN
RN-219	-2.756E-01	3.427E-01	2.766E-01	1.748E-01	FAIL ABUN
RN-220	-8.573E+00	1.910E+01	1.624E+01	9.743E+00	NOT IDENT.
RA-223	3.496E-01	5.774E-01	4.458E-01	2.946E-01	FAIL ABUN
AC-227	-2.633E-01	2.948E-01	2.459E-01	1.504E-01	FAIL ABUN
TH-227	-2.633E-01	2.959E-01	2.459E-01	1.510E-01	FAIL ABUN
TH-229	4.672E-01	3.838E-01	3.495E-01	1.958E-01	FAIL ABUN
PA-231	2.557E-01	1.208E+00	1.016E+00	6.165E-01	FAIL ABUN
TH-231	3.496E-01	5.774E-01	4.458E-01	2.946E-01	FAIL ABUN
U-231	-8.976E-02	8.235E-01	6.209E-01	4.201E-01	FAIL ABUN
PA-233	1.817E-02	4.890E-02	4.257E-02	2.495E-02	FAIL ABUN
PA-234	2.504E-02	2.266E-01	1.911E-01	1.156E-01	FAIL ABUN
PA-234M	6.348E+00	4.025E+00	3.496E+00	2.054E+00	NOT IDENT.
U-235	2.507E-01	1.704E-01	1.483E-01	8.692E-02	FAIL ABUN
NP-236	1.052E-02	5.900E-02	5.284E-02	3.010E-02	NOT IDENT.
NP-239	-2.538E-02	1.481E-01	1.241E-01	7.557E-02	FAIL ABUN
AM-241	-1.055E-02	1.424E-01	1.102E-01	7.264E-02	NOT IDENT.
CM-243	-4.016E-02	7.547E-02	6.287E-02	3.850E-02	FAIL ABUN
AM-246	9.340E-03	1.130E-01	9.413E-02	5.767E-02	NOT IDENT.
CM-247	9.896E-03	3.020E-02	2.584E-02	1.541E-02	FAIL ABUN
CF-249	2.739E-02	3.015E-02	2.657E-02	1.538E-02	NOT IDENT.
CF-251	6.037E-02	9.741E-02	8.778E-02	4.970E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	520.2589
46.50	520.2589
46.50	520.2589
48.70	505.1688
49.72	500.0403
51.35	512.0322
52.39	488.2150
52.97	472.1694
53.15	472.3361
53.44	471.5646
54.07	485.6626
56.28	557.6909
56.28	557.6949
57.37	0.0000
57.53	566.3332
57.53	566.3360
57.60	566.4075
57.98	555.2831
57.98	555.2831
59.32	579.7645
59.32	579.7645
59.40	579.8502
59.54	611.5192
59.72	611.7205
60.01	585.2282
61.10	589.5441
61.14	589.5869
61.30	589.7562
63.00	689.3417
63.29	705.5613
63.29	705.5613
63.58	727.0888
64.28	721.6228
65.12	756.1035
65.20	756.2086
65.20	756.2086
66.05	734.9966
66.72	687.9519
66.83	696.0626
66.91	696.1590
67.20	696.5016
67.20	696.5016
67.75	729.1296
67.85	774.0337
68.90	838.4146
68.90	838.4146
69.30	833.6298
69.67	822.5958
70.82	808.4066
70.82	808.4066
70.83	808.4181
72.80	785.2221
72.87	785.3113
72.87	785.3113
74.67	840.9454
74.81	841.1319
74.81	841.1319
74.81	841.1319
74.81	841.1319
74.81	841.1319
74.81	841.1319
74.81	841.1319
74.97	841.3461
75.28	841.7627
75.70	842.3181
77.11	844.1827
77.11	844.1827

77.11	844.1827
77.11	844.1827
77.11	844.1827
77.11	844.1827
77.11	844.1827
78.38	795.9656
79.62	818.1284
79.80	837.9127
79.80	837.9127
80.11	838.3088
80.18	838.3990
80.30	838.5519
80.30	838.5519
80.57	754.0281
81.00	754.5180
81.07	839.5323
81.07	839.5323
81.07	839.5323
81.07	839.5323
82.60	741.6030
83.37	614.0643
83.78	614.4417
83.78	614.4417
83.78	614.4417
83.78	614.4417
84.21	614.8304
84.90	615.4564
85.43	615.9338
86.29	616.7084
86.50	616.8971
86.54	616.9314
86.59	616.9771
86.72	617.0929
86.79	617.1544
86.94	617.2887
87.30	617.6117
87.30	617.6117
87.30	617.6117
87.30	617.6117
87.30	617.6117
87.30	617.6117
87.57	617.8518
87.88	618.1262
88.03	618.2606
88.36	618.5521
88.47	618.6494
89.95	619.9557
91.11	620.9704
92.29	621.9966
92.38	622.0738
92.38	622.0738
93.35	622.9142
94.00	623.4716
94.67	624.0433
94.67	624.0461
94.90	558.1536
94.90	558.1536
94.90	558.1536
94.90	558.1536
95.87	627.2968
95.87	627.2968
96.73	646.4044
97.43	635.3096
98.44	579.2501
98.44	579.2501
98.88	529.3372
99.55	540.9871
99.55	540.9871
99.86	527.7926
100.00	527.8911
100.10	557.0458
103.18	667.1140
103.76	609.1711
105.00	563.9919
105.31	577.7303
108.00	665.5938
109.28	612.3370

111.00	619.3210
111.00	619.3210
111.76	670.9952
112.95	665.1560
115.19	563.2225
116.30	562.8372
117.00	570.1667
117.00	570.1667
117.66	618.6438
121.11	560.3209
121.62	549.1671
121.78	550.4183
122.06	550.5986
122.32	540.4159
122.32	540.4159
122.32	540.4159
122.32	540.4159
123.07	537.4367
127.23	589.7329
129.76	568.8072
131.20	548.8179
133.02	565.6355
133.54	565.9618
135.34	567.9542
136.00	537.7137
136.25	523.8431
136.48	523.9754
140.51	661.7694
140.51	0.0000
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142.65	534.4989
143.76	546.6074
144.24	554.8327
144.24	554.8327
144.24	554.8327
144.24	554.8327
145.22	587.2412
145.44	587.3729
147.16	638.0475
152.43	559.5281
152.70	546.3086
153.22	545.7068
154.21	550.7113
154.21	550.7113
154.21	550.7113
154.21	550.7113
155.03	563.6693
156.02	592.8416
158.56	561.1658
159.00	0.0000
159.00	552.4412
160.31	543.2731
161.27	546.4773
162.32	535.3375
162.64	544.5056
163.35	546.6807
163.89	546.0621
165.85	547.0931
167.43	520.7915
171.28	551.7236
171.86	551.1172
172.10	556.6864
176.55	529.8026
176.60	532.5649
181.06	559.6356
184.41	531.9305
185.71	512.1330
186.00	512.2648
190.27	550.9308
192.34	494.4622
193.63	473.1054
197.04	520.9169
198.01	504.6215
198.60	490.9233
200.40	460.9431
201.83	520.2344
202.84	497.3493
205.31	463.7777

208.36	554.9368
208.81	523.6321
209.75	481.4307
209.75	481.4307
210.97	455.4173
215.65	433.2205
216.55	482.1970
218.09	444.9978
222.10	450.2049
223.80	456.5008
226.40	430.8014
227.00	426.2446
227.08	426.2720
227.20	426.3096
228.16	448.5302
228.18	448.5374
228.18	448.5374
231.56	0.0000
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236.00	444.5156
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238.63	429.0787
238.63	429.0787
238.63	429.0787
239.00	429.1980
240.98	429.8324
241.98	430.1529
241.98	430.1529
241.98	430.1529
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245.39	375.0897
247.94	349.0609
248.90	339.4930
249.79	364.8794
252.40	369.4469
252.85	357.9276
252.85	357.9276
254.15	0.0000
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256.20	395.7360
260.50	338.4277
260.90	343.4009
262.80	365.0751
264.65	331.7883
268.24	305.9443
268.79	347.2588
269.46	347.4208
269.46	347.4208
269.46	347.4208
269.46	347.4208
271.23	375.7540
273.65	362.1995
276.40	374.7119
277.35	377.3236
277.60	352.3207
277.60	352.3207
278.00	333.2625
278.60	347.6172
279.20	344.6007
279.53	338.3509
280.46	314.8291
281.68	311.9199
283.67	318.2272
284.30	340.0272
285.00	343.1596
285.90	339.3960
286.10	319.5876
286.10	319.5876
287.40	303.9689
288.45	0.0000
290.67	361.5651
290.80	361.5984
291.72	341.0938
293.26	0.0000
293.70	317.5984
295.21	316.3118
295.21	316.3118

295.21	316.3118
295.96	295.6884
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297.23	295.9277
298.57	296.1852
299.80	296.4200
299.80	296.4200
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300.09	288.4614
300.09	288.4614
300.09	288.4614
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301.29	288.6812
302.84	284.1507
303.76	305.2014
303.91	289.1646
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304.40	290.8594
304.84	290.9434
306.84	267.1684
308.46	293.0159
311.98	273.4811
316.51	277.2862
318.01	274.5025
319.02	302.0424
319.41	310.2256
320.08	317.4512
323.87	271.6278
323.87	271.6278
323.87	271.6278
323.87	271.6278
325.23	289.7584
328.77	307.9123
333.44	245.3833
334.20	267.3148
334.20	267.3148
334.30	267.3307
338.28	318.8918
338.28	318.8918
338.28	318.8918
338.28	318.8918
338.32	318.8965
338.32	318.8965
338.32	318.8965
340.50	307.1895
340.57	307.2032
344.27	306.9290
345.85	298.2656
350.59	0.0000
351.07	256.1890
351.92	256.3138
351.92	256.3138
351.92	256.3138
355.39	0.0000
356.01	213.8200
364.48	243.5727
366.43	243.8369
367.43	246.0578
367.94	0.0000
369.80	258.9098
374.96	235.5675
383.85	256.6959
387.95	198.2181
388.63	200.4022
391.69	246.1546
391.69	246.1546
392.90	209.3145
398.62	231.1526
400.65	258.9968
401.10	273.9242
401.81	270.8363
402.60	240.1353
404.84	238.2871
410.95	213.4308
411.60	211.7930
413.65	164.1422
414.70	201.6203
415.30	189.3076

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417.63	0.0000
418.52	219.6111
423.70	193.3347
427.08	220.5621
427.89	201.2755
432.53	209.2924
433.93	183.5277
439.47	195.9360
439.56	195.9443
439.89	202.4740
443.98	195.2847
444.90	201.8822
445.03	201.8964
445.03	201.8964
445.03	201.8964
445.03	201.8964
453.90	195.1312
463.38	187.2504
468.07	198.4176
473.00	189.1958
475.06	178.3666
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476.78	159.7752
477.59	170.8581
477.96	175.2989
482.03	163.4761
484.57	168.0892
487.03	164.9558
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492.35	177.5635
497.08	174.6031
507.63	0.0000
510.53	0.0000
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511.00	172.3300
511.85	172.3935
511.85	172.3935
513.99	164.9352
513.99	164.9352
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520.65	137.0974
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529.64	152.5208
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531.02	151.7086
537.32	151.2092
543.00	163.3711
546.56	0.0000
549.76	154.7307
552.65	143.9821
555.20	135.9225
563.23	149.1872
563.90	144.6495
568.70	144.9349
569.32	160.5676
569.50	160.5804
569.67	155.0872
573.80	135.1244
574.00	135.1352
574.64	132.8177
578.91	145.8398
579.30	0.0000
583.14	133.7852
585.48	147.7617
591.81	150.9103
592.07	150.9262
593.00	137.0879
595.88	151.1530
600.56	139.3542
602.52	0.0000
602.71	172.0148
602.71	172.0148
603.60	155.0211
604.41	170.5770
604.70	170.5949
609.31	159.4024

609.31	159.4024
609.31	159.4024
609.31	159.4024
610.33	159.4650
612.46	130.6655
614.37	121.4211
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621.84	130.1971
631.29	133.4855
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636.97	124.3494
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646.12	130.4464
656.30	139.1579
657.75	118.6615
657.90	0.0000
661.65	131.5078
661.65	131.5078
664.57	0.0000
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666.33	142.8406
675.00	129.9139
677.61	124.2966
685.20	121.7569
692.80	133.6212
695.00	119.2925
696.49	124.1688
696.49	124.1688
697.00	131.8926
697.49	134.8047
698.33	154.1055
698.50	154.1133
699.00	162.8110
702.63	120.5750
706.10	142.9342
706.58	0.0000
706.67	155.5207
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711.68	120.9534
713.82	129.7569
717.42	112.4656
720.50	122.9372
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722.20	129.4824
722.78	144.0782
722.78	144.0782
722.89	144.0854
722.95	131.1339
723.30	131.1504
724.18	132.8096
727.18	95.3323
733.00	103.9661
735.90	105.1517
739.58	113.3124
742.81	124.1940
744.21	129.1415
747.13	112.6191
751.79	146.1408
752.31	136.3564
753.82	112.8690
755.35	116.8559
756.15	114.9205
756.87	114.9491
763.93	134.5813
765.79	123.1659
766.42	119.9082
766.84	106.7808
776.49	123.5962
778.00	109.8049
778.57	96.9640
778.89	96.9736
783.80	109.0198
785.46	106.1040
792.07	114.2756

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796.30	102.8212
798.80	114.5199
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805.60	87.8217
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810.76	86.9639
815.85	97.1137
817.79	92.1640
818.51	84.1682
819.60	72.1687
826.30	87.3844
828.27	0.0000
831.60	118.7145
831.96	118.7260
834.83	111.7805
836.80	0.0000
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848.13	99.0886
856.28	0.0000
856.80	82.7912
860.37	98.4398
867.32	105.0841
867.82	104.6150
871.10	86.5377
873.19	85.5729
874.81	94.7869
875.33	0.0000
876.40	89.7316
879.36	90.8317
880.27	87.7931
880.51	84.7366
881.50	87.8246
883.24	83.7817
884.67	91.9951
889.25	80.8593
896.60	80.0052
898.02	92.3511
899.00	93.4039
903.28	94.2045
911.07	94.7604
911.07	94.7604
911.07	94.7604
919.63	88.7967
920.93	84.6966
925.00	77.5562
925.24	81.6983
926.50	100.3486
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937.48	105.8474
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968.20	77.4453
969.11	77.4651
969.11	77.4651
969.11	77.4651
977.42	69.9463
980.50	89.2562
983.50	79.8705
989.30	86.3102
996.32	120.2177
1001.03	72.8543
1001.68	71.8117
1004.76	132.1136
1021.30	0.0000
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1034.80	66.0476
1036.00	75.6594
1037.82	75.6940
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1038.76	0.0000
1045.16	85.4492
1046.59	79.0731
1048.07	74.8262

1050.47	83.4272
1050.47	83.4272
1062.04	87.9658
1063.62	96.5874
1076.63	82.9066
1077.35	81.8447
1078.86	90.4969
1085.78	77.7023
1099.22	99.6188
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1112.84	105.5433
1115.52	108.7158
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1120.29	72.5618
1120.29	72.5618
1120.29	72.5618
1120.51	76.1968
1121.28	79.8395
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1147.95	0.0000
1167.94	89.9131
1173.22	87.2689
1175.09	85.4695
1177.93	100.2404
1189.05	94.9699
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1205.75	0.0000
1213.00	111.2598
1221.42	115.1904
1230.97	103.7343
1235.34	92.6560
1236.41	0.0000
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1260.41	0.0000
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1274.54	64.8672
1291.56	72.6575
1298.22	0.0000
1312.09	61.6093
1325.50	58.9348
1325.50	58.9348
1332.49	35.2235
1333.61	38.0876
1360.21	38.3024
1362.66	0.0000
1365.15	38.3431
1368.21	46.0410
1368.53	0.0000
1376.25	37.4702
1384.27	42.8956
1394.10	38.5742
1395.20	48.2279
1407.95	41.5845
1434.06	31.1107
1436.60	28.2082
1457.56	0.0000
1460.81	36.1644
1489.15	38.3335
1509.49	18.7487
1596.49	20.6359
1620.62	24.1826
1678.03	0.0000
1691.02	23.4698
1691.02	23.4698
1706.46	0.0000
1750.46	0.0000
1764.49	14.4694
1764.49	14.4694
1764.49	14.4694
1764.49	14.4694
1770.23	14.1881
1771.40	17.7386
1791.20	0.0000
1808.65	19.7839

1836.01

20.9204

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274003

Total Uranium Activity	4.1327E+00	ug/g
Total Uranium Counting Unc.	4.1172E+00	ug/g
Total Uranium Tpu	2.1006E-06	ug/g
Total Uranium Mda	2.7386E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*   BATCH ID      : 935341                        SAMPLE ID   : G243274003
*   ANALYST       : MXR1                          DETECTOR    : GAM01
*   SAMPLE DATE   : 16-DEC-2009 12:00:00.00      COUNT TIME   : 0 04:00:00.00
*   ANALYSIS DATE : 30-DEC-2009 23:06:16.27      SAMPLE ALQT  : 128.020 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.075E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.277E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.473E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.698E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 03:07:27.13

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274004.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 23:06:42
Sample ID          : G243274004      Sample quantity   : 1.32020E+02 GRAM
Detector name      : GAM25           Detector geometry: CAN
Elapsed live time   : 0 04:00:00.00 Elapsed real time: 0 04:00:03.87 0.0%
Energy tolerance    : 1.50000 keV    Analyst Initials  : MXR1
Abundance limit     : 75.00000       Sensitivity      : 5.00000
Batch ID           : 935341          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	46.41*	405	908	0.97	92.38	88	9	2.81E-02	15.1	
2	0	63.22*	415	1634	0.72	125.99	121	10	2.88E-02	19.4	
3	3	74.78*	1666	912	0.84	149.12	144	17	1.16E-01	3.7	1.77E+00
4	3	77.06*	2480	802	0.81	153.68	144	17	1.72E-01	2.7	
5	0	84.14*	328	805	1.24	167.83	165	6	2.27E-02	15.2	
6	4	87.23*	870	679	1.19	174.01	171	22	6.04E-02	5.5	5.98E+00
7	4	89.89	567	596	0.91	179.34	171	22	3.94E-02	7.7	
8	4	92.68*	850	737	1.17	184.91	171	22	5.90E-02	7.1	
9	4	94.33	231	657	1.23	188.22	171	22	1.60E-02	23.9	
10	0	129.08	224	719	0.99	257.70	254	8	1.55E-02	21.8	
11	0	185.78*	571	639	1.16	371.09	366	9	3.97E-02	9.6	
12	0	209.40	310	553	0.76	418.34	414	9	2.15E-02	14.8	
13	7	238.57*	2954	392	0.98	476.68	472	20	2.05E-01	2.2	2.53E+00
14	7	241.61	687	506	1.53	482.74	472	20	4.77E-02	7.8	
15	0	270.19	216	446	1.34	539.90	535	10	1.50E-02	19.5	
16	0	277.11	72	452	0.96	553.75	550	9	5.01E-03	54.4	
17	0	295.11*	933	429	1.02	589.74	584	11	6.48E-02	5.5	
18	0	299.96	190	391	1.33	599.45	595	10	1.32E-02	20.8	
19	0	328.07	154	273	1.22	655.66	652	9	1.07E-02	21.0	
20	0	338.18	599	299	1.25	675.87	671	9	4.16E-02	6.6	
21	0	351.82*	1611	354	1.24	703.15	697	13	1.12E-01	3.5	
22	0	409.15	42	272	0.76	817.81	814	10	2.90E-03	75.3	
23	0	463.09	141	226	1.24	925.67	919	10	9.79E-03	21.6	
24	0	510.40*	271	323	1.55	1020.29	1012	17	1.88E-02	18.6	
25	0	582.96*	877	206	1.32	1165.41	1158	15	6.09E-02	5.1	
26	0	609.20*	1060	200	1.39	1217.89	1212	14	7.36E-02	4.3	
27	0	661.55*	325	193	1.28	1322.58	1318	11	2.26E-02	10.9	
28	0	726.99	182	169	1.60	1453.47	1447	13	1.26E-02	16.5	
29	0	768.19	86	138	1.21	1535.87	1531	10	5.95E-03	28.1	
30	0	785.66	56	81	2.26	1570.80	1567	9	3.89E-03	31.9	
31	0	794.65	113	102	1.24	1588.78	1582	12	7.84E-03	20.2	
32	0	860.80	62	178	0.89	1721.09	1712	14	4.28E-03	47.7	
33	0	911.02*	531	93	1.60	1821.52	1816	11	3.69E-02	5.8	
34	1	964.94	116	63	1.97	1929.36	1921	24	8.06E-03	17.0	1.83E+00
35	1	968.84	372	51	1.89	1937.17	1921	24	2.59E-02	6.5	
36	0	1120.12	188	157	1.62	2239.73	2232	14	1.30E-02	15.9	
37	0	1238.81	61	150	2.01	2477.13	2470	14	4.22E-03	45.1	
38	0	1378.43	52	88	1.72	2756.37	2746	20	3.64E-03	46.3	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1412.03	38	72	7.83	2823.58	2811	27	2.64E-03	67.4	
40	0	1460.51*	1691	77	1.92	2920.55	2910	22	1.17E-01	2.8	
41	0	1620.43	41	10	2.18	3240.41	3234	13	2.88E-03	22.0	
42	0	1630.58	34	5	1.69	3260.72	3257	9	2.36E-03	20.6	
43	0	1729.83	50	25	2.33	3459.24	3453	12	3.45E-03	25.2	
44	0	1764.15*	163	20	1.73	3527.88	3518	20	1.13E-02	10.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 03:07:29

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274004.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 23:06:42
Sample ID : G243274004 Sample quantity : 132.02 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA25 Detector geometry: CAN
Elapsed live time: 0 04:00:00.00 Elapsed real time: 0 04:00:03.87 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	*	2.033E+01	2.071E+00	3.350E-01	2.853E-02	60.689
CD-109	+	88.03	*	3.613E+00	5.535E-01	4.776E-01	5.132E-02	7.566
SN-126	+	64.28		6.291E-01	2.644E-01	1.958E-01	3.119E-02	3.214
	+	86.94		1.478E+00	6.392E-01	1.944E-01	8.133E-02	7.603
	+	87.57	*	3.555E-01	5.445E-02	4.689E-02	5.028E-03	7.582
BA-137M	+	661.65	*	2.303E-01	5.615E-02	4.211E-02	4.665E-03	5.469
CS-137	+	661.65	*	2.435E-01	5.937E-02	4.452E-02	4.937E-03	5.469
TL-208	+	277.35		3.178E-01	3.486E-01	3.628E-01	5.153E-02	0.876
	+	510.84		6.349E-01	2.503E-01	1.420E-01	1.881E-02	4.471
	+	583.14	*	5.931E-01	8.982E-02	3.981E-02	4.488E-03	14.896
	+	860.37		3.983E-01	3.825E-01	3.270E-01	3.418E-02	1.218
BI-210	+	46.50	*	1.549E+00	4.946E-01	3.776E-01	3.894E-02	4.102
PB-210	+	46.50	*	1.549E+00	4.946E-01	3.776E-01	3.894E-02	4.102
PO-210	+	46.50	*	1.549E+00	4.908E-01	3.776E-01	3.596E-02	4.102
BI-211		72.87		1.291E+00	1.149E+00	1.712E+00	1.729E-01	0.754
	+	351.07	*	4.553E+00	5.765E-01	1.921E-01	2.024E-02	23.703
BI-212	+	727.18	*	1.069E+00	3.752E-01	3.255E-01	3.912E-02	3.284
	+	785.46		2.111E+00	1.366E+00	2.038E+00	2.151E-01	1.036
	+	1620.62		2.114E+00	9.445E-01	1.220E+00	1.014E-01	1.732
PB-212	+	74.81		2.283E+00	3.574E-01	1.878E-01	2.593E-02	12.159
	+	77.11		2.030E+00	2.355E-01	1.125E-01	1.153E-02	18.033
	+	87.30		1.644E+00	3.008E-01	2.166E-01	3.174E-02	7.591
	+	238.63	*	1.763E+00	2.148E-01	5.544E-02	6.312E-03	31.804
	+	300.09		1.779E+00	7.726E-01	7.753E-01	9.656E-02	2.294
PO-212	+	74.81		2.283E+00	3.574E-01	1.878E-01	2.593E-02	12.159
	+	77.11		2.030E+00	2.355E-01	1.125E-01	1.153E-02	18.033
	+	87.30		1.644E+00	3.008E-01	2.166E-01	3.174E-02	7.591
		115.19		8.711E-02	1.765E+00	2.994E+00	3.713E-01	0.029
	+	238.63	*	1.763E+00	2.148E-01	5.544E-02	6.312E-03	31.804
	+	300.09		1.779E+00	7.726E-01	7.753E-01	9.656E-02	2.294
BI-214	+	609.31	*	1.355E+00	2.004E-01	7.505E-02	9.057E-03	18.055
	+	1120.29		1.265E+00	4.260E-01	3.198E-01	3.470E-02	3.957
	+	1764.49		1.556E+00	3.631E-01	1.865E-01	1.536E-02	8.345
PB-214	+	74.81		3.935E+00	5.735E-01	3.236E-01	4.069E-02	12.159

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	77.11		3.479E+00	4.830E-01	1.929E-01	2.464E-02	18.033
	+	87.30		2.816E+00	4.830E-01	3.710E-01	4.896E-02	7.591
	+	241.98		2.466E+00	4.859E-01	3.345E-01	3.989E-02	7.373
	+	295.21		1.534E+00	2.574E-01	1.302E-01	1.652E-02	11.780
	+	351.92	*	1.584E+00	2.169E-01	6.698E-02	7.865E-03	23.645
	+	74.81		3.935E+00	5.735E-01	3.236E-01	4.069E-02	12.159
	+	77.11		3.479E+00	4.830E-01	1.929E-01	2.464E-02	18.033
	+	87.30		2.816E+00	4.830E-01	3.710E-01	4.896E-02	7.591
PO-216	+	241.98		2.466E+00	4.859E-01	3.345E-01	3.989E-02	7.373
	+	295.21		1.534E+00	2.574E-01	1.302E-01	1.652E-02	11.780
	+	351.92	*	1.584E+00	2.169E-01	6.698E-02	7.865E-03	23.645
	+	74.81		2.283E+00	3.574E-01	1.878E-01	2.593E-02	12.159
	+	77.11		2.030E+00	2.355E-01	1.125E-01	1.153E-02	18.033
	+	87.30		1.644E+00	3.008E-01	2.166E-01	3.174E-02	7.591
	+	238.63	*	1.763E+00	2.148E-01	5.544E-02	6.312E-03	31.804
	+	300.09		1.779E+00	7.726E-01	7.753E-01	9.656E-02	2.294
PO-218	+	74.81		3.935E+00	5.735E-01	3.236E-01	4.069E-02	12.159
	+	77.11		3.479E+00	4.830E-01	1.929E-01	2.464E-02	18.033
	+	87.30		2.816E+00	4.830E-01	3.710E-01	4.896E-02	7.591
	+	241.98		2.466E+00	4.859E-01	3.345E-01	3.989E-02	7.373
	+	295.21		1.534E+00	2.574E-01	1.302E-01	1.652E-02	11.780
	+	351.92	*	1.584E+00	2.169E-01	6.698E-02	7.865E-03	23.645
	+	240.98	*	4.676E+00	8.833E-01	6.317E-01	6.639E-02	7.402
	+	609.31	*	1.355E+00	2.004E-01	7.505E-02	9.057E-03	18.055
RA-224	+	1120.29		1.265E+00	4.260E-01	3.198E-01	3.470E-02	3.957
AC-228	+	1764.49		1.556E+00	3.631E-01	1.865E-01	1.536E-02	8.345
	+	338.32		1.857E+00	8.122E-01	2.277E-01	9.488E-02	8.158
	+	911.07	*	1.625E+00	2.703E-01	1.495E-01	1.778E-02	10.869
	+	969.11		2.007E+00	5.410E-01	2.496E-01	5.890E-02	8.041
	+	338.32		1.857E+00	8.122E-01	2.277E-01	9.488E-02	8.158
	+	911.07	*	1.625E+00	2.703E-01	1.495E-01	1.778E-02	10.869
	+	969.11		2.007E+00	5.410E-01	2.496E-01	5.890E-02	8.041
	+	74.81		2.317E+00	2.920E-01	1.905E-01	1.948E-02	12.159
TH-228	+	77.11		2.059E+00	2.389E-01	1.142E-01	1.170E-02	18.033
	+	87.30		1.668E+00	2.555E-01	2.197E-01	2.353E-02	7.591
	+	238.63	*	1.789E+00	2.179E-01	5.625E-02	6.404E-03	31.804
	+	300.09		1.805E+00	1.313E+00	7.865E-01	4.693E-01	2.294
	+	609.31	*	1.355E+00	2.003E-01	7.505E-02	9.057E-03	18.055
	+	1120.29		1.265E+00	4.260E-01	3.198E-01	3.470E-02	3.957
	+	1764.49		1.556E+00	3.631E-01	1.865E-01	1.536E-02	8.345
	+	338.32		1.857E+00	3.130E-01	2.277E-01	2.373E-02	8.158
TH-232	+	911.07	*	1.625E+00	2.703E-01	1.495E-01	1.778E-02	10.869
	+	969.11		2.007E+00	5.410E-01	2.496E-01	5.890E-02	8.041
	+	63.29	*	1.589E+00	6.854E-01	4.938E-01	9.195E-02	3.218
	+	92.38		2.417E+00	5.785E-01	3.262E-01	6.301E-02	7.411
	+	609.31	*	1.355E+00	2.003E-01	7.505E-02	9.057E-03	18.055
	+	1120.29		1.265E+00	4.260E-01	3.198E-01	3.470E-02	3.957
	+	1764.49		1.556E+00	3.631E-01	1.865E-01	1.536E-02	8.345
	+	86.50	*	1.044E+00	2.683E-01	1.480E-01	3.438E-02	7.053

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		95.87		-4.581E-01	4.448E-01	6.374E-01	1.634E-01	-0.719
U-238	+	63.29	*	1.589E+00	6.854E-01	4.938E-01	9.195E-02	3.218
	+	92.38		2.417E+00	4.324E-01	3.262E-01	3.580E-02	7.411
AM-243	+	74.67	*	3.702E-01	4.647E-02	3.043E-02	3.091E-03	12.164
	+	86.72		3.915E+01	5.996E+00	5.144E+00	5.493E-01	7.610
		117.66		-3.458E+00	1.905E+00	2.960E+00	3.722E-01	-1.168
		142.18		2.592E-01	9.605E+00	1.605E+01	1.813E+00	0.016
ANH-511	+	511.00	*	1.371E-01	5.284E-02	3.069E-02	3.159E-03	4.469

---- 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	*	-5.637E-02	2.227E-01	3.580E-01	3.790E-02	-0.157
NA-22		1274.54	*	-8.915E-03	3.244E-02	5.226E-02	4.285E-03	-0.171
NA-24		1368.53	*	-7.652E-02	3.244E-02	Half-Life too short		
AL-26		1129.67		-9.683E-02	1.134E+00	1.875E+00	1.600E-01	-0.052
		1808.65	*	2.552E-02	2.279E-02	4.271E-02	3.500E-03	0.597
TI-44		67.85		9.030E-04	1.318E-02	2.089E-02	2.079E-03	0.043
	+	78.38	*	3.745E-01	4.346E-02	2.933E-02	3.020E-03	12.770
SC-46		889.25	*	-2.390E-02	2.793E-02	4.247E-02	4.067E-03	-0.563
	+	1120.51		2.155E-01	7.113E-02	9.568E-02	8.226E-03	2.252
V-48		944.10		6.006E-01	6.088E-01	1.050E+00	9.854E-02	0.572
		983.50	*	7.297E-03	5.146E-02	8.372E-02	7.758E-03	0.087
		1312.09		3.513E-02	5.371E-02	9.269E-02	7.553E-03	0.379
CR-51		320.08	*	5.266E-03	2.292E-01	3.867E-01	4.294E-02	0.014
MN-52		744.21		-9.492E-02	1.446E-01	2.283E-01	2.467E-02	-0.416
		848.13		-1.023E-02	4.328E+00	7.072E+00	7.086E-01	-0.001
		935.52		2.205E-01	1.639E-01	2.880E-01	2.707E-02	0.766
		1246.25		2.676E+00	5.166E+00	7.967E+00	6.542E-01	0.336
		1333.61		-1.496E-01	3.215E+00	5.239E+00	4.256E-01	-0.029
		1434.06	*	-1.059E-01	1.433E-01	2.121E-01	1.748E-02	-0.499
MN-54		834.83	*	1.883E-02	2.756E-02	4.681E-02	4.750E-03	0.402
CO-56		846.75	*	1.806E-02	2.714E-02	4.623E-02	4.638E-03	0.391
		977.42		-1.192E+00	2.275E+00	3.416E+00	3.172E-01	-0.349
		1037.82		-1.916E-01	2.089E-01	3.263E-01	3.096E-02	-0.587
		1175.09		-6.063E-01	1.573E+00	2.539E+00	2.090E-01	-0.239
	+	1238.25		1.145E-01	1.037E-01	1.218E-01	1.032E-02	0.940
		1360.21		-8.278E-02	6.431E-01	1.037E+00	8.458E-02	-0.080
		1771.40		-4.792E-02	1.797E-01	2.388E-01	1.966E-02	-0.201
CO-57		122.06	*	-1.034E-02	1.258E-02	2.058E-02	2.654E-03	-0.502
		136.48		2.962E-02	1.097E-01	1.851E-01	2.270E-02	0.160
CO-58		810.76	*	-1.348E-02	2.528E-02	3.983E-02	4.133E-03	-0.338
FE-59		142.65		4.706E-01	1.546E+00	2.515E+00	2.830E-01	0.187
		192.34		5.654E-01	5.475E-01	9.166E-01	1.284E-01	0.617
		1099.22	*	1.365E-02	6.509E-02	1.100E-01	1.036E-02	0.124
		1291.56		1.308E-03	8.761E-02	1.440E-01	1.353E-02	0.009
CO-60		1173.22		-1.654E-04	3.149E-02	5.219E-02	4.295E-03	-0.003
		1332.49	*	-1.158E-03	2.676E-02	4.362E-02	3.543E-03	-0.027

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZN-65		1115.52	*	-1.403E-03	7.030E-02	1.007E-01	8.695E-03	-0.014
GE-68		1077.35	*	5.095E-01	8.258E-01	1.436E+00	1.272E-01	0.355
AS-73		53.44	*	4.155E-02	1.186E-01	1.850E-01	1.776E-02	0.225
AS-74		595.88	*	2.966E-02	6.188E-02	1.015E-01	1.100E-02	0.292
		634.78		-4.937E-02	2.218E-01	3.674E-01	4.040E-02	-0.134
SE-75		66.05		-3.357E-02	1.413E+00	2.028E+00	2.338E-01	-0.017
		96.73		-6.784E-01	3.757E-01	5.192E-01	8.000E-02	-1.307
		121.11		1.192E-02	6.592E-02	1.118E-01	1.644E-02	0.107
		136.00		1.280E-02	2.050E-02	3.489E-02	4.140E-03	0.367
		198.60		-2.899E-01	1.163E+00	1.784E+00	1.873E-01	-0.162
		264.65	*	-9.545E-03	2.750E-02	4.085E-02	4.477E-03	-0.234
		279.53		1.797E-02	7.554E-02	1.078E-01	1.230E-02	0.167
		303.91		3.580E-01	1.399E+00	2.118E+00	2.819E-01	0.169
		400.65		-3.413E-02	1.734E-01	2.795E-01	3.233E-02	-0.122
BR-77	+	87.88		6.536E+02	1.001E+02	1.321E+02	1.418E+01	4.949
		200.40		2.322E+01	8.088E+01	1.330E+02	1.288E+01	0.175
	+	239.00		2.368E+02	2.682E+01	2.204E+01	2.308E+00	10.743
		249.79		-1.806E+01	3.315E+01	5.168E+01	5.514E+00	-0.349
		281.68		-2.091E+01	5.215E+01	7.145E+01	7.963E+00	-0.293
		297.23		1.021E+02	4.115E+01	5.277E+01	5.814E+00	1.935
		303.76		2.910E+01	1.001E+02	1.519E+02	1.663E+01	0.192
		439.47		5.753E+01	8.093E+01	1.371E+02	1.320E+01	0.420
		484.57		-8.944E+01	1.320E+02	2.064E+02	2.079E+01	-0.433
		520.65	*	-4.336E+00	6.265E+00	9.711E+00	1.007E+00	-0.447
		574.64		-1.293E+02	1.254E+02	1.871E+02	2.007E+01	-0.691
		578.91		3.830E+01	5.423E+01	7.999E+01	8.597E+00	0.479
		585.48		8.106E+02	1.618E+02	2.538E+02	2.737E+01	3.194
		755.35		1.884E+02	1.000E+02	1.795E+02	1.928E+01	1.050
		817.79		-1.313E+01	7.016E+01	1.134E+02	1.168E+01	-0.116
SR-82		698.33		-1.224E+01	2.298E+01	3.703E+01	4.072E+00	-0.330
		776.49	*	-3.454E-01	2.717E-01	4.082E-01	4.332E-02	-0.846
		1395.20		-4.638E+00	7.287E+00	1.105E+01	9.063E-01	-0.420
RB-83		520.41	*	-1.173E-02	4.859E-02	7.747E-02	8.031E-03	-0.151
		529.64		-1.125E-02	7.011E-02	1.121E-01	1.169E-02	-0.100
		552.65		-2.233E-02	1.337E-01	2.128E-01	2.254E-02	-0.105
RB-84		881.50	*	-3.611E-02	5.045E-02	7.785E-02	7.524E-03	-0.464
KR-85		513.99	*	4.621E+00	5.715E+00	8.503E+00	8.772E-01	0.543
SR-85		513.99	*	2.354E-02	2.912E-02	4.332E-02	4.469E-03	0.543
RB-86		1076.63	*	9.393E-02	5.185E-01	8.773E-01	7.770E-02	0.107
Y-88		898.02		1.659E-03	2.949E-02	4.812E-02	4.577E-03	0.034
		1836.01	*	-7.471E-05	2.229E-02	3.669E-02	2.998E-03	-0.002
ZR-88		392.90	*	-4.382E-03	1.936E-02	3.174E-02	2.889E-03	-0.138
Y-91		1204.90	*	2.575E+00	1.325E+01	2.217E+01	1.825E+00	0.116
NB-94		702.63	*	-1.424E-03	2.306E-02	3.823E-02	4.198E-03	-0.037
		871.10		6.194E-03	2.496E-02	4.135E-02	4.045E-03	0.150
NB-95		765.79	*	5.806E-02	3.452E-02	5.499E-02	5.874E-03	1.056
NB-95M		235.69	*	-2.035E-02	8.453E-02	1.196E-01	1.371E-02	-0.170
ZR-95		724.18		-1.351E-03	7.903E-02	1.136E-01	1.307E-02	-0.012
		756.15	*	6.517E-02	5.066E-02	8.897E-02	1.019E-02	0.732

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	657.90	*		1.164E-02	5.066E-02	Half-Life	too short	
	1024.50			-2.643E+00	5.066E-02	Half-Life	too short	
ZR-97	254.15			-1.596E-01	5.066E-02	Half-Life	too short	
	355.39			-1.144E+00	5.066E-02	Half-Life	too short	
	507.63	*		1.543E+00	5.066E-02	Half-Life	too short	
	602.52			-1.331E+00	5.066E-02	Half-Life	too short	
	1021.30			4.773E-01	5.066E-02	Half-Life	too short	
	1147.95			-5.608E-01	5.066E-02	Half-Life	too short	
	1362.66			-5.300E-01	5.066E-02	Half-Life	too short	
	1750.46			-7.763E-01	5.066E-02	Half-Life	too short	
MO-99	140.51			2.300E+00	1.206E+01	2.024E+01	5.808E+00	0.114
	181.06			-2.226E+00	9.294E+00	1.348E+01	2.507E+00	-0.165
	366.43			9.150E+00	4.410E+01	7.421E+01	7.273E+00	0.123
	739.58	*		1.170E+01	6.911E+00	1.214E+01	2.008E+00	0.964
	778.00			-1.016E+01	2.081E+01	3.320E+01	3.521E+00	-0.306
TC-99M	140.51	*		7.135E+08	2.081E+01	Half-Life	too short	
RH-101	127.23			1.089E-02	1.790E-02	2.763E-02	3.458E-03	0.394
	198.01	*		1.840E-02	2.095E-02	3.324E-02	3.203E-03	0.554
	325.23			-1.251E-01	1.560E-01	2.203E-01	2.347E-02	-0.568
RH-102	418.52			-1.473E-01	1.962E-01	3.112E-01	2.926E-02	-0.473
	475.06	*		-5.652E-03	1.979E-02	3.176E-02	3.171E-03	-0.178
	631.29			8.956E-05	3.542E-02	5.949E-02	6.535E-03	0.002
	697.49			-1.035E-02	5.256E-02	8.650E-02	9.513E-03	-0.120
	766.84	+		1.853E-01	1.060E-01	1.518E-01	1.621E-02	1.221
	1046.59			-4.046E-02	7.369E-02	1.184E-01	1.067E-02	-0.342
	1112.84			-5.061E-02	1.800E-01	2.511E-01	2.171E-02	-0.202
RU-103	497.08	*		1.472E-02	2.653E-02	4.427E-02	6.711E-03	0.332
	610.33	+		1.447E+01	2.880E+00	2.177E+00	3.912E-01	6.649
RH-106	511.85	+		6.842E-01	2.636E-01	2.912E-01	2.999E-02	2.350
	621.84	*		2.792E-01	2.268E-01	3.985E-01	5.964E-02	0.701
	1050.47			2.503E-01	1.467E+00	2.487E+00	2.236E-01	0.101
RU-106	511.85	+		6.842E-01	2.636E-01	2.912E-01	2.999E-02	2.350
	621.84	*		2.792E-01	2.250E-01	3.985E-01	4.363E-02	0.701
	1050.47			2.503E-01	1.467E+00	2.487E+00	2.236E-01	0.101
AG-108M	433.93	*		4.922E-03	2.153E-02	3.577E-02	3.535E-03	0.138
	614.37			1.401E-03	2.830E-02	4.167E-02	4.663E-03	0.034
	722.95			-2.208E-02	3.426E-02	4.663E-02	5.211E-03	-0.474
AG-110M	657.75	*		2.749E-03	2.768E-02	4.060E-02	4.575E-03	0.068
	677.61			-1.255E-01	2.162E-01	3.482E-01	3.914E-02	-0.361
	706.67			-9.491E-03	1.472E-01	2.438E-01	2.720E-02	-0.039
	763.93			9.062E-02	1.217E-01	1.851E-01	2.016E-02	0.490
	884.67			3.769E-02	3.503E-02	6.088E-02	6.014E-03	0.619
	937.48			-9.842E-02	7.938E-02	1.156E-01	1.120E-02	-0.851
	1384.27			9.968E-02	1.140E-01	1.802E-01	1.522E-02	0.553
IN-111	171.28			-1.385E-01	4.925E-01	8.039E-01	7.263E-02	-0.172
	245.39	*		7.677E-02	6.102E-01	8.762E-01	9.279E-02	0.088
IN-113M	391.69	*		-5.937E-03	2.813E-02	4.616E-02	4.312E-03	-0.129
SN-113	391.69	*		-5.937E-03	2.813E-02	4.616E-02	4.312E-03	-0.129
IN-114M	190.27	*		-6.999E-02	1.116E-01	1.694E-01	1.603E-02	-0.413

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CD-115	260.90			-1.691E+00	6.646E+01	1.058E+02	1.150E+01	-0.016
	492.35			-9.258E+00	1.945E+01	3.068E+01	3.111E+00	-0.302
	527.90	*		-1.807E-02	6.150E+00	9.928E+00	1.035E+00	-0.002
SN-117M	156.02			-9.302E-01	1.264E+00	2.045E+00	2.039E-01	-0.455
	158.56	*		-6.808E-03	2.986E-02	4.912E-02	4.769E-03	-0.139
SB-122	563.90	*		9.478E-01	1.214E+00	2.029E+00	2.164E-01	0.467
	692.80			1.798E+00	2.554E+01	4.270E+01	4.702E+00	0.042
I-123	159.00	*		-4.254E-01	2.554E+01	Half-Life	too short	
	528.96			-4.022E+01	2.554E+01	Half-Life	too short	
TE-123M	159.00	*		-4.556E-03	1.600E-02	2.627E-02	2.551E-03	-0.173
I-124	602.71	*		-2.035E-01	4.358E-01	6.483E-01	7.046E-02	-0.314
	722.78			-1.596E+00	3.188E+00	4.397E+00	4.795E-01	-0.363
	1325.50			8.252E+00	2.139E+01	3.620E+01	2.944E+00	0.228
	1376.25			3.842E+01	2.192E+01	4.008E+01	3.279E+00	0.959
	1509.49			1.458E+01	1.183E+01	2.107E+01	1.747E+00	0.692
	1691.02			2.028E+00	2.200E+00	4.090E+00	3.390E-01	0.496
SB-124	602.71			-1.300E-02	2.784E-02	4.141E-02	4.501E-03	-0.314
	645.85			1.142E-01	3.335E-01	5.693E-01	6.514E-02	0.201
	709.31			1.927E-01	1.923E+00	3.214E+00	3.521E-01	0.060
	713.82			-3.230E-01	1.149E+00	1.877E+00	2.590E-01	-0.172
	722.78			-1.478E-01	2.952E-01	4.071E-01	4.500E-02	-0.363
	+ 968.20			2.052E+01	3.284E+00	5.381E+00	5.013E-01	3.813
	1045.16			-1.291E+00	1.611E+00	2.537E+00	2.287E-01	-0.509
	1325.50			8.161E-01	2.116E+00	3.580E+00	2.911E-01	0.228
	1368.21			-3.238E-01	1.188E+00	1.727E+00	2.278E-01	-0.188
	1436.60			1.551E-01	2.448E+00	4.004E+00	3.301E-01	0.039
	1691.02	*		4.429E-02	4.808E-02	8.933E-02	7.722E-03	0.496
SB-125	427.89	*		-3.117E-03	6.085E-02	9.987E-02	9.646E-03	-0.031
	+ 463.38			6.385E-01	2.842E-01	3.851E-01	4.031E-02	1.658
	600.56			2.489E-02	1.223E-01	1.975E-01	2.245E-02	0.126
	635.90			-1.036E-01	1.700E-01	2.741E-01	3.167E-02	-0.378
TE-125M	109.28	*		3.619E+00	4.316E+00	7.458E+00	9.904E-01	0.485
I-126	388.63			6.710E-02	1.296E-01	2.196E-01	2.016E-02	0.306
	666.33	*		1.118E-01	1.367E-01	2.105E-01	2.330E-02	0.531
	753.82			9.270E-01	9.902E-01	1.719E+00	1.848E-01	0.539
SB-126	223.80			1.133E+00	2.346E+00	3.851E+00	3.919E-01	0.294
	+ 278.60			2.031E+00	2.220E+00	2.648E+00	2.953E-01	0.767
	+ 296.50			1.476E+01	2.298E+00	2.332E+00	2.571E-01	6.327
	414.70			2.319E-02	5.332E-02	7.939E-02	7.430E-03	0.292
	415.30			4.481E+00	4.190E+00	6.768E+00	6.339E-01	0.662
	555.20			-8.206E-01	2.679E+00	4.224E+00	4.482E-01	-0.194
	573.80			-5.586E-01	7.260E-01	1.106E+00	1.186E-01	-0.505
	593.00			-2.741E-01	6.260E-01	9.709E-01	1.051E-01	-0.282
	656.30			6.162E-01	2.436E+00	3.619E+00	4.004E-01	0.170
	666.33			4.667E-02	5.706E-02	8.784E-02	9.725E-03	0.531
	675.00			1.755E+00	1.327E+00	2.352E+00	2.600E-01	0.746
	695.00			4.302E-02	5.169E-02	8.961E-02	9.861E-03	0.480
	697.00			-3.731E-02	1.773E-01	2.915E-01	3.207E-02	-0.128
	720.50	*		6.842E-02	1.137E-01	1.713E-01	1.869E-02	0.399

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		856.80		9.506E-02	3.546E-01	5.135E-01	5.101E-02	0.185
		989.30		7.700E-01	8.479E-01	1.453E+00	1.344E-01	0.530
		1034.80		-2.478E+00	6.061E+00	9.690E+00	8.783E-01	-0.256
		1213.00		-2.400E-01	3.254E+00	5.352E+00	4.403E-01	-0.045
		61.10		1.716E+01	1.214E+01	1.843E+01	2.206E+00	0.931
		252.40		1.278E+00	2.449E+00	3.903E+00	1.657E+00	0.327
		290.80		-3.679E+00	1.269E+01	1.874E+01	2.436E+00	-0.196
		411.60		-5.169E-01	7.900E+00	1.140E+01	1.823E+00	-0.045
		444.90		1.469E+00	5.667E+00	9.411E+00	1.237E+00	0.156
		473.00		-2.887E-01	1.006E+00	1.614E+00	2.205E-01	-0.179
		543.00		-2.407E+00	1.004E+01	1.592E+01	2.465E+00	-0.151
		603.60		3.498E+00	7.366E+00	1.119E+01	1.568E+00	0.313
		685.20	*	1.304E-01	8.715E-01	1.465E+00	1.926E-01	0.089
		698.50		-6.523E+00	9.428E+00	1.497E+01	2.562E+00	-0.436
XE-127		722.20		-9.391E+00	2.189E+01	3.039E+01	3.907E+00	-0.309
		783.80		2.738E+00	2.701E+00	4.137E+00	5.665E-01	0.662
		57.60		4.327E-01	1.089E+00	1.760E+00	1.716E-01	0.246
		145.22		3.418E-01	3.695E-01	6.299E-01	6.940E-02	0.543
		172.10		3.281E-02	6.705E-02	1.121E-01	1.015E-02	0.293
		202.84	*	-3.238E-02	2.743E-02	4.245E-02	4.135E-03	-0.763
I-131		374.96		1.069E-01	1.220E-01	2.103E-01	2.014E-02	0.508
		80.18		1.070E+00	1.718E+00	2.523E+00	2.628E-01	0.424
		284.30		7.142E-02	8.915E-01	1.416E+00	1.625E-01	0.050
		364.48	*	-1.686E-02	6.691E-02	1.103E-01	1.131E-02	-0.153
TE-132		636.97		2.342E-01	9.030E-01	1.538E+00	1.751E-01	0.152
		722.89		-2.701E+00	5.397E+00	7.443E+00	8.147E-01	-0.363
		49.72		1.129E+00	1.743E+00	2.656E+00	3.038E-01	0.425
		111.76		-2.079E+00	1.267E+01	2.139E+01	2.934E+00	-0.097
BA-133		116.30		3.727E+00	1.162E+01	1.983E+01	2.775E+00	0.188
		228.16	*	1.960E-01	3.678E-01	6.024E-01	9.982E-02	0.325
		53.15		4.040E-01	5.030E-01	7.942E-01	7.617E-02	0.509
		79.62		-5.189E-01	5.293E-01	7.249E-01	1.179E-01	-0.716
+ I-133		81.00		5.285E-03	4.478E-02	5.659E-02	9.572E-03	0.093
		276.40		3.141E-01	3.453E-01	4.197E-01	6.741E-02	0.748
		302.84		1.070E-01	9.491E-02	1.484E-01	2.213E-02	0.721
		356.01	*	-2.824E-02	3.027E-02	4.150E-02	5.884E-03	-0.681
+ I-133		383.85		4.771E-03	1.997E-01	3.319E-01	4.347E-02	0.014
		510.53		8.546E-01	1.997E-01	Half-Life	too short	
		529.87	*	-1.439E-04	1.997E-01	Half-Life	too short	
		706.58		2.697E-04	1.997E-01	Half-Life	too short	
CS-134		856.28		4.284E-02	1.997E-01	Half-Life	too short	
		875.33		4.391E-02	1.997E-01	Half-Life	too short	
		1236.41		5.504E-01	1.997E-01	Half-Life	too short	
		1298.22		6.934E-02	1.997E-01	Half-Life	too short	
		475.35		-3.676E-01	1.297E+00	2.082E+00	2.079E-01	-0.177
		563.23		2.012E-01	2.478E-01	4.148E-01	4.449E-02	0.485
		569.32		1.760E-01	1.418E-01	2.410E-01	2.600E-02	0.730
+ CS-134		604.70		3.787E-04	2.396E-02	3.524E-02	3.840E-03	0.011
		795.84	*	1.117E-01	4.668E-02	6.448E-02	6.788E-03	1.733

---- 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		801.93		-2.794E-01	3.050E-01	4.176E-01	4.371E-02	-0.669
		1038.57		-1.793E+00	2.655E+00	4.237E+00	3.833E-01	-0.423
		1167.94		2.241E-01	1.740E+00	2.910E+00	2.406E-01	0.077
		1365.15		-4.655E-01	7.683E-01	1.168E+00	1.002E-01	-0.399
		268.24	*	2.257E-01	1.092E-01	1.672E-01	2.018E-02	1.350
		288.45		4.668E+08	1.092E-01	Half-Life	too short	
		417.63		-6.534E+08	1.092E-01	Half-Life	too short	
		546.56		8.234E+08	1.092E-01	Half-Life	too short	
		836.80		2.850E+09	1.092E-01	Half-Life	too short	
		1038.76		-1.476E+09	1.092E-01	Half-Life	too short	
		1124.00		3.881E+09	1.092E-01	Half-Life	too short	
		1131.51		3.945E+08	1.092E-01	Half-Life	too short	
		1260.41	*	-8.934E+07	1.092E-01	Half-Life	too short	
		1457.56		1.138E+11	1.092E-01	Half-Life	too short	
		1678.03		2.537E+08	1.092E-01	Half-Life	too short	
		1706.46		4.597E+09	1.092E-01	Half-Life	too short	
		1791.20		-2.390E+08	1.092E-01	Half-Life	too short	
CS-136 +		66.91		1.754E-01	2.296E-01	3.357E-01	5.440E-02	0.523
		86.29		4.492E+00	8.103E-01	6.683E-01	1.241E-01	5.173
		153.22		3.947E-01	3.703E-01	6.298E-01	7.004E-02	0.627
		163.89		-3.699E-01	6.091E-01	9.317E-01	9.428E-02	-0.397
		176.55		-5.402E-02	2.019E-01	3.289E-01	3.166E-02	-0.164
		273.65		-1.621E-01	3.957E-01	4.205E-01	4.845E-02	-0.385
		340.57		1.545E-01	8.537E-02	1.359E-01	1.439E-02	1.137
		818.51		-1.980E-02	4.625E-02	7.337E-02	7.556E-03	-0.270
		1048.07	*	-3.641E-02	6.616E-02	1.062E-01	9.930E-03	-0.343
		1235.34		3.958E-01	4.956E-01	7.443E-01	8.603E-02	0.532
CE-139 BA-140		165.85	*	7.252E-03	1.664E-02	2.786E-02	2.485E-03	0.260
		162.64		-2.742E-01	4.297E-01	6.576E-01	6.406E-02	-0.417
		304.84		-3.572E-01	8.415E-01	1.218E+00	3.512E-01	-0.293
		423.70		1.264E-01	1.239E+00	2.049E+00	6.692E-01	0.062
LA-140 +		537.32	*	5.913E-02	1.645E-01	2.691E-01	9.061E-02	0.220
		328.77		5.705E-01	2.478E-01	3.335E-01	3.666E-02	1.710
		432.53		-3.884E-02	1.308E+00	2.146E+00	2.133E-01	-0.018
		487.03		2.412E-02	8.694E-02	1.435E-01	1.514E-02	0.168
		751.79		-1.297E+00	1.156E+00	1.760E+00	2.026E-01	-0.737
		815.85		8.134E-02	1.950E-01	3.294E-01	3.675E-02	0.247
		867.82		4.656E-01	1.016E+00	1.662E+00	1.699E-01	0.280
		919.63		-2.281E-02	1.892E+00	3.065E+00	3.469E-01	-0.007
		925.24		1.083E-01	7.622E-01	1.248E+00	1.238E-01	0.087
		1596.49	*	-6.641E-02	6.085E-02	8.957E-02	7.448E-03	-0.741
CE-141 CE-143		145.44	*	2.295E-03	3.357E-02	5.609E-02	6.238E-03	0.041
		57.37		4.699E-05	3.357E-02	Half-Life	too short	
		231.56		5.853E-05	3.357E-02	Half-Life	too short	
		293.26	*	4.034E-04	3.357E-02	Half-Life	too short	
		350.59		2.650E-02	3.357E-02	Half-Life	too short	
		490.36		-6.999E-04	3.357E-02	Half-Life	too short	
		664.57		1.445E-03	3.357E-02	Half-Life	too short	
		721.93		-3.102E-04	3.357E-02	Half-Life	too short	

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144		80.11		4.757E-01	8.302E-01	1.218E+00	1.263E-01	0.391
		133.54	*	-8.690E-02	1.130E-01	1.746E-01	3.087E-02	-0.498
PM-144		476.78		-4.650E-03	4.644E-02	7.528E-02	8.058E-03	-0.062
		618.01		-6.386E-03	2.195E-02	3.634E-02	4.043E-03	-0.176
		696.49	*	-3.267E-04	2.380E-02	3.960E-02	4.357E-03	-0.008
		778.57		-3.464E-01	1.665E+00	2.633E+00	2.792E-01	-0.132
PR-144		696.49	*	-2.213E-02	1.612E+00	2.682E+00	2.951E-01	-0.008
		1489.15		6.707E-01	8.305E+00	1.356E+01	1.123E+00	0.049
PM-146		453.90	*	4.106E-02	3.027E-02	5.215E-02	6.090E-03	0.787
		633.02		2.455E-01	8.771E-01	1.488E+00	5.654E-01	0.165
		735.90		-6.720E-02	1.005E-01	1.561E-01	4.581E-02	-0.431
		747.13		3.295E-02	5.693E-02	9.742E-02	1.507E-02	0.338
ND-147	+	91.11		7.734E-01	1.484E-01	2.163E-01	2.483E-02	3.576
		319.41		-9.196E-01	2.005E+00	3.315E+00	3.562E-01	-0.277
		439.89		2.968E+00	3.762E+00	6.394E+00	6.162E-01	0.464
		531.02	*	-1.666E-01	3.586E-01	5.606E-01	9.010E-02	-0.297
PM-149		285.90	*	-1.399E+01	4.881E+01	7.611E+01	1.298E+01	-0.184
EU-152		121.78		-1.758E-02	3.576E-02	5.930E-02	8.171E-03	-0.296
		244.69		3.043E-02	2.182E-01	3.136E-01	3.317E-02	0.097
		344.27	*	-1.693E-02	5.961E-02	9.862E-02	1.059E-02	-0.172
		443.98		-1.401E-01	6.409E-01	1.039E+00	1.006E-01	-0.135
		778.89		-2.893E-02	1.931E-01	3.066E-01	3.249E-02	-0.094
		867.32		3.577E-01	6.389E-01	1.023E+00	1.004E-01	0.350
	+	964.01		7.197E-01	2.531E-01	3.997E-01	3.728E-02	1.801
		1085.78		1.862E-01	2.710E-01	4.727E-01	4.162E-02	0.394
		1112.02		-9.172E-02	2.439E-01	3.518E-01	3.043E-02	-0.261
		1407.95		1.343E-01	1.475E-01	2.310E-01	1.898E-02	0.581
GD-153		69.67		-4.927E-02	4.998E-01	7.871E-01	7.869E-02	-0.063
	+	83.37		2.326E+01	7.483E+00	9.971E+00	1.049E+00	2.332
		97.43	*	-3.444E-02	3.947E-02	5.752E-02	6.478E-03	-0.599
		103.18		-4.211E-02	4.692E-02	7.755E-02	9.003E-03	-0.543
EU-154		123.07		1.161E-03	2.559E-02	4.322E-02	6.399E-03	0.027
		247.94		7.520E-02	2.357E-01	3.418E-01	4.464E-02	0.220
		591.81		-2.138E-01	4.337E-01	6.696E-01	8.956E-02	-0.319
		723.30		-8.390E-02	1.436E-01	1.966E-01	2.287E-02	-0.427
		756.87		5.548E-01	5.465E-01	9.480E-01	1.287E-01	0.585
		873.19		-2.533E-01	2.222E-01	3.292E-01	4.303E-02	-0.769
		996.32		-2.109E-01	2.621E-01	3.908E-01	7.061E-02	-0.540
		1004.76		-1.690E-01	1.522E-01	2.210E-01	2.667E-02	-0.764
		1274.45	*	-2.481E-02	9.066E-02	1.461E-01	1.605E-02	-0.170
EU-155		48.70		-1.637E-01	2.281E-01	3.287E-01	3.129E-02	-0.498
		60.01		-6.535E-01	1.147E+00	1.649E+00	1.622E-01	-0.396
	+	86.54		4.280E-01	6.578E-02	8.497E-02	9.127E-03	5.037
		105.31	*	3.540E-02	4.932E-02	8.532E-02	1.009E-02	0.415
TB-160	+	86.79		1.137E+00	1.742E-01	2.311E-01	2.468E-02	4.920
		197.04		3.269E-01	3.514E-01	5.580E-01	5.365E-02	0.586
		215.65		-8.171E-02	4.465E-01	7.181E-01	7.188E-02	-0.114
	+	298.57		2.573E-01	1.107E-01	1.270E-01	1.397E-02	2.026
		879.36	*	-1.807E-02	9.798E-02	1.575E-01	1.526E-02	-0.115

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		962.29		8.011E-01	4.008E-01	6.532E-01	6.096E-02	1.226
	+	966.15		4.913E-01	1.728E-01	3.743E-01	3.489E-02	1.313
		1177.93		9.499E-02	2.503E-01	4.247E-01	3.496E-02	0.224
		1271.85		1.287E-01	4.964E-01	8.318E-01	6.815E-02	0.155
		80.57		5.842E-02	1.228E-01	1.578E-01	1.640E-02	0.370
	+	184.41		1.756E-01	3.747E-02	4.168E-02	3.891E-03	4.214
		280.46		-1.975E-02	6.034E-02	8.319E-02	9.278E-03	-0.237
		410.95		1.791E-01	1.803E-01	2.767E-01	2.578E-02	0.647
		711.68	*	-1.192E-02	4.261E-02	6.964E-02	7.625E-03	-0.171
		752.31		-1.319E-01	1.904E-01	3.002E-01	3.231E-02	-0.439
TM-171		810.29		-2.736E-03	3.735E-02	6.099E-02	6.319E-03	-0.045
		51.35		-2.518E+00	3.521E+00	5.518E+00	5.270E-01	-0.456
		52.39		1.031E+00	2.079E+00	3.257E+00	3.117E-01	0.317
		59.40		-4.128E+00	5.896E+00	8.431E+00	8.290E-01	-0.490
LU-176		66.72	*	8.643E+00	8.465E+00	1.251E+01	1.242E+00	0.691
	+	88.36		8.431E-01	1.292E-01	1.609E-01	1.732E-02	5.240
		201.83		-1.306E-02	1.698E-02	2.682E-02	2.607E-03	-0.487
		306.84	*	-7.557E-03	1.488E-02	2.462E-02	2.686E-03	-0.307
LU-177		401.10		-3.317E-01	4.564E+00	7.401E+00	6.809E-01	-0.045
		112.95		1.331E-01	7.484E-01	1.275E+00	1.561E-01	0.104
LU-177M	+	208.36	*	3.056E+00	9.551E-01	1.160E+00	1.143E-01	2.635
		52.97		2.207E-01	2.237E-01	3.547E-01	3.401E-02	0.622
HF-181		54.07		-1.249E-02	1.276E-01	1.963E-01	1.888E-02	-0.064
		61.30		2.709E-01	3.552E-01	5.334E-01	5.252E-02	0.508
		121.62		-1.260E-01	1.844E-01	3.034E-01	3.901E-02	-0.415
		147.16		-4.768E-01	3.485E-01	5.491E-01	5.952E-02	-0.868
		171.86		1.071E-03	2.748E-01	4.528E-01	4.097E-02	0.002
		218.09		5.259E-01	5.145E-01	8.587E-01	8.639E-02	0.612
	+	268.79		1.987E+00	8.069E-01	9.178E-01	1.009E-01	2.165
		319.02		-7.306E-02	1.608E-01	2.659E-01	2.858E-02	-0.275
		367.43		1.788E-01	5.516E-01	9.325E-01	9.115E-02	0.192
		413.65	*	-3.693E-02	1.316E-01	1.869E-01	1.747E-02	-0.198
		56.28		-1.215E-01	1.561E-01	2.429E-01	2.355E-02	-0.500
		57.53		2.976E-02	9.166E-02	1.478E-01	1.441E-02	0.201
		65.20		-2.247E-01	2.705E-01	3.765E-01	3.726E-02	-0.597
		133.02		5.480E-03	3.707E-02	5.618E-02	6.777E-03	0.098
		136.25		6.789E-02	2.389E-01	4.034E-01	4.760E-02	0.168
		345.85		7.313E-02	1.262E-01	1.926E-01	1.978E-02	0.380
W-181		482.03	*	1.002E-02	2.892E-02	4.791E-02	4.814E-03	0.209
		56.28		-4.776E-02	6.150E-02	9.574E-02	9.281E-03	-0.499
		57.53		1.174E-02	3.614E-02	5.828E-02	5.680E-03	0.201
TA-182		65.20	*	-8.788E-02	1.058E-01	1.473E-01	1.457E-02	-0.597
		67.75		2.932E-03	3.129E-02	4.962E-02	4.937E-03	0.059
		100.10		6.814E-02	7.957E-02	1.383E-01	1.579E-02	0.493
		152.43		9.263E-02	1.914E-01	3.222E-01	3.329E-02	0.288
		222.10		-5.708E-02	2.053E-01	3.280E-01	3.327E-02	-0.174
		1001.68		6.009E-01	1.478E+00	2.371E+00	2.182E-01	0.253
	+	1121.28		5.960E-01	1.967E-01	2.633E-01	2.263E-02	2.263
		1189.05		6.909E-02	2.143E-01	3.620E-01	2.979E-02	0.191

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	1221.42	*		-6.829E-02	1.404E-01	2.245E-01	1.846E-02	-0.304
	1230.97			5.827E-02	3.906E-01	5.835E-01	4.796E-02	0.100
	57.98			3.184E-03	3.705E-02	5.934E-02	5.794E-03	0.054
	59.32			-9.489E-03	2.373E-02	3.437E-02	3.378E-03	-0.276
	67.20			2.408E-02	6.107E-02	8.877E-02	8.821E-03	0.271
RE-184	162.32	*		-2.388E-02	6.386E-02	9.868E-02	9.184E-03	-0.242
	208.81	+		2.909E+00	9.092E-01	1.126E+00	1.111E-01	2.584
	291.72			-2.424E-01	6.132E-01	8.998E-01	9.960E-02	-0.269
	57.98			1.177E-02	1.370E-01	2.194E-01	2.143E-02	0.054
	59.32			-3.506E-02	8.768E-02	1.270E-01	1.248E-02	-0.276
OS-185	67.20			8.901E-02	2.258E-01	3.282E-01	3.261E-02	0.271
	161.27			3.991E-03	1.973E-01	3.267E-01	3.078E-02	0.012
	216.55			2.644E-02	1.611E-01	2.622E-01	2.630E-02	0.101
	252.85	*		6.442E-02	1.446E-01	2.351E-01	2.522E-02	0.274
	318.01			-7.752E-02	2.740E-01	4.565E-01	4.913E-02	-0.170
	792.07			4.579E-01	8.761E-01	1.155E+00	1.213E-01	0.397
	903.28			9.068E-02	7.589E-01	1.209E+00	1.144E-01	0.075
	920.93			-3.822E-02	3.199E-01	5.141E-01	4.850E-02	-0.074
	59.72			-6.243E-02	6.672E-02	9.439E-02	9.286E-03	-0.661
	61.14			3.113E-02	3.881E-02	5.835E-02	5.745E-03	0.534
RE-188	69.30			-9.581E-02	8.942E-02	1.362E-01	1.361E-02	-0.703
	592.07			-8.436E-01	1.763E+00	2.727E+00	2.949E-01	-0.309
	646.12	*		1.068E-02	2.851E-02	4.875E-02	5.379E-03	0.219
	717.42			-1.932E-01	6.628E-01	1.082E+00	1.183E-01	-0.179
	874.81			4.630E-02	4.054E-01	6.659E-01	6.486E-02	0.070
W-188	880.27			-1.135E-01	5.437E-01	8.721E-01	8.441E-02	-0.130
	155.03	*		4.118E-02	9.793E-02	1.644E-01	1.656E-02	0.250
	477.96			6.930E-01	2.066E+00	3.423E+00	3.427E-01	0.202
IR-192	633.10	+		4.934E-01	1.753E+00	2.991E+00	3.287E-01	0.165
	63.58			6.349E+01	2.548E+01	2.622E+01	2.589E+00	2.421
AU-195	227.08			-3.697E+00	7.768E+00	1.229E+01	1.258E+00	-0.301
	290.67	*		-1.329E+00	4.878E+00	7.213E+00	7.990E-01	-0.184
	295.96	+		1.163E+00	1.815E-01	1.995E-01	2.210E-02	5.830
	308.46			6.865E-02	5.685E-02	9.978E-02	1.090E-02	0.688
	316.51	*		6.936E-05	2.065E-02	3.483E-02	3.762E-03	0.002
TL-200	468.07			3.617E-03	4.688E-02	7.421E-02	7.764E-03	0.049
	604.41			2.887E-02	3.235E-01	4.785E-01	6.991E-02	0.060
	612.46			2.376E-01	5.315E-01	8.037E-01	9.603E-02	0.296
	65.12			-4.175E-02	4.892E-02	6.802E-02	6.731E-03	-0.614
	66.83			2.206E-02	2.824E-02	4.149E-02	4.120E-03	0.532
TL-201	75.70	+		1.195E+00	1.500E-01	1.834E-01	1.870E-02	6.517
	98.88	*		2.039E-01	1.112E-01	1.829E-01	2.075E-02	1.115
	129.76	+		5.165E+00	2.337E+00	2.898E+00	3.570E-01	1.783
TL-201	367.94	*		-2.417E-05	2.337E+00	Half-Life too short		
	579.30			2.068E-03	2.337E+00	Half-Life too short		
	828.27			5.345E-05	2.337E+00	Half-Life too short		
TL-201	1205.75			6.922E-04	2.337E+00	Half-Life too short		
	68.90			-1.417E+00	1.246E+00	1.894E+00	1.890E-01	-0.748
	70.82			3.393E-01	8.025E-01	1.181E+00	1.184E-01	0.287

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		80.30		1.053E+00	1.969E+00	2.536E+00	2.632E-01	0.415
		135.34		2.268E+00	1.150E+01	1.937E+01	2.301E+00	0.117
		167.43	*	2.875E+00	3.404E+00	5.757E+00	5.150E-01	0.499
		68.90		-1.415E-01	1.244E-01	1.892E-01	1.887E-02	-0.748
		70.82		3.379E-02	7.993E-02	1.176E-01	1.180E-02	0.287
HG-203		80.30		1.049E-01	1.961E-01	2.526E-01	2.622E-02	0.415
		439.56	*	3.689E-02	4.496E-02	7.651E-02	7.370E-03	0.482
		70.83		1.530E-01	3.559E-01	5.232E-01	7.608E-02	0.292
		72.87		2.544E-01	2.278E-01	3.375E-01	4.796E-02	0.754
		82.60		1.963E-01	5.188E-01	6.617E-01	9.914E-02	0.297
BI-207		279.20	*	1.439E-02	2.884E-02	4.169E-02	4.732E-03	0.345
		72.80		4.998E-02	6.621E-02	9.797E-02	9.887E-03	0.510
	+	74.97		6.645E-01	8.342E-02	9.444E-02	9.601E-03	7.036
	+	84.90		3.013E-01	9.695E-02	1.324E-01	1.402E-02	2.276
		569.67		2.987E-02	2.228E-02	3.799E-02	4.064E-03	0.786
TL-207		1063.62	*	-4.461E-03	3.653E-02	6.062E-02	5.410E-03	-0.074
		1770.23		-1.127E-01	3.691E-01	4.869E-01	4.009E-02	-0.232
		81.07		6.362E-03	9.883E-02	1.246E-01	1.297E-02	0.051
	+	83.78		1.987E-01	6.393E-02	8.836E-02	9.310E-03	2.249
	+	94.90		3.191E-01	1.567E-01	1.692E-01	1.881E-02	1.885
PO-209		122.32		-6.005E-01	8.725E-01	1.435E+00	1.910E-01	-0.418
		144.24		5.116E-01	3.946E-01	6.523E-01	7.774E-02	0.784
		154.21		1.276E-01	2.293E-01	3.863E-01	4.208E-02	0.330
	+	269.46		4.665E-01	1.896E-01	2.237E-01	2.494E-02	2.085
	+	323.87	*	9.292E-02	4.609E-01	6.916E-01	1.299E-01	0.134
PB-211		338.28		7.756E+00	1.474E+00	1.751E+00	2.387E-01	4.430
		445.03		-5.474E-02	1.483E+00	2.426E+00	3.123E-01	-0.023
		260.50		3.832E+00	5.885E+00	9.623E+00	1.045E+00	0.398
		262.80		-1.577E+00	1.575E+01	2.498E+01	2.722E+00	-0.063
		896.60	*	-1.472E+00	5.308E+00	8.456E+00	8.024E-01	-0.174
PO-215		404.84	*	-8.955E-02	6.901E-01	9.901E-01	6.213E-01	-0.090
		427.08		-1.951E-02	1.385E+00	2.277E+00	1.418E+00	-0.009
		831.96		-5.624E-01	9.754E-01	1.432E+00	9.006E-01	-0.393
		81.07		6.362E-03	9.883E-02	1.246E-01	1.297E-02	0.051
	+	83.78		1.987E-01	6.393E-02	8.836E-02	9.310E-03	2.249
RN-219		94.90		3.191E-01	1.567E-01	1.692E-01	1.881E-02	1.885
		122.32		-6.005E-01	8.725E-01	1.435E+00	1.910E-01	-0.418
		144.24		5.116E-01	3.946E-01	6.523E-01	7.774E-02	0.784
		154.21		1.276E-01	2.293E-01	3.863E-01	4.208E-02	0.330
	+	269.46		4.665E-01	1.896E-01	2.237E-01	2.494E-02	2.085
RN-220		323.87	*	9.292E-02	4.609E-01	6.916E-01	1.299E-01	0.134
		338.28		7.756E+00	1.474E+00	1.751E+00	2.387E-01	4.430
		445.03		-5.474E-02	1.483E+00	2.426E+00	3.123E-01	-0.023
	+	271.23		5.985E-01	2.454E-01	2.838E-01	3.519E-02	2.109
		401.81	*	1.129E-01	2.792E-01	4.614E-01	7.093E-02	0.245
RA-223		549.76	*	-1.112E+01	1.783E+01	2.752E+01	2.910E+00	-0.404
		81.07		6.362E-03	9.883E-02	1.246E-01	1.297E-02	0.051
	+	83.78		1.987E-01	6.393E-02	8.836E-02	9.310E-03	2.249
	+	94.90		3.191E-01	1.567E-01	1.692E-01	1.881E-02	1.885

---- 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		-6.005E-01	8.725E-01	1.435E+00	1.910E-01	-0.418
		144.24		5.116E-01	3.946E-01	6.523E-01	7.774E-02	0.784
		154.21		1.276E-01	2.293E-01	3.863E-01	4.208E-02	0.330
	+	269.46		4.665E-01	1.896E-01	2.237E-01	2.494E-02	2.085
		323.87	*	9.292E-02	4.609E-01	6.916E-01	1.299E-01	0.134
	+	338.28		7.756E+00	1.474E+00	1.751E+00	2.387E-01	4.430
		445.03		-5.474E-02	1.483E+00	2.426E+00	3.123E-01	-0.023
		79.80		2.236E-01	6.375E-01	9.268E-01	2.063E-01	0.241
		236.00		1.224E-01	1.626E-01	2.396E-01	3.250E-02	0.511
		256.20	*	-9.642E-02	2.462E-01	3.859E-01	6.428E-02	-0.250
		286.10		-3.074E-01	9.903E-01	1.542E+00	2.306E-01	-0.199
	+	299.80		3.297E+00	1.505E+00	1.739E+00	3.264E-01	1.896
		304.40		-2.094E-01	1.267E+00	1.876E+00	3.681E-01	-0.112
		334.20		6.902E-01	1.679E+00	2.374E+00	4.823E-01	0.291
TH-227		79.80		2.236E-01	6.376E-01	9.268E-01	2.087E-01	0.241
	+	94.00		2.552E+00	1.353E+00	1.788E+00	4.086E-01	1.428
		236.00		1.224E-01	1.625E-01	2.396E-01	3.001E-02	0.511
		256.20	*	-9.642E-02	2.463E-01	3.859E-01	7.405E-02	-0.250
		286.10		-3.074E-01	1.036E+00	1.542E+00	1.552E+00	-0.199
	+	299.80		3.297E+00	1.505E+00	1.739E+00	3.264E-01	1.896
		304.40		-2.094E-01	1.267E+00	1.876E+00	3.681E-01	-0.112
		334.20		6.902E-01	1.679E+00	2.374E+00	4.823E-01	0.291
TH-229	+	85.43		2.974E-01	9.569E-02	1.297E-01	1.377E-02	2.293
	+	88.47		4.853E-01	7.435E-02	9.181E-02	9.887E-03	5.286
		100.00		7.991E-02	8.320E-02	1.448E-01	1.653E-02	0.552
		193.63	*	-2.158E-01	3.014E-01	4.789E-01	4.569E-02	-0.451
PA-231		210.97		9.844E-01	5.141E-01	7.940E-01	7.870E-02	1.240
		283.67	*	1.316E-01	9.506E-01	1.514E+00	2.534E-01	0.087
TH-231	+	301.29		1.319E+00	5.790E-01	6.758E-01	9.463E-02	1.951
		81.07		6.362E-03	9.883E-02	1.246E-01	1.297E-02	0.051
	+	83.78		1.987E-01	6.393E-02	8.836E-02	9.310E-03	2.249
	+	94.90		3.191E-01	1.567E-01	1.692E-01	1.881E-02	1.885
U-231		122.32		-6.005E-01	8.725E-01	1.435E+00	1.910E-01	-0.418
		144.24		5.116E-01	3.946E-01	6.523E-01	7.774E-02	0.784
		154.21		1.276E-01	2.293E-01	3.863E-01	4.208E-02	0.330
	+	269.46		4.665E-01	1.896E-01	2.237E-01	2.494E-02	2.085
		323.87	*	9.292E-02	4.609E-01	6.916E-01	1.299E-01	0.134
	+	338.28		7.756E+00	1.474E+00	1.751E+00	2.387E-01	4.430
		445.03		-5.474E-02	1.483E+00	2.426E+00	3.123E-01	-0.023
	+	84.21		7.733E+00	2.488E+00	3.506E+00	3.701E-01	2.206
	+	92.29		8.338E+00	1.492E+00	1.833E+00	2.011E-01	4.549
		95.87	*	-4.692E-01	4.425E-01	6.528E-01	7.292E-02	-0.719
PA-233		108.00		-1.826E-01	8.634E-01	1.459E+00	1.739E-01	-0.125
	+	75.28		1.939E+01	3.463E+00	2.743E+00	4.464E-01	7.069
	+	86.59		6.959E+00	2.064E+00	1.389E+00	3.825E-01	5.012
	+	300.12		9.190E-01	4.109E-01	4.875E-01	7.976E-02	1.885
		311.98	*	-2.239E-02	3.806E-02	6.259E-02	6.912E-03	-0.358
		340.50		9.486E-01	4.855E-01	7.023E-01	1.722E-01	1.351
		398.62		6.787E-01	1.377E+00	2.310E+00	6.195E-01	0.294

----- 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		8.998E-01	1.138E+00	1.860E+00	4.067E-01	0.484
	+	63.00		1.853E+00	7.808E-01	7.654E-01	1.242E-01	2.421
	+	94.67		2.276E-01	1.136E-01	1.283E-01	1.827E-02	1.774
		98.44		7.839E-02	6.356E-02	7.320E-02	4.119E-02	1.071
		99.86		1.328E-01	2.200E-01	3.691E-01	4.210E-02	0.360
		111.00		-1.210E-01	9.062E-02	1.450E-01	2.144E-02	-0.834
		131.20		5.983E-02	6.021E-02	9.372E-02	1.144E-02	0.638
		152.70		2.151E-01	1.878E-01	3.158E-01	5.672E-02	0.681
	+	186.00		6.322E+00	2.328E+00	1.735E+00	5.454E-01	3.643
		226.40		-7.930E-02	2.468E-01	3.930E-01	5.621E-02	-0.202
		227.20		-1.236E-01	2.652E-01	4.196E-01	4.298E-02	-0.295
		248.90		-4.798E-01	5.434E-01	7.742E-01	1.802E-01	-0.620
	+	293.70		7.363E+00	1.592E+00	1.175E+00	2.189E-01	6.267
		369.80		-2.115E-02	5.213E-01	8.666E-01	1.927E-01	-0.024
		568.70		3.431E-02	7.368E-01	1.184E+00	1.266E-01	0.029
		569.50		2.547E-01	1.970E-01	3.354E-01	3.588E-02	0.759
		574.00		-8.638E-01	1.078E+00	1.638E+00	1.756E-01	-0.527
		699.00		-1.860E-01	4.878E-01	7.919E-01	1.605E-01	-0.235
		706.10		4.409E-02	7.371E-01	1.229E+00	5.544E-01	0.036
		733.00		-1.577E-01	2.871E-01	3.886E-01	8.999E-02	-0.406
		742.81		7.967E-02	8.972E-01	1.491E+00	1.007E+00	0.053
		796.30		2.023E+00	9.018E-01	1.241E+00	3.436E-01	1.631
		805.60		5.797E-01	6.914E-01	1.158E+00	3.613E-01	0.501
		819.60		-4.840E-01	8.299E-01	1.268E+00	4.875E-01	-0.382
		826.30		-8.050E-02	5.915E-01	9.587E-01	4.321E-01	-0.084
		831.60		-3.413E-01	4.788E-01	7.309E-01	2.217E-01	-0.467
		876.40		7.794E-02	5.910E-01	9.628E-01	9.907E-01	0.081
		880.51		-9.561E-02	1.978E-01	3.106E-01	3.006E-02	-0.308
		883.24		1.464E-01	2.249E-01	3.454E-01	2.327E-01	0.424
		899.00		7.595E-02	5.954E-01	9.748E-01	4.278E-01	0.078
		925.00		-9.285E-02	8.301E-01	1.334E+00	1.257E-01	-0.070
		926.50		-1.896E-02	1.226E-01	1.962E-01	5.016E-02	-0.097
		946.00	*	5.966E-02	2.179E-01	3.588E-01	6.861E-02	0.166
		949.00		2.041E-01	3.119E-01	5.271E-01	4.939E-02	0.387
		980.50		1.861E-01	5.421E-01	8.943E-01	8.296E-02	0.208
		1394.10		2.814E-02	7.688E-01	1.257E+00	8.176E-01	0.022
	PA-234M	766.42		1.775E+01	1.321E+01	1.558E+01	7.965E+00	1.139
		1001.03	*	7.581E-01	3.373E+00	5.344E+00	5.597E-01	0.142
	U-235	89.95		3.202E+00	1.124E+00	8.947E-01	2.823E-01	3.579
	+	93.35		2.906E+00	9.332E-01	6.474E-01	1.868E-01	4.489
		105.00		6.099E-01	5.122E-01	8.396E-01	2.593E-01	0.726
		143.76	*	1.114E-01	1.237E-01	2.019E-01	3.812E-02	0.552
		163.35		-2.000E-01	2.809E-01	4.253E-01	8.227E-02	-0.470
	+	185.71		2.342E-01	4.996E-02	6.426E-02	6.017E-03	3.644
		205.31		1.178E-01	3.474E-01	5.011E-01	9.839E-02	0.235
	NP-236	94.67		1.726E-01	8.477E-02	9.749E-02	1.082E-02	1.771
	+	98.44		5.922E-02	3.524E-02	5.533E-02	6.264E-03	1.070
		111.00		-9.153E-02	6.810E-02	1.097E-01	1.329E-02	-0.834
		160.31	*	2.620E-02	4.411E-02	7.431E-02	7.077E-03	0.353

----- 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		9.116E-02	7.390E-02	1.251E-01	1.425E-02	0.729
		117.00	*	-9.977E-02	9.324E-02	1.513E-01	1.896E-02	-0.659
	+	209.75		2.309E+00	7.216E-01	9.053E-01	8.951E-02	2.550
		228.18		7.382E-02	1.367E-01	2.246E-01	2.305E-02	0.329
	+	277.60		1.533E-01	1.676E-01	2.047E-01	2.280E-02	0.749
AM-241		334.30		3.980E-01	9.494E-01	1.346E+00	1.413E-01	0.296
		59.54	*	-2.505E-02	3.448E-02	4.923E-02	5.115E-03	-0.509
CM-243		99.55		9.380E-02	7.604E-02	1.287E-01	1.466E-02	0.729
		103.76	*	2.611E-03	4.315E-02	7.367E-02	8.579E-03	0.035
		117.00		-1.026E-01	9.593E-02	1.557E-01	1.950E-02	-0.659
	+	209.75		2.276E+00	7.113E-01	8.924E-01	8.823E-02	2.550
		228.18		7.459E-02	1.382E-01	2.269E-01	2.329E-02	0.329
AM-246	+	277.60		1.545E-01	1.689E-01	2.064E-01	2.298E-02	0.749
		798.80		-4.029E-02	1.027E-01	1.403E-01	1.466E-02	-0.287
		1036.00		-2.484E-01	2.090E-01	3.123E-01	2.829E-02	-0.795
		1062.04		1.055E-02	1.566E-01	2.633E-01	2.352E-02	0.040
		1078.86	*	1.002E-01	9.263E-02	1.657E-01	1.465E-02	0.605
CM-247	+	278.00		6.357E-01	6.949E-01	8.497E-01	9.467E-02	0.748
		287.40		2.158E-01	7.925E-01	1.268E+00	1.408E-01	0.170
		402.60	*	4.979E-03	2.408E-02	4.019E-02	3.705E-03	0.124
CF-249		252.85		2.423E-01	5.439E-01	8.845E-01	9.486E-02	0.274
		333.44		9.315E-02	1.337E-01	1.764E-01	1.855E-02	0.528
		387.95	*	1.973E-02	2.636E-02	4.505E-02	4.145E-03	0.438
CF-251		176.60	*	-1.827E-02	7.194E-02	1.173E-01	1.074E-02	-0.156
		227.00		-1.176E-01	2.343E-01	3.702E-01	3.791E-02	-0.318
		285.00		2.019E-01	1.116E+00	1.779E+00	1.979E-01	0.113

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]G243274004      *
* Acquisition date   : 30-DEC-2009 23:06:42 Detector SN# :                   *
* Detector ID        : GAM25 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 04:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 04:00:03.87 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date       : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243274004 Analyst initials: MXR1                  *
* Batch Number      : 935341 Sample Quantity : 1.3202E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*                                     *                                       *
* Standard Weight   : 0.00000                                             *
* CALIB. DATE/TIME  : 7-OCT-2009 09:38:43 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.033E+01	2.030E+00	3.354E-01	0.000E+00
CD-109	3.613E+00	5.424E-01	5.014E-01	0.000E+00
SN-126	3.555E-01	5.336E-02	4.923E-02	0.000E+00
BA-137M	2.303E-01	5.503E-02	4.275E-02	0.000E+00
CS-137	2.435E-01	5.818E-02	4.519E-02	0.000E+00
TL-208	5.931E-01	8.802E-02	4.051E-02	0.000E+00
BI-210	1.549E+00	4.847E-01	4.005E-01	0.000E+00
PB-210	1.549E+00	4.847E-01	4.005E-01	0.000E+00
PO-210	1.549E+00	4.810E-01	4.005E-01	0.000E+00
BI-211	4.553E+00	5.650E-01	1.971E-01	0.000E+00
BI-212	1.069E+00	3.677E-01	3.300E-01	0.000E+00
PB-212	1.763E+00	2.105E-01	5.726E-02	0.000E+00
PO-212	1.763E+00	2.105E-01	5.726E-02	0.000E+00
BI-214	1.355E+00	1.963E-01	7.630E-02	0.000E+00
PB-214	1.584E+00	2.126E-01	6.873E-02	0.000E+00
PO-214	1.584E+00	2.126E-01	6.873E-02	0.000E+00
PO-216	1.763E+00	2.105E-01	5.726E-02	0.000E+00
PO-218	1.584E+00	2.126E-01	6.873E-02	0.000E+00
RA-224	4.676E+00	8.656E-01	6.524E-01	0.000E+00
RA-226	1.355E+00	1.963E-01	7.630E-02	0.000E+00
AC-228	1.625E+00	2.649E-01	1.509E-01	0.000E+00
RA-228	1.625E+00	2.649E-01	1.509E-01	0.000E+00
TH-228	1.789E+00	2.136E-01	5.810E-02	0.000E+00
TH-230	1.355E+00	1.963E-01	7.630E-02	0.000E+00
TH-232	1.625E+00	2.649E-01	1.509E-01	0.000E+00
TH-234	1.589E+00	6.717E-01	5.212E-01	0.000E+00
U-234	1.355E+00	1.963E-01	7.630E-02	0.000E+00
NP-237	1.044E+00	2.629E-01	1.554E-01	0.000E+00
U-238	1.589E+00	6.717E-01	5.212E-01	0.000E+00
AM-243	3.702E-01	4.554E-02	3.203E-02	0.000E+00
ANH-511	1.371E-01	5.179E-02	3.129E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-5.637E-02	2.183E-01	3.655E-01	0.000E+00	NOT IDENT.
NA-22	-8.915E-03	3.179E-02	5.246E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.673E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.552E-02	2.233E-02	4.260E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.259E-02	3.085E-02	0.000E+00	FAIL ABUN
SC-46	-2.390E-02	2.737E-02	4.290E-02	0.000E+00	FAIL ABUN
V-48	7.297E-03	5.043E-02	8.441E-02	0.000E+00	NOT IDENT.
CR-51	5.266E-03	2.247E-01	3.974E-01	0.000E+00	NOT IDENT.
MN-52	-1.059E-01	1.404E-01	2.125E-01	0.000E+00	NOT IDENT.
MN-54	1.883E-02	2.701E-02	4.733E-02	0.000E+00	NOT IDENT.
CO-56	1.806E-02	2.659E-02	4.673E-02	0.000E+00	FAIL ABUN
CO-57	-1.034E-02	1.233E-02	2.149E-02	0.000E+00	NOT IDENT.
CO-58	-1.348E-02	2.477E-02	4.030E-02	0.000E+00	NOT IDENT.
FE-59	1.365E-02	6.379E-02	1.107E-01	0.000E+00	NOT IDENT.
CO-60	-1.158E-03	2.622E-02	4.375E-02	0.000E+00	NOT IDENT.
ZN-65	-1.403E-03	6.889E-02	1.013E-01	0.000E+00	NOT IDENT.
GE-68	5.095E-01	8.093E-01	1.446E+00	0.000E+00	NOT IDENT.
AS-73	4.155E-02	1.162E-01	1.957E-01	0.000E+00	NOT IDENT.
AS-74	2.966E-02	6.064E-02	1.033E-01	0.000E+00	NOT IDENT.
SE-75	-9.545E-03	2.695E-02	4.212E-02	0.000E+00	NOT IDENT.
BR-77	-4.336E+00	6.140E+00	9.899E+00	0.000E+00	FAIL ABUN
SR-82	-3.454E-01	2.663E-01	4.132E-01	0.000E+00	NOT IDENT.
RB-83	-1.173E-02	4.762E-02	7.898E-02	0.000E+00	NOT IDENT.
RB-84	-3.611E-02	4.944E-02	7.864E-02	0.000E+00	NOT IDENT.
KR-85	4.621E+00	5.601E+00	8.670E+00	0.000E+00	NOT IDENT.
SR-85	2.354E-02	2.853E-02	4.417E-02	0.000E+00	NOT IDENT.
RB-86	9.393E-02	5.082E-01	8.832E-01	0.000E+00	NOT IDENT.
Y-88	-7.471E-05	2.185E-02	3.659E-02	0.000E+00	NOT IDENT.
ZR-88	-4.382E-03	1.898E-02	3.251E-02	0.000E+00	NOT IDENT.
Y-91	2.575E+00	1.299E+01	2.228E+01	0.000E+00	NOT IDENT.
NB-94	-1.424E-03	2.260E-02	3.877E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	3.383E-02	5.569E-02	0.000E+00	NOT IDENT.
NB-95M	-2.035E-02	8.284E-02	1.235E-01	0.000E+00	NOT IDENT.
ZR-95	6.517E-02	4.965E-02	9.011E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.161E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.410E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.170E+01	6.773E+00	1.230E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.668E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.840E-02	2.053E-02	3.444E-02	0.000E+00	NOT IDENT.
RH-102	-5.652E-03	1.940E-02	3.243E-02	0.000E+00	FAIL ABUN
RU-103	1.472E-02	2.600E-02	4.516E-02	0.000E+00	FAIL ABUN
RH-106	2.792E-01	2.223E-01	4.050E-01	0.000E+00	FAIL ABUN
RU-106	2.792E-01	2.205E-01	4.050E-01	0.000E+00	FAIL ABUN
AG-108M	4.922E-03	2.110E-02	3.658E-02	0.000E+00	NOT IDENT.
AG-110M	2.749E-03	2.712E-02	4.122E-02	0.000E+00	NOT IDENT.
IN-111	7.677E-02	5.980E-01	9.046E-01	0.000E+00	NOT IDENT.
IN-113M	-5.937E-03	2.757E-02	4.728E-02	0.000E+00	NOT IDENT.
SN-113	-5.937E-03	2.757E-02	4.728E-02	0.000E+00	NOT IDENT.
IN-114M	-6.999E-02	1.094E-01	1.756E-01	0.000E+00	NOT IDENT.
CD-115	-1.807E-02	6.027E+00	1.012E+01	0.000E+00	NOT IDENT.
SN-117M	-6.808E-03	2.926E-02	5.107E-02	0.000E+00	NOT IDENT.
SB-122	9.478E-01	1.189E+00	2.066E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.465E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-4.556E-03	1.568E-02	2.732E-02	0.000E+00	NOT IDENT.
I-124	-2.035E-01	4.271E-01	6.592E-01	0.000E+00	NOT IDENT.
SB-124	4.429E-02	4.711E-02	8.922E-02	0.000E+00	FAIL ABUN
SB-125	-3.117E-03	5.964E-02	1.021E-01	0.000E+00	FAIL ABUN
TE-125M	3.619E+00	4.230E+00	7.802E+00	0.000E+00	NOT IDENT.
I-126	1.118E-01	1.340E-01	2.137E-01	0.000E+00	NOT IDENT.
SB-126	6.842E-02	1.114E-01	1.736E-01	0.000E+00	FAIL ABUN
SB-127	1.304E-01	8.541E-01	1.486E+00	0.000E+00	NOT IDENT.
XE-127	-3.238E-02	2.688E-02	4.397E-02	0.000E+00	NOT IDENT.
I-131	-1.686E-02	6.557E-02	1.131E-01	0.000E+00	NOT IDENT.
TE-132	1.960E-01	3.604E-01	6.227E-01	0.000E+00	NOT IDENT.
BA-133	-2.824E-02	2.966E-02	4.258E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.393E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.574E-02	6.525E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.070E-01	1.723E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.883E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.641E-02	6.483E-02	1.069E-01	0.000E+00	FAIL ABUN
CE-139	7.252E-03	1.631E-02	2.895E-02	0.000E+00	NOT IDENT.
BA-140	5.913E-02	1.612E-01	2.741E-01	0.000E+00	NOT IDENT.
LA-140	-6.641E-02	5.964E-02	8.955E-02	0.000E+00	FAIL ABUN
CE-141	2.295E-03	3.290E-02	5.840E-02	0.000E+00	NOT IDENT.

CE-143	0.000E+00	1.208E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.690E-02	1.108E-01	1.821E-01	0.000E+00	NOT IDENT.
PM-144	-3.267E-04	2.333E-02	4.016E-02	0.000E+00	NOT IDENT.
PR-144	-2.213E-02	1.580E+00	2.721E+00	0.000E+00	NOT IDENT.
PM-146	4.106E-02	2.966E-02	5.329E-02	0.000E+00	NOT IDENT.
ND-147	-1.666E-01	3.514E-01	5.713E-01	0.000E+00	FAIL ABUN
PM-149	-1.399E+01	4.783E+01	7.837E+01	0.000E+00	NOT IDENT.
EU-152	-1.693E-02	5.841E-02	1.012E-01	0.000E+00	FAIL ABUN
GD-153	-3.444E-02	3.869E-02	6.029E-02	0.000E+00	FAIL ABUN
EU-154	-2.481E-02	8.884E-02	1.466E-01	0.000E+00	NOT IDENT.
EU-155	3.540E-02	4.833E-02	8.931E-02	0.000E+00	FAIL ABUN
TB-160	-1.807E-02	9.602E-02	1.591E-01	0.000E+00	FAIL ABUN
HO-166M	-1.192E-02	4.176E-02	7.061E-02	0.000E+00	FAIL ABUN
TM-171	8.643E+00	8.296E+00	1.320E+01	0.000E+00	NOT IDENT.
LU-176	-7.557E-03	1.458E-02	2.532E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	9.360E-01	1.201E+00	0.000E+00	FAIL ABUN
LU-177M	-3.693E-02	1.289E-01	1.913E-01	0.000E+00	FAIL ABUN
HF-181	1.002E-02	2.834E-02	4.890E-02	0.000E+00	NOT IDENT.
W-181	-8.788E-02	1.037E-01	1.553E-01	0.000E+00	NOT IDENT.
TA-182	-6.829E-02	1.376E-01	2.255E-01	0.000E+00	FAIL ABUN
RE-183	-2.388E-02	6.258E-02	1.026E-01	0.000E+00	FAIL ABUN
RE-184	6.442E-02	1.417E-01	2.426E-01	0.000E+00	NOT IDENT.
OS-185	1.068E-02	2.794E-02	4.951E-02	0.000E+00	NOT IDENT.
RE-188	4.118E-02	9.597E-02	1.710E-01	0.000E+00	NOT IDENT.
W-188	-1.329E+00	4.781E+00	7.425E+00	0.000E+00	FAIL ABUN
IR-192	6.936E-05	2.023E-02	3.581E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	1.090E-01	1.917E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.872E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.875E+00	3.336E+00	5.981E+00	0.000E+00	NOT IDENT.
TL-202	3.689E-02	4.406E-02	7.822E-02	0.000E+00	NOT IDENT.
HG-203	1.439E-02	2.826E-02	4.295E-02	0.000E+00	NOT IDENT.
BI-207	-4.461E-03	3.580E-02	6.103E-02	0.000E+00	FAIL ABUN
TL-207	9.292E-02	4.517E-01	7.106E-01	0.000E+00	FAIL ABUN
PO-209	-1.472E+00	5.202E+00	8.540E+00	0.000E+00	NOT IDENT.
PB-211	-8.955E-02	6.763E-01	1.014E+00	0.000E+00	NOT IDENT.
PO-215	9.292E-02	4.517E-01	7.106E-01	0.000E+00	FAIL ABUN
RN-219	1.129E-01	2.736E-01	4.724E-01	0.000E+00	FAIL ABUN
RN-220	-1.112E+01	1.747E+01	2.803E+01	0.000E+00	NOT IDENT.
RA-223	9.292E-02	4.517E-01	7.106E-01	0.000E+00	FAIL ABUN
AC-227	-9.642E-02	2.412E-01	3.981E-01	0.000E+00	FAIL ABUN
TH-227	-9.642E-02	2.414E-01	3.981E-01	0.000E+00	FAIL ABUN
TH-229	-2.158E-01	2.954E-01	4.963E-01	0.000E+00	FAIL ABUN
PA-231	1.316E-01	9.316E-01	1.559E+00	0.000E+00	FAIL ABUN
TH-231	9.292E-02	4.517E-01	7.106E-01	0.000E+00	FAIL ABUN
U-231	-4.692E-01	4.336E-01	6.844E-01	0.000E+00	FAIL ABUN
PA-233	-2.239E-02	3.730E-02	6.436E-02	0.000E+00	FAIL ABUN
PA-234	5.966E-02	2.136E-01	3.620E-01	0.000E+00	FAIL ABUN
PA-234M	7.581E-01	3.306E+00	5.386E+00	0.000E+00	NOT IDENT.
U-235	1.114E-01	1.213E-01	2.103E-01	0.000E+00	FAIL ABUN
NP-236	2.620E-02	4.323E-02	7.725E-02	0.000E+00	FAIL ABUN
NP-239	-9.977E-02	9.138E-02	1.581E-01	0.000E+00	FAIL ABUN
AM-241	-2.505E-02	3.379E-02	5.201E-02	0.000E+00	NOT IDENT.
CM-243	2.611E-03	4.228E-02	7.713E-02	0.000E+00	FAIL ABUN
AM-246	1.002E-01	9.077E-02	1.668E-01	0.000E+00	NOT IDENT.
CM-247	4.979E-03	2.360E-02	4.115E-02	0.000E+00	FAIL ABUN
CF-249	1.973E-02	2.583E-02	4.615E-02	0.000E+00	NOT IDENT.
CF-251	-1.827E-02	7.051E-02	1.217E-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]G243274004.CNF;1
Sample date     : 16-DEC-2009 12:00:00 Acquisition date : 30-DEC-2009 23:06:42
Sample ID       : G243274004           Sample quantity  : 1.32020E+02 GRAM
Detector name   : GAM25                 Detector geometry: CAN
Elapsed live time: 0 04:00:00.00        Elapsed real time: 0 04:00:03.87  0.0%
Energy tolerance: 1.50000 keV           Analyst Initials : MXR1
Abundance limit : 75.00000              Sensitivity      : 5.00000
Batch ID        : 935341                 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	1691	10.67*	1.109E+00	2.033E+01	2.033E+01	10.19
CD-109	88.03	870	3.72*	9.404E+00	3.536E+00	3.613E+00	15.32
SN-126	64.28	415	9.60	9.778E+00	6.291E-01	6.291E-01	42.03
	86.94	870	8.90	9.404E+00	1.478E+00	1.478E+00	43.25
	87.57	870	37.00*	9.404E+00	3.555E-01	3.555E-01	15.32
BA-137M	661.65	325	89.98*	2.231E+00	2.301E-01	2.303E-01	24.38
CS-137	661.65	325	85.12*	2.231E+00	2.432E-01	2.435E-01	24.39
TL-208	277.35	72	6.80	4.742E+00	3.178E-01	3.178E-01	109.68
	510.84	271	21.60	2.810E+00	6.349E-01	6.349E-01	39.42
	583.14	877	84.20*	2.497E+00	5.931E-01	5.931E-01	15.14
	860.37	62	12.46	1.765E+00	3.983E-01	3.983E-01	96.04
BI-210	46.50	405	4.05*	9.181E+00	1.547E+00	1.549E+00	31.93
PB-210	46.50	405	4.05*	9.181E+00	1.547E+00	1.549E+00	31.93
PO-210	46.50	405	4.05*	9.181E+00	1.547E+00	1.549E+00	31.69
BI-211	72.87	-----	1.27	9.724E+00	-----	Line Not Found	-----
	351.07	1611	12.94*	3.887E+00	4.553E+00	4.553E+00	12.66
BI-212	727.18	182	11.80*	2.051E+00	1.069E+00	1.069E+00	35.09
	785.46	56	1.97	1.914E+00	2.111E+00	2.111E+00	64.68
	1620.62	41	2.75	1.013E+00	2.114E+00	2.114E+00	44.69
PB-212	74.81	1666	10.70	9.695E+00	2.283E+00	2.283E+00	15.65
	77.11	2480	18.00	9.653E+00	2.030E+00	2.030E+00	11.60
	87.30	870	8.00	9.404E+00	1.644E+00	1.644E+00	18.29
	238.63	2954	44.60*	5.340E+00	1.763E+00	1.763E+00	12.18
	300.09	190	3.41	4.444E+00	1.779E+00	1.779E+00	43.44
PO-212	74.81	1666	10.70	9.695E+00	2.283E+00	2.283E+00	15.65
	77.11	2480	18.00	9.653E+00	2.030E+00	2.030E+00	11.60
	87.30	870	8.00	9.404E+00	1.644E+00	1.644E+00	18.29
	115.19	-----	0.60	8.498E+00	-----	Line Not Found	-----
	238.63	2954	44.60*	5.340E+00	1.763E+00	1.763E+00	12.18
	300.09	190	3.41	4.444E+00	1.779E+00	1.779E+00	43.44
BI-214	609.31	1060	46.30*	2.401E+00	1.355E+00	1.355E+00	14.79
	1120.29	188	15.10	1.398E+00	1.265E+00	1.265E+00	33.67

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1764.49	163	15.80	9.414E-01	1.556E+00	1.556E+00	23.33
	74.81	1666	6.21	9.695E+00	3.935E+00	3.935E+00	14.58
	77.11	2480	10.50	9.653E+00	3.479E+00	3.479E+00	13.88
	87.30	870	4.67	9.404E+00	2.816E+00	2.816E+00	17.15
	241.98	687	7.49	5.288E+00	2.466E+00	2.466E+00	19.70
PO-214	295.21	933	19.20	4.504E+00	1.534E+00	1.534E+00	16.78
	351.92	1611	37.20*	3.887E+00	1.584E+00	1.584E+00	13.70
	74.81	1666	6.21	9.695E+00	3.935E+00	3.935E+00	14.58
	77.11	2480	10.50	9.653E+00	3.479E+00	3.479E+00	13.88
	87.30	870	4.67	9.404E+00	2.816E+00	2.816E+00	17.15
PO-216	241.98	687	7.49	5.288E+00	2.466E+00	2.466E+00	19.70
	295.21	933	19.20	4.504E+00	1.534E+00	1.534E+00	16.78
	351.92	1611	37.20*	3.887E+00	1.584E+00	1.584E+00	13.70
	74.81	1666	10.70	9.695E+00	2.283E+00	2.283E+00	15.65
	77.11	2480	18.00	9.653E+00	2.030E+00	2.030E+00	11.60
PO-218	87.30	870	8.00	9.404E+00	1.644E+00	1.644E+00	18.29
	238.63	2954	44.60*	5.340E+00	1.763E+00	1.763E+00	12.18
	300.09	190	3.41	4.444E+00	1.779E+00	1.779E+00	43.44
	74.81	1666	6.21	9.695E+00	3.935E+00	3.935E+00	14.58
	77.11	2480	10.50	9.653E+00	3.479E+00	3.479E+00	13.88
RA-224	87.30	870	4.67	9.404E+00	2.816E+00	2.816E+00	17.15
	241.98	687	7.49	5.288E+00	2.466E+00	2.466E+00	19.70
	295.21	933	19.20	4.504E+00	1.534E+00	1.534E+00	16.78
	351.92	1611	37.20*	3.887E+00	1.584E+00	1.584E+00	13.70
	240.98	687	3.95*	5.288E+00	4.676E+00	4.676E+00	18.89
AC-228	609.31	1060	46.30*	2.401E+00	1.355E+00	1.355E+00	14.79
	1120.29	188	15.10	1.398E+00	1.265E+00	1.265E+00	33.67
	1764.49	163	15.80	9.414E-01	1.556E+00	1.556E+00	23.33
	338.32	599	11.40	4.019E+00	1.857E+00	1.857E+00	43.73
	911.07	531	27.70*	1.678E+00	1.625E+00	1.625E+00	16.63
RA-228	969.11	372	16.60	1.589E+00	2.007E+00	2.007E+00	26.96
	338.32	599	11.40	4.019E+00	1.857E+00	1.857E+00	43.73
	911.07	531	27.70*	1.678E+00	1.625E+00	1.625E+00	16.63
	969.11	372	16.60	1.589E+00	2.007E+00	2.007E+00	26.96
	74.81	1666	10.70	9.695E+00	2.283E+00	2.317E+00	12.60
TH-228	77.11	2480	18.00	9.653E+00	2.030E+00	2.059E+00	11.60
	87.30	870	8.00	9.404E+00	1.644E+00	1.668E+00	15.32
	238.63	2954	44.60*	5.340E+00	1.763E+00	1.789E+00	12.18
	300.09	190	3.41	4.444E+00	1.779E+00	1.805E+00	72.75
	609.31	1060	46.30*	2.401E+00	1.355E+00	1.355E+00	14.79
TH-230	1120.29	188	15.10	1.398E+00	1.265E+00	1.265E+00	33.67
	1764.49	163	15.80	9.414E-01	1.556E+00	1.556E+00	23.33
	338.32	599	11.40	4.019E+00	1.857E+00	1.857E+00	16.86
	911.07	531	27.70*	1.678E+00	1.625E+00	1.625E+00	16.63
	969.11	372	16.60	1.589E+00	2.007E+00	2.007E+00	26.96
TH-232	63.29	415	3.80*	9.778E+00	1.589E+00	1.589E+00	43.12
	92.38	850	5.41	9.243E+00	2.417E+00	2.417E+00	23.93
	609.31	1060	46.30*	2.401E+00	1.355E+00	1.355E+00	14.79
	1120.29	188	15.10	1.398E+00	1.265E+00	1.265E+00	33.67

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	1764.49	163	15.80	9.414E-01	1.556E+00	1.556E+00	23.33
NP-237	86.50	870	12.60*	9.404E+00	1.044E+00	1.044E+00	25.70
	95.87	-----	2.60	9.143E+00	-----	Line Not Found	-----
U-238	63.29	415	3.80*	9.778E+00	1.589E+00	1.589E+00	43.12
	92.38	850	5.41	9.243E+00	2.417E+00	2.417E+00	17.89
AM-243	74.67	1666	66.00*	9.695E+00	3.702E-01	3.702E-01	12.55
	86.72	870	0.34	9.404E+00	3.914E+01	3.915E+01	15.32
	117.66	-----	0.55	8.415E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.617E+00	-----	Line Not Found	-----
ANH-511	511.00	271	100.00*	2.810E+00	1.371E-01	1.371E-01	38.53

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G243274004

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Acquisition date : 30-DEC-2009 23:06:42

Total number of lines in spectrum 44
Number of unidentified lines 5
Number of lines tentatively identified by NID 39 88.64%

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	2.033E+01	2.033E+01	0.207E+01	10.19	
CD-109	464.00D	1.02	3.536E+00	3.613E+00	0.553E+00	15.32	
SN-126	1.00E+05Y	1.00	3.555E-01	3.555E-01	0.545E-01	15.32	
BA-137M	30.17Y	1.00	2.301E-01	2.303E-01	0.562E-01	24.38	
CS-137	30.17Y	1.00	2.432E-01	2.435E-01	0.594E-01	24.39	
TL-208	1.41E+10Y	1.00	5.931E-01	5.931E-01	0.898E-01	15.14	
BI-210	22.26Y	1.00	1.547E+00	1.549E+00	0.495E+00	31.93	
PB-210	22.26Y	1.00	1.547E+00	1.549E+00	0.495E+00	31.93	
PO-210	22.26Y	1.00	1.547E+00	1.549E+00	0.491E+00	31.69	
BI-211	7.04E+08Y	1.00	4.553E+00	4.553E+00	0.576E+00	12.66	
BI-212	1.41E+10Y	1.00	1.069E+00	1.069E+00	0.375E+00	35.09	
PB-212	1.41E+10Y	1.00	1.763E+00	1.763E+00	0.215E+00	12.18	
PO-212	1.41E+10Y	1.00	1.763E+00	1.763E+00	0.215E+00	12.18	
BI-214	1600.00Y	1.00	1.355E+00	1.355E+00	0.200E+00	14.79	
PB-214	1600.00Y	1.00	1.584E+00	1.584E+00	0.217E+00	13.70	
PO-214	1600.00Y	1.00	1.584E+00	1.584E+00	0.217E+00	13.70	
PO-216	1.41E+10Y	1.00	1.763E+00	1.763E+00	0.215E+00	12.18	
PO-218	1600.00Y	1.00	1.584E+00	1.584E+00	0.217E+00	13.70	
RA-224	1.41E+10Y	1.00	4.676E+00	4.676E+00	0.883E+00	18.89	
RA-226	1600.00Y	1.00	1.355E+00	1.355E+00	0.200E+00	14.79	
AC-228	1.41E+10Y	1.00	1.625E+00	1.625E+00	0.270E+00	16.63	
RA-228	1.41E+10Y	1.00	1.625E+00	1.625E+00	0.270E+00	16.63	
TH-228	1.91Y	1.01	1.763E+00	1.789E+00	0.218E+00	12.18	
TH-230	4.47E+09Y	1.00	1.355E+00	1.355E+00	0.200E+00	14.79	
TH-232	1.41E+10Y	1.00	1.625E+00	1.625E+00	0.270E+00	16.63	
TH-234	4.47E+09Y	1.00	1.589E+00	1.589E+00	0.685E+00	43.12	
U-234	4.47E+09Y	1.00	1.355E+00	1.355E+00	0.200E+00	14.79	
NP-237	2.14E+06Y	1.00	1.044E+00	1.044E+00	0.268E+00	25.70	
U-238	4.47E+09Y	1.00	1.589E+00	1.589E+00	0.685E+00	43.12	
AM-243	7380.00Y	1.00	3.702E-01	3.702E-01	0.465E-01	12.55	
ANH-511	1.00E+09Y	1.00	1.371E-01	1.371E-01	0.528E-01	38.53	

Total Activity : 6.705E+01 6.716E+01

Grand Total Activity : 6.705E+01 6.716E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243274004

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Acquisition date : 30-DEC-2009 23:06:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.14	328	805	1.24	167.83	165	6	2.27E-02	30.4	9.49E+00	T
4	89.89	567	596	0.91	179.34	171	22	3.94E-02	15.4	9.33E+00	T
4	94.33	231	657	1.23	188.22	171	22	1.60E-02	47.8	9.19E+00	T
0	129.08	224	719	0.99	257.70	254	8	1.55E-02	43.5	8.03E+00	T
0	185.78	571	639	1.16	371.09	366	9	3.97E-02	19.2	6.42E+00	T
0	209.40	310	553	0.76	418.34	414	9	2.15E-02	29.7	5.89E+00	T
0	270.19	216	446	1.34	539.90	535	10	1.50E-02	39.1	4.84E+00	T
0	328.07	154	273	1.22	655.66	652	9	1.07E-02	42.0	4.12E+00	T
0	409.15	42	272	0.76	817.81	814	10	2.90E-03	****	3.41E+00	
0	463.09	141	226	1.24	925.67	919	10	9.79E-03	43.3	3.06E+00	T
0	768.19	86	138	1.21	1535.87	1531	10	5.95E-03	56.2	1.95E+00	T
0	794.65	113	102	1.24	1588.78	1582	12	7.84E-03	40.4	1.89E+00	T
1	964.94	116	63	1.97	1929.36	1921	24	8.06E-03	33.9	1.59E+00	T
0	1238.81	61	150	2.01	2477.13	2470	14	4.22E-03	90.1	1.28E+00	T
0	1378.43	52	88	1.72	2756.37	2746	20	3.64E-03	92.7	1.17E+00	
0	1412.03	38	72	7.83	2823.58	2811	27	2.64E-03	****	1.14E+00	
0	1630.58	34	5	1.69	3260.72	3257	9	2.36E-03	41.3	1.01E+00	
0	1729.83	50	25	2.33	3459.24	3453	12	3.45E-03	50.3	9.57E-01	

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]G243274004.CNF;1
* Acquisition date   : 30-DEC-2009 23:06:42  Detector SN#      :
* Detector ID        : GAM25                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 04:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 04:00:03.87          Half life ratio   : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 16-DEC-2009 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G243274004           Analyst initials: MXR1
* Batch Number       : 935341               Sample Quantity  : 1.32020E+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
K-40	2.033E+01	2.071E+00	3.350E-01	2.853E-02	60.689
CD-109	3.613E+00	5.535E-01	4.776E-01	5.132E-02	7.566
SN-126	3.555E-01	5.445E-02	4.689E-02	5.028E-03	7.582
BA-137M	2.303E-01	5.615E-02	4.211E-02	4.665E-03	5.469
CS-137	2.435E-01	5.937E-02	4.452E-02	4.937E-03	5.469
TL-208	5.931E-01	8.982E-02	3.981E-02	4.488E-03	14.896
BI-210	1.549E+00	4.946E-01	3.776E-01	3.894E-02	4.102
PB-210	1.549E+00	4.946E-01	3.776E-01	3.894E-02	4.102
PO-210	1.549E+00	4.908E-01	3.776E-01	3.596E-02	4.102
BI-211	4.553E+00	5.765E-01	1.921E-01	2.024E-02	23.703
BI-212	1.069E+00	3.752E-01	3.255E-01	3.912E-02	3.284
PB-212	1.763E+00	2.148E-01	5.544E-02	6.312E-03	31.804
PO-212	1.763E+00	2.148E-01	5.544E-02	6.312E-03	31.804
BI-214	1.355E+00	2.004E-01	7.505E-02	9.057E-03	18.055
PB-214	1.584E+00	2.169E-01	6.698E-02	7.865E-03	23.645
PO-214	1.584E+00	2.169E-01	6.698E-02	7.865E-03	23.645
PO-216	1.763E+00	2.148E-01	5.544E-02	6.312E-03	31.804
PO-218	1.584E+00	2.169E-01	6.698E-02	7.865E-03	23.645

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	4.676E+00	8.833E-01	6.317E-01	6.639E-02	7.402
RA-226	1.355E+00	2.004E-01	7.505E-02	9.057E-03	18.055
AC-228	1.625E+00	2.703E-01	1.495E-01	1.778E-02	10.869
RA-228	1.625E+00	2.703E-01	1.495E-01	1.778E-02	10.869
TH-228	1.789E+00	2.179E-01	5.625E-02	6.404E-03	31.804
TH-230	1.355E+00	2.003E-01	7.505E-02	9.057E-03	18.055
TH-232	1.625E+00	2.703E-01	1.495E-01	1.778E-02	10.869
TH-234	1.589E+00	6.854E-01	4.938E-01	9.195E-02	3.218
U-234	1.355E+00	2.003E-01	7.505E-02	9.057E-03	18.055
NP-237	1.044E+00	2.683E-01	1.480E-01	3.438E-02	7.053
U-238	1.589E+00	6.854E-01	4.938E-01	9.195E-02	3.218
AM-243	3.702E-01	4.647E-02	3.043E-02	3.091E-03	12.164
ANH-511	1.371E-01	5.284E-02	3.069E-02	3.159E-03	4.469

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.637E-02		2.227E-01	3.580E-01	3.790E-02	-0.157
NA-22	-8.915E-03		3.244E-02	5.226E-02	4.285E-03	-0.171
NA-24	-7.652E-02		1.364E-01	Half-Life too short		
AL-26	2.552E-02		2.279E-02	4.271E-02	3.500E-03	0.597
TI-44	3.745E-01	+	4.346E-02	2.933E-02	3.020E-03	12.770
SC-46	-2.390E-02		2.793E-02	4.247E-02	4.067E-03	-0.563
V-48	7.297E-03		5.146E-02	8.372E-02	7.758E-03	0.087
CR-51	5.266E-03		2.292E-01	3.867E-01	4.294E-02	0.014
MN-52	-1.059E-01		1.433E-01	2.121E-01	1.748E-02	-0.499
MN-54	1.883E-02		2.756E-02	4.681E-02	4.750E-03	0.402
CO-56	1.806E-02		2.714E-02	4.623E-02	4.638E-03	0.391
CO-57	-1.034E-02		1.258E-02	2.058E-02	2.654E-03	-0.502
CO-58	-1.348E-02		2.528E-02	3.983E-02	4.133E-03	-0.338
FE-59	1.365E-02		6.509E-02	1.100E-01	1.036E-02	0.124
CO-60	-1.158E-03		2.676E-02	4.362E-02	3.543E-03	-0.027
ZN-65	-1.403E-03		7.030E-02	1.007E-01	8.695E-03	-0.014
GE-68	5.095E-01		8.258E-01	1.436E+00	1.272E-01	0.355
AS-73	4.155E-02		1.186E-01	1.850E-01	1.776E-02	0.225
AS-74	2.966E-02		6.188E-02	1.015E-01	1.100E-02	0.292
SE-75	-9.545E-03		2.750E-02	4.085E-02	4.477E-03	-0.234
BR-77	-4.336E+00		6.265E+00	9.711E+00	1.007E+00	-0.447
SR-82	-3.454E-01		2.717E-01	4.082E-01	4.332E-02	-0.846
RB-83	-1.173E-02		4.859E-02	7.747E-02	8.031E-03	-0.151
RB-84	-3.611E-02		5.045E-02	7.785E-02	7.524E-03	-0.464
KR-85	4.621E+00		5.715E+00	8.503E+00	8.772E-01	0.543
SR-85	2.354E-02		2.912E-02	4.332E-02	4.469E-03	0.543
RB-86	9.393E-02		5.185E-01	8.773E-01	7.770E-02	0.107
Y-88	-7.471E-05		2.229E-02	3.669E-02	2.998E-03	-0.002
ZR-88	-4.382E-03		1.936E-02	3.174E-02	2.889E-03	-0.138
Y-91	2.575E+00		1.325E+01	2.217E+01	1.825E+00	0.116

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	-1.424E-03		2.306E-02	3.823E-02	4.198E-03	-0.037
NB-95	5.806E-02		3.452E-02	5.499E-02	5.874E-03	1.056
NB-95M	-2.035E-02		8.453E-02	1.196E-01	1.371E-02	-0.170
ZR-95	6.517E-02		5.066E-02	8.897E-02	1.019E-02	0.732
NB-97	1.164E-02		2.123E-02	Half-Life too short		
ZR-97	1.543E+00		3.780E-01	Half-Life too short		
MO-99	1.170E+01		6.911E+00	1.214E+01	2.008E+00	0.964
TC-99M	7.135E+08		1.871E+09	Half-Life too short		
RH-101	1.840E-02		2.095E-02	3.324E-02	3.203E-03	0.554
RH-102	-5.652E-03		1.979E-02	3.176E-02	3.171E-03	-0.178
RU-103	1.472E-02		2.653E-02	4.427E-02	6.711E-03	0.332
RH-106	2.792E-01		2.268E-01	3.985E-01	5.964E-02	0.701
RU-106	2.792E-01		2.250E-01	3.985E-01	4.363E-02	0.701
AG-108M	4.922E-03		2.153E-02	3.577E-02	3.535E-03	0.138
AG-110M	2.749E-03		2.768E-02	4.060E-02	4.575E-03	0.068
IN-111	7.677E-02		6.102E-01	8.762E-01	9.279E-02	0.088
IN-113M	-5.937E-03		2.813E-02	4.616E-02	4.312E-03	-0.129
SN-113	-5.937E-03		2.813E-02	4.616E-02	4.312E-03	-0.129
IN-114M	-6.999E-02		1.116E-01	1.694E-01	1.603E-02	-0.413
CD-115	-1.807E-02		6.150E+00	9.928E+00	1.035E+00	-0.002
SN-117M	-6.808E-03		2.986E-02	4.912E-02	4.769E-03	-0.139
SB-122	9.478E-01		1.214E+00	2.029E+00	2.164E-01	0.467
I-123	-4.254E-01		7.473E-01	Half-Life too short		
TE-123M	-4.556E-03		1.600E-02	2.627E-02	2.551E-03	-0.173
I-124	-2.035E-01		4.358E-01	6.483E-01	7.046E-02	-0.314
SB-124	4.429E-02		4.808E-02	8.933E-02	7.722E-03	0.496
SB-125	-3.117E-03		6.085E-02	9.987E-02	9.646E-03	-0.031
TE-125M	3.619E+00		4.316E+00	7.458E+00	9.904E-01	0.485
I-126	1.118E-01		1.367E-01	2.105E-01	2.330E-02	0.531
SB-126	6.842E-02		1.137E-01	1.713E-01	1.869E-02	0.399
SB-127	1.304E-01		8.715E-01	1.465E+00	1.926E-01	0.089
XE-127	-3.238E-02		2.743E-02	4.245E-02	4.135E-03	-0.763
I-131	-1.686E-02		6.691E-02	1.103E-01	1.131E-02	-0.153
TE-132	1.960E-01		3.678E-01	6.024E-01	9.982E-02	0.325
BA-133	-2.824E-02		3.027E-02	4.150E-02	5.884E-03	-0.681
I-133	-1.439E-04		1.221E-03	Half-Life too short		
CS-134	1.117E-01	+	4.668E-02	6.448E-02	6.788E-03	1.733
CS-135	2.257E-01		1.092E-01	1.672E-01	2.018E-02	1.350
I-135	-8.934E+07		4.022E+08	Half-Life too short		
CS-136	-3.641E-02		6.616E-02	1.062E-01	9.930E-03	-0.343
CE-139	7.252E-03		1.664E-02	2.786E-02	2.485E-03	0.260
BA-140	5.913E-02		1.645E-01	2.691E-01	9.061E-02	0.220
LA-140	-6.641E-02		6.085E-02	8.957E-02	7.448E-03	-0.741
CE-141	2.295E-03		3.357E-02	5.609E-02	6.238E-03	0.041
CE-143	4.034E-04		6.165E-05	Half-Life too short		
CE-144	-8.690E-02		1.130E-01	1.746E-01	3.087E-02	-0.498
PM-144	-3.267E-04		2.380E-02	3.960E-02	4.357E-03	-0.008
PR-144	-2.213E-02		1.612E+00	2.682E+00	2.951E-01	-0.008

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	4.106E-02		3.027E-02	5.215E-02	6.090E-03	0.787
ND-147	-1.666E-01		3.586E-01	5.606E-01	9.010E-02	-0.297
PM-149	-1.399E+01		4.881E+01	7.611E+01	1.298E+01	-0.184
EU-152	-1.693E-02		5.961E-02	9.862E-02	1.059E-02	-0.172
GD-153	-3.444E-02		3.947E-02	5.752E-02	6.478E-03	-0.599
EU-154	-2.481E-02		9.066E-02	1.461E-01	1.605E-02	-0.170
EU-155	3.540E-02		4.932E-02	8.532E-02	1.009E-02	0.415
TB-160	-1.807E-02		9.798E-02	1.575E-01	1.526E-02	-0.115
HO-166M	-1.192E-02		4.261E-02	6.964E-02	7.625E-03	-0.171
TM-171	8.643E+00		8.465E+00	1.251E+01	1.242E+00	0.691
LU-176	-7.557E-03		1.488E-02	2.462E-02	2.686E-03	-0.307
LU-177	3.056E+00	+	9.551E-01	1.160E+00	1.143E-01	2.635
LU-177M	-3.693E-02		1.316E-01	1.869E-01	1.747E-02	-0.198
HF-181	1.002E-02		2.892E-02	4.791E-02	4.814E-03	0.209
W-181	-8.788E-02		1.058E-01	1.473E-01	1.457E-02	-0.597
TA-182	-6.829E-02		1.404E-01	2.245E-01	1.846E-02	-0.304
RE-183	-2.388E-02		6.386E-02	9.868E-02	9.184E-03	-0.242
RE-184	6.442E-02		1.446E-01	2.351E-01	2.522E-02	0.274
OS-185	1.068E-02		2.851E-02	4.875E-02	5.379E-03	0.219
RE-188	4.118E-02		9.793E-02	1.644E-01	1.656E-02	0.250
W-188	-1.329E+00		4.878E+00	7.213E+00	7.990E-01	-0.184
IR-192	6.936E-05		2.065E-02	3.483E-02	3.762E-03	0.002
AU-195	2.039E-01		1.112E-01	1.829E-01	2.075E-02	1.115
TL-200	-2.417E-05		9.549E-05	Half-Life too short		
TL-201	2.875E+00		3.404E+00	5.757E+00	5.150E-01	0.499
TL-202	3.689E-02		4.496E-02	7.651E-02	7.370E-03	0.482
HG-203	1.439E-02		2.884E-02	4.169E-02	4.732E-03	0.345
BI-207	-4.461E-03		3.653E-02	6.062E-02	5.410E-03	-0.074
TL-207	9.292E-02		4.609E-01	6.916E-01	1.299E-01	0.134
PO-209	-1.472E+00		5.308E+00	8.456E+00	8.024E-01	-0.174
PB-211	-8.955E-02		6.901E-01	9.901E-01	6.213E-01	-0.090
PO-215	9.292E-02		4.609E-01	6.916E-01	1.299E-01	0.134
RN-219	1.129E-01		2.792E-01	4.614E-01	7.093E-02	0.245
RN-220	-1.112E+01		1.783E+01	2.752E+01	2.910E+00	-0.404
RA-223	9.292E-02		4.609E-01	6.916E-01	1.299E-01	0.134
AC-227	-9.642E-02		2.462E-01	3.859E-01	6.428E-02	-0.250
TH-227	-9.642E-02		2.463E-01	3.859E-01	7.405E-02	-0.250
TH-229	-2.158E-01		3.014E-01	4.789E-01	4.569E-02	-0.451
PA-231	1.316E-01		9.506E-01	1.514E+00	2.534E-01	0.087
TH-231	9.292E-02		4.609E-01	6.916E-01	1.299E-01	0.134
U-231	-4.692E-01		4.425E-01	6.528E-01	7.292E-02	-0.719
PA-233	-2.239E-02		3.806E-02	6.259E-02	6.912E-03	-0.358
PA-234	5.966E-02		2.179E-01	3.588E-01	6.861E-02	0.166
PA-234M	7.581E-01		3.373E+00	5.344E+00	5.597E-01	0.142
U-235	1.114E-01		1.237E-01	2.019E-01	3.812E-02	0.552
NP-236	2.620E-02		4.411E-02	7.431E-02	7.077E-03	0.353
NP-239	-9.977E-02		9.324E-02	1.513E-01	1.896E-02	-0.659
AM-241	-2.505E-02		3.448E-02	4.923E-02	5.115E-03	-0.509

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.611E-03		4.315E-02	7.367E-02	8.579E-03	0.035
AM-246	1.002E-01		9.263E-02	1.657E-01	1.465E-02	0.605
CM-247	4.979E-03		2.408E-02	4.019E-02	3.705E-03	0.124
CF-249	1.973E-02		2.636E-02	4.505E-02	4.145E-03	0.438
CF-251	-1.827E-02		7.194E-02	1.173E-01	1.074E-02	-0.156

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]G243274004          *
* Acquisition date   : 30-DEC-2009 23:06:42 Detector SN# :                  *
* Detector ID        : GAM25 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time: 0 04:00:00.00 Abundance limit : 75.000               *
* Elapsed real time: 0 04:00:03.87 Half life ratio : 8.000               *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274004 Analyst initials: MXR1                 *
* Batch Number       : 935341 Sample Quantity : 1.3202E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME : 7-OCT-2009 09:38:43 MS Isotope :                      *
* MSD DPM           : 0.000 MSD Isotope :                                *
* LCS DPM           : 0.000 LCS Isotope :                                *
* LCSD DPM          : 0.000 LCSD Isotope :                                *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.033E+01	2.030E+00	1.678E-01	1.035E+00
CD-109	3.613E+00	5.424E-01	2.508E-01	2.767E-01
SN-126	3.555E-01	5.336E-02	2.463E-02	2.723E-02
BA-137M	2.303E-01	5.503E-02	2.139E-02	2.808E-02
CS-137	2.435E-01	5.818E-02	2.261E-02	2.969E-02
TL-208	5.931E-01	8.802E-02	2.027E-02	4.491E-02
BI-210	1.549E+00	4.847E-01	2.003E-01	2.473E-01
PB-210	1.549E+00	4.847E-01	2.003E-01	2.473E-01
PO-210	1.549E+00	4.810E-01	2.003E-01	2.454E-01
BI-211	4.553E+00	5.650E-01	9.861E-02	2.882E-01
BI-212	1.069E+00	3.677E-01	1.651E-01	1.876E-01
PB-212	1.763E+00	2.105E-01	2.865E-02	1.074E-01
PO-212	1.763E+00	2.105E-01	2.865E-02	1.074E-01
BI-214	1.355E+00	1.963E-01	3.817E-02	1.002E-01
PB-214	1.584E+00	2.126E-01	3.439E-02	1.084E-01
PO-214	1.584E+00	2.126E-01	3.439E-02	1.084E-01
PO-216	1.763E+00	2.105E-01	2.865E-02	1.074E-01
PO-218	1.584E+00	2.126E-01	3.439E-02	1.084E-01
RA-224	4.676E+00	8.656E-01	3.264E-01	4.416E-01
RA-226	1.355E+00	1.963E-01	3.817E-02	1.002E-01
AC-228	1.625E+00	2.649E-01	7.551E-02	1.351E-01
RA-228	1.625E+00	2.649E-01	7.551E-02	1.351E-01
TH-228	1.789E+00	2.136E-01	2.907E-02	1.090E-01
TH-230	1.355E+00	1.963E-01	3.817E-02	1.002E-01
TH-232	1.625E+00	2.649E-01	7.551E-02	1.351E-01
TH-234	1.589E+00	6.717E-01	2.607E-01	3.427E-01
U-234	1.355E+00	1.963E-01	3.817E-02	1.002E-01
NP-237	1.044E+00	2.629E-01	7.776E-02	1.341E-01
U-238	1.589E+00	6.717E-01	2.607E-01	3.427E-01
AM-243	3.702E-01	4.554E-02	1.603E-02	2.324E-02
ANH-511	1.371E-01	5.179E-02	1.566E-02	2.642E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-5.637E-02	2.183E-01	1.829E-01	1.114E-01 NOT IDENT.
NA-22	-8.915E-03	3.179E-02	2.624E-02	1.622E-02 NOT IDENT.
NA-24	-7.652E+04	2.673E+05	0.000E+00	1.364E+05 SHORT HLIF
AL-26	2.552E-02	2.233E-02	2.131E-02	1.139E-02 NOT IDENT.
TI-44	3.745E-01	4.259E-02	1.543E-02	2.173E-02 FAIL ABUN
SC-46	-2.390E-02	2.737E-02	2.146E-02	1.396E-02 FAIL ABUN
V-48	7.297E-03	5.043E-02	4.223E-02	2.573E-02 NOT IDENT.
CR-51	5.266E-03	2.247E-01	1.988E-01	1.146E-01 NOT IDENT.
MN-52	-1.059E-01	1.404E-01	1.063E-01	7.163E-02 NOT IDENT.
MN-54	1.883E-02	2.701E-02	2.368E-02	1.378E-02 NOT IDENT.
CO-56	1.806E-02	2.659E-02	2.338E-02	1.357E-02 FAIL ABUN
CO-57	-1.034E-02	1.233E-02	1.075E-02	6.291E-03 NOT IDENT.
CO-58	-1.348E-02	2.477E-02	2.016E-02	1.264E-02 NOT IDENT.
FE-59	1.365E-02	6.379E-02	5.538E-02	3.254E-02 NOT IDENT.
CO-60	-1.158E-03	2.622E-02	2.189E-02	1.338E-02 NOT IDENT.
ZN-65	-1.403E-03	6.889E-02	5.067E-02	3.515E-02 NOT IDENT.
GE-68	5.095E-01	8.093E-01	7.234E-01	4.129E-01 NOT IDENT.
AS-73	4.155E-02	1.162E-01	9.793E-02	5.928E-02 NOT IDENT.
AS-74	2.966E-02	6.064E-02	5.166E-02	3.094E-02 NOT IDENT.
SE-75	-9.545E-03	2.695E-02	2.107E-02	1.375E-02 NOT IDENT.
BR-77	-4.336E+00	6.140E+00	4.952E+00	3.132E+00 FAIL ABUN
SR-82	-3.454E-01	2.663E-01	2.067E-01	1.358E-01 NOT IDENT.
RB-83	-1.173E-02	4.762E-02	3.951E-02	2.430E-02 NOT IDENT.
RB-84	-3.611E-02	4.944E-02	3.934E-02	2.523E-02 NOT IDENT.
KR-85	4.621E+00	5.601E+00	4.337E+00	2.858E+00 NOT IDENT.
SR-85	2.354E-02	2.853E-02	2.210E-02	1.456E-02 NOT IDENT.
RB-86	9.393E-02	5.082E-01	4.418E-01	2.593E-01 NOT IDENT.
Y-88	-7.471E-05	2.185E-02	1.830E-02	1.115E-02 NOT IDENT.
ZR-88	-4.382E-03	1.898E-02	1.627E-02	9.681E-03 NOT IDENT.
Y-91	2.575E+00	1.299E+01	1.114E+01	6.625E+00 NOT IDENT.
NB-94	-1.424E-03	2.260E-02	1.940E-02	1.153E-02 NOT IDENT.
NB-95	5.806E-02	3.383E-02	2.786E-02	1.726E-02 NOT IDENT.
NB-95M	-2.035E-02	8.284E-02	6.181E-02	4.227E-02 NOT IDENT.
ZR-95	6.517E-02	4.965E-02	4.508E-02	2.533E-02 NOT IDENT.
NB-97	1.164E+04	4.161E+04	0.000E+00	2.123E+04 SHORT HLIF
ZR-97	1.543E+06	7.410E+05	0.000E+00	3.780E+05 SHORT HLIF
MO-99	1.170E+01	6.773E+00	6.156E+00	3.456E+00 NOT IDENT.
TC-99M	7.135E+14	3.668E+15	0.000E+00	1.871E+15 SHORT HLIF
RH-101	1.840E-02	2.053E-02	1.723E-02	1.048E-02 NOT IDENT.
RH-102	-5.652E-03	1.940E-02	1.622E-02	9.896E-03 FAIL ABUN
RU-103	1.472E-02	2.600E-02	2.259E-02	1.327E-02 FAIL ABUN
RH-106	2.792E-01	2.223E-01	2.026E-01	1.134E-01 FAIL ABUN
RU-106	2.792E-01	2.205E-01	2.026E-01	1.125E-01 FAIL ABUN
AG-108M	4.922E-03	2.110E-02	1.830E-02	1.076E-02 NOT IDENT.
AG-110M	2.749E-03	2.712E-02	2.062E-02	1.384E-02 NOT IDENT.
IN-111	7.677E-02	5.980E-01	4.526E-01	3.051E-01 NOT IDENT.
IN-113M	-5.937E-03	2.757E-02	2.366E-02	1.406E-02 NOT IDENT.
SN-113	-5.937E-03	2.757E-02	2.366E-02	1.406E-02 NOT IDENT.
IN-114M	-6.999E-02	1.094E-01	8.785E-02	5.580E-02 NOT IDENT.
CD-115	-1.807E-02	6.027E+00	5.062E+00	3.075E+00 NOT IDENT.
SN-117M	-6.808E-03	2.926E-02	2.555E-02	1.493E-02 NOT IDENT.
SB-122	9.478E-01	1.189E+00	1.034E+00	6.069E-01 NOT IDENT.
I-123	-4.254E+05	1.465E+06	0.000E+00	7.473E+05 SHORT HLIF
TE-123M	-4.556E-03	1.568E-02	1.367E-02	8.002E-03 NOT IDENT.
I-124	-2.035E-01	4.271E-01	3.298E-01	2.179E-01 NOT IDENT.
SB-124	4.429E-02	4.711E-02	4.463E-02	2.404E-02 FAIL ABUN
SB-125	-3.117E-03	5.964E-02	5.110E-02	3.043E-02 FAIL ABUN
TE-125M	3.619E+00	4.230E+00	3.903E+00	2.158E+00 NOT IDENT.
I-126	1.118E-01	1.340E-01	1.069E-01	6.837E-02 NOT IDENT.
SB-126	6.842E-02	1.114E-01	8.686E-02	5.683E-02 FAIL ABUN
SB-127	1.304E-01	8.541E-01	7.434E-01	4.358E-01 NOT IDENT.
XE-127	-3.238E-02	2.688E-02	2.200E-02	1.371E-02 NOT IDENT.
I-131	-1.686E-02	6.557E-02	5.657E-02	3.346E-02 NOT IDENT.
TE-132	1.960E-01	3.604E-01	3.115E-01	1.839E-01 NOT IDENT.
BA-133	-2.824E-02	2.966E-02	2.130E-02	1.513E-02 FAIL ABUN
I-133	-1.439E+02	2.393E+03	0.000E+00	1.221E+03 SHORT HLIF
CS-134	1.117E-01	4.574E-02	3.265E-02	2.334E-02 FAIL ABUN
CS-135	2.257E-01	1.070E-01	8.622E-02	5.459E-02 NOT IDENT.
I-135	-8.934E+13	7.883E+14	0.000E+00	4.022E+14 SHORT HLIF
CS-136	-3.641E-02	6.483E-02	5.350E-02	3.308E-02 FAIL ABUN
CE-139	7.252E-03	1.631E-02	1.448E-02	8.322E-03 NOT IDENT.
BA-140	5.913E-02	1.612E-01	1.371E-01	8.227E-02 NOT IDENT.
LA-140	-6.641E-02	5.964E-02	4.480E-02	3.043E-02 FAIL ABUN
CE-141	2.295E-03	3.290E-02	2.922E-02	1.678E-02 NOT IDENT.

CE-143	4.034E+02	1.208E+02	0.000E+00	6.165E+01	SHORT HLIF
CE-144	-8.690E-02	1.108E-01	9.109E-02	5.652E-02	NOT IDENT.
PM-144	-3.267E-04	2.333E-02	2.009E-02	1.190E-02	NOT IDENT.
PR-144	-2.213E-02	1.580E+00	1.361E+00	8.062E-01	NOT IDENT.
PM-146	4.106E-02	2.966E-02	2.666E-02	1.513E-02	NOT IDENT.
ND-147	-1.666E-01	3.514E-01	2.858E-01	1.793E-01	FAIL ABUN
PM-149	-1.399E+01	4.783E+01	3.921E+01	2.440E+01	NOT IDENT.
EU-152	-1.693E-02	5.841E-02	5.065E-02	2.980E-02	FAIL ABUN
GD-153	-3.444E-02	3.869E-02	3.016E-02	1.974E-02	FAIL ABUN
EU-154	-2.481E-02	8.884E-02	7.334E-02	4.533E-02	NOT IDENT.
EU-155	3.540E-02	4.833E-02	4.468E-02	2.466E-02	FAIL ABUN
TB-160	-1.807E-02	9.602E-02	7.959E-02	4.899E-02	FAIL ABUN
HO-166M	-1.192E-02	4.176E-02	3.532E-02	2.131E-02	FAIL ABUN
TM-171	8.643E+00	8.296E+00	6.602E+00	4.233E+00	NOT IDENT.
LU-176	-7.557E-03	1.458E-02	1.267E-02	7.440E-03	FAIL ABUN
LU-177	3.056E+00	9.360E-01	6.006E-01	4.775E-01	FAIL ABUN
LU-177M	-3.693E-02	1.289E-01	9.571E-02	6.578E-02	FAIL ABUN
HF-181	1.002E-02	2.834E-02	2.447E-02	1.446E-02	NOT IDENT.
W-181	-8.788E-02	1.037E-01	7.771E-02	5.290E-02	NOT IDENT.
TA-182	-6.829E-02	1.376E-01	1.128E-01	7.018E-02	FAIL ABUN
RE-183	-2.388E-02	6.258E-02	5.132E-02	3.193E-02	FAIL ABUN
RE-184	6.442E-02	1.417E-01	1.214E-01	7.230E-02	NOT IDENT.
OS-185	1.068E-02	2.794E-02	2.477E-02	1.426E-02	NOT IDENT.
RE-188	4.118E-02	9.597E-02	8.557E-02	4.896E-02	NOT IDENT.
W-188	-1.329E+00	4.781E+00	3.715E+00	2.439E+00	FAIL ABUN
IR-192	6.936E-05	2.023E-02	1.791E-02	1.032E-02	FAIL ABUN
AU-195	2.039E-01	1.090E-01	9.588E-02	5.562E-02	FAIL ABUN
TL-200	-2.417E+01	1.872E+02	0.000E+00	9.549E+01	SHORT HLIF
TL-201	2.875E+00	3.336E+00	2.992E+00	1.702E+00	NOT IDENT.
TL-202	3.689E-02	4.406E-02	3.913E-02	2.248E-02	NOT IDENT.
HG-203	1.439E-02	2.826E-02	2.149E-02	1.442E-02	NOT IDENT.
BI-207	-4.461E-03	3.580E-02	3.054E-02	1.826E-02	FAIL ABUN
TL-207	9.292E-02	4.517E-01	3.555E-01	2.304E-01	FAIL ABUN
PO-209	-1.472E+00	5.202E+00	4.273E+00	2.654E+00	NOT IDENT.
PB-211	-8.955E-02	6.763E-01	5.071E-01	3.451E-01	NOT IDENT.
PO-215	9.292E-02	4.517E-01	3.555E-01	2.304E-01	FAIL ABUN
RN-219	1.129E-01	2.736E-01	2.364E-01	1.396E-01	FAIL ABUN
RN-220	-1.112E+01	1.747E+01	1.402E+01	8.916E+00	NOT IDENT.
RA-223	9.292E-02	4.517E-01	3.555E-01	2.304E-01	FAIL ABUN
AC-227	-9.642E-02	2.412E-01	1.992E-01	1.231E-01	FAIL ABUN
TH-227	-9.642E-02	2.414E-01	1.992E-01	1.232E-01	FAIL ABUN
TH-229	-2.158E-01	2.954E-01	2.483E-01	1.507E-01	FAIL ABUN
PA-231	1.316E-01	9.316E-01	7.800E-01	4.753E-01	FAIL ABUN
TH-231	9.292E-02	4.517E-01	3.555E-01	2.304E-01	FAIL ABUN
U-231	-4.692E-01	4.336E-01	3.424E-01	2.212E-01	FAIL ABUN
PA-233	-2.239E-02	3.730E-02	3.220E-02	1.903E-02	FAIL ABUN
PA-234	5.966E-02	2.136E-01	1.811E-01	1.090E-01	FAIL ABUN
PA-234M	7.581E-01	3.306E+00	2.695E+00	1.687E+00	NOT IDENT.
U-235	1.114E-01	1.213E-01	1.052E-01	6.186E-02	FAIL ABUN
NP-236	2.620E-02	4.323E-02	3.865E-02	2.205E-02	FAIL ABUN
NP-239	-9.977E-02	9.138E-02	7.911E-02	4.662E-02	FAIL ABUN
AM-241	-2.505E-02	3.379E-02	2.602E-02	1.724E-02	NOT IDENT.
CM-243	2.611E-03	4.228E-02	3.859E-02	2.157E-02	FAIL ABUN
AM-246	1.002E-01	9.077E-02	8.343E-02	4.631E-02	NOT IDENT.
CM-247	4.979E-03	2.360E-02	2.059E-02	1.204E-02	FAIL ABUN
CF-249	1.973E-02	2.583E-02	2.309E-02	1.318E-02	NOT IDENT.
CF-251	-1.827E-02	7.051E-02	6.089E-02	3.597E-02	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY          MDA COUNTS

```

46.50	450.6509
46.50	450.6509
46.50	450.6509
48.70	500.7219
49.72	458.3090
51.35	560.6271
52.39	518.2874
52.97	506.4017
53.15	517.7535
53.44	541.4454
54.07	561.5829
56.28	636.6555
56.28	636.6642
57.37	0.0000
57.53	634.2614
57.53	634.2657
57.60	628.8520
57.98	659.9959
57.98	659.9959
59.32	713.6804
59.32	713.6804
59.40	739.3997
59.54	739.7984
59.72	768.8438
60.01	769.7006
61.10	671.7596
61.14	723.1948
61.30	723.6334
63.00	769.6747
63.29	770.4999
63.29	770.4999
63.58	771.3214
64.28	773.3002
65.12	827.3708
65.20	827.6111
65.20	827.6111
66.05	779.4125
66.72	724.2487
66.83	747.6639
66.91	747.8712
67.20	776.4254
67.20	776.4254
67.75	800.3499
67.85	799.4738
68.90	878.1000
68.90	878.1000
69.30	875.8210
69.67	829.0682
70.82	831.5422
70.82	831.5422
70.83	831.5693
72.80	911.0427
72.87	911.2548
72.87	911.2548
74.67	867.9900
74.81	868.3860
74.81	868.3860
74.81	868.3860
74.81	868.3860
74.81	868.3860
74.81	868.3860
74.81	868.3860
74.97	868.8377
75.28	869.7133
75.70	870.9012
77.11	874.8498
77.11	874.8498

77.11	874.8498
77.11	874.8498
77.11	874.8498
77.11	874.8498
77.11	874.8498
78.38	878.3745
79.62	805.7924
79.80	693.5968
79.80	693.5968
80.11	694.2632
80.18	694.4123
80.30	701.1180
80.30	701.1180
80.57	701.7021
81.00	714.7457
81.07	714.8987
81.07	714.8987
81.07	714.8987
81.07	714.8987
82.60	706.0696
83.37	733.7329
83.78	620.6172
83.78	620.6172
83.78	620.6172
83.78	620.6172
84.21	621.4156
84.90	703.5958
85.43	704.6994
86.29	706.4818
86.50	706.9153
86.54	706.9985
86.59	707.1036
86.72	606.3178
86.79	606.4379
86.94	606.7082
87.30	607.3425
87.30	607.3425
87.30	607.3425
87.30	607.3425
87.30	607.3425
87.30	607.3425
87.57	607.8193
87.88	608.3635
88.03	608.6263
88.36	609.2043
88.47	609.3995
89.95	611.9821
91.11	613.9903
92.29	609.7588
92.38	609.9130
92.38	609.9130
93.35	611.5515
94.00	612.6476
94.67	613.7659
94.67	613.7734
94.90	614.1598
94.90	614.1598
94.90	614.1598
94.90	614.1598
95.87	601.8710
95.87	601.8710
96.73	640.0268
97.43	599.3196
98.44	491.4409
98.44	491.4409
98.88	501.6995
99.55	514.1655
99.55	514.1655
99.86	535.8824
100.00	536.0775
100.10	536.2247
103.18	550.8203
103.76	513.7726
105.00	476.5397
105.31	505.4242
108.00	538.3979
109.28	492.1058

111.00	587.0474
111.00	587.0474
111.76	556.5236
112.95	543.1450
115.19	533.6456
116.30	478.2485
117.00	525.2411
117.00	525.2411
117.66	549.1893
121.11	453.9557
121.62	484.1180
121.78	471.7144
122.06	498.9828
122.32	496.5748
122.32	496.5748
122.32	496.5748
122.32	496.5748
123.07	469.4745
127.23	478.8023
129.76	519.8296
131.20	462.2717
133.02	477.8618
133.54	522.0751
135.34	479.2596
136.00	465.0894
136.25	482.9415
136.48	480.3873
140.51	509.5959
140.51	0.0000
142.18	532.8813
142.65	518.3591
143.76	500.6766
144.24	469.1243
144.24	469.1243
144.24	469.1243
144.24	469.1243
145.22	472.8626
145.44	508.0035
147.16	523.9222
152.43	515.8398
152.70	487.3774
153.22	508.9398
154.21	523.3284
154.21	523.3284
154.21	523.3284
154.21	523.3284
155.03	517.4003
156.02	549.1840
158.56	489.8118
159.00	0.0000
159.00	496.0156
160.31	446.7059
161.27	468.8841
162.32	460.0252
162.64	477.8427
163.35	478.4508
163.89	468.1633
165.85	449.1991
167.43	426.8479
171.28	462.3872
171.86	454.9191
172.10	432.3010
176.55	450.5687
176.60	450.6054
181.06	463.5262
184.41	456.9655
185.71	478.7220
186.00	471.8399
190.27	480.5924
192.34	402.8266
193.63	473.4836
197.04	409.9110
198.01	420.8656
198.60	481.2720
200.40	435.8936
201.83	464.9247
202.84	470.8426
205.31	407.7615

208.36	458.4440
208.81	427.7466
209.75	428.3346
209.75	428.3346
210.97	395.3629
215.65	419.2737
216.55	415.5648
218.09	378.1300
222.10	395.2700
223.80	377.9531
226.40	411.6417
227.00	411.9836
227.08	412.0303
227.20	415.3327
228.16	372.6691
228.18	372.6796
228.18	372.6796
231.56	0.0000
235.69	450.1396
236.00	450.3242
236.00	450.3242
238.63	398.7656
238.63	398.7656
238.63	398.7656
238.63	398.7656
239.00	398.9581
240.98	399.9986
241.98	400.5207
241.98	400.5207
241.98	400.5207
244.69	336.2311
245.39	333.2191
247.94	292.7327
248.90	358.3689
249.79	325.6549
252.40	312.2343
252.85	323.5714
252.85	323.5714
254.15	0.0000
256.20	366.3848
256.20	366.3848
260.50	295.1231
260.90	316.6795
262.80	288.0475
264.65	297.5267
268.24	264.3628
268.79	271.3646
269.46	315.4234
269.46	315.4234
269.46	315.4234
269.46	315.4234
271.23	326.9290
273.65	353.6161
276.40	340.9832
277.35	312.6240
277.60	312.7181
277.60	312.7181
278.00	286.4067
278.60	309.0547
279.20	312.7232
279.53	302.4742
280.46	320.1028
281.68	299.7618
283.67	283.6551
284.30	290.8111
285.00	295.6842
285.90	313.3960
286.10	313.4674
286.10	313.4674
287.40	297.6563
288.45	0.0000
290.67	309.4917
290.80	309.5349
291.72	309.8532
293.26	0.0000
293.70	297.8921
295.21	289.9490
295.21	289.9490

295.21	289.9490
295.96	264.1296
296.50	264.2853
297.23	264.5004
298.57	264.8895
299.80	315.4666
299.80	315.4666
300.09	315.5646
300.09	315.5646
300.09	315.5646
300.09	315.5646
300.12	315.5755
301.29	281.9717
302.84	249.8031
303.76	278.4674
303.91	278.5105
304.40	291.4543
304.40	291.4543
304.84	295.8617
306.84	286.8746
308.46	233.8275
311.98	273.2230
316.51	261.9249
318.01	276.7619
319.02	290.5891
319.41	295.2211
320.08	281.8740
323.87	275.7227
323.87	275.7227
323.87	275.7227
323.87	275.7227
325.23	305.1716
328.77	258.1409
333.44	241.7758
334.20	258.4584
334.20	258.4584
334.30	258.4842
338.28	248.8335
338.28	248.8335
338.28	248.8335
338.28	248.8335
338.32	248.8418
338.32	248.8418
338.32	248.8418
340.50	244.9513
340.57	244.9675
344.27	256.4118
345.85	215.0857
350.59	0.0000
351.07	214.3089
351.92	214.4844
351.92	214.4844
351.92	214.4844
351.92	214.4844
355.39	0.0000
356.01	254.6389
364.48	222.7012
366.43	209.8695
367.43	208.1702
367.94	0.0000
369.80	216.2097
374.96	201.9881
383.85	245.8672
387.95	225.5556
388.63	227.6203
391.69	225.3312
391.69	225.3312
392.90	223.6332
398.62	218.9060
400.65	234.8809
401.10	233.9978
401.81	218.5313
402.60	224.5357
404.84	230.0536
410.95	206.0755
411.60	217.2051
413.65	230.1888
414.70	203.5655
415.30	186.8257

415.76	200.8118
417.63	0.0000
418.52	247.3488
423.70	218.5968
427.08	217.2083
427.89	209.3752
432.53	200.1556
433.93	195.3690
439.47	193.2158
439.56	188.1984
439.89	188.2469
443.98	205.0165
444.90	181.9199
445.03	190.0253
445.03	190.0253
445.03	190.0253
445.03	190.0253
453.90	179.1287
463.38	200.1145
468.07	201.0616
473.00	190.0027
475.06	194.4315
475.35	195.5090
476.78	196.7522
477.59	204.1212
477.96	179.3038
482.03	181.9214
484.57	201.0044
487.03	162.7626
490.36	0.0000
492.35	170.7227
497.08	155.5382
507.63	0.0000
510.53	0.0000
510.84	169.7913
511.00	169.8108
511.85	169.9109
511.85	169.9109
513.99	202.4961
513.99	202.4961
520.41	184.8103
520.65	197.6578
527.90	166.4282
528.96	0.0000
529.64	160.1768
529.87	0.0000
531.02	161.3983
537.32	141.5542
543.00	160.5291
546.56	0.0000
549.76	167.7842
552.65	157.1836
555.20	167.2877
563.23	148.3731
563.90	148.4390
568.70	186.3910
569.32	152.2599
569.50	152.2809
569.67	152.2978
573.80	188.1009
574.00	188.1268
574.64	189.3117
578.91	138.5338
579.30	0.0000
583.14	160.2686
585.48	144.4513
591.81	162.2533
592.07	162.2754
593.00	160.1288
595.88	145.8295
600.56	156.3708
602.52	0.0000
602.71	176.3674
602.71	176.3674
603.60	142.7590
604.41	153.3528
604.70	153.3818
609.31	159.2336

609.31	159.2336
609.31	159.2336
609.31	159.2336
610.33	159.3324
612.46	164.6709
614.37	149.7367
618.01	166.4290
621.84	139.4594
621.84	139.4594
631.29	134.7368
633.02	122.0249
633.10	122.0314
634.78	133.1727
635.90	134.1767
636.97	115.8671
645.85	134.0223
646.12	134.0436
656.30	133.2657
657.75	151.9845
657.90	0.0000
661.65	163.1995
661.65	163.1995
664.57	0.0000
666.33	137.1312
666.33	137.1312
675.00	119.3136
677.61	158.9986
685.20	150.2115
692.80	147.0343
695.00	134.8584
696.49	153.0247
696.49	153.0247
697.00	153.0679
697.49	154.0582
698.33	160.7893
698.50	165.5591
699.00	156.0883
702.63	151.6206
706.10	154.7622
706.58	0.0000
706.67	156.7209
709.31	146.4146
711.68	151.3845
713.82	151.5542
717.42	165.2939
720.50	139.5696
721.93	0.0000
722.20	163.7786
722.78	162.2222
722.78	162.2222
722.89	162.2304
722.95	168.6597
723.30	168.6896
724.18	175.1957
727.18	141.9863
733.00	130.7845
735.90	130.9757
739.58	93.3141
742.81	115.8594
744.21	125.6837
747.13	95.6218
751.79	148.6564
752.31	141.8458
753.82	115.5225
755.35	103.8521
756.15	115.6550
756.87	116.6787
763.93	111.5099
765.79	124.7432
766.42	139.5569
766.84	136.3036
776.49	158.3945
778.00	140.6792
778.57	134.3311
778.89	134.3542
783.80	125.8410
785.46	135.2197
792.07	117.1988

795.84	86.5990
796.30	86.6180
798.80	111.7348
801.93	123.5923
805.60	98.3756
810.29	97.5873
810.76	108.6776
815.85	85.7367
817.79	94.8996
818.51	102.0011
819.60	108.1155
826.30	122.6395
828.27	0.0000
831.60	151.3863
831.96	151.4118
834.83	131.2581
836.80	0.0000
846.75	101.2792
848.13	109.5313
856.28	0.0000
856.80	106.1891
860.37	118.3663
867.32	108.4043
867.82	112.4459
871.10	111.6888
873.19	134.5608
874.81	102.5457
875.33	0.0000
876.40	103.6548
879.36	110.0164
880.27	109.0221
880.51	113.1860
881.50	124.6611
883.24	95.6454
884.67	90.5046
889.25	120.9107
896.60	112.9280
898.02	108.8115
899.00	106.7638
903.28	120.0074
911.07	110.4679
911.07	110.4679
911.07	110.4679
919.63	102.4195
920.93	105.6445
925.00	103.7087
925.24	97.3682
926.50	102.7144
935.52	83.9664
937.48	125.5190
944.10	85.3281
946.00	103.5409
949.00	91.9125
962.29	82.3792
964.01	98.9225
966.15	99.0078
968.20	99.0887
969.11	99.1246
969.11	99.1246
969.11	99.1246
977.42	120.1118
980.50	102.8208
983.50	107.2782
989.30	81.4563
996.32	112.1734
1001.03	88.3762
1001.68	85.1240
1004.76	116.9137
1021.30	0.0000
1024.50	0.0000
1034.80	96.7072
1036.00	104.1259
1037.82	107.8832
1038.57	107.9117
1038.76	0.0000
1045.16	101.7061
1046.59	94.3633
1048.07	91.6362

1050.47	83.3789
1050.47	83.3789
1062.04	97.6941
1063.62	104.2663
1076.63	91.6716
1077.35	83.2745
1078.86	73.0203
1085.78	86.3436
1099.22	107.5059
1112.02	110.8396
1112.84	110.4668
1115.52	108.9451
1120.29	104.2411
1120.29	104.2411
1120.29	104.2411
1120.29	104.2411
1120.51	104.2500
1121.28	86.3542
1124.00	0.0000
1129.67	99.1377
1131.51	0.0000
1147.95	0.0000
1167.94	107.2061
1173.22	111.2705
1175.09	118.1180
1177.93	104.6602
1189.05	107.9694
1204.90	117.3389
1205.75	0.0000
1213.00	127.4556
1221.42	134.6866
1230.97	137.5701
1235.34	142.2070
1236.41	0.0000
1238.25	131.4685
1246.25	96.6232
1260.41	0.0000
1271.85	84.9205
1274.45	102.9874
1274.54	102.9874
1291.56	85.4427
1298.22	0.0000
1312.09	62.7165
1325.50	59.9243
1325.50	59.9243
1332.49	63.1050
1333.61	64.1433
1360.21	51.3123
1362.66	0.0000
1365.15	50.3598
1368.21	48.0035
1368.53	0.0000
1376.25	59.8031
1384.27	35.4339
1394.10	45.6042
1395.20	55.9863
1407.95	39.2443
1434.06	49.2701
1436.60	41.9613
1457.56	0.0000
1460.81	35.9092
1489.15	40.4461
1509.49	51.3711
1596.49	57.2471
1620.62	26.4385
1678.03	0.0000
1691.02	17.2944
1691.02	17.2944
1706.46	0.0000
1750.46	0.0000
1764.49	17.5988
1764.49	17.5988
1764.49	17.5988
1764.49	17.5988
1770.23	27.4121
1771.40	25.7062
1791.20	0.0000
1808.65	18.7661

1836.01

20.8704

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274004

Total Uranium Activity	4.7799E+00	ug/g
Total Uranium Counting Unc.	1.9991E+00	ug/g
Total Uranium Tpu	1.0199E-06	ug/g
Total Uranium Mda	7.7723E-01	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*   BATCH ID      : 935341                        SAMPLE ID   : G243274004
*   ANALYST       : MXR1                          DETECTOR    : GAM25
*   SAMPLE DATE   : 16-DEC-2009 12:00:00.00      COUNT TIME   : 0 04:00:00.00
*   ANALYSIS DATE : 30-DEC-2009 23:06:42.02      SAMPLE ALQT  : 132.020 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.442E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.056E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.328E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.630E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:35:41.24

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274005.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:08
Sample ID          : G243274005 Sample quantity : 1.52200E+02 GRAM
Detector name      : GAM13 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.60 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.48*	239	504	1.20	92.71	88	9	3.32E-02	19.1	
2	0	63.20*	285	583	1.31	126.16	122	8	3.96E-02	17.5	
3	2	74.76*	491	607	1.11	149.29	142	16	6.81E-02	9.7	2.30E+00
4	2	77.04*	726	570	1.12	153.85	142	16	1.01E-01	7.1	
5	0	87.18	294	558	1.23	174.13	171	7	4.08E-02	14.6	
6	0	92.71*	336	756	1.28	185.20	181	10	4.67E-02	18.1	
7	0	128.98	123	269	1.61	257.77	255	7	1.71E-02	23.8	
8	0	185.71*	249	393	1.14	371.24	366	11	3.46E-02	17.9	
9	0	208.91	92	253	1.52	417.66	414	8	1.27E-02	31.7	
10	0	238.43*	896	701	1.19	476.72	471	13	1.24E-01	7.0	
11	0	242.15	76	161	1.17	484.16	483	4	1.06E-02	27.6	
12	0	295.02*	328	208	1.26	589.92	586	10	4.56E-02	10.1	
13	0	299.88	79	208	1.15	599.65	596	9	1.10E-02	34.5	
14	0	338.17*	198	231	1.53	676.24	671	12	2.75E-02	17.5	
15	0	351.66*	520	220	1.29	703.24	696	13	7.22E-02	7.6	
16	0	462.81	68	168	1.44	925.61	921	13	9.44E-03	41.2	
17	0	510.42*	136	156	1.57	1020.85	1013	16	1.89E-02	25.6	
18	0	583.15*	285	180	1.75	1166.36	1158	15	3.96E-02	12.0	
19	0	609.00*	361	121	1.74	1218.07	1209	16	5.01E-02	8.9	
20	0	661.48	471	137	1.64	1323.07	1318	14	6.55E-02	7.0	
21	0	727.30	46	113	1.11	1454.76	1450	12	6.44E-03	47.8	
22	0	861.41	48	101	1.61	1723.07	1714	16	6.61E-03	50.0	
23	0	910.94*	214	79	1.76	1822.18	1815	14	2.98E-02	11.6	
24	0	968.96*	68	97	1.57	1938.27	1932	13	9.41E-03	34.1	
25	0	1119.72	69	79	2.83	2239.91	2234	13	9.65E-03	28.8	
26	0	1377.72	26	32	3.08	2756.15	2748	13	3.61E-03	49.3	
27	0	1406.99	32	12	1.63	2814.72	2808	12	4.44E-03	28.0	
28	0	1460.25*	771	53	2.13	2921.28	2911	19	1.07E-01	4.3	
29	0	1729.15	29	17	5.20	3459.37	3448	16	3.96E-03	36.8	
30	0	1763.83*	75	0	2.99	3528.76	3520	17	1.04E-02	12.6	
31	0	1847.00	21	3	1.60	3695.21	3689	12	2.94E-03	27.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 16:35:43

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274005.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:08
 Sample ID : G243274005 Sample quantity : 152.20 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA13 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.60 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	*	1.711E+01	1.804E+00	6.220E-01	3.803E-02	27.514
CD-109	+	88.03	*	2.747E+00	8.314E-01	9.906E-01	7.817E-02	2.773
SN-126	+	64.28		9.905E-01	3.797E-01	3.394E-01	5.285E-02	2.918
	+	86.94		1.123E+00	5.671E-01	4.339E-01	1.789E-01	2.587
	+	87.57	*	2.700E-01	8.172E-02	1.057E-01	8.363E-03	2.554
BA-137M	+	661.65	*	6.407E-01	1.041E-01	6.597E-02	5.381E-03	9.712
CS-137	+	661.65	*	6.773E-01	1.101E-01	6.974E-02	5.700E-03	9.712
TL-208		277.35		6.703E-01	3.640E-01	6.377E-01	7.469E-02	1.051
	+	510.84		6.119E-01	3.205E-01	2.214E-01	2.406E-02	2.764
	+	583.14	*	3.700E-01	9.425E-02	6.306E-02	5.220E-03	5.868
	+	860.37		5.869E-01	5.888E-01	4.961E-01	4.183E-02	1.183
BI-210	+	46.50	*	1.998E+00	7.813E-01	6.594E-01	5.375E-02	3.030
PB-210	+	46.50	*	1.998E+00	7.813E-01	6.594E-01	5.375E-02	3.030
PO-210	+	46.50	*	1.998E+00	7.773E-01	6.594E-01	4.701E-02	3.030
BI-211		72.87		3.181E+00	1.760E+00	3.047E+00	2.664E-01	1.044
	+	351.07	*	2.834E+00	4.752E-01	3.296E-01	2.403E-02	8.597
PB-212	+	74.81		1.537E+00	3.562E-01	3.222E-01	4.099E-02	4.769
	+	77.11		1.356E+00	2.240E-01	1.926E-01	1.636E-02	7.038
	+	87.30		1.249E+00	3.981E-01	4.832E-01	6.166E-02	2.584
	+	238.63	*	1.051E+00	1.759E-01	9.459E-02	8.593E-03	11.109
	+	300.09		1.444E+00	1.007E+00	1.259E+00	1.198E-01	1.147
PO-212	+	74.81		1.537E+00	3.562E-01	3.222E-01	4.099E-02	4.769
	+	77.11		1.356E+00	2.240E-01	1.926E-01	1.636E-02	7.038
	+	87.30		1.249E+00	3.981E-01	4.832E-01	6.166E-02	2.584
		115.19		1.613E+00	3.118E+00	5.197E+00	6.026E-01	0.310
	+	238.63	*	1.051E+00	1.759E-01	9.459E-02	8.593E-03	11.109
	+	300.09		1.444E+00	1.007E+00	1.259E+00	1.198E-01	1.147
BI-214	+	609.31	*	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
	+	1120.29		8.813E-01	5.144E-01	5.156E-01	4.613E-02	1.709
	+	1764.49		1.304E+00	3.374E-01	3.150E-01	1.789E-02	4.138
PB-214	+	74.81		2.648E+00	5.949E-01	5.552E-01	6.314E-02	4.769
	+	77.11		2.324E+00	4.228E-01	3.302E-01	3.768E-02	7.038
	+	87.30		2.139E+00	6.682E-01	8.278E-01	9.152E-02	2.584
	+	241.98		5.372E-01	3.013E-01	5.195E-01	5.029E-02	1.034

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.047E+00	2.357E-01	2.001E-01	1.960E-02	5.231
	+	351.92	*	9.857E-01	1.731E-01	1.149E-01	1.029E-02	8.576
	+	74.81		2.648E+00	5.949E-01	5.552E-01	6.314E-02	4.769
	+	77.11		2.324E+00	4.228E-01	3.302E-01	3.768E-02	7.038
	+	87.30		2.139E+00	6.682E-01	8.278E-01	9.152E-02	2.584
	+	241.98		5.372E-01	3.013E-01	5.195E-01	5.029E-02	1.034
PO-216	+	295.21		1.047E+00	2.357E-01	2.001E-01	1.960E-02	5.231
	+	351.92	*	9.857E-01	1.731E-01	1.149E-01	1.029E-02	8.576
	+	74.81		1.537E+00	3.562E-01	3.222E-01	4.099E-02	4.769
	+	77.11		1.356E+00	2.240E-01	1.926E-01	1.636E-02	7.038
	+	87.30		1.249E+00	3.981E-01	4.832E-01	6.166E-02	2.584
	+	238.63	*	1.051E+00	1.759E-01	9.459E-02	8.593E-03	11.109
PO-218	+	300.09		1.444E+00	1.007E+00	1.259E+00	1.198E-01	1.147
	+	74.81		2.648E+00	5.949E-01	5.552E-01	6.314E-02	4.769
	+	77.11		2.324E+00	4.228E-01	3.302E-01	3.768E-02	7.038
	+	87.30		2.139E+00	6.682E-01	8.278E-01	9.152E-02	2.584
	+	241.98		5.372E-01	3.013E-01	5.195E-01	5.029E-02	1.034
	+	295.21		1.047E+00	2.357E-01	2.001E-01	1.960E-02	5.231
RA-224	+	351.92	*	9.857E-01	1.731E-01	1.149E-01	1.029E-02	8.576
	+	240.98	*	1.019E+00	5.685E-01	9.933E-01	7.841E-02	1.026
RA-226	+	609.31	*	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
	+	1120.29		8.813E-01	5.144E-01	5.156E-01	4.613E-02	1.709
AC-228	+	1764.49		1.304E+00	3.374E-01	3.150E-01	1.789E-02	4.138
	+	338.32		1.187E+00	6.392E-01	3.459E-01	1.416E-01	3.432
	+	911.07	*	1.248E+00	3.177E-01	2.211E-01	2.296E-02	5.643
RA-228	+	969.11		6.931E-01	4.983E-01	3.532E-01	8.067E-02	1.962
	+	338.32		1.187E+00	6.392E-01	3.459E-01	1.416E-01	3.432
	+	911.07	*	1.248E+00	3.177E-01	2.211E-01	2.296E-02	5.643
TH-228	+	969.11		6.931E-01	4.983E-01	3.532E-01	8.067E-02	1.962
	+	74.81		1.560E+00	3.313E-01	3.271E-01	2.847E-02	4.769
	+	77.11		1.376E+00	2.274E-01	1.955E-01	1.661E-02	7.038
TH-230	+	87.30		1.268E+00	3.837E-01	4.906E-01	3.888E-02	2.584
	+	238.63	*	1.067E+00	1.786E-01	9.602E-02	8.723E-03	11.109
	+	300.09		1.466E+00	1.333E+00	1.278E+00	7.555E-01	1.147
	+	609.31	*	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
TH-232	+	1120.29		8.813E-01	5.144E-01	5.156E-01	4.613E-02	1.709
	+	1764.49		1.304E+00	3.374E-01	3.150E-01	1.789E-02	4.138
	+	338.32		1.187E+00	4.233E-01	3.459E-01	2.408E-02	3.432
TH-234	+	911.07	*	1.248E+00	3.177E-01	2.211E-01	2.296E-02	5.643
	+	969.11		6.931E-01	4.983E-01	3.532E-01	8.067E-02	1.962
	+	63.29	*	2.502E+00	9.892E-01	8.544E-01	1.568E-01	2.929
U-234	+	92.38		2.134E+00	8.636E-01	6.325E-01	1.138E-01	3.374
	+	609.31	*	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
	+	1120.29		8.813E-01	5.144E-01	5.156E-01	4.613E-02	1.709
NP-237	+	1764.49		1.304E+00	3.374E-01	3.150E-01	1.789E-02	4.138
	+	86.50	*	7.929E-01	2.904E-01	3.066E-01	6.782E-02	2.586
	+	95.87		-3.963E-01	7.739E-01	1.108E+00	2.741E-01	-0.358
U-238	+	63.29	*	2.502E+00	9.892E-01	8.544E-01	1.568E-01	2.929
	+	92.38		2.134E+00	7.941E-01	6.325E-01	5.339E-02	3.374

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	2.491E-01	5.284E-02	5.222E-02	4.511E-03	4.771
	+	86.72		2.973E+01	8.999E+00	1.150E+01	9.154E-01	2.585
		117.66		-3.382E+00	3.342E+00	5.193E+00	6.215E-01	-0.651
		142.18		-2.217E+01	1.713E+01	2.551E+01	2.703E+00	-0.869
ANH-511	+	511.00	*	1.322E-01	6.836E-02	4.784E-02	3.338E-03	2.763

---- 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	*	-1.477E-01	3.350E-01	5.448E-01	4.096E-02	-0.271
NA-22		1274.54	*	-1.901E-02	5.071E-02	8.169E-02	4.611E-03	-0.233
NA-24		1368.53	*	5.556E-02	5.071E-02	Half-Life too short		
AL-26		1129.67		-2.005E-01	1.841E+00	2.951E+00	1.749E-01	-0.068
		1808.65	*	-9.749E-03	3.279E-02	5.171E-02	2.918E-03	-0.189
TI-44		67.85		8.603E-03	2.172E-02	3.709E-02	3.358E-03	0.232
	+	78.38	*	2.501E-01	4.133E-02	4.694E-02	3.953E-03	5.329
SC-46		889.25	*	-8.565E-04	4.172E-02	6.895E-02	5.221E-03	-0.012
	+	1120.51		1.509E-01	8.749E-02	1.234E-01	7.420E-03	1.222
V-48		944.10		-1.077E+00	9.899E-01	1.470E+00	1.073E-01	-0.733
		983.50	*	-1.144E-02	7.584E-02	1.227E-01	8.681E-03	-0.093
		1312.09		-2.285E-02	8.986E-02	1.454E-01	8.244E-03	-0.157
CR-51		320.08	*	-2.083E-01	3.576E-01	5.647E-01	4.395E-02	-0.369
MN-52		744.21		-1.767E-01	2.752E-01	4.189E-01	3.400E-02	-0.422
		848.13		9.784E-02	7.178E+00	1.195E+01	9.304E-01	0.008
		935.52		-2.989E-01	3.125E-01	4.640E-01	3.408E-02	-0.644
		1246.25		-3.400E-01	7.451E+00	1.237E+01	6.922E-01	-0.027
		1333.61		4.411E+00	5.356E+00	9.582E+00	5.451E-01	0.460
		1434.06	*	5.184E-02	2.472E-01	4.167E-01	2.395E-02	0.124
MN-54		834.83	*	-3.516E-03	4.354E-02	7.210E-02	5.658E-03	-0.049
CO-56		846.75	*	-1.411E-02	4.328E-02	7.014E-02	5.467E-03	-0.201
		977.42		1.304E+00	3.200E+00	5.213E+00	3.707E-01	0.250
		1037.82		-3.309E-02	3.362E-01	5.437E-01	3.960E-02	-0.061
		1175.09		1.703E-01	2.482E+00	4.025E+00	2.213E-01	0.042
		1238.25		1.097E-01	9.671E-02	1.731E-01	1.033E-02	0.634
		1360.21		2.103E-02	1.079E+00	1.787E+00	1.020E-01	0.012
		1771.40		-1.550E-01	3.041E-01	3.779E-01	2.144E-02	-0.410
CO-57		122.06	*	-1.856E-03	2.205E-02	3.583E-02	4.532E-03	-0.052
		136.48		-1.805E-01	1.949E-01	3.012E-01	3.526E-02	-0.599
CO-58		810.76	*	2.644E-03	4.210E-02	7.062E-02	5.625E-03	0.037
FE-59		142.65		-1.315E+00	2.589E+00	4.022E+00	4.242E-01	-0.327
		192.34		-3.872E-01	8.320E-01	1.383E+00	1.795E-01	-0.280
		1099.22	*	1.728E-02	1.046E-01	1.721E-01	1.229E-02	0.100
		1291.56		1.718E-02	1.215E-01	2.046E-01	1.494E-02	0.084
CO-60		1173.22		2.593E-02	4.789E-02	8.087E-02	4.445E-03	0.321
		1332.49	*	3.680E-02	4.285E-02	7.675E-02	4.365E-03	0.479
ZN-65		1115.52	*	2.349E-02	1.126E-01	1.600E-01	9.716E-03	0.147
GE-68		1077.35	*	9.777E-01	1.441E+00	2.471E+00	1.579E-01	0.396
AS-73		53.44	*	2.966E-02	2.003E-01	3.335E-01	2.817E-02	0.089

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-74		595.88	*	-8.133E-02	9.868E-02	1.521E-01	1.168E-02	-0.535
		634.78		2.017E-01	3.755E-01	6.365E-01	5.072E-02	0.317
SE-75		66.05		-6.434E-01	2.353E+00	3.505E+00	3.818E-01	-0.184
		96.73		-8.368E-01	6.775E-01	9.085E-01	1.261E-01	-0.921
		121.11		4.158E-02	1.191E-01	1.969E-01	2.837E-02	0.211
		136.00		-9.520E-03	3.611E-02	5.778E-02	6.527E-03	-0.165
		198.60		-2.404E+00	1.668E+00	2.555E+00	2.283E-01	-0.941
		264.65	*	2.176E-02	4.110E-02	6.984E-02	5.471E-03	0.312
		279.53		7.682E-03	9.994E-02	1.657E-01	1.333E-02	0.046
		303.91		6.929E-01	2.282E+00	3.354E+00	3.563E-01	0.207
		400.65		-2.684E-02	2.764E-01	4.408E-01	4.051E-02	-0.061
BR-77	+	87.88		5.919E+02	1.792E+02	2.504E+02	1.977E+01	2.364
		200.40		-5.706E+01	1.422E+02	2.365E+02	1.874E+01	-0.241
	+	239.00		1.683E+02	2.714E+01	3.236E+01	2.556E+00	5.202
		249.79		-2.655E+01	6.141E+01	1.002E+02	7.877E+00	-0.265
		281.68		-1.685E+02	8.330E+01	1.208E+02	9.262E+00	-1.395
		297.23		1.368E+02	8.097E+01	9.821E+01	7.387E+00	1.393
		303.76		-1.357E+01	1.988E+02	2.847E+02	2.121E+01	-0.048
		439.47		-2.246E+01	1.477E+02	2.464E+02	1.557E+01	-0.091
		484.57		-1.123E+02	2.406E+02	3.901E+02	2.630E+01	-0.288
		520.65	*	-4.422E+00	1.110E+01	1.795E+01	1.268E+00	-0.246
		574.64		-1.599E+02	2.535E+02	3.742E+02	2.811E+01	-0.427
		578.91		2.927E+01	1.074E+02	1.568E+02	1.184E+01	0.187
		585.48		9.264E+02	2.450E+02	4.290E+02	3.260E+01	2.159
		755.35		-6.502E+01	1.905E+02	2.904E+02	2.351E+01	-0.224
		817.79		-6.685E+01	1.504E+02	2.425E+02	1.919E+01	-0.276
SR-82		698.33		2.578E-01	3.647E+01	5.900E+01	4.817E+00	0.004
		776.49	*	-5.966E-02	4.290E-01	7.120E-01	5.731E-02	-0.084
		1395.20		-4.387E-01	1.279E+01	2.101E+01	1.204E+00	-0.021
RB-83		520.41	*	-5.492E-02	7.438E-02	1.174E-01	8.291E-03	-0.468
		529.64		-6.503E-03	1.113E-01	1.838E-01	1.312E-02	-0.035
		552.65		-1.812E-01	2.181E-01	3.396E-01	2.491E-02	-0.533
RB-84		881.50	*	-3.818E-02	7.462E-02	1.182E-01	9.002E-03	-0.323
KR-85		513.99	*	1.182E+01	8.199E+00	1.319E+01	9.240E-01	0.896
SR-85		513.99	*	6.060E-02	4.203E-02	6.762E-02	4.737E-03	0.896
RB-86		1076.63	*	1.025E+00	9.023E-01	1.600E+00	1.024E-01	0.640
Y-88		898.02		5.548E-03	4.451E-02	7.438E-02	5.630E-03	0.075
		1836.01	*	-2.715E-02	3.737E-02	5.269E-02	2.967E-03	-0.515
ZR-88		392.90	*	-1.015E-02	2.967E-02	4.656E-02	2.727E-03	-0.218
Y-91		1204.90	*	-1.174E+01	1.760E+01	2.765E+01	1.532E+00	-0.425
NB-94		702.63	*	-8.511E-03	4.092E-02	6.160E-02	5.028E-03	-0.138
		871.10		5.072E-03	3.864E-02	6.474E-02	4.968E-03	0.078
NB-95		765.79	*	5.289E-02	4.877E-02	8.686E-02	7.014E-03	0.609
NB-95M		235.69	*	1.861E-01	1.231E-01	1.953E-01	1.807E-02	0.953
ZR-95		724.18		8.694E-02	1.222E-01	1.817E-01	1.622E-02	0.479
		756.15	*	-1.396E-02	8.419E-02	1.305E-01	1.178E-02	-0.107
NB-97		657.90	*	1.359E-01	8.419E-02	Half-Life	too short	
		1024.50		-3.763E+00	8.419E-02	Half-Life	too short	
ZR-97		254.15		3.051E+00	8.419E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		355.39		-5.364E-01	8.419E-02	Half-Life	too short	
		507.63	*	4.020E+00	8.419E-02	Half-Life	too short	
		602.52		-1.561E-01	8.419E-02	Half-Life	too short	
		1021.30		-1.100E+00	8.419E-02	Half-Life	too short	
		1147.95		-7.574E-01	8.419E-02	Half-Life	too short	
		1362.66		-6.227E+00	8.419E-02	Half-Life	too short	
		1750.46		2.103E+00	8.419E-02	Half-Life	too short	
MO-99		140.51		2.479E+00	2.332E+01	3.782E+01	1.075E+01	0.066
		181.06		-4.379E+00	1.765E+01	2.444E+01	4.388E+00	-0.179
		366.43		2.748E+01	8.770E+01	1.443E+02	9.283E+00	0.190
		739.58	*	7.899E-01	1.323E+01	2.137E+01	3.186E+00	0.037
		778.00		-4.400E+00	3.861E+01	6.419E+01	5.165E+00	-0.069
TC-99M		140.51	*	3.521E+09	3.861E+01	Half-Life	too short	
RH-101		127.23		2.687E-02	3.031E-02	4.593E-02	5.578E-03	0.585
		198.01	*	-2.171E-02	2.942E-02	4.666E-02	3.694E-03	-0.465
		325.23		1.280E-01	2.288E-01	3.836E-01	2.750E-02	0.334
RH-102		418.52		-3.036E-01	3.064E-01	4.566E-01	2.791E-02	-0.665
		475.06	*	-8.256E-03	3.029E-02	4.982E-02	3.315E-03	-0.166
		631.29		-4.329E-03	6.206E-02	1.008E-01	8.006E-03	-0.043
		697.49		1.074E-02	8.219E-02	1.342E-01	1.096E-02	0.080
		766.84		7.382E-02	1.254E-01	2.176E-01	1.757E-02	0.339
		1046.59		6.822E-02	1.220E-01	2.086E-01	1.385E-02	0.327
		1112.84		4.234E-02	2.622E-01	3.715E-01	2.260E-02	0.114
RU-103		497.08	*	-2.665E-02	4.403E-02	7.041E-02	9.268E-03	-0.378
	+	610.33		9.550E+00	2.298E+00	2.585E+00	4.207E-01	3.694
RH-106	+	511.85		6.601E-01	3.414E-01	4.179E-01	2.920E-02	1.579
		621.84	*	-2.341E-01	3.436E-01	5.307E-01	6.841E-02	-0.441
		1050.47		1.328E-01	2.339E+00	3.833E+00	2.532E-01	0.035
RU-106	+	511.85		6.601E-01	3.414E-01	4.179E-01	2.920E-02	1.579
		621.84	*	-2.341E-01	3.427E-01	5.307E-01	4.179E-02	-0.441
		1050.47		1.328E-01	2.339E+00	3.833E+00	2.532E-01	0.035
AG-108M		433.93	*	1.325E-02	3.460E-02	5.947E-02	4.001E-03	0.223
		614.37		8.542E-03	4.451E-02	6.425E-02	5.263E-03	0.133
		722.95		6.155E-02	5.017E-02	7.862E-02	6.686E-03	0.783
AG-110M		657.75	*	2.780E-02	5.032E-02	7.413E-02	6.228E-03	0.375
		677.61		1.270E-01	3.329E-01	5.552E-01	4.675E-02	0.229
		706.67		2.324E-01	2.322E-01	4.009E-01	3.372E-02	0.580
		763.93		-6.629E-02	1.906E-01	3.127E-01	2.608E-02	-0.212
		884.67		1.752E-02	5.231E-02	8.903E-02	7.044E-03	0.197
		937.48		5.447E-02	1.263E-01	2.150E-01	1.655E-02	0.253
		1384.27		-1.194E-01	2.007E-01	2.525E-01	1.536E-02	-0.473
IN-111		171.28		-7.531E-01	9.620E-01	1.473E+00	1.157E-01	-0.511
		245.39	*	-1.895E-01	1.033E+00	1.497E+00	1.179E-01	-0.127
IN-113M		391.69	*	-3.691E-02	4.422E-02	6.704E-02	4.177E-03	-0.551
SN-113		391.69	*	-3.691E-02	4.422E-02	6.704E-02	4.177E-03	-0.551
IN-114M		190.27	*	3.450E-02	1.870E-01	2.654E-01	2.098E-02	0.130
CD-115		260.90		-5.258E+01	1.209E+02	1.964E+02	1.534E+01	-0.268
		492.35		1.564E+01	3.973E+01	6.774E+01	4.615E+00	0.231
		527.90	*	-7.971E+00	1.161E+01	1.835E+01	1.308E+00	-0.434

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M		156.02		6.934E-01	2.166E+00	3.518E+00	3.178E-01	0.197
		158.56	*	-5.840E-02	5.273E-02	7.989E-02	6.977E-03	-0.731
SB-122		563.90	*	5.382E-02	2.280E+00	3.764E+00	2.795E-01	0.014
		692.80		-6.471E+00	4.813E+01	7.709E+01	6.295E+00	-0.084
I-123		159.00	*	-2.487E+00	4.813E+01	Half-Life	too short	
		528.96		-8.888E+01	4.813E+01	Half-Life	too short	
TE-123M		159.00	*	-1.243E-02	2.704E-02	4.239E-02	3.701E-03	-0.293
I-124		602.71	*	2.579E-02	8.033E-01	1.143E+00	8.836E-02	0.023
		722.78		4.794E+00	5.331E+00	8.108E+00	6.605E-01	0.591
		1325.50		-1.450E+01	4.003E+01	6.400E+01	3.636E+00	-0.227
	+	1376.25		4.472E+01	4.414E+01	6.311E+01	3.608E+00	0.709
		1509.49		3.194E-01	1.622E+01	2.663E+01	1.535E+00	0.012
		1691.02		-2.305E+00	3.708E+00	5.248E+00	3.005E-01	-0.439
SB-124		602.71		1.501E-03	4.676E-02	6.651E-02	5.144E-03	0.023
		645.85		8.842E-02	5.712E-01	9.404E-01	8.086E-02	0.094
		709.31		8.654E-01	3.060E+00	5.045E+00	4.116E-01	0.172
		713.82		-2.494E-01	1.836E+00	2.931E+00	3.433E-01	-0.085
		722.78		4.045E-01	4.498E-01	6.840E-01	5.708E-02	0.591
	+	968.20		7.135E+00	4.891E+00	6.512E+00	4.667E-01	1.096
		1045.16		1.110E+00	2.698E+00	4.556E+00	3.029E-01	0.244
		1325.50		-1.307E+00	3.607E+00	5.767E+00	3.277E-01	-0.227
		1368.21		1.127E+00	2.018E+00	3.276E+00	3.875E-01	0.344
		1436.60		8.749E-01	3.959E+00	6.682E+00	3.841E-01	0.131
		1691.02	*	-4.586E-02	7.380E-02	1.044E-01	6.505E-03	-0.439
SB-125		427.89	*	-3.423E-02	9.316E-02	1.538E-01	9.900E-03	-0.223
	+	463.38		5.915E-01	4.897E-01	5.587E-01	4.141E-02	1.059
		600.56		1.292E-01	2.003E-01	3.145E-01	2.648E-02	0.411
		635.90		-7.274E-02	2.907E-01	4.650E-01	4.057E-02	-0.156
TE-125M		109.28	*	-3.488E+00	8.033E+00	1.296E+01	1.574E+00	-0.269
I-126		388.63		6.773E-02	2.120E-01	3.475E-01	2.058E-02	0.195
		666.33	*	3.413E-02	2.406E-01	3.343E-01	2.728E-02	0.102
		753.82		-6.887E-01	1.675E+00	2.598E+00	2.104E-01	-0.265
SB-126		223.80		-3.826E-01	3.561E+00	5.952E+00	4.719E-01	-0.064
		278.60		1.738E+00	2.300E+00	3.932E+00	3.025E-01	0.442
	+	296.50		1.041E+01	2.253E+00	3.106E+00	2.338E-01	3.354
		414.70		4.337E-02	7.604E-02	1.261E-01	7.659E-03	0.344
		415.30		2.189E+00	6.558E+00	1.049E+01	6.378E-01	0.209
		555.20		1.182E+00	4.238E+00	7.124E+00	5.240E-01	0.166
		573.80		-8.627E-01	1.209E+00	1.836E+00	1.378E-01	-0.470
		593.00		2.259E-01	9.823E-01	1.638E+00	1.254E-01	0.138
		656.30		-8.335E-01	4.608E+00	6.356E+00	5.161E-01	-0.131
		666.33		1.426E-02	1.006E-01	1.397E-01	1.140E-02	0.102
		675.00		-1.045E+00	2.238E+00	3.500E+00	2.857E-01	-0.299
		695.00		-4.241E-03	8.430E-02	1.358E-01	1.109E-02	-0.031
		697.00		-1.009E-01	2.925E-01	4.605E-01	3.759E-02	-0.219
		720.50	*	-1.095E-01	1.869E-01	2.566E-01	2.092E-02	-0.427
		856.80		3.351E-01	5.728E-01	8.723E-01	6.757E-02	0.384
		989.30		3.122E-01	1.306E+00	2.187E+00	1.539E-01	0.143
		1034.80		5.327E+00	9.691E+00	1.656E+01	1.114E+00	0.322

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1213.00			1.344E+00	4.800E+00	8.190E+00	4.549E-01	0.164
	61.10			1.381E+01	2.292E+01	3.581E+01	4.243E+00	0.386
	252.40			4.510E+00	4.582E+00	7.281E+00	3.049E+00	0.619
	290.80			1.375E+00	2.257E+01	3.276E+01	3.400E+00	0.042
	411.60			-3.698E+00	1.300E+01	2.043E+01	2.956E+00	-0.181
	444.90			-4.500E+00	9.991E+00	1.634E+01	1.814E+00	-0.275
	473.00			4.618E-02	1.767E+00	2.961E+00	3.442E-01	0.016
	543.00			3.316E+00	1.809E+01	3.026E+01	4.121E+00	0.110
	603.60			1.820E+00	1.350E+01	1.940E+01	2.312E+00	0.094
	685.20	*		7.514E-01	1.536E+00	2.574E+00	2.842E-01	0.292
	698.50			-3.287E+00	1.635E+01	2.602E+01	4.052E+00	-0.126
	722.20			7.909E+00	3.750E+01	5.329E+01	5.754E+00	0.148
	783.80			4.691E+00	4.077E+00	7.274E+00	8.737E-01	0.645
	57.60			-7.743E-01	1.864E+00	3.130E+00	2.892E-01	-0.247
XE-127	145.22			2.238E-01	6.258E-01	1.023E+00	1.050E-01	0.219
	172.10			-7.935E-02	1.130E-01	1.736E-01	1.364E-02	-0.457
	202.84	*		3.225E-02	4.223E-02	7.336E-02	5.814E-03	0.440
	374.96			-1.097E-01	2.080E-01	3.247E-01	2.028E-02	-0.338
I-131	80.18			2.107E+00	3.173E+00	4.855E+00	4.067E-01	0.434
	284.30			-2.239E-01	1.351E+00	2.209E+00	1.800E-01	-0.101
	364.48	*		7.787E-04	1.182E-01	1.912E-01	1.354E-02	0.004
	636.97			-7.322E-01	1.637E+00	2.575E+00	2.189E-01	-0.284
TE-132	722.89			1.032E+01	8.437E+00	1.322E+01	1.085E+00	0.781
	49.72			6.217E-01	3.647E+00	5.582E+00	5.676E-01	0.111
	111.76			1.729E+00	2.732E+01	4.338E+01	5.598E+00	0.040
	116.30			-1.459E+01	2.405E+01	3.825E+01	5.157E+00	-0.381
BA-133	228.16	*		-1.324E-01	6.391E-01	1.062E+00	1.629E-01	-0.125
	53.15			3.259E-01	8.557E-01	1.436E+00	1.205E-01	0.227
	79.62			9.723E-01	8.679E-01	1.353E+00	2.040E-01	0.719
	81.00			-1.230E-01	7.616E-02	1.024E-01	1.607E-02	-1.201
	276.40			6.102E-01	3.617E-01	6.270E-01	8.730E-02	0.973
	302.84			2.621E-02	1.612E-01	2.345E-01	2.947E-02	0.112
I-133	356.01	*		2.204E-03	5.238E-02	7.561E-02	9.077E-03	0.029
	383.85			-8.793E-02	3.165E-01	5.008E-01	5.509E-02	-0.176
	510.53	+		1.335E+00	3.165E-01	Half-Life	too short	
	529.87	*		-1.151E-03	3.165E-01	Half-Life	too short	
	706.58			4.473E-01	3.165E-01	Half-Life	too short	
	856.28			2.569E-01	3.165E-01	Half-Life	too short	
	875.33			8.948E-02	3.165E-01	Half-Life	too short	
	1236.41			1.050E+00	3.165E-01	Half-Life	too short	
	1298.22			-9.403E-02	3.165E-01	Half-Life	too short	
	475.35			-2.187E-01	1.979E+00	3.287E+00	2.188E-01	-0.067
CS-134	563.23			3.554E-01	3.936E-01	6.841E-01	5.142E-02	0.519
	569.32			1.493E-01	2.243E-01	3.750E-01	2.852E-02	0.398
	604.70			-4.786E-03	4.036E-02	5.654E-02	4.394E-03	-0.085
	795.84	*		4.873E-02	5.162E-02	9.150E-02	7.375E-03	0.533
	801.93			-9.189E-02	4.554E-01	7.221E-01	5.795E-02	-0.127
	1038.57			-6.403E-01	4.268E+00	6.872E+00	4.602E-01	-0.093
	1167.94			-2.044E+00	2.588E+00	3.851E+00	2.137E-01	-0.531

---- 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	1365.15			-4.618E-01	1.368E+00	2.175E+00	1.368E-01	-0.212
	268.24	*		-3.627E-02	1.531E-01	2.509E-01	2.318E-02	-0.145
	288.45			5.850E+09	1.531E-01	Half-Life	too short	
	417.63			-2.921E+10	1.531E-01	Half-Life	too short	
	546.56			3.555E+09	1.531E-01	Half-Life	too short	
	836.80			-4.061E+09	1.531E-01	Half-Life	too short	
	1038.76			2.061E+09	1.531E-01	Half-Life	too short	
	1124.00			-5.903E+09	1.531E-01	Half-Life	too short	
	1131.51			-1.168E+09	1.531E-01	Half-Life	too short	
	1260.41	*		-1.050E+09	1.531E-01	Half-Life	too short	
	1457.56			6.238E+11	1.531E-01	Half-Life	too short	
	1678.03			4.084E+09	1.531E-01	Half-Life	too short	
	1706.46			-4.343E+09	1.531E-01	Half-Life	too short	
	1791.20			-2.138E+09	1.531E-01	Half-Life	too short	
CS-136	66.91			-5.320E-02	3.954E-01	5.921E-01	9.306E-02	-0.090
	86.29	+		3.522E+00	1.118E+00	1.498E+00	1.863E-01	2.350
	153.22			3.310E-01	6.266E-01	1.027E+00	1.058E-01	0.322
	163.89			-2.383E-01	1.046E+00	1.607E+00	1.476E-01	-0.148
	176.55			9.080E-02	3.533E-01	5.678E-01	4.775E-02	0.160
	273.65			-9.741E-01	4.591E-01	6.734E-01	5.629E-02	-1.447
	340.57			2.290E-01	1.380E-01	2.184E-01	1.580E-02	1.048
	818.51			-1.839E-04	8.226E-02	1.372E-01	1.087E-02	-0.001
	1048.07	*		8.115E-02	1.125E-01	1.952E-01	1.385E-02	0.416
	1235.34			7.863E-01	6.330E-01	1.136E+00	1.120E-01	0.692
CE-139 BA-140	165.85	*		-4.903E-02	2.888E-02	4.210E-02	3.301E-03	-1.165
	162.64			6.636E-02	7.328E-01	1.143E+00	1.001E-01	0.058
	304.84			1.410E+00	1.400E+00	2.082E+00	5.764E-01	0.677
	423.70			1.522E+00	2.118E+00	3.443E+00	1.097E+00	0.442
LA-140	537.32	*		-3.780E-02	2.772E-01	4.543E-01	1.490E-01	-0.083
	328.77			1.984E-01	3.040E-01	5.112E-01	3.933E-02	0.388
	432.53			8.556E-01	2.147E+00	3.695E+00	2.519E-01	0.232
	487.03			2.724E-02	1.442E-01	2.433E-01	1.808E-02	0.112
	751.79			-5.987E-01	1.859E+00	2.903E+00	2.635E-01	-0.206
	815.85			-2.354E-01	3.564E-01	5.633E-01	5.066E-02	-0.418
	867.82			1.860E+00	1.677E+00	2.692E+00	2.207E-01	0.691
	919.63			1.304E+00	2.752E+00	4.645E+00	4.508E-01	0.281
	925.24			-1.342E+00	1.168E+00	1.711E+00	1.373E-01	-0.784
	1596.49	*		-5.945E-02	9.415E-02	1.394E-01	8.036E-03	-0.426
CE-141 CE-143	145.44	*		2.213E-02	5.608E-02	9.183E-02	9.525E-03	0.241
	57.37			-1.074E-04	5.608E-02	Half-Life	too short	
	231.56			1.215E-04	5.608E-02	Half-Life	too short	
	293.26	*		6.040E-04	5.608E-02	Half-Life	too short	
+ CE-144	350.59			2.236E-02	5.608E-02	Half-Life	too short	
	490.36			3.580E-04	5.608E-02	Half-Life	too short	
	664.57			5.500E-03	5.608E-02	Half-Life	too short	
	721.93			6.300E-05	5.608E-02	Half-Life	too short	
	80.11			1.174E+00	1.435E+00	2.234E+00	1.859E-01	0.526
	133.54	*		2.218E-01	1.963E-01	3.132E-01	5.429E-02	0.708
PM-144	476.78			3.849E-03	7.028E-02	1.179E-01	9.058E-03	0.033

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		5.897E-03	3.284E-02	5.440E-02	4.411E-03	0.108
		696.49	*	-8.210E-03	3.731E-02	5.932E-02	4.845E-03	-0.138
		778.57		-3.381E-01	2.591E+00	4.302E+00	3.461E-01	-0.079
PR-144		696.49	*	-5.563E-01	2.528E+00	4.020E+00	3.282E-01	-0.138
		1489.15		1.013E+00	1.273E+01	2.107E+01	1.214E+00	0.048
PM-146		453.90	*	1.187E-02	4.790E-02	8.145E-02	7.393E-03	0.146
		633.02		6.773E-01	1.536E+00	2.551E+00	9.496E-01	0.265
		735.90		-1.571E-02	1.673E-01	2.670E-01	7.600E-02	-0.059
		747.13		-1.971E-02	1.017E-01	1.608E-01	2.208E-02	-0.123
ND-147		91.11		-3.087E-01	3.240E-01	4.411E-01	3.978E-02	-0.700
		319.41		2.063E-01	3.141E+00	5.153E+00	3.738E-01	0.040
		439.89		1.183E+00	6.156E+00	1.047E+01	6.620E-01	0.113
		531.02	*	-1.265E-02	5.913E-01	9.783E-01	1.385E-01	-0.013
PM-149		285.90	*	4.226E+01	8.421E+01	1.421E+02	2.134E+01	0.297
EU-152		121.78		-2.952E-02	6.494E-02	1.037E-01	1.403E-02	-0.285
		244.69		-4.127E-02	3.164E-01	4.604E-01	3.629E-02	-0.090
		344.27	*	-4.124E-02	1.260E-01	1.445E-01	1.083E-02	-0.285
		443.98		2.474E-01	9.669E-01	1.650E+00	1.049E-01	0.150
		778.89		-6.887E-02	3.071E-01	5.066E-01	4.074E-02	-0.136
		867.32		5.603E-01	1.040E+00	1.576E+00	1.212E-01	0.356
		964.01		4.605E-01	4.031E-01	6.162E-01	4.431E-02	0.747
		1085.78		-1.246E-01	4.452E-01	7.051E-01	4.457E-02	-0.177
		1112.02		1.009E-01	3.571E-01	5.344E-01	3.255E-02	0.189
	+	1407.95		3.564E-01	2.003E-01	3.548E-01	2.035E-02	1.004
GD-153		69.67		-1.510E-02	9.325E-01	1.413E+00	1.263E-01	-0.011
		83.37		-3.948E+00	1.140E+01	1.686E+01	1.373E+00	-0.234
		97.43	*	-1.270E-02	6.779E-02	9.759E-02	8.880E-03	-0.130
		103.18		-8.065E-02	8.624E-02	1.364E-01	1.347E-02	-0.591
EU-154		123.07		-9.994E-03	4.522E-02	7.297E-02	1.064E-02	-0.137
		247.94		-2.165E-01	3.294E-01	5.303E-01	5.793E-02	-0.408
		591.81		1.618E-01	6.490E-01	1.084E+00	1.189E-01	0.149
		723.30		2.488E-01	2.093E-01	3.268E-01	2.975E-02	0.761
		756.87		-1.212E-01	9.136E-01	1.420E+00	1.648E-01	-0.085
		873.19		-3.116E-01	3.444E-01	5.269E-01	6.107E-02	-0.591
		996.32		-5.046E-01	4.182E-01	5.970E-01	1.017E-01	-0.845
		1004.76		-2.655E-01	2.544E-01	3.781E-01	3.952E-02	-0.702
		1274.45	*	-4.985E-02	1.420E-01	2.291E-01	2.116E-02	-0.218
EU-155		48.70		8.828E-03	3.943E-01	5.988E-01	4.519E-02	0.015
		60.01		6.699E-01	1.878E+00	2.915E+00	2.790E-01	0.230
	+	86.54		3.252E-01	9.851E-02	1.400E-01	1.129E-02	2.322
		105.31	*	7.001E-02	9.109E-02	1.538E-01	1.578E-02	0.455
TB-160	+	86.79		8.686E-01	2.629E-01	3.750E-01	2.982E-02	2.316
		197.04		6.673E-02	4.941E-01	8.140E-01	6.445E-02	0.082
		215.65		1.890E-01	6.684E-01	1.138E+00	9.028E-02	0.166
	+	298.57		2.101E-01	1.460E-01	1.966E-01	1.476E-02	1.069
		879.36	*	3.971E-02	1.531E-01	2.589E-01	1.975E-02	0.153
		962.29		7.278E-01	7.045E-01	1.070E+00	7.707E-02	0.680
		966.15		8.033E-01	3.051E-01	5.171E-01	3.712E-02	1.553
		1177.93		-1.208E-01	4.155E-01	6.532E-01	3.595E-02	-0.185

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HO-166M		1271.85		3.428E-01	8.033E-01	1.382E+00	7.778E-02	0.248
		80.57		-1.093E-02	1.924E-01	2.863E-01	2.375E-02	-0.038
	+	184.41		1.541E-01	5.650E-02	6.934E-02	5.471E-03	2.222
		280.46		-1.205E-01	8.008E-02	1.211E-01	9.299E-03	-0.995
		410.95		-1.197E-01	2.647E-01	4.118E-01	2.486E-02	-0.291
		711.68	*	-1.014E-01	7.138E-02	1.018E-01	8.304E-03	-0.996
		752.31		-1.079E-01	3.007E-01	4.681E-01	3.793E-02	-0.231
TM-171		810.29		-2.288E-02	6.386E-02	1.037E-01	8.235E-03	-0.221
		51.35		-2.040E+00	6.169E+00	1.017E+01	8.191E-01	-0.200
		52.39		-1.076E+00	3.542E+00	5.811E+00	4.793E-01	-0.185
		59.40		9.319E+00	9.727E+00	1.543E+01	1.480E+00	0.604
		66.72	*	-4.397E-01	1.433E+01	2.156E+01	1.968E+00	-0.020
LU-176	+	88.36		6.404E-01	1.938E-01	2.662E-01	2.112E-02	2.405
		201.83		9.477E-03	2.557E-02	4.386E-02	3.475E-03	0.216
		306.84	*	-2.454E-02	2.413E-02	3.726E-02	2.762E-03	-0.659
LU-177		401.10		2.128E+00	7.157E+00	1.168E+01	6.939E-01	0.182
		112.95		4.772E-01	1.507E+00	2.413E+00	2.718E-01	0.198
LU-177M	+	208.36	*	1.911E+00	1.223E+00	1.730E+00	1.372E-01	1.105
		52.97		-2.384E-02	3.852E-01	6.375E-01	5.328E-02	-0.037
		54.07		-5.923E-03	2.136E-01	3.532E-01	3.026E-02	-0.017
		61.30		7.319E-01	6.211E-01	9.868E-01	9.358E-02	0.742
		121.62		-1.384E-01	3.332E-01	5.333E-01	6.706E-02	-0.260
		147.16		-4.571E-01	5.812E-01	8.998E-01	9.043E-02	-0.508
		171.86		-2.577E-01	4.539E-01	7.026E-01	5.517E-02	-0.367
		218.09		-3.475E-02	7.548E-01	1.267E+00	1.005E-01	-0.027
		268.79		4.581E-01	7.790E-01	1.323E+00	1.027E-01	0.346
		319.02		1.136E-01	2.420E-01	4.058E-01	2.945E-02	0.280
		367.43		6.216E-02	9.491E-01	1.540E+00	9.868E-02	0.040
		413.65	*	5.212E-02	1.800E-01	2.932E-01	1.778E-02	0.178
		56.28		-6.007E-03	2.632E-01	4.482E-01	4.029E-02	-0.013
		57.53		-3.091E-02	1.547E-01	2.617E-01	2.416E-02	-0.118
		65.20		-2.403E-01	4.474E-01	6.588E-01	6.077E-02	-0.365
HF-181		133.02		6.457E-02	6.525E-02	9.893E-02	1.144E-02	0.653
		136.25		-1.688E-01	4.193E-01	6.665E-01	7.482E-02	-0.253
		345.85		2.883E-02	1.980E-01	2.848E-01	1.946E-02	0.101
		482.03	*	3.024E-03	4.479E-02	7.512E-02	5.047E-03	0.040
		56.28		-2.341E-03	1.030E-01	1.755E-01	1.577E-02	-0.013
		57.53		-1.221E-02	6.062E-02	1.025E-01	9.461E-03	-0.119
		65.20	*	-9.339E-02	1.739E-01	2.561E-01	2.362E-02	-0.365
W-181		67.75		1.819E-02	5.160E-02	8.801E-02	7.974E-03	0.207
		100.10		-1.677E-02	1.414E-01	2.277E-01	2.153E-02	-0.074
TA-182		152.43		2.401E-01	3.116E-01	5.155E-01	4.873E-02	0.466
		222.10		-1.570E-01	3.037E-01	4.983E-01	3.951E-02	-0.315
		1001.68		2.454E+00	2.417E+00	4.188E+00	2.914E-01	0.586
		1121.28		4.658E-01	2.020E-01	3.402E-01	2.043E-02	1.369
		1189.05		-1.009E-01	3.197E-01	5.216E-01	2.879E-02	-0.193
		1221.42	*	-6.354E-02	2.091E-01	3.411E-01	1.898E-02	-0.186
		1230.97		-2.209E-01	5.306E-01	8.586E-01	4.789E-02	-0.257
RE-183		57.98		-2.709E-02	6.259E-02	1.050E-01	9.778E-03	-0.258

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RE-184		59.32		3.734E-02	3.981E-02	6.313E-02	6.043E-03	0.591
		67.20		-6.018E-02	1.037E-01	1.523E-01	1.385E-02	-0.395
		162.32	*	7.327E-02	1.060E-01	1.694E-01	1.402E-02	0.433
	+	208.81		1.719E+00	1.100E+00	1.563E+00	1.239E-01	1.100
		291.72		-4.512E-02	9.787E-01	1.409E+00	1.068E-01	-0.032
		57.98		-9.984E-02	2.306E-01	3.869E-01	3.603E-02	-0.258
		59.32		1.375E-01	1.466E-01	2.324E-01	2.225E-02	0.591
		67.20		-2.217E-01	3.822E-01	5.611E-01	5.103E-02	-0.395
		161.27		2.515E-01	3.252E-01	5.372E-01	4.515E-02	0.468
		216.55		9.509E-02	2.365E-01	4.044E-01	3.208E-02	0.235
OS-185		252.85	*	1.185E-01	2.267E-01	3.858E-01	3.028E-02	0.307
		318.01		2.917E-01	4.184E-01	7.101E-01	5.163E-02	0.411
		792.07		6.598E-01	1.101E+00	1.914E+00	1.532E-01	0.345
		903.28		-5.402E-01	1.244E+00	1.672E+00	1.254E-01	-0.323
		920.93		-1.345E-02	4.314E-01	7.099E-01	5.266E-02	-0.019
		59.72		5.276E-02	1.108E-01	1.728E-01	1.657E-02	0.305
		61.14		5.038E-02	6.577E-02	1.034E-01	9.815E-03	0.487
		69.30		-4.469E-02	1.647E-01	2.470E-01	2.214E-02	-0.181
		592.07		6.604E-01	2.649E+00	4.424E+00	3.384E-01	0.149
		646.12	*	9.394E-03	4.898E-02	8.083E-02	6.506E-03	0.116
RE-188		717.42		2.756E-01	1.019E+00	1.676E+00	1.367E-01	0.164
		874.81		1.106E-01	6.579E-01	1.105E+00	8.457E-02	0.100
		880.27		-2.465E-03	8.575E-01	1.421E+00	1.083E-01	-0.002
		155.03	*	1.439E-01	1.642E-01	2.722E-01	2.491E-02	0.529
		477.96		-7.493E-01	3.241E+00	5.342E+00	3.569E-01	-0.140
		633.10		1.230E+00	3.053E+00	5.124E+00	4.077E-01	0.240
	+	63.58		1.006E+02	3.645E+01	5.202E+01	4.853E+00	1.933
		227.08		-9.960E-01	1.149E+01	1.921E+01	1.522E+00	-0.052
		290.67	*	2.996E+00	7.681E+00	1.141E+01	8.655E-01	0.263
	+	295.96		7.980E-01	1.728E-01	2.500E-01	1.901E-02	3.192
IR-192		308.46		-1.504E-02	9.076E-02	1.474E-01	1.098E-02	-0.102
		316.51	*	-2.654E-03	3.294E-02	5.365E-02	3.924E-03	-0.049
		468.07		-2.551E-02	7.756E-02	1.097E-01	8.099E-03	-0.233
		604.41		-6.343E-02	5.457E-01	7.646E-01	9.525E-02	-0.083
		612.46		6.435E-01	8.697E-01	1.313E+00	1.208E-01	0.490
		65.12		-9.098E-03	8.127E-02	1.220E-01	1.126E-02	-0.075
		66.83		-4.329E-03	4.746E-02	7.122E-02	6.494E-03	-0.061
	+	75.70		8.062E-01	1.710E-01	2.753E-01	2.362E-02	2.928
		98.88	*	2.064E-02	1.815E-01	2.911E-01	2.706E-02	0.071
	+	129.76		6.057E+00	2.969E+00	4.295E+00	5.107E-01	1.410
TL-200		367.94	*	4.807E-05	2.969E+00	Half-Life	too short	
		579.30		2.014E-03	2.969E+00	Half-Life	too short	
		828.27		-1.747E-03	2.969E+00	Half-Life	too short	
		1205.75		-2.086E-03	2.969E+00	Half-Life	too short	
TL-201		68.90		1.090E-02	2.567E+00	3.895E+00	3.501E-01	0.003
		70.82		6.446E-01	1.564E+00	2.394E+00	2.123E-01	0.269
		80.30		3.139E+00	3.427E+00	5.291E+00	4.398E-01	0.593
		135.34		1.424E+01	2.291E+01	3.797E+01	4.298E+00	0.375
		167.43	*	1.392E+00	6.503E+00	1.047E+01	8.208E-01	0.133

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TL-202		68.90		9.815E-04	2.313E-01	3.509E-01	3.154E-02	0.003
		70.82		5.790E-02	1.405E-01	2.150E-01	1.907E-02	0.269
		80.30		2.821E-01	3.079E-01	4.754E-01	3.952E-02	0.593
		439.56	*	-9.146E-03	7.175E-02	1.199E-01	7.575E-03	-0.076
HG-203		70.83		2.571E-01	6.101E-01	9.331E-01	1.284E-01	0.276
		72.87		6.325E-01	3.558E-01	6.059E-01	8.049E-02	1.044
		82.60		-1.308E+00	8.133E-01	1.190E+00	1.603E-01	-1.099
		279.20	*	1.688E-02	3.780E-02	6.376E-02	5.077E-03	0.265
BI-207		72.80		1.697E-01	1.019E-01	1.761E-01	1.541E-02	0.963
	+	74.97		4.472E-01	9.485E-02	1.356E-01	1.169E-02	3.299
		84.90		1.759E-01	1.467E-01	2.291E-01	1.846E-02	0.768
		569.67		2.022E-02	3.477E-02	5.785E-02	4.323E-03	0.350
		1063.62	*	4.816E-02	5.602E-02	9.794E-02	6.370E-03	0.492
		1770.23		-4.312E-02	5.639E-01	7.841E-01	4.450E-02	-0.055
TL-207		81.07		-2.839E-01	1.641E-01	2.249E-01	1.860E-02	-1.262
		83.78		9.225E-02	9.444E-02	1.468E-01	1.192E-02	0.629
		94.90		3.213E-01	1.818E-01	2.894E-01	2.537E-02	1.110
		122.32		-4.943E-01	1.547E+00	2.486E+00	3.248E-01	-0.199
		144.24		2.291E-01	6.500E-01	1.047E+00	1.176E-01	0.219
		154.21		2.886E-01	3.757E-01	6.205E-01	6.238E-02	0.465
		269.46		3.269E-01	1.824E-01	3.226E-01	2.567E-02	1.013
		323.87	*	-2.277E-01	6.815E-01	1.092E+00	1.862E-01	-0.209
	+	338.28		4.957E+00	1.820E+00	2.276E+00	2.553E-01	2.178
		445.03		-1.427E+00	2.350E+00	3.803E+00	4.032E-01	-0.375
PO-209		260.50		-1.116E-01	8.898E+00	1.477E+01	1.154E+00	-0.008
		262.80		-1.046E+01	2.496E+01	4.056E+01	3.164E+00	-0.258
		896.60	*	1.065E+00	8.010E+00	1.340E+01	1.009E+00	0.079
PB-211		404.84	*	-3.890E-01	1.060E+00	1.617E+00	1.009E+00	-0.240
		427.08		-6.641E-01	2.201E+00	3.378E+00	2.089E+00	-0.197
		831.96		3.368E-01	1.412E+00	2.364E+00	1.479E+00	0.142
BI-212	+	727.18	*	5.221E-01	5.018E-01	6.285E-01	6.033E-02	0.831
		785.46		2.166E+00	1.964E+00	3.514E+00	2.820E-01	0.616
		1620.62		5.876E-01	1.396E+00	2.397E+00	1.379E-01	0.245
PO-215		81.07		-2.839E-01	1.641E-01	2.249E-01	1.860E-02	-1.262
		83.78		9.225E-02	9.444E-02	1.468E-01	1.192E-02	0.629
		94.90		3.213E-01	1.818E-01	2.894E-01	2.537E-02	1.110
		122.32		-4.943E-01	1.547E+00	2.486E+00	3.248E-01	-0.199
		144.24		2.291E-01	6.500E-01	1.047E+00	1.176E-01	0.219
		154.21		2.886E-01	3.757E-01	6.205E-01	6.238E-02	0.465
		269.46		3.269E-01	1.824E-01	3.226E-01	2.567E-02	1.013
		323.87	*	-2.277E-01	6.815E-01	1.092E+00	1.862E-01	-0.209
	+	338.28		4.957E+00	1.820E+00	2.276E+00	2.553E-01	2.178
		445.03		-1.427E+00	2.350E+00	3.803E+00	4.032E-01	-0.375
RN-219		271.23		4.094E-01	2.334E-01	4.108E-01	3.941E-02	0.997
		401.81	*	2.590E-01	4.388E-01	7.264E-01	9.929E-02	0.357
RN-220		549.76	*	9.199E+00	2.881E+01	4.855E+01	3.549E+00	0.189
RA-223		81.07		-2.839E-01	1.641E-01	2.249E-01	1.860E-02	-1.262
		83.78		9.225E-02	9.444E-02	1.468E-01	1.192E-02	0.629
		94.90		3.213E-01	1.818E-01	2.894E-01	2.537E-02	1.110

---- 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		-4.943E-01	1.547E+00	2.486E+00	3.248E-01	-0.199
		144.24		2.291E-01	6.500E-01	1.047E+00	1.176E-01	0.219
		154.21		2.886E-01	3.757E-01	6.205E-01	6.238E-02	0.465
		269.46		3.269E-01	1.824E-01	3.226E-01	2.567E-02	1.013
		323.87	*	-2.277E-01	6.815E-01	1.092E+00	1.862E-01	-0.209
	+	338.28		4.957E+00	1.820E+00	2.276E+00	2.553E-01	2.178
		445.03		-1.427E+00	2.350E+00	3.803E+00	4.032E-01	-0.375
		79.80		1.179E+00	1.115E+00	1.715E+00	3.669E-01	0.688
		236.00		6.340E-01	2.480E-01	3.981E-01	4.679E-02	1.592
		256.20	*	-6.594E-02	3.646E-01	6.009E-01	8.966E-02	-0.110
		286.10		6.809E-01	1.413E+00	2.383E+00	2.997E-01	0.286
	+	299.80		2.676E+00	1.904E+00	2.562E+00	4.346E-01	1.044
TH-227		304.40		2.575E+00	1.973E+00	3.035E+00	5.437E-01	0.849
		334.20		7.347E-01	2.473E+00	3.601E+00	6.756E-01	0.204
		79.80		1.179E+00	1.116E+00	1.715E+00	3.717E-01	0.688
	+	94.00		8.248E+00	3.484E+00	3.314E+00	7.222E-01	2.489
		236.00		6.340E-01	2.458E-01	3.981E-01	4.193E-02	1.592
		256.20	*	-6.594E-02	3.646E-01	6.009E-01	1.064E-01	-0.110
		286.10		6.809E-01	1.567E+00	2.383E+00	2.390E+00	0.286
	+	299.80		2.676E+00	1.904E+00	2.562E+00	4.346E-01	1.044
		304.40		2.575E+00	1.973E+00	3.035E+00	5.437E-01	0.849
		334.20		7.347E-01	2.473E+00	3.601E+00	6.756E-01	0.204
		85.43		1.304E-01	1.517E-01	2.341E-01	1.879E-02	0.557
	+	88.47		3.687E-01	1.116E-01	1.516E-01	1.205E-02	2.431
TH-229		100.00		1.997E-02	1.429E-01	2.372E-01	2.240E-02	0.084
		193.63	*	2.192E-01	4.394E-01	7.593E-01	6.007E-02	0.289
		210.97		-1.174E-02	7.511E-01	1.117E+00	8.855E-02	-0.011
		283.67	*	-1.726E-01	1.349E+00	2.209E+00	3.238E-01	-0.078
	+	301.29		1.070E+00	7.496E-01	1.035E+00	1.188E-01	1.034
		81.07		-2.839E-01	1.641E-01	2.249E-01	1.860E-02	-1.262
		83.78		9.225E-02	9.444E-02	1.468E-01	1.192E-02	0.629
		94.90		3.213E-01	1.818E-01	2.894E-01	2.537E-02	1.110
		122.32		-4.943E-01	1.547E+00	2.486E+00	3.248E-01	-0.199
		144.24		2.291E-01	6.500E-01	1.047E+00	1.176E-01	0.219
		154.21		2.886E-01	3.757E-01	6.205E-01	6.238E-02	0.465
		269.46		3.269E-01	1.824E-01	3.226E-01	2.567E-02	1.013
U-231		323.87	*	-2.277E-01	6.815E-01	1.092E+00	1.862E-01	-0.209
	+	338.28		4.957E+00	1.820E+00	2.276E+00	2.553E-01	2.178
		445.03		-1.427E+00	2.350E+00	3.803E+00	4.032E-01	-0.375
		84.21		3.955E+00	4.164E+00	6.457E+00	5.227E-01	0.612
	+	92.29		8.133E+00	3.026E+00	3.967E+00	3.344E-01	2.050
		95.87	*	-4.484E-01	8.695E-01	1.254E+00	1.115E-01	-0.358
		108.00		-1.611E+00	1.778E+00	2.809E+00	2.964E-01	-0.574
	+	75.28		1.305E+01	3.226E+00	4.177E+00	6.406E-01	3.124
	+	86.59		5.286E+00	2.088E+00	2.278E+00	6.062E-01	2.321
	+	300.12		7.461E-01	5.263E-01	7.156E-01	1.020E-01	1.043
		311.98	*	2.268E-02	6.141E-02	1.026E-01	7.832E-03	0.221
		340.50		1.264E+00	7.331E-01	1.083E+00	2.522E-01	1.167
PA-233		398.62		7.336E-01	2.227E+00	3.631E+00	9.399E-01	0.202

---- 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		-2.140E-01	1.740E+00	2.699E+00	5.579E-01	-0.079
		63.00		2.917E+00	1.122E+00	1.528E+00	2.434E-01	1.909
		94.67		3.967E-01	1.425E-01	2.248E-01	2.806E-02	1.765
		98.44		1.690E-03	7.365E-02	1.178E-01	6.584E-02	0.014
		99.86		1.150E-01	3.613E-01	6.038E-01	5.690E-02	0.190
		111.00		-1.010E-01	1.709E-01	2.637E-01	3.657E-02	-0.383
		131.20		-4.000E-02	1.057E-01	1.496E-01	1.757E-02	-0.267
		152.70		2.649E-01	3.032E-01	4.992E-01	8.719E-02	0.531
		186.00		5.548E+00	2.628E+00	2.683E+00	8.323E-01	2.068
		226.40		2.712E-02	3.633E-01	6.114E-01	7.801E-02	0.044
		227.20		-2.936E-02	3.892E-01	6.507E-01	5.156E-02	-0.045
		248.90		-3.109E-01	7.482E-01	1.217E+00	2.693E-01	-0.255
		293.70		5.024E+00	1.322E+00	1.520E+00	2.553E-01	3.305
		369.80		3.576E-01	8.817E-01	1.453E+00	3.049E-01	0.246
		568.70		3.069E-01	1.151E+00	1.880E+00	1.404E-01	0.163
		569.50		1.926E-01	3.094E-01	5.160E-01	3.856E-02	0.373
		574.00		-1.175E+00	1.741E+00	2.653E+00	1.992E-01	-0.443
		699.00		-5.238E-01	7.856E-01	1.195E+00	2.256E-01	-0.438
		706.10		1.012E+00	1.254E+00	2.008E+00	8.935E-01	0.504
		733.00		-1.715E-01	4.852E-01	6.432E-01	1.416E-01	-0.267
		742.81		4.964E-01	1.540E+00	2.481E+00	1.666E+00	0.200
		796.30		7.521E-01	1.012E+00	1.743E+00	4.681E-01	0.432
		805.60		3.163E-01	1.072E+00	1.822E+00	5.552E-01	0.174
		819.60		1.579E-01	1.368E+00	2.299E+00	8.708E-01	0.069
		826.30		-9.949E-01	1.064E+00	1.490E+00	6.648E-01	-0.668
		831.60		7.024E-02	7.187E-01	1.205E+00	3.571E-01	0.058
		876.40		6.066E-01	1.109E+00	1.600E+00	1.643E+00	0.379
		880.51		-3.775E-02	3.070E-01	5.037E-01	3.839E-02	-0.075
		883.24		-2.008E-01	3.467E-01	5.021E-01	3.369E-01	-0.400
		899.00		-1.678E-01	8.835E-01	1.433E+00	6.234E-01	-0.117
		925.00		-1.367E+00	1.207E+00	1.771E+00	1.310E-01	-0.772
		926.50		-1.608E-01	1.884E-01	2.797E-01	6.961E-02	-0.575
		946.00	*	-1.637E-01	3.143E-01	4.907E-01	8.926E-02	-0.334
		949.00		5.667E-02	4.594E-01	7.642E-01	5.559E-02	0.074
		980.50		-2.173E-01	7.684E-01	1.228E+00	8.709E-02	-0.177
		1394.10		-7.659E-01	1.454E+00	2.114E+00	1.369E+00	-0.362
PA-234M		766.42		7.765E+00	1.375E+01	2.288E+01	1.159E+01	0.339
		1001.03	*	5.803E+00	5.478E+00	9.509E+00	8.150E-01	0.610
U-235		89.95		2.777E-01	1.145E+00	1.370E+00	4.210E-01	0.203
U-235	+	93.35		2.566E+00	1.175E+00	1.215E+00	3.404E-01	2.111
		105.00		6.445E-01	9.085E-01	1.500E+00	4.548E-01	0.430
		143.76	*	1.182E-01	1.986E-01	3.213E-01	5.932E-02	0.368
		163.35		-1.199E-01	4.610E-01	7.063E-01	1.333E-01	-0.170
U-235	+	185.71		2.055E-01	7.534E-02	9.915E-02	7.826E-03	2.072
		205.31		-3.264E-01	5.504E-01	7.736E-01	1.453E-01	-0.422
		94.67		3.044E-01	1.049E-01	1.709E-01	1.493E-02	1.782
		98.44		1.280E-03	5.567E-02	8.906E-02	8.224E-03	0.014
NP-236		111.00		-7.642E-02	1.291E-01	1.994E-01	2.190E-02	-0.383
		160.31	*	-4.630E-02	7.593E-02	1.181E-01	1.006E-02	-0.392

---- 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		2.108E-02	1.271E-01	2.042E-01	1.916E-02	0.103
		117.00	*	-2.490E-01	1.693E-01	2.557E-01	3.035E-02	-0.974
	+	209.75		1.357E+00	8.680E-01	1.244E+00	9.869E-02	1.090
		228.18		-2.144E-02	2.085E-01	3.480E-01	2.757E-02	-0.062
		277.60		2.911E-01	1.734E-01	3.060E-01	2.356E-02	0.951
AM-241		334.30		4.063E-01	1.399E+00	2.039E+00	1.433E-01	0.199
		59.54	*	5.657E-02	5.700E-02	9.045E-02	9.198E-03	0.625
	CM-243	99.55		2.169E-02	1.308E-01	2.102E-01	1.972E-02	0.103
		103.76	*	-3.116E-02	7.974E-02	1.293E-01	1.288E-02	-0.241
		117.00		-2.562E-01	1.742E-01	2.631E-01	3.122E-02	-0.974
CM-243	+	209.75		1.337E+00	8.557E-01	1.227E+00	9.729E-02	1.090
		228.18		-2.166E-02	2.106E-01	3.517E-01	2.786E-02	-0.062
		277.60		2.935E-01	1.748E-01	3.085E-01	2.376E-02	0.951
	AM-246	798.80		-2.449E-01	1.572E-01	2.305E-01	1.840E-02	-1.063
		1036.00		-9.876E-02	3.314E-01	5.264E-01	3.536E-02	-0.188
AM-246		1062.04		3.293E-01	2.357E-01	4.300E-01	2.802E-02	0.766
		1078.86	*	1.058E-01	1.618E-01	2.772E-01	1.768E-02	0.381
	CM-247	278.00		8.309E-01	7.179E-01	1.245E+00	9.581E-02	0.668
		287.40		4.287E-01	1.176E+00	1.974E+00	1.504E-01	0.217
		402.60	*	1.132E-02	3.971E-02	6.475E-02	3.856E-03	0.175
CF-249		252.85		4.448E-01	8.508E-01	1.448E+00	1.136E-01	0.307
		333.44		2.018E-02	1.875E-01	2.695E-01	1.898E-02	0.075
		387.95	*	3.374E-02	4.098E-02	6.911E-02	4.104E-03	0.488
CF-251		176.60	*	3.257E-02	1.220E-01	1.961E-01	1.543E-02	0.166
		227.00		-3.522E-02	3.446E-01	5.755E-01	4.560E-02	-0.061
		285.00		3.486E-01	1.605E+00	2.677E+00	2.045E-01	0.130

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]G243274005      *
* Acquisition date   : 31-DEC-2009 14:35:08 Detector SN#      :             *
* Detector ID        : GAM13                      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 02:00:01.60           Half life ratio  : 8.000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274005           Analyst initials: MXR1          *
* Batch Number       : 935341              Sample Quantity : 1.5220E+02 GRAM   *
* Recovery           : 1.00000             Carrier Weight  : 0.00000        *
*****
*
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                                    *
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MS Isotope      :                *
* MSD DPM             : 0.000                      MSD Isotope :                *
* LCS DPM             : 0.000                      LCS Isotope  :                *
* LCSD DPM            : 0.000                      LCSD Isotope :                *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.711E+01	1.768E+00	6.267E-01	0.000E+00
CD-109	2.747E+00	8.148E-01	1.071E+00	0.000E+00
SN-126	2.700E-01	8.009E-02	1.143E-01	0.000E+00
BA-137M	6.407E-01	1.021E-01	6.787E-02	0.000E+00
CS-137	6.773E-01	1.079E-01	7.174E-02	0.000E+00
TL-208	3.700E-01	9.236E-02	6.509E-02	0.000E+00
BI-210	1.998E+00	7.656E-01	7.232E-01	0.000E+00
PB-210	1.998E+00	7.656E-01	7.232E-01	0.000E+00
PO-210	1.998E+00	7.617E-01	7.232E-01	0.000E+00
BI-211	2.834E+00	4.657E-01	3.446E-01	0.000E+00
PB-212	1.051E+00	1.724E-01	9.983E-02	0.000E+00
PO-212	1.051E+00	1.724E-01	9.983E-02	0.000E+00
BI-214	8.846E-01	1.737E-01	1.181E-01	0.000E+00
PB-214	9.857E-01	1.697E-01	1.201E-01	0.000E+00
PO-214	9.857E-01	1.697E-01	1.201E-01	0.000E+00
PO-216	1.051E+00	1.724E-01	9.983E-02	0.000E+00
PO-218	9.857E-01	1.697E-01	1.201E-01	0.000E+00
RA-224	1.019E+00	5.571E-01	1.048E+00	0.000E+00
RA-226	8.846E-01	1.737E-01	1.181E-01	0.000E+00
AC-228	1.248E+00	3.113E-01	2.256E-01	0.000E+00
RA-228	1.248E+00	3.113E-01	2.256E-01	0.000E+00
TH-228	1.067E+00	1.750E-01	1.013E-01	0.000E+00
TH-230	8.846E-01	1.737E-01	1.181E-01	0.000E+00
TH-232	1.248E+00	3.113E-01	2.256E-01	0.000E+00
TH-234	2.502E+00	9.694E-01	9.305E-01	0.000E+00
U-234	8.846E-01	1.737E-01	1.181E-01	0.000E+00
NP-237	7.929E-01	2.846E-01	3.315E-01	0.000E+00
U-238	2.502E+00	9.694E-01	9.305E-01	0.000E+00
AM-243	2.491E-01	5.179E-02	5.666E-02	0.000E+00
ANH-511	1.322E-01	6.699E-02	4.954E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.477E-01	3.283E-01	5.652E-01	0.000E+00	NOT IDENT.
NA-22	-1.901E-02	4.969E-02	8.260E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.971E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-9.749E-03	3.213E-02	5.180E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.051E-02	5.087E-02	0.000E+00	FAIL ABUN
SC-46	-8.565E-04	4.088E-02	7.039E-02	0.000E+00	FAIL ABUN
V-48	-1.144E-02	7.432E-02	1.249E-01	0.000E+00	NOT IDENT.
CR-51	-2.083E-01	3.505E-01	5.917E-01	0.000E+00	NOT IDENT.
MN-52	5.184E-02	2.422E-01	4.200E-01	0.000E+00	NOT IDENT.
MN-54	-3.516E-03	4.267E-02	7.373E-02	0.000E+00	NOT IDENT.
CO-56	-1.411E-02	4.242E-02	7.170E-02	0.000E+00	NOT IDENT.
CO-57	-1.856E-03	2.161E-02	3.843E-02	0.000E+00	NOT IDENT.
CO-58	2.644E-03	4.126E-02	7.227E-02	0.000E+00	NOT IDENT.
FE-59	1.728E-02	1.025E-01	1.747E-01	0.000E+00	NOT IDENT.
CO-60	3.680E-02	4.200E-02	7.752E-02	0.000E+00	NOT IDENT.
ZN-65	2.349E-02	1.103E-01	1.624E-01	0.000E+00	NOT IDENT.
GE-68	9.777E-01	1.412E+00	2.510E+00	0.000E+00	NOT IDENT.
AS-73	2.966E-02	1.963E-01	3.646E-01	0.000E+00	NOT IDENT.
AS-74	-8.133E-02	9.671E-02	1.569E-01	0.000E+00	NOT IDENT.
SE-75	2.176E-02	4.028E-02	7.352E-02	0.000E+00	NOT IDENT.
BR-77	-4.422E+00	1.088E+01	1.858E+01	0.000E+00	FAIL ABUN
SR-82	-5.966E-02	4.204E-01	7.295E-01	0.000E+00	NOT IDENT.
RB-83	-5.492E-02	7.289E-02	1.215E-01	0.000E+00	NOT IDENT.
RB-84	-3.818E-02	7.313E-02	1.207E-01	0.000E+00	NOT IDENT.
KR-85	1.182E+01	8.035E+00	1.366E+01	0.000E+00	NOT IDENT.
SR-85	6.060E-02	4.119E-02	7.002E-02	0.000E+00	NOT IDENT.
RB-86	1.025E+00	8.842E-01	1.625E+00	0.000E+00	NOT IDENT.
Y-88	-2.715E-02	3.663E-02	5.276E-02	0.000E+00	NOT IDENT.
ZR-88	-1.015E-02	2.908E-02	4.854E-02	0.000E+00	NOT IDENT.
Y-91	-1.174E+01	1.724E+01	2.800E+01	0.000E+00	NOT IDENT.
NB-94	-8.511E-03	4.010E-02	6.327E-02	0.000E+00	NOT IDENT.
NB-95	5.289E-02	4.780E-02	8.902E-02	0.000E+00	NOT IDENT.
NB-95M	1.861E-01	1.207E-01	2.062E-01	0.000E+00	NOT IDENT.
ZR-95	-1.396E-02	8.251E-02	1.338E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.405E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.156E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	7.899E-01	1.296E+01	2.192E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.246E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.171E-02	2.883E-02	4.947E-02	0.000E+00	NOT IDENT.
RH-102	-8.256E-03	2.968E-02	5.168E-02	0.000E+00	NOT IDENT.
RU-103	-2.665E-02	4.315E-02	7.297E-02	0.000E+00	FAIL ABUN
RH-106	-2.341E-01	3.367E-01	5.468E-01	0.000E+00	FAIL ABUN
RU-106	-2.341E-01	3.359E-01	5.468E-01	0.000E+00	FAIL ABUN
AG-108M	1.325E-02	3.391E-02	6.184E-02	0.000E+00	NOT IDENT.
AG-110M	2.780E-02	4.931E-02	7.627E-02	0.000E+00	NOT IDENT.
IN-111	-1.895E-01	1.012E+00	1.579E+00	0.000E+00	NOT IDENT.
IN-113M	-3.691E-02	4.334E-02	6.989E-02	0.000E+00	NOT IDENT.
SN-113	-3.691E-02	4.334E-02	6.989E-02	0.000E+00	NOT IDENT.
IN-114M	3.450E-02	1.833E-01	2.816E-01	0.000E+00	NOT IDENT.
CD-115	-7.971E+00	1.138E+01	1.899E+01	0.000E+00	NOT IDENT.
SN-117M	-5.840E-02	5.168E-02	8.516E-02	0.000E+00	NOT IDENT.
SB-122	5.382E-02	2.234E+00	3.888E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.303E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.243E-02	2.650E-02	4.518E-02	0.000E+00	NOT IDENT.
I-124	2.579E-02	7.872E-01	1.178E+00	0.000E+00	FAIL ABUN
SB-124	-4.586E-02	7.232E-02	1.048E-01	0.000E+00	FAIL ABUN
SB-125	-3.423E-02	9.129E-02	1.600E-01	0.000E+00	FAIL ABUN
TE-125M	-3.488E+00	7.873E+00	1.393E+01	0.000E+00	NOT IDENT.
I-126	3.413E-02	2.358E-01	3.438E-01	0.000E+00	NOT IDENT.
SB-126	-1.095E-01	1.831E-01	2.634E-01	0.000E+00	FAIL ABUN
SB-127	7.514E-01	1.506E+00	2.646E+00	0.000E+00	NOT IDENT.
XE-127	3.225E-02	4.138E-02	7.773E-02	0.000E+00	NOT IDENT.
I-131	7.787E-04	1.158E-01	1.996E-01	0.000E+00	NOT IDENT.
TE-132	-1.324E-01	6.264E-01	1.122E+00	0.000E+00	NOT IDENT.
BA-133	2.204E-03	5.134E-02	7.901E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.232E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.873E-02	5.059E-02	9.368E-02	0.000E+00	NOT IDENT.
CS-135	-3.627E-02	1.500E-01	2.641E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.680E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.115E-02	1.103E-01	1.984E-01	0.000E+00	FAIL ABUN
CE-139	-4.903E-02	2.831E-02	4.482E-02	0.000E+00	NOT IDENT.
BA-140	-3.780E-02	2.716E-01	4.698E-01	0.000E+00	NOT IDENT.
LA-140	-5.945E-02	9.227E-02	1.402E-01	0.000E+00	NOT IDENT.
CE-141	2.213E-02	5.496E-02	9.808E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.044E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	2.218E-01	1.924E-01	3.352E-01	0.000E+00	NOT IDENT.
PM-144	-8.210E-03	3.656E-02	6.094E-02	0.000E+00	NOT IDENT.
PR-144	-5.563E-01	2.478E+00	4.130E+00	0.000E+00	NOT IDENT.
PM-146	1.187E-02	4.694E-02	8.460E-02	0.000E+00	NOT IDENT.
ND-147	-1.265E-02	5.794E-01	1.012E+00	0.000E+00	NOT IDENT.
PM-149	4.226E+01	8.253E+01	1.493E+02	0.000E+00	NOT IDENT.
EU-152	-4.124E-02	1.235E-01	1.511E-01	0.000E+00	FAIL ABUN
GD-153	-1.270E-02	6.644E-02	1.052E-01	0.000E+00	NOT IDENT.
EU-154	-4.985E-02	1.391E-01	2.317E-01	0.000E+00	NOT IDENT.
EU-155	7.001E-02	8.927E-02	1.655E-01	0.000E+00	FAIL ABUN
TB-160	3.971E-02	1.501E-01	2.644E-01	0.000E+00	FAIL ABUN
HO-166M	-1.014E-01	6.996E-02	1.045E-01	0.000E+00	FAIL ABUN
TM-171	-4.397E-01	1.404E+01	2.345E+01	0.000E+00	NOT IDENT.
LU-176	-2.454E-02	2.364E-02	3.908E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.198E+00	1.832E+00	0.000E+00	FAIL ABUN
LU-177M	5.212E-02	1.764E-01	3.053E-01	0.000E+00	NOT IDENT.
HF-181	3.024E-03	4.389E-02	7.790E-02	0.000E+00	NOT IDENT.
W-181	-9.339E-02	1.704E-01	2.787E-01	0.000E+00	NOT IDENT.
TA-182	-6.354E-02	2.050E-01	3.453E-01	0.000E+00	NOT IDENT.
RE-183	7.327E-02	1.039E-01	1.805E-01	0.000E+00	FAIL ABUN
RE-184	1.185E-01	2.222E-01	4.066E-01	0.000E+00	NOT IDENT.
OS-185	9.394E-03	4.800E-02	8.320E-02	0.000E+00	NOT IDENT.
RE-188	1.439E-01	1.609E-01	2.903E-01	0.000E+00	NOT IDENT.
W-188	2.996E+00	7.528E+00	1.198E+01	0.000E+00	FAIL ABUN
IR-192	-2.654E-03	3.228E-02	5.622E-02	0.000E+00	FAIL ABUN
AU-195	2.064E-02	1.778E-01	3.138E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.674E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.392E+00	6.373E+00	1.115E+01	0.000E+00	NOT IDENT.
TL-202	-9.146E-03	7.031E-02	1.246E-01	0.000E+00	NOT IDENT.
HG-203	1.688E-02	3.704E-02	6.704E-02	0.000E+00	NOT IDENT.
BI-207	4.816E-02	5.490E-02	9.952E-02	0.000E+00	FAIL ABUN
TL-207	-2.277E-01	6.679E-01	1.144E+00	0.000E+00	FAIL ABUN
PO-209	1.065E+00	7.850E+00	1.367E+01	0.000E+00	NOT IDENT.
PB-211	-3.890E-01	1.039E+00	1.685E+00	0.000E+00	NOT IDENT.
BI-212	5.221E-01	4.918E-01	6.450E-01	0.000E+00	FAIL ABUN
PO-215	-2.277E-01	6.679E-01	1.144E+00	0.000E+00	FAIL ABUN
RN-219	2.590E-01	4.301E-01	7.568E-01	0.000E+00	NOT IDENT.
RN-220	9.199E+00	2.824E+01	5.018E+01	0.000E+00	NOT IDENT.
RA-223	-2.277E-01	6.679E-01	1.144E+00	0.000E+00	FAIL ABUN
AC-227	-6.594E-02	3.573E-01	6.331E-01	0.000E+00	FAIL ABUN
TH-227	-6.594E-02	3.573E-01	6.331E-01	0.000E+00	FAIL ABUN
TH-229	2.192E-01	4.306E-01	8.054E-01	0.000E+00	FAIL ABUN
PA-231	-1.726E-01	1.322E+00	2.322E+00	0.000E+00	FAIL ABUN
TH-231	-2.277E-01	6.679E-01	1.144E+00	0.000E+00	FAIL ABUN
U-231	-4.484E-01	8.521E-01	1.353E+00	0.000E+00	FAIL ABUN
PA-233	2.268E-02	6.019E-02	1.075E-01	0.000E+00	FAIL ABUN
PA-234	-1.637E-01	3.080E-01	5.001E-01	0.000E+00	FAIL ABUN
PA-234M	5.803E+00	5.368E+00	9.677E+00	0.000E+00	NOT IDENT.
U-235	1.182E-01	1.946E-01	3.433E-01	0.000E+00	FAIL ABUN
NP-236	-4.630E-02	7.441E-02	1.258E-01	0.000E+00	NOT IDENT.
NP-239	-2.490E-01	1.659E-01	2.746E-01	0.000E+00	FAIL ABUN
AM-241	5.657E-02	5.586E-02	9.865E-02	0.000E+00	NOT IDENT.
CM-243	-3.116E-02	7.815E-02	1.392E-01	0.000E+00	FAIL ABUN
AM-246	1.058E-01	1.585E-01	2.816E-01	0.000E+00	NOT IDENT.
CM-247	1.132E-02	3.892E-02	6.745E-02	0.000E+00	NOT IDENT.
CF-249	3.374E-02	4.016E-02	7.207E-02	0.000E+00	NOT IDENT.
CF-251	3.257E-02	1.195E-01	2.085E-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]G243274005.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:08
Sample ID          : G243274005          Sample quantity   : 1.52200E+02 GRAM
Detector name      : GAM13              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time  : 0 02:00:01.60  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity        : 5.00000
Batch ID           : 935341             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*	1.041E+00	1.711E+01	1.711E+01	10.54
CD-109	88.03	294	3.72*	7.247E+00	2.686E+00	2.747E+00	30.27
SN-126	64.28	285	9.60	7.391E+00	9.905E-01	9.905E-01	38.34
	86.94	294	8.90	7.247E+00	1.123E+00	1.123E+00	50.52
	87.57	294	37.00*	7.247E+00	2.700E-01	2.700E-01	30.27
BA-137M	661.65	471	89.98*	2.018E+00	6.401E-01	6.407E-01	16.25
CS-137	661.65	471	85.12*	2.018E+00	6.766E-01	6.773E-01	16.26
TL-208	277.35	-----	6.80	4.225E+00	-----	Line Not Found	-----
	510.84	136	21.60	2.538E+00	6.119E-01	6.119E-01	52.39
	583.14	285	84.20*	2.256E+00	3.700E-01	3.700E-01	25.47
	860.37	48	12.46	1.604E+00	5.869E-01	5.869E-01	100.32
BI-210	46.50	239	4.05*	7.297E+00	1.995E+00	1.998E+00	39.11
PB-210	46.50	239	4.05*	7.297E+00	1.995E+00	1.998E+00	39.11
PO-210	46.50	239	4.05*	7.297E+00	1.995E+00	1.998E+00	38.91
BI-211	72.87	-----	1.27	7.369E+00	-----	Line Not Found	-----
	351.07	520	12.94*	3.499E+00	2.834E+00	2.834E+00	16.77
PB-212	74.81	491	10.70	7.358E+00	1.537E+00	1.537E+00	23.18
	77.11	726	18.00	7.343E+00	1.356E+00	1.356E+00	16.52
	87.30	294	8.00	7.247E+00	1.249E+00	1.249E+00	31.88
	238.63	896	44.60*	4.716E+00	1.051E+00	1.051E+00	16.74
	300.09	79	3.41	3.978E+00	1.444E+00	1.444E+00	69.73
PO-212	74.81	491	10.70	7.358E+00	1.537E+00	1.537E+00	23.18
	77.11	726	18.00	7.343E+00	1.356E+00	1.356E+00	16.52
	87.30	294	8.00	7.247E+00	1.249E+00	1.249E+00	31.88
	115.19	-----	0.60	6.822E+00	-----	Line Not Found	-----
	238.63	896	44.60*	4.716E+00	1.051E+00	1.051E+00	16.74
	300.09	79	3.41	3.978E+00	1.444E+00	1.444E+00	69.73
BI-214	609.31	361	46.30*	2.171E+00	8.846E-01	8.846E-01	20.04
	1120.29	69	15.10	1.288E+00	8.813E-01	8.813E-01	58.37
	1764.49	75	15.80	8.990E-01	1.304E+00	1.304E+00	25.88
PB-214	74.81	491	6.21	7.358E+00	2.648E+00	2.648E+00	22.47
	77.11	726	10.50	7.343E+00	2.324E+00	2.324E+00	18.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	294	4.67	7.247E+00	2.139E+00	2.139E+00	31.23
	241.98	76	7.49	4.665E+00	5.372E-01	5.372E-01	56.09
	295.21	328	19.20	4.029E+00	1.047E+00	1.047E+00	22.52
	351.92	520	37.20*	3.499E+00	9.857E-01	9.857E-01	17.56
	74.81	491	6.21	7.358E+00	2.648E+00	2.648E+00	22.47
	77.11	726	10.50	7.343E+00	2.324E+00	2.324E+00	18.20
	87.30	294	4.67	7.247E+00	2.139E+00	2.139E+00	31.23
	241.98	76	7.49	4.665E+00	5.372E-01	5.372E-01	56.09
	295.21	328	19.20	4.029E+00	1.047E+00	1.047E+00	22.52
	351.92	520	37.20*	3.499E+00	9.857E-01	9.857E-01	17.56
PO-216	74.81	491	10.70	7.358E+00	1.537E+00	1.537E+00	23.18
	77.11	726	18.00	7.343E+00	1.356E+00	1.356E+00	16.52
	87.30	294	8.00	7.247E+00	1.249E+00	1.249E+00	31.88
	238.63	896	44.60*	4.716E+00	1.051E+00	1.051E+00	16.74
	300.09	79	3.41	3.978E+00	1.444E+00	1.444E+00	69.73
PO-218	74.81	491	6.21	7.358E+00	2.648E+00	2.648E+00	22.47
	77.11	726	10.50	7.343E+00	2.324E+00	2.324E+00	18.20
	87.30	294	4.67	7.247E+00	2.139E+00	2.139E+00	31.23
	241.98	76	7.49	4.665E+00	5.372E-01	5.372E-01	56.09
	295.21	328	19.20	4.029E+00	1.047E+00	1.047E+00	22.52
RA-224	351.92	520	37.20*	3.499E+00	9.857E-01	9.857E-01	17.56
	240.98	76	3.95*	4.665E+00	1.019E+00	1.019E+00	55.81
	609.31	361	46.30*	2.171E+00	8.846E-01	8.846E-01	20.04
RA-226	1120.29	69	15.10	1.288E+00	8.813E-01	8.813E-01	58.37
	1764.49	75	15.80	8.990E-01	1.304E+00	1.304E+00	25.88
	338.32	198	11.40	3.613E+00	1.187E+00	1.187E+00	53.85
AC-228	911.07	214	27.70*	1.529E+00	1.248E+00	1.248E+00	25.46
	969.11	68	16.60	1.452E+00	6.931E-01	6.931E-01	71.90
	338.32	198	11.40	3.613E+00	1.187E+00	1.187E+00	53.85
RA-228	911.07	214	27.70*	1.529E+00	1.248E+00	1.248E+00	25.46
	969.11	68	16.60	1.452E+00	6.931E-01	6.931E-01	71.90
	74.81	491	10.70	7.358E+00	1.537E+00	1.560E+00	21.24
TH-228	77.11	726	18.00	7.343E+00	1.356E+00	1.376E+00	16.52
	87.30	294	8.00	7.247E+00	1.249E+00	1.268E+00	30.27
	238.63	896	44.60*	4.716E+00	1.051E+00	1.067E+00	16.74
TH-230	300.09	79	3.41	3.978E+00	1.444E+00	1.466E+00	90.93
	609.31	361	46.30*	2.171E+00	8.846E-01	8.846E-01	20.04
	1120.29	69	15.10	1.288E+00	8.813E-01	8.813E-01	58.37
TH-232	1764.49	75	15.80	8.990E-01	1.304E+00	1.304E+00	25.88
	338.32	198	11.40	3.613E+00	1.187E+00	1.187E+00	35.66
	911.07	214	27.70*	1.529E+00	1.248E+00	1.248E+00	25.46
TH-234	969.11	68	16.60	1.452E+00	6.931E-01	6.931E-01	71.90
	63.29	285	3.80*	7.391E+00	2.502E+00	2.502E+00	39.53
	92.38	336	5.41	7.178E+00	2.134E+00	2.134E+00	40.46
U-234	609.31	361	46.30*	2.171E+00	8.846E-01	8.846E-01	20.04
	1120.29	69	15.10	1.288E+00	8.813E-01	8.813E-01	58.37
	1764.49	75	15.80	8.990E-01	1.304E+00	1.304E+00	25.88
NP-237	86.50	294	12.60*	7.247E+00	7.929E-01	7.929E-01	36.63
	95.87	-----	2.60	7.135E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-238	63.29	285	3.80*	7.391E+00	2.502E+00	2.502E+00	39.53
	92.38	336	5.41	7.178E+00	2.134E+00	2.134E+00	37.21
AM-243	74.67	491	66.00*	7.358E+00	2.491E-01	2.491E-01	21.21
	86.72	294	0.34	7.247E+00	2.973E+01	2.973E+01	30.27
	117.66	-----	0.55	6.778E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.323E+00	-----	Line Not Found	-----
ANH-511	511.00	136	100.00*	2.538E+00	1.322E-01	1.322E-01	51.72

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 2
Number of lines tentatively identified by NID 29 93.55%

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	1.711E+01	1.711E+01	0.180E+01	10.54	
CD-109	464.00D	1.02	2.686E+00	2.747E+00	0.831E+00	30.27	
SN-126	1.00E+05Y	1.00	2.700E-01	2.700E-01	0.817E-01	30.27	
BA-137M	30.17Y	1.00	6.401E-01	6.407E-01	1.041E-01	16.25	
CS-137	30.17Y	1.00	6.766E-01	6.773E-01	1.101E-01	16.26	
TL-208	1.41E+10Y	1.00	3.700E-01	3.700E-01	0.942E-01	25.47	
BI-210	22.26Y	1.00	1.995E+00	1.998E+00	0.781E+00	39.11	
PB-210	22.26Y	1.00	1.995E+00	1.998E+00	0.781E+00	39.11	
PO-210	22.26Y	1.00	1.995E+00	1.998E+00	0.777E+00	38.91	
BI-211	7.04E+08Y	1.00	2.834E+00	2.834E+00	0.475E+00	16.77	
PB-212	1.41E+10Y	1.00	1.051E+00	1.051E+00	0.176E+00	16.74	
PO-212	1.41E+10Y	1.00	1.051E+00	1.051E+00	0.176E+00	16.74	
BI-214	1600.00Y	1.00	8.846E-01	8.846E-01	1.773E-01	20.04	
PB-214	1600.00Y	1.00	9.857E-01	9.857E-01	1.731E-01	17.56	
PO-214	1600.00Y	1.00	9.857E-01	9.857E-01	1.731E-01	17.56	
PO-216	1.41E+10Y	1.00	1.051E+00	1.051E+00	0.176E+00	16.74	
PO-218	1600.00Y	1.00	9.857E-01	9.857E-01	1.731E-01	17.56	
RA-224	1.41E+10Y	1.00	1.019E+00	1.019E+00	0.568E+00	55.81	
RA-226	1600.00Y	1.00	8.846E-01	8.846E-01	1.773E-01	20.04	
AC-228	1.41E+10Y	1.00	1.248E+00	1.248E+00	0.318E+00	25.46	
RA-228	1.41E+10Y	1.00	1.248E+00	1.248E+00	0.318E+00	25.46	
TH-228	1.91Y	1.02	1.051E+00	1.067E+00	0.179E+00	16.74	
TH-230	4.47E+09Y	1.00	8.846E-01	8.846E-01	1.773E-01	20.04	
TH-232	1.41E+10Y	1.00	1.248E+00	1.248E+00	0.318E+00	25.46	
TH-234	4.47E+09Y	1.00	2.502E+00	2.502E+00	0.989E+00	39.53	
U-234	4.47E+09Y	1.00	8.846E-01	8.846E-01	1.773E-01	20.04	
NP-237	2.14E+06Y	1.00	7.929E-01	7.929E-01	2.904E-01	36.63	
U-238	4.47E+09Y	1.00	2.502E+00	2.502E+00	0.989E+00	39.53	
AM-243	7380.00Y	1.00	2.491E-01	2.491E-01	0.528E-01	21.21	
ANH-511	1.00E+09Y	1.00	1.322E-01	1.322E-01	0.684E-01	51.72	

Total Activity : 5.221E+01 5.230E+01

Grand Total Activity : 5.221E+01 5.230E+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	128.98	123	269	1.61	257.77	255	7	1.71E-02	47.5	6.57E+00	T
0	185.71	249	393	1.14	371.24	366	11	3.46E-02	35.8	5.53E+00	T
0	208.91	92	253	1.52	417.66	414	8	1.27E-02	63.5	5.15E+00	T
0	462.81	68	168	1.44	925.61	921	13	9.44E-03	82.5	2.77E+00	T
0	727.30	46	113	1.11	1454.76	1450	12	6.44E-03	95.6	1.86E+00	T
0	1377.72	26	32	3.08	2756.15	2748	13	3.61E-03	98.5	1.09E+00	T
0	1406.99	32	12	1.63	2814.72	2808	12	4.44E-03	55.9	1.07E+00	T
0	1729.15	29	17	5.20	3459.37	3448	16	3.96E-03	73.5	9.13E-01	
0	1847.00	21	3	1.60	3695.21	3689	12	2.94E-03	54.3	8.67E-01	

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]G243274005.CNF;1
* Acquisition date   : 31-DEC-2009 14:35:08   Detector SN#      :
* Detector ID        : GAM13                  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 02:00:01.60          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G243274005            Analyst initials: MXR1
* Batch Number       : 935341                Sample Quantity  : 1.52200E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22.03MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A               LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.711E+01	1.804E+00	6.220E-01	3.803E-02	27.514
CD-109	2.747E+00	8.314E-01	9.906E-01	7.817E-02	2.773
SN-126	2.700E-01	8.172E-02	1.057E-01	8.363E-03	2.554
BA-137M	6.407E-01	1.041E-01	6.597E-02	5.381E-03	9.712
CS-137	6.773E-01	1.101E-01	6.974E-02	5.700E-03	9.712
TL-208	3.700E-01	9.425E-02	6.306E-02	5.220E-03	5.868
BI-210	1.998E+00	7.813E-01	6.594E-01	5.375E-02	3.030
PB-210	1.998E+00	7.813E-01	6.594E-01	5.375E-02	3.030
PO-210	1.998E+00	7.773E-01	6.594E-01	4.701E-02	3.030
BI-211	2.834E+00	4.752E-01	3.296E-01	2.403E-02	8.597
PB-212	1.051E+00	1.759E-01	9.459E-02	8.593E-03	11.109
PO-212	1.051E+00	1.759E-01	9.459E-02	8.593E-03	11.109
BI-214	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
PB-214	9.857E-01	1.731E-01	1.149E-01	1.029E-02	8.576
PO-214	9.857E-01	1.731E-01	1.149E-01	1.029E-02	8.576
PO-216	1.051E+00	1.759E-01	9.459E-02	8.593E-03	11.109
PO-218	9.857E-01	1.731E-01	1.149E-01	1.029E-02	8.576
RA-224	1.019E+00	5.685E-01	9.933E-01	7.841E-02	1.026

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
AC-228	1.248E+00	3.177E-01	2.211E-01	2.296E-02	5.643
RA-228	1.248E+00	3.177E-01	2.211E-01	2.296E-02	5.643
TH-228	1.067E+00	1.786E-01	9.602E-02	8.723E-03	11.109
TH-230	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
TH-232	1.248E+00	3.177E-01	2.211E-01	2.296E-02	5.643
TH-234	2.502E+00	9.892E-01	8.544E-01	1.568E-01	2.929
U-234	8.846E-01	1.773E-01	1.145E-01	1.071E-02	7.725
NP-237	7.929E-01	2.904E-01	3.066E-01	6.782E-02	2.586
U-238	2.502E+00	9.892E-01	8.544E-01	1.568E-01	2.929
AM-243	2.491E-01	5.284E-02	5.222E-02	4.511E-03	4.771
ANH-511	1.322E-01	6.836E-02	4.784E-02	3.338E-03	2.763

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.477E-01		3.350E-01	5.448E-01	4.096E-02	-0.271
NA-22	-1.901E-02		5.071E-02	8.169E-02	4.611E-03	-0.233
NA-24	5.556E-02		4.577E-01	Half-Life	too short	
AL-26	-9.749E-03		3.279E-02	5.171E-02	2.918E-03	-0.189
TI-44	2.501E-01	+	4.133E-02	4.694E-02	3.953E-03	5.329
SC-46	-8.565E-04		4.172E-02	6.895E-02	5.221E-03	-0.012
V-48	-1.144E-02		7.584E-02	1.227E-01	8.681E-03	-0.093
CR-51	-2.083E-01		3.576E-01	5.647E-01	4.395E-02	-0.369
MN-52	5.184E-02		2.472E-01	4.167E-01	2.395E-02	0.124
MN-54	-3.516E-03		4.354E-02	7.210E-02	5.658E-03	-0.049
CO-56	-1.411E-02		4.328E-02	7.014E-02	5.467E-03	-0.201
CO-57	-1.856E-03		2.205E-02	3.583E-02	4.532E-03	-0.052
CO-58	2.644E-03		4.210E-02	7.062E-02	5.625E-03	0.037
FE-59	1.728E-02		1.046E-01	1.721E-01	1.229E-02	0.100
CO-60	3.680E-02		4.285E-02	7.675E-02	4.365E-03	0.479
ZN-65	2.349E-02		1.126E-01	1.600E-01	9.716E-03	0.147
GE-68	9.777E-01		1.441E+00	2.471E+00	1.579E-01	0.396
AS-73	2.966E-02		2.003E-01	3.335E-01	2.817E-02	0.089
AS-74	-8.133E-02		9.868E-02	1.521E-01	1.168E-02	-0.535
SE-75	2.176E-02		4.110E-02	6.984E-02	5.471E-03	0.312
BR-77	-4.422E+00		1.110E+01	1.795E+01	1.268E+00	-0.246
SR-82	-5.966E-02		4.290E-01	7.120E-01	5.731E-02	-0.084
RB-83	-5.492E-02		7.438E-02	1.174E-01	8.291E-03	-0.468
RB-84	-3.818E-02		7.462E-02	1.182E-01	9.002E-03	-0.323
KR-85	1.182E+01		8.199E+00	1.319E+01	9.240E-01	0.896
SR-85	6.060E-02		4.203E-02	6.762E-02	4.737E-03	0.896
RB-86	1.025E+00		9.023E-01	1.600E+00	1.024E-01	0.640
Y-88	-2.715E-02		3.737E-02	5.269E-02	2.967E-03	-0.515
ZR-88	-1.015E-02		2.967E-02	4.656E-02	2.727E-03	-0.218
Y-91	-1.174E+01		1.760E+01	2.765E+01	1.532E+00	-0.425
NB-94	-8.511E-03		4.092E-02	6.160E-02	5.028E-03	-0.138

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	5.289E-02		4.877E-02	8.686E-02	7.014E-03	0.609
NB-95M	1.861E-01		1.231E-01	1.953E-01	1.807E-02	0.953
ZR-95	-1.396E-02		8.419E-02	1.305E-01	1.178E-02	-0.107
NB-97	1.359E-01		7.169E-02	Half-Life too short		
ZR-97	4.020E+00		1.100E+00	Half-Life too short		
MO-99	7.899E-01		1.323E+01	2.137E+01	3.186E+00	0.037
TC-99M	3.521E+09		1.656E+10	Half-Life too short		
RH-101	-2.171E-02		2.942E-02	4.666E-02	3.694E-03	-0.465
RH-102	-8.256E-03		3.029E-02	4.982E-02	3.315E-03	-0.166
RU-103	-2.665E-02		4.403E-02	7.041E-02	9.268E-03	-0.378
RH-106	-2.341E-01		3.436E-01	5.307E-01	6.841E-02	-0.441
RU-106	-2.341E-01		3.427E-01	5.307E-01	4.179E-02	-0.441
AG-108M	1.325E-02		3.460E-02	5.947E-02	4.001E-03	0.223
AG-110M	2.780E-02		5.032E-02	7.413E-02	6.228E-03	0.375
IN-111	-1.895E-01		1.033E+00	1.497E+00	1.179E-01	-0.127
IN-113M	-3.691E-02		4.422E-02	6.704E-02	4.177E-03	-0.551
SN-113	-3.691E-02		4.422E-02	6.704E-02	4.177E-03	-0.551
IN-114M	3.450E-02		1.870E-01	2.654E-01	2.098E-02	0.130
CD-115	-7.971E+00		1.161E+01	1.835E+01	1.308E+00	-0.434
SN-117M	-5.840E-02		5.273E-02	7.989E-02	6.977E-03	-0.731
SB-122	5.382E-02		2.280E+00	3.764E+00	2.795E-01	0.014
I-123	-2.487E+00		2.706E+00	Half-Life too short		
TE-123M	-1.243E-02		2.704E-02	4.239E-02	3.701E-03	-0.293
I-124	2.579E-02		8.033E-01	1.143E+00	8.836E-02	0.023
SB-124	-4.586E-02		7.380E-02	1.044E-01	6.505E-03	-0.439
SB-125	-3.423E-02		9.316E-02	1.538E-01	9.900E-03	-0.223
TE-125M	-3.488E+00		8.033E+00	1.296E+01	1.574E+00	-0.269
I-126	3.413E-02		2.406E-01	3.343E-01	2.728E-02	0.102
SB-126	-1.095E-01		1.869E-01	2.566E-01	2.092E-02	-0.427
SB-127	7.514E-01		1.536E+00	2.574E+00	2.842E-01	0.292
XE-127	3.225E-02		4.223E-02	7.336E-02	5.814E-03	0.440
I-131	7.787E-04		1.182E-01	1.912E-01	1.354E-02	0.004
TE-132	-1.324E-01		6.391E-01	1.062E+00	1.629E-01	-0.125
BA-133	2.204E-03		5.238E-02	7.561E-02	9.077E-03	0.029
I-133	-1.151E-03		3.179E-03	Half-Life too short		
CS-134	4.873E-02		5.162E-02	9.150E-02	7.375E-03	0.533
CS-135	-3.627E-02		1.531E-01	2.509E-01	2.318E-02	-0.145
I-135	-1.050E+09		2.898E+09	Half-Life too short		
CS-136	8.115E-02		1.125E-01	1.952E-01	1.385E-02	0.416
CE-139	-4.903E-02		2.888E-02	4.210E-02	3.301E-03	-1.165
BA-140	-3.780E-02		2.772E-01	4.543E-01	1.490E-01	-0.083
LA-140	-5.945E-02		9.415E-02	1.394E-01	8.036E-03	-0.426
CE-141	2.213E-02		5.608E-02	9.183E-02	9.525E-03	0.241
CE-143	6.040E-04		1.043E-04	Half-Life too short		
CE-144	2.218E-01		1.963E-01	3.132E-01	5.429E-02	0.708
PM-144	-8.210E-03		3.731E-02	5.932E-02	4.845E-03	-0.138
PR-144	-5.563E-01		2.528E+00	4.020E+00	3.282E-01	-0.138
PM-146	1.187E-02		4.790E-02	8.145E-02	7.393E-03	0.146

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-1.265E-02		5.913E-01	9.783E-01	1.385E-01	-0.013
PM-149	4.226E+01		8.421E+01	1.421E+02	2.134E+01	0.297
EU-152	-4.124E-02		1.260E-01	1.445E-01	1.083E-02	-0.285
GD-153	-1.270E-02		6.779E-02	9.759E-02	8.880E-03	-0.130
EU-154	-4.985E-02		1.420E-01	2.291E-01	2.116E-02	-0.218
EU-155	7.001E-02		9.109E-02	1.538E-01	1.578E-02	0.455
TB-160	3.971E-02		1.531E-01	2.589E-01	1.975E-02	0.153
HO-166M	-1.014E-01		7.138E-02	1.018E-01	8.304E-03	-0.996
TM-171	-4.397E-01		1.433E+01	2.156E+01	1.968E+00	-0.020
LU-176	-2.454E-02		2.413E-02	3.726E-02	2.762E-03	-0.659
LU-177	1.911E+00	+	1.223E+00	1.730E+00	1.372E-01	1.105
LU-177M	5.212E-02		1.800E-01	2.932E-01	1.778E-02	0.178
HF-181	3.024E-03		4.479E-02	7.512E-02	5.047E-03	0.040
W-181	-9.339E-02		1.739E-01	2.561E-01	2.362E-02	-0.365
TA-182	-6.354E-02		2.091E-01	3.411E-01	1.898E-02	-0.186
RE-183	7.327E-02		1.060E-01	1.694E-01	1.402E-02	0.433
RE-184	1.185E-01		2.267E-01	3.858E-01	3.028E-02	0.307
OS-185	9.394E-03		4.898E-02	8.083E-02	6.506E-03	0.116
RE-188	1.439E-01		1.642E-01	2.722E-01	2.491E-02	0.529
W-188	2.996E+00		7.681E+00	1.141E+01	8.655E-01	0.263
IR-192	-2.654E-03		3.294E-02	5.365E-02	3.924E-03	-0.049
AU-195	2.064E-02		1.815E-01	2.911E-01	2.706E-02	0.071
TL-200	4.807E-05		2.385E-04	Half-Life too short		
TL-201	1.392E+00		6.503E+00	1.047E+01	8.208E-01	0.133
TL-202	-9.146E-03		7.175E-02	1.199E-01	7.575E-03	-0.076
HG-203	1.688E-02		3.780E-02	6.376E-02	5.077E-03	0.265
BI-207	4.816E-02		5.602E-02	9.794E-02	6.370E-03	0.492
TL-207	-2.277E-01		6.815E-01	1.092E+00	1.862E-01	-0.209
PO-209	1.065E+00		8.010E+00	1.340E+01	1.009E+00	0.079
PB-211	-3.890E-01		1.060E+00	1.617E+00	1.009E+00	-0.240
BI-212	5.221E-01	+	5.018E-01	6.285E-01	6.033E-02	0.831
PO-215	-2.277E-01		6.815E-01	1.092E+00	1.862E-01	-0.209
RN-219	2.590E-01		4.388E-01	7.264E-01	9.929E-02	0.357
RN-220	9.199E+00		2.881E+01	4.855E+01	3.549E+00	0.189
RA-223	-2.277E-01		6.815E-01	1.092E+00	1.862E-01	-0.209
AC-227	-6.594E-02		3.646E-01	6.009E-01	8.966E-02	-0.110
TH-227	-6.594E-02		3.646E-01	6.009E-01	1.064E-01	-0.110
TH-229	2.192E-01		4.394E-01	7.593E-01	6.007E-02	0.289
PA-231	-1.726E-01		1.349E+00	2.209E+00	3.238E-01	-0.078
TH-231	-2.277E-01		6.815E-01	1.092E+00	1.862E-01	-0.209
U-231	-4.484E-01		8.695E-01	1.254E+00	1.115E-01	-0.358
PA-233	2.268E-02		6.141E-02	1.026E-01	7.832E-03	0.221
PA-234	-1.637E-01		3.143E-01	4.907E-01	8.926E-02	-0.334
PA-234M	5.803E+00		5.478E+00	9.509E+00	8.150E-01	0.610
U-235	1.182E-01		1.986E-01	3.213E-01	5.932E-02	0.368
NP-236	-4.630E-02		7.593E-02	1.181E-01	1.006E-02	-0.392
NP-239	-2.490E-01		1.693E-01	2.557E-01	3.035E-02	-0.974
AM-241	5.657E-02		5.700E-02	9.045E-02	9.198E-03	0.625

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.116E-02		7.974E-02	1.293E-01	1.288E-02	-0.241
AM-246	1.058E-01		1.618E-01	2.772E-01	1.768E-02	0.381
CM-247	1.132E-02		3.971E-02	6.475E-02	3.856E-03	0.175
CF-249	3.374E-02		4.098E-02	6.911E-02	4.104E-03	0.488
CF-251	3.257E-02		1.220E-01	1.961E-01	1.543E-02	0.166

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]G243274005           *
* Acquisition date   : 31-DEC-2009 14:35:08 Detector SN#      :             *
* Detector ID        : GAM13                                           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 02:00:01.60 Half life ratio : 8.000          *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274005 Analyst initials: MXR1              *
* Batch Number       : 935341 Sample Quantity : 1.5220E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                *
*****
*
*                                     QC DATA                              *
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 MS Isotope           :             *
* MSD DPM             : 0.000 MSD Isotope                       :             *
* LCS DPM             : 0.000 LCS Isotope                       :             *
* LCSD DPM            : 0.000 LCSD Isotope                      :             *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.711E+01	1.768E+00	3.135E-01	9.020E-01
CD-109	2.747E+00	8.148E-01	5.357E-01	4.157E-01
SN-126	2.700E-01	8.009E-02	5.718E-02	4.086E-02
BA-137M	6.407E-01	1.021E-01	3.395E-02	5.207E-02
CS-137	6.773E-01	1.079E-01	3.589E-02	5.507E-02
TL-208	3.700E-01	9.236E-02	3.256E-02	4.712E-02
BI-210	1.998E+00	7.656E-01	3.618E-01	3.906E-01
PB-210	1.998E+00	7.656E-01	3.618E-01	3.906E-01
PO-210	1.998E+00	7.617E-01	3.618E-01	3.886E-01
BI-211	2.834E+00	4.657E-01	1.724E-01	2.376E-01
PB-212	1.051E+00	1.724E-01	4.994E-02	8.794E-02
PO-212	1.051E+00	1.724E-01	4.994E-02	8.794E-02
BI-214	8.846E-01	1.737E-01	5.906E-02	8.863E-02
PB-214	9.857E-01	1.697E-01	6.010E-02	8.656E-02
PO-214	9.857E-01	1.697E-01	6.010E-02	8.656E-02
PO-216	1.051E+00	1.724E-01	4.994E-02	8.794E-02
PO-218	9.857E-01	1.697E-01	6.010E-02	8.656E-02
RA-224	1.019E+00	5.571E-01	5.244E-01	2.842E-01
RA-226	8.846E-01	1.737E-01	5.906E-02	8.863E-02
AC-228	1.248E+00	3.113E-01	1.129E-01	1.588E-01
RA-228	1.248E+00	3.113E-01	1.129E-01	1.588E-01
TH-228	1.067E+00	1.750E-01	5.070E-02	8.928E-02
TH-230	8.846E-01	1.737E-01	5.906E-02	8.863E-02
TH-232	1.248E+00	3.113E-01	1.129E-01	1.588E-01
TH-234	2.502E+00	9.694E-01	4.655E-01	4.946E-01
U-234	8.846E-01	1.737E-01	5.906E-02	8.863E-02
NP-237	7.929E-01	2.846E-01	1.659E-01	1.452E-01
U-238	2.502E+00	9.694E-01	4.655E-01	4.946E-01
AM-243	2.491E-01	5.179E-02	2.835E-02	2.642E-02
ANH-511	1.322E-01	6.699E-02	2.478E-02	3.418E-02

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.477E-01	3.283E-01	2.828E-01	1.675E-01 NOT IDENT.
NA-22	-1.901E-02	4.969E-02	4.133E-02	2.535E-02 NOT IDENT.
NA-24	5.556E+04	8.971E+05	0.000E+00	4.577E+05 SHORT HLIF
AL-26	-9.749E-03	3.213E-02	2.592E-02	1.639E-02 NOT IDENT.
TI-44	2.501E-01	4.051E-02	2.545E-02	2.067E-02 FAIL ABUN
SC-46	-8.565E-04	4.088E-02	3.522E-02	2.086E-02 FAIL ABUN
V-48	-1.144E-02	7.432E-02	6.251E-02	3.792E-02 NOT IDENT.
CR-51	-2.083E-01	3.505E-01	2.960E-01	1.788E-01 NOT IDENT.
MN-52	5.184E-02	2.422E-01	2.101E-01	1.236E-01 NOT IDENT.
MN-54	-3.516E-03	4.267E-02	3.689E-02	2.177E-02 NOT IDENT.
CO-56	-1.411E-02	4.242E-02	3.587E-02	2.164E-02 NOT IDENT.
CO-57	-1.856E-03	2.161E-02	1.923E-02	1.103E-02 NOT IDENT.
CO-58	2.644E-03	4.126E-02	3.616E-02	2.105E-02 NOT IDENT.
FE-59	1.728E-02	1.025E-01	8.741E-02	5.230E-02 NOT IDENT.
CO-60	3.680E-02	4.200E-02	3.878E-02	2.143E-02 NOT IDENT.
ZN-65	2.349E-02	1.103E-01	8.125E-02	5.628E-02 NOT IDENT.
GE-68	9.777E-01	1.412E+00	1.256E+00	7.203E-01 NOT IDENT.
AS-73	2.966E-02	1.963E-01	1.824E-01	1.002E-01 NOT IDENT.
AS-74	-8.133E-02	9.671E-02	7.849E-02	4.934E-02 NOT IDENT.
SE-75	2.176E-02	4.028E-02	3.678E-02	2.055E-02 NOT IDENT.
BR-77	-4.422E+00	1.088E+01	9.294E+00	5.552E+00 FAIL ABUN
SR-82	-5.966E-02	4.204E-01	3.650E-01	2.145E-01 NOT IDENT.
RB-83	-5.492E-02	7.289E-02	6.080E-02	3.719E-02 NOT IDENT.
RB-84	-3.818E-02	7.313E-02	6.038E-02	3.731E-02 NOT IDENT.
KR-85	1.182E+01	8.035E+00	6.833E+00	4.099E+00 NOT IDENT.
SR-85	6.060E-02	4.119E-02	3.503E-02	2.102E-02 NOT IDENT.
RB-86	1.025E+00	8.842E-01	8.132E-01	4.511E-01 NOT IDENT.
Y-88	-2.715E-02	3.663E-02	2.639E-02	1.869E-02 NOT IDENT.
ZR-88	-1.015E-02	2.908E-02	2.428E-02	1.484E-02 NOT IDENT.
Y-91	-1.174E+01	1.724E+01	1.401E+01	8.798E+00 NOT IDENT.
NB-94	-8.511E-03	4.010E-02	3.166E-02	2.046E-02 NOT IDENT.
NB-95	5.289E-02	4.780E-02	4.454E-02	2.439E-02 NOT IDENT.
NB-95M	1.861E-01	1.207E-01	1.032E-01	6.156E-02 NOT IDENT.
ZR-95	-1.396E-02	8.251E-02	6.695E-02	4.210E-02 NOT IDENT.
NB-97	1.359E+05	1.405E+05	0.000E+00	7.169E+04 SHORT HLIF
ZR-97	4.020E+06	2.156E+06	0.000E+00	1.100E+06 SHORT HLIF
MO-99	7.899E-01	1.296E+01	1.097E+01	6.613E+00 NOT IDENT.
TC-99M	3.521E+15	3.246E+16	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-2.171E-02	2.883E-02	2.475E-02	1.471E-02 NOT IDENT.
RH-102	-8.256E-03	2.968E-02	2.586E-02	1.514E-02 NOT IDENT.
RU-103	-2.665E-02	4.315E-02	3.650E-02	2.202E-02 FAIL ABUN
RH-106	-2.341E-01	3.367E-01	2.736E-01	1.718E-01 FAIL ABUN
RU-106	-2.341E-01	3.359E-01	2.736E-01	1.714E-01 FAIL ABUN
AG-108M	1.325E-02	3.391E-02	3.094E-02	1.730E-02 NOT IDENT.
AG-110M	2.780E-02	4.931E-02	3.816E-02	2.516E-02 NOT IDENT.
IN-111	-1.895E-01	1.012E+00	7.898E-01	5.163E-01 NOT IDENT.
IN-113M	-3.691E-02	4.334E-02	3.497E-02	2.211E-02 NOT IDENT.
SN-113	-3.691E-02	4.334E-02	3.497E-02	2.211E-02 NOT IDENT.
IN-114M	3.450E-02	1.833E-01	1.409E-01	9.351E-02 NOT IDENT.
CD-115	-7.971E+00	1.138E+01	9.501E+00	5.804E+00 NOT IDENT.
SN-117M	-5.840E-02	5.168E-02	4.260E-02	2.637E-02 NOT IDENT.
SB-122	5.382E-02	2.234E+00	1.945E+00	1.140E+00 NOT IDENT.
I-123	-2.487E+06	5.303E+06	0.000E+00	2.706E+06 SHORT HLIF
TE-123M	-1.243E-02	2.650E-02	2.260E-02	1.352E-02 NOT IDENT.
I-124	2.579E-02	7.872E-01	5.896E-01	4.017E-01 FAIL ABUN
SB-124	-4.586E-02	7.232E-02	5.244E-02	3.690E-02 FAIL ABUN
SB-125	-3.423E-02	9.129E-02	8.006E-02	4.658E-02 FAIL ABUN
TE-125M	-3.488E+00	7.873E+00	6.971E+00	4.017E+00 NOT IDENT.
I-126	3.413E-02	2.358E-01	1.720E-01	1.203E-01 NOT IDENT.
SB-126	-1.095E-01	1.831E-01	1.318E-01	9.343E-02 FAIL ABUN
SB-127	7.514E-01	1.506E+00	1.324E+00	7.681E-01 NOT IDENT.
XE-127	3.225E-02	4.138E-02	3.889E-02	2.111E-02 NOT IDENT.
I-131	7.787E-04	1.158E-01	9.988E-02	5.908E-02 NOT IDENT.
TE-132	-1.324E-01	6.264E-01	5.613E-01	3.196E-01 NOT IDENT.
BA-133	2.204E-03	5.134E-02	3.953E-02	2.619E-02 NOT IDENT.
I-133	-1.151E+03	6.232E+03	0.000E+00	3.179E+03 SHORT HLIF
CS-134	4.873E-02	5.059E-02	4.687E-02	2.581E-02 NOT IDENT.
CS-135	-3.627E-02	1.500E-01	1.321E-01	7.655E-02 NOT IDENT.
I-135	-1.050E+15	5.680E+15	0.000E+00	2.898E+15 SHORT HLIF
CS-136	8.115E-02	1.103E-01	9.924E-02	5.627E-02 FAIL ABUN
CE-139	-4.903E-02	2.831E-02	2.243E-02	1.444E-02 NOT IDENT.
BA-140	-3.780E-02	2.716E-01	2.350E-01	1.386E-01 NOT IDENT.
LA-140	-5.945E-02	9.227E-02	7.012E-02	4.708E-02 NOT IDENT.
CE-141	2.213E-02	5.496E-02	4.907E-02	2.804E-02 NOT IDENT.
CE-143	6.040E+02	2.044E+02	0.000E+00	1.043E+02 SHORT HLIF

CE-144	2.218E-01	1.924E-01	1.677E-01	9.816E-02	NOT IDENT.
PM-144	-8.210E-03	3.656E-02	3.049E-02	1.865E-02	NOT IDENT.
PR-144	-5.563E-01	2.478E+00	2.066E+00	1.264E+00	NOT IDENT.
PM-146	1.187E-02	4.694E-02	4.232E-02	2.395E-02	NOT IDENT.
ND-147	-1.265E-02	5.794E-01	5.063E-01	2.956E-01	NOT IDENT.
PM-149	4.226E+01	8.253E+01	7.468E+01	4.210E+01	NOT IDENT.
EU-152	-4.124E-02	1.235E-01	7.561E-02	6.299E-02	FAIL ABUN
GD-153	-1.270E-02	6.644E-02	5.264E-02	3.390E-02	NOT IDENT.
EU-154	-4.985E-02	1.391E-01	1.159E-01	7.098E-02	NOT IDENT.
EU-155	7.001E-02	8.927E-02	8.279E-02	4.555E-02	FAIL ABUN
TB-160	3.971E-02	1.501E-01	1.323E-01	7.656E-02	FAIL ABUN
HO-166M	-1.014E-01	6.996E-02	5.229E-02	3.569E-02	FAIL ABUN
TM-171	-4.397E-01	1.404E+01	1.173E+01	7.166E+00	NOT IDENT.
LU-176	-2.454E-02	2.364E-02	1.955E-02	1.206E-02	FAIL ABUN
LU-177	1.911E+00	1.198E+00	9.164E-01	6.114E-01	FAIL ABUN
LU-177M	5.212E-02	1.764E-01	1.527E-01	8.999E-02	NOT IDENT.
HF-181	3.024E-03	4.389E-02	3.897E-02	2.239E-02	NOT IDENT.
W-181	-9.339E-02	1.704E-01	1.394E-01	8.695E-02	NOT IDENT.
TA-182	-6.354E-02	2.050E-01	1.727E-01	1.046E-01	NOT IDENT.
RE-183	7.327E-02	1.039E-01	9.028E-02	5.300E-02	FAIL ABUN
RE-184	1.185E-01	2.222E-01	2.034E-01	1.134E-01	NOT IDENT.
OS-185	9.394E-03	4.800E-02	4.163E-02	2.449E-02	NOT IDENT.
RE-188	1.439E-01	1.609E-01	1.452E-01	8.211E-02	NOT IDENT.
W-188	2.996E+00	7.528E+00	5.994E+00	3.841E+00	FAIL ABUN
IR-192	-2.654E-03	3.228E-02	2.813E-02	1.647E-02	FAIL ABUN
AU-195	2.064E-02	1.778E-01	1.570E-01	9.073E-02	FAIL ABUN
TL-200	4.807E+01	4.674E+02	0.000E+00	2.385E+02	SHORT HLIF
TL-201	1.392E+00	6.373E+00	5.578E+00	3.252E+00	NOT IDENT.
TL-202	-9.146E-03	7.031E-02	6.235E-02	3.587E-02	NOT IDENT.
HG-203	1.688E-02	3.704E-02	3.354E-02	1.890E-02	NOT IDENT.
BI-207	4.816E-02	5.490E-02	4.979E-02	2.801E-02	FAIL ABUN
TL-207	-2.277E-01	6.679E-01	5.722E-01	3.408E-01	FAIL ABUN
PO-209	1.065E+00	7.850E+00	6.840E+00	4.005E+00	NOT IDENT.
PB-211	-3.890E-01	1.039E+00	8.429E-01	5.302E-01	NOT IDENT.
BI-212	5.221E-01	4.918E-01	3.227E-01	2.509E-01	FAIL ABUN
PO-215	-2.277E-01	6.679E-01	5.722E-01	3.408E-01	FAIL ABUN
RN-219	2.590E-01	4.301E-01	3.786E-01	2.194E-01	NOT IDENT.
RN-220	9.199E+00	2.824E+01	2.511E+01	1.441E+01	NOT IDENT.
RA-223	-2.277E-01	6.679E-01	5.722E-01	3.408E-01	FAIL ABUN
AC-227	-6.594E-02	3.573E-01	3.167E-01	1.823E-01	FAIL ABUN
TH-227	-6.594E-02	3.573E-01	3.167E-01	1.823E-01	FAIL ABUN
TH-229	2.192E-01	4.306E-01	4.030E-01	2.197E-01	FAIL ABUN
PA-231	-1.726E-01	1.322E+00	1.162E+00	6.743E-01	FAIL ABUN
TH-231	-2.277E-01	6.679E-01	5.722E-01	3.408E-01	FAIL ABUN
U-231	-4.484E-01	8.521E-01	6.768E-01	4.347E-01	FAIL ABUN
PA-233	2.268E-02	6.019E-02	5.379E-02	3.071E-02	FAIL ABUN
PA-234	-1.637E-01	3.080E-01	2.502E-01	1.571E-01	FAIL ABUN
PA-234M	5.803E+00	5.368E+00	4.841E+00	2.739E+00	NOT IDENT.
U-235	1.182E-01	1.946E-01	1.717E-01	9.930E-02	FAIL ABUN
NP-236	-4.630E-02	7.441E-02	6.294E-02	3.797E-02	NOT IDENT.
NP-239	-2.490E-01	1.659E-01	1.374E-01	8.465E-02	FAIL ABUN
AM-241	5.657E-02	5.586E-02	4.935E-02	2.850E-02	NOT IDENT.
CM-243	-3.116E-02	7.815E-02	6.966E-02	3.987E-02	FAIL ABUN
AM-246	1.058E-01	1.585E-01	1.409E-01	8.089E-02	NOT IDENT.
CM-247	1.132E-02	3.892E-02	3.375E-02	1.985E-02	NOT IDENT.
CF-249	3.374E-02	4.016E-02	3.605E-02	2.049E-02	NOT IDENT.
CF-251	3.257E-02	1.195E-01	1.043E-01	6.098E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY MDA COUNTS

46.50	287.9627
46.50	287.9627
46.50	287.9627
48.70	291.9095
49.72	324.5953
51.35	351.2349
52.39	360.3231
52.97	364.5457
53.15	345.2450
53.44	345.6363
54.07	346.4829
56.28	375.2297
56.28	375.2341
57.37	0.0000
57.53	399.4680
57.53	399.4716
57.60	413.4094
57.98	419.1858
57.98	419.1858
59.32	375.9840
59.32	375.9840
59.40	376.0928
59.54	376.2828
59.72	406.5978
60.01	407.0225
61.10	420.4321
61.14	420.4919
61.30	433.8778
63.00	437.3509
63.29	437.7899
63.29	437.7899
63.58	422.7671
64.28	441.0540
65.12	450.3091
65.20	450.4309
65.20	450.4309
66.05	442.3670
66.72	448.7122
66.83	448.8809
66.91	448.9984
67.20	474.9205
67.20	474.9205
67.75	457.8618
67.85	458.0151
68.90	476.2290
68.90	476.2290
69.30	503.8625
69.67	501.7651
70.82	477.8232
70.82	477.8232
70.83	477.8394
72.80	486.2815
72.87	486.3874
72.87	486.3874
74.67	489.1035
74.81	489.3126
74.81	489.3126
74.81	489.3126
74.81	489.3126
74.81	489.3126
74.81	489.3126
74.81	489.3126
74.97	489.5543
75.28	490.0161
75.70	490.6435
77.11	492.7348
77.11	492.7348

77.11	492.7348
77.11	492.7348
77.11	492.7348
77.11	492.7348
77.11	492.7348
78.38	482.0968
79.62	394.6178
79.80	394.8251
79.80	394.8251
80.11	414.7309
80.18	414.8170
80.30	398.1938
80.30	398.1938
80.57	457.2342
81.00	557.2037
81.07	557.3175
81.07	557.3175
81.07	557.3175
81.07	557.3175
82.60	529.9526
83.37	494.7399
83.78	423.3490
83.78	423.3490
83.78	423.3490
83.78	423.3490
84.21	447.8805
84.90	436.0059
85.43	496.1929
86.29	596.8511
86.50	597.1971
86.54	597.2612
86.59	597.3445
86.72	597.5560
86.79	595.7708
86.94	596.0199
87.30	596.6077
87.30	596.6077
87.30	596.6077
87.30	596.6077
87.30	596.6077
87.30	596.6077
87.57	610.3585
87.88	610.8744
88.03	516.8840
88.36	517.3480
88.47	451.7427
89.95	519.5658
91.11	521.1732
92.29	459.2527
92.38	459.3619
92.38	459.3619
93.35	460.5265
94.00	303.1833
94.67	303.7047
94.67	303.7095
94.90	303.8881
94.90	303.8881
94.90	303.8881
94.90	303.8881
95.87	351.2880
95.87	351.2880
96.73	353.5210
97.43	307.3144
98.44	309.0727
98.44	309.0727
98.88	304.5177
99.55	302.0831
99.55	302.0831
99.86	317.0381
100.00	322.0576
100.10	322.1393
103.18	364.1498
103.76	350.7860
105.00	330.9591
105.31	331.2030
108.00	383.3545
109.28	364.4180

111.00	367.8775
111.00	367.8775
111.76	349.3314
112.95	340.1511
115.19	319.4780
116.30	338.6228
117.00	358.5535
117.00	358.5535
117.66	340.6590
121.11	293.7396
121.62	317.7910
121.78	317.8991
122.06	300.5319
122.32	314.1309
122.32	314.1309
122.32	314.1309
122.32	314.1309
123.07	305.3156
127.23	269.3504
129.76	300.6554
131.20	323.6345
133.02	277.2827
133.54	279.1545
135.34	291.8238
136.00	323.0155
136.25	323.1732
136.48	344.5895
140.51	301.1923
140.51	0.0000
142.18	343.0100
142.65	315.3333
143.76	273.9342
144.24	289.2919
144.24	289.2919
144.24	289.2919
144.24	289.2919
145.22	297.3907
145.44	288.8589
147.16	310.4007
152.43	285.9971
152.70	283.9426
153.22	310.5417
154.21	298.9969
154.21	298.9969
154.21	298.9969
154.21	298.9969
155.03	300.5349
156.02	312.0876
158.56	336.7429
159.00	0.0000
159.00	315.9370
160.31	319.9863
161.27	262.6455
162.32	260.8887
162.64	283.3419
163.35	291.5010
163.89	291.7691
165.85	345.4504
167.43	277.7670
171.28	307.8345
171.86	291.1354
172.10	295.7809
176.55	283.0768
176.60	283.0995
181.06	279.3595
184.41	258.2855
185.71	267.4885
186.00	267.6084
190.27	253.6128
192.34	278.9657
193.63	246.9834
197.04	226.1465
198.01	253.8905
198.60	290.4108
200.40	270.7541
201.83	264.1984
202.84	258.3454
205.31	297.5222

208.36	274.3853
208.81	261.4409
209.75	249.0106
209.75	249.0106
210.97	265.2951
215.65	245.7881
216.55	238.8253
218.09	243.8769
222.10	244.2808
223.80	236.5800
226.40	241.0755
227.00	242.1863
227.08	242.2123
227.20	243.1696
228.16	258.2318
228.18	253.6268
228.18	253.6268
231.56	0.0000
235.69	219.0322
236.00	219.1183
236.00	219.1183
238.63	300.6093
238.63	300.6093
238.63	300.6093
238.63	300.6093
239.00	300.7492
240.98	256.4990
241.98	250.8119
241.98	250.8119
241.98	250.8119
244.69	198.9152
245.39	200.5943
247.94	221.2710
248.90	214.9029
249.79	222.7168
252.40	203.4561
252.85	220.6896
252.85	220.6896
254.15	0.0000
256.20	226.3508
256.20	226.3508
260.50	203.5085
260.90	213.2062
262.80	212.7179
264.65	191.9553
268.24	240.2122
268.79	226.7982
269.46	194.9610
269.46	194.9610
269.46	194.9610
269.46	194.9610
271.23	190.4971
273.65	300.1750
276.40	181.8336
277.35	177.1334
277.60	182.0777
277.60	182.0777
278.00	193.9123
278.60	190.1221
279.20	190.2494
279.53	193.2606
280.46	228.8154
281.68	226.1711
283.67	168.5238
284.30	177.5143
285.00	174.6908
285.90	169.9214
286.10	169.9581
286.10	169.9581
287.40	186.0321
288.45	0.0000
290.67	176.3616
290.80	189.0999
291.72	187.6966
293.26	0.0000
293.70	186.5002
295.21	182.0103
295.21	182.0103

295.21	182.0103
295.96	179.7583
296.50	179.8599
297.23	180.0000
298.57	180.2554
299.80	180.4861
299.80	180.4861
300.09	221.4637
300.09	221.4637
300.09	221.4637
300.09	221.4637
300.12	221.4705
301.29	199.2477
302.84	197.9591
303.76	196.5374
303.91	180.4551
304.40	141.8592
304.40	141.8592
304.84	154.8258
306.84	199.9940
308.46	171.9974
311.98	163.4763
316.51	167.2857
318.01	145.0616
319.02	150.3219
319.41	161.6332
320.08	178.1180
323.87	204.4778
323.87	204.4778
323.87	204.4778
323.87	204.4778
325.23	190.3465
328.77	194.1016
333.44	172.5775
334.20	161.0802
334.20	161.0802
334.30	161.0967
338.28	154.2058
338.28	154.2058
338.28	154.2058
338.28	154.2058
338.32	154.2126
338.32	154.2126
338.32	154.2126
340.50	150.3545
340.57	150.3655
344.27	156.4769
345.85	134.3223
350.59	0.0000
351.07	169.7703
351.92	169.9030
351.92	169.9030
351.92	169.9030
355.39	0.0000
356.01	161.0083
364.48	154.7705
366.43	152.9019
367.43	159.4584
367.94	0.0000
369.80	147.9958
374.96	169.1363
383.85	161.7569
387.95	135.0876
388.63	147.1557
391.69	150.8154
391.69	150.8154
392.90	134.5594
398.62	148.3937
400.65	161.8534
401.10	152.0019
401.81	144.3766
402.60	153.2932
404.84	175.6725
410.95	168.7758
411.60	159.9763
413.65	133.5333
414.70	123.6233
415.30	125.9111

415.76	133.7604
417.63	0.0000
418.52	159.7491
423.70	133.4846
427.08	139.4641
427.89	144.9531
432.53	136.4419
433.93	140.2076
439.47	141.7159
439.56	141.7254
439.89	141.7616
443.98	125.7953
444.90	140.4780
445.03	145.0526
445.03	145.0526
445.03	145.0526
445.03	145.0526
453.90	146.9395
463.38	132.2488
468.07	131.4654
473.00	130.3818
475.06	130.5750
475.35	127.8020
476.78	126.0665
477.59	133.6139
477.96	132.7142
482.03	125.6005
484.57	133.3382
487.03	120.4000
490.36	0.0000
492.35	126.5116
497.08	137.3464
507.63	0.0000
510.53	0.0000
510.84	111.8684
511.00	111.8805
511.85	111.9455
511.85	111.9455
513.99	105.3990
513.99	105.3990
520.41	130.8701
520.65	123.1906
527.90	126.6824
528.96	0.0000
529.64	113.2723
529.87	0.0000
531.02	111.4371
537.32	115.7868
543.00	114.2550
546.56	0.0000
549.76	112.7876
552.65	128.7133
555.20	104.3179
563.23	103.8541
563.90	120.7163
568.70	112.1448
569.32	102.2582
569.50	102.2708
569.67	102.2808
573.80	133.8438
574.00	133.8602
574.64	135.7111
578.91	113.1784
579.30	0.0000
583.14	109.1304
585.48	93.5749
591.81	95.6077
592.07	95.6216
593.00	97.6891
595.88	119.0429
600.56	92.4911
602.52	0.0000
602.71	108.0417
602.71	108.0417
603.60	101.3428
604.41	111.5281
604.70	111.5469
609.31	100.6629

609.31	100.6629
609.31	100.6629
609.31	100.6629
610.33	106.8278
612.46	105.2607
614.37	91.7798
618.01	89.9271
621.84	107.5353
621.84	107.5353
631.29	107.0824
633.02	91.7269
633.10	91.7313
634.78	83.5649
635.90	97.0385
636.97	97.0958
645.85	101.7276
646.12	102.7802
656.30	118.3193
657.75	120.1548
657.90	0.0000
661.65	108.8928
661.65	108.8928
664.57	0.0000
666.33	101.4693
666.33	101.4693
675.00	105.4565
677.61	85.5365
685.20	91.1818
692.80	101.1254
695.00	96.9763
696.49	99.1849
696.49	99.1849
697.00	102.4125
697.49	92.8347
698.33	95.0101
698.50	99.2870
699.00	107.8575
702.63	103.7801
706.10	88.9595
706.58	0.0000
706.67	84.6955
709.31	91.2505
711.68	124.6830
713.82	96.8401
717.42	92.7062
720.50	112.5909
721.93	0.0000
722.20	91.8481
722.78	79.2648
722.78	79.2648
722.89	72.0622
722.95	72.0654
723.30	72.0768
724.18	95.5449
727.18	93.8818
733.00	94.1548
735.90	90.3010
739.58	90.4631
742.81	80.7821
744.21	101.5939
747.13	88.6096
751.79	86.6184
752.31	88.8330
753.82	96.5809
755.35	87.8652
756.15	91.1967
756.87	90.1279
763.93	117.6380
765.79	97.5052
766.42	110.4175
766.84	110.4395
776.49	97.0767
778.00	97.1451
778.57	96.2453
778.89	102.7391
783.80	80.7111
785.46	79.8446
792.07	87.5417

795.84	82.0972
796.30	83.0464
798.80	114.9046
801.93	82.3263
805.60	76.8416
810.29	84.5197
810.76	77.9628
815.85	89.4394
817.79	90.4609
818.51	81.0642
819.60	79.2166
826.30	105.9411
828.27	0.0000
831.60	91.9677
831.96	91.0352
834.83	102.5442
836.80	0.0000
846.75	83.9932
848.13	73.5394
856.28	0.0000
856.80	69.0234
860.37	74.8896
867.32	67.6846
867.82	56.1417
871.10	77.1647
873.19	92.6797
874.81	75.3546
875.33	0.0000
876.40	65.7380
879.36	70.6608
880.27	74.5609
880.51	74.5687
881.50	75.5673
883.24	83.3790
884.67	64.0275
889.25	69.0109
896.60	69.2233
898.02	69.2637
899.00	70.2671
903.28	77.0956
911.07	66.6954
911.07	66.6954
911.07	66.6954
919.63	50.4643
920.93	54.1619
925.00	73.9792
925.24	74.9733
926.50	75.0104
935.52	93.1145
937.48	73.3601
944.10	84.4881
946.00	69.6297
949.00	61.7465
962.29	75.5130
964.01	84.1504
966.15	89.3768
968.20	149.6526
969.11	55.0647
969.11	55.0647
969.11	55.0647
977.42	56.7959
980.50	65.5329
983.50	66.6190
989.30	57.6622
996.32	87.2318
1001.03	54.8701
1001.68	55.9008
1004.76	95.6504
1021.30	0.0000
1024.50	0.0000
1034.80	59.6803
1036.00	71.0299
1037.82	65.9271
1038.57	69.0365
1038.76	0.0000
1045.16	61.9727
1046.59	56.8374
1048.07	52.7328

1050.47	56.9179
1050.47	56.9179
1062.04	43.6458
1063.62	54.0672
1076.63	58.4974
1077.35	65.8250
1078.86	63.7700
1085.78	72.3102
1099.22	72.6499
1112.02	57.1091
1112.84	58.0313
1115.52	70.7909
1120.29	76.3623
1120.29	76.3623
1120.29	76.3623
1120.29	76.3623
1120.51	72.7316
1121.28	70.9323
1124.00	0.0000
1129.67	70.2217
1131.51	0.0000
1147.95	0.0000
1167.94	73.2821
1173.22	62.6139
1175.09	73.4536
1177.93	84.3350
1189.05	76.2687
1204.90	68.2466
1205.75	0.0000
1213.00	71.2341
1221.42	85.5220
1230.97	98.9795
1235.34	75.5162
1236.41	0.0000
1238.25	79.3652
1246.25	68.1956
1260.41	0.0000
1271.85	62.0529
1274.45	75.4787
1274.54	75.4815
1291.56	46.0999
1298.22	0.0000
1312.09	57.9785
1325.50	58.2087
1325.50	58.2087
1332.49	38.8867
1333.61	36.9543
1360.21	41.1606
1362.66	0.0000
1365.15	45.1449
1368.21	33.0035
1368.53	0.0000
1376.25	39.3806
1384.27	43.1717
1394.10	48.4856
1395.20	44.5417
1407.95	43.4601
1434.06	31.0173
1436.60	31.0389
1457.56	0.0000
1460.81	36.2838
1489.15	28.4355
1509.49	26.5468
1596.49	34.4513
1620.62	24.1551
1678.03	0.0000
1691.02	19.2280
1691.02	19.2280
1706.46	0.0000
1750.46	0.0000
1764.49	15.2129
1764.49	15.2129
1764.49	15.2129
1764.49	15.2129
1770.23	18.6174
1771.40	23.7017
1791.20	0.0000
1808.65	19.2059

1836.01

21.6412

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274005

Total Uranium Activity	7.4993E+00	ug/g
Total Uranium Counting Unc.	2.8855E+00	ug/g
Total Uranium Tpu	1.4722E-06	ug/g
Total Uranium Mda	1.3872E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 935341                SAMPLE ID   : G243274005
*  ANALYST       : MXR1                  DETECTOR    : GAM13
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00  COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 31-DEC-2009 14:35:08.23  SAMPLE ALQT  : 152.200 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 6.782E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.054E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.353E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.629E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:36:35.87

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274006.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:36
Sample ID          : G243274006 Sample quantity : 1.24070E+02 GRAM
Detector name      : GAM17 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:08.79 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	45.53*	62	299	0.87	92.52	88	8	8.66E-03	53.1	
2	0	62.56*	30	433	0.85	126.55	123	7	4.11E-03	123.1	
3	3	74.01*	560	357	1.13	149.44	144	13	7.77E-02	7.3	4.89E+00
4	3	76.29*	807	255	0.90	154.01	144	13	1.12E-01	4.8	
5	8	83.69*	121	353	1.73	168.79	165	27	1.68E-02	27.5	2.00E+00
6	8	86.43*	327	319	1.27	174.28	165	27	4.55E-02	10.9	
7	8	89.10	210	244	1.21	179.61	165	27	2.92E-02	14.7	
8	8	92.00*	311	326	1.89	185.41	165	27	4.32E-02	14.4	
9	0	128.65	73	278	1.02	258.67	254	9	1.01E-02	43.0	
10	0	185.44*	129	307	1.20	372.18	367	12	1.79E-02	29.5	
11	0	208.28	84	184	0.97	417.85	414	9	1.17E-02	31.1	
12	5	237.94*	818	124	0.99	477.13	473	17	1.14E-01	4.3	7.08E-01
13	5	240.96	223	146	1.54	483.18	473	17	3.10E-02	12.6	
14	0	269.42	83	120	1.81	540.07	536	9	1.15E-02	26.2	
15	0	294.50*	248	120	1.20	590.19	586	8	3.44E-02	10.2	
16	0	299.10	32	114	0.99	599.39	597	7	4.50E-03	57.1	
17	0	327.53	49	113	0.92	656.23	652	9	6.74E-03	42.0	
18	0	337.76*	178	113	1.19	676.67	672	12	2.48E-02	14.4	
19	0	351.19*	402	133	1.31	703.53	696	16	5.58E-02	8.3	
20	0	463.05	41	109	1.06	927.16	921	12	5.71E-03	53.5	
21	0	510.87*	101	135	2.45	1022.75	1015	20	1.41E-02	33.4	
22	0	582.71*	239	84	1.39	1166.38	1159	14	3.31E-02	10.7	
23	0	608.81*	257	78	1.34	1218.57	1212	13	3.57E-02	9.7	
24	0	726.20*	80	46	1.99	1453.28	1447	13	1.12E-02	20.9	
25	0	911.02*	172	50	1.57	1822.83	1816	14	2.38E-02	12.0	
26	0	969.41*	81	96	1.51	1939.59	1932	17	1.12E-02	30.2	
27	0	1120.87	59	46	2.96	2242.47	2236	13	8.23E-03	27.4	
28	3	1376.90	29	11	2.44	2754.52	2745	19	3.98E-03	33.5	1.15E+00
29	3	1380.34*	11	6	1.34	2761.39	2745	19	1.52E-03	46.6	
30	0	1460.72	795	8	1.85	2922.16	2916	15	1.10E-01	3.6	
31	0	1764.26*	37	5	2.45	3529.32	3523	11	5.14E-03	22.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 16:36:38

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:36
Sample ID         : G243274006 Sample quantity : 124.07 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA17 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:08.79 0.1%
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	*	2.823E+01	2.684E+00	6.962E-01	4.280E-02	40.542
CD-109	+	88.03	*	2.665E+00	8.124E-01	9.162E-01	7.379E-02	2.908
SN-126		64.28		-4.129E-01	2.827E-01	3.579E-01	5.492E-02	-1.154
	+	86.94		1.691E+00	7.889E-01	3.734E-01	1.540E-01	4.528
	+	87.57	*	4.066E-01	9.464E-02	8.995E-02	7.254E-03	4.521
CS-135	+	268.24	*	4.181E-01	2.224E-01	2.343E-01	2.109E-02	1.784
TL-208		277.35		5.848E-01	4.076E-01	7.019E-01	8.102E-02	0.833
	+	510.84		6.861E-01	4.636E-01	2.472E-01	2.652E-02	2.776
	+	583.14	*	4.695E-01	1.073E-01	6.728E-02	5.334E-03	6.979
		860.37		3.625E-01	3.924E-01	7.070E-01	5.769E-02	0.513
BI-210	+	46.50	*	7.112E-01	7.572E-01	7.248E-01	5.801E-02	0.981
PB-210	+	46.50	*	7.112E-01	7.572E-01	7.248E-01	5.801E-02	0.981
PO-210	+	46.50	*	7.112E-01	7.567E-01	7.248E-01	5.045E-02	0.981
BI-211	+	72.87		2.005E+01	3.371E+00	2.942E+00	2.515E-01	6.814
	+	351.07	*	3.171E+00	5.711E-01	2.950E-01	2.119E-02	10.751
PB-212	+	74.81		2.379E+00	4.578E-01	3.502E-01	4.419E-02	6.794
	+	77.11		2.041E+00	2.594E-01	2.049E-01	1.720E-02	9.963
	+	87.30		1.881E+00	4.764E-01	4.157E-01	5.343E-02	4.524
	+	238.63	*	1.340E+00	1.639E-01	8.985E-02	7.886E-03	14.916
	+	300.09		8.390E-01	9.617E-01	1.197E+00	1.119E-01	0.701
PO-212	+	74.81		2.379E+00	4.578E-01	3.502E-01	4.419E-02	6.794
	+	77.11		2.041E+00	2.594E-01	2.049E-01	1.720E-02	9.963
	+	87.30		1.881E+00	4.764E-01	4.157E-01	5.343E-02	4.524
		115.19		1.345E+00	3.214E+00	5.492E+00	5.714E-01	0.245
	+	238.63	*	1.340E+00	1.639E-01	8.985E-02	7.886E-03	14.916
	+	300.09		8.390E-01	9.617E-01	1.197E+00	1.119E-01	0.701
BI-214	+	609.31	*	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
	+	1120.29		1.184E+00	6.573E-01	4.972E-01	4.439E-02	2.381
	+	1764.49		1.048E+00	4.668E-01	3.449E-01	1.983E-02	3.040
PB-214	+	74.81		4.100E+00	7.533E-01	6.035E-01	6.794E-02	6.794
	+	77.11		3.499E+00	5.185E-01	3.512E-01	3.982E-02	9.963
	+	87.30		3.222E+00	7.899E-01	7.122E-01	7.950E-02	4.524
	+	241.98		2.200E+00	5.929E-01	5.419E-01	5.093E-02	4.059
	+	295.21		1.125E+00	2.530E-01	2.415E-01	2.325E-02	4.659

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.103E+00	2.068E-01	1.029E-01	9.123E-03	10.724
	+	74.81		4.100E+00	7.533E-01	6.035E-01	6.794E-02	6.794
	+	77.11		3.499E+00	5.185E-01	3.512E-01	3.982E-02	9.963
	+	87.30		3.222E+00	7.899E-01	7.122E-01	7.950E-02	4.524
	+	241.98		2.200E+00	5.929E-01	5.419E-01	5.093E-02	4.059
PO-216	+	295.21		1.125E+00	2.530E-01	2.415E-01	2.325E-02	4.659
	+	351.92	*	1.103E+00	2.068E-01	1.029E-01	9.123E-03	10.724
	+	74.81		2.379E+00	4.578E-01	3.502E-01	4.419E-02	6.794
	+	77.11		2.041E+00	2.594E-01	2.049E-01	1.720E-02	9.963
	+	87.30		1.881E+00	4.764E-01	4.157E-01	5.343E-02	4.524
PO-218	+	238.63	*	1.340E+00	1.639E-01	8.985E-02	7.886E-03	14.916
	+	300.09		8.390E-01	9.617E-01	1.197E+00	1.119E-01	0.701
	+	74.81		4.100E+00	7.533E-01	6.035E-01	6.794E-02	6.794
	+	77.11		3.499E+00	5.185E-01	3.512E-01	3.982E-02	9.963
	+	87.30		3.222E+00	7.899E-01	7.122E-01	7.950E-02	4.524
RA-224	+	241.98		2.200E+00	5.929E-01	5.419E-01	5.093E-02	4.059
	+	295.21		1.125E+00	2.530E-01	2.415E-01	2.325E-02	4.659
	+	351.92	*	1.103E+00	2.068E-01	1.029E-01	9.123E-03	10.724
	+	240.98	*	4.171E+00	1.100E+00	1.024E+00	7.721E-02	4.075
	+	609.31	*	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
RA-226	+	1120.29		1.184E+00	6.573E-01	4.972E-01	4.439E-02	2.381
	+	1764.49		1.048E+00	4.668E-01	3.449E-01	1.983E-02	3.040
	+	338.32		1.541E+00	7.708E-01	3.620E-01	1.481E-01	4.258
	+	911.07	*	1.557E+00	4.051E-01	2.475E-01	2.532E-02	6.292
	+	969.11		1.296E+00	8.373E-01	5.546E-01	1.264E-01	2.337
RA-228	+	338.32		1.541E+00	7.708E-01	3.620E-01	1.481E-01	4.258
	+	911.07	*	1.557E+00	4.051E-01	2.475E-01	2.532E-02	6.292
	+	969.11		1.296E+00	8.373E-01	5.546E-01	1.264E-01	2.337
	+	74.81		2.415E+00	4.071E-01	3.555E-01	3.041E-02	6.794
	+	77.11		2.072E+00	2.634E-01	2.080E-01	1.747E-02	9.963
TH-228	+	87.30		1.909E+00	4.443E-01	4.221E-01	3.407E-02	4.524
	+	238.63	*	1.361E+00	1.664E-01	9.122E-02	8.005E-03	14.916
	+	300.09		8.517E-01	1.095E+00	1.215E+00	7.182E-01	0.701
	+	609.31	*	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
	+	1120.29		1.184E+00	6.573E-01	4.972E-01	4.439E-02	2.381
TH-230	+	1764.49		1.048E+00	4.668E-01	3.448E-01	1.983E-02	3.040
	+	338.32		1.541E+00	4.552E-01	3.620E-01	2.472E-02	4.258
	+	911.07	*	1.557E+00	4.051E-01	2.475E-01	2.532E-02	6.292
	+	969.11		1.296E+00	8.373E-01	5.546E-01	1.264E-01	2.337
	+	63.29	*	3.546E-01	8.757E-01	8.577E-01	1.556E-01	0.413
TH-234	+	92.38		2.662E+00	9.048E-01	6.228E-01	1.120E-01	4.275
	+	609.31	*	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
	+	1120.29		1.184E+00	6.573E-01	4.972E-01	4.439E-02	2.381
	+	1764.49		1.048E+00	4.668E-01	3.448E-01	1.983E-02	3.040
	+	86.50	*	1.194E+00	3.714E-01	2.635E-01	5.840E-02	4.532
NP-237	+	95.87		-9.068E-01	8.128E-01	1.102E+00	2.717E-01	-0.823
	+	63.29	*	3.546E-01	8.757E-01	8.577E-01	1.556E-01	0.413
	+	92.38		2.662E+00	7.997E-01	6.228E-01	5.228E-02	4.275
	+	74.67	*	3.857E-01	6.487E-02	5.677E-02	4.816E-03	6.795
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		4.478E+01	1.042E+01	9.885E+00	7.997E-01	4.530
		117.66		-6.418E-01	3.308E+00	5.490E+00	5.845E-01	-0.117
		142.18		5.492E+00	1.672E+01	2.759E+01	2.616E+00	0.199
ANH-511	+	511.00	*	1.482E-01	9.938E-02	5.341E-02	3.609E-03	2.775

---- 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	*	-3.251E-01	3.522E-01	5.310E-01	3.915E-02	-0.612
NA-22		1274.54	*	1.852E-02	5.693E-02	9.575E-02	5.427E-03	0.193
NA-24		1368.53	*	-1.392E-01	5.693E-02	Half-Life too short		
AL-26		1129.67		1.435E+00	1.974E+00	3.506E+00	2.072E-01	0.409
		1808.65	*	-1.112E-02	3.876E-02	5.905E-02	3.376E-03	-0.188
TI-44		67.85		1.018E-02	2.369E-02	4.125E-02	3.607E-03	0.247
		78.38	*	1.070E-02	2.427E-02	3.812E-02	3.185E-03	0.281
SC-46		889.25	*	-2.764E-02	4.892E-02	7.629E-02	5.592E-03	-0.362
	+	1120.51		2.026E-01	1.117E-01	1.578E-01	9.447E-03	1.284
V-48		944.10		-1.977E-01	1.117E+00	1.815E+00	1.291E-01	-0.109
		983.50	*	-1.161E-02	9.358E-02	1.525E-01	1.056E-02	-0.076
		1312.09		-5.609E-02	1.054E-01	1.566E-01	8.911E-03	-0.358
CR-51		320.08	*	6.183E-02	3.658E-01	6.280E-01	4.789E-02	0.098
MN-52		744.21		-2.547E-01	3.105E-01	4.482E-01	3.414E-02	-0.568
		848.13		3.979E+00	7.869E+00	1.386E+01	1.035E+00	0.287
		935.52		-3.227E-02	3.398E-01	5.583E-01	3.993E-02	-0.058
		1246.25		4.854E+00	9.892E+00	1.686E+01	9.475E-01	0.288
		1333.61		-6.402E-02	6.806E+00	1.082E+01	6.178E-01	-0.006
		1434.06	*	6.451E-02	2.956E-01	5.112E-01	2.954E-02	0.126
MN-54		834.83	*	6.262E-02	5.026E-02	9.265E-02	6.951E-03	0.676
CO-56		846.75	*	-5.880E-04	4.838E-02	8.081E-02	6.037E-03	-0.007
		977.42		2.052E+00	4.008E+00	6.463E+00	4.495E-01	0.317
		1037.82		7.991E-02	4.339E-01	7.276E-01	5.232E-02	0.110
		1175.09		-2.139E-01	2.843E+00	4.587E+00	2.533E-01	-0.047
		1238.25		9.953E-02	1.264E-01	2.193E-01	1.313E-02	0.454
		1360.21		-4.026E-02	1.143E+00	1.825E+00	1.046E-01	-0.022
		1771.40		-5.931E-01	3.528E-01	3.476E-01	1.997E-02	-1.706
CO-57		122.06	*	2.674E-02	2.279E-02	3.998E-02	4.435E-03	0.669
		136.48		-3.601E-02	1.879E-01	3.095E-01	3.256E-02	-0.116
CO-58		810.76	*	5.740E-02	4.131E-02	7.951E-02	6.025E-03	0.722
FE-59		142.65		7.051E-01	2.615E+00	4.303E+00	4.063E-01	0.164
		192.34		-1.653E-02	9.063E-01	1.478E+00	1.876E-01	-0.011
		1099.22	*	2.751E-02	1.173E-01	1.972E-01	1.401E-02	0.140
		1291.56		-1.377E-01	1.737E-01	2.509E-01	1.837E-02	-0.549
CO-60		1173.22		9.423E-03	5.547E-02	9.210E-02	5.083E-03	0.102
		1332.49	*	1.294E-02	5.043E-02	8.428E-02	4.813E-03	0.154
ZN-65		1115.52	*	-1.601E-01	1.489E-01	1.751E-01	1.058E-02	-0.914
GE-68		1077.35	*	-1.271E-01	1.663E+00	2.704E+00	1.710E-01	-0.047
AS-73		53.44	*	7.222E-02	2.358E-01	3.721E-01	3.019E-02	0.194
AS-74		595.88	*	-1.103E-01	1.107E-01	1.583E-01	1.149E-02	-0.697

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75	634.78			-2.274E-01	4.156E-01	6.309E-01	4.690E-02	-0.360
	66.05			4.051E-01	2.793E+00	4.012E+00	4.253E-01	0.101
	96.73			1.660E-01	6.422E-01	9.823E-01	1.347E-01	0.169
	121.11			-5.669E-02	1.236E-01	2.019E-01	2.651E-02	-0.281
	136.00			-1.351E-02	3.540E-02	5.770E-02	5.796E-03	-0.234
	198.60			1.520E+00	1.797E+00	3.026E+00	2.583E-01	0.502
	264.65	*		1.346E-02	4.749E-02	6.953E-02	5.245E-03	0.194
	279.53			-1.269E-01	1.204E-01	1.771E-01	1.382E-02	-0.717
	303.91			-1.998E+00	2.381E+00	3.303E+00	3.463E-01	-0.605
	400.65			2.877E-01	2.803E-01	5.013E-01	4.583E-02	0.574
BR-77	87.88		+	5.742E+02	1.751E+02	2.619E+02	2.110E+01	2.193
	200.40			-3.034E+01	1.623E+02	2.615E+02	1.954E+01	-0.116
	239.00		+	2.147E+02	2.443E+01	3.793E+01	2.862E+00	5.659
	249.79			2.339E+00	6.481E+01	1.044E+02	7.864E+00	0.022
	281.68			-1.530E+01	9.180E+01	1.444E+02	1.071E+01	-0.106
	297.23			-1.742E+01	8.360E+01	8.948E+01	6.538E+00	-0.195
	303.76			-1.537E+02	2.169E+02	2.824E+02	2.047E+01	-0.544
	439.47			1.580E+02	1.408E+02	2.565E+02	1.592E+01	0.616
	484.57			-2.595E+02	2.813E+02	4.278E+02	2.809E+01	-0.607
	520.65	*		-2.285E+00	1.250E+01	1.946E+01	1.328E+00	-0.117
SR-82	574.64			4.939E+01	2.518E+02	4.180E+02	2.990E+01	0.118
	578.91			-3.070E+01	1.217E+02	1.680E+02	1.205E+01	-0.183
	585.48			2.944E+01	2.244E+02	3.252E+02	2.344E+01	0.091
	755.35			-1.127E+01	2.146E+02	3.404E+02	2.592E+01	-0.033
	817.79			-7.300E+01	1.600E+02	2.506E+02	1.890E+01	-0.291
	698.33			6.059E+00	4.382E+01	7.132E+01	5.415E+00	0.085
	776.49	*		-2.245E-01	4.726E-01	7.588E-01	5.768E-02	-0.296
	1395.20			1.634E+00	1.151E+01	1.978E+01	1.139E+00	0.083
	520.41	*		-9.885E-03	8.327E-02	1.306E-01	8.908E-03	-0.076
	529.64			-1.113E-01	1.173E-01	1.734E-01	1.193E-02	-0.642
RB-83	552.65			-6.437E-02	2.477E-01	3.954E-01	2.779E-02	-0.163
	881.50	*		-5.278E-02	8.641E-02	1.340E-01	9.862E-03	-0.394
	513.99	*		4.764E+00	7.976E+00	1.375E+01	9.324E-01	0.346
	513.99	*		2.442E-02	4.089E-02	7.052E-02	4.780E-03	0.346
	1076.63	*		-7.997E-01	1.067E+00	1.597E+00	1.011E-01	-0.501
	898.02			2.312E-02	4.876E-02	8.542E-02	6.274E-03	0.271
	1836.01	*		-2.636E-02	3.456E-02	4.149E-02	2.369E-03	-0.635
	392.90	*		1.519E-03	3.417E-02	5.743E-02	3.324E-03	0.026
	1204.90	*		-5.489E+00	2.521E+01	3.998E+01	2.225E+00	-0.137
	702.63	*		1.226E-02	4.240E-02	7.002E-02	5.320E-03	0.175
NB-94	871.10			3.367E-02	4.319E-02	7.764E-02	5.742E-03	0.434
	765.79	*		-1.304E-02	5.756E-02	9.554E-02	7.271E-03	-0.136
	235.69	*		3.400E-01	1.436E-01	2.370E-01	2.120E-02	1.434
	724.18			1.381E-01	1.407E-01	2.209E-01	1.866E-02	0.625
	756.15	*		-3.647E-02	9.540E-02	1.458E-01	1.253E-02	-0.250
	657.90	*		1.800E-03	9.540E-02	Half-Life	too short	
	1024.50			-9.345E+00	9.540E-02	Half-Life	too short	
	254.15			-1.914E-01	9.540E-02	Half-Life	too short	
	355.39			-1.556E+00	9.540E-02	Half-Life	too short	
						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
	507.63	*		4.887E+00	9.540E-02	Half-Life	too short	
	602.52			3.442E-01	9.540E-02	Half-Life	too short	
	1021.30			-2.571E+00	9.540E-02	Half-Life	too short	
	1147.95			4.529E+00	9.540E-02	Half-Life	too short	
	1362.66			1.881E+00	9.540E-02	Half-Life	too short	
	1750.46			-4.347E+00	9.540E-02	Half-Life	too short	
MO-99	140.51			-1.487E+01	2.440E+01	3.868E+01	1.084E+01	-0.384
	181.06			3.485E+00	1.808E+01	2.684E+01	4.762E+00	0.130
	366.43			-1.057E+01	8.626E+01	1.439E+02	9.119E+00	-0.073
	739.58	*		1.330E+01	1.528E+01	2.644E+01	3.870E+00	0.503
	778.00			-2.547E+01	4.273E+01	6.772E+01	5.147E+00	-0.376
TC-99M	140.51	*		-2.113E+10	4.273E+01	Half-Life	too short	
RH-101	+	127.23		5.472E-02	4.738E-02	5.203E-02	5.564E-03	1.052
	198.01	*		-3.756E-03	3.371E-02	5.406E-02	4.033E-03	-0.069
	325.23			-2.157E-01	2.549E-01	3.511E-01	2.461E-02	-0.615
RH-102	418.52			1.999E-01	2.900E-01	5.107E-01	3.076E-02	0.391
	475.06	*		1.298E-02	3.027E-02	5.201E-02	3.378E-03	0.250
	631.29			3.389E-02	5.880E-02	1.013E-01	7.516E-03	0.335
	697.49			-7.709E-02	9.844E-02	1.448E-01	1.099E-02	-0.532
	766.84			1.105E-01	1.473E-01	2.627E-01	1.999E-02	0.421
	1046.59			7.841E-02	1.427E-01	2.492E-01	1.631E-02	0.315
	1112.84			2.630E-01	3.014E-01	5.157E-01	3.120E-02	0.510
RU-103	497.08	*		-1.255E-02	4.969E-02	8.012E-02	1.047E-02	-0.157
	610.33			8.889E+00	2.129E+00	3.171E+00	5.092E-01	2.803
RH-106	+	511.85		7.402E-01	4.964E-01	4.794E-01	3.243E-02	1.544
	621.84	*		5.527E-02	3.473E-01	5.728E-01	7.213E-02	0.096
	1050.47			-1.912E+00	3.091E+00	4.718E+00	3.075E-01	-0.405
RU-106	+	511.85		7.402E-01	4.964E-01	4.794E-01	3.243E-02	1.544
	621.84	*		5.527E-02	3.473E-01	5.728E-01	4.227E-02	0.096
	1050.47			-1.912E+00	3.091E+00	4.718E+00	3.075E-01	-0.405
AG-108M	433.93	*		-3.583E-02	3.303E-02	4.928E-02	3.266E-03	-0.727
	614.37			5.542E-03	4.668E-02	6.741E-02	5.219E-03	0.082
	722.95			-1.832E-03	6.301E-02	8.761E-02	7.003E-03	-0.021
AG-110M	657.75	*		-2.432E-03	4.279E-02	6.863E-02	5.361E-03	-0.035
	677.61			7.328E-02	3.888E-01	6.379E-01	5.000E-02	0.115
	706.67			-5.984E-02	2.621E-01	4.102E-01	3.228E-02	-0.146
	763.93			-1.468E-01	2.314E-01	3.697E-01	2.916E-02	-0.397
	884.67			-3.937E-02	6.037E-02	9.298E-02	7.132E-03	-0.423
	937.48			-1.656E-01	1.390E-01	1.972E-01	1.483E-02	-0.840
	1384.27			6.545E-02	2.172E-01	3.355E-01	2.049E-02	0.195
IN-111	171.28			-1.107E+00	1.009E+00	1.554E+00	1.140E-01	-0.712
	245.39	*		-2.829E-01	1.163E+00	1.627E+00	1.227E-01	-0.174
IN-113M	391.69	*		-1.859E-02	5.111E-02	8.345E-02	5.146E-03	-0.223
SN-113	391.69	*		-1.859E-02	5.111E-02	8.345E-02	5.146E-03	-0.223
IN-114M	190.27	*		1.095E-02	1.848E-01	2.710E-01	2.013E-02	0.040
CD-115	260.90			4.509E+01	1.265E+02	2.079E+02	1.561E+01	0.217
	492.35			1.373E+00	4.218E+01	6.976E+01	4.622E+00	0.020
	527.90	*		9.005E+00	1.183E+01	2.079E+01	1.429E+00	0.433
SN-117M	156.02			-1.083E+00	2.119E+00	3.401E+00	2.808E-01	-0.318

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	158.56	*		-6.636E-04	5.043E-02	8.318E-02	6.669E-03	-0.008
	563.90	*		-9.364E-01	2.379E+00	3.734E+00	2.648E-01	-0.251
	692.80			1.771E+01	5.300E+01	8.811E+01	6.684E+00	0.201
I-123	159.00	*		9.147E-01	5.300E+01	Half-Life too short		
	528.96			-2.541E+02	5.300E+01	Half-Life too short		
TE-123M	159.00	*		4.569E-03	2.606E-02	4.342E-02	3.488E-03	0.105
I-124	602.71	*		2.044E-01	8.746E-01	1.282E+00	9.351E-02	0.159
	722.78			-2.791E-01	6.565E+00	9.110E+00	6.936E-01	-0.031
	1325.50			2.868E+01	4.146E+01	7.377E+01	4.208E+00	0.389
	1376.25			7.858E+01	5.286E+01	7.538E+01	4.331E+00	1.042
	1509.49			1.428E+01	1.940E+01	3.594E+01	2.087E+00	0.397
	1691.02			1.634E+00	4.311E+00	7.734E+00	4.476E-01	0.211
	602.71			1.189E-02	5.090E-02	7.461E-02	5.444E-03	0.159
	645.85			9.276E-02	6.524E-01	1.069E+00	8.622E-02	0.087
	709.31			2.044E+00	3.357E+00	5.728E+00	4.355E-01	0.357
	713.82			-1.071E+00	1.878E+00	2.794E+00	3.167E-01	-0.383
SB-124	722.78			-2.355E-02	5.538E-01	7.686E-01	6.013E-02	-0.031
	968.20			1.334E+01	8.118E+00	9.032E+00	6.324E-01	1.477
	1045.16			-2.071E-01	3.102E+00	5.060E+00	3.315E-01	-0.041
	1325.50			2.584E+00	3.736E+00	6.648E+00	3.792E-01	0.389
	1368.21			-3.333E-01	2.634E+00	3.531E+00	4.182E-01	-0.094
	1436.60			-8.287E-01	4.533E+00	7.362E+00	4.256E-01	-0.113
	1691.02	*		3.251E-02	8.579E-02	1.539E-01	9.672E-03	0.211
	427.89	*		1.585E-02	9.915E-02	1.673E-01	1.060E-02	0.095
	463.38			5.328E-01	5.712E-01	6.409E-01	4.670E-02	0.831
	600.56			9.792E-02	2.118E-01	3.589E-01	2.880E-02	0.273
SB-125	635.90			5.199E-02	2.998E-01	4.944E-01	4.072E-02	0.105
	109.28	*		-1.111E+01	8.069E+00	1.251E+01	1.422E+00	-0.888
TE-125M	388.63			1.497E-01	2.337E-01	4.085E-01	2.390E-02	0.366
	666.33	*		6.476E-02	2.187E-01	3.632E-01	2.739E-02	0.178
I-126	753.82			5.258E-01	1.856E+00	3.054E+00	2.326E-01	0.172
	223.80			-2.283E+00	3.963E+00	6.168E+00	4.646E-01	-0.370
SB-126	278.60			1.257E+00	2.580E+00	4.251E+00	3.160E-01	0.296
	296.50			2.871E+00	2.311E+00	2.940E+00	2.150E-01	0.976
	414.70			-4.270E-02	7.719E-02	1.229E-01	7.357E-03	-0.348
	415.30			-2.347E+00	6.367E+00	1.030E+01	6.173E-01	-0.228
	555.20			2.236E+00	4.699E+00	8.019E+00	5.647E-01	0.279
	573.80			1.806E-01	1.238E+00	2.047E+00	1.463E-01	0.088
	593.00			5.715E-01	1.040E+00	1.785E+00	1.294E-01	0.320
	656.30			-1.381E+00	4.216E+00	6.573E+00	4.938E-01	-0.210
	666.33			2.706E-02	9.141E-02	1.518E-01	1.145E-02	0.178
	675.00			2.295E+00	2.470E+00	4.341E+00	3.281E-01	0.529
	695.00			2.017E-02	9.318E-02	1.531E-01	1.162E-02	0.132
	697.00			-3.041E-01	3.450E-01	5.012E-01	3.805E-02	-0.607
	720.50	*		2.185E-01	1.957E-01	3.173E-01	2.416E-02	0.688
	856.80			-5.459E-01	5.735E-01	8.567E-01	6.375E-02	-0.637
	899.30			-6.050E-01	1.546E+00	2.431E+00	1.676E-01	-0.249
	1034.80			-1.942E+00	1.164E+01	1.879E+01	1.244E+00	-0.103
	1213.00			1.758E+00	6.587E+00	1.098E+01	6.121E-01	0.160

---- Non-Identified Nuclides ----

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SB-127	+	61.10		1.452E+01	3.579E+01	4.278E+01	4.913E+00	0.339
		252.40		1.061E+00	4.307E+00	6.998E+00	2.927E+00	0.152
		290.80		2.850E+00	2.329E+01	3.333E+01	3.404E+00	0.086
		411.60		-4.373E+00	1.327E+01	2.159E+01	3.117E+00	-0.203
		444.90		7.604E+00	1.035E+01	1.819E+01	2.007E+00	0.418
		473.00		1.625E-01	1.842E+00	3.071E+00	3.543E-01	0.053
		543.00		-1.233E+00	1.910E+01	3.108E+01	4.186E+00	-0.040
		603.60		-7.986E+00	1.552E+01	2.045E+01	2.379E+00	-0.391
		685.20	*	1.433E+00	1.639E+00	2.869E+00	3.044E-01	0.499
		698.50		6.410E+00	1.948E+01	3.225E+01	4.928E+00	0.199
		722.20		-6.296E+00	4.475E+01	6.122E+01	6.366E+00	-0.103
		783.80		3.463E+00	4.665E+00	8.323E+00	9.759E-01	0.416
XE-127		57.60		1.077E+00	2.172E+00	3.475E+00	3.057E-01	0.310
		145.22		-4.310E-03	6.525E-01	1.082E+00	9.974E-02	-0.004
		172.10		-9.783E-02	1.213E-01	1.904E-01	1.398E-02	-0.514
		202.84	*	5.566E-03	4.573E-02	7.494E-02	5.605E-03	0.074
		374.96		-1.903E-02	2.074E-01	3.462E-01	2.133E-02	-0.055
I-131		80.18		5.547E-01	3.612E+00	5.142E+00	4.294E-01	0.108
		284.30		-1.075E+00	1.609E+00	2.391E+00	1.894E-01	-0.450
		364.48	*	1.310E-01	1.167E-01	2.118E-01	1.482E-02	0.618
		636.97		4.484E-01	1.706E+00	2.841E+00	2.271E-01	0.158
TE-132		722.89		-3.584E-01	1.060E+01	1.473E+01	1.130E+00	-0.024
		49.72		-1.090E+00	3.757E+00	5.804E+00	5.796E-01	-0.188
		111.76		9.808E-01	2.619E+01	4.409E+01	5.310E+00	0.022
		116.30		-1.770E+01	2.458E+01	3.962E+01	4.916E+00	-0.447
BA-133		228.16	*	5.229E-01	6.965E-01	1.170E+00	1.772E-01	0.447
		53.15		4.037E-02	1.011E+00	1.574E+00	1.270E-01	0.026
		79.62		1.050E+00	1.138E+00	1.489E+00	2.241E-01	0.705
		81.00		-5.859E-02	7.324E-02	1.071E-01	1.680E-02	-0.547
		276.40		4.916E-01	4.034E-01	6.856E-01	9.447E-02	0.717
		302.84		4.615E-03	1.708E-01	2.411E-01	3.001E-02	0.019
I-133	+	356.01	*	2.699E-03	4.561E-02	6.830E-02	8.160E-03	0.040
		383.85		-1.150E-01	3.117E-01	5.078E-01	5.565E-02	-0.226
		510.53		1.497E+00	3.117E-01	Half-Life	too short	
		529.87	*	-9.442E-03	3.117E-01	Half-Life	too short	
		706.58		-2.883E-01	3.117E-01	Half-Life	too short	
		856.28		-7.621E-01	3.117E-01	Half-Life	too short	
		875.33		-1.978E-01	3.117E-01	Half-Life	too short	
		1236.41		1.042E+00	3.117E-01	Half-Life	too short	
		1298.22		1.479E-01	3.117E-01	Half-Life	too short	
		475.35		-4.713E-02	2.066E+00	3.409E+00	2.215E-01	-0.014
CS-134		563.23		1.431E-01	4.137E-01	6.976E-01	5.015E-02	0.205
		569.32		2.557E-01	2.383E-01	4.245E-01	3.083E-02	0.602
		604.70		-2.882E-02	4.632E-02	6.021E-02	4.413E-03	-0.479
		795.84	*	4.731E-02	6.230E-02	1.112E-01	8.503E-03	0.426
		801.93		2.837E-01	4.903E-01	8.753E-01	6.673E-02	0.324
		1038.57		1.942E+00	5.327E+00	9.097E+00	6.000E-01	0.213
		1167.94		-1.885E+00	3.158E+00	4.772E+00	2.657E-01	-0.395
		1365.15		-4.589E-01	1.505E+00	2.285E+00	1.442E-01	-0.201

---- Non-Identified Nuclides ----

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I-135		288.45		4.998E+09	1.505E+00	Half-Life	too short	
		417.63		2.626E+09	1.505E+00	Half-Life	too short	
		546.56		-5.634E+09	1.505E+00	Half-Life	too short	
		836.80		3.202E+10	1.505E+00	Half-Life	too short	
		1038.76		9.741E+09	1.505E+00	Half-Life	too short	
		1124.00		3.935E+09	1.505E+00	Half-Life	too short	
		1131.51		-2.573E+09	1.505E+00	Half-Life	too short	
		1260.41	*	-1.400E+09	1.505E+00	Half-Life	too short	
		1457.56		3.922E+11	1.505E+00	Half-Life	too short	
		1678.03		-4.151E+09	1.505E+00	Half-Life	too short	
		1706.46		-1.502E+10	1.505E+00	Half-Life	too short	
		1791.20		-1.003E+10	1.505E+00	Half-Life	too short	
CS-136		66.91		5.901E-01	4.264E-01	6.886E-01	1.069E-01	0.857
	+	86.29		5.304E+00	1.334E+00	1.709E+00	2.138E-01	3.104
		153.22		4.538E-02	6.228E-01	1.024E+00	9.770E-02	0.044
		163.89		4.385E-01	1.026E+00	1.705E+00	1.479E-01	0.257
		176.55		-2.104E-01	3.736E-01	5.940E-01	4.716E-02	-0.354
		273.65		-5.254E-01	5.431E-01	6.991E-01	5.670E-02	-0.752
		340.57		4.859E-02	1.197E-01	1.863E-01	1.324E-02	0.261
		818.51		-2.825E-02	8.673E-02	1.377E-01	1.039E-02	-0.205
		1048.07	*	5.883E-02	1.305E-01	2.259E-01	1.583E-02	0.260
		1235.34		9.274E-01	8.187E-01	1.456E+00	1.438E-01	0.637
BA-137M		661.65	*	1.318E-02	4.400E-02	7.308E-02	5.503E-03	0.180
CS-137		661.65	*	1.393E-02	4.651E-02	7.725E-02	5.832E-03	0.180
CE-139		165.85	*	-3.320E-02	2.929E-02	4.511E-02	3.299E-03	-0.736
BA-140		162.64		-3.388E-02	7.337E-01	1.191E+00	9.757E-02	-0.028
		304.84		-3.722E-01	1.373E+00	2.124E+00	5.868E-01	-0.175
LA-140		423.70		8.561E-01	1.961E+00	3.356E+00	1.068E+00	0.255
		537.32	*	2.082E-01	3.165E-01	5.367E-01	1.757E-01	0.388
	+	328.77		5.153E-01	4.342E-01	5.697E-01	4.304E-02	0.904
		432.53		-8.763E-02	2.070E+00	3.434E+00	2.308E-01	-0.026
		487.03		2.156E-02	1.658E-01	2.766E-01	2.010E-02	0.078
		751.79		-8.015E-01	2.230E+00	3.413E+00	2.951E-01	-0.235
		815.85		-3.579E-01	3.571E-01	5.287E-01	4.579E-02	-0.677
		867.82		-1.282E+00	1.908E+00	2.969E+00	2.355E-01	-0.432
		919.63		-5.099E-02	3.093E+00	5.129E+00	4.897E-01	-0.010
		925.24		4.681E-01	1.454E+00	2.496E+00	1.956E-01	0.188
CE-141		1596.49	*	-1.615E-01	1.052E-01	1.163E-01	6.760E-03	-1.388
CE-143		145.44	*	-7.089E-03	5.889E-02	9.706E-02	9.075E-03	-0.073
		57.37		1.230E-04	5.889E-02	Half-Life	too short	
		231.56		-3.620E-03	5.889E-02	Half-Life	too short	
	+	293.26	*	1.066E-03	5.889E-02	Half-Life	too short	
	+	350.59		2.503E-02	5.889E-02	Half-Life	too short	
		490.36		-3.094E-03	5.889E-02	Half-Life	too short	
		664.57		1.555E-04	5.889E-02	Half-Life	too short	
CE-144		721.93		-3.218E-05	5.889E-02	Half-Life	too short	
		80.11		3.546E-01	1.666E+00	2.379E+00	1.974E-01	0.149
PM-144		133.54	*	1.242E-01	1.870E-01	3.199E-01	5.276E-02	0.388
		476.78		-4.178E-02	7.427E-02	1.164E-01	8.784E-03	-0.359

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		1.489E-03	3.512E-02	5.720E-02	4.371E-03	0.026
		696.49	*	-2.224E-02	4.367E-02	6.635E-02	5.038E-03	-0.335
		778.57		-1.348E+00	2.895E+00	4.653E+00	3.538E-01	-0.290
PR-144		696.49	*	-1.507E+00	2.959E+00	4.496E+00	3.413E-01	-0.335
		1489.15		-4.704E+00	1.532E+01	2.424E+01	1.406E+00	-0.194
PM-146		453.90	*	-3.839E-03	4.378E-02	7.204E-02	6.472E-03	-0.053
		633.02		2.436E-01	1.583E+00	2.602E+00	9.656E-01	0.094
		735.90		7.668E-02	1.968E-01	3.256E-01	9.220E-02	0.235
		747.13		7.755E-02	1.151E-01	1.967E-01	2.645E-02	0.394
ND-147	+	91.11		1.339E+00	4.049E-01	4.278E-01	3.866E-02	3.129
		319.41		-8.291E-01	3.524E+00	5.456E+00	3.866E-01	-0.152
		439.89		3.454E+00	5.843E+00	1.021E+01	6.343E-01	0.338
		531.02	*	-1.656E-01	6.203E-01	9.898E-01	1.388E-01	-0.167
PM-149		285.90	*	5.430E+01	9.727E+01	1.583E+02	2.358E+01	0.343
EU-152		121.78		5.551E-02	6.536E-02	1.134E-01	1.372E-02	0.490
		244.69		-6.900E-03	3.465E-01	4.954E-01	3.735E-02	-0.014
		344.27	*	2.146E-02	1.058E-01	1.512E-01	1.116E-02	0.142
		443.98		2.934E-01	9.844E-01	1.678E+00	1.048E-01	0.175
		778.89		-1.354E-01	3.362E-01	5.441E-01	4.135E-02	-0.249
		867.32		-3.685E-01	1.112E+00	1.795E+00	1.330E-01	-0.205
		964.01		3.688E-01	4.074E-01	6.570E-01	4.614E-02	0.561
		1085.78		-2.847E-01	5.059E-01	7.718E-01	4.833E-02	-0.369
		1112.02		3.327E-01	4.011E-01	7.151E-01	4.331E-02	0.465
		1407.95		7.873E-02	2.392E-01	4.187E-01	2.414E-02	0.188
GD-153		69.67		1.369E-01	9.525E-01	1.484E+00	1.287E-01	0.092
	+	83.37		2.631E+01	1.462E+01	1.879E+01	1.539E+00	1.400
		97.43	*	7.497E-02	6.420E-02	1.080E-01	9.507E-03	0.694
		103.18		2.567E-02	8.623E-02	1.474E-01	1.370E-02	0.174
EU-154		123.07		7.643E-04	4.680E-02	7.834E-02	1.040E-02	0.010
		247.94		7.265E-02	3.553E-01	5.790E-01	6.187E-02	0.125
		591.81		7.530E-02	6.991E-01	1.150E+00	1.230E-01	0.065
		723.30		8.474E-03	2.726E-01	3.822E-01	3.298E-02	0.022
		756.87		-1.058E-01	1.021E+00	1.610E+00	1.815E-01	-0.066
		873.19		-2.733E-01	3.882E-01	5.968E-01	6.810E-02	-0.458
		996.32		-2.421E-01	4.604E-01	7.101E-01	1.206E-01	-0.341
		1004.76		-2.895E-01	2.839E-01	4.177E-01	4.331E-02	-0.693
		1274.45	*	5.345E-02	1.593E-01	2.681E-01	2.481E-02	0.199
EU-155		48.70		-9.744E-02	4.505E-01	6.418E-01	4.704E-02	-0.152
		60.01		5.980E-01	2.263E+00	3.292E+00	2.992E-01	0.182
	+	86.54		4.897E-01	1.141E-01	1.577E-01	1.291E-02	3.106
		105.31	*	4.988E-02	9.223E-02	1.590E-01	1.523E-02	0.314
TB-160	+	86.79		1.308E+00	3.044E-01	4.209E-01	3.404E-02	3.108
		197.04		-2.928E-01	5.683E-01	8.896E-01	6.634E-02	-0.329
		215.65		5.013E-01	7.166E-01	1.210E+00	9.094E-02	0.414
	+	298.57		1.221E-01	1.397E-01	2.131E-01	1.555E-02	0.573
		879.36	*	2.517E-01	1.658E-01	3.187E-01	2.348E-02	0.790
		962.29		4.845E-01	7.453E-01	1.167E+00	8.209E-02	0.415
		966.15		6.342E-01	3.405E-01	5.850E-01	4.102E-02	1.084
		1177.93		1.370E-01	4.638E-01	7.797E-01	4.309E-02	0.176

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		-1.307E-01	8.580E-01	1.357E+00	7.669E-02	-0.096
		80.57		-1.078E-01	1.996E-01	2.982E-01	2.469E-02	-0.361
	+	184.41		1.095E-01	6.507E-02	6.981E-02	5.167E-03	1.569
		280.46		-4.387E-02	8.762E-02	1.343E-01	9.973E-03	-0.327
		410.95		2.100E-01	2.551E-01	4.520E-01	2.692E-02	0.465
		711.68	*	-1.531E-02	7.245E-02	1.133E-01	8.621E-03	-0.135
TM-171		752.31		-6.357E-02	3.551E-01	5.553E-01	4.229E-02	-0.114
		810.29		2.586E-02	6.646E-02	1.150E-01	8.688E-03	0.225
		51.35		3.367E+00	7.197E+00	1.146E+01	8.906E-01	0.294
		52.39		-4.198E-01	4.254E+00	6.581E+00	5.226E-01	-0.064
		59.40		-1.669E+00	1.199E+01	1.704E+01	1.550E+00	-0.098
		66.72	*	5.687E+00	1.591E+01	2.491E+01	2.190E+00	0.228
LU-176	+	88.36		6.212E-01	1.894E-01	2.779E-01	2.245E-02	2.236
		201.83		-2.163E-02	2.865E-02	4.453E-02	3.329E-03	-0.486
		306.84	*	7.632E-03	2.665E-02	4.315E-02	3.115E-03	0.177
LU-177		401.10		6.891E+00	7.380E+00	1.315E+01	7.709E-01	0.524
		112.95		1.502E+00	1.434E+00	2.510E+00	2.558E-01	0.598
	+	208.36	*	2.417E+00	1.514E+00	1.930E+00	1.447E-01	1.253
LU-177M		52.97		-9.538E-03	4.505E-01	6.993E-01	5.620E-02	-0.014
		54.07		5.377E-02	2.428E-01	3.846E-01	3.161E-02	0.140
	+	61.30		3.787E-01	9.332E-01	1.163E+00	1.050E-01	0.326
		121.62		9.907E-02	3.382E-01	5.738E-01	6.336E-02	0.173
		147.16		-2.203E-01	6.045E-01	9.825E-01	8.894E-02	-0.224
		171.86		-3.560E-01	4.801E-01	7.559E-01	5.547E-02	-0.471
		218.09		2.016E-01	8.160E-01	1.342E+00	1.010E-01	0.150
	+	268.79		2.101E+00	1.113E+00	1.517E+00	1.135E-01	1.384
		319.02		-6.463E-02	2.748E-01	4.255E-01	3.016E-02	-0.152
		367.43		-7.697E-01	8.962E-01	1.403E+00	8.862E-02	-0.549
		413.65	*	-5.562E-02	1.778E-01	2.890E-01	1.728E-02	-0.192
		56.28		-2.303E-01	3.149E-01	4.719E-01	4.049E-02	-0.488
HF-181		57.53		8.128E-02	1.817E-01	2.900E-01	2.548E-02	0.280
		65.20		-4.013E-01	5.357E-01	7.284E-01	6.450E-02	-0.551
		133.02		1.859E-02	6.220E-02	1.006E-01	1.029E-02	0.185
		136.25		-9.421E-02	4.107E-01	6.751E-01	6.733E-02	-0.140
		345.85		2.542E-02	1.917E-01	2.901E-01	1.947E-02	0.088
		482.03	*	5.277E-02	4.875E-02	8.752E-02	5.731E-03	0.603
W-181		56.28		-8.985E-02	1.233E-01	1.848E-01	1.586E-02	-0.486
		57.53		3.174E-02	7.116E-02	1.136E-01	9.981E-03	0.279
		65.20	*	-1.560E-01	2.082E-01	2.831E-01	2.507E-02	-0.551
TA-182		67.75		6.404E-02	5.555E-02	9.873E-02	8.638E-03	0.649
		100.10		-1.151E-01	1.385E-01	2.239E-01	2.023E-02	-0.514
		152.43		-5.855E-02	3.236E-01	5.255E-01	4.511E-02	-0.111
		222.10		1.505E-01	3.244E-01	5.404E-01	4.070E-02	0.278
		1001.68		9.970E-01	2.618E+00	4.493E+00	3.065E-01	0.222
	+	1121.28		5.597E-01	3.085E-01	4.316E-01	2.581E-02	1.297
RE-183		1189.05		5.532E-02	4.332E-01	7.137E-01	3.956E-02	0.078
		1221.42	*	-4.150E-02	2.777E-01	4.437E-01	2.479E-02	-0.094
		1230.97		-2.439E-01	6.906E-01	1.081E+00	6.054E-02	-0.226
		57.98		2.745E-02	7.439E-02	1.182E-01	1.047E-02	0.232

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		-9.398E-03	4.902E-02	6.946E-02	6.307E-03	-0.135
		67.20		1.381E-01	1.078E-01	1.762E-01	1.546E-02	0.784
		162.32	*	4.227E-03	1.066E-01	1.738E-01	1.331E-02	0.024
	+	208.81		2.175E+00	1.362E+00	1.707E+00	1.280E-01	1.274
		291.72		3.041E-01	1.021E+00	1.487E+00	1.093E-01	0.205
		57.98		1.011E-01	2.741E-01	4.356E-01	3.860E-02	0.232
		59.32		-3.460E-02	1.805E-01	2.557E-01	2.322E-02	-0.135
		67.20		5.087E-01	3.971E-01	6.490E-01	5.693E-02	0.784
		161.27		3.946E-02	3.382E-01	5.539E-01	4.298E-02	0.071
		216.55		4.144E-03	2.634E-01	4.274E-01	3.213E-02	0.010
OS-185		252.85	*	1.317E-01	2.282E-01	3.808E-01	2.867E-02	0.346
		318.01		-2.126E-02	4.521E-01	7.114E-01	5.050E-02	-0.030
		792.07		5.355E-01	1.268E+00	2.210E+00	1.676E-01	0.242
		903.28		-4.935E-01	1.256E+00	1.867E+00	1.358E-01	-0.264
		920.93		-1.662E-01	5.145E-01	8.205E-01	5.917E-02	-0.203
		59.72		9.288E-03	1.351E-01	1.943E-01	1.768E-02	0.048
	+	61.14		4.142E-02	1.021E-01	1.231E-01	1.113E-02	0.336
		69.30		1.695E-02	1.687E-01	2.625E-01	2.281E-02	0.065
		592.07		9.144E-01	2.824E+00	4.747E+00	3.438E-01	0.193
		646.12	*	3.032E-03	5.559E-02	9.031E-02	6.752E-03	0.034
RE-188		717.42		2.682E-01	1.083E+00	1.783E+00	1.357E-01	0.150
		874.81		-4.307E-01	7.219E-01	1.123E+00	8.288E-02	-0.384
		880.27		4.768E-01	9.415E-01	1.654E+00	1.218E-01	0.288
		155.03	*	1.849E-02	1.571E-01	2.613E-01	2.181E-02	0.071
		477.96		-3.883E+00	3.469E+00	5.132E+00	3.345E-01	-0.757
W-188		633.10		4.391E-01	3.190E+00	5.240E+00	3.891E-01	0.084
	+	63.58		1.425E+01	3.512E+01	4.211E+01	3.758E+00	0.338
IR-192		227.08		4.185E+00	1.260E+01	2.078E+01	1.566E+00	0.201
		290.67	*	1.120E+00	8.083E+00	1.159E+01	8.527E-01	0.097
	+	295.96		8.577E-01	1.855E-01	2.819E-01	2.083E-02	3.043
		308.46		-2.343E-02	1.040E-01	1.618E-01	1.174E-02	-0.145
		316.51	*	-3.447E-03	3.430E-02	5.374E-02	3.837E-03	-0.064
AU-195		468.07		1.316E-02	7.589E-02	1.129E-01	8.180E-03	0.117
		604.41		-4.432E-01	6.238E-01	7.966E-01	9.708E-02	-0.556
		612.46		3.971E-01	8.503E-01	1.287E+00	1.133E-01	0.309
		65.12		-7.500E-02	9.611E-02	1.304E-01	1.155E-02	-0.575
		66.83		7.261E-02	5.041E-02	8.281E-02	7.277E-03	0.877
	+	75.70		1.801E+00	2.290E-01	3.535E-01	2.986E-02	5.095
TL-200		98.88	*	6.851E-02	1.825E-01	3.081E-01	2.751E-02	0.222
	+	129.76		4.823E+00	4.176E+00	4.591E+00	4.818E-01	1.050
		367.94	*	-4.435E-04	4.176E+00	Half-Life	too short	
		579.30		-4.520E-04	4.176E+00	Half-Life	too short	
		828.27		1.225E-03	4.176E+00	Half-Life	too short	
TL-201		1205.75		1.158E-03	4.176E+00	Half-Life	too short	
		68.90		-2.555E+00	2.810E+00	4.150E+00	3.612E-01	-0.616
		70.82		-4.341E-01	1.606E+00	2.450E+00	2.114E-01	-0.177
		80.30		-5.288E-02	3.938E+00	5.549E+00	4.600E-01	-0.010
		135.34		-2.862E+00	2.322E+01	3.841E+01	3.860E+00	-0.074
		167.43	*	8.668E-01	6.837E+00	1.133E+01	8.284E-01	0.077

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-2.302E-01	2.531E-01	3.738E-01	3.253E-02	-0.616
		70.82		-3.899E-02	1.443E-01	2.201E-01	1.899E-02	-0.177
		80.30		-4.752E-03	3.538E-01	4.986E-01	4.133E-02	-0.010
		439.56	*	7.547E-02	6.820E-02	1.241E-01	7.701E-03	0.608
HG-203		70.83		-1.628E-01	6.260E-01	9.553E-01	1.300E-01	-0.170
	+	72.87		3.987E+00	7.800E-01	8.514E-01	1.120E-01	4.682
	+	82.60		1.956E+00	1.107E+00	1.346E+00	1.816E-01	1.453
		279.20	*	-2.347E-02	4.438E-02	6.809E-02	5.253E-03	-0.345
BI-207	+	72.80		1.169E+00	1.966E-01	2.444E-01	2.090E-02	4.783
	+	74.97		6.924E-01	1.164E-01	1.865E-01	1.580E-02	3.712
	+	84.90		3.403E-01	1.891E-01	2.561E-01	2.086E-02	1.329
		569.67		2.900E-02	3.769E-02	6.557E-02	4.671E-03	0.442
		1063.62	*	2.082E-02	7.149E-02	1.210E-01	7.775E-03	0.172
		1770.23		-2.087E+00	8.829E-01	7.644E-01	4.392E-02	-2.730
TL-207		81.07		-1.316E-01	1.608E-01	2.363E-01	1.953E-02	-0.557
	+	83.78		2.244E-01	1.247E-01	1.607E-01	1.314E-02	1.396
		94.90		8.980E-03	1.729E-01	2.643E-01	2.273E-02	0.034
		122.32		1.541E+00	1.581E+00	2.754E+00	3.187E-01	0.560
		144.24		1.840E-01	6.556E-01	1.079E+00	1.107E-01	0.171
		154.21		2.738E-01	3.679E-01	6.301E-01	5.859E-02	0.434
	+	269.46		4.918E-01	2.607E-01	3.669E-01	2.820E-02	1.340
		323.87	*	-4.552E-01	7.533E-01	1.059E+00	1.799E-01	-0.430
	+	338.28		6.437E+00	1.983E+00	2.631E+00	2.929E-01	2.447
		445.03		1.916E+00	2.427E+00	4.283E+00	4.511E-01	0.447
PO-209		260.50		-1.116E+00	9.428E+00	1.497E+01	1.124E+00	-0.075
		262.80		-8.008E+00	2.596E+01	4.058E+01	3.045E+00	-0.197
		896.60	*	1.290E+00	8.533E+00	1.446E+01	1.055E+00	0.089
PB-211		404.84	*	-1.576E+00	1.397E+00	1.447E+00	9.024E-01	-1.089
		427.08		-3.328E-01	2.307E+00	3.785E+00	2.340E+00	-0.088
		831.96		-2.205E+00	2.159E+00	2.431E+00	1.520E+00	-0.907
BI-212	+	727.18	*	1.392E+00	5.963E-01	8.080E-01	7.398E-02	1.723
		785.46		-2.040E-01	2.200E+00	3.668E+00	2.785E-01	-0.056
		1620.62		1.536E+00	1.407E+00	2.806E+00	1.630E-01	0.547
PO-215		81.07		-1.316E-01	1.608E-01	2.363E-01	1.953E-02	-0.557
	+	83.78		2.244E-01	1.247E-01	1.607E-01	1.314E-02	1.396
		94.90		8.980E-03	1.729E-01	2.643E-01	2.273E-02	0.034
		122.32		1.541E+00	1.581E+00	2.754E+00	3.187E-01	0.560
		144.24		1.840E-01	6.556E-01	1.079E+00	1.107E-01	0.171
		154.21		2.738E-01	3.679E-01	6.301E-01	5.859E-02	0.434
	+	269.46		4.918E-01	2.607E-01	3.669E-01	2.820E-02	1.340
		323.87	*	-4.552E-01	7.533E-01	1.059E+00	1.799E-01	-0.430
	+	338.28		6.437E+00	1.983E+00	2.631E+00	2.929E-01	2.447
		445.03		1.916E+00	2.427E+00	4.283E+00	4.511E-01	0.447
RN-219		271.23		2.039E-01	2.799E-01	4.226E-01	3.961E-02	0.482
		401.81	*	3.186E-01	4.404E-01	7.725E-01	1.053E-01	0.412
RN-220		549.76	*	-2.720E+00	3.195E+01	5.186E+01	3.635E+00	-0.052
RA-223		81.07		-1.316E-01	1.608E-01	2.363E-01	1.953E-02	-0.557
	+	83.78		2.244E-01	1.247E-01	1.607E-01	1.314E-02	1.396
		94.90		8.980E-03	1.729E-01	2.643E-01	2.273E-02	0.034

---- 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		1.541E+00	1.581E+00	2.754E+00	3.187E-01	0.560
		144.24		1.840E-01	6.556E-01	1.079E+00	1.107E-01	0.171
		154.21		2.738E-01	3.679E-01	6.301E-01	5.859E-02	0.434
	+	269.46		4.918E-01	2.607E-01	3.669E-01	2.820E-02	1.340
		323.87	*	-4.552E-01	7.533E-01	1.059E+00	1.799E-01	-0.430
	+	338.28		6.437E+00	1.983E+00	2.631E+00	2.929E-01	2.447
		445.03		1.916E+00	2.427E+00	4.283E+00	4.511E-01	0.447
		79.80		1.332E+00	1.449E+00	1.878E+00	4.015E-01	0.709
		236.00		1.212E+00	3.268E-01	5.315E-01	6.119E-02	2.279
		256.20	*	-7.776E-02	3.770E-01	5.952E-01	8.784E-02	-0.131
		286.10		1.083E+00	1.621E+00	2.659E+00	3.306E-01	0.407
	+	299.80		1.555E+00	1.796E+00	2.745E+00	4.631E-01	0.566
TH-227		304.40		-8.627E-01	2.000E+00	3.054E+00	5.446E-01	-0.283
		334.20		-7.910E-01	2.523E+00	3.652E+00	6.831E-01	-0.217
		79.80		1.332E+00	1.450E+00	1.878E+00	4.067E-01	0.709
		94.00		2.386E+00	1.579E+00	2.479E+00	5.389E-01	0.963
		236.00		1.212E+00	3.207E-01	5.315E-01	5.454E-02	2.279
		256.20	*	-7.776E-02	3.770E-01	5.952E-01	1.045E-01	-0.131
		286.10		1.083E+00	1.947E+00	2.659E+00	2.666E+00	0.407
	+	299.80		1.555E+00	1.796E+00	2.745E+00	4.631E-01	0.566
		304.40		-8.627E-01	2.000E+00	3.054E+00	5.446E-01	-0.283
		334.20		-7.910E-01	2.523E+00	3.652E+00	6.831E-01	-0.217
	+	85.43		9.119E-01	2.122E-01	2.789E-01	2.267E-02	3.269
	+	88.47		3.576E-01	1.090E-01	1.603E-01	1.296E-02	2.231
TH-229		100.00		-1.020E-01	1.445E-01	2.353E-01	2.123E-02	-0.433
		193.63	*	1.907E-01	4.785E-01	7.986E-01	5.944E-02	0.239
		210.97		-1.816E-01	7.501E-01	1.064E+00	7.982E-02	-0.171
	PA-231	283.67	*	-7.573E-01	1.625E+00	2.492E+00	3.621E-01	-0.304
		301.29		6.135E-02	6.840E-01	9.720E-01	1.102E-01	0.063
	TH-231	81.07		-1.316E-01	1.608E-01	2.363E-01	1.953E-02	-0.557
	+	83.78		2.244E-01	1.247E-01	1.607E-01	1.314E-02	1.396
		94.90		8.980E-03	1.729E-01	2.643E-01	2.273E-02	0.034
		122.32		1.541E+00	1.581E+00	2.754E+00	3.187E-01	0.560
		144.24		1.840E-01	6.556E-01	1.079E+00	1.107E-01	0.171
		154.21		2.738E-01	3.679E-01	6.301E-01	5.859E-02	0.434
	+	269.46		4.918E-01	2.607E-01	3.669E-01	2.820E-02	1.340
U-231		323.87	*	-4.552E-01	7.533E-01	1.059E+00	1.799E-01	-0.430
	+	338.28		6.437E+00	1.983E+00	2.631E+00	2.929E-01	2.447
		445.03		1.916E+00	2.427E+00	4.283E+00	4.511E-01	0.447
	+	84.21		9.647E+00	5.361E+00	6.846E+00	5.590E-01	1.409
	+	92.29		1.015E+01	3.047E+00	3.482E+00	2.921E-01	2.914
		95.87	*	-1.026E+00	8.886E-01	1.247E+00	1.082E-01	-0.823
		108.00		2.242E+00	1.710E+00	3.029E+00	2.947E-01	0.740
	PA-233	75.28		2.916E+01	5.239E+00	5.756E+00	8.784E-01	5.066
	+	86.59		7.961E+00	2.742E+00	2.563E+00	6.831E-01	3.106
	+	300.12		4.335E-01	4.990E-01	7.685E-01	1.087E-01	0.564
		311.98	*	2.684E-02	6.538E-02	1.069E-01	7.976E-03	0.251
		340.50		2.450E-01	5.837E-01	9.063E-01	2.106E-01	0.270
		398.62		-5.326E-01	2.314E+00	3.802E+00	9.833E-01	-0.140

---- 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		-9.743E-01	1.692E+00	2.666E+00	5.503E-01	-0.365
		63.00		4.134E-01	1.020E+00	1.319E+00	2.069E-01	0.313
		94.67		7.983E-03	1.251E-01	1.914E-01	2.368E-02	0.042
		98.44		5.881E-02	8.093E-02	1.273E-01	7.106E-02	0.462
		99.86		-5.437E-02	3.610E-01	6.053E-01	5.454E-02	-0.090
		111.00		5.334E-02	1.566E-01	2.672E-01	3.503E-02	0.200
		131.20		-4.007E-02	1.050E-01	1.528E-01	1.587E-02	-0.262
		152.70		2.430E-02	3.087E-01	5.079E-01	8.642E-02	0.048
		186.00		3.942E+00	2.624E+00	2.554E+00	7.892E-01	1.544
		226.40		-3.130E-01	4.097E-01	6.273E-01	7.855E-02	-0.499
		227.20		1.652E-01	4.272E-01	7.067E-01	5.327E-02	0.234
		248.90		9.296E-02	8.121E-01	1.315E+00	2.895E-01	0.071
		293.70		5.400E+00	1.420E+00	1.918E+00	3.202E-01	2.816
		369.80		-5.881E-01	8.334E-01	1.306E+00	2.738E-01	-0.450
		568.70		1.474E+00	1.194E+00	2.154E+00	1.533E-01	0.684
		569.50		2.674E-01	3.353E-01	5.845E-01	4.164E-02	0.457
		574.00		7.186E-01	1.743E+00	2.952E+00	2.110E-01	0.243
		699.00		1.504E-01	9.135E-01	1.490E+00	2.778E-01	0.101
		706.10		-7.669E-01	1.375E+00	2.007E+00	8.910E-01	-0.382
		733.00		-1.319E-02	4.994E-01	7.339E-01	1.602E-01	-0.018
		742.81		-5.410E-01	1.798E+00	2.717E+00	1.823E+00	-0.199
		796.30		4.138E-02	1.211E+00	2.041E+00	5.458E-01	0.020
		805.60		-1.724E-01	1.223E+00	2.023E+00	6.143E-01	-0.085
		819.60		-3.783E-02	1.544E+00	2.544E+00	9.616E-01	-0.015
		826.30		-1.565E-01	1.023E+00	1.684E+00	7.500E-01	-0.093
		831.60		-1.192E+00	9.246E-01	1.240E+00	3.663E-01	-0.961
		876.40		-6.051E-01	1.236E+00	1.673E+00	1.719E+00	-0.362
		880.51		7.837E-02	3.378E-01	5.775E-01	4.252E-02	0.136
		883.24		-2.038E-01	3.694E-01	5.325E-01	3.571E-01	-0.383
		899.00		-3.772E-01	1.014E+00	1.593E+00	6.926E-01	-0.237
		925.00		4.460E-01	1.507E+00	2.581E+00	1.857E-01	0.173
		926.50		-4.653E-02	2.278E-01	3.694E-01	9.170E-02	-0.126
		946.00	*	4.977E-02	3.929E-01	6.599E-01	1.196E-01	0.075
		949.00		1.652E-01	6.094E-01	1.037E+00	7.357E-02	0.159
		980.50		-2.869E-01	9.478E-01	1.513E+00	1.050E-01	-0.190
PA-234M		1394.10	3.625E-02	1.331E+00	2.243E+00	1.453E+00	0.016	
		766.42	7.077E+00	1.587E+01	2.706E+01	1.368E+01	0.262	
U-235	+	1001.03	*	5.860E+00	5.934E+00	1.076E+01	9.101E-01	0.545
		89.95		3.589E+00	1.526E+00	1.610E+00	4.950E-01	2.229
	+	93.35		3.201E+00	1.286E+00	9.357E-01	2.618E-01	3.421
		105.00		4.712E-01	9.253E-01	1.576E+00	4.743E-01	0.299
		143.76	*	1.288E-01	2.053E-01	3.415E-01	6.105E-02	0.377
		163.35		-2.159E-02	4.604E-01	7.472E-01	1.392E-01	-0.029
		185.71		1.460E-01	8.676E-02	9.533E-02	7.062E-03	1.532
		205.31		7.407E-02	5.512E-01	8.082E-01	1.503E-01	0.092
NP-236		94.67		6.524E-03	9.490E-02	1.452E-01	1.246E-02	0.045
		98.44		4.448E-02	5.606E-02	9.622E-02	8.555E-03	0.462
		111.00		4.035E-02	1.184E-01	2.021E-01	2.022E-02	0.200
		160.31	*	-2.592E-02	7.565E-02	1.224E-01	9.614E-03	-0.212

---- 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		3.268E-02	1.215E-01	2.077E-01	1.866E-02	0.157
		117.00	*	-1.658E-01	1.701E-01	2.699E-01	2.856E-02	-0.614
	+	209.75		1.716E+00	1.075E+00	1.303E+00	9.777E-02	1.317
		228.18		1.677E-01	2.269E-01	3.826E-01	2.884E-02	0.438
		277.60		2.735E-01	1.954E-01	3.384E-01	2.518E-02	0.808
AM-241		334.30		-4.003E-01	1.431E+00	2.081E+00	1.434E-01	-0.192
		59.54	*	-3.361E-03	7.031E-02	1.005E-01	9.750E-03	-0.033
	CM-243	99.55		3.363E-02	1.250E-01	2.138E-01	1.921E-02	0.157
		103.76	*	9.714E-02	8.217E-02	1.450E-01	1.355E-02	0.670
		117.00		-1.706E-01	1.750E-01	2.777E-01	2.938E-02	-0.614
	+	209.75		1.692E+00	1.059E+00	1.285E+00	9.639E-02	1.317
		228.18		1.694E-01	2.293E-01	3.866E-01	2.914E-02	0.438
		277.60		2.757E-01	1.970E-01	3.411E-01	2.538E-02	0.808
	AM-246	798.80		-1.741E-01	1.818E-01	2.768E-01	2.097E-02	-0.629
		1036.00		3.527E-01	3.965E-01	7.131E-01	4.716E-02	0.495
		1062.04		1.247E-01	3.124E-01	5.345E-01	3.440E-02	0.233
		1078.86	*	1.156E-01	1.783E-01	3.139E-01	1.982E-02	0.368
	CM-247	278.00		9.434E-01	8.092E-01	1.384E+00	1.030E-01	0.681
		287.40		1.767E-01	1.286E+00	2.067E+00	1.526E-01	0.085
		402.60	*	1.727E-02	3.912E-02	6.758E-02	3.972E-03	0.256
CF-249		252.85		4.943E-01	8.563E-01	1.429E+00	1.076E-01	0.346
		333.44		-1.682E-02	1.848E-01	2.741E-01	1.891E-02	-0.061
CF-251		387.95	*	2.988E-02	4.457E-02	7.814E-02	4.584E-03	0.382
		176.60	*	-6.047E-02	1.281E-01	2.047E-01	1.507E-02	-0.295
		227.00		5.140E-02	3.810E-01	6.209E-01	4.680E-02	0.083
		285.00		1.401E-01	1.834E+00	2.892E+00	2.139E-01	0.048

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]G243274006
* Acquisition date   : 31-DEC-2009 14:35:36 Detector SN#      :
* Detector ID        : GAM17                               Sensitivity      : 5.000
* Geometry           : CAN                                 Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:08.79                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243274006           Analyst initials: MXR1
* Batch Number       : 935341              Sample Quantity : 1.2407E+02 GRAM
* Recovery           : 1.00000             Carrier Weight  : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 27-JAN-2009 16:21:14 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	2.823E+01	2.630E+00	6.954E-01	0.000E+00
CD-109	2.665E+00	7.961E-01	9.504E-01	0.000E+00
SN-126	4.066E-01	9.275E-02	9.331E-02	0.000E+00
CS-135	4.181E-01	2.180E-01	2.395E-01	0.000E+00
TL-208	4.695E-01	1.052E-01	6.806E-02	0.000E+00
BI-210	7.112E-01	7.421E-01	7.581E-01	0.000E+00
PB-210	7.112E-01	7.421E-01	7.581E-01	0.000E+00
PO-210	7.112E-01	7.416E-01	7.581E-01	0.000E+00
BI-211	3.171E+00	5.597E-01	3.004E-01	0.000E+00
PB-212	1.340E+00	1.606E-01	9.199E-02	0.000E+00
PO-212	1.340E+00	1.606E-01	9.199E-02	0.000E+00
BI-214	9.588E-01	2.007E-01	1.299E-01	0.000E+00
PB-214	1.103E+00	2.027E-01	1.048E-01	0.000E+00
PO-214	1.103E+00	2.027E-01	1.048E-01	0.000E+00
PO-216	1.340E+00	1.606E-01	9.199E-02	0.000E+00
PO-218	1.103E+00	2.027E-01	1.048E-01	0.000E+00
RA-224	4.171E+00	1.078E+00	1.048E+00	0.000E+00
RA-226	9.588E-01	2.007E-01	1.299E-01	0.000E+00
AC-228	1.557E+00	3.970E-01	2.488E-01	0.000E+00
RA-228	1.557E+00	3.970E-01	2.488E-01	0.000E+00
TH-228	1.361E+00	1.631E-01	9.339E-02	0.000E+00
TH-230	9.588E-01	2.007E-01	1.299E-01	0.000E+00
TH-232	1.557E+00	3.970E-01	2.488E-01	0.000E+00
TH-234	3.546E-01	8.582E-01	8.935E-01	0.000E+00
U-234	9.588E-01	2.007E-01	1.299E-01	0.000E+00
NP-237	1.194E+00	3.640E-01	2.734E-01	0.000E+00
U-238	3.546E-01	8.582E-01	8.935E-01	0.000E+00
AM-243	3.857E-01	6.357E-02	5.901E-02	0.000E+00
ANH-511	1.482E-01	9.740E-02	5.412E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line	Activity	K.L. Act error	MDA
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Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-3.251E-01	3.452E-01	5.386E-01	0.000E+00	NOT IDENT.
NA-22	1.852E-02	5.579E-02	9.582E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.078E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.112E-02	3.799E-02	5.881E-02	0.000E+00	NOT IDENT.
TI-44	1.070E-02	2.378E-02	3.960E-02	0.000E+00	NOT IDENT.
SC-46	-2.764E-02	4.794E-02	7.673E-02	0.000E+00	FAIL ABUN
V-48	-1.161E-02	9.171E-02	1.532E-01	0.000E+00	NOT IDENT.
CR-51	6.183E-02	3.585E-01	6.404E-01	0.000E+00	NOT IDENT.
MN-52	6.451E-02	2.897E-01	5.107E-01	0.000E+00	NOT IDENT.
MN-54	6.262E-02	4.925E-02	9.327E-02	0.000E+00	NOT IDENT.
CO-56	-5.880E-04	4.741E-02	8.133E-02	0.000E+00	NOT IDENT.
CO-57	2.674E-02	2.234E-02	4.129E-02	0.000E+00	NOT IDENT.
CO-58	5.740E-02	4.049E-02	8.007E-02	0.000E+00	NOT IDENT.
FE-59	2.751E-02	1.150E-01	1.978E-01	0.000E+00	NOT IDENT.
CO-60	1.294E-02	4.942E-02	8.429E-02	0.000E+00	NOT IDENT.
ZN-65	-1.601E-01	1.459E-01	1.756E-01	0.000E+00	NOT IDENT.
GE-68	-1.271E-01	1.630E+00	2.712E+00	0.000E+00	NOT IDENT.
AS-73	7.222E-02	2.311E-01	3.884E-01	0.000E+00	NOT IDENT.
AS-74	-1.103E-01	1.085E-01	1.601E-01	0.000E+00	NOT IDENT.
SE-75	1.346E-02	4.654E-02	7.109E-02	0.000E+00	NOT IDENT.
BR-77	-2.285E+00	1.225E+01	1.972E+01	0.000E+00	FAIL ABUN
SR-82	-2.245E-01	4.632E-01	7.646E-01	0.000E+00	NOT IDENT.
RB-83	-9.885E-03	8.161E-02	1.323E-01	0.000E+00	NOT IDENT.
RB-84	-5.278E-02	8.468E-02	1.348E-01	0.000E+00	NOT IDENT.
KR-85	4.764E+00	7.816E+00	1.394E+01	0.000E+00	NOT IDENT.
SR-85	2.442E-02	4.007E-02	7.145E-02	0.000E+00	NOT IDENT.
RB-86	-7.997E-01	1.046E+00	1.602E+00	0.000E+00	NOT IDENT.
Y-88	-2.636E-02	3.387E-02	4.131E-02	0.000E+00	NOT IDENT.
ZR-88	1.519E-03	3.348E-02	5.841E-02	0.000E+00	NOT IDENT.
Y-91	-5.489E+00	2.470E+01	4.004E+01	0.000E+00	NOT IDENT.
NB-94	1.226E-02	4.155E-02	7.065E-02	0.000E+00	NOT IDENT.
NB-95	-1.304E-02	5.641E-02	9.629E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.407E-01	2.427E-01	0.000E+00	NOT IDENT.
ZR-95	-3.647E-02	9.350E-02	1.469E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.167E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.342E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.330E+01	1.498E+01	2.666E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.404E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.756E-03	3.304E-02	5.548E-02	0.000E+00	FAIL ABUN
RH-102	1.298E-02	2.967E-02	5.276E-02	0.000E+00	NOT IDENT.
RU-103	-1.255E-02	4.869E-02	8.123E-02	0.000E+00	NOT IDENT.
RH-106	5.527E-02	3.404E-01	5.789E-01	0.000E+00	FAIL ABUN
RU-106	5.527E-02	3.403E-01	5.789E-01	0.000E+00	FAIL ABUN
AG-108M	-3.583E-02	3.237E-02	5.005E-02	0.000E+00	NOT IDENT.
AG-110M	-2.432E-03	4.193E-02	6.931E-02	0.000E+00	NOT IDENT.
IN-111	-2.829E-01	1.139E+00	1.665E+00	0.000E+00	NOT IDENT.
IN-113M	-1.859E-02	5.008E-02	8.487E-02	0.000E+00	NOT IDENT.
SN-113	-1.859E-02	5.008E-02	8.487E-02	0.000E+00	NOT IDENT.
IN-114M	1.095E-02	1.811E-01	2.783E-01	0.000E+00	NOT IDENT.
CD-115	9.005E+00	1.159E+01	2.106E+01	0.000E+00	NOT IDENT.
SN-117M	-6.636E-04	4.942E-02	8.562E-02	0.000E+00	NOT IDENT.
SB-122	-9.364E-01	2.332E+00	3.779E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.113E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	4.569E-03	2.554E-02	4.469E-02	0.000E+00	NOT IDENT.
I-124	2.044E-01	8.571E-01	1.296E+00	0.000E+00	FAIL ABUN
SB-124	3.251E-02	8.408E-02	1.534E-01	0.000E+00	FAIL ABUN
SB-125	1.585E-02	9.717E-02	1.699E-01	0.000E+00	FAIL ABUN
TE-125M	-1.111E+01	7.907E+00	1.294E+01	0.000E+00	NOT IDENT.
I-126	6.476E-02	2.144E-01	3.667E-01	0.000E+00	NOT IDENT.
SB-126	2.185E-01	1.918E-01	3.201E-01	0.000E+00	NOT IDENT.
SB-127	1.433E+00	1.607E+00	2.896E+00	0.000E+00	FAIL ABUN
XE-127	5.566E-03	4.482E-02	7.690E-02	0.000E+00	NOT IDENT.
I-131	1.310E-01	1.144E-01	2.157E-01	0.000E+00	NOT IDENT.
TE-132	5.229E-01	6.826E-01	1.198E+00	0.000E+00	NOT IDENT.
BA-133	2.699E-03	4.470E-02	6.956E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.831E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.731E-02	6.105E-02	1.120E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.885E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.883E-02	1.279E-01	2.267E-01	0.000E+00	FAIL ABUN
BA-137M	1.318E-02	4.312E-02	7.379E-02	0.000E+00	NOT IDENT.
CS-137	1.393E-02	4.558E-02	7.801E-02	0.000E+00	NOT IDENT.
CE-139	-3.320E-02	2.870E-02	4.641E-02	0.000E+00	NOT IDENT.
BA-140	2.082E-01	3.101E-01	5.436E-01	0.000E+00	NOT IDENT.
LA-140	-1.615E-01	1.031E-01	1.160E-01	0.000E+00	FAIL ABUN
CE-141	-7.089E-03	5.771E-02	1.000E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.162E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	1.242E-01	1.833E-01	3.301E-01	0.000E+00	NOT IDENT.
PM-144	-2.224E-02	4.280E-02	6.695E-02	0.000E+00	NOT IDENT.
PR-144	-1.507E+00	2.900E+00	4.537E+00	0.000E+00	NOT IDENT.
PM-146	-3.839E-03	4.290E-02	7.312E-02	0.000E+00	NOT IDENT.
ND-147	-1.656E-01	6.079E-01	1.003E+00	0.000E+00	FAIL ABUN
PM-149	5.430E+01	9.532E+01	1.617E+02	0.000E+00	NOT IDENT.
EU-152	2.146E-02	1.037E-01	1.540E-01	0.000E+00	NOT IDENT.
GD-153	7.497E-02	6.291E-02	1.118E-01	0.000E+00	FAIL ABUN
EU-154	5.345E-02	1.561E-01	2.683E-01	0.000E+00	NOT IDENT.
EU-155	4.988E-02	9.038E-02	1.645E-01	0.000E+00	FAIL ABUN
TB-160	2.517E-01	1.625E-01	3.206E-01	0.000E+00	FAIL ABUN
HO-166M	-1.531E-02	7.101E-02	1.143E-01	0.000E+00	FAIL ABUN
TM-171	5.687E+00	1.559E+01	2.593E+01	0.000E+00	NOT IDENT.
LU-176	7.632E-03	2.612E-02	4.403E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.484E+00	1.979E+00	0.000E+00	FAIL ABUN
LU-177M	-5.562E-02	1.742E-01	2.938E-01	0.000E+00	FAIL ABUN
HF-181	5.277E-02	4.778E-02	8.877E-02	0.000E+00	NOT IDENT.
W-181	-1.560E-01	2.041E-01	2.948E-01	0.000E+00	NOT IDENT.
TA-182	-4.150E-02	2.721E-01	4.442E-01	0.000E+00	FAIL ABUN
RE-183	4.227E-03	1.044E-01	1.789E-01	0.000E+00	FAIL ABUN
RE-184	1.317E-01	2.236E-01	3.896E-01	0.000E+00	NOT IDENT.
OS-185	3.032E-03	5.448E-02	9.122E-02	0.000E+00	FAIL ABUN
RE-188	1.849E-02	1.540E-01	2.690E-01	0.000E+00	NOT IDENT.
W-188	1.120E+00	7.922E+00	1.183E+01	0.000E+00	FAIL ABUN
IR-192	-3.447E-03	3.362E-02	5.481E-02	0.000E+00	FAIL ABUN
AU-195	6.851E-02	1.789E-01	3.192E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.264E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.668E-01	6.701E+00	1.165E+01	0.000E+00	NOT IDENT.
TL-202	7.547E-02	6.684E-02	1.260E-01	0.000E+00	NOT IDENT.
HG-203	-2.347E-02	4.349E-02	6.956E-02	0.000E+00	FAIL ABUN
BI-207	2.082E-02	7.006E-02	1.214E-01	0.000E+00	FAIL ABUN
TL-207	-4.552E-01	7.382E-01	1.080E+00	0.000E+00	FAIL ABUN
PO-209	1.290E+00	8.362E+00	1.454E+01	0.000E+00	NOT IDENT.
PB-211	-1.576E+00	1.369E+00	1.471E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.844E-01	8.149E-01	0.000E+00	FAIL ABUN
PO-215	-4.552E-01	7.382E-01	1.080E+00	0.000E+00	FAIL ABUN
RN-219	3.186E-01	4.316E-01	7.854E-01	0.000E+00	NOT IDENT.
RN-220	-2.720E+00	3.131E+01	5.251E+01	0.000E+00	NOT IDENT.
RA-223	-4.552E-01	7.382E-01	1.080E+00	0.000E+00	FAIL ABUN
AC-227	-7.776E-02	3.694E-01	6.088E-01	0.000E+00	FAIL ABUN
TH-227	-7.776E-02	3.695E-01	6.088E-01	0.000E+00	FAIL ABUN
TH-229	1.907E-01	4.689E-01	8.199E-01	0.000E+00	FAIL ABUN
PA-231	-7.573E-01	1.593E+00	2.546E+00	0.000E+00	NOT IDENT.
TH-231	-4.552E-01	7.382E-01	1.080E+00	0.000E+00	FAIL ABUN
U-231	-1.026E+00	8.709E-01	1.292E+00	0.000E+00	FAIL ABUN
PA-233	2.684E-02	6.407E-02	1.091E-01	0.000E+00	FAIL ABUN
PA-234	4.977E-02	3.851E-01	6.632E-01	0.000E+00	FAIL ABUN
PA-234M	5.860E+00	5.816E+00	1.080E+01	0.000E+00	NOT IDENT.
U-235	1.288E-01	2.012E-01	3.520E-01	0.000E+00	FAIL ABUN
NP-236	-2.592E-02	7.413E-02	1.260E-01	0.000E+00	NOT IDENT.
NP-239	-1.658E-01	1.667E-01	2.789E-01	0.000E+00	FAIL ABUN
AM-241	-3.361E-03	6.890E-02	1.048E-01	0.000E+00	NOT IDENT.
CM-243	9.714E-02	8.052E-02	1.501E-01	0.000E+00	FAIL ABUN
AM-246	1.156E-01	1.747E-01	3.148E-01	0.000E+00	NOT IDENT.
CM-247	1.727E-02	3.833E-02	6.870E-02	0.000E+00	NOT IDENT.
CF-249	2.988E-02	4.368E-02	7.948E-02	0.000E+00	NOT IDENT.
CF-251	-6.047E-02	1.255E-01	2.104E-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]G243274006.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:36
Sample ID          : G243274006          Sample quantity  : 1.24070E+02 GRAM
Detector name      : GAM17              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:08.79  0.1%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 935341             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	795	10.67*	7.981E-01	2.823E+01	2.823E+01	9.51
CD-109	88.03	210	3.72*	6.557E+00	2.605E+00	2.665E+00	30.49
SN-126	64.28	-----	9.60	6.653E+00	-----	Line Not Found	-----
	86.94	327	8.90	6.582E+00	1.691E+00	1.691E+00	46.67
	87.57	327	37.00*	6.582E+00	4.066E-01	4.066E-01	23.27
CS-135	268.24	83	16.00*	3.745E+00	4.181E-01	4.181E-01	53.20
TL-208	277.35	-----	6.80	3.655E+00	-----	Line Not Found	-----
	510.84	101	21.60	2.072E+00	6.861E-01	6.861E-01	67.58
	583.14	239	84.20*	1.825E+00	4.695E-01	4.695E-01	22.86
	860.37	-----	12.46	1.267E+00	-----	Line Not Found	-----
BI-210	46.50	62	4.05*	6.554E+00	7.103E-01	7.112E-01	106.47
PB-210	46.50	62	4.05*	6.554E+00	7.103E-01	7.112E-01	106.47
PO-210	46.50	62	4.05*	6.554E+00	7.103E-01	7.112E-01	106.40
BI-211	72.87	560	1.27	6.652E+00	2.005E+01	2.005E+01	16.82
	351.07	402	12.94*	2.962E+00	3.171E+00	3.171E+00	18.01
PB-212	74.81	560	10.70	6.652E+00	2.379E+00	2.379E+00	19.24
	77.11	807	18.00	6.645E+00	2.041E+00	2.041E+00	12.71
	87.30	327	8.00	6.582E+00	1.881E+00	1.881E+00	25.33
	238.63	818	44.60*	4.142E+00	1.340E+00	1.340E+00	12.23
	300.09	32	3.41	3.424E+00	8.390E-01	8.390E-01	114.62
PO-212	74.81	560	10.70	6.652E+00	2.379E+00	2.379E+00	19.24
	77.11	807	18.00	6.645E+00	2.041E+00	2.041E+00	12.71
	87.30	327	8.00	6.582E+00	1.881E+00	1.881E+00	25.33
	115.19	-----	0.60	6.204E+00	-----	Line Not Found	-----
	238.63	818	44.60*	4.142E+00	1.340E+00	1.340E+00	12.23
	300.09	32	3.41	3.424E+00	8.390E-01	8.390E-01	114.62
BI-214	609.31	257	46.30*	1.750E+00	9.588E-01	9.588E-01	21.36
	1120.29	59	15.10	1.003E+00	1.184E+00	1.184E+00	55.52
	1764.49	37	15.80	6.762E-01	1.048E+00	1.048E+00	44.52
PB-214	74.81	560	6.21	6.652E+00	4.100E+00	4.100E+00	18.38
	77.11	807	10.50	6.645E+00	3.499E+00	3.499E+00	14.82
	87.30	327	4.67	6.582E+00	3.222E+00	3.222E+00	24.52

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	223	7.49	4.102E+00	2.200E+00	2.200E+00	26.95
	295.21	248	19.20	3.471E+00	1.125E+00	1.125E+00	22.49
	351.92	402	37.20*	2.962E+00	1.103E+00	1.103E+00	18.75
	74.81	560	6.21	6.652E+00	4.100E+00	4.100E+00	18.38
	77.11	807	10.50	6.645E+00	3.499E+00	3.499E+00	14.82
	87.30	327	4.67	6.582E+00	3.222E+00	3.222E+00	24.52
PO-216	241.98	223	7.49	4.102E+00	2.200E+00	2.200E+00	26.95
	295.21	248	19.20	3.471E+00	1.125E+00	1.125E+00	22.49
	351.92	402	37.20*	2.962E+00	1.103E+00	1.103E+00	18.75
	74.81	560	10.70	6.652E+00	2.379E+00	2.379E+00	19.24
	77.11	807	18.00	6.645E+00	2.041E+00	2.041E+00	12.71
	87.30	327	8.00	6.582E+00	1.881E+00	1.881E+00	25.33
PO-218	238.63	818	44.60*	4.142E+00	1.340E+00	1.340E+00	12.23
	300.09	32	3.41	3.424E+00	8.390E-01	8.390E-01	114.62
	74.81	560	6.21	6.652E+00	4.100E+00	4.100E+00	18.38
	77.11	807	10.50	6.645E+00	3.499E+00	3.499E+00	14.82
	87.30	327	4.67	6.582E+00	3.222E+00	3.222E+00	24.52
	241.98	223	7.49	4.102E+00	2.200E+00	2.200E+00	26.95
RA-224	295.21	248	19.20	3.471E+00	1.125E+00	1.125E+00	22.49
	351.92	402	37.20*	2.962E+00	1.103E+00	1.103E+00	18.75
RA-226	240.98	223	3.95*	4.102E+00	4.171E+00	4.171E+00	26.37
	609.31	257	46.30*	1.750E+00	9.588E-01	9.588E-01	21.36
AC-228	1120.29	59	15.10	1.003E+00	1.184E+00	1.184E+00	55.52
	1764.49	37	15.80	6.762E-01	1.048E+00	1.048E+00	44.52
	338.32	178	11.40	3.070E+00	1.541E+00	1.541E+00	50.00
	911.07	172	27.70*	1.204E+00	1.557E+00	1.557E+00	26.02
RA-228	969.11	81	16.60	1.139E+00	1.296E+00	1.296E+00	64.61
	338.32	178	11.40	3.070E+00	1.541E+00	1.541E+00	50.00
	911.07	172	27.70*	1.204E+00	1.557E+00	1.557E+00	26.02
	969.11	81	16.60	1.139E+00	1.296E+00	1.296E+00	64.61
TH-228	74.81	560	10.70	6.652E+00	2.379E+00	2.415E+00	16.85
	77.11	807	18.00	6.645E+00	2.041E+00	2.072E+00	12.71
	87.30	327	8.00	6.582E+00	1.881E+00	1.909E+00	23.27
	238.63	818	44.60*	4.142E+00	1.340E+00	1.361E+00	12.23
TH-230	300.09	32	3.41	3.424E+00	8.390E-01	8.517E-01	128.62
	609.31	257	46.30*	1.750E+00	9.588E-01	9.588E-01	21.36
	1120.29	59	15.10	1.003E+00	1.184E+00	1.184E+00	55.52
	1764.49	37	15.80	6.762E-01	1.048E+00	1.048E+00	44.52
TH-232	338.32	178	11.40	3.070E+00	1.541E+00	1.541E+00	29.53
	911.07	172	27.70*	1.204E+00	1.557E+00	1.557E+00	26.02
	969.11	81	16.60	1.139E+00	1.296E+00	1.296E+00	64.61
	63.29	30	3.80*	6.647E+00	3.546E-01	3.546E-01	246.95
TH-234	92.38	311	5.41	6.528E+00	2.662E+00	2.662E+00	33.98
	609.31	257	46.30*	1.750E+00	9.588E-01	9.588E-01	21.36
U-234	1120.29	59	15.10	1.003E+00	1.184E+00	1.184E+00	55.52
	1764.49	37	15.80	6.762E-01	1.048E+00	1.048E+00	44.52
NP-237	86.50	327	12.60*	6.582E+00	1.194E+00	1.194E+00	31.10
	95.87	-----	2.60	6.484E+00	-----	Line Not Found	-----
U-238	63.29	30	3.80*	6.647E+00	3.546E-01	3.546E-01	246.95

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	311	5.41	6.528E+00	2.662E+00	2.662E+00	30.04
AM-243	74.67	560	66.00*	6.652E+00	3.857E-01	3.857E-01	16.82
	86.72	327	0.34	6.582E+00	4.478E+01	4.478E+01	23.27
	117.66	-----	0.55	6.163E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.726E+00	-----	Line Not Found	-----
ANH-511	511.00	101	100.00*	2.072E+00	1.482E-01	1.482E-01	67.06

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	2.823E+01	2.823E+01	0.268E+01	9.51	
CD-109	464.00D	1.02	2.605E+00	2.665E+00	0.812E+00	30.49	
SN-126	1.00E+05Y	1.00	4.066E-01	4.066E-01	0.946E-01	23.27	
CS-135	2.30E+06Y	1.00	4.181E-01	4.181E-01	2.224E-01	53.20	
TL-208	1.41E+10Y	1.00	4.695E-01	4.695E-01	1.073E-01	22.86	
BI-210	22.26Y	1.00	7.103E-01	7.112E-01	7.572E-01	106.47	
PB-210	22.26Y	1.00	7.103E-01	7.112E-01	7.572E-01	106.47	
PO-210	22.26Y	1.00	7.103E-01	7.112E-01	7.567E-01	106.40	
BI-211	7.04E+08Y	1.00	3.171E+00	3.171E+00	0.571E+00	18.01	
PB-212	1.41E+10Y	1.00	1.340E+00	1.340E+00	0.164E+00	12.23	
PO-212	1.41E+10Y	1.00	1.340E+00	1.340E+00	0.164E+00	12.23	
BI-214	1600.00Y	1.00	9.588E-01	9.588E-01	2.048E-01	21.36	
PB-214	1600.00Y	1.00	1.103E+00	1.103E+00	0.207E+00	18.75	
PO-214	1600.00Y	1.00	1.103E+00	1.103E+00	0.207E+00	18.75	
PO-216	1.41E+10Y	1.00	1.340E+00	1.340E+00	0.164E+00	12.23	
PO-218	1600.00Y	1.00	1.103E+00	1.103E+00	0.207E+00	18.75	
RA-224	1.41E+10Y	1.00	4.171E+00	4.171E+00	1.100E+00	26.37	
RA-226	1600.00Y	1.00	9.588E-01	9.588E-01	2.048E-01	21.36	
AC-228	1.41E+10Y	1.00	1.557E+00	1.557E+00	0.405E+00	26.02	
RA-228	1.41E+10Y	1.00	1.557E+00	1.557E+00	0.405E+00	26.02	
TH-228	1.91Y	1.02	1.340E+00	1.361E+00	0.166E+00	12.23	
TH-230	4.47E+09Y	1.00	9.588E-01	9.588E-01	2.048E-01	21.36	
TH-232	1.41E+10Y	1.00	1.557E+00	1.557E+00	0.405E+00	26.02	
TH-234	4.47E+09Y	1.00	3.546E-01	3.546E-01	8.757E-01	246.95	
U-234	4.47E+09Y	1.00	9.588E-01	9.588E-01	2.048E-01	21.36	
NP-237	2.14E+06Y	1.00	1.194E+00	1.194E+00	0.371E+00	31.10	
U-238	4.47E+09Y	1.00	3.546E-01	3.546E-01	8.757E-01	246.95	
AM-243	7380.00Y	1.00	3.857E-01	3.857E-01	0.649E-01	16.82	
ANH-511	1.00E+09Y	1.00	1.482E-01	1.482E-01	0.994E-01	67.06	

Total Activity : 6.121E+01 6.130E+01

Grand Total Activity : 6.121E+01 6.130E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243274006

Page : 5
Acquisition date : 31-DEC-2009 14:35:36

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
8	83.69	121	353	1.73	168.79	165	27	1.68E-02	55.0	6.60E+00	T
0	128.65	73	278	1.02	258.67	254	9	1.01E-02	85.9	5.97E+00	T
0	185.44	129	307	1.20	372.18	367	12	1.79E-02	59.0	4.95E+00	T
0	208.28	84	184	0.97	417.85	414	9	1.17E-02	62.2	4.57E+00	T
0	327.53	49	113	0.92	656.23	652	9	6.74E-03	83.9	3.16E+00	T
0	463.05	41	109	1.06	927.16	921	12	5.71E-03	****	2.28E+00	T
0	726.20	80	46	1.99	1453.28	1447	13	1.12E-02	41.8	1.48E+00	T
3	1376.90	29	11	2.44	2754.52	2745	19	3.98E-03	67.0	8.40E-01	T
3	1380.34	11	6	1.34	2761.39	2745	19	1.52E-03	93.2	8.38E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:36:42.34

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274006.CNF;1
* Acquisition date   : 31-DEC-2009 14:35:36   Detector SN#      :
* Detector ID        : GAM17                   Sensitivity        : 5.00000
* Geometry           : CAN                     Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:08.79           Half life ratio     : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library     : SOLID
* Sample ID          : G243274006             Analyst initials    : MXR1
* Batch Number       : 935341                 Sample Quantity     : 1.24070E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 27-JAN-2009 16:21:14.8MS 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	2.823E+01	2.684E+00	6.962E-01	4.280E-02	40.542
CD-109	2.665E+00	8.124E-01	9.162E-01	7.379E-02	2.908
SN-126	4.066E-01	9.464E-02	8.995E-02	7.254E-03	4.521
CS-135	4.181E-01	2.224E-01	2.343E-01	2.109E-02	1.784
TL-208	4.695E-01	1.073E-01	6.728E-02	5.334E-03	6.979
BI-210	7.112E-01	7.572E-01	7.248E-01	5.801E-02	0.981
PB-210	7.112E-01	7.572E-01	7.248E-01	5.801E-02	0.981
PO-210	7.112E-01	7.567E-01	7.248E-01	5.045E-02	0.981
BI-211	3.171E+00	5.711E-01	2.950E-01	2.119E-02	10.751
PB-212	1.340E+00	1.639E-01	8.985E-02	7.886E-03	14.916
PO-212	1.340E+00	1.639E-01	8.985E-02	7.886E-03	14.916
BI-214	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
PB-214	1.103E+00	2.068E-01	1.029E-01	9.123E-03	10.724
PO-214	1.103E+00	2.068E-01	1.029E-01	9.123E-03	10.724
PO-216	1.340E+00	1.639E-01	8.985E-02	7.886E-03	14.916
PO-218	1.103E+00	2.068E-01	1.029E-01	9.123E-03	10.724
RA-224	4.171E+00	1.100E+00	1.024E+00	7.721E-02	4.075
RA-226	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.557E+00	4.051E-01	2.475E-01	2.532E-02	6.292
RA-228	1.557E+00	4.051E-01	2.475E-01	2.532E-02	6.292
TH-228	1.361E+00	1.664E-01	9.122E-02	8.005E-03	14.916
TH-230	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
TH-232	1.557E+00	4.051E-01	2.475E-01	2.532E-02	6.292
TH-234	3.546E-01	8.757E-01	8.577E-01	1.556E-01	0.413
U-234	9.588E-01	2.048E-01	1.285E-01	1.153E-02	7.464
NP-237	1.194E+00	3.714E-01	2.635E-01	5.840E-02	4.532
U-238	3.546E-01	8.757E-01	8.577E-01	1.556E-01	0.413
AM-243	3.857E-01	6.487E-02	5.677E-02	4.816E-03	6.795
ANH-511	1.482E-01	9.938E-02	5.341E-02	3.609E-03	2.775

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.251E-01		3.522E-01	5.310E-01	3.915E-02	-0.612
NA-22	1.852E-02		5.693E-02	9.575E-02	5.427E-03	0.193
NA-24	-1.392E-01		5.498E-01	Half-Life too short		
AL-26	-1.112E-02		3.876E-02	5.905E-02	3.376E-03	-0.188
TI-44	1.070E-02		2.427E-02	3.812E-02	3.185E-03	0.281
SC-46	-2.764E-02		4.892E-02	7.629E-02	5.592E-03	-0.362
V-48	-1.161E-02		9.358E-02	1.525E-01	1.056E-02	-0.076
CR-51	6.183E-02		3.658E-01	6.280E-01	4.789E-02	0.098
MN-52	6.451E-02		2.956E-01	5.112E-01	2.954E-02	0.126
MN-54	6.262E-02		5.026E-02	9.265E-02	6.951E-03	0.676
CO-56	-5.880E-04		4.838E-02	8.081E-02	6.037E-03	-0.007
CO-57	2.674E-02		2.279E-02	3.998E-02	4.435E-03	0.669
CO-58	5.740E-02		4.131E-02	7.951E-02	6.025E-03	0.722
FE-59	2.751E-02		1.173E-01	1.972E-01	1.401E-02	0.140
CO-60	1.294E-02		5.043E-02	8.428E-02	4.813E-03	0.154
ZN-65	-1.601E-01		1.489E-01	1.751E-01	1.058E-02	-0.914
GE-68	-1.271E-01		1.663E+00	2.704E+00	1.710E-01	-0.047
AS-73	7.222E-02		2.358E-01	3.721E-01	3.019E-02	0.194
AS-74	-1.103E-01		1.107E-01	1.583E-01	1.149E-02	-0.697
SE-75	1.346E-02		4.749E-02	6.953E-02	5.245E-03	0.194
BR-77	-2.285E+00		1.250E+01	1.946E+01	1.328E+00	-0.117
SR-82	-2.245E-01		4.726E-01	7.588E-01	5.768E-02	-0.296
RB-83	-9.885E-03		8.327E-02	1.306E-01	8.908E-03	-0.076
RB-84	-5.278E-02		8.641E-02	1.340E-01	9.862E-03	-0.394
KR-85	4.764E+00		7.976E+00	1.375E+01	9.324E-01	0.346
SR-85	2.442E-02		4.089E-02	7.052E-02	4.780E-03	0.346
RB-86	-7.997E-01		1.067E+00	1.597E+00	1.011E-01	-0.501
Y-88	-2.636E-02		3.456E-02	4.149E-02	2.369E-03	-0.635
ZR-88	1.519E-03		3.417E-02	5.743E-02	3.324E-03	0.026
Y-91	-5.489E+00		2.521E+01	3.998E+01	2.225E+00	-0.137
NB-94	1.226E-02		4.240E-02	7.002E-02	5.320E-03	0.175
NB-95	-1.304E-02		5.756E-02	9.554E-02	7.271E-03	-0.136

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	3.400E-01		1.436E-01	2.370E-01	2.120E-02	1.434
ZR-95	-3.647E-02		9.540E-02	1.458E-01	1.253E-02	-0.250
NB-97	1.800E-03		5.955E-02	Half-Life	too short	
ZR-97	4.887E+00		1.195E+00	Half-Life	too short	
MO-99	1.330E+01		1.528E+01	2.644E+01	3.870E+00	0.503
TC-99M	-2.113E+10		1.737E+10	Half-Life	too short	
RH-101	-3.756E-03		3.371E-02	5.406E-02	4.033E-03	-0.069
RH-102	1.298E-02		3.027E-02	5.201E-02	3.378E-03	0.250
RU-103	-1.255E-02		4.969E-02	8.012E-02	1.047E-02	-0.157
RH-106	5.527E-02		3.473E-01	5.728E-01	7.213E-02	0.096
RU-106	5.527E-02		3.473E-01	5.728E-01	4.227E-02	0.096
AG-108M	-3.583E-02		3.303E-02	4.928E-02	3.266E-03	-0.727
AG-110M	-2.432E-03		4.279E-02	6.863E-02	5.361E-03	-0.035
IN-111	-2.829E-01		1.163E+00	1.627E+00	1.227E-01	-0.174
IN-113M	-1.859E-02		5.111E-02	8.345E-02	5.146E-03	-0.223
SN-113	-1.859E-02		5.111E-02	8.345E-02	5.146E-03	-0.223
IN-114M	1.095E-02		1.848E-01	2.710E-01	2.013E-02	0.040
CD-115	9.005E+00		1.183E+01	2.079E+01	1.429E+00	0.433
SN-117M	-6.636E-04		5.043E-02	8.318E-02	6.669E-03	-0.008
SB-122	-9.364E-01		2.379E+00	3.734E+00	2.648E-01	-0.251
I-123	9.147E-01		2.609E+00	Half-Life	too short	
TE-123M	4.569E-03		2.606E-02	4.342E-02	3.488E-03	0.105
I-124	2.044E-01		8.746E-01	1.282E+00	9.351E-02	0.159
SB-124	3.251E-02		8.579E-02	1.539E-01	9.672E-03	0.211
SB-125	1.585E-02		9.915E-02	1.673E-01	1.060E-02	0.095
TE-125M	-1.111E+01		8.069E+00	1.251E+01	1.422E+00	-0.888
I-126	6.476E-02		2.187E-01	3.632E-01	2.739E-02	0.178
SB-126	2.185E-01		1.957E-01	3.173E-01	2.416E-02	0.688
SB-127	1.433E+00		1.639E+00	2.869E+00	3.044E-01	0.499
XE-127	5.566E-03		4.573E-02	7.494E-02	5.605E-03	0.074
I-131	1.310E-01		1.167E-01	2.118E-01	1.482E-02	0.618
TE-132	5.229E-01		6.965E-01	1.170E+00	1.772E-01	0.447
BA-133	2.699E-03		4.561E-02	6.830E-02	8.160E-03	0.040
I-133	-9.442E-03		3.485E-03	Half-Life	too short	
CS-134	4.731E-02		6.230E-02	1.112E-01	8.503E-03	0.426
I-135	-1.400E+09		3.513E+09	Half-Life	too short	
CS-136	5.883E-02		1.305E-01	2.259E-01	1.583E-02	0.260
BA-137M	1.318E-02		4.400E-02	7.308E-02	5.503E-03	0.180
CS-137	1.393E-02		4.651E-02	7.725E-02	5.832E-03	0.180
CE-139	-3.320E-02		2.929E-02	4.511E-02	3.299E-03	-0.736
BA-140	2.082E-01		3.165E-01	5.367E-01	1.757E-01	0.388
LA-140	-1.615E-01		1.052E-01	1.163E-01	6.760E-03	-1.388
CE-141	-7.089E-03		5.889E-02	9.706E-02	9.075E-03	-0.073
CE-143	1.066E-03	+	1.613E-04	Half-Life	too short	
CE-144	1.242E-01		1.870E-01	3.199E-01	5.276E-02	0.388
PM-144	-2.224E-02		4.367E-02	6.635E-02	5.038E-03	-0.335
PR-144	-1.507E+00		2.959E+00	4.496E+00	3.413E-01	-0.335
PM-146	-3.839E-03		4.378E-02	7.204E-02	6.472E-03	-0.053

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-1.656E-01		6.203E-01	9.898E-01	1.388E-01	-0.167
PM-149	5.430E+01		9.727E+01	1.583E+02	2.358E+01	0.343
EU-152	2.146E-02		1.058E-01	1.512E-01	1.116E-02	0.142
GD-153	7.497E-02		6.420E-02	1.080E-01	9.507E-03	0.694
EU-154	5.345E-02		1.593E-01	2.681E-01	2.481E-02	0.199
EU-155	4.988E-02		9.223E-02	1.590E-01	1.523E-02	0.314
TB-160	2.517E-01		1.658E-01	3.187E-01	2.348E-02	0.790
HO-166M	-1.531E-02		7.245E-02	1.133E-01	8.621E-03	-0.135
TM-171	5.687E+00		1.591E+01	2.491E+01	2.190E+00	0.228
LU-176	7.632E-03		2.665E-02	4.315E-02	3.115E-03	0.177
LU-177	2.417E+00	+	1.514E+00	1.930E+00	1.447E-01	1.253
LU-177M	-5.562E-02		1.778E-01	2.890E-01	1.728E-02	-0.192
HF-181	5.277E-02		4.875E-02	8.752E-02	5.731E-03	0.603
W-181	-1.560E-01		2.082E-01	2.831E-01	2.507E-02	-0.551
TA-182	-4.150E-02		2.777E-01	4.437E-01	2.479E-02	-0.094
RE-183	4.227E-03		1.066E-01	1.738E-01	1.331E-02	0.024
RE-184	1.317E-01		2.282E-01	3.808E-01	2.867E-02	0.346
OS-185	3.032E-03		5.559E-02	9.031E-02	6.752E-03	0.034
RE-188	1.849E-02		1.571E-01	2.613E-01	2.181E-02	0.071
W-188	1.120E+00		8.083E+00	1.159E+01	8.527E-01	0.097
IR-192	-3.447E-03		3.430E-02	5.374E-02	3.837E-03	-0.064
AU-195	6.851E-02		1.825E-01	3.081E-01	2.751E-02	0.222
TL-200	-4.435E-04		2.175E-04	Half-Life	too short	
TL-201	8.668E-01		6.837E+00	1.133E+01	8.284E-01	0.077
TL-202	7.547E-02		6.820E-02	1.241E-01	7.701E-03	0.608
HG-203	-2.347E-02		4.438E-02	6.809E-02	5.253E-03	-0.345
BI-207	2.082E-02		7.149E-02	1.210E-01	7.775E-03	0.172
TL-207	-4.552E-01		7.533E-01	1.059E+00	1.799E-01	-0.430
PO-209	1.290E+00		8.533E+00	1.446E+01	1.055E+00	0.089
PB-211	-1.576E+00		1.397E+00	1.447E+00	9.024E-01	-1.089
BI-212	1.392E+00	+	5.963E-01	8.080E-01	7.398E-02	1.723
PO-215	-4.552E-01		7.533E-01	1.059E+00	1.799E-01	-0.430
RN-219	3.186E-01		4.404E-01	7.725E-01	1.053E-01	0.412
RN-220	-2.720E+00		3.195E+01	5.186E+01	3.635E+00	-0.052
RA-223	-4.552E-01		7.533E-01	1.059E+00	1.799E-01	-0.430
AC-227	-7.776E-02		3.770E-01	5.952E-01	8.784E-02	-0.131
TH-227	-7.776E-02		3.770E-01	5.952E-01	1.045E-01	-0.131
TH-229	1.907E-01		4.785E-01	7.986E-01	5.944E-02	0.239
PA-231	-7.573E-01		1.625E+00	2.492E+00	3.621E-01	-0.304
TH-231	-4.552E-01		7.533E-01	1.059E+00	1.799E-01	-0.430
U-231	-1.026E+00		8.886E-01	1.247E+00	1.082E-01	-0.823
PA-233	2.684E-02		6.538E-02	1.069E-01	7.976E-03	0.251
PA-234	4.977E-02		3.929E-01	6.599E-01	1.196E-01	0.075
PA-234M	5.860E+00		5.934E+00	1.076E+01	9.101E-01	0.545
U-235	1.288E-01		2.053E-01	3.415E-01	6.105E-02	0.377
NP-236	-2.592E-02		7.565E-02	1.224E-01	9.614E-03	-0.212
NP-239	-1.658E-01		1.701E-01	2.699E-01	2.856E-02	-0.614
AM-241	-3.361E-03		7.031E-02	1.005E-01	9.750E-03	-0.033

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.714E-02		8.217E-02	1.450E-01	1.355E-02	0.670
AM-246	1.156E-01		1.783E-01	3.139E-01	1.982E-02	0.368
CM-247	1.727E-02		3.912E-02	6.758E-02	3.972E-03	0.256
CF-249	2.988E-02		4.457E-02	7.814E-02	4.584E-03	0.382
CF-251	-6.047E-02		1.281E-01	2.047E-01	1.507E-02	-0.295

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]G243274006            *
* Acquisition date   : 31-DEC-2009 14:35:36 Detector SN# :                  *
* Detector ID        : GAM17 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:08.79 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274006 Analyst initials: MXR1                 *
* Batch Number       : 935341 Sample Quantity : 1.2407E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 27-JAN-2009 16:21:14 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	2.823E+01	2.630E+00	3.479E-01	1.342E+00
CD-109	2.665E+00	7.961E-01	4.755E-01	4.062E-01
SN-126	4.066E-01	9.275E-02	4.668E-02	4.732E-02
CS-135	4.181E-01	2.180E-01	1.198E-01	1.112E-01
TL-208	4.695E-01	1.052E-01	3.405E-02	5.367E-02
BI-210	7.112E-01	7.421E-01	3.793E-01	3.786E-01
PB-210	7.112E-01	7.421E-01	3.793E-01	3.786E-01
PO-210	7.112E-01	7.416E-01	3.793E-01	3.784E-01
BI-211	3.171E+00	5.597E-01	1.503E-01	2.856E-01
PB-212	1.340E+00	1.606E-01	4.602E-02	8.195E-02
PO-212	1.340E+00	1.606E-01	4.602E-02	8.195E-02
BI-214	9.588E-01	2.007E-01	6.497E-02	1.024E-01
PB-214	1.103E+00	2.027E-01	5.242E-02	1.034E-01
PO-214	1.103E+00	2.027E-01	5.242E-02	1.034E-01
PO-216	1.340E+00	1.606E-01	4.602E-02	8.195E-02
PO-218	1.103E+00	2.027E-01	5.242E-02	1.034E-01
RA-224	4.171E+00	1.078E+00	5.243E-01	5.498E-01
RA-226	9.588E-01	2.007E-01	6.497E-02	1.024E-01
AC-228	1.557E+00	3.970E-01	1.245E-01	2.026E-01
RA-228	1.557E+00	3.970E-01	1.245E-01	2.026E-01
TH-228	1.361E+00	1.631E-01	4.672E-02	8.320E-02
TH-230	9.588E-01	2.007E-01	6.497E-02	1.024E-01
TH-232	1.557E+00	3.970E-01	1.245E-01	2.026E-01
TH-234	3.546E-01	8.582E-01	4.470E-01	4.379E-01
U-234	9.588E-01	2.007E-01	6.497E-02	1.024E-01
NP-237	1.194E+00	3.640E-01	1.368E-01	1.857E-01
U-238	3.546E-01	8.582E-01	4.470E-01	4.379E-01
AM-243	3.857E-01	6.357E-02	2.952E-02	3.243E-02
ANH-511	1.482E-01	9.740E-02	2.708E-02	4.969E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-3.251E-01	3.452E-01	2.694E-01	1.761E-01	NOT IDENT.
NA-22	1.852E-02	5.579E-02	4.794E-02	2.846E-02	NOT IDENT.
NA-24	-1.392E+05	1.078E+06	0.000E+00	5.498E+05	SHORT HLIF
AL-26	-1.112E-02	3.799E-02	2.942E-02	1.938E-02	NOT IDENT.
TI-44	1.070E-02	2.378E-02	1.981E-02	1.213E-02	NOT IDENT.
SC-46	-2.764E-02	4.794E-02	3.839E-02	2.446E-02	FAIL ABUN
V-48	-1.161E-02	9.171E-02	7.664E-02	4.679E-02	NOT IDENT.
CR-51	6.183E-02	3.585E-01	3.204E-01	1.829E-01	NOT IDENT.
MN-52	6.451E-02	2.897E-01	2.555E-01	1.478E-01	NOT IDENT.
MN-54	6.262E-02	4.925E-02	4.666E-02	2.513E-02	NOT IDENT.
CO-56	-5.880E-04	4.741E-02	4.069E-02	2.419E-02	NOT IDENT.
CO-57	2.674E-02	2.234E-02	2.066E-02	1.140E-02	NOT IDENT.
CO-58	5.740E-02	4.049E-02	4.006E-02	2.066E-02	NOT IDENT.
FE-59	2.751E-02	1.150E-01	9.894E-02	5.867E-02	NOT IDENT.
CO-60	1.294E-02	4.942E-02	4.217E-02	2.522E-02	NOT IDENT.
ZN-65	-1.601E-01	1.459E-01	8.783E-02	7.444E-02	NOT IDENT.
GE-68	-1.271E-01	1.630E+00	1.357E+00	8.314E-01	NOT IDENT.
AS-73	7.222E-02	2.311E-01	1.943E-01	1.179E-01	NOT IDENT.
AS-74	-1.103E-01	1.085E-01	8.009E-02	5.536E-02	NOT IDENT.
SE-75	1.346E-02	4.654E-02	3.556E-02	2.375E-02	NOT IDENT.
BR-77	-2.285E+00	1.225E+01	9.865E+00	6.249E+00	FAIL ABUN
SR-82	-2.245E-01	4.632E-01	3.825E-01	2.363E-01	NOT IDENT.
RB-83	-9.885E-03	8.161E-02	6.618E-02	4.164E-02	NOT IDENT.
RB-84	-5.278E-02	8.468E-02	6.744E-02	4.321E-02	NOT IDENT.
KR-85	4.764E+00	7.816E+00	6.973E+00	3.988E+00	NOT IDENT.
SR-85	2.442E-02	4.007E-02	3.575E-02	2.044E-02	NOT IDENT.
RB-86	-7.997E-01	1.046E+00	8.013E-01	5.335E-01	NOT IDENT.
Y-88	-2.636E-02	3.387E-02	2.067E-02	1.728E-02	NOT IDENT.
ZR-88	1.519E-03	3.348E-02	2.922E-02	1.708E-02	NOT IDENT.
Y-91	-5.489E+00	2.470E+01	2.003E+01	1.260E+01	NOT IDENT.
NB-94	1.226E-02	4.155E-02	3.535E-02	2.120E-02	NOT IDENT.
NB-95	-1.304E-02	5.641E-02	4.817E-02	2.878E-02	NOT IDENT.
NB-95M	3.400E-01	1.407E-01	1.214E-01	7.181E-02	NOT IDENT.
ZR-95	-3.647E-02	9.350E-02	7.351E-02	4.770E-02	NOT IDENT.
NB-97	1.800E+03	1.167E+05	0.000E+00	5.955E+04	SHORT HLIF
ZR-97	4.887E+06	2.342E+06	0.000E+00	1.195E+06	SHORT HLIF
MO-99	1.330E+01	1.498E+01	1.334E+01	7.642E+00	NOT IDENT.
TC-99M	-2.113E+16	3.404E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.756E-03	3.304E-02	2.776E-02	1.685E-02	FAIL ABUN
RH-102	1.298E-02	2.967E-02	2.640E-02	1.514E-02	NOT IDENT.
RU-103	-1.255E-02	4.869E-02	4.064E-02	2.484E-02	NOT IDENT.
RH-106	5.527E-02	3.404E-01	2.896E-01	1.737E-01	FAIL ABUN
RU-106	5.527E-02	3.403E-01	2.896E-01	1.736E-01	FAIL ABUN
AG-108M	-3.583E-02	3.237E-02	2.504E-02	1.652E-02	NOT IDENT.
AG-110M	-2.432E-03	4.193E-02	3.468E-02	2.139E-02	NOT IDENT.
IN-111	-2.829E-01	1.139E+00	8.331E-01	5.813E-01	NOT IDENT.
IN-113M	-1.859E-02	5.008E-02	4.246E-02	2.555E-02	NOT IDENT.
SN-113	-1.859E-02	5.008E-02	4.246E-02	2.555E-02	NOT IDENT.
IN-114M	1.095E-02	1.811E-01	1.392E-01	9.242E-02	NOT IDENT.
CD-115	9.005E+00	1.159E+01	1.053E+01	5.913E+00	NOT IDENT.
SN-117M	-6.636E-04	4.942E-02	4.284E-02	2.521E-02	NOT IDENT.
SB-122	-9.364E-01	2.332E+00	1.891E+00	1.190E+00	NOT IDENT.
I-123	9.147E+05	5.113E+06	0.000E+00	2.609E+06	SHORT HLIF
TE-123M	4.569E-03	2.554E-02	2.236E-02	1.303E-02	NOT IDENT.
I-124	2.044E-01	8.571E-01	6.485E-01	4.373E-01	FAIL ABUN
SB-124	3.251E-02	8.408E-02	7.675E-02	4.290E-02	FAIL ABUN
SB-125	1.585E-02	9.717E-02	8.502E-02	4.957E-02	FAIL ABUN
TE-125M	-1.111E+01	7.907E+00	6.473E+00	4.034E+00	NOT IDENT.
I-126	6.476E-02	2.144E-01	1.835E-01	1.094E-01	NOT IDENT.
SB-126	2.185E-01	1.918E-01	1.601E-01	9.785E-02	NOT IDENT.
SB-127	1.433E+00	1.607E+00	1.449E+00	8.197E-01	FAIL ABUN
XE-127	5.566E-03	4.482E-02	3.847E-02	2.287E-02	NOT IDENT.
I-131	1.310E-01	1.144E-01	1.079E-01	5.837E-02	NOT IDENT.
TE-132	5.229E-01	6.826E-01	5.994E-01	3.483E-01	NOT IDENT.
BA-133	2.699E-03	4.470E-02	3.480E-02	2.280E-02	NOT IDENT.
I-133	-9.442E+03	6.831E+03	0.000E+00	3.485E+03	SHORT HLIF
CS-134	4.731E-02	6.105E-02	5.601E-02	3.115E-02	NOT IDENT.
I-135	-1.400E+15	6.885E+15	0.000E+00	3.513E+15	SHORT HLIF
CS-136	5.883E-02	1.279E-01	1.134E-01	6.525E-02	FAIL ABUN
BA-137M	1.318E-02	4.312E-02	3.692E-02	2.200E-02	NOT IDENT.
CS-137	1.393E-02	4.558E-02	3.903E-02	2.326E-02	NOT IDENT.
CE-139	-3.320E-02	2.870E-02	2.322E-02	1.464E-02	NOT IDENT.
BA-140	2.082E-01	3.101E-01	2.719E-01	1.582E-01	NOT IDENT.
LA-140	-1.615E-01	1.031E-01	5.804E-02	5.262E-02	FAIL ABUN
CE-141	-7.089E-03	5.771E-02	5.004E-02	2.945E-02	NOT IDENT.
CE-143	1.066E+03	3.162E+02	0.000E+00	1.613E+02	SHORT HLIF

CE-144	1.242E-01	1.833E-01	1.651E-01	9.352E-02	NOT IDENT.
PM-144	-2.224E-02	4.280E-02	3.350E-02	2.184E-02	NOT IDENT.
PR-144	-1.507E+00	2.900E+00	2.270E+00	1.480E+00	NOT IDENT.
PM-146	-3.839E-03	4.290E-02	3.658E-02	2.189E-02	NOT IDENT.
ND-147	-1.656E-01	6.079E-01	5.016E-01	3.102E-01	FAIL ABUN
PM-149	5.430E+01	9.532E+01	8.090E+01	4.863E+01	NOT IDENT.
EU-152	2.146E-02	1.037E-01	7.707E-02	5.291E-02	NOT IDENT.
GD-153	7.497E-02	6.291E-02	5.595E-02	3.210E-02	FAIL ABUN
EU-154	5.345E-02	1.561E-01	1.342E-01	7.963E-02	NOT IDENT.
EU-155	4.988E-02	9.038E-02	8.231E-02	4.611E-02	FAIL ABUN
TB-160	2.517E-01	1.625E-01	1.604E-01	8.290E-02	FAIL ABUN
HO-166M	-1.531E-02	7.101E-02	5.721E-02	3.623E-02	FAIL ABUN
TM-171	5.687E+00	1.559E+01	1.297E+01	7.953E+00	NOT IDENT.
LU-176	7.632E-03	2.612E-02	2.203E-02	1.333E-02	FAIL ABUN
LU-177	2.417E+00	1.484E+00	9.903E-01	7.570E-01	FAIL ABUN
LU-177M	-5.562E-02	1.742E-01	1.470E-01	8.888E-02	FAIL ABUN
HF-181	5.277E-02	4.778E-02	4.441E-02	2.438E-02	NOT IDENT.
W-181	-1.560E-01	2.041E-01	1.475E-01	1.041E-01	NOT IDENT.
TA-182	-4.150E-02	2.721E-01	2.223E-01	1.388E-01	FAIL ABUN
RE-183	4.227E-03	1.044E-01	8.948E-02	5.328E-02	FAIL ABUN
RE-184	1.317E-01	2.236E-01	1.949E-01	1.141E-01	NOT IDENT.
OS-185	3.032E-03	5.448E-02	4.564E-02	2.780E-02	FAIL ABUN
RE-188	1.849E-02	1.540E-01	1.346E-01	7.857E-02	NOT IDENT.
W-188	1.120E+00	7.922E+00	5.920E+00	4.042E+00	FAIL ABUN
IR-192	-3.447E-03	3.362E-02	2.742E-02	1.715E-02	FAIL ABUN
AU-195	6.851E-02	1.789E-01	1.597E-01	9.127E-02	FAIL ABUN
TL-200	-4.435E+02	4.264E+02	0.000E+00	2.175E+02	SHORT HLIF
TL-201	8.668E-01	6.701E+00	5.829E+00	3.419E+00	NOT IDENT.
TL-202	7.547E-02	6.684E-02	6.304E-02	3.410E-02	NOT IDENT.
HG-203	-2.347E-02	4.349E-02	3.480E-02	2.219E-02	FAIL ABUN
BI-207	2.082E-02	7.006E-02	6.073E-02	3.575E-02	FAIL ABUN
TL-207	-4.552E-01	7.382E-01	5.402E-01	3.766E-01	FAIL ABUN
PO-209	1.290E+00	8.362E+00	7.273E+00	4.267E+00	NOT IDENT.
PB-211	-1.576E+00	1.369E+00	7.362E-01	6.984E-01	NOT IDENT.
BI-212	1.392E+00	5.844E-01	4.077E-01	2.981E-01	FAIL ABUN
PO-215	-4.552E-01	7.382E-01	5.402E-01	3.766E-01	FAIL ABUN
RN-219	3.186E-01	4.316E-01	3.929E-01	2.202E-01	NOT IDENT.
RN-220	-2.720E+00	3.131E+01	2.627E+01	1.597E+01	NOT IDENT.
RA-223	-4.552E-01	7.382E-01	5.402E-01	3.766E-01	FAIL ABUN
AC-227	-7.776E-02	3.694E-01	3.046E-01	1.885E-01	FAIL ABUN
TH-227	-7.776E-02	3.695E-01	3.046E-01	1.885E-01	FAIL ABUN
TH-229	1.907E-01	4.689E-01	4.102E-01	2.392E-01	FAIL ABUN
PA-231	-7.573E-01	1.593E+00	1.274E+00	8.126E-01	NOT IDENT.
TH-231	-4.552E-01	7.382E-01	5.402E-01	3.766E-01	FAIL ABUN
U-231	-1.026E+00	8.709E-01	6.465E-01	4.443E-01	FAIL ABUN
PA-233	2.684E-02	6.407E-02	5.457E-02	3.269E-02	FAIL ABUN
PA-234	4.977E-02	3.851E-01	3.318E-01	1.965E-01	FAIL ABUN
PA-234M	5.860E+00	5.816E+00	5.403E+00	2.967E+00	NOT IDENT.
U-235	1.288E-01	2.012E-01	1.761E-01	1.026E-01	FAIL ABUN
NP-236	-2.592E-02	7.413E-02	6.305E-02	3.782E-02	NOT IDENT.
NP-239	-1.658E-01	1.667E-01	1.396E-01	8.504E-02	FAIL ABUN
AM-241	-3.361E-03	6.890E-02	5.241E-02	3.516E-02	NOT IDENT.
CM-243	9.714E-02	8.052E-02	7.507E-02	4.108E-02	FAIL ABUN
AM-246	1.156E-01	1.747E-01	1.575E-01	8.914E-02	NOT IDENT.
CM-247	1.727E-02	3.833E-02	3.437E-02	1.956E-02	NOT IDENT.
CF-249	2.988E-02	4.368E-02	3.976E-02	2.229E-02	NOT IDENT.
CF-251	-6.047E-02	1.255E-01	1.053E-01	6.404E-02	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY          MDA COUNTS

```

46.50	186.7849
46.50	186.7849
46.50	186.7849
48.70	197.5797
49.72	212.8746
51.35	196.0100
52.39	236.1882
52.97	228.1886
53.15	228.3104
53.44	216.4794
54.07	221.6993
56.28	255.8555
56.28	255.8579
57.37	0.0000
57.53	234.8595
57.53	234.8609
57.60	234.9059
57.98	250.9949
57.98	250.9949
59.32	291.8783
59.32	291.8783
59.40	291.9430
59.54	292.0549
59.72	292.1988
60.01	279.3614
61.10	303.1280
61.14	303.1609
61.30	290.1764
63.00	237.1483
63.29	237.3296
63.29	237.3296
63.58	268.8491
64.28	332.1334
65.12	311.3291
65.20	311.3941
65.20	311.3941
66.05	287.1754
66.72	298.0589
66.83	263.2139
66.91	263.2671
67.20	263.4619
67.20	263.4619
67.75	270.9127
67.85	300.9968
68.90	341.0791
68.90	341.0791
69.30	291.2107
69.67	291.4780
70.82	307.4200
70.82	307.4200
70.83	307.4275
72.80	312.2741
72.87	312.3249
72.87	312.3249
74.67	313.6648
74.81	313.7683
74.81	313.7683
74.81	313.7683
74.81	313.7683
74.81	313.7683
74.81	313.7683
74.97	313.8869
75.28	314.1146
75.70	314.4232
77.11	303.0921
77.11	303.0921

77.11	303.0921
77.11	303.0921
77.11	303.0921
77.11	303.0921
77.11	303.0921
78.38	284.7373
79.62	259.8158
79.80	254.7736
79.80	254.7736
80.11	286.7136
80.18	286.7578
80.30	290.2710
80.30	290.2710
80.57	310.6402
81.00	317.3909
81.07	317.4397
81.07	317.4397
81.07	317.4397
81.07	317.4397
82.60	288.7370
83.37	239.5065
83.78	239.7228
83.78	239.7228
83.78	239.7228
83.78	239.7228
84.21	239.9475
84.90	240.3067
85.43	240.5815
86.29	241.0253
86.50	241.1324
86.54	241.1535
86.59	241.1788
86.72	241.2465
86.79	241.2803
86.94	241.3592
87.30	241.5438
87.30	241.5438
87.30	241.5438
87.30	241.5438
87.30	241.5438
87.30	241.5438
87.57	241.6818
87.88	241.8396
88.03	241.9164
88.36	242.0848
88.47	242.1411
89.95	242.8907
91.11	243.4725
92.29	244.0629
92.38	244.1079
92.38	244.1079
93.35	244.5884
94.00	185.6715
94.67	189.9044
94.67	189.9066
94.90	184.6794
94.90	184.6794
94.90	184.6794
94.90	184.6794
95.87	224.9727
95.87	224.9727
96.73	178.6864
97.43	163.4422
98.44	178.3936
98.44	178.3936
98.88	186.5818
99.55	185.0364
99.55	185.0364
99.86	189.6201
100.00	204.8803
100.10	204.9210
103.18	190.8257
103.76	181.1227
105.00	203.2207
105.31	197.0125
108.00	163.4802
109.28	229.4068

111.00	184.4608
111.00	184.4608
111.76	207.5730
112.95	180.5222
115.19	195.9553
116.30	209.2402
117.00	210.4171
117.00	210.4171
117.66	184.7860
121.11	197.0301
121.62	177.6655
121.78	161.8957
122.06	158.2484
122.32	163.9052
122.32	163.9052
122.32	163.9052
122.32	163.9052
123.07	185.5574
127.23	176.0378
129.76	188.0744
131.20	188.5087
133.02	176.2595
133.54	168.8179
135.34	185.4626
136.00	182.7988
136.25	178.1069
136.48	178.1697
140.51	198.4508
140.51	0.0000
142.18	178.7684
142.65	186.5896
143.76	180.1576
144.24	183.1773
144.24	183.1773
144.24	183.1773
144.24	183.1773
145.22	192.1355
145.44	192.1982
147.16	189.7813
152.43	184.4088
152.70	175.6952
153.22	173.8734
154.21	161.4014
154.21	161.4014
154.21	161.4014
154.21	161.4014
155.03	168.4447
156.02	185.3528
158.56	164.3618
159.00	0.0000
159.00	159.5380
160.31	180.5464
161.27	162.0164
162.32	170.1646
162.64	174.1971
163.35	173.3765
163.89	157.6397
165.85	202.7943
167.43	176.3266
171.28	202.2651
171.86	191.3964
172.10	199.4757
176.55	194.5844
176.60	190.5631
181.06	162.7531
184.41	151.7283
185.71	151.9738
186.00	152.0299
190.27	143.0860
192.34	156.3000
193.63	143.1557
197.04	174.7643
198.01	170.8243
198.60	144.0069
200.40	169.2312
201.83	179.9144
202.84	156.1783
205.31	150.3618

208.36	137.2672
208.81	137.3379
209.75	119.6429
209.75	119.6429
210.97	133.9967
215.65	127.8350
216.55	148.0564
218.09	132.4183
222.10	120.2338
223.80	148.1711
226.40	159.2780
227.00	137.9863
227.08	132.6494
227.20	132.6670
228.16	129.5903
228.18	129.5927
228.18	129.5927
231.56	0.0000
235.69	123.0663
236.00	136.0642
236.00	136.0642
238.63	138.6016
238.63	138.6016
238.63	138.6016
238.63	138.6016
239.00	138.6550
240.98	138.9375
241.98	139.0794
241.98	139.0794
241.98	139.0794
244.69	114.4037
245.39	124.2979
247.94	111.5002
248.90	113.7955
249.79	111.7067
252.40	108.7022
252.85	102.1596
252.85	102.1596
254.15	0.0000
256.20	114.6202
256.20	114.6202
260.50	108.4596
260.90	99.6442
262.80	107.5916
264.65	96.6714
268.24	100.3473
268.79	108.7651
269.46	111.6252
269.46	111.6252
269.46	111.6252
269.46	111.6252
271.23	114.0465
273.65	146.2443
276.40	110.1025
277.35	105.7022
277.60	106.8499
277.60	106.8499
278.00	110.2660
278.60	112.5773
279.20	135.1685
279.53	146.4774
280.46	118.4091
281.68	109.5098
283.67	117.6242
284.30	115.4286
285.00	98.5157
285.90	94.0623
286.10	90.6787
286.10	90.6787
287.40	104.4022
288.45	0.0000
290.67	93.8968
290.80	93.9069
291.72	92.2753
293.26	0.0000
293.70	95.8604
295.21	130.2701
295.21	130.2701

295.21	130.2701
295.96	130.3560
296.50	130.4163
297.23	130.4998
298.57	130.6528
299.80	110.1426
299.80	110.1426
300.09	98.1201
300.09	98.1201
300.09	98.1201
300.09	98.1201
300.12	98.1218
301.29	113.7316
302.84	105.2552
303.76	117.4270
303.91	118.8242
304.40	110.5801
304.40	110.5801
304.84	109.4707
306.84	96.9609
308.46	104.0295
311.98	82.3133
316.51	82.6268
318.01	83.8945
319.02	95.6266
319.41	95.6583
320.08	89.2905
323.87	105.3772
323.87	105.3772
323.87	105.3772
323.87	105.3772
325.23	112.5273
328.77	97.3345
333.44	90.6219
334.20	94.9270
334.20	94.9270
334.30	94.9352
338.28	80.8441
338.28	80.8441
338.28	80.8441
338.28	80.8441
338.32	80.8469
338.32	80.8469
338.32	80.8469
340.50	66.9245
340.57	66.9291
344.27	67.8371
345.85	65.7769
350.59	0.0000
351.07	64.6073
351.92	64.6490
351.92	64.6490
351.92	64.6490
355.39	0.0000
356.01	70.6169
364.48	62.5491
366.43	79.8883
367.43	83.5828
367.94	0.0000
369.80	78.2682
374.96	82.2203
383.85	81.8337
387.95	80.2297
388.63	84.8813
391.69	98.0115
391.69	98.0115
392.90	86.0650
398.62	87.3404
400.65	68.8545
401.10	71.6682
401.81	68.9098
402.60	71.7422
404.84	98.9156
410.95	64.6591
411.60	85.3125
413.65	71.3497
414.70	75.1587
415.30	71.4297

415.76	73.3321
417.63	0.0000
418.52	56.5137
423.70	59.5460
427.08	77.6783
427.89	68.2416
432.53	59.8940
433.93	71.3676
439.47	43.9301
439.56	43.9329
439.89	51.5841
443.98	56.5090
444.90	54.6256
445.03	54.6299
445.03	54.6299
445.03	54.6299
445.03	54.6299
453.90	56.8673
463.38	68.8398
468.07	52.8984
473.00	61.4465
475.06	50.7813
475.35	60.5573
476.78	68.4309
477.59	71.3982
477.96	77.2847
482.03	52.9568
484.57	86.4330
487.03	69.8375
490.36	0.0000
492.35	65.1248
497.08	74.2126
507.63	0.0000
510.53	0.0000
510.84	61.8411
511.00	61.8472
511.85	61.8770
511.85	61.8770
513.99	61.9527
513.99	61.9527
520.41	61.8932
520.65	61.9007
527.90	44.3142
528.96	0.0000
529.64	63.5114
529.87	0.0000
531.02	55.4884
537.32	53.6583
543.00	56.8733
546.56	0.0000
549.76	63.1977
552.65	67.3817
555.20	52.1393
563.23	52.3634
563.90	60.5989
568.70	46.3362
569.32	49.4414
569.50	54.5980
569.67	54.6029
573.80	56.7859
574.00	51.6281
574.64	57.8440
578.91	67.9103
579.30	0.0000
583.14	53.9503
585.48	59.8324
591.81	47.9387
592.07	44.8175
593.00	42.7530
595.88	61.6126
600.56	53.3860
602.52	0.0000
602.71	53.6531
602.71	53.6531
603.60	63.7409
604.41	68.8011
604.70	68.8111
609.31	54.6724

609.31	54.6724
609.31	54.6724
609.31	54.6724
610.33	48.8086
612.46	43.8064
614.37	43.8471
618.01	44.3494
621.84	41.2590
621.84	41.2590
631.29	35.0726
633.02	43.6113
633.10	43.6138
634.78	52.1657
635.90	40.4771
636.97	39.4322
645.85	55.6547
646.12	56.7314
656.30	58.0820
657.75	52.7399
657.90	0.0000
661.65	50.6790
661.65	50.6790
664.57	0.0000
666.33	48.6282
666.33	48.6282
675.00	41.2285
677.61	49.9686
685.20	38.1509
692.80	47.0326
695.00	47.0798
696.49	60.2570
696.49	60.2570
697.00	65.7513
697.49	64.6699
698.33	55.9213
698.50	53.7328
699.00	54.8416
702.63	51.6343
706.10	60.5163
706.58	0.0000
706.67	55.0293
709.31	41.8710
711.68	47.4289
713.82	46.3694
717.42	43.1264
720.50	35.4326
721.93	0.0000
722.20	58.5073
722.78	58.5218
722.78	58.5218
722.89	58.5250
722.95	58.5267
723.30	62.0840
724.18	49.6850
727.18	39.0897
733.00	46.0156
735.90	46.8168
739.58	41.3077
742.81	51.4257
744.21	57.0497
747.13	39.2009
751.79	52.7445
752.31	50.5110
753.82	43.8036
755.35	49.4517
756.15	56.2134
756.87	51.7318
763.93	77.6016
765.79	66.8258
766.42	60.5192
766.84	56.9169
776.49	53.5148
778.00	55.3632
778.57	54.4688
778.89	54.4761
783.80	46.3968
785.46	51.8900
792.07	49.2908

795.84	50.2802
796.30	58.5187
798.80	63.1529
801.93	35.7398
805.60	45.8875
810.29	27.5837
810.76	20.2318
815.85	38.7023
817.79	39.6543
818.51	35.9760
819.60	38.7598
826.30	44.4129
828.27	0.0000
831.60	70.4651
831.96	70.4744
834.83	42.7027
836.80	0.0000
846.75	41.9667
848.13	32.6578
856.28	0.0000
856.80	51.4886
860.37	44.0591
867.32	50.7529
867.82	56.4023
871.10	33.8836
873.19	49.9230
874.81	44.2977
875.33	0.0000
876.40	47.1533
879.36	22.6582
880.27	33.0543
880.51	34.9468
881.50	44.4079
883.24	41.6002
884.67	43.5136
889.25	44.5341
896.60	32.3033
898.02	31.3693
899.00	39.9390
903.28	40.4767
911.07	34.3828
911.07	34.3828
911.07	34.3828
919.63	30.6563
920.93	34.5041
925.00	37.4337
925.24	37.4366
926.50	43.2158
935.52	47.2068
937.48	50.1325
944.10	39.6187
946.00	40.6116
949.00	43.5586
962.29	40.5172
964.01	38.9199
966.15	48.6853
968.20	55.5402
969.11	55.5569
969.11	55.5569
969.11	55.5569
977.42	32.1159
980.50	42.0741
983.50	42.1171
989.30	38.2735
996.32	42.2987
1001.03	32.5126
1001.68	38.4325
1004.76	49.3225
1021.30	0.0000
1024.50	0.0000
1034.80	40.8438
1036.00	31.8906
1037.82	42.8782
1038.57	39.8965
1038.76	0.0000
1045.16	36.9819
1046.59	31.0000
1048.07	30.0132

1050.47	47.0574
1050.47	47.0574
1062.04	39.1923
1063.62	40.2168
1076.63	48.4570
1077.35	41.4004
1078.86	30.3076
1085.78	41.5085
1099.22	36.5994
1112.02	31.6388
1112.84	31.9031
1115.52	63.0066
1120.29	28.6494
1120.29	28.6494
1120.29	28.6494
1120.29	28.6494
1120.51	28.6508
1121.28	28.6576
1124.00	0.0000
1129.67	26.6779
1131.51	0.0000
1147.95	0.0000
1167.94	44.6251
1173.22	36.3792
1175.09	40.5577
1177.93	38.5104
1189.05	49.0746
1204.90	49.2995
1205.75	0.0000
1213.00	50.4633
1221.42	55.8519
1230.97	63.3984
1235.34	46.5480
1236.41	0.0000
1238.25	52.9395
1246.25	40.3230
1260.41	0.0000
1271.85	29.9209
1274.45	31.0122
1274.54	31.0122
1291.56	42.9727
1298.22	0.0000
1312.09	32.4067
1325.50	17.3445
1325.50	17.3445
1332.49	22.8067
1333.61	24.9855
1360.21	17.5016
1362.66	0.0000
1365.15	20.8100
1368.21	21.9219
1368.53	0.0000
1376.25	15.3768
1384.27	17.2949
1394.10	16.5498
1395.20	13.7952
1407.95	21.2209
1434.06	17.6440
1436.60	18.5840
1457.56	0.0000
1460.81	17.7592
1489.15	18.8208
1509.49	13.2384
1596.49	23.1514
1620.62	5.8191
1678.03	0.0000
1691.02	6.8935
1691.02	6.8935
1706.46	0.0000
1750.46	0.0000
1764.49	6.8574
1764.49	6.8574
1764.49	6.8574
1764.49	6.8574
1770.23	38.0464
1771.40	23.0337
1791.20	0.0000
1808.65	10.0907

1836.01

8.1169

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274006

Total Uranium Activity	1.1146E+00	ug/g
Total Uranium Counting Unc.	2.5549E+00	ug/g
Total Uranium Tpu	1.3035E-06	ug/g
Total Uranium Mda	1.3324E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 935341          SAMPLE ID   : G243274006
*  ANALYST       : MXR1            DETECTOR    : GAM17
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 31-DEC-2009 14:35:36.14  SAMPLE ALQT: 124.070 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.340E+00
GROSS GAMMA ERROR  (pCi/GRAM ) : 1.508E+00
GROSS GAMMA MDA    (pCi/GRAM ) : 3.381E+00
GROSS GAMMA DLC    (pCi/GRAM ) : 1.631E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:37:32.13

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274007.CNF;1
Sample date     : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:59
Sample ID       : G243274007 Sample quantity : 1.30530E+02 GRAM
Detector name   : GAM18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.55 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 935341 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	63.58*	85	479	0.82	126.28	122	9	1.18E-02	48.4	
2	2	75.10*	379	399	1.18	149.32	144	15	5.26E-02	10.5	1.81E+00
3	2	77.42	516	368	0.94	153.96	144	15	7.17E-02	7.4	
4	4	87.50	281	402	1.31	174.10	164	30	3.91E-02	13.7	3.13E+00
5	4	90.35*	174	346	1.23	179.81	164	30	2.42E-02	19.9	
6	4	93.12*	328	389	1.37	185.34	164	30	4.56E-02	12.4	
7	0	129.16	98	349	1.11	257.39	254	8	1.35E-02	34.6	
8	0	186.16*	246	433	1.30	371.36	366	11	3.42E-02	18.2	
9	0	209.76	178	314	1.44	418.54	414	11	2.47E-02	20.7	
10	3	238.94*	1402	247	1.17	476.87	471	19	1.95E-01	3.3	1.02E+00
11	3	241.83*	328	281	1.77	482.66	471	19	4.55E-02	15.6	
12	0	270.32	158	226	1.53	539.63	534	11	2.20E-02	20.0	
13	3	295.52*	446	206	1.30	590.01	584	30	6.19E-02	7.4	2.39E+00
14	3	300.36	105	244	1.89	599.69	584	30	1.46E-02	31.0	
15	0	338.63*	295	202	1.02	676.20	671	10	4.09E-02	11.0	
16	0	352.15*	829	182	1.30	703.24	696	12	1.15E-01	4.9	
17	0	463.43	116	108	1.88	925.72	920	11	1.62E-02	19.7	
18	0	511.16*	131	219	2.08	1021.15	1014	18	1.82E-02	32.2	
19	0	583.25*	464	134	1.43	1165.30	1157	13	6.44E-02	7.2	
20	0	609.48*	589	157	1.63	1217.74	1210	16	8.18E-02	6.4	
21	0	661.78	356	153	1.54	1322.31	1316	15	4.95E-02	9.2	
22	0	727.57*	181	39	1.74	1453.86	1448	12	2.51E-02	10.7	
23	0	770.39	159	99	6.53	1539.48	1528	24	2.20E-02	18.6	
24	0	794.83	77	72	2.84	1588.36	1582	13	1.07E-02	25.4	
25	0	861.06*	84	94	1.72	1720.79	1711	19	1.17E-02	30.4	
26	0	911.30*	315	88	1.61	1821.24	1814	16	4.38E-02	9.0	
27	2	964.90	85	71	2.55	1928.43	1919	27	1.18E-02	25.8	6.62E-01
28	2	969.01*	225	56	2.12	1936.64	1919	27	3.12E-02	10.1	
29	0	1120.20*	156	94	2.50	2238.96	2229	24	2.17E-02	18.2	
30	0	1460.69*	1388	24	2.29	2919.86	2909	19	1.93E-01	2.9	
31	0	1588.02	66	13	1.75	3174.51	3166	18	9.15E-03	17.9	
32	0	1729.85	43	8	1.44	3458.16	3449	17	5.92E-03	21.9	
33	0	1764.58*	117	20	2.10	3527.62	3519	16	1.63E-02	13.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 16:37:35

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274007.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:59
Sample ID        : G243274007 Sample quantity : 130.53 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.55 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	*	1.977E+01	1.877E+00	4.228E-01	3.209E-02	46.746
CD-109	+	88.03	*	3.441E+00	9.946E-01	1.002E+00	9.266E-02	3.433
SN-126	+	64.28		8.128E-01	7.959E-01	8.071E-01	1.193E-01	1.007
	+	86.94		1.406E+00	6.990E-01	4.159E-01	1.725E-01	3.381
	+	87.57	*	3.382E-01	9.776E-02	9.914E-02	9.135E-03	3.411
BA-137M	+	661.65	*	3.179E-01	6.322E-02	4.248E-02	3.238E-03	7.485
CS-137	+	661.65	*	3.361E-01	6.686E-02	4.490E-02	3.431E-03	7.485
TL-208		277.35		1.278E-01	2.969E-01	4.928E-01	5.176E-02	0.259
	+	510.84		4.040E-01	2.636E-01	1.422E-01	1.512E-02	2.842
	+	583.14	*	4.029E-01	6.573E-02	4.792E-02	3.757E-03	8.408
	+	860.37		6.673E-01	4.121E-01	3.291E-01	3.681E-02	2.027
BI-211		72.87		6.499E-01	2.974E+00	4.455E+00	3.679E-01	0.146
	+	351.07	*	3.382E+00	3.941E-01	2.332E-01	1.497E-02	14.503
PB-212	+	74.81		2.057E+00	5.033E-01	4.725E-01	5.922E-02	4.354
	+	77.11		1.562E+00	2.654E-01	2.643E-01	2.240E-02	5.911
	+	87.30		1.564E+00	4.784E-01	4.603E-01	6.252E-02	3.398
	+	238.63	*	1.331E+00	1.294E-01	6.906E-02	4.934E-03	19.275
	+	300.09		1.487E+00	9.305E-01	9.036E-01	7.420E-02	1.646
PO-212	+	74.81		2.057E+00	5.033E-01	4.725E-01	5.922E-02	4.354
	+	77.11		1.562E+00	2.654E-01	2.643E-01	2.240E-02	5.911
	+	87.30		1.564E+00	4.784E-01	4.603E-01	6.252E-02	3.398
		115.19		-1.080E+00	2.873E+00	4.548E+00	2.865E-01	-0.237
	+	238.63	*	1.331E+00	1.294E-01	6.906E-02	4.934E-03	19.275
	+	300.09		1.487E+00	9.305E-01	9.036E-01	7.420E-02	1.646
BI-214	+	609.31	*	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
	+	1120.29		1.274E+00	4.805E-01	3.361E-01	3.217E-02	3.792
	+	1764.49		1.259E+00	3.378E-01	2.445E-01	1.487E-02	5.150
PB-214	+	74.81		3.544E+00	8.433E-01	8.141E-01	9.088E-02	4.354
	+	77.11		2.679E+00	4.987E-01	4.531E-01	5.164E-02	5.911
	+	87.30		2.680E+00	8.016E-01	7.885E-01	9.459E-02	3.398
	+	241.98		1.865E+00	5.990E-01	4.151E-01	3.282E-02	4.493
	+	295.21		1.106E+00	1.882E-01	1.586E-01	1.345E-02	6.971
	+	351.92	*	1.177E+00	1.502E-01	8.127E-02	6.723E-03	14.477
PO-214	+	74.81		3.544E+00	8.433E-01	8.141E-01	9.088E-02	4.354

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.679E+00	4.987E-01	4.531E-01	5.164E-02	5.911
	+	87.30		2.680E+00	8.016E-01	7.885E-01	9.459E-02	3.398
	+	241.98		1.865E+00	5.990E-01	4.151E-01	3.282E-02	4.493
	+	295.21		1.106E+00	1.882E-01	1.586E-01	1.345E-02	6.971
	+	351.92	*	1.177E+00	1.502E-01	8.127E-02	6.723E-03	14.477
PO-216	+	74.81		2.057E+00	5.033E-01	4.725E-01	5.922E-02	4.354
	+	77.11		1.562E+00	2.654E-01	2.643E-01	2.240E-02	5.911
	+	87.30		1.564E+00	4.784E-01	4.603E-01	6.252E-02	3.398
	+	238.63	*	1.331E+00	1.294E-01	6.906E-02	4.934E-03	19.275
	+	300.09		1.487E+00	9.305E-01	9.036E-01	7.420E-02	1.646
PO-218	+	74.81		3.544E+00	8.433E-01	8.141E-01	9.088E-02	4.354
	+	77.11		2.679E+00	4.987E-01	4.531E-01	5.164E-02	5.911
	+	87.30		2.680E+00	8.016E-01	7.885E-01	9.459E-02	3.398
	+	241.98		1.865E+00	5.990E-01	4.151E-01	3.282E-02	4.493
	+	295.21		1.106E+00	1.882E-01	1.586E-01	1.345E-02	6.971
	+	351.92	*	1.177E+00	1.502E-01	8.127E-02	6.723E-03	14.477
RA-224	+	240.98	*	3.537E+00	1.118E+00	7.849E-01	4.373E-02	4.506
RA-226	+	609.31	*	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
	+	1120.29		1.274E+00	4.805E-01	3.361E-01	3.217E-02	3.792
	+	1764.49		1.259E+00	3.378E-01	2.445E-01	1.487E-02	5.150
AC-228	+	338.32		1.332E+00	6.169E-01	3.091E-01	1.260E-01	4.311
	+	911.07	*	1.177E+00	2.626E-01	1.529E-01	2.026E-02	7.700
	+	969.11		1.475E+00	4.620E-01	2.700E-01	6.465E-02	5.465
RA-228	+	338.32		1.332E+00	6.169E-01	3.091E-01	1.260E-01	4.311
	+	911.07	*	1.177E+00	2.626E-01	1.529E-01	2.026E-02	7.700
	+	969.11		1.475E+00	4.620E-01	2.700E-01	6.465E-02	5.465
TH-228	+	74.81		2.088E+00	4.727E-01	4.796E-01	4.042E-02	4.354
	+	77.11		1.586E+00	2.695E-01	2.683E-01	2.274E-02	5.911
	+	87.30		1.588E+00	4.590E-01	4.673E-01	4.295E-02	3.398
	+	238.63	*	1.351E+00	1.313E-01	7.011E-02	5.008E-03	19.275
	+	300.09		1.510E+00	1.292E+00	9.173E-01	5.406E-01	1.646
TH-230	+	609.31	*	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
	+	1120.29		1.274E+00	4.805E-01	3.360E-01	3.217E-02	3.792
	+	1764.49		1.259E+00	3.378E-01	2.445E-01	1.487E-02	5.150
TH-232	+	338.32		1.332E+00	3.026E-01	3.091E-01	1.788E-02	4.311
	+	911.07	*	1.177E+00	2.626E-01	1.529E-01	2.026E-02	7.700
	+	969.11		1.475E+00	4.620E-01	2.700E-01	6.465E-02	5.465
TH-234	+	63.29	*	2.053E+00	2.020E+00	2.025E+00	3.570E-01	1.014
	+	92.38		2.503E+00	7.673E-01	6.391E-01	1.152E-01	3.916
U-234	+	609.31	*	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
	+	1120.29		1.274E+00	4.805E-01	3.360E-01	3.217E-02	3.792
	+	1764.49		1.259E+00	3.378E-01	2.445E-01	1.487E-02	5.150
NP-237	+	86.50	*	9.932E-01	3.527E-01	2.957E-01	6.671E-02	3.359
	+	95.87		4.176E-01	8.992E-01	1.332E+00	3.253E-01	0.314
U-238	+	63.29	*	2.053E+00	2.020E+00	2.025E+00	3.570E-01	1.014
	+	92.38		2.503E+00	6.560E-01	6.391E-01	5.432E-02	3.916
AM-243	+	74.67	*	3.335E-01	7.540E-02	7.690E-02	6.417E-03	4.337
	+	86.72		3.725E+01	1.076E+01	1.105E+01	1.011E+00	3.370
	+	117.66		-1.578E-01	3.131E+00	5.024E+00	3.091E-01	-0.031

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	-1.277E+01	1.474E+01	2.214E+01	1.219E+00	-0.577
		511.00	*	8.726E-02	5.648E-02	3.072E-02	2.029E-03	2.841

---- 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	*	1.883E-01	2.411E-01	4.155E-01	3.011E-02	0.453
NA-22		1274.54	*	-3.718E-02	3.478E-02	5.182E-02	3.526E-03	-0.717
NA-24		1368.53	*	-4.275E-01	3.478E-02	Half-Life too short		
AL-26		1129.67		-5.304E-01	1.407E+00	1.906E+00	1.273E-01	-0.278
		1808.65	*	2.492E-03	2.332E-02	3.886E-02	2.269E-03	0.064
TI-44		67.85		-2.180E-02	5.040E-02	7.373E-02	5.929E-03	-0.296
	+	78.38	*	2.883E-01	4.898E-02	7.228E-02	6.180E-03	3.989
SC-46		889.25	*	1.614E-02	2.829E-02	4.829E-02	5.386E-03	0.334
	+	1120.51		2.181E-01	8.097E-02	9.273E-02	6.406E-03	2.352
V-48		944.10		3.340E-01	6.498E-01	1.100E+00	1.164E-01	0.304
		983.50	*	-1.519E-02	5.307E-02	8.375E-02	8.284E-03	-0.181
		1312.09		8.035E-02	5.875E-02	1.077E-01	7.843E-03	0.746
CR-51		320.08	*	1.645E-01	2.810E-01	4.672E-01	3.008E-02	0.352
MN-52		744.21		-1.414E-01	1.703E-01	2.645E-01	2.333E-02	-0.534
		848.13		-2.174E+00	5.166E+00	8.201E+00	8.579E-01	-0.265
		935.52		2.414E-01	1.924E-01	3.401E-01	3.648E-02	0.710
		1246.25		-3.251E+00	5.479E+00	8.594E+00	5.526E-01	-0.378
		1333.61		-3.140E+00	3.723E+00	5.533E+00	4.180E-01	-0.567
		1434.06	*	-1.840E-01	1.789E-01	2.526E-01	1.862E-02	-0.728
MN-54		834.83	*	-5.972E-03	3.099E-02	5.030E-02	5.152E-03	-0.119
CO-56		846.75	*	-8.210E-03	3.104E-02	4.996E-02	5.215E-03	-0.164
		977.42		3.947E-01	2.556E+00	3.608E+00	3.609E-01	0.109
		1037.82		-2.214E-02	2.220E-01	3.687E-01	3.416E-02	-0.060
		1175.09		-1.596E-01	1.640E+00	2.694E+00	1.495E-01	-0.059
		1238.25		1.578E-01	6.728E-02	1.259E-01	8.393E-03	1.253
		1360.21		-8.715E-02	7.609E-01	1.227E+00	9.219E-02	-0.071
		1771.40		8.213E-02	1.607E-01	2.539E-01	1.534E-02	0.323
CO-57		122.06	*	-8.143E-03	2.157E-02	3.380E-02	2.002E-03	-0.241
		136.48		2.745E-02	1.699E-01	2.725E-01	1.784E-02	0.101
CO-58		810.76	*	3.099E-03	2.828E-02	4.700E-02	4.640E-03	0.066
FE-59		142.65		-2.346E+00	2.327E+00	3.476E+00	1.913E-01	-0.675
		192.34		8.960E-03	7.756E-01	1.256E+00	1.456E-01	0.007
		1099.22	*	-2.569E-02	6.526E-02	1.052E-01	8.656E-03	-0.244
		1291.56		1.012E-01	9.378E-02	1.671E-01	1.404E-02	0.606
CO-60		1173.22		-1.298E-02	3.325E-02	5.338E-02	2.950E-03	-0.243
		1332.49	*	-2.581E-02	2.944E-02	4.363E-02	3.297E-03	-0.592
ZN-65		1115.52	*	3.806E-02	7.504E-02	1.126E-01	7.932E-03	0.338
GE-68		1077.35	*	5.948E-01	8.799E-01	1.544E+00	1.226E-01	0.385
AS-73		53.44	*	-3.274E-01	9.737E-01	1.555E+00	1.232E-01	-0.211
AS-74		595.88	*	-1.422E-02	7.090E-02	1.131E-01	8.130E-03	-0.126
		634.78		2.851E-01	2.554E-01	4.438E-01	3.304E-02	0.642
SE-75		66.05		-3.451E+00	5.225E+00	7.555E+00	7.482E-01	-0.457

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error (pCi/GRAM)	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77		96.73	-4.887E-02	7.425E-01	1.076E+00	1.419E-01	-0.045
		121.11	-4.550E-02	1.160E-01	1.817E-01	1.696E-02	-0.250
		136.00	9.272E-03	3.172E-02	5.118E-02	2.915E-03	0.181
		198.60	5.988E-01	1.446E+00	2.436E+00	1.653E-01	0.246
	*	264.65	-3.279E-03	3.780E-02	5.380E-02	3.077E-03	-0.061
		279.53	1.082E-01	8.332E-02	1.438E-01	8.882E-03	0.752
		303.91	1.193E+00	1.653E+00	2.765E+00	2.631E-01	0.432
		400.65	1.405E-01	1.989E-01	3.439E-01	3.133E-02	0.408
	+	87.88	7.416E+02	2.143E+02	2.947E+02	2.723E+01	2.516
		200.40	-7.095E+01	1.298E+02	2.119E+02	1.141E+01	-0.335
	+	239.00	2.132E+02	1.838E+01	2.969E+01	1.651E+00	7.183
		249.79	1.164E+01	5.013E+01	8.322E+01	4.665E+00	0.140
		281.68	-1.095E+02	7.183E+01	1.074E+02	6.127E+00	-1.019
		297.23	3.247E+02	5.704E+01	1.050E+02	6.027E+00	3.093
		303.76	9.771E+01	1.401E+02	2.344E+02	1.349E+01	0.417
		439.47	-4.980E+00	1.060E+02	1.755E+02	1.070E+01	-0.028
		484.57	2.473E+01	1.600E+02	2.662E+02	1.709E+01	0.093
	*	520.65	4.082E+00	7.828E+00	1.257E+01	8.388E-01	0.325
		574.64	-1.103E+01	1.681E+02	2.556E+02	1.800E+01	-0.043
		578.91	9.539E+00	7.176E+01	1.018E+02	7.198E+00	0.094
SR-82		585.48	1.564E+03	2.334E+02	4.074E+02	2.898E+01	3.840
		755.35	5.121E+01	1.198E+02	2.045E+02	1.838E+01	0.250
		817.79	-1.777E+01	9.297E+01	1.507E+02	1.502E+01	-0.118
		698.33	-7.567E+00	2.536E+01	4.154E+01	3.382E+00	-0.182
RB-83	*	776.49	3.459E-01	2.772E-01	4.487E-01	4.178E-02	0.771
		1395.20	-1.008E+01	8.529E+00	1.194E+01	8.896E-01	-0.844
	*	520.41	2.625E-02	5.182E-02	8.315E-02	5.546E-03	0.316
		529.64	-1.013E-02	7.656E-02	1.240E-01	8.352E-03	-0.082
RB-84		552.65	1.916E-03	1.493E-01	2.435E-01	1.678E-02	0.008
RB-84	*	881.50	3.045E-02	5.273E-02	8.994E-02	9.913E-03	0.339
KR-85	*	513.99	2.534E+01	6.611E+00	1.164E+01	7.712E-01	2.177
SR-85	*	513.99	1.299E-01	3.389E-02	5.968E-02	3.954E-03	2.177
RB-86	*	1076.63	1.067E-01	5.637E-01	9.543E-01	7.597E-02	0.112
Y-88		898.02	-2.229E-02	3.092E-02	4.731E-02	5.362E-03	-0.471
	*	1836.01	3.685E-03	2.319E-02	3.899E-02	2.221E-03	0.095
ZR-88	*	392.90	2.261E-03	2.431E-02	4.092E-02	2.354E-03	0.055
Y-91	*	1204.90	1.231E+01	1.394E+01	2.443E+01	1.445E+00	0.504
NB-94	*	702.63	3.248E-02	2.489E-02	4.463E-02	3.661E-03	0.728
		871.10	1.334E-02	2.567E-02	4.284E-02	4.646E-03	0.311
NB-95	*	765.79	5.101E-02	3.365E-02	5.463E-02	4.997E-03	0.934
NB-95M	*	235.69	1.566E-02	1.097E-01	1.601E-01	1.175E-02	0.098
ZR-95		724.18	8.275E-02	7.362E-02	1.166E-01	1.081E-02	0.710
	*	756.15	4.322E-02	5.021E-02	8.806E-02	8.664E-03	0.491
NB-97	*	657.90	6.915E-02	5.021E-02	Half-Life	too short	
		1024.50	3.682E+00	5.021E-02	Half-Life	too short	
ZR-97		254.15	-1.505E+00	5.021E-02	Half-Life	too short	
		355.39	2.356E+00	5.021E-02	Half-Life	too short	
	*	507.63	3.413E+00	5.021E-02	Half-Life	too short	
		602.52	2.625E+00	5.021E-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			6.201E-01	5.021E-02	Half-Life	too short	
	1147.95			1.288E+00	5.021E-02	Half-Life	too short	
	1362.66			4.574E+00	5.021E-02	Half-Life	too short	
	1750.46			-1.112E+00	5.021E-02	Half-Life	too short	
MO-99	140.51			-6.035E+00	2.193E+01	3.393E+01	9.124E+00	-0.178
	181.06			5.188E+00	1.453E+01	2.189E+01	3.717E+00	0.237
	366.43			6.593E+00	6.111E+01	1.035E+02	5.981E+00	0.064
	739.58	*		8.865E+00	8.444E+00	1.486E+01	2.268E+00	0.596
	778.00			2.633E+01	2.356E+01	3.793E+01	3.541E+00	0.694
TC-99M	140.51	*		-8.584E+09	2.356E+01	Half-Life	too short	
RH-101	127.23			7.402E-03	3.005E-02	4.338E-02	2.506E-03	0.171
	198.01	*		1.398E-02	2.645E-02	4.477E-02	2.406E-03	0.312
	325.23			-2.142E-01	1.860E-01	2.805E-01	1.621E-02	-0.764
RH-102	418.52			4.067E-02	2.068E-01	3.486E-01	2.072E-02	0.117
	475.06	*		-8.421E-03	2.243E-02	3.617E-02	2.298E-03	-0.233
	631.29			2.669E-03	4.048E-02	6.346E-02	4.710E-03	0.042
	697.49			-2.316E-02	5.691E-02	9.252E-02	7.522E-03	-0.250
	766.84			1.848E-01	8.767E-02	1.472E-01	1.349E-02	1.255
	1046.59			-5.556E-02	7.998E-02	1.258E-01	1.085E-02	-0.442
	1112.84			1.093E-01	1.821E-01	2.769E-01	1.966E-02	0.395
RU-103	497.08	*		-9.551E-04	2.807E-02	4.604E-02	5.978E-03	-0.021
+	610.33			1.037E+01	2.132E+00	2.167E+00	3.475E-01	4.785
RH-106	511.85	+		4.359E-01	2.821E-01	3.520E-01	2.327E-02	1.238
	621.84	*		4.142E-03	2.461E-01	3.972E-01	4.997E-02	0.010
	1050.47			1.272E-01	1.615E+00	2.718E+00	2.322E-01	0.047
RU-106	511.85	+		4.359E-01	2.821E-01	3.520E-01	2.327E-02	1.238
	621.84	*		4.142E-03	2.461E-01	3.972E-01	2.923E-02	0.010
	1050.47			1.272E-01	1.615E+00	2.718E+00	2.322E-01	0.047
AG-108M	433.93	*		-5.897E-03	2.388E-02	3.912E-02	2.556E-03	-0.151
	614.37			-3.795E-03	3.295E-02	4.529E-02	3.490E-03	-0.084
	722.95			7.547E-03	3.080E-02	4.534E-02	4.009E-03	0.166
AG-110M	657.75	*		1.892E-02	2.851E-02	4.384E-02	3.458E-03	0.431
	677.61			1.930E-03	2.217E-01	3.715E-01	3.014E-02	0.005
	706.67			-9.941E-02	1.529E-01	2.437E-01	2.074E-02	-0.408
	763.93			-1.245E-02	1.263E-01	1.781E-01	1.665E-02	-0.070
	884.67			-3.478E-02	3.828E-02	5.766E-02	6.511E-03	-0.603
	937.48			-3.588E-02	8.337E-02	1.306E-01	1.430E-02	-0.275
	1384.27			-1.620E-01	1.308E-01	1.837E-01	1.424E-02	-0.882
IN-111	171.28			5.024E-02	7.945E-01	1.343E+00	7.064E-02	0.037
	245.39	*		-1.887E-01	8.640E-01	1.227E+00	6.856E-02	-0.154
IN-113M	391.69	*		7.557E-03	3.481E-02	5.896E-02	3.617E-03	0.128
SN-113	391.69	*		7.557E-03	3.481E-02	5.896E-02	3.617E-03	0.128
IN-114M	190.27	*		6.762E-02	1.585E-01	2.392E-01	1.277E-02	0.283
CD-115	260.90			5.056E+01	1.044E+02	1.747E+02	9.859E+00	0.289
	492.35			4.353E+00	2.466E+01	4.106E+01	2.658E+00	0.106
	527.90	*		8.168E-01	7.790E+00	1.283E+01	8.624E-01	0.064
SN-117M	156.02			-3.057E-01	1.784E+00	3.006E+00	1.605E-01	-0.102
	158.56	*		6.803E-03	4.262E-02	7.263E-02	3.861E-03	0.094
SB-122	563.90	*		5.465E-01	1.578E+00	2.622E+00	1.827E-01	0.208

----- 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		-6.685E+00	3.118E+01	5.136E+01	4.141E+00	-0.130
		159.00	*	-1.843E+00	3.118E+01	Half-Life	too short	
		528.96		9.943E+01	3.118E+01	Half-Life	too short	
TE-123M		159.00	*	-9.205E-03	2.226E-02	3.712E-02	2.003E-03	-0.248
I-124		602.71	*	2.207E-01	6.068E-01	8.735E-01	6.316E-02	0.253
		722.78		7.500E-01	3.210E+00	4.720E+00	4.011E-01	0.159
		1325.50		1.521E+01	2.399E+01	4.175E+01	3.115E+00	0.364
SB-124		1376.25		3.907E+01	2.460E+01	4.540E+01	3.399E+00	0.861
		1509.49		4.005E+00	1.184E+01	2.044E+01	1.465E+00	0.196
		1691.02		1.064E+00	2.758E+00	4.801E+00	3.097E-01	0.222
		602.71		1.284E-02	3.532E-02	5.084E-02	3.677E-03	0.253
		645.85		2.694E-01	3.615E-01	6.125E-01	4.965E-02	0.440
		709.31		-1.624E+00	2.080E+00	3.184E+00	2.643E-01	-0.510
		713.82		4.024E-01	1.137E+00	1.940E+00	2.301E-01	0.207
		722.78		6.328E-02	2.708E-01	3.982E-01	3.459E-02	0.159
	+	968.20		1.519E+01	3.430E+00	5.681E+00	5.777E-01	2.674
		1045.16		-1.054E+00	1.821E+00	2.803E+00	2.427E-01	-0.376
		1325.50		1.370E+00	2.161E+00	3.762E+00	2.807E-01	0.364
		1368.21		-9.088E-01	1.422E+00	2.158E+00	2.760E-01	-0.421
		1436.60		-1.092E+00	2.719E+00	4.190E+00	3.085E-01	-0.261
		1691.02	*	2.117E-02	5.489E-02	9.554E-02	6.592E-03	0.222
		427.89	*	6.548E-02	6.947E-02	1.214E-01	7.585E-03	0.539
SB-125	+	463.38		7.105E-01	2.850E-01	4.114E-01	2.949E-02	1.727
		600.56		-1.025E-02	1.471E-01	2.301E-01	1.833E-02	-0.045
		635.90		1.448E-01	1.938E-01	3.288E-01	2.712E-02	0.440
TE-125M		109.28	*	6.716E+00	8.111E+00	1.351E+01	1.188E+00	0.497
I-126		388.63		-2.688E-02	1.568E-01	2.556E-01	1.469E-02	-0.105
		666.33	*	5.957E-02	1.519E-01	2.277E-01	1.751E-02	0.262
		753.82		3.026E-01	1.068E+00	1.806E+00	1.619E-01	0.168
SB-126		223.80		-1.124E+00	3.155E+00	5.142E+00	2.826E-01	-0.219
		278.60		1.801E+00	1.944E+00	3.298E+00	1.880E-01	0.546
	+	296.50		1.100E+01	1.742E+00	2.974E+00	1.707E-01	3.699
		414.70		-6.125E-02	5.710E-02	8.940E-02	5.287E-03	-0.685
		415.30		-3.971E+00	4.637E+00	7.350E+00	4.350E-01	-0.540
		555.20		-5.958E-01	2.895E+00	4.646E+00	3.210E-01	-0.128
		573.80		7.317E-02	8.364E-01	1.329E+00	9.349E-02	0.055
		593.00		-5.797E-01	7.175E-01	1.094E+00	7.836E-02	-0.530
		656.30		1.139E+00	2.587E+00	3.914E+00	2.970E-01	0.291
		666.33		2.489E-02	6.349E-02	9.516E-02	7.315E-03	0.262
		675.00		-6.844E-01	1.436E+00	2.326E+00	1.817E-01	-0.294
		695.00		8.755E-03	5.615E-02	9.476E-02	7.670E-03	0.092
		697.00		-2.349E-02	1.964E-01	3.256E-01	2.645E-02	-0.072
		720.50	*	3.644E-02	1.075E-01	1.657E-01	1.403E-02	0.220
		856.80		-8.996E-02	4.224E-01	5.804E-01	6.156E-02	-0.155
SB-127		989.30		7.418E-01	9.046E-01	1.563E+00	1.529E-01	0.475
		1034.80		1.483E+00	6.431E+00	1.057E+01	9.387E-01	0.140
		1213.00		-1.065E+00	3.271E+00	5.258E+00	3.162E-01	-0.203
		61.10		-6.469E-01	6.114E+01	9.162E+01	9.595E+00	-0.007
		252.40		-6.541E-01	3.374E+00	5.467E+00	2.270E+00	-0.120

---- Non-Identified Nuclides ----

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	290.80			-1.525E+01	1.909E+01	2.546E+01	2.319E+00	-0.599
	411.60			7.242E+00	9.572E+00	1.649E+01	2.376E+00	0.439
	444.90			3.330E+00	7.472E+00	1.269E+01	1.392E+00	0.262
	473.00			-2.249E-01	1.288E+00	2.103E+00	2.410E-01	-0.107
	543.00			4.325E+00	1.280E+01	2.131E+01	2.854E+00	0.203
	603.60			1.723E+00	1.070E+01	1.512E+01	1.753E+00	0.114
	685.20	*		-1.622E-01	9.765E-01	1.615E+00	1.758E-01	-0.100
	698.50			-2.981E+00	1.131E+01	1.856E+01	2.889E+00	-0.161
	722.20			-1.270E+01	2.344E+01	3.161E+01	3.495E+00	-0.402
	783.80			7.630E-01	2.569E+00	4.335E+00	5.630E-01	0.176
XE-127	57.60			5.995E+00	6.543E+00	1.132E+01	8.723E-01	0.530
	145.22			1.031E+00	5.701E-01	9.699E-01	5.302E-02	1.063
	172.10			-7.128E-03	9.397E-02	1.579E-01	8.314E-03	-0.045
	202.84	*		-6.980E-03	3.684E-02	6.095E-02	3.290E-03	-0.115
	374.96			-1.928E-02	1.440E-01	2.404E-01	1.387E-02	-0.080
I-131	80.18			-1.439E+00	5.523E+00	6.302E+00	5.493E-01	-0.228
	284.30			-5.513E-01	1.161E+00	1.840E+00	1.172E-01	-0.300
	364.48	*		5.260E-02	8.371E-02	1.456E-01	9.397E-03	0.361
	636.97			-1.241E-01	1.113E+00	1.775E+00	1.422E-01	-0.070
	722.89			1.249E+00	5.181E+00	7.625E+00	6.524E-01	0.164
TE-132	49.72			-1.766E+01	2.282E+01	3.711E+01	3.786E+00	-0.476
	111.76			8.675E-01	2.509E+01	4.055E+01	3.762E+00	0.021
	116.30			-1.565E+01	2.256E+01	3.511E+01	3.185E+00	-0.446
	228.16	*		-2.105E-02	5.334E-01	8.801E-01	1.254E-01	-0.024
BA-133	53.15			-1.981E+00	4.219E+00	6.693E+00	5.311E-01	-0.296
	79.62			-1.046E-01	1.356E+00	1.817E+00	2.766E-01	-0.058
	81.00			-4.786E-02	1.170E-01	1.315E-01	2.094E-02	-0.364
	276.40			3.780E-01	3.032E-01	5.012E-01	6.474E-02	0.754
	302.84			9.964E-02	1.135E-01	1.908E-01	2.219E-02	0.522
	356.01	*		1.592E-03	3.607E-02	5.037E-02	5.818E-03	0.032
	383.85			-1.672E-01	2.201E-01	3.528E-01	3.827E-02	-0.474
I-133	510.53	+		8.817E-01	2.201E-01	Half-Life	too short	
	529.87	*		-8.064E-04	2.201E-01	Half-Life	too short	
	706.58			-1.895E-01	2.201E-01	Half-Life	too short	
	856.28			-1.527E-01	2.201E-01	Half-Life	too short	
	875.33			-7.416E-02	2.201E-01	Half-Life	too short	
	1236.41			6.855E-01	2.201E-01	Half-Life	too short	
	1298.22			-5.234E-02	2.201E-01	Half-Life	too short	
CS-134	475.35			-5.785E-02	1.465E+00	2.411E+00	1.532E-01	-0.024
	563.23			1.211E-01	2.701E-01	4.520E-01	3.194E-02	0.268
	569.32			-4.039E-02	1.560E-01	2.492E-01	1.782E-02	-0.162
	604.70			5.095E-04	3.167E-02	4.420E-02	3.214E-03	0.012
	795.84	+	*	9.385E-02	4.851E-02	6.843E-02	6.619E-03	1.371
	801.93			-1.202E-01	3.589E-01	5.070E-01	4.947E-02	-0.237
	1038.57			-4.294E-01	2.736E+00	4.522E+00	3.979E-01	-0.095
	1167.94			7.290E-01	1.806E+00	3.081E+00	1.747E-01	0.237
	1365.15			1.038E+00	9.637E-01	1.733E+00	1.378E-01	0.599
CS-135	268.24	*		1.259E-01	1.339E-01	2.031E-01	1.535E-02	0.620
I-135	288.45			2.004E+09	1.339E-01	Half-Life	too short	

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CS-136		417.63		3.799E+09	1.339E-01	Half-Life	too short	
		546.56		4.000E+09	1.339E-01	Half-Life	too short	
		836.80		6.607E+09	1.339E-01	Half-Life	too short	
		1038.76		-1.364E+09	1.339E-01	Half-Life	too short	
		1124.00		5.552E+10	1.339E-01	Half-Life	too short	
		1131.51		-8.681E+08	1.339E-01	Half-Life	too short	
		1260.41	*	-2.235E+09	1.339E-01	Half-Life	too short	
		1457.56		5.717E+11	1.339E-01	Half-Life	too short	
		1678.03		-3.753E+09	1.339E-01	Half-Life	too short	
		1706.46		8.547E+09	1.339E-01	Half-Life	too short	
		1791.20		2.658E+09	1.339E-01	Half-Life	too short	
	+	66.91		-1.059E-01	8.216E-01	1.221E+00	1.844E-01	-0.087
		86.29		4.412E+00	1.343E+00	1.740E+00	2.294E-01	2.535
		153.22		1.640E-01	5.210E-01	8.858E-01	6.097E-02	0.185
		163.89		1.737E-01	8.258E-01	1.407E+00	9.611E-02	0.123
		176.55		4.063E-02	2.863E-01	4.844E-01	2.935E-02	0.084
		273.65		-1.145E-01	4.045E-01	5.665E-01	3.690E-02	-0.202
		340.57		4.688E-01	1.330E-01	2.197E-01	1.352E-02	2.134
		818.51		-2.704E-02	5.334E-02	8.415E-02	8.402E-03	-0.321
		1048.07	*	-1.408E-02	7.334E-02	1.207E-01	1.082E-02	-0.117
		1235.34		2.307E-01	4.364E-01	7.434E-01	7.642E-02	0.310
CE-139		165.85	*	-4.843E-03	2.344E-02	3.929E-02	2.063E-03	-0.123
BA-140		162.64		3.293E-02	5.883E-01	9.972E-01	6.045E-02	0.033
		304.84		6.047E-01	1.017E+00	1.673E+00	4.564E-01	0.361
LA-140		423.70		-4.285E-01	1.439E+00	2.346E+00	7.464E-01	-0.183
		537.32	*	-2.639E-02	1.978E-01	3.199E-01	1.047E-01	-0.082
		328.77		3.490E-01	2.433E-01	4.167E-01	2.700E-02	0.837
		432.53		-7.425E-01	1.521E+00	2.455E+00	1.628E-01	-0.302
		487.03		-4.677E-02	9.782E-02	1.559E-01	1.112E-02	-0.300
		751.79		1.268E-01	1.228E+00	2.052E+00	2.017E-01	0.062
		815.85		-6.868E-02	2.183E-01	3.500E-01	3.782E-02	-0.196
		867.82		-3.280E-01	1.192E+00	1.619E+00	1.806E-01	-0.203
		919.63		1.922E-01	2.166E+00	3.183E+00	4.021E-01	0.060
		925.24		-3.197E-01	7.864E-01	1.232E+00	1.395E-01	-0.260
CE-141		1596.49	*	8.482E-02	6.775E-02	1.163E-01	7.981E-03	0.729
CE-143		145.44	*	9.091E-02	5.164E-02	8.767E-02	5.005E-03	1.037
		57.37		1.033E-03	5.164E-02	Half-Life	too short	
		231.56		-1.495E-03	5.164E-02	Half-Life	too short	
		293.26	*	4.173E-04	5.164E-02	Half-Life	too short	
		350.59		2.378E-02	5.164E-02	Half-Life	too short	
		490.36		1.081E-03	5.164E-02	Half-Life	too short	
		664.57		6.188E-03	5.164E-02	Half-Life	too short	
		721.93		-5.937E-04	5.164E-02	Half-Life	too short	
		80.11		-6.772E-01	2.545E+00	2.903E+00	2.513E-01	-0.233
CE-144		133.54	*	-4.335E-02	1.956E-01	2.737E-01	3.870E-02	-0.158
PM-144		476.78		5.212E-02	5.116E-02	8.920E-02	6.619E-03	0.584
		618.01		-3.143E-03	2.682E-02	4.031E-02	3.069E-03	-0.078
		696.49	*	8.518E-03	2.465E-02	4.209E-02	3.417E-03	0.202
		778.57		8.801E-01	1.663E+00	2.514E+00	2.350E-01	0.350

----- 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	*		5.772E-01	1.670E+00	2.852E+00	2.314E-01	0.202
	1489.15			-1.292E+00	9.740E+00	1.550E+01	1.120E+00	-0.083
PM-146	453.90	*		1.260E-02	3.317E-02	5.611E-02	4.992E-03	0.225
	633.02			6.099E-02	1.077E+00	1.691E+00	6.275E-01	0.036
	735.90			-5.048E-03	1.109E-01	1.798E-01	5.147E-02	-0.028
	747.13			8.128E-03	6.482E-02	1.086E-01	1.541E-02	0.075
ND-147	91.11	+		6.920E-01	2.830E-01	4.308E-01	4.052E-02	1.606
	319.41			2.461E-02	2.531E+00	4.079E+00	2.356E-01	0.006
	439.89			-4.674E-01	4.279E+00	7.059E+00	4.307E-01	-0.066
	531.02	*		-2.212E-01	4.251E-01	6.643E-01	9.269E-02	-0.333
PM-149	285.90	*		6.229E+01	7.032E+01	1.185E+02	1.676E+01	0.525
EU-152	121.78			-1.850E-02	6.303E-02	9.921E-02	7.645E-03	-0.186
	244.69			4.042E-01	2.655E-01	4.201E-01	2.347E-02	0.962
	344.27	*		2.082E-02	8.789E-02	1.250E-01	8.154E-03	0.167
	443.98			2.781E-01	7.286E-01	1.235E+00	7.568E-02	0.225
	778.89			9.238E-02	1.913E-01	2.878E-01	2.691E-02	0.321
	867.32			-2.111E-01	7.250E-01	9.833E-01	1.060E-01	-0.215
	964.01	+		6.438E-01	3.383E-01	4.520E-01	4.630E-02	1.424
	1085.78			-1.587E-01	2.669E-01	4.213E-01	3.264E-02	-0.377
	1112.02			1.063E-01	2.602E-01	3.876E-01	2.760E-02	0.274
	1407.95			-1.866E-03	1.646E-01	2.675E-01	1.986E-02	-0.007
GD-153	69.67			8.758E-01	1.595E+00	2.579E+00	2.093E-01	0.340
	83.37			7.309E+00	1.378E+01	2.053E+01	1.824E+00	0.356
	97.43	*		-2.280E-02	7.532E-02	1.076E-01	8.412E-03	-0.212
	103.18			-1.467E-01	8.837E-02	1.318E-01	9.503E-03	-1.113
EU-154	123.07			-1.768E-02	4.415E-02	6.951E-02	6.574E-03	-0.254
	247.94			2.194E-02	3.023E-01	4.377E-01	4.123E-02	0.050
	591.81			-1.626E-01	4.749E-01	7.501E-01	7.978E-02	-0.217
	723.30			6.837E-02	1.289E-01	1.951E-01	1.839E-02	0.350
	756.87			2.177E-01	5.468E-01	9.317E-01	1.142E-01	0.234
	873.19			5.153E-02	2.273E-01	3.785E-01	5.272E-02	0.136
	996.32			-4.620E-01	2.971E-01	3.949E-01	7.222E-02	-1.170
	1004.76			6.152E-02	1.684E-01	2.797E-01	3.438E-02	0.220
	1274.45	*		-1.040E-01	9.743E-02	1.447E-01	1.445E-02	-0.719
EU-155	48.70			-2.346E+00	3.000E+00	4.893E+00	3.711E-01	-0.479
	60.01			-2.591E+00	5.630E+00	8.244E+00	6.291E-01	-0.314
	86.54	+		4.073E-01	1.178E-01	1.613E-01	1.486E-02	2.525
	105.31	*		4.898E-02	9.165E-02	1.516E-01	1.084E-02	0.323
TB-160	86.79	+		1.088E+00	3.145E-01	4.321E-01	3.953E-02	2.518
	197.04			4.725E-01	4.371E-01	7.589E-01	4.076E-02	0.623
	215.65			5.339E-01	6.672E-01	1.017E+00	5.549E-02	0.525
	298.57			2.012E-01	9.122E-02	1.614E-01	9.271E-03	1.247
	879.36	*		8.065E-02	1.054E-01	1.820E-01	1.999E-02	0.443
	962.29			8.054E-01	4.801E-01	7.693E-01	7.903E-02	1.047
	966.15	+		4.420E-01	2.323E-01	4.152E-01	4.237E-02	1.065
	1177.93			1.104E-02	2.602E-01	4.319E-01	2.411E-02	0.026
	1271.85			6.671E-02	5.495E-01	9.115E-01	6.160E-02	0.073
HO-166M	80.57			-7.133E-02	3.213E-01	3.676E-01	3.194E-02	-0.194
	184.41			9.109E-02	3.116E-02	5.179E-02	2.751E-03	1.759

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-5.715E-02	6.673E-02	1.038E-01	5.921E-03	-0.551
		410.95		2.466E-01	1.948E-01	3.443E-01	2.026E-02	0.716
		711.68	*	1.509E-02	4.357E-02	7.431E-02	6.194E-03	0.203
		752.31		6.330E-03	1.986E-01	3.303E-01	2.953E-02	0.019
		810.29		1.532E-02	4.216E-02	7.138E-02	7.028E-03	0.215
		51.35		-2.802E+00	3.452E+01	5.797E+01	4.595E+00	-0.048
		52.39		-9.795E-02	1.784E+01	3.003E+01	2.386E+00	-0.003
		59.40		-2.069E+01	3.096E+01	4.483E+01	3.404E+00	-0.462
		66.72	*	-1.091E+01	3.020E+01	4.437E+01	3.547E+00	-0.246
		88.36		8.022E-01	2.319E-01	3.165E-01	2.906E-02	2.535
LU-176	+	201.83		-2.787E-02	2.267E-02	3.586E-02	1.934E-03	-0.777
		306.84	*	-9.833E-04	2.245E-02	3.159E-02	1.819E-03	-0.031
LU-177		401.10		2.861E+00	5.286E+00	9.076E+00	5.276E-01	0.315
		112.95		1.502E-01	1.340E+00	2.171E+00	1.399E-01	0.069
LU-177M	+	208.36	*	3.067E+00	1.280E+00	1.539E+00	8.349E-02	1.993
		52.97		-5.163E-01	1.908E+00	3.054E+00	2.424E-01	-0.169
HF-181		54.07		-3.796E-01	1.013E+00	1.618E+00	1.279E-01	-0.235
		61.30		-2.353E-02	1.576E+00	2.361E+00	1.824E-01	-0.010
		121.62		-8.057E-02	3.238E-01	5.108E-01	3.030E-02	-0.158
		147.16		-3.891E-01	5.535E-01	8.490E-01	4.620E-02	-0.458
		171.86		-1.663E-02	3.799E-01	6.392E-01	3.364E-02	-0.026
		218.09		-1.531E-01	6.803E-01	1.118E+00	6.114E-02	-0.137
		268.79		1.119E+00	7.052E-01	1.105E+00	6.268E-02	1.012
		319.02		1.157E-02	1.961E-01	3.169E-01	1.830E-02	0.036
		367.43		-3.589E-01	6.668E-01	1.090E+00	6.296E-02	-0.329
		413.65	*	-1.872E-01	1.364E-01	2.098E-01	1.239E-02	-0.892
		56.28		4.544E-01	1.048E+00	1.787E+00	1.392E-01	0.254
		57.53		5.668E-01	5.474E-01	9.507E-01	7.331E-02	0.596
		65.20		-1.784E-01	1.015E+00	1.503E+00	1.192E-01	-0.119
		133.02		4.036E-02	6.017E-02	8.867E-02	5.016E-03	0.455
		136.25		1.116E-01	3.700E-01	5.973E-01	3.344E-02	0.187
W-181		345.85		-1.187E-01	1.779E-01	2.347E-01	1.358E-02	-0.506
		482.03	*	-1.637E-02	3.153E-02	5.022E-02	3.214E-03	-0.326
		56.28		1.780E-01	4.104E-01	6.995E-01	5.449E-02	0.254
		57.53		2.217E-01	2.144E-01	3.724E-01	2.872E-02	0.595
TA-182		65.20	*	-6.932E-02	3.947E-01	5.843E-01	4.634E-02	-0.119
		67.75		-2.027E-02	1.189E-01	1.763E-01	1.417E-02	-0.115
		100.10		1.021E-01	1.536E-01	2.451E-01	1.843E-02	0.417
		152.43		-1.833E-01	2.856E-01	4.347E-01	2.338E-02	-0.422
RE-183		222.10		2.219E-02	2.713E-01	4.508E-01	2.475E-02	0.049
		1001.68		1.037E+00	1.646E+00	2.763E+00	2.638E-01	0.375
	+	1121.28		6.025E-01	2.236E-01	2.579E-01	1.777E-02	2.336
		1189.05		-9.434E-03	2.159E-01	3.557E-01	2.034E-02	-0.027
		1221.42	*	1.537E-02	1.380E-01	2.294E-01	1.403E-02	0.067
		1230.97		-4.901E-01	3.589E-01	5.293E-01	3.301E-02	-0.926
		57.98		1.981E-01	2.129E-01	3.684E-01	2.830E-02	0.538
		59.32		-8.595E-02	1.275E-01	1.846E-01	1.402E-02	-0.466
		67.20		-1.678E-02	2.101E-01	3.130E-01	2.509E-02	-0.054
		162.32	*	-1.395E-02	8.612E-02	1.448E-01	7.644E-03	-0.096

----- 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		2.760E+00	1.152E+00	1.392E+00	7.556E-02	1.982
		291.72		-8.846E-01	8.347E-01	1.091E+00	6.249E-02	-0.811
		57.98		7.302E-01	7.847E-01	1.358E+00	1.043E-01	0.538
		59.32		-3.165E-01	4.694E-01	6.796E-01	5.163E-02	-0.466
		67.20		-6.182E-02	7.740E-01	1.153E+00	9.241E-02	-0.054
		161.27		-4.825E-02	2.726E-01	4.582E-01	2.423E-02	-0.105
		216.55		2.854E-01	2.199E-01	3.717E-01	2.031E-02	0.768
		252.85	*	-4.130E-02	1.813E-01	2.941E-01	1.652E-02	-0.140
		318.01		-2.650E-01	3.415E-01	5.249E-01	3.030E-02	-0.505
		792.07		7.534E-01	8.973E-01	1.370E+00	1.310E-01	0.550
OS-185		903.28		2.937E-01	8.236E-01	1.245E+00	1.397E-01	0.236
		920.93		-1.297E-01	3.246E-01	4.821E-01	5.283E-02	-0.269
		59.72		-1.657E-01	3.366E-01	4.922E-01	3.744E-02	-0.337
		61.14		-2.092E-03	1.740E-01	2.608E-01	2.012E-02	-0.008
		69.30		1.826E-01	2.854E-01	4.632E-01	3.753E-02	0.394
		592.07		-1.211E+00	1.939E+00	2.999E+00	2.147E-01	-0.404
		646.12	*	1.519E-02	3.107E-02	5.173E-02	3.890E-03	0.294
		717.42		-3.868E-01	6.360E-01	1.012E+00	8.523E-02	-0.382
		874.81		-2.080E-01	4.555E-01	7.181E-01	7.833E-02	-0.290
		880.27		4.832E-01	6.014E-01	1.039E+00	1.143E-01	0.465
RE-188		155.03	*	8.112E-02	1.347E-01	2.333E-01	1.249E-02	0.348
		477.96		1.132E+00	2.309E+00	3.919E+00	2.497E-01	0.289
		633.10		5.608E-01	2.151E+00	3.428E+00	2.548E-01	0.164
W-188	+	63.58		8.252E+01	8.014E+01	9.066E+01	7.123E+00	0.910
		227.08		1.749E+00	9.967E+00	1.660E+01	9.151E-01	0.105
IR-192		290.67	*	-4.928E+00	6.623E+00	8.889E+00	5.092E-01	-0.554
	+	295.96		8.429E-01	1.338E-01	2.290E-01	1.335E-02	3.681
		308.46		-1.937E-02	8.839E-02	1.227E-01	7.150E-03	-0.158
		316.51	*	-2.502E-02	2.665E-02	4.058E-02	2.354E-03	-0.617
		468.07		-1.678E-02	5.546E-02	7.727E-02	5.506E-03	-0.217
AU-195		604.41		2.597E-02	4.240E-01	5.941E-01	7.219E-02	0.044
		612.46		3.050E+00	7.794E-01	1.315E+00	1.154E-01	2.319
		65.12		-2.177E-02	1.834E-01	2.723E-01	2.159E-02	-0.080
		66.83		-1.408E-02	9.881E-02	1.468E-01	1.174E-02	-0.096
	+	75.70		1.079E+00	2.440E-01	3.776E-01	3.171E-02	2.858
TL-200		98.88	*	3.072E-01	2.028E-01	3.175E-01	2.430E-02	0.967
	+	129.76		4.445E+00	3.088E+00	4.270E+00	2.443E-01	1.041
		367.94	*	-5.355E-05	3.088E+00	Half-Life	too short	
		579.30		1.109E-03	3.088E+00	Half-Life	too short	
		828.27		-4.083E-04	3.088E+00	Half-Life	too short	
TL-201		1205.75		7.638E-04	3.088E+00	Half-Life	too short	
		68.90		2.357E+00	4.353E+00	7.362E+00	5.952E-01	0.320
		70.82		2.822E-01	2.672E+00	3.989E+00	3.257E-01	0.071
		80.30		-9.804E-01	5.947E+00	6.838E+00	5.929E-01	-0.143
TL-202		135.34		9.074E-01	2.065E+01	3.297E+01	1.851E+00	0.028
		167.43	*	1.667E+00	5.533E+00	9.445E+00	4.958E-01	0.176
		68.90		2.123E-01	3.921E-01	6.631E-01	5.361E-02	0.320
		70.82		2.535E-02	2.400E-01	3.583E-01	2.926E-02	0.071
		80.30		-8.809E-02	5.343E-01	6.144E-01	5.327E-02	-0.143

---- 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	*		-3.258E-03	5.135E-02	8.496E-02	5.180E-03	-0.038
	70.83			1.113E-01	1.040E+00	1.553E+00	2.069E-01	0.072
	72.87			1.293E-01	5.917E-01	8.860E-01	1.149E-01	0.146
	82.60			-4.824E-01	1.124E+00	1.466E+00	2.034E-01	-0.329
BI-207	279.20	*		5.085E-02	3.154E-02	5.506E-02	3.339E-03	0.924
	72.80			1.586E-02	1.730E-01	2.577E-01	2.127E-02	0.062
	74.97		+	5.986E-01	1.353E-01	1.998E-01	1.670E-02	2.996
	84.90			2.863E-01	1.620E-01	2.743E-01	2.468E-02	1.044
TL-207	569.67			-3.534E-03	2.459E-02	3.958E-02	2.774E-03	-0.089
	1063.62	*		1.332E-02	4.222E-02	7.203E-02	5.946E-03	0.185
	1770.23			4.495E-01	3.619E-01	6.388E-01	3.865E-02	0.704
	81.07			-1.084E-01	2.576E-01	2.896E-01	2.526E-02	-0.374
	83.78			1.463E-01	1.065E-01	1.791E-01	1.596E-02	0.817
	94.90			5.739E-01	2.111E-01	3.681E-01	2.996E-02	1.559
	122.32			-5.623E-01	1.491E+00	2.336E+00	1.587E-01	-0.241
	144.24			2.260E-01	5.758E-01	9.161E-01	6.392E-02	0.247
	154.21			3.798E-01	3.128E-01	5.467E-01	3.638E-02	0.695
	269.46		+	5.267E-01	2.134E-01	2.719E-01	1.615E-02	1.937
	323.87	*		-4.105E-01	5.435E-01	8.326E-01	1.374E-01	-0.493
	338.28		+	5.563E+00	1.355E+00	1.944E+00	2.046E-01	2.862
PO-209	445.03			3.143E-01	1.761E+00	2.950E+00	3.086E-01	0.107
	260.50			4.422E+00	7.773E+00	1.305E+01	7.365E-01	0.339
	262.80			-2.136E+01	2.100E+01	3.257E+01	1.841E+00	-0.656
	896.60	*		-3.568E+00	5.520E+00	8.505E+00	9.593E-01	-0.420
BI-210	46.50	*		2.717E+00	4.640E+00	8.029E+00	6.212E-01	0.338
PB-210	46.50	*		2.717E+00	4.640E+00	8.029E+00	6.212E-01	0.338
PO-210	46.50	*		2.717E+00	4.638E+00	8.029E+00	5.341E-01	0.338
PB-211	404.84	*		-5.571E-01	8.287E-01	1.211E+00	7.550E-01	-0.460
	427.08			1.149E+00	1.698E+00	2.673E+00	1.653E+00	0.430
	831.96			-7.716E-01	1.072E+00	1.481E+00	9.313E-01	-0.521
	727.18	*	+	1.319E+00	3.117E-01	5.151E-01	5.130E-02	2.561
	785.46			8.215E-01	1.297E+00	2.233E+00	2.111E-01	0.368
PO-215	1620.62			1.208E+00	1.080E+00	1.987E+00	1.343E-01	0.608
	81.07			-1.084E-01	2.576E-01	2.896E-01	2.526E-02	-0.374
	83.78			1.463E-01	1.065E-01	1.791E-01	1.596E-02	0.817
	94.90			5.739E-01	2.111E-01	3.681E-01	2.996E-02	1.559
	122.32			-5.623E-01	1.491E+00	2.336E+00	1.587E-01	-0.241
	144.24			2.260E-01	5.758E-01	9.161E-01	6.392E-02	0.247
	154.21			3.798E-01	3.128E-01	5.467E-01	3.638E-02	0.695
	269.46		+	5.267E-01	2.134E-01	2.719E-01	1.615E-02	1.937
	323.87	*		-4.105E-01	5.435E-01	8.326E-01	1.374E-01	-0.493
	338.28		+	5.563E+00	1.355E+00	1.944E+00	2.046E-01	2.862
	445.03			3.143E-01	1.761E+00	2.950E+00	3.086E-01	0.107
	271.23		+	6.757E-01	2.762E-01	3.535E-01	2.834E-02	1.911
RN-219	401.81	*		1.783E-01	3.249E-01	5.568E-01	7.580E-02	0.320
RN-220	549.76	*		2.506E+00	2.061E+01	3.384E+01	2.326E+00	0.074
RA-223	81.07			-1.084E-01	2.576E-01	2.896E-01	2.526E-02	-0.374
	83.78			1.463E-01	1.065E-01	1.791E-01	1.596E-02	0.817
	94.90			5.739E-01	2.111E-01	3.681E-01	2.996E-02	1.559

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-5.623E-01	1.491E+00	2.336E+00	1.587E-01	-0.241
		144.24		2.260E-01	5.758E-01	9.161E-01	6.392E-02	0.247
		154.21		3.798E-01	3.128E-01	5.467E-01	3.638E-02	0.695
	+	269.46		5.267E-01	2.134E-01	2.719E-01	1.615E-02	1.937
		323.87	*	-4.105E-01	5.435E-01	8.326E-01	1.374E-01	-0.493
	+	338.28		5.563E+00	1.355E+00	1.944E+00	2.046E-01	2.862
		445.03		3.143E-01	1.761E+00	2.950E+00	3.086E-01	0.107
		79.80		-5.734E-01	1.976E+00	2.247E+00	4.833E-01	-0.255
		236.00		2.861E-01	2.081E-01	3.206E-01	3.307E-02	0.893
		256.20	*	-1.063E-01	3.100E-01	4.995E-01	6.939E-02	-0.213
TH-227		286.10		1.094E+00	1.181E+00	1.999E+00	2.303E-01	0.547
	+	299.80		2.756E+00	1.767E+00	2.025E+00	3.294E-01	1.361
		304.40		9.866E-01	1.485E+00	2.467E+00	4.263E-01	0.400
		334.20		9.528E-01	2.094E+00	3.019E+00	5.534E-01	0.316
		79.80		-5.734E-01	1.977E+00	2.247E+00	4.895E-01	-0.255
	+	94.00		9.671E+00	3.189E+00	3.516E+00	7.609E-01	2.750
		236.00		2.861E-01	2.076E-01	3.206E-01	2.853E-02	0.893
		256.20	*	-1.063E-01	3.102E-01	4.995E-01	8.413E-02	-0.213
		286.10		1.094E+00	1.606E+00	1.999E+00	2.003E+00	0.547
	+	299.80		2.756E+00	1.767E+00	2.025E+00	3.294E-01	1.361
TH-229		304.40		9.866E-01	1.485E+00	2.467E+00	4.263E-01	0.400
		334.20		9.528E-01	2.094E+00	3.019E+00	5.534E-01	0.316
		85.43		3.483E-01	1.620E-01	2.760E-01	2.495E-02	1.262
	+	88.47		4.618E-01	1.335E-01	1.817E-01	1.665E-02	2.541
		100.00		1.125E-01	1.598E-01	2.554E-01	1.923E-02	0.441
		193.63	*	-3.335E-02	4.034E-01	6.724E-01	3.600E-02	-0.050
	+	210.97		2.161E+00	9.021E-01	1.078E+00	5.863E-02	2.004
		283.67	*	-6.863E-01	1.184E+00	1.861E+00	2.558E-01	-0.369
	+	301.29		1.102E+00	6.934E-01	8.099E-01	8.442E-02	1.361
		81.07		-1.084E-01	2.576E-01	2.896E-01	2.526E-02	-0.374
PA-231		83.78		1.463E-01	1.065E-01	1.791E-01	1.596E-02	0.817
		94.90		5.739E-01	2.111E-01	3.681E-01	2.996E-02	1.559
		122.32		-5.623E-01	1.491E+00	2.336E+00	1.587E-01	-0.241
		144.24		2.260E-01	5.758E-01	9.161E-01	6.392E-02	0.247
		154.21		3.798E-01	3.128E-01	5.467E-01	3.638E-02	0.695
	+	269.46		5.267E-01	2.134E-01	2.719E-01	1.615E-02	1.937
		323.87	*	-4.105E-01	5.435E-01	8.326E-01	1.374E-01	-0.493
	+	338.28		5.563E+00	1.355E+00	1.944E+00	2.046E-01	2.862
		445.03		3.143E-01	1.761E+00	2.950E+00	3.086E-01	0.107
		84.21		7.057E+00	4.587E+00	7.737E+00	6.921E-01	0.912
U-231	+	92.29		9.537E+00	2.500E+00	3.585E+00	3.052E-01	2.660
		95.87	*	4.726E-01	1.012E+00	1.507E+00	1.207E-01	0.314
		108.00		-2.101E-01	1.822E+00	2.934E+00	1.995E-01	-0.072
	+	75.28		1.747E+01	4.530E+00	5.853E+00	8.903E-01	2.985
	+	86.59		6.621E+00	2.548E+00	2.624E+00	7.082E-01	2.523
	+	300.12		7.683E-01	4.876E-01	5.678E-01	7.617E-02	1.353
		311.98	*	3.230E-02	5.154E-02	8.585E-02	5.259E-03	0.376
		340.50		2.488E+00	8.563E-01	1.091E+00	2.504E-01	2.281
		398.62		-1.632E+00	1.736E+00	2.679E+00	6.927E-01	-0.609

---- 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		-7.335E-01	1.220E+00	1.949E+00	4.020E-01	-0.376
		63.00		2.394E+00	2.345E+00	2.696E+00	4.064E-01	0.888
		94.67		5.567E-01	1.665E-01	2.782E-01	3.365E-02	2.001
		98.44		4.438E-02	8.856E-02	1.271E-01	7.072E-02	0.349
		99.86		3.073E-01	4.057E-01	6.499E-01	4.903E-02	0.473
		111.00		-1.142E-01	1.615E-01	2.524E-01	2.708E-02	-0.453
		131.20		3.993E-02	1.026E-01	1.488E-01	8.469E-03	0.268
		152.70		-9.102E-02	2.769E-01	4.275E-01	6.693E-02	-0.213
		186.00		4.627E+00	2.196E+00	2.172E+00	6.618E-01	2.130
		226.40		5.424E-03	3.136E-01	5.190E-01	5.926E-02	0.010
	+	227.20		1.509E-01	3.327E-01	5.606E-01	3.090E-02	0.269
		248.90		6.569E-02	6.232E-01	9.943E-01	2.131E-01	0.066
		293.70		4.186E+00	9.666E-01	1.282E+00	2.059E-01	3.264
		369.80		2.777E-01	6.167E-01	1.058E+00	2.203E-01	0.262
		568.70		-6.307E-02	7.927E-01	1.282E+00	8.972E-02	-0.049
		569.50		-4.472E-02	2.174E-01	3.485E-01	2.442E-02	-0.128
		574.00		1.320E-01	1.187E+00	1.889E+00	1.329E-01	0.070
		699.00		-2.085E-01	5.346E-01	8.683E-01	1.639E-01	-0.240
		706.10		-3.097E-01	7.905E-01	1.265E+00	5.634E-01	-0.245
		733.00		-1.711E-01	3.086E-01	4.119E-01	9.147E-02	-0.416
	+	742.81		-3.561E-01	1.023E+00	1.610E+00	1.083E+00	-0.221
		796.30		1.824E+00	1.052E+00	1.306E+00	3.576E-01	1.397
		805.60		3.494E-01	7.605E-01	1.282E+00	3.974E-01	0.272
		819.60		-3.731E-01	9.152E-01	1.440E+00	5.525E-01	-0.259
		826.30		-1.428E-03	6.533E-01	1.075E+00	4.842E-01	-0.001
		831.60		-5.083E-01	5.266E-01	7.690E-01	2.333E-01	-0.661
		876.40		-5.770E-01	8.903E-01	1.011E+00	1.042E+00	-0.571
		880.51		2.336E-01	2.149E-01	3.778E-01	4.158E-02	0.618
		883.24		9.450E-02	2.205E-01	3.576E-01	2.416E-01	0.264
		899.00		-1.994E-01	6.119E-01	9.612E-01	4.260E-01	-0.207
		925.00		-6.023E-01	8.462E-01	1.287E+00	1.402E-01	-0.468
PA-234M	+	926.50		8.865E-03	1.189E-01	1.949E-01	5.093E-02	0.045
		946.00	*	3.740E-02	2.228E-01	3.668E-01	7.236E-02	0.102
		949.00		2.616E-01	3.190E-01	5.519E-01	5.796E-02	0.474
		980.50		1.162E-01	5.466E-01	9.009E-01	8.961E-02	0.129
		1394.10		-9.194E-01	1.065E+00	1.258E+00	8.171E-01	-0.731
		766.42		1.866E+01	1.307E+01	1.533E+01	7.793E+00	1.217
		1001.03	*	3.770E+00	3.703E+00	6.365E+00	6.866E-01	0.592
		89.95		2.758E+00	1.389E+00	1.652E+00	5.110E-01	1.669
		93.35		3.009E+00	1.125E+00	1.129E+00	3.156E-01	2.664
		105.00		3.243E-01	8.945E-01	1.463E+00	4.306E-01	0.222
U-235	+	143.76	*	-1.223E-01	1.824E-01	2.754E-01	4.460E-02	-0.444
		163.35		5.423E-02	3.654E-01	6.211E-01	1.107E-01	0.087
		185.71		1.714E-01	6.301E-02	8.022E-02	4.266E-03	2.136
		205.31		3.785E-01	4.540E-01	6.785E-01	1.212E-01	0.558
		94.67		4.246E-01	1.206E-01	2.113E-01	1.726E-02	2.010
		98.44		3.350E-02	6.434E-02	9.606E-02	7.398E-03	0.349
		111.00		-8.641E-02	1.220E-01	1.909E-01	1.256E-02	-0.453
		160.31	*	3.792E-02	6.171E-02	1.068E-01	5.657E-03	0.355
NP-236	+							

---- 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		1.976E-01	1.410E-01	2.197E-01	1.664E-02	0.900
		117.00	*	-9.158E-03	1.536E-01	2.465E-01	1.526E-02	-0.037
	+	209.75		2.178E+00	9.088E-01	1.106E+00	6.005E-02	1.969
		228.18		-8.131E-03	1.747E-01	2.882E-01	1.590E-02	-0.028
		277.60		5.677E-02	1.429E-01	2.371E-01	1.351E-02	0.239
		334.30		4.894E-01	1.180E+00	1.703E+00	9.848E-02	0.287
AM-241		59.54	*	-1.181E-01	1.795E-01	2.599E-01	2.156E-02	-0.454
CM-243		99.55		2.033E-01	1.451E-01	2.260E-01	1.713E-02	0.900
		103.76	*	-4.412E-02	8.068E-02	1.276E-01	9.134E-03	-0.346
		117.00		-9.422E-03	1.580E-01	2.536E-01	1.570E-02	-0.037
	+	209.75		2.147E+00	8.959E-01	1.090E+00	5.919E-02	1.969
		228.18		-8.216E-03	1.765E-01	2.912E-01	1.606E-02	-0.028
		277.60		5.724E-02	1.441E-01	2.390E-01	1.362E-02	0.239
AM-246		798.80		-5.150E-02	1.266E-01	1.720E-01	1.662E-02	-0.299
		1036.00		9.133E-02	2.087E-01	3.613E-01	3.199E-02	0.253
		1062.04		-3.671E-02	1.810E-01	2.980E-01	2.470E-02	-0.123
		1078.86	*	1.291E-01	9.807E-02	1.797E-01	1.421E-02	0.719
CM-247		278.00		3.591E-01	5.888E-01	9.859E-01	5.617E-02	0.364
		287.40		7.759E-01	9.540E-01	1.612E+00	9.220E-02	0.481
		402.60	*	8.895E-04	2.862E-02	4.794E-02	2.792E-03	0.019
CF-249		252.85		-1.550E-01	6.802E-01	1.104E+00	6.200E-02	-0.140
		333.44		9.756E-03	1.600E-01	2.250E-01	1.301E-02	0.043
		387.95	*	-5.719E-03	3.046E-02	4.959E-02	2.851E-03	-0.115
CF-251		176.60	*	1.422E-02	9.880E-02	1.671E-01	8.827E-03	0.085
		227.00		5.359E-02	2.992E-01	4.985E-01	2.747E-02	0.108
		285.00		-2.862E-01	1.372E+00	2.206E+00	1.261E-01	-0.130

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]G243274007      *
* Acquisition date   : 31-DEC-2009 14:35:59 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 02:00:01.55 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID           : G243274007 Analyst initials: MXR1                 *
* Batch Number        : 935341 Sample Quantity : 1.3053E+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	1.977E+01	1.840E+00	4.232E-01	0.000E+00
CD-109	3.441E+00	9.747E-01	1.050E+00	0.000E+00
SN-126	3.382E-01	9.580E-02	1.039E-01	0.000E+00
BA-137M	3.179E-01	6.196E-02	4.308E-02	0.000E+00
CS-137	3.361E-01	6.552E-02	4.554E-02	0.000E+00
TL-208	4.029E-01	6.442E-02	4.871E-02	0.000E+00
BI-211	3.382E+00	3.863E-01	2.390E-01	0.000E+00
PB-212	1.331E+00	1.268E-01	7.121E-02	0.000E+00
PO-212	1.331E+00	1.268E-01	7.121E-02	0.000E+00
BI-214	9.605E-01	1.475E-01	8.804E-02	0.000E+00
PB-214	1.177E+00	1.472E-01	8.328E-02	0.000E+00
PO-214	1.177E+00	1.472E-01	8.328E-02	0.000E+00
PO-216	1.331E+00	1.268E-01	7.121E-02	0.000E+00
PO-218	1.177E+00	1.472E-01	8.328E-02	0.000E+00
RA-224	3.537E+00	1.096E+00	8.093E-01	0.000E+00
RA-226	9.605E-01	1.475E-01	8.804E-02	0.000E+00
AC-228	1.177E+00	2.574E-01	1.542E-01	0.000E+00
RA-228	1.177E+00	2.574E-01	1.542E-01	0.000E+00
TH-228	1.351E+00	1.287E-01	7.229E-02	0.000E+00
TH-230	9.605E-01	1.475E-01	8.804E-02	0.000E+00
TH-232	1.177E+00	2.574E-01	1.542E-01	0.000E+00
TH-234	2.053E+00	1.980E+00	2.132E+00	0.000E+00
U-234	9.605E-01	1.475E-01	8.804E-02	0.000E+00
NP-237	9.932E-01	3.457E-01	3.098E-01	0.000E+00
U-238	2.053E+00	1.980E+00	2.132E+00	0.000E+00
AM-243	3.335E-01	7.389E-02	8.076E-02	0.000E+00
ANH-511	8.726E-02	5.535E-02	3.129E-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	1.883E-01	2.363E-01	4.237E-01	0.000E+00	NOT IDENT.
NA-22	-3.718E-02	3.408E-02	5.199E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.834E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.492E-03	2.285E-02	3.875E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.800E-02	7.585E-02	0.000E+00	FAIL ABUN
SC-46	1.614E-02	2.772E-02	4.873E-02	0.000E+00	FAIL ABUN
V-48	-1.519E-02	5.201E-02	8.438E-02	0.000E+00	NOT IDENT.
CR-51	1.645E-01	2.754E-01	4.795E-01	0.000E+00	NOT IDENT.
MN-52	-1.840E-01	1.753E-01	2.529E-01	0.000E+00	NOT IDENT.
MN-54	-5.972E-03	3.037E-02	5.082E-02	0.000E+00	NOT IDENT.
CO-56	-8.210E-03	3.042E-02	5.046E-02	0.000E+00	NOT IDENT.
CO-57	-8.143E-03	2.114E-02	3.523E-02	0.000E+00	NOT IDENT.
CO-58	3.099E-03	2.772E-02	4.751E-02	0.000E+00	NOT IDENT.
FE-59	-2.569E-02	6.395E-02	1.058E-01	0.000E+00	NOT IDENT.
CO-60	-2.581E-02	2.885E-02	4.374E-02	0.000E+00	NOT IDENT.
ZN-65	3.806E-02	7.353E-02	1.132E-01	0.000E+00	NOT IDENT.
GE-68	5.948E-01	8.623E-01	1.553E+00	0.000E+00	NOT IDENT.
AS-73	-3.274E-01	9.542E-01	1.641E+00	0.000E+00	NOT IDENT.
AS-74	-1.422E-02	6.948E-02	1.150E-01	0.000E+00	NOT IDENT.
SE-75	-3.279E-03	3.705E-02	5.538E-02	0.000E+00	NOT IDENT.
BR-77	4.082E+00	7.672E+00	1.280E+01	0.000E+00	FAIL ABUN
SR-82	3.459E-01	2.717E-01	4.539E-01	0.000E+00	NOT IDENT.
RB-83	2.625E-02	5.079E-02	8.467E-02	0.000E+00	NOT IDENT.
RB-84	3.045E-02	5.168E-02	9.078E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.478E+00	1.186E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.321E-02	6.078E-02	0.000E+00	NOT IDENT.
RB-86	1.067E-01	5.524E-01	9.600E-01	0.000E+00	NOT IDENT.
Y-88	3.685E-03	2.273E-02	3.887E-02	0.000E+00	NOT IDENT.
ZR-88	2.261E-03	2.383E-02	4.186E-02	0.000E+00	NOT IDENT.
Y-91	1.231E+01	1.366E+01	2.453E+01	0.000E+00	NOT IDENT.
NB-94	3.248E-02	2.439E-02	4.522E-02	0.000E+00	NOT IDENT.
NB-95	5.101E-02	3.297E-02	5.527E-02	0.000E+00	NOT IDENT.
NB-95M	1.566E-02	1.076E-01	1.651E-01	0.000E+00	NOT IDENT.
ZR-95	4.322E-02	4.921E-02	8.911E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	7.832E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.424E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	8.865E+00	8.276E+00	1.505E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.058E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.398E-02	2.592E-02	4.630E-02	0.000E+00	NOT IDENT.
RH-102	-8.421E-03	2.199E-02	3.689E-02	0.000E+00	NOT IDENT.
RU-103	-9.551E-04	2.751E-02	4.691E-02	0.000E+00	FAIL ABUN
RH-106	4.142E-03	2.412E-01	4.032E-01	0.000E+00	FAIL ABUN
RU-106	4.142E-03	2.412E-01	4.032E-01	0.000E+00	FAIL ABUN
AG-108M	-5.897E-03	2.341E-02	3.995E-02	0.000E+00	NOT IDENT.
AG-110M	1.892E-02	2.794E-02	4.447E-02	0.000E+00	NOT IDENT.
IN-111	-1.887E-01	8.467E-01	1.265E+00	0.000E+00	NOT IDENT.
IN-113M	7.557E-03	3.411E-02	6.032E-02	0.000E+00	NOT IDENT.
SN-113	7.557E-03	3.411E-02	6.032E-02	0.000E+00	NOT IDENT.
IN-114M	6.762E-02	1.554E-01	2.475E-01	0.000E+00	NOT IDENT.
CD-115	8.168E-01	7.635E+00	1.306E+01	0.000E+00	NOT IDENT.
SN-117M	6.803E-03	4.177E-02	7.538E-02	0.000E+00	NOT IDENT.
SB-122	5.465E-01	1.546E+00	2.666E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	4.368E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.205E-03	2.182E-02	3.853E-02	0.000E+00	NOT IDENT.
I-124	2.207E-01	5.947E-01	8.873E-01	0.000E+00	NOT IDENT.
SB-124	2.117E-02	5.379E-02	9.538E-02	0.000E+00	FAIL ABUN
SB-125	6.548E-02	6.808E-02	1.240E-01	0.000E+00	FAIL ABUN
TE-125M	6.716E+00	7.949E+00	1.410E+01	0.000E+00	NOT IDENT.
I-126	5.957E-02	1.489E-01	2.309E-01	0.000E+00	NOT IDENT.
SB-126	3.644E-02	1.053E-01	1.679E-01	0.000E+00	FAIL ABUN
SB-127	-1.622E-01	9.569E-01	1.637E+00	0.000E+00	NOT IDENT.
XE-127	-6.980E-03	3.611E-02	6.301E-02	0.000E+00	NOT IDENT.
I-131	5.260E-02	8.203E-02	1.491E-01	0.000E+00	NOT IDENT.
TE-132	-2.105E-02	5.227E-01	9.082E-01	0.000E+00	NOT IDENT.
BA-133	1.592E-03	3.534E-02	5.160E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.292E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.754E-02	6.919E-02	0.000E+00	FAIL ABUN
CS-135	1.259E-01	1.312E-01	2.090E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.412E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.408E-02	7.187E-02	1.214E-01	0.000E+00	FAIL ABUN
CE-139	-4.843E-03	2.297E-02	4.075E-02	0.000E+00	NOT IDENT.
BA-140	-2.639E-02	1.939E-01	3.256E-01	0.000E+00	NOT IDENT.
LA-140	8.482E-02	6.639E-02	1.163E-01	0.000E+00	NOT IDENT.
CE-141	9.091E-02	5.060E-02	9.111E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.538E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-4.335E-02	1.917E-01	2.848E-01	0.000E+00	NOT IDENT.
PM-144	8.518E-03	2.416E-02	4.265E-02	0.000E+00	NOT IDENT.
PR-144	5.772E-01	1.637E+00	2.890E+00	0.000E+00	NOT IDENT.

PM-146	1.260E-02	3.251E-02	5.726E-02	0.000E+00	NOT IDENT.
ND-147	-2.212E-01	4.166E-01	6.762E-01	0.000E+00	FAIL ABUN
PM-149	6.229E+01	6.891E+01	1.219E+02	0.000E+00	NOT IDENT.
EU-152	2.082E-02	8.613E-02	1.281E-01	0.000E+00	FAIL ABUN
GD-153	-2.280E-02	7.381E-02	1.125E-01	0.000E+00	NOT IDENT.
EU-154	-1.040E-01	9.548E-02	1.452E-01	0.000E+00	NOT IDENT.
EU-155	4.898E-02	8.982E-02	1.584E-01	0.000E+00	FAIL ABUN
TB-160	8.065E-02	1.033E-01	1.837E-01	0.000E+00	FAIL ABUN
HO-166M	1.509E-02	4.270E-02	7.527E-02	0.000E+00	NOT IDENT.
TM-171	-1.091E+01	2.959E+01	4.667E+01	0.000E+00	NOT IDENT.
LU-176	-9.833E-04	2.200E-02	3.244E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.255E+00	1.591E+00	0.000E+00	FAIL ABUN
LU-177M	-1.872E-01	1.337E-01	2.144E-01	0.000E+00	NOT IDENT.
HF-181	-1.637E-02	3.090E-02	5.120E-02	0.000E+00	NOT IDENT.
W-181	-6.932E-02	3.868E-01	6.148E-01	0.000E+00	NOT IDENT.
TA-182	1.537E-02	1.352E-01	2.303E-01	0.000E+00	FAIL ABUN
RE-183	-1.395E-02	8.440E-02	1.502E-01	0.000E+00	FAIL ABUN
RE-184	-4.130E-02	1.777E-01	3.030E-01	0.000E+00	NOT IDENT.
OS-185	1.519E-02	3.045E-02	5.249E-02	0.000E+00	NOT IDENT.
RE-188	8.112E-02	1.320E-01	2.423E-01	0.000E+00	NOT IDENT.
W-188	-4.928E+00	6.491E+00	9.137E+00	0.000E+00	FAIL ABUN
IR-192	-2.502E-02	2.612E-02	4.166E-02	0.000E+00	FAIL ABUN
AU-195	3.072E-01	1.987E-01	3.320E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.311E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.667E+00	5.423E+00	9.794E+00	0.000E+00	NOT IDENT.
TL-202	-3.258E-03	5.033E-02	8.675E-02	0.000E+00	NOT IDENT.
HG-203	5.085E-02	3.091E-02	5.663E-02	0.000E+00	NOT IDENT.
BI-207	1.332E-02	4.137E-02	7.248E-02	0.000E+00	FAIL ABUN
TL-207	-4.105E-01	5.327E-01	8.543E-01	0.000E+00	FAIL ABUN
PO-209	-3.568E+00	5.410E+00	8.583E+00	0.000E+00	NOT IDENT.
BI-210	2.717E+00	4.547E+00	8.493E+00	0.000E+00	NOT IDENT.
PB-210	2.717E+00	4.547E+00	8.493E+00	0.000E+00	NOT IDENT.
PO-210	2.717E+00	4.546E+00	8.493E+00	0.000E+00	NOT IDENT.
PB-211	-5.571E-01	8.121E-01	1.238E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.055E-01	5.216E-01	0.000E+00	FAIL ABUN
PO-215	-4.105E-01	5.327E-01	8.543E-01	0.000E+00	FAIL ABUN
RN-219	1.783E-01	3.184E-01	5.694E-01	0.000E+00	FAIL ABUN
RN-220	2.506E+00	2.020E+01	3.443E+01	0.000E+00	NOT IDENT.
RA-223	-4.105E-01	5.327E-01	8.543E-01	0.000E+00	FAIL ABUN
AC-227	-1.063E-01	3.038E-01	5.145E-01	0.000E+00	FAIL ABUN
TH-227	-1.063E-01	3.040E-01	5.145E-01	0.000E+00	FAIL ABUN
TH-229	-3.335E-02	3.953E-01	6.957E-01	0.000E+00	FAIL ABUN
PA-231	-6.863E-01	1.161E+00	1.914E+00	0.000E+00	FAIL ABUN
TH-231	-4.105E-01	5.327E-01	8.543E-01	0.000E+00	FAIL ABUN
U-231	4.726E-01	9.914E-01	1.576E+00	0.000E+00	FAIL ABUN
PA-233	3.230E-02	5.051E-02	8.815E-02	0.000E+00	FAIL ABUN
PA-234	3.740E-02	2.183E-01	3.698E-01	0.000E+00	FAIL ABUN
PA-234M	3.770E+00	3.629E+00	6.411E+00	0.000E+00	NOT IDENT.
U-235	-1.223E-01	1.787E-01	2.863E-01	0.000E+00	FAIL ABUN
NP-236	3.792E-02	6.048E-02	1.108E-01	0.000E+00	NOT IDENT.
NP-239	-9.158E-03	1.505E-01	2.570E-01	0.000E+00	FAIL ABUN
AM-241	-1.181E-01	1.759E-01	2.739E-01	0.000E+00	NOT IDENT.
CM-243	-4.412E-02	7.906E-02	1.333E-01	0.000E+00	FAIL ABUN
AM-246	1.291E-01	9.611E-02	1.808E-01	0.000E+00	NOT IDENT.
CM-247	8.895E-04	2.805E-02	4.902E-02	0.000E+00	NOT IDENT.
CF-249	-5.719E-03	2.985E-02	5.074E-02	0.000E+00	NOT IDENT.
CF-251	1.422E-02	9.682E-02	1.732E-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]G243274007.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:35:59
Sample ID          : G243274007 Sample quantity      : 1.30530E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.55 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials    : MXR1
Abundance limit    : 75.00000 Sensitivity           : 5.00000
Batch ID           : 935341 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	1388	10.67*	1.893E+00	1.977E+01	1.977E+01	9.50
CD-109	88.03	281	3.72*	6.467E+00	3.364E+00	3.441E+00	28.90
SN-126	64.28	85	9.60	3.128E+00	8.128E-01	8.128E-01	97.92
	86.94	281	8.90	6.467E+00	1.406E+00	1.406E+00	49.71
	87.57	281	37.00*	6.467E+00	3.382E-01	3.382E-01	28.90
BA-137M	661.65	356	89.98*	3.587E+00	3.176E-01	3.179E-01	19.89
CS-137	661.65	356	85.12*	3.587E+00	3.358E-01	3.361E-01	19.89
TL-208	277.35	-----	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	131	21.60	4.308E+00	4.040E-01	4.040E-01	65.26
	583.14	464	84.20*	3.933E+00	4.029E-01	4.029E-01	16.31
	860.37	84	12.46	2.913E+00	6.673E-01	6.673E-01	61.76
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	829	12.94*	5.449E+00	3.382E+00	3.382E+00	11.65
PB-212	74.81	379	10.70	4.951E+00	2.057E+00	2.057E+00	24.47
	77.11	516	18.00	5.277E+00	1.562E+00	1.562E+00	16.99
	87.30	281	8.00	6.467E+00	1.564E+00	1.564E+00	30.58
	238.63	1402	44.60*	6.789E+00	1.331E+00	1.331E+00	9.72
	300.09	105	3.41	5.981E+00	1.487E+00	1.487E+00	62.57
PO-212	74.81	379	10.70	4.951E+00	2.057E+00	2.057E+00	24.47
	77.11	516	18.00	5.277E+00	1.562E+00	1.562E+00	16.99
	87.30	281	8.00	6.467E+00	1.564E+00	1.564E+00	30.58
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1402	44.60*	6.789E+00	1.331E+00	1.331E+00	9.72
	300.09	105	3.41	5.981E+00	1.487E+00	1.487E+00	62.57
BI-214	609.31	589	46.30*	3.811E+00	9.605E-01	9.605E-01	15.67
	1120.29	156	15.10	2.334E+00	1.274E+00	1.274E+00	37.71
	1764.49	117	15.80	1.694E+00	1.259E+00	1.259E+00	26.82
PB-214	74.81	379	6.21	4.951E+00	3.544E+00	3.544E+00	23.79
	77.11	516	10.50	5.277E+00	2.679E+00	2.679E+00	18.62
	87.30	281	4.67	6.467E+00	2.680E+00	2.680E+00	29.91
	241.98	328	7.49	6.746E+00	1.865E+00	1.865E+00	32.11
	295.21	446	19.20	6.037E+00	1.105E+00	1.106E+00	17.03

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	829	37.20*	5.449E+00	1.177E+00	1.177E+00	12.77
	74.81	379	6.21	4.951E+00	3.544E+00	3.544E+00	23.79
	77.11	516	10.50	5.277E+00	2.679E+00	2.679E+00	18.62
	87.30	281	4.67	6.467E+00	2.680E+00	2.680E+00	29.91
	241.98	328	7.49	6.746E+00	1.865E+00	1.865E+00	32.11
PO-216	295.21	446	19.20	6.037E+00	1.105E+00	1.106E+00	17.03
	351.92	829	37.20*	5.449E+00	1.177E+00	1.177E+00	12.77
	74.81	379	10.70	4.951E+00	2.057E+00	2.057E+00	24.47
	77.11	516	18.00	5.277E+00	1.562E+00	1.562E+00	16.99
	87.30	281	8.00	6.467E+00	1.564E+00	1.564E+00	30.58
PO-218	238.63	1402	44.60*	6.789E+00	1.331E+00	1.331E+00	9.72
	300.09	105	3.41	5.981E+00	1.487E+00	1.487E+00	62.57
	74.81	379	6.21	4.951E+00	3.544E+00	3.544E+00	23.79
	77.11	516	10.50	5.277E+00	2.679E+00	2.679E+00	18.62
	87.30	281	4.67	6.467E+00	2.680E+00	2.680E+00	29.91
RA-224	241.98	328	7.49	6.746E+00	1.865E+00	1.865E+00	32.11
	295.21	446	19.20	6.037E+00	1.105E+00	1.106E+00	17.03
	351.92	829	37.20*	5.449E+00	1.177E+00	1.177E+00	12.77
	240.98	328	3.95*	6.746E+00	3.537E+00	3.537E+00	31.62
	609.31	589	46.30*	3.811E+00	9.605E-01	9.605E-01	15.67
AC-228	1120.29	156	15.10	2.334E+00	1.274E+00	1.274E+00	37.71
	1764.49	117	15.80	1.694E+00	1.259E+00	1.259E+00	26.82
	338.32	295	11.40	5.577E+00	1.332E+00	1.332E+00	46.31
	911.07	315	27.70*	2.779E+00	1.177E+00	1.177E+00	22.31
	969.11	225	16.60	2.639E+00	1.475E+00	1.475E+00	31.31
TH-228	338.32	295	11.40	5.577E+00	1.332E+00	1.332E+00	46.31
	911.07	315	27.70*	2.779E+00	1.177E+00	1.177E+00	22.31
	969.11	225	16.60	2.639E+00	1.475E+00	1.475E+00	31.31
	74.81	379	10.70	4.951E+00	2.057E+00	2.088E+00	22.64
	77.11	516	18.00	5.277E+00	1.562E+00	1.586E+00	16.99
TH-230	87.30	281	8.00	6.467E+00	1.564E+00	1.588E+00	28.90
	238.63	1402	44.60*	6.789E+00	1.331E+00	1.351E+00	9.72
	300.09	105	3.41	5.981E+00	1.487E+00	1.510E+00	85.56
	609.31	589	46.30*	3.811E+00	9.605E-01	9.605E-01	15.67
	1120.29	156	15.10	2.334E+00	1.274E+00	1.274E+00	37.71
TH-232	1764.49	117	15.80	1.694E+00	1.259E+00	1.259E+00	26.82
	338.32	295	11.40	5.577E+00	1.332E+00	1.332E+00	22.72
	911.07	315	27.70*	2.779E+00	1.177E+00	1.177E+00	22.31
	969.11	225	16.60	2.639E+00	1.475E+00	1.475E+00	31.31
	63.29	85	3.80*	3.128E+00	2.053E+00	2.053E+00	98.39
U-234	92.38	328	5.41	6.972E+00	2.503E+00	2.503E+00	30.66
	609.31	589	46.30*	3.811E+00	9.605E-01	9.605E-01	15.67
	1120.29	156	15.10	2.334E+00	1.274E+00	1.274E+00	37.71
	1764.49	117	15.80	1.694E+00	1.259E+00	1.259E+00	26.82
	86.50	281	12.60*	6.467E+00	9.932E-01	9.932E-01	35.51
U-238	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
	63.29	85	3.80*	3.128E+00	2.053E+00	2.053E+00	98.39
	92.38	328	5.41	6.972E+00	2.503E+00	2.503E+00	26.21
	AM-243	74.67	379	66.00*	4.951E+00	3.335E-01	22.61

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	281	0.34	6.467E+00	3.724E+01	3.725E+01	28.90
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	131	100.00*	4.308E+00	8.726E-02	8.726E-02	64.73

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 3
Number of lines tentatively identified by NID 30 90.91%

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	1.977E+01	1.977E+01	0.188E+01	9.50	
CD-109	464.00D	1.02	3.364E+00	3.441E+00	0.995E+00	28.90	
SN-126	1.00E+05Y	1.00	3.382E-01	3.382E-01	0.978E-01	28.90	
BA-137M	30.17Y	1.00	3.176E-01	3.179E-01	0.632E-01	19.89	
CS-137	30.17Y	1.00	3.358E-01	3.361E-01	0.669E-01	19.89	
TL-208	1.41E+10Y	1.00	4.029E-01	4.029E-01	0.657E-01	16.31	
BI-211	7.04E+08Y	1.00	3.382E+00	3.382E+00	0.394E+00	11.65	
PB-212	1.41E+10Y	1.00	1.331E+00	1.331E+00	0.129E+00	9.72	
PO-212	1.41E+10Y	1.00	1.331E+00	1.331E+00	0.129E+00	9.72	
BI-214	1600.00Y	1.00	9.605E-01	9.605E-01	1.505E-01	15.67	
PB-214	1600.00Y	1.00	1.177E+00	1.177E+00	0.150E+00	12.77	
PO-214	1600.00Y	1.00	1.177E+00	1.177E+00	0.150E+00	12.77	
PO-216	1.41E+10Y	1.00	1.331E+00	1.331E+00	0.129E+00	9.72	
PO-218	1600.00Y	1.00	1.177E+00	1.177E+00	0.150E+00	12.77	
RA-224	1.41E+10Y	1.00	3.537E+00	3.537E+00	1.118E+00	31.62	
RA-226	1600.00Y	1.00	9.605E-01	9.605E-01	1.505E-01	15.67	
AC-228	1.41E+10Y	1.00	1.177E+00	1.177E+00	0.263E+00	22.31	
RA-228	1.41E+10Y	1.00	1.177E+00	1.177E+00	0.263E+00	22.31	
TH-228	1.91Y	1.02	1.331E+00	1.351E+00	0.131E+00	9.72	
TH-230	4.47E+09Y	1.00	9.605E-01	9.605E-01	1.505E-01	15.67	
TH-232	1.41E+10Y	1.00	1.177E+00	1.177E+00	0.263E+00	22.31	
TH-234	4.47E+09Y	1.00	2.053E+00	2.053E+00	2.020E+00	98.39	
U-234	4.47E+09Y	1.00	9.605E-01	9.605E-01	1.505E-01	15.67	
NP-237	2.14E+06Y	1.00	9.932E-01	9.932E-01	3.527E-01	35.51	
U-238	4.47E+09Y	1.00	2.053E+00	2.053E+00	2.020E+00	98.39	
AM-243	7380.00Y	1.00	3.335E-01	3.335E-01	0.754E-01	22.61	
ANH-511	1.00E+09Y	1.00	8.726E-02	8.726E-02	5.648E-02	64.73	
Total Activity :			5.319E+01	5.329E+01			

Grand Total Activity : 5.319E+01 5.329E+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
4	90.35	174	346	1.23	179.81	164	30	2.42E-02	39.8	6.74E+00	T
0	129.16	98	349	1.11	257.39	254	8	1.35E-02	69.2	8.25E+00	T
0	186.16	246	433	1.30	371.36	366	11	3.42E-02	36.4	7.64E+00	T
0	209.76	178	314	1.44	418.54	414	11	2.47E-02	41.4	7.25E+00	T
0	270.32	158	226	1.53	539.63	534	11	2.20E-02	40.1	6.35E+00	T
0	463.43	116	108	1.88	925.72	920	11	1.62E-02	39.5	4.60E+00	T
0	727.57	181	39	1.74	1453.86	1448	12	2.51E-02	21.4	3.34E+00	T
0	770.39	159	99	6.53	1539.48	1528	24	2.20E-02	37.2	3.19E+00	
0	794.83	77	72	2.84	1588.36	1582	13	1.07E-02	50.8	3.11E+00	T
2	964.90	85	71	2.55	1928.43	1919	27	1.18E-02	51.5	2.65E+00	T
0	1588.02	66	13	1.75	3174.51	3166	18	9.15E-03	35.9	1.79E+00	
0	1729.85	43	8	1.44	3458.16	3449	17	5.92E-03	43.8	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]G243274007.CNF;1
* Acquisition date   : 31-DEC-2009 14:35:59   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 02:00:01.55          Half life ratio    : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library    : SOLID
* Sample ID          : G243274007            Analyst initials   : MXR1
* Batch Number       : 935341                Sample Quantity    : 1.30530E+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	1.977E+01	1.877E+00	4.228E-01	3.209E-02	46.746
CD-109	3.441E+00	9.946E-01	1.002E+00	9.266E-02	3.433
SN-126	3.382E-01	9.776E-02	9.914E-02	9.135E-03	3.411
BA-137M	3.179E-01	6.322E-02	4.248E-02	3.238E-03	7.485
CS-137	3.361E-01	6.686E-02	4.490E-02	3.431E-03	7.485
TL-208	4.029E-01	6.573E-02	4.792E-02	3.757E-03	8.408
BI-211	3.382E+00	3.941E-01	2.332E-01	1.497E-02	14.503
PB-212	1.331E+00	1.294E-01	6.906E-02	4.934E-03	19.275
PO-212	1.331E+00	1.294E-01	6.906E-02	4.934E-03	19.275
BI-214	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
PB-214	1.177E+00	1.502E-01	8.127E-02	6.723E-03	14.477
PO-214	1.177E+00	1.502E-01	8.127E-02	6.723E-03	14.477
PO-216	1.331E+00	1.294E-01	6.906E-02	4.934E-03	19.275
PO-218	1.177E+00	1.502E-01	8.127E-02	6.723E-03	14.477
RA-224	3.537E+00	1.118E+00	7.849E-01	4.373E-02	4.506
RA-226	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
AC-228	1.177E+00	2.626E-01	1.529E-01	2.026E-02	7.700
RA-228	1.177E+00	2.626E-01	1.529E-01	2.026E-02	7.700

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.351E+00	1.313E-01	7.011E-02	5.008E-03	19.275
TH-230	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
TH-232	1.177E+00	2.626E-01	1.529E-01	2.026E-02	7.700
TH-234	2.053E+00	2.020E+00	2.025E+00	3.570E-01	1.014
U-234	9.605E-01	1.505E-01	8.669E-02	7.744E-03	11.080
NP-237	9.932E-01	3.527E-01	2.957E-01	6.671E-02	3.359
U-238	2.053E+00	2.020E+00	2.025E+00	3.570E-01	1.014
AM-243	3.335E-01	7.540E-02	7.690E-02	6.417E-03	4.337
ANH-511	8.726E-02	5.648E-02	3.072E-02	2.029E-03	2.841

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.883E-01		2.411E-01	4.155E-01	3.011E-02	0.453
NA-22	-3.718E-02		3.478E-02	5.182E-02	3.526E-03	-0.717
NA-24	-4.275E-01		2.976E-01	Half-Life too short		
AL-26	2.492E-03		2.332E-02	3.886E-02	2.269E-03	0.064
TI-44	2.883E-01	+	4.898E-02	7.228E-02	6.180E-03	3.989
SC-46	1.614E-02		2.829E-02	4.829E-02	5.386E-03	0.334
V-48	-1.519E-02		5.307E-02	8.375E-02	8.284E-03	-0.181
CR-51	1.645E-01		2.810E-01	4.672E-01	3.008E-02	0.352
MN-52	-1.840E-01		1.789E-01	2.526E-01	1.862E-02	-0.728
MN-54	-5.972E-03		3.099E-02	5.030E-02	5.152E-03	-0.119
CO-56	-8.210E-03		3.104E-02	4.996E-02	5.215E-03	-0.164
CO-57	-8.143E-03		2.157E-02	3.380E-02	2.002E-03	-0.241
CO-58	3.099E-03		2.828E-02	4.700E-02	4.640E-03	0.066
FE-59	-2.569E-02		6.526E-02	1.052E-01	8.656E-03	-0.244
CO-60	-2.581E-02		2.944E-02	4.363E-02	3.297E-03	-0.592
ZN-65	3.806E-02		7.504E-02	1.126E-01	7.932E-03	0.338
GE-68	5.948E-01		8.799E-01	1.544E+00	1.226E-01	0.385
AS-73	-3.274E-01		9.737E-01	1.555E+00	1.232E-01	-0.211
AS-74	-1.422E-02		7.090E-02	1.131E-01	8.130E-03	-0.126
SE-75	-3.279E-03		3.780E-02	5.380E-02	3.077E-03	-0.061
BR-77	4.082E+00		7.828E+00	1.257E+01	8.388E-01	0.325
SR-82	3.459E-01		2.772E-01	4.487E-01	4.178E-02	0.771
RB-83	2.625E-02		5.182E-02	8.315E-02	5.546E-03	0.316
RB-84	3.045E-02		5.273E-02	8.994E-02	9.913E-03	0.339
KR-85	2.534E+01		6.611E+00	1.164E+01	7.712E-01	2.177
SR-85	1.299E-01		3.389E-02	5.968E-02	3.954E-03	2.177
RB-86	1.067E-01		5.637E-01	9.543E-01	7.597E-02	0.112
Y-88	3.685E-03		2.319E-02	3.899E-02	2.221E-03	0.095
ZR-88	2.261E-03		2.431E-02	4.092E-02	2.354E-03	0.055
Y-91	1.231E+01		1.394E+01	2.443E+01	1.445E+00	0.504
NB-94	3.248E-02		2.489E-02	4.463E-02	3.661E-03	0.728
NB-95	5.101E-02		3.365E-02	5.463E-02	4.997E-03	0.934
NB-95M	1.566E-02		1.097E-01	1.601E-01	1.175E-02	0.098
ZR-95	4.322E-02		5.021E-02	8.806E-02	8.664E-03	0.491

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	6.915E-02		3.996E-02	Half-Life too short		
ZR-97	3.413E+00		7.266E-01	Half-Life too short		
MO-99	8.865E+00		8.444E+00	1.486E+01	2.268E+00	0.596
TC-99M	-8.584E+09		1.560E+10	Half-Life too short		
RH-101	1.398E-02		2.645E-02	4.477E-02	2.406E-03	0.312
RH-102	-8.421E-03		2.243E-02	3.617E-02	2.298E-03	-0.233
RU-103	-9.551E-04		2.807E-02	4.604E-02	5.978E-03	-0.021
RH-106	4.142E-03		2.461E-01	3.972E-01	4.997E-02	0.010
RU-106	4.142E-03		2.461E-01	3.972E-01	2.923E-02	0.010
AG-108M	-5.897E-03		2.388E-02	3.912E-02	2.556E-03	-0.151
AG-110M	1.892E-02		2.851E-02	4.384E-02	3.458E-03	0.431
IN-111	-1.887E-01		8.640E-01	1.227E+00	6.856E-02	-0.154
IN-113M	7.557E-03		3.481E-02	5.896E-02	3.617E-03	0.128
SN-113	7.557E-03		3.481E-02	5.896E-02	3.617E-03	0.128
IN-114M	6.762E-02		1.585E-01	2.392E-01	1.277E-02	0.283
CD-115	8.168E-01		7.790E+00	1.283E+01	8.624E-01	0.064
SN-117M	6.803E-03		4.262E-02	7.263E-02	3.861E-03	0.094
SB-122	5.465E-01		1.578E+00	2.622E+00	1.827E-01	0.208
I-123	-1.843E+00		2.229E+00	Half-Life too short		
TE-123M	-9.205E-03		2.226E-02	3.712E-02	2.003E-03	-0.248
I-124	2.207E-01		6.068E-01	8.735E-01	6.316E-02	0.253
SB-124	2.117E-02		5.489E-02	9.554E-02	6.592E-03	0.222
SB-125	6.548E-02		6.947E-02	1.214E-01	7.585E-03	0.539
TE-125M	6.716E+00		8.111E+00	1.351E+01	1.188E+00	0.497
I-126	5.957E-02		1.519E-01	2.277E-01	1.751E-02	0.262
SB-126	3.644E-02		1.075E-01	1.657E-01	1.403E-02	0.220
SB-127	-1.622E-01		9.765E-01	1.615E+00	1.758E-01	-0.100
XE-127	-6.980E-03		3.684E-02	6.095E-02	3.290E-03	-0.115
I-131	5.260E-02		8.371E-02	1.456E-01	9.397E-03	0.361
TE-132	-2.105E-02		5.334E-01	8.801E-01	1.254E-01	-0.024
BA-133	1.592E-03		3.607E-02	5.037E-02	5.818E-03	0.032
I-133	-8.064E-04		2.190E-03	Half-Life too short		
CS-134	9.385E-02	+	4.851E-02	6.843E-02	6.619E-03	1.371
CS-135	1.259E-01		1.339E-01	2.031E-01	1.535E-02	0.620
I-135	-2.235E+09		2.251E+09	Half-Life too short		
CS-136	-1.408E-02		7.334E-02	1.207E-01	1.082E-02	-0.117
CE-139	-4.843E-03		2.344E-02	3.929E-02	2.063E-03	-0.123
BA-140	-2.639E-02		1.978E-01	3.199E-01	1.047E-01	-0.082
LA-140	8.482E-02		6.775E-02	1.163E-01	7.981E-03	0.729
CE-141	9.091E-02		5.164E-02	8.767E-02	5.005E-03	1.037
CE-143	4.173E-04		7.847E-05	Half-Life too short		
CE-144	-4.335E-02		1.956E-01	2.737E-01	3.870E-02	-0.158
PM-144	8.518E-03		2.465E-02	4.209E-02	3.417E-03	0.202
PR-144	5.772E-01		1.670E+00	2.852E+00	2.314E-01	0.202
PM-146	1.260E-02		3.317E-02	5.611E-02	4.992E-03	0.225
ND-147	-2.212E-01		4.251E-01	6.643E-01	9.269E-02	-0.333
PM-149	6.229E+01		7.032E+01	1.185E+02	1.676E+01	0.525
EU-152	2.082E-02		8.789E-02	1.250E-01	8.154E-03	0.167

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.280E-02		7.532E-02	1.076E-01	8.412E-03	-0.212
EU-154	-1.040E-01		9.743E-02	1.447E-01	1.445E-02	-0.719
EU-155	4.898E-02		9.165E-02	1.516E-01	1.084E-02	0.323
TB-160	8.065E-02		1.054E-01	1.820E-01	1.999E-02	0.443
HO-166M	1.509E-02		4.357E-02	7.431E-02	6.194E-03	0.203
TM-171	-1.091E+01		3.020E+01	4.437E+01	3.547E+00	-0.246
LU-176	-9.833E-04		2.245E-02	3.159E-02	1.819E-03	-0.031
LU-177	3.067E+00	+	1.280E+00	1.539E+00	8.349E-02	1.993
LU-177M	-1.872E-01		1.364E-01	2.098E-01	1.239E-02	-0.892
HF-181	-1.637E-02		3.153E-02	5.022E-02	3.214E-03	-0.326
W-181	-6.932E-02		3.947E-01	5.843E-01	4.634E-02	-0.119
TA-182	1.537E-02		1.380E-01	2.294E-01	1.403E-02	0.067
RE-183	-1.395E-02		8.612E-02	1.448E-01	7.644E-03	-0.096
RE-184	-4.130E-02		3.154E-01	2.941E-01	1.652E-02	-0.140
OS-185	1.519E-02		3.107E-02	5.173E-02	3.890E-03	0.294
RE-188	8.112E-02		1.347E-01	2.333E-01	1.249E-02	0.348
W-188	-4.928E+00		6.623E+00	8.889E+00	5.092E-01	-0.554
IR-192	-2.502E-02		2.665E-02	4.058E-02	2.354E-03	-0.617
AU-195	3.072E-01		2.028E-01	3.175E-01	2.430E-02	0.967
TL-200	-5.355E-05		1.689E-04	Half-Life too short		
TL-201	1.667E+00		5.533E+00	9.445E+00	4.958E-01	0.176
TL-202	-3.258E-03		5.135E-02	8.496E-02	5.180E-03	-0.038
HG-203	5.085E-02		3.154E-02	5.506E-02	3.339E-03	0.924
BI-207	1.332E-02		4.222E-02	7.203E-02	5.946E-03	0.185
TL-207	-4.105E-01		5.435E-01	8.326E-01	1.374E-01	-0.493
PO-209	-3.568E+00		5.520E+00	8.505E+00	9.593E-01	-0.420
BI-210	2.717E+00		4.640E+00	8.029E+00	6.212E-01	0.338
PB-210	2.717E+00		4.640E+00	8.029E+00	6.212E-01	0.338
PO-210	2.717E+00		4.638E+00	8.029E+00	5.341E-01	0.338
PB-211	-5.571E-01		8.287E-01	1.211E+00	7.550E-01	-0.460
BI-212	1.319E+00	+	3.117E-01	5.151E-01	5.130E-02	2.561
PO-215	-4.105E-01		5.435E-01	8.326E-01	1.374E-01	-0.493
RN-219	1.783E-01		3.249E-01	5.568E-01	7.580E-02	0.320
RN-220	2.506E+00		2.061E+01	3.384E+01	2.326E+00	0.074
RA-223	-4.105E-01		5.435E-01	8.326E-01	1.374E-01	-0.493
AC-227	-1.063E-01		3.100E-01	4.995E-01	6.939E-02	-0.213
TH-227	-1.063E-01		3.102E-01	4.995E-01	8.413E-02	-0.213
TH-229	-3.335E-02		4.034E-01	6.724E-01	3.600E-02	-0.050
PA-231	-6.863E-01		1.184E+00	1.861E+00	2.558E-01	-0.369
TH-231	-4.105E-01		5.435E-01	8.326E-01	1.374E-01	-0.493
U-231	4.726E-01		1.012E+00	1.507E+00	1.207E-01	0.314
PA-233	3.230E-02		5.154E-02	8.585E-02	5.259E-03	0.376
PA-234	3.740E-02		2.228E-01	3.668E-01	7.236E-02	0.102
PA-234M	3.770E+00		3.703E+00	6.365E+00	6.866E-01	0.592
U-235	-1.223E-01		1.824E-01	2.754E-01	4.460E-02	-0.444
NP-236	3.792E-02		6.171E-02	1.068E-01	5.657E-03	0.355
NP-239	-9.158E-03		1.536E-01	2.465E-01	1.526E-02	-0.037
AM-241	-1.181E-01		1.795E-01	2.599E-01	2.156E-02	-0.454

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.412E-02		8.068E-02	1.276E-01	9.134E-03	-0.346
AM-246	1.291E-01		9.807E-02	1.797E-01	1.421E-02	0.719
CM-247	8.895E-04		2.862E-02	4.794E-02	2.792E-03	0.019
CF-249	-5.719E-03		3.046E-02	4.959E-02	2.851E-03	-0.115
CF-251	1.422E-02		9.880E-02	1.671E-01	8.827E-03	0.085

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]G243274007 *
* Acquisition date   : 31-DEC-2009 14:35:59 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 02:00:01.55  Half life ratio : 8.000  *
*****
*               SAMPLE DATA          *
*                                     *
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID *
* Sample ID          : G243274007    Analyst initials: MXR1  *
* Batch Number       : 935341        Sample Quantity : 1.3053E+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	1.977E+01	1.840E+00	2.117E-01	9.387E-01
CD-109	3.441E+00	9.747E-01	5.252E-01	4.973E-01
SN-126	3.382E-01	9.580E-02	5.196E-02	4.888E-02
BA-137M	3.179E-01	6.196E-02	2.155E-02	3.161E-02
CS-137	3.361E-01	6.552E-02	2.278E-02	3.343E-02
TL-208	4.029E-01	6.442E-02	2.437E-02	3.287E-02
BI-211	3.382E+00	3.863E-01	1.196E-01	1.971E-01
PB-212	1.331E+00	1.268E-01	3.563E-02	6.468E-02
PO-212	1.331E+00	1.268E-01	3.563E-02	6.468E-02
BI-214	9.605E-01	1.475E-01	4.405E-02	7.527E-02
PB-214	1.177E+00	1.472E-01	4.167E-02	7.511E-02
PO-214	1.177E+00	1.472E-01	4.167E-02	7.511E-02
PO-216	1.331E+00	1.268E-01	3.563E-02	6.468E-02
PO-218	1.177E+00	1.472E-01	4.167E-02	7.511E-02
RA-224	3.537E+00	1.096E+00	4.049E-01	5.591E-01
AC-226	9.605E-01	1.475E-01	4.405E-02	7.527E-02
RA-228	1.177E+00	2.574E-01	7.716E-02	1.313E-01
RA-228	1.177E+00	2.574E-01	7.716E-02	1.313E-01
TH-228	1.351E+00	1.287E-01	3.617E-02	6.566E-02
TH-230	9.605E-01	1.475E-01	4.405E-02	7.527E-02
TH-232	1.177E+00	2.574E-01	7.716E-02	1.313E-01
TH-234	2.053E+00	1.980E+00	1.067E+00	1.010E+00
U-234	9.605E-01	1.475E-01	4.405E-02	7.527E-02
NP-237	9.932E-01	3.457E-01	1.550E-01	1.764E-01
U-238	2.053E+00	1.980E+00	1.067E+00	1.010E+00
AM-243	3.335E-01	7.389E-02	4.040E-02	3.770E-02
ANH-511	8.726E-02	5.535E-02	1.565E-02	2.824E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.883E-01	2.363E-01	2.120E-01	1.205E-01	NOT IDENT.
NA-22	-3.718E-02	3.408E-02	2.601E-02	1.739E-02	NOT IDENT.
NA-24	-4.275E+05	5.834E+05	0.000E+00	2.976E+05	SHORT HLIF
AL-26	2.492E-03	2.285E-02	1.939E-02	1.166E-02	NOT IDENT.
TI-44	2.883E-01	4.800E-02	3.795E-02	2.449E-02	FAIL ABUN
SC-46	1.614E-02	2.772E-02	2.438E-02	1.414E-02	FAIL ABUN
V-48	-1.519E-02	5.201E-02	4.222E-02	2.653E-02	NOT IDENT.
CR-51	1.645E-01	2.754E-01	2.399E-01	1.405E-01	NOT IDENT.
MN-52	-1.840E-01	1.753E-01	1.265E-01	8.944E-02	NOT IDENT.
MN-54	-5.972E-03	3.037E-02	2.542E-02	1.549E-02	NOT IDENT.
CO-56	-8.210E-03	3.042E-02	2.524E-02	1.552E-02	NOT IDENT.
CO-57	-8.143E-03	2.114E-02	1.763E-02	1.078E-02	NOT IDENT.
CO-58	3.099E-03	2.772E-02	2.377E-02	1.414E-02	NOT IDENT.
FE-59	-2.569E-02	6.395E-02	5.291E-02	3.263E-02	NOT IDENT.
CO-60	-2.581E-02	2.885E-02	2.188E-02	1.472E-02	NOT IDENT.
ZN-65	3.806E-02	7.353E-02	5.664E-02	3.752E-02	NOT IDENT.
GE-68	5.948E-01	8.623E-01	7.769E-01	4.400E-01	NOT IDENT.
AS-73	-3.274E-01	9.542E-01	8.209E-01	4.868E-01	NOT IDENT.
AS-74	-1.422E-02	6.948E-02	5.751E-02	3.545E-02	NOT IDENT.
SE-75	-3.279E-03	3.705E-02	2.771E-02	1.890E-02	NOT IDENT.
BR-77	4.082E+00	7.672E+00	6.405E+00	3.914E+00	FAIL ABUN
SR-82	3.459E-01	2.717E-01	2.271E-01	1.386E-01	NOT IDENT.
RB-83	2.625E-02	5.079E-02	4.236E-02	2.591E-02	NOT IDENT.
RB-84	3.045E-02	5.168E-02	4.542E-02	2.637E-02	NOT IDENT.
KR-85	2.534E+01	6.478E+00	5.931E+00	3.305E+00	NOT IDENT.
SR-85	1.299E-01	3.321E-02	3.041E-02	1.695E-02	NOT IDENT.
RB-86	1.067E-01	5.524E-01	4.803E-01	2.818E-01	NOT IDENT.
Y-88	3.685E-03	2.273E-02	1.945E-02	1.160E-02	NOT IDENT.
ZR-88	2.261E-03	2.383E-02	2.094E-02	1.216E-02	NOT IDENT.
Y-91	1.231E+01	1.366E+01	1.227E+01	6.970E+00	NOT IDENT.
NB-94	3.248E-02	2.439E-02	2.262E-02	1.245E-02	NOT IDENT.
NB-95	5.101E-02	3.297E-02	2.765E-02	1.682E-02	NOT IDENT.
NB-95M	1.566E-02	1.076E-01	8.262E-02	5.487E-02	NOT IDENT.
ZR-95	4.322E-02	4.921E-02	4.458E-02	2.510E-02	NOT IDENT.
NB-97	6.915E+04	7.832E+04	0.000E+00	3.996E+04	SHORT HLIF
ZR-97	3.413E+06	1.424E+06	0.000E+00	7.266E+05	SHORT HLIF
MO-99	8.865E+00	8.276E+00	7.529E+00	4.222E+00	NOT IDENT.
TC-99M	-8.584E+15	3.058E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.398E-02	2.592E-02	2.316E-02	1.323E-02	NOT IDENT.
RH-102	-8.421E-03	2.199E-02	1.845E-02	1.122E-02	NOT IDENT.
RU-103	-9.551E-04	2.751E-02	2.347E-02	1.404E-02	FAIL ABUN
RH-106	4.142E-03	2.412E-01	2.017E-01	1.231E-01	FAIL ABUN
RU-106	4.142E-03	2.412E-01	2.017E-01	1.231E-01	FAIL ABUN
AG-108M	-5.897E-03	2.341E-02	1.998E-02	1.194E-02	NOT IDENT.
AG-110M	1.892E-02	2.794E-02	2.225E-02	1.425E-02	NOT IDENT.
IN-111	-1.887E-01	8.467E-01	6.326E-01	4.320E-01	NOT IDENT.
IN-113M	7.557E-03	3.411E-02	3.018E-02	1.740E-02	NOT IDENT.
SN-113	7.557E-03	3.411E-02	3.018E-02	1.740E-02	NOT IDENT.
IN-114M	6.762E-02	1.554E-01	1.238E-01	7.927E-02	NOT IDENT.
CD-115	8.168E-01	7.635E+00	6.535E+00	3.895E+00	NOT IDENT.
SN-117M	6.803E-03	4.177E-02	3.771E-02	2.131E-02	NOT IDENT.
SB-122	5.465E-01	1.546E+00	1.334E+00	7.888E-01	NOT IDENT.
I-123	-1.843E+06	4.368E+06	0.000E+00	2.229E+06	SHORT HLIF
TE-123M	-9.205E-03	2.182E-02	1.928E-02	1.113E-02	NOT IDENT.
I-124	2.207E-01	5.947E-01	4.439E-01	3.034E-01	NOT IDENT.
SB-124	2.117E-02	5.379E-02	4.772E-02	2.744E-02	FAIL ABUN
SB-125	6.548E-02	6.808E-02	6.203E-02	3.474E-02	FAIL ABUN
TE-125M	6.716E+00	7.949E+00	7.056E+00	4.056E+00	NOT IDENT.
I-126	5.957E-02	1.489E-01	1.155E-01	7.597E-02	NOT IDENT.
SB-126	3.644E-02	1.053E-01	8.398E-02	5.374E-02	FAIL ABUN
SB-127	-1.622E-01	9.569E-01	8.189E-01	4.882E-01	NOT IDENT.
XE-127	-6.980E-03	3.611E-02	3.152E-02	1.842E-02	NOT IDENT.
I-131	5.260E-02	8.203E-02	7.458E-02	4.185E-02	NOT IDENT.
TE-132	-2.105E-02	5.227E-01	4.544E-01	2.667E-01	NOT IDENT.
BA-133	1.592E-03	3.534E-02	2.582E-02	1.803E-02	NOT IDENT.
I-133	-8.064E+02	4.292E+03	0.000E+00	2.190E+03	SHORT HLIF
CS-134	9.385E-02	4.754E-02	3.462E-02	2.425E-02	FAIL ABUN
CS-135	1.259E-01	1.312E-01	1.046E-01	6.694E-02	NOT IDENT.
I-135	-2.235E+15	4.412E+15	0.000E+00	2.251E+15	SHORT HLIF
CS-136	-1.408E-02	7.187E-02	6.076E-02	3.667E-02	FAIL ABUN
CE-139	-4.843E-03	2.297E-02	2.039E-02	1.172E-02	NOT IDENT.
BA-140	-2.639E-02	1.939E-01	1.629E-01	9.892E-02	NOT IDENT.
LA-140	8.482E-02	6.639E-02	5.816E-02	3.387E-02	NOT IDENT.
CE-141	9.091E-02	5.060E-02	4.558E-02	2.582E-02	NOT IDENT.
CE-143	4.173E+02	1.538E+02	0.000E+00	7.847E+01	SHORT HLIF
CE-144	-4.335E-02	1.917E-01	1.425E-01	9.780E-02	NOT IDENT.
PM-144	8.518E-03	2.416E-02	2.134E-02	1.233E-02	NOT IDENT.
PR-144	5.772E-01	1.637E+00	1.446E+00	8.352E-01	NOT IDENT.

PM-146	1.260E-02	3.251E-02	2.865E-02	1.659E-02	NOT IDENT.
ND-147	-2.212E-01	4.166E-01	3.383E-01	2.126E-01	FAIL ABUN
PM-149	6.229E+01	6.891E+01	6.098E+01	3.516E+01	NOT IDENT.
EU-152	2.082E-02	8.613E-02	6.408E-02	4.394E-02	FAIL ABUN
GD-153	-2.280E-02	7.381E-02	5.629E-02	3.766E-02	NOT IDENT.
EU-154	-1.040E-01	9.548E-02	7.262E-02	4.871E-02	NOT IDENT.
EU-155	4.898E-02	8.982E-02	7.925E-02	4.582E-02	FAIL ABUN
TB-160	8.065E-02	1.033E-01	9.189E-02	5.270E-02	FAIL ABUN
HO-166M	1.509E-02	4.270E-02	3.766E-02	2.179E-02	NOT IDENT.
TM-171	-1.091E+01	2.959E+01	2.335E+01	1.510E+01	NOT IDENT.
LU-176	-9.833E-04	2.200E-02	1.623E-02	1.122E-02	FAIL ABUN
LU-177	3.067E+00	1.255E+00	7.958E-01	6.401E-01	FAIL ABUN
LU-177M	-1.872E-01	1.337E-01	1.073E-01	6.820E-02	NOT IDENT.
HF-181	-1.637E-02	3.090E-02	2.561E-02	1.576E-02	NOT IDENT.
W-181	-6.932E-02	3.868E-01	3.076E-01	1.973E-01	NOT IDENT.
TA-182	1.537E-02	1.352E-01	1.152E-01	6.898E-02	FAIL ABUN
RE-183	-1.395E-02	8.440E-02	7.517E-02	4.306E-02	FAIL ABUN
RE-184	-4.130E-02	1.777E-01	1.516E-01	9.064E-02	NOT IDENT.
OS-185	1.519E-02	3.045E-02	2.626E-02	1.554E-02	NOT IDENT.
RE-188	8.112E-02	1.320E-01	1.212E-01	6.736E-02	NOT IDENT.
W-188	-4.928E+00	6.491E+00	4.571E+00	3.312E+00	FAIL ABUN
IR-192	-2.502E-02	2.612E-02	2.084E-02	1.333E-02	FAIL ABUN
AU-195	3.072E-01	1.987E-01	1.661E-01	1.014E-01	FAIL ABUN
TL-200	-5.355E+01	3.311E+02	0.000E+00	1.689E+02	SHORT HLIF
TL-201	1.667E+00	5.423E+00	4.900E+00	2.767E+00	NOT IDENT.
TL-202	-3.258E-03	5.033E-02	4.340E-02	2.568E-02	NOT IDENT.
HG-203	5.085E-02	3.091E-02	2.833E-02	1.577E-02	NOT IDENT.
BI-207	1.332E-02	4.137E-02	3.626E-02	2.111E-02	FAIL ABUN
TL-207	-4.105E-01	5.327E-01	4.274E-01	2.718E-01	FAIL ABUN
PO-209	-3.568E+00	5.410E+00	4.294E+00	2.760E+00	NOT IDENT.
BI-210	2.717E+00	4.547E+00	4.249E+00	2.320E+00	NOT IDENT.
PB-210	2.717E+00	4.547E+00	4.249E+00	2.320E+00	NOT IDENT.
PO-210	2.717E+00	4.546E+00	4.249E+00	2.319E+00	NOT IDENT.
PB-211	-5.571E-01	8.121E-01	6.194E-01	4.143E-01	NOT IDENT.
BI-212	1.319E+00	3.055E-01	2.610E-01	1.559E-01	FAIL ABUN
PO-215	-4.105E-01	5.327E-01	4.274E-01	2.718E-01	FAIL ABUN
RN-219	1.783E-01	3.184E-01	2.849E-01	1.625E-01	FAIL ABUN
RN-220	2.506E+00	2.020E+01	1.722E+01	1.030E+01	NOT IDENT.
RA-223	-4.105E-01	5.327E-01	4.274E-01	2.718E-01	FAIL ABUN
AC-227	-1.063E-01	3.038E-01	2.574E-01	1.550E-01	FAIL ABUN
TH-227	-1.063E-01	3.040E-01	2.574E-01	1.551E-01	FAIL ABUN
TH-229	-3.335E-02	3.953E-01	3.480E-01	2.017E-01	FAIL ABUN
PA-231	-6.863E-01	1.161E+00	9.576E-01	5.921E-01	FAIL ABUN
TH-231	-4.105E-01	5.327E-01	4.274E-01	2.718E-01	FAIL ABUN
U-231	4.726E-01	9.914E-01	7.887E-01	5.058E-01	FAIL ABUN
PA-233	3.230E-02	5.051E-02	4.410E-02	2.577E-02	FAIL ABUN
PA-234	3.740E-02	2.183E-01	1.850E-01	1.114E-01	FAIL ABUN
PA-234M	3.770E+00	3.629E+00	3.207E+00	1.851E+00	NOT IDENT.
U-235	-1.223E-01	1.787E-01	1.432E-01	9.118E-02	FAIL ABUN
NP-236	3.792E-02	6.048E-02	5.544E-02	3.086E-02	NOT IDENT.
NP-239	-9.158E-03	1.505E-01	1.286E-01	7.680E-02	FAIL ABUN
AM-241	-1.181E-01	1.759E-01	1.370E-01	8.973E-02	NOT IDENT.
CM-243	-4.412E-02	7.906E-02	6.670E-02	4.034E-02	FAIL ABUN
AM-246	1.291E-01	9.611E-02	9.043E-02	4.904E-02	NOT IDENT.
CM-247	8.895E-04	2.805E-02	2.452E-02	1.431E-02	NOT IDENT.
CF-249	-5.719E-03	2.985E-02	2.538E-02	1.523E-02	NOT IDENT.
CF-251	1.422E-02	9.682E-02	8.664E-02	4.940E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON, SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	245.4337
46.50	245.4337
46.50	245.4337
48.70	265.5459
49.72	254.9656
51.35	236.7312
52.39	249.4803
52.97	250.0349
53.15	257.4850
53.44	256.8584
54.07	273.9044
56.28	282.5987
56.28	282.6018
57.37	0.0000
57.53	267.2414
57.53	267.2428
57.60	274.7078
57.98	276.0094
57.98	276.0094
59.32	330.8366
59.32	330.8366
59.40	330.9297
59.54	331.0925
59.72	322.9139
60.01	323.2417
61.10	299.1843
61.14	299.2257
61.30	299.3907
63.00	313.8541
63.29	314.1607
63.29	314.1607
63.58	314.4664
64.28	353.5387
65.12	363.0659
65.20	363.1618
65.20	363.1618
66.05	362.7473
66.72	350.6548
66.83	339.3278
66.91	339.4146
67.20	339.7328
67.20	339.7328
67.75	361.8732
67.85	377.7916
68.90	339.1804
68.90	339.1804
69.30	345.1895
69.67	352.5297
70.82	353.7937
70.82	353.7937
70.83	353.8048
72.80	369.0825
72.87	369.1617
72.87	369.1617
74.67	344.2728
74.81	344.4169
74.81	344.4169
74.81	344.4169
74.81	344.4169
74.81	344.4169
74.81	344.4169
74.81	344.4169
74.97	344.5807
75.28	344.8994
75.70	345.3291
77.11	346.7614
77.11	346.7614

77.11	346.7614
77.11	346.7614
77.11	346.7614
77.11	346.7614
77.11	346.7614
78.38	357.4347
79.62	375.0815
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80.30	366.8586
80.30	366.8586
80.57	367.1401
81.00	376.5504
81.07	376.6253
81.07	376.6253
81.07	376.6253
81.07	376.6253
82.60	368.2321
83.37	332.4139
83.78	312.2133
83.78	312.2133
83.78	312.2133
83.78	312.2133
84.21	312.5818
84.90	313.1703
85.43	313.6211
86.29	314.3503
86.50	314.5275
86.54	314.5607
86.59	314.6034
86.72	314.7126
86.79	314.7695
86.94	314.8976
87.30	315.2013
87.30	315.2013
87.30	315.2013
87.30	315.2013
87.30	315.2013
87.30	315.2013
87.30	315.2013
87.57	315.4275
87.88	315.6870
88.03	315.8135
88.36	316.0887
88.47	316.1805
89.95	317.4111
91.11	318.3681
92.29	319.3362
92.38	319.4106
92.38	319.4106
93.35	320.1999
94.00	320.7282
94.67	321.2645
94.67	321.2692
94.90	321.4543
94.90	321.4543
94.90	321.4543
94.90	321.4543
95.87	318.6077
95.87	318.6077
96.73	334.8664
97.43	326.0810
98.44	286.2223
98.44	286.2223
98.88	244.2546
99.55	246.2204
99.55	246.2204
99.86	274.9690
100.00	275.0626
100.10	275.1308
103.18	337.4805
103.76	308.3712
105.00	295.4967
105.31	297.8307
108.00	347.6683
109.28	310.1753

111.00	350.0295
111.00	350.0295
111.76	315.1291
112.95	296.5487
115.19	290.4192
116.30	303.0667
117.00	277.4134
117.00	277.4134
117.66	287.6113
121.11	295.2025
121.62	297.7143
121.78	297.8136
122.06	295.7881
122.32	295.9468
122.32	295.9468
122.32	295.9468
122.32	295.9468
123.07	316.2419
127.23	310.0457
129.76	325.0209
131.20	327.6283
133.02	279.8996
133.54	322.3766
135.34	291.3208
136.00	279.2519
136.25	279.3851
136.48	286.2979
140.51	304.4491
140.51	0.0000
142.18	319.1227
142.65	341.1522
143.76	336.1136
144.24	295.0752
144.24	295.0752
144.24	295.0752
144.24	295.0752
145.22	264.5477
145.44	264.6553
147.16	345.1226
152.43	327.4017
152.70	324.0590
153.22	305.3963
154.21	276.9966
154.21	276.9966
154.21	276.9966
154.21	276.9966
155.03	303.7267
156.02	323.5919
158.56	298.5092
159.00	0.0000
159.00	317.2912
160.31	285.2213
161.27	299.8786
162.32	313.7389
162.64	307.6811
163.35	298.2520
163.89	294.9560
165.85	313.7930
167.43	302.9550
171.28	302.1420
171.86	300.6177
172.10	299.8289
176.55	291.0352
176.60	291.0571
181.06	278.4247
184.41	282.7969
185.71	282.2455
186.00	282.3692
190.27	280.8307
192.34	302.3394
193.63	305.1779
197.04	270.1099
198.01	276.1207
198.60	280.1139
200.40	319.4730
201.83	331.4512
202.84	302.6074
205.31	252.0335

208.36	289.6943
208.81	282.2447
209.75	269.2417
209.75	269.2417
210.97	272.3691
215.65	261.7776
216.55	256.5869
218.09	289.6683
222.10	267.9077
223.80	275.3114
226.40	263.5504
227.00	259.8468
227.08	259.8732
227.20	247.2112
228.16	259.2561
228.18	259.2622
228.18	259.2622
231.56	0.0000
235.69	293.9354
236.00	276.6589
236.00	276.6589
238.63	244.8517
238.63	244.8517
238.63	244.8517
238.63	244.8517
239.00	244.9629
240.98	245.5603
241.98	245.8618
241.98	245.8618
241.98	245.8618
244.69	177.3656
245.39	209.5009
247.94	202.1245
248.90	200.7507
249.79	210.0078
252.40	226.7870
252.85	229.9326
252.85	229.9326
254.15	0.0000
256.20	252.1013
256.20	252.1013
260.50	224.8713
260.90	222.9398
262.80	242.8119
264.65	204.4739
268.24	195.4523
268.79	202.1482
269.46	218.9510
269.46	218.9510
269.46	218.9510
269.46	218.9510
271.23	224.1244
273.65	246.2101
276.40	204.8130
277.35	227.1002
277.60	227.1604
277.60	227.1604
278.00	218.9589
278.60	210.7965
279.20	182.8777
279.53	185.0210
280.46	237.2368
281.68	254.2200
283.67	213.0022
284.30	213.1454
285.00	211.2160
285.90	178.9739
286.10	179.0104
286.10	179.0104
287.40	185.5508
288.45	0.0000
290.67	228.9023
290.80	228.9355
291.72	234.2130
293.26	0.0000
293.70	187.4209
295.21	189.1988
295.21	189.1988

295.21	189.1988
295.96	189.3463
296.50	189.4528
297.23	189.5948
298.57	189.8597
299.80	190.1001
299.80	190.1001
300.09	190.1575
300.09	190.1575
300.09	190.1575
300.09	190.1575
300.12	190.1629
301.29	190.3896
302.84	190.6928
303.76	190.8731
303.91	190.9004
304.40	190.9960
304.40	190.9960
304.84	191.0834
306.84	196.8168
308.46	203.9967
311.98	184.9336
316.51	196.5659
318.01	188.2044
319.02	172.1497
319.41	175.4646
320.08	161.4887
323.87	223.0051
323.87	223.0051
323.87	223.0051
323.87	223.0051
325.23	246.1702
328.77	192.3604
333.44	212.5388
334.20	191.5962
334.20	191.5962
334.30	191.6149
338.28	216.1515
338.28	216.1515
338.28	216.1515
338.28	216.1515
338.32	216.1605
338.32	216.1605
338.32	216.1605
340.50	199.8025
340.57	199.8163
344.27	175.6597
345.85	199.0133
350.59	0.0000
351.07	151.7570
351.92	151.8752
351.92	151.8752
351.92	151.8752
355.39	0.0000
356.01	147.0535
364.48	141.8385
366.43	150.2268
367.43	166.6624
367.94	0.0000
369.80	142.4997
374.96	155.8997
383.85	166.2672
387.95	155.7783
388.63	157.7116
391.69	170.1326
391.69	170.1326
392.90	175.8567
398.62	201.7925
400.65	157.4143
401.10	166.7921
401.81	165.0225
402.60	169.7919
404.84	200.9431
410.95	156.8459
411.60	159.7465
413.65	191.0658
414.70	176.1525
415.30	163.9852

415.76	155.5596
417.63	0.0000
418.52	135.1099
423.70	154.6311
427.08	133.1589
427.89	130.3875
432.53	146.1326
433.93	138.6403
439.47	139.2227
439.56	139.2315
439.89	137.3460
443.98	136.8033
444.90	136.8969
445.03	144.6240
445.03	144.6240
445.03	144.6240
445.03	144.6240
453.90	135.8694
463.38	110.7490
468.07	132.3666
473.00	141.6867
475.06	144.8485
475.35	138.9656
476.78	117.4006
477.59	118.4546
477.96	123.4222
482.03	134.6669
484.57	110.1057
487.03	122.2177
490.36	0.0000
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497.08	107.0536
507.63	0.0000
510.53	0.0000
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511.00	97.9597
511.85	98.0154
511.85	98.0154
513.99	97.8160
513.99	97.8160
520.41	100.3460
520.65	100.3629
527.90	108.2385
528.96	0.0000
529.64	113.4715
529.87	0.0000
531.02	116.6413
537.32	124.3056
543.00	118.5657
546.56	0.0000
549.76	126.3188
552.65	116.1727
555.20	111.1614
563.23	112.7566
563.90	119.0682
568.70	135.1319
569.32	137.2782
569.50	138.3390
569.67	138.3551
573.80	126.0908
574.00	122.6025
574.64	120.8988
578.91	110.6678
579.30	0.0000
583.14	140.8854
585.48	107.5741
591.81	121.0749
592.07	125.3433
593.00	129.6607
595.88	124.5582
600.56	138.7725
602.52	0.0000
602.71	130.0402
602.71	130.0402
603.60	139.0168
604.41	144.4329
604.70	148.0227
609.31	130.8909

609.31	130.8909
609.31	130.8909
609.31	130.8909
610.33	130.9683
612.46	112.8545
614.37	114.7708
618.01	122.6451
621.84	112.3738
621.84	112.3738
631.29	91.2454
633.02	101.1171
633.10	95.6850
634.78	78.3615
635.90	82.7650
636.97	95.8912
645.85	83.2178
646.12	88.7065
656.30	84.9475
657.75	92.8851
657.90	0.0000
661.65	104.9128
661.65	104.9128
664.57	0.0000
666.33	104.3818
666.33	104.3818
675.00	108.4354
677.61	100.2305
685.20	101.5599
692.80	107.5692
695.00	104.8815
696.49	100.2755
696.49	100.2755
697.00	112.4878
697.49	120.0182
698.33	120.0677
698.50	120.0781
699.00	121.9861
702.63	92.1282
706.10	118.6582
706.58	0.0000
706.67	117.7521
709.31	113.1909
711.68	94.4377
713.82	86.9762
717.42	103.2342
720.50	82.5236
721.93	0.0000
722.20	99.2739
722.78	79.7686
722.78	79.7686
722.89	79.7720
722.95	79.7737
723.30	76.5324
724.18	81.4523
727.18	91.3613
733.00	98.1675
735.90	95.9225
739.58	77.5541
742.81	99.7323
744.21	101.7170
747.13	87.4472
751.79	90.5308
752.31	93.4438
753.82	90.6188
755.35	87.7915
756.15	77.2087
756.87	83.9927
763.93	86.3499
765.79	74.7918
766.42	71.4887
766.84	71.5022
776.49	55.1224
778.00	50.1458
778.57	61.8632
778.89	61.8723
783.80	87.9913
785.46	89.0375
792.07	99.2621

795.84	92.6917
796.30	99.4534
798.80	111.3796
801.93	97.5961
805.60	87.8828
810.29	77.1827
810.76	82.1489
815.85	75.3908
817.79	78.4359
818.51	86.4053
819.60	88.4351
826.30	98.6636
828.27	0.0000
831.60	122.8674
831.96	115.8938
834.83	124.0404
836.80	0.0000
846.75	100.5513
848.13	95.5818
856.28	0.0000
856.80	98.6785
860.37	79.9017
867.32	86.9472
867.82	83.4877
871.10	72.0445
873.19	81.3525
874.81	93.6191
875.33	0.0000
876.40	102.8453
879.36	72.3867
880.27	75.4739
880.51	69.3613
881.50	74.4926
883.24	72.5037
884.67	97.0700
889.25	67.5670
896.60	87.2810
898.02	89.3878
899.00	80.1725
903.28	77.2232
911.07	77.4689
911.07	77.4689
911.07	77.4689
919.63	66.8529
920.93	69.6883
925.00	79.9812
925.24	71.6785
926.50	63.4002
935.52	66.7565
937.48	86.6424
944.10	66.9831
946.00	74.3642
949.00	61.8689
962.29	70.4699
964.01	78.0514
966.15	78.1161
968.20	78.1763
969.11	78.2050
969.11	78.2050
969.11	78.2050
977.42	72.6981
980.50	72.1767
983.50	78.6340
989.30	58.5729
996.32	103.5736
1001.03	68.4583
1001.68	75.9633
1004.76	81.4072
1021.30	0.0000
1024.50	0.0000
1034.80	66.0635
1036.00	63.1523
1037.82	73.4150
1038.57	72.5047
1038.76	0.0000
1045.16	76.4060
1046.59	77.3783
1048.07	68.0912

1050.47	69.0834
1050.47	69.0834
1062.04	91.8647
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1076.63	69.7260
1077.35	62.2019
1078.86	50.9207
1085.78	69.9480
1099.22	78.8199
1112.02	70.1034
1112.84	66.7847
1115.52	76.8726
1120.29	78.4308
1120.29	78.4308
1120.29	78.4308
1120.29	78.4308
1120.51	78.4365
1121.28	78.4565
1124.00	0.0000
1129.67	78.9195
1131.51	0.0000
1147.95	0.0000
1167.94	74.8220
1173.22	89.5518
1175.09	83.7624
1177.93	79.9408
1189.05	78.2701
1204.90	77.6830
1205.75	0.0000
1213.00	85.7711
1221.42	82.0418
1230.97	118.9704
1235.34	97.2925
1236.41	0.0000
1238.25	71.5430
1246.25	93.6361
1260.41	0.0000
1271.85	72.2838
1274.45	91.4285
1274.54	91.4316
1291.56	53.5231
1298.22	0.0000
1312.09	40.6417
1325.50	39.7808
1325.50	39.7808
1332.49	61.3267
1333.61	59.3007
1360.21	49.4531
1362.66	0.0000
1365.15	38.1743
1368.21	58.8588
1368.53	0.0000
1376.25	42.4343
1384.27	65.3511
1394.10	52.0089
1395.20	57.2271
1407.95	64.7376
1434.06	49.4277
1436.60	39.9907
1457.56	0.0000
1460.81	40.7814
1489.15	41.6225
1509.49	38.4913
1596.49	20.4740
1620.62	31.8590
1678.03	0.0000
1691.02	20.6180
1691.02	20.6180
1706.46	0.0000
1750.46	0.0000
1764.49	23.9648
1764.49	23.9648
1764.49	23.9648
1764.49	23.9648
1770.23	12.4422
1771.40	12.4456
1791.20	0.0000
1808.65	22.1853

1836.01

17.2464

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274007

Total Uranium Activity	6.0522E+00	ug/g
Total Uranium Counting Unc.	5.8908E+00	ug/g
Total Uranium Tpu	3.0055E-06	ug/g
Total Uranium Mda	3.1735E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*   BATCH ID      : 935341                        SAMPLE ID   : G243274007
*   ANALYST       : MXR1                          DETECTOR    : GAM18
*   SAMPLE DATE   : 16-DEC-2009 12:00:00.00      COUNT TIME   : 0 02:00:00.00
*   ANALYSIS DATE : 31-DEC-2009 14:35:59.51      SAMPLE ALQT  : 130.530 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.793E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.010E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.115E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.023E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:38:25.27

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274008.CNF;1
Sample date   : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:36:21
Sample ID    : G243274008 Sample quantity : 1.03790E+02 GRAM
Detector name : GAM20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:32.81 0.5%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID      : 935341 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	46.67*	75	369	1.47	93.38	88	11	1.04E-02	52.8	
2	0	63.17*	76	331	0.98	126.32	123	7	1.06E-02	43.1	
3	4	74.90	409	400	1.09	149.74	146	13	5.68E-02	9.3	8.89E-01
4	4	77.24*	569	285	0.95	154.43	146	13	7.91E-02	6.5	
5	0	83.94*	76	311	1.14	167.80	165	7	1.06E-02	41.0	
6	0	88.03	300	516	3.41	175.97	171	11	4.16E-02	15.8	
7	0	93.16*	240	437	1.70	186.21	182	11	3.34E-02	19.0	
8	0	129.11	73	261	0.83	258.01	255	8	1.01E-02	40.1	
9	0	185.64*	200	258	1.23	370.91	365	12	2.77E-02	18.3	
10	0	208.96	85	276	1.32	417.48	412	11	1.18E-02	39.3	
11	5	238.58*	1057	98	1.19	476.64	469	20	1.47E-01	3.5	3.90E+00
12	5	241.45	275	168	1.97	482.39	469	20	3.82E-02	15.9	
13	0	270.24	154	155	2.20	539.90	533	13	2.13E-02	18.6	
14	0	277.72	49	159	1.57	554.84	549	10	6.74E-03	50.8	
15	0	295.17	309	172	1.16	589.70	584	12	4.29E-02	10.2	
16	0	299.98	81	191	1.55	599.31	595	13	1.12E-02	36.3	
17	0	328.10	88	95	1.21	655.49	651	10	1.22E-02	23.4	
18	0	338.31	177	173	1.23	675.88	671	12	2.46E-02	16.6	
19	0	351.76*	424	164	1.36	702.76	697	11	5.89E-02	7.7	
20	0	409.84	38	94	1.03	818.80	814	10	5.26E-03	50.8	
21	0	510.71*	89	101	2.21	1020.37	1013	16	1.23E-02	32.5	
22	0	583.26*	326	83	1.44	1165.38	1161	12	4.53E-02	8.0	
23	0	609.33*	342	84	1.41	1217.50	1211	12	4.76E-02	7.8	
24	0	727.08*	95	55	1.19	1452.90	1446	13	1.32E-02	19.5	
25	0	861.54	68	39	2.86	1721.76	1715	16	9.49E-03	23.9	
26	0	911.11	260	39	1.67	1820.89	1815	11	3.60E-02	7.7	
27	0	969.28*	100	67	1.52	1937.24	1933	13	1.39E-02	20.2	
28	0	1120.74	78	78	1.78	2240.25	2232	15	1.08E-02	27.3	
29	0	1460.73*	1236	15	1.74	2920.73	2912	15	1.72E-01	2.9	
30	0	1587.53	16	7	0.67	3174.63	3171	7	2.22E-03	37.1	
31	0	1729.70	9	10	0.54	3459.37	3453	9	1.29E-03	71.9	
32	0	1764.35*	46	9	1.24	3528.77	3522	12	6.40E-03	20.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 16:38:27

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274008.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:36:21
 Sample ID : G243274008 Sample quantity : 103.79 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA20 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:32.81 0.5%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.344E+01	3.521E+00	5.749E-01	5.013E-02	58.171
CD-109	+	88.03	*	4.273E+00	1.406E+00	1.083E+00	1.024E-01	3.946
SN-126	+	64.28		6.234E-01	5.444E-01	6.698E-01	9.697E-02	0.931
	+	86.94		1.746E+00	9.105E-01	4.585E-01	1.903E-01	3.809
	+	87.57	*	4.200E-01	1.382E-01	1.067E-01	1.004E-02	3.935
HG-203		70.83		-5.553E-01	1.019E+00	1.445E+00	1.888E-01	-0.384
		72.87		9.257E-01	6.075E-01	9.356E-01	1.192E-01	0.989
	+	82.60		1.437E+00	1.195E+00	1.522E+00	2.112E-01	0.944
	+	279.20	*	6.032E-02	6.158E-02	5.959E-02	6.060E-03	1.012
TL-208	+	277.35		5.474E-01	5.608E-01	5.724E-01	7.611E-02	0.956
	+	510.84		4.956E-01	3.278E-01	2.235E-01	2.793E-02	2.218
	+	583.14	*	5.197E-01	9.920E-02	6.319E-02	6.497E-03	8.224
	+	860.37		1.016E+00	4.978E-01	4.516E-01	4.786E-02	2.251
BI-210	+	46.50	*	3.566E+00	3.779E+00	3.428E+00	3.179E-01	1.040
PB-210	+	46.50	*	3.566E+00	3.779E+00	3.428E+00	3.179E-01	1.040
PO-210	+	46.50	*	3.566E+00	3.776E+00	3.428E+00	2.876E-01	1.040
BI-211		72.87		4.654E+00	3.019E+00	4.705E+00	3.715E-01	0.989
	+	351.07	*	2.986E+00	5.417E-01	3.526E-01	3.378E-02	8.469
PB-212	+	74.81		2.285E+00	5.101E-01	4.843E-01	5.978E-02	4.719
	+	77.11		1.826E+00	2.823E-01	2.787E-01	2.305E-02	6.553
	+	87.30		1.943E+00	6.680E-01	5.089E-01	6.974E-02	3.818
	+	238.63	*	1.632E+00	2.083E-01	8.855E-02	9.417E-03	18.435
	+	300.09		1.914E+00	1.406E+00	1.223E+00	1.398E-01	1.565
PO-212	+	74.81		2.285E+00	5.101E-01	4.843E-01	5.978E-02	4.719
	+	77.11		1.826E+00	2.823E-01	2.787E-01	2.305E-02	6.553
	+	87.30		1.943E+00	6.680E-01	5.089E-01	6.974E-02	3.818
		115.19		9.096E-01	3.542E+00	5.774E+00	4.849E-01	0.158
	+	238.63	*	1.632E+00	2.083E-01	8.855E-02	9.417E-03	18.435
	+	300.09		1.914E+00	1.406E+00	1.223E+00	1.398E-01	1.565
BI-214	+	609.31	*	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
	+	1120.29		1.197E+00	6.664E-01	4.899E-01	5.301E-02	2.442
	+	1764.49		9.595E-01	4.095E-01	3.568E-01	2.931E-02	2.689
PB-214	+	74.81		3.938E+00	8.499E-01	8.345E-01	9.136E-02	4.719
	+	77.11		3.131E+00	5.395E-01	4.778E-01	5.373E-02	6.553

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	87.30		3.328E+00	1.125E+00	8.717E-01	1.058E-01	3.818
	+	241.98		2.550E+00	8.620E-01	5.331E-01	5.962E-02	4.784
	+	295.21		1.289E+00	3.041E-01	2.061E-01	2.405E-02	6.256
	+	351.92	*	1.039E+00	1.961E-01	1.229E-01	1.339E-02	8.452
	+	74.81		3.938E+00	8.499E-01	8.345E-01	9.136E-02	4.719
	+	77.11		3.131E+00	5.395E-01	4.778E-01	5.373E-02	6.553
	+	87.30		3.328E+00	1.125E+00	8.717E-01	1.058E-01	3.818
	+	241.98		2.550E+00	8.620E-01	5.331E-01	5.962E-02	4.784
PO-216	+	295.21		1.289E+00	3.041E-01	2.061E-01	2.405E-02	6.256
	+	351.92	*	1.039E+00	1.961E-01	1.229E-01	1.339E-02	8.452
	+	74.81		2.285E+00	5.101E-01	4.843E-01	5.978E-02	4.719
	+	77.11		1.826E+00	2.823E-01	2.787E-01	2.305E-02	6.553
	+	87.30		1.943E+00	6.680E-01	5.089E-01	6.974E-02	3.818
	+	238.63	*	1.632E+00	2.083E-01	8.855E-02	9.417E-03	18.435
	+	300.09		1.914E+00	1.406E+00	1.223E+00	1.398E-01	1.565
	+	74.81		3.938E+00	8.499E-01	8.345E-01	9.136E-02	4.719
PO-218	+	77.11		3.131E+00	5.395E-01	4.778E-01	5.373E-02	6.553
	+	87.30		3.328E+00	1.125E+00	8.717E-01	1.058E-01	3.818
	+	241.98		2.550E+00	8.620E-01	5.331E-01	5.962E-02	4.784
	+	295.21		1.289E+00	3.041E-01	2.061E-01	2.405E-02	6.256
	+	351.92	*	1.039E+00	1.961E-01	1.229E-01	1.339E-02	8.452
	+	240.98	*	4.836E+00	1.612E+00	1.008E+00	9.739E-02	4.800
	+	609.31	*	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
	+	1120.29		1.197E+00	6.664E-01	4.899E-01	5.301E-02	2.442
AC-228	+	1764.49		9.595E-01	4.095E-01	3.568E-01	2.931E-02	2.689
	+	338.32		1.376E+00	7.300E-01	3.880E-01	1.607E-01	3.546
	+	911.07	*	1.821E+00	3.596E-01	2.253E-01	2.760E-02	8.083
	+	969.11		1.234E+00	5.789E-01	5.939E-01	1.409E-01	2.078
	+	338.32		1.376E+00	7.300E-01	3.880E-01	1.607E-01	3.546
	+	911.07	*	1.821E+00	3.596E-01	2.253E-01	2.760E-02	8.083
	+	969.11		1.234E+00	5.789E-01	5.939E-01	1.409E-01	2.078
	+	74.81		2.320E+00	4.710E-01	4.917E-01	4.002E-02	4.719
TH-228	+	77.11		1.854E+00	2.865E-01	2.829E-01	2.340E-02	6.553
	+	87.30		1.972E+00	6.488E-01	5.166E-01	4.842E-02	3.818
	+	238.63	*	1.657E+00	2.115E-01	8.990E-02	9.560E-03	18.435
	+	300.09		1.943E+00	1.822E+00	1.241E+00	7.382E-01	1.565
	+	609.31	*	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
	+	1120.29		1.197E+00	6.664E-01	4.899E-01	5.301E-02	2.442
	+	1764.49		9.594E-01	4.095E-01	3.568E-01	2.931E-02	2.689
	+	338.32		1.376E+00	4.740E-01	3.880E-01	3.635E-02	3.546
TH-230	+	911.07	*	1.821E+00	3.596E-01	2.253E-01	2.760E-02	8.083
	+	969.11		1.234E+00	5.789E-01	5.939E-01	1.409E-01	2.078
	+	63.29	*	1.575E+00	1.384E+00	1.759E+00	3.056E-01	0.895
	+	92.38		2.236E+00	9.442E-01	7.645E-01	1.402E-01	2.924
	+	609.31	*	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
	+	1120.29		1.197E+00	6.664E-01	4.899E-01	5.301E-02	2.442
	+	1764.49		9.594E-01	4.095E-01	3.568E-01	2.931E-02	2.689
	+	63.29	*	1.575E+00	1.384E+00	1.759E+00	3.056E-01	0.895
U-238	+	92.38		2.236E+00	8.748E-01	7.645E-01	6.988E-02	2.924

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	3.705E-01	7.511E-02	7.869E-02	6.334E-03	4.709
	+	86.72		4.625E+01	1.522E+01	1.189E+01	1.106E+00	3.891
		117.66		-3.863E+00	3.785E+00	5.702E+00	4.773E-01	-0.677
		142.18		-7.215E+00	1.813E+01	2.836E+01	2.394E+00	-0.254
ANH-511	+	511.00	*	1.071E-01	7.023E-02	4.828E-02	4.499E-03	2.217

---- 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	*	2.986E-02	3.104E-01	5.080E-01	4.938E-02	0.059
NA-22		1274.54	*	-1.003E-02	4.670E-02	7.326E-02	6.069E-03	-0.137
NA-24		1368.53	*	3.458E-02	4.670E-02	Half-Life too short		
AL-26		1129.67		-2.403E-01	1.892E+00	3.034E+00	2.570E-01	-0.079
		1808.65	*	3.229E-03	1.764E-02	3.095E-02	2.514E-03	0.104
TI-44		67.85		9.257E-03	3.956E-02	6.510E-02	4.898E-03	0.142
	+	78.38	*	3.370E-01	5.209E-02	7.520E-02	6.311E-03	4.482
SC-46		889.25	*	-3.101E-02	4.203E-02	6.388E-02	6.368E-03	-0.486
	+	1120.51		2.048E-01	1.133E-01	1.422E-01	1.216E-02	1.441
V-48		944.10		-4.392E-01	9.287E-01	1.447E+00	1.412E-01	-0.303
		983.50	*	-1.305E-02	8.006E-02	1.292E-01	1.235E-02	-0.101
		1312.09		-4.351E-03	7.372E-02	1.174E-01	9.799E-03	-0.037
CR-51		320.08	*	1.213E-01	3.837E-01	6.484E-01	6.500E-02	0.187
MN-52		744.21		-8.835E-02	2.376E-01	3.826E-01	3.887E-02	-0.231
		848.13		9.336E-01	6.988E+00	1.173E+01	1.182E+00	0.080
		935.52		3.990E-01	3.067E-01	5.569E-01	5.455E-02	0.716
		1246.25		-4.852E+00	8.552E+00	1.299E+01	1.067E+00	-0.374
		1333.61		2.262E-01	5.386E+00	8.701E+00	7.290E-01	0.026
		1434.06	*	9.308E-02	1.923E-01	3.483E-01	2.948E-02	0.267
MN-54		834.83	*	1.429E-02	4.112E-02	7.022E-02	7.093E-03	0.204
CO-56		846.75	*	9.424E-03	4.129E-02	6.993E-02	7.048E-03	0.135
		977.42		-4.181E-01	3.186E+00	4.652E+00	4.462E-01	-0.090
		1037.82		-2.777E-03	3.256E-01	5.319E-01	5.132E-02	-0.005
		1175.09		1.049E+00	2.769E+00	4.642E+00	3.735E-01	0.226
		1238.25		1.396E-01	1.174E-01	2.057E-01	1.740E-02	0.678
		1360.21		-4.559E-01	9.350E-01	1.455E+00	1.223E-01	-0.313
		1771.40		-4.856E-02	2.265E-01	3.555E-01	2.915E-02	-0.137
CO-57		122.06	*	-1.020E-02	2.398E-02	3.760E-02	3.139E-03	-0.271
		136.48		-1.022E-01	2.126E-01	3.312E-01	2.998E-02	-0.309
CO-58		810.76	*	-2.177E-02	4.032E-02	6.328E-02	6.426E-03	-0.344
FE-59		142.65		-2.951E-01	2.819E+00	4.488E+00	3.791E-01	-0.066
		192.34		-8.294E-02	8.926E-01	1.506E+00	2.068E-01	-0.055
		1099.22	*	3.525E-02	1.117E-01	1.872E-01	1.765E-02	0.188
		1291.56		7.529E-02	1.293E-01	2.230E-01	2.121E-02	0.338
CO-60		1173.22		4.132E-02	5.501E-02	9.509E-02	7.645E-03	0.435
		1332.49	*	4.500E-03	4.067E-02	6.636E-02	5.559E-03	0.068
ZN-65		1115.52	*	-6.517E-02	1.231E-01	1.600E-01	1.377E-02	-0.407
GE-68		1077.35	*	-7.996E-01	1.292E+00	1.951E+00	1.741E-01	-0.410
AS-73		53.44	*	2.059E-01	5.789E-01	9.697E-01	7.199E-02	0.212

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-74		595.88	*	5.349E-02	1.012E-01	1.694E-01	1.658E-02	0.316
		634.78		-2.828E-01	3.512E-01	5.476E-01	5.447E-02	-0.516
SE-75		66.05		-3.125E+00	4.629E+00	6.531E+00	6.179E-01	-0.478
		96.73		-6.915E-01	8.374E-01	1.140E+00	1.574E-01	-0.607
		121.11		-1.935E-02	1.275E-01	2.031E-01	2.236E-02	-0.095
		136.00		-1.061E-02	4.038E-02	6.371E-02	5.383E-03	-0.166
		198.60		-2.557E-02	1.867E+00	3.036E+00	3.055E-01	-0.008
		264.65	*	-1.257E-02	4.826E-02	6.948E-02	6.879E-03	-0.181
		279.53		1.375E-01	1.176E-01	1.880E-01	1.924E-02	0.732
		303.91		6.164E-01	2.377E+00	3.548E+00	4.390E-01	0.174
		400.65		-4.633E-02	2.467E-01	3.980E-01	4.368E-02	-0.116
BR-77	+	87.88		9.211E+02	3.031E+02	3.270E+02	3.088E+01	2.817
		200.40		-1.212E+02	1.644E+02	2.681E+02	2.465E+01	-0.452
	+	239.00		2.615E+02	3.124E+01	4.061E+01	3.917E+00	6.441
		249.79		-1.775E+01	6.421E+01	1.059E+02	1.032E+01	-0.168
		281.68		4.213E+01	9.410E+01	1.434E+02	1.426E+01	0.294
		297.23		1.962E+02	8.331E+01	1.130E+02	1.112E+01	1.736
		303.76		5.412E+01	2.021E+02	3.019E+02	2.954E+01	0.179
		439.47		2.011E+02	1.493E+02	2.666E+02	2.342E+01	0.754
		484.57		-3.606E+01	2.328E+02	3.722E+02	3.401E+01	-0.097
		520.65	*	-3.550E+00	1.064E+01	1.663E+01	1.560E+00	-0.213
		574.64		-4.529E+01	2.099E+02	3.297E+02	3.194E+01	-0.137
		578.91		5.494E+01	9.772E+01	1.465E+02	1.422E+01	0.375
		585.48		1.112E+03	2.738E+02	4.824E+02	4.698E+01	2.304
		755.35		3.188E+02	1.756E+02	3.324E+02	3.378E+01	0.959
		817.79		8.299E+01	1.321E+02	2.327E+02	2.357E+01	0.357
SR-82		698.33		2.061E+01	3.474E+01	6.098E+01	6.166E+00	0.338
		776.49	*	-1.219E-01	4.074E-01	6.604E-01	6.710E-02	-0.185
		1395.20		4.971E-01	9.754E+00	1.648E+01	1.390E+00	0.030
RB-83		520.41	*	-2.141E-02	7.125E-02	1.118E-01	1.048E-02	-0.192
		529.64		3.453E-02	9.848E-02	1.643E-01	1.550E-02	0.210
		552.65		-1.340E-01	1.991E-01	2.979E-01	2.851E-02	-0.450
RB-84		881.50	*	-3.491E-02	6.873E-02	1.070E-01	1.069E-02	-0.326
KR-85		513.99	*	1.236E+01	8.672E+00	1.395E+01	1.302E+00	0.886
SR-85		513.99	*	6.337E-02	4.446E-02	7.150E-02	6.677E-03	0.886
RB-86		1076.63	*	-1.189E-01	8.192E-01	1.314E+00	1.173E-01	-0.090
Y-88		898.02		3.307E-02	4.511E-02	7.951E-02	7.934E-03	0.416
		1836.01	*	1.444E-05	3.514E-02	5.773E-02	4.658E-03	0.000
ZR-88		392.90	*	3.330E-02	2.955E-02	5.238E-02	4.381E-03	0.636
Y-91		1204.90	*	2.522E+01	2.284E+01	4.040E+01	3.281E+00	0.624
NB-94		702.63	*	-1.681E-02	3.329E-02	5.324E-02	5.387E-03	-0.316
		871.10		1.773E-02	3.444E-02	5.994E-02	6.007E-03	0.296
NB-95		765.79	*	1.779E-03	4.867E-02	8.141E-02	8.273E-03	0.022
NB-95M		235.69	*	1.076E-01	1.322E-01	2.062E-01	2.216E-02	0.521
ZR-95		724.18		4.475E-02	1.067E-01	1.632E-01	1.760E-02	0.274
		756.15	*	1.084E-01	7.599E-02	1.404E-01	1.532E-02	0.772
NB-97		657.90	*	-2.866E-02	7.599E-02	Half-Life too short		
		1024.50		-5.416E+00	7.599E-02	Half-Life too short		
ZR-97		254.15		-2.745E+00	7.599E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	355.39			5.364E-01	7.599E-02	Half-Life	too short	
	507.63	*		3.152E+00	7.599E-02	Half-Life	too short	
	602.52			1.066E+00	7.599E-02	Half-Life	too short	
	1021.30			3.490E+00	7.599E-02	Half-Life	too short	
	1147.95			1.163E+00	7.599E-02	Half-Life	too short	
	1362.66			1.920E+00	7.599E-02	Half-Life	too short	
	1750.46			-2.094E+00	7.599E-02	Half-Life	too short	
MO-99	140.51			-1.221E+01	2.695E+01	4.148E+01	1.146E+01	-0.294
	181.06			4.991E+00	1.877E+01	2.685E+01	4.952E+00	0.186
	366.43			2.042E+01	8.711E+01	1.457E+02	1.296E+01	0.140
	739.58	*		2.880E-01	1.157E+01	1.939E+01	3.123E+00	0.015
	778.00			-2.005E+01	3.727E+01	5.903E+01	5.998E+00	-0.340
TC-99M	140.51	*		-1.738E+10	3.727E+01	Half-Life	too short	
RH-101	127.23			2.784E-02	3.379E-02	5.091E-02	4.247E-03	0.547
	198.01	*		-1.344E-02	3.468E-02	5.543E-02	5.081E-03	-0.243
	325.23			-9.747E-02	2.532E-01	3.550E-01	3.390E-02	-0.275
RH-102	418.52			-5.059E-02	2.883E-01	4.646E-01	3.997E-02	-0.109
	475.06	*		-9.249E-03	2.933E-02	4.625E-02	4.194E-03	-0.200
	631.29			-1.480E-02	5.792E-02	9.010E-02	8.950E-03	-0.164
	697.49			9.250E-03	7.839E-02	1.328E-01	1.342E-02	0.070
	766.84			7.908E-02	1.259E-01	2.193E-01	2.229E-02	0.361
	1046.59			-5.313E-02	1.230E-01	1.912E-01	1.751E-02	-0.278
	1112.84			3.709E-02	2.911E-01	4.168E-01	3.594E-02	0.089
RU-103	497.08	*		8.156E-03	3.854E-02	6.360E-02	9.247E-03	0.128
	610.33	+		1.109E+01	2.588E+00	3.015E+00	5.232E-01	3.679
RH-106	511.85	+		5.347E-01	3.508E-01	4.674E-01	4.358E-02	1.144
	621.84	*		3.127E-01	3.196E-01	5.550E-01	7.889E-02	0.563
	1050.47			1.973E+00	2.367E+00	4.206E+00	3.839E-01	0.469
RU-106	511.85	+		5.347E-01	3.508E-01	4.674E-01	4.358E-02	1.144
	621.84	*		3.127E-01	3.180E-01	5.550E-01	5.493E-02	0.563
	1050.47			1.973E+00	2.367E+00	4.206E+00	3.839E-01	0.469
AG-108M	433.93	*		3.673E-02	3.260E-02	5.767E-02	5.234E-03	0.637
	614.37			3.175E-03	4.290E-02	6.014E-02	6.113E-03	0.053
	722.95			-1.126E-03	4.436E-02	6.437E-02	6.715E-03	-0.017
AG-110M	657.75	*		-9.873E-03	3.318E-02	5.432E-02	5.565E-03	-0.182
	677.61			-1.231E-01	2.912E-01	4.693E-01	4.824E-02	-0.262
	706.67			1.489E-01	2.090E-01	3.704E-01	3.825E-02	0.402
	763.93			-1.085E-02	1.826E-01	3.032E-01	3.144E-02	-0.036
	884.67			5.789E-03	5.146E-02	8.603E-02	8.795E-03	0.067
	937.48			-2.649E-02	1.323E-01	2.138E-01	2.151E-02	-0.124
	1384.27			-1.561E-02	1.529E-01	2.526E-01	2.192E-02	-0.062
IN-111	171.28			-7.292E-01	1.003E+00	1.517E+00	1.336E-01	-0.481
	245.39	*		7.464E-01	1.069E+00	1.668E+00	1.619E-01	0.448
IN-113M	391.69	*		-1.963E-02	4.482E-02	7.101E-02	6.126E-03	-0.276
SN-113	391.69	*		-1.963E-02	4.482E-02	7.101E-02	6.126E-03	-0.276
IN-114M	190.27	*		-2.108E-03	1.885E-01	2.822E-01	2.557E-02	-0.007
CD-115	260.90			1.462E+01	1.287E+02	2.167E+02	2.131E+01	0.067
	492.35			-1.705E+01	3.560E+01	5.501E+01	5.057E+00	-0.310
	527.90	*		-4.358E+00	1.055E+01	1.630E+01	1.536E+00	-0.267

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M		156.02		-6.748E-01	2.395E+00	3.753E+00	3.226E-01	-0.180
		158.56	*	-5.975E-03	5.863E-02	9.271E-02	8.001E-03	-0.064
SB-122		563.90	*	4.573E-01	2.177E+00	3.563E+00	3.431E-01	0.128
		692.80		2.491E+01	4.234E+01	7.455E+01	7.530E+00	0.334
I-123		159.00	*	-7.784E-01	4.234E+01	Half-Life	too short	
		528.96		2.405E+02	4.234E+01	Half-Life	too short	
TE-123M		159.00	*	-3.885E-03	3.071E-02	4.849E-02	4.213E-03	-0.080
I-124		602.71	*	9.088E-02	8.058E-01	1.140E+00	1.119E-01	0.080
		722.78		1.585E-01	4.651E+00	6.805E+00	6.902E-01	0.023
		1325.50		-2.016E+01	3.441E+01	5.014E+01	4.195E+00	-0.402
		1376.25		2.729E+01	2.819E+01	5.306E+01	4.469E+00	0.514
		1509.49		2.198E+01	1.590E+01	3.134E+01	2.657E+00	0.702
		1691.02		9.444E-01	3.127E+00	5.535E+00	4.615E-01	0.171
SB-124		602.71		5.288E-03	4.689E-02	6.634E-02	6.514E-03	0.080
		645.85		3.546E-01	5.128E-01	9.109E-01	9.505E-02	0.389
		709.31		-9.558E-04	2.881E+00	4.827E+00	4.888E-01	0.000
		713.82		-3.966E-01	1.681E+00	2.756E+00	3.627E-01	-0.144
		722.78		1.337E-02	3.924E-01	5.740E-01	5.913E-02	0.023
	+	968.20		1.271E+01	5.284E+00	7.622E+00	7.348E-01	1.667
		1045.16		-5.485E-01	2.553E+00	4.070E+00	3.731E-01	-0.135
		1325.50		-1.817E+00	3.101E+00	4.518E+00	3.779E-01	-0.402
		1368.21		3.571E-01	1.642E+00	2.841E+00	3.792E-01	0.126
		1436.60		-3.224E-01	3.334E+00	5.484E+00	4.642E-01	-0.059
		1691.02	*	1.879E-02	6.222E-02	1.101E-01	9.571E-03	0.171
SB-125		427.89	*	-4.488E-03	9.527E-02	1.550E-01	1.372E-02	-0.029
		463.38		4.544E-01	2.974E-01	5.325E-01	5.127E-02	0.853
		600.56		4.907E-02	1.890E-01	3.095E-01	3.210E-02	0.159
		635.90		-1.591E-01	2.708E-01	4.323E-01	4.565E-02	-0.368
TE-125M		109.28	*	2.550E+00	8.984E+00	1.469E+01	1.502E+00	0.174
I-126		388.63		-5.871E-03	1.963E-01	3.214E-01	2.707E-02	-0.018
		666.33	*	9.018E-02	1.758E-01	3.082E-01	3.097E-02	0.293
		753.82		7.576E-01	1.637E+00	2.834E+00	2.880E-01	0.267
SB-126		223.80		2.665E+00	3.971E+00	6.899E+00	6.544E-01	0.386
	+	278.60		3.617E+00	3.692E+00	4.500E+00	4.479E-01	0.804
	+	296.50		1.283E+01	2.918E+00	3.726E+00	3.669E-01	3.443
		414.70		4.347E-02	7.811E-02	1.190E-01	1.020E-02	0.365
		415.30		9.684E-01	6.529E+00	1.002E+01	8.592E-01	0.097
		555.20		6.966E-01	4.012E+00	6.559E+00	6.286E-01	0.106
		573.80		-1.687E-01	1.061E+00	1.676E+00	1.623E-01	-0.101
		593.00		1.548E-02	1.034E+00	1.659E+00	1.622E-01	0.009
		656.30		1.034E+00	3.305E+00	5.709E+00	5.720E-01	0.181
		666.33		3.768E-02	7.348E-02	1.288E-01	1.294E-02	0.293
		675.00		-1.163E+00	1.986E+00	3.155E+00	3.176E-01	-0.369
		695.00		1.412E-02	7.896E-02	1.344E-01	1.358E-02	0.105
		697.00		1.732E-02	2.731E-01	4.605E-01	4.655E-02	0.038
		720.50	*	-1.409E-02	1.702E-01	2.453E-01	2.487E-02	-0.057
		856.80		1.581E-01	4.881E-01	7.370E-01	7.412E-02	0.214
		989.30		-8.759E-01	1.485E+00	2.288E+00	2.179E-01	-0.383
		1034.80		-2.706E+00	9.686E+00	1.536E+01	1.419E+00	-0.176

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1213.00			2.885E+00	5.410E+00	9.178E+00	7.471E-01	0.314
	61.10			3.727E+01	4.813E+01	7.357E+01	7.402E+00	0.507
	252.40			-5.606E-01	4.227E+00	7.018E+00	2.968E+00	-0.080
	290.80			4.852E+00	2.317E+01	3.453E+01	4.201E+00	0.140
	411.60			-1.600E+00	1.406E+01	1.991E+01	3.122E+00	-0.080
	444.90			-4.119E+00	1.047E+01	1.650E+01	2.092E+00	-0.250
	473.00			-8.921E-02	1.692E+00	2.734E+00	3.597E-01	-0.033
	543.00			9.995E-01	1.662E+01	2.691E+01	4.022E+00	0.037
	603.60			5.259E-03	1.413E+01	1.971E+01	2.634E+00	0.000
	685.20	*		1.548E+00	1.408E+00	2.556E+00	3.202E-01	0.606
XE-127	698.50			1.036E+01	1.563E+01	2.746E+01	4.579E+00	0.377
	722.20			7.250E+00	3.202E+01	4.802E+01	5.940E+00	0.151
	783.80			3.129E+00	4.113E+00	7.232E+00	9.783E-01	0.433
	57.60			-2.900E+00	4.632E+00	7.413E+00	5.297E-01	-0.391
	145.22			-8.262E-02	7.388E-01	1.175E+00	9.954E-02	-0.070
	172.10			-4.835E-02	1.171E-01	1.809E-01	1.594E-02	-0.267
	202.84	*		3.639E-02	4.924E-02	8.053E-02	7.432E-03	0.452
I-131	374.96			7.061E-02	1.964E-01	3.313E-01	2.889E-02	0.213
	80.18			7.171E-01	5.328E+00	6.191E+00	5.342E-01	0.116
	284.30			-8.000E-01	1.416E+00	2.269E+00	2.342E-01	-0.353
	364.48	*		-1.262E-02	1.176E-01	1.921E-01	1.802E-02	-0.066
TE-132	636.97			-5.190E-01	1.580E+00	2.588E+00	2.685E-01	-0.201
	722.89			-3.256E-02	7.479E+00	1.088E+01	1.109E+00	-0.003
	49.72			-1.746E+00	1.402E+01	2.058E+01	2.110E+00	-0.085
	111.76			6.306E+00	3.030E+01	4.819E+01	5.165E+00	0.131
BA-133	116.30			-8.318E+00	2.800E+01	4.411E+01	4.706E+00	-0.189
	228.16	*		3.015E-01	7.008E-01	1.202E+00	1.951E-01	0.251
	53.15			-1.811E-01	2.538E+00	4.174E+00	3.110E-01	-0.043
	79.62			2.320E-01	1.320E+00	1.773E+00	2.689E-01	0.131
+ 276.40	81.00			6.940E-02	1.097E-01	1.326E-01	2.109E-02	0.523
	302.84			5.409E-01	5.557E-01	6.607E-01	1.009E-01	0.819
	356.01	*		4.662E-02	1.637E-01	2.448E-01	3.446E-02	0.190
	383.85			1.811E-02	5.122E-02	7.647E-02	1.033E-02	0.237
I-133	510.53			-6.758E-02	2.773E-01	4.461E-01	5.595E-02	-0.151
	529.87	*		1.082E+00	2.773E-01	Half-Life	too short	
	706.58			1.964E-03	2.773E-01	Half-Life	too short	
	856.28			2.785E-01	2.773E-01	Half-Life	too short	
+ 875.33	875.33			3.320E-02	2.773E-01	Half-Life	too short	
	1236.41			-1.416E-01	2.773E-01	Half-Life	too short	
	1298.22			7.313E-01	2.773E-01	Half-Life	too short	
	475.35			-7.184E-02	2.773E-01	Half-Life	too short	
CS-134	563.23			-3.555E-01	1.923E+00	3.070E+00	2.784E-01	-0.116
	569.32			1.860E-01	3.831E-01	6.413E-01	6.222E-02	0.290
	604.70			-6.779E-03	2.208E-01	3.524E-01	3.440E-02	-0.019
	795.84	*		-6.411E-03	4.238E-02	5.801E-02	5.712E-03	-0.111
	801.93			6.590E-02	5.126E-02	9.349E-02	9.539E-03	0.705
	1038.57			-2.263E-01	3.838E-01	5.981E-01	6.092E-02	-0.378
	1167.94			-7.722E-01	4.027E+00	6.441E+00	5.934E-01	-0.120
				-1.682E+00	2.917E+00	4.450E+00	3.602E-01	-0.378

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135		1365.15		3.794E-01	1.222E+00	2.136E+00	1.882E-01	0.178
		268.24	*	1.466E-01	1.773E-01	2.763E-01	3.062E-02	0.530
		288.45		3.204E+09	1.773E-01	Half-Life	too short	
		417.63		-2.023E+10	1.773E-01	Half-Life	too short	
		546.56		-5.225E+09	1.773E-01	Half-Life	too short	
		836.80		2.516E+10	1.773E-01	Half-Life	too short	
		1038.76		-3.869E+09	1.773E-01	Half-Life	too short	
		1124.00		2.193E+08	1.773E-01	Half-Life	too short	
		1131.51		4.927E+09	1.773E-01	Half-Life	too short	
		1260.41	*	7.996E+08	1.773E-01	Half-Life	too short	
CS-136		1457.56		4.689E+11	1.773E-01	Half-Life	too short	
		1678.03		-8.944E+09	1.773E-01	Half-Life	too short	
		1706.46		6.770E+09	1.773E-01	Half-Life	too short	
		1791.20		-1.872E+09	1.773E-01	Half-Life	too short	
		66.91		-3.046E-02	7.363E-01	1.076E+00	1.594E-01	-0.028
		86.29		3.654E+00	1.425E+00	1.860E+00	2.470E-01	1.965
		153.22		6.461E-01	6.799E-01	1.131E+00	1.084E-01	0.571
		163.89		-4.801E-01	1.099E+00	1.701E+00	1.655E-01	-0.282
		176.55		-1.398E-01	3.767E-01	5.730E-01	5.362E-02	-0.244
		273.65		2.302E-01	5.738E-01	6.526E-01	6.801E-02	0.353
BA-137M CS-137 CE-139 BA-140		340.57		2.781E-01	1.495E-01	2.460E-01	2.353E-02	1.131
		818.51		1.927E-02	7.632E-02	1.299E-01	1.316E-02	0.148
		1048.07	*	-1.063E-01	1.181E-01	1.729E-01	1.641E-02	-0.615
		1235.34		2.359E-01	7.715E-01	1.275E+00	1.472E-01	0.185
		661.65	*	-4.106E-02	3.304E-02	4.842E-02	4.859E-03	-0.848
		661.65	*	-4.340E-02	3.493E-02	5.118E-02	5.144E-03	-0.848
		165.85	*	-1.020E-02	3.040E-02	4.732E-02	4.131E-03	-0.216
		162.64		5.026E-01	7.719E-01	1.267E+00	1.163E-01	0.397
		304.84		7.331E-01	1.435E+00	2.167E+00	6.155E-01	0.338
		423.70		2.124E-01	2.051E+00	3.374E+00	1.094E+00	0.063
LA-140		537.32	*	1.854E-02	2.562E-01	4.155E-01	1.387E-01	0.045
	+	328.77		8.399E-01	4.023E-01	5.597E-01	5.565E-02	1.501
		432.53		7.606E-01	2.080E+00	3.492E+00	3.192E-01	0.218
		487.03		1.403E-01	1.423E-01	2.485E-01	2.400E-02	0.564
		751.79		-7.460E-01	1.888E+00	3.042E+00	3.332E-01	-0.245
		815.85		4.506E-02	3.228E-01	5.438E-01	5.974E-02	0.083
		867.82		-5.030E-01	1.657E+00	2.269E+00	2.365E-01	-0.222
		919.63		-2.389E-01	2.949E+00	4.820E+00	5.628E-01	-0.050
		925.24		9.417E-01	1.240E+00	2.188E+00	2.257E-01	0.430
		1596.49	*	-7.415E-02	7.994E-02	1.083E-01	9.144E-03	-0.685
CE-141 CE-143		145.44	*	7.520E-03	6.535E-02	1.049E-01	9.055E-03	0.072
		57.37		-5.212E-04	6.535E-02	Half-Life	too short	
		231.56		-1.538E-03	6.535E-02	Half-Life	too short	
		293.26	*	5.839E-04	6.535E-02	Half-Life	too short	
	+	350.59		2.357E-02	6.535E-02	Half-Life	too short	
		490.36		-1.578E-03	6.535E-02	Half-Life	too short	
		664.57		1.33				

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA	
PM-144		133.54	*	1.417E-01	2.395E-01	3.530E-01	5.448E-02	0.401	
		476.78		1.455E-02	6.575E-02	1.088E-01	1.071E-02	0.134	
		618.01		9.212E-03	3.278E-02	5.379E-02	5.428E-03	0.171	
		696.49	*	-1.747E-02	3.568E-02	5.730E-02	5.793E-03	-0.305	
PR-144		778.57		-4.955E-01	2.452E+00	4.011E+00	4.076E-01	-0.124	
		696.49	*	-1.184E+00	2.418E+00	3.883E+00	3.924E-01	-0.305	
PM-146		1489.15		1.608E+00	1.057E+01	1.811E+01	1.535E+00	0.089	
		453.90	*	5.055E-02	4.855E-02	8.453E-02	9.259E-03	0.598	
		633.02		-4.949E-01	1.444E+00	2.205E+00	8.311E-01	-0.224	
ND-147		735.90		-9.475E-02	1.501E-01	2.314E-01	6.734E-02	-0.409	
		747.13		-6.961E-03	8.986E-02	1.490E-01	2.240E-02	-0.047	
		91.11		7.793E-01	3.681E-01	4.787E-01	4.736E-02	1.628	
		319.41		-1.496E-01	3.367E+00	5.565E+00	5.354E-01	-0.027	
		439.89		8.665E+00	6.170E+00	1.104E+01	9.703E-01	0.785	
PM-149		531.02	*	1.834E-01	5.316E-01	8.853E-01	1.367E-01	0.207	
		285.90	*	-7.293E+01	8.546E+01	1.329E+02	2.166E+01	-0.549	
EU-152		121.78		-3.682E-02	6.945E-02	1.082E-01	1.048E-02	-0.340	
		244.69		2.527E-01	3.448E-01	5.378E-01	5.217E-02	0.470	
		344.27	*	-7.680E-02	1.146E-01	1.551E-01	1.513E-02	-0.495	
		443.98		-5.209E-01	1.010E+00	1.575E+00	1.390E-01	-0.331	
		778.89		4.157E-02	2.831E-01	4.778E-01	4.854E-02	0.087	
		867.32		-1.261E-01	9.686E-01	1.363E+00	1.367E-01	-0.093	
		964.01		5.673E-01	3.967E-01	6.493E-01	6.274E-02	0.874	
		1085.78		-2.946E-01	4.456E-01	6.726E-01	5.955E-02	-0.438	
GD-153		1112.02		2.852E-01	3.692E-01	6.159E-01	5.316E-02	0.463	
		1407.95		1.017E-01	1.674E-01	3.045E-01	2.572E-02	0.334	
		69.67		-8.972E-01	1.415E+00	2.257E+00	1.727E-01	-0.397	
	+	83.37		1.933E+01	1.595E+01	2.270E+01	2.024E+00	0.851	
		97.43	*	-9.158E-02	8.600E-02	1.142E-01	1.013E-02	-0.802	
		103.18		-9.853E-02	1.024E-01	1.571E-01	1.359E-02	-0.627	
	EU-154		123.07		-1.585E-02	4.937E-02	7.786E-02	8.683E-03	-0.204
			247.94		-1.111E-01	3.585E-01	5.698E-01	7.027E-02	-0.195
EU-155		591.81		-2.038E-01	6.778E-01	1.054E+00	1.323E-01	-0.193	
		723.30		-8.891E-02	1.977E-01	2.705E-01	2.955E-02	-0.329	
		756.87		6.483E-01	8.043E-01	1.430E+00	1.877E-01	0.453	
		873.19		-6.817E-02	2.902E-01	4.673E-01	6.198E-02	-0.146	
		996.32		-5.049E-02	4.195E-01	6.796E-01	1.237E-01	-0.074	
		1004.76		-7.467E-02	2.463E-01	3.913E-01	4.795E-02	-0.191	
		1274.45	*	-4.646E-02	1.339E-01	2.067E-01	2.284E-02	-0.225	
		48.70		5.250E-01	1.700E+00	2.564E+00	2.052E-01	0.205	
TB-160		60.01		2.945E+00	4.179E+00	6.380E+00	4.527E-01	0.462	
	+	86.54		5.059E-01	1.666E-01	1.740E-01	1.629E-02	2.907	
		105.31	*	6.416E-02	1.047E-01	1.738E-01	1.511E-02	0.369	
TB-160	+	86.79		1.351E+00	4.446E-01	4.717E-01	4.392E-02	2.865	
		197.04		1.986E-01	5.770E-01	9.531E-01	8.723E-02	0.208	
		215.65		-1.593E-01	7.437E-01	1.241E+00	1.166E-01	-0.128	
	+	298.57		2.785E-01	2.039E-01	2.099E-01	2.063E-02	1.327	
		879.36	*	3.732E-02	1.286E-01	2.196E-01	2.196E-02	0.170	
	962.29		1.390E-02	6.529E-01	1.047E+00	1.012E-01	0.013		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		966.15		5.944E-01	2.963E-01	4.996E-01	4.821E-02	1.190
		1177.93		-1.797E-01	4.441E-01	6.919E-01	5.571E-02	-0.260
		1271.85		2.747E-01	8.188E-01	1.368E+00	1.131E-01	0.201
		80.57		8.075E-02	3.124E-01	3.668E-01	3.160E-02	0.220
	+	184.41		1.623E-01	6.127E-02	7.150E-02	6.422E-03	2.270
		280.46		3.256E-02	9.062E-02	1.370E-01	1.364E-02	0.238
	+	410.95		3.449E-01	3.517E-01	4.407E-01	3.761E-02	0.783
		711.68	*	-1.411E-02	6.244E-02	1.025E-01	1.039E-02	-0.138
		752.31		-2.000E-01	3.088E-01	4.859E-01	4.937E-02	-0.412
		810.29		7.242E-03	5.814E-02	9.785E-02	9.918E-03	0.074
TM-171		51.35		7.879E+00	2.312E+01	3.486E+01	2.663E+00	0.226
		52.39		2.875E-04	1.087E+01	1.794E+01	1.350E+00	0.000
		59.40		1.732E+01	2.261E+01	3.463E+01	2.451E+00	0.500
		66.72	*	6.839E+00	2.643E+01	3.921E+01	2.921E+00	0.174
LU-176	+	88.36		9.962E-01	3.278E-01	3.534E-01	3.332E-02	2.819
		201.83		6.639E-03	2.846E-02	4.866E-02	4.484E-03	0.136
		306.84	*	-5.885E-03	2.820E-02	4.039E-02	3.939E-03	-0.146
		401.10		-2.656E+00	6.614E+00	1.049E+01	8.855E-01	-0.253
LU-177		112.95		-7.060E-01	1.693E+00	2.611E+00	2.201E-01	-0.270
	+	208.36	*	2.333E+00	1.845E+00	2.105E+00	1.958E-01	1.108
LU-177M		52.97		-1.183E-01	1.144E+00	1.879E+00	1.403E-01	-0.063
		54.07		-4.419E-02	6.048E-01	9.941E-01	7.326E-02	-0.044
		61.30		8.375E-01	1.253E+00	1.907E+00	1.364E-01	0.439
		121.62		-2.361E-01	3.588E-01	5.548E-01	4.627E-02	-0.425
		147.16		1.651E-01	6.588E-01	1.064E+00	9.038E-02	0.155
		171.86		-2.300E-01	4.704E-01	7.225E-01	6.365E-02	-0.318
		218.09		-1.200E-01	8.410E-01	1.408E+00	1.326E-01	-0.085
	+	268.79		3.628E+00	1.396E+00	1.521E+00	1.505E-01	2.385
		319.02		-1.046E-01	2.666E-01	4.304E-01	4.143E-02	-0.243
		367.43		3.425E-01	9.164E-01	1.548E+00	1.373E-01	0.221
HF-181		413.65	*	-6.911E-03	1.939E-01	2.766E-01	2.368E-02	-0.025
		56.28		-1.555E-01	6.915E-01	1.128E+00	8.135E-02	-0.138
		57.53		-2.461E-01	3.894E-01	6.231E-01	4.454E-02	-0.395
		65.20		-2.104E-01	8.919E-01	1.291E+00	9.500E-02	-0.163
		133.02		7.131E-02	7.577E-02	1.143E-01	9.565E-03	0.624
		136.25		-1.742E-01	4.677E-01	7.334E-01	6.153E-02	-0.238
		345.85		-9.830E-02	2.263E-01	3.142E-01	2.908E-02	-0.313
		482.03	*	-2.961E-02	4.167E-02	6.293E-02	5.738E-03	-0.471
W-181		56.28		-6.072E-02	2.707E-01	4.415E-01	3.185E-02	-0.138
		57.53		-9.645E-02	1.526E-01	2.441E-01	1.745E-02	-0.395
		65.20	*	-8.177E-02	3.466E-01	5.018E-01	3.692E-02	-0.163
TA-182		67.75		3.345E-02	9.848E-02	1.556E-01	1.170E-02	0.215
		100.10		1.291E-01	1.659E-01	2.780E-01	2.434E-02	0.464
		152.43		3.746E-02	3.410E-01	5.463E-01	4.672E-02	0.069
		222.10		-1.866E-01	3.412E-01	5.582E-01	5.284E-02	-0.334
		1001.68		5.210E-02	2.267E+00	3.776E+00	3.569E-01	0.014
	+	1121.28		5.657E-01	3.128E-01	3.917E-01	3.347E-02	1.444
		1189.05		-1.021E-01	3.607E-01	5.679E-01	4.589E-02	-0.180
		1221.42	*	8.576E-02	2.371E-01	3.975E-01	3.243E-02	0.216

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	1230.97			-3.844E-01	5.884E-01	8.934E-01	7.310E-02	-0.430
	57.98			-2.963E-02	1.508E-01	2.462E-01	1.755E-02	-0.120
	59.32			7.541E-02	9.311E-02	1.429E-01	1.012E-02	0.528
	67.20			-2.271E-02	1.885E-01	2.742E-01	2.051E-02	-0.083
	162.32	*		2.139E-02	1.143E-01	1.833E-01	1.591E-02	0.117
RE-184	208.81		+	2.099E+00	1.660E+00	1.900E+00	1.768E-01	1.105
	291.72			-4.261E-01	1.077E+00	1.524E+00	1.506E-01	-0.280
	57.98			-1.092E-01	5.559E-01	9.071E-01	6.466E-02	-0.120
	59.32			2.777E-01	3.428E-01	5.262E-01	3.725E-02	0.528
	67.20			-8.365E-02	6.943E-01	1.010E+00	7.556E-02	-0.083
OS-185	161.27			-5.635E-02	3.776E-01	5.951E-01	5.157E-02	-0.095
	216.55			-1.016E-01	2.631E-01	4.350E-01	4.089E-02	-0.233
	252.85	*		-8.063E-02	2.279E-01	3.740E-01	3.655E-02	-0.216
	318.01			-1.839E-02	4.479E-01	7.405E-01	7.136E-02	-0.025
	792.07			-3.219E-01	1.057E+00	1.711E+00	1.737E-01	-0.188
	903.28			-5.662E-01	1.242E+00	1.890E+00	1.876E-01	-0.300
	920.93			-2.504E-01	4.942E-01	7.710E-01	7.600E-02	-0.325
	59.72			1.461E-01	2.478E-01	3.763E-01	2.665E-02	0.388
	61.14			1.041E-01	1.368E-01	2.093E-01	1.496E-02	0.497
	69.30			-1.321E-01	2.543E-01	4.077E-01	3.108E-02	-0.324
RE-188	592.07			-3.522E-01	2.760E+00	4.368E+00	4.268E-01	-0.081
	646.12	*		3.766E-02	4.308E-02	7.755E-02	7.744E-03	0.486
	717.42			3.753E-01	9.310E-01	1.611E+00	1.633E-01	0.233
	874.81			-5.653E-01	5.729E-01	8.339E-01	8.349E-02	-0.678
	880.27			-6.620E-02	7.520E-01	1.231E+00	1.231E-01	-0.054
W-188	155.03	*		1.521E-01	1.796E-01	2.974E-01	2.553E-02	0.511
	477.96			-6.472E-01	3.038E+00	4.833E+00	4.393E-01	-0.134
	633.10			-7.098E-01	2.857E+00	4.436E+00	4.409E-01	-0.160
IR-192	227.08		+	6.329E+01	5.470E+01	7.765E+01	5.644E+00	0.815
	290.67	*		2.452E+00	1.298E+01	2.204E+01	2.099E+00	0.111
AU-195	295.96		+	1.017E+00	7.993E+00	1.184E+01	1.170E+00	0.086
	308.46			9.830E-01	2.238E-01	2.968E-01	2.940E-02	3.312
	316.51	*		-6.048E-02	9.350E-02	1.481E-01	1.448E-02	-0.408
	468.07			-1.383E-02	3.403E-02	5.484E-02	5.304E-03	-0.252
	604.41			2.417E-02	6.553E-02	1.097E-01	1.054E-02	0.220
TL-200	612.46			-1.121E-01	5.715E-01	7.775E-01	1.077E-01	-0.144
	65.12			9.446E-02	8.806E-01	1.239E+00	1.363E-01	0.076
	66.83			-1.337E-02	1.613E-01	2.354E-01	1.731E-02	-0.057
	75.70	*		-1.736E-03	8.854E-02	1.295E-01	9.658E-03	-0.013
TL-201	75.70		+	1.199E+00	2.430E-01	4.261E-01	3.469E-02	2.814
	98.88	*		2.425E-01	2.360E-01	3.586E-01	3.158E-02	0.676
	129.76		+	4.720E+00	3.803E+00	5.130E+00	4.284E-01	0.920
TL-201	367.94	*		1.942E-04	3.803E+00	Half-Life	too short	
	579.30			2.175E-03	3.803E+00	Half-Life	too short	
	828.27			-2.510E-03	3.803E+00	Half-Life	too short	
	1205.75			6.660E-05	3.803E+00	Half-Life	too short	
TL-201	68.90			-1.294E+00	4.059E+00	6.565E+00	4.986E-01	-0.197
	70.82			-1.442E+00	2.613E+00	3.709E+00	2.869E-01	-0.389
	80.30			1.343E+00	5.754E+00	6.745E+00	5.791E-01	0.199

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		135.34		-8.294E+00	2.609E+01	4.106E+01	3.442E+00	-0.202
		167.43	*	4.907E+00	6.908E+00	1.138E+01	9.955E-01	0.431
		68.90		-1.165E-01	3.656E-01	5.912E-01	4.491E-02	-0.197
		70.82		-1.295E-01	2.347E-01	3.332E-01	2.577E-02	-0.389
		80.30		1.207E-01	5.170E-01	6.060E-01	5.202E-02	0.199
BI-207		439.56	*	1.030E-01	7.289E-02	1.306E-01	1.147E-02	0.789
		72.80		2.474E-01	1.727E-01	2.684E-01	2.118E-02	0.922
	+	74.97		6.651E-01	1.348E-01	2.101E-01	1.697E-02	3.165
	+	84.90		2.500E-01	2.062E-01	2.936E-01	2.668E-02	0.851
		569.67		-4.515E-03	3.464E-02	5.481E-02	5.295E-03	-0.082
TL-207		1063.62	*	2.374E-02	5.680E-02	9.674E-02	8.734E-03	0.245
		1770.23		-1.336E+00	6.999E-01	7.764E-01	6.370E-02	-1.720
		81.07		1.490E-01	2.412E-01	2.922E-01	2.532E-02	0.510
	+	83.78		1.648E-01	1.360E-01	1.937E-01	1.736E-02	0.851
		94.90		5.644E-01	2.409E-01	3.865E-01	3.476E-02	1.460
PO-209		122.32		-7.207E-01	1.668E+00	2.614E+00	2.349E-01	-0.276
		144.24		1.704E-01	7.149E-01	1.157E+00	1.099E-01	0.147
		154.21		4.500E-01	4.066E-01	6.807E-01	6.425E-02	0.661
	+	269.46		8.494E-01	3.272E-01	3.739E-01	3.760E-02	2.271
		323.87	*	-2.723E-02	7.549E-01	1.095E+00	1.991E-01	-0.025
PB-211		338.28		5.745E+00	2.043E+00	2.552E+00	3.279E-01	2.251
		445.03		-1.057E+00	2.436E+00	3.825E+00	4.681E-01	-0.276
		260.50		-7.391E-01	9.608E+00	1.601E+01	1.574E+00	-0.046
		262.80		-5.242E+00	2.707E+01	4.324E+01	4.260E+00	-0.121
		896.60	*	-2.536E-01	7.863E+00	1.294E+01	1.287E+00	-0.020
BI-212		404.84	*	3.052E-01	1.077E+00	1.567E+00	9.814E-01	0.195
		427.08		3.389E-01	2.103E+00	3.460E+00	2.150E+00	0.098
		831.96		-1.171E+00	1.541E+00	2.068E+00	1.300E+00	-0.566
	+	727.18	*	1.290E+00	5.242E-01	7.321E-01	8.309E-02	1.762
		785.46		1.580E+00	2.011E+00	3.548E+00	3.604E-01	0.445
PO-215		1620.62		1.019E+00	1.280E+00	2.389E+00	2.011E-01	0.426
		81.07		1.490E-01	2.412E-01	2.922E-01	2.532E-02	0.510
	+	83.78		1.648E-01	1.360E-01	1.937E-01	1.736E-02	0.851
		94.90		5.644E-01	2.409E-01	3.865E-01	3.476E-02	1.460
		122.32		-7.207E-01	1.668E+00	2.614E+00	2.349E-01	-0.276
RN-219		144.24		1.704E-01	7.149E-01	1.157E+00	1.099E-01	0.147
		154.21		4.500E-01	4.066E-01	6.807E-01	6.425E-02	0.661
	+	269.46		8.494E-01	3.272E-01	3.739E-01	3.760E-02	2.271
		323.87	*	-2.723E-02	7.549E-01	1.095E+00	1.991E-01	-0.025
	+	338.28		5.745E+00	2.043E+00	2.552E+00	3.279E-01	2.251
RN-220		445.03		-1.057E+00	2.436E+00	3.825E+00	4.681E-01	-0.276
	+	271.23		1.090E+00	4.239E-01	4.824E-01	5.506E-02	2.259
		401.81	*	-7.857E-02	4.069E-01	6.562E-01	9.797E-02	-0.120
		549.76	*	3.390E+00	2.536E+01	4.134E+01	3.950E+00	0.082
		81.07		1.490E-01	2.412E-01	2.922E-01	2.532E-02	0.510
RA-223	+	83.78		1.648E-01	1.360E-01	1.937E-01	1.736E-02	0.851
		94.90		5.644E-01	2.409E-01	3.865E-01	3.476E-02	1.460
		122.32		-7.207E-01	1.668E+00	2.614E+00	2.349E-01	-0.276
		144.24		1.704E-01	7.149E-01	1.157E+00	1.099E-01	0.147

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		154.21		4.500E-01	4.066E-01	6.807E-01	6.425E-02	0.661
	+	269.46		8.494E-01	3.272E-01	3.739E-01	3.760E-02	2.271
		323.87	*	-2.723E-02	7.549E-01	1.095E+00	1.991E-01	-0.025
	+	338.28		5.745E+00	2.043E+00	2.552E+00	3.279E-01	2.251
		445.03		-1.057E+00	2.436E+00	3.825E+00	4.681E-01	-0.276
		79.80		2.069E-01	1.897E+00	2.199E+00	4.721E-01	0.094
		236.00		5.104E-01	2.739E-01	4.406E-01	5.712E-02	1.158
		256.20	*	-5.492E-02	3.756E-01	6.236E-01	1.000E-01	-0.088
		286.10		-1.227E+00	1.439E+00	2.243E+00	3.159E-01	-0.547
	+	299.80		3.547E+00	2.652E+00	2.797E+00	5.064E-01	1.268
TH-227		304.40		1.198E+00	2.085E+00	3.181E+00	6.045E-01	0.377
		334.20		6.852E-01	2.782E+00	3.858E+00	7.632E-01	0.178
		79.80		2.069E-01	1.897E+00	2.199E+00	4.782E-01	0.094
	+	94.00		8.640E+00	3.796E+00	3.790E+00	8.318E-01	2.280
		236.00		5.104E-01	2.726E-01	4.406E-01	5.229E-02	1.158
		256.20	*	-5.492E-02	3.756E-01	6.236E-01	1.163E-01	-0.088
		286.10		-1.227E+00	1.887E+00	2.243E+00	2.254E+00	-0.547
	+	299.80		3.547E+00	2.652E+00	2.797E+00	5.064E-01	1.268
		304.40		1.198E+00	2.085E+00	3.181E+00	6.045E-01	0.377
		334.20		6.852E-01	2.782E+00	3.858E+00	7.632E-01	0.178
TH-229	+	85.43		2.467E-01	2.036E-01	3.006E-01	2.751E-02	0.821
	+	88.47		5.735E-01	1.887E-01	2.020E-01	1.903E-02	2.838
		100.00		1.098E-01	1.763E-01	2.892E-01	2.534E-02	0.379
		193.63	*	2.834E-01	4.847E-01	8.428E-01	7.676E-02	0.336
		210.97		4.771E-01	8.779E-01	1.351E+00	1.261E-01	0.353
		283.67	*	-1.175E-01	1.444E+00	2.394E+00	3.822E-01	-0.049
	+	301.29		1.419E+00	1.046E+00	1.116E+00	1.462E-01	1.272
	TH-231	81.07		1.490E-01	2.412E-01	2.922E-01	2.532E-02	0.510
	+	83.78		1.648E-01	1.360E-01	1.937E-01	1.736E-02	0.851
		94.90		5.644E-01	2.409E-01	3.865E-01	3.476E-02	1.460
PA-231		122.32		-7.207E-01	1.668E+00	2.614E+00	2.349E-01	-0.276
		144.24		1.704E-01	7.149E-01	1.157E+00	1.099E-01	0.147
		154.21		4.500E-01	4.066E-01	6.807E-01	6.425E-02	0.661
	+	269.46		8.494E-01	3.272E-01	3.739E-01	3.760E-02	2.271
		323.87	*	-2.723E-02	7.549E-01	1.095E+00	1.991E-01	-0.025
	+	338.28		5.745E+00	2.043E+00	2.552E+00	3.279E-01	2.251
		445.03		-1.057E+00	2.436E+00	3.825E+00	4.681E-01	-0.276
	+	84.21		7.088E+00	5.848E+00	8.324E+00	7.500E-01	0.851
	+	92.29		8.520E+00	3.334E+00	3.984E+00	3.644E-01	2.139
		95.87	*	1.601E-01	1.093E+00	1.595E+00	1.426E-01	0.100
PA-233		108.00		-1.448E+00	2.017E+00	3.134E+00	2.671E-01	-0.462
	+	75.28		1.941E+01	4.642E+00	6.268E+00	9.442E-01	3.096
	+	86.59		8.223E+00	3.418E+00	2.840E+00	7.679E-01	2.896
	+	300.12		9.888E-01	7.337E-01	7.846E-01	1.224E-01	1.260
		311.98	*	1.183E-02	6.144E-02	1.033E-01	1.024E-02	0.115
		340.50		1.529E+00	8.119E-01	1.225E+00	2.953E-01	1.248
		398.62		-8.880E-01	2.030E+00	3.187E+00	8.468E-01	-0.279
		415.76		-2.848E-01	1.688E+00	2.624E+00	5.650E-01	-0.109
	PA-234	63.00		1.836E+00	1.604E+00	2.292E+00	3.387E-01	0.801

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		94.67		4.573E-01	1.875E-01	2.930E-01	3.713E-02	1.561
		98.44		8.366E-02	1.047E-01	1.419E-01	7.923E-02	0.589
		99.86		3.776E-01	4.443E-01	7.358E-01	6.450E-02	0.513
		111.00		-1.315E-01	1.887E-01	2.857E-01	3.421E-02	-0.460
		131.20		7.144E-02	1.265E-01	1.865E-01	1.559E-02	0.383
		152.70		1.993E-01	3.300E-01	5.394E-01	9.177E-02	0.370
	+	186.00		5.842E+00	2.817E+00	2.766E+00	8.663E-01	2.112
		226.40		-1.153E-01	4.092E-01	6.789E-01	9.370E-02	-0.170
		227.20		1.465E-01	4.352E-01	7.445E-01	7.090E-02	0.197
		248.90		-4.276E-01	8.149E-01	1.316E+00	3.009E-01	-0.325
	+	293.70		6.188E+00	1.686E+00	1.783E+00	3.201E-01	3.471
		369.80		5.190E-01	8.383E-01	1.430E+00	3.125E-01	0.363
		568.70		-1.068E-01	1.113E+00	1.766E+00	1.705E-01	-0.060
		569.50		-1.368E-02	3.051E-01	4.864E-01	4.699E-02	-0.028
		574.00		-2.689E-01	1.522E+00	2.400E+00	2.324E-01	-0.112
		699.00		5.262E-01	7.277E-01	1.280E+00	2.535E-01	0.411
		706.10		3.293E-01	1.029E+00	1.755E+00	7.880E-01	0.188
		733.00		-1.751E-01	4.324E-01	5.916E-01	1.351E-01	-0.296
		742.81		3.074E-01	1.357E+00	2.289E+00	1.543E+00	0.134
		796.30		1.367E+00	1.044E+00	1.807E+00	4.983E-01	0.757
		805.60		-2.016E-01	1.102E+00	1.748E+00	5.437E-01	-0.115
		819.60		-9.689E-02	1.304E+00	2.149E+00	8.251E-01	-0.045
		826.30		1.666E-01	8.673E-01	1.461E+00	6.582E-01	0.114
		831.60		-6.792E-01	7.293E-01	1.057E+00	3.203E-01	-0.643
		876.40		-8.875E-02	7.484E-01	1.211E+00	1.246E+00	-0.073
		880.51		2.544E-02	2.673E-01	4.467E-01	4.465E-02	0.057
		883.24		-3.122E-02	2.918E-01	4.756E-01	3.206E-01	-0.066
		899.00		9.465E-02	9.488E-01	1.580E+00	6.951E-01	0.060
		925.00		9.789E-01	1.288E+00	2.274E+00	2.238E-01	0.430
		926.50		1.121E-01	1.918E-01	3.308E-01	8.507E-02	0.339
		946.00	*	-2.255E-01	3.272E-01	4.940E-01	9.539E-02	-0.456
		949.00		5.133E-01	4.922E-01	8.864E-01	8.629E-02	0.579
		980.50		-4.472E-01	7.784E-01	1.195E+00	1.144E-01	-0.374
		1394.10		3.813E-01	1.001E+00	1.731E+00	1.126E+00	0.220
PA-234M		766.42		1.381E+01	1.469E+01	2.319E+01	1.183E+01	0.596
		1001.03	*	-3.488E+00	5.350E+00	8.305E+00	8.884E-01	-0.420
U-235		89.95		1.492E+00	1.473E+00	1.736E+00	5.390E-01	0.859
	+	93.35		2.688E+00	1.273E+00	1.250E+00	3.523E-01	2.150
		105.00		9.458E-01	1.052E+00	1.710E+00	5.102E-01	0.553
		143.76	*	1.314E-01	2.181E-01	3.575E-01	6.231E-02	0.367
		163.35		-2.374E-01	4.901E-01	7.541E-01	1.441E-01	-0.315
	+	185.71		2.164E-01	8.169E-02	1.029E-01	9.262E-03	2.102
		205.31		-8.275E-02	5.736E-01	8.478E-01	1.643E-01	-0.098
NP-236		94.67		3.493E-01	1.389E-01	2.225E-01	2.004E-02	1.570
		98.44		6.318E-02	7.106E-02	1.073E-01	9.467E-03	0.589
		111.00		-9.947E-02	1.425E-01	2.161E-01	1.829E-02	-0.460
		160.31	*	7.810E-02	8.346E-02	1.387E-01	1.200E-02	0.563
NP-237		86.50	*	8.693E-01	3.608E-01	4.231E-01	9.572E-02	2.055
		95.87		1.415E-01	9.666E-01	1.409E+00	3.488E-01	0.100

---- 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		1.537E-01	1.500E-01	2.500E-01	2.194E-02	0.615
		117.00	*	-1.069E-01	1.885E-01	2.921E-01	2.447E-02	-0.366
	+	209.75		1.656E+00	1.309E+00	1.504E+00	1.401E-01	1.101
		228.18		7.626E-02	2.303E-01	3.937E-01	3.754E-02	0.194
	+	277.60		2.640E-01	2.694E-01	3.295E-01	3.278E-02	0.801
AM-241		334.30		4.141E-01	1.577E+00	2.192E+00	2.066E-01	0.189
		59.54	*	9.029E-02	1.311E-01	1.999E-01	1.565E-02	0.452
	CM-243	99.55		1.582E-01	1.543E-01	2.572E-01	2.258E-02	0.615
		103.76	*	3.514E-02	8.917E-02	1.469E-01	1.268E-02	0.239
		117.00		-1.099E-01	1.939E-01	3.005E-01	2.518E-02	-0.366
AM-246	+	209.75		1.632E+00	1.291E+00	1.483E+00	1.381E-01	1.101
		228.18		7.706E-02	2.327E-01	3.978E-01	3.793E-02	0.194
	+	277.60		2.661E-01	2.716E-01	3.322E-01	3.304E-02	0.801
		798.80		-1.213E-01	1.507E-01	2.312E-01	2.346E-02	-0.525
		1036.00		-1.735E-01	3.190E-01	4.890E-01	4.514E-02	-0.355
CM-247		1062.04		2.072E-01	2.454E-01	4.348E-01	3.931E-02	0.477
		1078.86	*	-1.125E-01	1.492E-01	2.213E-01	1.971E-02	-0.508
	+	278.00		1.095E+00	1.117E+00	1.356E+00	1.349E-01	0.808
		287.40		-3.827E-01	1.149E+00	1.872E+00	1.855E-01	-0.204
		402.60	*	7.176E-03	3.692E-02	6.135E-02	5.188E-03	0.117
CF-249		252.85		-3.026E-01	8.553E-01	1.403E+00	1.371E-01	-0.216
		333.44		1.763E-01	2.508E-01	2.936E-01	2.771E-02	0.600
		387.95	*	1.481E-02	3.776E-02	6.383E-02	5.386E-03	0.232
CF-251		176.60	*	-4.758E-02	1.300E-01	1.978E-01	1.755E-02	-0.241
		227.00		7.529E-02	3.895E-01	6.618E-01	6.301E-02	0.114
		285.00		-6.133E-01	1.604E+00	2.603E+00	2.583E-01	-0.236

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]G243274008
* Acquisition date   : 31-DEC-2009 14:36:21 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 02:00:32.81                      Half life ratio  : 8.000
*****
*
*                                     SAMPLE DATA
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID
* Sample ID          : G243274008                      Analyst initials: MXR1
* Batch Number       : 935341                          Sample Quantity : 1.0379E+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	3.344E+01	3.450E+00	5.706E-01	0.000E+00
CD-109	4.273E+00	1.378E+00	1.088E+00	0.000E+00
SN-126	4.200E-01	1.354E-01	1.073E-01	0.000E+00
HG-203	6.032E-02	6.035E-02	5.958E-02	0.000E+00
TL-208	5.197E-01	9.722E-02	6.297E-02	0.000E+00
BI-210	3.566E+00	3.703E+00	3.454E+00	0.000E+00
PB-210	3.566E+00	3.703E+00	3.454E+00	0.000E+00
PO-210	3.566E+00	3.701E+00	3.454E+00	0.000E+00
BI-211	2.986E+00	5.309E-01	3.521E-01	0.000E+00
PB-212	1.632E+00	2.041E-01	8.859E-02	0.000E+00
PO-212	1.632E+00	2.041E-01	8.859E-02	0.000E+00
BI-214	1.027E+00	1.929E-01	1.098E-01	0.000E+00
PB-214	1.039E+00	1.922E-01	1.227E-01	0.000E+00
PO-214	1.039E+00	1.922E-01	1.227E-01	0.000E+00
PO-216	1.632E+00	2.041E-01	8.859E-02	0.000E+00
PO-218	1.039E+00	1.922E-01	1.227E-01	0.000E+00
RA-224	4.836E+00	1.580E+00	1.008E+00	0.000E+00
RA-226	1.027E+00	1.929E-01	1.098E-01	0.000E+00
AC-228	1.821E+00	3.524E-01	2.241E-01	0.000E+00
RA-228	1.821E+00	3.524E-01	2.241E-01	0.000E+00
TH-228	1.657E+00	2.072E-01	8.994E-02	0.000E+00
TH-230	1.027E+00	1.929E-01	1.098E-01	0.000E+00
TH-232	1.821E+00	3.524E-01	2.241E-01	0.000E+00
TH-234	1.575E+00	1.356E+00	1.770E+00	0.000E+00
U-234	1.027E+00	1.929E-01	1.098E-01	0.000E+00
U-238	1.575E+00	1.356E+00	1.770E+00	0.000E+00
AM-243	3.705E-01	7.360E-02	7.912E-02	0.000E+00
ANH-511	1.071E-01	6.883E-02	4.814E-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	2.986E-02	3.042E-01	5.067E-01	0.000E+00	NOT IDENT.
NA-22	-1.003E-02	4.577E-02	7.276E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.694E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	3.229E-03	1.729E-02	3.069E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.105E-02	7.560E-02	0.000E+00	FAIL ABUN
SC-46	-3.101E-02	4.119E-02	6.354E-02	0.000E+00	FAIL ABUN
V-48	-1.305E-02	7.846E-02	1.285E-01	0.000E+00	NOT IDENT.
CR-51	1.213E-01	3.761E-01	6.478E-01	0.000E+00	NOT IDENT.
MN-52	9.308E-02	1.884E-01	3.457E-01	0.000E+00	NOT IDENT.
MO-54	1.429E-02	4.030E-02	6.987E-02	0.000E+00	NOT IDENT.
CO-56	9.424E-03	4.046E-02	6.957E-02	0.000E+00	NOT IDENT.
CO-57	-1.020E-02	2.350E-02	3.773E-02	0.000E+00	NOT IDENT.
CO-58	-2.177E-02	3.951E-02	6.297E-02	0.000E+00	NOT IDENT.
FE-59	3.525E-02	1.094E-01	1.860E-01	0.000E+00	NOT IDENT.
CO-60	4.500E-03	3.986E-02	6.589E-02	0.000E+00	NOT IDENT.
ZN-65	-6.517E-02	1.206E-01	1.590E-01	0.000E+00	NOT IDENT.
GE-68	-7.996E-01	1.266E+00	1.939E+00	0.000E+00	NOT IDENT.
AS-73	2.059E-01	5.673E-01	9.764E-01	0.000E+00	NOT IDENT.
AS-74	5.349E-02	9.918E-02	1.688E-01	0.000E+00	NOT IDENT.
SE-75	-1.257E-02	4.730E-02	6.948E-02	0.000E+00	NOT IDENT.
BR-77	-3.550E+00	1.043E+01	1.659E+01	0.000E+00	FAIL ABUN
SR-82	-1.219E-01	3.993E-01	6.573E-01	0.000E+00	NOT IDENT.
RB-83	-2.141E-02	6.982E-02	1.115E-01	0.000E+00	NOT IDENT.
RB-84	-3.491E-02	6.736E-02	1.064E-01	0.000E+00	NOT IDENT.
KR-85	1.236E+01	8.499E+00	1.391E+01	0.000E+00	NOT IDENT.
SR-85	6.337E-02	4.357E-02	7.129E-02	0.000E+00	NOT IDENT.
RB-86	-1.189E-01	8.028E-01	1.306E+00	0.000E+00	NOT IDENT.
Y-88	1.444E-05	3.444E-02	5.724E-02	0.000E+00	NOT IDENT.
ZR-88	3.330E-02	2.895E-02	5.229E-02	0.000E+00	NOT IDENT.
Y-91	2.522E+01	2.238E+01	4.013E+01	0.000E+00	NOT IDENT.
NB-94	-1.681E-02	3.262E-02	5.301E-02	0.000E+00	NOT IDENT.
NB-95	1.779E-03	4.770E-02	8.103E-02	0.000E+00	NOT IDENT.
NB-95M	1.076E-01	1.296E-01	2.064E-01	0.000E+00	NOT IDENT.
ZR-95	1.084E-01	7.447E-02	1.398E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.981E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.858E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.880E-01	1.134E+01	1.930E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.764E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.344E-02	3.399E-02	5.550E-02	0.000E+00	NOT IDENT.
RH-102	-9.249E-03	2.874E-02	4.614E-02	0.000E+00	NOT IDENT.
RU-103	8.156E-03	3.777E-02	6.343E-02	0.000E+00	FAIL ABUN
RH-106	3.127E-01	3.132E-01	5.529E-01	0.000E+00	FAIL ABUN
RU-106	3.127E-01	3.116E-01	5.529E-01	0.000E+00	FAIL ABUN
AG-108M	3.673E-02	3.195E-02	5.755E-02	0.000E+00	NOT IDENT.
AG-110M	-9.873E-03	3.252E-02	5.410E-02	0.000E+00	NOT IDENT.
IN-111	7.464E-01	1.048E+00	1.668E+00	0.000E+00	NOT IDENT.
IN-113M	-1.963E-02	4.393E-02	7.089E-02	0.000E+00	NOT IDENT.
SN-113	-1.963E-02	4.393E-02	7.089E-02	0.000E+00	NOT IDENT.
IN-114M	-2.108E-03	1.847E-01	2.826E-01	0.000E+00	NOT IDENT.
CD-115	-4.358E+00	1.033E+01	1.625E+01	0.000E+00	NOT IDENT.
SN-117M	-5.975E-03	5.745E-02	9.292E-02	0.000E+00	NOT IDENT.
SB-122	4.573E-01	2.133E+00	3.551E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.029E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.885E-03	3.009E-02	4.860E-02	0.000E+00	NOT IDENT.
I-124	9.088E-02	7.897E-01	1.136E+00	0.000E+00	NOT IDENT.
SB-124	1.879E-02	6.097E-02	1.092E-01	0.000E+00	FAIL ABUN
SB-125	-4.488E-03	9.336E-02	1.546E-01	0.000E+00	NOT IDENT.
TE-125M	2.550E+00	8.805E+00	1.475E+01	0.000E+00	NOT IDENT.
I-126	9.018E-02	1.723E-01	3.070E-01	0.000E+00	NOT IDENT.
SB-126	-1.409E-02	1.668E-01	2.442E-01	0.000E+00	FAIL ABUN
SB-127	1.548E+00	1.380E+00	2.545E+00	0.000E+00	NOT IDENT.
XE-127	3.639E-02	4.825E-02	8.062E-02	0.000E+00	NOT IDENT.
I-131	-1.262E-02	1.152E-01	1.919E-01	0.000E+00	NOT IDENT.
TE-132	3.015E-01	6.868E-01	1.202E+00	0.000E+00	NOT IDENT.
BA-133	1.811E-02	5.020E-02	7.637E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.494E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.590E-02	5.024E-02	9.303E-02	0.000E+00	NOT IDENT.
CS-135	1.466E-01	1.737E-01	2.763E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.324E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.063E-01	1.158E-01	1.718E-01	0.000E+00	NOT IDENT.
BA-137M	-4.106E-02	3.238E-02	4.822E-02	0.000E+00	NOT IDENT.
CS-137	-4.340E-02	3.423E-02	5.098E-02	0.000E+00	NOT IDENT.
CE-139	-1.020E-02	2.980E-02	4.741E-02	0.000E+00	NOT IDENT.
BA-140	1.854E-02	2.510E-01	4.142E-01	0.000E+00	NOT IDENT.
LA-140	-7.415E-02	7.834E-02	1.075E-01	0.000E+00	FAIL ABUN
CE-141	7.520E-03	6.404E-02	1.052E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.138E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	1.417E-01	2.347E-01	3.541E-01	0.000E+00	NOT IDENT.
PM-144	-1.747E-02	3.496E-02	5.705E-02	0.000E+00	NOT IDENT.
PR-144	-1.184E+00	2.369E+00	3.866E+00	0.000E+00	NOT IDENT.
PM-146	5.055E-02	4.758E-02	8.433E-02	0.000E+00	NOT IDENT.
ND-147	1.834E-01	5.210E-01	8.826E-01	0.000E+00	NOT IDENT.
PM-149	-7.293E+01	8.375E+01	1.328E+02	0.000E+00	NOT IDENT.
EU-152	-7.680E-02	1.123E-01	1.549E-01	0.000E+00	NOT IDENT.
GD-153	-9.158E-02	8.428E-02	1.147E-01	0.000E+00	FAIL ABUN
EU-154	-4.646E-02	1.313E-01	2.052E-01	0.000E+00	NOT IDENT.
EU-155	6.416E-02	1.026E-01	1.745E-01	0.000E+00	FAIL ABUN
TB-160	3.732E-02	1.260E-01	2.184E-01	0.000E+00	FAIL ABUN
HO-166M	-1.411E-02	6.119E-02	1.021E-01	0.000E+00	FAIL ABUN
TM-171	6.839E+00	2.590E+01	3.945E+01	0.000E+00	NOT IDENT.
LU-176	-5.885E-03	2.764E-02	4.036E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.808E+00	2.107E+00	0.000E+00	FAIL ABUN
LU-177M	-6.911E-03	1.900E-01	2.761E-01	0.000E+00	FAIL ABUN
HF-181	-2.961E-02	4.084E-02	6.276E-02	0.000E+00	NOT IDENT.
W-181	-8.177E-02	3.397E-01	5.048E-01	0.000E+00	NOT IDENT.
TA-182	8.576E-02	2.324E-01	3.948E-01	0.000E+00	FAIL ABUN
RE-183	2.139E-02	1.120E-01	1.837E-01	0.000E+00	FAIL ABUN
RE-184	-8.063E-02	2.234E-01	3.740E-01	0.000E+00	NOT IDENT.
OS-185	3.766E-02	4.222E-02	7.725E-02	0.000E+00	NOT IDENT.
RE-188	1.521E-01	1.760E-01	2.981E-01	0.000E+00	NOT IDENT.
W-188	1.017E+00	7.833E+00	1.183E+01	0.000E+00	FAIL ABUN
IR-192	-1.383E-02	3.335E-02	5.480E-02	0.000E+00	FAIL ABUN
AU-195	2.425E-01	2.313E-01	3.601E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.489E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.907E+00	6.770E+00	1.140E+01	0.000E+00	NOT IDENT.
TL-202	1.030E-01	7.143E-02	1.303E-01	0.000E+00	NOT IDENT.
BI-207	2.374E-02	5.566E-02	9.615E-02	0.000E+00	FAIL ABUN
TL-207	-2.723E-02	7.399E-01	1.094E+00	0.000E+00	FAIL ABUN
PO-209	-2.536E-01	7.706E+00	1.287E+01	0.000E+00	NOT IDENT.
PB-211	3.052E-01	1.055E+00	1.564E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.138E-01	7.289E-01	0.000E+00	FAIL ABUN
PO-215	-2.723E-02	7.399E-01	1.094E+00	0.000E+00	FAIL ABUN
RN-219	-7.857E-02	3.987E-01	6.550E-01	0.000E+00	FAIL ABUN
RN-220	3.390E+00	2.485E+01	4.121E+01	0.000E+00	NOT IDENT.
RA-223	-2.723E-02	7.399E-01	1.094E+00	0.000E+00	FAIL ABUN
AC-227	-5.492E-02	3.681E-01	6.237E-01	0.000E+00	FAIL ABUN
TH-227	-5.492E-02	3.681E-01	6.237E-01	0.000E+00	FAIL ABUN
TH-229	2.834E-01	4.750E-01	8.439E-01	0.000E+00	FAIL ABUN
PA-231	-1.175E-01	1.415E+00	2.393E+00	0.000E+00	FAIL ABUN
TH-231	-2.723E-02	7.399E-01	1.094E+00	0.000E+00	FAIL ABUN
U-231	1.601E-01	1.071E+00	1.602E+00	0.000E+00	FAIL ABUN
PA-233	1.183E-02	6.021E-02	1.032E-01	0.000E+00	FAIL ABUN
PA-234	-2.255E-01	3.206E-01	4.913E-01	0.000E+00	FAIL ABUN
PA-234M	-3.488E+00	5.243E+00	8.257E+00	0.000E+00	NOT IDENT.
U-235	1.314E-01	2.138E-01	3.585E-01	0.000E+00	FAIL ABUN
NP-236	7.810E-02	8.180E-02	1.390E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	3.536E-01	4.252E-01	0.000E+00	NOT IDENT.
NP-239	-1.069E-01	1.847E-01	2.932E-01	0.000E+00	FAIL ABUN
AM-241	9.029E-02	1.284E-01	2.012E-01	0.000E+00	NOT IDENT.
CM-243	3.514E-02	8.739E-02	1.475E-01	0.000E+00	FAIL ABUN
AM-246	-1.125E-01	1.462E-01	2.199E-01	0.000E+00	NOT IDENT.
CM-247	7.176E-03	3.618E-02	6.124E-02	0.000E+00	FAIL ABUN
CF-249	1.481E-02	3.700E-02	6.372E-02	0.000E+00	NOT IDENT.
CF-251	-4.758E-02	1.274E-01	1.981E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:38:26.23

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274008.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:36:21
Sample ID          : G243274008           Sample quantity  : 1.03790E+02 GRAM
Detector name      : GAM20                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00         Elapsed real time: 0 02:00:32.81 0.5%
Energy tolerance   : 1.50000 keV           Analyst Initials : MXR1
Abundance limit    : 75.00000              Sensitivity       : 5.00000
Batch ID           : 935341                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	1236	10.67*	1.253E+00	3.344E+01	3.344E+01	10.53
CD-109	88.03	300	3.72*	6.975E+00	4.178E+00	4.273E+00	32.90
SN-126	64.28	76	9.60	4.618E+00	6.234E-01	6.234E-01	87.33
	86.94	300	8.90	6.975E+00	1.746E+00	1.746E+00	52.14
	87.57	300	37.00*	6.975E+00	4.200E-01	4.200E-01	32.90
HG-203	70.83	-----	4.75	5.621E+00	-----	Line Not Found	-----
	72.87	-----	8.00	5.845E+00	-----	Line Not Found	-----
	82.60	76	3.55	6.754E+00	1.147E+00	1.437E+00	83.20
	279.20	49	77.30*	4.717E+00	4.815E-02	6.032E-02	102.09
TL-208	277.35	49	6.80	4.717E+00	5.474E-01	5.474E-01	102.45
	510.84	89	21.60	2.994E+00	4.956E-01	4.956E-01	66.13
	583.14	326	84.20*	2.696E+00	5.197E-01	5.197E-01	19.09
	860.37	68	12.46	1.952E+00	1.016E+00	1.016E+00	48.98
BI-210	46.50	75	4.05*	1.870E+00	3.562E+00	3.566E+00	105.96
PB-210	46.50	75	4.05*	1.870E+00	3.562E+00	3.566E+00	105.96
PO-210	46.50	75	4.05*	1.870E+00	3.562E+00	3.566E+00	105.89
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	424	12.94*	3.971E+00	2.986E+00	2.986E+00	18.14
PB-212	74.81	409	10.70	6.049E+00	2.285E+00	2.285E+00	22.32
	77.11	569	18.00	6.263E+00	1.826E+00	1.826E+00	15.45
	87.30	300	8.00	6.975E+00	1.943E+00	1.943E+00	34.39
	238.63	1057	44.60*	5.250E+00	1.632E+00	1.632E+00	12.76
	300.09	81	3.41	4.462E+00	1.914E+00	1.914E+00	73.44
PO-212	74.81	409	10.70	6.049E+00	2.285E+00	2.285E+00	22.32
	77.11	569	18.00	6.263E+00	1.826E+00	1.826E+00	15.45
	87.30	300	8.00	6.975E+00	1.943E+00	1.943E+00	34.39
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1057	44.60*	5.250E+00	1.632E+00	1.632E+00	12.76
	300.09	81	3.41	4.462E+00	1.914E+00	1.914E+00	73.44
BI-214	609.31	342	46.30*	2.603E+00	1.027E+00	1.027E+00	19.16
	1120.29	78	15.10	1.557E+00	1.197E+00	1.197E+00	55.69
	1764.49	46	15.80	1.100E+00	9.594E-01	9.595E-01	42.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	74.81	409	6.21	6.049E+00	3.938E+00	3.938E+00	21.58
	77.11	569	10.50	6.263E+00	3.131E+00	3.131E+00	17.23
	87.30	300	4.67	6.975E+00	3.328E+00	3.328E+00	33.79
	241.98	275	7.49	5.206E+00	2.550E+00	2.550E+00	33.80
	295.21	309	19.20	4.515E+00	1.289E+00	1.289E+00	23.59
	351.92	424	37.20*	3.971E+00	1.039E+00	1.039E+00	18.88
PO-214	74.81	409	6.21	6.049E+00	3.938E+00	3.938E+00	21.58
	77.11	569	10.50	6.263E+00	3.131E+00	3.131E+00	17.23
	87.30	300	4.67	6.975E+00	3.328E+00	3.328E+00	33.79
	241.98	275	7.49	5.206E+00	2.550E+00	2.550E+00	33.80
	295.21	309	19.20	4.515E+00	1.289E+00	1.289E+00	23.59
	351.92	424	37.20*	3.971E+00	1.039E+00	1.039E+00	18.88
PO-216	74.81	409	10.70	6.049E+00	2.285E+00	2.285E+00	22.32
	77.11	569	18.00	6.263E+00	1.826E+00	1.826E+00	15.45
	87.30	300	8.00	6.975E+00	1.943E+00	1.943E+00	34.39
	238.63	1057	44.60*	5.250E+00	1.632E+00	1.632E+00	12.76
	300.09	81	3.41	4.462E+00	1.914E+00	1.914E+00	73.44
	74.81	409	6.21	6.049E+00	3.938E+00	3.938E+00	21.58
PO-218	77.11	569	10.50	6.263E+00	3.131E+00	3.131E+00	17.23
	87.30	300	4.67	6.975E+00	3.328E+00	3.328E+00	33.79
	241.98	275	7.49	5.206E+00	2.550E+00	2.550E+00	33.80
	295.21	309	19.20	4.515E+00	1.289E+00	1.289E+00	23.59
	351.92	424	37.20*	3.971E+00	1.039E+00	1.039E+00	18.88
	240.98	275	3.95*	5.206E+00	4.836E+00	4.836E+00	33.33
RA-224	609.31	342	46.30*	2.603E+00	1.027E+00	1.027E+00	19.16
RA-226	1120.29	78	15.10	1.557E+00	1.197E+00	1.197E+00	55.69
	1764.49	46	15.80	1.100E+00	9.594E-01	9.595E-01	42.69
AC-228	338.32	177	11.40	4.087E+00	1.376E+00	1.376E+00	53.06
	911.07	260	27.70*	1.860E+00	1.821E+00	1.821E+00	19.75
	969.11	100	16.60	1.764E+00	1.234E+00	1.234E+00	46.91
RA-228	338.32	177	11.40	4.087E+00	1.376E+00	1.376E+00	53.06
	911.07	260	27.70*	1.860E+00	1.821E+00	1.821E+00	19.75
	969.11	100	16.60	1.764E+00	1.234E+00	1.234E+00	46.91
TH-228	74.81	409	10.70	6.049E+00	2.285E+00	2.320E+00	20.30
	77.11	569	18.00	6.263E+00	1.826E+00	1.854E+00	15.46
	87.30	300	8.00	6.975E+00	1.943E+00	1.972E+00	32.90
TH-230	238.63	1057	44.60*	5.250E+00	1.632E+00	1.657E+00	12.76
	300.09	81	3.41	4.462E+00	1.914E+00	1.943E+00	93.81
	609.31	342	46.30*	2.603E+00	1.027E+00	1.027E+00	19.16
	1120.29	78	15.10	1.557E+00	1.197E+00	1.197E+00	55.69
TH-232	1764.49	46	15.80	1.100E+00	9.594E-01	9.594E-01	42.69
	338.32	177	11.40	4.087E+00	1.376E+00	1.376E+00	34.45
	911.07	260	27.70*	1.860E+00	1.821E+00	1.821E+00	19.75
TH-234	969.11	100	16.60	1.764E+00	1.234E+00	1.234E+00	46.91
	63.29	76	3.80*	4.618E+00	1.575E+00	1.575E+00	87.86
	92.38	240	5.41	7.180E+00	2.236E+00	2.236E+00	42.23
U-234	609.31	342	46.30*	2.603E+00	1.027E+00	1.027E+00	19.16
	1120.29	78	15.10	1.557E+00	1.197E+00	1.197E+00	55.69
	1764.49	46	15.80	1.100E+00	9.594E-01	9.594E-01	42.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-238	63.29	76	3.80*	4.618E+00	1.575E+00	1.575E+00	87.86
	92.38	240	5.41	7.180E+00	2.236E+00	2.236E+00	39.13
AM-243	74.67	409	66.00*	6.049E+00	3.705E-01	3.705E-01	20.27
	86.72	300	0.34	6.975E+00	4.625E+01	4.625E+01	32.90
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
ANH-511	511.00	89	100.00*	2.994E+00	1.071E-01	1.071E-01	65.61

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 2
Number of lines tentatively identified by NID 30 93.75%

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	3.344E+01	3.344E+01	0.352E+01	10.53	
CD-109	464.00D	1.02	4.178E+00	4.273E+00	1.406E+00	32.90	
SN-126	1.00E+05Y	1.00	4.200E-01	4.200E-01	1.382E-01	32.90	
HG-203	46.60D	1.25	4.815E-02	6.032E-02	6.158E-02	102.09	
TL-208	1.41E+10Y	1.00	5.197E-01	5.197E-01	0.992E-01	19.09	
BI-210	22.26Y	1.00	3.562E+00	3.566E+00	3.779E+00	105.96	
PB-210	22.26Y	1.00	3.562E+00	3.566E+00	3.779E+00	105.96	
PO-210	22.26Y	1.00	3.562E+00	3.566E+00	3.776E+00	105.89	
BI-211	7.04E+08Y	1.00	2.986E+00	2.986E+00	0.542E+00	18.14	
PB-212	1.41E+10Y	1.00	1.632E+00	1.632E+00	0.208E+00	12.76	
PO-212	1.41E+10Y	1.00	1.632E+00	1.632E+00	0.208E+00	12.76	
BI-214	1600.00Y	1.00	1.027E+00	1.027E+00	0.197E+00	19.16	
PB-214	1600.00Y	1.00	1.039E+00	1.039E+00	0.196E+00	18.88	
PO-214	1600.00Y	1.00	1.039E+00	1.039E+00	0.196E+00	18.88	
PO-216	1.41E+10Y	1.00	1.632E+00	1.632E+00	0.208E+00	12.76	
PO-218	1600.00Y	1.00	1.039E+00	1.039E+00	0.196E+00	18.88	
RA-224	1.41E+10Y	1.00	4.836E+00	4.836E+00	1.612E+00	33.33	
RA-226	1600.00Y	1.00	1.027E+00	1.027E+00	0.197E+00	19.16	
AC-228	1.41E+10Y	1.00	1.821E+00	1.821E+00	0.360E+00	19.75	
RA-228	1.41E+10Y	1.00	1.821E+00	1.821E+00	0.360E+00	19.75	
TH-228	1.91Y	1.02	1.632E+00	1.657E+00	0.211E+00	12.76	
TH-230	4.47E+09Y	1.00	1.027E+00	1.027E+00	0.197E+00	19.16	
TH-232	1.41E+10Y	1.00	1.821E+00	1.821E+00	0.360E+00	19.75	
TH-234	4.47E+09Y	1.00	1.575E+00	1.575E+00	1.384E+00	87.86	
U-234	4.47E+09Y	1.00	1.027E+00	1.027E+00	0.197E+00	19.16	
U-238	4.47E+09Y	1.00	1.575E+00	1.575E+00	1.384E+00	87.86	
AM-243	7380.00Y	1.00	3.705E-01	3.705E-01	0.751E-01	20.27	
ANH-511	1.00E+09Y	1.00	1.071E-01	1.071E-01	0.702E-01	65.61	

Total Activity : 7.996E+01 8.011E+01

Grand Total Activity : 7.996E+01 8.011E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243274008

Page : 5
Acquisition date : 31-DEC-2009 14:36:21

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.11	73	261	0.83	258.01	255	8	1.01E-02	80.1	7.29E+00	T
0	185.64	200	258	1.23	370.91	365	12	2.77E-02	36.7	6.18E+00	T
0	208.96	85	276	1.32	417.48	412	11	1.18E-02	78.5	5.74E+00	T
0	270.24	154	155	2.20	539.90	533	13	2.13E-02	37.2	4.81E+00	T
0	328.10	88	95	1.21	655.49	651	10	1.22E-02	46.8	4.18E+00	T
0	409.84	38	94	1.03	818.80	814	10	5.26E-03	****	3.54E+00	T
0	727.08	95	55	1.19	1452.90	1446	13	1.32E-02	39.0	2.25E+00	T
0	1587.53	16	7	0.67	3174.63	3171	7	2.22E-03	74.2	1.18E+00	
0	1729.70	9	10	0.54	3459.37	3453	9	1.29E-03	****	1.11E+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]G243274008.CNF;1  *
* Acquisition date   : 31-DEC-2009 14:36:21  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 02:00:32.81           Half life ratio  : 8.00000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00  Nuclide Library   : SOLID        *
* Sample ID          : G243274008           Analyst initials: MXR1          *
* Batch Number       : 935341              Sample Quantity  : 1.03790E+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	3.344E+01	3.521E+00	5.749E-01	5.013E-02	58.171
CD-109	4.273E+00	1.406E+00	1.083E+00	1.024E-01	3.946
SN-126	4.200E-01	1.382E-01	1.067E-01	1.004E-02	3.935
HG-203	6.032E-02	6.158E-02	5.959E-02	6.060E-03	1.012
TL-208	5.197E-01	9.920E-02	6.319E-02	6.497E-03	8.224
BI-210	3.566E+00	3.779E+00	3.428E+00	3.179E-01	1.040
PB-210	3.566E+00	3.779E+00	3.428E+00	3.179E-01	1.040
PO-210	3.566E+00	3.776E+00	3.428E+00	2.876E-01	1.040
BI-211	2.986E+00	5.417E-01	3.526E-01	3.378E-02	8.469
PB-212	1.632E+00	2.083E-01	8.855E-02	9.417E-03	18.435
PO-212	1.632E+00	2.083E-01	8.855E-02	9.417E-03	18.435
BI-214	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
PB-214	1.039E+00	1.961E-01	1.229E-01	1.339E-02	8.452
PO-214	1.039E+00	1.961E-01	1.229E-01	1.339E-02	8.452
PO-216	1.632E+00	2.083E-01	8.855E-02	9.417E-03	18.435
PO-218	1.039E+00	1.961E-01	1.229E-01	1.339E-02	8.452
RA-224	4.836E+00	1.612E+00	1.008E+00	9.739E-02	4.800
RA-226	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.821E+00	3.596E-01	2.253E-01	2.760E-02	8.083
RA-228	1.821E+00	3.596E-01	2.253E-01	2.760E-02	8.083
TH-228	1.657E+00	2.115E-01	8.990E-02	9.560E-03	18.435
TH-230	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
TH-232	1.821E+00	3.596E-01	2.253E-01	2.760E-02	8.083
TH-234	1.575E+00	1.384E+00	1.759E+00	3.056E-01	0.895
U-234	1.027E+00	1.969E-01	1.102E-01	1.226E-02	9.322
U-238	1.575E+00	1.384E+00	1.759E+00	3.056E-01	0.895
AM-243	3.705E-01	7.511E-02	7.869E-02	6.334E-03	4.709
ANH-511	1.071E-01	7.023E-02	4.828E-02	4.499E-03	2.217

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.986E-02		3.104E-01	5.080E-01	4.938E-02	0.059
NA-22	-1.003E-02		4.670E-02	7.326E-02	6.069E-03	-0.137
NA-24	3.458E-02		3.415E-01	Half-Life too short		
AL-26	3.229E-03		1.764E-02	3.095E-02	2.514E-03	0.104
TI-44	3.370E-01	+	5.209E-02	7.520E-02	6.311E-03	4.482
SC-46	-3.101E-02		4.203E-02	6.388E-02	6.368E-03	-0.486
V-48	-1.305E-02		8.006E-02	1.292E-01	1.235E-02	-0.101
CR-51	1.213E-01		3.837E-01	6.484E-01	6.500E-02	0.187
MN-52	9.308E-02		1.923E-01	3.483E-01	2.948E-02	0.267
MN-54	1.429E-02		4.112E-02	7.022E-02	7.093E-03	0.204
CO-56	9.424E-03		4.129E-02	6.993E-02	7.048E-03	0.135
CO-57	-1.020E-02		2.398E-02	3.760E-02	3.139E-03	-0.271
CO-58	-2.177E-02		4.032E-02	6.328E-02	6.426E-03	-0.344
FE-59	3.525E-02		1.117E-01	1.872E-01	1.765E-02	0.188
CO-60	4.500E-03		4.067E-02	6.636E-02	5.559E-03	0.068
ZN-65	-6.517E-02		1.231E-01	1.600E-01	1.377E-02	-0.407
GE-68	-7.996E-01		1.292E+00	1.951E+00	1.741E-01	-0.410
AS-73	2.059E-01		5.789E-01	9.697E-01	7.199E-02	0.212
AS-74	5.349E-02		1.012E-01	1.694E-01	1.658E-02	0.316
SE-75	-1.257E-02		4.826E-02	6.948E-02	6.879E-03	-0.181
BR-77	-3.550E+00		1.064E+01	1.663E+01	1.560E+00	-0.213
SR-82	-1.219E-01		4.074E-01	6.604E-01	6.710E-02	-0.185
RB-83	-2.141E-02		7.125E-02	1.118E-01	1.048E-02	-0.192
RB-84	-3.491E-02		6.873E-02	1.070E-01	1.069E-02	-0.326
KR-85	1.236E+01		8.672E+00	1.395E+01	1.302E+00	0.886
SR-85	6.337E-02		4.446E-02	7.150E-02	6.677E-03	0.886
RB-86	-1.189E-01		8.192E-01	1.314E+00	1.173E-01	-0.090
Y-88	1.444E-05		3.514E-02	5.773E-02	4.658E-03	0.000
ZR-88	3.330E-02		2.955E-02	5.238E-02	4.381E-03	0.636
Y-91	2.522E+01		2.284E+01	4.040E+01	3.281E+00	0.624
NB-94	-1.681E-02		3.329E-02	5.324E-02	5.387E-03	-0.316
NB-95	1.779E-03		4.867E-02	8.141E-02	8.273E-03	0.022
NB-95M	1.076E-01		1.322E-01	2.062E-01	2.216E-02	0.521

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	1.084E-01		7.599E-02	1.404E-01	1.532E-02	0.772
NB-97	-2.866E-02		4.582E-02	Half-Life too short		
ZR-97	3.152E+00		9.482E-01	Half-Life too short		
MO-99	2.880E-01		1.157E+01	1.939E+01	3.123E+00	0.015
TC-99M	-1.738E+10		1.921E+10	Half-Life too short		
RH-101	-1.344E-02		3.468E-02	5.543E-02	5.081E-03	-0.243
RH-102	-9.249E-03		2.933E-02	4.625E-02	4.194E-03	-0.200
RU-103	8.156E-03		3.854E-02	6.360E-02	9.247E-03	0.128
RH-106	3.127E-01		3.196E-01	5.550E-01	7.889E-02	0.563
RU-106	3.127E-01		3.180E-01	5.550E-01	5.493E-02	0.563
AG-108M	3.673E-02		3.260E-02	5.767E-02	5.234E-03	0.637
AG-110M	-9.873E-03		3.318E-02	5.432E-02	5.565E-03	-0.182
IN-111	7.464E-01		1.069E+00	1.668E+00	1.619E-01	0.448
IN-113M	-1.963E-02		4.482E-02	7.101E-02	6.126E-03	-0.276
SN-113	-1.963E-02		4.482E-02	7.101E-02	6.126E-03	-0.276
IN-114M	-2.108E-03		1.885E-01	2.822E-01	2.557E-02	-0.007
CD-115	-4.358E+00		1.055E+01	1.630E+01	1.536E+00	-0.267
SN-117M	-5.975E-03		5.863E-02	9.271E-02	8.001E-03	-0.064
SB-122	4.573E-01		2.177E+00	3.563E+00	3.431E-01	0.128
I-123	-7.784E-01		3.076E+00	Half-Life too short		
TE-123M	-3.885E-03		3.071E-02	4.849E-02	4.213E-03	-0.080
I-124	9.088E-02		8.058E-01	1.140E+00	1.119E-01	0.080
SB-124	1.879E-02		6.222E-02	1.101E-01	9.571E-03	0.171
SB-125	-4.488E-03		9.527E-02	1.550E-01	1.372E-02	-0.029
TE-125M	2.550E+00		8.984E+00	1.469E+01	1.502E+00	0.174
I-126	9.018E-02		1.758E-01	3.082E-01	3.097E-02	0.293
SB-126	-1.409E-02		1.702E-01	2.453E-01	2.487E-02	-0.057
SB-127	1.548E+00		1.408E+00	2.556E+00	3.202E-01	0.606
XE-127	3.639E-02		4.924E-02	8.053E-02	7.432E-03	0.452
I-131	-1.262E-02		1.176E-01	1.921E-01	1.802E-02	-0.066
TE-132	3.015E-01		7.008E-01	1.202E+00	1.951E-01	0.251
BA-133	1.811E-02		5.122E-02	7.647E-02	1.033E-02	0.237
I-133	1.964E-03		2.803E-03	Half-Life too short		
CS-134	6.590E-02		5.126E-02	9.349E-02	9.539E-03	0.705
CS-135	1.466E-01		1.773E-01	2.763E-01	3.062E-02	0.530
I-135	7.996E+08		3.227E+09	Half-Life too short		
CS-136	-1.063E-01		1.181E-01	1.729E-01	1.641E-02	-0.615
BA-137M	-4.106E-02		3.304E-02	4.842E-02	4.859E-03	-0.848
CS-137	-4.340E-02		3.493E-02	5.118E-02	5.144E-03	-0.848
CE-139	-1.020E-02		3.040E-02	4.732E-02	4.131E-03	-0.216
BA-140	1.854E-02		2.562E-01	4.155E-01	1.387E-01	0.045
LA-140	-7.415E-02		7.994E-02	1.083E-01	9.144E-03	-0.685
CE-141	7.520E-03		6.535E-02	1.049E-01	9.055E-03	0.072
CE-143	5.839E-04		1.091E-04	Half-Life too short		
CE-144	1.417E-01		2.395E-01	3.530E-01	5.448E-02	0.401
PM-144	-1.747E-02		3.568E-02	5.730E-02	5.793E-03	-0.305
PR-144	-1.184E+00		2.418E+00	3.883E+00	3.924E-01	-0.305
PM-146	5.055E-02		4.855E-02	8.453E-02	9.259E-03	0.598

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	1.834E-01		5.316E-01	8.853E-01	1.367E-01	0.207
PM-149	-7.293E+01		8.546E+01	1.329E+02	2.166E+01	-0.549
EU-152	-7.680E-02		1.146E-01	1.551E-01	1.513E-02	-0.495
GD-153	-9.158E-02		8.600E-02	1.142E-01	1.013E-02	-0.802
EU-154	-4.646E-02		1.339E-01	2.067E-01	2.284E-02	-0.225
EU-155	6.416E-02		1.047E-01	1.738E-01	1.511E-02	0.369
TB-160	3.732E-02		1.286E-01	2.196E-01	2.196E-02	0.170
HO-166M	-1.411E-02		6.244E-02	1.025E-01	1.039E-02	-0.138
TM-171	6.839E+00		2.643E+01	3.921E+01	2.921E+00	0.174
LU-176	-5.885E-03		2.820E-02	4.039E-02	3.939E-03	-0.146
LU-177	2.333E+00	+	1.845E+00	2.105E+00	1.958E-01	1.108
LU-177M	-6.911E-03		1.939E-01	2.766E-01	2.368E-02	-0.025
HF-181	-2.961E-02		4.167E-02	6.293E-02	5.738E-03	-0.471
W-181	-8.177E-02		3.466E-01	5.018E-01	3.692E-02	-0.163
TA-182	8.576E-02		2.371E-01	3.975E-01	3.243E-02	0.216
RE-183	2.139E-02		1.143E-01	1.833E-01	1.591E-02	0.117
RE-184	-8.063E-02		2.279E-01	3.740E-01	3.655E-02	-0.216
OS-185	3.766E-02		4.308E-02	7.755E-02	7.744E-03	0.486
RE-188	1.521E-01		1.796E-01	2.974E-01	2.553E-02	0.511
W-188	1.017E+00		7.993E+00	1.184E+01	1.170E+00	0.086
IR-192	-1.383E-02		3.403E-02	5.484E-02	5.304E-03	-0.252
AU-195	2.425E-01		2.360E-01	3.586E-01	3.158E-02	0.676
TL-200	1.942E-04		2.290E-04	Half-Life too short		
TL-201	4.907E+00		6.908E+00	1.138E+01	9.955E-01	0.431
TL-202	1.030E-01		7.289E-02	1.306E-01	1.147E-02	0.789
BI-207	2.374E-02		5.680E-02	9.674E-02	8.734E-03	0.245
TL-207	-2.723E-02		7.549E-01	1.095E+00	1.991E-01	-0.025
PO-209	-2.536E-01		7.863E+00	1.294E+01	1.287E+00	-0.020
PB-211	3.052E-01		1.077E+00	1.567E+00	9.814E-01	0.195
BI-212	1.290E+00	+	5.242E-01	7.321E-01	8.309E-02	1.762
PO-215	-2.723E-02		7.549E-01	1.095E+00	1.991E-01	-0.025
RN-219	-7.857E-02		4.069E-01	6.562E-01	9.797E-02	-0.120
RN-220	3.390E+00		2.536E+01	4.134E+01	3.950E+00	0.082
RA-223	-2.723E-02		7.549E-01	1.095E+00	1.991E-01	-0.025
AC-227	-5.492E-02		3.756E-01	6.236E-01	1.000E-01	-0.088
TH-227	-5.492E-02		3.756E-01	6.236E-01	1.163E-01	-0.088
TH-229	2.834E-01		4.847E-01	8.428E-01	7.676E-02	0.336
PA-231	-1.175E-01		1.444E+00	2.394E+00	3.822E-01	-0.049
TH-231	-2.723E-02		7.549E-01	1.095E+00	1.991E-01	-0.025
U-231	1.601E-01		1.093E+00	1.595E+00	1.426E-01	0.100
PA-233	1.183E-02		6.144E-02	1.033E-01	1.024E-02	0.115
PA-234	-2.255E-01		3.272E-01	4.940E-01	9.539E-02	-0.456
PA-234M	-3.488E+00		5.350E+00	8.305E+00	8.884E-01	-0.420
U-235	1.314E-01		2.181E-01	3.575E-01	6.231E-02	0.367
NP-236	7.810E-02		8.346E-02	1.387E-01	1.200E-02	0.563
NP-237	8.693E-01		3.608E-01	4.231E-01	9.572E-02	2.055
NP-239	-1.069E-01		1.885E-01	2.921E-01	2.447E-02	-0.366
AM-241	9.029E-02		1.311E-01	1.999E-01	1.565E-02	0.452

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.514E-02		8.917E-02	1.469E-01	1.268E-02	0.239
AM-246	-1.125E-01		1.492E-01	2.213E-01	1.971E-02	-0.508
CM-247	7.176E-03		3.692E-02	6.135E-02	5.188E-03	0.117
CF-249	1.481E-02		3.776E-02	6.383E-02	5.386E-03	0.232
CF-251	-4.758E-02		1.300E-01	1.978E-01	1.755E-02	-0.241

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]G243274008          *
* Acquisition date   : 31-DEC-2009 14:36:21 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 02:00:32.81 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243274008 Analyst initials: MXR1                   *
* Batch Number      : 935341 Sample Quantity : 1.0379E+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	3.344E+01	3.450E+00	2.855E-01	1.760E+00
CD-109	4.273E+00	1.378E+00	5.444E-01	7.030E-01
SN-126	4.200E-01	1.354E-01	5.366E-02	6.910E-02
HG-203	6.032E-02	6.035E-02	2.981E-02	3.079E-02
TL-208	5.197E-01	9.722E-02	3.151E-02	4.960E-02
BI-210	3.566E+00	3.703E+00	1.728E+00	1.889E+00
PB-210	3.566E+00	3.703E+00	1.728E+00	1.889E+00
PO-210	3.566E+00	3.701E+00	1.728E+00	1.888E+00
BI-211	2.986E+00	5.309E-01	1.762E-01	2.709E-01
PB-212	1.632E+00	2.041E-01	4.432E-02	1.041E-01
PO-212	1.632E+00	2.041E-01	4.432E-02	1.041E-01
BI-214	1.027E+00	1.929E-01	5.494E-02	9.843E-02
PB-214	1.039E+00	1.922E-01	6.141E-02	9.804E-02
PO-214	1.039E+00	1.922E-01	6.141E-02	9.804E-02
PO-216	1.632E+00	2.041E-01	4.432E-02	1.041E-01
PO-218	1.039E+00	1.922E-01	6.141E-02	9.804E-02
RA-224	4.836E+00	1.580E+00	5.043E-01	8.059E-01
RA-226	1.027E+00	1.929E-01	5.494E-02	9.843E-02
AC-228	1.821E+00	3.524E-01	1.121E-01	1.798E-01
RA-228	1.821E+00	3.524E-01	1.121E-01	1.798E-01
TH-228	1.657E+00	2.072E-01	4.499E-02	1.057E-01
TH-230	1.027E+00	1.929E-01	5.494E-02	9.843E-02
TH-232	1.821E+00	3.524E-01	1.121E-01	1.798E-01
TH-234	1.575E+00	1.356E+00	8.853E-01	6.918E-01
U-234	1.027E+00	1.929E-01	5.494E-02	9.843E-02
U-238	1.575E+00	1.356E+00	8.853E-01	6.918E-01
AM-243	3.705E-01	7.360E-02	3.958E-02	3.755E-02
ANH-511	1.071E-01	6.883E-02	2.409E-02	3.512E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	2.986E-02	3.042E-01	2.535E-01	1.552E-01	NOT IDENT.
NA-22	-1.003E-02	4.577E-02	3.640E-02	2.335E-02	NOT IDENT.
NA-24	3.458E+04	6.694E+05	0.000E+00	3.415E+05	SHORT HLIF
AL-26	3.229E-03	1.729E-02	1.536E-02	8.822E-03	NOT IDENT.
TI-44	3.370E-01	5.105E-02	3.782E-02	2.604E-02	FAIL ABUN
SC-46	-3.101E-02	4.119E-02	3.179E-02	2.102E-02	FAIL ABUN
V-48	-1.305E-02	7.846E-02	6.427E-02	4.003E-02	NOT IDENT.
CR-51	1.213E-01	3.761E-01	3.241E-01	1.919E-01	NOT IDENT.
MN-52	9.308E-02	1.884E-01	1.730E-01	9.613E-02	NOT IDENT.
MN-54	1.429E-02	4.030E-02	3.496E-02	2.056E-02	NOT IDENT.
CO-56	9.424E-03	4.046E-02	3.481E-02	2.064E-02	NOT IDENT.
CO-57	-1.020E-02	2.350E-02	1.888E-02	1.199E-02	NOT IDENT.
CO-58	-2.177E-02	3.951E-02	3.150E-02	2.016E-02	NOT IDENT.
FE-59	3.525E-02	1.094E-01	9.305E-02	5.583E-02	NOT IDENT.
CO-60	4.500E-03	3.986E-02	3.297E-02	2.033E-02	NOT IDENT.
ZN-65	-6.517E-02	1.206E-01	7.956E-02	6.154E-02	NOT IDENT.
GE-68	-7.996E-01	1.266E+00	9.703E-01	6.461E-01	NOT IDENT.
AS-73	2.059E-01	5.673E-01	4.885E-01	2.894E-01	NOT IDENT.
AS-74	5.349E-02	9.918E-02	8.444E-02	5.060E-02	NOT IDENT.
SE-75	-1.257E-02	4.730E-02	3.476E-02	2.413E-02	NOT IDENT.
BR-77	-3.550E+00	1.043E+01	8.298E+00	5.320E+00	FAIL ABUN
SR-82	-1.219E-01	3.993E-01	3.288E-01	2.037E-01	NOT IDENT.
RB-83	-2.141E-02	6.982E-02	5.576E-02	3.562E-02	NOT IDENT.
RB-84	-3.491E-02	6.736E-02	5.324E-02	3.437E-02	NOT IDENT.
KR-85	1.236E+01	8.499E+00	6.957E+00	4.336E+00	NOT IDENT.
SR-85	6.337E-02	4.357E-02	3.567E-02	2.223E-02	NOT IDENT.
RB-86	-1.189E-01	8.028E-01	6.533E-01	4.096E-01	NOT IDENT.
Y-88	1.444E-05	3.444E-02	2.864E-02	1.757E-02	NOT IDENT.
ZR-88	3.330E-02	2.895E-02	2.616E-02	1.477E-02	NOT IDENT.
Y-91	2.522E+01	2.238E+01	2.008E+01	1.142E+01	NOT IDENT.
NB-94	-1.681E-02	3.262E-02	2.652E-02	1.664E-02	NOT IDENT.
NB-95	1.779E-03	4.770E-02	4.054E-02	2.433E-02	NOT IDENT.
NB-95M	1.076E-01	1.296E-01	1.032E-01	6.610E-02	NOT IDENT.
ZR-95	1.084E-01	7.447E-02	6.992E-02	3.799E-02	NOT IDENT.
NB-97	-2.866E+04	8.981E+04	0.000E+00	4.582E+04	SHORT HLIF
ZR-97	3.152E+06	1.858E+06	0.000E+00	9.482E+05	SHORT HLIF
MO-99	2.880E-01	1.134E+01	9.657E+00	5.787E+00	NOT IDENT.
TC-99M	-1.738E+16	3.764E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.344E-02	3.399E-02	2.777E-02	1.734E-02	NOT IDENT.
RH-102	-9.249E-03	2.874E-02	2.308E-02	1.466E-02	NOT IDENT.
RU-103	8.156E-03	3.777E-02	3.173E-02	1.927E-02	FAIL ABUN
RH-106	3.127E-01	3.132E-01	2.766E-01	1.598E-01	FAIL ABUN
RU-106	3.127E-01	3.116E-01	2.766E-01	1.590E-01	FAIL ABUN
AG-108M	3.673E-02	3.195E-02	2.879E-02	1.630E-02	NOT IDENT.
AG-110M	-9.873E-03	3.252E-02	2.707E-02	1.659E-02	NOT IDENT.
IN-111	7.464E-01	1.048E+00	8.346E-01	5.345E-01	NOT IDENT.
IN-113M	-1.963E-02	4.393E-02	3.547E-02	2.241E-02	NOT IDENT.
SN-113	-1.963E-02	4.393E-02	3.547E-02	2.241E-02	NOT IDENT.
IN-114M	-2.108E-03	1.847E-01	1.414E-01	9.424E-02	NOT IDENT.
CD-115	-4.358E+00	1.033E+01	8.130E+00	5.273E+00	NOT IDENT.
SN-117M	-5.975E-03	5.745E-02	4.649E-02	2.931E-02	NOT IDENT.
SB-122	4.573E-01	2.133E+00	1.776E+00	1.088E+00	NOT IDENT.
I-123	-7.784E+05	6.029E+06	0.000E+00	3.076E+06	SHORT HLIF
TE-123M	-3.885E-03	3.009E-02	2.431E-02	1.535E-02	NOT IDENT.
I-124	9.088E-02	7.897E-01	5.682E-01	4.029E-01	NOT IDENT.
SB-124	1.879E-02	6.097E-02	5.465E-02	3.111E-02	FAIL ABUN
SB-125	-4.488E-03	9.336E-02	7.736E-02	4.763E-02	NOT IDENT.
TE-125M	2.550E+00	8.805E+00	7.377E+00	4.492E+00	NOT IDENT.
I-126	9.018E-02	1.723E-01	1.536E-01	8.792E-02	NOT IDENT.
SB-126	-1.409E-02	1.668E-01	1.222E-01	8.510E-02	FAIL ABUN
SB-127	1.548E+00	1.380E+00	1.273E+00	7.039E-01	NOT IDENT.
XE-127	3.639E-02	4.825E-02	4.033E-02	2.462E-02	NOT IDENT.
I-131	-1.262E-02	1.152E-01	9.599E-02	5.880E-02	NOT IDENT.
TE-132	3.015E-01	6.868E-01	6.015E-01	3.504E-01	NOT IDENT.
BA-133	1.811E-02	5.020E-02	3.821E-02	2.561E-02	FAIL ABUN
I-133	1.964E+03	5.494E+03	0.000E+00	2.803E+03	SHORT HLIF
CS-134	6.590E-02	5.024E-02	4.654E-02	2.563E-02	NOT IDENT.
CS-135	1.466E-01	1.737E-01	1.382E-01	8.863E-02	NOT IDENT.
I-135	7.996E+14	6.324E+15	0.000E+00	3.227E+15	SHORT HLIF
CS-136	-1.063E-01	1.158E-01	8.596E-02	5.907E-02	NOT IDENT.
BA-137M	-4.106E-02	3.238E-02	2.413E-02	1.652E-02	NOT IDENT.
CS-137	-4.340E-02	3.423E-02	2.550E-02	1.746E-02	NOT IDENT.
CE-139	-1.020E-02	2.980E-02	2.372E-02	1.520E-02	NOT IDENT.
BA-140	1.854E-02	2.510E-01	2.072E-01	1.281E-01	NOT IDENT.
LA-140	-7.415E-02	7.834E-02	5.376E-02	3.997E-02	FAIL ABUN
CE-141	7.520E-03	6.404E-02	5.261E-02	3.268E-02	NOT IDENT.
CE-143	5.839E+02	2.138E+02	0.000E+00	1.091E+02	SHORT HLIF

CE-144	1.417E-01	2.347E-01	1.772E-01	1.197E-01	NOT IDENT.
PM-144	-1.747E-02	3.496E-02	2.854E-02	1.784E-02	NOT IDENT.
PR-144	-1.184E+00	2.369E+00	1.934E+00	1.209E+00	NOT IDENT.
PM-146	5.055E-02	4.758E-02	4.219E-02	2.427E-02	NOT IDENT.
ND-147	1.834E-01	5.210E-01	4.416E-01	2.658E-01	NOT IDENT.
PM-149	-7.293E+01	8.375E+01	6.644E+01	4.273E+01	NOT IDENT.
EU-152	-7.680E-02	1.123E-01	7.750E-02	5.731E-02	NOT IDENT.
GD-153	-9.158E-02	8.428E-02	5.740E-02	4.300E-02	FAIL ABUN
EU-154	-4.646E-02	1.313E-01	1.027E-01	6.697E-02	NOT IDENT.
EU-155	6.416E-02	1.026E-01	8.730E-02	5.234E-02	FAIL ABUN
TB-160	3.732E-02	1.260E-01	1.093E-01	6.430E-02	FAIL ABUN
HO-166M	-1.411E-02	6.119E-02	5.107E-02	3.122E-02	FAIL ABUN
TM-171	6.839E+00	2.590E+01	1.974E+01	1.322E+01	NOT IDENT.
LU-176	-5.885E-03	2.764E-02	2.019E-02	1.410E-02	FAIL ABUN
LU-177	2.333E+00	1.808E+00	1.054E+00	9.224E-01	FAIL ABUN
LU-177M	-6.911E-03	1.900E-01	1.381E-01	9.693E-02	FAIL ABUN
HF-181	-2.961E-02	4.084E-02	3.140E-02	2.084E-02	NOT IDENT.
W-181	-8.177E-02	3.397E-01	2.526E-01	1.733E-01	NOT IDENT.
TA-182	8.576E-02	2.324E-01	1.975E-01	1.185E-01	FAIL ABUN
RE-183	2.139E-02	1.120E-01	9.188E-02	5.713E-02	FAIL ABUN
RE-184	-8.063E-02	2.234E-01	1.871E-01	1.140E-01	NOT IDENT.
OS-185	3.766E-02	4.222E-02	3.865E-02	2.154E-02	NOT IDENT.
RE-188	1.521E-01	1.760E-01	1.491E-01	8.978E-02	NOT IDENT.
W-188	1.017E+00	7.833E+00	5.919E+00	3.996E+00	FAIL ABUN
IR-192	-1.383E-02	3.335E-02	2.742E-02	1.702E-02	FAIL ABUN
AU-195	2.425E-01	2.313E-01	1.802E-01	1.180E-01	FAIL ABUN
TL-200	1.942E+02	4.489E+02	0.000E+00	2.290E+02	SHORT HLIF
TL-201	4.907E+00	6.770E+00	5.704E+00	3.454E+00	NOT IDENT.
TL-202	1.030E-01	7.143E-02	6.517E-02	3.645E-02	NOT IDENT.
BI-207	2.374E-02	5.566E-02	4.810E-02	2.840E-02	FAIL ABUN
TL-207	-2.723E-02	7.399E-01	5.474E-01	3.775E-01	FAIL ABUN
PO-209	-2.536E-01	7.706E+00	6.440E+00	3.931E+00	NOT IDENT.
PB-211	3.052E-01	1.055E+00	7.823E-01	5.384E-01	NOT IDENT.
BI-212	1.290E+00	5.138E-01	3.647E-01	2.621E-01	FAIL ABUN
PO-215	-2.723E-02	7.399E-01	5.474E-01	3.775E-01	FAIL ABUN
RN-219	-7.857E-02	3.987E-01	3.277E-01	2.034E-01	FAIL ABUN
RN-220	3.390E+00	2.485E+01	2.062E+01	1.268E+01	NOT IDENT.
RA-223	-2.723E-02	7.399E-01	5.474E-01	3.775E-01	FAIL ABUN
AC-227	-5.492E-02	3.681E-01	3.120E-01	1.878E-01	FAIL ABUN
TH-227	-5.492E-02	3.681E-01	3.120E-01	1.878E-01	FAIL ABUN
TH-229	2.834E-01	4.750E-01	4.222E-01	2.423E-01	FAIL ABUN
PA-231	-1.175E-01	1.415E+00	1.197E+00	7.219E-01	FAIL ABUN
TH-231	-2.723E-02	7.399E-01	5.474E-01	3.775E-01	FAIL ABUN
U-231	1.601E-01	1.071E+00	8.013E-01	5.466E-01	FAIL ABUN
PA-233	1.183E-02	6.021E-02	5.162E-02	3.072E-02	FAIL ABUN
PA-234	-2.255E-01	3.206E-01	2.458E-01	1.636E-01	FAIL ABUN
PA-234M	-3.488E+00	5.243E+00	4.131E+00	2.675E+00	NOT IDENT.
U-235	1.314E-01	2.138E-01	1.793E-01	1.091E-01	FAIL ABUN
NP-236	7.810E-02	8.180E-02	6.954E-02	4.173E-02	NOT IDENT.
NP-237	8.693E-01	3.536E-01	2.127E-01	1.804E-01	NOT IDENT.
NP-239	-1.069E-01	1.847E-01	1.467E-01	9.425E-02	FAIL ABUN
AM-241	9.029E-02	1.284E-01	1.007E-01	6.553E-02	NOT IDENT.
CM-243	3.514E-02	8.739E-02	7.380E-02	4.459E-02	FAIL ABUN
AM-246	-1.125E-01	1.462E-01	1.100E-01	7.460E-02	NOT IDENT.
CM-247	7.176E-03	3.618E-02	3.064E-02	1.846E-02	FAIL ABUN
CF-249	1.481E-02	3.700E-02	3.188E-02	1.888E-02	NOT IDENT.
CF-251	-4.758E-02	1.274E-01	9.913E-02	6.499E-02	NOT IDENT.

```

*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD      *
*               CHARLESTON , SC 29417 *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
*****

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ENERGY	MDA COUNTS
--------	------------

46.50	230.4876
46.50	230.4876
46.50	230.4876
48.70	222.7792
49.72	237.9431
51.35	232.8491
52.39	242.2013
52.97	252.3412
53.15	252.4316
53.44	233.8321
54.07	247.9545
56.28	260.9319
56.28	260.9333
57.37	0.0000
57.53	291.3950
57.53	291.3957
57.60	291.4337
57.98	277.7086
57.98	277.7086
59.32	263.4421
59.32	263.4421
59.40	263.4810
59.54	263.5502
59.72	263.6388
60.01	262.2817
61.10	264.3122
61.14	264.3310
61.30	270.4182
63.00	325.5058
63.29	339.2449
63.29	339.2449
63.58	339.4213
64.28	333.8049
65.12	347.9160
65.20	347.9651
65.20	347.9651
66.05	363.6365
66.72	320.0706
66.83	335.3038
66.91	335.3510
67.20	335.5197
67.20	335.5197
67.75	323.3773
67.85	328.2962
68.90	352.2348
68.90	352.2348
69.30	361.6168
69.67	361.8450
70.82	368.1469
70.82	368.1469
70.83	368.1524
72.80	324.9145
72.87	335.6813
72.87	335.6813
74.67	346.4067
74.81	346.4857
74.81	346.4857
74.81	346.4857
74.81	346.4857
74.81	346.4857
74.81	346.4857
74.81	346.4857
74.97	346.5751
75.28	346.7488
75.70	346.9826
77.11	347.7665
77.11	347.7665

77.11	347.7665
77.11	347.7665
77.11	347.7665
77.11	347.7665
77.11	347.7665
78.38	301.5573
79.62	289.2314
79.80	278.9799
79.80	278.9799
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80.18	279.1447
80.30	272.9926
80.30	272.9926
80.57	273.1067
81.00	248.4436
81.07	248.4705
81.07	248.4705
81.07	248.4705
81.07	248.4705
82.60	292.6384
83.37	294.5367
83.78	308.7556
83.78	308.7556
83.78	308.7556
83.78	308.7556
84.21	294.9117
84.90	268.6634
85.43	268.8773
86.29	269.2211
86.50	269.3051
86.54	269.3208
86.59	269.3405
86.72	269.3917
86.79	269.4193
86.94	282.0135
87.30	282.1632
87.30	282.1632
87.30	282.1632
87.30	282.1632
87.30	282.1632
87.30	282.1632
87.57	266.5926
87.88	266.7145
88.03	266.7729
88.36	266.9012
88.47	266.9441
89.95	308.4332
91.11	308.9476
92.29	309.4680
92.38	309.5084
92.38	309.5084
93.35	246.6814
94.00	246.9076
94.67	247.1373
94.67	247.1396
94.90	220.2778
94.90	220.2778
94.90	220.2778
94.90	220.2778
95.87	242.7920
95.87	242.7920
96.73	281.2119
97.43	268.7597
98.44	195.8764
98.44	195.8764
98.88	200.7740
99.55	204.1465
99.55	204.1465
99.86	203.1687
100.00	210.6550
100.10	210.6842
103.18	258.5639
103.76	204.2296
105.00	209.9178
105.31	221.7884
108.00	253.7437
109.28	222.9287

111.00	248.2396
111.00	248.2396
111.76	231.1922
112.95	252.0943
115.19	224.5869
116.30	233.5859
117.00	222.9123
117.00	222.9123
117.66	231.7976
121.11	192.3308
121.62	207.7555
121.78	202.3268
122.06	201.3005
122.32	203.5510
122.32	203.5510
122.32	203.5510
122.32	203.5510
123.07	202.6373
127.23	184.9138
129.76	273.2108
131.20	240.4881
133.02	209.4066
133.54	219.5052
135.34	232.1676
136.00	229.0027
136.25	227.9537
136.48	228.0120
140.51	226.7849
140.51	0.0000
142.18	239.5070
142.65	221.7107
143.76	201.7950
144.24	216.4810
144.24	216.4810
144.24	216.4810
144.24	216.4810
145.22	229.0580
145.44	229.1119
147.16	210.4016
152.43	208.1642
152.70	198.0366
153.22	198.1425
154.21	190.4099
154.21	190.4099
154.21	190.4099
154.21	190.4099
155.03	204.1809
156.02	230.5020
158.56	224.2622
159.00	0.0000
159.00	228.9160
160.31	192.7244
161.27	221.4450
162.32	205.6769
162.64	190.8836
163.35	216.1799
163.89	211.7176
165.85	204.0959
167.43	169.9582
171.28	194.7925
171.86	181.0601
172.10	181.1016
176.55	177.2284
176.60	177.2378
181.06	174.4812
184.41	190.7666
185.71	190.9912
186.00	191.0411
190.27	173.1219
192.34	180.6669
193.63	170.2842
197.04	176.9852
198.01	202.8192
198.60	188.7427
200.40	216.5493
201.83	191.0448
202.84	174.3128
205.31	195.3538

208.36	193.8881
208.81	193.9610
209.75	184.6312
209.75	184.6312
210.97	199.1457
215.65	185.1709
216.55	185.3076
218.09	177.4326
222.10	180.7175
223.80	155.6283
226.40	184.0570
227.00	174.1655
227.08	174.1758
227.20	168.7498
228.16	167.9682
228.18	171.6028
228.18	171.6028
231.56	0.0000
235.69	156.3517
236.00	168.0808
236.00	168.0808
238.63	151.9433
238.63	151.9433
238.63	151.9433
238.63	151.9433
239.00	151.9864
240.98	152.2156
241.98	152.3296
241.98	152.3296
241.98	152.3296
244.69	125.0554
245.39	113.3447
247.94	140.1064
248.90	151.2751
249.79	141.2220
252.40	137.7936
252.85	143.3897
252.85	143.3897
254.15	0.0000
256.20	140.9582
256.20	140.9582
260.50	140.4658
260.90	133.9937
262.80	135.2409
264.65	131.3662
268.24	130.2048
268.79	115.4958
269.46	115.5504
269.46	115.5504
269.46	115.5504
269.46	115.5504
271.23	107.4808
273.65	93.8919
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277.35	119.4125
277.60	119.4338
277.60	119.4338
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278.60	111.5474
279.20	105.5605
279.53	105.5845
280.46	113.1985
281.68	105.7400
283.67	114.3902
284.30	122.0063
285.00	111.6549
285.90	121.1914
286.10	122.1540
286.10	122.1540
287.40	114.6782
288.45	0.0000
290.67	117.0189
290.80	117.0302
291.72	141.4345
293.26	0.0000
293.70	121.8223
295.21	112.7976
295.21	112.7976

295.21	112.7976
295.96	112.8536
296.50	106.7910
297.23	106.8423
298.57	106.9363
299.80	119.2528
299.80	119.2528
300.09	122.3340
300.09	122.3340
300.09	122.3340
300.09	122.3340
300.12	122.3359
301.29	122.4297
302.84	121.0208
303.76	118.0266
303.91	118.0378
304.40	107.3413
304.40	107.3413
304.84	108.9060
306.84	118.2615
308.46	117.2307
311.98	100.1581
316.51	113.0010
318.01	110.2061
319.02	122.8510
319.41	114.1721
320.08	112.2847
323.87	114.8771
323.87	114.8771
323.87	114.8771
323.87	114.8771
325.23	121.1876
328.77	112.1098
333.44	93.6899
334.20	109.3545
334.20	109.3545
334.30	109.3613
338.28	115.4955
338.28	115.4955
338.28	115.4955
338.28	115.4955
338.32	115.4991
338.32	115.4991
338.32	115.4991
340.50	100.3594
340.57	100.3641
344.27	119.4439
345.85	116.4091
350.59	0.0000
351.07	116.3723
351.92	116.4299
351.92	116.4299
351.92	116.4299
355.39	0.0000
356.01	102.8590
364.48	97.3959
366.43	94.5187
367.43	88.5994
367.94	0.0000
369.80	78.7493
374.96	84.9754
383.85	79.3652
387.95	75.5161
388.63	83.6016
391.69	95.8480
391.69	95.8480
392.90	66.6324
398.62	87.0905
400.65	84.1424
401.10	91.2607
401.81	88.2518
402.60	85.2446
404.84	84.5330
410.95	91.3268
411.60	91.3582
413.65	80.0234
414.70	63.7273
415.30	76.2788

415.76	82.9146
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423.70	92.3401
427.08	80.1661
427.89	85.3405
432.53	74.2039
433.93	61.8796
439.47	65.1533
439.56	65.1562
439.89	66.2012
443.98	90.1754
444.90	91.2535
445.03	91.2589
445.03	91.2589
445.03	91.2589
445.03	91.2589
453.90	77.0735
463.38	68.0102
468.07	67.1133
473.00	72.5260
475.06	74.7008
475.35	73.6583
476.78	64.2308
477.59	64.2550
477.96	70.5874
482.03	73.8890
484.57	72.9187
487.03	60.3059
490.36	0.0000
492.35	69.9991
497.08	57.3956
507.63	0.0000
510.53	0.0000
510.84	73.7947
511.00	73.7994
511.85	73.8279
511.85	73.8279
513.99	70.2565
513.99	70.2565
520.41	70.8864
520.65	69.8183
527.90	63.5752
528.96	0.0000
529.64	50.6833
529.87	0.0000
531.02	51.7925
537.32	59.5067
543.00	60.7373
546.56	0.0000
549.76	55.4731
552.65	67.5192
555.20	58.8697
563.23	64.5367
563.90	66.7430
568.70	64.6825
569.32	64.7005
569.50	64.7041
569.67	66.9030
573.80	64.8193
574.00	64.8247
574.64	63.7419
578.91	56.3672
579.30	0.0000
583.14	72.7857
585.48	56.5172
591.81	71.9328
592.07	69.7272
593.00	70.8594
595.88	65.3991
600.56	66.6321
602.52	0.0000
602.71	69.3564
602.71	69.3564
603.60	72.9372
604.41	80.0793
604.70	80.0881
609.31	62.4036

609.31	62.4036
609.31	62.4036
609.31	62.4036
610.33	55.2944
612.46	69.6211
614.37	50.0227
618.01	55.9067
621.84	39.1934
621.84	39.1934
631.29	56.1935
633.02	53.9810
633.10	57.3563
634.78	65.7214
635.90	64.8492
636.97	64.8756
645.85	52.4351
646.12	48.8241
656.30	54.4556
657.75	57.2091
657.90	0.0000
661.65	64.5656
661.65	64.5656
664.57	0.0000
666.33	51.9248
666.33	51.9248
675.00	63.0552
677.61	54.8818
685.20	46.7778
692.80	49.6639
695.00	59.8282
696.49	69.9901
696.49	69.9901
697.00	61.7116
697.49	61.7231
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698.50	56.2150
699.00	53.4603
702.63	64.6030
706.10	52.6707
706.58	0.0000
706.67	50.8320
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711.68	62.0322
713.82	61.1515
717.42	54.7334
720.50	60.3646
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722.78	51.1180
722.78	51.1180
722.89	51.1194
722.95	51.1207
723.30	61.9727
724.18	55.7915
727.18	50.2651
733.00	57.5159
735.90	57.8828
739.58	51.4121
742.81	47.7253
744.21	55.2376
747.13	50.6065
751.79	67.5809
752.31	73.2259
753.82	59.1732
755.35	36.6501
756.15	42.2996
756.87	47.0105
763.93	70.6824
765.79	77.3274
766.42	64.1385
766.84	73.5801
776.49	61.5120
778.00	66.2761
778.57	59.6593
778.89	55.8771
783.80	58.8122
785.46	58.8440
792.07	63.7252

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796.30	45.7160
798.80	67.6753
801.93	51.5228
805.60	40.1205
810.29	44.0066
810.76	54.5383
815.85	44.0841
817.79	38.3574
818.51	45.0803
819.60	50.8521
826.30	48.0750
828.27	0.0000
831.60	71.2684
831.96	70.3124
834.83	57.8423
836.80	0.0000
846.75	47.4125
848.13	46.4637
856.28	0.0000
856.80	35.5871
860.37	42.7507
867.32	45.4373
867.82	48.6902
871.10	38.0155
873.19	41.9408
874.81	48.7915
875.33	0.0000
876.40	34.1703
879.36	33.2239
880.27	40.0741
880.51	37.1446
881.50	44.9780
883.24	44.0233
884.67	44.0420
889.25	54.8816
896.60	47.1434
898.02	42.2494
899.00	53.0732
903.28	63.4170
911.07	47.6713
911.07	47.6713
911.07	47.6713
919.63	46.4710
920.93	53.4120
925.00	40.6006
925.24	40.6036
926.50	41.6083
935.52	46.6822
937.48	61.6140
944.10	47.7914
946.00	53.7930
949.00	38.8838
962.29	73.3870
964.01	56.7345
966.15	60.1069
968.20	108.5899
969.11	106.9453
969.11	106.9453
969.11	106.9453
977.42	38.7607
980.50	49.2823
983.50	51.3362
989.30	59.4825
996.32	53.5357
1001.03	56.6371
1001.68	45.5197
1004.76	56.6945
1021.30	0.0000
1024.50	0.0000
1034.80	47.9639
1036.00	47.9788
1037.82	41.8729
1038.57	42.9044
1038.76	0.0000
1045.16	42.9782
1046.59	48.1107
1048.07	54.2758

1050.47	32.7906
1050.47	32.7906
1062.04	35.9707
1063.62	41.1270
1076.63	42.2953
1077.35	46.4304
1078.86	48.5124
1085.78	53.7672
1099.22	54.9875
1112.02	41.6328
1112.84	50.3158
1115.52	65.9774
1120.29	46.9336
1120.29	46.9336
1120.29	46.9336
1120.29	46.9336
1120.51	46.9358
1121.28	43.4672
1124.00	0.0000
1129.67	51.2227
1131.51	0.0000
1147.95	0.0000
1167.94	62.2496
1173.22	53.8787
1175.09	59.1855
1177.93	67.6875
1189.05	61.5032
1204.90	52.1534
1205.75	0.0000
1213.00	54.3842
1221.42	59.8336
1230.97	80.3101
1235.34	84.6781
1236.41	0.0000
1238.25	72.9340
1246.25	62.3217
1260.41	0.0000
1271.85	41.0689
1274.45	43.2559
1274.54	40.0117
1291.56	29.3084
1298.22	0.0000
1312.09	23.9884
1325.50	29.5273
1325.50	29.5273
1332.49	26.2852
1333.61	28.4832
1360.21	24.7896
1362.66	0.0000
1365.15	21.1385
1368.21	19.3132
1368.53	0.0000
1376.25	16.5820
1384.27	22.1465
1394.10	12.9456
1395.20	17.5728
1407.95	15.7646
1434.06	11.1880
1436.60	16.7900
1457.56	0.0000
1460.81	20.8901
1489.15	13.1973
1509.49	11.3574
1596.49	20.2079
1620.62	11.5996
1678.03	0.0000
1691.02	6.8533
1691.02	6.8533
1706.46	0.0000
1750.46	0.0000
1764.49	13.6010
1764.49	13.6010
1764.49	13.6010
1764.49	13.6010
1770.23	39.7087
1771.40	11.9150
1791.20	0.0000
1808.65	2.9978

1836.01

11.0425

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274008

Total Uranium Activity	4.7459E+00	ug/g
Total Uranium Counting Unc.	4.0352E+00	ug/g
Total Uranium Tpu	2.0588E-06	ug/g
Total Uranium Mda	2.6350E+00	ug/g

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*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 935341                          SAMPLE ID   : G243274008
*  ANALYST       : MXR1                             DETECTOR    : GAM20
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 31-DEC-2009 14:36:21.65          SAMPLE ALQT  : 103.790 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.332E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.554E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.297E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.593E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:39:20.56

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274009.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:36:44
Sample ID          : G243274009 Sample quantity : 1.37320E+02 GRAM
Detector name      : GAM21 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:25.38 0.4%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	46.35*	150	347	0.63	92.69	89	8	2.09E-02	23.1	
2	0	63.43*	169	569	0.72	126.83	123	8	2.35E-02	25.7	
3	2	74.90	653	330	0.69	149.75	147	11	9.07E-02	5.5	5.33E+00
4	2	77.16*	1063	296	0.70	154.27	147	11	1.48E-01	3.9	
5	0	84.09*	162	293	1.03	168.13	166	6	2.24E-02	18.7	
6	0	87.22	326	331	1.02	174.38	172	6	4.53E-02	10.4	
7	0	89.96	227	245	0.72	179.86	178	5	3.15E-02	12.4	
8	0	92.94*	416	482	1.62	185.82	183	11	5.78E-02	11.4	
9	0	185.84*	276	202	1.12	371.54	367	8	3.83E-02	11.0	
10	0	209.17	118	175	0.86	418.18	414	8	1.64E-02	21.5	
11	2	238.59*	1121	97	0.87	477.00	473	16	1.56E-01	3.3	3.11E+00
12	2	240.68*	85	124	1.17	481.18	473	16	1.19E-02	34.7	
13	2	241.95*	195	104	1.03	483.72	473	16	2.71E-02	12.1	
14	0	270.26	172	174	1.28	540.31	534	13	2.39E-02	17.6	
15	0	277.34	52	105	0.95	554.48	551	7	7.27E-03	35.6	
16	1	295.16*	370	78	1.14	590.10	584	24	5.14E-02	6.7	2.25E+00
17	1	300.14	102	59	1.15	600.05	584	24	1.42E-02	16.7	
18	0	327.42	54	114	1.03	654.60	651	9	7.46E-03	38.2	
19	0	338.26	194	163	0.91	676.28	671	11	2.70E-02	14.6	
20	0	351.88*	589	78	1.06	703.51	699	9	8.19E-02	5.0	
21	0	402.47	28	72	1.09	804.68	799	8	3.89E-03	55.8	
22	10	460.31	9	14	1.04	920.32	919	13	1.32E-03	58.1	5.51E+00
23	10	463.02	94	77	2.31	925.76	919	13	1.31E-02	21.5	
24	0	511.00*	93	87	1.97	1021.70	1017	15	1.29E-02	27.2	
25	0	583.21*	272	37	1.04	1166.12	1162	10	3.78E-02	7.5	
26	0	609.31*	317	87	1.33	1218.31	1213	12	4.40E-02	8.2	
27	0	661.75	103	57	1.14	1323.19	1317	10	1.43E-02	16.9	
28	0	727.12	72	28	1.02	1453.95	1449	11	1.00E-02	18.4	
29	0	773.50	45	96	4.58	1546.72	1531	28	6.22E-03	66.1	
30	0	860.44	56	14	1.10	1720.64	1716	10	7.73E-03	18.6	
31	0	911.12	176	29	1.47	1822.02	1815	12	2.44E-02	9.8	
32	0	969.22	99	35	1.80	1938.26	1933	11	1.38E-02	15.4	
33	0	1120.27*	77	39	1.17	2240.48	2233	13	1.07E-02	20.6	
34	0	1460.90*	516	7	2.07	2922.17	2915	14	7.16E-02	4.6	
35	0	1764.54	58	6	2.06	3530.02	3524	11	7.99E-03	15.4	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:36:44
Sample ID         : G243274009 Sample quantity : 137.32 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA21 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:25.38 0.4%
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	*	1.835E+01	2.292E+00	6.672E-01	5.696E-02	27.499
CD-109	+	88.03	*	3.010E+00	6.862E-01	6.786E-01	6.385E-02	4.436
SN-126	+	64.28		5.887E-01	3.153E-01	2.675E-01	3.963E-02	2.201
	+	86.94		1.230E+00	5.712E-01	2.678E-01	1.111E-01	4.594
	+	87.57	*	2.959E-01	6.745E-02	6.456E-02	6.052E-03	4.583
BA-137M	+	661.65	*	2.009E-01	7.141E-02	7.760E-02	8.570E-03	2.589
CS-137	+	661.65	*	2.124E-01	7.549E-02	8.203E-02	9.070E-03	2.589
TL-208	+	277.35		5.532E-01	4.000E-01	5.070E-01	6.361E-02	1.091
	+	510.84		5.777E-01	3.225E-01	2.265E-01	2.876E-02	2.551
	+	583.14	*	4.977E-01	9.206E-02	5.929E-02	6.459E-03	8.393
	+	860.37		1.017E+00	3.920E-01	4.549E-01	4.517E-02	2.235
BI-210	+	46.50	*	1.386E+00	6.548E-01	5.671E-01	5.408E-02	2.444
PB-210	+	46.50	*	1.386E+00	6.548E-01	5.671E-01	5.408E-02	2.444
PO-210	+	46.50	*	1.386E+00	6.525E-01	5.671E-01	4.921E-02	2.444
BI-211		72.87		7.953E-02	1.455E+00	2.215E+00	1.854E-01	0.036
	+	351.07	*	4.156E+00	5.614E-01	2.970E-01	2.681E-02	13.991
PB-212	+	74.81		2.017E+00	3.369E-01	2.723E-01	3.437E-02	7.407
	+	77.11		1.953E+00	2.259E-01	1.627E-01	1.404E-02	11.998
	+	87.30		1.369E+00	3.407E-01	2.983E-01	4.084E-02	4.588
	+	238.63	*	1.567E+00	1.869E-01	7.212E-02	7.172E-03	21.729
	+	300.09		2.325E+00	8.145E-01	1.048E+00	1.119E-01	2.219
PO-212	+	74.81		2.017E+00	3.369E-01	2.723E-01	3.437E-02	7.407
	+	77.11		1.953E+00	2.259E-01	1.627E-01	1.404E-02	11.998
	+	87.30		1.369E+00	3.407E-01	2.983E-01	4.084E-02	4.588
	+	115.19		5.775E-01	2.320E+00	3.734E+00	4.103E-01	0.155
	+	238.63	*	1.567E+00	1.869E-01	7.212E-02	7.172E-03	21.729
	+	300.09		2.325E+00	8.145E-01	1.048E+00	1.119E-01	2.219
BI-214	+	609.31	*	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
	+	1120.29		1.494E+00	6.353E-01	5.689E-01	6.109E-02	2.626
	+	1764.49		1.663E+00	5.296E-01	3.353E-01	2.788E-02	4.959
PB-214	+	74.81		3.476E+00	5.456E-01	4.692E-01	5.284E-02	7.407
	+	77.11		3.347E+00	4.637E-01	2.790E-01	3.211E-02	11.998
	+	87.30		2.344E+00	5.641E-01	5.110E-01	6.193E-02	4.588
	+	241.98		1.646E+00	4.340E-01	4.361E-01	4.584E-02	3.775

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.473E+00	2.542E-01	1.826E-01	1.990E-02	8.066
	+	351.92	*	1.446E+00	2.093E-01	1.036E-01	1.080E-02	13.950
	+	74.81		3.476E+00	5.456E-01	4.692E-01	5.284E-02	7.407
	+	77.11		3.347E+00	4.637E-01	2.790E-01	3.211E-02	11.998
	+	87.30		2.344E+00	5.641E-01	5.110E-01	6.193E-02	4.588
PO-216	+	241.98		1.646E+00	4.340E-01	4.361E-01	4.584E-02	3.775
	+	295.21		1.473E+00	2.542E-01	1.826E-01	1.990E-02	8.066
	+	351.92	*	1.446E+00	2.093E-01	1.036E-01	1.080E-02	13.950
	+	74.81		2.017E+00	3.369E-01	2.723E-01	3.437E-02	7.407
	+	77.11		1.953E+00	2.259E-01	1.627E-01	1.404E-02	11.998
PO-218	+	87.30		1.369E+00	3.407E-01	2.983E-01	4.084E-02	4.588
	+	238.63	*	1.567E+00	1.869E-01	7.212E-02	7.172E-03	21.729
	+	300.09		2.325E+00	8.145E-01	1.048E+00	1.119E-01	2.219
	+	74.81		3.476E+00	5.456E-01	4.692E-01	5.284E-02	7.407
	+	77.11		3.347E+00	4.637E-01	2.790E-01	3.211E-02	11.998
RN-219	+	87.30		2.344E+00	5.641E-01	5.110E-01	6.193E-02	4.588
	+	241.98		1.646E+00	4.340E-01	4.361E-01	4.584E-02	3.775
	+	295.21		1.473E+00	2.542E-01	1.826E-01	1.990E-02	8.066
	+	351.92	*	1.446E+00	2.093E-01	1.036E-01	1.080E-02	13.950
	+	271.23		1.138E+00	4.182E-01	2.853E-01	3.017E-02	3.988
RA-224	+	401.81	*	4.513E-01	5.079E-01	6.456E-01	9.512E-02	0.699
RA-226	+	240.98	*	1.360E+00	9.511E-01	8.231E-01	7.314E-02	1.652
AC-228	+	609.31	*	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
	+	1120.29		1.494E+00	6.353E-01	5.689E-01	6.109E-02	2.626
	+	1764.49		1.663E+00	5.296E-01	3.353E-01	2.788E-02	4.959
	+	338.32		1.494E+00	7.551E-01	3.414E-01	1.409E-01	4.376
	+	911.07	*	1.527E+00	3.452E-01	1.966E-01	2.232E-02	7.767
RA-228	+	969.11		1.527E+00	5.899E-01	4.989E-01	1.167E-01	3.060
	+	338.32		1.494E+00	7.551E-01	3.414E-01	1.409E-01	4.376
	+	911.07	*	1.527E+00	3.452E-01	1.966E-01	2.232E-02	7.767
	+	969.11		1.527E+00	5.899E-01	4.989E-01	1.167E-01	3.060
	+	74.81		2.048E+00	2.843E-01	2.764E-01	2.366E-02	7.407
TH-228	+	77.11		1.982E+00	2.294E-01	1.652E-01	1.425E-02	11.998
	+	87.30		1.389E+00	3.167E-01	3.028E-01	2.832E-02	4.588
	+	238.63	*	1.591E+00	1.898E-01	7.322E-02	7.281E-03	21.729
	+	300.09		2.361E+00	1.607E+00	1.064E+00	6.311E-01	2.219
	+	609.31	*	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
TH-230	+	1120.29		1.494E+00	6.353E-01	5.689E-01	6.109E-02	2.626
	+	1764.49		1.663E+00	5.296E-01	3.353E-01	2.788E-02	4.959
	+	338.32		1.494E+00	4.548E-01	3.414E-01	2.976E-02	4.376
	+	911.07	*	1.527E+00	3.452E-01	1.966E-01	2.232E-02	7.767
	+	969.11		1.527E+00	5.899E-01	4.989E-01	1.167E-01	3.060
TH-234	+	63.29	*	1.487E+00	8.095E-01	6.760E-01	1.194E-01	2.200
	+	92.38		2.623E+00	7.722E-01	3.996E-01	7.424E-02	6.564
	+	609.31	*	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
	+	1120.29		1.494E+00	6.353E-01	5.689E-01	6.109E-02	2.626
	+	1764.49		1.663E+00	5.296E-01	3.353E-01	2.788E-02	4.959
U-234	+	86.50	*	8.689E-01	2.672E-01	1.809E-01	4.094E-02	4.803
	+	95.87		1.825E-01	5.744E-01	8.683E-01	2.177E-01	0.210

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	+	63.29	*	1.487E+00	8.095E-01	6.760E-01	1.194E-01	2.200
	+	92.38		2.623E+00	6.500E-01	3.996E-01	3.842E-02	6.564
AM-243	+	74.67	*	3.270E-01	4.526E-02	4.414E-02	3.740E-03	7.410
	+	86.72		3.258E+01	7.428E+00	6.790E+00	6.320E-01	4.799
		117.66		-3.645E-01	2.504E+00	3.931E+00	4.387E-01	-0.093
		142.18		-7.936E+00	1.360E+01	2.042E+01	2.070E+00	-0.389
CM-247	+	278.00		1.106E+00	7.939E-01	9.174E-01	8.183E-02	1.206
		287.40		9.102E-01	1.036E+00	1.795E+00	1.602E-01	0.507
	+	402.60	*	4.041E-02	4.520E-02	5.588E-02	4.534E-03	0.723
ANH-511	+	511.00	*	1.248E-01	6.888E-02	4.894E-02	4.691E-03	2.550

---- 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	*	-5.255E-02	3.114E-01	5.144E-01	5.040E-02	-0.102
NA-22		1274.54	*	-2.996E-03	5.786E-02	9.254E-02	7.592E-03	-0.032
NA-24		1368.53	*	-2.293E-01	5.786E-02	Half-Life too short		
AL-26		1129.67		-4.045E-01	1.863E+00	2.949E+00	2.483E-01	-0.137
		1808.65	*	-2.895E-02	4.382E-02	5.960E-02	4.932E-03	-0.486
TI-44		67.85		1.191E-02	1.669E-02	2.829E-02	2.294E-03	0.421
	+	78.38	*	3.603E-01	4.169E-02	3.762E-02	3.275E-03	9.579
SC-46		889.25	*	-6.987E-03	3.840E-02	6.259E-02	5.566E-03	-0.112
	+	1120.51		2.558E-01	1.074E-01	1.624E-01	1.372E-02	1.575
V-48		944.10		-5.490E-01	9.976E-01	1.542E+00	1.352E-01	-0.356
		983.50	*	9.331E-03	7.614E-02	1.279E-01	1.119E-02	0.073
		1312.09		2.654E-02	9.804E-02	1.637E-01	1.333E-02	0.162
CR-51		320.08	*	7.868E-02	3.365E-01	5.543E-01	5.153E-02	0.142
MN-52		744.21		4.430E-02	2.752E-01	4.503E-01	4.786E-02	0.098
		848.13		8.306E+00	6.659E+00	1.269E+01	1.207E+00	0.654
		935.52		9.050E-02	3.029E-01	5.192E-01	4.551E-02	0.174
		1246.25		-2.359E+00	9.066E+00	1.416E+01	1.164E+00	-0.167
		1333.61		4.371E+00	5.921E+00	1.089E+01	8.840E-01	0.401
		1434.06	*	-1.134E-01	2.697E-01	4.151E-01	3.428E-02	-0.273
MN-54		834.83	*	2.358E-02	3.730E-02	6.686E-02	6.480E-03	0.353
CO-56		846.75	*	2.638E-02	3.908E-02	7.058E-02	6.728E-03	0.374
		977.42		8.800E-01	3.110E+00	5.331E+00	4.666E-01	0.165
		1037.82		-8.976E-02	3.383E-01	5.366E-01	4.900E-02	-0.167
		1175.09		1.253E+00	2.594E+00	4.456E+00	3.672E-01	0.281
		1238.25		1.154E-01	1.126E-01	1.998E-01	1.696E-02	0.577
		1360.21		-3.578E-01	1.155E+00	1.840E+00	1.501E-01	-0.194
		1771.40		-4.625E-01	3.360E-01	3.514E-01	2.920E-02	-1.316
CO-57		122.06	*	1.075E-03	1.852E-02	2.935E-02	3.372E-03	0.037
		136.48		4.705E-02	1.552E-01	2.472E-01	2.738E-02	0.190
CO-58		810.76	*	-3.107E-02	4.157E-02	6.387E-02	6.391E-03	-0.487
FE-59		142.65		9.386E-01	2.117E+00	3.383E+00	3.417E-01	0.277
		192.34		1.417E-01	7.282E-01	1.241E+00	1.655E-01	0.114
		1099.22	*	-6.667E-02	1.037E-01	1.547E-01	1.427E-02	-0.431
		1291.56		4.340E-02	1.332E-01	2.251E-01	2.115E-02	0.193

---- 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		-1.987E-02	5.366E-02	8.311E-02	6.849E-03	-0.239
		1332.49	*	2.913E-02	4.435E-02	8.108E-02	6.580E-03	0.359
ZN-65		1115.52	*	-6.728E-02	1.208E-01	1.533E-01	1.299E-02	-0.439
GE-68		1077.35	*	5.094E-01	1.461E+00	2.495E+00	2.141E-01	0.204
AS-73		53.44	*	1.590E-01	1.627E-01	2.794E-01	2.263E-02	0.569
AS-74		595.88	*	-1.504E-02	9.913E-02	1.605E-01	1.684E-02	-0.094
		634.78		-3.303E-01	3.823E-01	5.613E-01	6.083E-02	-0.588
SE-75		66.05		-7.062E-01	1.790E+00	2.668E+00	2.656E-01	-0.265
		96.73		-4.989E-01	5.128E-01	7.052E-01	1.018E-01	-0.708
		121.11		-3.823E-02	1.013E-01	1.564E-01	2.109E-02	-0.245
		136.00		-1.154E-03	2.956E-02	4.618E-02	4.907E-03	-0.025
		198.60		-4.234E-01	1.425E+00	2.363E+00	2.244E-01	-0.179
		264.65	*	-1.712E-02	3.919E-02	5.518E-02	4.954E-03	-0.310
		279.53		-4.202E-02	1.004E-01	1.409E-01	1.300E-02	-0.298
		303.91		-1.165E-01	1.911E+00	2.754E+00	3.222E-01	-0.042
		400.65		3.348E-01	2.838E-01	4.503E-01	4.821E-02	0.744
BR-77	+	87.88		6.489E+02	1.479E+02	2.122E+02	1.994E+01	3.059
		200.40		-5.198E+01	1.268E+02	2.087E+02	1.788E+01	-0.249
	+	239.00		2.511E+02	2.775E+01	3.712E+01	3.295E+00	6.764
		249.79		-2.075E+01	5.427E+01	8.743E+01	7.797E+00	-0.237
		281.68		2.385E+01	7.765E+01	1.241E+02	1.107E+01	0.192
		297.23		8.316E+01	5.047E+01	8.899E+01	7.942E+00	0.935
		303.76		-1.626E+01	1.619E+02	2.324E+02	2.072E+01	-0.070
		439.47		1.147E+02	1.315E+02	2.371E+02	2.051E+01	0.484
		484.57		-4.407E+01	2.284E+02	3.761E+02	3.482E+01	-0.117
		520.65	*	-5.131E+00	1.023E+01	1.617E+01	1.568E+00	-0.317
		574.64		-8.742E+01	2.114E+02	3.336E+02	3.433E+01	-0.262
		578.91		8.604E+01	9.202E+01	1.497E+02	1.547E+01	0.575
		585.48		5.997E+02	2.283E+02	4.069E+02	4.230E+01	1.474
		755.35		1.580E+02	1.890E+02	3.302E+02	3.481E+01	0.478
		817.79		2.531E+01	1.376E+02	2.365E+02	2.342E+01	0.107
SR-82		698.33		1.059E+01	3.800E+01	6.322E+01	6.898E+00	0.168
		776.49	*	-2.406E-01	4.059E-01	5.974E-01	6.185E-02	-0.403
		1395.20		6.645E+00	1.184E+01	2.158E+01	1.772E+00	0.308
RB-83		520.41	*	-3.649E-02	6.812E-02	1.073E-01	1.041E-02	-0.340
		529.64		-1.218E-01	1.008E-01	1.449E-01	1.420E-02	-0.841
		552.65		8.523E-02	2.233E-01	3.814E-01	3.838E-02	0.223
RB-84		881.50	*	7.383E-03	7.629E-02	1.290E-01	1.163E-02	0.057
KR-85		513.99	*	4.326E-01	6.875E+00	1.151E+01	1.108E+00	0.038
SR-85		513.99	*	2.218E-03	3.525E-02	5.903E-02	5.680E-03	0.038
RB-86		1076.63	*	5.839E-01	9.166E-01	1.615E+00	1.387E-01	0.362
Y-88		898.02		-2.469E-03	3.831E-02	6.335E-02	5.568E-03	-0.039
		1836.01	*	-4.010E-02	4.267E-02	4.912E-02	4.056E-03	-0.816
ZR-88		392.90	*	-5.843E-03	2.916E-02	4.540E-02	3.617E-03	-0.129
Y-91		1204.90	*	-5.510E+00	2.201E+01	3.454E+01	2.845E+00	-0.160
NB-94		702.63	*	-1.762E-02	3.824E-02	5.871E-02	6.393E-03	-0.300
		871.10		9.302E-03	3.224E-02	5.596E-02	5.137E-03	0.166
NB-95		765.79	*	-1.910E-02	5.644E-02	7.471E-02	7.808E-03	-0.256
NB-95M		235.69	*	5.271E-02	9.989E-02	1.550E-01	1.562E-02	0.340

---- 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		4.669E-02	1.004E-01	1.523E-01	1.733E-02	0.306
		756.15	*	4.213E-02	7.928E-02	1.348E-01	1.517E-02	0.313
NB-97		657.90	*	-7.002E-02	7.928E-02	Half-Life too short		
		1024.50		4.947E+00	7.928E-02	Half-Life too short		
ZR-97		254.15		-3.096E+00	7.928E-02	Half-Life too short		
		355.39		8.815E-01	7.928E-02	Half-Life too short		
		507.63	*	1.471E+00	7.928E-02	Half-Life too short		
		602.52		5.449E-02	7.928E-02	Half-Life too short		
		1021.30		2.024E+00	7.928E-02	Half-Life too short		
		1147.95		-1.058E-01	7.928E-02	Half-Life too short		
		1362.66		2.764E+00	7.928E-02	Half-Life too short		
		1750.46		-2.211E+00	7.928E-02	Half-Life too short		
MO-99		140.51		-6.529E+00	1.960E+01	2.969E+01	8.386E+00	-0.220
		181.06		4.651E-01	1.395E+01	2.135E+01	3.875E+00	0.022
		366.43		5.650E+01	8.113E+01	1.371E+02	1.149E+01	0.412
		739.58	*	7.694E+00	1.397E+01	2.369E+01	3.892E+00	0.325
		778.00		-1.711E+01	4.076E+01	5.227E+01	5.404E+00	-0.327
TC-99M		140.51	*	-9.303E+09	4.076E+01	Half-Life too short		
RH-101		127.23		-3.555E-02	2.539E-02	3.633E-02	4.055E-03	-0.979
		198.01	*	7.976E-03	2.554E-02	4.371E-02	3.733E-03	0.182
		325.23		1.102E-02	2.191E-01	3.173E-01	2.798E-02	0.035
RH-102		418.52		-2.127E-01	2.766E-01	4.405E-01	3.678E-02	-0.483
		475.06	*	-1.930E-02	2.748E-02	4.303E-02	3.931E-03	-0.449
		631.29		-8.684E-03	5.856E-02	9.416E-02	1.018E-02	-0.092
		697.49		-4.554E-02	8.551E-02	1.301E-01	1.420E-02	-0.350
		766.84		5.575E-02	1.485E-01	2.182E-01	2.278E-02	0.255
		1046.59		1.175E-01	1.234E-01	2.263E-01	1.959E-02	0.519
		1112.84		-9.976E-03	2.982E-01	4.185E-01	3.548E-02	-0.024
RU-103		497.08	*	-1.681E-02	3.621E-02	5.751E-02	8.431E-03	-0.292
	+	610.33		1.190E+01	2.885E+00	3.365E+00	5.991E-01	3.536
RH-106	+	511.85		6.233E-01	3.440E-01	4.551E-01	4.367E-02	1.370
		621.84	*	-1.962E-01	3.739E-01	4.553E-01	6.742E-02	-0.431
		1050.47		-1.125E-01	2.495E+00	4.074E+00	3.523E-01	-0.028
RU-106	+	511.85		6.233E-01	3.440E-01	4.551E-01	4.367E-02	1.370
		621.84	*	-1.962E-01	3.734E-01	4.553E-01	4.885E-02	-0.431
		1050.47		-1.125E-01	2.495E+00	4.074E+00	3.523E-01	-0.028
AG-108M		433.93	*	1.403E-02	3.104E-02	5.430E-02	4.842E-03	0.258
		614.37		-2.148E-02	4.364E-02	5.782E-02	6.326E-03	-0.372
		722.95		-1.968E-02	4.989E-02	6.553E-02	7.239E-03	-0.300
AG-110M		657.75	*	-2.588E-02	4.139E-02	5.276E-02	5.918E-03	-0.491
		677.61		1.429E-01	3.292E-01	5.589E-01	6.254E-02	0.256
		706.67		-4.405E-02	2.266E-01	3.581E-01	3.960E-02	-0.123
		763.93		1.672E-01	1.954E-01	3.096E-01	3.303E-02	0.540
		884.67		-5.806E-03	4.958E-02	8.161E-02	7.535E-03	-0.071
		937.48		-1.138E-01	1.375E-01	2.069E-01	1.877E-02	-0.550
		1384.27		7.112E-02	1.697E-01	3.030E-01	2.561E-02	0.235
IN-111		171.28		5.651E-01	7.522E-01	1.325E+00	1.087E-01	0.426
		245.39	*	9.901E-02	9.298E-01	1.392E+00	1.239E-01	0.071
IN-113M		391.69	*	2.467E-02	3.993E-02	6.708E-02	5.524E-03	0.368

---- Non-Identified Nuclides ----

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SN-113	391.69	*		2.467E-02	3.993E-02	6.708E-02	5.524E-03	0.368
IN-114M	190.27	*		1.103E-01	1.388E-01	2.434E-01	2.057E-02	0.453
CD-115	260.90			-1.318E+02	1.131E+02	1.706E+02	1.525E+01	-0.772
	492.35			-2.902E+01	3.492E+01	5.363E+01	5.019E+00	-0.541
	527.90	*		4.874E+00	9.774E+00	1.705E+01	1.668E+00	0.286
SN-117M	156.02			-1.800E+00	1.703E+00	2.766E+00	2.496E-01	-0.651
	158.56	*		1.416E-02	4.027E-02	7.007E-02	6.168E-03	0.202
SB-122	563.90	*		1.828E-02	2.169E+00	3.585E+00	3.649E-01	0.005
	692.80			3.375E+01	4.737E+01	8.220E+01	8.990E+00	0.411
I-123	159.00	*		2.682E-01	4.737E+01	Half-Life	too short	
	528.96			-2.154E+02	4.737E+01	Half-Life	too short	
TE-123M	159.00	*		1.338E-03	2.093E-02	3.594E-02	3.168E-03	0.037
I-124	602.71	*		-8.316E-02	7.401E-01	1.159E+00	1.224E-01	-0.072
	722.78			-1.970E+00	5.211E+00	6.867E+00	7.400E-01	-0.287
	1325.50			1.966E+01	3.938E+01	7.057E+01	5.735E+00	0.279
	1376.25			1.902E+01	3.352E+01	6.063E+01	4.962E+00	0.314
	1509.49			1.546E+01	1.999E+01	3.695E+01	3.075E+00	0.418
	1691.02			4.681E-01	4.178E+00	7.034E+00	5.876E-01	0.067
SB-124	602.71			-4.839E-03	4.307E-02	6.747E-02	7.125E-03	-0.072
	645.85			-1.564E-01	5.033E-01	7.900E-01	8.957E-02	-0.198
	709.31			1.544E+00	2.951E+00	5.037E+00	5.467E-01	0.306
	713.82			-1.825E+00	1.802E+00	2.474E+00	3.392E-01	-0.738
	722.78			-1.662E-01	4.396E-01	5.793E-01	6.329E-02	-0.287
+	968.20			1.572E+01	5.026E+00	8.486E+00	7.433E-01	1.852
	1045.16			1.409E+00	2.777E+00	4.845E+00	4.196E-01	0.291
	1325.50			1.772E+00	3.548E+00	6.358E+00	5.167E-01	0.279
	1368.21			-1.597E-01	2.052E+00	3.391E+00	4.474E-01	-0.047
	1436.60			1.080E+00	4.182E+00	7.272E+00	6.007E-01	0.149
	1691.02	*		9.314E-03	8.312E-02	1.400E-01	1.218E-02	0.067
SB-125	427.89	*		6.219E-02	9.000E-02	1.599E-01	1.384E-02	0.389
+	463.38			1.117E+00	4.921E-01	6.523E-01	6.282E-02	1.713
	600.56			1.914E-02	1.948E-01	3.226E-01	3.570E-02	0.059
	635.90			1.022E-01	2.682E-01	4.563E-01	5.206E-02	0.224
TE-125M	109.28	*		-3.161E+00	6.092E+00	9.398E+00	1.130E+00	-0.336
I-126	388.63			2.880E-02	2.008E-01	3.232E-01	2.588E-02	0.089
	666.33	*		8.135E-02	2.434E-01	3.611E-01	3.984E-02	0.225
	753.82			1.477E+00	1.685E+00	2.953E+00	3.117E-01	0.500
SB-126	223.80			2.009E+00	3.464E+00	5.950E+00	5.226E-01	0.338
+	278.60			3.656E+00	2.623E+00	3.690E+00	3.290E-01	0.991
+	296.50			1.466E+01	2.358E+00	3.493E+00	3.118E-01	4.196
	414.70			1.283E-02	7.217E-02	1.241E-01	1.029E-02	0.103
	415.30			3.170E+00	6.031E+00	1.061E+01	8.813E-01	0.299
	555.20			-4.900E-01	4.440E+00	7.271E+00	7.336E-01	-0.067
	573.80			-3.399E-01	1.073E+00	1.712E+00	1.760E-01	-0.199
	593.00			-3.043E-02	9.902E-01	1.623E+00	1.699E-01	-0.019
	656.30			-1.094E+00	3.947E+00	5.370E+00	5.910E-01	-0.204
	666.33			3.399E-02	1.017E-01	1.509E-01	1.665E-02	0.225
	675.00			-1.150E+00	2.077E+00	3.144E+00	3.460E-01	-0.366
	695.00			-4.514E-02	8.786E-02	1.341E-01	1.466E-02	-0.337

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SB-127		697.00		-1.905E-01	2.965E-01	4.443E-01	4.851E-02	-0.429
		720.50	*	8.939E-02	1.578E-01	2.624E-01	2.832E-02	0.341
		856.80		-1.282E-01	5.303E-01	7.400E-01	6.949E-02	-0.173
		989.30		6.816E-01	1.270E+00	2.246E+00	1.964E-01	0.303
		1034.80		0.000E+00	9.820E+00	1.616E+01	1.402E+00	0.000
		1213.00		-1.815E+00	5.457E+00	8.467E+00	6.973E-01	-0.214
		61.10		4.771E+00	1.811E+01	2.822E+01	2.982E+00	0.169
		252.40		1.940E+00	3.600E+00	6.004E+00	2.527E+00	0.323
		290.80		-1.182E+01	1.968E+01	2.685E+01	3.061E+00	-0.440
		411.60		4.329E+00	1.277E+01	2.075E+01	3.221E+00	0.209
		444.90		-4.655E-01	8.571E+00	1.439E+01	1.814E+00	-0.032
		473.00		1.318E-01	1.572E+00	2.658E+00	3.508E-01	0.050
		543.00		-1.464E+01	1.674E+01	2.505E+01	3.815E+00	-0.585
		603.60		-4.914E+00	1.452E+01	1.994E+01	2.776E+00	-0.246
		685.20	*	3.837E-01	1.419E+00	2.370E+00	3.140E-01	0.162
XE-127		698.50		5.847E+00	1.704E+01	2.848E+01	4.891E+00	0.205
		722.20		-2.841E+01	3.884E+01	4.809E+01	6.204E+00	-0.591
		783.80		1.802E+00	4.125E+00	6.911E+00	9.413E-01	0.261
		57.60		-1.277E+00	1.477E+00	2.345E+00	1.847E-01	-0.545
		145.22		-3.139E-01	5.624E-01	8.456E-01	8.376E-02	-0.371
I-131		172.10		7.396E-03	9.091E-02	1.554E-01	1.276E-02	0.048
		202.84	*	1.521E-02	3.590E-02	6.169E-02	5.302E-03	0.247
		374.96		1.657E-02	1.960E-01	3.147E-01	2.597E-02	0.053
		80.18		1.827E+00	2.299E+00	3.607E+00	3.204E-01	0.507
		284.30		-2.403E-01	1.288E+00	2.078E+00	1.945E-01	-0.116
TE-132		364.48	*	2.475E-02	1.116E-01	1.818E-01	1.617E-02	0.136
		636.97		6.924E-04	1.584E+00	2.586E+00	2.907E-01	0.000
		722.89		-3.265E+00	8.401E+00	1.105E+01	1.195E+00	-0.296
		49.72		-3.918E-02	2.762E+00	4.305E+00	4.588E-01	-0.009
		111.76		1.358E+01	1.942E+01	3.199E+01	4.035E+00	0.425
BA-133		116.30		-3.706E+00	1.819E+01	2.848E+01	3.668E+00	-0.130
		228.16	*	-3.810E-01	5.859E-01	9.350E-01	1.479E-01	-0.407
		53.15		6.488E-01	6.882E-01	1.181E+00	9.586E-02	0.549
		79.62		-6.277E-01	6.994E-01	9.942E-01	1.523E-01	-0.631
		81.00		-2.191E-02	5.140E-02	7.539E-02	1.208E-02	-0.291
I-133	+	276.40		5.467E-01	3.974E-01	5.916E-01	8.656E-02	0.924
		302.84		-3.339E-02	1.242E-01	1.746E-01	2.354E-02	-0.191
		356.01	*	4.349E-02	4.305E-02	6.789E-02	8.922E-03	0.641
		383.85		-1.606E-01	2.986E-01	4.511E-01	5.527E-02	-0.356
	+	510.53		1.261E+00	2.986E-01	Half-Life	too short	
CS-134		529.87	*	-6.540E-03	2.986E-01	Half-Life	too short	
		706.58		-9.476E-02	2.986E-01	Half-Life	too short	
		856.28		1.175E-02	2.986E-01	Half-Life	too short	
		875.33		-8.874E-02	2.986E-01	Half-Life	too short	
		1236.41		-2.875E-01	2.986E-01	Half-Life	too short	
		1298.22		1.114E-01	2.986E-01	Half-Life	too short	
		475.35		-1.332E+00	1.819E+00	2.843E+00	2.598E-01	-0.469
		563.23		4.502E-02	3.724E-01	6.221E-01	6.372E-02	0.072
		569.32		6.247E-02	1.976E-01	3.358E-01	3.471E-02	0.186

---- Non-Identified Nuclides ----

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		604.70		-1.070E-02	4.171E-02	5.796E-02	6.141E-03	-0.185
		795.84	*	8.491E-02	5.680E-02	1.036E-01	1.057E-02	0.820
		801.93		-3.404E-01	4.289E-01	6.587E-01	6.674E-02	-0.517
		1038.57		1.496E-01	4.164E+00	6.881E+00	5.968E-01	0.022
		1167.94		2.528E+00	2.901E+00	5.190E+00	4.289E-01	0.487
		1365.15		4.923E-01	1.471E+00	2.596E+00	2.228E-01	0.190
CS-135		268.24	*	2.535E-01	1.410E-01	2.363E-01	2.419E-02	1.073
I-135		288.45		-9.590E+09	1.410E-01	Half-Life	too short	
		417.63		5.444E+09	1.410E-01	Half-Life	too short	
		546.56		5.110E+09	1.410E-01	Half-Life	too short	
		836.80		-5.260E+09	1.410E-01	Half-Life	too short	
		1038.76		2.104E+09	1.410E-01	Half-Life	too short	
		1124.00		6.469E+10	1.410E-01	Half-Life	too short	
		1131.51		5.660E+09	1.410E-01	Half-Life	too short	
		1260.41	*	8.830E+08	1.410E-01	Half-Life	too short	
		1457.56		2.347E+11	1.410E-01	Half-Life	too short	
		1678.03		8.787E+09	1.410E-01	Half-Life	too short	
		1706.46		8.378E+08	1.410E-01	Half-Life	too short	
		1791.20		4.147E+08	1.410E-01	Half-Life	too short	
CS-136		66.91		3.972E-02	2.973E-01	4.555E-01	6.894E-02	0.087
	+	86.29		3.860E+00	9.537E-01	1.115E+00	1.482E-01	3.463
		153.22		5.790E-01	5.011E-01	8.965E-01	9.157E-02	0.646
		163.89		-1.169E-01	8.277E-01	1.405E+00	1.319E-01	-0.083
		176.55		-6.057E-03	2.723E-01	4.623E-01	4.064E-02	-0.013
		273.65		1.064E-01	4.735E-01	5.680E-01	5.384E-02	0.187
		340.57		1.265E-01	1.193E-01	1.893E-01	1.693E-02	0.668
		818.51		-8.108E-03	8.135E-02	1.355E-01	1.342E-02	-0.060
		1048.07	*	-4.667E-02	1.194E-01	1.860E-01	1.677E-02	-0.251
		1235.34		4.554E-01	7.429E-01	1.272E+00	1.471E-01	0.358
CE-139		165.85	*	1.789E-02	2.295E-02	4.049E-02	3.291E-03	0.442
BA-140		162.64		-2.194E-01	5.649E-01	9.478E-01	8.477E-02	-0.231
		304.84		-3.817E-01	1.230E+00	1.721E+00	4.838E-01	-0.222
		423.70		3.802E-01	1.835E+00	3.151E+00	1.020E+00	0.121
		537.32	*	-2.012E-01	2.860E-01	4.303E-01	1.441E-01	-0.468
LA-140	+	328.77		5.052E-01	3.887E-01	5.223E-01	4.841E-02	0.967
		432.53		-1.262E+00	1.955E+00	3.127E+00	2.806E-01	-0.403
		487.03		3.432E-02	1.388E-01	2.371E-01	2.321E-02	0.145
		751.79		-1.643E-01	2.005E+00	3.189E+00	3.614E-01	-0.052
		815.85		-6.908E-02	3.433E-01	5.651E-01	6.104E-02	-0.122
		867.82		2.333E-02	1.362E+00	2.285E+00	2.206E-01	0.010
		919.63		1.131E+00	2.918E+00	5.084E+00	5.471E-01	0.223
		925.24		-7.772E-01	1.314E+00	2.030E+00	1.887E-01	-0.383
		1596.49	*	-1.384E-01	1.112E-01	1.359E-01	1.136E-02	-1.019
CE-141		145.44	*	-3.588E-02	5.078E-02	7.553E-02	7.573E-03	-0.475
CE-143		57.37		-1.930E-04	5.078E-02	Half-Life	too short	
		231.56		-2.715E-04	5.078E-02	Half-Life	too short	
		293.26	*	3.031E-04	5.078E-02	Half-Life	too short	
	+	350.59		3.281E-02	5.078E-02	Half-Life	too short	
		490.36		9.631E-04	5.078E-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
	664.57			7.513E-04	5.078E-02	Half-Life	too short	
	721.93			-1.049E-03	5.078E-02	Half-Life	too short	
CE-144	80.11			8.282E-01	1.057E+00	1.658E+00	1.463E-01	0.500
	133.54	*		-2.337E-02	1.554E-01	2.415E-01	4.066E-02	-0.097
PM-144	476.78			-3.385E-02	6.666E-02	1.067E-01	1.059E-02	-0.317
	618.01			1.238E-02	2.953E-02	5.063E-02	5.513E-03	0.244
	696.49	*		-4.117E-02	3.992E-02	5.695E-02	6.220E-03	-0.723
	778.57			-1.192E+00	2.747E+00	3.512E+00	3.629E-01	-0.340
PR-144	696.49	*		-2.790E+00	2.705E+00	3.859E+00	4.214E-01	-0.723
	1489.15			-4.772E+00	1.172E+01	1.760E+01	1.463E+00	-0.271
PM-146	453.90	*		6.020E-03	4.576E-02	7.783E-02	8.493E-03	0.077
	633.02			-1.010E+00	1.522E+00	2.223E+00	8.434E-01	-0.454
	735.90			-3.069E-02	1.645E-01	2.584E-01	7.571E-02	-0.119
	747.13			-5.569E-03	9.805E-02	1.564E-01	2.399E-02	-0.036
ND-147	91.11	+		7.123E-01	1.910E-01	2.673E-01	2.726E-02	2.665
	319.41			-1.635E-01	3.040E+00	4.900E+00	4.339E-01	-0.033
	439.89			2.180E+00	5.360E+00	9.349E+00	8.095E-01	0.233
	531.02	*		-3.343E-01	5.491E-01	8.520E-01	1.335E-01	-0.392
PM-149	285.90	*		6.368E+00	7.938E+01	1.305E+02	2.051E+01	0.049
EU-152	121.78			1.235E-02	5.314E-02	8.504E-02	1.061E-02	0.145
	244.69			8.866E-02	2.868E-01	4.366E-01	3.887E-02	0.203
	344.27	*		-9.100E-03	8.148E-02	1.296E-01	1.189E-02	-0.070
	443.98			-4.882E-01	8.587E-01	1.374E+00	1.198E-01	-0.355
	778.89			-2.505E-02	3.035E-01	4.165E-01	4.302E-02	-0.060
	867.32			5.701E-02	8.236E-01	1.356E+00	1.252E-01	0.042
	964.01			3.705E-01	3.859E-01	6.272E-01	5.495E-02	0.591
	1085.78			-5.523E-01	4.478E-01	5.996E-01	5.133E-02	-0.921
	1112.02			1.997E-02	3.863E-01	5.989E-01	5.078E-02	0.033
	1407.95			1.029E-01	1.990E-01	3.594E-01	2.957E-02	0.286
GD-153	69.67			-1.612E-01	6.223E-01	1.012E+00	8.297E-02	-0.159
	83.37	+		2.560E+01	9.840E+00	1.322E+01	1.197E+00	1.937
	97.43	*		-5.286E-02	5.431E-02	7.493E-02	7.402E-03	-0.705
	103.18			-1.636E-02	6.860E-02	1.083E-01	1.106E-02	-0.151
EU-154	123.07			9.353E-03	3.811E-02	6.097E-02	8.301E-03	0.153
	247.94			-1.128E-01	3.037E-01	4.901E-01	5.733E-02	-0.230
	591.81			3.690E-01	6.354E-01	1.102E+00	1.442E-01	0.335
	723.30			-4.083E-02	1.993E-01	2.705E-01	3.114E-02	-0.151
	756.87			5.081E-01	8.346E-01	1.431E+00	1.920E-01	0.355
	873.19			-9.552E-02	2.930E-01	4.689E-01	5.917E-02	-0.204
	996.32			-2.203E-01	4.333E-01	6.690E-01	1.192E-01	-0.329
	1004.76			-2.551E-02	2.596E-01	4.236E-01	4.964E-02	-0.060
	1274.45	*		1.714E-02	1.596E-01	2.605E-01	2.863E-02	0.066
EU-155	48.70			-1.664E-02	3.143E-01	4.893E-01	4.139E-02	-0.034
	60.01			1.129E+00	1.490E+00	2.381E+00	1.859E-01	0.474
	86.54	+		3.564E-01	8.135E-02	1.122E-01	1.051E-02	3.177
	105.31	*		6.115E-02	7.375E-02	1.224E-01	1.276E-02	0.500
TB-160	86.79	+		9.519E-01	2.170E-01	3.174E-01	2.955E-02	2.999
	197.04			2.397E-01	4.242E-01	7.352E-01	6.271E-02	0.326
	215.65			8.125E-01	6.191E-01	1.100E+00	9.587E-02	0.739

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HO-166M		298.57		9.792E-02	1.002E-01	1.731E-01	1.544E-02	0.566
		879.36	*	1.600E-01	1.494E-01	2.785E-01	2.521E-02	0.575
		962.29		-8.627E-01	7.126E-01	9.461E-01	8.290E-02	-0.912
		966.15		7.282E-01	2.823E-01	5.241E-01	4.592E-02	1.389
		1177.93		-1.683E-01	4.478E-01	6.942E-01	5.721E-02	-0.242
		1271.85		3.559E-01	9.607E-01	1.616E+00	1.324E-01	0.220
		80.57		4.222E-02	1.372E-01	2.101E-01	1.861E-02	0.201
	+	184.41		1.921E-01	4.514E-02	5.110E-02	4.280E-03	3.759
		280.46		1.992E-03	7.784E-02	1.142E-01	1.018E-02	0.017
		410.95		4.064E-01	2.594E-01	4.587E-01	3.779E-02	0.886
TM-171		711.68	*	2.598E-02	6.358E-02	1.074E-01	1.164E-02	0.242
		752.31		-4.690E-02	3.228E-01	5.097E-01	5.385E-02	-0.092
		810.29		-4.914E-02	6.229E-02	9.511E-02	9.506E-03	-0.517
		51.35		-5.211E+00	4.934E+00	7.822E+00	6.446E-01	-0.666
		52.39		3.657E-01	2.765E+00	4.594E+00	3.752E-01	0.080
LU-176		59.40		6.629E+00	7.580E+00	1.220E+01	9.513E-01	0.544
	+	66.72	*	-2.902E-02	1.079E+01	1.642E+01	1.323E+00	-0.002
		88.36		7.018E-01	1.600E-01	2.039E-01	1.921E-02	3.443
		201.83		2.043E-02	2.193E-02	3.857E-02	3.311E-03	0.529
LU-177		306.84	*	8.038E-03	2.329E-02	3.707E-02	3.301E-03	0.217
	+	401.10		7.334E+00	8.204E+00	1.179E+01	9.538E-01	0.622
		112.95		-4.552E-01	1.090E+00	1.689E+00	1.829E-01	-0.270
LU-177M	+	208.36	*	2.839E+00	1.248E+00	1.725E+00	1.492E-01	1.646
		52.97		2.903E-01	3.077E-01	5.282E-01	4.294E-02	0.550
		54.07		1.005E-01	1.742E-01	2.946E-01	2.375E-02	0.341
		61.30		1.061E-01	4.705E-01	7.316E-01	5.743E-02	0.145
		121.62		-4.148E-02	2.790E-01	4.370E-01	5.003E-02	-0.095
		147.16		-2.801E-01	5.158E-01	7.744E-01	7.554E-02	-0.362
		171.86		1.199E-01	3.649E-01	6.310E-01	5.178E-02	0.190
		218.09		-5.318E-01	7.151E-01	1.145E+00	1.000E-01	-0.465
	+	268.79		3.787E+00	1.376E+00	1.342E+00	1.200E-01	2.821
		319.02		-2.161E-02	2.336E-01	3.754E-01	3.324E-02	-0.058
HF-181		367.43		5.854E-01	8.645E-01	1.459E+00	1.221E-01	0.401
		413.65	*	-1.216E-01	1.831E-01	2.710E-01	2.244E-02	-0.449
		56.28		9.691E-02	2.122E-01	3.593E-01	2.852E-02	0.270
		57.53		-1.032E-01	1.240E-01	1.973E-01	1.554E-02	-0.523
		65.20		-2.432E-03	3.416E-01	5.207E-01	4.162E-02	-0.005
		133.02		-3.840E-02	5.146E-02	7.694E-02	8.297E-03	-0.499
		136.25		9.893E-02	3.394E-01	5.404E-01	5.707E-02	0.183
		345.85		3.330E-03	1.594E-01	2.566E-01	2.218E-02	0.013
W-181		482.03	*	1.143E-03	4.408E-02	7.401E-02	6.828E-03	0.015
		56.28		3.791E-02	8.309E-02	1.407E-01	1.117E-02	0.269
		57.53		-4.036E-02	4.858E-02	7.730E-02	6.090E-03	-0.522
TA-182		65.20	*	-9.452E-04	1.328E-01	2.024E-01	1.617E-02	-0.005
		67.75		2.525E-02	4.025E-02	6.761E-02	5.480E-03	0.373
		100.10		-2.206E-02	1.095E-01	1.736E-01	1.741E-02	-0.127
		152.43		-1.511E-01	2.832E-01	4.246E-01	3.961E-02	-0.356
		222.10		-8.689E-02	2.959E-01	4.860E-01	4.263E-02	-0.179
		1001.68		1.351E+00	2.568E+00	4.465E+00	3.898E-01	0.303

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RE-183	+	1121.28		7.064E-01	2.967E-01	4.440E-01	3.751E-02	1.591
		1189.05		-3.341E-03	3.315E-01	5.370E-01	4.425E-02	-0.006
		1221.42	*	6.400E-02	2.179E-01	3.652E-01	3.007E-02	0.175
		1230.97		5.009E-01	5.671E-01	1.004E+00	8.257E-02	0.499
		57.98		-4.666E-02	4.987E-02	7.889E-02	6.200E-03	-0.591
		59.32		2.462E-02	3.094E-02	4.962E-02	3.871E-03	0.496
		67.20		8.449E-03	7.678E-02	1.175E-01	9.493E-03	0.072
		162.32	*	-1.553E-03	8.183E-02	1.398E-01	1.183E-02	-0.011
RE-184	+	208.81		2.554E+00	1.123E+00	1.578E+00	1.366E-01	1.619
		291.72		-3.232E-01	8.656E-01	1.213E+00	1.083E-01	-0.266
		57.98		-1.720E-01	1.838E-01	2.907E-01	2.285E-02	-0.591
		59.32		9.067E-02	1.139E-01	1.827E-01	1.425E-02	0.496
		67.20		3.113E-02	2.828E-01	4.328E-01	3.497E-02	0.072
		161.27		-7.854E-02	2.639E-01	4.450E-01	3.808E-02	-0.176
		216.55		2.788E-01	2.171E-01	3.856E-01	3.365E-02	0.723
		252.85	*	5.520E-02	1.900E-01	3.197E-01	2.854E-02	0.173
OS-185		318.01		2.020E-01	3.988E-01	6.706E-01	5.941E-02	0.301
		792.07		-1.200E+00	1.181E+00	1.645E+00	1.677E-01	-0.729
		903.28		6.813E-01	1.024E+00	1.767E+00	1.546E-01	0.386
		920.93		2.191E-01	4.794E-01	8.413E-01	7.372E-02	0.260
		59.72		1.018E-01	8.605E-02	1.402E-01	1.093E-02	0.726
		61.14		1.320E-02	5.165E-02	8.045E-02	6.310E-03	0.164
		69.30		-1.974E-02	1.108E-01	1.809E-01	1.480E-02	-0.109
		592.07		8.391E-01	2.628E+00	4.455E+00	4.660E-01	0.188
RE-188		646.12	*	-8.749E-03	4.387E-02	6.988E-02	7.635E-03	-0.125
		717.42		7.221E-01	9.533E-01	1.665E+00	1.799E-01	0.434
		874.81		-4.410E-01	6.095E-01	9.236E-01	8.425E-02	-0.477
		880.27		6.099E-01	8.433E-01	1.521E+00	1.375E-01	0.401
		155.03	*	8.144E-02	1.280E-01	2.254E-01	2.054E-02	0.361
		477.96		1.134E+00	3.069E+00	5.301E+00	4.862E-01	0.214
		633.10		-2.141E+00	2.976E+00	4.456E+00	4.823E-01	-0.480
	+	63.58		5.977E+01	3.113E+01	3.471E+01	2.752E+00	1.722
W-188		227.08		-7.129E+00	1.069E+01	1.711E+01	1.506E+00	-0.417
	*	290.67		-3.640E+00	6.845E+00	9.427E+00	8.416E-01	-0.386
IR-192	+	295.96		1.123E+00	1.811E-01	3.010E-01	2.705E-02	3.731
		308.46		-9.433E-03	8.899E-02	1.434E-01	1.282E-02	-0.066
AU-195		316.51	*	-1.588E-02	3.102E-02	4.815E-02	4.279E-03	-0.330
		468.07		-8.296E-03	6.898E-02	1.006E-01	9.693E-03	-0.082
		604.41		-3.993E-01	5.979E-01	7.831E-01	1.127E-01	-0.510
		612.46		3.740E-01	8.092E-01	1.233E+00	1.444E-01	0.303
		65.12		4.994E-03	6.155E-02	9.427E-02	7.531E-03	0.053
		66.83		4.996E-03	3.565E-02	5.466E-02	4.407E-03	0.091
	+	75.70		1.058E+00	1.465E-01	2.202E-01	1.880E-02	4.807
	*	98.88		1.708E-01	1.500E-01	2.363E-01	2.353E-02	0.723
TL-200		129.76		2.487E+00	2.278E+00	3.759E+00	4.134E-01	0.662
	*	367.94		-8.684E-05	2.278E+00	Half-Life too short		
		579.30		3.075E-03	2.278E+00	Half-Life too short		
		828.27		8.148E-04	2.278E+00	Half-Life too short		
		1205.75		1.904E-03	2.278E+00	Half-Life too short		

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TL-201		68.90		-1.689E+00	1.797E+00	2.829E+00	2.309E-01	-0.597
		70.82		-1.093E+00	1.093E+00	1.715E+00	1.416E-01	-0.637
		80.30		3.236E+00	2.437E+00	3.920E+00	3.464E-01	0.825
		135.34		-4.468E+00	1.905E+01	2.940E+01	3.124E+00	-0.152
TL-202		167.43	*	-2.428E+00	5.223E+00	8.705E+00	7.089E-01	-0.279
		68.90		-1.522E-01	1.618E-01	2.548E-01	2.079E-02	-0.597
		70.82		-9.819E-02	9.821E-02	1.540E-01	1.272E-02	-0.637
		80.30		2.907E-01	2.190E-01	3.522E-01	3.112E-02	0.825
HG-203		439.56	*	5.243E-02	6.347E-02	1.141E-01	9.873E-03	0.459
		70.83		-4.254E-01	4.282E-01	6.680E-01	8.938E-02	-0.637
		72.87		1.582E-02	2.894E-01	4.404E-01	5.744E-02	0.036
	+	82.60		1.903E+00	7.593E-01	8.405E-01	1.175E-01	2.264
BI-207		279.20	*	1.533E-02	3.634E-02	5.532E-02	5.064E-03	0.277
		72.80		2.946E-03	8.477E-02	1.289E-01	1.078E-02	0.023
	+	74.97		5.870E-01	8.124E-02	1.299E-01	1.103E-02	4.520
	+	84.90		3.311E-01	1.273E-01	1.736E-01	1.591E-02	1.908
TL-207		569.67		-7.460E-03	3.149E-02	5.074E-02	5.196E-03	-0.147
		1063.62	*	5.862E-02	5.421E-02	1.011E-01	8.713E-03	0.580
		1770.23		-3.199E+00	1.109E+00	8.437E-01	7.011E-02	-3.791
		81.07		-4.812E-02	1.134E-01	1.666E-01	1.481E-02	-0.289
	+	83.78		2.183E-01	8.392E-02	1.194E-01	1.085E-02	1.829
		94.90		6.664E-02	1.345E-01	2.061E-01	2.008E-02	0.323
		122.32		4.445E-01	1.282E+00	2.063E+00	2.465E-01	0.215
		144.24		4.430E-01	5.434E-01	8.825E-01	9.598E-02	0.502
		154.21		4.450E-01	3.045E-01	5.490E-01	5.485E-02	0.810
	+	269.46		8.867E-01	3.225E-01	3.486E-01	3.175E-02	2.543
		323.87	*	2.459E-01	6.366E-01	9.531E-01	1.697E-01	0.258
	+	338.28		6.238E+00	1.977E+00	2.537E+00	3.141E-01	2.459
PO-209		445.03		-1.345E-01	1.997E+00	3.350E+00	4.076E-01	-0.040
		260.50		-4.608E+00	8.112E+00	1.284E+01	1.147E+00	-0.359
		262.80		1.232E+01	2.109E+01	3.610E+01	3.227E+00	0.341
		896.60	*	1.984E+00	6.418E+00	1.119E+01	9.812E-01	0.177
PB-211		404.84	*	-4.326E-04	1.002E+00	1.408E+00	8.816E-01	0.000
		427.08		2.175E-01	1.991E+00	3.392E+00	2.107E+00	0.064
		831.96		-8.795E-01	1.433E+00	2.061E+00	1.295E+00	-0.427
	+	727.18	*	1.176E+00	4.545E-01	7.202E-01	8.564E-02	1.633
BI-212		785.46		1.741E+00	2.059E+00	3.584E+00	3.679E-01	0.486
		1620.62		7.634E-01	1.466E+00	2.657E+00	2.222E-01	0.287
		81.07		-4.812E-02	1.134E-01	1.666E-01	1.481E-02	-0.289
	+	83.78		2.183E-01	8.392E-02	1.194E-01	1.085E-02	1.829
PO-215		94.90		6.664E-02	1.345E-01	2.061E-01	2.008E-02	0.323
		122.32		4.445E-01	1.282E+00	2.063E+00	2.465E-01	0.215
		144.24		4.430E-01	5.434E-01	8.825E-01	9.598E-02	0.502
		154.21		4.450E-01	3.045E-01	5.490E-01	5.485E-02	0.810
	+	269.46		8.867E-01	3.225E-01	3.486E-01	3.175E-02	2.543
		323.87	*	2.459E-01	6.366E-01	9.531E-01	1.697E-01	0.258
	+	338.28		6.238E+00	1.977E+00	2.537E+00	3.141E-01	2.459
		445.03		-1.345E-01	1.997E+00	3.350E+00	4.076E-01	-0.040
RN-220		549.76	*	-2.478E+01	2.908E+01	4.419E+01	4.432E+00	-0.561

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-4.812E-02	1.134E-01	1.666E-01	1.481E-02	-0.289
	+	83.78		2.183E-01	8.392E-02	1.194E-01	1.085E-02	1.829
		94.90		6.664E-02	1.345E-01	2.061E-01	2.008E-02	0.323
		122.32		4.445E-01	1.282E+00	2.063E+00	2.465E-01	0.215
		144.24		4.430E-01	5.434E-01	8.825E-01	9.598E-02	0.502
		154.21		4.450E-01	3.045E-01	5.490E-01	5.485E-02	0.810
	+	269.46		8.867E-01	3.225E-01	3.486E-01	3.175E-02	2.543
		323.87	*	2.459E-01	6.366E-01	9.531E-01	1.697E-01	0.258
	+	338.28		6.238E+00	1.977E+00	2.537E+00	3.141E-01	2.459
		445.03		-1.345E-01	1.997E+00	3.350E+00	4.076E-01	-0.040
AC-227		79.80		-7.810E-02	8.467E-01	1.270E+00	2.740E-01	-0.062
		236.00		8.114E-02	1.880E-01	2.893E-01	3.592E-02	0.280
		256.20	*	-3.844E-01	3.314E-01	4.957E-01	7.696E-02	-0.776
		286.10		2.181E-01	1.342E+00	2.218E+00	2.973E-01	0.098
	+	299.80		4.309E+00	1.626E+00	2.406E+00	4.243E-01	1.791
		304.40		-4.997E-02	1.735E+00	2.509E+00	4.660E-01	-0.020
		334.20		-5.924E-01	2.409E+00	3.369E+00	6.559E-01	-0.176
TH-227		79.80		-7.810E-02	8.467E-01	1.270E+00	2.774E-01	-0.062
	+	94.00		1.014E+01	3.228E+00	2.300E+00	5.112E-01	4.407
		236.00		8.114E-02	1.879E-01	2.893E-01	3.259E-02	0.280
		256.20	*	-3.844E-01	3.334E-01	4.957E-01	9.028E-02	-0.776
		286.10		2.181E-01	1.359E+00	2.218E+00	2.227E+00	0.098
	+	299.80		4.309E+00	1.626E+00	2.406E+00	4.243E-01	1.791
		304.40		-4.997E-02	1.735E+00	2.509E+00	4.660E-01	-0.020
TH-229		334.20		-5.924E-01	2.409E+00	3.369E+00	6.559E-01	-0.176
	+	85.43		3.268E-01	1.256E-01	1.560E-01	1.437E-02	2.095
	+	88.47		4.040E-01	9.209E-02	1.142E-01	1.077E-02	3.536
		100.00		-2.844E-02	1.154E-01	1.816E-01	1.820E-02	-0.157
		193.63	*	-3.130E-01	4.053E-01	6.554E-01	5.564E-02	-0.478
		210.97		2.158E-01	6.275E-01	9.684E-01	8.401E-02	0.223
		283.67	*	-6.085E-02	1.315E+00	2.144E+00	3.293E-01	-0.028
PA-231	+	301.29		1.724E+00	6.138E-01	9.278E-01	1.156E-01	1.858
TH-231		81.07		-4.812E-02	1.134E-01	1.666E-01	1.481E-02	-0.289
	+	83.78		2.183E-01	8.392E-02	1.194E-01	1.085E-02	1.829
		94.90		6.664E-02	1.345E-01	2.061E-01	2.008E-02	0.323
		122.32		4.445E-01	1.282E+00	2.063E+00	2.465E-01	0.215
		144.24		4.430E-01	5.434E-01	8.825E-01	9.598E-02	0.502
		154.21		4.450E-01	3.045E-01	5.490E-01	5.485E-02	0.810
	+	269.46		8.867E-01	3.225E-01	3.486E-01	3.175E-02	2.543
		323.87	*	2.459E-01	6.366E-01	9.531E-01	1.697E-01	0.258
	+	338.28		6.238E+00	1.977E+00	2.537E+00	3.141E-01	2.459
		445.03		-1.345E-01	1.997E+00	3.350E+00	4.076E-01	-0.040
U-231	+	84.21		9.389E+00	3.609E+00	5.217E+00	4.756E-01	1.799
	+	92.29		9.996E+00	2.477E+00	2.505E+00	2.407E-01	3.991
		95.87	*	2.066E-01	6.482E-01	9.826E-01	9.624E-02	0.210
PA-233		108.00		-2.499E-01	1.344E+00	2.120E+00	2.228E-01	-0.118
	+	75.28		1.713E+01	3.217E+00	3.786E+00	5.788E-01	4.524
	+	86.59		5.793E+00	1.977E+00	1.852E+00	5.009E-01	3.128
	+	300.12		1.201E+00	4.397E-01	6.732E-01	1.013E-01	1.785

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234		311.98	*	3.215E-02	5.790E-02	9.769E-02	8.915E-03	0.329
		340.50		6.464E-01	5.986E-01	9.258E-01	2.209E-01	0.698
		398.62		-1.622E+00	2.357E+00	2.973E+00	7.865E-01	-0.545
		415.76		1.212E+00	1.575E+00	2.788E+00	5.974E-01	0.435
	+	63.00		1.734E+00	9.302E-01	9.992E-01	1.510E-01	1.735
		94.67		1.558E-01	1.026E-01	1.634E-01	2.156E-02	0.954
		98.44		8.935E-02	7.713E-02	9.530E-02	5.337E-02	0.938
		99.86		6.184E-02	2.880E-01	4.646E-01	4.653E-02	0.133
		111.00		-9.161E-03	1.231E-01	1.950E-01	2.662E-02	-0.047
		131.20		-3.931E-02	8.622E-02	1.319E-01	1.438E-02	-0.298
		152.70		9.746E-02	2.660E-01	4.205E-01	7.317E-02	0.232
	+	186.00		6.916E+00	2.635E+00	2.346E+00	7.308E-01	2.948
		226.40		-2.426E-01	3.398E-01	5.411E-01	7.208E-02	-0.448
		227.20		-2.484E-01	3.607E-01	5.764E-01	5.077E-02	-0.431
		248.90		-3.296E-01	6.907E-01	1.101E+00	2.480E-01	-0.299
	+	293.70		7.069E+00	1.555E+00	1.542E+00	2.692E-01	4.584
		369.80		-1.300E-01	8.156E-01	1.283E+00	2.780E-01	-0.101
		568.70		6.164E-01	9.832E-01	1.718E+00	1.758E-01	0.359
		569.50		-3.832E-02	2.820E-01	4.593E-01	4.702E-02	-0.083
		574.00		1.443E-01	1.485E+00	2.472E+00	2.542E-01	0.058
		699.00		4.147E-01	8.204E-01	1.387E+00	2.805E-01	0.299
		706.10		-3.455E-01	1.142E+00	1.765E+00	7.959E-01	-0.196
		733.00		1.309E-01	4.121E-01	6.108E-01	1.410E-01	0.214
		742.81		3.286E-01	1.558E+00	2.539E+00	1.714E+00	0.129
		796.30		1.025E+00	1.166E+00	1.973E+00	5.440E-01	0.519
		805.60		1.025E+00	1.130E+00	2.000E+00	6.215E-01	0.513
		819.60		4.524E-01	1.369E+00	2.367E+00	9.072E-01	0.191
		826.30		-4.411E-02	8.850E-01	1.480E+00	6.657E-01	-0.030
		831.60		-4.035E-01	7.007E-01	1.087E+00	3.281E-01	-0.371
		876.40		-4.239E-01	9.844E-01	1.389E+00	1.429E+00	-0.305
		880.51		2.205E-01	3.050E-01	5.501E-01	4.969E-02	0.401
		883.24		-6.476E-02	3.135E-01	5.061E-01	3.404E-01	-0.128
		899.00		-7.471E-01	8.429E-01	1.112E+00	4.865E-01	-0.672
		925.00		-3.803E-01	1.342E+00	2.159E+00	1.892E-01	-0.176
		926.50		-7.317E-02	1.958E-01	3.095E-01	7.839E-02	-0.236
		946.00	*	-3.092E-01	3.340E-01	4.796E-01	9.031E-02	-0.645
		949.00		2.669E-01	4.969E-01	8.750E-01	7.670E-02	0.305
		980.50		5.241E-01	7.911E-01	1.413E+00	1.236E-01	0.371
		1394.10		4.753E-01	1.270E+00	2.195E+00	1.427E+00	0.217
PA-234M		766.42		-1.486E+00	1.577E+01	2.172E+01	1.109E+01	-0.068
		1001.03	*	1.690E+00	5.937E+00	1.008E+01	1.015E+00	0.168
U-235	+	89.95		2.838E+00	1.130E+00	1.220E+00	3.796E-01	2.327
	+	93.35		3.153E+00	1.148E+00	8.370E-01	2.374E-01	3.767
		105.00		6.031E-01	7.420E-01	1.198E+00	3.641E-01	0.503
		143.76	*	1.853E-01	1.682E-01	2.732E-01	4.982E-02	0.678
		163.35		-1.551E-01	3.624E-01	6.052E-01	1.148E-01	-0.256
	+	185.71		2.561E-01	6.018E-02	8.732E-02	7.328E-03	2.933
		205.31		-1.645E-01	4.435E-01	6.496E-01	1.239E-01	-0.253
NP-236		94.67		1.202E-01	7.723E-02	1.242E-01	1.209E-02	0.968

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		98.44		6.752E-02	4.487E-02	7.204E-02	7.157E-03	0.937
		111.00		-6.930E-03	9.308E-02	1.475E-01	1.578E-02	-0.047
		160.31	*	2.242E-02	5.867E-02	1.021E-01	8.829E-03	0.219
		99.55		4.730E-02	9.777E-02	1.598E-01	1.598E-02	0.296
		117.00	*	-7.965E-02	1.281E-01	1.948E-01	2.165E-02	-0.409
	+	209.75		2.015E+00	8.858E-01	1.233E+00	1.068E-01	1.635
		228.18		-1.239E-01	1.913E-01	3.065E-01	2.702E-02	-0.404
	+	277.60		2.668E-01	1.914E-01	2.795E-01	2.494E-02	0.954
		334.30		-3.650E-01	1.362E+00	1.902E+00	1.665E-01	-0.192
		59.54	*	4.508E-02	4.463E-02	7.217E-02	6.122E-03	0.625
AM-241		99.55		4.867E-02	1.006E-01	1.645E-01	1.644E-02	0.296
CM-243		103.76	*	2.910E-02	6.480E-02	1.060E-01	1.086E-02	0.275
		117.00		-8.195E-02	1.318E-01	2.004E-01	2.227E-02	-0.409
	+	209.75		1.987E+00	8.732E-01	1.215E+00	1.053E-01	1.635
		228.18		-1.252E-01	1.933E-01	3.097E-01	2.730E-02	-0.404
	+	277.60		2.690E-01	1.930E-01	2.818E-01	2.514E-02	0.954
AM-246		798.80		-9.522E-02	1.716E-01	2.558E-01	2.590E-02	-0.372
		1036.00		-1.714E-01	3.432E-01	5.276E-01	4.579E-02	-0.325
		1062.04		-9.154E-02	2.598E-01	4.066E-01	3.506E-02	-0.225
		1078.86	*	1.730E-01	1.638E-01	3.011E-01	2.583E-02	0.575
CF-249		252.85		2.071E-01	7.128E-01	1.200E+00	1.071E-01	0.173
		333.44		1.355E-01	1.687E-01	2.618E-01	2.293E-02	0.518
		387.95	*	9.531E-03	4.066E-02	6.591E-02	5.287E-03	0.145
CF-251		176.60	*	-1.819E-03	9.398E-02	1.596E-01	1.320E-02	-0.011
		227.00		-2.093E-01	3.209E-01	5.142E-01	4.528E-02	-0.407
		285.00		-4.253E-01	1.540E+00	2.469E+00	2.203E-01	-0.172

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]G243274009      *
* Acquisition date   : 31-DEC-2009 14:36:44 Detector SN#      :             *
* Detector ID        : GAM21          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 02:00:25.38 Half life ratio         : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library    : SOLID       *
* Sample ID          : G243274009    Analyst initials        : MXR1         *
* Batch Number       : 935341        Sample Quantity         : 1.3732E+02 GRAM *
* Recovery           : 1.00000       Carrier Weight          : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 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	1.835E+01	2.246E+00	6.692E-01	0.000E+00
CD-109	3.010E+00	6.725E-01	7.180E-01	0.000E+00
SN-126	2.959E-01	6.610E-02	6.831E-02	0.000E+00
BA-137M	2.009E-01	6.998E-02	7.906E-02	0.000E+00
CS-137	2.124E-01	7.398E-02	8.357E-02	0.000E+00
TL-208	4.977E-01	9.022E-02	6.056E-02	0.000E+00
BI-210	1.386E+00	6.417E-01	6.069E-01	0.000E+00
PB-210	1.386E+00	6.417E-01	6.069E-01	0.000E+00
PO-210	1.386E+00	6.394E-01	6.069E-01	0.000E+00
BI-211	4.156E+00	5.501E-01	3.063E-01	0.000E+00
PB-212	1.567E+00	1.832E-01	7.492E-02	0.000E+00
PO-212	1.567E+00	1.832E-01	7.492E-02	0.000E+00
BI-214	1.102E+00	2.188E-01	1.207E-01	0.000E+00
PB-214	1.446E+00	2.052E-01	1.069E-01	0.000E+00
PO-214	1.446E+00	2.052E-01	1.069E-01	0.000E+00
PO-216	1.567E+00	1.832E-01	7.492E-02	0.000E+00
PO-218	1.446E+00	2.052E-01	1.069E-01	0.000E+00
RN-219	4.513E-01	4.978E-01	6.640E-01	0.000E+00
RA-224	1.360E+00	9.321E-01	8.549E-01	0.000E+00
RA-226	1.102E+00	2.188E-01	1.207E-01	0.000E+00
AC-228	1.527E+00	3.383E-01	1.991E-01	0.000E+00
TH-228	1.527E+00	3.383E-01	1.991E-01	0.000E+00
TH-228	1.591E+00	1.860E-01	7.606E-02	0.000E+00
TH-230	1.102E+00	2.188E-01	1.207E-01	0.000E+00
TH-232	1.527E+00	3.383E-01	1.991E-01	0.000E+00
TH-234	1.487E+00	7.933E-01	7.195E-01	0.000E+00
U-234	1.102E+00	2.188E-01	1.207E-01	0.000E+00
NP-237	8.689E-01	2.618E-01	1.915E-01	0.000E+00
U-238	1.487E+00	7.933E-01	7.195E-01	0.000E+00
AM-243	3.270E-01	4.435E-02	4.684E-02	0.000E+00
CM-247	4.041E-02	4.430E-02	5.748E-02	0.000E+00
ANH-511	1.248E-01	6.750E-02	5.011E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-5.255E-02	3.051E-01	5.273E-01	0.000E+00	NOT IDENT.
NA-22	-2.996E-03	5.670E-02	9.307E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.555E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.895E-02	4.295E-02	5.951E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.086E-02	3.988E-02	0.000E+00	FAIL ABUN
SC-46	-6.987E-03	3.763E-02	6.340E-02	0.000E+00	FAIL ABUN
V-48	9.331E-03	7.462E-02	1.293E-01	0.000E+00	NOT IDENT.
CR-51	7.868E-02	3.298E-01	5.726E-01	0.000E+00	NOT IDENT.
MN-52	-1.134E-01	2.643E-01	4.165E-01	0.000E+00	NOT IDENT.
MN-54	2.358E-02	3.655E-02	6.780E-02	0.000E+00	NOT IDENT.
CO-56	2.638E-02	3.829E-02	7.156E-02	0.000E+00	NOT IDENT.
CO-57	1.075E-03	1.815E-02	3.087E-02	0.000E+00	NOT IDENT.
CO-58	-3.107E-02	4.074E-02	6.481E-02	0.000E+00	NOT IDENT.
FE-59	-6.667E-02	1.016E-01	1.560E-01	0.000E+00	NOT IDENT.
CO-60	2.913E-02	4.346E-02	8.147E-02	0.000E+00	NOT IDENT.
ZN-65	-6.728E-02	1.184E-01	1.546E-01	0.000E+00	NOT IDENT.
GE-68	5.094E-01	1.432E+00	2.517E+00	0.000E+00	NOT IDENT.
AS-73	1.590E-01	1.594E-01	2.983E-01	0.000E+00	NOT IDENT.
AS-74	-1.504E-02	9.714E-02	1.638E-01	0.000E+00	NOT IDENT.
SE-75	-1.712E-02	3.840E-02	5.721E-02	0.000E+00	NOT IDENT.
BR-77	-5.131E+00	1.002E+01	1.655E+01	0.000E+00	FAIL ABUN
SR-82	-2.406E-01	3.978E-01	6.067E-01	0.000E+00	NOT IDENT.
RB-83	-3.649E-02	6.676E-02	1.099E-01	0.000E+00	NOT IDENT.
RB-84	7.383E-03	7.477E-02	1.306E-01	0.000E+00	NOT IDENT.
KR-85	4.326E-01	6.738E+00	1.179E+01	0.000E+00	NOT IDENT.
SR-85	2.218E-03	3.454E-02	6.044E-02	0.000E+00	NOT IDENT.
RB-86	5.839E-01	8.982E-01	1.630E+00	0.000E+00	NOT IDENT.
Y-88	-4.010E-02	4.182E-02	4.904E-02	0.000E+00	NOT IDENT.
ZR-88	-5.843E-03	2.857E-02	4.672E-02	0.000E+00	NOT IDENT.
Y-91	-5.510E+00	2.157E+01	3.477E+01	0.000E+00	NOT IDENT.
NB-94	-1.762E-02	3.748E-02	5.974E-02	0.000E+00	NOT IDENT.
NB-95	-1.910E-02	5.531E-02	7.590E-02	0.000E+00	NOT IDENT.
NB-95M	5.271E-02	9.789E-02	1.610E-01	0.000E+00	NOT IDENT.
ZR-95	4.213E-02	7.770E-02	1.369E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.123E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.662E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	7.694E+00	1.369E+01	2.408E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.738E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.976E-03	2.503E-02	4.556E-02	0.000E+00	NOT IDENT.
RH-102	-1.930E-02	2.693E-02	4.412E-02	0.000E+00	NOT IDENT.
RU-103	-1.681E-02	3.549E-02	5.892E-02	0.000E+00	FAIL ABUN
RH-106	-1.962E-01	3.664E-01	4.644E-01	0.000E+00	FAIL ABUN
RU-106	-1.962E-01	3.659E-01	4.644E-01	0.000E+00	FAIL ABUN
AG-108M	1.403E-02	3.041E-02	5.577E-02	0.000E+00	NOT IDENT.
AG-110M	-2.588E-02	4.056E-02	5.376E-02	0.000E+00	NOT IDENT.
IN-111	9.901E-02	9.112E-01	1.445E+00	0.000E+00	NOT IDENT.
IN-113M	2.467E-02	3.913E-02	6.903E-02	0.000E+00	NOT IDENT.
SN-113	2.467E-02	3.913E-02	6.903E-02	0.000E+00	NOT IDENT.
IN-114M	1.103E-01	1.360E-01	2.539E-01	0.000E+00	NOT IDENT.
CD-115	4.874E+00	9.578E+00	1.744E+01	0.000E+00	NOT IDENT.
SN-117M	1.416E-02	3.947E-02	7.334E-02	0.000E+00	NOT IDENT.
SB-122	1.828E-02	2.125E+00	3.663E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	4.110E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.338E-03	2.051E-02	3.762E-02	0.000E+00	NOT IDENT.
I-124	-8.316E-02	7.253E-01	1.183E+00	0.000E+00	NOT IDENT.
SB-124	9.314E-03	8.146E-02	1.400E-01	0.000E+00	FAIL ABUN
SB-125	6.219E-02	8.820E-02	1.643E-01	0.000E+00	FAIL ABUN
TE-125M	-3.161E+00	5.970E+00	9.904E+00	0.000E+00	NOT IDENT.
I-126	8.135E-02	2.385E-01	3.679E-01	0.000E+00	NOT IDENT.
SB-126	8.939E-02	1.546E-01	2.669E-01	0.000E+00	FAIL ABUN
SB-127	3.837E-01	1.391E+00	2.413E+00	0.000E+00	NOT IDENT.
XE-127	1.521E-02	3.518E-02	6.428E-02	0.000E+00	NOT IDENT.
I-131	2.475E-02	1.094E-01	1.874E-01	0.000E+00	NOT IDENT.
TE-132	-3.810E-01	5.742E-01	9.721E-01	0.000E+00	NOT IDENT.
BA-133	4.349E-02	4.219E-02	6.999E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.653E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.491E-02	5.566E-02	1.051E-01	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.382E-01	2.449E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.361E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.667E-02	1.170E-01	1.877E-01	0.000E+00	FAIL ABUN
CE-139	1.789E-02	2.249E-02	4.234E-02	0.000E+00	NOT IDENT.
BA-140	-2.012E-01	2.802E-01	4.401E-01	0.000E+00	NOT IDENT.
LA-140	-1.384E-01	1.089E-01	1.360E-01	0.000E+00	FAIL ABUN

CE-141	-3.588E-02	4.976E-02	7.919E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.456E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.337E-02	1.523E-01	2.535E-01	0.000E+00	NOT IDENT.
PM-144	-4.117E-02	3.912E-02	5.796E-02	0.000E+00	NOT IDENT.
PR-144	-2.790E+00	2.651E+00	3.927E+00	0.000E+00	NOT IDENT.
PM-146	6.020E-03	4.485E-02	7.987E-02	0.000E+00	NOT IDENT.
ND-147	-3.343E-01	5.381E-01	8.717E-01	0.000E+00	FAIL ABUN
PM-149	6.368E+00	7.779E+01	1.351E+02	0.000E+00	NOT IDENT.
EU-152	-9.100E-03	7.985E-02	1.337E-01	0.000E+00	NOT IDENT.
GD-153	-5.286E-02	5.323E-02	7.914E-02	0.000E+00	FAIL ABUN
EU-154	1.714E-02	1.564E-01	2.620E-01	0.000E+00	NOT IDENT.
EU-155	6.115E-02	7.227E-02	1.291E-01	0.000E+00	FAIL ABUN
TB-160	1.600E-01	1.464E-01	2.821E-01	0.000E+00	FAIL ABUN
HO-166M	2.598E-02	6.231E-02	1.092E-01	0.000E+00	FAIL ABUN
TM-171	-2.902E-02	1.057E+01	1.746E+01	0.000E+00	NOT IDENT.
LU-176	8.038E-03	2.283E-02	3.833E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.223E+00	1.797E+00	0.000E+00	FAIL ABUN
LU-177M	-1.216E-01	1.794E-01	2.786E-01	0.000E+00	FAIL ABUN
HF-181	1.143E-03	4.320E-02	7.586E-02	0.000E+00	NOT IDENT.
W-181	-9.452E-04	1.301E-01	2.153E-01	0.000E+00	NOT IDENT.
TA-182	6.400E-02	2.136E-01	3.676E-01	0.000E+00	FAIL ABUN
RE-183	-1.553E-03	8.020E-02	1.463E-01	0.000E+00	FAIL ABUN
RE-184	5.520E-02	1.862E-01	3.317E-01	0.000E+00	NOT IDENT.
OS-185	-8.749E-03	4.299E-02	7.122E-02	0.000E+00	NOT IDENT.
RE-188	8.144E-02	1.255E-01	2.361E-01	0.000E+00	NOT IDENT.
W-188	-3.640E+00	6.708E+00	9.756E+00	0.000E+00	FAIL ABUN
IR-192	-1.588E-02	3.040E-02	4.975E-02	0.000E+00	FAIL ABUN
AU-195	1.708E-01	1.470E-01	2.495E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.401E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.428E+00	5.119E+00	9.102E+00	0.000E+00	NOT IDENT.
TL-202	5.243E-02	6.220E-02	1.172E-01	0.000E+00	NOT IDENT.
HG-203	1.533E-02	3.561E-02	5.730E-02	0.000E+00	FAIL ABUN
BI-207	5.862E-02	5.312E-02	1.020E-01	0.000E+00	FAIL ABUN
TL-207	2.459E-01	6.238E-01	9.844E-01	0.000E+00	FAIL ABUN
PO-209	1.984E+00	6.290E+00	1.133E+01	0.000E+00	NOT IDENT.
PB-211	-4.326E-04	9.819E-01	1.448E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.454E-01	7.324E-01	0.000E+00	FAIL ABUN
PO-215	2.459E-01	6.238E-01	9.844E-01	0.000E+00	FAIL ABUN
RN-220	-2.478E+01	2.850E+01	4.518E+01	0.000E+00	NOT IDENT.
RA-223	2.459E-01	6.238E-01	9.844E-01	0.000E+00	FAIL ABUN
AC-227	-3.844E-01	3.248E-01	5.142E-01	0.000E+00	FAIL ABUN
TH-227	-3.844E-01	3.268E-01	5.142E-01	0.000E+00	FAIL ABUN
TH-229	-3.130E-01	3.971E-01	6.835E-01	0.000E+00	FAIL ABUN
PA-231	-6.085E-02	1.289E+00	2.220E+00	0.000E+00	FAIL ABUN
TH-231	2.459E-01	6.238E-01	9.844E-01	0.000E+00	FAIL ABUN
U-231	2.066E-01	6.353E-01	1.038E+00	0.000E+00	FAIL ABUN
PA-233	3.215E-02	5.674E-02	1.010E-01	0.000E+00	FAIL ABUN
PA-234	-3.092E-01	3.273E-01	4.852E-01	0.000E+00	FAIL ABUN
PA-234M	1.690E+00	5.819E+00	1.019E+01	0.000E+00	NOT IDENT.
U-235	1.853E-01	1.648E-01	2.865E-01	0.000E+00	FAIL ABUN
NP-236	2.242E-02	5.749E-02	1.069E-01	0.000E+00	NOT IDENT.
NP-239	-7.965E-02	1.256E-01	2.050E-01	0.000E+00	FAIL ABUN
AM-241	4.508E-02	4.374E-02	7.690E-02	0.000E+00	NOT IDENT.
CM-243	2.910E-02	6.351E-02	1.118E-01	0.000E+00	FAIL ABUN
AM-246	1.730E-01	1.605E-01	3.038E-01	0.000E+00	NOT IDENT.
CF-249	9.531E-03	3.985E-02	6.784E-02	0.000E+00	NOT IDENT.
CF-251	-1.819E-03	9.210E-02	1.667E-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]G243274009.CNF;1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:36:44
Sample ID        : G243274009 Sample quantity : 1.37320E+02 GRAM
Detector name    : GAM21 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:25.38 0.4%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 935341 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	516	10.67*	7.202E-01	1.835E+01	1.835E+01	12.49
CD-109	88.03	326	3.72*	8.136E+00	2.943E+00	3.010E+00	22.80
SN-126	64.28	169	9.60	8.185E+00	5.887E-01	5.887E-01	53.56
	86.94	326	8.90	8.136E+00	1.230E+00	1.230E+00	46.43
	87.57	326	37.00*	8.136E+00	2.959E-01	2.959E-01	22.80
BA-137M	661.65	103	89.98*	1.562E+00	2.007E-01	2.009E-01	35.54
CS-137	661.65	103	85.12*	1.562E+00	2.122E-01	2.124E-01	35.54
TL-208	277.35	52	6.80	3.802E+00	5.532E-01	5.532E-01	72.30
	510.84	93	21.60	2.037E+00	5.777E-01	5.777E-01	55.82
	583.14	272	84.20*	1.777E+00	4.977E-01	4.977E-01	18.50
	860.37	56	12.46	1.201E+00	1.017E+00	1.017E+00	38.55
BI-210	46.50	150	4.05*	7.336E+00	1.384E+00	1.386E+00	47.24
PB-210	46.50	150	4.05*	7.336E+00	1.384E+00	1.386E+00	47.24
PO-210	46.50	150	4.05*	7.336E+00	1.384E+00	1.386E+00	47.08
BI-211	72.87	-----	1.27	8.278E+00	-----	Line Not Found	-----
	351.07	589	12.94*	2.996E+00	4.156E+00	4.156E+00	13.51
PB-212	74.81	653	10.70	8.275E+00	2.017E+00	2.017E+00	16.70
	77.11	1063	18.00	8.264E+00	1.953E+00	1.953E+00	11.57
	87.30	326	8.00	8.136E+00	1.369E+00	1.369E+00	24.89
	238.63	1121	44.60*	4.386E+00	1.567E+00	1.567E+00	11.93
	300.09	102	3.41	3.517E+00	2.325E+00	2.325E+00	35.03
PO-212	74.81	653	10.70	8.275E+00	2.017E+00	2.017E+00	16.70
	77.11	1063	18.00	8.264E+00	1.953E+00	1.953E+00	11.57
	87.30	326	8.00	8.136E+00	1.369E+00	1.369E+00	24.89
	115.19	-----	0.60	7.423E+00	-----	Line Not Found	-----
	238.63	1121	44.60*	4.386E+00	1.567E+00	1.567E+00	11.93
	300.09	102	3.41	3.517E+00	2.325E+00	2.325E+00	35.03
BI-214	609.31	317	46.30*	1.699E+00	1.102E+00	1.102E+00	20.26
	1120.29	77	15.10	9.295E-01	1.494E+00	1.494E+00	42.52
	1764.49	58	15.80	5.982E-01	1.663E+00	1.663E+00	31.85
PB-214	74.81	653	6.21	8.275E+00	3.476E+00	3.476E+00	15.70
	77.11	1063	10.50	8.264E+00	3.347E+00	3.347E+00	13.85

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	326	4.67	8.136E+00	2.344E+00	2.344E+00	24.06
	241.98	195	7.49	4.329E+00	1.646E+00	1.646E+00	26.37
	295.21	370	19.20	3.576E+00	1.473E+00	1.473E+00	17.26
	351.92	589	37.20*	2.996E+00	1.446E+00	1.446E+00	14.48
	74.81	653	6.21	8.275E+00	3.476E+00	3.476E+00	15.70
	77.11	1063	10.50	8.264E+00	3.347E+00	3.347E+00	13.85
	87.30	326	4.67	8.136E+00	2.344E+00	2.344E+00	24.06
	241.98	195	7.49	4.329E+00	1.646E+00	1.646E+00	26.37
	295.21	370	19.20	3.576E+00	1.473E+00	1.473E+00	17.26
	351.92	589	37.20*	2.996E+00	1.446E+00	1.446E+00	14.48
PO-216	74.81	653	10.70	8.275E+00	2.017E+00	2.017E+00	16.70
	77.11	1063	18.00	8.264E+00	1.953E+00	1.953E+00	11.57
	87.30	326	8.00	8.136E+00	1.369E+00	1.369E+00	24.89
	238.63	1121	44.60*	4.386E+00	1.567E+00	1.567E+00	11.93
	300.09	102	3.41	3.517E+00	2.325E+00	2.325E+00	35.03
PO-218	74.81	653	6.21	8.275E+00	3.476E+00	3.476E+00	15.70
	77.11	1063	10.50	8.264E+00	3.347E+00	3.347E+00	13.85
	87.30	326	4.67	8.136E+00	2.344E+00	2.344E+00	24.06
	241.98	195	7.49	4.329E+00	1.646E+00	1.646E+00	26.37
	295.21	370	19.20	3.576E+00	1.473E+00	1.473E+00	17.26
RN-219	351.92	589	37.20*	2.996E+00	1.446E+00	1.446E+00	14.48
	271.23	172	10.60	3.898E+00	1.138E+00	1.138E+00	36.76
	401.81	28	6.50*	2.609E+00	4.513E-01	4.513E-01	112.54
RA-224	240.98	85	3.95*	4.350E+00	1.360E+00	1.360E+00	69.95
RA-226	609.31	317	46.30*	1.699E+00	1.102E+00	1.102E+00	20.26
	1120.29	77	15.10	9.295E-01	1.494E+00	1.494E+00	42.52
	1764.49	58	15.80	5.982E-01	1.663E+00	1.663E+00	31.85
AC-228	338.32	194	11.40	3.119E+00	1.494E+00	1.494E+00	50.55
	911.07	176	27.70*	1.135E+00	1.527E+00	1.527E+00	22.60
	969.11	99	16.60	1.069E+00	1.527E+00	1.527E+00	38.64
RA-228	338.32	194	11.40	3.119E+00	1.494E+00	1.494E+00	50.55
	911.07	176	27.70*	1.135E+00	1.527E+00	1.527E+00	22.60
	969.11	99	16.60	1.069E+00	1.527E+00	1.527E+00	38.64
TH-228	74.81	653	10.70	8.275E+00	2.017E+00	2.048E+00	13.88
	77.11	1063	18.00	8.264E+00	1.953E+00	1.982E+00	11.57
	87.30	326	8.00	8.136E+00	1.369E+00	1.389E+00	22.80
	238.63	1121	44.60*	4.386E+00	1.567E+00	1.591E+00	11.93
TH-230	300.09	102	3.41	3.517E+00	2.325E+00	2.361E+00	68.06
	609.31	317	46.30*	1.699E+00	1.102E+00	1.102E+00	20.26
	1120.29	77	15.10	9.295E-01	1.494E+00	1.494E+00	42.52
	1764.49	58	15.80	5.982E-01	1.663E+00	1.663E+00	31.85
TH-232	338.32	194	11.40	3.119E+00	1.494E+00	1.494E+00	30.45
	911.07	176	27.70*	1.135E+00	1.527E+00	1.527E+00	22.60
	969.11	99	16.60	1.069E+00	1.527E+00	1.527E+00	38.64
TH-234	63.29	169	3.80*	8.185E+00	1.487E+00	1.487E+00	54.43
	92.38	416	5.41	8.021E+00	2.623E+00	2.623E+00	29.44
U-234	609.31	317	46.30*	1.699E+00	1.102E+00	1.102E+00	20.26
	1120.29	77	15.10	9.295E-01	1.494E+00	1.494E+00	42.52
	1764.49	58	15.80	5.982E-01	1.663E+00	1.663E+00	31.85

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
NP-237	86.50	326	12.60*	8.136E+00	8.689E-01	8.689E-01	30.75
	95.87	-----	2.60	7.953E+00	-----	Line Not Found	-----
U-238	63.29	169	3.80*	8.185E+00	1.487E+00	1.487E+00	54.43
	92.38	416	5.41	8.021E+00	2.623E+00	2.623E+00	24.78
AM-243	74.67	653	66.00*	8.275E+00	3.270E-01	3.270E-01	13.84
	86.72	326	0.34	8.136E+00	3.258E+01	3.258E+01	22.80
	117.66	-----	0.55	7.349E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.613E+00	-----	Line Not Found	-----
CM-247	278.00	52	3.40	3.802E+00	1.106E+00	1.106E+00	71.76
	287.40	-----	2.00	3.671E+00	-----	Line Not Found	-----
	402.60	28	72.60*	2.609E+00	4.041E-02	4.041E-02	111.87
ANH-511	511.00	93	100.00*	2.037E+00	1.248E-01	1.248E-01	55.20

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 2
Number of lines tentatively identified by NID 33 94.29%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.835E+01	1.835E+01	0.229E+01	12.49	
CD-109	464.00D	1.02	2.943E+00	3.010E+00	0.686E+00	22.80	
SN-126	1.00E+05Y	1.00	2.959E-01	2.959E-01	0.675E-01	22.80	
BA-137M	30.17Y	1.00	2.007E-01	2.009E-01	0.714E-01	35.54	
CS-137	30.17Y	1.00	2.122E-01	2.124E-01	0.755E-01	35.54	
TL-208	1.41E+10Y	1.00	4.977E-01	4.977E-01	0.921E-01	18.50	
BI-210	22.26Y	1.00	1.384E+00	1.386E+00	0.655E+00	47.24	
PB-210	22.26Y	1.00	1.384E+00	1.386E+00	0.655E+00	47.24	
PO-210	22.26Y	1.00	1.384E+00	1.386E+00	0.652E+00	47.08	
BI-211	7.04E+08Y	1.00	4.156E+00	4.156E+00	0.561E+00	13.51	
PB-212	1.41E+10Y	1.00	1.567E+00	1.567E+00	0.187E+00	11.93	
PO-212	1.41E+10Y	1.00	1.567E+00	1.567E+00	0.187E+00	11.93	
BI-214	1600.00Y	1.00	1.102E+00	1.102E+00	0.223E+00	20.26	
PB-214	1600.00Y	1.00	1.446E+00	1.446E+00	0.209E+00	14.48	
PO-214	1600.00Y	1.00	1.446E+00	1.446E+00	0.209E+00	14.48	
PO-216	1.41E+10Y	1.00	1.567E+00	1.567E+00	0.187E+00	11.93	
PO-218	1600.00Y	1.00	1.446E+00	1.446E+00	0.209E+00	14.48	
RN-219	7.04E+08Y	1.00	4.513E-01	4.513E-01	5.079E-01	112.54	
RA-224	1.41E+10Y	1.00	1.360E+00	1.360E+00	0.951E+00	69.95	
RA-226	1600.00Y	1.00	1.102E+00	1.102E+00	0.223E+00	20.26	
AC-228	1.41E+10Y	1.00	1.527E+00	1.527E+00	0.345E+00	22.60	
RA-228	1.41E+10Y	1.00	1.527E+00	1.527E+00	0.345E+00	22.60	
TH-228	1.91Y	1.02	1.567E+00	1.591E+00	0.190E+00	11.93	
TH-230	4.47E+09Y	1.00	1.102E+00	1.102E+00	0.223E+00	20.26	
TH-232	1.41E+10Y	1.00	1.527E+00	1.527E+00	0.345E+00	22.60	
TH-234	4.47E+09Y	1.00	1.487E+00	1.487E+00	0.809E+00	54.43	
U-234	4.47E+09Y	1.00	1.102E+00	1.102E+00	0.223E+00	20.26	
NP-237	2.14E+06Y	1.00	8.689E-01	8.689E-01	2.672E-01	30.75	
U-238	4.47E+09Y	1.00	1.487E+00	1.487E+00	0.809E+00	54.43	
AM-243	7380.00Y	1.00	3.270E-01	3.270E-01	0.453E-01	13.84	
CM-247	1.56E+07Y	1.00	4.041E-02	4.041E-02	4.520E-02	111.87	
ANH-511	1.00E+09Y	1.00	1.248E-01	1.248E-01	0.689E-01	55.20	
Total Activity :			5.655E+01	5.664E+01			

Grand Total Activity : 5.655E+01 5.664E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243274009

Page : 5
Acquisition date : 31-DEC-2009 14:36:44

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.09	162	293	1.03	168.13	166	6	2.24E-02	37.3	8.19E+00	T
0	89.96	227	245	0.72	179.86	178	5	3.15E-02	24.8	8.08E+00	T
0	185.84	276	202	1.12	371.54	367	8	3.83E-02	21.9	5.45E+00	T
0	209.17	118	175	0.86	418.18	414	8	1.64E-02	43.1	4.93E+00	T
0	327.42	54	114	1.03	654.60	651	9	7.46E-03	76.4	3.22E+00	T
10	460.31	9	14	1.04	920.32	919	13	1.32E-03	****	2.27E+00	
10	463.02	94	77	2.31	925.76	919	13	1.31E-02	43.0	2.26E+00	T
0	727.12	72	28	1.02	1453.95	1449	11	1.00E-02	36.8	1.42E+00	T
0	773.50	45	96	4.58	1546.72	1531	28	6.22E-03	****	1.33E+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]G243274009.CNF;1
* Acquisition date   : 31-DEC-2009 14:36:44   Detector SN#      :
* Detector ID        : GAM21                  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 02:00:25.38          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G243274009             Analyst initials: MXR1
* Batch Number       : 935341                 Sample Quantity  : 1.37320E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51.9MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.835E+01	2.292E+00	6.672E-01	5.696E-02	27.499
CD-109	3.010E+00	6.862E-01	6.786E-01	6.385E-02	4.436
SN-126	2.959E-01	6.745E-02	6.456E-02	6.052E-03	4.583
BA-137M	2.009E-01	7.141E-02	7.760E-02	8.570E-03	2.589
CS-137	2.124E-01	7.549E-02	8.203E-02	9.070E-03	2.589
TL-208	4.977E-01	9.206E-02	5.929E-02	6.459E-03	8.393
BI-210	1.386E+00	6.548E-01	5.671E-01	5.408E-02	2.444
PB-210	1.386E+00	6.548E-01	5.671E-01	5.408E-02	2.444
PO-210	1.386E+00	6.525E-01	5.671E-01	4.921E-02	2.444
BI-211	4.156E+00	5.614E-01	2.970E-01	2.681E-02	13.991
PB-212	1.567E+00	1.869E-01	7.212E-02	7.172E-03	21.729
PO-212	1.567E+00	1.869E-01	7.212E-02	7.172E-03	21.729
BI-214	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
PB-214	1.446E+00	2.093E-01	1.036E-01	1.080E-02	13.950
PO-214	1.446E+00	2.093E-01	1.036E-01	1.080E-02	13.950
PO-216	1.567E+00	1.869E-01	7.212E-02	7.172E-03	21.729
PO-218	1.446E+00	2.093E-01	1.036E-01	1.080E-02	13.950
RN-219	4.513E-01	5.079E-01	6.456E-01	9.512E-02	0.699

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	1.360E+00	9.511E-01	8.231E-01	7.314E-02	1.652
RA-226	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
AC-228	1.527E+00	3.452E-01	1.966E-01	2.232E-02	7.767
RA-228	1.527E+00	3.452E-01	1.966E-01	2.232E-02	7.767
TH-228	1.591E+00	1.898E-01	7.322E-02	7.281E-03	21.729
TH-230	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
TH-232	1.527E+00	3.452E-01	1.966E-01	2.232E-02	7.767
TH-234	1.487E+00	8.095E-01	6.760E-01	1.194E-01	2.200
U-234	1.102E+00	2.233E-01	1.183E-01	1.398E-02	9.316
NP-237	8.689E-01	2.672E-01	1.809E-01	4.094E-02	4.803
U-238	1.487E+00	8.095E-01	6.760E-01	1.194E-01	2.200
AM-243	3.270E-01	4.526E-02	4.414E-02	3.740E-03	7.410
CM-247	4.041E-02	4.520E-02	5.588E-02	4.534E-03	0.723
ANH-511	1.248E-01	6.888E-02	4.894E-02	4.691E-03	2.550

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.255E-02		3.114E-01	5.144E-01	5.040E-02	-0.102
NA-22	-2.996E-03		5.786E-02	9.254E-02	7.592E-03	-0.032
NA-24	-2.293E-01		4.365E-01	Half-Life too short		
AL-26	-2.895E-02		4.382E-02	5.960E-02	4.932E-03	-0.486
TI-44	3.603E-01	+	4.169E-02	3.762E-02	3.275E-03	9.579
SC-46	-6.987E-03		3.840E-02	6.259E-02	5.566E-03	-0.112
V-48	9.331E-03		7.614E-02	1.279E-01	1.119E-02	0.073
CR-51	7.868E-02		3.365E-01	5.543E-01	5.153E-02	0.142
MN-52	-1.134E-01		2.697E-01	4.151E-01	3.428E-02	-0.273
MN-54	2.358E-02		3.730E-02	6.686E-02	6.480E-03	0.353
CO-56	2.638E-02		3.908E-02	7.058E-02	6.728E-03	0.374
CO-57	1.075E-03		1.852E-02	2.935E-02	3.372E-03	0.037
CO-58	-3.107E-02		4.157E-02	6.387E-02	6.391E-03	-0.487
FE-59	-6.667E-02		1.037E-01	1.547E-01	1.427E-02	-0.431
CO-60	2.913E-02		4.435E-02	8.108E-02	6.580E-03	0.359
ZN-65	-6.728E-02		1.208E-01	1.533E-01	1.299E-02	-0.439
GE-68	5.094E-01		1.461E+00	2.495E+00	2.141E-01	0.204
AS-73	1.590E-01		1.627E-01	2.794E-01	2.263E-02	0.569
AS-74	-1.504E-02		9.913E-02	1.605E-01	1.684E-02	-0.094
SE-75	-1.712E-02		3.919E-02	5.518E-02	4.954E-03	-0.310
BR-77	-5.131E+00		1.023E+01	1.617E+01	1.568E+00	-0.317
SR-82	-2.406E-01		4.059E-01	5.974E-01	6.185E-02	-0.403
RB-83	-3.649E-02		6.812E-02	1.073E-01	1.041E-02	-0.340
RB-84	7.383E-03		7.629E-02	1.290E-01	1.163E-02	0.057
KR-85	4.326E-01		6.875E+00	1.151E+01	1.108E+00	0.038
SR-85	2.218E-03		3.525E-02	5.903E-02	5.680E-03	0.038
RB-86	5.839E-01		9.166E-01	1.615E+00	1.387E-01	0.362
Y-88	-4.010E-02		4.267E-02	4.912E-02	4.056E-03	-0.816
ZR-88	-5.843E-03		2.916E-02	4.540E-02	3.617E-03	-0.129

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-5.510E+00		2.201E+01	3.454E+01	2.845E+00	-0.160
NB-94	-1.762E-02		3.824E-02	5.871E-02	6.393E-03	-0.300
NB-95	-1.910E-02		5.644E-02	7.471E-02	7.808E-03	-0.256
NB-95M	5.271E-02		9.989E-02	1.550E-01	1.562E-02	0.340
ZR-95	4.213E-02		7.928E-02	1.348E-01	1.517E-02	0.313
NB-97	-7.002E-02		5.732E-02	Half-Life	too short	
ZR-97	1.471E+00		8.478E-01	Half-Life	too short	
MO-99	7.694E+00		1.397E+01	2.369E+01	3.892E+00	0.325
TC-99M	-9.303E+09		1.397E+10	Half-Life	too short	
RH-101	7.976E-03		2.554E-02	4.371E-02	3.733E-03	0.182
RH-102	-1.930E-02		2.748E-02	4.303E-02	3.931E-03	-0.449
RU-103	-1.681E-02		3.621E-02	5.751E-02	8.431E-03	-0.292
RH-106	-1.962E-01		3.739E-01	4.553E-01	6.742E-02	-0.431
RU-106	-1.962E-01		3.734E-01	4.553E-01	4.885E-02	-0.431
AG-108M	1.403E-02		3.104E-02	5.430E-02	4.842E-03	0.258
AG-110M	-2.588E-02		4.139E-02	5.276E-02	5.918E-03	-0.491
IN-111	9.901E-02		9.298E-01	1.392E+00	1.239E-01	0.071
IN-113M	2.467E-02		3.993E-02	6.708E-02	5.524E-03	0.368
SN-113	2.467E-02		3.993E-02	6.708E-02	5.524E-03	0.368
IN-114M	1.103E-01		1.388E-01	2.434E-01	2.057E-02	0.453
CD-115	4.874E+00		9.774E+00	1.705E+01	1.668E+00	0.286
SN-117M	1.416E-02		4.027E-02	7.007E-02	6.168E-03	0.202
SB-122	1.828E-02		2.169E+00	3.585E+00	3.649E-01	0.005
I-123	2.682E-01		2.097E+00	Half-Life	too short	
TE-123M	1.338E-03		2.093E-02	3.594E-02	3.168E-03	0.037
I-124	-8.316E-02		7.401E-01	1.159E+00	1.224E-01	-0.072
SB-124	9.314E-03		8.312E-02	1.400E-01	1.218E-02	0.067
SB-125	6.219E-02		9.000E-02	1.599E-01	1.384E-02	0.389
TE-125M	-3.161E+00		6.092E+00	9.398E+00	1.130E+00	-0.336
I-126	8.135E-02		2.434E-01	3.611E-01	3.984E-02	0.225
SB-126	8.939E-02		1.578E-01	2.624E-01	2.832E-02	0.341
SB-127	3.837E-01		1.419E+00	2.370E+00	3.140E-01	0.162
XE-127	1.521E-02		3.590E-02	6.169E-02	5.302E-03	0.247
I-131	2.475E-02		1.116E-01	1.818E-01	1.617E-02	0.136
TE-132	-3.810E-01		5.859E-01	9.350E-01	1.479E-01	-0.407
BA-133	4.349E-02		4.305E-02	6.789E-02	8.922E-03	0.641
I-133	-6.540E-03		2.884E-03	Half-Life	too short	
CS-134	8.491E-02		5.680E-02	1.036E-01	1.057E-02	0.820
CS-135	2.535E-01		1.410E-01	2.363E-01	2.419E-02	1.073
I-135	8.830E+08		3.245E+09	Half-Life	too short	
CS-136	-4.667E-02		1.194E-01	1.860E-01	1.677E-02	-0.251
CE-139	1.789E-02		2.295E-02	4.049E-02	3.291E-03	0.442
BA-140	-2.012E-01		2.860E-01	4.303E-01	1.441E-01	-0.468
LA-140	-1.384E-01		1.112E-01	1.359E-01	1.136E-02	-1.019
CE-141	-3.588E-02		5.078E-02	7.553E-02	7.573E-03	-0.475
CE-143	3.031E-04		7.426E-05	Half-Life	too short	
CE-144	-2.337E-02		1.554E-01	2.415E-01	4.066E-02	-0.097
PM-144	-4.117E-02		3.992E-02	5.695E-02	6.220E-03	-0.723

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	-2.790E+00		2.705E+00	3.859E+00	4.214E-01	-0.723
PM-146	6.020E-03		4.576E-02	7.783E-02	8.493E-03	0.077
ND-147	-3.343E-01		5.491E-01	8.520E-01	1.335E-01	-0.392
PM-149	6.368E+00		7.938E+01	1.305E+02	2.051E+01	0.049
EU-152	-9.100E-03		8.148E-02	1.296E-01	1.189E-02	-0.070
GD-153	-5.286E-02		5.431E-02	7.493E-02	7.402E-03	-0.705
EU-154	1.714E-02		1.596E-01	2.605E-01	2.863E-02	0.066
EU-155	6.115E-02		7.375E-02	1.224E-01	1.276E-02	0.500
TO-160	1.600E-01		1.494E-01	2.785E-01	2.521E-02	0.575
HO-166M	2.598E-02		6.358E-02	1.074E-01	1.164E-02	0.242
TM-171	-2.902E-02		1.079E+01	1.642E+01	1.323E+00	-0.002
LU-176	8.038E-03		2.329E-02	3.707E-02	3.301E-03	0.217
LU-177	2.839E+00	+	1.248E+00	1.725E+00	1.492E-01	1.646
LU-177M	-1.216E-01		1.831E-01	2.710E-01	2.244E-02	-0.449
HF-181	1.143E-03		4.408E-02	7.401E-02	6.828E-03	0.015
W-181	-9.452E-04		1.328E-01	2.024E-01	1.617E-02	-0.005
TA-182	6.400E-02		2.179E-01	3.652E-01	3.007E-02	0.175
RE-183	-1.553E-03		8.183E-02	1.398E-01	1.183E-02	-0.011
RE-184	5.520E-02		1.900E-01	3.197E-01	2.854E-02	0.173
OS-185	-8.749E-03		4.387E-02	6.988E-02	7.635E-03	-0.125
RE-188	8.144E-02		1.280E-01	2.254E-01	2.054E-02	0.361
W-188	-3.640E+00		6.845E+00	9.427E+00	8.416E-01	-0.386
IR-192	-1.588E-02		3.102E-02	4.815E-02	4.279E-03	-0.330
AU-195	1.708E-01		1.500E-01	2.363E-01	2.353E-02	0.723
TL-200	-8.684E-05		2.246E-04	Half-Life too short		
TL-201	-2.428E+00		5.223E+00	8.705E+00	7.089E-01	-0.279
TL-202	5.243E-02		6.347E-02	1.141E-01	9.873E-03	0.459
HG-203	1.533E-02		3.634E-02	5.532E-02	5.064E-03	0.277
BI-207	5.862E-02		5.421E-02	1.011E-01	8.713E-03	0.580
TL-207	2.459E-01		6.366E-01	9.531E-01	1.697E-01	0.258
PO-209	1.984E+00		6.418E+00	1.119E+01	9.812E-01	0.177
PB-211	-4.326E-04		1.002E+00	1.408E+00	8.816E-01	0.000
BI-212	1.176E+00	+	4.545E-01	7.202E-01	8.564E-02	1.633
PO-215	2.459E-01		6.366E-01	9.531E-01	1.697E-01	0.258
RN-220	-2.478E+01		2.908E+01	4.419E+01	4.432E+00	-0.561
RA-223	2.459E-01		6.366E-01	9.531E-01	1.697E-01	0.258
AC-227	-3.844E-01		3.314E-01	4.957E-01	7.696E-02	-0.776
TH-227	-3.844E-01		3.334E-01	4.957E-01	9.028E-02	-0.776
TH-229	-3.130E-01		4.053E-01	6.554E-01	5.564E-02	-0.478
PA-231	-6.085E-02		1.315E+00	2.144E+00	3.293E-01	-0.028
TH-231	2.459E-01		6.366E-01	9.531E-01	1.697E-01	0.258
U-231	2.066E-01		6.482E-01	9.826E-01	9.624E-02	0.210
PA-233	3.215E-02		5.790E-02	9.769E-02	8.915E-03	0.329
PA-234	-3.092E-01		3.340E-01	4.796E-01	9.031E-02	-0.645
PA-234M	1.690E+00		5.937E+00	1.008E+01	1.015E+00	0.168
U-235	1.853E-01		1.682E-01	2.732E-01	4.982E-02	0.678
NP-236	2.242E-02		5.867E-02	1.021E-01	8.829E-03	0.219
NP-239	-7.965E-02		1.281E-01	1.948E-01	2.165E-02	-0.409

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241	4.508E-02		4.463E-02	7.217E-02	6.122E-03	0.625
CM-243	2.910E-02		6.480E-02	1.060E-01	1.086E-02	0.275
AM-246	1.730E-01		1.638E-01	3.011E-01	2.583E-02	0.575
CF-249	9.531E-03		4.066E-02	6.591E-02	5.287E-03	0.145
CF-251	-1.819E-03		9.398E-02	1.596E-01	1.320E-02	-0.011

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]G243274009
* Acquisition date   : 31-DEC-2009 14:36:44 Detector SN#      :
* Detector ID        : GAM21          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 02:00:25.38 Half life ratio         : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library    : SOLID
* Sample ID          : G243274009      Analyst initials       : MXR1
* Batch Number       : 935341          Sample Quantity        : 1.3732E+02 GRAM
* Recovery           : 1.00000         Carrier Weight          : 0.00000
*****
*                               QC DATA                                   *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 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	1.835E+01	2.246E+00	3.348E-01	1.146E+00
CD-109	3.010E+00	6.725E-01	3.592E-01	3.431E-01
SN-126	2.959E-01	6.610E-02	3.418E-02	3.373E-02
BA-137M	2.009E-01	6.998E-02	3.955E-02	3.570E-02
CS-137	2.124E-01	7.398E-02	4.181E-02	3.775E-02
TL-208	4.977E-01	9.022E-02	3.030E-02	4.603E-02
BI-210	1.386E+00	6.417E-01	3.036E-01	3.274E-01
PB-210	1.386E+00	6.417E-01	3.036E-01	3.274E-01
PO-210	1.386E+00	6.394E-01	3.036E-01	3.262E-01
BI-211	4.156E+00	5.501E-01	1.533E-01	2.807E-01
PB-212	1.567E+00	1.832E-01	3.748E-02	9.347E-02
PO-212	1.567E+00	1.832E-01	3.748E-02	9.347E-02
BI-214	1.102E+00	2.188E-01	6.039E-02	1.117E-01
PB-214	1.446E+00	2.052E-01	5.346E-02	1.047E-01
PO-214	1.446E+00	2.052E-01	5.346E-02	1.047E-01
PO-216	1.567E+00	1.832E-01	3.748E-02	9.347E-02
PO-218	1.446E+00	2.052E-01	5.346E-02	1.047E-01
RN-219	4.513E-01	4.978E-01	3.322E-01	2.540E-01
RA-224	1.360E+00	9.321E-01	4.277E-01	4.756E-01
RA-226	1.102E+00	2.188E-01	6.039E-02	1.117E-01
AC-228	1.527E+00	3.383E-01	9.959E-02	1.726E-01
RA-228	1.527E+00	3.383E-01	9.959E-02	1.726E-01
TH-228	1.591E+00	1.860E-01	3.805E-02	9.489E-02
TH-230	1.102E+00	2.188E-01	6.039E-02	1.117E-01
TH-232	1.527E+00	3.383E-01	9.959E-02	1.726E-01
TH-234	1.487E+00	7.933E-01	3.600E-01	4.047E-01
U-234	1.102E+00	2.188E-01	6.039E-02	1.117E-01
NP-237	8.689E-01	2.618E-01	9.580E-02	1.336E-01
U-238	1.487E+00	7.933E-01	3.600E-01	4.047E-01
AM-243	3.270E-01	4.435E-02	2.343E-02	2.263E-02
CM-247	4.041E-02	4.430E-02	2.876E-02	2.260E-02
ANH-511	1.248E-01	6.750E-02	2.507E-02	3.444E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-5.255E-02	3.051E-01	2.638E-01	1.557E-01 NOT IDENT.
NA-22	-2.996E-03	5.670E-02	4.656E-02	2.893E-02 NOT IDENT.
NA-24	-2.293E+05	8.555E+05	0.000E+00	4.365E+05 SHORT HLIF
AL-26	-2.895E-02	4.295E-02	2.977E-02	2.191E-02 NOT IDENT.
TI-44	3.603E-01	4.086E-02	1.995E-02	2.085E-02 FAIL ABUN
SC-46	-6.987E-03	3.763E-02	3.172E-02	1.920E-02 FAIL ABUN
V-48	9.331E-03	7.462E-02	6.467E-02	3.807E-02 NOT IDENT.
CR-51	7.868E-02	3.298E-01	2.865E-01	1.683E-01 NOT IDENT.
MN-52	-1.134E-01	2.643E-01	2.084E-01	1.349E-01 NOT IDENT.
MN-54	2.358E-02	3.655E-02	3.392E-02	1.865E-02 NOT IDENT.
CO-56	2.638E-02	3.829E-02	3.580E-02	1.954E-02 NOT IDENT.
CO-57	1.075E-03	1.815E-02	1.544E-02	9.260E-03 NOT IDENT.
CO-58	-3.107E-02	4.074E-02	3.242E-02	2.078E-02 NOT IDENT.
FE-59	-6.667E-02	1.016E-01	7.807E-02	5.184E-02 NOT IDENT.
CO-60	2.913E-02	4.346E-02	4.076E-02	2.218E-02 NOT IDENT.
ZN-65	-6.728E-02	1.184E-01	7.733E-02	6.042E-02 NOT IDENT.
GE-68	5.094E-01	1.432E+00	1.259E+00	7.306E-01 NOT IDENT.
AS-73	1.590E-01	1.594E-01	1.492E-01	8.133E-02 NOT IDENT.
AS-74	-1.504E-02	9.714E-02	8.195E-02	4.956E-02 NOT IDENT.
SE-75	-1.712E-02	3.840E-02	2.862E-02	1.959E-02 NOT IDENT.
BR-77	-5.131E+00	1.002E+01	8.278E+00	5.113E+00 FAIL ABUN
SR-82	-2.406E-01	3.978E-01	3.036E-01	2.030E-01 NOT IDENT.
RB-83	-3.649E-02	6.676E-02	5.496E-02	3.406E-02 NOT IDENT.
RB-84	7.383E-03	7.477E-02	6.536E-02	3.815E-02 NOT IDENT.
KR-85	4.326E-01	6.738E+00	5.898E+00	3.438E+00 NOT IDENT.
SR-85	2.218E-03	3.454E-02	3.024E-02	1.762E-02 NOT IDENT.
RB-86	5.839E-01	8.982E-01	8.154E-01	4.583E-01 NOT IDENT.
Y-88	-4.010E-02	4.182E-02	2.453E-02	2.133E-02 NOT IDENT.
ZR-88	-5.843E-03	2.857E-02	2.338E-02	1.458E-02 NOT IDENT.
Y-91	-5.510E+00	2.157E+01	1.740E+01	1.100E+01 NOT IDENT.
NB-94	-1.762E-02	3.748E-02	2.989E-02	1.912E-02 NOT IDENT.
NB-95	-1.910E-02	5.531E-02	3.797E-02	2.822E-02 NOT IDENT.
NB-95M	5.271E-02	9.789E-02	8.057E-02	4.994E-02 NOT IDENT.
ZR-95	4.213E-02	7.770E-02	6.851E-02	3.964E-02 NOT IDENT.
NB-97	-7.002E+04	1.123E+05	0.000E+00	5.732E+04 SHORT HLIF
ZR-97	1.471E+06	1.662E+06	0.000E+00	8.478E+05 SHORT HLIF
MO-99	7.694E+00	1.369E+01	1.205E+01	6.985E+00 NOT IDENT.
TC-99M	-9.303E+15	2.738E+16	0.000E+00	0.000E+00 SHORT HLIF
RH-101	7.976E-03	2.503E-02	2.279E-02	1.277E-02 NOT IDENT.
RH-102	-1.930E-02	2.693E-02	2.207E-02	1.374E-02 NOT IDENT.
RU-103	-1.681E-02	3.549E-02	2.948E-02	1.811E-02 FAIL ABUN
RH-106	-1.962E-01	3.664E-01	2.324E-01	1.870E-01 FAIL ABUN
RU-106	-1.962E-01	3.659E-01	2.324E-01	1.867E-01 FAIL ABUN
AG-108M	1.403E-02	3.041E-02	2.790E-02	1.552E-02 NOT IDENT.
AG-110M	-2.588E-02	4.056E-02	2.689E-02	2.069E-02 NOT IDENT.
IN-111	9.901E-02	9.112E-01	7.231E-01	4.649E-01 NOT IDENT.
IN-113M	2.467E-02	3.913E-02	3.454E-02	1.997E-02 NOT IDENT.
SN-113	2.467E-02	3.913E-02	3.454E-02	1.997E-02 NOT IDENT.
IN-114M	1.103E-01	1.360E-01	1.270E-01	6.940E-02 NOT IDENT.
CD-115	4.874E+00	9.578E+00	8.727E+00	4.887E+00 NOT IDENT.
SN-117M	1.416E-02	3.947E-02	3.669E-02	2.014E-02 NOT IDENT.
SB-122	1.828E-02	2.125E+00	1.833E+00	1.084E+00 NOT IDENT.
I-123	2.682E+05	4.110E+06	0.000E+00	2.097E+06 SHORT HLIF
TE-123M	1.338E-03	2.051E-02	1.882E-02	1.046E-02 NOT IDENT.
I-124	-8.316E-02	7.253E-01	5.920E-01	3.700E-01 NOT IDENT.
SB-124	9.314E-03	8.146E-02	7.002E-02	4.156E-02 FAIL ABUN
SB-125	6.219E-02	8.820E-02	8.218E-02	4.500E-02 FAIL ABUN
TE-125M	-3.161E+00	5.970E+00	4.955E+00	3.046E+00 NOT IDENT.
I-126	8.135E-02	2.385E-01	1.840E-01	1.217E-01 NOT IDENT.
SB-126	8.939E-02	1.546E-01	1.335E-01	7.888E-02 FAIL ABUN
SB-127	3.837E-01	1.391E+00	1.207E+00	7.097E-01 NOT IDENT.
XE-127	1.521E-02	3.518E-02	3.216E-02	1.795E-02 NOT IDENT.
I-131	2.475E-02	1.094E-01	9.373E-02	5.581E-02 NOT IDENT.
TE-132	-3.810E-01	5.742E-01	4.863E-01	2.929E-01 NOT IDENT.
BA-133	4.349E-02	4.219E-02	3.502E-02	2.153E-02 FAIL ABUN
I-133	-6.540E+03	5.653E+03	0.000E+00	2.884E+03 SHORT HLIF
CS-134	8.491E-02	5.566E-02	5.260E-02	2.840E-02 NOT IDENT.
CS-135	2.535E-01	1.382E-01	1.225E-01	7.049E-02 NOT IDENT.
I-135	8.830E+14	6.361E+15	0.000E+00	3.245E+15 SHORT HLIF
CS-136	-4.667E-02	1.170E-01	9.392E-02	5.971E-02 FAIL ABUN
CE-139	1.789E-02	2.249E-02	2.118E-02	1.148E-02 NOT IDENT.
BA-140	-2.012E-01	2.802E-01	2.202E-01	1.430E-01 NOT IDENT.
LA-140	-1.384E-01	1.089E-01	6.805E-02	5.558E-02 FAIL ABUN

CE-141	-3.588E-02	4.976E-02	3.962E-02	2.539E-02	NOT IDENT.
CE-143	3.031E+02	1.456E+02	0.000E+00	7.426E+01	SHORT HLIF
CE-144	-2.337E-02	1.523E-01	1.268E-01	7.772E-02	NOT IDENT.
PM-144	-4.117E-02	3.912E-02	2.900E-02	1.996E-02	NOT IDENT.
PR-144	-2.790E+00	2.651E+00	1.965E+00	1.352E+00	NOT IDENT.
PM-146	6.020E-03	4.485E-02	3.996E-02	2.288E-02	NOT IDENT.
ND-147	-3.343E-01	5.381E-01	4.361E-01	2.746E-01	FAIL ABUN
PM-149	6.368E+00	7.779E+01	6.759E+01	3.969E+01	NOT IDENT.
EU-152	-9.100E-03	7.985E-02	6.691E-02	4.074E-02	NOT IDENT.
GD-153	-5.286E-02	5.323E-02	3.959E-02	2.716E-02	FAIL ABUN
EU-154	1.714E-02	1.564E-01	1.311E-01	7.981E-02	NOT IDENT.
EU-155	6.115E-02	7.227E-02	6.458E-02	3.687E-02	FAIL ABUN
TB-160	1.600E-01	1.464E-01	1.412E-01	7.469E-02	FAIL ABUN
HO-166M	2.598E-02	6.231E-02	5.465E-02	3.179E-02	FAIL ABUN
TM-171	-2.902E-02	1.057E+01	8.736E+00	5.394E+00	NOT IDENT.
LU-176	8.038E-03	2.283E-02	1.918E-02	1.165E-02	FAIL ABUN
LU-177	2.839E+00	1.223E+00	8.990E-01	6.240E-01	FAIL ABUN
LU-177M	-1.216E-01	1.794E-01	1.394E-01	9.155E-02	FAIL ABUN
HF-181	1.143E-03	4.320E-02	3.795E-02	2.204E-02	NOT IDENT.
W-181	-9.452E-04	1.301E-01	1.077E-01	6.638E-02	NOT IDENT.
TA-182	6.400E-02	2.136E-01	1.839E-01	1.090E-01	FAIL ABUN
RE-183	-1.553E-03	8.020E-02	7.318E-02	4.092E-02	FAIL ABUN
RE-184	5.520E-02	1.862E-01	1.660E-01	9.498E-02	NOT IDENT.
OS-185	-8.749E-03	4.299E-02	3.563E-02	2.193E-02	NOT IDENT.
RE-188	8.144E-02	1.255E-01	1.181E-01	6.402E-02	NOT IDENT.
W-188	-3.640E+00	6.708E+00	4.881E+00	3.422E+00	FAIL ABUN
IR-192	-1.588E-02	3.040E-02	2.489E-02	1.551E-02	FAIL ABUN
AU-195	1.708E-01	1.470E-01	1.248E-01	7.498E-02	FAIL ABUN
TL-200	-8.684E+01	4.401E+02	0.000E+00	2.246E+02	SHORT HLIF
TL-201	-2.428E+00	5.119E+00	4.554E+00	2.612E+00	NOT IDENT.
TL-202	5.243E-02	6.220E-02	5.862E-02	3.174E-02	NOT IDENT.
HG-203	1.533E-02	3.561E-02	2.867E-02	1.817E-02	FAIL ABUN
BI-207	5.862E-02	5.312E-02	5.105E-02	2.710E-02	FAIL ABUN
TL-207	2.459E-01	6.238E-01	4.925E-01	3.183E-01	FAIL ABUN
PO-209	1.984E+00	6.290E+00	5.668E+00	3.209E+00	NOT IDENT.
PB-211	-4.326E-04	9.819E-01	7.246E-01	5.010E-01	NOT IDENT.
BI-212	1.176E+00	4.454E-01	3.664E-01	2.272E-01	FAIL ABUN
PO-215	2.459E-01	6.238E-01	4.925E-01	3.183E-01	FAIL ABUN
RN-220	-2.478E+01	2.850E+01	2.260E+01	1.454E+01	NOT IDENT.
RA-223	2.459E-01	6.238E-01	4.925E-01	3.183E-01	FAIL ABUN
AC-227	-3.844E-01	3.248E-01	2.573E-01	1.657E-01	FAIL ABUN
TH-227	-3.844E-01	3.268E-01	2.573E-01	1.667E-01	FAIL ABUN
TH-229	-3.130E-01	3.971E-01	3.420E-01	2.026E-01	FAIL ABUN
PA-231	-6.085E-02	1.289E+00	1.111E+00	6.575E-01	FAIL ABUN
TH-231	2.459E-01	6.238E-01	4.925E-01	3.183E-01	FAIL ABUN
U-231	2.066E-01	6.353E-01	5.193E-01	3.241E-01	FAIL ABUN
PA-233	3.215E-02	5.674E-02	5.051E-02	2.895E-02	FAIL ABUN
PA-234	-3.092E-01	3.273E-01	2.427E-01	1.670E-01	FAIL ABUN
PA-234M	1.690E+00	5.819E+00	5.098E+00	2.969E+00	NOT IDENT.
U-235	1.853E-01	1.648E-01	1.433E-01	8.408E-02	FAIL ABUN
NP-236	2.242E-02	5.749E-02	5.347E-02	2.933E-02	NOT IDENT.
NP-239	-7.965E-02	1.256E-01	1.026E-01	6.406E-02	FAIL ABUN
AM-241	4.508E-02	4.374E-02	3.847E-02	2.232E-02	NOT IDENT.
CM-243	2.910E-02	6.351E-02	5.593E-02	3.240E-02	FAIL ABUN
AM-246	1.730E-01	1.605E-01	1.520E-01	8.190E-02	NOT IDENT.
CF-249	9.531E-03	3.985E-02	3.394E-02	2.033E-02	NOT IDENT.
CF-251	-1.819E-03	9.210E-02	8.339E-02	4.699E-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	175.8239
46.50	175.8239
46.50	175.8239
48.70	177.4704
49.72	180.8018
51.35	225.3135
52.39	195.7962
52.97	194.4641
53.15	194.6260
53.44	194.8867
54.07	205.7372
56.28	204.9540
56.28	204.9565
57.37	0.0000
57.53	243.1221
57.53	243.1250
57.60	243.1963
57.98	251.2101
57.98	251.2101
59.32	223.3100
59.32	223.3100
59.40	223.3856
59.54	223.5191
59.72	223.6891
60.01	243.1601
61.10	267.4151
61.14	267.4596
61.30	266.3506
63.00	273.0763
63.29	273.3984
63.29	273.3984
63.58	273.7189
64.28	274.4912
65.12	269.2036
65.20	269.2895
65.20	269.2895
66.05	275.4391
66.72	269.5839
66.83	264.4402
66.91	264.5220
67.20	264.8185
67.20	264.8185
67.75	252.5078
67.85	251.6164
68.90	300.3687
68.90	300.3687
69.30	273.9300
69.67	274.3139
70.82	320.5762
70.82	320.5762
70.83	320.5884
72.80	332.3409
72.87	332.4239
72.87	332.4239
74.67	359.6501
74.81	359.8311
74.81	359.8311
74.81	359.8311
74.81	359.8311
74.81	359.8311
74.81	359.8311
74.81	359.8311
74.97	360.0363
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75.70	360.9681
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77.11	362.7587

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77.11	362.7587
77.11	362.7587
77.11	362.7587
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80.18	236.1183
80.30	209.9679
80.30	209.9679
80.57	250.2559
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81.07	279.7596
81.07	279.7596
81.07	279.7596
81.07	279.7596
82.60	243.6050
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83.78	224.9863
83.78	224.9863
83.78	224.9863
83.78	224.9863
84.21	211.3084
84.90	212.4844
85.43	212.8481
86.29	213.4352
86.50	213.5786
86.54	213.6063
86.59	213.6402
86.72	213.7281
86.79	213.7743
86.94	232.9376
87.30	233.2028
87.30	233.2028
87.30	233.2028
87.30	233.2028
87.30	233.2028
87.30	233.2028
87.30	233.2028
87.57	233.4026
87.88	248.4982
88.03	248.6161
88.36	248.8732
88.47	248.9588
89.95	220.1810
91.11	186.6446
92.29	187.3163
92.38	186.6502
92.38	186.6502
93.35	187.1964
94.00	187.5627
94.67	187.9343
94.67	187.9369
94.90	188.0652
94.90	188.0652
94.90	188.0652
94.90	188.0652
95.87	185.7044
95.87	185.7044
96.73	234.1726
97.43	236.1066
98.44	154.9413
98.44	154.9419
98.88	171.2379
99.55	185.8636
99.55	185.8636
99.86	183.8272
100.00	198.2153
100.10	198.2744
103.18	207.7741
103.76	201.4321
105.00	197.6544
105.31	197.8219
108.00	194.7649
109.28	196.5611

111.00	189.5122
111.00	189.5122
111.76	167.1481
112.95	193.8985
115.19	162.8961
116.30	171.4093
117.00	180.9312
117.00	180.9312
117.66	163.9156
121.11	201.4145
121.62	194.6711
121.78	178.4208
122.06	185.5445
122.32	179.8225
122.32	179.8225
122.32	179.8225
122.32	179.8225
123.07	183.6598
127.23	246.9278
129.76	200.8525
131.20	236.1009
133.02	215.5298
133.54	190.6103
135.34	185.3658
136.00	180.8167
136.25	168.8562
136.48	168.9438
140.51	172.8827
140.51	0.0000
142.18	200.3905
142.65	185.9133
143.76	172.8700
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144.24	182.8647
144.24	182.8647
144.24	182.8647
145.22	213.9927
145.44	214.0909
147.16	198.8154
152.43	213.4734
152.70	186.1113
153.22	177.5542
154.21	171.2275
154.21	171.2275
154.21	171.2275
154.21	171.2275
155.03	179.8775
156.02	213.7659
158.56	170.1930
159.00	0.0000
159.00	176.2417
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161.27	184.6494
162.32	179.9317
162.64	190.2350
163.35	197.2982
163.89	194.9496
165.85	170.0460
167.43	181.6980
171.28	151.9321
171.86	162.4652
172.10	168.5878
176.55	159.5032
176.60	159.5181
181.06	160.7933
184.41	161.7427
185.71	161.2217
186.00	160.8601
190.27	145.5251
192.34	154.9933
193.63	183.1630
197.04	142.6684
198.01	154.6539
198.60	172.9072
200.40	164.3387
201.83	133.7780
202.84	143.1117
205.31	159.2363

208.36	148.0534
208.81	148.1582
209.75	147.9169
209.75	147.9169
210.97	135.7339
215.65	132.0691
216.55	127.5930
218.09	170.8346
222.10	164.3562
223.80	147.8247
226.40	162.5710
227.00	158.9304
227.08	158.9492
227.20	158.9766
228.16	161.0957
228.18	161.1009
228.18	161.1009
231.56	0.0000
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236.00	119.3188
238.63	123.1302
238.63	123.1302
238.63	123.1302
238.63	123.1302
239.00	123.1940
240.98	123.5365
241.98	123.7083
241.98	123.7083
241.98	123.7083
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245.39	112.1550
247.94	126.6767
248.90	126.8420
249.79	119.1803
252.40	99.9933
252.85	105.9401
252.85	105.9401
254.15	0.0000
256.20	137.9435
256.20	137.9435
260.50	120.8905
260.90	135.8266
262.80	88.4550
264.65	103.1125
268.24	78.0667
268.79	85.1332
269.46	85.2058
269.46	85.2058
269.46	85.2058
269.46	85.2058
271.23	85.3960
273.65	87.6726
276.40	97.0762
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277.60	100.2589
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278.60	88.2142
279.20	89.8018
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281.68	92.8235
283.67	102.0284
284.30	104.1478
285.00	109.3467
285.90	101.2820
286.10	101.3062
286.10	101.3062
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290.67	101.8641
290.80	101.8782
291.72	100.4457
293.26	0.0000
293.70	97.0676
295.21	97.2397
295.21	97.2397

295.21	97.2397
295.96	97.3257
296.50	97.3869
297.23	97.4711
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300.09	97.7962
300.09	97.7962
300.12	97.8000
301.29	97.9320
302.84	79.8431
303.76	84.6288
303.91	84.6436
304.40	86.2598
304.40	86.2598
304.84	95.7183
306.84	90.5889
308.46	101.8903
311.98	85.4231
316.51	96.4542
318.01	80.6897
319.02	91.4082
319.41	93.5734
320.08	87.2585
323.87	78.5379
323.87	78.5379
323.87	78.5379
323.87	78.5379
325.23	88.2840
328.77	103.1250
333.44	77.7290
334.20	100.4813
334.20	100.4813
334.30	100.4927
338.28	91.1487
338.28	91.1487
338.28	91.1487
338.28	91.1487
338.32	91.1521
338.32	91.1521
338.32	91.1521
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340.57	70.1571
344.27	70.9721
345.85	67.8074
350.59	0.0000
351.07	82.4631
351.92	82.5348
351.92	82.5348
351.92	82.5348
355.39	0.0000
356.01	61.3275
364.48	76.8894
366.43	69.2202
367.43	68.1708
367.94	0.0000
369.80	78.4096
374.96	79.9270
383.85	85.1456
387.95	79.7740
388.63	75.2638
391.69	56.0362
391.69	56.0362
392.90	72.1273
398.62	81.1370
400.65	60.5333
401.10	60.5579
401.81	74.4469
402.60	69.3030
404.84	69.4421
410.95	64.0033
411.60	78.0126
413.65	86.3198
414.70	73.5564
415.30	69.2142

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418.52	83.4671
423.70	69.7229
427.08	69.9254
427.89	63.7734
432.53	73.8079
433.93	60.5407
439.47	50.9848
439.56	50.9883
439.89	56.3718
443.98	62.8484
444.90	54.8093
445.03	54.8159
445.03	54.8159
445.03	54.8159
453.90	74.2249
463.38	58.3760
468.07	57.1289
473.00	55.1459
475.06	63.5199
475.35	65.3762
476.78	67.2924
477.59	60.8780
477.96	58.1272
482.03	65.7153
484.57	63.0621
487.03	58.5357
490.36	0.0000
492.35	63.4377
497.08	50.5566
507.63	0.0000
510.53	0.0000
510.84	61.4800
511.00	61.4880
511.85	61.5261
511.85	61.5261
513.99	61.6219
513.99	61.6219
520.41	58.0997
520.65	57.1582
527.90	38.3032
528.96	0.0000
529.64	59.4438
529.87	0.0000
531.02	55.6636
537.32	67.4792
543.00	60.0057
546.56	0.0000
549.76	70.9816
552.65	58.4583
555.20	62.4629
563.23	52.9915
563.90	55.9598
568.70	42.3517
569.32	47.2954
569.50	55.1848
569.67	55.1917
573.80	55.3438
574.00	47.4434
574.64	54.3857
578.91	36.4912
579.30	0.0000
583.14	48.7234
585.48	41.4286
591.81	41.9987
592.07	46.0056
593.00	52.0381
595.88	56.1453
600.56	57.3183
602.52	0.0000
602.71	58.6913
602.71	58.6913
603.60	64.4824
604.41	74.1930
604.70	62.9142
609.31	53.5920

609.31	53.5920
609.31	53.5920
609.31	53.5920
610.33	53.6259
612.46	47.0103
614.37	50.3129
618.01	33.5499
621.84	39.7439
621.84	39.7439
631.29	48.1747
633.02	52.3307
633.10	52.3323
634.78	54.4411
635.90	35.9763
636.97	42.1699
645.85	42.3964
646.12	43.4368
656.30	44.9481
657.75	48.3187
657.90	0.0000
661.65	73.4787
661.65	73.4787
664.57	0.0000
666.33	53.5844
666.33	53.5844
675.00	46.2800
677.61	38.9760
685.20	38.0863
692.80	39.3125
695.00	55.3182
696.49	62.8171
696.49	62.8171
697.00	54.3151
697.49	54.3307
698.33	46.8950
698.50	46.8990
699.00	46.9125
702.63	55.5547
706.10	48.1682
706.58	0.0000
706.67	47.1125
709.31	37.5304
711.68	36.5048
713.82	49.4478
717.42	33.3888
720.50	35.7564
721.93	0.0000
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722.78	44.9351
722.78	44.9351
722.89	44.9382
722.95	44.9401
723.30	39.7615
724.18	31.1326
727.18	31.3993
733.00	29.5425
735.90	42.4242
739.58	42.5075
742.81	40.3965
744.21	42.6110
747.13	38.2994
751.79	46.0708
752.31	47.1808
753.82	35.1387
755.35	35.1670
756.15	36.2811
756.87	32.9951
763.93	31.7909
765.79	53.0361
766.42	56.5891
766.84	51.2952
776.49	41.1056
778.00	37.3560
778.57	37.3673
778.89	32.0344
783.80	39.0268
785.46	36.8279
792.07	55.9845

795.84	33.6530
796.30	42.6375
798.80	52.8004
801.93	46.8063
805.60	30.6598
810.29	42.4790
810.76	42.4893
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817.79	31.7487
818.51	38.1117
819.60	34.5006
826.30	36.4336
828.27	0.0000
831.60	45.6580
831.96	45.6653
834.83	29.2656
836.80	0.0000
846.75	24.8320
848.13	19.3266
856.28	0.0000
856.80	32.3408
860.37	28.6924
867.32	26.8238
867.82	27.8621
871.10	23.2532
873.19	29.7930
874.81	36.3368
875.33	0.0000
876.40	35.4302
879.36	23.3411
880.27	27.0863
880.51	27.0898
881.50	32.7091
883.24	34.6053
884.67	29.0125
889.25	28.1345
896.60	18.8179
898.02	24.4785
899.00	31.0825
903.28	22.4123
911.07	23.6731
911.07	23.6731
911.07	23.6731
919.63	26.6137
920.93	26.6287
925.00	37.1557
925.24	40.9707
926.50	36.2262
935.52	37.3242
937.48	49.8075
944.10	37.4613
946.00	39.4135
949.00	28.8765
962.29	65.3362
964.01	37.1307
966.15	25.8529
968.20	64.6875
969.11	48.5339
969.11	48.5339
969.11	48.5339
977.42	26.2986
980.50	24.3817
983.50	28.3175
989.30	21.5333
996.32	40.2443
1001.03	42.2882
1001.68	38.3640
1004.76	39.3965
1021.30	0.0000
1024.50	0.0000
1034.80	29.9019
1036.00	35.8980
1037.82	30.9349
1038.57	27.9494
1038.76	0.0000
1045.16	27.0198
1046.59	21.0277
1048.07	33.0628

1050.47	29.0821
1050.47	29.0821
1062.04	34.2474
1063.62	18.1424
1076.63	27.3480
1077.35	30.3940
1078.86	23.3156
1085.78	39.6379
1099.22	36.7734
1112.02	33.3553
1112.84	34.2204
1115.52	41.1055
1120.29	39.4601
1120.29	39.4601
1120.29	39.4601
1120.29	39.4601
1120.51	39.4639
1121.28	29.1772
1124.00	0.0000
1129.67	32.0202
1131.51	0.0000
1147.95	0.0000
1167.94	27.2238
1173.22	39.8629
1175.09	30.4415
1177.93	43.0800
1189.05	30.5888
1204.90	39.2402
1205.75	0.0000
1213.00	40.4121
1221.42	31.9951
1230.97	33.1676
1235.34	43.9309
1236.41	0.0000
1238.25	39.6829
1246.25	40.8630
1260.41	0.0000
1271.85	33.6171
1274.45	33.6459
1274.54	35.8166
1291.56	19.6436
1298.22	0.0000
1312.09	23.0672
1325.50	18.3846
1325.50	18.3846
1332.49	16.5828
1333.61	17.5094
1360.21	21.3706
1362.66	0.0000
1365.15	15.8192
1368.21	19.5593
1368.53	0.0000
1376.25	15.8725
1384.27	13.1034
1394.10	12.2028
1395.20	12.2071
1407.95	13.1956
1434.06	18.0460
1436.60	13.3073
1457.56	0.0000
1460.81	16.2716
1489.15	11.5786
1509.49	13.5853
1596.49	22.8493
1620.62	8.9978
1678.03	0.0000
1691.02	7.1248
1691.02	7.1248
1706.46	0.0000
1750.46	0.0000
1764.49	6.2178
1764.49	6.2178
1764.49	6.2178
1764.49	6.2178
1770.23	54.9991
1771.40	18.6841
1791.20	0.0000
1808.65	13.6141

1836.01

11.5931

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274009

Total Uranium Activity	4.5104E+00	ug/g
Total Uranium Counting Unc.	2.3612E+00	ug/g
Total Uranium Tpu	1.2047E-06	ug/g
Total Uranium Mda	1.0729E+00	ug/g

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*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 935341          SAMPLE ID   : G243274009
*  ANALYST       : MXR1            DETECTOR    : GAM21
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 31-DEC-2009 14:36:44.83  SAMPLE ALQT: 137.320 GRAM
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.285E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.126E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.265E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.575E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:40:14.54

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274010.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:37:09
Sample ID          : G243274010 Sample quantity : 1.47400E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.77 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	63.38*	115	350	1.22	126.76	123	8	1.60E-02	30.2	
2	3	74.66	385	453	1.36	149.32	143	15	5.35E-02	10.8	1.52E+00
3	3	76.96	541	301	1.07	153.92	143	15	7.51E-02	6.9	
4	0	87.38	180	504	0.80	174.76	170	8	2.50E-02	22.9	
5	0	92.17*	313	667	1.23	184.34	178	13	4.35E-02	18.3	
6	0	185.78*	157	305	1.08	371.55	367	9	2.18E-02	22.7	
7	0	209.17	92	282	0.75	418.35	413	9	1.27E-02	34.8	
8	3	238.38*	1107	192	1.15	476.76	468	21	1.54E-01	3.7	1.61E+00
9	3	241.35*	265	267	1.63	482.71	468	21	3.67E-02	14.5	
10	0	269.98	110	215	1.08	539.97	535	10	1.53E-02	26.7	
11	0	276.99	53	164	1.67	553.98	550	9	7.37E-03	45.8	
12	0	294.85	411	172	1.30	589.71	585	12	5.71E-02	8.0	
13	0	300.25	58	234	0.91	600.50	596	12	8.06E-03	54.4	
14	0	327.73	87	165	0.99	655.46	649	12	1.21E-02	31.3	
15	0	338.04	181	224	1.13	676.08	670	12	2.52E-02	18.1	
16	0	351.62*	569	198	1.17	703.25	698	12	7.90E-02	6.6	
17	0	462.80	118	127	1.46	925.59	918	16	1.64E-02	23.3	
18	0	510.73*	145	117	2.66	1021.46	1015	20	2.01E-02	22.5	
19	0	582.55	406	78	1.58	1165.11	1158	16	5.64E-02	6.9	
20	0	608.88*	368	143	1.43	1217.76	1210	16	5.12E-02	9.1	
21	0	660.94*	138	81	1.56	1321.88	1314	14	1.91E-02	16.8	
22	0	726.13	74	71	1.69	1452.27	1446	14	1.03E-02	26.6	
23	0	768.09	48	89	1.68	1536.19	1529	15	6.65E-03	45.5	
24	0	794.61	54	41	0.82	1589.21	1581	14	7.47E-03	28.9	
25	0	860.29	48	44	1.41	1720.57	1715	13	6.64E-03	33.1	
26	0	910.77*	215	62	1.86	1821.53	1816	15	2.99E-02	11.0	
27	0	968.36*	104	61	1.92	1936.71	1932	16	1.44E-02	20.5	
28	0	1119.23	86	63	1.63	2238.47	2231	17	1.20E-02	23.2	
29	0	1237.12	39	48	1.72	2474.23	2465	14	5.44E-03	42.0	
30	0	1459.71*	791	21	2.34	2919.42	2909	21	1.10E-01	3.9	
31	0	1700.33	13	5	1.28	3400.67	3394	11	1.77E-03	45.0	
32	0	1763.25*	69	9	2.39	3526.51	3519	13	9.56E-03	15.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 16:40:17

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243274010.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:37:09
 Sample ID : G243274010 Sample quantity : 147.40 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA23 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.77 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	*	1.892E+01	2.035E+00	4.160E-01	3.111E-02	45.485
CD-109	+	88.03	*	2.403E+00	1.126E+00	1.318E+00	1.286E-01	1.824
SN-126	+	64.28		1.175E+00	7.312E-01	9.047E-01	1.377E-01	1.299
	+	86.94		9.820E-01	6.077E-01	6.280E-01	2.612E-01	1.564
	+	87.57	*	2.362E-01	1.106E-01	1.303E-01	1.268E-02	1.813
BA-137M	+	661.65	*	1.911E-01	6.500E-02	6.016E-02	3.073E-03	3.177
CS-137	+	661.65	*	2.020E-01	6.872E-02	6.359E-02	3.266E-03	3.177
TL-208	+	277.35		4.795E-01	4.426E-01	5.902E-01	6.236E-02	0.812
	+	510.84		6.711E-01	3.094E-01	1.970E-01	2.001E-02	3.407
	+	583.14	*	5.393E-01	8.236E-02	5.106E-02	3.315E-03	10.561
	+	860.37		6.069E-01	4.057E-01	4.472E-01	4.043E-02	1.357
BI-211		72.87		1.169E+01	3.983E+00	6.314E+00	5.570E-01	1.851
	+	351.07	*	3.253E+00	4.774E-01	3.061E-01	1.995E-02	10.627
PB-212	+	74.81		2.272E+00	5.714E-01	5.829E-01	7.520E-02	3.898
	+	77.11		1.783E+00	2.936E-01	3.111E-01	2.800E-02	5.730
	+	87.30		1.093E+00	5.232E-01	6.700E-01	9.337E-02	1.631
	+	238.63	*	1.362E+00	1.405E-01	8.595E-02	6.179E-03	15.852
	+	300.09		1.112E+00	1.213E+00	1.131E+00	9.396E-02	0.983
PO-212	+	74.81		2.272E+00	5.714E-01	5.829E-01	7.520E-02	3.898
	+	77.11		1.783E+00	2.936E-01	3.111E-01	2.800E-02	5.730
	+	87.30		1.093E+00	5.232E-01	6.700E-01	9.337E-02	1.631
		115.19		3.543E+00	3.540E+00	6.037E+00	3.851E-01	0.587
	+	238.63	*	1.362E+00	1.405E-01	8.595E-02	6.179E-03	15.852
	+	300.09		1.112E+00	1.213E+00	1.131E+00	9.396E-02	0.983
BI-214	+	609.31	*	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
	+	1120.29		1.159E+00	5.479E-01	3.898E-01	3.622E-02	2.973
	+	1764.49		1.269E+00	4.049E-01	3.350E-01	2.083E-02	3.789
PB-214	+	74.81		3.914E+00	9.589E-01	1.004E+00	1.162E-01	3.898
	+	77.11		3.056E+00	5.545E-01	5.334E-01	6.289E-02	5.730
	+	87.30		1.872E+00	8.884E-01	1.148E+00	1.423E-01	1.631
	+	241.98		1.957E+00	5.886E-01	5.176E-01	4.117E-02	3.781
	+	295.21		1.381E+00	2.511E-01	1.924E-01	1.650E-02	7.176
	+	351.92	*	1.132E+00	1.763E-01	1.087E-01	9.073E-03	10.410
PO-214	+	74.81		3.914E+00	9.589E-01	1.004E+00	1.162E-01	3.898

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.056E+00	5.545E-01	5.334E-01	6.289E-02	5.730
	+	87.30		1.872E+00	8.884E-01	1.148E+00	1.423E-01	1.631
	+	241.98		1.957E+00	5.886E-01	5.176E-01	4.117E-02	3.781
	+	295.21		1.381E+00	2.511E-01	1.924E-01	1.650E-02	7.176
	+	351.92	*	1.132E+00	1.763E-01	1.087E-01	9.073E-03	10.410
PO-216	+	74.81		2.272E+00	5.714E-01	5.829E-01	7.520E-02	3.898
	+	77.11		1.783E+00	2.936E-01	3.111E-01	2.800E-02	5.730
	+	87.30		1.093E+00	5.232E-01	6.700E-01	9.337E-02	1.631
	+	238.63	*	1.362E+00	1.405E-01	8.595E-02	6.179E-03	15.852
	+	300.09		1.112E+00	1.213E+00	1.131E+00	9.396E-02	0.983
PO-218	+	74.81		3.914E+00	9.589E-01	1.004E+00	1.162E-01	3.898
	+	77.11		3.056E+00	5.545E-01	5.334E-01	6.289E-02	5.730
	+	87.30		1.872E+00	8.884E-01	1.148E+00	1.423E-01	1.631
	+	241.98		1.957E+00	5.886E-01	5.176E-01	4.117E-02	3.781
	+	295.21		1.381E+00	2.511E-01	1.924E-01	1.650E-02	7.176
	+	351.92	*	1.132E+00	1.763E-01	1.087E-01	9.073E-03	10.410
RA-224	+	240.98	*	3.711E+00	1.096E+00	9.782E-01	5.512E-02	3.793
RA-226	+	609.31	*	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
	+	1120.29		1.159E+00	5.479E-01	3.898E-01	3.622E-02	2.973
	+	1764.49		1.269E+00	4.049E-01	3.350E-01	2.083E-02	3.789
AC-228	+	338.32		1.141E+00	6.226E-01	3.652E-01	1.489E-01	3.125
	+	911.07	*	1.297E+00	3.222E-01	2.101E-01	2.424E-02	6.172
	+	969.11		1.102E+00	5.189E-01	4.621E-01	1.076E-01	2.385
RA-228	+	338.32		1.141E+00	6.226E-01	3.652E-01	1.489E-01	3.125
	+	911.07	*	1.297E+00	3.222E-01	2.101E-01	2.424E-02	6.172
	+	969.11		1.102E+00	5.189E-01	4.621E-01	1.076E-01	2.385
TH-228	+	74.81		2.306E+00	5.391E-01	5.917E-01	5.304E-02	3.898
	+	77.11		1.810E+00	2.980E-01	3.159E-01	2.842E-02	5.730
	+	87.30		1.109E+00	5.195E-01	6.801E-01	6.602E-02	1.631
	+	238.63	*	1.383E+00	1.426E-01	8.725E-02	6.273E-03	15.852
	+	300.09		1.129E+00	1.397E+00	1.149E+00	6.770E-01	0.983
TH-230	+	609.31	*	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
	+	1120.29		1.159E+00	5.478E-01	3.898E-01	3.622E-02	2.973
	+	1764.49		1.269E+00	4.049E-01	3.350E-01	2.083E-02	3.789
TH-232	+	338.32		1.141E+00	4.192E-01	3.652E-01	2.157E-02	3.125
	+	911.07	*	1.297E+00	3.222E-01	2.101E-01	2.424E-02	6.172
	+	969.11		1.102E+00	5.189E-01	4.621E-01	1.076E-01	2.385
TH-234	+	63.29	*	2.968E+00	1.869E+00	2.303E+00	4.150E-01	1.289
	+	92.38		2.652E+00	1.085E+00	7.116E-01	1.298E-01	3.726
U-234	+	609.31	*	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
	+	1120.29		1.159E+00	5.478E-01	3.898E-01	3.622E-02	2.973
	+	1764.49		1.269E+00	4.049E-01	3.350E-01	2.083E-02	3.789
NP-237	+	86.50	*	6.937E-01	3.550E-01	4.266E-01	9.715E-02	1.626
	+	95.87		-8.186E-01	1.062E+00	1.455E+00	3.574E-01	-0.562
U-238	+	63.29	*	2.968E+00	1.869E+00	2.303E+00	4.150E-01	1.289
	+	92.38		2.652E+00	9.997E-01	7.116E-01	6.358E-02	3.726
AM-243	+	74.67	*	3.683E-01	8.600E-02	9.486E-02	8.430E-03	3.883
	+	86.72		2.601E+01	1.218E+01	1.621E+01	1.565E+00	1.605
	+	117.66		1.947E-01	3.793E+00	6.257E+00	3.875E-01	0.031

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	1.284E+01	1.759E+01	2.955E+01	1.609E+00	0.434
		511.00	*	1.450E-01	6.573E-02	4.256E-02	2.472E-03	3.406

---- 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	*	-1.956E-01	3.285E-01	5.010E-01	3.405E-02	-0.391
NA-22		1274.54	*	-4.975E-03	4.584E-02	7.385E-02	4.959E-03	-0.067
NA-24		1368.53	*	6.720E-01	4.584E-02	Half-Life too short		
AL-26		1129.67		-3.795E-01	1.621E+00	2.536E+00	1.615E-01	-0.150
		1808.65	*	-1.443E-02	3.234E-02	4.903E-02	2.947E-03	-0.294
TI-44		67.85		-5.213E-02	6.144E-02	8.021E-02	6.984E-03	-0.650
	+	78.38	*	3.290E-01	5.418E-02	7.824E-02	7.092E-03	4.205
SC-46		889.25	*	1.256E-02	3.649E-02	6.275E-02	5.606E-03	0.200
	+	1120.51		1.983E-01	9.285E-02	1.198E-01	7.808E-03	1.655
V-48		944.10		-4.029E-01	9.286E-01	1.480E+00	1.290E-01	-0.272
		983.50	*	4.557E-03	6.678E-02	1.114E-01	9.266E-03	0.041
		1312.09		-3.005E-03	6.976E-02	1.128E-01	8.024E-03	-0.027
CR-51		320.08	*	2.172E-01	3.624E-01	5.958E-01	3.907E-02	0.365
MN-52		744.21		-1.420E-01	2.490E-01	3.793E-01	2.415E-02	-0.374
		848.13		-2.502E+00	6.454E+00	1.040E+01	8.484E-01	-0.241
		935.52		2.225E-01	2.480E-01	4.434E-01	3.898E-02	0.502
		1246.25		2.183E+00	6.876E+00	1.158E+01	7.413E-01	0.188
		1333.61		-3.187E+00	4.496E+00	6.514E+00	4.782E-01	-0.489
		1434.06	*	-1.482E-01	2.188E-01	3.123E-01	2.260E-02	-0.475
MN-54		834.83	*	8.958E-03	3.733E-02	6.359E-02	5.035E-03	0.141
CO-56		846.75	*	-9.735E-03	3.841E-02	6.274E-02	5.104E-03	-0.155
		977.42		1.238E+00	3.191E+00	4.801E+00	4.025E-01	0.258
		1037.82		-1.276E-01	2.934E-01	4.619E-01	3.786E-02	-0.276
		1175.09		4.236E-01	2.121E+00	3.544E+00	2.006E-01	0.120
	+	1238.25		1.480E-01	1.248E-01	1.579E-01	1.050E-02	0.938
		1360.21		4.809E-01	7.894E-01	1.407E+00	1.030E-01	0.342
		1771.40		-3.273E-01	2.534E-01	3.164E-01	1.957E-02	-1.035
CO-57		122.06	*	-4.364E-02	2.496E-02	3.791E-02	2.235E-03	-1.151
		136.48		-6.982E-02	2.086E-01	3.374E-01	2.194E-02	-0.207
CO-58		810.76	*	1.318E-03	3.751E-02	6.302E-02	4.735E-03	0.021
FE-59		142.65		1.295E+00	2.804E+00	4.581E+00	2.491E-01	0.283
		192.34		6.446E-01	9.273E-01	1.542E+00	1.784E-01	0.418
		1099.22	*	7.141E-02	8.269E-02	1.479E-01	1.139E-02	0.483
		1291.56		-1.413E-01	1.119E-01	1.495E-01	1.241E-02	-0.945
CO-60		1173.22		2.508E-02	4.242E-02	7.352E-02	4.147E-03	0.341
		1332.49	*	5.195E-03	3.271E-02	5.442E-02	3.995E-03	0.095
ZN-65		1115.52	*	3.717E-02	9.468E-02	1.412E-01	9.325E-03	0.263
GE-68		1077.35	*	-1.208E-01	1.174E+00	1.913E+00	1.369E-01	-0.063
AS-73		53.44	*	-4.632E-01	1.071E+00	1.769E+00	1.562E-01	-0.262
AS-74		595.88	*	2.846E-02	8.945E-02	1.493E-01	8.232E-03	0.191
		634.78		-2.611E-01	3.537E-01	5.366E-01	2.840E-02	-0.487
SE-75		66.05		5.952E-01	5.656E+00	8.371E+00	8.785E-01	0.071

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-4.454E-01	8.480E-01	1.197E+00	1.605E-01	-0.372
		121.11		-3.993E-02	1.308E-01	2.125E-01	1.982E-02	-0.188
		136.00		-1.448E-02	3.931E-02	6.350E-02	3.585E-03	-0.228
		198.60		2.346E-01	1.802E+00	2.890E+00	1.951E-01	0.081
		264.65	*	-3.763E-02	5.052E-02	6.617E-02	3.851E-03	-0.569
		279.53		-2.833E-03	1.170E-01	1.717E-01	1.080E-02	-0.017
		303.91		6.557E-01	2.227E+00	3.329E+00	3.194E-01	0.197
		400.65		-1.706E-01	2.516E-01	3.997E-01	3.637E-02	-0.427
BR-77	+	87.88		5.181E+02	2.426E+02	3.542E+02	3.456E+01	1.463
		200.40		-3.643E+01	1.631E+02	2.610E+02	1.396E+01	-0.140
	+	239.00		2.183E+02	2.027E+01	3.521E+01	1.980E+00	6.200
		249.79		-2.418E+01	6.490E+01	1.019E+02	5.791E+00	-0.237
		281.68		6.372E+00	9.459E+01	1.397E+02	8.140E+00	0.046
		297.23		2.315E+02	8.451E+01	1.099E+02	6.456E+00	2.106
		303.76		5.433E+01	1.891E+02	2.827E+02	1.664E+01	0.192
		439.47		4.242E+01	1.307E+02	2.209E+02	1.292E+01	0.192
		484.57		8.172E+01	2.223E+02	3.751E+02	2.193E+01	0.218
		520.65	*	9.134E+00	1.127E+01	1.737E+01	1.006E+00	0.526
		574.64		-5.476E+00	2.098E+02	3.215E+02	1.805E+01	-0.017
		578.91		1.040E+02	8.779E+01	1.403E+02	7.847E+00	0.741
		585.48		8.220E+02	2.132E+02	3.909E+02	2.175E+01	2.103
		755.35		1.550E+01	1.637E+02	2.653E+02	1.737E+01	0.058
		817.79		-1.503E+01	1.235E+02	2.044E+02	1.556E+01	-0.073
SR-82		698.33		-3.326E+00	3.481E+01	5.573E+01	3.148E+00	-0.060
		776.49	*	-2.963E-01	4.061E-01	5.854E-01	4.038E-02	-0.506
		1395.20		-7.773E+00	1.000E+01	1.408E+01	1.026E+00	-0.552
RB-83		520.41	*	5.093E-02	7.400E-02	1.128E-01	6.533E-03	0.451
		529.64		3.543E-02	1.052E-01	1.765E-01	1.018E-02	0.201
		552.65		-3.807E-02	1.993E-01	3.211E-01	1.829E-02	-0.119
RB-84		881.50	*	-5.694E-02	6.790E-02	1.038E-01	9.120E-03	-0.549
KR-85		513.99	*	8.876E+00	6.696E+00	1.193E+01	6.923E-01	0.744
SR-85		513.99	*	4.551E-02	3.433E-02	6.117E-02	3.550E-03	0.744
RB-86		1076.63	*	-3.566E-02	7.484E-01	1.227E+00	8.792E-02	-0.029
Y-88		898.02		-3.198E-02	3.870E-02	5.894E-02	5.389E-03	-0.543
		1836.01	*	3.568E-02	3.138E-02	6.276E-02	3.695E-03	0.569
ZR-88		392.90	*	7.712E-03	3.077E-02	5.188E-02	2.995E-03	0.149
Y-91		1204.90	*	-8.982E+00	1.700E+01	2.623E+01	1.565E+00	-0.342
NB-94		702.63	*	2.227E-04	3.320E-02	5.359E-02	3.062E-03	0.004
		871.10		-7.203E-03	3.316E-02	5.420E-02	4.655E-03	-0.133
NB-95		765.79	*	7.979E-02	4.992E-02	8.111E-02	5.450E-03	0.984
NB-95M		235.69	*	5.445E-01	1.557E-01	2.523E-01	1.861E-02	2.158
ZR-95		724.18		1.935E-01	1.067E-01	1.771E-01	1.252E-02	1.093
		756.15	*	5.071E-02	6.885E-02	1.179E-01	9.049E-03	0.430
NB-97		657.90	*	1.687E-01	6.885E-02	Half-Life	too short	
		1024.50		-5.699E+00	6.885E-02	Half-Life	too short	
ZR-97		254.15		4.569E+00	6.885E-02	Half-Life	too short	
		355.39		2.585E+00	6.885E-02	Half-Life	too short	
		507.63	*	6.337E+00	6.885E-02	Half-Life	too short	
		602.52		2.978E+00	6.885E-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			-4.569E+00	6.885E-02	Half-Life	too short	
	1147.95			-3.580E+00	6.885E-02	Half-Life	too short	
	1362.66			-3.579E+00	6.885E-02	Half-Life	too short	
	1750.46			-6.489E-01	6.885E-02	Half-Life	too short	
MO-99	140.51			1.414E+01	2.680E+01	4.429E+01	1.191E+01	0.319
	181.06			-7.013E+00	1.940E+01	2.689E+01	4.557E+00	-0.261
	366.43			5.001E+01	8.025E+01	1.386E+02	8.124E+00	0.361
	739.58	*		4.031E+00	1.094E+01	1.819E+01	2.546E+00	0.222
	778.00			-3.122E+01	3.174E+01	4.852E+01	3.360E+00	-0.643
TC-99M	140.51	*		2.015E+10	3.174E+01	Half-Life	too short	
RH-101	127.23			3.679E-02	3.257E-02	5.556E-02	3.191E-03	0.662
	198.01	*		1.604E-02	3.259E-02	5.308E-02	2.830E-03	0.302
	325.23			-3.311E-02	2.521E-01	3.642E-01	2.152E-02	-0.091
RH-102	418.52			2.408E-01	2.845E-01	4.951E-01	2.885E-02	0.486
	475.06	*		8.113E-03	2.749E-02	4.623E-02	2.706E-03	0.175
	631.29			7.037E-02	5.137E-02	9.273E-02	4.929E-03	0.759
	697.49			-2.909E-02	7.803E-02	1.220E-01	6.874E-03	-0.238
+	766.84			2.028E-01	1.851E-01	2.090E-01	1.408E-02	0.970
	1046.59			1.271E-01	1.170E-01	2.114E-01	1.601E-02	0.601
	1112.84			-8.282E-02	2.278E-01	3.019E-01	2.003E-02	-0.274
RU-103	497.08	*		-2.442E-02	4.006E-02	6.268E-02	7.935E-03	-0.390
+	610.33			9.975E+00	2.367E+00	2.678E+00	4.094E-01	3.724
RH-106	511.85	+		7.240E-01	3.283E-01	3.741E-01	2.172E-02	1.935
	621.84	*		-2.010E-03	3.087E-01	5.011E-01	5.779E-02	-0.004
	1050.47			7.033E-01	2.359E+00	3.999E+00	3.008E-01	0.176
RU-106	511.85	+		7.240E-01	3.283E-01	3.741E-01	2.172E-02	1.935
	621.84	*		-2.010E-03	3.087E-01	5.011E-01	2.693E-02	-0.004
	1050.47			7.033E-01	2.359E+00	3.999E+00	3.008E-01	0.176
AG-108M	433.93	*		-1.315E-02	3.080E-02	4.943E-02	3.134E-03	-0.266
	614.37			-7.065E-03	4.093E-02	5.624E-02	3.341E-03	-0.126
	722.95			1.640E-02	4.507E-02	6.546E-02	4.256E-03	0.251
AG-110M	657.75	*		5.025E-02	4.014E-02	6.390E-02	3.551E-03	0.786
	677.61			5.726E-02	3.009E-01	4.945E-01	2.830E-02	0.116
	706.67			-5.435E-02	2.029E-01	3.194E-01	1.956E-02	-0.170
	763.93			8.071E-03	1.893E-01	2.631E-01	1.842E-02	0.031
	884.67			-6.092E-03	4.721E-02	7.772E-02	7.086E-03	-0.078
	937.48			-7.261E-02	1.136E-01	1.774E-01	1.611E-02	-0.409
	1384.27			5.378E-02	1.531E-01	2.604E-01	1.975E-02	0.206
IN-111	171.28			4.205E-01	9.839E-01	1.628E+00	8.354E-02	0.258
	245.39	*		5.432E-02	1.188E+00	1.666E+00	9.432E-02	0.033
IN-113M	391.69	*		2.443E-02	4.511E-02	7.726E-02	4.760E-03	0.316
SN-113	391.69	*		2.443E-02	4.511E-02	7.726E-02	4.760E-03	0.316
IN-114M	190.27	*		-4.020E-02	2.033E-01	2.844E-01	1.499E-02	-0.141
CD-115	260.90			1.475E+02	1.289E+02	2.183E+02	1.254E+01	0.676
	492.35			1.784E+01	3.568E+01	6.070E+01	3.544E+00	0.294
	527.90	*		9.283E+00	1.068E+01	1.858E+01	1.072E+00	0.500
SN-117M	156.02			-5.760E-01	2.229E+00	3.598E+00	1.883E-01	-0.160
	158.56	*		-6.609E-04	5.574E-02	9.011E-02	4.683E-03	-0.007
SB-122	563.90	*		1.668E+00	1.942E+00	3.378E+00	1.910E-01	0.494

---- 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		-2.664E+01	4.502E+01	6.902E+01	3.841E+00	-0.386
		159.00	*	5.010E-01	4.502E+01	Half-Life	too short	
		528.96		2.213E+02	4.502E+01	Half-Life	too short	
TE-123M		159.00	*	2.500E-03	2.890E-02	4.690E-02	2.475E-03	0.053
I-124		602.71	*	2.981E-01	7.465E-01	1.095E+00	6.000E-02	0.272
		722.78		1.594E+00	4.693E+00	6.797E+00	4.096E-01	0.234
		1325.50		-1.018E+01	3.673E+01	5.610E+01	4.074E+00	-0.181
SB-124		1376.25		3.653E+01	3.104E+01	5.715E+01	4.176E+00	0.639
		1509.49		1.860E+01	1.621E+01	3.016E+01	2.139E+00	0.617
		1691.02		-7.972E-01	3.808E+00	5.661E+00	3.696E-01	-0.141
		602.71		1.735E-02	4.344E-02	6.371E-02	3.493E-03	0.272
		645.85		-2.623E-02	4.781E-01	7.712E-01	4.655E-02	-0.034
		709.31		4.629E-01	2.580E+00	4.229E+00	2.460E-01	0.109
		713.82		-1.731E-02	1.563E+00	2.517E+00	2.582E-01	-0.007
		722.78		1.344E-01	3.958E-01	5.734E-01	3.606E-02	0.234
	+	968.20		1.135E+01	4.741E+00	6.300E+00	5.342E-01	1.801
		1045.16		3.199E+00	2.473E+00	4.546E+00	3.451E-01	0.704
		1325.50		-9.170E-01	3.309E+00	5.054E+00	3.671E-01	-0.181
		1368.21		1.534E+00	1.373E+00	2.611E+00	3.311E-01	0.588
SB-125		1436.60		-1.017E+00	3.524E+00	5.426E+00	3.924E-01	-0.187
		1691.02	*	-1.586E-02	7.577E-02	1.126E-01	7.853E-03	-0.141
		427.89	*	-3.511E-02	8.741E-02	1.407E-01	8.562E-03	-0.249
	+	463.38		1.066E+00	5.010E-01	5.590E-01	3.808E-02	1.907
TE-125M		600.56		-1.354E-01	1.903E-01	2.721E-01	1.753E-02	-0.498
		635.90		-2.464E-01	2.718E-01	4.054E-01	2.578E-02	-0.608
		109.28	*	4.120E+00	9.130E+00	1.531E+01	1.365E+00	0.269
I-126		388.63		1.401E-01	2.023E-01	3.495E-01	2.021E-02	0.401
		666.33	*	-1.130E-03	2.094E-01	2.922E-01	1.512E-02	-0.004
SB-126		753.82		-5.160E-02	1.484E+00	2.377E+00	1.550E-01	-0.022
		223.80		2.003E+00	4.093E+00	6.734E+00	3.719E-01	0.297
		278.60		2.264E+00	2.603E+00	4.046E+00	2.354E-01	0.560
		296.50		1.131E+01	2.414E+00	3.461E+00	2.032E-01	3.267
		414.70		-7.408E-02	7.316E-02	1.131E-01	6.585E-03	-0.655
		415.30		-3.194E+00	6.045E+00	9.677E+00	5.633E-01	-0.330
		555.20		-9.659E-01	3.764E+00	6.022E+00	3.425E-01	-0.160
		573.80		1.367E-01	9.673E-01	1.555E+00	8.733E-02	0.088
		593.00		8.157E-01	8.960E-01	1.562E+00	8.639E-02	0.522
		656.30		2.270E+00	3.674E+00	5.519E+00	2.841E-01	0.411
		666.33		-4.721E-04	8.752E-02	1.221E-01	6.318E-03	-0.004
		675.00		-8.248E-01	1.982E+00	3.087E+00	1.636E-01	-0.267
SB-127		695.00		3.511E-02	7.638E-02	1.280E-01	7.168E-03	0.274
		697.00		-6.237E-02	2.744E-01	4.345E-01	2.445E-02	-0.144
		720.50	*	-5.498E-03	1.550E-01	2.141E-01	1.282E-02	-0.026
		856.80		6.179E-01	4.875E-01	8.118E-01	6.755E-02	0.761
		989.30		-1.716E-01	1.117E+00	1.818E+00	1.501E-01	-0.094
		1034.80		6.680E+00	8.303E+00	1.479E+01	1.142E+00	0.452
		1213.00		1.286E+00	4.448E+00	7.473E+00	4.521E-01	0.172
		61.10		6.601E+00	7.106E+01	1.054E+02	1.181E+01	0.063
		252.40		-4.148E-02	4.292E+00	6.870E+00	2.853E+00	-0.006

---- Non-Identified Nuclides ----

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		290.80		-3.231E+01	2.355E+01	3.040E+01	2.795E+00	-1.063
		411.60		-3.486E-01	1.213E+01	2.009E+01	2.889E+00	-0.017
		444.90		7.978E-02	9.140E+00	1.511E+01	1.634E+00	0.005
		473.00		-1.788E-01	1.578E+00	2.579E+00	2.888E-01	-0.069
		543.00		-8.205E+00	1.525E+01	2.377E+01	3.060E+00	-0.345
		603.60		5.056E+00	1.325E+01	1.936E+01	2.050E+00	0.261
		685.20	*	-8.931E-01	1.229E+00	1.837E+00	1.693E-01	-0.486
		698.50		-4.567E-01	1.546E+01	2.489E+01	3.588E+00	-0.018
		722.20		5.756E+00	3.185E+01	4.525E+01	4.206E+00	0.127
		783.80		2.081E-01	3.589E+00	6.049E+00	6.874E-01	0.034
XE-127		57.60		7.547E+00	7.648E+00	1.284E+01	1.125E+00	0.588
		145.22		-5.631E-01	7.146E-01	1.110E+00	5.990E-02	-0.507
		172.10		3.566E-02	1.181E-01	1.943E-01	9.981E-03	0.184
		202.84	*	-1.944E-02	5.188E-02	7.585E-02	4.072E-03	-0.256
		374.96		1.313E-03	1.909E-01	3.181E-01	1.856E-02	0.004
I-131		80.18		-1.096E+01	5.470E+00	7.130E+00	6.575E-01	-1.538
		284.30		-6.104E-01	1.440E+00	2.376E+00	1.540E-01	-0.257
		364.48	*	3.093E-02	1.085E-01	1.841E-01	1.202E-02	0.168
		636.97		-5.126E-01	1.492E+00	2.347E+00	1.416E-01	-0.218
		722.89		2.693E+00	7.580E+00	1.100E+01	6.716E-01	0.245
TE-132		49.72		-1.380E+01	2.697E+01	4.444E+01	4.744E+00	-0.311
		111.76		-3.820E+01	2.966E+01	4.615E+01	4.324E+00	-0.828
		116.30		1.288E+00	2.728E+01	4.502E+01	4.104E+00	0.029
		228.16	*	-2.055E-01	7.014E-01	1.111E+00	1.585E-01	-0.185
BA-133		53.15		-5.621E-01	4.639E+00	7.760E+00	6.845E-01	-0.072
		79.62		-1.239E+00	1.488E+00	2.077E+00	3.224E-01	-0.597
		81.00		-1.850E-01	1.281E-01	1.567E-01	2.540E-02	-1.180
	+	276.40		4.738E-01	4.388E-01	6.201E-01	8.042E-02	0.764
		302.84		2.275E-03	1.573E-01	2.305E-01	2.697E-02	0.010
		356.01	*	2.147E-02	4.550E-02	6.857E-02	7.956E-03	0.313
		383.85		-2.873E-01	2.885E-01	4.472E-01	4.862E-02	-0.642
I-133	+	510.53		1.466E+00	2.885E-01	Half-Life	too short	
		529.87	*	1.427E-03	2.885E-01	Half-Life	too short	
		706.58		-1.067E-01	2.885E-01	Half-Life	too short	
		856.28		4.501E-01	2.885E-01	Half-Life	too short	
		875.33		-3.418E-02	2.885E-01	Half-Life	too short	
	+	1236.41		1.066E+00	2.885E-01	Half-Life	too short	
		1298.22		3.216E-02	2.885E-01	Half-Life	too short	
CS-134		475.35		4.160E-01	1.798E+00	3.010E+00	1.762E-01	0.138
		563.23		2.031E-01	3.362E-01	5.747E-01	3.324E-02	0.353
		569.32		2.124E-02	1.891E-01	3.113E-01	1.809E-02	0.068
		604.70		3.910E-02	3.845E-02	5.961E-02	3.281E-03	0.656
	+	795.84	*	1.044E-01	6.086E-02	8.034E-02	5.867E-03	1.299
		801.93		-4.565E-02	3.835E-01	5.814E-01	4.297E-02	-0.079
		1038.57		-2.725E+00	3.697E+00	5.616E+00	4.311E-01	-0.485
		1167.94		-2.659E+00	2.445E+00	3.545E+00	2.032E-01	-0.750
		1365.15		-1.666E+00	1.054E+00	1.179E+00	9.172E-02	-1.413
CS-135		268.24	*	3.819E-01	1.853E-01	2.912E-01	2.224E-02	1.312
I-135		288.45		1.593E+09	1.853E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		417.63		1.989E+10	1.853E-01	Half-Life too short		
		546.56		1.032E+10	1.853E-01	Half-Life too short		
		836.80		2.593E+09	1.853E-01	Half-Life too short		
		1038.76		-1.609E+10	1.853E-01	Half-Life too short		
		1124.00		-4.500E+09	1.853E-01	Half-Life too short		
		1131.51		2.629E+09	1.853E-01	Half-Life too short		
		1260.41	*	4.163E+09	1.853E-01	Half-Life too short		
		1457.56		7.357E+11	1.853E-01	Half-Life too short		
		1678.03		4.263E+09	1.853E-01	Half-Life too short		
		1706.46		8.012E+09	1.853E-01	Half-Life too short		
		1791.20		9.538E+09	1.853E-01	Half-Life too short		
CS-136		66.91		-9.298E-01	9.749E-01	1.356E+00	2.098E-01	-0.686
	+	86.29		3.081E+00	1.473E+00	2.110E+00	2.857E-01	1.460
		153.22		-1.913E-01	6.338E-01	1.022E+00	6.955E-02	-0.187
		163.89		5.295E-01	1.060E+00	1.746E+00	1.173E-01	0.303
		176.55		1.689E-01	3.600E-01	5.961E-01	3.554E-02	0.283
		273.65		7.977E-02	6.898E-01	6.955E-01	4.600E-02	0.115
		340.57		1.947E-01	1.398E-01	2.225E-01	1.394E-02	0.875
		818.51		-2.914E-02	7.113E-02	1.146E-01	8.751E-03	-0.254
		1048.07	*	-6.002E-04	1.150E-01	1.897E-01	1.512E-02	-0.003
		1235.34		6.511E-01	6.044E-01	1.068E+00	1.097E-01	0.610
CE-139		165.85	*	-1.987E-02	2.925E-02	4.623E-02	2.357E-03	-0.430
BA-140		162.64		6.361E-02	7.596E-01	1.231E+00	7.319E-02	0.052
		304.84		9.651E-01	1.347E+00	2.039E+00	5.569E-01	0.473
		423.70		4.077E-01	1.849E+00	3.098E+00	9.850E-01	0.132
		537.32	*	-6.545E-04	2.339E-01	3.828E-01	1.245E-01	-0.002
LA-140	+	328.77		6.784E-01	4.268E-01	5.187E-01	3.420E-02	1.308
		432.53		3.344E-01	1.897E+00	3.177E+00	2.048E-01	0.105
		487.03		-8.305E-02	1.394E-01	2.195E-01	1.449E-02	-0.378
		751.79		-3.465E-02	1.719E+00	2.757E+00	2.115E-01	-0.013
		815.85		5.622E-02	3.026E-01	5.149E-01	4.475E-02	0.109
		867.82		5.640E-01	1.439E+00	2.257E+00	2.029E-01	0.250
		919.63		6.974E-01	2.602E+00	4.208E+00	4.587E-01	0.166
		925.24		-7.449E-01	9.966E-01	1.533E+00	1.442E-01	-0.486
		1596.49	*	-2.813E-02	8.375E-02	1.326E-01	9.099E-03	-0.212
CE-141		145.44	*	-5.849E-02	6.336E-02	9.976E-02	5.626E-03	-0.586
CE-143		57.37		1.038E-03	6.336E-02	Half-Life too short		
		231.56		8.178E-04	6.336E-02	Half-Life too short		
		293.26	*	1.063E-03	6.336E-02	Half-Life too short		
	+	350.59		2.569E-02	6.336E-02	Half-Life too short		
		490.36		-2.306E-03	6.336E-02	Half-Life too short		
		664.57		1.281E-03	6.336E-02	Half-Life too short		
		721.93		7.305E-04	6.336E-02	Half-Life too short		
CE-144		80.11		-5.021E+00	2.521E+00	3.289E+00	3.015E-01	-1.526
		133.54	*	-1.143E-01	2.035E-01	3.253E-01	4.594E-02	-0.351
PM-144		476.78		-2.770E-02	6.844E-02	1.059E-01	7.400E-03	-0.262
		618.01		-2.373E-02	3.097E-02	4.695E-02	2.708E-03	-0.505
		696.49	*	1.324E-02	3.529E-02	5.868E-02	3.301E-03	0.226
		778.57		6.771E-01	2.073E+00	3.577E+00	2.481E-01	0.189

---- 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	*		8.975E-01	2.391E+00	3.976E+00	2.235E-01	0.226
	1489.15			-2.821E+00	1.190E+01	1.843E+01	1.315E+00	-0.153
PM-146	453.90	*		1.291E-02	4.381E-02	7.188E-02	6.225E-03	0.180
	633.02			-8.514E-03	1.359E+00	2.204E+00	8.098E-01	-0.004
	735.90			-8.276E-02	1.436E-01	2.148E-01	6.008E-02	-0.385
	747.13			7.862E-02	9.040E-02	1.559E-01	1.995E-02	0.504
ND-147	91.11	+		1.333E+00	5.049E-01	5.265E-01	5.176E-02	2.532
	319.41			-2.635E-01	3.119E+00	5.207E+00	3.077E-01	-0.051
	439.89			8.919E-01	5.324E+00	8.905E+00	5.213E-01	0.100
	531.02	*		1.762E-01	5.583E-01	9.350E-01	1.263E-01	0.188
PM-149	285.90	*		9.354E+01	8.869E+01	1.552E+02	2.202E+01	0.603
EU-152	121.78			-1.274E-01	7.269E-02	1.099E-01	8.451E-03	-1.159
	244.69			-2.016E-02	3.688E-01	5.139E-01	2.907E-02	-0.039
	344.27	*		-5.567E-02	1.076E-01	1.498E-01	9.931E-03	-0.372
	443.98			1.449E-01	8.919E-01	1.491E+00	8.725E-02	0.097
	778.89			7.094E-02	2.386E-01	4.107E-01	2.850E-02	0.173
	867.32			-8.567E-02	9.267E-01	1.316E+00	1.121E-01	-0.065
	964.01			5.572E-01	3.491E-01	5.792E-01	4.935E-02	0.962
	1085.78			1.130E-01	3.593E-01	6.114E-01	4.303E-02	0.185
	1112.02			-2.028E-01	3.470E-01	4.443E-01	2.953E-02	-0.456
	1407.95			8.609E-02	1.788E-01	3.086E-01	2.244E-02	0.279
GD-153	69.67			5.366E-01	1.970E+00	2.932E+00	2.562E-01	0.183
	83.37			1.294E+01	1.714E+01	2.582E+01	2.424E+00	0.501
	97.43	*		2.891E-02	8.464E-02	1.253E-01	1.024E-02	0.231
	103.18			-5.024E-02	1.046E-01	1.697E-01	1.268E-02	-0.296
EU-154	123.07			-3.949E-02	5.013E-02	7.956E-02	7.510E-03	-0.496
	247.94			-1.097E-03	3.921E-01	5.796E-01	5.487E-02	-0.002
	591.81			1.886E-01	6.085E-01	9.900E-01	9.523E-02	0.191
	723.30			1.065E-01	1.963E-01	2.903E-01	2.111E-02	0.367
	756.87			3.706E-01	7.466E-01	1.253E+00	1.328E-01	0.296
	873.19			-3.298E-02	2.880E-01	4.752E-01	5.821E-02	-0.069
	996.32			-4.024E-02	3.245E-01	5.297E-01	9.300E-02	-0.076
	1004.76			-6.884E-04	2.091E-01	3.458E-01	3.890E-02	-0.002
	1274.45	*		-1.158E-02	1.283E-01	2.071E-01	2.056E-02	-0.056
EU-155	48.70			-1.232E+00	3.426E+00	5.686E+00	4.586E-01	-0.217
	60.01			-9.431E-01	6.394E+00	9.372E+00	8.140E-01	-0.101
	86.54	+		2.845E-01	1.333E-01	1.929E-01	1.875E-02	1.475
	105.31	*		-7.866E-03	1.077E-01	1.774E-01	1.308E-02	-0.044
TB-160	86.79	+		7.599E-01	3.559E-01	5.114E-01	4.942E-02	1.486
	197.04			-4.153E-01	5.704E-01	8.802E-01	4.686E-02	-0.472
	215.65			-3.719E-02	7.478E-01	1.203E+00	6.572E-02	-0.031
	298.57			2.244E-01	1.710E-01	1.983E-01	1.165E-02	1.131
	879.36	*		1.081E-01	1.284E-01	2.303E-01	2.014E-02	0.470
	962.29			8.350E-01	6.275E-01	1.023E+00	8.730E-02	0.817
	966.15			8.336E-01	3.010E-01	5.185E-01	4.407E-02	1.608
	1177.93			-5.184E-02	3.427E-01	5.526E-01	3.144E-02	-0.094
	1271.85			2.125E-01	7.120E-01	1.197E+00	7.992E-02	0.177
HO-166M	80.57			-6.659E-01	3.275E-01	4.267E-01	3.923E-02	-1.561
	184.41	+		1.011E-01	4.614E-02	6.598E-02	3.448E-03	1.532

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-2.592E-02	8.932E-02	1.285E-01	7.485E-03	-0.202
		410.95		2.536E-01	2.424E-01	4.257E-01	2.475E-02	0.596
		711.68	*	-2.398E-02	5.796E-02	8.979E-02	5.255E-03	-0.267
		752.31		1.187E-01	2.632E-01	4.407E-01	2.864E-02	0.269
		810.29		1.218E-02	5.611E-02	9.572E-02	7.160E-03	0.127
		51.35		3.780E+00	4.075E+01	6.877E+01	5.978E+00	0.055
		52.39		1.046E+00	2.061E+01	3.471E+01	3.049E+00	0.030
		59.40		1.936E+01	3.457E+01	5.243E+01	4.554E+00	0.369
		66.72	*	-9.475E+00	3.399E+01	4.936E+01	4.293E+00	-0.192
		88.36		5.603E-01	2.624E-01	3.872E-01	3.753E-02	1.447
LU-176	+	201.83		-1.606E-02	2.896E-02	4.563E-02	2.446E-03	-0.352
		306.84	*	7.055E-03	2.621E-02	3.914E-02	2.306E-03	0.180
LU-177		401.10		-1.520E+00	6.457E+00	1.057E+01	6.121E-01	-0.144
		112.95		4.074E-01	1.592E+00	2.649E+00	1.737E-01	0.154
LU-177M	+	208.36	*	1.992E+00	1.389E+00	1.926E+00	1.042E-01	1.034
		52.97		-2.368E-01	2.108E+00	3.529E+00	3.110E-01	-0.067
		54.07		-9.715E-01	1.104E+00	1.788E+00	1.580E-01	-0.543
		61.30		-2.126E-01	1.883E+00	2.764E+00	2.401E-01	-0.077
		121.62		-3.352E-01	3.612E-01	5.706E-01	3.373E-02	-0.587
		147.16		-3.253E-01	6.372E-01	1.020E+00	5.472E-02	-0.319
		171.86		1.670E-01	4.767E-01	7.864E-01	4.037E-02	0.212
		218.09		2.070E-01	8.460E-01	1.379E+00	7.557E-02	0.150
	+	268.79		2.082E+00	1.118E+00	1.525E+00	8.812E-02	1.365
		319.02		-6.538E-02	2.407E-01	3.976E-01	2.348E-02	-0.164
		367.43		8.775E-01	8.752E-01	1.540E+00	9.022E-02	0.570
		413.65	*	-3.302E-01	1.795E-01	2.614E-01	1.521E-02	-1.263
HF-181		56.28		2.460E-01	1.181E+00	1.997E+00	1.758E-01	0.123
		57.53		5.645E-01	6.460E-01	1.081E+00	9.469E-02	0.522
		65.20		1.060E+00	1.155E+00	1.768E+00	1.536E-01	0.599
		133.02		-4.920E-02	6.600E-02	1.050E-01	5.897E-03	-0.468
		136.25		-1.710E-01	4.578E-01	7.391E-01	4.102E-02	-0.231
W-181		345.85		-3.150E-01	2.196E-01	2.804E-01	1.654E-02	-1.123
		482.03	*	1.612E-03	4.254E-02	7.020E-02	4.106E-03	0.023
		56.28		9.694E-02	4.624E-01	7.817E-01	6.883E-02	0.124
		57.53		2.210E-01	2.531E-01	4.234E-01	3.710E-02	0.522
		65.20	*	4.119E-01	4.488E-01	6.870E-01	5.969E-02	0.599
TA-182		67.75		-1.262E-01	1.468E-01	1.915E-01	1.667E-02	-0.659
		100.10		1.736E-01	1.735E-01	2.967E-01	2.322E-02	0.585
		152.43		-1.030E-01	3.216E-01	5.181E-01	2.738E-02	-0.199
		222.10		-1.941E-01	3.579E-01	5.615E-01	3.094E-02	-0.346
		1001.68		3.193E-01	2.022E+00	3.322E+00	2.697E-01	0.096
RE-183		1121.28		4.389E-01	1.858E-01	3.241E-01	2.108E-02	1.354
		1189.05		-1.006E-01	2.931E-01	4.629E-01	2.686E-02	-0.217
		1221.42	*	-8.986E-02	1.878E-01	2.922E-01	1.794E-02	-0.307
		1230.97		-1.429E-01	5.210E-01	7.001E-01	4.368E-02	-0.204
		57.98		2.793E-01	2.548E-01	4.140E-01	3.621E-02	0.675
		59.32		8.246E-02	1.425E-01	2.163E-01	1.879E-02	0.381
		67.20		-2.241E-01	2.457E-01	3.450E-01	3.002E-02	-0.649
		162.32	*	-1.273E-02	1.111E-01	1.786E-01	9.188E-03	-0.071

----- 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		1.792E+00	1.250E+00	1.729E+00	9.360E-02	1.037
		291.72		-6.195E-01	1.042E+00	1.448E+00	8.486E-02	-0.428
		57.98		1.029E+00	9.389E-01	1.526E+00	1.334E-01	0.675
		59.32		3.036E-01	5.246E-01	7.963E-01	6.920E-02	0.381
		67.20		-8.255E-01	9.051E-01	1.271E+00	1.106E-01	-0.649
		161.27		-5.662E-02	3.638E-01	5.844E-01	3.015E-02	-0.097
		216.55		1.792E-01	2.616E-01	4.346E-01	2.378E-02	0.412
	*	252.85		1.293E-01	2.297E-01	3.786E-01	2.159E-02	0.342
		318.01		-3.585E-01	4.138E-01	6.593E-01	3.893E-02	-0.544
		792.07		-4.145E-01	1.247E+00	1.740E+00	1.246E-01	-0.238
OS-185		903.28		2.626E-01	1.038E+00	1.647E+00	1.492E-01	0.159
		920.93		-1.699E-01	3.957E-01	6.110E-01	5.449E-02	-0.278
		59.72		-9.676E-03	3.843E-01	5.669E-01	4.923E-02	-0.017
		61.14		-5.844E-02	2.068E-01	3.009E-01	2.614E-02	-0.194
		69.30		2.607E-01	3.466E-01	5.263E-01	4.594E-02	0.495
		592.07		1.261E+00	2.456E+00	4.162E+00	2.303E-01	0.303
	*	646.12		1.164E-03	4.097E-02	6.657E-02	3.474E-03	0.017
		717.42		2.731E-01	8.574E-01	1.421E+00	8.446E-02	0.192
		874.81		9.715E-02	5.615E-01	9.520E-01	8.242E-02	0.102
		880.27		5.366E-02	7.467E-01	1.253E+00	1.098E-01	0.043
RE-188	*	155.03		1.454E-02	1.645E-01	2.695E-01	1.414E-02	0.054
		477.96		-1.831E+00	3.136E+00	4.786E+00	2.801E-01	-0.382
		633.10		-1.414E-01	2.736E+00	4.420E+00	2.345E-01	-0.032
W-188	+	63.58		1.193E+02	7.272E+01	1.028E+02	8.926E+00	1.161
		227.08		6.486E+00	1.292E+01	2.126E+01	1.179E+00	0.305
IR-192	*	290.67		-1.089E+01	7.950E+00	1.043E+01	6.108E-01	-1.044
	+	295.96		1.053E+00	1.801E-01	2.736E-01	1.631E-02	3.848
		308.46		-7.363E-02	9.389E-02	1.466E-01	8.733E-03	-0.502
	*	316.51		-4.115E-02	3.337E-02	5.210E-02	3.090E-03	-0.790
		468.07		-7.229E-03	6.934E-02	9.795E-02	6.598E-03	-0.074
		604.41		5.105E-01	5.211E-01	8.021E-01	8.972E-02	0.636
AU-195		612.46		2.659E-01	7.406E-01	1.083E+00	7.895E-02	0.246
		65.12		2.161E-01	2.091E-01	3.214E-01	2.792E-02	0.672
		66.83		-3.011E-02	1.122E-01	1.631E-01	1.418E-02	-0.185
	+	75.70		1.192E+00	2.783E-01	4.929E-01	4.402E-02	2.418
	*	98.88		1.769E-01	2.264E-01	3.729E-01	2.975E-02	0.474
TL-200		129.76		3.694E+00	2.871E+00	4.919E+00	2.796E-01	0.751
	*	367.94		3.375E-04	2.871E+00	Half-Life	too short	
		579.30		7.844E-03	2.871E+00	Half-Life	too short	
		828.27		-3.623E-03	2.871E+00	Half-Life	too short	
TL-201		1205.75		-1.371E-03	2.871E+00	Half-Life	too short	
		68.90		2.170E+00	5.954E+00	8.325E+00	7.262E-01	0.261
		70.82		1.826E+00	3.221E+00	4.846E+00	4.247E-01	0.377
		80.30		-1.174E+01	5.950E+00	7.775E+00	7.136E-01	-1.510
TL-202		135.34		1.885E-02	2.524E+01	4.137E+01	2.304E+00	0.000
	*	167.43		-6.194E+00	6.853E+00	1.071E+01	5.466E-01	-0.578
		68.90		1.954E-01	5.362E-01	7.498E-01	6.540E-02	0.261
		70.82		1.640E-01	2.892E-01	4.353E-01	3.814E-02	0.377
		80.30		-1.055E+00	5.346E-01	6.985E-01	6.411E-02	-1.510

---- 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	*	2.016E-02	6.334E-02	1.070E-01	6.262E-03	0.188
		70.83		7.196E-01	1.256E+00	1.888E+00	2.585E-01	0.381
		72.87		2.325E+00	8.256E-01	1.256E+00	1.674E-01	1.851
		82.60		1.568E+00	1.333E+00	1.903E+00	2.702E-01	0.824
BI-207		279.20	*	2.301E-02	4.277E-02	6.517E-02	4.026E-03	0.353
		72.80		6.310E-01	2.302E-01	3.643E-01	3.212E-02	1.732
	+	74.97		6.611E-01	1.544E-01	2.521E-01	2.244E-02	2.622
		84.90		3.947E-01	2.205E-01	3.418E-01	3.249E-02	1.155
TL-207		569.67		7.566E-03	2.891E-02	4.816E-02	2.713E-03	0.157
		1063.62	*	9.694E-03	4.570E-02	7.709E-02	5.663E-03	0.126
		1770.23		-1.743E+00	6.726E-01	6.459E-01	3.999E-02	-2.699
		81.07		-3.983E-01	2.774E-01	3.467E-01	3.199E-02	-1.149
PO-209		83.78		1.695E-01	1.437E-01	2.196E-01	2.068E-02	0.772
		94.90		3.418E-01	2.531E-01	3.896E-01	3.324E-02	0.877
		122.32		-2.418E+00	1.708E+00	2.634E+00	1.782E-01	-0.918
		144.24		1.069E-01	6.926E-01	1.118E+00	7.741E-02	0.096
BI-210		154.21		9.077E-02	3.771E-01	6.214E-01	4.085E-02	0.146
	+	269.46		4.875E-01	2.620E-01	3.584E-01	2.166E-02	1.360
		323.87	*	-3.762E-01	7.261E-01	1.013E+00	1.677E-01	-0.371
	+	338.28		4.765E+00	1.800E+00	2.326E+00	2.463E-01	2.049
PB-210		445.03		7.808E-02	2.136E+00	3.539E+00	3.646E-01	0.022
		260.50		6.875E+00	9.598E+00	1.593E+01	9.143E-01	0.432
		262.80		4.900E+00	2.660E+01	4.295E+01	2.471E+00	0.114
		896.60	*	-1.501E+00	6.576E+00	1.069E+01	6.706E-01	-0.140
PB-211		46.50	*	1.339E+00	5.269E+00	8.877E+00	6.912E-01	0.151
		46.50	*	1.339E+00	5.269E+00	8.877E+00	6.912E-01	0.151
		46.50	*	1.339E+00	5.269E+00	8.877E+00	5.956E-01	0.151
		404.84	*	2.697E-03	9.708E-01	1.612E+00	1.005E+00	0.002
BI-212		427.08		-1.396E+00	2.147E+00	3.100E+00	1.916E+00	-0.450
		831.96		5.945E-01	1.247E+00	2.072E+00	1.296E+00	0.287
	+	727.18	*	8.514E-01	4.587E-01	5.993E-01	4.757E-02	1.421
		785.46		5.781E-02	1.889E+00	3.036E+00	2.141E-01	0.019
PO-215		1620.62		7.595E-01	1.060E+00	1.979E+00	1.342E-01	0.384
		81.07		-3.983E-01	2.774E-01	3.467E-01	3.199E-02	-1.149
		83.78		1.695E-01	1.437E-01	2.196E-01	2.068E-02	0.772
		94.90		3.418E-01	2.531E-01	3.896E-01	3.324E-02	0.877
RN-219		122.32		-2.418E+00	1.708E+00	2.634E+00	1.782E-01	-0.918
		144.24		1.069E-01	6.926E-01	1.118E+00	7.741E-02	0.096
		154.21		9.077E-02	3.771E-01	6.214E-01	4.085E-02	0.146
	+	269.46		4.875E-01	2.620E-01	3.584E-01	2.166E-02	1.360
RA-223		323.87	*	-3.762E-01	7.261E-01	1.013E+00	1.677E-01	-0.371
	+	338.28		4.765E+00	1.800E+00	2.326E+00	2.463E-01	2.049
		445.03		7.808E-02	2.136E+00	3.539E+00	3.646E-01	0.022
	+	271.23		6.254E-01	3.378E-01	4.661E-01	3.774E-02	1.342
RN-220		401.81	*	1.146E-02	4.031E-01	6.705E-01	9.121E-02	0.017
		549.76	*	1.752E+01	2.667E+01	4.565E+01	2.605E+00	0.384
		81.07		-3.983E-01	2.774E-01	3.467E-01	3.199E-02	-1.149
		83.78		1.695E-01	1.437E-01	2.196E-01	2.068E-02	0.772
RA-223		94.90		3.418E-01	2.531E-01	3.896E-01	3.324E-02	0.877

---- 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		-2.418E+00	1.708E+00	2.634E+00	1.782E-01	-0.918
		144.24		1.069E-01	6.926E-01	1.118E+00	7.741E-02	0.096
		154.21		9.077E-02	3.771E-01	6.214E-01	4.085E-02	0.146
	+	269.46		4.875E-01	2.620E-01	3.584E-01	2.166E-02	1.360
		323.87	*	-3.762E-01	7.261E-01	1.013E+00	1.677E-01	-0.371
	+	338.28		4.765E+00	1.800E+00	2.326E+00	2.463E-01	2.049
		445.03		7.808E-02	2.136E+00	3.539E+00	3.646E-01	0.022
		79.80		-1.956E+00	1.906E+00	2.586E+00	5.618E-01	-0.756
		236.00		2.014E+00	3.520E-01	5.617E-01	5.811E-02	3.585
		256.20	*	-7.616E-02	3.845E-01	6.087E-01	8.477E-02	-0.125
		286.10		1.514E+00	1.481E+00	2.598E+00	3.008E-01	0.583
	+	299.80		2.062E+00	2.266E+00	2.539E+00	4.142E-01	0.812
TH-227		304.40		6.374E-01	1.983E+00	2.968E+00	5.143E-01	0.215
		334.20		8.995E-02	2.753E+00	3.523E+00	6.471E-01	0.026
		79.80		-1.956E+00	1.907E+00	2.586E+00	5.688E-01	-0.756
		94.00		7.777E+00	2.774E+00	3.711E+00	8.089E-01	2.096
		236.00		2.014E+00	3.359E-01	5.617E-01	5.018E-02	3.585
		256.20	*	-7.616E-02	3.846E-01	6.087E-01	1.027E-01	-0.125
		286.10		1.514E+00	2.112E+00	2.598E+00	2.602E+00	0.583
	+	299.80		2.062E+00	2.266E+00	2.539E+00	4.142E-01	0.812
		304.40		6.374E-01	1.983E+00	2.968E+00	5.143E-01	0.215
		334.20		8.995E-02	2.753E+00	3.523E+00	6.471E-01	0.026
		85.43		5.786E-01	2.323E-01	3.627E-01	3.464E-02	1.595
	+	88.47		3.225E-01	1.511E-01	2.212E-01	2.139E-02	1.458
TH-229		100.00		1.773E-01	1.800E-01	3.077E-01	2.412E-02	0.576
		193.63	*	-1.458E-01	5.006E-01	7.998E-01	4.236E-02	-0.182
		210.97		1.378E+00	8.696E-01	1.335E+00	7.246E-02	1.032
		283.67	*	-3.244E-01	1.509E+00	2.450E+00	3.380E-01	-0.132
PA-231	+	301.29		8.246E-01	9.007E-01	1.032E+00	1.083E-01	0.799
TH-231		81.07		-3.983E-01	2.774E-01	3.467E-01	3.199E-02	-1.149
		83.78		1.695E-01	1.437E-01	2.196E-01	2.068E-02	0.772
		94.90		3.418E-01	2.531E-01	3.896E-01	3.324E-02	0.877
		122.32		-2.418E+00	1.708E+00	2.634E+00	1.782E-01	-0.918
U-231		144.24		1.069E-01	6.926E-01	1.118E+00	7.741E-02	0.096
		154.21		9.077E-02	3.771E-01	6.214E-01	4.085E-02	0.146
	+	269.46		4.875E-01	2.620E-01	3.584E-01	2.166E-02	1.360
		323.87	*	-3.762E-01	7.261E-01	1.013E+00	1.677E-01	-0.371
	+	338.28		4.765E+00	1.800E+00	2.326E+00	2.463E-01	2.049
		445.03		7.808E-02	2.136E+00	3.539E+00	3.646E-01	0.022
		84.21		6.561E+00	6.192E+00	9.418E+00	8.902E-01	0.697
	+	92.29		1.011E+01	3.810E+00	3.896E+00	3.488E-01	2.594
		95.87	*	-9.264E-01	1.182E+00	1.647E+00	1.382E-01	-0.562
		108.00		5.518E-01	2.040E+00	3.400E+00	2.376E-01	0.162
	+	75.28		1.929E+01	5.128E+00	7.771E+00	1.206E+00	2.483
	+	86.59		4.624E+00	2.464E+00	3.129E+00	8.499E-01	1.478
	+	300.12		5.747E-01	6.296E-01	7.075E-01	9.531E-02	0.812
PA-233		311.98	*	2.799E-02	6.080E-02	1.045E-01	6.532E-03	0.268
		340.50		1.140E+00	7.333E-01	1.111E+00	2.553E-01	1.026
		398.62		-1.909E+00	2.127E+00	3.241E+00	8.379E-01	-0.589

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	-7.723E-01	1.613E+00	2.580E+00	5.313E-01	-0.299
		63.00	3.460E+00	2.156E+00	3.048E+00	4.736E-01	1.135
		94.67	4.417E-01	1.886E-01	2.926E-01	3.619E-02	1.509
		98.44	6.549E-02	1.023E-01	1.512E-01	8.419E-02	0.433
		99.86	4.393E-01	4.555E-01	7.782E-01	6.114E-02	0.564
		111.00	-1.896E-01	1.848E-01	2.911E-01	3.148E-02	-0.651
		131.20	-5.428E-02	1.064E-01	1.712E-01	9.674E-03	-0.317
		152.70	-7.641E-02	3.088E-01	4.986E-01	7.791E-02	-0.153
		186.00	3.639E+00	1.988E+00	2.417E+00	7.362E-01	1.505
		226.40	2.244E-01	4.077E-01	6.715E-01	7.677E-02	0.334
		227.20	2.102E-01	4.361E-01	7.171E-01	3.977E-02	0.293
		248.90	-1.807E-01	8.120E-01	1.284E+00	2.755E-01	-0.141
		293.70	6.629E+00	1.507E+00	1.707E+00	2.750E-01	3.883
		369.80	-3.640E-01	8.492E-01	1.374E+00	2.864E-01	-0.265
		568.70	3.300E-01	9.401E-01	1.577E+00	8.888E-02	0.209
		569.50	7.391E-02	2.571E-01	4.290E-01	2.417E-02	0.172
		574.00	-3.220E-01	1.455E+00	2.264E+00	1.271E-01	-0.142
		699.00	3.888E-01	7.214E-01	1.210E+00	2.170E-01	0.321
		706.10	-1.786E-01	1.016E+00	1.608E+00	7.097E-01	-0.111
		733.00	2.185E-01	3.725E-01	5.566E-01	1.189E-01	0.392
		742.81	-1.315E-01	1.340E+00	2.130E+00	1.427E+00	-0.062
		796.30	9.352E-01	9.750E-01	1.526E+00	4.065E-01	0.613
		805.60	-2.132E-01	9.255E-01	1.515E+00	4.595E-01	-0.141
		819.60	-8.180E-01	1.257E+00	1.918E+00	7.255E-01	-0.426
		826.30	1.039E-01	7.646E-01	1.293E+00	5.763E-01	0.080
		831.60	3.909E-01	6.037E-01	1.046E+00	3.099E-01	0.374
		876.40	-1.529E-01	8.443E-01	1.361E+00	1.400E+00	-0.112
		880.51	-2.674E-02	2.749E-01	4.543E-01	3.983E-02	-0.059
		883.24	1.979E-02	2.693E-01	4.514E-01	3.035E-01	0.044
		899.00	-3.277E-01	7.872E-01	1.235E+00	5.411E-01	-0.265
		925.00	-1.004E+00	1.047E+00	1.567E+00	1.392E-01	-0.641
		926.50	-1.006E-01	1.605E-01	2.459E-01	6.236E-02	-0.409
		946.00	* 2.044E-01	3.177E-01	5.526E-01	1.039E-01	0.370
		949.00	4.854E-01	4.658E-01	8.379E-01	7.263E-02	0.579
		980.50	-7.747E-02	7.118E-01	1.167E+00	9.743E-02	-0.066
		1394.10	-3.872E-01	1.046E+00	1.538E+00	9.986E-01	-0.252
PA-234M	+	766.42	2.480E+01	1.811E+01	2.194E+01	1.107E+01	1.131
		1001.03	* 1.433E+00	4.456E+00	7.427E+00	7.087E-01	0.193
U-235	+	89.95	1.197E+00	1.709E+00	1.859E+00	5.777E-01	0.644
		93.35	3.188E+00	1.472E+00	1.203E+00	3.376E-01	2.651
		105.00	-6.352E-02	1.059E+00	1.745E+00	5.144E-01	-0.036
		143.76	* 8.212E-02	2.153E-01	3.501E-01	5.662E-02	0.235
		163.35	1.200E-01	4.743E-01	7.733E-01	1.375E-01	0.155
NP-236	+	185.71	1.348E-01	6.152E-02	8.913E-02	4.667E-03	1.512
		205.31	3.965E-02	5.919E-01	8.384E-01	1.497E-01	0.047
		94.67	3.373E-01	1.400E-01	2.222E-01	1.904E-02	1.518
		98.44	4.952E-02	7.235E-02	1.143E-01	9.182E-03	0.433
		111.00	-1.434E-01	1.393E-01	2.202E-01	1.480E-02	-0.651
		160.31	* -2.034E-02	8.087E-02	1.294E-01	6.692E-03	-0.157

---- 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		1.381E-01	1.534E-01	2.616E-01	2.065E-02	0.528
		117.00	*	-5.959E-02	1.911E-01	3.110E-01	1.941E-02	-0.192
	+	209.75		1.414E+00	9.861E-01	1.390E+00	7.536E-02	1.017
		228.18		-6.870E-02	2.296E-01	3.639E-01	2.021E-02	-0.189
	+	277.60		2.312E-01	2.125E-01	2.968E-01	1.726E-02	0.779
AM-241		334.30		4.395E-02	1.559E+00	1.995E+00	1.179E-01	0.022
		59.54	*	6.963E-02	2.013E-01	3.022E-01	2.812E-02	0.230
		99.55		1.421E-01	1.579E-01	2.692E-01	2.125E-02	0.528
		103.76	*	7.500E-02	9.506E-02	1.614E-01	1.196E-02	0.465
		117.00		-6.131E-02	1.967E-01	3.199E-01	1.997E-02	-0.192
CM-243	+	209.75		1.394E+00	9.721E-01	1.371E+00	7.429E-02	1.017
		228.18		-6.942E-02	2.320E-01	3.677E-01	2.042E-02	-0.189
	+	277.60		2.331E-01	2.142E-01	2.993E-01	1.740E-02	0.779
		798.80		-6.699E-03	1.315E-01	1.888E-01	1.374E-02	-0.035
		1036.00		3.184E-01	2.662E-01	4.921E-01	3.793E-02	0.647
AM-246		1062.04		1.164E-01	1.931E-01	3.394E-01	2.501E-02	0.343
		1078.86	*	5.404E-02	1.326E-01	2.275E-01	1.623E-02	0.238
	+	278.00		9.590E-01	8.811E-01	1.230E+00	7.154E-02	0.780
		287.40		1.903E-01	1.167E+00	1.981E+00	1.158E-01	0.096
		402.60	*	6.712E-03	3.705E-02	6.216E-02	3.603E-03	0.108
CF-247		252.85		4.852E-01	8.618E-01	1.421E+00	8.101E-02	0.342
		333.44		-4.258E-03	2.651E-01	2.588E-01	1.529E-02	-0.016
		387.95	*	4.761E-02	3.860E-02	6.862E-02	3.971E-03	0.694
CF-249		176.60	*	5.471E-02	1.240E-01	2.052E-01	1.060E-02	0.267
		227.00		1.433E-01	3.912E-01	6.399E-01	3.548E-02	0.224
		285.00		6.438E-01	1.667E+00	2.860E+00	1.670E-01	0.225

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]G243274010      *
* Acquisition date   : 31-DEC-2009 14:37:09 Detector SN#                   *
* Detector ID        : GAM23 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 02:00:01.77 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243274010 Analyst initials: MXR1                  *
* Batch Number      : 935341 Sample Quantity : 1.4740E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*
*                                     QC DATA                               *
*
* Standard Weight   : 0.00000                                             *
* CALIB. DATE/TIME  : 2-JUN-2009 11:17:00 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.892E+01	1.995E+00	4.185E-01	0.000E+00
CD-109	2.403E+00	1.103E+00	1.415E+00	0.000E+00
SN-126	2.362E-01	1.084E-01	1.399E-01	0.000E+00
BA-137M	1.911E-01	6.370E-02	6.169E-02	0.000E+00
CS-137	2.020E-01	6.735E-02	6.522E-02	0.000E+00
TL-208	5.393E-01	8.071E-02	5.252E-02	0.000E+00
BI-211	3.253E+00	4.679E-01	3.186E-01	0.000E+00
PB-212	1.362E+00	1.377E-01	9.025E-02	0.000E+00
PO-212	1.362E+00	1.377E-01	9.025E-02	0.000E+00
BI-214	9.239E-01	1.778E-01	1.182E-01	0.000E+00
PB-214	1.132E+00	1.727E-01	1.131E-01	0.000E+00
PO-214	1.132E+00	1.727E-01	1.131E-01	0.000E+00
PO-216	1.362E+00	1.377E-01	9.025E-02	0.000E+00
PO-218	1.132E+00	1.727E-01	1.131E-01	0.000E+00
RA-224	3.711E+00	1.075E+00	1.027E+00	0.000E+00
RA-226	9.239E-01	1.778E-01	1.182E-01	0.000E+00
AC-228	1.297E+00	3.158E-01	2.138E-01	0.000E+00
RA-228	1.297E+00	3.158E-01	2.138E-01	0.000E+00
TH-228	1.383E+00	1.398E-01	9.162E-02	0.000E+00
TH-230	9.239E-01	1.778E-01	1.182E-01	0.000E+00
TH-232	1.297E+00	3.158E-01	2.138E-01	0.000E+00
TH-234	2.968E+00	1.832E+00	2.490E+00	0.000E+00
U-234	9.239E-01	1.778E-01	1.182E-01	0.000E+00
NP-237	6.937E-01	3.479E-01	4.581E-01	0.000E+00
U-238	2.968E+00	1.832E+00	2.490E+00	0.000E+00
AM-243	3.683E-01	8.428E-02	1.022E-01	0.000E+00
ANH-511	1.450E-01	6.441E-02	4.392E-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	-1.956E-01	3.219E-01	5.177E-01	0.000E+00	NOT IDENT.
NA-22	-4.975E-03	4.492E-02	7.455E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.671E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.443E-02	3.169E-02	4.907E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.309E-02	8.420E-02	0.000E+00	FAIL ABUN
SC-46	1.256E-02	3.576E-02	6.390E-02	0.000E+00	FAIL ABUN
V-48	4.557E-03	6.545E-02	1.131E-01	0.000E+00	NOT IDENT.
CR-51	2.172E-01	3.551E-01	6.214E-01	0.000E+00	NOT IDENT.
MN-52	-1.482E-01	2.144E-01	3.144E-01	0.000E+00	NOT IDENT.
MN-54	8.958E-03	3.658E-02	6.485E-02	0.000E+00	NOT IDENT.
CO-56	-9.735E-03	3.765E-02	6.396E-02	0.000E+00	FAIL ABUN
CO-57	-4.364E-02	2.446E-02	4.041E-02	0.000E+00	NOT IDENT.
CO-58	1.318E-03	3.676E-02	6.432E-02	0.000E+00	NOT IDENT.
FE-59	7.141E-02	8.104E-02	1.498E-01	0.000E+00	NOT IDENT.
CO-60	5.195E-03	3.206E-02	5.487E-02	0.000E+00	NOT IDENT.
ZN-65	3.717E-02	9.278E-02	1.430E-01	0.000E+00	NOT IDENT.
GE-68	-1.208E-01	1.151E+00	1.939E+00	0.000E+00	NOT IDENT.
AS-73	-4.632E-01	1.050E+00	1.920E+00	0.000E+00	NOT IDENT.
AS-74	2.846E-02	8.766E-02	1.535E-01	0.000E+00	NOT IDENT.
SE-75	-3.763E-02	4.951E-02	6.932E-02	0.000E+00	NOT IDENT.
BR-77	9.134E+00	1.104E+01	1.792E+01	0.000E+00	FAIL ABUN
SR-82	-2.963E-01	3.980E-01	5.980E-01	0.000E+00	NOT IDENT.
RB-83	5.093E-02	7.252E-02	1.164E-01	0.000E+00	NOT IDENT.
RB-84	-5.694E-02	6.654E-02	1.057E-01	0.000E+00	NOT IDENT.
KR-85	8.876E+00	6.562E+00	1.231E+01	0.000E+00	NOT IDENT.
SR-85	4.551E-02	3.364E-02	6.311E-02	0.000E+00	NOT IDENT.
RB-86	-3.566E-02	7.334E-01	1.243E+00	0.000E+00	NOT IDENT.
Y-88	3.568E-02	3.075E-02	6.278E-02	0.000E+00	NOT IDENT.
ZR-88	7.712E-03	3.015E-02	5.386E-02	0.000E+00	NOT IDENT.
Y-91	-8.982E+00	1.666E+01	2.651E+01	0.000E+00	NOT IDENT.
NB-94	2.227E-04	3.253E-02	5.488E-02	0.000E+00	NOT IDENT.
NB-95	7.979E-02	4.892E-02	8.289E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.526E-01	2.651E-01	0.000E+00	NOT IDENT.
ZR-95	5.071E-02	6.747E-02	1.206E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.109E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.004E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.031E+00	1.072E+01	1.861E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.748E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.604E-02	3.194E-02	5.597E-02	0.000E+00	NOT IDENT.
RH-102	8.113E-03	2.694E-02	4.778E-02	0.000E+00	FAIL ABUN
RU-103	-2.442E-02	3.926E-02	6.472E-02	0.000E+00	FAIL ABUN
RH-106	-2.010E-03	3.025E-01	5.147E-01	0.000E+00	FAIL ABUN
RU-106	-2.010E-03	3.025E-01	5.147E-01	0.000E+00	FAIL ABUN
AG-108M	-1.315E-02	3.018E-02	5.120E-02	0.000E+00	NOT IDENT.
AG-110M	5.025E-02	3.934E-02	6.554E-02	0.000E+00	NOT IDENT.
IN-111	5.432E-02	1.164E+00	1.749E+00	0.000E+00	NOT IDENT.
IN-113M	2.443E-02	4.421E-02	8.021E-02	0.000E+00	NOT IDENT.
SN-113	2.443E-02	4.421E-02	8.021E-02	0.000E+00	NOT IDENT.
IN-114M	-4.402E-02	1.993E-01	3.002E-01	0.000E+00	NOT IDENT.
CD-115	9.283E+00	1.046E+01	1.915E+01	0.000E+00	NOT IDENT.
SN-117M	-6.609E-04	5.463E-02	9.550E-02	0.000E+00	NOT IDENT.
SB-122	1.668E+00	1.903E+00	3.477E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.677E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.500E-03	2.832E-02	4.970E-02	0.000E+00	NOT IDENT.
I-124	2.981E-01	7.315E-01	1.125E+00	0.000E+00	NOT IDENT.
SB-124	-1.586E-02	7.426E-02	1.129E-01	0.000E+00	FAIL ABUN
SB-125	-3.511E-02	8.566E-02	1.458E-01	0.000E+00	FAIL ABUN
TE-125M	4.120E+00	8.947E+00	1.635E+01	0.000E+00	NOT IDENT.
I-126	-1.130E-03	2.053E-01	2.996E-01	0.000E+00	NOT IDENT.
SB-126	-5.498E-03	1.519E-01	2.191E-01	0.000E+00	NOT IDENT.
SB-127	-8.931E-01	1.205E+00	1.882E+00	0.000E+00	NOT IDENT.
XE-127	-1.944E-02	5.084E-02	7.994E-02	0.000E+00	NOT IDENT.
I-131	3.093E-02	1.064E-01	1.914E-01	0.000E+00	NOT IDENT.
TE-132	-2.055E-01	6.874E-01	1.168E+00	0.000E+00	NOT IDENT.
BA-133	2.147E-02	4.459E-02	7.135E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.889E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.964E-02	8.203E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.816E-01	3.049E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.280E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.002E-04	1.127E-01	1.924E-01	0.000E+00	FAIL ABUN
CE-139	-1.987E-02	2.867E-02	4.894E-02	0.000E+00	NOT IDENT.
BA-140	-6.545E-04	2.292E-01	3.945E-01	0.000E+00	NOT IDENT.
LA-140	-2.813E-02	8.208E-02	1.331E-01	0.000E+00	FAIL ABUN
CE-141	-5.849E-02	6.209E-02	1.059E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.840E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.143E-01	1.994E-01	3.461E-01	0.000E+00	NOT IDENT.
PM-144	1.324E-02	3.458E-02	6.010E-02	0.000E+00	NOT IDENT.
PR-144	8.975E-01	2.344E+00	4.073E+00	0.000E+00	NOT IDENT.

PM-146	1.291E-02	4.293E-02	7.437E-02	0.000E+00	NOT IDENT.
ND-147	1.762E-01	5.472E-01	9.639E-01	0.000E+00	FAIL ABUN
PM-149	9.354E+01	8.691E+01	1.623E+02	0.000E+00	NOT IDENT.
EU-152	-5.567E-02	1.055E-01	1.560E-01	0.000E+00	NOT IDENT.
GD-153	2.891E-02	8.295E-02	1.342E-01	0.000E+00	NOT IDENT.
EU-154	-1.158E-02	1.257E-01	2.090E-01	0.000E+00	NOT IDENT.
EU-155	-7.866E-03	1.055E-01	1.897E-01	0.000E+00	FAIL ABUN
TB-160	1.081E-01	1.259E-01	2.346E-01	0.000E+00	FAIL ABUN
HO-166M	-2.398E-02	5.680E-02	9.192E-02	0.000E+00	FAIL ABUN
TM-171	-9.475E+00	3.331E+01	5.331E+01	0.000E+00	NOT IDENT.
LU-176	7.055E-03	2.569E-02	4.086E-02	0.000E+00	FAIL ABUN
LU-177	1.992E+00	1.362E+00	2.028E+00	0.000E+00	FAIL ABUN
LU-177M	-3.302E-01	1.759E-01	2.711E-01	0.000E+00	FAIL ABUN
HF-181	1.612E-03	4.169E-02	7.254E-02	0.000E+00	NOT IDENT.
W-181	4.119E-01	4.398E-01	7.423E-01	0.000E+00	NOT IDENT.
TA-182	-8.986E-02	1.840E-01	2.953E-01	0.000E+00	NOT IDENT.
RE-183	-1.273E-02	1.088E-01	1.892E-01	0.000E+00	FAIL ABUN
RE-184	1.293E-01	2.251E-01	3.970E-01	0.000E+00	NOT IDENT.
OS-185	1.164E-03	4.015E-02	6.831E-02	0.000E+00	NOT IDENT.
RE-188	1.454E-02	1.612E-01	2.857E-01	0.000E+00	NOT IDENT.
W-188	-1.089E+01	7.791E+00	1.090E+01	0.000E+00	FAIL ABUN
IR-192	-4.115E-02	3.270E-02	5.435E-02	0.000E+00	FAIL ABUN
AU-195	1.769E-01	2.219E-01	3.993E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.390E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.194E+00	6.716E+00	1.134E+01	0.000E+00	NOT IDENT.
TL-202	2.016E-02	6.207E-02	1.108E-01	0.000E+00	NOT IDENT.
HG-203	2.301E-02	4.191E-02	6.819E-02	0.000E+00	NOT IDENT.
BI-207	9.694E-03	4.478E-02	7.816E-02	0.000E+00	FAIL ABUN
TL-207	-3.762E-01	7.116E-01	1.056E+00	0.000E+00	FAIL ABUN
PO-209	-1.501E+00	6.444E+00	1.089E+01	0.000E+00	NOT IDENT.
BI-210	1.339E+00	5.164E+00	9.661E+00	0.000E+00	NOT IDENT.
PB-210	1.339E+00	5.164E+00	9.661E+00	0.000E+00	NOT IDENT.
PO-210	1.339E+00	5.164E+00	9.661E+00	0.000E+00	NOT IDENT.
PB-211	2.697E-03	9.514E-01	1.672E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.496E-01	6.133E-01	0.000E+00	FAIL ABUN
PO-215	-3.762E-01	7.116E-01	1.056E+00	0.000E+00	FAIL ABUN
RN-219	1.146E-02	3.951E-01	6.957E-01	0.000E+00	FAIL ABUN
RN-220	1.752E+01	2.613E+01	4.702E+01	0.000E+00	NOT IDENT.
RA-223	-3.762E-01	7.116E-01	1.056E+00	0.000E+00	FAIL ABUN
AC-227	-7.616E-02	3.768E-01	6.381E-01	0.000E+00	FAIL ABUN
TH-227	-7.616E-02	3.769E-01	6.381E-01	0.000E+00	FAIL ABUN
TH-229	-1.458E-01	4.906E-01	8.438E-01	0.000E+00	FAIL ABUN
PA-231	-3.244E-01	1.479E+00	2.562E+00	0.000E+00	FAIL ABUN
TH-231	-3.762E-01	7.116E-01	1.056E+00	0.000E+00	FAIL ABUN
U-231	-9.264E-01	1.159E+00	1.765E+00	0.000E+00	FAIL ABUN
PA-233	2.799E-02	5.958E-02	1.090E-01	0.000E+00	FAIL ABUN
PA-234	2.044E-01	3.113E-01	5.618E-01	0.000E+00	FAIL ABUN
PA-234M	1.433E+00	4.367E+00	7.541E+00	0.000E+00	NOT IDENT.
U-235	8.212E-02	2.110E-01	3.718E-01	0.000E+00	FAIL ABUN
NP-236	-2.034E-02	7.925E-02	1.371E-01	0.000E+00	NOT IDENT.
NP-239	-5.959E-02	1.873E-01	3.318E-01	0.000E+00	FAIL ABUN
AM-241	6.963E-02	1.972E-01	3.272E-01	0.000E+00	NOT IDENT.
CM-243	7.500E-02	9.316E-02	1.727E-01	0.000E+00	FAIL ABUN
AM-246	5.404E-02	1.299E-01	2.306E-01	0.000E+00	NOT IDENT.
CM-247	6.712E-03	3.631E-02	6.449E-02	0.000E+00	FAIL ABUN
CF-249	4.761E-02	3.783E-02	7.126E-02	0.000E+00	NOT IDENT.
CF-251	5.471E-02	1.215E-01	2.169E-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]G243274010.CNF;1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 14:37:09
Sample ID        : G243274010 Sample quantity : 1.47400E+02 GRAM
Detector name    : GAM23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.77 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 935341 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	791	10.67*	9.973E-01	1.892E+01	1.892E+01	10.76
CD-109	88.03	180	3.72*	5.238E+00	2.349E+00	2.403E+00	46.84
SN-126	64.28	115	9.60	2.602E+00	1.175E+00	1.175E+00	62.24
	86.94	180	8.90	5.238E+00	9.820E-01	9.820E-01	61.89
	87.57	180	37.00*	5.238E+00	2.362E-01	2.362E-01	46.84
BA-137M	661.65	138	89.98*	2.042E+00	1.909E-01	1.911E-01	34.02
CS-137	661.65	138	85.12*	2.042E+00	2.018E-01	2.020E-01	34.02
TL-208	277.35	53	6.80	4.144E+00	4.795E-01	4.795E-01	92.30
	510.84	145	21.60	2.545E+00	6.711E-01	6.711E-01	46.10
	583.14	406	84.20*	2.278E+00	5.393E-01	5.393E-01	15.27
	860.37	48	12.46	1.609E+00	6.069E-01	6.069E-01	66.85
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	569	12.94*	3.440E+00	3.253E+00	3.253E+00	14.68
PB-212	74.81	385	10.70	4.038E+00	2.272E+00	2.272E+00	25.15
	77.11	541	18.00	4.294E+00	1.783E+00	1.783E+00	16.47
	87.30	180	8.00	5.238E+00	1.093E+00	1.093E+00	47.89
	238.63	1107	44.60*	4.637E+00	1.362E+00	1.362E+00	10.31
	300.09	58	3.41	3.894E+00	1.112E+00	1.112E+00	109.03
PO-212	74.81	385	10.70	4.038E+00	2.272E+00	2.272E+00	25.15
	77.11	541	18.00	4.294E+00	1.783E+00	1.783E+00	16.47
	87.30	180	8.00	5.238E+00	1.093E+00	1.093E+00	47.89
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	1107	44.60*	4.637E+00	1.362E+00	1.362E+00	10.31
	300.09	58	3.41	3.894E+00	1.112E+00	1.112E+00	109.03
BI-214	609.31	368	46.30*	2.193E+00	9.239E-01	9.239E-01	19.64
	1120.29	86	15.10	1.259E+00	1.159E+00	1.159E+00	47.28
	1764.49	69	15.80	8.743E-01	1.269E+00	1.269E+00	31.90
PB-214	74.81	385	6.21	4.038E+00	3.914E+00	3.914E+00	24.50
	77.11	541	10.50	4.294E+00	3.056E+00	3.056E+00	18.15
	87.30	180	4.67	5.238E+00	1.872E+00	1.872E+00	47.47
	241.98	265	7.49	4.595E+00	1.957E+00	1.957E+00	30.08
	295.21	411	19.20	3.949E+00	1.381E+00	1.381E+00	18.18

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	569	37.20*	3.440E+00	1.132E+00	1.132E+00	15.58
	74.81	385	6.21	4.038E+00	3.914E+00	3.914E+00	24.50
	77.11	541	10.50	4.294E+00	3.056E+00	3.056E+00	18.15
	87.30	180	4.67	5.238E+00	1.872E+00	1.872E+00	47.47
	241.98	265	7.49	4.595E+00	1.957E+00	1.957E+00	30.08
PO-216	295.21	411	19.20	3.949E+00	1.381E+00	1.381E+00	18.18
	351.92	569	37.20*	3.440E+00	1.132E+00	1.132E+00	15.58
	74.81	385	10.70	4.038E+00	2.272E+00	2.272E+00	25.15
	77.11	541	18.00	4.294E+00	1.783E+00	1.783E+00	16.47
	87.30	180	8.00	5.238E+00	1.093E+00	1.093E+00	47.89
PO-218	238.63	1107	44.60*	4.637E+00	1.362E+00	1.362E+00	10.31
	300.09	58	3.41	3.894E+00	1.112E+00	1.112E+00	109.03
	74.81	385	6.21	4.038E+00	3.914E+00	3.914E+00	24.50
	77.11	541	10.50	4.294E+00	3.056E+00	3.056E+00	18.15
	87.30	180	4.67	5.238E+00	1.872E+00	1.872E+00	47.47
RA-224	241.98	265	7.49	4.595E+00	1.957E+00	1.957E+00	30.08
	295.21	411	19.20	3.949E+00	1.381E+00	1.381E+00	18.18
	351.92	569	37.20*	3.440E+00	1.132E+00	1.132E+00	15.58
	240.98	265	3.95*	4.595E+00	3.711E+00	3.711E+00	29.55
	609.31	368	46.30*	2.193E+00	9.239E-01	9.239E-01	19.64
AC-228	1120.29	86	15.10	1.259E+00	1.159E+00	1.159E+00	47.28
	1764.49	69	15.80	8.743E-01	1.269E+00	1.269E+00	31.90
	338.32	181	11.40	3.549E+00	1.141E+00	1.141E+00	54.57
	911.07	215	27.70*	1.526E+00	1.297E+00	1.297E+00	24.85
	969.11	104	16.60	1.441E+00	1.102E+00	1.102E+00	47.08
TH-228	338.32	181	11.40	3.549E+00	1.141E+00	1.141E+00	54.57
	911.07	215	27.70*	1.526E+00	1.297E+00	1.297E+00	24.85
	969.11	104	16.60	1.441E+00	1.102E+00	1.102E+00	47.08
	74.81	385	10.70	4.038E+00	2.272E+00	2.306E+00	23.38
	77.11	541	18.00	4.294E+00	1.783E+00	1.810E+00	16.47
TH-230	87.30	180	8.00	5.238E+00	1.093E+00	1.109E+00	46.84
	238.63	1107	44.60*	4.637E+00	1.362E+00	1.383E+00	10.31
	300.09	58	3.41	3.894E+00	1.112E+00	1.129E+00	123.67
	609.31	368	46.30*	2.193E+00	9.239E-01	9.239E-01	19.64
	1120.29	86	15.10	1.259E+00	1.159E+00	1.159E+00	47.28
TH-232	1764.49	69	15.80	8.743E-01	1.269E+00	1.269E+00	31.90
	338.32	181	11.40	3.549E+00	1.141E+00	1.141E+00	36.73
	911.07	215	27.70*	1.526E+00	1.297E+00	1.297E+00	24.85
	969.11	104	16.60	1.441E+00	1.102E+00	1.102E+00	47.08
	63.29	115	3.80*	2.602E+00	2.968E+00	2.968E+00	62.98
U-234	92.38	313	5.41	5.557E+00	2.652E+00	2.652E+00	40.92
	609.31	368	46.30*	2.193E+00	9.239E-01	9.239E-01	19.64
	1120.29	86	15.10	1.259E+00	1.159E+00	1.159E+00	47.28
	1764.49	69	15.80	8.743E-01	1.269E+00	1.269E+00	31.90
	86.50	180	12.60*	5.238E+00	6.937E-01	6.937E-01	51.18
NP-237	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	115	3.80*	2.602E+00	2.968E+00	2.968E+00	62.98
	92.38	313	5.41	5.557E+00	2.652E+00	2.652E+00	37.70
AM-243	74.67	385	66.00*	4.038E+00	3.683E-01	3.683E-01	23.35

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	180	0.34	5.238E+00	2.601E+01	2.601E+01	46.84
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	145	100.00*	2.545E+00	1.450E-01	1.450E-01	45.34

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	1.892E+01	1.892E+01	0.204E+01	10.76	
CD-109	464.00D	1.02	2.349E+00	2.403E+00	1.126E+00	46.84	
SN-126	1.00E+05Y	1.00	2.362E-01	2.362E-01	1.106E-01	46.84	
BA-137M	30.17Y	1.00	1.909E-01	1.911E-01	0.650E-01	34.02	
CS-137	30.17Y	1.00	2.018E-01	2.020E-01	0.687E-01	34.02	
TL-208	1.41E+10Y	1.00	5.393E-01	5.393E-01	0.824E-01	15.27	
BI-211	7.04E+08Y	1.00	3.253E+00	3.253E+00	0.477E+00	14.68	
PB-212	1.41E+10Y	1.00	1.362E+00	1.362E+00	0.140E+00	10.31	
PO-212	1.41E+10Y	1.00	1.362E+00	1.362E+00	0.140E+00	10.31	
BI-214	1600.00Y	1.00	9.239E-01	9.239E-01	1.815E-01	19.64	
PB-214	1600.00Y	1.00	1.132E+00	1.132E+00	0.176E+00	15.58	
PO-214	1600.00Y	1.00	1.132E+00	1.132E+00	0.176E+00	15.58	
PO-216	1.41E+10Y	1.00	1.362E+00	1.362E+00	0.140E+00	10.31	
PO-218	1600.00Y	1.00	1.132E+00	1.132E+00	0.176E+00	15.58	
RA-224	1.41E+10Y	1.00	3.711E+00	3.711E+00	1.096E+00	29.55	
RA-226	1600.00Y	1.00	9.239E-01	9.239E-01	1.815E-01	19.64	
AC-228	1.41E+10Y	1.00	1.297E+00	1.297E+00	0.322E+00	24.85	
RA-228	1.41E+10Y	1.00	1.297E+00	1.297E+00	0.322E+00	24.85	
TH-228	1.91Y	1.02	1.362E+00	1.383E+00	0.143E+00	10.31	
TH-230	4.47E+09Y	1.00	9.239E-01	9.239E-01	1.815E-01	19.64	
TH-232	1.41E+10Y	1.00	1.297E+00	1.297E+00	0.322E+00	24.85	
TH-234	4.47E+09Y	1.00	2.968E+00	2.968E+00	1.869E+00	62.98	
U-234	4.47E+09Y	1.00	9.239E-01	9.239E-01	1.815E-01	19.64	
NP-237	2.14E+06Y	1.00	6.937E-01	6.937E-01	3.550E-01	51.18	
U-238	4.47E+09Y	1.00	2.968E+00	2.968E+00	1.869E+00	62.98	
AM-243	7380.00Y	1.00	3.683E-01	3.683E-01	0.860E-01	23.35	
ANH-511	1.00E+09Y	1.00	1.450E-01	1.450E-01	0.657E-01	45.34	
Total Activity :			5.297E+01	5.305E+01			

Grand Total Activity : 5.297E+01 5.305E+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	185.78	157	305	1.08	371.55	367	9	2.18E-02	45.3	5.49E+00	T
0	209.17	92	282	0.75	418.35	413	9	1.27E-02	69.5	5.09E+00	T
0	269.98	110	215	1.08	539.97	535	10	1.53E-02	53.4	4.23E+00	T
0	327.73	87	165	0.99	655.46	649	12	1.21E-02	62.6	3.64E+00	T
0	462.80	118	127	1.46	925.59	918	16	1.64E-02	46.5	2.76E+00	T
0	726.13	74	71	1.69	1452.27	1446	14	1.03E-02	53.3	1.88E+00	T
0	768.09	48	89	1.68	1536.19	1529	15	6.65E-03	91.0	1.79E+00	T
0	794.61	54	41	0.82	1589.21	1581	14	7.47E-03	57.8	1.73E+00	T
0	1237.12	39	48	1.72	2474.23	2465	14	5.44E-03	84.1	1.15E+00	T
0	1700.33	13	5	1.28	3400.67	3394	11	1.77E-03	90.1	8.94E-01	

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]G243274010.CNF;1
* Acquisition date   : 31-DEC-2009 14:37:09   Detector SN#      :
* Detector ID        : GAM23                  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 02:00:01.77           Half life ratio : 8.00000
*****
*                               SAMPLE DATA                                *
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G243274010             Analyst initials: MXR1
* Batch Number       : 935341                 Sample Quantity  : 1.47400E+02 GRAM
*****
*                               QC DATA                                  *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00.62MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.892E+01	2.035E+00	4.160E-01	3.111E-02	45.485
CD-109	2.403E+00	1.126E+00	1.318E+00	1.286E-01	1.824
SN-126	2.362E-01	1.106E-01	1.303E-01	1.268E-02	1.813
BA-137M	1.911E-01	6.500E-02	6.016E-02	3.073E-03	3.177
CS-137	2.020E-01	6.872E-02	6.359E-02	3.266E-03	3.177
TL-208	5.393E-01	8.236E-02	5.106E-02	3.315E-03	10.561
BI-211	3.253E+00	4.774E-01	3.061E-01	1.995E-02	10.627
PB-212	1.362E+00	1.405E-01	8.595E-02	6.179E-03	15.852
PO-212	1.362E+00	1.405E-01	8.595E-02	6.179E-03	15.852
BI-214	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
PB-214	1.132E+00	1.763E-01	1.087E-01	9.073E-03	10.410
PO-214	1.132E+00	1.763E-01	1.087E-01	9.073E-03	10.410
PO-216	1.362E+00	1.405E-01	8.595E-02	6.179E-03	15.852
PO-218	1.132E+00	1.763E-01	1.087E-01	9.073E-03	10.410
RA-224	3.711E+00	1.096E+00	9.782E-01	5.512E-02	3.793
RA-226	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
AC-228	1.297E+00	3.222E-01	2.101E-01	2.424E-02	6.172
RA-228	1.297E+00	3.222E-01	2.101E-01	2.424E-02	6.172

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.383E+00	1.426E-01	8.725E-02	6.273E-03	15.852
TH-230	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
TH-232	1.297E+00	3.222E-01	2.101E-01	2.424E-02	6.172
TH-234	2.968E+00	1.869E+00	2.303E+00	4.150E-01	1.289
U-234	9.239E-01	1.815E-01	1.150E-01	8.645E-03	8.034
NP-237	6.937E-01	3.550E-01	4.266E-01	9.715E-02	1.626
U-238	2.968E+00	1.869E+00	2.303E+00	4.150E-01	1.289
AM-243	3.683E-01	8.600E-02	9.486E-02	8.430E-03	3.883
ANH-511	1.450E-01	6.573E-02	4.256E-02	2.472E-03	3.406

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.956E-01		3.285E-01	5.010E-01	3.405E-02	-0.391
NA-22	-4.975E-03		4.584E-02	7.385E-02	4.959E-03	-0.067
NA-24	6.720E-01		2.894E-01	Half-Life too short		
AL-26	-1.443E-02		3.234E-02	4.903E-02	2.947E-03	-0.294
TI-44	3.290E-01	+	5.418E-02	7.824E-02	7.092E-03	4.205
SC-46	1.256E-02		3.649E-02	6.275E-02	5.606E-03	0.200
V-48	4.557E-03		6.678E-02	1.114E-01	9.266E-03	0.041
CR-51	2.172E-01		3.624E-01	5.958E-01	3.907E-02	0.365
MN-52	-1.482E-01		2.188E-01	3.123E-01	2.260E-02	-0.475
MN-54	8.958E-03		3.733E-02	6.359E-02	5.035E-03	0.141
CO-56	-9.735E-03		3.841E-02	6.274E-02	5.104E-03	-0.155
CO-57	-4.364E-02		2.496E-02	3.791E-02	2.235E-03	-1.151
CO-58	1.318E-03		3.751E-02	6.302E-02	4.735E-03	0.021
FE-59	7.141E-02		8.269E-02	1.479E-01	1.139E-02	0.483
CO-60	5.195E-03		3.271E-02	5.442E-02	3.995E-03	0.095
ZN-65	3.717E-02		9.468E-02	1.412E-01	9.325E-03	0.263
GE-68	-1.208E-01		1.174E+00	1.913E+00	1.369E-01	-0.063
AS-73	-4.632E-01		1.071E+00	1.769E+00	1.562E-01	-0.262
AS-74	2.846E-02		8.945E-02	1.493E-01	8.232E-03	0.191
SE-75	-3.763E-02		5.052E-02	6.617E-02	3.851E-03	-0.569
BR-77	9.134E+00		1.127E+01	1.737E+01	1.006E+00	0.526
SR-82	-2.963E-01		4.061E-01	5.854E-01	4.038E-02	-0.506
RB-83	5.093E-02		7.400E-02	1.128E-01	6.533E-03	0.451
RB-84	-5.694E-02		6.790E-02	1.038E-01	9.120E-03	-0.549
KR-85	8.876E+00		6.696E+00	1.193E+01	6.923E-01	0.744
SR-85	4.551E-02		3.433E-02	6.117E-02	3.550E-03	0.744
RB-86	-3.566E-02		7.484E-01	1.227E+00	8.792E-02	-0.029
Y-88	3.568E-02		3.138E-02	6.276E-02	3.695E-03	0.569
ZR-88	7.712E-03		3.077E-02	5.188E-02	2.995E-03	0.149
Y-91	-8.982E+00		1.700E+01	2.623E+01	1.565E+00	-0.342
NB-94	2.227E-04		3.320E-02	5.359E-02	3.062E-03	0.004
NB-95	7.979E-02		4.992E-02	8.111E-02	5.450E-03	0.984
NB-95M	5.445E-01		1.557E-01	2.523E-01	1.861E-02	2.158
ZR-95	5.071E-02		6.885E-02	1.179E-01	9.049E-03	0.430

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.687E-01		5.658E-02	Half-Life too short		
ZR-97	6.337E+00		1.022E+00	Half-Life too short		
MO-99	4.031E+00		1.094E+01	1.819E+01	2.546E+00	0.222
TC-99M	2.015E+10		1.912E+10	Half-Life too short		
RH-101	1.604E-02		3.259E-02	5.308E-02	2.830E-03	0.302
RH-102	8.113E-03		2.749E-02	4.623E-02	2.706E-03	0.175
RU-103	-2.442E-02		4.006E-02	6.268E-02	7.935E-03	-0.390
RH-106	-2.010E-03		3.087E-01	5.011E-01	5.779E-02	-0.004
RU-106	-2.010E-03		3.087E-01	5.011E-01	2.693E-02	-0.004
AG-108M	-1.315E-02		3.080E-02	4.943E-02	3.134E-03	-0.266
AG-110M	5.025E-02		4.014E-02	6.390E-02	3.551E-03	0.786
IN-111	5.432E-02		1.188E+00	1.666E+00	9.432E-02	0.033
IN-113M	2.443E-02		4.511E-02	7.726E-02	4.760E-03	0.316
SN-113	2.443E-02		4.511E-02	7.726E-02	4.760E-03	0.316
IN-114M	-4.020E-02		2.033E-01	2.844E-01	1.499E-02	-0.141
CD-115	9.283E+00		1.068E+01	1.858E+01	1.072E+00	0.500
SN-117M	-6.609E-04		5.574E-02	9.011E-02	4.683E-03	-0.007
SB-122	1.668E+00		1.942E+00	3.378E+00	1.910E-01	0.494
I-123	5.010E-01		2.897E+00	Half-Life too short		
TE-123M	2.500E-03		2.890E-02	4.690E-02	2.475E-03	0.053
I-124	2.981E-01		7.465E-01	1.095E+00	6.000E-02	0.272
SB-124	-1.586E-02		7.577E-02	1.126E-01	7.853E-03	-0.141
SB-125	-3.511E-02		8.741E-02	1.407E-01	8.562E-03	-0.249
TE-125M	4.120E+00		9.130E+00	1.531E+01	1.365E+00	0.269
I-126	-1.130E-03		2.094E-01	2.922E-01	1.512E-02	-0.004
SB-126	-5.498E-03		1.550E-01	2.141E-01	1.282E-02	-0.026
SB-127	-8.931E-01		1.229E+00	1.837E+00	1.693E-01	-0.486
XE-127	-1.944E-02		5.188E-02	7.585E-02	4.072E-03	-0.256
I-131	3.093E-02		1.085E-01	1.841E-01	1.202E-02	0.168
TE-132	-2.055E-01		7.014E-01	1.111E+00	1.585E-01	-0.185
BA-133	2.147E-02		4.550E-02	6.857E-02	7.956E-03	0.313
I-133	1.427E-03		3.005E-03	Half-Life too short		
CS-134	1.044E-01	+	6.086E-02	8.034E-02	5.867E-03	1.299
CS-135	3.819E-01		1.853E-01	2.912E-01	2.224E-02	1.312
I-135	4.163E+09		2.694E+09	Half-Life too short		
CS-136	-6.002E-04		1.150E-01	1.897E-01	1.512E-02	-0.003
CE-139	-1.987E-02		2.925E-02	4.623E-02	2.357E-03	-0.430
BA-140	-6.545E-04		2.339E-01	3.828E-01	1.245E-01	-0.002
LA-140	-2.813E-02		8.375E-02	1.326E-01	9.099E-03	-0.212
CE-141	-5.849E-02		6.336E-02	9.976E-02	5.626E-03	-0.586
CE-143	1.063E-03		1.449E-04	Half-Life too short		
CE-144	-1.143E-01		2.035E-01	3.253E-01	4.594E-02	-0.351
PM-144	1.324E-02		3.529E-02	5.868E-02	3.301E-03	0.226
PR-144	8.975E-01		2.391E+00	3.976E+00	2.235E-01	0.226
PM-146	1.291E-02		4.381E-02	7.188E-02	6.225E-03	0.180
ND-147	1.762E-01		5.583E-01	9.350E-01	1.263E-01	0.188
PM-149	9.354E+01		8.869E+01	1.552E+02	2.202E+01	0.603
EU-152	-5.567E-02		1.076E-01	1.498E-01	9.931E-03	-0.372

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	2.891E-02		8.464E-02	1.253E-01	1.024E-02	0.231
EU-154	-1.158E-02		1.283E-01	2.071E-01	2.056E-02	-0.056
EU-155	-7.866E-03		1.077E-01	1.774E-01	1.308E-02	-0.044
TB-160	1.081E-01		1.284E-01	2.303E-01	2.014E-02	0.470
HO-166M	-2.398E-02		5.796E-02	8.979E-02	5.255E-03	-0.267
TM-171	-9.475E+00		3.399E+01	4.936E+01	4.293E+00	-0.192
LU-176	7.055E-03		2.621E-02	3.914E-02	2.306E-03	0.180
LU-177	1.992E+00	+	1.389E+00	1.926E+00	1.042E-01	1.034
LU-177M	-3.302E-01		1.795E-01	2.614E-01	1.521E-02	-1.263
HF-181	1.612E-03		4.254E-02	7.020E-02	4.106E-03	0.023
W-181	4.119E-01		4.488E-01	6.870E-01	5.969E-02	0.599
TA-182	-8.986E-02		1.878E-01	2.922E-01	1.794E-02	-0.307
RE-183	-1.273E-02		1.111E-01	1.786E-01	9.188E-03	-0.071
RE-184	1.293E-01		2.297E-01	3.786E-01	2.159E-02	0.342
OS-185	1.164E-03		4.097E-02	6.657E-02	3.474E-03	0.017
RE-188	1.454E-02		1.645E-01	2.695E-01	1.414E-02	0.054
W-188	-1.089E+01		7.950E+00	1.043E+01	6.108E-01	-1.044
IR-192	-4.115E-02		3.337E-02	5.210E-02	3.090E-03	-0.790
AU-195	1.769E-01		2.264E-01	3.729E-01	2.975E-02	0.474
TL-200	3.375E-04		2.240E-04	Half-Life	too short	
TL-201	-6.194E+00		6.853E+00	1.071E+01	5.466E-01	-0.578
TL-202	2.016E-02		6.334E-02	1.070E-01	6.262E-03	0.188
HG-203	2.301E-02		4.277E-02	6.517E-02	4.026E-03	0.353
BI-207	9.694E-03		4.570E-02	7.709E-02	5.663E-03	0.126
TL-207	-3.762E-01		7.261E-01	1.013E+00	1.677E-01	-0.371
PO-209	-1.501E+00		6.576E+00	1.069E+01	9.706E-01	-0.140
BI-210	1.339E+00		5.269E+00	8.877E+00	6.912E-01	0.151
PB-210	1.339E+00		5.269E+00	8.877E+00	6.912E-01	0.151
PO-210	1.339E+00		5.269E+00	8.877E+00	5.956E-01	0.151
PB-211	2.697E-03		9.708E-01	1.612E+00	1.005E+00	0.002
BI-212	8.514E-01	+	4.587E-01	5.993E-01	4.757E-02	1.421
PO-215	-3.762E-01		7.261E-01	1.013E+00	1.677E-01	-0.371
RN-219	1.146E-02		4.031E-01	6.705E-01	9.121E-02	0.017
RN-220	1.752E+01		2.667E+01	4.565E+01	2.605E+00	0.384
RA-223	-3.762E-01		7.261E-01	1.013E+00	1.677E-01	-0.371
AC-227	-7.616E-02		3.845E-01	6.087E-01	8.477E-02	-0.125
TH-227	-7.616E-02		3.846E-01	6.087E-01	1.027E-01	-0.125
TH-229	-1.458E-01		5.006E-01	7.998E-01	4.236E-02	-0.182
PA-231	-3.244E-01		1.509E+00	2.450E+00	3.380E-01	-0.132
TH-231	-3.762E-01		7.261E-01	1.013E+00	1.677E-01	-0.371
U-231	-9.264E-01		1.182E+00	1.647E+00	1.382E-01	-0.562
PA-233	2.799E-02		6.080E-02	1.045E-01	6.532E-03	0.268
PA-234	2.044E-01		3.177E-01	5.526E-01	1.039E-01	0.370
PA-234M	1.433E+00		4.456E+00	7.427E+00	7.087E-01	0.193
U-235	8.212E-02		2.153E-01	3.501E-01	5.662E-02	0.235
NP-236	-2.034E-02		8.087E-02	1.294E-01	6.692E-03	-0.157
NP-239	-5.959E-02		1.911E-01	3.110E-01	1.941E-02	-0.192
AM-241	6.963E-02		2.013E-01	3.022E-01	2.812E-02	0.230

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	7.500E-02		9.506E-02	1.614E-01	1.196E-02	0.465
AM-246	5.404E-02		1.326E-01	2.275E-01	1.623E-02	0.238
CM-247	6.712E-03		3.705E-02	6.216E-02	3.603E-03	0.108
CF-249	4.761E-02		3.860E-02	6.862E-02	3.971E-03	0.694
CF-251	5.471E-02		1.240E-01	2.052E-01	1.060E-02	0.267

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]G243274010          *
* Acquisition date   : 31-DEC-2009 14:37:09 Detector SN# :                  *
* Detector ID        : GAM23 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 02:00:01.77 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G243274010 Analyst initials: MXR1                 *
* Batch Number       : 935341 Sample Quantity : 1.4740E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.892E+01	1.995E+00	2.094E-01	1.018E+00
CD-109	2.403E+00	1.103E+00	7.077E-01	5.628E-01
SN-126	2.362E-01	1.084E-01	6.999E-02	5.532E-02
BA-137M	1.911E-01	6.370E-02	3.087E-02	3.250E-02
CS-137	2.020E-01	6.735E-02	3.263E-02	3.436E-02
TL-208	5.393E-01	8.071E-02	2.628E-02	4.118E-02
BI-211	3.253E+00	4.679E-01	1.594E-01	2.387E-01
PB-212	1.362E+00	1.377E-01	4.515E-02	7.025E-02
PO-212	1.362E+00	1.377E-01	4.515E-02	7.025E-02
BI-214	9.239E-01	1.778E-01	5.912E-02	9.073E-02
PB-214	1.132E+00	1.727E-01	5.660E-02	8.813E-02
PO-214	1.132E+00	1.727E-01	5.660E-02	8.813E-02
PO-216	1.362E+00	1.377E-01	4.515E-02	7.025E-02
PO-218	1.132E+00	1.727E-01	5.660E-02	8.813E-02
RA-224	3.711E+00	1.075E+00	5.138E-01	5.482E-01
RA-226	9.239E-01	1.778E-01	5.912E-02	9.073E-02
AC-228	1.297E+00	3.158E-01	1.070E-01	1.611E-01
RA-228	1.297E+00	3.158E-01	1.070E-01	1.611E-01
TH-228	1.383E+00	1.398E-01	4.584E-02	7.131E-02
TH-230	9.239E-01	1.778E-01	5.912E-02	9.073E-02
TH-232	1.297E+00	3.158E-01	1.070E-01	1.611E-01
TH-234	2.968E+00	1.832E+00	1.246E+00	9.346E-01
U-234	9.239E-01	1.778E-01	5.912E-02	9.073E-02
NP-237	6.937E-01	3.479E-01	2.292E-01	1.775E-01
U-238	2.968E+00	1.832E+00	1.246E+00	9.346E-01
AM-243	3.683E-01	8.428E-02	5.113E-02	4.300E-02
ANH-511	1.450E-01	6.441E-02	2.197E-02	3.286E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-1.956E-01	3.219E-01	2.590E-01	1.642E-01	NOT IDENT.
NA-22	-4.975E-03	4.492E-02	3.730E-02	2.292E-02	NOT IDENT.
NA-24	6.720E+05	5.671E+05	0.000E+00	2.894E+05	SHORT HLIF
AL-26	-1.443E-02	3.169E-02	2.455E-02	1.617E-02	NOT IDENT.
TI-44	3.290E-01	5.309E-02	4.213E-02	2.709E-02	FAIL ABUN
SC-46	1.256E-02	3.576E-02	3.197E-02	1.825E-02	FAIL ABUN
V-48	4.557E-03	6.545E-02	5.660E-02	3.339E-02	NOT IDENT.
CR-51	2.172E-01	3.551E-01	3.109E-01	1.812E-01	NOT IDENT.
MN-52	-1.482E-01	2.144E-01	1.573E-01	1.094E-01	NOT IDENT.
MN-54	8.958E-03	3.658E-02	3.245E-02	1.867E-02	NOT IDENT.
CO-56	-9.735E-03	3.765E-02	3.200E-02	1.921E-02	FAIL ABUN
CO-57	-4.364E-02	2.446E-02	2.022E-02	1.248E-02	NOT IDENT.
CO-58	1.318E-03	3.676E-02	3.218E-02	1.876E-02	NOT IDENT.
FE-59	7.141E-02	8.104E-02	7.494E-02	4.135E-02	NOT IDENT.
CO-60	5.195E-03	3.206E-02	2.745E-02	1.636E-02	NOT IDENT.
ZN-65	3.717E-02	9.278E-02	7.154E-02	4.734E-02	NOT IDENT.
GE-68	-1.208E-01	1.151E+00	9.701E-01	5.871E-01	NOT IDENT.
AS-73	-4.632E-01	1.050E+00	9.604E-01	5.355E-01	NOT IDENT.
AS-74	2.846E-02	8.766E-02	7.677E-02	4.473E-02	NOT IDENT.
SE-75	-3.763E-02	4.951E-02	3.468E-02	2.526E-02	NOT IDENT.
BR-77	9.134E+00	1.104E+01	8.965E+00	5.635E+00	FAIL ABUN
SR-82	-2.963E-01	3.980E-01	2.992E-01	2.031E-01	NOT IDENT.
RB-83	5.093E-02	7.252E-02	5.823E-02	3.700E-02	NOT IDENT.
RB-84	-5.694E-02	6.654E-02	5.289E-02	3.395E-02	NOT IDENT.
KR-85	8.876E+00	6.562E+00	6.158E+00	3.348E+00	NOT IDENT.
SR-85	4.551E-02	3.364E-02	3.157E-02	1.716E-02	NOT IDENT.
RB-86	-3.566E-02	7.334E-01	6.221E-01	3.742E-01	NOT IDENT.
Y-88	3.568E-02	3.075E-02	3.141E-02	1.569E-02	NOT IDENT.
ZR-88	7.712E-03	3.015E-02	2.695E-02	1.539E-02	NOT IDENT.
Y-91	-8.982E+00	1.666E+01	1.326E+01	8.501E+00	NOT IDENT.
NB-94	2.227E-04	3.253E-02	2.745E-02	1.660E-02	NOT IDENT.
NB-95	7.979E-02	4.892E-02	4.147E-02	2.496E-02	NOT IDENT.
NB-95M	5.445E-01	1.526E-01	1.326E-01	7.785E-02	NOT IDENT.
ZR-95	5.071E-02	6.747E-02	6.032E-02	3.442E-02	NOT IDENT.
NB-97	1.687E+05	1.109E+05	0.000E+00	5.658E+04	SHORT HLIF
ZR-97	6.337E+06	2.004E+06	0.000E+00	1.022E+06	SHORT HLIF
MO-99	4.031E+00	1.072E+01	9.310E+00	5.469E+00	NOT IDENT.
TC-99M	2.015E+16	3.748E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.604E-02	3.194E-02	2.800E-02	1.630E-02	NOT IDENT.
RH-102	8.113E-03	2.694E-02	2.391E-02	1.374E-02	FAIL ABUN
RU-103	-2.442E-02	3.926E-02	3.238E-02	2.003E-02	FAIL ABUN
RH-106	-2.010E-03	3.025E-01	2.575E-01	1.543E-01	FAIL ABUN
RU-106	-2.010E-03	3.025E-01	2.575E-01	1.543E-01	FAIL ABUN
AG-108M	-1.315E-02	3.018E-02	2.561E-02	1.540E-02	NOT IDENT.
AG-110M	5.025E-02	3.934E-02	3.279E-02	2.007E-02	NOT IDENT.
IN-111	5.432E-02	1.164E+00	8.748E-01	5.938E-01	NOT IDENT.
IN-113M	2.443E-02	4.421E-02	4.013E-02	2.256E-02	NOT IDENT.
SN-113	2.443E-02	4.421E-02	4.013E-02	2.256E-02	NOT IDENT.
IN-114M	-4.020E-02	1.993E-01	1.502E-01	1.017E-01	NOT IDENT.
CD-115	9.283E+00	1.046E+01	9.582E+00	5.338E+00	NOT IDENT.
SN-117M	-6.609E-04	5.463E-02	4.778E-02	2.787E-02	NOT IDENT.
SB-122	1.668E+00	1.903E+00	1.739E+00	9.710E-01	NOT IDENT.
I-123	5.010E+05	5.677E+06	0.000E+00	2.897E+06	SHORT HLIF
TE-123M	2.500E-03	2.832E-02	2.487E-02	1.445E-02	NOT IDENT.
I-124	2.981E-01	7.315E-01	5.629E-01	3.732E-01	NOT IDENT.
SB-124	-1.586E-02	7.426E-02	5.649E-02	3.789E-02	FAIL ABUN
SB-125	-3.511E-02	8.566E-02	7.296E-02	4.370E-02	FAIL ABUN
TE-125M	4.120E+00	8.947E+00	8.182E+00	4.565E+00	NOT IDENT.
I-126	-1.130E-03	2.053E-01	1.499E-01	1.047E-01	NOT IDENT.
SB-126	-5.498E-03	1.519E-01	1.096E-01	7.749E-02	NOT IDENT.
SB-127	-8.931E-01	1.205E+00	9.418E-01	6.146E-01	NOT IDENT.
XE-127	-1.944E-02	5.084E-02	3.999E-02	2.594E-02	NOT IDENT.
I-131	3.093E-02	1.064E-01	9.576E-02	5.427E-02	NOT IDENT.
TE-132	-2.055E-01	6.874E-01	5.845E-01	3.507E-01	NOT IDENT.
BA-133	2.147E-02	4.459E-02	3.570E-02	2.275E-02	FAIL ABUN
I-133	1.427E+03	5.889E+03	0.000E+00	3.005E+03	SHORT HLIF
CS-134	1.044E-01	5.964E-02	4.104E-02	3.043E-02	FAIL ABUN
CS-135	3.819E-01	1.816E-01	1.526E-01	9.267E-02	NOT IDENT.
I-135	4.163E+15	5.280E+15	0.000E+00	2.694E+15	SHORT HLIF
CS-136	-6.002E-04	1.127E-01	9.625E-02	5.751E-02	FAIL ABUN
CE-139	-1.987E-02	2.867E-02	2.449E-02	1.463E-02	NOT IDENT.
BA-140	-6.545E-04	2.292E-01	1.974E-01	1.170E-01	NOT IDENT.
LA-140	-2.813E-02	8.208E-02	6.661E-02	4.188E-02	FAIL ABUN
CE-141	-5.849E-02	6.209E-02	5.300E-02	3.168E-02	NOT IDENT.
CE-143	1.063E+03	2.840E+02	0.000E+00	1.449E+02	SHORT HLIF
CE-144	-1.143E-01	1.994E-01	1.731E-01	1.017E-01	NOT IDENT.
PM-144	1.324E-02	3.458E-02	3.007E-02	1.764E-02	NOT IDENT.
PR-144	8.975E-01	2.344E+00	2.038E+00	1.196E+00	NOT IDENT.

PM-146	1.291E-02	4.293E-02	3.721E-02	2.190E-02	NOT IDENT.
ND-147	1.762E-01	5.472E-01	4.822E-01	2.792E-01	FAIL ABUN
PM-149	9.354E+01	8.691E+01	8.118E+01	4.434E+01	NOT IDENT.
EU-152	-5.567E-02	1.055E-01	7.805E-02	5.382E-02	NOT IDENT.
GD-153	2.891E-02	8.295E-02	6.714E-02	4.232E-02	NOT IDENT.
EU-154	-1.158E-02	1.257E-01	1.046E-01	6.413E-02	NOT IDENT.
EU-155	-7.866E-03	1.055E-01	9.491E-02	5.384E-02	FAIL ABUN
TB-160	1.081E-01	1.259E-01	1.174E-01	6.422E-02	FAIL ABUN
HO-166M	-2.398E-02	5.680E-02	4.599E-02	2.898E-02	FAIL ABUN
TM-171	-9.475E+00	3.331E+01	2.667E+01	1.700E+01	NOT IDENT.
LU-176	7.055E-03	2.569E-02	2.044E-02	1.311E-02	FAIL ABUN
LU-177	1.992E+00	1.362E+00	1.015E+00	6.947E-01	FAIL ABUN
LU-177M	-3.302E-01	1.759E-01	1.356E-01	8.975E-02	FAIL ABUN
HF-181	1.612E-03	4.169E-02	3.629E-02	2.127E-02	NOT IDENT.
W-181	4.119E-01	4.398E-01	3.714E-01	2.244E-01	NOT IDENT.
TA-182	-8.986E-02	1.840E-01	1.477E-01	9.390E-02	NOT IDENT.
RE-183	-1.273E-02	1.088E-01	9.465E-02	5.553E-02	FAIL ABUN
RE-184	1.293E-01	2.251E-01	1.986E-01	1.148E-01	NOT IDENT.
OS-185	1.164E-03	4.015E-02	3.417E-02	2.048E-02	NOT IDENT.
RE-188	1.454E-02	1.612E-01	1.429E-01	8.227E-02	NOT IDENT.
W-188	-1.089E+01	7.791E+00	5.455E+00	3.975E+00	FAIL ABUN
IR-192	-4.115E-02	3.270E-02	2.719E-02	1.669E-02	FAIL ABUN
AU-195	1.769E-01	2.219E-01	1.998E-01	1.132E-01	FAIL ABUN
TL-200	3.375E+02	4.390E+02	0.000E+00	2.240E+02	SHORT HLIF
TL-201	-6.194E+00	6.716E+00	5.671E+00	3.427E+00	NOT IDENT.
TL-202	2.016E-02	6.207E-02	5.544E-02	3.167E-02	NOT IDENT.
HG-203	2.301E-02	4.191E-02	3.412E-02	2.138E-02	NOT IDENT.
BI-207	9.694E-03	4.478E-02	3.910E-02	2.285E-02	FAIL ABUN
TL-207	-3.762E-01	7.116E-01	5.283E-01	3.631E-01	FAIL ABUN
PO-209	-1.501E+00	6.444E+00	5.446E+00	3.288E+00	NOT IDENT.
BI-210	1.339E+00	5.164E+00	4.833E+00	2.635E+00	NOT IDENT.
PB-210	1.339E+00	5.164E+00	4.833E+00	2.635E+00	NOT IDENT.
PO-210	1.339E+00	5.164E+00	4.833E+00	2.634E+00	NOT IDENT.
PB-211	2.697E-03	9.514E-01	8.365E-01	4.854E-01	NOT IDENT.
BI-212	8.514E-01	4.496E-01	3.068E-01	2.294E-01	FAIL ABUN
PO-215	-3.762E-01	7.116E-01	5.283E-01	3.631E-01	FAIL ABUN
RN-219	1.146E-02	3.951E-01	3.481E-01	2.016E-01	FAIL ABUN
RN-220	1.752E+01	2.613E+01	2.352E+01	1.333E+01	NOT IDENT.
RA-223	-3.762E-01	7.116E-01	5.283E-01	3.631E-01	FAIL ABUN
AC-227	-7.616E-02	3.768E-01	3.192E-01	1.922E-01	FAIL ABUN
TH-227	-7.616E-02	3.769E-01	3.192E-01	1.923E-01	FAIL ABUN
TH-229	-1.458E-01	4.906E-01	4.221E-01	2.503E-01	FAIL ABUN
PA-231	-3.244E-01	1.479E+00	1.282E+00	7.546E-01	FAIL ABUN
TH-231	-3.762E-01	7.116E-01	5.283E-01	3.631E-01	FAIL ABUN
U-231	-9.264E-01	1.159E+00	8.830E-01	5.911E-01	FAIL ABUN
PA-233	2.799E-02	5.958E-02	5.455E-02	3.040E-02	FAIL ABUN
PA-234	2.044E-01	3.113E-01	2.811E-01	1.588E-01	FAIL ABUN
PA-234M	1.433E+00	4.367E+00	3.773E+00	2.228E+00	NOT IDENT.
U-235	8.212E-02	2.110E-01	1.860E-01	1.077E-01	FAIL ABUN
NP-236	-2.034E-02	7.925E-02	6.859E-02	4.044E-02	NOT IDENT.
NP-239	-5.959E-02	1.873E-01	1.660E-01	9.557E-02	FAIL ABUN
AM-241	6.963E-02	1.972E-01	1.637E-01	1.006E-01	NOT IDENT.
CM-243	7.500E-02	9.316E-02	8.639E-02	4.753E-02	FAIL ABUN
AM-246	5.404E-02	1.299E-01	1.153E-01	6.629E-02	NOT IDENT.
CM-247	6.712E-03	3.631E-02	3.226E-02	1.852E-02	FAIL ABUN
CF-249	4.761E-02	3.783E-02	3.565E-02	1.930E-02	NOT IDENT.
CF-251	5.471E-02	1.215E-01	1.085E-01	6.201E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	299.9384
46.50	299.9384
46.50	299.9384
48.70	313.8278
49.72	325.2979
51.35	303.4402
52.39	308.5457
52.97	317.9869
53.15	318.0838
53.44	328.2984
54.07	349.7008
56.28	338.1150
56.28	338.1164
57.37	0.0000
57.53	328.2811
57.53	328.2817
57.60	323.0563
57.98	310.7939
57.98	310.7939
59.32	333.8631
59.32	333.8631
59.40	333.9052
59.54	342.8457
59.72	359.2036
60.01	359.3675
61.10	352.5731
61.14	377.7802
61.30	377.8744
63.00	380.7214
63.29	366.0252
63.29	366.0252
63.58	367.1166
64.28	398.9526
65.12	378.5893
65.20	378.6342
65.20	378.6342
66.05	376.1297
66.72	409.3694
66.83	409.4380
66.91	455.8153
67.20	450.0284
67.20	450.0284
67.75	456.3756
67.85	456.4426
68.90	391.5673
68.90	391.5673
69.30	386.9197
69.67	420.1384
70.82	429.8449
70.82	429.8449
70.83	429.8519
72.80	449.1353
72.87	449.1790
72.87	449.1790
74.67	456.1585
74.81	456.2469
74.81	456.2469
74.81	456.2469
74.81	456.2469
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74.81	456.2469
74.81	456.2469
74.97	456.3464
75.28	456.5417
75.70	456.8033
77.11	415.4184
77.11	415.4184

77.11	415.4184
77.11	415.4184
77.11	415.4184
77.11	415.4184
77.11	415.4184
78.38	393.3483
79.62	471.5807
79.80	471.6923
79.80	471.6923
80.11	531.2537
80.18	531.3027
80.30	531.3857
80.30	531.3857
80.57	549.8530
81.00	531.4947
81.07	531.5436
81.07	531.5436
81.07	531.5436
81.07	531.5436
82.60	402.7951
83.37	457.0809
83.78	432.8515
83.78	432.8515
83.78	432.8515
83.78	432.8515
84.21	445.3344
84.90	435.0050
85.43	470.5510
86.29	573.8700
86.50	551.0006
86.54	551.0269
86.59	551.0620
86.72	569.5769
86.79	569.6245
86.94	603.5179
87.30	560.7731
87.30	560.7731
87.30	560.7731
87.30	560.7731
87.30	560.7731
87.30	560.7731
87.30	560.7731
87.57	457.2229
87.88	457.4008
88.03	457.4861
88.36	457.6732
88.47	457.7367
89.95	458.5756
91.11	327.2491
92.29	327.7188
92.38	327.7551
92.38	327.7551
93.35	306.4698
94.00	320.6504
94.67	333.3071
94.67	333.3091
94.90	356.6614
94.90	356.6614
94.90	356.6614
94.90	356.6614
95.87	386.5701
95.87	386.5701
96.73	366.7608
97.43	321.9568
98.44	324.4120
98.44	324.4133
98.88	322.7238
99.55	322.5578
99.55	322.5578
99.86	314.8740
100.00	314.9245
100.10	314.9627
103.18	364.9991
103.76	320.1954
105.00	359.8642
105.31	359.0079
108.00	349.2581
109.28	334.9702

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111.00	381.9895
111.76	391.1932
112.95	338.2805
115.19	320.2498
116.30	340.4773
117.00	354.6345
117.00	354.6345
117.66	338.9746
121.11	317.2406
121.62	330.3826
121.78	367.3725
122.06	367.4778
122.32	352.5920
122.32	352.5920
122.32	352.5920
122.32	352.5920
123.07	334.8684
127.23	339.2810
129.76	333.0859
131.20	373.8645
133.02	370.4860
133.54	353.5034
135.34	340.9621
136.00	352.3118
136.25	351.3841
136.48	349.4352
140.51	349.7477
140.51	0.0000
142.18	336.0349
142.65	346.3683
143.76	338.5654
144.24	339.7351
144.24	339.7351
144.24	339.7351
144.24	339.7351
145.22	371.6953
145.44	380.9625
147.16	344.7339
152.43	317.5883
152.70	313.5516
153.22	322.9525
154.21	300.5859
154.21	300.5859
154.21	300.5859
154.21	300.5859
155.03	308.0153
156.02	329.9341
158.56	318.2642
159.00	0.0000
159.00	315.2829
160.31	322.8831
161.27	324.1854
162.32	315.1444
162.64	310.0455
163.35	300.8945
163.89	285.4621
165.85	322.3270
167.43	323.7938
171.28	283.0498
171.86	288.4111
172.10	288.4679
176.55	279.0248
176.60	279.0350
181.06	318.3538
184.41	317.5070
185.71	287.4000
186.00	270.5566
190.27	290.1155
192.34	262.3244
193.63	289.1598
197.04	295.2360
198.01	249.5873
198.60	265.7023
200.40	293.8429
201.83	306.9892
202.84	308.2896
205.31	289.9757

208.36	305.2385
208.81	297.8122
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209.75	258.2062
210.97	256.7103
215.65	265.7818
216.55	238.9232
218.09	250.0056
222.10	283.2684
223.80	247.7451
226.40	242.7459
227.00	250.4693
227.08	242.8599
227.20	242.8803
228.16	261.5662
228.18	261.5698
228.18	261.5698
231.56	0.0000
235.69	234.8582
236.00	224.6082
236.00	224.6082
238.63	225.0023
238.63	225.0023
238.63	225.0023
238.63	225.0023
239.00	225.0571
240.98	225.3527
241.98	225.5013
241.98	225.5013
241.98	225.5013
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245.39	213.4368
247.94	210.5506
248.90	208.8399
249.79	206.7483
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252.85	188.3227
254.15	0.0000
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256.20	210.9262
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260.90	171.4688
262.80	190.6216
264.65	207.1348
268.24	177.1703
268.79	164.6993
269.46	159.3939
269.46	159.3939
269.46	159.3939
269.46	159.3939
271.23	197.2185
273.65	188.5309
276.40	202.3325
277.35	196.8243
277.60	183.5801
277.60	183.5801
278.00	175.5238
278.60	172.5842
279.20	172.6474
279.53	190.6989
280.46	183.2929
281.68	174.4059
283.67	189.6639
284.30	194.2532
285.00	173.5430
285.90	162.7844
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286.10	162.8020
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291.72	198.1231
293.26	0.0000
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295.21	151.5442

295.21	151.5442
295.96	151.6113
296.50	154.6913
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299.80	154.9839
299.80	154.9839
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300.09	161.0876
300.09	161.0876
300.09	161.0876
300.12	161.0897
301.29	171.8427
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303.76	159.9011
303.91	159.9139
304.40	156.9120
304.40	156.9120
304.84	143.2356
306.84	149.5002
308.46	176.1020
311.98	149.6229
316.51	183.1252
318.01	161.1743
319.02	153.8899
319.41	153.9225
320.08	136.0000
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323.87	169.3886
323.87	169.3886
323.87	169.3886
325.23	178.7578
328.77	135.8690
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334.20	148.6504
334.20	148.6504
334.30	148.6582
338.28	155.4882
338.28	155.4882
338.28	155.4882
338.28	155.4882
338.32	155.4902
338.32	155.4902
338.32	155.4902
340.50	150.6981
340.57	150.7021
344.27	157.2207
345.85	180.7166
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351.07	132.7796
351.92	137.8376
351.92	137.8376
351.92	137.8376
355.39	0.0000
356.01	122.1511
364.48	121.7296
366.43	118.0710
367.43	115.2939
367.94	0.0000
369.80	146.6521
374.96	130.8995
383.85	141.9465
387.95	108.8177
388.63	124.1300
391.69	131.0046
391.69	131.0046
392.90	132.0366
398.62	146.7844
400.65	141.1627
401.10	129.6672
401.81	128.7493
402.60	132.6414
404.84	147.2121
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411.60	134.1608
413.65	165.2012
414.70	137.2505
415.30	127.6204

415.76	127.6478
417.63	0.0000
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423.70	112.5789
427.08	121.4981
427.89	114.7360
432.53	97.4353
433.93	110.1695
439.47	92.8477
439.56	92.8511
439.89	94.8201
443.98	96.9480
444.90	99.9256
445.03	99.9319
445.03	99.9319
445.03	99.9319
453.90	103.8122
463.38	93.8102
468.07	92.3467
473.00	96.1735
475.06	90.3013
475.35	91.3048
476.78	104.2681
477.59	108.2775
477.96	107.2999
482.03	103.4998
484.57	92.6492
487.03	113.6855
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492.35	90.9456
497.08	105.1384
507.63	0.0000
510.53	0.0000
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511.00	83.5719
511.85	83.6008
511.85	83.6008
513.99	83.6707
513.99	83.6707
520.41	74.1121
520.65	74.1193
527.90	79.0588
528.96	0.0000
529.64	88.2404
529.87	0.0000
531.02	87.2724
537.32	75.2755
543.00	83.5936
546.56	0.0000
549.76	84.8298
552.65	93.1062
555.20	82.9538
563.23	72.9293
563.90	70.8935
568.70	77.1936
569.32	83.3889
569.50	78.2470
569.67	78.2507
573.80	72.1824
574.00	83.6458
574.64	81.2302
578.91	60.2631
579.30	0.0000
583.14	68.2881
585.48	62.1328
591.81	73.8056
592.07	73.6972
593.00	67.4915
595.88	78.9929
600.56	101.5085
602.52	0.0000
602.71	83.3516
602.71	83.3516
603.60	88.5901
604.41	81.6648
604.70	81.6724
609.31	97.1210

609.31	97.1210
609.31	97.1210
609.31	97.1210
610.33	74.8686
612.46	74.9246
614.37	76.7189
618.01	86.9413
621.84	75.5174
621.84	75.5174
631.29	52.6135
633.02	74.7545
633.10	74.7563
634.78	85.3348
635.90	88.5281
636.97	75.9094
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646.12	69.7979
656.30	63.6680
657.75	63.6987
657.90	0.0000
661.65	86.8127
661.65	86.8127
664.57	0.0000
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666.33	79.8486
675.00	79.0062
677.61	68.3875
685.20	67.4835
692.80	90.1975
695.00	69.8448
696.49	77.4035
696.49	77.4035
697.00	84.9424
697.49	86.0313
698.33	83.9014
698.50	82.8314
699.00	73.1614
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706.10	74.4024
706.58	0.0000
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711.68	71.2932
713.82	65.9354
717.42	61.6813
720.50	63.1840
721.93	0.0000
722.20	63.2175
722.78	63.2281
722.78	63.2281
722.89	63.2310
722.95	63.2324
723.30	66.8532
724.18	56.0273
727.18	56.0790
733.00	45.3054
735.90	67.4750
739.58	55.5646
742.81	65.4346
744.21	79.6459
747.13	54.6008
751.79	67.7989
752.31	56.8725
753.82	68.9355
755.35	64.5874
756.15	54.7485
756.87	56.9512
763.93	71.3381
765.79	60.3966
766.42	56.7463
766.84	67.7385
776.49	78.3351
778.00	72.5533
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778.89	54.1986
783.80	72.6754
785.46	77.3127
792.07	91.6890

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796.30	50.6484
798.80	47.5174
801.93	46.8557
805.60	60.1731
810.29	56.5459
810.76	59.3346
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817.79	55.7373
818.51	62.2523
819.60	68.7773
826.30	53.0768
828.27	0.0000
831.60	53.1557
831.96	59.6901
834.83	68.1390
836.80	0.0000
846.75	62.7443
848.13	60.8952
856.28	0.0000
856.80	40.2457
860.37	57.3389
867.32	56.5051
867.82	48.0356
871.10	57.5052
873.19	55.6510
874.81	49.0706
875.33	0.0000
876.40	56.6431
879.36	40.6266
880.27	52.9227
880.51	56.7065
881.50	63.3387
883.24	50.1264
884.67	53.9304
889.25	46.4180
896.60	47.4579
898.02	58.8692
899.00	54.1356
903.28	53.2463
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911.07	56.2128
911.07	56.2128
919.63	34.3755
920.93	44.8076
925.00	48.7661
925.24	45.9004
926.50	51.6555
935.52	46.0225
937.48	67.1488
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946.00	53.8364
949.00	49.0670
962.29	57.9187
964.01	57.9431
966.15	76.1955
968.20	111.0365
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969.11	87.0264
969.11	87.0264
977.42	43.1876
980.50	51.3933
983.50	46.5801
989.30	42.7593
996.32	43.8062
1001.03	43.8565
1001.68	48.7366
1004.76	52.6750
1021.30	0.0000
1024.50	0.0000
1034.80	37.3367
1036.00	29.4836
1037.82	50.1450
1038.57	54.0869
1038.76	0.0000
1045.16	38.4128
1046.59	42.3666
1048.07	59.1357

1050.47	51.2806
1050.47	51.2806
1062.04	31.6432
1063.62	37.5903
1076.63	46.6328
1077.35	46.6405
1078.86	40.6997
1085.78	38.7762
1099.22	34.9060
1112.02	53.1537
1112.84	44.5896
1115.52	44.6150
1120.29	39.0809
1120.29	39.0809
1120.29	39.0809
1120.29	39.0809
1120.51	39.0825
1121.28	51.5458
1124.00	0.0000
1129.67	49.2947
1131.51	0.0000
1147.95	0.0000
1167.94	63.7947
1173.22	43.5931
1175.09	47.6674
1177.93	51.7554
1189.05	54.9316
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1205.75	0.0000
1213.00	51.1210
1221.42	60.4308
1230.97	58.0585
1235.34	58.5516
1236.41	0.0000
1238.25	70.4799
1246.25	45.2998
1260.41	0.0000
1271.85	41.3981
1274.45	49.7031
1274.54	49.7051
1291.56	43.6406
1298.22	0.0000
1312.09	28.1700
1325.50	34.5214
1325.50	34.5214
1332.49	21.9989
1333.61	31.4331
1360.21	14.7451
1362.66	0.0000
1365.15	30.5718
1368.21	10.5485
1368.53	0.0000
1376.25	24.2990
1384.27	23.2783
1394.10	22.2612
1395.20	27.5679
1407.95	23.3822
1434.06	25.6328
1436.60	23.5075
1457.56	0.0000
1460.81	13.9532
1489.15	22.6560
1509.49	17.3242
1596.49	23.5570
1620.62	10.4076
1678.03	0.0000
1691.02	14.6202
1691.02	14.6202
1706.46	0.0000
1750.46	0.0000
1764.49	15.2562
1764.49	15.2562
1764.49	15.2562
1764.49	15.2562
1770.23	51.3844
1771.40	25.2120
1791.20	0.0000
1808.65	17.5568

1836.01

5.8770

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243274010

Total Uranium Activity	8.8675E+00	ug/g
Total Uranium Counting Unc.	5.4505E+00	ug/g
Total Uranium Tpu	2.7809E-06	ug/g
Total Uranium Mda	3.7065E+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      : 935341                          SAMPLE ID   : G243274010
*  ANALYST       : MXR1                             DETECTOR    : GAM23
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 31-DEC-2009 14:37:09.34          SAMPLE ALQT  : 147.400 GRAM
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.485E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.207E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.257E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.579E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:44:33.69

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001375.CNF;1
Sample date        : 22-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 14:42:59
Sample ID          : G1202001375 Sample quantity : 1.56780E+02 GRAM
Detector name      : GAM15 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.52 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	185.09*	5	94	0.95	370.57	365	11	7.03E-04	445.5	
2	0	239.26*	56	126	1.96	478.86	472	17	7.84E-03	52.8	
3	3	512.43	40	27	1.73	1025.00	1010	23	5.50E-03	38.6	1.11E+00
4	0	582.70*	35	9	1.42	1165.50	1159	13	4.87E-03	33.0	
5	0	609.05*	17	39	1.68	1218.18	1212	15	2.34E-03	91.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 16:44:36

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001375.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 00:00:00 Acquisition date : 31-DEC-2009 14:42:59
Sample ID : G1202001375 Sample quantity : 156.78 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.52 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	3.862E-02	2.992E-02	2.351E-02	1.328E-03	1.643

---- 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	*	1.080E-01	1.771E-01	3.091E-01	2.060E-02	0.349
NA-22		1274.54	*	1.137E-03	1.828E-02	3.005E-02	2.062E-03	0.038
NA-24		1368.53	*	-5.963E-04	1.828E-02	Half-Life too short		
AL-26		1129.67		5.928E-02	8.381E-01	1.386E+00	8.729E-02	0.043
		1808.65	*	-8.236E-03	1.826E-02	2.561E-02	1.533E-03	-0.322
K-40		1460.81	*	-1.191E-01	2.500E-01	3.731E-01	2.852E-02	-0.319
TI-44		67.85		-1.742E-02	3.129E-02	4.970E-02	5.670E-03	-0.351
		78.38	*	-5.892E-03	2.005E-02	3.240E-02	3.603E-03	-0.182
SC-46		889.25	*	-1.035E-02	2.094E-02	3.187E-02	2.673E-03	-0.325
		1120.51		-2.031E-02	2.262E-02	3.143E-02	2.018E-03	-0.646
V-48		944.10		2.654E-01	3.797E-01	6.936E-01	5.701E-02	0.383
		983.50	*	-4.280E-03	2.709E-02	4.322E-02	3.415E-03	-0.099
		1312.09		2.793E-02	3.331E-02	6.287E-02	4.589E-03	0.444
CR-51		320.08	*	1.317E-01	2.081E-01	3.637E-01	2.623E-02	0.362
MN-52		744.21		1.560E-02	6.697E-02	1.154E-01	7.077E-03	0.135
		848.13		-1.124E+00	2.047E+00	3.127E+00	2.411E-01	-0.359
		935.52		3.031E-02	7.325E-02	1.281E-01	1.061E-02	0.237
		1246.25		4.487E-01	1.393E+00	2.433E+00	1.586E-01	0.184
		1333.61		4.421E-02	1.309E+00	2.130E+00	1.608E-01	0.021
		1434.06	*	-2.036E-02	6.858E-02	1.070E-01	7.931E-03	-0.190
MN-54		834.83	*	1.875E-03	2.052E-02	3.451E-02	2.586E-03	0.054
CO-56		846.75	*	-2.607E-03	2.196E-02	3.584E-02	2.755E-03	-0.073
		977.42		9.684E-02	1.780E+00	2.953E+00	2.348E-01	0.033
		1037.82		-9.682E-02	1.436E-01	2.022E-01	1.601E-02	-0.479
		1175.09		-1.893E-01	9.172E-01	1.425E+00	8.145E-02	-0.133
		1238.25		1.931E-02	3.091E-02	5.686E-02	3.843E-03	0.340
		1360.21		2.663E-02	4.925E-01	8.047E-01	6.053E-02	0.033
		1771.40		-9.505E-02	1.567E-01	2.166E-01	1.340E-02	-0.439

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57		122.06	*	-7.537E-03	1.358E-02	2.114E-02	1.520E-03	-0.356
		136.48		1.995E-02	1.109E-01	1.825E-01	1.401E-02	0.109
CO-58		810.76	*	6.616E-03	2.006E-02	3.495E-02	2.497E-03	0.189
FE-59		142.65		1.011E+00	1.398E+00	2.381E+00	1.621E-01	0.425
		192.34		-4.542E-01	5.241E-01	7.777E-01	9.588E-02	-0.584
		1099.22	*	2.271E-02	4.108E-02	7.382E-02	5.586E-03	0.308
		1291.56		-1.218E-02	6.227E-02	9.672E-02	8.160E-03	-0.126
CO-60		1173.22		-1.621E-02	2.019E-02	2.689E-02	1.532E-03	-0.603
		1332.49	*	-9.796E-03	2.210E-02	3.204E-02	2.418E-03	-0.306
ZN-65		1115.52	*	-2.482E-02	3.639E-02	5.635E-02	3.661E-03	-0.440
GE-68		1077.35	*	1.687E-01	7.191E-01	1.220E+00	8.479E-02	0.138
AS-73		53.44	*	-2.544E-01	8.206E-01	1.331E+00	1.818E-01	-0.191
AS-74		595.88	*	2.642E-02	4.441E-02	7.701E-02	4.140E-03	0.343
		634.78		-1.116E-01	1.813E-01	2.586E-01	1.341E-02	-0.432
SE-75		66.05		-4.418E+00	3.717E+00	5.324E+00	6.905E-01	-0.830
		96.73		-1.464E-01	4.419E-01	7.081E-01	1.016E-01	-0.207
		121.11		2.217E-02	6.880E-02	1.149E-01	1.172E-02	0.193
		136.00		3.813E-03	2.023E-02	3.334E-02	2.322E-03	0.114
		198.60		-5.569E-01	1.156E+00	1.675E+00	1.337E-01	-0.332
		264.65	*	-2.137E-02	2.496E-02	3.881E-02	2.714E-03	-0.551
		279.53		-8.327E-02	6.490E-02	9.681E-02	7.063E-03	-0.860
		303.91		-7.290E-01	1.206E+00	1.901E+00	1.930E-01	-0.383
		400.65		6.088E-02	1.495E-01	2.561E-01	2.313E-02	0.238
BR-77		87.88		-1.932E+01	2.217E+01	3.351E+01	3.875E+00	-0.576
		200.40		-8.095E+00	1.891E+01	2.920E+01	1.996E+00	-0.277
	+	239.00		2.326E+00	2.459E+00	2.565E+00	1.785E-01	0.906
		249.79		-6.393E+00	7.647E+00	1.195E+01	8.321E-01	-0.535
		281.68		1.832E+00	1.092E+01	1.851E+01	1.275E+00	0.099
		297.23		4.111E-01	6.147E+00	1.032E+01	7.018E-01	0.040
		303.76		-1.460E+01	2.113E+01	3.306E+01	2.234E+00	-0.442
		439.47		1.052E+00	1.777E+01	2.934E+01	1.676E+00	0.036
		484.57		1.123E+01	2.533E+01	4.362E+01	2.482E+00	0.258
		520.65	*	2.278E-01	1.349E+00	2.116E+00	1.191E-01	0.108
		574.64		-2.833E+00	2.642E+01	3.961E+01	2.164E+00	-0.072
		578.91		2.986E+00	1.135E+01	1.661E+01	9.046E-01	0.180
		585.48		3.080E+01	1.943E+01	3.490E+01	1.892E+00	0.882
		755.35		6.636E+00	1.705E+01	3.003E+01	1.890E+00	0.221
		817.79		3.755E+00	1.419E+01	2.453E+01	1.773E+00	0.153
SR-82		698.33		1.452E+00	1.945E+01	3.287E+01	1.810E+00	0.044
		776.49	*	-4.245E-02	1.751E-01	2.818E-01	1.860E-02	-0.151
		1395.20		-3.401E+00	5.688E+00	8.328E+00	6.228E-01	-0.408
RB-83		520.41	*	9.394E-03	4.196E-02	6.635E-02	3.733E-03	0.142
		529.64		-7.219E-03	5.807E-02	9.290E-02	5.206E-03	-0.078
		552.65		5.458E-02	1.179E-01	2.016E-01	1.117E-02	0.271
RB-84		881.50	*	2.650E-02	3.324E-02	6.158E-02	5.085E-03	0.430
KR-85		513.99	*	1.334E+01	5.107E+00	9.578E+00	5.403E-01	1.392
SR-85		513.99	*	6.453E-02	2.471E-02	4.635E-02	2.615E-03	1.392
RB-86		1076.63	*	2.101E-01	3.669E-01	6.543E-01	4.552E-02	0.321
Y-88		898.02		2.485E-03	2.478E-02	4.155E-02	3.565E-03	0.060

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1836.01	*		7.668E-03	2.418E-02	4.270E-02	2.494E-03	0.180
ZR-88	392.90	*		1.313E-02	1.718E-02	3.046E-02	1.728E-03	0.431
Y-91	1204.90	*		-3.287E+00	7.998E+00	1.189E+01	7.188E-01	-0.277
NB-94	702.63	*		2.789E-03	2.054E-02	3.496E-02	1.944E-03	0.080
	871.10	*		-6.076E-03	1.723E-02	2.535E-02	2.049E-03	-0.240
NB-95	765.79	*		1.771E-02	2.228E-02	4.068E-02	2.622E-03	0.435
NB-95M	235.69	*		9.236E-02	8.115E-02	1.306E-01	1.103E-02	0.707
ZR-95	724.18	*		2.554E-03	4.554E-02	7.679E-02	5.303E-03	0.033
	756.15	*		2.632E-02	3.480E-02	6.403E-02	4.773E-03	0.411
NB-97	657.90	*		3.855E-05	3.480E-02	Half-Life	too short	
	1024.50	*		4.314E-03	3.480E-02	Half-Life	too short	
ZR-97	254.15	*		5.846E-03	3.480E-02	Half-Life	too short	
	355.39	*		-8.862E-03	3.480E-02	Half-Life	too short	
	507.63	*		2.131E-02	3.480E-02	Half-Life	too short	
	602.52	*		-9.561E-03	3.480E-02	Half-Life	too short	
	1021.30	*		-1.341E-02	3.480E-02	Half-Life	too short	
	1147.95	*		5.104E-03	3.480E-02	Half-Life	too short	
	1362.66	*		9.894E-03	3.480E-02	Half-Life	too short	
	1750.46	*		2.334E-02	3.480E-02	Half-Life	too short	
MO-99	140.51	*		-6.291E-01	3.580E+00	5.725E+00	1.557E+00	-0.110
	181.06	*		4.064E-01	2.638E+00	3.767E+00	6.583E-01	0.108
	366.43	*		2.140E+00	1.405E+01	2.356E+01	1.431E+00	0.091
	739.58	*		1.057E+00	1.740E+00	3.111E+00	4.323E-01	0.340
	778.00	*		1.394E+00	4.861E+00	8.408E+00	5.569E-01	0.166
TC-99M	140.51	*		-9.084E+02	4.861E+00	Half-Life	too short	
RH-101	127.23	*		8.133E-03	1.720E-02	2.895E-02	2.039E-03	0.281
	198.01	*		-5.346E-03	2.148E-02	3.171E-02	2.163E-03	-0.169
	325.23	*		5.045E-02	1.403E-01	2.400E-01	1.578E-02	0.210
RH-102	418.52	*		1.265E-01	1.695E-01	2.999E-01	1.711E-02	0.422
	475.06	*		2.167E-03	1.713E-02	2.842E-02	1.620E-03	0.076
	631.29	*		3.249E-02	3.090E-02	5.674E-02	2.954E-03	0.573
	697.49	*		1.289E-02	5.091E-02	8.756E-02	4.810E-03	0.147
	766.84	*		4.510E-02	5.809E-02	1.061E-01	6.851E-03	0.425
	1046.59	*		3.187E-02	6.371E-02	1.128E-01	8.222E-03	0.283
	1112.84	*		-1.044E-01	1.391E-01	1.404E-01	9.153E-03	-0.744
RU-103	497.08	*		-1.533E-02	2.193E-02	3.249E-02	4.090E-03	-0.472
	610.33	*		3.969E-01	7.260E-01	8.754E-01	1.334E-01	0.453
RH-106	511.85	*		1.909E-01	1.479E-01	2.965E-01	1.674E-02	0.644
	621.84	*		-1.372E-01	1.827E-01	2.608E-01	2.993E-02	-0.526
	1050.47	*		-3.812E-01	1.170E+00	1.800E+00	1.305E-01	-0.212
RU-106	511.85	*		1.909E-01	1.479E-01	2.965E-01	1.674E-02	0.644
	621.84	*		-1.372E-01	1.821E-01	2.608E-01	1.370E-02	-0.526
	1050.47	*		-3.812E-01	1.170E+00	1.800E+00	1.305E-01	-0.212
AG-108M	433.93	*		1.119E-02	2.029E-02	3.518E-02	2.187E-03	0.318
	614.37	*		-2.494E-02	2.893E-02	3.380E-02	1.969E-03	-0.738
	722.95	*		2.077E-03	2.153E-02	3.650E-02	2.309E-03	0.057
CD-109	88.03	*		-7.241E-01	5.244E-01	7.619E-01	8.810E-02	-0.950
AG-110M	657.75	*		3.067E-03	1.983E-02	3.255E-02	1.784E-03	0.094
	677.61	*		6.980E-02	1.483E-01	2.565E-01	1.443E-02	0.272

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	706.67			-1.874E-02	1.228E-01	2.021E-01	1.207E-02	-0.093
	763.93			-4.051E-02	9.483E-02	1.497E-01	1.009E-02	-0.271
	884.67			-1.618E-02	2.676E-02	3.983E-02	3.425E-03	-0.406
	937.48			-4.588E-02	6.357E-02	9.267E-02	7.964E-03	-0.495
	1384.27			7.814E-02	1.058E-01	1.979E-01	1.538E-02	0.395
IN-111	171.28			8.275E-03	1.433E-01	2.320E-01	1.548E-02	0.036
	245.39	*		6.161E-02	1.674E-01	2.556E-01	1.779E-02	0.241
IN-113M	391.69	*		1.407E-02	2.486E-02	4.334E-02	2.629E-03	0.325
SN-113	391.69	*		1.407E-02	2.486E-02	4.334E-02	2.629E-03	0.325
IN-114M	190.27	*		-6.772E-02	1.137E-01	1.485E-01	1.007E-02	-0.456
CD-115	260.90			1.954E+01	1.413E+01	2.602E+01	1.809E+00	0.751
	492.35			2.647E+00	3.939E+00	6.912E+00	3.926E-01	0.383
	527.90	*		5.675E-01	1.104E+00	1.911E+00	1.072E-01	0.297
SN-117M	156.02			-7.796E-02	9.485E-01	1.524E+00	1.021E-01	-0.051
	158.56	*		-2.336E-02	2.348E-02	3.484E-02	2.330E-03	-0.670
SB-122	563.90	*		-1.442E-01	2.825E-01	4.255E-01	2.341E-02	-0.339
	692.80			-1.593E+00	7.435E+00	1.169E+01	6.348E-01	-0.136
I-123	159.00	*		-2.104E-03	7.435E+00	Half-Life too short		
	528.96			-1.315E-02	7.435E+00	Half-Life too short		
TE-123M	159.00	*		-1.075E-02	1.550E-02	2.364E-02	1.596E-03	-0.455
I-124	602.71	*		-9.388E-02	1.982E-01	2.531E-01	1.353E-02	-0.371
	722.78			1.315E-01	9.093E-01	1.551E+00	9.051E-02	0.085
	1325.50			4.838E+00	7.308E+00	1.347E+01	1.005E+00	0.359
	1376.25			2.112E+00	8.485E+00	1.426E+01	1.070E+00	0.148
	1509.49			2.177E+00	3.577E+00	6.708E+00	4.858E-01	0.325
	1691.02			3.705E-01	9.925E-01	1.790E+00	1.178E-01	0.207
SB-124	602.71			-1.276E-02	2.693E-02	3.440E-02	1.840E-03	-0.371
	645.85			9.687E-02	2.612E-01	4.427E-01	2.636E-02	0.219
	709.31			2.944E-02	1.519E+00	2.552E+00	1.442E-01	0.012
	713.82			-3.008E-01	8.411E-01	1.340E+00	1.362E-01	-0.224
	722.78			2.590E-02	1.791E-01	3.055E-01	1.866E-02	0.085
	968.20			-6.270E-01	1.401E+00	2.159E+00	1.734E-01	-0.290
	1045.16			-3.134E-02	1.495E+00	2.249E+00	1.643E-01	-0.014
	1325.50			1.018E+00	1.538E+00	2.833E+00	2.114E-01	0.359
	1368.21			-5.293E-01	9.938E-01	1.397E+00	1.788E-01	-0.379
	1436.60			-5.212E-03	2.100E+00	3.434E+00	2.545E-01	-0.002
	1691.02	*		1.722E-02	4.612E-02	8.317E-02	5.841E-03	0.207
SB-125	427.89	*		-3.123E-02	4.917E-02	7.431E-02	4.429E-03	-0.420
	463.38			-7.088E-02	1.839E-01	2.852E-01	1.906E-02	-0.249
	600.56			7.248E-02	1.127E-01	1.913E-01	1.210E-02	0.379
	635.90			-1.440E-01	1.679E-01	2.374E-01	1.489E-02	-0.606
TE-125M	109.28	*		-5.012E+00	4.933E+00	7.418E+00	7.364E-01	-0.676
I-126	388.63			-2.434E-02	9.076E-02	1.457E-01	8.335E-03	-0.167
	666.33	*		-4.104E-04	7.836E-02	1.258E-01	6.400E-03	-0.003
	753.82			-2.469E-02	5.585E-01	9.267E-01	5.812E-02	-0.027
SB-126	223.80			2.589E-02	1.809E+00	2.889E+00	2.001E-01	0.009
	278.60			-9.583E-01	1.104E+00	1.716E+00	1.184E-01	-0.558
	296.50			1.293E-01	5.822E-01	9.892E-01	6.735E-02	0.131
	414.70			-3.353E-03	3.378E-02	5.501E-02	3.136E-03	-0.061

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	415.30			-8.152E-01	2.850E+00	4.552E+00	2.595E-01	-0.179
	555.20			8.009E-01	1.844E+00	3.143E+00	1.738E-01	0.255
	573.80			1.961E-01	4.278E-01	7.341E-01	4.012E-02	0.267
	593.00			-2.353E-01	3.757E-01	5.504E-01	2.966E-02	-0.428
	656.30			4.338E-01	1.452E+00	2.428E+00	1.230E-01	0.179
	666.33			-1.694E-04	3.233E-02	5.189E-02	2.641E-03	-0.003
	675.00			-1.443E-01	6.764E-01	1.043E+00	5.422E-02	-0.138
	695.00			1.753E-02	3.740E-02	6.573E-02	3.589E-03	0.267
	697.00			3.362E-02	1.302E-01	2.240E-01	1.229E-02	0.150
	720.50	*		3.940E-02	5.793E-02	1.051E-01	6.103E-03	0.375
	856.80			-4.305E-02	2.226E-01	3.601E-01	2.826E-02	-0.120
	989.30			2.962E-01	4.887E-01	8.837E-01	6.936E-02	0.335
	1034.80			-1.543E+00	2.784E+00	3.971E+00	2.944E-01	-0.389
	1213.00			-8.482E-02	1.471E+00	2.360E+00	1.449E-01	-0.036
SN-126	64.28			1.164E-01	4.076E-01	6.563E-01	1.125E-01	0.177
	86.94			-9.868E-02	2.025E-01	3.071E-01	1.291E-01	-0.321
	87.57	*		-4.218E-02	5.055E-02	7.667E-02	8.847E-03	-0.550
SB-127	61.10			-7.208E+00	1.994E+01	3.215E+01	4.151E+00	-0.224
	252.40			3.645E-01	9.207E-01	1.574E+00	6.512E-01	0.232
	290.80			-4.309E+00	4.822E+00	7.439E+00	6.098E-01	-0.579
	411.60			-2.728E-01	2.785E+00	4.539E+00	6.015E-01	-0.060
	444.90			1.519E-02	2.252E+00	3.696E+00	3.418E-01	0.004
	473.00			-1.715E-01	3.766E-01	5.823E-01	5.642E-02	-0.294
	543.00			9.298E-02	3.925E+00	6.391E+00	7.399E-01	0.015
	603.60			-1.761E+00	3.139E+00	3.930E+00	3.533E-01	-0.448
	685.20	*		5.979E-02	2.719E-01	4.694E-01	3.444E-02	0.127
	698.50			7.443E-01	3.718E+00	6.360E+00	8.446E-01	0.117
	722.20			-1.916E-01	5.946E+00	9.912E+00	7.307E-01	-0.019
	783.80			-4.502E-01	7.657E-01	1.172E+00	1.142E-01	-0.384
XE-127	57.60			1.533E+00	4.960E+00	8.423E+00	1.073E+00	0.182
	145.22			9.663E-02	3.424E-01	5.664E-01	3.842E-02	0.171
	172.10			2.342E-02	5.889E-02	9.792E-02	6.540E-03	0.239
	202.84	*		-8.934E-03	2.372E-02	3.675E-02	2.516E-03	-0.243
	374.96			-4.078E-02	1.136E-01	1.813E-01	1.077E-02	-0.225
I-131	80.18			-1.409E+00	1.665E+00	2.577E+00	2.879E-01	-0.547
	284.30			3.843E-01	5.759E-01	1.011E+00	7.477E-02	0.380
	364.48	*		2.051E-02	4.459E-02	7.691E-02	5.156E-03	0.267
	636.97			-5.229E-01	5.773E-01	8.044E-01	4.742E-02	-0.650
	722.89			2.568E-01	2.262E+00	3.843E+00	2.256E-01	0.067
TE-132	49.72			-3.223E+00	8.064E+00	1.301E+01	1.836E+00	-0.248
	111.76			-2.164E+00	5.087E+00	8.045E+00	7.219E-01	-0.269
	116.30			1.717E+00	4.407E+00	7.407E+00	6.412E-01	0.232
	228.16	*		5.186E-02	1.249E-01	2.163E-01	3.021E-02	0.240
BA-133	53.15			-8.883E-01	3.815E+00	6.230E+00	8.542E-01	-0.143
	79.62			-8.464E-01	7.660E-01	1.146E+00	1.923E-01	-0.739
	81.00			-6.582E-02	5.615E-02	8.301E-02	1.445E-02	-0.793
	276.40			7.079E-02	2.362E-01	3.846E-01	5.191E-02	0.184
	302.84			-8.199E-02	8.209E-02	1.233E-01	1.501E-02	-0.665
	356.01	*		-1.898E-02	2.794E-02	4.329E-02	5.098E-03	-0.438

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	383.85			-2.553E-02	1.762E-01	2.865E-01	3.115E-02	-0.089
	510.53			5.839E-04	1.762E-01	Half-Life	too short	
	529.87	*		-1.163E-05	1.762E-01	Half-Life	too short	
	706.58			-4.949E-04	1.762E-01	Half-Life	too short	
	856.28			3.426E-04	1.762E-01	Half-Life	too short	
	875.33			-5.220E-04	1.762E-01	Half-Life	too short	
	1236.41			1.861E-03	1.762E-01	Half-Life	too short	
CS-134	1298.22			-1.330E-03	1.762E-01	Half-Life	too short	
	475.35			-1.063E-02	1.131E+00	1.847E+00	1.053E-01	-0.006
	563.23			-5.857E-02	1.963E-01	3.049E-01	1.717E-02	-0.192
	569.32			-7.939E-02	1.293E-01	1.892E-01	1.072E-02	-0.420
	604.70			-7.696E-03	2.319E-02	3.033E-02	1.629E-03	-0.254
	795.84	*		1.267E-02	2.463E-02	4.385E-02	3.056E-03	0.289
	801.93			4.797E-02	2.221E-01	3.806E-01	2.680E-02	0.126
	1038.57			-7.255E-01	1.966E+00	2.997E+00	2.210E-01	-0.242
	1167.94			1.838E-01	1.056E+00	1.783E+00	1.029E-01	0.103
	1365.15			2.545E-01	6.960E-01	1.213E+00	9.665E-02	0.210
CS-135	268.24	*		5.858E-02	8.598E-02	1.518E-01	1.298E-02	0.386
I-135	288.45			-6.499E+03	8.598E-02	Half-Life	too short	
	417.63			-2.281E+01	8.598E-02	Half-Life	too short	
	546.56			2.131E+03	8.598E-02	Half-Life	too short	
	836.80			8.654E+02	8.598E-02	Half-Life	too short	
	1038.76			-2.639E+03	8.598E-02	Half-Life	too short	
	1124.00			-6.661E+03	8.598E-02	Half-Life	too short	
	1131.51			-1.577E+02	8.598E-02	Half-Life	too short	
	1260.41	*		-4.574E+02	8.598E-02	Half-Life	too short	
	1457.56			-3.167E+03	8.598E-02	Half-Life	too short	
	1678.03			5.713E+03	8.598E-02	Half-Life	too short	
CS-136	1706.46			1.015E+03	8.598E-02	Half-Life	too short	
	1791.20			7.628E+03	8.598E-02	Half-Life	too short	
	66.91			-5.129E-01	4.578E-01	6.542E-01	1.125E-01	-0.784
	86.29			-3.301E-01	4.713E-01	7.156E-01	1.066E-01	-0.461
	153.22			5.445E-02	2.711E-01	4.453E-01	3.551E-02	0.122
	163.89			5.627E-02	4.500E-01	7.333E-01	5.829E-02	0.077
	176.55			-1.773E-02	1.576E-01	2.515E-01	1.843E-02	-0.071
	273.65			1.190E-01	2.019E-01	3.525E-01	2.682E-02	0.338
	340.57			-3.108E-02	5.530E-02	8.710E-02	5.870E-03	-0.357
	818.51			2.338E-03	3.072E-02	5.165E-02	3.740E-03	0.045
BA-137M	1048.07	*		-9.241E-03	4.349E-02	6.861E-02	5.283E-03	-0.135
	1235.34			7.238E-02	1.624E-01	2.887E-01	2.985E-02	0.251
	661.65	*		-9.364E-03	2.184E-02	3.303E-02	1.662E-03	-0.283
CS-137	661.65	*		-9.898E-03	2.309E-02	3.492E-02	1.767E-03	-0.283
CE-139	165.85	*		-3.540E-03	1.572E-02	2.489E-02	1.655E-03	-0.142
BA-140	162.64			3.388E-01	3.119E-01	5.428E-01	3.964E-02	0.624
	304.84			-1.384E-01	5.635E-01	9.176E-01	2.524E-01	-0.151
LA-140	423.70			-1.150E+00	8.379E-01	9.886E-01	3.141E-01	-1.164
	537.32	*		7.862E-02	1.199E-01	2.053E-01	6.668E-02	0.383
	328.77			1.090E-01	1.373E-01	2.422E-01	1.736E-02	0.450
	432.53			1.429E-01	9.591E-01	1.599E+00	1.012E-01	0.089

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		487.03		-2.537E-02	6.085E-02	9.430E-02	6.097E-03	-0.269
		751.79		2.024E-01	6.128E-01	1.074E+00	8.019E-02	0.188
		815.85		1.341E-02	1.233E-01	2.085E-01	1.743E-02	0.064
		867.82		3.110E-01	5.205E-01	9.438E-01	8.038E-02	0.330
		919.63		-7.217E-01	1.095E+00	1.595E+00	1.669E-01	-0.453
		925.24		-1.384E-01	4.360E-01	6.798E-01	6.060E-02	-0.204
	1596.49	*		-6.827E-04	3.507E-02	5.789E-02	4.035E-03	-0.012
CE-141	145.44	*		3.123E-03	2.994E-02	4.891E-02	3.414E-03	0.064
CE-143	57.37			2.961E+00	6.125E+01	1.022E+02	1.439E+01	0.029
	231.56			2.586E+01	9.872E+01	1.601E+02	5.021E+01	0.161
	293.26	*		3.575E+00	4.800E+00	8.384E+00	1.767E+00	0.426
	350.59			-2.750E-01	7.524E+01	1.200E+02	3.677E+01	-0.002
	490.36			2.508E+01	1.110E+02	1.853E+02	5.763E+01	0.135
	664.57			-1.602E+01	5.014E+01	7.670E+01	2.434E+01	-0.209
	721.93			3.257E+00	4.564E+01	7.710E+01	2.211E+01	0.042
CE-144	80.11			-1.046E+00	1.216E+00	1.879E+00	2.096E-01	-0.557
	133.54	*		-4.319E-02	1.105E-01	1.739E-01	2.557E-02	-0.248
PM-144	476.78			3.068E-02	3.915E-02	6.955E-02	4.768E-03	0.441
	618.01			8.035E-04	1.816E-02	2.947E-02	1.665E-03	0.027
	696.49	*		7.026E-03	2.290E-02	3.958E-02	2.170E-03	0.178
	778.57			4.839E-01	1.312E+00	2.291E+00	1.520E-01	0.211
PR-144	696.49	*		4.747E-01	1.547E+00	2.674E+00	1.466E-01	0.178
	1489.15			3.583E+00	6.521E+00	1.221E+01	8.909E-01	0.293
PM-146	453.90	*		-1.105E-02	2.658E-02	4.150E-02	3.554E-03	-0.266
	633.02			3.166E-01	8.535E-01	1.390E+00	5.107E-01	0.228
	735.90			-3.325E-02	8.862E-02	1.403E-01	3.918E-02	-0.237
	747.13			-1.178E-02	4.629E-02	7.435E-02	9.431E-03	-0.158
ND-147	91.11			-7.380E-02	1.310E-01	2.146E-01	2.440E-02	-0.344
	319.41			2.689E+00	1.452E+00	2.759E+00	1.830E-01	0.974
	439.89			-5.189E-02	2.552E+00	4.179E+00	2.389E-01	-0.012
	531.02	*		-2.619E-02	2.181E-01	3.488E-01	4.686E-02	-0.075
PM-149	285.90	*		2.990E+00	9.931E+00	1.698E+01	2.485E+00	0.176
EU-152	121.78			-1.973E-02	3.919E-02	6.125E-02	5.342E-03	-0.322
	244.69			8.894E-02	2.053E-01	3.151E-01	2.194E-02	0.282
	344.27	*		1.809E-02	6.288E-02	1.068E-01	7.528E-03	0.169
	443.98			-2.449E-01	6.071E-01	9.526E-01	5.444E-02	-0.257
	778.89			6.769E-02	1.518E-01	2.676E-01	1.776E-02	0.253
	867.32			1.138E-01	4.292E-01	7.412E-01	5.945E-02	0.153
	964.01			7.027E-02	1.614E-01	2.816E-01	2.271E-02	0.250
	1085.78			6.815E-02	2.234E-01	3.836E-01	2.628E-02	0.178
	1112.02			-1.238E-01	1.925E-01	1.959E-01	1.279E-02	-0.632
	1407.95			-6.459E-02	9.494E-02	1.324E-01	9.878E-03	-0.488
GD-153	69.67			5.667E-02	1.055E+00	1.752E+00	1.978E-01	0.032
	83.37			3.296E+00	8.742E+00	1.374E+01	1.550E+00	0.240
	97.43	*		2.856E-02	4.425E-02	7.567E-02	7.261E-03	0.377
	103.18			-2.099E-02	5.665E-02	9.015E-02	7.932E-03	-0.233
EU-154	123.07			-2.026E-03	2.738E-02	4.435E-02	4.566E-03	-0.046
	247.94			-3.544E-02	2.118E-01	3.310E-01	3.406E-02	-0.107
	591.81			-2.225E-01	3.259E-01	4.694E-01	4.477E-02	-0.474

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EU-155		723.30		2.359E-03	9.068E-02	1.523E-01	1.084E-02	0.015
		756.87		2.411E-01	3.920E-01	7.101E-01	7.414E-02	0.340
		873.19		-5.002E-02	1.450E-01	2.250E-01	2.677E-02	-0.222
		996.32		-1.157E-01	2.225E-01	3.348E-01	5.818E-02	-0.346
		1004.76		-6.602E-02	1.172E-01	1.734E-01	1.905E-02	-0.381
		1274.45	*	4.268E-03	5.145E-02	8.500E-02	8.524E-03	0.050
		48.70		-1.791E+00	3.429E+00	5.476E+00	7.046E-01	-0.327
		60.01		-1.061E+00	4.411E+00	7.203E+00	8.805E-01	-0.147
		86.54		-4.006E-02	5.720E-02	8.698E-02	1.003E-02	-0.461
		105.31	*	2.726E-02	6.027E-02	1.017E-01	8.810E-03	0.268
TB-160		86.79		-8.351E-02	1.455E-01	2.237E-01	2.569E-02	-0.373
		197.04		2.171E-01	3.257E-01	5.473E-01	3.731E-02	0.397
		215.65		1.191E-02	4.211E-01	6.744E-01	4.654E-02	0.018
		298.57		-4.375E-02	6.632E-02	1.005E-01	6.832E-03	-0.435
		879.36	*	3.735E-02	6.913E-02	1.241E-01	1.020E-02	0.301
HO-166M		962.29		2.386E-01	2.710E-01	4.998E-01	4.037E-02	0.477
		966.15		-4.040E-02	1.119E-01	1.752E-01	1.410E-02	-0.231
		1177.93		1.001E-01	1.404E-01	2.624E-01	1.508E-02	0.382
		1271.85		-9.142E-02	3.239E-01	4.909E-01	3.348E-02	-0.186
		80.57		-1.454E-01	1.583E-01	2.435E-01	2.720E-02	-0.597
	+	184.41		3.376E-03	3.008E-02	3.935E-02	2.655E-03	0.086
		280.46		-2.334E-02	5.209E-02	8.402E-02	5.791E-03	-0.278
		410.95		-6.977E-03	1.491E-01	2.442E-01	1.391E-02	-0.029
		711.68	*	2.406E-02	3.281E-02	5.998E-02	3.409E-03	0.401
		752.31		3.750E-02	1.344E-01	2.338E-01	1.461E-02	0.160
TM-171		810.29		6.132E-04	3.315E-02	5.530E-02	3.932E-03	0.011
		51.35		1.449E+01	3.491E+01	5.998E+01	8.285E+00	0.242
		52.39		2.259E+00	1.746E+01	2.936E+01	4.050E+00	0.077
		59.40		1.623E+00	2.437E+01	4.066E+01	5.004E+00	0.040
LU-176		66.72	*	-2.700E+01	2.189E+01	3.126E+01	3.595E+00	-0.864
		88.36		-1.464E-01	1.170E-01	1.758E-01	2.017E-02	-0.833
		201.83		-1.938E-02	1.650E-02	2.367E-02	1.619E-03	-0.819
		306.84	*	3.805E-03	1.541E-02	2.621E-02	1.766E-03	0.145
LU-177		401.10		-3.195E-01	4.077E+00	6.665E+00	3.789E-01	-0.048
		112.95		4.957E-01	4.921E-01	8.602E-01	6.733E-02	0.576
		208.36	*	1.928E-02	3.468E-01	5.573E-01	3.830E-02	0.035
LU-177M		52.97		-1.186E-01	1.704E+00	2.821E+00	3.874E-01	-0.042
		54.07		-3.008E-01	8.554E-01	1.382E+00	1.874E-01	-0.218
		61.30		-5.027E-01	1.344E+00	2.166E+00	2.615E-01	-0.232
		121.62		-1.060E-01	1.959E-01	3.052E-01	2.199E-02	-0.347
HF-181		147.16		-2.452E-01	3.527E-01	5.402E-01	3.655E-02	-0.454
		171.86		8.854E-02	2.596E-01	4.297E-01	2.869E-02	0.206
		218.09		3.025E-01	4.951E-01	8.296E-01	5.732E-02	0.365
		268.79		8.058E-02	4.305E-01	7.322E-01	5.077E-02	0.110
		319.02		3.014E-01	1.541E-01	2.951E-01	1.958E-02	1.021
		367.43		-2.688E-02	5.781E-01	9.524E-01	5.769E-02	-0.028
		413.65	*	5.855E-02	1.014E-01	1.765E-01	1.006E-02	0.332
		56.28		-6.112E-01	8.423E-01	1.317E+00	1.720E-01	-0.464
		57.53		1.358E-02	4.319E-01	7.194E-01	9.175E-02	0.019

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181		65.20		-5.472E-01	6.947E-01	1.035E+00	1.205E-01	-0.528
		133.02		-2.751E-02	3.310E-02	5.027E-02	3.486E-03	-0.547
		136.25		6.982E-02	2.221E-01	3.694E-01	2.544E-02	0.189
		345.85		6.338E-03	1.131E-01	1.884E-01	1.196E-02	0.034
		482.03	*	-1.777E-02	2.333E-02	3.453E-02	1.966E-03	-0.514
		56.28		-2.534E-01	3.495E-01	5.466E-01	7.139E-02	-0.464
		57.53		5.558E-03	1.794E-01	2.988E-01	3.811E-02	0.019
		65.20	*	-2.255E-01	2.862E-01	4.266E-01	4.965E-02	-0.528
		67.75		-3.521E-02	7.275E-02	1.163E-01	1.327E-02	-0.303
		100.10		-5.535E-02	9.551E-02	1.496E-01	1.376E-02	-0.370
TA-182		152.43		8.213E-02	1.807E-01	3.022E-01	2.032E-02	0.272
		222.10		-3.429E-02	2.004E-01	3.151E-01	2.182E-02	-0.109
		1001.68		-2.216E-02	1.098E+00	1.826E+00	1.413E-01	-0.012
		1121.28		-6.961E-02	6.320E-02	8.295E-02	5.317E-03	-0.839
		1189.05		-7.483E-02	1.281E-01	1.804E-01	1.059E-02	-0.415
		1221.42	*	-3.529E-03	9.666E-02	1.559E-01	9.721E-03	-0.023
		1230.97		-1.668E-01	1.941E-01	2.523E-01	1.600E-02	-0.661
		57.98		8.101E-02	1.704E-01	2.923E-01	3.696E-02	0.277
		59.32		7.449E-03	9.581E-02	1.599E-01	1.971E-02	0.047
		67.20		-2.642E-02	1.305E-01	2.131E-01	2.442E-02	-0.124
RE-183		162.32	*	5.733E-02	5.836E-02	1.009E-01	6.728E-03	0.568
		208.81		-1.695E-01	5.176E-01	8.052E-01	5.534E-02	-0.211
		291.72		-3.614E-01	5.322E-01	8.382E-01	5.731E-02	-0.431
		57.98		3.082E-01	6.483E-01	1.112E+00	1.406E-01	0.277
		59.32		2.831E-02	3.642E-01	6.080E-01	7.494E-02	0.047
		67.20		-1.005E-01	4.964E-01	8.106E-01	9.289E-02	-0.124
		161.27		1.476E-01	1.950E-01	3.324E-01	2.217E-02	0.444
		216.55		2.362E-02	1.573E-01	2.543E-01	1.756E-02	0.093
		252.85	*	6.610E-02	1.286E-01	2.246E-01	1.563E-02	0.294
		318.01		3.727E-01	2.653E-01	4.915E-01	3.265E-02	0.758
RE-184		792.07		1.161E-02	5.191E-01	8.674E-01	5.927E-02	0.013
		903.28		-1.953E-01	5.068E-01	7.833E-01	6.660E-02	-0.249
		920.93		-1.115E-01	2.147E-01	3.193E-01	2.678E-02	-0.349
		59.72		-3.336E-02	2.550E-01	4.197E-01	5.145E-02	-0.079
		61.14		-5.330E-02	1.464E-01	2.361E-01	2.855E-02	-0.226
		69.30		-4.801E-02	1.873E-01	3.043E-01	3.442E-02	-0.158
		592.07		-8.077E-01	1.338E+00	1.969E+00	1.062E-01	-0.410
		646.12	*	2.851E-02	2.056E-02	3.988E-02	2.043E-03	0.715
		717.42		-2.742E-01	4.759E-01	7.344E-01	4.232E-02	-0.373
		874.81		-2.002E-01	2.806E-01	4.032E-01	3.284E-02	-0.497
RE-188		880.27		2.296E-01	4.038E-01	7.256E-01	5.977E-02	0.316
		155.03	*	5.350E-03	9.044E-02	1.469E-01	9.854E-03	0.036
		477.96		1.017E+00	1.698E+00	2.963E+00	1.688E-01	0.343
		633.10		5.269E-01	1.611E+00	2.632E+00	1.368E-01	0.200
		63.58		-2.445E+01	4.174E+01	6.621E+01	7.818E+00	-0.369
		227.08		-3.485E+00	7.073E+00	1.150E+01	7.978E-01	-0.303
		290.67	*	-3.511E+00	4.250E+00	6.605E+00	4.520E-01	-0.531
		295.96		-4.191E-02	6.529E-02	1.015E-01	6.994E-03	-0.413
		308.46		4.001E-02	5.616E-02	9.899E-02	6.712E-03	0.404
W-188								
IR-192								

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	316.51	*		-3.209E-03	2.014E-02	3.307E-02	2.210E-03	-0.097
	468.07			1.144E-02	3.854E-02	6.506E-02	4.297E-03	0.176
	604.41			-1.094E-01	2.985E-01	3.874E-01	4.308E-02	-0.282
	612.46			-8.156E-02	4.498E-01	6.045E-01	4.351E-02	-0.135
	65.12			-1.024E-01	1.345E-01	2.010E-01	2.341E-02	-0.510
	66.83			-8.366E-02	7.125E-02	1.024E-01	1.177E-02	-0.817
	75.70			-3.721E-02	1.163E-01	1.765E-01	1.960E-02	-0.211
	98.88	*		1.616E-02	1.204E-01	1.994E-01	1.869E-02	0.081
TL-200	129.76			7.130E-01	1.518E+00	2.552E+00	1.784E-01	0.279
	367.94	*		1.719E-06	1.518E+00	Half-Life	too short	
	579.30			1.503E-05	1.518E+00	Half-Life	too short	
	828.27			-4.409E-05	1.518E+00	Half-Life	too short	
TL-201	1205.75			-8.364E-06	1.518E+00	Half-Life	too short	
	68.90			-2.674E-01	8.951E-01	1.450E+00	1.644E-01	-0.184
	70.82			1.796E-01	4.850E-01	8.215E-01	9.224E-02	0.219
	80.30			-6.838E-01	8.328E-01	1.291E+00	1.441E-01	-0.530
	135.34			4.839E-01	3.874E+00	6.353E+00	4.383E-01	0.076
TL-202	167.43	*		-7.936E-01	1.071E+00	1.616E+00	1.075E-01	-0.491
	68.90			-6.163E-02	2.063E-01	3.343E-01	3.789E-02	-0.184
	70.82			4.128E-02	1.115E-01	1.889E-01	2.121E-02	0.219
	80.30			-1.572E-01	1.915E-01	2.970E-01	3.314E-02	-0.530
HG-203	439.56	*		1.857E-03	3.134E-02	5.175E-02	2.958E-03	0.036
	70.83			2.247E-01	6.085E-01	1.030E+00	1.585E-01	0.218
	72.87			-2.098E-01	3.703E-01	5.725E-01	8.574E-02	-0.366
	82.60			2.312E-01	6.262E-01	9.845E-01	1.529E-01	0.235
BI-207	279.20	*		-3.120E-02	2.309E-02	3.421E-02	2.464E-03	-0.912
	72.80			-6.434E-02	1.181E-01	1.831E-01	2.042E-02	-0.351
	74.97			-2.852E-02	6.443E-02	1.006E-01	1.118E-02	-0.283
	84.90			3.113E-02	1.081E-01	1.811E-01	2.058E-02	0.172
TL-207	569.67			-1.559E-02	2.018E-02	2.884E-02	1.580E-03	-0.541
	1063.62	*		-2.412E-03	2.342E-02	3.751E-02	2.665E-03	-0.064
	1770.23			-5.279E-01	3.776E-01	3.971E-01	2.459E-02	-1.329
	81.07			-1.131E-01	1.198E-01	1.831E-01	2.048E-02	-0.618
	83.78			1.130E-02	7.566E-02	1.173E-01	1.326E-02	0.096
	94.90			-2.648E-01	1.477E-01	2.112E-01	2.118E-02	-1.254
	122.32			-9.921E-02	9.276E-01	1.499E+00	1.187E-01	-0.066
	144.24			4.246E-01	3.836E-01	6.676E-01	5.374E-02	0.636
	154.21			1.033E-01	2.194E-01	3.671E-01	2.858E-02	0.281
	269.46			-8.924E-03	1.066E-01	1.774E-01	1.269E-02	-0.050
TL-208	323.87	*		-2.799E-01	4.230E-01	6.597E-01	1.109E-01	-0.424
	338.28			7.002E-02	5.824E-01	9.770E-01	1.065E-01	0.072
	445.03			4.873E-02	1.417E+00	2.333E+00	2.384E-01	0.021
	277.35			-6.018E-02	2.424E-01	3.787E-01	4.244E-02	-0.159
	510.84			1.637E-02	1.530E-01	2.917E-01	2.936E-02	0.056
	583.14	*		4.475E-02	2.964E-02	5.012E-02	3.191E-03	0.893
	860.37			-5.821E-02	1.931E-01	2.870E-01	2.467E-02	-0.203
	260.50			8.406E+00	5.734E+00	1.061E+01	7.379E-01	0.792
PO-209	262.80			2.720E+00	1.642E+01	2.788E+01	1.937E+00	0.098
	896.60	*		3.664E+00	4.544E+00	8.310E+00	7.074E-01	0.441

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210		46.50	*	-5.114E+00	6.592E+00	9.563E+00	9.933E-01	-0.535
PB-210		46.50	*	-5.114E+00	6.592E+00	9.563E+00	9.933E-01	-0.535
PO-210		46.50	*	-5.114E+00	6.589E+00	9.563E+00	9.186E-01	-0.535
BI-211		72.87		-1.145E+00	2.017E+00	3.124E+00	3.483E-01	-0.366
		351.07	*	-3.690E-02	1.529E-01	2.392E-01	1.644E-02	-0.154
PB-211		404.84	*	-2.771E-01	6.024E-01	9.048E-01	5.640E-01	-0.306
		427.08		-4.406E-01	1.069E+00	1.603E+00	9.906E-01	-0.275
		831.96		3.284E-01	6.914E-01	1.173E+00	7.332E-01	0.280
BI-212		727.18	*	-8.622E-02	1.731E-01	2.587E-01	2.014E-02	-0.333
		785.46		-7.392E-01	1.021E+00	1.533E+00	1.032E-01	-0.482
		1620.62		2.965E-01	6.704E-01	1.237E+00	8.506E-02	0.240
PB-212		74.81		-1.212E-01	2.234E-01	3.460E-01	5.023E-02	-0.350
		77.11		-2.815E-02	1.257E-01	1.915E-01	2.126E-02	-0.147
		87.30		-6.544E-02	2.228E-01	3.501E-01	5.341E-02	-0.187
	+	238.63	*	7.210E-02	7.630E-02	7.995E-02	6.618E-03	0.902
		300.09		2.649E-02	4.569E-01	7.349E-01	6.591E-02	0.036
PO-212		74.81		-1.212E-01	2.234E-01	3.460E-01	5.023E-02	-0.350
		77.11		-2.815E-02	1.257E-01	1.915E-01	2.126E-02	-0.147
		87.30		-6.544E-02	2.228E-01	3.501E-01	5.341E-02	-0.187
		115.19		-9.729E-01	1.950E+00	3.061E+00	2.342E-01	-0.318
	+	238.63	*	7.210E-02	7.630E-02	7.995E-02	6.618E-03	0.902
		300.09		2.649E-02	4.569E-01	7.349E-01	6.591E-02	0.036
BI-214	+	609.31	*	4.049E-02	7.388E-02	9.250E-02	6.868E-03	0.438
		1120.29		-1.186E-01	1.395E-01	1.960E-01	1.808E-02	-0.605
		1764.49		-3.194E-02	1.694E-01	3.174E-01	1.975E-02	-0.101
PB-214		74.81		-2.089E-01	3.847E-01	5.961E-01	7.961E-02	-0.350
		77.11		-4.826E-02	2.156E-01	3.282E-01	4.420E-02	-0.147
		87.30		-1.121E-01	3.817E-01	5.997E-01	8.313E-02	-0.187
		241.98		1.042E-01	2.152E-01	3.311E-01	2.960E-02	0.315
		295.21		-4.845E-02	8.879E-02	1.389E-01	1.285E-02	-0.349
		351.92	*	-2.226E-02	5.231E-02	8.035E-02	6.927E-03	-0.277
PO-214		74.81		-2.089E-01	3.847E-01	5.961E-01	7.961E-02	-0.350
		77.11		-4.826E-02	2.156E-01	3.282E-01	4.420E-02	-0.147
		87.30		-1.121E-01	3.817E-01	5.997E-01	8.313E-02	-0.187
		241.98		1.042E-01	2.152E-01	3.311E-01	2.960E-02	0.315
		295.21		-4.845E-02	8.879E-02	1.389E-01	1.285E-02	-0.349
		351.92	*	-2.226E-02	5.231E-02	8.035E-02	6.927E-03	-0.277
PO-215		81.07		-1.131E-01	1.198E-01	1.831E-01	2.048E-02	-0.618
		83.78		1.130E-02	7.566E-02	1.173E-01	1.326E-02	0.096
		94.90		-2.648E-01	1.477E-01	2.112E-01	2.118E-02	-1.254
		122.32		-9.921E-02	9.276E-01	1.499E+00	1.187E-01	-0.066
		144.24		4.246E-01	3.836E-01	6.676E-01	5.374E-02	0.636
		154.21		1.033E-01	2.194E-01	3.671E-01	2.858E-02	0.281
		269.46		-8.924E-03	1.066E-01	1.774E-01	1.269E-02	-0.050
		323.87	*	-2.799E-01	4.230E-01	6.597E-01	1.109E-01	-0.424
		338.28		7.002E-02	5.824E-01	9.770E-01	1.065E-01	0.072
		445.03		4.873E-02	1.417E+00	2.333E+00	2.384E-01	0.021
PO-216		74.81		-1.212E-01	2.234E-01	3.460E-01	5.023E-02	-0.350
		77.11		-2.815E-02	1.257E-01	1.915E-01	2.126E-02	-0.147

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218		87.30		-6.544E-02	2.228E-01	3.501E-01	5.341E-02	-0.187
	+	238.63	*	7.210E-02	7.630E-02	7.995E-02	6.618E-03	0.902
		300.09		2.649E-02	4.569E-01	7.349E-01	6.591E-02	0.036
		74.81		-2.089E-01	3.847E-01	5.961E-01	7.961E-02	-0.350
		77.11		-4.826E-02	2.156E-01	3.282E-01	4.420E-02	-0.147
		87.30		-1.121E-01	3.817E-01	5.997E-01	8.313E-02	-0.187
		241.98		1.042E-01	2.152E-01	3.311E-01	2.960E-02	0.315
		295.21		-4.845E-02	8.879E-02	1.389E-01	1.285E-02	-0.349
RN-219		351.92	*	-2.226E-02	5.231E-02	8.035E-02	6.927E-03	-0.277
		271.23		-3.908E-02	1.440E-01	2.361E-01	2.112E-02	-0.166
		401.81	*	2.779E-02	2.535E-01	4.222E-01	5.724E-02	0.066
RN-220		549.76	*	-6.540E+00	1.643E+01	2.535E+01	1.406E+00	-0.258
RA-223		81.07		-1.131E-01	1.198E-01	1.831E-01	2.048E-02	-0.618
		83.78		1.130E-02	7.566E-02	1.173E-01	1.326E-02	0.096
		94.90		-2.648E-01	1.477E-01	2.112E-01	2.118E-02	-1.254
		122.32		-9.921E-02	9.276E-01	1.499E+00	1.187E-01	-0.066
		144.24		4.246E-01	3.836E-01	6.676E-01	5.374E-02	0.636
		154.21		1.033E-01	2.194E-01	3.671E-01	2.858E-02	0.281
		269.46		-8.924E-03	1.066E-01	1.774E-01	1.269E-02	-0.050
		323.87	*	-2.799E-01	4.230E-01	6.597E-01	1.109E-01	-0.424
		338.28		7.002E-02	5.824E-01	9.770E-01	1.065E-01	0.072
		445.03		4.873E-02	1.417E+00	2.333E+00	2.384E-01	0.021
RA-224		240.98	*	5.190E-01	3.959E-01	7.193E-01	5.006E-02	0.722
RA-226	+	609.31	*	4.049E-02	7.388E-02	9.250E-02	6.868E-03	0.438
		1120.29		-1.186E-01	1.395E-01	1.960E-01	1.808E-02	-0.605
		1764.49		-3.194E-02	1.694E-01	3.174E-01	1.975E-02	-0.101
AC-227		79.80		-1.026E+00	9.843E-01	1.462E+00	3.310E-01	-0.702
		236.00		2.398E-01	1.674E-01	2.722E-01	3.031E-02	0.881
		256.20	*	-6.591E-02	2.254E-01	3.694E-01	5.349E-02	-0.178
		286.10		1.843E-01	9.439E-01	1.602E+00	1.943E-01	0.115
		299.80		-1.860E-01	8.716E-01	1.372E+00	2.286E-01	-0.136
TH-227		304.40		-3.152E-01	1.099E+00	1.784E+00	3.146E-01	-0.177
		334.20		-1.448E+00	1.398E+00	2.058E+00	3.819E-01	-0.704
		79.80		-1.026E+00	9.849E-01	1.462E+00	3.348E-01	-0.702
		94.00		1.545E+00	1.187E+00	2.014E+00	4.521E-01	0.767
		236.00		2.398E-01	1.670E-01	2.722E-01	2.678E-02	0.881
		256.20	*	-6.591E-02	2.255E-01	3.694E-01	6.402E-02	-0.178
		286.10		1.843E-01	9.616E-01	1.602E+00	1.606E+00	0.115
		299.80		-1.860E-01	8.716E-01	1.372E+00	2.286E-01	-0.136
		304.40		-3.152E-01	1.099E+00	1.784E+00	3.146E-01	-0.177
		334.20		-1.448E+00	1.398E+00	2.058E+00	3.819E-01	-0.704
AC-228		338.32		1.830E-02	1.398E-01	2.344E-01	9.580E-02	0.078
		911.07	*	-1.145E-02	8.287E-02	1.293E-01	1.437E-02	-0.089
		969.11		-7.166E-02	1.530E-01	2.345E-01	5.423E-02	-0.306
RA-228		338.32		1.830E-02	1.398E-01	2.344E-01	9.580E-02	0.078
		911.07	*	-1.145E-02	8.287E-02	1.293E-01	1.437E-02	-0.089
		969.11		-7.166E-02	1.530E-01	2.345E-01	5.423E-02	-0.306
TH-228		74.81		-1.224E-01	2.253E-01	3.493E-01	3.901E-02	-0.350
		77.11		-2.842E-02	1.269E-01	1.933E-01	2.147E-02	-0.147

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229		87.30		-6.607E-02	2.249E-01	3.535E-01	4.072E-02	-0.187
	+	238.63	*	7.279E-02	7.704E-02	8.072E-02	6.682E-03	0.902
		300.09		2.675E-02	4.616E-01	7.420E-01	4.381E-01	0.036
		85.43		-2.062E-02	1.104E-01	1.748E-01	1.992E-02	-0.118
		88.47		-8.625E-02	6.712E-02	1.006E-01	1.151E-02	-0.858
TH-230		100.00		-3.948E-02	1.017E-01	1.618E-01	1.491E-02	-0.244
		193.63	*	2.007E-01	3.054E-01	5.138E-01	3.493E-02	0.391
		210.97		-1.993E-02	4.150E-01	6.609E-01	4.548E-02	-0.030
	+	609.31	*	4.049E-02	7.388E-02	9.250E-02	6.867E-03	0.438
		1120.29		-1.186E-01	1.395E-01	1.960E-01	1.808E-02	-0.605
PA-231		1764.49		-3.193E-02	1.694E-01	3.174E-01	1.975E-02	-0.101
		283.67	*	5.864E-01	9.626E-01	1.678E+00	2.395E-01	0.349
TH-231		301.29		1.832E-02	3.147E-01	5.275E-01	5.816E-02	0.035
		81.07		-1.131E-01	1.198E-01	1.831E-01	2.048E-02	-0.618
		83.78		1.130E-02	7.566E-02	1.173E-01	1.326E-02	0.096
		94.90		-2.648E-01	1.477E-01	2.112E-01	2.118E-02	-1.254
		122.32		-9.921E-02	9.276E-01	1.499E+00	1.187E-01	-0.066
U-231		144.24		4.246E-01	3.836E-01	6.676E-01	5.374E-02	0.636
		154.21		1.033E-01	2.194E-01	3.671E-01	2.858E-02	0.281
		269.46		-8.924E-03	1.066E-01	1.774E-01	1.269E-02	-0.050
		323.87	*	-2.799E-01	4.230E-01	6.597E-01	1.109E-01	-0.424
		338.28		7.002E-02	5.824E-01	9.770E-01	1.065E-01	0.072
		445.03		4.873E-02	1.417E+00	2.333E+00	2.384E-01	0.021
		84.21		1.094E-01	1.311E+00	2.026E+00	2.294E-01	0.054
		92.29		-3.075E-01	5.596E-01	9.174E-01	9.669E-02	-0.335
		95.87	*	-7.015E-01	2.944E-01	3.962E-01	3.905E-02	-1.770
		108.00		8.885E-02	4.572E-01	7.583E-01	6.273E-02	0.117
TH-232		338.32		1.830E-02	1.396E-01	2.344E-01	1.509E-02	0.078
		911.07	*	-1.145E-02	8.287E-02	1.293E-01	1.437E-02	-0.089
PA-233		969.11		-7.166E-02	1.530E-01	2.345E-01	5.423E-02	-0.306
		75.28		-5.591E-01	1.863E+00	2.939E+00	4.958E-01	-0.190
		86.59		-6.288E-01	9.457E-01	1.421E+00	3.959E-01	-0.443
		300.12		1.126E-02	2.359E-01	3.791E-01	5.265E-02	0.030
		311.98	*	2.499E-02	3.707E-02	6.536E-02	4.581E-03	0.382
PA-234		340.50		-1.566E-01	3.557E-01	5.638E-01	1.304E-01	-0.278
		398.62		6.318E-01	1.285E+00	2.202E+00	5.689E-01	0.287
		415.76		-6.556E-01	1.051E+00	1.604E+00	3.297E-01	-0.409
		63.00		-1.507E+00	1.389E+00	2.099E+00	3.677E-01	-0.718
		94.67		-1.584E-01	1.079E-01	1.577E-01	2.121E-02	-1.004
		98.44		1.172E-02	5.080E-02	8.400E-02	4.698E-02	0.140
		99.86		-5.609E-02	2.567E-01	4.138E-01	3.820E-02	-0.136
		111.00		6.916E-03	1.017E-01	1.671E-01	1.946E-02	0.041
		131.20		2.116E-03	5.764E-02	9.399E-02	6.547E-03	0.023
		152.70		8.300E-02	1.804E-01	3.011E-01	4.869E-02	0.276
	+	186.00		1.215E-01	1.083E+00	1.390E+00	4.275E-01	0.087
		226.40		-5.662E-02	2.359E-01	3.909E-01	4.757E-02	-0.145
		227.20		-1.336E-01	2.517E-01	4.081E-01	2.831E-02	-0.328
		248.90		-8.795E-02	4.550E-01	7.520E-01	1.642E-01	-0.117
		293.70		-3.070E-02	4.162E-01	6.765E-01	1.115E-01	-0.045

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	369.80			2.025E-01	5.431E-01	9.262E-01	1.934E-01	0.219
	568.70			-1.365E-01	6.288E-01	9.664E-01	5.300E-02	-0.141
	569.50			-1.106E-01	1.775E-01	2.590E-01	1.420E-02	-0.427
	574.00			4.713E-01	8.470E-01	1.469E+00	8.028E-02	0.321
	699.00			1.670E-01	4.650E-01	8.069E-01	1.444E-01	0.207
	706.10			-1.758E-01	6.259E-01	1.006E+00	4.438E-01	-0.175
	733.00			-4.500E-02	2.133E-01	3.466E-01	7.386E-02	-0.130
	742.81			4.128E-01	8.114E-01	1.364E+00	9.132E-01	0.303
	796.30			3.203E-01	4.799E-01	8.594E-01	2.282E-01	0.373
	805.60			2.821E-01	5.753E-01	1.009E+00	3.053E-01	0.279
	819.60			-2.455E-01	6.583E-01	1.019E+00	3.844E-01	-0.241
	826.30			-9.665E-02	4.456E-01	7.124E-01	3.171E-01	-0.136
	831.60			1.987E-01	3.510E-01	6.201E-01	1.831E-01	0.320
	876.40			-2.105E-01	4.722E-01	6.332E-01	6.507E-01	-0.333
	880.51			8.383E-02	1.516E-01	2.720E-01	2.241E-02	0.308
	883.24			2.942E-02	1.589E-01	2.685E-01	1.804E-01	0.110
	899.00			-8.635E-02	5.200E-01	8.378E-01	3.661E-01	-0.103
	925.00			-1.937E-01	6.105E-01	9.518E-01	7.956E-02	-0.203
	926.50			8.676E-03	9.458E-02	1.585E-01	3.991E-02	0.055
	946.00	*		8.988E-02	1.630E-01	2.907E-01	5.400E-02	0.309
	949.00			-5.176E-02	2.345E-01	3.721E-01	3.044E-02	-0.139
	980.50			-1.008E-01	4.166E-01	6.584E-01	5.219E-02	-0.153
	1394.10			-3.681E-01	7.653E-01	1.092E+00	7.095E-01	-0.337
PA-234M	766.42			3.765E+00	6.380E+00	1.095E+01	5.519E+00	0.344
	1001.03	*		2.395E-01	2.620E+00	4.430E+00	4.083E-01	0.054
TH-234	63.29	*		-1.267E+00	1.178E+00	1.773E+00	3.499E-01	-0.714
	92.38			-1.930E-01	3.648E-01	5.966E-01	1.137E-01	-0.324
U-234	609.31	*		4.049E-02	7.388E-02	9.250E-02	6.867E-03	0.438
	1120.29			-1.186E-01	1.395E-01	1.960E-01	1.808E-02	-0.605
	1764.49			-3.193E-02	1.694E-01	3.174E-01	1.975E-02	-0.101
U-235	89.95			-3.833E-01	6.845E-01	1.071E+00	3.389E-01	-0.358
	93.35			-3.192E-01	4.372E-01	6.952E-01	1.988E-01	-0.459
	105.00			2.705E-01	6.010E-01	1.006E+00	3.002E-01	0.269
	143.76	*		1.485E-01	1.191E-01	2.059E-01	3.435E-02	0.721
	163.35			1.491E-01	2.685E-01	4.493E-01	8.212E-02	0.332
	185.71	+		4.501E-03	4.010E-02	5.145E-02	3.475E-03	0.087
	205.31			-5.326E-04	2.909E-01	4.656E-01	8.544E-02	-0.001
NP-236	94.67			-1.196E-01	8.113E-02	1.197E-01	1.206E-02	-0.999
	98.44			8.887E-03	3.809E-02	6.351E-02	5.995E-03	0.140
	111.00			5.231E-03	7.694E-02	1.264E-01	1.010E-02	0.041
	160.31	*		-2.501E-03	4.508E-02	7.250E-02	4.840E-03	-0.035
NP-237	86.50	*		-1.079E-01	1.422E-01	2.124E-01	5.013E-02	-0.508
	95.87			-1.535E+00	7.353E-01	8.672E-01	2.176E-01	-1.770
U-238	63.29	*		-1.267E+00	1.178E+00	1.773E+00	3.499E-01	-0.714
	92.38			-1.930E-01	3.635E-01	5.966E-01	6.277E-02	-0.324
NP-239	99.55			-7.166E-03	8.658E-02	1.411E-01	1.309E-02	-0.051
	117.00	*		-4.745E-02	1.000E-01	1.569E-01	1.180E-02	-0.302
	209.75			-7.463E-02	4.264E-01	6.719E-01	4.621E-02	-0.111
	228.18			5.552E-02	1.317E-01	2.284E-01	1.585E-02	0.243

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		277.60		-1.188E-02	1.098E-01	1.823E-01	1.259E-02	-0.065
		334.30		-7.069E-01	7.709E-01	1.170E+00	7.581E-02	-0.604
AM-241		59.54	*	-9.857E-03	1.415E-01	2.340E-01	2.977E-02	-0.042
AM-243		74.67	*	-2.103E-02	3.628E-02	5.609E-02	6.233E-03	-0.375
		86.72		-3.193E+00	5.249E+00	8.045E+00	9.235E-01	-0.397
		117.66		-1.232E+00	2.006E+00	3.108E+00	2.322E-01	-0.396
		142.18		6.827E+00	1.008E+01	1.710E+01	1.165E+00	0.399
CM-243		99.55		-7.371E-03	8.906E-02	1.451E-01	1.346E-02	-0.051
		103.76	*	4.418E-04	5.187E-02	8.499E-02	7.419E-03	0.005
		117.00		-4.880E-02	1.029E-01	1.614E-01	1.213E-02	-0.302
		209.75		-7.354E-02	4.202E-01	6.621E-01	4.554E-02	-0.111
		228.18		5.608E-02	1.330E-01	2.307E-01	1.601E-02	0.243
		277.60		-1.198E-02	1.107E-01	1.837E-01	1.268E-02	-0.065
AM-246		798.80		-4.684E-02	8.003E-02	1.223E-01	8.483E-03	-0.383
		1036.00		-3.602E-02	1.294E-01	1.989E-01	1.472E-02	-0.181
		1062.04		-5.213E-03	9.893E-02	1.602E-01	1.141E-02	-0.033
		1078.86	*	6.090E-02	8.132E-02	1.484E-01	1.029E-02	0.410
CM-247		278.00		-1.335E-01	4.574E-01	7.482E-01	5.165E-02	-0.178
		287.40		9.860E-02	7.586E-01	1.281E+00	8.788E-02	0.077
		402.60	*	-9.179E-04	2.284E-02	3.748E-02	2.131E-03	-0.024
CF-249		252.85		2.537E-01	4.935E-01	8.619E-01	6.000E-02	0.294
		333.44		-1.034E-01	1.014E-01	1.522E-01	9.878E-03	-0.680
		387.95	*	-7.074E-03	2.276E-02	3.630E-02	2.081E-03	-0.195
CF-251		176.60	*	-7.380E-03	7.270E-02	1.161E-01	7.781E-03	-0.064
		227.00		-1.048E-01	2.247E-01	3.661E-01	2.539E-02	-0.286
		285.00		3.125E-01	1.091E+00	1.864E+00	1.281E-01	0.168

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]G1202001375
* Acquisition date   : 31-DEC-2009 14:42:59 Detector SN#      :
* Detector ID        : GAM15                               Sensitivity      : 5.000
* Geometry           : CAN                                 Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:00.52                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 22-DEC-2009 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202001375                      Analyst initials: MXR1
* Batch Number       : 935341                            Sample Quantity : 1.5678E+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)	
ANH-511	3.862E-02	2.932E-02	2.443E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.080E-01	1.736E-01	3.218E-01	0.000E+00 NOT IDENT.
NA-22	1.137E-03	1.791E-02	3.043E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	9.638E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-8.236E-03	1.789E-02	2.568E-02	0.000E+00 NOT IDENT.
K-40	-1.191E-01	2.450E-01	3.765E-01	0.000E+00 NOT IDENT.
TI-44	-5.892E-03	1.965E-02	3.535E-02	0.000E+00 NOT IDENT.
SC-46	-1.035E-02	2.052E-02	3.262E-02	0.000E+00 NOT IDENT.
V-48	-4.280E-03	2.655E-02	4.411E-02	0.000E+00 NOT IDENT.
CR-51	1.317E-01	2.039E-01	3.827E-01	0.000E+00 NOT IDENT.
MN-52	-2.036E-02	6.720E-02	1.080E-01	0.000E+00 NOT IDENT.
MN-54	1.875E-03	2.011E-02	3.537E-02	0.000E+00 NOT IDENT.
CO-56	-2.607E-03	2.152E-02	3.673E-02	0.000E+00 NOT IDENT.
CO-57	-7.537E-03	1.330E-02	2.281E-02	0.000E+00 NOT IDENT.
CO-58	6.616E-03	1.966E-02	3.586E-02	0.000E+00 NOT IDENT.
FE-59	2.271E-02	4.025E-02	7.509E-02	0.000E+00 NOT IDENT.
CO-60	-9.796E-03	2.166E-02	3.242E-02	0.000E+00 NOT IDENT.
ZN-65	-2.482E-02	3.567E-02	5.730E-02	0.000E+00 NOT IDENT.
GE-68	1.687E-01	7.047E-01	1.242E+00	0.000E+00 NOT IDENT.
AS-73	-2.544E-01	8.042E-01	1.465E+00	0.000E+00 NOT IDENT.
AS-74	2.642E-02	4.352E-02	7.968E-02	0.000E+00 NOT IDENT.
SE-75	-2.137E-02	2.446E-02	4.104E-02	0.000E+00 NOT IDENT.
BR-77	2.278E-01	1.322E+00	2.198E+00	0.000E+00 FAIL ABUN
SR-82	-4.245E-02	1.716E-01	2.894E-01	0.000E+00 NOT IDENT.
RB-83	9.394E-03	4.113E-02	6.891E-02	0.000E+00 NOT IDENT.
RB-84	2.650E-02	3.258E-02	6.303E-02	0.000E+00 NOT IDENT.
KR-85	0.000E+00	5.005E+00	9.952E+00	0.000E+00 NOT IDENT.

SR-85	0.000E+00	2.422E-02	4.816E-02	0.000E+00	NOT IDENT.
RB-86	2.101E-01	3.595E-01	6.659E-01	0.000E+00	NOT IDENT.
Y-88	7.668E-03	2.369E-02	4.280E-02	0.000E+00	NOT IDENT.
ZR-88	1.313E-02	1.684E-02	3.188E-02	0.000E+00	NOT IDENT.
Y-91	-3.287E+00	7.838E+00	1.206E+01	0.000E+00	NOT IDENT.
NB-94	2.789E-03	2.013E-02	3.601E-02	0.000E+00	NOT IDENT.
NB-95	1.771E-02	2.183E-02	4.181E-02	0.000E+00	NOT IDENT.
NB-95M	9.236E-02	7.953E-02	1.385E-01	0.000E+00	NOT IDENT.
ZR-95	2.632E-02	3.410E-02	6.582E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.441E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.841E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.057E+00	1.705E+00	3.200E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.063E+09	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.346E-03	2.105E-02	3.379E-02	0.000E+00	NOT IDENT.
RH-102	2.167E-03	1.679E-02	2.959E-02	0.000E+00	NOT IDENT.
RU-103	-1.533E-02	2.149E-02	3.379E-02	0.000E+00	FAIL ABUN
RH-106	-1.372E-01	1.790E-01	2.696E-01	0.000E+00	FAIL ABUN
RU-106	-1.372E-01	1.785E-01	2.696E-01	0.000E+00	FAIL ABUN
AG-108M	1.119E-02	1.989E-02	3.672E-02	0.000E+00	NOT IDENT.
CD-109	-7.241E-01	5.139E-01	8.288E-01	0.000E+00	NOT IDENT.
AG-110M	3.067E-03	1.943E-02	3.359E-02	0.000E+00	NOT IDENT.
IN-111	6.161E-02	1.640E-01	2.708E-01	0.000E+00	NOT IDENT.
IN-113M	1.407E-02	2.436E-02	4.536E-02	0.000E+00	NOT IDENT.
SN-113	1.407E-02	2.436E-02	4.536E-02	0.000E+00	NOT IDENT.
IN-114M	-6.772E-02	1.115E-01	1.584E-01	0.000E+00	NOT IDENT.
CD-115	5.675E-01	1.082E+00	1.984E+00	0.000E+00	NOT IDENT.
SN-117M	-2.336E-02	2.301E-02	3.734E-02	0.000E+00	NOT IDENT.
SB-122	-1.442E-01	2.768E-01	4.410E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.973E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.075E-02	1.519E-02	2.534E-02	0.000E+00	NOT IDENT.
I-124	-9.388E-02	1.942E-01	2.618E-01	0.000E+00	NOT IDENT.
SB-124	1.722E-02	4.519E-02	8.355E-02	0.000E+00	NOT IDENT.
SB-125	-3.123E-02	4.819E-02	7.759E-02	0.000E+00	NOT IDENT.
TE-125M	-5.012E+00	4.834E+00	8.026E+00	0.000E+00	NOT IDENT.
I-126	-4.104E-04	7.679E-02	1.297E-01	0.000E+00	NOT IDENT.
SB-126	3.940E-02	5.677E-02	1.082E-01	0.000E+00	NOT IDENT.
SN-126	-4.218E-02	4.954E-02	8.341E-02	0.000E+00	NOT IDENT.
SB-127	5.979E-02	2.665E-01	4.838E-01	0.000E+00	NOT IDENT.
XE-127	-8.934E-03	2.324E-02	3.914E-02	0.000E+00	NOT IDENT.
I-131	2.051E-02	4.370E-02	8.065E-02	0.000E+00	NOT IDENT.
TE-132	5.186E-02	1.224E-01	2.297E-01	0.000E+00	NOT IDENT.
BA-133	-1.898E-02	2.738E-02	4.543E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.166E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.267E-02	2.414E-02	4.502E-02	0.000E+00	NOT IDENT.
CS-135	5.858E-02	8.426E-02	1.605E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.552E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.241E-03	4.262E-02	6.988E-02	0.000E+00	NOT IDENT.
BA-137M	-9.364E-03	2.140E-02	3.408E-02	0.000E+00	NOT IDENT.
CS-137	-9.898E-03	2.262E-02	3.603E-02	0.000E+00	NOT IDENT.
CE-139	-3.540E-03	1.540E-02	2.664E-02	0.000E+00	NOT IDENT.
BA-140	7.862E-02	1.175E-01	2.130E-01	0.000E+00	NOT IDENT.
LA-140	-6.827E-04	3.437E-02	5.825E-02	0.000E+00	NOT IDENT.
CE-141	3.123E-03	2.934E-02	5.253E-02	0.000E+00	NOT IDENT.
CE-143	3.575E+00	4.704E+00	8.842E+00	0.000E+00	NOT IDENT.
CE-144	-4.319E-02	1.083E-01	1.872E-01	0.000E+00	NOT IDENT.
PM-144	7.026E-03	2.244E-02	4.078E-02	0.000E+00	NOT IDENT.
PR-144	4.747E-01	1.516E+00	2.755E+00	0.000E+00	NOT IDENT.
PM-146	-1.105E-02	2.605E-02	4.326E-02	0.000E+00	NOT IDENT.
ND-147	-2.619E-02	2.138E-01	3.620E-01	0.000E+00	NOT IDENT.
PM-149	2.990E+00	9.732E+00	1.793E+01	0.000E+00	NOT IDENT.
EU-152	1.809E-02	6.163E-02	1.122E-01	0.000E+00	NOT IDENT.
GD-153	2.856E-02	4.337E-02	8.210E-02	0.000E+00	NOT IDENT.
EU-154	4.268E-03	5.042E-02	8.609E-02	0.000E+00	NOT IDENT.
EU-155	2.726E-02	5.907E-02	1.102E-01	0.000E+00	NOT IDENT.
TB-160	3.735E-02	6.774E-02	1.270E-01	0.000E+00	NOT IDENT.
HO-166M	2.406E-02	3.215E-02	6.176E-02	0.000E+00	FAIL ABUN
TM-171	-2.700E+01	2.145E+01	3.424E+01	0.000E+00	NOT IDENT.
LU-176	3.805E-03	1.511E-02	2.761E-02	0.000E+00	NOT IDENT.
LU-177	1.928E-02	3.399E-01	5.931E-01	0.000E+00	NOT IDENT.
LU-177M	5.855E-02	9.934E-02	1.845E-01	0.000E+00	NOT IDENT.
HF-181	-1.777E-02	2.286E-02	3.594E-02	0.000E+00	NOT IDENT.
W-181	-2.255E-01	2.805E-01	4.675E-01	0.000E+00	NOT IDENT.
TA-182	-3.529E-03	9.472E-02	1.581E-01	0.000E+00	NOT IDENT.
RE-183	5.733E-02	5.719E-02	1.081E-01	0.000E+00	NOT IDENT.
RE-184	6.610E-02	1.260E-01	2.378E-01	0.000E+00	NOT IDENT.
OS-185	2.851E-02	2.015E-02	4.117E-02	0.000E+00	NOT IDENT.
RE-188	5.350E-03	8.863E-02	1.575E-01	0.000E+00	NOT IDENT.
W-188	-3.511E+00	4.165E+00	6.968E+00	0.000E+00	NOT IDENT.

IR-192	-3.209E-03	1.974E-02	3.481E-02	0.000E+00	NOT IDENT.
AU-195	1.616E-02	1.180E-01	2.163E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	8.549E+00	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.936E-01	1.049E+00	1.729E+00	0.000E+00	NOT IDENT.
TL-202	1.857E-03	3.072E-02	5.400E-02	0.000E+00	NOT IDENT.
HG-203	-3.120E-02	2.263E-02	3.613E-02	0.000E+00	NOT IDENT.
BI-207	-2.412E-03	2.295E-02	3.819E-02	0.000E+00	NOT IDENT.
TL-207	-2.799E-01	4.146E-01	6.940E-01	0.000E+00	NOT IDENT.
TL-208	4.475E-02	2.904E-02	5.190E-02	0.000E+00	FAIL ABUN
PO-209	3.664E+00	4.453E+00	8.502E+00	0.000E+00	NOT IDENT.
BI-210	-5.114E+00	6.460E+00	1.057E+01	0.000E+00	NOT IDENT.
PB-210	-5.114E+00	6.460E+00	1.057E+01	0.000E+00	NOT IDENT.
PO-210	-5.114E+00	6.457E+00	1.057E+01	0.000E+00	NOT IDENT.
BI-211	-3.690E-02	1.498E-01	2.511E-01	0.000E+00	NOT IDENT.
PB-211	-2.771E-01	5.904E-01	9.462E-01	0.000E+00	NOT IDENT.
BI-212	-8.622E-02	1.696E-01	2.662E-01	0.000E+00	NOT IDENT.
PB-212	7.210E-02	7.478E-02	8.478E-02	0.000E+00	FAIL ABUN
PO-212	7.210E-02	7.478E-02	8.478E-02	0.000E+00	FAIL ABUN
BI-214	4.049E-02	7.240E-02	9.565E-02	0.000E+00	FAIL ABUN
PB-214	-2.226E-02	5.127E-02	8.434E-02	0.000E+00	NOT IDENT.
PO-214	-2.226E-02	5.127E-02	8.434E-02	0.000E+00	NOT IDENT.
PO-215	-2.799E-01	4.146E-01	6.940E-01	0.000E+00	NOT IDENT.
PO-216	7.210E-02	7.478E-02	8.478E-02	0.000E+00	FAIL ABUN
PO-218	-2.226E-02	5.127E-02	8.434E-02	0.000E+00	NOT IDENT.
RN-219	2.779E-02	2.485E-01	4.416E-01	0.000E+00	NOT IDENT.
RN-220	-6.540E+00	1.610E+01	2.629E+01	0.000E+00	NOT IDENT.
RA-223	-2.799E-01	4.146E-01	6.940E-01	0.000E+00	NOT IDENT.
RA-224	5.190E-01	3.879E-01	7.626E-01	0.000E+00	NOT IDENT.
RA-226	4.049E-02	7.240E-02	9.565E-02	0.000E+00	FAIL ABUN
AC-227	-6.591E-02	2.209E-01	3.910E-01	0.000E+00	NOT IDENT.
TH-227	-6.591E-02	2.210E-01	3.910E-01	0.000E+00	NOT IDENT.
AC-228	-1.145E-02	8.121E-02	1.322E-01	0.000E+00	NOT IDENT.
RA-228	-1.145E-02	8.121E-02	1.322E-01	0.000E+00	NOT IDENT.
TH-228	7.279E-02	7.550E-02	8.560E-02	0.000E+00	FAIL ABUN
TH-229	2.007E-01	2.993E-01	5.478E-01	0.000E+00	NOT IDENT.
TH-230	4.049E-02	7.240E-02	9.565E-02	0.000E+00	FAIL ABUN
PA-231	5.864E-01	9.433E-01	1.772E+00	0.000E+00	NOT IDENT.
TH-231	-2.799E-01	4.146E-01	6.940E-01	0.000E+00	NOT IDENT.
U-231	-7.015E-01	2.885E-01	4.301E-01	0.000E+00	NOT IDENT.
TH-232	-1.145E-02	8.121E-02	1.322E-01	0.000E+00	NOT IDENT.
PA-233	2.499E-02	3.633E-02	6.882E-02	0.000E+00	NOT IDENT.
PA-234	8.988E-02	1.597E-01	2.969E-01	0.000E+00	FAIL ABUN
PA-234M	2.395E-01	2.568E+00	4.519E+00	0.000E+00	NOT IDENT.
TH-234	-1.267E+00	1.155E+00	1.944E+00	0.000E+00	NOT IDENT.
U-234	4.049E-02	7.240E-02	9.565E-02	0.000E+00	FAIL ABUN
U-235	1.485E-01	1.167E-01	2.212E-01	0.000E+00	FAIL ABUN
NP-236	-2.501E-03	4.418E-02	7.768E-02	0.000E+00	NOT IDENT.
NP-237	-1.079E-01	1.393E-01	2.311E-01	0.000E+00	NOT IDENT.
U-238	-1.267E+00	1.155E+00	1.944E+00	0.000E+00	NOT IDENT.
NP-239	-4.745E-02	9.801E-02	1.695E-01	0.000E+00	NOT IDENT.
AM-241	-9.857E-03	1.387E-01	2.569E-01	0.000E+00	NOT IDENT.
AM-243	-2.103E-02	3.555E-02	6.126E-02	0.000E+00	NOT IDENT.
CM-243	4.418E-04	5.083E-02	9.207E-02	0.000E+00	NOT IDENT.
AM-246	6.090E-02	7.969E-02	1.511E-01	0.000E+00	NOT IDENT.
CM-247	-9.179E-04	2.238E-02	3.920E-02	0.000E+00	NOT IDENT.
CF-249	-7.074E-03	2.230E-02	3.800E-02	0.000E+00	NOT IDENT.
CF-251	-7.380E-03	7.124E-02	1.241E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001375.CNF;1
Sample date        : 22-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 14:42:59
Sample ID          : G1202001375 Sample quantity : 1.56780E+02 GRAM
Detector name      : GAM15 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.52 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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
ANH-511	511.00	40	100.00*	2.455E+00	3.862E-02	3.862E-02	77.48

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202001375

Page : 2
Acquisition date : 31-DEC-2009 14:42:59

Total number of lines in spectrum 5
Number of unidentified lines 0
Number of lines tentatively identified by NID 5 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ANH-511	1.00E+09Y	1.00	3.862E-02	3.862E-02	2.992E-02	77.48	
Total Activity :			3.862E-02	3.862E-02			

Grand Total Activity : 3.862E-02 3.862E-02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202001375

Page : 3
Acquisition date : 31-DEC-2009 14:42:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.09	5	94	0.95	370.57	365	11	7.03E-04	****	4.99E+00	T
0	239.26	56	126	1.96	478.86	472	17	7.84E-03	****	4.21E+00	T
0	582.70	35	9	1.42	1165.50	1159	13	4.87E-03	65.9	2.23E+00	T
0	609.05	17	39	1.68	1218.18	1212	15	2.34E-03	****	2.16E+00	T

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001375.CNF;1
* Acquisition date   : 31-DEC-2009 14:42:59  Detector SN#      :
* Detector ID        : GAM15                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit   : 75.00000
* Elapsed real time  : 0 02:00:00.52          Half life ratio   : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 22-DEC-2009 00:00:00  Nuclide Library   : SOLID
* Sample ID          : G1202001375          Analyst initials  : MXR1
* Batch Number       : 935341              Sample Quantity   : 1.56780E+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
ANH-511	3.862E-02	2.992E-02	2.351E-02	1.328E-03	1.643

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.080E-01		1.771E-01	3.091E-01	2.060E-02	0.349
NA-22	1.137E-03		1.828E-02	3.005E-02	2.062E-03	0.038
NA-24	-5.963E-04		4.917E-04	Half-Life too short		
AL-26	-8.236E-03		1.826E-02	2.561E-02	1.533E-03	-0.322
K-40	-1.191E-01		2.500E-01	3.731E-01	2.852E-02	-0.319
TI-44	-5.892E-03		2.005E-02	3.240E-02	3.603E-03	-0.182
SC-46	-1.035E-02		2.094E-02	3.187E-02	2.673E-03	-0.325
V-48	-4.280E-03		2.709E-02	4.322E-02	3.415E-03	-0.099
CR-51	1.317E-01		2.081E-01	3.637E-01	2.623E-02	0.362
MN-52	-2.036E-02		6.858E-02	1.070E-01	7.931E-03	-0.190
MN-54	1.875E-03		2.052E-02	3.451E-02	2.586E-03	0.054

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	-2.607E-03		2.196E-02	3.584E-02	2.755E-03	-0.073
CO-57	-7.537E-03		1.358E-02	2.114E-02	1.520E-03	-0.356
CO-58	6.616E-03		2.006E-02	3.495E-02	2.497E-03	0.189
FE-59	2.271E-02		4.108E-02	7.382E-02	5.586E-03	0.308
CO-60	-9.796E-03		2.210E-02	3.204E-02	2.418E-03	-0.306
ZN-65	-2.482E-02		3.639E-02	5.635E-02	3.661E-03	-0.440
GE-68	1.687E-01		7.191E-01	1.220E+00	8.479E-02	0.138
AS-73	-2.544E-01		8.206E-01	1.331E+00	1.818E-01	-0.191
AS-74	2.642E-02		4.441E-02	7.701E-02	4.140E-03	0.343
SE-75	-2.137E-02		2.496E-02	3.881E-02	2.714E-03	-0.551
BR-77	2.278E-01		1.349E+00	2.116E+00	1.191E-01	0.108
SR-82	-4.245E-02		1.751E-01	2.818E-01	1.860E-02	-0.151
RB-83	9.394E-03		4.196E-02	6.635E-02	3.733E-03	0.142
RB-84	2.650E-02		3.324E-02	6.158E-02	5.085E-03	0.430
KR-85	1.334E+01		5.107E+00	9.578E+00	5.403E-01	1.392
SR-85	6.453E-02		2.471E-02	4.635E-02	2.615E-03	1.392
RB-86	2.101E-01		3.669E-01	6.543E-01	4.552E-02	0.321
Y-88	7.668E-03		2.418E-02	4.270E-02	2.494E-03	0.180
ZR-88	1.313E-02		1.718E-02	3.046E-02	1.728E-03	0.431
Y-91	-3.287E+00		7.998E+00	1.189E+01	7.188E-01	-0.277
NB-94	2.789E-03		2.054E-02	3.496E-02	1.944E-03	0.080
NB-95	1.771E-02		2.228E-02	4.068E-02	2.622E-03	0.435
NB-95M	9.236E-02		8.115E-02	1.306E-01	1.103E-02	0.707
ZR-95	2.632E-02		3.480E-02	6.403E-02	4.773E-03	0.411
NB-97	3.855E-05		1.245E-04	Half-Life too short		
ZR-97	2.131E-02		2.980E-03	Half-Life too short		
MO-99	1.057E+00		1.740E+00	3.111E+00	4.323E-01	0.340
TC-99M	-9.084E+02		2.583E+03	Half-Life too short		
RH-101	-5.346E-03		2.148E-02	3.171E-02	2.163E-03	-0.169
RH-102	2.167E-03		1.713E-02	2.842E-02	1.620E-03	0.076
RU-103	-1.533E-02		2.193E-02	3.249E-02	4.090E-03	-0.472
RH-106	-1.372E-01		1.827E-01	2.608E-01	2.993E-02	-0.526
RU-106	-1.372E-01		1.821E-01	2.608E-01	1.370E-02	-0.526
AG-108M	1.119E-02		2.029E-02	3.518E-02	2.187E-03	0.318
CD-109	-7.241E-01		5.244E-01	7.619E-01	8.810E-02	-0.950
AG-110M	3.067E-03		1.983E-02	3.255E-02	1.784E-03	0.094
IN-111	6.161E-02		1.674E-01	2.556E-01	1.779E-02	0.241
IN-113M	1.407E-02		2.486E-02	4.334E-02	2.629E-03	0.325
SN-113	1.407E-02		2.486E-02	4.334E-02	2.629E-03	0.325
IN-114M	-6.772E-02		1.137E-01	1.485E-01	1.007E-02	-0.456
CD-115	5.675E-01		1.104E+00	1.911E+00	1.072E-01	0.297
SN-117M	-2.336E-02		2.348E-02	3.484E-02	2.330E-03	-0.670
SB-122	-1.442E-01		2.825E-01	4.255E-01	2.341E-02	-0.339
I-123	-2.104E-03		1.517E-03	Half-Life too short		
TE-123M	-1.075E-02		1.550E-02	2.364E-02	1.596E-03	-0.455
I-124	-9.388E-02		1.982E-01	2.531E-01	1.353E-02	-0.371
SB-124	1.722E-02		4.612E-02	8.317E-02	5.841E-03	0.207
SB-125	-3.123E-02		4.917E-02	7.431E-02	4.429E-03	-0.420

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	-5.012E+00		4.933E+00	7.418E+00	7.364E-01	-0.676
I-126	-4.104E-04		7.836E-02	1.258E-01	6.400E-03	-0.003
SB-126	3.940E-02		5.793E-02	1.051E-01	6.103E-03	0.375
SN-126	-4.218E-02		5.055E-02	7.667E-02	8.847E-03	-0.550
SB-127	5.979E-02		2.719E-01	4.694E-01	3.444E-02	0.127
XE-127	-8.934E-03		2.372E-02	3.675E-02	2.516E-03	-0.243
I-131	2.051E-02		4.459E-02	7.691E-02	5.156E-03	0.267
TE-132	5.186E-02		1.249E-01	2.163E-01	3.021E-02	0.240
BA-133	-1.898E-02		2.794E-02	4.329E-02	5.098E-03	-0.438
I-133	-1.163E-05		2.126E-05	Half-Life too short		
CS-134	1.267E-02		2.463E-02	4.385E-02	3.056E-03	0.289
CS-135	5.858E-02		8.598E-02	1.518E-01	1.298E-02	0.386
I-135	-4.574E+02		1.302E+03	Half-Life too short		
CS-136	-9.241E-03		4.349E-02	6.861E-02	5.283E-03	-0.135
BA-137M	-9.364E-03		2.184E-02	3.303E-02	1.662E-03	-0.283
CS-137	-9.898E-03		2.309E-02	3.492E-02	1.767E-03	-0.283
CE-139	-3.540E-03		1.572E-02	2.489E-02	1.655E-03	-0.142
BA-140	7.862E-02		1.199E-01	2.053E-01	6.668E-02	0.383
LA-140	-6.827E-04		3.507E-02	5.789E-02	4.035E-03	-0.012
CE-141	3.123E-03		2.994E-02	4.891E-02	3.414E-03	0.064
CE-143	3.575E+00		4.800E+00	8.384E+00	1.767E+00	0.426
CE-144	-4.319E-02		1.105E-01	1.739E-01	2.557E-02	-0.248
PM-144	7.026E-03		2.290E-02	3.958E-02	2.170E-03	0.178
PR-144	4.747E-01		1.547E+00	2.674E+00	1.466E-01	0.178
PM-146	-1.105E-02		2.658E-02	4.150E-02	3.554E-03	-0.266
ND-147	-2.619E-02		2.181E-01	3.488E-01	4.686E-02	-0.075
PM-149	2.990E+00		9.931E+00	1.698E+01	2.485E+00	0.176
EU-152	1.809E-02		6.288E-02	1.068E-01	7.528E-03	0.169
GD-153	2.856E-02		4.425E-02	7.567E-02	7.261E-03	0.377
EU-154	4.268E-03		5.145E-02	8.500E-02	8.524E-03	0.050
EU-155	2.726E-02		6.027E-02	1.017E-01	8.810E-03	0.268
TB-160	3.735E-02		6.913E-02	1.241E-01	1.020E-02	0.301
HO-166M	2.406E-02		3.281E-02	5.998E-02	3.409E-03	0.401
TM-171	-2.700E+01		2.189E+01	3.126E+01	3.595E+00	-0.864
LU-176	3.805E-03		1.541E-02	2.621E-02	1.766E-03	0.145
LU-177	1.928E-02		3.468E-01	5.573E-01	3.830E-02	0.035
LU-177M	5.855E-02		1.014E-01	1.765E-01	1.006E-02	0.332
HF-181	-1.777E-02		2.333E-02	3.453E-02	1.966E-03	-0.514
W-181	-2.255E-01		2.862E-01	4.266E-01	4.965E-02	-0.528
TA-182	-3.529E-03		9.666E-02	1.559E-01	9.721E-03	-0.023
RE-183	5.733E-02		5.836E-02	1.009E-01	6.728E-03	0.568
RE-184	6.610E-02		1.286E-01	2.246E-01	1.563E-02	0.294
OS-185	2.851E-02		2.056E-02	3.988E-02	2.043E-03	0.715
RE-188	5.350E-03		9.044E-02	1.469E-01	9.854E-03	0.036
W-188	-3.511E+00		4.250E+00	6.605E+00	4.520E-01	-0.531
IR-192	-3.209E-03		2.014E-02	3.307E-02	2.210E-03	-0.097
AU-195	1.616E-02		1.204E-01	1.994E-01	1.869E-02	0.081
TL-200	1.719E-06		4.362E-06	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
TL-201	-7.936E-01		1.071E+00	1.616E+00	1.075E-01	-0.491
TL-202	1.857E-03		3.134E-02	5.175E-02	2.958E-03	0.036
HG-203	-3.120E-02		2.309E-02	3.421E-02	2.464E-03	-0.912
BI-207	-2.412E-03		2.342E-02	3.751E-02	2.665E-03	-0.064
TL-207	-2.799E-01		4.230E-01	6.597E-01	1.109E-01	-0.424
TL-208	4.475E-02	+	2.964E-02	5.012E-02	3.191E-03	0.893
PO-209	3.664E+00		4.544E+00	8.310E+00	7.074E-01	0.441
BI-210	-5.114E+00		6.592E+00	9.563E+00	9.933E-01	-0.535
PB-210	-5.114E+00		6.592E+00	9.563E+00	9.933E-01	-0.535
PO-210	-5.114E+00		6.589E+00	9.563E+00	9.186E-01	-0.535
BI-211	-3.690E-02		1.529E-01	2.392E-01	1.644E-02	-0.154
PB-211	-2.771E-01		6.024E-01	9.048E-01	5.640E-01	-0.306
BI-212	-8.622E-02		1.731E-01	2.587E-01	2.014E-02	-0.333
PB-212	7.210E-02	+	7.630E-02	7.995E-02	6.618E-03	0.902
PO-212	7.210E-02	+	7.630E-02	7.995E-02	6.618E-03	0.902
BI-214	4.049E-02	+	7.388E-02	9.250E-02	6.868E-03	0.438
PB-214	-2.226E-02		5.231E-02	8.035E-02	6.927E-03	-0.277
PO-214	-2.226E-02		5.231E-02	8.035E-02	6.927E-03	-0.277
PO-215	-2.799E-01		4.230E-01	6.597E-01	1.109E-01	-0.424
PO-216	7.210E-02	+	7.630E-02	7.995E-02	6.618E-03	0.902
PO-218	-2.226E-02		5.231E-02	8.035E-02	6.927E-03	-0.277
RN-219	2.779E-02		2.535E-01	4.222E-01	5.724E-02	0.066
RN-220	-6.540E+00		1.643E+01	2.535E+01	1.406E+00	-0.258
RA-223	-2.799E-01		4.230E-01	6.597E-01	1.109E-01	-0.424
RA-224	5.190E-01		3.959E-01	7.193E-01	5.006E-02	0.722
RA-226	4.049E-02	+	7.388E-02	9.250E-02	6.868E-03	0.438
AC-227	-6.591E-02		2.254E-01	3.694E-01	5.349E-02	-0.178
TH-227	-6.591E-02		2.255E-01	3.694E-01	6.402E-02	-0.178
AC-228	-1.145E-02		8.287E-02	1.293E-01	1.437E-02	-0.089
RA-228	-1.145E-02		8.287E-02	1.293E-01	1.437E-02	-0.089
TH-228	7.279E-02	+	7.704E-02	8.072E-02	6.682E-03	0.902
TH-229	2.007E-01		3.054E-01	5.138E-01	3.493E-02	0.391
TH-230	4.049E-02	+	7.388E-02	9.250E-02	6.867E-03	0.438
PA-231	5.864E-01		9.626E-01	1.678E+00	2.395E-01	0.349
TH-231	-2.799E-01		4.230E-01	6.597E-01	1.109E-01	-0.424
U-231	-7.015E-01		2.944E-01	3.962E-01	3.905E-02	-1.770
TH-232	-1.145E-02		8.287E-02	1.293E-01	1.437E-02	-0.089
PA-233	2.499E-02		3.707E-02	6.536E-02	4.581E-03	0.382
PA-234	8.988E-02		1.630E-01	2.907E-01	5.400E-02	0.309
PA-234M	2.395E-01		2.620E+00	4.430E+00	4.083E-01	0.054
TH-234	-1.267E+00		1.178E+00	1.773E+00	3.499E-01	-0.714
U-234	4.049E-02	+	7.388E-02	9.250E-02	6.867E-03	0.438
U-235	1.485E-01		1.191E-01	2.059E-01	3.435E-02	0.721
NP-236	-2.501E-03		4.508E-02	7.250E-02	4.840E-03	-0.035
NP-237	-1.079E-01		1.422E-01	2.124E-01	5.013E-02	-0.508
U-238	-1.267E+00		1.178E+00	1.773E+00	3.499E-01	-0.714
NP-239	-4.745E-02		1.000E-01	1.569E-01	1.180E-02	-0.302
AM-241	-9.857E-03		1.415E-01	2.340E-01	2.977E-02	-0.042

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	-2.103E-02		3.628E-02	5.609E-02	6.233E-03	-0.375
CM-243	4.418E-04		5.187E-02	8.499E-02	7.419E-03	0.005
AM-246	6.090E-02		8.132E-02	1.484E-01	1.029E-02	0.410
CM-247	-9.179E-04		2.284E-02	3.748E-02	2.131E-03	-0.024
CF-249	-7.074E-03		2.276E-02	3.630E-02	2.081E-03	-0.195
CF-251	-7.380E-03		7.270E-02	1.161E-01	7.781E-03	-0.064

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]G1202001375          *
* Acquisition date   : 31-DEC-2009 14:42:59 Detector SN#      :              *
* Detector ID        : GAM15                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:00.52             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202001375             Analyst initials: MXR1         *
* Batch Number       : 935341                  Sample Quantity : 1.5678E+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
ANH-511	3.862E-02	2.932E-02	1.222E-02	1.496E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	1.080E-01	1.736E-01	1.610E-01	8.856E-02	NOT IDENT.
NA-22	1.137E-03	1.791E-02	1.523E-02	9.138E-03	NOT IDENT.
NA-24	-5.963E+02	9.638E+02	0.000E+00	4.917E+02	SHORT HLIF
AL-26	-8.236E-03	1.789E-02	1.285E-02	9.130E-03	NOT IDENT.
K-40	-1.191E-01	2.450E-01	1.883E-01	1.250E-01	NOT IDENT.
TI-44	-5.892E-03	1.965E-02	1.768E-02	1.002E-02	NOT IDENT.
SC-46	-1.035E-02	2.052E-02	1.632E-02	1.047E-02	NOT IDENT.
V-48	-4.280E-03	2.655E-02	2.207E-02	1.354E-02	NOT IDENT.
CR-51	1.317E-01	2.039E-01	1.915E-01	1.041E-01	NOT IDENT.
MN-52	-2.036E-02	6.720E-02	5.402E-02	3.429E-02	NOT IDENT.
MN-54	1.875E-03	2.011E-02	1.770E-02	1.026E-02	NOT IDENT.
CO-56	-2.607E-03	2.152E-02	1.837E-02	1.098E-02	NOT IDENT.
CO-57	-7.537E-03	1.330E-02	1.141E-02	6.788E-03	NOT IDENT.
CO-58	6.616E-03	1.966E-02	1.794E-02	1.003E-02	NOT IDENT.
FE-59	2.271E-02	4.025E-02	3.757E-02	2.054E-02	NOT IDENT.
CO-60	-9.796E-03	2.166E-02	1.622E-02	1.105E-02	NOT IDENT.
ZN-65	-2.482E-02	3.567E-02	2.866E-02	1.820E-02	NOT IDENT.
GE-68	1.687E-01	7.047E-01	6.213E-01	3.595E-01	NOT IDENT.
AS-73	-2.544E-01	8.042E-01	7.330E-01	4.103E-01	NOT IDENT.
AS-74	2.642E-02	4.352E-02	3.986E-02	2.221E-02	NOT IDENT.
SE-75	-2.137E-02	2.446E-02	2.053E-02	1.248E-02	NOT IDENT.
BR-77	2.278E-01	1.322E+00	1.100E+00	6.746E-01	FAIL ABUN
SR-82	-4.245E-02	1.716E-01	1.448E-01	8.755E-02	NOT IDENT.
RB-83	9.394E-03	4.113E-02	3.447E-02	2.098E-02	NOT IDENT.
RB-84	2.650E-02	3.258E-02	3.154E-02	1.662E-02	NOT IDENT.
KR-85	1.334E+01	5.005E+00	4.979E+00	2.554E+00	NOT IDENT.

SR-85	6.453E-02	2.422E-02	2.409E-02	1.236E-02	NOT IDENT.
RB-86	2.101E-01	3.595E-01	3.332E-01	1.834E-01	NOT IDENT.
Y-88	7.668E-03	2.369E-02	2.141E-02	1.209E-02	NOT IDENT.
ZR-88	1.313E-02	1.684E-02	1.595E-02	8.589E-03	NOT IDENT.
Y-91	-3.287E+00	7.838E+00	6.033E+00	3.999E+00	NOT IDENT.
NB-94	2.789E-03	2.013E-02	1.801E-02	1.027E-02	NOT IDENT.
NB-95	1.771E-02	2.183E-02	2.092E-02	1.114E-02	NOT IDENT.
NB-95M	9.236E-02	7.953E-02	6.931E-02	4.057E-02	NOT IDENT.
ZR-95	2.632E-02	3.410E-02	3.293E-02	1.740E-02	NOT IDENT.
NB-97	3.855E+01	2.441E+02	0.000E+00	1.245E+02	SHORT HLIF
ZR-97	2.131E+04	5.841E+03	0.000E+00	2.980E+03	SHORT HLIF
MO-99	1.057E+00	1.705E+00	1.601E+00	8.698E-01	NOT IDENT.
TC-99M	-9.084E+08	5.063E+09	0.000E+00	2.583E+09	SHORT HLIF
RH-101	-5.346E-03	2.105E-02	1.690E-02	1.074E-02	NOT IDENT.
RH-102	2.167E-03	1.679E-02	1.480E-02	8.567E-03	NOT IDENT.
RU-103	-1.533E-02	2.149E-02	1.691E-02	1.097E-02	FAIL ABUN
RH-106	-1.372E-01	1.790E-01	1.349E-01	9.134E-02	FAIL ABUN
RU-106	-1.372E-01	1.785E-01	1.349E-01	9.107E-02	FAIL ABUN
AG-108M	1.119E-02	1.989E-02	1.837E-02	1.015E-02	NOT IDENT.
CD-109	-7.241E-01	5.139E-01	4.146E-01	2.622E-01	NOT IDENT.
AG-110M	3.067E-03	1.943E-02	1.681E-02	9.913E-03	NOT IDENT.
IN-111	6.161E-02	1.640E-01	1.355E-01	8.368E-02	NOT IDENT.
IN-113M	1.407E-02	2.436E-02	2.269E-02	1.243E-02	NOT IDENT.
SN-113	1.407E-02	2.436E-02	2.269E-02	1.243E-02	NOT IDENT.
IN-114M	-6.772E-02	1.115E-01	7.926E-02	5.687E-02	NOT IDENT.
CD-115	5.675E-01	1.082E+00	9.926E-01	5.519E-01	NOT IDENT.
SN-117M	-2.336E-02	2.301E-02	1.868E-02	1.174E-02	NOT IDENT.
SB-122	-1.442E-01	2.768E-01	2.206E-01	1.412E-01	NOT IDENT.
I-123	-2.104E+03	2.973E+03	0.000E+00	1.517E+03	SHORT HLIF
TE-123M	-1.075E-02	1.519E-02	1.268E-02	7.750E-03	NOT IDENT.
I-124	-9.388E-02	1.942E-01	1.310E-01	9.910E-02	NOT IDENT.
SB-124	1.722E-02	4.519E-02	4.180E-02	2.306E-02	NOT IDENT.
SB-125	-3.123E-02	4.819E-02	3.882E-02	2.459E-02	NOT IDENT.
TE-125M	-5.012E+00	4.834E+00	4.015E+00	2.466E+00	NOT IDENT.
I-126	-4.104E-04	7.679E-02	6.490E-02	3.918E-02	NOT IDENT.
SB-126	3.940E-02	5.677E-02	5.415E-02	2.896E-02	NOT IDENT.
SN-126	-4.218E-02	4.954E-02	4.173E-02	2.527E-02	NOT IDENT.
SB-127	5.979E-02	2.665E-01	2.420E-01	1.360E-01	NOT IDENT.
XE-127	-8.934E-03	2.324E-02	1.958E-02	1.186E-02	NOT IDENT.
I-131	2.051E-02	4.370E-02	4.035E-02	2.230E-02	NOT IDENT.
TE-132	5.186E-02	1.224E-01	1.149E-01	6.246E-02	NOT IDENT.
BA-133	-1.898E-02	2.738E-02	2.273E-02	1.397E-02	NOT IDENT.
I-133	-1.163E+01	4.166E+01	0.000E+00	2.126E+01	SHORT HLIF
CS-134	1.267E-02	2.414E-02	2.252E-02	1.232E-02	NOT IDENT.
CS-135	5.858E-02	8.426E-02	8.028E-02	4.299E-02	NOT IDENT.
I-135	-4.574E+08	2.552E+09	0.000E+00	1.302E+09	SHORT HLIF
CS-136	-9.241E-03	4.262E-02	3.496E-02	2.175E-02	NOT IDENT.
BA-137M	-9.364E-03	2.140E-02	1.705E-02	1.092E-02	NOT IDENT.
CS-137	-9.898E-03	2.262E-02	1.802E-02	1.154E-02	NOT IDENT.
CE-139	-3.540E-03	1.540E-02	1.333E-02	7.858E-03	NOT IDENT.
BA-140	7.862E-02	1.175E-01	1.066E-01	5.993E-02	NOT IDENT.
LA-140	-6.827E-04	3.437E-02	2.914E-02	1.754E-02	NOT IDENT.
CE-141	3.123E-03	2.934E-02	2.628E-02	1.497E-02	NOT IDENT.
CE-143	3.575E+00	4.704E+00	4.424E+00	2.400E+00	NOT IDENT.
CE-144	-4.319E-02	1.083E-01	9.367E-02	5.526E-02	NOT IDENT.
PM-144	7.026E-03	2.244E-02	2.040E-02	1.145E-02	NOT IDENT.
PR-144	4.747E-01	1.516E+00	1.379E+00	7.736E-01	NOT IDENT.
PM-146	-1.105E-02	2.605E-02	2.164E-02	1.329E-02	NOT IDENT.
ND-147	-2.619E-02	2.138E-01	1.811E-01	1.091E-01	NOT IDENT.
PM-149	2.990E+00	9.732E+00	8.968E+00	4.966E+00	NOT IDENT.
EU-152	1.809E-02	6.163E-02	5.613E-02	3.144E-02	NOT IDENT.
GD-153	2.856E-02	4.337E-02	4.107E-02	2.213E-02	NOT IDENT.
EU-154	4.268E-03	5.042E-02	4.307E-02	2.572E-02	NOT IDENT.
EU-155	2.726E-02	5.907E-02	5.512E-02	3.014E-02	NOT IDENT.
TB-160	3.735E-02	6.774E-02	6.355E-02	3.456E-02	NOT IDENT.
HO-166M	2.406E-02	3.215E-02	3.090E-02	1.640E-02	FAIL ABUN
TM-171	-2.700E+01	2.145E+01	1.713E+01	1.095E+01	NOT IDENT.
LU-176	3.805E-03	1.511E-02	1.381E-02	7.707E-03	NOT IDENT.
LU-177	1.928E-02	3.399E-01	2.967E-01	1.734E-01	NOT IDENT.
LU-177M	5.855E-02	9.934E-02	9.229E-02	5.068E-02	NOT IDENT.
HF-181	-1.777E-02	2.286E-02	1.798E-02	1.166E-02	NOT IDENT.
W-181	-2.255E-01	2.805E-01	2.339E-01	1.431E-01	NOT IDENT.
TA-182	-3.529E-03	9.472E-02	7.911E-02	4.833E-02	NOT IDENT.
RE-183	5.733E-02	5.719E-02	5.409E-02	2.918E-02	NOT IDENT.
RE-184	6.610E-02	1.260E-01	1.190E-01	6.429E-02	NOT IDENT.
OS-185	2.851E-02	2.015E-02	2.060E-02	1.028E-02	NOT IDENT.
RE-188	5.350E-03	8.863E-02	7.881E-02	4.522E-02	NOT IDENT.
W-188	-3.511E+00	4.165E+00	3.486E+00	2.125E+00	NOT IDENT.

IR-192	-3.209E-03	1.974E-02	1.741E-02	1.007E-02	NOT IDENT.
AU-195	1.616E-02	1.180E-01	1.082E-01	6.022E-02	NOT IDENT.
TL-200	1.719E+00	8.549E+00	0.000E+00	4.362E+00	SHORT HLIF
TL-201	-7.936E-01	1.049E+00	8.651E-01	5.353E-01	NOT IDENT.
TL-202	1.857E-03	3.072E-02	2.701E-02	1.567E-02	NOT IDENT.
HG-203	-3.120E-02	2.263E-02	1.807E-02	1.155E-02	NOT IDENT.
BI-207	-2.412E-03	2.295E-02	1.911E-02	1.171E-02	NOT IDENT.
TL-207	-2.799E-01	4.146E-01	3.472E-01	2.115E-01	NOT IDENT.
TL-208	4.475E-02	2.904E-02	2.596E-02	1.482E-02	FAIL ABUN
PO-209	3.664E+00	4.453E+00	4.253E+00	2.272E+00	NOT IDENT.
BI-210	-5.114E+00	6.460E+00	5.286E+00	3.296E+00	NOT IDENT.
PB-210	-5.114E+00	6.460E+00	5.286E+00	3.296E+00	NOT IDENT.
PO-210	-5.114E+00	6.457E+00	5.286E+00	3.294E+00	NOT IDENT.
BI-211	-3.690E-02	1.498E-01	1.256E-01	7.645E-02	NOT IDENT.
PB-211	-2.771E-01	5.904E-01	4.734E-01	3.012E-01	NOT IDENT.
BI-212	-8.622E-02	1.696E-01	1.332E-01	8.655E-02	NOT IDENT.
PB-212	7.210E-02	7.478E-02	4.242E-02	3.815E-02	FAIL ABUN
PO-212	7.210E-02	7.478E-02	4.242E-02	3.815E-02	FAIL ABUN
BI-214	4.049E-02	7.240E-02	4.786E-02	3.694E-02	FAIL ABUN
PB-214	-2.226E-02	5.127E-02	4.220E-02	2.616E-02	NOT IDENT.
PO-214	-2.226E-02	5.127E-02	4.220E-02	2.616E-02	NOT IDENT.
PO-215	-2.799E-01	4.146E-01	3.472E-01	2.115E-01	NOT IDENT.
PO-216	7.210E-02	7.478E-02	4.242E-02	3.815E-02	FAIL ABUN
PO-218	-2.226E-02	5.127E-02	4.220E-02	2.616E-02	NOT IDENT.
RN-219	2.779E-02	2.485E-01	2.209E-01	1.268E-01	NOT IDENT.
RN-220	-6.540E+00	1.610E+01	1.315E+01	8.213E+00	NOT IDENT.
RA-223	-2.799E-01	4.146E-01	3.472E-01	2.115E-01	NOT IDENT.
RA-224	5.190E-01	3.879E-01	3.815E-01	1.979E-01	NOT IDENT.
RA-226	4.049E-02	7.240E-02	4.786E-02	3.694E-02	FAIL ABUN
AC-227	-6.591E-02	2.209E-01	1.956E-01	1.127E-01	NOT IDENT.
TH-227	-6.591E-02	2.210E-01	1.956E-01	1.127E-01	NOT IDENT.
AC-228	-1.145E-02	8.121E-02	6.613E-02	4.143E-02	NOT IDENT.
RA-228	-1.145E-02	8.121E-02	6.613E-02	4.143E-02	NOT IDENT.
TH-228	7.279E-02	7.550E-02	4.283E-02	3.852E-02	FAIL ABUN
TH-229	2.007E-01	2.993E-01	2.741E-01	1.527E-01	NOT IDENT.
TH-230	4.049E-02	7.240E-02	4.785E-02	3.694E-02	FAIL ABUN
PA-231	5.864E-01	9.433E-01	8.864E-01	4.813E-01	NOT IDENT.
TH-231	-2.799E-01	4.146E-01	3.472E-01	2.115E-01	NOT IDENT.
U-231	-7.015E-01	2.885E-01	2.152E-01	1.472E-01	NOT IDENT.
TH-232	-1.145E-02	8.121E-02	6.613E-02	4.143E-02	NOT IDENT.
PA-233	2.499E-02	3.633E-02	3.443E-02	1.853E-02	NOT IDENT.
PA-234	8.988E-02	1.597E-01	1.486E-01	8.148E-02	FAIL ABUN
PA-234M	2.395E-01	2.568E+00	2.261E+00	1.310E+00	NOT IDENT.
TH-234	-1.267E+00	1.155E+00	9.728E-01	5.892E-01	NOT IDENT.
U-234	4.049E-02	7.240E-02	4.785E-02	3.694E-02	FAIL ABUN
U-235	1.485E-01	1.167E-01	1.106E-01	5.956E-02	FAIL ABUN
NP-236	-2.501E-03	4.418E-02	3.886E-02	2.254E-02	NOT IDENT.
NP-237	-1.079E-01	1.393E-01	1.156E-01	7.108E-02	NOT IDENT.
U-238	-1.267E+00	1.155E+00	9.728E-01	5.892E-01	NOT IDENT.
NP-239	-4.745E-02	9.801E-02	8.479E-02	5.000E-02	NOT IDENT.
AM-241	-9.857E-03	1.387E-01	1.285E-01	7.077E-02	NOT IDENT.
AM-243	-2.103E-02	3.555E-02	3.065E-02	1.814E-02	NOT IDENT.
CM-243	4.418E-04	5.083E-02	4.606E-02	2.593E-02	NOT IDENT.
AM-246	6.090E-02	7.969E-02	7.558E-02	4.066E-02	NOT IDENT.
CM-247	-9.179E-04	2.238E-02	1.961E-02	1.142E-02	NOT IDENT.
CF-249	-7.074E-03	2.230E-02	1.901E-02	1.138E-02	NOT IDENT.
CF-251	-7.380E-03	7.124E-02	6.207E-02	3.635E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	93.0313
46.50	93.0313
46.50	93.0313
48.70	86.7854
49.72	86.9366
51.35	66.3290
52.39	74.0368
52.97	76.0075
53.15	77.9307
53.44	77.0166
54.07	80.9026
56.28	95.5156
56.28	95.5160
57.37	86.1117
57.53	88.0472
57.53	88.0476
57.60	81.3569
57.98	81.4049
57.98	81.4049
59.32	105.5653
59.32	105.5653
59.40	105.5783
59.54	107.5208
59.72	107.5504
60.01	109.5193
61.10	94.3035
61.14	94.3091
61.30	94.3317
63.00	113.8710
63.29	114.8850
63.29	114.8850
63.58	97.5491
64.28	91.8482
65.12	111.3206
65.20	111.3334
65.20	111.3334
66.05	118.2550
66.72	117.3978
66.83	117.4168
66.91	117.4302
67.20	107.7696
67.20	107.7696
67.75	110.7684
67.85	110.7841
68.90	107.0551
68.90	107.0551
69.30	109.0627
69.67	103.2734
70.82	98.5585
70.82	98.5585
70.83	98.5600
72.80	112.5240
72.87	112.5346
72.87	112.5346
74.67	112.8074
74.81	112.8285
74.81	112.8285
74.81	112.8285
74.81	112.8285
74.81	112.8285
74.81	112.8285
74.81	112.8285
74.97	110.8900
75.28	108.9722
75.70	107.0682
77.11	99.3941
77.11	99.3941

77.11	99.3941
77.11	99.3941
77.11	99.3941
77.11	99.3941
77.11	99.3941
78.38	114.3446
79.62	130.3247
79.80	130.3549
79.80	130.3549
80.11	126.4551
80.18	126.4663
80.30	126.4858
80.30	126.4858
80.57	129.4948
81.00	126.5986
81.07	118.6967
81.07	118.6967
81.07	118.6967
81.07	118.6967
82.60	104.0603
83.37	101.1844
83.78	107.1917
83.78	107.1917
83.78	107.1917
83.78	107.1917
84.21	110.2281
84.90	118.2737
85.43	120.3399
86.29	126.4404
86.50	126.4729
86.54	124.4874
86.59	124.4950
86.72	124.5146
86.79	124.5251
86.94	124.5480
87.30	125.5996
87.30	125.5996
87.30	125.5996
87.30	125.5996
87.30	125.5996
87.30	125.5996
87.57	149.5720
87.88	149.6281
88.03	168.6119
88.36	168.6790
88.47	168.7015
89.95	167.0006
91.11	111.1537
92.29	112.3110
92.38	112.3230
92.38	112.3230
93.35	113.4543
94.00	111.5310
94.67	173.9615
94.67	173.9622
94.90	174.0084
94.90	174.0084
94.90	174.0084
94.90	174.0084
95.87	188.3004
95.87	188.3004
96.73	118.9379
97.43	93.8135
98.44	91.9012
98.44	91.9012
98.88	91.9466
99.55	97.0719
99.55	97.0719
99.86	97.1056
100.00	100.1556
100.10	104.2145
103.18	98.4786
103.76	89.3982
105.00	93.5881
105.31	92.6017
108.00	94.9111
109.28	116.5010

111.00	96.2365
111.00	96.2365
111.76	104.5101
112.95	77.9665
115.19	101.7965
116.30	78.2355
117.00	91.6833
117.00	91.6833
117.66	93.8063
121.11	78.6151
121.62	93.1441
121.78	93.1589
122.06	97.3262
122.32	86.9945
122.32	86.9945
122.32	86.9945
122.32	86.9945
123.07	87.0589
127.23	88.4529
129.76	91.7972
131.20	96.1005
133.02	107.7755
133.54	99.4531
135.34	88.0849
136.00	86.0402
136.25	83.9612
136.48	88.1778
140.51	99.0395
140.51	0.0000
142.18	97.0783
142.65	92.8968
143.76	82.4221
144.24	86.6858
144.24	86.6858
144.24	86.6858
144.24	86.6858
145.22	93.1099
145.44	91.0115
147.16	107.0482
152.43	89.4391
152.70	89.4602
153.22	91.6309
154.21	88.5092
154.21	88.5092
154.21	88.5092
154.21	88.5092
155.03	94.9740
156.02	95.0541
158.56	108.1023
159.00	0.0000
159.00	102.7881
160.31	95.3977
161.27	82.6009
162.32	79.4515
162.64	77.3251
163.35	87.0414
163.89	91.3806
165.85	88.2968
167.43	91.6448
171.28	83.2770
171.86	80.0697
172.10	77.9205
176.55	92.3138
176.60	92.3170
181.06	81.9574
184.41	96.1540
185.71	101.4993
186.00	96.2701
190.27	101.8483
192.34	107.7213
193.63	86.9195
197.04	91.5494
198.01	96.0298
198.60	102.6958
200.40	92.8792
201.83	101.8295
202.84	87.5038
205.31	84.3299

208.36	86.7360
208.81	90.1004
209.75	85.7080
209.75	85.7080
210.97	80.2106
215.65	84.9428
216.55	86.1133
218.09	76.1285
222.10	85.3174
223.80	85.4153
226.40	90.9684
227.00	93.7079
227.08	93.7130
227.20	93.7200
228.16	80.2543
228.18	80.2554
228.18	80.2554
231.56	83.5978
235.69	89.1104
236.00	93.6603
236.00	93.6603
238.63	78.0824
238.63	78.0824
238.63	78.0824
238.63	78.0824
239.00	78.1007
240.98	78.2005
241.98	72.7910
241.98	72.7910
241.98	72.7910
244.69	65.3215
245.39	60.7910
247.94	68.5002
248.90	68.5414
249.79	80.4670
252.40	62.2803
252.85	61.3816
252.85	61.3816
254.15	0.0000
256.20	77.1155
256.20	77.1155
260.50	54.3074
260.90	56.1621
262.80	74.6620
264.65	79.3589
268.24	56.4109
268.79	64.7551
269.46	72.1852
269.46	72.1852
269.46	72.1852
269.46	72.1852
271.23	81.5246
273.65	70.5087
276.40	67.8351
277.35	77.1701
277.60	79.0411
277.60	79.0411
278.00	81.8501
278.60	87.4618
279.20	93.0774
279.53	92.1635
280.46	80.1043
281.68	68.9757
283.67	66.2557
284.30	63.4794
285.00	69.1085
285.90	65.4063
286.10	68.2174
286.10	68.2174
287.40	69.2034
288.45	0.0000
290.67	81.5115
290.80	82.4549
291.72	78.7479
293.26	60.9891
293.70	55.3730
295.21	64.8130
295.21	64.8130

295.21	64.8130
295.96	68.5988
296.50	65.8002
297.23	67.7074
298.57	70.5817
299.80	61.2120
299.80	61.2120
300.09	53.6873
300.09	53.6873
300.09	53.6873
300.09	53.6873
300.12	53.6880
301.29	59.3778
302.84	70.7483
303.76	70.7840
303.91	70.7904
304.40	65.1440
304.40	65.1440
304.84	66.1044
306.84	63.3408
308.46	55.8267
311.98	48.3491
316.51	63.6729
318.01	43.7505
319.02	38.0645
319.41	40.9277
320.08	59.9854
323.87	76.3252
323.87	76.3252
323.87	76.3252
323.87	76.3252
325.23	64.9229
328.77	60.2607
333.44	71.9128
334.20	72.9004
334.20	72.9004
334.30	70.0264
338.28	59.5963
338.28	59.5963
338.28	59.5963
338.28	59.5963
338.32	59.5978
338.32	59.5978
338.32	59.5978
340.50	65.4376
340.57	68.3271
344.27	61.7062
345.85	63.6853
350.59	59.0014
351.07	62.8854
351.92	61.9438
351.92	61.9438
351.92	61.9438
355.39	0.0000
356.01	69.8282
364.48	48.6938
366.43	59.4631
367.43	59.4921
367.94	0.0000
369.80	51.7488
374.96	59.7073
383.85	48.1644
387.95	47.2717
388.63	51.2275
391.69	39.4619
391.69	39.4619
392.90	38.4968
398.62	44.5364
400.65	44.5776
401.10	50.5318
401.81	49.5569
402.60	51.5582
404.84	56.5728
410.95	50.7578
411.60	51.7677
413.65	39.8579
414.70	48.8487
415.30	51.8534

415.76	56.8511
417.63	0.0000
418.52	36.9485
423.70	48.0428
427.08	34.0809
427.89	40.1094
432.53	45.2142
433.93	40.2144
439.47	44.3416
439.56	44.3432
439.89	45.3576
443.98	50.4852
444.90	44.4442
445.03	44.4469
445.03	44.4469
445.03	44.4469
445.03	44.4469
453.90	46.6413
463.38	43.7716
468.07	39.7765
473.00	43.9448
475.06	36.8218
475.35	38.8721
476.78	30.7064
477.59	32.7641
477.96	31.7451
482.03	45.1312
484.57	28.7492
487.03	41.1108
490.36	38.0777
492.35	31.9283
497.08	42.3068
507.63	0.0000
510.53	0.0000
510.84	26.9728
511.00	26.9745
511.85	26.9834
511.85	26.9834
513.99	24.2357
513.99	24.2357
520.41	33.8401
520.65	35.1450
527.90	27.1489
528.96	0.0000
529.64	33.4359
529.87	0.0000
531.02	30.3169
537.32	30.3884
543.00	38.8536
546.56	0.0000
549.76	41.0557
552.65	32.6688
555.20	33.7539
563.23	31.7366
563.90	34.9183
568.70	23.3191
569.32	30.7459
569.50	29.6871
569.67	31.8098
573.80	26.5472
574.00	26.5491
574.64	34.5217
578.91	30.1415
579.30	0.0000
583.14	24.8595
585.48	15.9943
591.81	29.9223
592.07	32.0618
593.00	32.0728
595.88	28.8938
600.56	32.1563
602.52	0.0000
602.71	44.6950
602.71	44.6950
603.60	44.7083
604.41	39.3545
604.70	39.3585
609.31	31.1778

609.31	31.1778
609.31	31.1778
609.31	31.1778
610.33	31.1892
612.46	35.8748
614.37	46.6680
618.01	29.1133
621.84	34.5492
621.84	34.5492
631.29	19.4955
633.02	23.8417
633.10	23.8423
634.78	33.6149
635.90	39.0507
636.97	36.8945
645.85	22.8544
646.12	11.9724
656.30	27.3004
657.75	27.3132
657.90	0.0000
661.65	36.0986
661.65	36.0986
664.57	36.1324
666.33	29.5794
666.33	29.5794
675.00	18.6755
677.61	16.4923
685.20	23.8788
692.80	38.6658
695.00	35.9285
696.49	39.6319
696.49	39.6319
697.00	38.7162
697.49	39.6441
698.33	41.4981
698.50	39.6564
699.00	36.8953
702.63	34.1666
706.10	35.1271
706.58	0.0000
706.67	34.2087
709.31	30.5353
711.68	20.3717
713.82	28.7238
717.42	30.6105
720.50	21.3547
721.93	25.0796
722.20	26.9391
722.78	24.1565
722.78	24.1565
722.89	24.1576
722.95	24.1581
723.30	25.0900
724.18	25.0966
727.18	29.7708
733.00	28.8909
735.90	31.7138
739.58	24.2787
742.81	21.4979
744.21	23.3770
747.13	22.4609
751.79	16.8688
752.31	17.8086
753.82	21.5676
755.35	18.7626
756.15	16.8904
756.87	16.8940
763.93	33.8577
765.79	22.5840
766.42	22.5879
766.84	21.6495
776.49	24.5416
778.00	23.6079
778.57	23.6115
778.89	22.6694
783.80	31.2141
785.46	33.1215
792.07	23.7025

795.84	19.9310
796.30	18.0352
798.80	30.3965
801.93	22.8174
805.60	20.9374
810.29	22.8706
810.76	19.0617
815.85	18.1341
817.79	18.1438
818.51	21.0126
819.60	21.9743
826.30	22.0150
828.27	0.0000
831.60	19.1711
831.96	19.1732
834.83	23.9853
836.80	0.0000
846.75	25.0251
848.13	28.8861
856.28	0.0000
856.80	31.8486
860.37	26.0826
867.32	16.4525
867.82	13.5511
871.10	15.5003
873.19	17.4474
874.81	20.3638
875.33	0.0000
876.40	19.4023
879.36	14.5630
880.27	15.5378
880.51	15.5387
881.50	13.5998
883.24	18.4654
884.67	23.3335
889.25	23.3613
896.60	18.5296
898.02	24.3896
899.00	26.3480
903.28	20.5151
911.07	15.6618
911.07	15.6618
911.07	15.6618
919.63	21.5820
920.93	17.6638
925.00	18.6645
925.24	18.6656
926.50	17.6887
935.52	18.7139
937.48	26.6061
944.10	13.8186
946.00	14.8126
949.00	18.7766
962.29	16.8554
964.01	21.8219
966.15	30.7654
968.20	29.7876
969.11	32.7737
969.11	32.7737
969.11	32.7737
977.42	23.8838
980.50	20.9137
983.50	14.9493
989.30	12.9741
996.32	25.9921
1001.03	13.0106
1001.68	13.0127
1004.76	22.0376
1021.30	0.0000
1024.50	0.0000
1034.80	13.1143
1036.00	12.1089
1037.82	17.1619
1038.57	17.1646
1038.76	0.0000
1045.16	16.1797
1046.59	15.1733
1048.07	18.2139

1050.47	17.2117
1050.47	17.2117
1062.04	11.1665
1063.62	12.1860
1076.63	15.2777
1077.35	18.3362
1078.86	14.2660
1085.78	16.3294
1099.22	11.2605
1112.02	10.2657
1112.84	12.3213
1115.52	10.2734
1120.29	12.3413
1120.29	12.3413
1120.29	12.3413
1120.29	12.3413
1120.51	12.3418
1121.28	13.3724
1124.00	0.0000
1129.67	14.4278
1131.51	0.0000
1147.95	0.0000
1167.94	10.3906
1173.22	16.6439
1175.09	12.4878
1177.93	7.2888
1189.05	14.6118
1204.90	15.7074
1205.75	0.0000
1213.00	12.5869
1221.42	17.8626
1230.97	16.8444
1235.34	8.4297
1236.41	0.0000
1238.25	7.3805
1246.25	7.3925
1260.41	0.0000
1271.85	12.7383
1274.45	8.4964
1274.54	8.4964
1291.56	14.9194
1298.22	0.0000
1312.09	7.4896
1325.50	7.5090
1325.50	7.5090
1332.49	13.9643
1333.61	9.6698
1360.21	8.6390
1362.66	0.0000
1365.15	8.6471
1368.21	14.0595
1368.53	0.0000
1376.25	16.2469
1384.27	11.1575
1394.10	14.9040
1395.20	14.9074
1407.95	12.1408
1434.06	11.2605
1436.60	8.4494
1457.56	0.0000
1460.81	8.4862
1489.15	5.6861
1509.49	6.6577
1596.49	7.7229
1620.62	4.8462
1678.03	0.0000
1691.02	5.8826
1691.02	5.8826
1706.46	0.0000
1750.46	0.0000
1764.49	4.9594
1764.49	4.9594
1764.49	4.9594
1764.49	4.9594
1770.23	17.8694
1771.40	10.9221
1791.20	0.0000
1808.65	6.9902

1836.01

7.0193

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202001375

Total Uranium Activity	-3.6993E+00	ug/g
Total Uranium Counting Unc.	3.4359E+00	ug/g
Total Uranium Tpu	1.7530E-06	ug/g
Total Uranium Mda	2.8945E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 935341                SAMPLE ID   : G1202001375                *
*  ANALYST       : MXR1                  DETECTOR    : GAM15                    *
*  SAMPLE DATE   : 22-DEC-2009 00:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE: 31-DEC-2009 14:42:59.93  SAMPLE ALQT: 156.780 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.296E-01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.239E-01
GROSS GAMMA MDA      (pCi/GRAM ) : 1.969E-01
GROSS GAMMA DLC      (pCi/GRAM ) : 9.280E-02

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 17:32:29.79

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001376.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 15:32:03
Sample ID          : G1202001376      Sample quantity   : 1.32930E+02 GRAM
Detector name      : GAM05            Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00    Elapsed real time: 0 02:00:01.68  0.0%
Energy tolerance    : 1.50000 keV      Analyst Initials : MXR1
Abundance limit     : 75.00000          Sensitivity      : 5.00000
Batch ID           : 935341            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	46.47*	129	425	1.33	93.93	89	9	1.79E-02	33.1	
2	0	53.71	55	397	1.08	108.41	103	8	7.70E-03	63.7	
3	0	63.15*	100	467	1.21	127.29	124	7	1.38E-02	38.8	
4	2	74.76*	714	615	1.48	150.49	145	17	9.92E-02	7.6	3.50E+00
5	2	77.09*	934	452	1.13	155.15	145	17	1.30E-01	5.2	
6	3	87.25*	337	420	1.10	175.48	172	23	4.69E-02	11.1	3.20E+00
7	3	90.02	214	352	1.13	181.01	172	23	2.97E-02	16.0	
8	3	92.91*	341	379	1.55	186.80	172	23	4.74E-02	13.1	
9	0	128.46	127	330	1.73	257.90	253	10	1.76E-02	28.3	
10	0	185.90*	230	359	1.60	372.75	367	13	3.19E-02	18.6	
11	0	209.13	96	242	1.10	419.19	415	9	1.33E-02	31.0	
12	4	238.71*	1149	149	1.21	478.34	471	22	1.60E-01	3.5	1.27E+00
13	4	241.69	288	247	2.23	484.30	471	22	4.00E-02	17.0	
14	0	270.17	95	246	2.06	541.24	534	14	1.32E-02	36.9	
15	0	295.21*	324	163	1.26	591.33	584	13	4.49E-02	10.0	
16	0	299.78	56	128	0.91	600.46	598	8	7.72E-03	37.6	
17	0	328.10	74	151	1.48	657.08	652	10	1.03E-02	33.2	
18	0	338.25	248	156	1.37	677.37	671	11	3.45E-02	11.6	
19	0	351.89*	552	138	1.28	704.65	698	11	7.66E-02	6.0	
20	0	463.39	72	74	1.11	927.56	923	9	1.00E-02	24.6	
21	0	510.70*	85	131	1.21	1022.15	1016	13	1.18E-02	34.6	
22	0	583.17*	329	71	1.66	1167.02	1161	12	4.57E-02	7.7	
23	0	609.29*	423	105	1.65	1219.23	1213	15	5.88E-02	7.3	
24	0	727.48	95	45	1.25	1455.48	1448	14	1.31E-02	18.3	
25	0	860.18	56	39	1.75	1720.70	1714	12	7.78E-03	26.0	
26	0	910.93*	213	46	1.86	1822.12	1815	15	2.96E-02	9.2	
27	5	964.67	36	45	1.82	1929.50	1926	18	4.97E-03	33.9	3.03E+00
28	5	968.87	118	55	1.95	1937.90	1926	18	1.64E-02	16.0	
29	0	1120.29*	100	38	1.33	2240.47	2234	14	1.39E-02	17.0	
30	0	1460.56*	894	10	2.13	2920.27	2910	21	1.24E-01	3.5	
31	0	1509.51	18	14	1.09	3018.04	3012	11	2.50E-03	46.4	
32	0	1764.33*	67	3	1.94	3526.99	3519	15	9.34E-03	14.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 17:32:32

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001376.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 15:32:03
Sample ID         : G1202001376 Sample quantity : 132.93 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA5 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.68 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	*	2.359E+01	2.205E+00	5.957E-01	3.705E-02	39.596
AS-73	+	53.44	*	2.190E-01	2.796E-01	3.907E-01	2.941E-02	0.561
CD-109	+	88.03	*	3.335E+00	7.850E-01	1.042E+00	7.934E-02	3.200
SN-126	+	64.28		3.633E-01	2.869E-01	3.917E-01	5.838E-02	0.927
	+	86.94		1.363E+00	6.377E-01	4.806E-01	1.978E-01	2.835
	+	87.57	*	3.278E-01	7.715E-02	1.023E-01	7.788E-03	3.205
TL-208		277.35		3.398E-01	4.333E-01	7.040E-01	9.031E-02	0.483
	+	510.84		4.374E-01	3.063E-01	2.327E-01	2.445E-02	1.880
	+	583.14	*	4.890E-01	8.312E-02	6.099E-02	4.488E-03	8.017
	+	860.37		7.984E-01	4.229E-01	5.402E-01	5.482E-02	1.478
BI-210	+	46.50	*	1.182E+00	7.887E-01	8.455E-01	6.595E-02	1.398
PB-210	+	46.50	*	1.182E+00	7.887E-01	8.455E-01	6.595E-02	1.398
PO-210	+	46.50	*	1.182E+00	7.873E-01	8.455E-01	5.687E-02	1.398
BI-211		72.87		9.382E+00	2.534E+00	3.967E+00	3.123E-01	2.365
	+	351.07	*	3.425E+00	4.917E-01	3.361E-01	2.664E-02	10.189
PB-212	+	74.81		2.346E+00	4.556E-01	3.729E-01	4.546E-02	6.291
	+	77.11		1.829E+00	2.371E-01	2.226E-01	1.733E-02	8.214
	+	87.30		1.516E+00	3.877E-01	4.726E-01	5.942E-02	3.207
	+	238.63	*	1.524E+00	1.966E-01	8.826E-02	9.516E-03	17.271
	+	300.09		1.148E+00	8.714E-01	1.220E+00	1.297E-01	0.941
PO-212	+	74.81		2.346E+00	4.556E-01	3.729E-01	4.546E-02	6.291
	+	77.11		1.829E+00	2.371E-01	2.226E-01	1.733E-02	8.214
	+	87.30		1.516E+00	3.877E-01	4.726E-01	5.942E-02	3.207
		115.19		3.978E-01	3.487E+00	5.705E+00	7.259E-01	0.070
	+	238.63	*	1.524E+00	1.966E-01	8.826E-02	9.516E-03	17.271
	+	300.09		1.148E+00	8.714E-01	1.220E+00	1.297E-01	0.941
BI-214	+	609.31	*	1.189E+00	2.003E-01	1.251E-01	1.049E-02	9.509
	+	1120.29		1.488E+00	5.257E-01	5.204E-01	4.971E-02	2.859
	+	1764.49		1.395E+00	4.144E-01	4.021E-01	2.324E-02	3.470
PB-214	+	74.81		4.041E+00	7.505E-01	6.425E-01	6.925E-02	6.291
	+	77.11		3.135E+00	4.715E-01	3.817E-01	4.157E-02	8.214
	+	87.30		2.597E+00	6.432E-01	8.097E-01	8.776E-02	3.207
	+	241.98		2.297E+00	8.230E-01	5.315E-01	5.990E-02	4.321
	+	295.21		1.173E+00	2.683E-01	2.218E-01	2.425E-02	5.287

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.191E+00	1.820E-01	1.137E-01	1.076E-02	10.483
	+	74.81		4.041E+00	7.505E-01	6.425E-01	6.925E-02	6.291
	+	77.11		3.135E+00	4.715E-01	3.817E-01	4.157E-02	8.214
	+	87.30		2.597E+00	6.432E-01	8.097E-01	8.776E-02	3.207
	+	241.98		2.297E+00	8.230E-01	5.315E-01	5.990E-02	4.321
PO-216	+	295.21		1.173E+00	2.683E-01	2.218E-01	2.425E-02	5.287
	+	351.92	*	1.191E+00	1.820E-01	1.137E-01	1.076E-02	10.483
	+	74.81		2.346E+00	4.556E-01	3.729E-01	4.546E-02	6.291
	+	77.11		1.829E+00	2.371E-01	2.226E-01	1.733E-02	8.214
	+	87.30		1.516E+00	3.877E-01	4.726E-01	5.942E-02	3.207
PO-218	+	238.63	*	1.524E+00	1.966E-01	8.826E-02	9.516E-03	17.271
	+	300.09		1.148E+00	8.714E-01	1.220E+00	1.297E-01	0.941
	+	74.81		4.041E+00	7.505E-01	6.425E-01	6.925E-02	6.291
	+	77.11		3.135E+00	4.715E-01	3.817E-01	4.157E-02	8.214
	+	87.30		2.597E+00	6.432E-01	8.097E-01	8.776E-02	3.207
RA-224	+	241.98		2.297E+00	8.230E-01	5.315E-01	5.990E-02	4.321
	+	295.21		1.173E+00	2.683E-01	2.218E-01	2.425E-02	5.287
	+	351.92	*	1.191E+00	1.820E-01	1.137E-01	1.076E-02	10.483
	+	240.98	*	4.355E+00	1.541E+00	1.004E+00	9.828E-02	4.336
	+	609.31	*	1.189E+00	2.003E-01	1.251E-01	1.049E-02	9.509
RA-226	+	1120.29		1.488E+00	5.257E-01	5.204E-01	4.971E-02	2.859
	+	1764.49		1.395E+00	4.144E-01	4.021E-01	2.324E-02	3.470
	+	338.32		1.693E+00	7.997E-01	4.044E-01	1.662E-01	4.186
	+	911.07	*	1.438E+00	3.189E-01	2.327E-01	2.880E-02	6.179
	+	969.11		1.407E+00	5.586E-01	3.756E-01	8.872E-02	3.745
RA-228	+	338.32		1.693E+00	7.997E-01	4.044E-01	1.662E-01	4.186
	+	911.07	*	1.438E+00	3.189E-01	2.327E-01	2.880E-02	6.179
	+	969.11		1.407E+00	5.586E-01	3.756E-01	8.872E-02	3.745
	+	74.81		2.381E+00	4.063E-01	3.785E-01	2.994E-02	6.290
	+	77.11		1.857E+00	2.407E-01	2.260E-01	1.759E-02	8.214
TH-228	+	87.30		1.539E+00	3.623E-01	4.798E-01	3.656E-02	3.207
	+	238.63	*	1.547E+00	1.996E-01	8.960E-02	9.660E-03	17.271
	+	300.09		1.165E+00	1.116E+00	1.239E+00	7.348E-01	0.941
	+	609.31	*	1.189E+00	2.003E-01	1.251E-01	1.048E-02	9.509
	+	1120.29		1.488E+00	5.257E-01	5.204E-01	4.970E-02	2.859
TH-230	+	1764.49		1.395E+00	4.143E-01	4.021E-01	2.324E-02	3.470
	+	338.32		1.693E+00	4.158E-01	4.044E-01	3.171E-02	4.186
	+	911.07	*	1.438E+00	3.189E-01	2.327E-01	2.880E-02	6.179
	+	969.11		1.407E+00	5.586E-01	3.756E-01	8.872E-02	3.745
	+	63.29	*	9.177E-01	7.303E-01	1.031E+00	1.832E-01	0.890
TH-234	+	92.38		2.300E+00	7.301E-01	7.098E-01	1.275E-01	3.240
	+	609.31	*	1.189E+00	2.003E-01	1.251E-01	1.048E-02	9.509
	+	1120.29		1.488E+00	5.257E-01	5.204E-01	4.970E-02	2.859
	+	1764.49		1.395E+00	4.143E-01	4.021E-01	2.324E-02	3.470
	+	86.50	*	9.625E-01	3.013E-01	3.276E-01	7.208E-02	2.937
NP-237	+	95.87		-3.886E-01	9.507E-01	1.330E+00	3.293E-01	-0.292
	+	63.29	*	9.177E-01	7.303E-01	1.031E+00	1.832E-01	0.890
	+	92.38		2.300E+00	6.320E-01	7.098E-01	5.939E-02	3.240
	+	74.67	*	3.803E-01	6.475E-02	6.043E-02	4.734E-03	6.292
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		3.609E+01	8.496E+00	1.229E+01	9.377E-01	2.936
		117.66		-5.738E-01	3.728E+00	6.031E+00	7.985E-01	-0.095
		142.18		2.626E+00	1.786E+01	2.908E+01	3.614E+00	0.090
ANH-511	+	511.00	*	9.447E-02	6.570E-02	5.027E-02	3.217E-03	1.879

---- 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	*	-1.506E-01	3.443E-01	5.436E-01	3.894E-02	-0.277
NA-22		1274.54	*	-3.039E-02	5.079E-02	7.674E-02	4.470E-03	-0.396
NA-24		1368.53	*	1.314E-01	5.079E-02	Half-Life too short		
AL-26		1129.67		3.414E-01	1.848E+00	3.006E+00	2.014E-01	0.114
		1808.65	*	2.017E-02	3.908E-02	6.969E-02	3.999E-03	0.289
TI-44		67.85		-3.237E-02	3.023E-02	4.178E-02	3.343E-03	-0.775
	+	78.38	*	3.375E-01	4.375E-02	6.185E-02	4.799E-03	5.456
SC-46		889.25	*	-1.177E-02	4.198E-02	6.752E-02	6.781E-03	-0.174
	+	1120.51		2.547E-01	8.842E-02	1.412E-01	9.717E-03	1.803
V-48		944.10		-5.020E-01	9.898E-01	1.548E+00	1.497E-01	-0.324
		983.50	*	-3.853E-02	7.818E-02	1.220E-01	1.118E-02	-0.316
		1312.09		-3.842E-02	8.270E-02	1.251E-01	7.252E-03	-0.307
CR-51		320.08	*	1.462E-01	3.818E-01	6.474E-01	5.726E-02	0.226
MN-52		744.21		-1.951E-02	2.729E-01	4.532E-01	3.519E-02	-0.043
		848.13		-1.447E+00	7.877E+00	1.286E+01	1.205E+00	-0.113
		935.52		3.075E-01	3.040E-01	5.413E-01	5.292E-02	0.568
		1246.25		-9.378E+00	8.098E+00	1.147E+01	6.668E-01	-0.818
		1333.61		-9.123E-01	5.607E+00	8.855E+00	5.125E-01	-0.103
		1434.06	*	-1.313E-02	2.232E-01	3.693E-01	2.163E-02	-0.036
MN-54		834.83	*	-3.192E-02	4.365E-02	6.797E-02	6.227E-03	-0.470
CO-56		846.75	*	-2.048E-02	4.571E-02	7.282E-02	6.810E-03	-0.281
		977.42		-4.327E-01	3.269E+00	5.186E+00	4.793E-01	-0.083
		1037.82		-2.982E-01	3.226E-01	4.716E-01	4.160E-02	-0.632
		1175.09		5.146E-01	2.446E+00	4.062E+00	2.357E-01	0.127
		1238.25		1.248E-01	1.074E-01	1.896E-01	1.172E-02	0.658
		1360.21		-2.062E-01	9.873E-01	1.539E+00	8.942E-02	-0.134
		1771.40		-9.519E-01	4.081E-01	4.415E-01	2.550E-02	-2.156
CO-57		122.06	*	-1.222E-03	2.638E-02	4.081E-02	5.790E-03	-0.030
		136.48		2.745E-02	2.015E-01	3.285E-01	4.400E-02	0.084
CO-58		810.76	*	6.597E-03	4.259E-02	7.177E-02	6.316E-03	0.092
FE-59		142.65		-5.963E-02	2.736E+00	4.424E+00	5.478E-01	-0.013
		192.34		-6.894E-01	1.154E+00	1.543E+00	2.213E-01	-0.447
		1099.22	*	-3.720E-02	9.716E-02	1.522E-01	1.232E-02	-0.244
		1291.56		1.585E-02	1.361E-01	2.231E-01	1.657E-02	0.071
CO-60		1173.22		-1.263E-02	5.059E-02	8.029E-02	4.657E-03	-0.157
		1332.49	*	9.381E-03	4.187E-02	6.958E-02	4.026E-03	0.135
ZN-65		1115.52	*	-1.689E-02	1.257E-01	1.727E-01	1.206E-02	-0.098
GE-68		1077.35	*	2.401E-01	1.385E+00	2.304E+00	1.770E-01	0.104
AS-74		595.88	*	-3.136E-02	1.036E-01	1.632E-01	1.073E-02	-0.192
		634.78		3.013E-01	3.926E-01	6.722E-01	4.431E-02	0.448

---- 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		-1.614E+00	2.906E+00	4.108E+00	4.098E-01	-0.393
		96.73		-5.060E-01	7.662E-01	1.057E+00	1.477E-01	-0.479
		121.11		2.625E-02	1.350E-01	2.212E-01	3.476E-02	0.119
		136.00		-7.595E-03	3.820E-02	6.137E-02	8.003E-03	-0.124
		198.60		-3.860E-01	2.012E+00	3.145E+00	3.399E-01	-0.123
		264.65	*	3.840E-03	5.157E-02	7.551E-02	7.209E-03	0.051
		279.53		1.144E-01	1.169E-01	2.012E-01	1.926E-02	0.568
		303.91		-1.302E+00	2.486E+00	3.447E+00	3.996E-01	-0.378
		400.65		-1.381E-01	2.856E-01	4.558E-01	4.171E-02	-0.303
BR-77	+	87.88		7.269E+02	1.711E+02	2.977E+02	2.266E+01	2.442
		200.40		7.264E+00	1.762E+02	2.823E+02	2.819E+01	0.026
	+	239.00		2.470E+02	2.987E+01	3.856E+01	3.780E+00	6.404
		249.79		1.760E+01	7.030E+01	1.130E+02	1.096E+01	0.156
		281.68		-1.078E+02	9.372E+01	1.465E+02	1.353E+01	-0.736
		297.23		3.518E+02	9.496E+01	1.282E+02	1.145E+01	2.744
		303.76		-1.180E+02	2.132E+02	2.951E+02	2.591E+01	-0.400
		439.47		-6.549E+01	1.579E+02	2.513E+02	1.532E+01	-0.261
		484.57		-1.305E+02	2.345E+02	3.653E+02	2.303E+01	-0.357
		520.65	*	-7.926E+00	1.176E+01	1.811E+01	1.164E+00	-0.438
		574.64		-1.943E+02	2.424E+02	3.666E+02	2.402E+01	-0.530
		578.91		3.049E+01	1.071E+02	1.542E+02	1.011E+01	0.198
		585.48		1.460E+03	2.960E+02	5.366E+02	3.524E+01	2.721
		755.35		8.012E+01	1.890E+02	3.256E+02	2.582E+01	0.246
		817.79		-8.373E+01	1.519E+02	2.397E+02	2.131E+01	-0.349
SR-82		698.33		9.465E+00	4.000E+01	6.811E+01	4.832E+00	0.139
		776.49	*	-1.453E-01	4.290E-01	6.948E-01	5.733E-02	-0.209
		1395.20		-9.669E+00	1.159E+01	1.712E+01	9.988E-01	-0.565
RB-83		520.41	*	-5.513E-02	7.644E-02	1.171E-01	7.531E-03	-0.471
		529.64		-4.235E-02	1.218E-01	1.927E-01	1.244E-02	-0.220
		552.65		-3.051E-03	2.123E-01	3.436E-01	2.238E-02	-0.009
RB-84		881.50	*	3.632E-02	8.104E-02	1.364E-01	1.352E-02	0.266
KR-85		513.99	*	2.029E+01	9.132E+00	1.527E+01	9.786E-01	1.329
SR-85		513.99	*	1.041E-01	4.684E-02	7.830E-02	5.019E-03	1.329
RB-86		1076.63	*	-1.319E-01	9.035E-01	1.457E+00	1.121E-01	-0.091
Y-88		898.02		4.076E-02	4.626E-02	8.217E-02	8.402E-03	0.496
		1836.01	*	3.027E-05	3.532E-02	5.804E-02	3.321E-03	0.001
ZR-88		392.90	*	-2.723E-02	3.357E-02	5.244E-02	3.054E-03	-0.519
Y-91		1204.90	*	1.052E+00	2.365E+01	3.857E+01	2.241E+00	0.027
NB-94		702.63	*	2.278E-02	3.929E-02	6.837E-02	4.892E-03	0.333
		871.10		4.531E-03	3.561E-02	5.969E-02	5.818E-03	0.076
NB-95		765.79	*	1.214E-02	4.704E-02	7.995E-02	6.467E-03	0.152
NB-95M		235.69	*	2.795E-01	1.497E-01	2.370E-01	2.592E-02	1.179
ZR-95		724.18		3.016E-02	1.237E-01	1.830E-01	1.522E-02	0.165
		756.15	*	7.521E-02	8.136E-02	1.448E-01	1.286E-02	0.519
NB-97		657.90	*	-3.758E-02	8.136E-02	Half-Life too short		
		1024.50		4.374E+00	8.136E-02	Half-Life too short		
ZR-97		254.15		-1.629E+00	8.136E-02	Half-Life too short		
		355.39		-5.221E-01	8.136E-02	Half-Life too short		
		507.63	*	5.075E+00	8.136E-02	Half-Life too short		

----- Non-Identified Nuclides -----

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	602.52			-1.287E+00	8.136E-02	Half-Life too short		
	1021.30			-1.352E+01	8.136E-02	Half-Life too short		
	1147.95			1.307E+00	8.136E-02	Half-Life too short		
	1362.66			1.863E+00	8.136E-02	Half-Life too short		
	1750.46			-3.852E+00	8.136E-02	Half-Life too short		
MO-99	140.51			-5.554E+00	2.694E+01	4.245E+01	1.238E+01	-0.131
	181.06			-5.686E+00	2.026E+01	2.782E+01	5.275E+00	-0.204
	366.43			-3.309E+01	9.281E+01	1.501E+02	1.030E+01	-0.221
	739.58	*		1.128E+01	1.360E+01	2.396E+01	3.517E+00	0.471
	778.00			-2.326E+01	3.831E+01	6.049E+01	5.006E+00	-0.385
TC-99M	140.51	*		-8.711E+09	3.831E+01	Half-Life too short		
RH-101	+	127.23		7.668E-02	4.470E-02	5.483E-02	7.548E-03	1.399
	198.01	*		-6.510E-03	3.692E-02	5.777E-02	5.769E-03	-0.113
	325.23			8.655E-02	2.615E-01	3.866E-01	3.182E-02	0.224
RH-102	418.52			4.954E-02	3.316E-01	5.343E-01	3.195E-02	0.093
	475.06	*		1.597E-02	3.080E-02	5.216E-02	3.267E-03	0.306
	631.29			1.203E-02	5.980E-02	9.793E-02	6.455E-03	0.123
	697.49			2.440E-02	8.686E-02	1.484E-01	1.051E-02	0.164
	766.84			-2.916E-03	1.214E-01	2.020E-01	1.637E-02	-0.014
	1046.59			-5.292E-02	1.378E-01	2.126E-01	1.745E-02	-0.249
	1112.84			1.500E-01	2.992E-01	4.466E-01	3.138E-02	0.336
RU-103	497.08	*		-1.124E-02	4.442E-02	7.073E-02	9.129E-03	-0.159
	+	610.33		1.285E+01	2.759E+00	3.172E+00	4.990E-01	4.052
RH-106	+	511.85		4.719E-01	3.282E-01	4.805E-01	3.077E-02	0.982
	621.84	*		2.733E-01	3.652E-01	6.212E-01	7.546E-02	0.440
	1050.47			9.959E-01	2.624E+00	4.454E+00	3.626E-01	0.224
RU-106	+	511.85		4.719E-01	3.282E-01	4.805E-01	3.077E-02	0.982
	621.84	*		2.733E-01	3.641E-01	6.212E-01	4.095E-02	0.440
	1050.47			9.959E-01	2.624E+00	4.454E+00	3.626E-01	0.224
AG-108M	433.93	*		-2.205E-02	3.539E-02	5.550E-02	3.631E-03	-0.397
	614.37			9.816E-03	4.667E-02	6.648E-02	4.671E-03	0.148
	722.95			-3.176E-02	5.055E-02	6.726E-02	5.272E-03	-0.472
AG-110M	657.75	*		-1.493E-02	4.065E-02	6.324E-02	4.371E-03	-0.236
	677.61			-5.581E-02	3.275E-01	5.422E-01	3.852E-02	-0.103
	706.67			7.166E-03	2.325E-01	3.903E-01	2.926E-02	0.018
	763.93			-1.833E-01	1.921E-01	2.960E-01	2.463E-02	-0.619
	884.67			2.941E-02	5.717E-02	9.871E-02	1.008E-02	0.298
	937.48			-9.524E-02	1.312E-01	2.014E-01	2.020E-02	-0.473
	1384.27			-4.228E-02	1.834E-01	2.985E-01	1.845E-02	-0.142
IN-111	171.28			2.823E-01	1.011E+00	1.646E+00	1.636E-01	0.172
	245.39	*		6.508E-01	1.165E+00	1.765E+00	1.720E-01	0.369
IN-113M	391.69	*		-3.004E-02	4.866E-02	7.706E-02	4.780E-03	-0.390
SN-113	391.69	*		-3.004E-02	4.866E-02	7.706E-02	4.780E-03	-0.390
IN-114M	190.27	*		-3.203E-02	2.124E-01	2.938E-01	2.933E-02	-0.109
CD-115	260.90			-4.794E+01	1.356E+02	2.232E+02	2.134E+01	-0.215
	492.35			-1.625E+01	4.005E+01	6.329E+01	4.009E+00	-0.257
	527.90	*		-6.513E+00	1.275E+01	1.992E+01	1.285E+00	-0.327
SN-117M	156.02			-1.362E+00	2.422E+00	3.808E+00	4.199E-01	-0.358
	158.56	*		9.855E-03	5.808E-02	9.432E-02	1.014E-02	0.104

---- Non-Identified Nuclides ----

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SB-122	563.90	*		1.114E+00	2.461E+00	4.112E+00	2.687E-01	0.271
	692.80			-4.364E+01	5.364E+01	8.100E+01	5.682E+00	-0.539
I-123	159.00	*		4.731E+00	5.364E+01	Half-Life	too short	
	528.96			-4.593E+02	5.364E+01	Half-Life	too short	
TE-123M	159.00	*		2.250E-02	2.989E-02	4.956E-02	5.325E-03	0.454
I-124	602.71	*		2.729E-02	8.849E-01	1.235E+00	8.131E-02	0.022
	722.78			-1.896E+00	5.109E+00	7.027E+00	5.233E-01	-0.270
	1325.50			-1.219E+01	3.981E+01	6.178E+01	3.577E+00	-0.197
	1376.25			2.184E+01	3.059E+01	5.553E+01	3.233E+00	0.393
+	1509.49			2.220E+01	2.065E+01	3.520E+01	2.070E+00	0.631
	1691.02			-1.502E+00	4.373E+00	4.775E+00	2.787E-01	-0.314
SB-124	602.71			1.579E-03	5.119E-02	7.144E-02	4.705E-03	0.022
	645.85			-2.352E-01	5.502E-01	8.495E-01	6.160E-02	-0.277
	709.31			-1.537E+00	3.164E+00	5.102E+00	3.699E-01	-0.301
	713.82			-1.301E-01	1.822E+00	3.033E+00	3.379E-01	-0.043
	722.78			-1.590E-01	4.284E-01	5.893E-01	4.515E-02	-0.270
+	968.20			1.449E+01	4.819E+00	7.575E+00	7.095E-01	1.913
	1045.16			-2.013E+00	2.989E+00	4.472E+00	3.680E-01	-0.450
	1325.50			-1.092E+00	3.566E+00	5.533E+00	3.204E-01	-0.197
	1368.21			2.738E-01	1.820E+00	2.997E+00	3.561E-01	0.091
	1436.60			-9.914E-01	3.745E+00	5.902E+00	3.457E-01	-0.168
	1691.02	*		-2.971E-02	8.649E-02	9.446E-02	5.978E-03	-0.314
SB-125	427.89	*		-1.762E-02	1.008E-01	1.634E-01	1.025E-02	-0.108
+	463.38			7.157E-01	3.554E-01	5.869E-01	4.179E-02	1.220
	600.56			-4.101E-02	2.060E-01	3.274E-01	2.421E-02	-0.125
	635.90			1.602E-01	3.021E-01	5.076E-01	3.796E-02	0.316
TE-125M	109.28	*		-1.575E+00	9.250E+00	1.481E+01	1.903E+00	-0.106
I-126	388.63			2.136E-01	2.263E-01	3.927E-01	2.337E-02	0.544
	666.33	*		-9.923E-02	2.050E-01	3.150E-01	2.092E-02	-0.315
	753.82			-2.556E-01	1.655E+00	2.727E+00	2.157E-01	-0.094
SB-126	223.80			-1.996E+00	4.058E+00	6.683E+00	6.622E-01	-0.299
	278.60			4.104E+00	2.694E+00	4.716E+00	4.381E-01	0.870
+	296.50			1.170E+01	2.574E+00	3.502E+00	3.132E-01	3.340
	414.70			-7.171E-02	8.259E-02	1.279E-01	7.620E-03	-0.561
	415.30			-8.456E+00	7.015E+00	1.060E+01	6.320E-01	-0.798
	555.20			-1.070E+00	4.398E+00	6.986E+00	4.553E-01	-0.153
	573.80			-1.157E+00	1.231E+00	1.842E+00	1.207E-01	-0.628
	593.00			3.899E-01	1.025E+00	1.706E+00	1.122E-01	0.229
	656.30			-1.243E+00	3.880E+00	6.061E+00	3.988E-01	-0.205
	666.33			-4.147E-02	8.569E-02	1.317E-01	8.743E-03	-0.315
	675.00			-9.919E-01	2.111E+00	3.409E+00	2.305E-01	-0.291
	695.00			-3.827E-02	9.646E-02	1.511E-01	1.065E-02	-0.253
	697.00			1.152E-01	3.103E-01	5.334E-01	3.773E-02	0.216
	720.50	*		5.507E-02	1.837E-01	2.739E-01	2.030E-02	0.201
	856.80			-3.252E-02	6.218E-01	8.808E-01	8.380E-02	-0.037
	989.30			8.493E-02	1.392E+00	2.302E+00	2.090E-01	0.037
	1034.80			-6.295E+00	9.341E+00	1.416E+01	1.189E+00	-0.445
	1213.00			3.017E+00	5.652E+00	9.592E+00	5.575E-01	0.315
SB-127	61.10			3.001E+01	2.888E+01	4.351E+01	4.731E+00	0.690

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		252.40		2.871E+00	4.625E+00	7.707E+00	3.257E+00	0.373
		290.80		9.133E+00	2.364E+01	3.525E+01	4.059E+00	0.259
		411.60		1.085E+01	1.340E+01	2.295E+01	3.314E+00	0.473
		444.90		1.271E+01	1.117E+01	1.948E+01	2.137E+00	0.653
		473.00		-4.229E-01	1.795E+00	2.879E+00	3.290E-01	-0.147
		543.00		-3.057E+00	1.834E+01	2.935E+01	3.885E+00	-0.104
		603.60		-6.964E+00	1.597E+01	2.114E+01	2.369E+00	-0.329
		685.20	*	2.352E-01	1.523E+00	2.584E+00	2.625E-01	0.091
		698.50		4.462E+00	1.793E+01	3.053E+01	4.594E+00	0.146
		722.20		-2.965E-01	3.605E+01	5.196E+01	5.344E+00	-0.006
		783.80		5.187E+00	4.037E+00	7.310E+00	8.953E-01	0.710
XE-127		57.60		-1.564E+00	2.815E+00	3.711E+00	2.988E-01	-0.422
		145.22		4.695E-01	7.076E-01	1.172E+00	1.422E-01	0.401
		172.10		1.990E-02	1.202E-01	1.947E-01	1.937E-02	0.102
		202.84	*	-1.144E-02	5.162E-02	7.866E-02	7.851E-03	-0.145
		374.96		-1.343E-01	2.170E-01	3.446E-01	2.249E-02	-0.390
I-131		80.18		-5.238E+00	3.881E+00	5.248E+00	4.088E-01	-0.998
		284.30		-1.369E+00	1.490E+00	2.356E+00	2.264E-01	-0.581
		364.48	*	6.490E-02	1.248E-01	2.123E-01	1.595E-02	0.306
		636.97		-1.470E+00	1.839E+00	2.753E+00	1.985E-01	-0.534
		722.89		-5.437E+00	8.530E+00	1.133E+01	8.516E-01	-0.480
TE-132		49.72		-2.674E+00	6.168E+00	6.276E+00	6.082E-01	-0.426
		111.76		-1.227E+01	2.954E+01	4.734E+01	6.495E+00	-0.259
		116.30		8.725E+00	2.750E+01	4.529E+01	6.587E+00	0.193
		228.16	*	-5.069E-02	6.968E-01	1.169E+00	1.923E-01	-0.043
BA-133	+	53.15		9.272E-01	1.183E+00	1.641E+00	1.230E-01	0.565
		79.62		1.764E+00	1.103E+00	1.649E+00	2.431E-01	1.070
		81.00		-1.578E-01	8.806E-02	1.125E-01	1.732E-02	-1.403
		276.40		6.765E-01	4.531E-01	7.056E-01	1.050E-01	0.959
		302.84		-4.649E-02	1.698E-01	2.405E-01	3.224E-02	-0.193
		356.01	*	-2.397E-04	5.069E-02	7.271E-02	8.979E-03	-0.003
		383.85		-1.929E-01	3.324E-01	5.279E-01	5.842E-02	-0.365
I-133	+	510.53		9.847E-01	3.324E-01	Half-Life	too short	
		529.87	*	-1.217E-03	3.324E-01	Half-Life	too short	
		706.58		4.498E-02	3.324E-01	Half-Life	too short	
		856.28		-1.165E-01	3.324E-01	Half-Life	too short	
		875.33		-1.100E-01	3.324E-01	Half-Life	too short	
		1236.41		7.670E-01	3.324E-01	Half-Life	too short	
		1298.22		-2.222E-01	3.324E-01	Half-Life	too short	
CS-134		475.35		5.264E-01	2.062E+00	3.427E+00	2.147E-01	0.154
		563.23		3.060E-01	4.133E-01	7.048E-01	4.681E-02	0.434
		569.32		2.734E-01	2.262E-01	3.970E-01	2.659E-02	0.689
		604.70		9.252E-03	4.310E-02	6.136E-02	4.058E-03	0.151
		795.84	*	8.809E-02	5.100E-02	9.525E-02	8.203E-03	0.925
		801.93		1.127E-01	3.996E-01	6.817E-01	5.925E-02	0.165
		1038.57		-3.507E+00	4.083E+00	6.037E+00	5.033E-01	-0.581
		1167.94		1.460E+00	2.628E+00	4.516E+00	2.670E-01	0.323
		1365.15		-3.841E-01	1.252E+00	1.919E+00	1.225E-01	-0.200
CS-135		268.24	*	1.731E-01	1.921E-01	2.944E-01	3.149E-02	0.588

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135	288.45			1.698E+10	1.921E-01	Half-Life	too short	
	417.63			-2.147E+09	1.921E-01	Half-Life	too short	
	546.56			-1.064E+10	1.921E-01	Half-Life	too short	
	836.80			-2.013E+08	1.921E-01	Half-Life	too short	
	1038.76			-1.827E+10	1.921E-01	Half-Life	too short	
	1124.00			4.626E+10	1.921E-01	Half-Life	too short	
	1131.51			7.523E+09	1.921E-01	Half-Life	too short	
	1260.41	*		-1.333E+09	1.921E-01	Half-Life	too short	
	1457.56			7.162E+11	1.921E-01	Half-Life	too short	
	1678.03			3.074E+09	1.921E-01	Half-Life	too short	
	1706.46			2.227E+10	1.921E-01	Half-Life	too short	
	1791.20			1.116E+10	1.921E-01	Half-Life	too short	
CS-136	66.91			-4.680E-01	4.996E-01	6.890E-01	1.041E-01	-0.679
	86.29	+		4.284E+00	1.088E+00	1.717E+00	2.096E-01	2.496
	153.22			7.245E-01	6.952E-01	1.161E+00	1.406E-01	0.624
	163.89			1.155E-01	1.115E+00	1.804E+00	1.993E-01	0.064
	176.55			-7.755E-02	3.764E-01	5.989E-01	6.225E-02	-0.129
	273.65			-1.136E+00	5.801E-01	7.159E-01	7.086E-02	-1.587
	340.57			5.835E-01	1.735E-01	2.926E-01	2.354E-02	1.994
	818.51			1.894E-03	8.126E-02	1.353E-01	1.206E-02	0.014
	1048.07	*		4.085E-02	1.225E-01	2.071E-01	1.774E-02	0.197
	1235.34			2.690E-01	6.830E-01	1.144E+00	1.143E-01	0.235
	661.65	*		3.760E-02	3.978E-02	6.875E-02	4.521E-03	0.547
	661.65	*		3.974E-02	4.206E-02	7.267E-02	4.795E-03	0.547
BA-137M	165.85	*		3.609E-04	3.029E-02	4.881E-02	4.846E-03	0.007
CS-137	162.64			-2.346E-01	8.037E-01	1.278E+00	1.370E-01	-0.184
CE-139	304.84			1.871E-01	1.493E+00	2.180E+00	6.118E-01	0.086
BA-140	423.70			-9.151E-01	2.207E+00	3.499E+00	1.113E+00	-0.262
	537.32	*		-1.599E-01	2.979E-01	4.559E-01	1.489E-01	-0.351
	328.77	+		6.239E-01	4.182E-01	5.782E-01	4.995E-02	1.079
	432.53			2.358E-01	2.224E+00	3.673E+00	2.440E-01	0.064
	487.03			2.016E-03	1.415E-01	2.311E-01	1.623E-02	0.009
	751.79			-1.536E+00	1.853E+00	2.865E+00	2.543E-01	-0.536
	815.85			8.795E-03	3.517E-01	5.858E-01	5.758E-02	0.015
	867.82			-7.688E-02	1.667E+00	2.623E+00	2.649E-01	-0.029
	919.63			-5.111E-01	3.303E+00	5.114E+00	6.012E-01	-0.100
	925.24			1.575E+00	1.353E+00	2.438E+00	2.528E-01	0.646
	1596.49	*		-5.938E-02	8.831E-02	1.298E-01	7.631E-03	-0.457
	145.44	*		5.104E-02	6.424E-02	1.068E-01	1.305E-02	0.478
CE-141	57.37			-3.682E-04	6.424E-02	Half-Life	too short	
CE-143	231.56			-5.763E-05	6.424E-02	Half-Life	too short	
	293.26	*		6.120E-04	6.424E-02	Half-Life	too short	
	350.59	+		2.757E-02	6.424E-02	Half-Life	too short	
	490.36			1.576E-03	6.424E-02	Half-Life	too short	
	664.57			-4.148E-04	6.424E-02	Half-Life	too short	
	721.93			2.117E-05	6.424E-02	Half-Life	too short	
CE-144	80.11			-2.126E+00	1.785E+00	2.436E+00	1.882E-01	-0.873
	133.54	*		-7.501E-02	2.260E-01	3.134E-01	5.803E-02	-0.239
PM-144	476.78			1.395E-02	7.226E-02	1.196E-01	8.781E-03	0.117

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-3.195E-03	3.872E-02	5.822E-02	4.017E-03	-0.055
		696.49	*	2.500E-02	3.958E-02	6.918E-02	4.892E-03	0.361
		778.57		-7.475E-01	2.504E+00	4.065E+00	3.368E-01	-0.184
PR-144		696.49	*	1.694E+00	2.682E+00	4.688E+00	3.313E-01	0.361
		1489.15		-5.114E+00	1.116E+01	1.708E+01	1.004E+00	-0.299
PM-146		453.90	*	1.810E-03	4.766E-02	7.820E-02	6.939E-03	0.023
		633.02		7.089E-01	1.563E+00	2.576E+00	9.520E-01	0.275
		735.90		-3.479E-02	1.692E-01	2.714E-01	7.686E-02	-0.128
		747.13		-2.309E-02	9.700E-02	1.586E-01	2.150E-02	-0.146
ND-147	+	91.11		7.212E-01	2.393E-01	4.570E-01	4.065E-02	1.578
		319.41		9.319E-01	3.440E+00	5.800E+00	4.867E-01	0.161
		439.89		-1.366E+00	6.298E+00	1.017E+01	6.202E-01	-0.134
		531.02	*	4.504E-01	6.226E-01	1.061E+00	1.466E-01	0.424
PM-149		285.90	*	-2.522E+01	9.104E+01	1.496E+02	2.371E+01	-0.169
EU-152		121.78		-1.168E-02	7.686E-02	1.183E-01	1.770E-02	-0.099
		244.69		5.986E-01	3.733E-01	5.947E-01	5.798E-02	1.007
		344.27	*	1.534E-03	1.164E-01	1.675E-01	1.378E-02	0.009
		443.98		1.452E-01	1.081E+00	1.787E+00	1.093E-01	0.081
		778.89		-1.285E-01	2.937E-01	4.710E-01	3.903E-02	-0.273
		867.32		3.713E-01	9.845E-01	1.574E+00	1.524E-01	0.236
	+	964.01		4.900E-01	3.356E-01	6.741E-01	6.351E-02	0.727
		1085.78		2.183E-01	4.402E-01	7.546E-01	5.682E-02	0.289
		1112.02		2.235E-01	3.888E-01	6.253E-01	4.404E-02	0.357
		1407.95		2.414E-01	2.255E-01	4.181E-01	2.443E-02	0.577
GD-153		69.67		3.192E-01	1.111E+00	1.628E+00	1.295E-01	0.196
		83.37		-2.124E+00	1.573E+01	1.895E+01	1.454E+00	-0.112
		97.43	*	-3.635E-02	7.818E-02	1.093E-01	1.013E-02	-0.333
		103.18		-1.281E-01	9.763E-02	1.500E-01	1.551E-02	-0.854
EU-154		123.07		-3.942E-03	5.935E-02	8.351E-02	1.331E-02	-0.047
		247.94		-4.643E-01	4.242E-01	5.666E-01	6.980E-02	-0.819
		591.81		-1.705E-01	6.846E-01	1.082E+00	1.110E-01	-0.158
		723.30		-9.986E-02	2.113E-01	2.873E-01	2.439E-02	-0.348
		756.87		6.871E-01	9.240E-01	1.620E+00	1.864E-01	0.424
		873.19		-2.535E-01	2.985E-01	4.460E-01	5.836E-02	-0.568
		996.32		-1.919E-01	3.931E-01	6.109E-01	1.096E-01	-0.314
		1004.76		1.341E-02	2.352E-01	3.884E-01	4.590E-02	0.035
		1274.45	*	-8.362E-02	1.421E-01	2.148E-01	2.008E-02	-0.389
EU-155		48.70		8.771E-01	6.829E-01	7.998E-01	5.574E-02	1.097
		60.01		2.132E+00	2.285E+00	3.447E+00	2.854E-01	0.619
	+	86.54		3.947E-01	9.305E-02	1.572E-01	1.215E-02	2.510
		105.31	*	-8.795E-03	9.886E-02	1.609E-01	1.743E-02	-0.055
TB-160	+	86.79		1.055E+00	2.483E-01	4.178E-01	3.186E-02	2.524
		197.04		3.509E-01	6.227E-01	1.005E+00	1.004E-01	0.349
		215.65		-1.808E-01	7.753E-01	1.261E+00	1.254E-01	-0.143
	+	298.57		1.671E-01	1.265E-01	2.091E-01	1.861E-02	0.799
		879.36	*	7.091E-02	1.546E-01	2.603E-01	2.572E-02	0.272
		962.29		9.024E-01	7.376E-01	1.176E+00	1.111E-01	0.767
	+	966.15		3.365E-01	2.305E-01	5.907E-01	5.549E-02	0.570
		1177.93		1.961E-01	3.846E-01	6.572E-01	3.813E-02	0.298

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		2.529E-01	7.436E-01	1.251E+00	7.270E-02	0.202
		80.57		-4.770E-01	2.355E-01	3.063E-01	2.365E-02	-1.557
	+	184.41		1.594E-01	6.150E-02	6.827E-02	6.812E-03	2.335
		280.46		-5.254E-02	8.846E-02	1.432E-01	1.326E-02	-0.367
		410.95		2.772E-01	2.684E-01	4.675E-01	2.775E-02	0.593
		711.68	*	-2.964E-03	6.682E-02	1.115E-01	8.122E-03	-0.027
TM-171		752.31		-1.750E-01	2.806E-01	4.415E-01	3.481E-02	-0.396
		810.29		-1.135E-02	6.467E-02	1.058E-01	9.287E-03	-0.107
		51.35		1.360E+00	9.610E+00	1.197E+01	8.706E-01	0.114
	+	52.39		3.863E+00	4.930E+00	6.903E+00	5.108E-01	0.560
		59.40		2.176E+01	1.182E+01	1.836E+01	1.522E+00	1.185
		66.72	*	-1.556E+01	1.790E+01	2.495E+01	2.005E+00	-0.624
LU-176	+	88.36		7.774E-01	1.830E-01	3.290E-01	2.524E-02	2.363
		201.83		-1.752E-02	3.074E-02	4.777E-02	4.768E-03	-0.367
		306.84	*	2.412E-02	2.638E-02	4.484E-02	3.905E-03	0.538
		401.10		-3.623E+00	7.432E+00	1.186E+01	6.969E-01	-0.305
		112.95		-5.662E-01	1.604E+00	2.578E+00	3.162E-01	-0.220
	+	208.36	*	2.252E+00	1.414E+00	2.013E+00	2.007E-01	1.119
LU-177M	+	52.97		4.144E-01	5.289E-01	7.309E-01	5.459E-02	0.567
	+	54.07		2.348E-01	2.997E-01	4.185E-01	3.182E-02	0.561
		61.30		8.906E-01	7.583E-01	1.149E+00	9.453E-02	0.775
		121.62		-2.596E-02	3.807E-01	6.085E-01	8.571E-02	-0.043
		147.16		-2.581E-01	6.861E-01	1.091E+00	1.303E-01	-0.236
		171.86		1.844E-01	4.797E-01	7.848E-01	7.804E-02	0.235
HF-181		218.09		8.300E-02	8.461E-01	1.432E+00	1.423E-01	0.058
	+	268.79		1.933E+00	1.438E+00	1.521E+00	1.437E-01	1.271
		319.02		4.127E-02	2.699E-01	4.523E-01	3.800E-02	0.091
		367.43		-1.116E+00	1.007E+00	1.548E+00	1.056E-01	-0.721
		413.65	*	-1.712E-01	1.961E-01	3.041E-01	1.810E-02	-0.563
		56.28		-5.724E-01	3.765E-01	5.072E-01	3.998E-02	-1.128
W-181		57.53		-1.443E-01	2.357E-01	3.098E-01	2.491E-02	-0.466
		65.20		7.020E-01	5.579E-01	8.445E-01	6.827E-02	0.831
		133.02		-4.681E-03	7.125E-02	1.006E-01	1.335E-02	-0.047
		136.25		-4.098E-02	4.446E-01	7.177E-01	9.314E-02	-0.057
		345.85		-9.704E-02	2.305E-01	3.194E-01	2.426E-02	-0.304
		482.03	*	-9.857E-03	4.406E-02	7.065E-02	4.447E-03	-0.140
TA-182		56.28		-2.237E-01	1.473E-01	1.985E-01	1.565E-02	-1.127
		57.53		-5.665E-02	9.230E-02	1.213E-01	9.754E-03	-0.467
		65.20	*	2.727E-01	2.168E-01	3.281E-01	2.652E-02	0.831
		67.75		-6.561E-02	6.767E-02	9.965E-02	7.977E-03	-0.658
		100.10		2.980E-01	1.706E-01	2.746E-01	2.681E-02	1.085
		152.43		2.262E-01	3.528E-01	5.832E-01	6.652E-02	0.388
RE-183		222.10		2.340E-03	3.483E-01	5.870E-01	5.822E-02	0.004
		1001.68		1.480E+00	2.141E+00	3.746E+00	3.335E-01	0.395
	+	1121.28		7.035E-01	2.442E-01	3.805E-01	2.612E-02	1.849
		1189.05		-5.475E-03	3.474E-01	5.639E-01	3.274E-02	-0.010
		1221.42	*	8.731E-02	2.249E-01	3.777E-01	2.196E-02	0.231
		1230.97		-2.405E-01	5.304E-01	8.233E-01	4.787E-02	-0.292
		57.98		4.832E-02	9.040E-02	1.259E-01	1.020E-02	0.384

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		1.018E-01	4.820E-02	7.545E-02	6.245E-03	1.349
		67.20		-1.404E-01	1.277E-01	1.759E-01	1.411E-02	-0.798
		162.32	*	2.819E-02	1.144E-01	1.863E-01	1.925E-02	0.151
	+	208.81		2.019E+00	1.268E+00	1.800E+00	1.794E-01	1.122
		291.72		-2.563E-01	1.069E+00	1.521E+00	1.376E-01	-0.168
		57.98		1.780E-01	3.331E-01	4.639E-01	3.758E-02	0.384
		59.32		3.748E-01	1.774E-01	2.778E-01	2.299E-02	1.349
		67.20		-5.170E-01	4.702E-01	6.478E-01	5.196E-02	-0.798
		161.27		1.809E-02	3.748E-01	6.054E-01	6.327E-02	0.030
		216.55		1.179E-02	2.691E-01	4.546E-01	4.520E-02	0.026
OS-185		252.85	*	2.227E-01	2.395E-01	4.171E-01	4.030E-02	0.534
		318.01		-3.047E-02	4.666E-01	7.729E-01	6.514E-02	-0.039
		792.07		5.372E-01	1.122E+00	1.936E+00	1.644E-01	0.278
		903.28		-9.263E-01	1.337E+00	1.715E+00	1.738E-01	-0.540
		920.93		-4.980E-01	5.410E-01	8.134E-01	8.088E-02	-0.612
		59.72		1.295E-01	1.345E-01	2.032E-01	1.685E-02	0.637
		61.14		9.058E-02	8.182E-02	1.238E-01	1.019E-02	0.731
		69.30		4.362E-02	1.969E-01	2.879E-01	2.292E-02	0.152
		592.07		-5.284E-01	2.808E+00	4.463E+00	2.934E-01	-0.118
		646.12	*	-2.208E-02	4.664E-02	7.168E-02	4.722E-03	-0.308
RE-188		717.42		2.245E-01	1.010E+00	1.718E+00	1.266E-01	0.131
		874.81		-3.826E-01	5.963E-01	9.193E-01	9.015E-02	-0.416
		880.27		3.554E-01	9.019E-01	1.511E+00	1.495E-01	0.235
		155.03	*	-1.675E-02	1.823E-01	2.931E-01	3.263E-02	-0.057
		477.96		3.938E-01	3.255E+00	5.361E+00	3.365E-01	0.073
		633.10		1.433E+00	3.116E+00	5.208E+00	3.433E-01	0.275
	+	63.58		3.690E+01	2.878E+01	4.590E+01	3.736E+00	0.804
		227.08		3.215E-01	1.287E+01	2.170E+01	2.146E+00	0.015
		290.67	*	3.303E+00	8.148E+00	1.217E+01	1.103E+00	0.271
	+	295.96		8.946E-01	1.971E-01	2.701E-01	2.435E-02	3.312
IR-192		308.46		1.001E-01	9.937E-02	1.735E-01	1.512E-02	0.577
		316.51	*	3.024E-02	3.505E-02	6.086E-02	5.165E-03	0.497
		468.07		8.904E-02	7.719E-02	1.217E-01	8.599E-03	0.732
		604.41		-4.836E-02	6.002E-01	8.273E-01	9.738E-02	-0.058
		612.46		2.757E+00	1.056E+00	1.771E+00	1.451E-01	1.557
		65.12		1.391E-01	1.006E-01	1.528E-01	1.235E-02	0.910
		66.83		-5.351E-02	5.941E-02	8.271E-02	6.644E-03	-0.647
	+	75.70		1.231E+00	2.096E-01	3.586E-01	2.801E-02	3.432
		98.88	*	4.525E-01	2.195E-01	3.421E-01	3.262E-02	1.323
	+	129.76		6.759E+00	3.941E+00	4.895E+00	6.633E-01	1.381
TL-200		367.94	*	-4.576E-04	3.941E+00	Half-Life	too short	
		579.30		2.863E-03	3.941E+00	Half-Life	too short	
		828.27		-6.893E-04	3.941E+00	Half-Life	too short	
		1205.75		-9.524E-04	3.941E+00	Half-Life	too short	
TL-201		68.90		-4.161E-01	3.169E+00	4.570E+00	3.643E-01	-0.091
		70.82		2.219E+00	1.845E+00	2.789E+00	2.209E-01	0.796
		80.30		-8.839E+00	4.364E+00	5.678E+00	4.387E-01	-1.557
		135.34		-8.378E+00	2.499E+01	3.989E+01	5.210E+00	-0.210
		167.43	*	-4.327E+00	7.304E+00	1.142E+01	1.134E+00	-0.379

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-3.723E-02	2.835E-01	4.088E-01	3.260E-02	-0.091
		70.82		1.980E-01	1.646E-01	2.488E-01	1.971E-02	0.796
		80.30		-7.889E-01	3.895E-01	5.068E-01	3.915E-02	-1.557
		439.56	*	-3.193E-02	7.585E-02	1.207E-01	7.358E-03	-0.265
HG-203		70.83		8.630E-01	7.185E-01	1.078E+00	1.420E-01	0.801
		72.87		1.867E+00	5.377E-01	7.894E-01	1.005E-01	2.365
		82.60		1.308E+00	1.274E+00	1.417E+00	1.867E-01	0.923
		279.20	*	4.429E-02	4.407E-02	7.593E-02	7.219E-03	0.583
BI-207		72.80		4.955E-01	1.455E-01	2.274E-01	1.790E-02	2.179
	+	74.97		6.826E-01	1.162E-01	1.767E-01	1.383E-02	3.863
		84.90		3.604E-01	1.730E-01	2.666E-01	2.040E-02	1.352
		569.67		5.138E-02	3.535E-02	6.293E-02	4.119E-03	0.816
		1063.62	*	2.632E-02	6.337E-02	1.076E-01	8.520E-03	0.245
		1770.23		1.025E-01	6.098E-01	8.955E-01	5.172E-02	0.114
TL-207		81.07		-3.425E-01	1.890E-01	2.491E-01	1.921E-02	-1.375
		83.78		-3.409E-02	1.213E-01	1.605E-01	1.231E-02	-0.212
		94.90		7.489E-01	2.387E-01	3.758E-01	3.312E-02	1.993
		122.32		4.575E-01	1.886E+00	2.839E+00	4.136E-01	0.161
		144.24		2.462E-01	6.900E-01	1.131E+00	1.467E-01	0.218
		154.21		-6.448E-02	4.207E-01	6.748E-01	8.025E-02	-0.096
	+	269.46		4.524E-01	3.368E-01	3.603E-01	3.460E-02	1.255
		323.87	*	2.564E-01	7.620E-01	1.127E+00	1.976E-01	0.228
	+	338.28		7.069E+00	1.844E+00	2.611E+00	3.075E-01	2.708
		445.03		2.770E+00	2.573E+00	4.477E+00	4.681E-01	0.619
PO-209		260.50		-7.889E-01	9.718E+00	1.622E+01	1.551E+00	-0.049
		262.80		-1.556E+01	3.070E+01	4.529E+01	4.319E+00	-0.344
		896.60	*	3.503E+00	8.360E+00	1.433E+01	1.457E+00	0.244
PB-211		404.84	*	-2.823E-02	1.055E+00	1.733E+00	1.081E+00	-0.016
		427.08		-8.781E-01	2.390E+00	3.727E+00	2.305E+00	-0.236
		831.96		9.749E-01	1.466E+00	2.347E+00	1.473E+00	0.415
BI-212	+	727.18	*	1.224E+00	4.612E-01	7.004E-01	6.354E-02	1.748
		785.46		1.676E+00	1.921E+00	3.413E+00	2.863E-01	0.491
		1620.62		1.086E+00	1.237E+00	2.341E+00	1.374E-01	0.464
PO-215		81.07		-3.425E-01	1.890E-01	2.491E-01	1.921E-02	-1.375
		83.78		-3.409E-02	1.213E-01	1.605E-01	1.231E-02	-0.212
		94.90		7.489E-01	2.387E-01	3.758E-01	3.312E-02	1.993
		122.32		4.575E-01	1.886E+00	2.839E+00	4.136E-01	0.161
		144.24		2.462E-01	6.900E-01	1.131E+00	1.467E-01	0.218
		154.21		-6.448E-02	4.207E-01	6.748E-01	8.025E-02	-0.096
	+	269.46		4.524E-01	3.368E-01	3.603E-01	3.460E-02	1.255
		323.87	*	2.564E-01	7.620E-01	1.127E+00	1.976E-01	0.228
	+	338.28		7.069E+00	1.844E+00	2.611E+00	3.075E-01	2.708
		445.03		2.770E+00	2.573E+00	4.477E+00	4.681E-01	0.619
RN-219	+	271.23		5.804E-01	4.332E-01	4.402E-01	4.835E-02	1.318
		401.81	*	-1.942E-01	4.638E-01	7.427E-01	1.013E-01	-0.261
RN-220		549.76	*	-6.263E-01	2.784E+01	4.504E+01	2.931E+00	-0.014
RA-223		81.07		-3.425E-01	1.890E-01	2.491E-01	1.921E-02	-1.375
		83.78		-3.409E-02	1.213E-01	1.605E-01	1.231E-02	-0.212
		94.90		7.489E-01	2.387E-01	3.758E-01	3.312E-02	1.993

---- 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		4.575E-01	1.886E+00	2.839E+00	4.136E-01	0.161
		144.24		2.462E-01	6.900E-01	1.131E+00	1.467E-01	0.218
		154.21		-6.448E-02	4.207E-01	6.748E-01	8.025E-02	-0.096
	+	269.46		4.524E-01	3.368E-01	3.603E-01	3.460E-02	1.255
		323.87	*	2.564E-01	7.620E-01	1.127E+00	1.976E-01	0.228
	+	338.28		7.069E+00	1.844E+00	2.611E+00	3.075E-01	2.708
		445.03		2.770E+00	2.573E+00	4.477E+00	4.681E-01	0.619
		79.80		-6.954E-01	1.401E+00	1.970E+00	4.169E-01	-0.353
		236.00		1.109E+00	3.263E-01	5.067E-01	6.649E-02	2.188
		256.20	*	-8.890E-02	4.022E-01	6.670E-01	1.063E-01	-0.133
		286.10		-8.317E-02	1.498E+00	2.494E+00	3.381E-01	-0.033
	+	299.80		2.128E+00	1.642E+00	2.532E+00	4.460E-01	0.840
TH-227		304.40		-4.536E-01	2.251E+00	3.205E+00	5.931E-01	-0.142
		334.20		2.787E-02	3.306E+00	3.748E+00	7.169E-01	0.007
		79.80		-6.954E-01	1.401E+00	1.970E+00	4.224E-01	-0.353
	+	94.00		8.888E+00	3.021E+00	3.420E+00	7.453E-01	2.599
		236.00		1.109E+00	3.211E-01	5.067E-01	6.101E-02	2.188
		256.20	*	-8.890E-02	4.023E-01	6.670E-01	1.238E-01	-0.133
		286.10		-8.317E-02	1.501E+00	2.494E+00	2.504E+00	-0.033
	+	299.80		2.128E+00	1.642E+00	2.532E+00	4.460E-01	0.840
		304.40		-4.536E-01	2.251E+00	3.205E+00	5.931E-01	-0.142
		334.20		2.787E-02	3.306E+00	3.748E+00	7.169E-01	0.007
		85.43		6.099E-01	1.803E-01	2.838E-01	2.170E-02	2.149
	+	88.47		4.475E-01	1.053E-01	1.891E-01	1.454E-02	2.367
PA-231		100.00		3.228E-01	1.776E-01	2.863E-01	2.790E-02	1.127
		193.63	*	-3.281E-01	5.471E-01	8.505E-01	8.494E-02	-0.386
		210.97		1.416E+00	9.547E-01	1.432E+00	1.427E-01	0.988
		283.67	*	-4.650E-01	1.493E+00	2.449E+00	3.800E-01	-0.190
		301.29		5.021E-01	6.887E-01	1.043E+00	1.293E-01	0.481
		81.07		-3.425E-01	1.890E-01	2.491E-01	1.921E-02	-1.375
		83.78		-3.409E-02	1.213E-01	1.605E-01	1.231E-02	-0.212
		94.90		7.489E-01	2.387E-01	3.758E-01	3.312E-02	1.993
		122.32		4.575E-01	1.886E+00	2.839E+00	4.136E-01	0.161
		144.24		2.462E-01	6.900E-01	1.131E+00	1.467E-01	0.218
		154.21		-6.448E-02	4.207E-01	6.748E-01	8.025E-02	-0.096
	+	269.46		4.524E-01	3.368E-01	3.603E-01	3.460E-02	1.255
U-231		323.87	*	2.564E-01	7.620E-01	1.127E+00	1.976E-01	0.228
	+	338.28		7.069E+00	1.844E+00	2.611E+00	3.075E-01	2.708
		445.03		2.770E+00	2.573E+00	4.477E+00	4.681E-01	0.619
		84.21		-5.142E-01	5.277E+00	7.046E+00	5.399E-01	-0.073
	+	92.29		8.821E+00	2.424E+00	3.505E+00	2.927E-01	2.517
		95.87	*	-4.425E-01	1.078E+00	1.514E+00	1.361E-01	-0.292
		108.00		-5.506E-01	1.972E+00	3.183E+00	3.588E-01	-0.173
	+	75.28		1.992E+01	4.231E+00	5.505E+00	8.210E-01	3.618
	+	86.59		6.416E+00	2.222E+00	2.553E+00	6.770E-01	2.513
	+	300.12		5.931E-01	4.546E-01	7.158E-01	1.075E-01	0.829
		311.98	*	-1.897E-02	6.480E-02	1.060E-01	9.359E-03	-0.179
		340.50		3.005E+00	1.080E+00	1.440E+00	3.391E-01	2.086
PA-233		398.62		3.524E-01	2.238E+00	3.718E+00	9.618E-01	0.095

---- 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		-2.026E+00	1.895E+00	2.824E+00	5.826E-01	-0.717
		63.00		1.070E+00	8.456E-01	1.314E+00	2.003E-01	0.814
		94.67		3.490E-01	1.667E-01	2.798E-01	3.500E-02	1.247
		98.44		1.463E-01	1.195E-01	1.358E-01	7.595E-02	1.077
		99.86		8.632E-01	4.515E-01	7.295E-01	7.088E-02	1.183
		111.00		5.530E-02	1.839E-01	2.993E-01	4.365E-02	0.185
		131.20		5.537E-02	1.168E-01	1.699E-01	2.281E-02	0.326
		152.70		3.013E-01	3.434E-01	5.668E-01	1.054E-01	0.532
		186.00		5.738E+00	2.804E+00	2.621E+00	8.285E-01	2.189
		226.40		1.672E-01	3.988E-01	6.823E-01	9.598E-02	0.245
		227.20		6.049E-03	4.345E-01	7.320E-01	7.239E-02	0.008
		248.90		-1.070E+00	9.973E-01	1.304E+00	2.980E-01	-0.821
		293.70		4.058E+00	1.171E+00	1.655E+00	2.895E-01	2.452
		369.80		2.044E-02	9.159E-01	1.515E+00	3.196E-01	0.013
		568.70		5.395E-01	1.177E+00	1.968E+00	1.288E-01	0.274
		569.50		4.023E-01	3.147E-01	5.545E-01	3.629E-02	0.725
		574.00		-1.782E+00	1.757E+00	2.610E+00	1.710E-01	-0.683
		699.00		8.489E-02	8.428E-01	1.422E+00	2.622E-01	0.060
		706.10		1.943E-01	1.203E+00	2.032E+00	9.011E-01	0.096
		733.00		-5.599E-01	4.852E-01	5.725E-01	1.249E-01	-0.978
		742.81		7.901E-01	1.666E+00	2.738E+00	1.838E+00	0.289
		796.30		1.380E+00	1.054E+00	1.819E+00	4.918E-01	0.758
		805.60		1.261E+00	1.125E+00	1.935E+00	5.934E-01	0.652
		819.60		4.001E-01	1.338E+00	2.268E+00	8.641E-01	0.176
		826.30		-8.978E-01	9.373E-01	1.257E+00	5.633E-01	-0.714
		831.60		4.767E-01	6.970E-01	1.199E+00	3.596E-01	0.398
		876.40		-9.546E-01	1.323E+00	1.305E+00	1.343E+00	-0.732
		880.51		1.071E-01	3.240E-01	5.400E-01	5.346E-02	0.198
		883.24		3.846E-01	4.188E-01	5.986E-01	4.035E-01	0.643
		899.00		8.169E-01	1.004E+00	1.668E+00	7.348E-01	0.490
		925.00		1.702E+00	1.399E+00	2.531E+00	2.505E-01	0.672
		926.50		1.390E-01	2.076E-01	3.576E-01	9.204E-02	0.389
		946.00	*	-9.834E-03	3.345E-01	5.497E-01	1.059E-01	-0.018
		949.00		1.727E-01	4.892E-01	8.327E-01	8.005E-02	0.207
		980.50		5.171E-01	7.785E-01	1.363E+00	1.254E-01	0.379
		1394.10		-9.587E-01	1.385E+00	1.848E+00	1.197E+00	-0.519
PA-234M	+	766.42		3.035E-01	1.281E+01	2.139E+01	1.084E+01	0.014
		1001.03	*	6.558E-02	4.954E+00	8.149E+00	8.327E-01	0.008
U-235	+	89.95		2.867E+00	1.271E+00	1.616E+00	4.957E-01	1.774
		93.35		2.765E+00	1.059E+00	1.082E+00	3.031E-01	2.555
		105.00		1.316E-01	9.654E-01	1.584E+00	4.831E-01	0.083
		143.76	*	1.300E-02	2.157E-01	3.499E-01	6.846E-02	0.037
		163.35		9.284E-02	4.878E-01	7.918E-01	1.572E-01	0.117
		185.71		2.125E-01	8.199E-02	9.702E-02	9.683E-03	2.190
NP-236	+	205.31		-2.216E-01	6.211E-01	8.424E-01	1.662E-01	-0.263
		94.67		2.666E-01	1.243E-01	2.124E-01	1.863E-02	1.255
		98.44		1.105E-01	6.666E-02	1.027E-01	9.706E-03	1.077
		111.00		4.183E-02	1.391E-01	2.264E-01	2.687E-02	0.185
		160.31	*	3.018E-02	8.410E-02	1.375E-01	1.452E-02	0.219

---- 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		3.630E-01	1.558E-01	2.442E-01	2.359E-02	1.486
		117.00	*	5.722E-02	1.872E-01	3.083E-01	4.039E-02	0.186
	+	209.75		1.592E+00	9.997E-01	1.439E+00	1.434E-01	1.107
		228.18		-1.647E-02	2.264E-01	3.800E-01	3.755E-02	-0.043
		277.60		2.482E-01	2.062E-01	3.417E-01	3.180E-02	0.727
		334.30		4.135E-01	1.647E+00	2.130E+00	1.696E-01	0.194
AM-241		59.54	*	1.222E-01	6.900E-02	1.068E-01	9.557E-03	1.144
CM-243		99.55		3.735E-01	1.604E-01	2.513E-01	2.427E-02	1.486
		103.76	*	-6.499E-02	9.016E-02	1.429E-01	1.493E-02	-0.455
		117.00		5.886E-02	1.926E-01	3.171E-01	4.155E-02	0.186
	+	209.75		1.570E+00	9.855E-01	1.418E+00	1.414E-01	1.107
		228.18		-1.665E-02	2.288E-01	3.839E-01	3.794E-02	-0.043
		277.60		2.503E-01	2.078E-01	3.445E-01	3.206E-02	0.727
AM-246		798.80		-4.380E-01	1.604E-01	1.907E-01	1.639E-02	-2.297
		1036.00		-8.661E-02	3.030E-01	4.807E-01	4.027E-02	-0.180
		1062.04		-9.794E-02	2.831E-01	4.486E-01	3.565E-02	-0.218
		1078.86	*	1.163E-01	1.577E-01	2.761E-01	2.113E-02	0.421
CM-247		278.00		1.280E+00	8.325E-01	1.430E+00	1.330E-01	0.896
		287.40		6.113E-01	1.268E+00	2.056E+00	1.877E-01	0.297
		402.60	*	7.674E-04	4.100E-02	6.754E-02	3.975E-03	0.011
CF-249		252.85		8.355E-01	8.986E-01	1.565E+00	1.512E-01	0.534
		333.44		8.690E-02	2.710E-01	2.754E-01	2.201E-02	0.315
		387.95	*	4.708E-02	4.416E-02	7.710E-02	4.611E-03	0.611
CF-251		176.60	*	-4.580E-02	1.307E-01	2.065E-01	2.057E-02	-0.222
		227.00		8.440E-02	3.832E-01	6.510E-01	6.439E-02	0.130
		285.00		-1.406E+00	1.746E+00	2.783E+00	2.553E-01	-0.505

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]G1202001376      *
* Acquisition date   : 31-DEC-2009 15:32:03 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 02:00:01.68 Half life ratio : 8.000    *
*****
*                               SAMPLE DATA                               *
*                               *                               *
* Sample date        : 16-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202001376 Analyst initials: MXR1          *
* Batch Number       : 935341 Sample Quantity : 1.3293E+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	2.359E+01	2.161E+00	5.967E-01	0.000E+00
AS-73	2.190E-01	2.740E-01	4.141E-01	0.000E+00
CD-109	3.335E+00	7.693E-01	1.095E+00	0.000E+00
SN-126	3.278E-01	7.561E-02	1.075E-01	0.000E+00
TL-208	4.890E-01	8.146E-02	6.209E-02	0.000E+00
BI-210	1.182E+00	7.729E-01	8.980E-01	0.000E+00
PB-210	1.182E+00	7.729E-01	8.980E-01	0.000E+00
PO-210	1.182E+00	7.716E-01	8.980E-01	0.000E+00
BI-211	3.425E+00	4.819E-01	3.452E-01	0.000E+00
PB-212	1.524E+00	1.927E-01	9.125E-02	0.000E+00
PO-212	1.524E+00	1.927E-01	9.125E-02	0.000E+00
BI-214	1.189E+00	1.963E-01	1.272E-01	0.000E+00
PB-214	1.191E+00	1.784E-01	1.167E-01	0.000E+00
PO-214	1.191E+00	1.784E-01	1.167E-01	0.000E+00
PO-216	1.524E+00	1.927E-01	9.125E-02	0.000E+00
PO-218	1.191E+00	1.784E-01	1.167E-01	0.000E+00
RA-224	4.355E+00	1.510E+00	1.038E+00	0.000E+00
RA-226	1.189E+00	1.963E-01	1.272E-01	0.000E+00
AC-228	1.438E+00	3.126E-01	2.350E-01	0.000E+00
RA-228	1.438E+00	3.126E-01	2.350E-01	0.000E+00
TH-228	1.547E+00	1.956E-01	9.263E-02	0.000E+00
TH-230	1.189E+00	1.963E-01	1.272E-01	0.000E+00
TH-232	1.438E+00	3.126E-01	2.350E-01	0.000E+00
TH-234	9.177E-01	7.157E-01	1.090E+00	0.000E+00
U-234	1.189E+00	1.963E-01	1.272E-01	0.000E+00
NP-237	9.625E-01	2.953E-01	3.445E-01	0.000E+00
U-238	9.177E-01	7.157E-01	1.090E+00	0.000E+00
AM-243	3.803E-01	6.346E-02	6.370E-02	0.000E+00
ANH-511	9.447E-02	6.438E-02	5.130E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line Activity	K.L. Act error	MDA
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Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	-1.506E-01	3.375E-01	5.554E-01	0.000E+00	NOT IDENT.
NA-22	-3.039E-02	4.977E-02	7.705E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	7.620E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.017E-02	3.830E-02	6.953E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.288E-02	6.515E-02	0.000E+00	FAIL ABUN
SC-46	-1.177E-02	4.115E-02	6.823E-02	0.000E+00	FAIL ABUN
V-48	-3.853E-02	7.662E-02	1.231E-01	0.000E+00	NOT IDENT.
CR-51	1.462E-01	3.742E-01	6.660E-01	0.000E+00	NOT IDENT.
MN-52	-1.313E-02	2.187E-01	3.700E-01	0.000E+00	NOT IDENT.
MN-54	-3.192E-02	4.277E-02	6.877E-02	0.000E+00	NOT IDENT.
CO-56	-2.048E-02	4.480E-02	7.365E-02	0.000E+00	NOT IDENT.
CO-57	-1.222E-03	2.585E-02	4.267E-02	0.000E+00	NOT IDENT.
CO-58	6.597E-03	4.174E-02	7.264E-02	0.000E+00	NOT IDENT.
FE-59	-3.720E-02	9.522E-02	1.532E-01	0.000E+00	NOT IDENT.
CO-60	9.381E-03	4.103E-02	6.981E-02	0.000E+00	NOT IDENT.
ZN-65	-1.689E-02	1.232E-01	1.738E-01	0.000E+00	NOT IDENT.
GE-68	2.401E-01	1.357E+00	2.321E+00	0.000E+00	NOT IDENT.
AS-74	-3.136E-02	1.016E-01	1.661E-01	0.000E+00	NOT IDENT.
SE-75	3.840E-03	5.054E-02	7.793E-02	0.000E+00	NOT IDENT.
BR-77	-7.926E+00	1.153E+01	1.847E+01	0.000E+00	FAIL ABUN
SR-82	-1.453E-01	4.204E-01	7.038E-01	0.000E+00	NOT IDENT.
RB-83	-5.513E-02	7.491E-02	1.195E-01	0.000E+00	NOT IDENT.
RB-84	3.632E-02	7.942E-02	1.378E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.949E+00	1.558E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.590E-02	7.989E-02	0.000E+00	NOT IDENT.
RB-86	-1.319E-01	8.855E-01	1.467E+00	0.000E+00	NOT IDENT.
Y-88	3.027E-05	3.462E-02	5.789E-02	0.000E+00	NOT IDENT.
ZR-88	-2.723E-02	3.290E-02	5.375E-02	0.000E+00	NOT IDENT.
Y-91	1.052E+00	2.318E+01	3.876E+01	0.000E+00	NOT IDENT.
NB-94	2.278E-02	3.850E-02	6.938E-02	0.000E+00	NOT IDENT.
NB-95	1.214E-02	4.610E-02	8.101E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.467E-01	2.450E-01	0.000E+00	NOT IDENT.
ZR-95	7.521E-02	7.973E-02	1.467E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.148E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.140E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.128E+01	1.333E+01	2.429E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.142E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.510E-03	3.618E-02	5.992E-02	0.000E+00	FAIL ABUN
RH-102	1.597E-02	3.018E-02	5.329E-02	0.000E+00	NOT IDENT.
RU-103	-1.124E-02	4.353E-02	7.221E-02	0.000E+00	FAIL ABUN
RH-106	2.733E-01	3.579E-01	6.317E-01	0.000E+00	FAIL ABUN
RU-106	2.733E-01	3.568E-01	6.317E-01	0.000E+00	FAIL ABUN
AG-108M	-2.205E-02	3.468E-02	5.679E-02	0.000E+00	NOT IDENT.
AG-110M	-1.493E-02	3.984E-02	6.425E-02	0.000E+00	NOT IDENT.
IN-111	6.508E-01	1.142E+00	1.824E+00	0.000E+00	NOT IDENT.
IN-113M	-3.004E-02	4.769E-02	7.899E-02	0.000E+00	NOT IDENT.
SN-113	-3.004E-02	4.769E-02	7.899E-02	0.000E+00	NOT IDENT.
IN-114M	-3.203E-02	2.081E-01	3.049E-01	0.000E+00	NOT IDENT.
CD-115	-6.513E+00	1.250E+01	2.031E+01	0.000E+00	NOT IDENT.
SN-117M	9.855E-03	5.692E-02	9.819E-02	0.000E+00	NOT IDENT.
SB-122	1.114E+00	2.411E+00	4.189E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.160E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.250E-02	2.929E-02	5.159E-02	0.000E+00	NOT IDENT.
I-124	2.729E-02	8.672E-01	1.257E+00	0.000E+00	FAIL ABUN
SB-124	-2.971E-02	8.476E-02	9.436E-02	0.000E+00	FAIL ABUN
SB-125	-1.762E-02	9.875E-02	1.673E-01	0.000E+00	FAIL ABUN
TE-125M	-1.575E+00	9.065E+00	1.551E+01	0.000E+00	NOT IDENT.
I-126	-9.923E-02	2.009E-01	3.200E-01	0.000E+00	NOT IDENT.
SB-126	5.507E-02	1.800E-01	2.778E-01	0.000E+00	FAIL ABUN
SB-127	2.352E-01	1.493E+00	2.623E+00	0.000E+00	NOT IDENT.
XE-127	-1.144E-02	5.059E-02	8.154E-02	0.000E+00	NOT IDENT.
I-131	6.490E-02	1.223E-01	2.180E-01	0.000E+00	NOT IDENT.
TE-132	-5.069E-02	6.828E-01	1.210E+00	0.000E+00	NOT IDENT.
BA-133	-2.397E-04	4.967E-02	7.466E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.978E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.809E-02	4.998E-02	9.644E-02	0.000E+00	NOT IDENT.
CS-135	1.731E-01	1.883E-01	3.038E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.975E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.085E-02	1.200E-01	2.086E-01	0.000E+00	FAIL ABUN
BA-137M	3.760E-02	3.899E-02	6.984E-02	0.000E+00	NOT IDENT.
CS-137	3.974E-02	4.121E-02	7.382E-02	0.000E+00	NOT IDENT.
CE-139	3.609E-04	2.969E-02	5.077E-02	0.000E+00	NOT IDENT.
BA-140	-1.599E-01	2.920E-01	4.649E-01	0.000E+00	NOT IDENT.
LA-140	-5.938E-02	8.654E-02	1.298E-01	0.000E+00	FAIL ABUN
CE-141	5.104E-02	6.295E-02	1.113E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.231E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-7.501E-02	2.215E-01	3.272E-01	0.000E+00	NOT IDENT.
PM-144	2.500E-02	3.879E-02	7.021E-02	0.000E+00	NOT IDENT.
PR-144	1.694E+00	2.629E+00	4.758E+00	0.000E+00	NOT IDENT.
PM-146	1.810E-03	4.671E-02	7.996E-02	0.000E+00	NOT IDENT.
ND-147	4.504E-01	6.101E-01	1.082E+00	0.000E+00	FAIL ABUN
PM-149	-2.522E+01	8.922E+01	1.542E+02	0.000E+00	NOT IDENT.
EU-152	1.534E-03	1.141E-01	1.721E-01	0.000E+00	FAIL ABUN
GD-153	-3.635E-02	7.661E-02	1.147E-01	0.000E+00	NOT IDENT.
EU-154	-8.362E-02	1.393E-01	2.157E-01	0.000E+00	NOT IDENT.
EU-155	-8.795E-03	9.688E-02	1.687E-01	0.000E+00	FAIL ABUN
TB-160	7.091E-02	1.515E-01	2.631E-01	0.000E+00	FAIL ABUN
HO-166M	-2.964E-03	6.549E-02	1.131E-01	0.000E+00	FAIL ABUN
TM-171	-1.556E+01	1.754E+01	2.635E+01	0.000E+00	FAIL ABUN
LU-176	2.412E-02	2.585E-02	4.616E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.386E+00	2.086E+00	0.000E+00	FAIL ABUN
LU-177M	-1.712E-01	1.922E-01	3.114E-01	0.000E+00	FAIL ABUN
HF-181	-9.857E-03	4.318E-02	7.217E-02	0.000E+00	NOT IDENT.
W-181	2.727E-01	2.124E-01	3.466E-01	0.000E+00	NOT IDENT.
TA-182	8.731E-02	2.204E-01	3.795E-01	0.000E+00	FAIL ABUN
RE-183	2.819E-02	1.122E-01	1.939E-01	0.000E+00	FAIL ABUN
RE-184	2.227E-01	2.347E-01	4.308E-01	0.000E+00	NOT IDENT.
OS-185	-2.208E-02	4.571E-02	7.285E-02	0.000E+00	NOT IDENT.
RE-188	-1.675E-02	1.787E-01	3.052E-01	0.000E+00	NOT IDENT.
W-188	3.303E+00	7.985E+00	1.254E+01	0.000E+00	FAIL ABUN
IR-192	3.024E-02	3.435E-02	6.262E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.151E-01	3.589E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.049E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.327E+00	7.158E+00	1.188E+01	0.000E+00	NOT IDENT.
TL-202	-3.193E-02	7.433E-02	1.235E-01	0.000E+00	NOT IDENT.
HG-203	4.429E-02	4.319E-02	7.829E-02	0.000E+00	NOT IDENT.
BI-207	2.632E-02	6.211E-02	1.084E-01	0.000E+00	FAIL ABUN
TL-207	2.564E-01	7.468E-01	1.159E+00	0.000E+00	FAIL ABUN
PO-209	3.503E+00	8.192E+00	1.448E+01	0.000E+00	NOT IDENT.
PB-211	-2.823E-02	1.034E+00	1.776E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.520E-01	7.103E-01	0.000E+00	FAIL ABUN
PO-215	2.564E-01	7.468E-01	1.159E+00	0.000E+00	FAIL ABUN
RN-219	-1.942E-01	4.545E-01	7.611E-01	0.000E+00	FAIL ABUN
RN-220	-6.263E-01	2.728E+01	4.590E+01	0.000E+00	NOT IDENT.
RA-223	2.564E-01	7.468E-01	1.159E+00	0.000E+00	FAIL ABUN
AC-227	-8.890E-02	3.942E-01	6.888E-01	0.000E+00	FAIL ABUN
TH-227	-8.890E-02	3.943E-01	6.888E-01	0.000E+00	FAIL ABUN
TH-229	-3.281E-01	5.362E-01	8.824E-01	0.000E+00	FAIL ABUN
PA-231	-4.650E-01	1.463E+00	2.524E+00	0.000E+00	NOT IDENT.
TH-231	2.564E-01	7.468E-01	1.159E+00	0.000E+00	FAIL ABUN
U-231	-4.425E-01	1.056E+00	1.590E+00	0.000E+00	FAIL ABUN
PA-233	-1.897E-02	6.350E-02	1.091E-01	0.000E+00	FAIL ABUN
PA-234	-9.834E-03	3.278E-01	5.549E-01	0.000E+00	FAIL ABUN
PA-234M	6.558E-02	4.855E+00	8.218E+00	0.000E+00	NOT IDENT.
U-235	1.300E-02	2.114E-01	3.648E-01	0.000E+00	FAIL ABUN
NP-236	3.018E-02	8.241E-02	1.431E-01	0.000E+00	NOT IDENT.
NP-239	5.722E-02	1.835E-01	3.225E-01	0.000E+00	FAIL ABUN
AM-241	0.000E+00	6.762E-02	1.130E-01	0.000E+00	NOT IDENT.
CM-243	-6.499E-02	8.836E-02	1.498E-01	0.000E+00	FAIL ABUN
AM-246	1.163E-01	1.546E-01	2.781E-01	0.000E+00	NOT IDENT.
CM-247	7.674E-04	4.018E-02	6.920E-02	0.000E+00	NOT IDENT.
CF-249	4.708E-02	4.327E-02	7.905E-02	0.000E+00	NOT IDENT.
CF-251	-4.580E-02	1.281E-01	2.146E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001376.CNF;1
Sample date        : 16-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 15:32:03
Sample ID          : G1202001376          Sample quantity  : 1.32930E+02 GRAM
Detector name      : GAM05                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.68  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 935341                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	894	10.67*	1.003E+00	2.359E+01	2.359E+01	9.35
AS-73	53.44	55	10.30*	7.914E+00	1.921E-01	2.190E-01	127.64
CD-109	88.03	337	3.72*	7.859E+00	3.260E+00	3.335E+00	23.54
SN-126	64.28	100	9.60	8.064E+00	3.633E-01	3.633E-01	78.99
	86.94	337	8.90	7.859E+00	1.363E+00	1.363E+00	46.80
	87.57	337	37.00*	7.859E+00	3.278E-01	3.278E-01	23.54
TL-208	277.35	-----	6.80	4.261E+00	-----	Line Not Found	-----
	510.84	85	21.60	2.545E+00	4.374E-01	4.374E-01	70.04
	583.14	329	84.20*	2.259E+00	4.890E-01	4.890E-01	17.00
	860.37	56	12.46	1.590E+00	7.984E-01	7.984E-01	52.97
BI-210	46.50	129	4.05*	7.630E+00	1.181E+00	1.182E+00	66.71
PB-210	46.50	129	4.05*	7.630E+00	1.181E+00	1.182E+00	66.71
PO-210	46.50	129	4.05*	7.630E+00	1.181E+00	1.182E+00	66.59
BI-211	72.87	-----	1.27	8.052E+00	-----	Line Not Found	-----
	351.07	552	12.94*	3.516E+00	3.425E+00	3.425E+00	14.36
PB-212	74.81	714	10.70	8.036E+00	2.346E+00	2.346E+00	19.42
	77.11	934	18.00	8.012E+00	1.829E+00	1.829E+00	12.96
	87.30	337	8.00	7.859E+00	1.516E+00	1.516E+00	25.58
	238.63	1149	44.60*	4.771E+00	1.524E+00	1.524E+00	12.90
	300.09	56	3.41	4.008E+00	1.148E+00	1.148E+00	75.91
PO-212	74.81	714	10.70	8.036E+00	2.346E+00	2.346E+00	19.42
	77.11	934	18.00	8.012E+00	1.829E+00	1.829E+00	12.96
	87.30	337	8.00	7.859E+00	1.516E+00	1.516E+00	25.58
	115.19	-----	0.60	7.241E+00	-----	Line Not Found	-----
	238.63	1149	44.60*	4.771E+00	1.524E+00	1.524E+00	12.90
	300.09	56	3.41	4.008E+00	1.148E+00	1.148E+00	75.91
BI-214	609.31	423	46.30*	2.171E+00	1.189E+00	1.189E+00	16.84
	1120.29	100	15.10	1.258E+00	1.488E+00	1.488E+00	35.34
	1764.49	67	15.80	8.612E-01	1.395E+00	1.395E+00	29.70
PB-214	74.81	714	6.21	8.036E+00	4.041E+00	4.041E+00	18.57
	77.11	934	10.50	8.012E+00	3.135E+00	3.135E+00	15.04
	87.30	337	4.67	7.859E+00	2.597E+00	2.597E+00	24.77

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	288	7.49	4.728E+00	2.297E+00	2.297E+00	35.83
	295.21	324	19.20	4.058E+00	1.173E+00	1.173E+00	22.88
	351.92	552	37.20*	3.516E+00	1.191E+00	1.191E+00	15.28
	74.81	714	6.21	8.036E+00	4.041E+00	4.041E+00	18.57
	77.11	934	10.50	8.012E+00	3.135E+00	3.135E+00	15.04
	87.30	337	4.67	7.859E+00	2.597E+00	2.597E+00	24.77
PO-216	241.98	288	7.49	4.728E+00	2.297E+00	2.297E+00	35.83
	295.21	324	19.20	4.058E+00	1.173E+00	1.173E+00	22.88
	351.92	552	37.20*	3.516E+00	1.191E+00	1.191E+00	15.28
	74.81	714	10.70	8.036E+00	2.346E+00	2.346E+00	19.42
	77.11	934	18.00	8.012E+00	1.829E+00	1.829E+00	12.96
	87.30	337	8.00	7.859E+00	1.516E+00	1.516E+00	25.58
PO-218	238.63	1149	44.60*	4.771E+00	1.524E+00	1.524E+00	12.90
	300.09	56	3.41	4.008E+00	1.148E+00	1.148E+00	75.91
	74.81	714	6.21	8.036E+00	4.041E+00	4.041E+00	18.57
	77.11	934	10.50	8.012E+00	3.135E+00	3.135E+00	15.04
	87.30	337	4.67	7.859E+00	2.597E+00	2.597E+00	24.77
	241.98	288	7.49	4.728E+00	2.297E+00	2.297E+00	35.83
RA-224	295.21	324	19.20	4.058E+00	1.173E+00	1.173E+00	22.88
	351.92	552	37.20*	3.516E+00	1.191E+00	1.191E+00	15.28
RA-226	240.98	288	3.95*	4.728E+00	4.355E+00	4.355E+00	35.39
	609.31	423	46.30*	2.171E+00	1.189E+00	1.189E+00	16.84
AC-228	1120.29	100	15.10	1.258E+00	1.488E+00	1.488E+00	35.34
	1764.49	67	15.80	8.612E-01	1.395E+00	1.395E+00	29.70
	338.32	248	11.40	3.633E+00	1.693E+00	1.693E+00	47.24
	911.07	213	27.70*	1.510E+00	1.438E+00	1.438E+00	22.18
RA-228	969.11	118	16.60	1.430E+00	1.407E+00	1.407E+00	39.71
	338.32	248	11.40	3.633E+00	1.693E+00	1.693E+00	47.24
	911.07	213	27.70*	1.510E+00	1.438E+00	1.438E+00	22.18
	969.11	118	16.60	1.430E+00	1.407E+00	1.407E+00	39.71
TH-228	74.81	714	10.70	8.036E+00	2.346E+00	2.381E+00	17.06
	77.11	934	18.00	8.012E+00	1.829E+00	1.857E+00	12.96
	87.30	337	8.00	7.859E+00	1.516E+00	1.539E+00	23.54
	238.63	1149	44.60*	4.771E+00	1.524E+00	1.547E+00	12.90
TH-230	300.09	56	3.41	4.008E+00	1.148E+00	1.165E+00	95.75
	609.31	423	46.30*	2.171E+00	1.189E+00	1.189E+00	16.84
	1120.29	100	15.10	1.258E+00	1.488E+00	1.488E+00	35.34
	1764.49	67	15.80	8.612E-01	1.395E+00	1.395E+00	29.70
TH-232	338.32	248	11.40	3.633E+00	1.693E+00	1.693E+00	24.56
	911.07	213	27.70*	1.510E+00	1.438E+00	1.438E+00	22.18
	969.11	118	16.60	1.430E+00	1.407E+00	1.407E+00	39.71
TH-234	63.29	100	3.80*	8.064E+00	9.177E-01	9.177E-01	79.57
	92.38	341	5.41	7.749E+00	2.300E+00	2.300E+00	31.74
U-234	609.31	423	46.30*	2.171E+00	1.189E+00	1.189E+00	16.84
	1120.29	100	15.10	1.258E+00	1.488E+00	1.488E+00	35.34
	1764.49	67	15.80	8.612E-01	1.395E+00	1.395E+00	29.70
NP-237	86.50	337	12.60*	7.859E+00	9.625E-01	9.625E-01	31.30
	95.87	---	2.60	7.687E+00	---	---	---
U-238	63.29	100	3.80*	8.064E+00	9.177E-01	9.177E-01	79.57

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	341	5.41	7.749E+00	2.300E+00	2.300E+00	27.48
AM-243	74.67	714	66.00*	8.036E+00	3.803E-01	3.803E-01	17.03
	86.72	337	0.34	7.859E+00	3.609E+01	3.609E+01	23.54
	117.66	-----	0.55	7.181E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.593E+00	-----	Line Not Found	-----
ANH-511	511.00	85	100.00*	2.545E+00	9.447E-02	9.447E-02	69.54

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	2.359E+01	2.359E+01	0.220E+01	9.35	
AS-73	80.30D	1.14	1.921E-01	2.190E-01	2.796E-01	127.64	
CD-109	464.00D	1.02	3.260E+00	3.335E+00	0.785E+00	23.54	
SN-126	1.00E+05Y	1.00	3.278E-01	3.278E-01	0.772E-01	23.54	
TL-208	1.41E+10Y	1.00	4.890E-01	4.890E-01	0.831E-01	17.00	
BI-210	22.26Y	1.00	1.181E+00	1.182E+00	0.789E+00	66.71	
PB-210	22.26Y	1.00	1.181E+00	1.182E+00	0.789E+00	66.71	
PO-210	22.26Y	1.00	1.181E+00	1.182E+00	0.787E+00	66.59	
BI-211	7.04E+08Y	1.00	3.425E+00	3.425E+00	0.492E+00	14.36	
PB-212	1.41E+10Y	1.00	1.524E+00	1.524E+00	0.197E+00	12.90	
PO-212	1.41E+10Y	1.00	1.524E+00	1.524E+00	0.197E+00	12.90	
BI-214	1600.00Y	1.00	1.189E+00	1.189E+00	0.200E+00	16.84	
PB-214	1600.00Y	1.00	1.191E+00	1.191E+00	0.182E+00	15.28	
PO-214	1600.00Y	1.00	1.191E+00	1.191E+00	0.182E+00	15.28	
PO-216	1.41E+10Y	1.00	1.524E+00	1.524E+00	0.197E+00	12.90	
PO-218	1600.00Y	1.00	1.191E+00	1.191E+00	0.182E+00	15.28	
RA-224	1.41E+10Y	1.00	4.355E+00	4.355E+00	1.541E+00	35.39	
RA-226	1600.00Y	1.00	1.189E+00	1.189E+00	0.200E+00	16.84	
AC-228	1.41E+10Y	1.00	1.438E+00	1.438E+00	0.319E+00	22.18	
RA-228	1.41E+10Y	1.00	1.438E+00	1.438E+00	0.319E+00	22.18	
TH-228	1.91Y	1.02	1.524E+00	1.547E+00	0.200E+00	12.90	
TH-230	4.47E+09Y	1.00	1.189E+00	1.189E+00	0.200E+00	16.84	
TH-232	1.41E+10Y	1.00	1.438E+00	1.438E+00	0.319E+00	22.18	
TH-234	4.47E+09Y	1.00	9.177E-01	9.177E-01	7.303E-01	79.57	
U-234	4.47E+09Y	1.00	1.189E+00	1.189E+00	0.200E+00	16.84	
NP-237	2.14E+06Y	1.00	9.625E-01	9.625E-01	3.013E-01	31.30	
U-238	4.47E+09Y	1.00	9.177E-01	9.177E-01	7.303E-01	79.57	
AM-243	7380.00Y	1.00	3.803E-01	3.803E-01	0.648E-01	17.03	
ANH-511	1.00E+09Y	1.00	9.447E-02	9.447E-02	6.570E-02	69.54	

Total Activity : 6.120E+01 6.132E+01

Grand Total Activity : 6.120E+01 6.132E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202001376

Page : 5
Acquisition date : 31-DEC-2009 15:32:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	90.02	214	352	1.13	181.01	172	23	2.97E-02	32.0	7.81E+00	T
0	128.46	127	330	1.73	257.90	253	10	1.76E-02	56.7	6.92E+00	T
0	185.90	230	359	1.60	372.75	367	13	3.19E-02	37.3	5.66E+00	T
0	209.13	96	242	1.10	419.19	415	9	1.33E-02	62.0	5.24E+00	T
0	270.17	95	246	2.06	541.24	534	14	1.32E-02	73.8	4.35E+00	T
0	328.10	74	151	1.48	657.08	652	10	1.03E-02	66.5	3.73E+00	T
0	463.39	72	74	1.11	927.56	923	9	1.00E-02	49.1	2.77E+00	T
0	727.48	95	45	1.25	1455.48	1448	14	1.31E-02	36.6	1.85E+00	T
5	964.67	36	45	1.82	1929.50	1926	18	4.97E-03	67.8	1.44E+00	T
0	1509.51	18	14	1.09	3018.04	3012	11	2.50E-03	92.8	9.76E-01	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001376.CNF;1 *
* Acquisition date   : 31-DEC-2009 15:32:03   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 02:00:01.68          Half life ratio     : 8.00000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 16-DEC-2009 12:00:00   Nuclide Library   : SOLID      *
* Sample ID          : G1202001376           Analyst initials  : MXR1        *
* Batch Number       : 935341                Sample Quantity   : 1.32930E+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	2.359E+01	2.205E+00	5.957E-01	3.705E-02	39.596
AS-73	2.190E-01	2.796E-01	3.907E-01	2.941E-02	0.561
CD-109	3.335E+00	7.850E-01	1.042E+00	7.934E-02	3.200
SN-126	3.278E-01	7.715E-02	1.023E-01	7.788E-03	3.205
TL-208	4.890E-01	8.312E-02	6.099E-02	4.488E-03	8.017
BI-210	1.182E+00	7.887E-01	8.455E-01	6.595E-02	1.398
PB-210	1.182E+00	7.887E-01	8.455E-01	6.595E-02	1.398
PO-210	1.182E+00	7.873E-01	8.455E-01	5.687E-02	1.398
BI-211	3.425E+00	4.917E-01	3.361E-01	2.664E-02	10.189
PB-212	1.524E+00	1.966E-01	8.826E-02	9.516E-03	17.271
PO-212	1.524E+00	1.966E-01	8.826E-02	9.516E-03	17.271
BI-214	1.189E+00	2.003E-01	1.251E-01	1.049E-02	9.509
PB-214	1.191E+00	1.820E-01	1.137E-01	1.076E-02	10.483
PO-214	1.191E+00	1.820E-01	1.137E-01	1.076E-02	10.483
PO-216	1.524E+00	1.966E-01	8.826E-02	9.516E-03	17.271
PO-218	1.191E+00	1.820E-01	1.137E-01	1.076E-02	10.483
RA-224	4.355E+00	1.541E+00	1.004E+00	9.828E-02	4.336
RA-226	1.189E+00	2.003E-01	1.251E-01	1.049E-02	9.509

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.438E+00	3.189E-01	2.327E-01	2.880E-02	6.179
RA-228	1.438E+00	3.189E-01	2.327E-01	2.880E-02	6.179
TH-228	1.547E+00	1.996E-01	8.960E-02	9.660E-03	17.271
TH-230	1.189E+00	2.003E-01	1.251E-01	1.048E-02	9.509
TH-232	1.438E+00	3.189E-01	2.327E-01	2.880E-02	6.179
TH-234	9.177E-01	7.303E-01	1.031E+00	1.832E-01	0.890
U-234	1.189E+00	2.003E-01	1.251E-01	1.048E-02	9.509
NP-237	9.625E-01	3.013E-01	3.276E-01	7.208E-02	2.937
U-238	9.177E-01	7.303E-01	1.031E+00	1.832E-01	0.890
AM-243	3.803E-01	6.475E-02	6.043E-02	4.734E-03	6.292
ANH-511	9.447E-02	6.570E-02	5.027E-02	3.217E-03	1.879

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.506E-01		3.443E-01	5.436E-01	3.894E-02	-0.277
NA-22	-3.039E-02		5.079E-02	7.674E-02	4.470E-03	-0.396
NA-24	1.314E-01		3.888E-01	Half-Life too short		
AL-26	2.017E-02		3.908E-02	6.969E-02	3.999E-03	0.289
TI-44	3.375E-01	+	4.375E-02	6.185E-02	4.799E-03	5.456
SC-46	-1.177E-02		4.198E-02	6.752E-02	6.781E-03	-0.174
V-48	-3.853E-02		7.818E-02	1.220E-01	1.118E-02	-0.316
CR-51	1.462E-01		3.818E-01	6.474E-01	5.726E-02	0.226
MN-52	-1.313E-02		2.232E-01	3.693E-01	2.163E-02	-0.036
MN-54	-3.192E-02		4.365E-02	6.797E-02	6.227E-03	-0.470
CO-56	-2.048E-02		4.571E-02	7.282E-02	6.810E-03	-0.281
CO-57	-1.222E-03		2.638E-02	4.081E-02	5.790E-03	-0.030
CO-58	6.597E-03		4.259E-02	7.177E-02	6.316E-03	0.092
FE-59	-3.720E-02		9.716E-02	1.522E-01	1.232E-02	-0.244
CO-60	9.381E-03		4.187E-02	6.958E-02	4.026E-03	0.135
ZN-65	-1.689E-02		1.257E-01	1.727E-01	1.206E-02	-0.098
GE-68	2.401E-01		1.385E+00	2.304E+00	1.770E-01	0.104
AS-74	-3.136E-02		1.036E-01	1.632E-01	1.073E-02	-0.192
SE-75	3.840E-03		5.157E-02	7.551E-02	7.209E-03	0.051
BR-77	-7.926E+00		1.176E+01	1.811E+01	1.164E+00	-0.438
SR-82	-1.453E-01		4.290E-01	6.948E-01	5.733E-02	-0.209
RB-83	-5.513E-02		7.644E-02	1.171E-01	7.531E-03	-0.471
RB-84	3.632E-02		8.104E-02	1.364E-01	1.352E-02	0.266
KR-85	2.029E+01		9.132E+00	1.527E+01	9.786E-01	1.329
SR-85	1.041E-01		4.684E-02	7.830E-02	5.019E-03	1.329
RB-86	-1.319E-01		9.035E-01	1.457E+00	1.121E-01	-0.091
Y-88	3.027E-05		3.532E-02	5.804E-02	3.321E-03	0.001
ZR-88	-2.723E-02		3.357E-02	5.244E-02	3.054E-03	-0.519
Y-91	1.052E+00		2.365E+01	3.857E+01	2.241E+00	0.027
NB-94	2.278E-02		3.929E-02	6.837E-02	4.892E-03	0.333
NB-95	1.214E-02		4.704E-02	7.995E-02	6.467E-03	0.152
NB-95M	2.795E-01		1.497E-01	2.370E-01	2.592E-02	1.179

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	7.521E-02		8.136E-02	1.448E-01	1.286E-02	0.519
NB-97	-3.758E-02		5.858E-02	Half-Life too short		
ZR-97	5.075E+00		1.092E+00	Half-Life too short		
MO-99	1.128E+01		1.360E+01	2.396E+01	3.517E+00	0.471
TC-99M	-8.711E+09		2.113E+10	Half-Life too short		
RH-101	-6.510E-03		3.692E-02	5.777E-02	5.769E-03	-0.113
RH-102	1.597E-02		3.080E-02	5.216E-02	3.267E-03	0.306
RU-103	-1.124E-02		4.442E-02	7.073E-02	9.129E-03	-0.159
RH-106	2.733E-01		3.652E-01	6.212E-01	7.546E-02	0.440
RU-106	2.733E-01		3.641E-01	6.212E-01	4.095E-02	0.440
AG-108M	-2.205E-02		3.539E-02	5.550E-02	3.631E-03	-0.397
AG-110M	-1.493E-02		4.065E-02	6.324E-02	4.371E-03	-0.236
IN-111	6.508E-01		1.165E+00	1.765E+00	1.720E-01	0.369
IN-113M	-3.004E-02		4.866E-02	7.706E-02	4.780E-03	-0.390
SN-113	-3.004E-02		4.866E-02	7.706E-02	4.780E-03	-0.390
IN-114M	-3.203E-02		2.124E-01	2.938E-01	2.933E-02	-0.109
CD-115	-6.513E+00		1.275E+01	1.992E+01	1.285E+00	-0.327
SN-117M	9.855E-03		5.808E-02	9.432E-02	1.014E-02	0.104
SB-122	1.114E+00		2.461E+00	4.112E+00	2.687E-01	0.271
I-123	4.731E+00		3.143E+00	Half-Life too short		
TE-123M	2.250E-02		2.989E-02	4.956E-02	5.325E-03	0.454
I-124	2.729E-02		8.849E-01	1.235E+00	8.131E-02	0.022
SB-124	-2.971E-02		8.649E-02	9.446E-02	5.978E-03	-0.314
SB-125	-1.762E-02		1.008E-01	1.634E-01	1.025E-02	-0.108
TE-125M	-1.575E+00		9.250E+00	1.481E+01	1.903E+00	-0.106
I-126	-9.923E-02		2.050E-01	3.150E-01	2.092E-02	-0.315
SB-126	5.507E-02		1.837E-01	2.739E-01	2.030E-02	0.201
SB-127	2.352E-01		1.523E+00	2.584E+00	2.625E-01	0.091
XE-127	-1.144E-02		5.162E-02	7.866E-02	7.851E-03	-0.145
I-131	6.490E-02		1.248E-01	2.123E-01	1.595E-02	0.306
TE-132	-5.069E-02		6.968E-01	1.169E+00	1.923E-01	-0.043
BA-133	-2.397E-04		5.069E-02	7.271E-02	8.979E-03	-0.003
I-133	-1.217E-03		3.560E-03	Half-Life too short		
CS-134	8.809E-02		5.100E-02	9.525E-02	8.203E-03	0.925
CS-135	1.731E-01		1.921E-01	2.944E-01	3.149E-02	0.588
I-135	-1.333E+09		3.559E+09	Half-Life too short		
CS-136	4.085E-02		1.225E-01	2.071E-01	1.774E-02	0.197
BA-137M	3.760E-02		3.978E-02	6.875E-02	4.521E-03	0.547
CS-137	3.974E-02		4.206E-02	7.267E-02	4.795E-03	0.547
CE-139	3.609E-04		3.029E-02	4.881E-02	4.846E-03	0.007
BA-140	-1.599E-01		2.979E-01	4.559E-01	1.489E-01	-0.351
LA-140	-5.938E-02		8.831E-02	1.298E-01	7.631E-03	-0.457
CE-141	5.104E-02		6.424E-02	1.068E-01	1.305E-02	0.478
CE-143	6.120E-04		1.138E-04	Half-Life too short		
CE-144	-7.501E-02		2.260E-01	3.134E-01	5.803E-02	-0.239
PM-144	2.500E-02		3.958E-02	6.918E-02	4.892E-03	0.361
PR-144	1.694E+00		2.682E+00	4.688E+00	3.313E-01	0.361
PM-146	1.810E-03		4.766E-02	7.820E-02	6.939E-03	0.023

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	4.504E-01		6.226E-01	1.061E+00	1.466E-01	0.424
PM-149	-2.522E+01		9.104E+01	1.496E+02	2.371E+01	-0.169
EU-152	1.534E-03		1.164E-01	1.675E-01	1.378E-02	0.009
GD-153	-3.635E-02		7.818E-02	1.093E-01	1.013E-02	-0.333
EU-154	-8.362E-02		1.421E-01	2.148E-01	2.008E-02	-0.389
EU-155	-8.795E-03		9.886E-02	1.609E-01	1.743E-02	-0.055
TB-160	7.091E-02		1.546E-01	2.603E-01	2.572E-02	0.272
HO-166M	-2.964E-03		6.682E-02	1.115E-01	8.122E-03	-0.027
TM-171	-1.556E+01		1.790E+01	2.495E+01	2.005E+00	-0.624
LU-176	2.412E-02		2.638E-02	4.484E-02	3.905E-03	0.538
LU-177	2.252E+00	+	1.414E+00	2.013E+00	2.007E-01	1.119
LU-177M	-1.712E-01		1.961E-01	3.041E-01	1.810E-02	-0.563
HF-181	-9.857E-03		4.406E-02	7.065E-02	4.447E-03	-0.140
W-181	2.727E-01		2.168E-01	3.281E-01	2.652E-02	0.831
TA-182	8.731E-02		2.249E-01	3.777E-01	2.196E-02	0.231
RE-183	2.819E-02		1.144E-01	1.863E-01	1.925E-02	0.151
RE-184	2.227E-01		2.395E-01	4.171E-01	4.030E-02	0.534
OS-185	-2.208E-02		4.664E-02	7.168E-02	4.722E-03	-0.308
RE-188	-1.675E-02		1.823E-01	2.931E-01	3.263E-02	-0.057
W-188	3.303E+00		8.148E+00	1.217E+01	1.103E+00	0.271
IR-192	3.024E-02		3.505E-02	6.086E-02	5.165E-03	0.497
AU-195	4.525E-01		2.195E-01	3.421E-01	3.262E-02	1.323
TL-200	-4.576E-04		2.576E-04	Half-Life too short		
TL-201	-4.327E+00		7.304E+00	1.142E+01	1.134E+00	-0.379
TL-202	-3.193E-02		7.585E-02	1.207E-01	7.358E-03	-0.265
HG-203	4.429E-02		4.407E-02	7.593E-02	7.219E-03	0.583
BI-207	2.632E-02		6.337E-02	1.076E-01	8.520E-03	0.245
TL-207	2.564E-01		7.620E-01	1.127E+00	1.976E-01	0.228
PO-209	3.503E+00		8.360E+00	1.433E+01	1.457E+00	0.244
PB-211	-2.823E-02		1.055E+00	1.733E+00	1.081E+00	-0.016
BI-212	1.224E+00	+	4.612E-01	7.004E-01	6.354E-02	1.748
PO-215	2.564E-01		7.620E-01	1.127E+00	1.976E-01	0.228
RN-219	-1.942E-01		4.638E-01	7.427E-01	1.013E-01	-0.261
RN-220	-6.263E-01		2.784E+01	4.504E+01	2.931E+00	-0.014
RA-223	2.564E-01		7.620E-01	1.127E+00	1.976E-01	0.228
AC-227	-8.890E-02		4.022E-01	6.670E-01	1.063E-01	-0.133
TH-227	-8.890E-02		4.023E-01	6.670E-01	1.238E-01	-0.133
TH-229	-3.281E-01		5.471E-01	8.505E-01	8.494E-02	-0.386
PA-231	-4.650E-01		1.493E+00	2.449E+00	3.800E-01	-0.190
TH-231	2.564E-01		7.620E-01	1.127E+00	1.976E-01	0.228
U-231	-4.425E-01		1.078E+00	1.514E+00	1.361E-01	-0.292
PA-233	-1.897E-02		6.480E-02	1.060E-01	9.359E-03	-0.179
PA-234	-9.834E-03		3.345E-01	5.497E-01	1.059E-01	-0.018
PA-234M	6.558E-02		4.954E+00	8.149E+00	8.327E-01	0.008
U-235	1.300E-02		2.157E-01	3.499E-01	6.846E-02	0.037
NP-236	3.018E-02		8.410E-02	1.375E-01	1.452E-02	0.219
NP-239	5.722E-02		1.872E-01	3.083E-01	4.039E-02	0.186
AM-241	1.222E-01		6.900E-02	1.068E-01	9.557E-03	1.144

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-6.499E-02		9.016E-02	1.429E-01	1.493E-02	-0.455
AM-246	1.163E-01		1.577E-01	2.761E-01	2.113E-02	0.421
CM-247	7.674E-04		4.100E-02	6.754E-02	3.975E-03	0.011
CF-249	4.708E-02		4.416E-02	7.710E-02	4.611E-03	0.611
CF-251	-4.580E-02		1.307E-01	2.065E-01	2.057E-02	-0.222

VAX/VMS Nuclide Identification Report Generated

 * GEL Laboratories LLC *
 * 2040 Savage Road *
 * Charleston, SC 29414 *

DETECTOR DATA

* Configuration : SYS\$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202001376 *
 * Acquisition date : 31-DEC-2009 15:32:03 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 02:00:01.68 Half life ratio : 8.000 *

SAMPLE DATA

* Sample date : 16-DEC-2009 12:00:00 Nuclide Library : SOLID *
 * Sample ID : G1202001376 Analyst initials: MXR1 *
 * Batch Number : 935341 Sample Quantity : 1.3293E+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 : *

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.359E+01	2.161E+00	2.985E-01	1.102E+00
AS-73	2.190E-01	2.740E-01	2.072E-01	1.398E-01
CD-109	3.335E+00	7.693E-01	5.480E-01	3.925E-01
SN-126	3.278E-01	7.561E-02	5.379E-02	3.858E-02
TL-208	4.890E-01	8.146E-02	3.107E-02	4.156E-02
BI-210	1.182E+00	7.729E-01	4.493E-01	3.943E-01
PB-210	1.182E+00	7.729E-01	4.493E-01	3.943E-01
PO-210	1.182E+00	7.716E-01	4.493E-01	3.937E-01
BI-211	3.425E+00	4.819E-01	1.727E-01	2.459E-01
PB-212	1.524E+00	1.927E-01	4.565E-02	9.831E-02
PO-212	1.524E+00	1.927E-01	4.565E-02	9.831E-02
BI-214	1.189E+00	1.963E-01	6.366E-02	1.002E-01
PB-214	1.191E+00	1.784E-01	5.840E-02	9.100E-02
PO-214	1.191E+00	1.784E-01	5.840E-02	9.100E-02
PO-216	1.524E+00	1.927E-01	4.565E-02	9.831E-02
PO-218	1.191E+00	1.784E-01	5.840E-02	9.100E-02
RA-224	4.355E+00	1.510E+00	5.194E-01	7.706E-01
RA-226	1.189E+00	1.963E-01	6.366E-02	1.002E-01
AC-228	1.438E+00	3.126E-01	1.176E-01	1.595E-01
RA-228	1.438E+00	3.126E-01	1.176E-01	1.595E-01
TH-228	1.547E+00	1.956E-01	4.634E-02	9.981E-02
TH-230	1.189E+00	1.963E-01	6.366E-02	1.002E-01
TH-232	1.438E+00	3.126E-01	1.176E-01	1.595E-01
TH-234	9.177E-01	7.157E-01	5.451E-01	3.651E-01
U-234	1.189E+00	1.963E-01	6.366E-02	1.002E-01
NP-237	9.625E-01	2.953E-01	1.724E-01	1.506E-01
U-238	9.177E-01	7.157E-01	5.451E-01	3.651E-01
AM-243	3.803E-01	6.346E-02	3.187E-02	3.238E-02
ANH-511	9.447E-02	6.438E-02	2.566E-02	3.285E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	-1.506E-01	3.375E-01	2.779E-01	1.722E-01	NOT IDENT.
NA-22	-3.039E-02	4.977E-02	3.855E-02	2.539E-02	NOT IDENT.
NA-24	1.314E+05	7.620E+05	0.000E+00	3.888E+05	SHORT HLIF
AL-26	2.017E-02	3.830E-02	3.479E-02	1.954E-02	NOT IDENT.
TI-44	3.375E-01	4.288E-02	3.259E-02	2.188E-02	FAIL ABUN
SC-46	-1.177E-02	4.115E-02	3.413E-02	2.099E-02	FAIL ABUN
V-48	-3.853E-02	7.662E-02	6.158E-02	3.909E-02	NOT IDENT.
CR-51	1.462E-01	3.742E-01	3.332E-01	1.909E-01	NOT IDENT.
MN-52	-1.313E-02	2.187E-01	1.851E-01	1.116E-01	NOT IDENT.
MN-54	-3.192E-02	4.277E-02	3.440E-02	2.182E-02	NOT IDENT.
CO-56	-2.048E-02	4.480E-02	3.685E-02	2.286E-02	NOT IDENT.
CO-57	-1.222E-03	2.585E-02	2.135E-02	1.319E-02	NOT IDENT.
CO-58	6.597E-03	4.174E-02	3.634E-02	2.130E-02	NOT IDENT.
FE-59	-3.720E-02	9.522E-02	7.665E-02	4.858E-02	NOT IDENT.
CO-60	9.381E-03	4.103E-02	3.492E-02	2.094E-02	NOT IDENT.
ZN-65	-1.689E-02	1.232E-01	8.694E-02	6.284E-02	NOT IDENT.
GE-68	2.401E-01	1.357E+00	1.161E+00	6.924E-01	NOT IDENT.
AS-74	-3.136E-02	1.016E-01	8.308E-02	5.181E-02	NOT IDENT.
SE-75	3.840E-03	5.054E-02	3.899E-02	2.579E-02	NOT IDENT.
BR-77	-7.926E+00	1.153E+01	9.241E+00	5.881E+00	FAIL ABUN
SR-82	-1.453E-01	4.204E-01	3.521E-01	2.145E-01	NOT IDENT.
RB-83	-5.513E-02	7.491E-02	5.978E-02	3.822E-02	NOT IDENT.
RB-84	3.632E-02	7.942E-02	6.896E-02	4.052E-02	NOT IDENT.
KR-85	2.029E+01	8.949E+00	7.793E+00	4.566E+00	NOT IDENT.
SR-85	1.041E-01	4.590E-02	3.997E-02	2.342E-02	NOT IDENT.
RB-86	-1.319E-01	8.855E-01	7.339E-01	4.518E-01	NOT IDENT.
Y-88	3.027E-05	3.462E-02	2.896E-02	1.766E-02	NOT IDENT.
ZR-88	-2.723E-02	3.290E-02	2.689E-02	1.678E-02	NOT IDENT.
Y-91	1.052E+00	2.318E+01	1.939E+01	1.183E+01	NOT IDENT.
NB-94	2.278E-02	3.850E-02	3.471E-02	1.964E-02	NOT IDENT.
NB-95	1.214E-02	4.610E-02	4.053E-02	2.352E-02	NOT IDENT.
NB-95M	2.795E-01	1.467E-01	1.226E-01	7.486E-02	NOT IDENT.
ZR-95	7.521E-02	7.973E-02	7.341E-02	4.068E-02	NOT IDENT.
NB-97	-3.758E+04	1.148E+05	0.000E+00	5.858E+04	SHORT HLIF
ZR-97	5.075E+06	2.140E+06	0.000E+00	1.092E+06	SHORT HLIF
MO-99	1.128E+01	1.333E+01	1.215E+01	6.799E+00	NOT IDENT.
TC-99M	-8.711E+15	4.142E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.510E-03	3.618E-02	2.998E-02	1.846E-02	FAIL ABUN
RH-102	1.597E-02	3.018E-02	2.666E-02	1.540E-02	NOT IDENT.
RU-103	-1.124E-02	4.353E-02	3.612E-02	2.221E-02	FAIL ABUN
RH-106	2.733E-01	3.579E-01	3.160E-01	1.826E-01	FAIL ABUN
RU-106	2.733E-01	3.568E-01	3.160E-01	1.820E-01	FAIL ABUN
AG-108M	-2.205E-02	3.468E-02	2.841E-02	1.769E-02	NOT IDENT.
AG-110M	-1.493E-02	3.984E-02	3.214E-02	2.033E-02	NOT IDENT.
IN-111	6.508E-01	1.142E+00	9.128E-01	5.824E-01	NOT IDENT.
IN-113M	-3.004E-02	4.769E-02	3.952E-02	2.433E-02	NOT IDENT.
SN-113	-3.004E-02	4.769E-02	3.952E-02	2.433E-02	NOT IDENT.
IN-114M	-3.203E-02	2.081E-01	1.525E-01	1.062E-01	NOT IDENT.
CD-115	-6.513E+00	1.250E+01	1.016E+01	6.376E+00	NOT IDENT.
SN-117M	9.855E-03	5.692E-02	4.913E-02	2.904E-02	NOT IDENT.
SB-122	1.114E+00	2.411E+00	2.096E+00	1.230E+00	NOT IDENT.
I-123	4.731E+06	6.160E+06	0.000E+00	3.143E+06	SHORT HLIF
TE-123M	2.250E-02	2.929E-02	2.581E-02	1.494E-02	NOT IDENT.
I-124	2.729E-02	8.672E-01	6.287E-01	4.425E-01	FAIL ABUN
SB-124	-2.971E-02	8.476E-02	4.721E-02	4.325E-02	FAIL ABUN
SB-125	-1.762E-02	9.875E-02	8.370E-02	5.039E-02	FAIL ABUN
TE-125M	-1.575E+00	9.065E+00	7.761E+00	4.625E+00	NOT IDENT.
I-126	-9.923E-02	2.009E-01	1.601E-01	1.025E-01	NOT IDENT.
SB-126	5.507E-02	1.800E-01	1.390E-01	9.183E-02	FAIL ABUN
SB-127	2.352E-01	1.493E+00	1.313E+00	7.616E-01	NOT IDENT.
XE-127	-1.144E-02	5.059E-02	4.080E-02	2.581E-02	NOT IDENT.
I-131	6.490E-02	1.223E-01	1.090E-01	6.239E-02	NOT IDENT.
TE-132	-5.069E-02	6.828E-01	6.052E-01	3.484E-01	NOT IDENT.
BA-133	-2.397E-04	4.967E-02	3.735E-02	2.534E-02	FAIL ABUN
I-133	-1.217E+03	6.978E+03	0.000E+00	3.560E+03	SHORT HLIF
CS-134	8.809E-02	4.998E-02	4.825E-02	2.550E-02	NOT IDENT.
CS-135	1.731E-01	1.883E-01	1.520E-01	9.605E-02	NOT IDENT.
I-135	-1.333E+15	6.975E+15	0.000E+00	3.559E+15	SHORT HLIF
CS-136	4.085E-02	1.200E-01	1.044E-01	6.125E-02	FAIL ABUN
BA-137M	3.760E-02	3.899E-02	3.494E-02	1.989E-02	NOT IDENT.
CS-137	3.974E-02	4.121E-02	3.693E-02	2.103E-02	NOT IDENT.
CE-139	3.609E-04	2.969E-02	2.540E-02	1.515E-02	NOT IDENT.
BA-140	-1.599E-01	2.920E-01	2.326E-01	1.490E-01	NOT IDENT.
LA-140	-5.938E-02	8.654E-02	6.495E-02	4.415E-02	FAIL ABUN
CE-141	5.104E-02	6.295E-02	5.568E-02	3.212E-02	NOT IDENT.
CE-143	6.120E+02	2.231E+02	0.000E+00	1.138E+02	SHORT HLIF

CE-144	-7.501E-02	2.215E-01	1.637E-01	1.130E-01	NOT IDENT.
PM-144	2.500E-02	3.879E-02	3.513E-02	1.979E-02	NOT IDENT.
PR-144	1.694E+00	2.629E+00	2.380E+00	1.341E+00	NOT IDENT.
PM-146	1.810E-03	4.671E-02	4.001E-02	2.383E-02	NOT IDENT.
ND-147	4.504E-01	6.101E-01	5.414E-01	3.113E-01	FAIL ABUN
PM-149	-2.522E+01	8.922E+01	7.713E+01	4.552E+01	NOT IDENT.
EU-152	1.534E-03	1.141E-01	8.611E-02	5.820E-02	FAIL ABUN
GD-153	-3.635E-02	7.661E-02	5.739E-02	3.909E-02	NOT IDENT.
EU-154	-8.362E-02	1.393E-01	1.079E-01	7.106E-02	NOT IDENT.
EU-155	-8.795E-03	9.688E-02	8.438E-02	4.943E-02	FAIL ABUN
TB-160	7.091E-02	1.515E-01	1.316E-01	7.729E-02	FAIL ABUN
HO-166M	-2.964E-03	6.549E-02	5.658E-02	3.341E-02	FAIL ABUN
TM-171	-1.556E+01	1.754E+01	1.318E+01	8.948E+00	FAIL ABUN
LU-176	2.412E-02	2.585E-02	2.309E-02	1.319E-02	FAIL ABUN
LU-177	2.252E+00	1.386E+00	1.044E+00	7.070E-01	FAIL ABUN
LU-177M	-1.712E-01	1.922E-01	1.558E-01	9.804E-02	FAIL ABUN
HF-181	-9.857E-03	4.318E-02	3.611E-02	2.203E-02	NOT IDENT.
W-181	2.727E-01	2.124E-01	1.734E-01	1.084E-01	NOT IDENT.
TA-182	8.731E-02	2.204E-01	1.899E-01	1.125E-01	FAIL ABUN
RE-183	2.819E-02	1.122E-01	9.699E-02	5.722E-02	FAIL ABUN
RE-184	2.227E-01	2.347E-01	2.155E-01	1.198E-01	NOT IDENT.
OS-185	-2.208E-02	4.571E-02	3.645E-02	2.332E-02	NOT IDENT.
RE-188	-1.675E-02	1.787E-01	1.527E-01	9.115E-02	NOT IDENT.
W-188	3.303E+00	7.985E+00	6.275E+00	4.074E+00	FAIL ABUN
IR-192	3.024E-02	3.435E-02	3.133E-02	1.752E-02	FAIL ABUN
AU-195	4.525E-01	2.151E-01	1.796E-01	1.098E-01	FAIL ABUN
TL-200	-4.576E+02	5.049E+02	0.000E+00	2.576E+02	SHORT HLIF
TL-201	-4.327E+00	7.158E+00	5.945E+00	3.652E+00	NOT IDENT.
TL-202	-3.193E-02	7.433E-02	6.178E-02	3.792E-02	NOT IDENT.
HG-203	4.429E-02	4.319E-02	3.917E-02	2.204E-02	NOT IDENT.
BI-207	2.632E-02	6.211E-02	5.421E-02	3.169E-02	FAIL ABUN
TL-207	2.564E-01	7.468E-01	5.798E-01	3.810E-01	FAIL ABUN
PO-209	3.503E+00	8.192E+00	7.244E+00	4.180E+00	NOT IDENT.
PB-211	-2.823E-02	1.034E+00	8.884E-01	5.277E-01	NOT IDENT.
BI-212	1.224E+00	4.520E-01	3.554E-01	2.306E-01	FAIL ABUN
PO-215	2.564E-01	7.468E-01	5.798E-01	3.810E-01	FAIL ABUN
RN-219	-1.942E-01	4.545E-01	3.808E-01	2.319E-01	FAIL ABUN
RN-220	-6.263E-01	2.728E+01	2.297E+01	1.392E+01	NOT IDENT.
RA-223	2.564E-01	7.468E-01	5.798E-01	3.810E-01	FAIL ABUN
AC-227	-8.890E-02	3.942E-01	3.446E-01	2.011E-01	FAIL ABUN
TH-227	-8.890E-02	3.943E-01	3.446E-01	2.012E-01	FAIL ABUN
TH-229	-3.281E-01	5.362E-01	4.415E-01	2.736E-01	FAIL ABUN
PA-231	-4.650E-01	1.463E+00	1.263E+00	7.465E-01	NOT IDENT.
TH-231	2.564E-01	7.468E-01	5.798E-01	3.810E-01	FAIL ABUN
U-231	-4.425E-01	1.056E+00	7.953E-01	5.389E-01	FAIL ABUN
PA-233	-1.897E-02	6.350E-02	5.458E-02	3.240E-02	FAIL ABUN
PA-234	-9.834E-03	3.278E-01	2.776E-01	1.672E-01	FAIL ABUN
PA-234M	6.558E-02	4.855E+00	4.111E+00	2.477E+00	NOT IDENT.
U-235	1.300E-02	2.114E-01	1.825E-01	1.079E-01	FAIL ABUN
NP-236	3.018E-02	8.241E-02	7.161E-02	4.205E-02	NOT IDENT.
NP-239	5.722E-02	1.835E-01	1.614E-01	9.361E-02	FAIL ABUN
AM-241	1.222E-01	6.762E-02	5.653E-02	3.450E-02	NOT IDENT.
CM-243	-6.499E-02	8.836E-02	7.494E-02	4.508E-02	FAIL ABUN
AM-246	1.163E-01	1.546E-01	1.391E-01	7.885E-02	NOT IDENT.
CM-247	7.674E-04	4.018E-02	3.462E-02	2.050E-02	NOT IDENT.
CF-249	4.708E-02	4.327E-02	3.955E-02	2.208E-02	NOT IDENT.
CF-251	-4.580E-02	1.281E-01	1.073E-01	6.535E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	394.9409
46.50	394.9409
46.50	394.9409
48.70	354.4944
49.72	408.5547
51.35	405.8225
52.39	388.2906
52.97	402.0874
53.15	402.2029
53.44	451.7513
54.07	466.0465
56.28	535.5669
56.28	535.5690
57.37	0.0000
57.53	535.4374
57.53	535.4385
57.60	535.4945
57.98	470.0376
57.98	470.0376
59.32	409.3523
59.32	409.3523
59.40	424.9090
59.54	424.9977
59.72	474.7604
60.01	474.9649
61.10	525.4813
61.14	525.5122
61.30	538.0771
63.00	577.8014
63.29	579.0177
63.29	579.0177
63.58	569.5083
64.28	534.1564
65.12	542.6138
65.20	542.6752
65.20	542.6752
66.05	590.3005
66.72	630.0339
66.83	631.6995
66.91	631.7709
67.20	632.0255
67.20	632.0255
67.75	631.7216
67.85	642.0132
68.90	597.3542
68.90	597.3542
69.30	583.5256
69.67	583.8223
70.82	535.8715
70.82	535.8715
70.83	535.8798
72.80	614.7264
72.87	614.7834
72.87	614.7834
74.67	596.0430
74.81	596.1509
74.81	596.1509
74.81	596.1509
74.81	596.1509
74.81	596.1509
74.81	596.1509
74.97	596.2750
75.28	596.5161
75.70	596.8422
77.11	597.9261
77.11	597.9261

77.11	597.9261
77.11	597.9261
77.11	597.9261
77.11	597.9261
77.11	597.9261
78.38	518.9099
79.62	522.9122
79.80	612.3281
79.80	612.3281
80.11	612.5672
80.18	612.6211
80.30	655.7938
80.30	655.7938
80.57	656.0146
81.00	649.9778
81.07	650.0350
81.07	650.0350
81.07	650.0350
81.07	650.0350
82.60	484.0499
83.37	592.6165
83.78	594.9200
83.78	594.9200
83.78	594.9200
83.78	594.9200
84.21	595.2304
84.90	518.3042
85.43	510.6070
86.29	612.3975
86.50	612.5510
86.54	612.5812
86.59	612.6184
86.72	612.7137
86.79	656.1867
86.94	656.3062
87.30	511.9533
87.30	511.9533
87.30	511.9533
87.30	511.9533
87.30	511.9533
87.30	511.9533
87.57	512.1164
87.88	512.3047
88.03	512.3960
88.36	512.5960
88.47	512.6620
89.95	513.5532
91.11	514.2484
92.29	514.9493
92.38	515.0017
92.38	515.0017
93.35	515.5745
94.00	515.9570
94.67	516.3454
94.67	516.3492
94.90	381.5279
94.90	381.5279
94.90	381.5279
94.90	381.5279
95.87	437.2054
95.87	437.2054
96.73	414.8528
97.43	394.0092
98.44	301.5430
98.44	301.5430
98.88	291.9052
99.55	288.8566
99.55	288.8566
99.86	314.2589
100.00	314.3070
100.10	314.3423
103.18	406.5288
103.76	392.4368
105.00	351.9170
105.31	360.2428
108.00	383.9078
109.28	379.2670

111.00	356.1945
111.00	356.1945
111.76	395.7358
112.95	383.8024
115.19	352.5303
116.30	346.6939
117.00	335.5100
117.00	335.5100
117.66	341.9658
121.11	324.3538
121.62	320.3413
121.78	323.2232
122.06	317.3466
122.32	304.8955
122.32	304.8955
122.32	304.8955
122.32	304.8955
123.07	319.3281
127.23	327.3123
129.76	272.5682
131.20	299.8883
133.02	291.9544
133.54	303.9126
135.34	309.6985
136.00	301.4231
136.25	297.2590
136.48	287.7985
140.51	315.3880
140.51	0.0000
142.18	325.4238
142.65	326.6232
143.76	333.3315
144.24	315.3582
144.24	315.3582
144.24	315.3582
144.24	315.3582
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145.44	302.8919
147.16	349.2712
152.43	307.9286
152.70	301.5596
153.22	298.4695
154.21	336.3260
154.21	336.3260
154.21	336.3260
154.21	336.3260
155.03	333.3318
156.02	343.2915
158.56	308.4267
159.00	0.0000
159.00	288.0407
160.31	301.3099
161.27	308.0310
162.32	295.3133
162.64	323.5205
163.35	291.2285
163.89	296.7713
165.85	280.9654
167.43	301.9585
171.28	252.7606
171.86	247.4257
172.10	257.2841
176.55	273.4871
176.60	281.1565
181.06	286.2847
184.41	288.7677
185.71	274.2872
186.00	274.3480
190.27	265.2667
192.34	288.6923
193.63	298.0484
197.04	258.7955
198.01	283.4276
198.60	282.4343
200.40	277.2298
201.83	291.9995
202.84	277.8679
205.31	275.2844

208.36	270.4950
208.81	268.7878
209.75	258.2033
209.75	258.2033
210.97	258.4195
215.65	260.0441
216.55	253.0972
218.09	238.9335
222.10	242.2861
223.80	249.7999
226.40	221.2158
227.00	229.4650
227.08	237.6406
227.20	237.6598
228.16	235.9932
228.18	235.9963
228.18	235.9963
231.56	0.0000
235.69	238.6622
236.00	238.7101
236.00	238.7101
238.63	204.6898
238.63	204.6898
238.63	204.6898
238.63	204.6898
239.00	204.7377
240.98	204.9934
241.98	205.1219
241.98	205.1219
241.98	205.1219
244.69	177.3406
245.39	180.4762
247.94	223.6546
248.90	228.3851
249.79	188.6365
252.40	188.9381
252.85	184.3811
252.85	184.3811
254.15	0.0000
256.20	218.9357
256.20	218.9357
260.50	193.5699
260.90	205.6589
262.80	211.9866
264.65	190.3357
268.24	203.1443
268.79	206.6210
269.46	206.7023
269.46	206.7023
269.46	206.7023
269.46	206.7023
271.23	201.9454
273.65	276.8973
276.40	179.1798
277.35	198.7648
277.60	183.5915
277.60	183.5915
278.00	174.6650
278.60	174.1025
279.20	179.7797
279.53	177.0029
280.46	206.1453
281.68	208.1629
283.67	167.0945
284.30	183.1172
285.00	182.2515
285.90	168.2451
286.10	161.6846
286.10	161.6846
287.40	150.5137
288.45	0.0000
290.67	153.9305
290.80	153.9405
291.72	177.5948
293.26	0.0000
293.70	173.0678
295.21	173.2133
295.21	173.2133

295.21	173.2133
295.96	132.3267
296.50	132.3660
297.23	132.4189
298.57	132.5164
299.80	176.8070
299.80	176.8070
300.09	161.0455
300.09	161.0455
300.09	161.0455
300.09	161.0455
300.12	161.0476
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303.76	180.3516
303.91	180.3655
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304.40	178.8316
304.84	163.0435
306.84	146.8448
308.46	141.7919
311.98	156.3585
316.51	133.7964
318.01	157.8135
319.02	155.0252
319.41	150.2711
320.08	145.5355
323.87	143.9044
323.87	143.9044
323.87	143.9044
323.87	143.9044
325.23	153.6074
328.77	147.4748
333.44	125.3313
334.20	144.6680
334.20	144.6680
334.30	135.0303
338.28	162.6846
338.28	162.6846
338.28	162.6846
338.28	162.6846
338.32	162.6887
338.32	162.6887
338.32	162.6887
340.50	145.1294
340.57	145.1331
344.27	145.4022
345.85	151.9831
350.59	0.0000
351.07	136.1650
351.92	128.1130
351.92	128.1130
351.92	128.1130
355.39	0.0000
356.01	133.2433
364.48	129.2205
366.43	145.9989
367.43	163.7138
367.94	0.0000
369.80	135.4378
374.96	150.5253
383.85	149.1733
387.95	121.7418
388.63	123.7595
391.69	144.7524
391.69	144.7524
392.90	146.8167
398.62	124.3225
400.65	146.3361
401.10	145.3709
401.81	147.4092
402.60	136.5000
404.84	143.6185
410.95	117.0071
411.60	117.0400
413.65	147.1830
414.70	140.2393
415.30	150.2948

415.76	148.3216
417.63	0.0000
418.52	119.4024
423.70	139.7839
427.08	132.9378
427.89	120.8936
432.53	110.0299
433.93	121.2063
439.47	119.4664
439.56	119.4707
439.89	113.4109
443.98	116.6495
444.90	100.4586
445.03	100.4635
445.03	100.4635
445.03	100.4635
445.03	100.4635
453.90	108.9827
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468.07	76.8320
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477.59	103.8628
477.96	93.5927
482.03	92.7136
484.57	92.8070
487.03	86.7039
490.36	0.0000
492.35	102.3995
497.08	93.2618
507.63	0.0000
510.53	0.0000
510.84	94.7969
511.00	94.8024
511.85	95.5271
511.85	95.5271
513.99	83.4370
513.99	83.4370
520.41	102.4574
520.65	103.5125
527.90	107.9865
528.96	0.0000
529.64	103.8606
529.87	0.0000
531.02	79.7722
537.32	100.9969
543.00	89.6111
546.56	0.0000
549.76	81.3764
552.65	81.4610
555.20	88.9485
563.23	86.0170
563.90	95.5964
568.70	94.6950
569.32	78.7533
569.50	78.7569
569.67	75.5692
573.80	111.9188
574.00	111.9265
574.64	104.4887
578.91	80.0848
579.30	0.0000
583.14	78.0633
585.48	78.4842
591.81	84.7321
592.07	84.7398
593.00	76.1829
595.88	91.2961
600.56	98.9719
602.52	0.0000
602.71	95.0964
602.71	95.0964
603.60	109.4828
604.41	98.7408
604.70	89.7725
609.31	91.7112

609.31	91.7112
609.31	91.7112
609.31	91.7112
610.33	91.7423
612.46	84.6080
614.37	73.8537
618.01	85.2157
621.84	72.5926
621.84	72.5926
631.29	70.6447
633.02	69.5969
633.10	69.6000
634.78	64.1971
635.90	68.5740
636.97	94.7314
645.85	76.4395
646.12	76.4463
656.30	85.4610
657.75	87.6934
657.90	0.0000
661.65	65.8506
661.65	65.8506
664.57	0.0000
666.33	85.7334
666.33	85.7334
675.00	77.1504
677.61	73.5352
685.20	75.5520
692.80	91.4288
695.00	89.6409
696.49	79.5122
696.49	79.5122
697.00	84.1480
697.49	82.3112
698.33	89.7337
698.50	89.7376
699.00	92.5273
702.63	83.3661
706.10	84.3812
706.58	0.0000
706.67	80.6863
709.31	89.1035
711.68	76.1643
713.82	77.1421
717.42	74.4336
720.50	71.8412
721.93	0.0000
722.20	70.2815
722.78	70.2938
722.78	70.2938
722.89	78.2834
722.95	78.2852
723.30	76.6959
724.18	84.7072
727.18	65.3188
733.00	81.7224
735.90	73.4814
739.58	65.5581
742.81	70.3079
744.21	75.0244
747.13	66.6419
751.79	76.1303
752.31	66.7416
753.82	74.2939
755.35	67.7402
756.15	63.0510
756.87	71.5361
763.93	97.1451
765.79	76.4368
766.42	84.0006
766.84	84.0115
776.49	74.7761
778.00	75.7552
778.57	69.1370
778.89	72.9332
783.80	54.0637
785.46	57.8850
792.07	68.4492

795.84	47.5840
796.30	52.3491
798.80	102.8650
801.93	51.4775
805.60	45.8037
810.29	63.0620
810.76	58.2920
815.85	58.3727
817.79	68.9355
818.51	58.4149
819.60	53.6427
826.30	63.3373
828.27	0.0000
831.60	54.7781
831.96	55.7438
834.83	84.6431
836.80	0.0000
846.75	71.4030
848.13	67.5690
856.28	0.0000
856.80	66.3421
860.37	66.4035
867.32	53.0351
867.82	61.7095
871.10	48.5555
873.19	53.4401
874.81	53.4625
875.33	0.0000
876.40	62.2357
879.36	46.7129
880.27	52.5641
880.51	52.5674
881.50	51.6068
883.24	46.7598
884.67	54.5724
889.25	54.6374
896.60	52.7849
898.02	46.9365
899.00	47.9263
903.28	68.8200
911.07	54.9404
911.07	54.9404
911.07	54.9404
919.63	57.8119
920.93	72.7790
925.00	47.2559
925.24	48.2433
926.50	52.1988
935.52	53.3024
937.48	71.1035
944.10	58.3602
946.00	54.4293
949.00	49.5178
962.29	64.7227
964.01	56.2296
966.15	52.7078
968.20	52.7337
969.11	46.0625
969.11	46.0625
969.11	46.0625
977.42	51.1277
980.50	40.9141
983.50	55.9225
989.30	50.0000
996.32	54.0890
1001.03	52.1439
1001.68	43.1251
1004.76	52.1894
1021.30	0.0000
1024.50	0.0000
1034.80	51.5437
1036.00	44.4816
1037.82	52.5903
1038.57	53.6103
1038.76	0.0000
1045.16	57.7445
1046.59	53.7095
1048.07	49.6719

1050.47	49.6998
1050.47	49.6998
1062.04	67.1172
1063.62	55.9511
1076.63	55.0920
1077.35	48.9805
1078.86	42.8716
1085.78	44.9811
1099.22	51.2675
1112.02	50.7244
1112.84	52.8892
1115.52	68.7968
1120.29	56.6539
1120.29	56.6539
1120.29	56.6539
1120.29	56.6539
1120.51	56.6561
1121.28	38.8560
1124.00	0.0000
1129.67	47.2910
1131.51	0.0000
1147.95	0.0000
1167.94	43.7039
1173.22	59.3773
1175.09	51.0636
1177.93	45.8799
1189.05	58.5270
1204.90	74.4466
1205.75	0.0000
1213.00	64.0679
1221.42	59.9688
1230.97	68.5177
1235.34	69.6335
1236.41	0.0000
1238.25	65.4512
1246.25	65.5546
1260.41	0.0000
1271.85	36.1333
1274.45	54.2269
1274.54	54.2269
1291.56	39.4721
1298.22	0.0000
1312.09	35.3458
1325.50	38.6572
1325.50	38.6572
1332.49	29.0314
1333.61	34.4154
1360.21	24.8605
1362.66	0.0000
1365.15	25.9648
1368.21	23.8145
1368.53	0.0000
1376.25	23.2309
1384.27	34.4333
1394.10	31.6983
1395.20	32.6367
1407.95	28.0402
1434.06	19.7205
1436.60	21.6090
1457.56	0.0000
1460.81	23.5892
1489.15	18.9655
1509.49	15.2260
1596.49	23.1780
1620.62	10.6655
1678.03	0.0000
1691.02	7.8451
1691.02	7.8451
1706.46	0.0000
1750.46	0.0000
1764.49	17.3584
1764.49	17.3584
1764.49	17.3584
1764.49	17.3584
1770.23	13.8989
1771.40	54.6125
1791.20	0.0000
1808.65	13.9805

1836.01

11.0295

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202001376

Total Uranium Activity	2.7362E+00	ug/g
Total Uranium Counting Unc.	2.1313E+00	ug/g
Total Uranium Tpu	1.0874E-06	ug/g
Total Uranium Mda	1.6240E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 935341                SAMPLE ID   : G1202001376                *
*  ANALYST       : MXR1                  DETECTOR    : GAM05                    *
*  SAMPLE DATE   : 16-DEC-2009 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE : 31-DEC-2009 15:32:03.22  SAMPLE ALQT: 132.930 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.184E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.226E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.675E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.791E+00

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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 16:33:02.92

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001377.CNF;1
Sample date        : 22-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 15:32:35
Sample ID          : G1202001377      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM07             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:01.31  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity      : 5.00000
Batch ID           : 935341            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	59.43	4421	1226	1.03	118.51	113	12	1.23E+00	2.2	
2	1	74.78*	153	413	1.11	149.20	144	14	4.26E-02	23.8	1.15E+00
3	1	77.07*	256	394	1.11	153.80	144	14	7.11E-02	14.8	
4	0	88.04*	1752	617	1.07	175.72	170	12	4.87E-01	3.7	
5	0	93.06*	100	304	1.52	185.76	182	8	2.77E-02	32.8	
6	0	122.00	273	364	1.11	243.63	238	11	7.60E-02	14.8	
7	0	185.80*	132	441	1.44	371.21	364	15	3.68E-02	36.0	
8	0	238.62*	434	291	1.17	476.83	473	8	1.21E-01	8.4	
9	0	241.55*	96	165	1.63	482.69	481	6	2.67E-02	24.2	
10	0	295.10	136	210	1.38	589.77	586	9	3.78E-02	21.0	
11	0	338.42	88	147	1.15	676.41	673	8	2.44E-02	26.1	
12	0	352.05*	214	193	1.22	703.65	699	12	5.95E-02	14.8	
13	0	510.83*	5	200	2.38	1021.16	1017	11	1.47E-03	555.6	
14	0	583.05*	115	115	1.53	1165.58	1162	9	3.18E-02	19.6	
15	0	609.81*	181	114	1.76	1219.10	1214	15	5.03E-02	15.2	
16	0	661.66	2327	165	1.43	1322.79	1315	16	6.46E-01	2.4	
17	0	910.70*	82	134	1.10	1820.80	1815	13	2.28E-02	31.2	
18	0	969.30*	85	73	2.67	1937.98	1933	10	2.37E-02	22.0	
19	0	1173.30	1825	68	1.81	2345.94	2338	18	5.07E-01	2.6	
20	0	1238.91	14	18	1.08	2477.16	2469	11	3.91E-03	65.5	
21	0	1332.62	1705	42	1.93	2664.56	2657	17	4.74E-01	2.6	
22	0	1461.06*	9	6	1.83	2921.41	2917	8	2.59E-03	64.6	
23	0	1764.81*	26	12	2.45	3528.88	3523	14	7.36E-03	33.6	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001377.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 00:00:00 Acquisition date : 31-DEC-2009 15:32:35
Sample ID        : G1202001377 Sample quantity : 155.44 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.31 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	*	3.740E-01	4.841E-01	6.800E-01	5.839E-02	0.550
CO-57	+	122.06	*	2.238E-01	6.893E-02	5.620E-02	4.836E-03	3.982
		136.48		3.789E-01	3.060E-01	5.159E-01	4.644E-02	0.735
CO-60	+	1173.22		6.513E+00	6.268E-01	1.287E-01	1.047E-02	50.627
	+	1332.49	*	6.786E+00	6.575E-01	9.038E-02	7.403E-03	75.083
CD-109	+	88.03	*	3.361E+01	4.040E+00	1.796E+00	1.692E-01	18.715
SN-126		64.28		-3.219E-01	6.110E-01	8.853E-01	1.284E-01	-0.364
	+	86.94		1.385E+01	5.844E+00	7.439E-01	3.087E-01	18.616
	+	87.57	*	3.331E+00	4.004E-01	1.784E-01	1.671E-02	18.674
BA-137M	+	661.65	*	5.601E+00	5.645E-01	1.082E-01	9.579E-03	51.746
CS-137	+	661.65	*	5.921E+00	5.976E-01	1.144E-01	1.014E-02	51.746
TL-208		277.35		6.849E-01	6.398E-01	1.106E+00	1.354E-01	0.619
	+	510.84		4.284E-02	4.761E-01	4.646E-01	5.660E-02	0.092
	+	583.14	*	2.654E-01	1.073E-01	1.171E-01	1.120E-02	2.266
		860.37		6.149E-01	6.661E-01	1.149E+00	1.123E-01	0.535
BI-211		72.87		1.551E-01	4.091E+00	6.023E+00	4.754E-01	0.026
	+	351.07	*	2.174E+00	6.732E-01	6.075E-01	5.450E-02	3.579
PB-212	+	74.81		1.140E+00	5.600E-01	6.890E-01	8.499E-02	1.655
	+	77.11		1.098E+00	3.381E-01	3.984E-01	3.288E-02	2.755
	+	87.30		1.541E+01	2.409E+00	8.261E-01	1.130E-01	18.650
	+	238.63	*	9.569E-01	1.853E-01	1.515E-01	1.449E-02	6.316
		300.09		2.196E+00	1.533E+00	2.412E+00	2.502E-01	0.910
PO-212	+	74.81		1.140E+00	5.600E-01	6.890E-01	8.499E-02	1.655
	+	77.11		1.098E+00	3.381E-01	3.984E-01	3.288E-02	2.755
	+	87.30		1.541E+01	2.409E+00	8.261E-01	1.130E-01	18.650
		115.19		2.300E+00	4.820E+00	7.949E+00	6.846E-01	0.289
	+	238.63	*	9.569E-01	1.853E-01	1.515E-01	1.449E-02	6.316
		300.09		2.196E+00	1.533E+00	2.412E+00	2.502E-01	0.910
BI-214	+	609.31	*	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
		1120.29		4.512E-01	5.923E-01	1.045E+00	1.122E-01	0.432
	+	1764.49		8.235E-01	5.572E-01	3.698E-01	3.041E-02	2.227
PB-214	+	74.81		1.965E+00	9.584E-01	1.187E+00	1.299E-01	1.655
	+	77.11		1.882E+00	5.971E-01	6.830E-01	7.671E-02	2.755
	+	87.30		2.639E+01	3.769E+00	1.415E+00	1.713E-01	18.650

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		1.271E+00	6.293E-01	8.443E-01	8.570E-02	1.505
	+	295.21		8.138E-01	3.517E-01	3.955E-01	4.186E-02	2.058
	+	351.92	*	7.562E-01	2.375E-01	1.989E-01	2.064E-02	3.802
	+	74.81		1.965E+00	9.584E-01	1.187E+00	1.299E-01	1.655
	+	77.11		1.882E+00	5.971E-01	6.830E-01	7.671E-02	2.755
	+	87.30		2.639E+01	3.769E+00	1.415E+00	1.713E-01	18.650
	+	241.98		1.271E+00	6.293E-01	8.443E-01	8.570E-02	1.505
PO-216	+	295.21		8.138E-01	3.517E-01	3.955E-01	4.186E-02	2.058
	+	351.92	*	7.562E-01	2.375E-01	1.989E-01	2.064E-02	3.802
	+	74.81		1.140E+00	5.600E-01	6.890E-01	8.499E-02	1.655
	+	77.11		1.098E+00	3.381E-01	3.984E-01	3.288E-02	2.755
	+	87.30		1.541E+01	2.409E+00	8.261E-01	1.130E-01	18.650
	+	238.63	*	9.569E-01	1.853E-01	1.515E-01	1.449E-02	6.316
	+	300.09		2.196E+00	1.533E+00	2.412E+00	2.502E-01	0.910
PO-218	+	74.81		1.965E+00	9.584E-01	1.187E+00	1.299E-01	1.655
	+	77.11		1.882E+00	5.971E-01	6.830E-01	7.671E-02	2.755
	+	87.30		2.639E+01	3.769E+00	1.415E+00	1.713E-01	18.650
	+	241.98		1.271E+00	6.293E-01	8.443E-01	8.570E-02	1.505
	+	295.21		8.138E-01	3.517E-01	3.955E-01	4.186E-02	2.058
	+	351.92	*	7.562E-01	2.375E-01	1.989E-01	2.064E-02	3.802
	+	240.98	*	2.410E+00	1.186E+00	1.954E+00	1.653E-01	1.233
RA-224	+	609.31	*	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
RA-226	+	1120.29		4.512E-01	5.923E-01	1.045E+00	1.122E-01	0.432
AC-228	+	1764.49		8.235E-01	5.572E-01	3.698E-01	3.041E-02	2.227
	+	338.32		9.813E-01	6.534E-01	7.049E-01	2.908E-01	1.392
	+	911.07	*	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
	+	969.11		1.548E+00	7.734E-01	9.623E-01	2.261E-01	1.609
	+	338.32		9.813E-01	6.534E-01	7.049E-01	2.908E-01	1.392
	+	911.07	*	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
	+	969.11		1.548E+00	7.734E-01	9.623E-01	2.261E-01	1.609
TH-228	+	74.81		1.151E+00	5.552E-01	6.956E-01	5.654E-02	1.655
	+	77.11		1.108E+00	3.414E-01	4.022E-01	3.320E-02	2.755
	+	87.30		1.555E+01	1.870E+00	8.340E-01	7.788E-02	18.650
	+	238.63	*	9.661E-01	1.871E-01	1.530E-01	1.463E-02	6.316
	+	300.09		2.217E+00	2.017E+00	2.436E+00	1.444E+00	0.910
	+	609.31	*	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
	+	1120.29		4.512E-01	5.923E-01	1.045E+00	1.122E-01	0.432
TH-230	+	1764.49		8.235E-01	5.572E-01	3.698E-01	3.041E-02	2.227
	+	338.32		9.813E-01	5.198E-01	7.049E-01	6.034E-02	1.392
	+	911.07	*	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
	+	969.11		1.548E+00	7.734E-01	9.623E-01	2.261E-01	1.609
	+	609.31	*	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
	+	1120.29		4.512E-01	5.923E-01	1.045E+00	1.122E-01	0.432
	+	1764.49		8.235E-01	5.572E-01	3.698E-01	3.041E-02	2.227
TH-232	+	338.32		9.813E-01	5.198E-01	7.049E-01	6.034E-02	1.392
U-234	+	911.07	*	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
	+	969.11		1.548E+00	7.734E-01	9.623E-01	2.261E-01	1.609
	+	609.31	*	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
	+	1120.29		4.512E-01	5.923E-01	1.045E+00	1.122E-01	0.432
	+	1764.49		8.235E-01	5.572E-01	3.698E-01	3.041E-02	2.227
	+	59.54	*	1.404E+01	1.274E+00	3.799E-01	3.012E-02	36.948
	+	74.67	*	1.849E-01	8.913E-02	1.119E-01	8.996E-03	1.652
AM-241	+	86.72		3.668E+02	4.409E+01	1.973E+01	1.828E+00	18.594
AM-243	+	117.66		-1.403E+00	5.944E+00	8.393E+00	7.219E-01	-0.167
	+	142.18		3.842E+00	2.513E+01	4.042E+01	3.236E+00	0.095

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	9.254E-03	1.028E-01	1.004E-01	8.920E-03	0.092

---- 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	*	-1.955E-01	6.551E-01	1.031E+00	9.725E-02	-0.190
NA-22		1274.54	*	-4.200E-02	4.968E-02	7.055E-02	5.791E-03	-0.595
NA-24		1368.53	*	6.058E-04	4.968E-02	Half-Life too short		
AL-26		1129.67		-1.326E+00	3.157E+00	5.078E+00	4.266E-01	-0.261
		1808.65	*	-1.502E-02	3.417E-02	4.956E-02	4.041E-03	-0.303
TI-44		67.85		-1.768E-02	5.288E-02	8.602E-02	6.490E-03	-0.206
	+	78.38	*	2.025E-01	6.238E-02	8.241E-02	6.900E-03	2.457
SC-46		889.25	*	-2.955E-02	9.113E-02	1.445E-01	1.324E-02	-0.205
		1120.51		6.455E-02	9.707E-02	1.704E-01	1.440E-02	0.379
V-48		944.10		1.200E+00	1.908E+00	3.202E+00	2.910E-01	0.375
		983.50	*	-2.810E-02	1.360E-01	2.156E-01	1.941E-02	-0.130
		1312.09		4.474E-02	8.292E-02	1.469E-01	1.205E-02	0.304
CR-51		320.08	*	5.557E-03	5.711E-01	9.398E-01	8.492E-02	0.006
MN-52		744.21		-2.911E-03	2.221E-01	3.650E-01	3.313E-02	-0.008
		848.13		-8.844E-01	7.623E+00	1.231E+01	1.130E+00	-0.072
		935.52		3.906E-02	3.197E-01	5.213E-01	4.747E-02	0.075
		1246.25		1.998E+00	4.134E+00	7.282E+00	5.965E-01	0.274
	+	1333.61		4.422E+02	4.285E+01	5.003E+01	4.099E+00	8.839
		1434.06	*	-2.472E-02	1.275E-01	1.994E-01	1.658E-02	-0.124
MN-54		834.83	*	-4.094E-02	7.807E-02	1.223E-01	1.123E-02	-0.335
CO-56		846.75	*	-6.854E-02	8.382E-02	1.279E-01	1.174E-02	-0.536
		977.42		-2.420E-01	6.706E+00	1.078E+01	9.718E-01	-0.022
		1037.82		1.683E-01	6.476E-01	1.106E+00	1.027E-01	0.152
		1175.09		2.781E+02	2.674E+01	3.256E+01	2.650E+00	8.540
	+	1238.25		8.529E-02	1.119E-01	1.566E-01	1.324E-02	0.545
		1360.21		3.306E-01	1.145E+00	1.977E+00	1.627E-01	0.167
		1771.40		2.038E-01	4.401E-01	7.007E-01	5.755E-02	0.291
CO-58		810.76	*	4.329E-02	7.437E-02	1.268E-01	1.165E-02	0.341
FE-59		142.65		5.589E-01	3.576E+00	5.745E+00	4.738E-01	0.097
		192.34		2.079E-02	1.390E+00	2.185E+00	2.869E-01	0.010
		1099.22	*	-7.234E-02	1.766E-01	2.860E-01	2.650E-02	-0.253
		1291.56		1.479E-01	1.495E-01	2.772E-01	2.611E-02	0.533
ZN-65		1115.52	*	-2.776E-01	1.910E-01	2.831E-01	2.403E-02	-0.980
GE-68		1077.35	*	1.418E+00	2.650E+00	4.599E+00	3.985E-01	0.308
AS-73		53.44	*	-1.371E+00	1.248E+00	2.008E+00	1.508E-01	-0.683
AS-74		595.88	*	7.472E-03	1.281E-01	2.149E-01	1.926E-02	0.035
		634.78		-1.481E-01	5.590E-01	9.129E-01	8.138E-02	-0.162
SE-75		66.05		1.899E+00	5.200E+00	8.686E+00	8.240E-01	0.219
		96.73		-6.421E-01	1.037E+00	1.437E+00	1.991E-01	-0.447
	+	121.11		1.182E+00	3.739E-01	4.354E-01	4.878E-02	2.715
		136.00		5.574E-02	5.709E-02	9.532E-02	8.014E-03	0.585
		198.60		1.722E-01	2.642E+00	4.468E+00	4.107E-01	0.039
		264.65	*	3.943E-02	7.352E-02	1.253E-01	1.070E-02	0.315

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	279.53		-1.438E-01	1.838E-01	2.920E-01	2.574E-02	-0.492
		303.91		-2.898E+00	3.534E+00	5.545E+00	6.339E-01	-0.523
		400.65		8.210E-02	5.020E-01	8.216E-01	8.982E-02	0.100
		87.88		1.477E+03	1.775E+02	1.763E+02	1.659E+01	8.373
		200.40		-9.150E+00	4.913E+01	8.218E+01	6.757E+00	-0.111
		239.00		3.099E+01	5.839E+00	9.094E+00	7.685E-01	3.407
		249.79		2.096E+01	2.132E+01	3.716E+01	3.152E+00	0.564
		281.68		-3.476E+00	3.070E+01	5.057E+01	4.297E+00	-0.069
		297.23		2.378E+01	2.381E+01	3.647E+01	3.117E+00	0.652
		303.76		-4.490E+01	6.285E+01	9.953E+01	8.521E+00	-0.451
		439.47		-7.931E+00	5.998E+01	9.591E+01	8.261E+00	-0.083
		484.57		-1.397E+01	9.550E+01	1.515E+02	1.334E+01	-0.092
		520.65	*	-9.820E-01	4.011E+00	6.658E+00	5.930E-01	-0.147
		574.64		1.233E+01	7.532E+01	1.275E+02	1.144E+01	0.097
		578.91		8.788E+00	3.757E+01	5.584E+01	5.009E+00	0.157
SR-82		585.48		1.414E+02	7.872E+01	1.291E+02	1.158E+01	1.095
		755.35		-6.137E+01	6.275E+01	9.453E+01	8.600E+00	-0.649
		817.79		4.106E+01	5.516E+01	9.498E+01	8.711E+00	0.432
		698.33		1.932E+01	5.333E+01	9.037E+01	8.103E+00	0.214
		776.49	*	-9.621E-02	6.942E-01	1.127E+00	1.029E-01	-0.085
RB-83		1395.20		7.086E+00	1.323E+01	2.348E+01	1.943E+00	0.302
		520.41	*	-4.084E-02	1.251E-01	2.066E-01	1.841E-02	-0.198
		529.64		-1.988E-01	1.833E-01	2.850E-01	2.543E-02	-0.698
RB-84		552.65		-1.923E-01	3.336E-01	5.369E-01	4.809E-02	-0.358
		881.50	*	-1.278E-01	1.531E-01	2.333E-01	2.139E-02	-0.548
KR-85		513.99	*	1.137E+01	1.558E+01	2.413E+01	2.146E+00	0.471
SR-85		513.99	*	5.503E-02	7.539E-02	1.168E-01	1.039E-02	0.471
RB-86		1076.63	*	8.971E-01	1.378E+00	2.410E+00	2.089E-01	0.372
Y-88		898.02		-1.030E-03	1.016E-01	1.646E-01	1.514E-02	-0.006
		1836.01	*	-2.780E-03	5.020E-02	8.269E-02	6.711E-03	-0.034
ZR-88		392.90	*	-1.002E-02	5.751E-02	9.243E-02	7.699E-03	-0.108
Y-91		1204.90	*	8.751E-01	2.222E+01	3.706E+01	3.026E+00	0.024
NB-94		702.63	*	-1.611E-02	6.485E-02	1.052E-01	9.450E-03	-0.153
		871.10		-9.284E-03	8.139E-02	1.313E-01	1.204E-02	-0.071
NB-95		765.79	*	4.982E-02	7.115E-02	1.232E-01	1.123E-02	0.404
NB-95M		235.69	*	-1.294E-01	2.166E-01	3.070E-01	2.980E-02	-0.422
ZR-95		724.18		-1.448E-01	1.668E-01	2.565E-01	2.500E-02	-0.565
		756.15	*	-1.046E-01	1.216E-01	1.847E-01	1.834E-02	-0.566
NB-97		657.90	*	4.714E-04	1.216E-01	Half-Life	too short	
		1024.50		-1.421E-01	1.216E-01	Half-Life	too short	
ZR-97		254.15		-4.799E-02	1.216E-01	Half-Life	too short	
		355.39		-9.997E-03	1.216E-01	Half-Life	too short	
		507.63	*	-5.030E-04	1.216E-01	Half-Life	too short	
		602.52		1.053E-02	1.216E-01	Half-Life	too short	
		1021.30		4.078E-02	1.216E-01	Half-Life	too short	
		1147.95		4.153E-03	1.216E-01	Half-Life	too short	
		1362.66		-7.611E-06	1.216E-01	Half-Life	too short	
		1750.46		1.642E-02	1.216E-01	Half-Life	too short	
MO-99		140.51		-2.703E+00	9.640E+00	1.513E+01	4.175E+00	-0.179

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		181.06		6.121E-01	6.920E+00	1.042E+01	1.878E+00	0.059
		366.43		-2.675E+01	3.870E+01	6.033E+01	5.110E+00	-0.443
		739.58	*	-1.228E+00	5.652E+00	9.144E+00	1.412E+00	-0.134
		778.00		-9.892E+00	1.793E+01	2.819E+01	2.575E+00	-0.351
TC-99M		140.51	*	-4.046E+03	1.793E+01	Half-Life	too short	
RH-101		127.23		1.318E-02	4.884E-02	7.566E-02	6.426E-03	0.174
		198.01	*	2.036E-02	4.876E-02	8.371E-02	6.866E-03	0.243
		325.23		-2.398E-01	4.017E-01	6.380E-01	5.471E-02	-0.376
RH-102		418.52		-7.163E-02	5.657E-01	9.078E-01	7.713E-02	-0.079
		475.06	*	4.141E-02	6.483E-02	1.077E-01	9.448E-03	0.385
		631.29		-1.072E-02	1.072E-01	1.772E-01	1.580E-02	-0.060
		697.49		-3.066E-02	1.411E-01	2.295E-01	2.057E-02	-0.134
		766.84		1.643E-01	1.966E-01	3.424E-01	3.122E-02	0.480
		1046.59		6.323E-02	2.517E-01	4.295E-01	3.778E-02	0.147
		1112.84		1.142E-01	4.815E-01	8.173E-01	6.940E-02	0.140
RU-103		497.08	*	1.456E-02	7.252E-02	1.175E-01	1.681E-02	0.124
	+	610.33		7.755E+00	2.692E+00	3.145E+00	5.303E-01	2.465
RH-106		511.85		4.575E-02	5.084E-01	6.558E-01	5.828E-02	0.070
		621.84	*	1.038E-01	5.996E-01	1.010E+00	1.370E-01	0.103
		1050.47		-2.810E+00	4.848E+00	7.772E+00	6.823E-01	-0.362
RU-106		511.85		4.575E-02	5.084E-01	6.558E-01	5.828E-02	0.070
	+	621.84	*	1.038E-01	5.995E-01	1.010E+00	9.029E-02	0.103
		1050.47		-2.810E+00	4.848E+00	7.772E+00	6.823E-01	-0.362
AG-108M		433.93	*	-7.949E-03	6.596E-02	1.056E-01	9.430E-03	-0.075
		614.37		1.164E-02	7.819E-02	1.150E-01	1.066E-02	0.101
		722.95		-1.292E-01	8.057E-02	1.153E-01	1.079E-02	-1.121
AG-110M		657.75	*	-1.154E-02	8.178E-02	1.163E-01	1.059E-02	-0.099
		677.61		-1.496E-01	5.585E-01	9.062E-01	8.282E-02	-0.165
		706.67		-6.229E-02	3.807E-01	6.211E-01	5.725E-02	-0.100
		763.93		-3.173E-01	2.982E-01	4.456E-01	4.164E-02	-0.712
		884.67		3.659E-02	1.143E-01	1.897E-01	1.789E-02	0.193
		937.48		-6.582E-03	2.804E-01	4.526E-01	4.253E-02	-0.015
		1384.27		-1.459E-01	1.836E-01	2.509E-01	2.137E-02	-0.582
IN-111		171.28		-2.113E-01	4.027E-01	6.178E-01	4.917E-02	-0.342
		245.39	*	-2.442E-01	4.816E-01	6.809E-01	5.768E-02	-0.359
IN-113M		391.69	*	-6.037E-04	8.208E-02	1.333E-01	1.145E-02	-0.005
SN-113		391.69	*	-6.037E-04	8.208E-02	1.333E-01	1.145E-02	-0.005
IN-114M		190.27	*	1.350E-01	2.760E-01	4.242E-01	3.452E-02	0.318
CD-115		260.90		-4.562E+01	4.090E+01	6.397E+01	5.435E+00	-0.713
		492.35		-2.602E-01	1.297E+01	2.072E+01	1.830E+00	-0.013
		527.90	*	-1.500E+00	3.656E+00	5.993E+00	5.347E-01	-0.250
SN-117M		156.02		-6.213E-02	2.578E+00	4.092E+00	3.296E-01	-0.015
		158.56	*	3.450E-02	6.263E-02	1.022E-01	8.192E-03	0.338
SB-122		563.90	*	9.484E-02	8.765E-01	1.481E+00	1.328E-01	0.064
		692.80		2.924E+00	1.941E+01	3.244E+01	2.903E+00	0.090
I-123		159.00	*	5.963E-03	1.941E+01	Half-Life	too short	
		528.96		-6.680E-01	1.941E+01	Half-Life	too short	
TE-123M		159.00	*	2.993E-02	4.146E-02	6.817E-02	5.499E-03	0.439
I-124		602.71	*	3.573E-02	4.733E-01	7.574E-01	6.786E-02	0.113

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		722.78		-5.228E+00	3.396E+00	4.901E+00	4.426E-01	-1.067
		1325.50		7.047E-01	2.175E+01	3.099E+01	2.539E+00	0.023
		1376.25		4.582E+00	1.319E+01	2.304E+01	1.901E+00	0.199
		1509.49		-1.005E+00	8.151E+00	1.298E+01	1.085E+00	-0.077
		1691.02		3.405E-01	1.809E+00	3.069E+00	2.550E-01	0.111
		602.71		1.163E-02	6.418E-02	1.027E-01	9.203E-03	0.113
		645.85		-3.591E-01	8.777E-01	1.414E+00	1.328E-01	-0.254
		709.31		-8.126E-01	4.753E+00	7.744E+00	6.967E-01	-0.105
		713.82		8.324E-01	2.939E+00	4.946E+00	6.093E-01	0.168
		722.78		-1.028E+00	6.678E-01	9.634E-01	8.871E-02	-1.067
	+	968.20		1.496E+01	6.733E+00	1.075E+01	9.716E-01	1.392
		1045.16		5.046E+00	5.096E+00	9.091E+00	8.001E-01	0.555
		1325.50		1.479E-01	4.566E+00	6.506E+00	5.331E-01	0.023
		1368.21		8.255E-01	1.796E+00	3.207E+00	4.246E-01	0.257
SB-125		1436.60		1.685E+00	3.750E+00	6.725E+00	5.594E-01	0.251
		1691.02	*	1.579E-02	8.388E-02	1.423E-01	1.233E-02	0.111
		427.89	*	-9.255E-02	1.848E-01	2.890E-01	2.520E-02	-0.320
		463.38		4.247E-01	6.054E-01	1.009E+00	9.475E-02	0.421
		600.56		-9.564E-02	2.962E-01	4.828E-01	4.622E-02	-0.198
TE-125M		635.90		-2.540E-01	5.354E-01	8.611E-01	8.256E-02	-0.295
		109.28	*	-5.061E+00	1.166E+01	1.842E+01	1.908E+00	-0.275
		388.63		-5.113E-02	2.890E-01	4.647E-01	3.877E-02	-0.110
I-126		666.33	*	2.348E-02	2.831E-01	4.108E-01	3.642E-02	0.057
		753.82		-2.311E-01	2.083E+00	3.395E+00	3.088E-01	-0.068
SB-126		223.80		3.684E-01	4.853E+00	8.168E+00	6.845E-01	0.045
		278.60		1.041E+00	3.050E+00	5.139E+00	4.362E-01	0.203
	+	296.50		5.961E+00	2.549E+00	3.754E+00	3.208E-01	1.588
		414.70		-5.000E-02	1.075E-01	1.688E-01	1.430E-02	-0.296
		415.30		-5.515E+00	9.054E+00	1.408E+01	1.194E+00	-0.392
		555.20		5.979E-01	4.999E+00	8.460E+00	7.579E-01	0.071
		573.80		-1.695E-01	1.351E+00	2.244E+00	2.013E-01	-0.076
		593.00		3.563E-02	1.214E+00	2.034E+00	1.823E-01	0.018
		656.30		-2.375E+00	5.751E+00	7.952E+00	7.049E-01	-0.299
		666.33		9.688E-03	1.168E-01	1.695E-01	1.503E-02	0.057
		675.00		-7.254E-02	2.735E+00	4.508E+00	4.010E-01	-0.016
		695.00		-3.820E-02	1.049E-01	1.686E-01	1.510E-02	-0.227
		697.00		-3.552E-01	3.688E-01	5.639E-01	5.054E-02	-0.630
		720.50	*	-4.397E-02	1.918E-01	3.106E-01	2.803E-02	-0.142
SB-127		856.80		-3.441E-01	7.743E-01	1.219E+00	1.119E-01	-0.282
		989.30		-2.342E-01	2.275E+00	3.635E+00	3.267E-01	-0.064
		1034.80		-6.270E+00	1.519E+01	2.478E+01	2.190E+00	-0.253
		1213.00		2.708E+00	4.128E+00	7.370E+00	6.023E-01	0.367
		61.10		7.205E+02	7.529E+01	9.029E+01	7.701E+00	7.980
		252.40		1.055E+00	2.621E+00	4.395E+00	1.831E+00	0.240
		290.80		-1.075E+00	1.489E+01	2.151E+01	2.077E+00	-0.050
		411.60		-2.285E+00	8.824E+00	1.406E+01	2.059E+00	-0.163
		444.90		-3.475E-01	7.995E+00	1.285E+01	1.451E+00	-0.027
		473.00		-1.337E-03	1.451E+00	2.328E+00	2.737E-01	-0.001
		543.00		-1.138E+01	1.164E+01	1.816E+01	2.457E+00	-0.627

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		603.60		9.100E-01	7.877E+00	1.209E+01	1.392E+00	0.075
		685.20	*	-6.179E-01	9.030E-01	1.409E+00	1.445E-01	-0.439
		698.50		5.500E+00	1.023E+01	1.751E+01	2.635E+00	0.314
		722.20		-2.845E+01	2.116E+01	3.101E+01	3.132E+00	-0.917
		783.80		7.445E-01	2.666E+00	4.456E+00	5.151E-01	0.167
		57.60		9.271E+01	1.404E+01	2.163E+01	1.568E+00	4.286
		145.22		4.043E-01	8.912E-01	1.452E+00	1.192E-01	0.279
		172.10		-9.178E-02	1.655E-01	2.533E-01	2.018E-02	-0.362
		202.84	*	-6.389E-02	6.525E-02	1.049E-01	8.645E-03	-0.609
		374.96		-5.925E-02	3.263E-01	5.255E-01	4.428E-02	-0.113
I-131		80.18		-1.525E+00	4.119E+00	5.919E+00	5.073E-01	-0.258
		284.30		3.178E-01	1.600E+00	2.677E+00	2.390E-01	0.119
		364.48	*	-8.352E-02	1.317E-01	2.062E-01	1.840E-02	-0.405
		636.97		1.181E+00	1.842E+00	3.190E+00	2.982E-01	0.370
TE-132		722.89		-1.338E+01	8.458E+00	1.215E+01	1.100E+00	-1.101
		49.72		1.027E+01	7.951E+00	1.359E+01	1.221E+00	0.755
		111.76		6.664E-01	1.237E+01	1.996E+01	1.918E+00	0.033
		116.30		3.826E+00	1.227E+01	1.915E+01	1.835E+00	0.200
BA-133		228.16	*	-5.998E-02	3.369E-01	5.596E-01	8.252E-02	-0.107
		53.15		-5.054E+00	5.594E+00	9.059E+00	6.826E-01	-0.558
		79.62		-6.156E-01	1.833E+00	2.636E+00	3.995E-01	-0.233
		81.00		-1.163E-01	1.483E-01	2.073E-01	3.293E-02	-0.561
		276.40		4.331E-01	6.334E-01	1.080E+00	1.552E-01	0.401
		302.84		-1.797E-01	2.534E-01	4.007E-01	5.309E-02	-0.448
I-133		356.01	*	-4.534E-02	8.632E-02	1.190E-01	1.563E-02	-0.381
		383.85		4.346E-01	5.578E-01	9.448E-01	1.175E-01	0.460
	+	510.53		1.167E-03	5.578E-01	Half-Life	too short	
		529.87	*	-1.213E-04	5.578E-01	Half-Life	too short	
		706.58		-1.234E-03	5.578E-01	Half-Life	too short	
		856.28		-1.169E-02	5.578E-01	Half-Life	too short	
		875.33		2.560E-03	5.578E-01	Half-Life	too short	
		1236.41		-9.482E-04	5.578E-01	Half-Life	too short	
		1298.22		-4.124E-03	5.578E-01	Half-Life	too short	
		475.35		9.690E-01	4.318E+00	7.013E+00	6.153E-01	0.138
CS-134		563.23		1.321E-01	6.149E-01	1.046E+00	9.459E-02	0.126
		569.32		-7.714E-02	3.310E-01	5.463E-01	4.960E-02	-0.141
		604.70		9.760E-03	6.571E-02	9.672E-02	8.684E-03	0.101
		795.84	*	1.419E-01	9.506E-02	1.700E-01	1.566E-02	0.835
		801.93		-4.901E-01	8.012E-01	1.256E+00	1.156E-01	-0.390
		1038.57		5.957E-01	8.604E+00	1.451E+01	1.281E+00	0.041
		1167.94		2.734E+00	5.417E+00	8.211E+00	6.710E-01	0.333
		1365.15		-1.401E-02	1.420E+00	2.330E+00	2.015E-01	-0.006
		268.24	*	1.178E-01	2.650E-01	4.492E-01	4.429E-02	0.262
		288.45		4.052E+03	2.650E-01	Half-Life	too short	
CS-135		417.63		1.565E+04	2.650E-01	Half-Life	too short	
		546.56		1.348E+04	2.650E-01	Half-Life	too short	
		836.80		1.705E+04	2.650E-01	Half-Life	too short	
		1038.76		2.193E+03	2.650E-01	Half-Life	too short	
		1124.00		-3.575E+04	2.650E-01	Half-Life	too short	
						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
	1131.51			3.767E+03	2.650E-01	Half-Life	too short	
	1260.41	*		1.958E+03	2.650E-01	Half-Life	too short	
	1457.56			3.902E+03	2.650E-01	Half-Life	too short	
	1678.03			-1.047E+04	2.650E-01	Half-Life	too short	
	1706.46			-2.473E+04	2.650E-01	Half-Life	too short	
	1791.20			-1.764E+04	2.650E-01	Half-Life	too short	
CS-136	66.91			3.048E-01	6.571E-01	1.099E+00	1.630E-01	0.277
	86.29			1.035E+01	2.092E+00	2.804E+00	3.718E-01	3.691
	153.22			-3.006E-02	7.285E-01	1.156E+00	1.059E-01	-0.026
	163.89			9.291E-01	1.237E+00	2.031E+00	1.838E-01	0.457
	176.55			8.085E-02	3.925E-01	6.720E-01	5.738E-02	0.120
	273.65			-5.832E-01	5.893E-01	9.276E-01	8.410E-02	-0.629
	340.57			1.088E-01	1.960E-01	2.922E-01	2.572E-02	0.372
	818.51			8.747E-02	1.131E-01	1.952E-01	1.791E-02	0.448
	1048.07	*		-4.188E-02	1.769E-01	2.917E-01	2.668E-02	-0.144
	1235.34			1.037E-01	6.022E-01	8.831E-01	1.019E-01	0.117
CE-139	165.85	*		-1.529E-02	4.691E-02	7.304E-02	5.778E-03	-0.209
BA-140	162.64			-2.896E-01	8.694E-01	1.354E+00	1.151E-01	-0.214
	304.84			-1.051E+00	1.654E+00	2.589E+00	7.252E-01	-0.406
	423.70			2.302E-01	2.826E+00	4.588E+00	1.486E+00	0.050
	537.32	*		6.939E-02	3.633E-01	6.170E-01	2.050E-01	0.112
LA-140	328.77			5.060E-01	3.844E-01	6.700E-01	6.069E-02	0.755
	432.53			2.100E+00	3.057E+00	5.130E+00	4.616E-01	0.409
	487.03			-8.344E-02	2.120E-01	3.303E-01	3.084E-02	-0.253
	751.79			3.702E+00	2.341E+00	4.260E+00	4.247E-01	0.869
	815.85			-2.651E-01	4.889E-01	7.630E-01	7.714E-02	-0.347
	867.82			2.504E-01	2.323E+00	3.808E+00	3.659E-01	0.066
	919.63			1.682E+00	5.194E+00	8.591E+00	9.505E-01	0.196
	925.24			-3.300E-01	2.174E+00	3.482E+00	3.355E-01	-0.095
CE-141	1596.49	*		5.454E-02	9.580E-02	1.703E-01	1.424E-02	0.320
CE-143	145.44	*		1.064E-02	7.931E-02	1.273E-01	1.066E-02	0.084
	57.37			5.939E+02	1.487E+02	2.288E+02	2.141E+01	2.596
	231.56			2.559E+01	2.608E+02	4.384E+02	1.390E+02	0.058
	293.26	*		2.204E+01	1.663E+01	2.526E+01	5.480E+00	0.872
+	350.59			1.083E+03	4.657E+02	4.203E+02	1.311E+02	2.575
	490.36			7.063E+01	3.632E+02	5.878E+02	1.871E+02	0.120
	664.57			2.819E+03	9.687E+02	6.355E+02	2.069E+02	4.436
	721.93			-1.530E+02	1.644E+02	2.410E+02	7.108E+01	-0.635
CE-144	80.11			-1.252E+00	2.998E+00	4.298E+00	3.671E-01	-0.291
	133.54	*		-3.587E-01	3.074E-01	4.552E-01	7.027E-02	-0.788
PM-144	476.78			-2.842E-02	1.445E-01	2.289E-01	2.191E-02	-0.124
	618.01			1.847E-02	6.384E-02	9.923E-02	9.100E-03	0.186
	696.49	*		-5.976E-02	6.449E-02	9.903E-02	8.875E-03	-0.604
	778.57			-2.511E+00	4.678E+00	7.356E+00	6.720E-01	-0.341
PR-144	696.49	*		-4.038E+00	4.358E+00	6.691E+00	5.996E-01	-0.604
	1489.15			1.271E+01	1.495E+01	2.826E+01	2.360E+00	0.450
PM-146	453.90	*		-4.447E-02	9.253E-02	1.438E-01	1.550E-02	-0.309
	633.02			8.876E-01	2.680E+00	4.524E+00	1.694E+00	0.196
	735.90			-6.658E-02	2.857E-01	4.609E-01	1.325E-01	-0.144

---- 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		-1.437E-01	1.750E-01	2.671E-01	3.827E-02	-0.538
		91.11		4.193E-01	3.009E-01	3.861E-01	3.820E-02	1.086
		319.41		2.140E+00	4.139E+00	6.992E+00	5.997E-01	0.306
		439.89		-7.846E-02	8.594E+00	1.385E+01	1.193E+00	-0.006
PM-149		531.02	*	-3.878E-01	7.108E-01	1.149E+00	1.738E-01	-0.338
		285.90	*	5.507E-01	2.788E+01	4.621E+01	7.148E+00	0.012
EU-152	+	121.78		6.583E-01	2.053E-01	2.466E-01	2.443E-02	2.670
		244.69		-1.831E-01	5.556E-01	7.965E-01	6.745E-02	-0.230
		344.27	*	-7.584E-02	1.960E-01	3.028E-01	2.745E-02	-0.250
		443.98		-2.363E-02	2.083E+00	3.353E+00	2.896E-01	-0.007
		778.89		-2.552E-01	5.478E-01	8.666E-01	7.916E-02	-0.294
		867.32		-1.886E-01	1.895E+00	3.059E+00	2.808E-01	-0.062
		964.01		2.488E-01	8.098E-01	1.157E+00	1.047E-01	0.215
		1085.78		-4.985E-01	8.509E-01	1.360E+00	1.173E-01	-0.367
		1112.02		1.374E-01	6.855E-01	1.161E+00	9.860E-02	0.118
		1407.95		2.186E-01	2.252E-01	4.279E-01	3.547E-02	0.511
		69.67		2.119E-01	2.112E+00	3.125E+00	2.394E-01	0.068
		83.37		2.434E+01	2.160E+01	3.315E+01	2.945E+00	0.734
EU-154	+	97.43	*	-4.287E-02	1.082E-01	1.527E-01	1.365E-02	-0.281
		103.18		-6.305E-02	1.388E-01	2.198E-01	1.928E-02	-0.287
		123.07		4.619E-01	1.463E-01	1.693E-01	1.918E-02	2.728
		247.94		-6.418E-02	5.795E-01	9.614E-01	1.093E-01	-0.067
		591.81		3.191E-01	1.076E+00	1.835E+00	2.189E-01	0.174
		723.30		-5.123E-01	3.385E-01	4.889E-01	4.842E-02	-1.048
		756.87		-1.010E+00	1.401E+00	2.155E+00	2.656E-01	-0.468
		873.19		8.205E-02	7.288E-01	1.194E+00	1.509E-01	0.069
		996.32		-5.036E-01	8.742E-01	1.337E+00	2.398E-01	-0.377
		1004.76		7.988E-02	5.008E-01	8.147E-01	9.678E-02	0.098
		1274.45	*	-1.090E-01	1.374E-01	1.965E-01	2.160E-02	-0.555
		48.70		1.156E+00	3.037E+00	5.109E+00	4.135E-01	0.226
EU-155	+	60.01		4.557E+02	3.846E+01	3.209E+01	2.311E+00	14.199
		86.54		4.003E+00	4.837E-01	3.938E-01	3.674E-02	10.165
TB-160	+	105.31	*	1.208E-01	1.452E-01	2.436E-01	2.152E-02	0.496
		86.79		1.017E+01	1.222E+00	1.122E+00	1.040E-01	9.065
		197.04		1.027E-01	8.004E-01	1.358E+00	1.113E-01	0.076
		215.65		4.109E-01	1.129E+00	1.932E+00	1.609E-01	0.213
		298.57		1.710E-01	2.190E-01	3.330E-01	2.848E-02	0.513
		879.36	*	1.342E-01	3.175E-01	5.306E-01	4.866E-02	0.253
		962.29		7.941E-02	1.299E+00	1.981E+00	1.793E-01	0.040
		966.15		1.887E-01	5.513E-01	7.890E-01	7.136E-02	0.239
		1177.93		8.686E-01	5.627E-01	9.776E-01	7.960E-02	0.888
		1271.85		5.582E-01	7.231E-01	1.334E+00	1.094E-01	0.418
		80.57		-1.647E-01	3.974E-01	5.699E-01	4.894E-02	-0.289
		184.41		1.527E-01	1.106E-01	9.480E-02	7.663E-03	1.611
HO-166M	+	280.46		-1.743E-01	1.478E-01	2.289E-01	1.944E-02	-0.761
		410.95		3.369E-01	4.704E-01	7.922E-01	6.694E-02	0.425
		711.68	*	-1.866E-02	1.145E-01	1.867E-01	1.681E-02	-0.100
		752.31		6.801E-01	5.147E-01	9.231E-01	8.393E-02	0.737
		810.29		5.454E-02	1.184E-01	2.002E-01	1.835E-02	0.272

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		-2.546E+01	4.359E+01	7.136E+01	5.510E+00	-0.357
		52.39		-1.737E+00	2.339E+01	3.881E+01	2.953E+00	-0.045
	+	59.40		2.389E+03	2.016E+02	1.765E+02	1.269E+01	13.530
		66.72	*	1.830E+01	3.154E+01	5.306E+01	3.968E+00	0.345
LU-176	+	88.36		7.901E+00	9.497E-01	9.339E-01	8.777E-02	8.460
		201.83		-1.809E-02	4.303E-02	7.115E-02	5.858E-03	-0.254
		306.84	*	8.220E-03	4.191E-02	6.984E-02	5.983E-03	0.118
		401.10		-2.859E+00	1.352E+01	2.167E+01	1.817E+00	-0.132
LU-177		112.95		-7.548E-01	1.255E+00	1.955E+00	1.687E-01	-0.386
		208.36	*	5.108E-01	9.877E-01	1.696E+00	1.405E-01	0.301
LU-177M		52.97		-6.560E-01	2.427E+00	4.002E+00	3.022E-01	-0.164
		54.07		8.438E-01	1.462E+00	2.215E+00	1.652E-01	0.381
		61.30		2.591E+01	3.089E+00	4.794E+00	3.471E-01	5.403
	+	121.62		3.300E+00	1.016E+00	1.234E+00	1.061E-01	2.673
HF-181		147.16		-1.370E-01	9.155E-01	1.447E+00	1.184E-01	-0.095
		171.86		-4.412E-01	7.211E-01	1.100E+00	8.761E-02	-0.401
		218.09		-7.541E-01	1.342E+00	2.196E+00	1.833E-01	-0.343
		268.79		4.815E-02	1.337E+00	2.224E+00	1.890E-01	0.022
		319.02		2.110E-01	4.444E-01	7.494E-01	6.427E-02	0.282
		367.43		-1.751E-01	1.623E+00	2.629E+00	2.225E-01	-0.067
		413.65	*	-1.067E-02	3.316E-01	5.357E-01	4.535E-02	-0.020
		56.28		2.028E+00	1.671E+00	2.563E+00	1.874E-01	0.791
		57.53		6.087E+00	1.109E+00	1.740E+00	1.262E-01	3.498
		65.20		-2.725E-01	1.003E+00	1.560E+00	1.154E-01	-0.175
		133.02		-6.050E-02	8.731E-02	1.346E-01	1.130E-02	-0.449
		136.25		7.682E-01	6.222E-01	1.050E+00	8.755E-02	0.732
W-181		345.85		1.765E-01	3.382E-01	5.508E-01	4.706E-02	0.320
		482.03	*	5.748E-02	7.948E-02	1.330E-01	1.170E-02	0.432
		56.28		8.455E-01	6.933E-01	1.064E+00	7.778E-02	0.795
		57.53		2.505E+00	4.596E-01	7.213E-01	5.231E-02	3.473
TA-182		65.20	*	-1.123E-01	4.133E-01	6.427E-01	4.756E-02	-0.175
		67.75		-3.717E-02	1.221E-01	1.989E-01	1.500E-02	-0.187
		100.10		4.151E-02	2.165E-01	3.545E-01	3.139E-02	0.117
		152.43		1.240E-01	4.758E-01	7.669E-01	6.217E-02	0.162
RE-183		222.10		5.034E-01	5.429E-01	9.450E-01	7.911E-02	0.533
		1001.68		-4.579E-01	4.661E+00	7.442E+00	6.661E-01	-0.062
		1121.28		2.803E-01	2.720E-01	4.848E-01	4.095E-02	0.578
		1189.05		1.191E-01	4.239E-01	7.248E-01	5.910E-02	0.164
		1221.42	*	3.540E-01	2.526E-01	4.768E-01	3.899E-02	0.742
		1230.97		6.897E-02	6.004E-01	8.741E-01	7.154E-02	0.079
	+	57.98		1.621E+01	1.369E+00	9.532E-01	6.895E-02	17.011
	+	59.32		9.320E+00	7.867E-01	6.923E-01	4.979E-02	13.463
		67.20		7.275E-02	2.123E-01	3.541E-01	2.658E-02	0.205
		162.32	*	-7.934E-02	1.609E-01	2.484E-01	1.977E-02	-0.319
		208.81		2.410E-02	1.492E+00	2.513E+00	2.082E-01	0.010
		291.72		-2.406E-01	1.642E+00	2.358E+00	2.012E-01	-0.102
RE-184	+	57.98		6.168E+01	5.207E+00	3.626E+00	2.623E-01	17.011
	+	59.32		3.543E+01	2.990E+00	2.631E+00	1.892E-01	13.463
		67.20		2.767E-01	8.072E-01	1.347E+00	1.011E-01	0.205

---- 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		-3.858E-01	5.413E-01	8.253E-01	6.584E-02	-0.467
		216.55		-9.717E-02	4.166E-01	6.945E-01	5.791E-02	-0.140
		252.85	*	-5.221E-02	3.720E-01	6.156E-01	5.225E-02	-0.085
		318.01		3.214E-01	7.833E-01	1.317E+00	1.129E-01	0.244
		792.07		3.194E-01	1.974E+00	3.269E+00	2.992E-01	0.098
		903.28		-1.863E-01	2.306E+00	3.494E+00	3.197E-01	-0.053
		920.93		4.477E-01	1.097E+00	1.825E+00	1.666E-01	0.245
		59.72		2.578E+01	2.176E+00	1.864E+00	1.341E-01	13.827
		61.14		4.791E+00	4.645E-01	6.365E-01	4.604E-02	7.527
		69.30		-3.489E-02	3.471E-01	5.425E-01	4.143E-02	-0.064
		592.07		1.473E-01	4.269E+00	7.152E+00	6.412E-01	0.021
		646.12	*	-2.718E-02	7.508E-02	1.214E-01	1.079E-02	-0.224
		717.42		8.384E-01	1.640E+00	2.803E+00	2.527E-01	0.299
		874.81		1.074E+00	1.383E+00	2.359E+00	2.164E-01	0.455
RE-188	*	880.27		-5.179E-01	1.801E+00	2.865E+00	2.628E-01	-0.181
		155.03		-7.616E-02	2.466E-01	3.856E-01	3.111E-02	-0.198
		477.96		-1.860E+00	6.339E+00	9.973E+00	8.760E-01	-0.186
W-188		633.10		1.847E+00	5.111E+00	8.706E+00	7.764E-01	0.212
		63.58		-5.668E+01	6.038E+01	8.573E+01	6.280E+00	-0.661
IR-192	+	227.08		-2.211E+00	1.891E+01	3.152E+01	2.647E+00	-0.070
		290.67	*	-1.439E+00	1.309E+01	1.886E+01	1.609E+00	-0.076
		295.96		5.894E-01	2.521E-01	3.639E-01	3.132E-02	1.620
		308.46		-5.733E-02	1.596E-01	2.578E-01	2.221E-02	-0.222
		316.51	*	-5.387E-03	5.940E-02	9.728E-02	8.361E-03	-0.055
AU-195	+	468.07		2.302E-02	1.423E-01	2.306E-01	2.157E-02	0.100
		604.41		1.391E-01	8.423E-01	1.242E+00	1.645E-01	0.112
		612.46		4.830E-02	1.404E+00	2.041E+00	2.080E-01	0.024
		65.12		-5.141E-02	1.934E-01	3.009E-01	2.225E-02	-0.171
		66.83		5.833E-02	1.027E-01	1.727E-01	1.293E-02	0.338
		75.70		5.859E-01	2.825E-01	4.563E-01	3.708E-02	1.284
		98.88	*	9.156E-02	2.695E-01	4.447E-01	3.954E-02	0.206
TL-200		129.76		2.469E+00	4.111E+00	6.770E+00	5.719E-01	0.365
		367.94	*	1.354E-06	4.111E+00	Half-Life	too short	
		579.30		5.803E-05	4.111E+00	Half-Life	too short	
		828.27		-2.042E-05	4.111E+00	Half-Life	too short	
TL-201		1205.75		2.393E-06	4.111E+00	Half-Life	too short	
		68.90		-9.112E-01	1.589E+00	2.559E+00	1.947E-01	-0.356
		70.82		3.205E-01	1.002E+00	1.497E+00	1.158E-01	0.214
		80.30		-5.990E-01	2.070E+00	2.987E+00	2.557E-01	-0.201
		135.34		3.408E+00	1.080E+01	1.754E+01	1.465E+00	0.194
TL-202	*	167.43		1.058E+00	3.135E+00	5.048E+00	3.999E-01	0.210
		68.90		-2.096E-01	3.655E-01	5.886E-01	4.479E-02	-0.356
		70.82		7.351E-02	2.297E-01	3.432E-01	2.656E-02	0.214
		80.30		-1.374E-01	4.749E-01	6.854E-01	5.868E-02	-0.201
HG-203	*	439.56		-1.129E-02	1.056E-01	1.692E-01	1.457E-02	-0.067
		70.83		3.979E-01	1.253E+00	1.871E+00	2.445E-01	0.213
		72.87		2.843E-02	7.499E-01	1.104E+00	1.406E-01	0.026
		82.60		-3.300E-01	1.561E+00	2.263E+00	3.137E-01	-0.146
		279.20	*	-2.099E-02	6.403E-02	1.043E-01	9.115E-03	-0.201

----- 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		-6.237E-03	2.382E-01	3.497E-01	2.758E-02	-0.018
	+	74.97		3.317E-01	1.599E-01	2.361E-01	1.904E-02	1.405
		84.90		5.732E-02	2.908E-01	4.293E-01	3.888E-02	0.134
		569.67		-6.609E-03	5.226E-02	8.694E-02	7.796E-03	-0.076
		1063.62	*	-8.901E-02	1.104E-01	1.732E-01	1.511E-02	-0.514
TL-207		1770.23		8.512E-01	8.874E-01	1.558E+00	1.280E-01	0.546
		81.07		-2.673E-01	3.257E-01	4.569E-01	3.947E-02	-0.585
		83.78		8.944E-02	1.910E-01	2.854E-01	2.549E-02	0.313
		94.90		3.775E-01	3.000E-01	4.664E-01	4.217E-02	0.809
	+	122.32		1.569E+01	4.860E+00	5.888E+00	5.431E-01	2.664
		144.24		-1.143E-01	9.795E-01	1.551E+00	1.441E-01	-0.074
		154.21		-5.087E-01	5.970E-01	9.040E-01	8.128E-02	-0.563
		269.46		7.453E-02	3.236E-01	5.431E-01	4.714E-02	0.137
		323.87	*	-1.057E+00	1.185E+00	1.826E+00	3.229E-01	-0.579
	+	338.28		4.098E+00	2.200E+00	3.350E+00	4.110E-01	1.223
		445.03		-4.284E-02	5.014E+00	8.072E+00	9.770E-01	-0.005
	PO-209	260.50		-1.039E+01	1.666E+01	2.684E+01	2.280E+00	-0.387
		262.80		-2.658E+00	4.604E+01	7.635E+01	6.488E+00	-0.035
		896.60	*	2.058E+01	1.878E+01	3.248E+01	2.975E+00	0.634
BI-210		46.50	*	-5.099E+00	3.799E+00	6.064E+00	5.689E-01	-0.841
PB-210		46.50	*	-5.099E+00	3.799E+00	6.064E+00	5.689E-01	-0.841
PO-210		46.50	*	-5.099E+00	3.794E+00	6.064E+00	5.160E-01	-0.841
PB-211		404.84	*	-1.343E+00	2.037E+00	2.878E+00	1.803E+00	-0.467
		427.08		-2.981E-01	4.103E+00	6.591E+00	4.095E+00	-0.045
BI-212		831.96		1.115E-02	2.559E+00	4.176E+00	2.620E+00	0.003
		727.18	*	6.328E-01	5.896E-01	1.033E+00	1.071E-01	0.613
		785.46		-6.841E-01	3.507E+00	5.663E+00	5.178E-01	-0.121
PO-215		1620.62		5.310E-01	1.684E+00	2.903E+00	2.426E-01	0.183
		81.07		-2.673E-01	3.257E-01	4.569E-01	3.947E-02	-0.585
		83.78		8.944E-02	1.910E-01	2.854E-01	2.549E-02	0.313
		94.90		3.775E-01	3.000E-01	4.664E-01	4.217E-02	0.809
	+	122.32		1.569E+01	4.860E+00	5.888E+00	5.431E-01	2.664
		144.24		-1.143E-01	9.795E-01	1.551E+00	1.441E-01	-0.074
		154.21		-5.087E-01	5.970E-01	9.040E-01	8.128E-02	-0.563
		269.46		7.453E-02	3.236E-01	5.431E-01	4.714E-02	0.137
		323.87	*	-1.057E+00	1.185E+00	1.826E+00	3.229E-01	-0.579
	+	338.28		4.098E+00	2.200E+00	3.350E+00	4.110E-01	1.223
		445.03		-4.284E-02	5.014E+00	8.072E+00	9.770E-01	-0.005
	RN-219	271.23		5.201E-01	4.135E-01	7.209E-01	7.360E-02	0.721
		401.81	*	8.416E-02	8.189E-01	1.336E+00	1.990E-01	0.063
RN-220		549.76	*	1.436E+00	4.730E+01	7.959E+01	7.126E+00	0.018
RA-223		81.07		-2.673E-01	3.257E-01	4.569E-01	3.947E-02	-0.585
		83.78		8.944E-02	1.910E-01	2.854E-01	2.549E-02	0.313
		94.90		3.775E-01	3.000E-01	4.664E-01	4.217E-02	0.809
	+	122.32		1.569E+01	4.860E+00	5.888E+00	5.431E-01	2.664
		144.24		-1.143E-01	9.795E-01	1.551E+00	1.441E-01	-0.074
		154.21		-5.087E-01	5.970E-01	9.040E-01	8.128E-02	-0.563
		269.46		7.453E-02	3.236E-01	5.431E-01	4.714E-02	0.137
		323.87	*	-1.057E+00	1.185E+00	1.826E+00	3.229E-01	-0.579

---- 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		4.098E+00	2.200E+00	3.350E+00	4.110E-01	1.223
		445.03		-4.284E-02	5.014E+00	8.072E+00	9.770E-01	-0.005
		79.80		-8.908E-01	2.330E+00	3.337E+00	7.161E-01	-0.267
		236.00		-6.924E-02	4.313E-01	6.292E-01	7.624E-02	-0.110
		256.20	*	4.563E-01	6.280E-01	1.077E+00	1.645E-01	0.424
		286.10		-1.431E-01	2.616E+00	4.317E+00	5.670E-01	-0.033
TH-227		299.80		5.012E+00	2.904E+00	4.505E+00	7.865E-01	1.113
		304.40		-3.829E+00	3.345E+00	5.050E+00	9.296E-01	-0.758
		334.20		2.662E+00	4.509E+00	6.737E+00	1.306E+00	0.395
		79.80		-8.908E-01	2.330E+00	3.337E+00	7.253E-01	-0.267
	+	94.00		4.900E+00	3.386E+00	4.290E+00	9.423E-01	1.142
		236.00		-6.924E-02	4.313E-01	6.292E-01	6.881E-02	-0.110
TH-229		256.20	*	4.563E-01	6.295E-01	1.077E+00	1.938E-01	0.424
		286.10		-1.431E-01	2.620E+00	4.317E+00	4.333E+00	-0.033
		299.80		5.012E+00	2.904E+00	4.505E+00	7.865E-01	1.113
		304.40		-3.829E+00	3.345E+00	5.050E+00	9.296E-01	-0.758
		334.20		2.662E+00	4.509E+00	6.737E+00	1.306E+00	0.395
		85.43		1.836E-01	2.917E-01	4.369E-01	3.983E-02	0.420
PA-231	+	88.47		4.548E+00	5.467E-01	5.365E-01	5.038E-02	8.477
		100.00		2.561E-02	2.346E-01	3.827E-01	3.390E-02	0.067
		193.63	*	-4.576E-01	7.470E-01	1.226E+00	1.001E-01	-0.373
		210.97		5.782E-01	1.208E+00	2.070E+00	1.719E-01	0.279
		283.67	*	4.306E-01	2.627E+00	4.385E+00	6.630E-01	0.098
		301.29		-1.775E-02	1.063E+00	1.695E+00	2.067E-01	-0.010
TH-231		81.07		-2.673E-01	3.257E-01	4.569E-01	3.947E-02	-0.585
		83.78		8.944E-02	1.910E-01	2.854E-01	2.549E-02	0.313
		94.90		3.775E-01	3.000E-01	4.664E-01	4.217E-02	0.809
	+	122.32		1.569E+01	4.860E+00	5.888E+00	5.431E-01	2.664
		144.24		-1.143E-01	9.795E-01	1.551E+00	1.441E-01	-0.074
		154.21		-5.087E-01	5.970E-01	9.040E-01	8.128E-02	-0.563
U-231		269.46		7.453E-02	3.236E-01	5.431E-01	4.714E-02	0.137
		323.87	*	-1.057E+00	1.185E+00	1.826E+00	3.229E-01	-0.579
	+	338.28		4.098E+00	2.200E+00	3.350E+00	4.110E-01	1.223
		445.03		-4.284E-02	5.014E+00	8.072E+00	9.770E-01	-0.005
		84.21		1.755E+00	3.303E+00	4.949E+00	4.443E-01	0.355
	+	92.29		1.956E+00	1.293E+00	1.759E+00	1.612E-01	1.112
PA-233		95.87	*	4.563E-01	5.604E-01	8.541E-01	7.688E-02	0.534
		108.00		-1.148E+00	1.138E+00	1.743E+00	1.514E-01	-0.658
	+	75.28		9.684E+00	4.828E+00	7.170E+00	1.080E+00	1.350
	+	86.59		6.521E+01	1.832E+01	6.580E+00	1.779E+00	9.910
		300.12		1.115E+00	8.000E-01	1.244E+00	1.845E-01	0.897
		311.98	*	6.770E-02	1.163E-01	1.971E-01	1.738E-02	0.343
PA-234		340.50		8.078E-01	1.287E+00	1.909E+00	4.545E-01	0.423
		398.62		-2.816E+00	4.340E+00	6.676E+00	1.773E+00	-0.422
		415.76		-5.708E-01	3.245E+00	5.191E+00	1.116E+00	-0.110
		63.00		-2.136E+00	1.914E+00	2.662E+00	3.942E-01	-0.803
		94.67		3.221E-01	2.229E-01	3.459E-01	4.395E-02	0.931
		98.44		3.592E-02	1.142E-01	1.855E-01	1.036E-01	0.194
		99.86		6.888E-02	5.939E-01	9.691E-01	8.589E-02	0.071

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		1.178E-01	2.423E-01	4.001E-01	4.845E-02	0.294
		131.20		-2.344E-02	1.542E-01	2.452E-01	2.066E-02	-0.096
		152.70		2.235E-01	4.724E-01	7.675E-01	1.289E-01	0.291
	+	186.00		5.498E+00	4.311E+00	3.589E+00	1.115E+00	1.532
		226.40		-6.090E-02	6.271E-01	1.046E+00	1.366E-01	-0.058
		227.20		-1.572E-01	6.755E-01	1.120E+00	9.404E-02	-0.140
		248.90		3.512E-01	1.312E+00	2.214E+00	4.950E-01	0.159
	+	293.70		3.906E+00	1.770E+00	2.215E+00	3.823E-01	1.764
		369.80		1.474E+00	1.583E+00	2.668E+00	5.794E-01	0.552
		568.70		-4.930E-01	1.678E+00	2.757E+00	2.472E-01	-0.179
		569.50		-8.227E-02	4.622E-01	7.659E-01	6.868E-02	-0.107
		574.00		-9.984E-02	2.655E+00	4.435E+00	3.977E-01	-0.023
		699.00		2.151E-01	1.325E+00	2.214E+00	4.260E-01	0.097
		706.10		1.304E+00	1.993E+00	3.302E+00	1.475E+00	0.395
		733.00		-8.295E-01	7.634E-01	1.117E+00	2.499E-01	-0.743
		742.81		-3.010E-01	2.509E+00	4.076E+00	2.742E+00	-0.074
		796.30		2.483E+00	1.950E+00	3.275E+00	8.915E-01	0.758
		805.60		-2.754E-01	2.032E+00	3.286E+00	1.012E+00	-0.084
		819.60		-8.782E-01	2.646E+00	4.179E+00	1.594E+00	-0.210
		826.30		-4.714E-01	1.775E+00	2.819E+00	1.264E+00	-0.167
		831.60		-1.840E-01	1.291E+00	2.082E+00	6.247E-01	-0.088
		876.40		1.135E+00	2.384E+00	3.501E+00	3.600E+00	0.324
		880.51		-2.021E-01	6.777E-01	1.077E+00	9.880E-02	-0.188
		883.24		-8.576E-03	6.766E-01	1.098E+00	7.389E-01	-0.008
		899.00		-1.678E+00	2.270E+00	3.299E+00	1.446E+00	-0.509
		925.00		-4.565E-01	3.042E+00	4.872E+00	4.445E-01	-0.094
		926.50		2.007E-01	4.485E-01	7.429E-01	1.891E-01	0.270
		946.00	*	4.562E-02	8.065E-01	1.308E+00	2.482E-01	0.035
		949.00		-2.570E-01	1.170E+00	1.862E+00	1.691E-01	-0.138
		980.50		-1.221E+00	1.783E+00	2.717E+00	2.448E-01	-0.449
		1394.10		3.945E-01	1.645E+00	2.770E+00	1.802E+00	0.142
PA-234M		766.42		2.131E+01	2.330E+01	3.651E+01	1.856E+01	0.584
		1001.03	*	-8.849E+00	1.118E+01	1.686E+01	1.729E+00	-0.525
TH-234		63.29	*	-1.834E+00	1.638E+00	2.264E+00	3.939E-01	-0.810
	+	92.38		1.268E+00	8.625E-01	1.144E+00	2.099E-01	1.108
U-235		89.95		8.663E+00	3.275E+00	2.877E+00	8.935E-01	3.011
	+	93.35		1.525E+00	1.087E+00	1.399E+00	3.943E-01	1.089
		105.00		1.853E+00	1.512E+00	2.419E+00	7.228E-01	0.766
		143.76	*	-4.810E-02	3.012E-01	4.758E-01	8.241E-02	-0.101
		163.35		3.074E-02	7.355E-01	1.168E+00	2.195E-01	0.026
	+	185.71		2.036E-01	1.475E-01	1.326E-01	1.073E-02	1.536
		205.31		4.049E-01	8.175E-01	1.399E+00	2.648E-01	0.289
NP-236		94.67		2.458E-01	1.677E-01	2.625E-01	2.376E-02	0.936
		98.44		2.713E-02	8.505E-02	1.402E-01	1.249E-02	0.193
		111.00		8.910E-02	1.831E-01	3.027E-01	2.617E-02	0.294
		160.31	*	-1.122E-01	1.242E-01	1.872E-01	1.496E-02	-0.599
NP-237		86.50	*	4.968E+00	1.227E+00	9.420E-01	2.130E-01	5.274
		95.87		9.964E-01	1.245E+00	1.865E+00	4.620E-01	0.534
U-238		63.29	*	-1.834E+00	1.638E+00	2.264E+00	3.939E-01	-0.810

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.38		1.268E+00	8.386E-01	1.144E+00	1.048E-01	1.108
		99.55		5.511E-02	1.930E-01	3.176E-01	2.817E-02	0.174
		117.00	*	5.113E-02	2.915E-01	4.233E-01	3.642E-02	0.121
		209.75		2.210E-01	1.254E+00	2.126E+00	1.763E-01	0.104
		228.18		-6.380E-02	3.542E-01	5.884E-01	4.945E-02	-0.108
		277.60		3.156E-01	3.050E-01	5.291E-01	4.492E-02	0.596
CM-243		334.30		1.595E+00	2.546E+00	3.833E+00	3.283E-01	0.416
		99.55		5.669E-02	1.985E-01	3.267E-01	2.898E-02	0.174
		103.76	*	1.001E-01	1.300E-01	2.177E-01	1.908E-02	0.460
		117.00		5.258E-02	2.997E-01	4.353E-01	3.745E-02	0.121
		209.75		2.178E-01	1.236E+00	2.095E+00	1.737E-01	0.104
		228.18		-6.445E-02	3.577E-01	5.944E-01	4.995E-02	-0.108
AM-246		277.60		3.180E-01	3.074E-01	5.332E-01	4.527E-02	0.596
		798.80		-3.043E-01	2.942E-01	4.425E-01	4.052E-02	-0.688
		1036.00		-2.630E-01	6.766E-01	1.105E+00	9.761E-02	-0.238
		1062.04		-3.356E-01	4.863E-01	7.716E-01	6.737E-02	-0.435
		1078.86	*	1.629E-01	3.067E-01	5.322E-01	4.608E-02	0.306
		278.00		8.986E-01	1.265E+00	2.166E+00	1.839E-01	0.415
CM-247		287.40		-1.170E+00	2.140E+00	3.436E+00	2.927E-01	-0.340
		402.60	*	7.114E-02	7.336E-02	1.251E-01	1.050E-02	0.569
		252.85		-2.004E-01	1.428E+00	2.363E+00	2.005E-01	-0.085
CF-249		333.44		1.157E-01	3.143E-01	4.891E-01	4.190E-02	0.237
		387.95	*	9.966E-03	7.631E-02	1.250E-01	1.043E-02	0.080
CF-251		176.60	*	4.088E-02	1.809E-01	3.100E-01	2.483E-02	0.132
		227.00		-5.281E-02	6.002E-01	1.002E+00	8.414E-02	-0.053
		285.00		1.732E+00	2.994E+00	5.097E+00	4.338E-01	0.340

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]G1202001377
* Acquisition date   : 31-DEC-2009 15:32:35 Detector SN#      :
* Detector ID        : GAM07 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 01:00:01.31 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 22-DEC-2009 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202001377 Analyst initials: MXR1
* Batch Number       : 935341 Sample Quantity : 1.5544E+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	3.740E-01	4.744E-01	6.858E-01	0.000E+00
CO-57	2.238E-01	6.755E-02	6.053E-02	0.000E+00
CO-60	6.786E+00	6.443E-01	9.138E-02	0.000E+00
CD-109	3.361E+01	3.960E+00	1.950E+00	0.000E+00
SN-126	3.331E+00	3.924E-01	1.937E-01	0.000E+00
BA-137M	5.601E+00	5.532E-01	1.116E-01	0.000E+00
CS-137	5.921E+00	5.856E-01	1.180E-01	0.000E+00
TL-208	2.654E-01	1.051E-01	1.211E-01	0.000E+00
BI-211	2.174E+00	6.597E-01	6.369E-01	0.000E+00
PB-212	9.569E-01	1.816E-01	1.604E-01	0.000E+00
PO-212	9.569E-01	1.816E-01	1.604E-01	0.000E+00
BI-214	7.911E-01	2.486E-01	2.168E-01	0.000E+00
PB-214	7.562E-01	2.327E-01	2.085E-01	0.000E+00
PO-214	7.562E-01	2.327E-01	2.085E-01	0.000E+00
PO-216	9.569E-01	1.816E-01	1.604E-01	0.000E+00
PO-218	7.562E-01	2.327E-01	2.085E-01	0.000E+00
RA-224	2.410E+00	1.162E+00	2.069E+00	0.000E+00
RA-226	7.911E-01	2.486E-01	2.168E-01	0.000E+00
AC-228	8.426E-01	5.242E-01	4.580E-01	0.000E+00
RA-228	8.426E-01	5.242E-01	4.580E-01	0.000E+00
TH-228	9.661E-01	1.834E-01	1.620E-01	0.000E+00
TH-230	7.911E-01	2.486E-01	2.168E-01	0.000E+00
TH-232	8.426E-01	5.242E-01	4.580E-01	0.000E+00
U-234	7.911E-01	2.486E-01	2.168E-01	0.000E+00
AM-241	1.404E+01	1.249E+00	4.164E-01	0.000E+00
AM-243	1.849E-01	8.735E-02	1.220E-01	0.000E+00
ANH-511	9.254E-03	1.008E-01	1.042E-01	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	-1.955E-01	6.420E-01	1.072E+00	0.000E+00	NOT IDENT.
NA-22	-4.200E-02	4.868E-02	7.142E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.744E+03	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.502E-02	3.348E-02	4.968E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.113E-02	8.973E-02	0.000E+00	FAIL ABUN
SC-46	-2.955E-02	8.931E-02	1.478E-01	0.000E+00	NOT IDENT.
V-48	-2.810E-02	1.333E-01	2.199E-01	0.000E+00	NOT IDENT.
CR-51	5.557E-03	5.597E-01	9.876E-01	0.000E+00	NOT IDENT.
MN-52	-2.472E-02	1.250E-01	2.013E-01	0.000E+00	FAIL ABUN
MN-54	-4.094E-02	7.650E-02	1.253E-01	0.000E+00	NOT IDENT.
CO-56	-6.854E-02	8.215E-02	1.310E-01	0.000E+00	FAIL ABUN
CO-58	4.329E-02	7.288E-02	1.300E-01	0.000E+00	NOT IDENT.
FE-59	-7.234E-02	1.731E-01	2.908E-01	0.000E+00	NOT IDENT.
ZN-65	-2.776E-01	1.872E-01	2.877E-01	0.000E+00	NOT IDENT.
GE-68	1.418E+00	2.597E+00	4.678E+00	0.000E+00	NOT IDENT.
AS-73	-1.371E+00	1.223E+00	2.206E+00	0.000E+00	NOT IDENT.
AS-74	7.472E-03	1.255E-01	2.221E-01	0.000E+00	NOT IDENT.
SE-75	3.943E-02	7.205E-02	1.323E-01	0.000E+00	FAIL ABUN
BR-77	-9.820E-01	3.930E+00	6.908E+00	0.000E+00	FAIL ABUN
SR-82	-9.621E-02	6.803E-01	1.157E+00	0.000E+00	NOT IDENT.
RB-83	-4.084E-02	1.226E-01	2.144E-01	0.000E+00	NOT IDENT.
RB-84	-1.278E-01	1.501E-01	2.386E-01	0.000E+00	NOT IDENT.
KR-85	1.137E+01	1.527E+01	2.505E+01	0.000E+00	NOT IDENT.
SR-85	5.503E-02	7.388E-02	1.212E-01	0.000E+00	NOT IDENT.
RB-86	8.971E-01	1.351E+00	2.452E+00	0.000E+00	NOT IDENT.
Y-88	-2.780E-03	4.920E-02	8.285E-02	0.000E+00	NOT IDENT.
ZR-88	-1.002E-02	5.636E-02	9.662E-02	0.000E+00	NOT IDENT.
Y-91	8.751E-01	2.178E+01	3.758E+01	0.000E+00	NOT IDENT.
NB-94	-1.611E-02	6.355E-02	1.083E-01	0.000E+00	NOT IDENT.
NB-95	4.982E-02	6.973E-02	1.265E-01	0.000E+00	NOT IDENT.
NB-95M	-1.294E-01	2.123E-01	3.252E-01	0.000E+00	NOT IDENT.
ZR-95	-1.046E-01	1.192E-01	1.897E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.056E+03	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.764E+04	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.228E+00	5.539E+00	9.398E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.412E+10	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.036E-02	4.779E-02	8.907E-02	0.000E+00	NOT IDENT.
RH-102	4.141E-02	6.354E-02	1.120E-01	0.000E+00	NOT IDENT.
RU-103	1.456E-02	7.107E-02	1.221E-01	0.000E+00	FAIL ABUN
RH-106	1.038E-01	5.876E-01	1.043E+00	0.000E+00	FAIL ABUN
RU-106	1.038E-01	5.875E-01	1.043E+00	0.000E+00	FAIL ABUN
AG-108M	-7.949E-03	6.464E-02	1.101E-01	0.000E+00	NOT IDENT.
AG-110M	-1.154E-02	8.014E-02	1.199E-01	0.000E+00	NOT IDENT.
IN-111	-2.442E-01	4.720E-01	7.206E-01	0.000E+00	NOT IDENT.
IN-113M	-6.037E-04	8.043E-02	1.393E-01	0.000E+00	NOT IDENT.
SN-113	-6.037E-04	8.043E-02	1.393E-01	0.000E+00	NOT IDENT.
IN-114M	1.350E-01	2.705E-01	4.519E-01	0.000E+00	NOT IDENT.
CD-115	-1.500E+00	3.583E+00	6.216E+00	0.000E+00	NOT IDENT.
SN-117M	3.450E-02	6.138E-02	1.093E-01	0.000E+00	NOT IDENT.
SB-122	9.484E-02	8.589E-01	1.534E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.094E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.993E-02	4.064E-02	7.293E-02	0.000E+00	NOT IDENT.
I-124	8.573E-02	4.639E-01	7.828E-01	0.000E+00	NOT IDENT.
SB-124	1.579E-02	8.220E-02	1.429E-01	0.000E+00	FAIL ABUN
SB-125	-9.255E-02	1.811E-01	3.014E-01	0.000E+00	NOT IDENT.
TE-125M	-5.061E+00	1.143E+01	1.989E+01	0.000E+00	NOT IDENT.
I-126	2.348E-02	2.774E-01	4.234E-01	0.000E+00	NOT IDENT.
SB-126	-4.397E-02	1.879E-01	3.194E-01	0.000E+00	FAIL ABUN
SB-127	-6.179E-01	8.850E-01	1.451E+00	0.000E+00	NOT IDENT.
XE-127	-6.389E-02	6.395E-02	1.116E-01	0.000E+00	NOT IDENT.
I-131	-8.352E-02	1.290E-01	2.159E-01	0.000E+00	NOT IDENT.
TE-132	-5.998E-02	3.301E-01	5.933E-01	0.000E+00	NOT IDENT.
BA-133	-4.534E-02	8.459E-02	1.248E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.311E+02	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.419E-01	9.316E-02	1.744E-01	0.000E+00	NOT IDENT.
CS-135	1.178E-01	2.597E-01	4.742E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.393E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.188E-02	1.734E-01	2.970E-01	0.000E+00	NOT IDENT.
CE-139	-1.529E-02	4.597E-02	7.807E-02	0.000E+00	NOT IDENT.
BA-140	6.939E-02	3.560E-01	6.396E-01	0.000E+00	NOT IDENT.
LA-140	5.454E-02	9.388E-02	1.713E-01	0.000E+00	NOT IDENT.
CE-141	1.064E-02	7.772E-02	1.365E-01	0.000E+00	NOT IDENT.
CE-143	2.204E+01	1.630E+01	2.661E+01	0.000E+00	FAIL ABUN
CE-144	-3.587E-01	3.013E-01	4.892E-01	0.000E+00	NOT IDENT.
PM-144	-5.976E-02	6.320E-02	1.019E-01	0.000E+00	NOT IDENT.
PR-144	-4.038E+00	4.270E+00	6.888E+00	0.000E+00	NOT IDENT.
PM-146	-4.447E-02	9.068E-02	1.498E-01	0.000E+00	NOT IDENT.
ND-147	-3.878E-01	6.966E-01	1.192E+00	0.000E+00	NOT IDENT.

PM-149	5.507E-01	2.733E+01	4.870E+01	0.000E+00	NOT IDENT.
EU-152	-7.584E-02	1.921E-01	3.176E-01	0.000E+00	FAIL ABUN
GD-153	-4.287E-02	1.061E-01	1.654E-01	0.000E+00	NOT IDENT.
EU-154	-1.090E-01	1.347E-01	1.989E-01	0.000E+00	FAIL ABUN
EU-155	1.208E-01	1.423E-01	2.633E-01	0.000E+00	FAIL ABUN
TB-160	1.342E-01	3.112E-01	5.428E-01	0.000E+00	FAIL ABUN
HO-166M	-1.866E-02	1.122E-01	1.921E-01	0.000E+00	FAIL ABUN
TM-171	1.830E+01	3.091E+01	5.799E+01	0.000E+00	FAIL ABUN
LU-176	8.220E-03	4.108E-02	7.348E-02	0.000E+00	FAIL ABUN
LU-177	5.108E-01	9.680E-01	1.802E+00	0.000E+00	NOT IDENT.
LU-177M	-1.067E-02	3.250E-01	5.592E-01	0.000E+00	FAIL ABUN
HF-181	5.748E-02	7.789E-02	1.383E-01	0.000E+00	NOT IDENT.
W-181	-1.123E-01	4.050E-01	7.029E-01	0.000E+00	NOT IDENT.
TA-182	3.540E-01	2.476E-01	4.833E-01	0.000E+00	NOT IDENT.
RE-183	-7.934E-02	1.577E-01	2.656E-01	0.000E+00	FAIL ABUN
RE-184	-5.221E-02	3.646E-01	6.510E-01	0.000E+00	FAIL ABUN
OS-185	-2.718E-02	7.358E-02	1.252E-01	0.000E+00	FAIL ABUN
RE-188	-7.616E-02	2.416E-01	4.128E-01	0.000E+00	NOT IDENT.
W-188	-1.439E+00	1.283E+01	1.987E+01	0.000E+00	NOT IDENT.
IR-192	-5.387E-03	5.821E-02	1.023E-01	0.000E+00	FAIL ABUN
AU-195	9.156E-02	2.641E-01	4.814E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.469E+01	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.058E+00	3.073E+00	5.394E+00	0.000E+00	NOT IDENT.
TL-202	-1.129E-02	1.035E-01	1.763E-01	0.000E+00	NOT IDENT.
HG-203	-2.099E-02	6.275E-02	1.101E-01	0.000E+00	NOT IDENT.
BI-207	-8.901E-02	1.082E-01	1.763E-01	0.000E+00	FAIL ABUN
TL-207	-1.057E+00	1.161E+00	1.919E+00	0.000E+00	FAIL ABUN
PO-209	2.058E+01	1.840E+01	3.321E+01	0.000E+00	NOT IDENT.
BI-210	-5.099E+00	3.723E+00	6.686E+00	0.000E+00	NOT IDENT.
PB-210	-5.099E+00	3.723E+00	6.686E+00	0.000E+00	NOT IDENT.
PO-210	-5.099E+00	3.718E+00	6.686E+00	0.000E+00	NOT IDENT.
PB-211	-1.343E+00	1.996E+00	3.006E+00	0.000E+00	NOT IDENT.
BI-212	6.328E-01	5.778E-01	1.062E+00	0.000E+00	NOT IDENT.
PO-215	-1.057E+00	1.161E+00	1.919E+00	0.000E+00	FAIL ABUN
RN-219	8.416E-02	8.025E-01	1.395E+00	0.000E+00	NOT IDENT.
RN-220	1.436E+00	4.635E+01	8.246E+01	0.000E+00	NOT IDENT.
RA-223	-1.057E+00	1.161E+00	1.919E+00	0.000E+00	FAIL ABUN
AC-227	4.563E-01	6.155E-01	1.138E+00	0.000E+00	NOT IDENT.
TH-227	4.563E-01	6.170E-01	1.138E+00	0.000E+00	FAIL ABUN
TH-229	-4.576E-01	7.321E-01	1.305E+00	0.000E+00	FAIL ABUN
PA-231	4.306E-01	2.574E+00	4.623E+00	0.000E+00	NOT IDENT.
TH-231	-1.057E+00	1.161E+00	1.919E+00	0.000E+00	FAIL ABUN
U-231	4.563E-01	5.492E-01	9.254E-01	0.000E+00	FAIL ABUN
PA-233	6.770E-02	1.140E-01	2.073E-01	0.000E+00	FAIL ABUN
PA-234	4.562E-02	7.903E-01	1.335E+00	0.000E+00	FAIL ABUN
PA-234M	-8.849E+00	1.095E+01	1.718E+01	0.000E+00	NOT IDENT.
TH-234	-1.834E+00	1.605E+00	2.477E+00	0.000E+00	FAIL ABUN
U-235	-4.810E-02	2.951E-01	5.104E-01	0.000E+00	FAIL ABUN
NP-236	-1.122E-01	1.217E-01	2.002E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	1.203E+00	1.023E+00	0.000E+00	NOT IDENT.
U-238	-1.834E+00	1.605E+00	2.477E+00	0.000E+00	FAIL ABUN
NP-239	5.113E-02	2.856E-01	4.564E-01	0.000E+00	NOT IDENT.
CM-243	1.001E-01	1.274E-01	2.354E-01	0.000E+00	NOT IDENT.
AM-246	1.629E-01	3.006E-01	5.413E-01	0.000E+00	NOT IDENT.
CM-247	7.114E-02	7.189E-02	1.306E-01	0.000E+00	NOT IDENT.
CF-249	9.966E-03	7.478E-02	1.307E-01	0.000E+00	NOT IDENT.
CF-251	4.088E-02	1.773E-01	3.309E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001377.CNF;1
Sample date        : 22-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 15:32:35
Sample ID          : G1202001377 Sample quantity : 1.55440E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00 Elapsed real time: 0 01:00:01.31 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 935341 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	9	10.67*	1.129E+00	3.740E-01	3.740E-01	129.44
CO-57	122.06	273	85.51*	7.075E+00	2.183E-01	2.238E-01	30.80
	136.48	-----	10.60	6.835E+00	-----	Line Not Found	-----
CO-60	1173.22	1825	100.00	1.358E+00	6.491E+00	6.513E+00	9.62
	1332.49	1705	100.00*	1.218E+00	6.762E+00	6.786E+00	9.69
CD-109	88.03	1752	3.72*	6.868E+00	3.313E+01	3.361E+01	12.02
SN-126	64.28	-----	9.60	4.930E+00	-----	Line Not Found	-----
	86.94	1752	8.90	6.868E+00	1.385E+01	1.385E+01	42.20
	87.57	1752	37.00*	6.868E+00	3.331E+00	3.331E+00	12.02
BA-137M	661.65	2327	89.98*	2.232E+00	5.598E+00	5.601E+00	10.08
CS-137	661.65	2327	85.12*	2.232E+00	5.917E+00	5.921E+00	10.09
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	5	21.60	2.756E+00	4.284E-02	4.284E-02	1111.29
	583.14	115	84.20*	2.477E+00	2.654E-01	2.654E-01	40.43
	860.37	-----	12.46	1.783E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	214	12.94*	3.680E+00	2.174E+00	2.174E+00	30.97
PB-212	74.81	153	10.70	6.070E+00	1.140E+00	1.140E+00	49.11
	77.11	256	18.00	6.255E+00	1.098E+00	1.098E+00	30.80
	87.30	1752	8.00	6.868E+00	1.541E+01	1.541E+01	15.64
	238.63	434	44.60*	4.910E+00	9.569E-01	9.569E-01	19.37
	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
PO-212	74.81	153	10.70	6.070E+00	1.140E+00	1.140E+00	49.11
	77.11	256	18.00	6.255E+00	1.098E+00	1.098E+00	30.80
	87.30	1752	8.00	6.868E+00	1.541E+01	1.541E+01	15.64
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	434	44.60*	4.910E+00	9.569E-01	9.569E-01	19.37
	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
BI-214	609.31	181	46.30*	2.388E+00	7.911E-01	7.911E-01	32.06
	1120.29	-----	15.10	1.414E+00	-----	Line Not Found	-----
	1764.49	26	15.80	9.832E-01	8.235E-01	8.235E-01	67.67
PB-214	74.81	153	6.21	6.070E+00	1.965E+00	1.965E+00	48.78

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	256	10.50	6.255E+00	1.882E+00	1.882E+00	31.73
	87.30	1752	4.67	6.868E+00	2.639E+01	2.639E+01	14.28
	241.98	96	7.49	4.868E+00	1.271E+00	1.271E+00	49.51
	295.21	136	19.20	4.203E+00	8.138E-01	8.138E-01	43.22
	351.92	214	37.20*	3.680E+00	7.562E-01	7.562E-01	31.40
	74.81	153	6.21	6.070E+00	1.965E+00	1.965E+00	48.78
	77.11	256	10.50	6.255E+00	1.882E+00	1.882E+00	31.73
	87.30	1752	4.67	6.868E+00	2.639E+01	2.639E+01	14.28
	241.98	96	7.49	4.868E+00	1.271E+00	1.271E+00	49.51
	295.21	136	19.20	4.203E+00	8.138E-01	8.138E-01	43.22
PO-216	351.92	214	37.20*	3.680E+00	7.562E-01	7.562E-01	31.40
	74.81	153	10.70	6.070E+00	1.140E+00	1.140E+00	49.11
	77.11	256	18.00	6.255E+00	1.098E+00	1.098E+00	30.80
	87.30	1752	8.00	6.868E+00	1.541E+01	1.541E+01	15.64
	238.63	434	44.60*	4.910E+00	9.569E-01	9.569E-01	19.37
PO-218	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
	74.81	153	6.21	6.070E+00	1.965E+00	1.965E+00	48.78
	77.11	256	10.50	6.255E+00	1.882E+00	1.882E+00	31.73
	87.30	1752	4.67	6.868E+00	2.639E+01	2.639E+01	14.28
	241.98	96	7.49	4.868E+00	1.271E+00	1.271E+00	49.51
	295.21	136	19.20	4.203E+00	8.138E-01	8.138E-01	43.22
	351.92	214	37.20*	3.680E+00	7.562E-01	7.562E-01	31.40
RA-224	240.98	96	3.95*	4.868E+00	2.410E+00	2.410E+00	49.19
RA-226	609.31	181	46.30*	2.388E+00	7.911E-01	7.911E-01	32.06
AC-228	1120.29	-----	15.10	1.414E+00	-----	Line Not Found	-----
	1764.49	26	15.80	9.832E-01	8.235E-01	8.235E-01	67.67
	338.32	88	11.40	3.792E+00	9.813E-01	9.813E-01	66.59
	911.07	82	27.70*	1.697E+00	8.426E-01	8.426E-01	63.48
	969.11	85	16.60	1.606E+00	1.548E+00	1.548E+00	49.96
RA-228	338.32	88	11.40	3.792E+00	9.813E-01	9.813E-01	66.59
	911.07	82	27.70*	1.697E+00	8.426E-01	8.426E-01	63.48
	969.11	85	16.60	1.606E+00	1.548E+00	1.548E+00	49.96
TH-228	74.81	153	10.70	6.070E+00	1.140E+00	1.151E+00	48.23
	77.11	256	18.00	6.255E+00	1.098E+00	1.108E+00	30.80
	87.30	1752	8.00	6.868E+00	1.541E+01	1.555E+01	12.02
	238.63	434	44.60*	4.910E+00	9.569E-01	9.661E-01	19.37
TH-230	300.09	-----	3.41	4.151E+00	-----	Line Not Found	-----
	609.31	181	46.30*	2.388E+00	7.911E-01	7.911E-01	32.06
	1120.29	-----	15.10	1.414E+00	-----	Line Not Found	-----
TH-232	1764.49	26	15.80	9.832E-01	8.235E-01	8.235E-01	67.67
	338.32	88	11.40	3.792E+00	9.813E-01	9.813E-01	52.97
	911.07	82	27.70*	1.697E+00	8.426E-01	8.426E-01	63.48
	969.11	85	16.60	1.606E+00	1.548E+00	1.548E+00	49.96
U-234	609.31	181	46.30*	2.388E+00	7.911E-01	7.911E-01	32.06
	1120.29	-----	15.10	1.414E+00	-----	Line Not Found	-----
	1764.49	26	15.80	9.832E-01	8.235E-01	8.235E-01	67.67
AM-241	59.54	4421	35.90*	4.237E+00	1.404E+01	1.404E+01	9.08
AM-243	74.67	153	66.00*	6.070E+00	1.849E-01	1.849E-01	48.21
	86.72	1752	0.34	6.868E+00	3.668E+02	3.668E+02	12.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	5	100.00*	2.756E+00	9.254E-03	9.254E-03	1111.26

Flag: "*" = Keyline

Total number of lines in spectrum 23
Number of unidentified lines 0
Number of lines tentatively identified by NID 23 100.00%

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	3.740E-01	3.740E-01	4.841E-01	129.44	
CO-57	270.90D	1.03	2.183E-01	2.238E-01	0.689E-01	30.80	
CO-60	5.27Y	1.00	6.762E+00	6.786E+00	0.657E+00	9.69	
CD-109	464.00D	1.01	3.313E+01	3.361E+01	0.404E+01	12.02	
SN-126	1.00E+05Y	1.00	3.331E+00	3.331E+00	0.400E+00	12.02	
BA-137M	30.17Y	1.00	5.598E+00	5.601E+00	0.564E+00	10.08	
CS-137	30.17Y	1.00	5.917E+00	5.921E+00	0.598E+00	10.09	
TL-208	1.41E+10Y	1.00	2.654E-01	2.654E-01	1.073E-01	40.43	
BI-211	7.04E+08Y	1.00	2.174E+00	2.174E+00	0.673E+00	30.97	
PB-212	1.41E+10Y	1.00	9.569E-01	9.569E-01	1.853E-01	19.37	
PO-212	1.41E+10Y	1.00	9.569E-01	9.569E-01	1.853E-01	19.37	
BI-214	1600.00Y	1.00	7.911E-01	7.911E-01	2.536E-01	32.06	
PB-214	1600.00Y	1.00	7.562E-01	7.562E-01	2.375E-01	31.40	
PO-214	1600.00Y	1.00	7.562E-01	7.562E-01	2.375E-01	31.40	
PO-216	1.41E+10Y	1.00	9.569E-01	9.569E-01	1.853E-01	19.37	
PO-218	1600.00Y	1.00	7.562E-01	7.562E-01	2.375E-01	31.40	
RA-224	1.41E+10Y	1.00	2.410E+00	2.410E+00	1.186E+00	49.19	
RA-226	1600.00Y	1.00	7.911E-01	7.911E-01	2.536E-01	32.06	
AC-228	1.41E+10Y	1.00	8.426E-01	8.426E-01	5.349E-01	63.48	
RA-228	1.41E+10Y	1.00	8.426E-01	8.426E-01	5.349E-01	63.48	
TH-228	1.91Y	1.01	9.569E-01	9.661E-01	1.871E-01	19.37	
TH-230	4.47E+09Y	1.00	7.911E-01	7.911E-01	2.536E-01	32.06	
TH-232	1.41E+10Y	1.00	8.426E-01	8.426E-01	5.349E-01	63.48	
U-234	4.47E+09Y	1.00	7.911E-01	7.911E-01	2.536E-01	32.06	
AM-241	432.20Y	1.00	1.404E+01	1.404E+01	0.127E+01	9.08	
AM-243	7380.00Y	1.00	1.849E-01	1.849E-01	0.891E-01	48.21	
ANH-511	1.00E+09Y	1.00	9.254E-03	9.254E-03	102.8E-03	1111.26	
Total Activity :			8.620E+01	8.673E+01			

Grand Total Activity : 8.620E+01 8.673E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202001377

Page : 5
Acquisition date : 31-DEC-2009 15:32:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.06	100	304	1.52	185.76	182	8	2.77E-02	65.5	7.03E+00	T
0	185.80	132	441	1.44	371.21	364	15	3.68E-02	72.0	5.82E+00	T
0	1238.91	14	18	1.08	2477.16	2469	11	3.91E-03	****	1.30E+00	T

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202001377.CNF;1
* Acquisition date   : 31-DEC-2009 15:32:35  Detector SN#      :
* Detector ID        : GAM07                  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 01:00:01.31          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202001377          Analyst initials: MXR1
* Batch Number       : 935341               Sample Quantity : 1.55440E+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	3.740E-01	4.841E-01	6.800E-01	5.839E-02	0.550
CO-57	2.238E-01	6.893E-02	5.620E-02	4.836E-03	3.982
CO-60	6.786E+00	6.575E-01	9.038E-02	7.403E-03	75.083
CD-109	3.361E+01	4.040E+00	1.796E+00	1.692E-01	18.715
SN-126	3.331E+00	4.004E-01	1.784E-01	1.671E-02	18.674
BA-137M	5.601E+00	5.645E-01	1.082E-01	9.579E-03	51.746
CS-137	5.921E+00	5.976E-01	1.144E-01	1.014E-02	51.746
TL-208	2.654E-01	1.073E-01	1.171E-01	1.120E-02	2.266
BI-211	2.174E+00	6.732E-01	6.075E-01	5.450E-02	3.579
PB-212	9.569E-01	1.853E-01	1.515E-01	1.449E-02	6.316
PO-212	9.569E-01	1.853E-01	1.515E-01	1.449E-02	6.316
BI-214	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
PB-214	7.562E-01	2.375E-01	1.989E-01	2.064E-02	3.802
PO-214	7.562E-01	2.375E-01	1.989E-01	2.064E-02	3.802
PO-216	9.569E-01	1.853E-01	1.515E-01	1.449E-02	6.316
PO-218	7.562E-01	2.375E-01	1.989E-01	2.064E-02	3.802
RA-224	2.410E+00	1.186E+00	1.954E+00	1.653E-01	1.233
RA-226	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
RA-228	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
TH-228	9.661E-01	1.871E-01	1.530E-01	1.463E-02	6.316
TH-230	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
TH-232	8.426E-01	5.349E-01	4.481E-01	5.221E-02	1.880
U-234	7.911E-01	2.536E-01	2.098E-01	2.171E-02	3.770
AM-241	1.404E+01	1.274E+00	3.799E-01	3.012E-02	36.948
AM-243	1.849E-01	8.913E-02	1.119E-01	8.996E-03	1.652
ANH-511	9.254E-03	1.028E-01	1.004E-01	8.920E-03	0.092

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.955E-01		6.551E-01	1.031E+00	9.725E-02	-0.190
NA-22	-4.200E-02		4.968E-02	7.055E-02	5.791E-03	-0.595
NA-24	6.058E-04		8.898E-04	Half-Life too short		
AL-26	-1.502E-02		3.417E-02	4.956E-02	4.041E-03	-0.303
TI-44	2.025E-01	+	6.238E-02	8.241E-02	6.900E-03	2.457
SC-46	-2.955E-02		9.113E-02	1.445E-01	1.324E-02	-0.205
V-48	-2.810E-02		1.360E-01	2.156E-01	1.941E-02	-0.130
CR-51	5.557E-03		5.711E-01	9.398E-01	8.492E-02	0.006
MN-52	-2.472E-02		1.275E-01	1.994E-01	1.658E-02	-0.124
MN-54	-4.094E-02		7.807E-02	1.223E-01	1.123E-02	-0.335
CO-56	-6.854E-02		8.382E-02	1.279E-01	1.174E-02	-0.536
CO-58	4.329E-02		7.437E-02	1.268E-01	1.165E-02	0.341
FE-59	-7.234E-02		1.766E-01	2.860E-01	2.650E-02	-0.253
ZN-65	-2.776E-01		1.910E-01	2.831E-01	2.403E-02	-0.980
GE-68	1.418E+00		2.650E+00	4.599E+00	3.985E-01	0.308
AS-73	-1.371E+00		1.248E+00	2.008E+00	1.508E-01	-0.683
AS-74	7.472E-03		1.281E-01	2.149E-01	1.926E-02	0.035
SE-75	3.943E-02		7.352E-02	1.253E-01	1.070E-02	0.315
BR-77	-9.820E-01		4.011E+00	6.658E+00	5.930E-01	-0.147
SR-82	-9.621E-02		6.942E-01	1.127E+00	1.029E-01	-0.085
RB-83	-4.084E-02		1.251E-01	2.066E-01	1.841E-02	-0.198
RB-84	-1.278E-01		1.531E-01	2.333E-01	2.139E-02	-0.548
KR-85	1.137E+01		1.558E+01	2.413E+01	2.146E+00	0.471
SR-85	5.503E-02		7.539E-02	1.168E-01	1.039E-02	0.471
RB-86	8.971E-01		1.378E+00	2.410E+00	2.089E-01	0.372
Y-88	-2.780E-03		5.020E-02	8.269E-02	6.711E-03	-0.034
ZR-88	-1.002E-02		5.751E-02	9.243E-02	7.699E-03	-0.108
Y-91	8.751E-01		2.222E+01	3.706E+01	3.026E+00	0.024
NB-94	-1.611E-02		6.485E-02	1.052E-01	9.450E-03	-0.153
NB-95	4.982E-02		7.115E-02	1.232E-01	1.123E-02	0.404
NB-95M	-1.294E-01		2.166E-01	3.070E-01	2.980E-02	-0.422
ZR-95	-1.046E-01		1.216E-01	1.847E-01	1.834E-02	-0.566
NB-97	4.714E-04		5.385E-04	Half-Life too short		
ZR-97	-5.030E-04		8.998E-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	-1.228E+00		5.652E+00	9.144E+00	1.412E+00	-0.134
TC-99M	-4.046E+03		7.203E+03	Half-Life too short		
RH-101	2.036E-02		4.876E-02	8.371E-02	6.866E-03	0.243
RH-102	4.141E-02		6.483E-02	1.077E-01	9.448E-03	0.385
RU-103	1.456E-02		7.252E-02	1.175E-01	1.681E-02	0.124
RH-106	1.038E-01		5.996E-01	1.010E+00	1.370E-01	0.103
RU-106	1.038E-01		5.995E-01	1.010E+00	9.029E-02	0.103
AG-108M	-7.949E-03		6.596E-02	1.056E-01	9.430E-03	-0.075
AG-110M	-1.154E-02		8.178E-02	1.163E-01	1.059E-02	-0.099
IN-111	-2.442E-01		4.816E-01	6.809E-01	5.768E-02	-0.359
IN-113M	-6.037E-04		8.208E-02	1.333E-01	1.145E-02	-0.005
SN-113	-6.037E-04		8.208E-02	1.333E-01	1.145E-02	-0.005
IN-114M	1.350E-01		2.760E-01	4.242E-01	3.452E-02	0.318
CD-115	-1.500E+00		3.656E+00	5.993E+00	5.347E-01	-0.250
SN-117M	3.450E-02		6.263E-02	1.022E-01	8.192E-03	0.338
SB-122	9.484E-02		8.765E-01	1.481E+00	1.328E-01	0.064
I-123	5.963E-03		4.130E-03	Half-Life too short		
TE-123M	2.993E-02		4.146E-02	6.817E-02	5.499E-03	0.439
I-124	8.573E-02		4.733E-01	7.574E-01	6.786E-02	0.113
SB-124	1.579E-02		8.388E-02	1.423E-01	1.233E-02	0.111
SB-125	-9.255E-02		1.848E-01	2.890E-01	2.520E-02	-0.320
TE-125M	-5.061E+00		1.166E+01	1.842E+01	1.908E+00	-0.275
I-126	2.348E-02		2.831E-01	4.108E-01	3.642E-02	0.057
SB-126	-4.397E-02		1.918E-01	3.106E-01	2.803E-02	-0.142
SB-127	-6.179E-01		9.030E-01	1.409E+00	1.445E-01	-0.439
XE-127	-6.389E-02		6.525E-02	1.049E-01	8.645E-03	-0.609
I-131	-8.352E-02		1.317E-01	2.062E-01	1.840E-02	-0.405
TE-132	-5.998E-02		3.369E-01	5.596E-01	8.252E-02	-0.107
BA-133	-4.534E-02		8.632E-02	1.190E-01	1.563E-02	-0.381
I-133	-1.213E-04		6.690E-05	Half-Life too short		
CS-134	1.419E-01		9.506E-02	1.700E-01	1.566E-02	0.835
CS-135	1.178E-01		2.650E-01	4.492E-01	4.429E-02	0.262
I-135	1.958E+03		3.262E+03	Half-Life too short		
CS-136	-4.188E-02		1.769E-01	2.917E-01	2.668E-02	-0.144
CE-139	-1.529E-02		4.691E-02	7.304E-02	5.778E-03	-0.209
BA-140	6.939E-02		3.633E-01	6.170E-01	2.050E-01	0.112
LA-140	5.454E-02		9.580E-02	1.703E-01	1.424E-02	0.320
CE-141	1.064E-02		7.931E-02	1.273E-01	1.066E-02	0.084
CE-143	2.204E+01		1.663E+01	2.526E+01	5.480E+00	0.872
CE-144	-3.587E-01		3.074E-01	4.552E-01	7.027E-02	-0.788
PM-144	-5.976E-02		6.449E-02	9.903E-02	8.875E-03	-0.604
PR-144	-4.038E+00		4.358E+00	6.691E+00	5.996E-01	-0.604
PM-146	-4.447E-02		9.253E-02	1.438E-01	1.550E-02	-0.309
ND-147	-3.878E-01		7.108E-01	1.149E+00	1.738E-01	-0.338
PM-149	5.507E-01		2.788E+01	4.621E+01	7.148E+00	0.012
EU-152	-7.584E-02		1.960E-01	3.028E-01	2.745E-02	-0.250
GD-153	-4.287E-02		1.082E-01	1.527E-01	1.365E-02	-0.281
EU-154	-1.090E-01		1.374E-01	1.965E-01	2.160E-02	-0.555

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	1.208E-01		1.452E-01	2.436E-01	2.152E-02	0.496
TB-160	1.342E-01		3.175E-01	5.306E-01	4.866E-02	0.253
HO-166M	-1.866E-02		1.145E-01	1.867E-01	1.681E-02	-0.100
TM-171	1.830E+01		3.154E+01	5.306E+01	3.968E+00	0.345
LU-176	8.220E-03		4.191E-02	6.984E-02	5.983E-03	0.118
LU-177	5.108E-01		9.877E-01	1.696E+00	1.405E-01	0.301
LU-177M	-1.067E-02		3.316E-01	5.357E-01	4.535E-02	-0.020
HF-181	5.748E-02		7.948E-02	1.330E-01	1.170E-02	0.432
W-181	-1.123E-01		4.133E-01	6.427E-01	4.756E-02	-0.175
TA-182	3.540E-01		2.526E-01	4.768E-01	3.899E-02	0.742
RE-183	-7.934E-02		1.609E-01	2.484E-01	1.977E-02	-0.319
RE-184	-5.221E-02		3.720E-01	6.156E-01	5.225E-02	-0.085
OS-185	-2.718E-02		7.508E-02	1.214E-01	1.079E-02	-0.224
RE-188	-7.616E-02		2.466E-01	3.856E-01	3.111E-02	-0.198
W-188	-1.439E+00		1.309E+01	1.886E+01	1.609E+00	-0.076
IR-192	-5.387E-03		5.940E-02	9.728E-02	8.361E-03	-0.055
AU-195	9.156E-02		2.695E-01	4.447E-01	3.954E-02	0.206
TL-200	1.354E-06		1.260E-05	Half-Life too short		
TL-201	1.058E+00		3.135E+00	5.048E+00	3.999E-01	0.210
TL-202	-1.129E-02		1.056E-01	1.692E-01	1.457E-02	-0.067
HG-203	-2.099E-02		6.403E-02	1.043E-01	9.115E-03	-0.201
BI-207	-8.901E-02		1.104E-01	1.732E-01	1.511E-02	-0.514
TL-207	-1.057E+00		1.185E+00	1.826E+00	3.229E-01	-0.579
PO-209	2.058E+01		1.878E+01	3.248E+01	2.975E+00	0.634
BI-210	-5.099E+00		3.799E+00	6.064E+00	5.689E-01	-0.841
PB-210	-5.099E+00		3.799E+00	6.064E+00	5.689E-01	-0.841
PO-210	-5.099E+00		3.794E+00	6.064E+00	5.160E-01	-0.841
PB-211	-1.343E+00		2.037E+00	2.878E+00	1.803E+00	-0.467
BI-212	6.328E-01		5.896E-01	1.033E+00	1.071E-01	0.613
PO-215	-1.057E+00		1.185E+00	1.826E+00	3.229E-01	-0.579
RN-219	8.416E-02		8.189E-01	1.336E+00	1.990E-01	0.063
RN-220	1.436E+00		4.730E+01	7.959E+01	7.126E+00	0.018
RA-223	-1.057E+00		1.185E+00	1.826E+00	3.229E-01	-0.579
AC-227	4.563E-01		6.280E-01	1.077E+00	1.645E-01	0.424
TH-227	4.563E-01		6.295E-01	1.077E+00	1.938E-01	0.424
TH-229	-4.576E-01		7.470E-01	1.226E+00	1.001E-01	-0.373
PA-231	4.306E-01		2.627E+00	4.385E+00	6.630E-01	0.098
TH-231	-1.057E+00		1.185E+00	1.826E+00	3.229E-01	-0.579
U-231	4.563E-01		5.604E-01	8.541E-01	7.688E-02	0.534
PA-233	6.770E-02		1.163E-01	1.971E-01	1.738E-02	0.343
PA-234	4.562E-02		8.065E-01	1.308E+00	2.482E-01	0.035
PA-234M	-8.849E+00		1.118E+01	1.686E+01	1.729E+00	-0.525
TH-234	-1.834E+00		1.638E+00	2.264E+00	3.939E-01	-0.810
U-235	-4.810E-02		3.012E-01	4.758E-01	8.241E-02	-0.101
NP-236	-1.122E-01		1.242E-01	1.872E-01	1.496E-02	-0.599
NP-237	4.968E+00		1.227E+00	9.420E-01	2.130E-01	5.274
U-238	-1.834E+00		1.638E+00	2.264E+00	3.939E-01	-0.810
NP-239	5.113E-02		2.915E-01	4.233E-01	3.642E-02	0.121

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.001E-01		1.300E-01	2.177E-01	1.908E-02	0.460
AM-246	1.629E-01		3.067E-01	5.322E-01	4.608E-02	0.306
CM-247	7.114E-02		7.336E-02	1.251E-01	1.050E-02	0.569
CF-249	9.966E-03		7.631E-02	1.250E-01	1.043E-02	0.080
CF-251	4.088E-02		1.809E-01	3.100E-01	2.483E-02	0.132

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]G1202001377          *
* Acquisition date   : 31-DEC-2009 15:32:35 Detector SN#      :             *
* Detector ID        : GAM07 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 01:00:01.31 Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 22-DEC-2009 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202001377 Analyst initials: MXR1         *
* Batch Number       : 935341 Sample Quantity : 1.5544E+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	3.740E-01	4.744E-01	3.431E-01	2.420E-01
CO-57	2.238E-01	6.755E-02	3.028E-02	3.446E-02
CO-60	6.786E+00	6.443E-01	4.572E-02	3.287E-01
CD-109	3.361E+01	3.960E+00	9.756E-01	2.020E+00
SN-126	3.331E+00	3.924E-01	9.690E-02	2.002E-01
BA-137M	5.601E+00	5.532E-01	5.583E-02	2.822E-01
CS-137	5.921E+00	5.856E-01	5.901E-02	2.988E-01
TL-208	2.654E-01	1.051E-01	6.061E-02	5.365E-02
BI-211	2.174E+00	6.597E-01	3.186E-01	3.366E-01
PB-212	9.569E-01	1.816E-01	8.026E-02	9.267E-02
PO-212	9.569E-01	1.816E-01	8.026E-02	9.267E-02
BI-214	7.911E-01	2.486E-01	1.085E-01	1.268E-01
PB-214	7.562E-01	2.327E-01	1.043E-01	1.187E-01
PO-214	7.562E-01	2.327E-01	1.043E-01	1.187E-01
PO-216	9.569E-01	1.816E-01	8.026E-02	9.267E-02
PO-218	7.562E-01	2.327E-01	1.043E-01	1.187E-01
RA-224	2.410E+00	1.162E+00	1.035E+00	5.928E-01
RA-226	7.911E-01	2.486E-01	1.085E-01	1.268E-01
AC-228	8.426E-01	5.242E-01	2.291E-01	2.675E-01
RA-228	8.426E-01	5.242E-01	2.291E-01	2.675E-01
TH-228	9.661E-01	1.834E-01	8.103E-02	9.356E-02
TH-230	7.911E-01	2.486E-01	1.085E-01	1.268E-01
TH-232	8.426E-01	5.242E-01	2.291E-01	2.675E-01
U-234	7.911E-01	2.486E-01	1.085E-01	1.268E-01
AM-241	1.404E+01	1.249E+00	2.083E-01	6.372E-01
AM-243	1.849E-01	8.735E-02	6.103E-02	4.457E-02
ANH-511	9.254E-03	1.008E-01	5.214E-02	5.142E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-1.955E-01	6.420E-01	5.361E-01	3.275E-01	NOT IDENT.
NA-22	-4.200E-02	4.868E-02	3.573E-02	2.484E-02	NOT IDENT.
NA-24	6.058E+02	1.744E+03	0.000E+00	8.898E+02	SHORT HLIF
AL-26	-1.502E-02	3.348E-02	2.485E-02	1.708E-02	NOT IDENT.
TI-44	2.025E-01	6.113E-02	4.489E-02	3.119E-02	FAIL ABUN
SC-46	-2.955E-02	8.931E-02	7.392E-02	4.557E-02	NOT IDENT.
V-48	-2.810E-02	1.333E-01	1.100E-01	6.800E-02	NOT IDENT.
CR-51	5.557E-03	5.597E-01	4.941E-01	2.856E-01	NOT IDENT.
MN-52	-2.472E-02	1.250E-01	1.007E-01	6.375E-02	FAIL ABUN
MN-54	-4.094E-02	7.650E-02	6.270E-02	3.903E-02	NOT IDENT.
CO-56	-6.854E-02	8.215E-02	6.552E-02	4.191E-02	FAIL ABUN
CO-58	4.329E-02	7.288E-02	6.505E-02	3.719E-02	NOT IDENT.
FE-59	-7.234E-02	1.731E-01	1.455E-01	8.831E-02	NOT IDENT.
ZN-65	-2.776E-01	1.872E-01	1.439E-01	9.551E-02	NOT IDENT.
GE-68	1.418E+00	2.597E+00	2.340E+00	1.325E+00	NOT IDENT.
AS-73	-1.371E+00	1.223E+00	1.104E+00	6.238E-01	NOT IDENT.
AS-74	7.472E-03	1.255E-01	1.111E-01	6.405E-02	NOT IDENT.
SE-75	3.943E-02	7.205E-02	6.619E-02	3.676E-02	FAIL ABUN
BR-77	-9.820E-01	3.930E+00	3.456E+00	2.005E+00	FAIL ABUN
SR-82	-9.621E-02	6.803E-01	5.789E-01	3.471E-01	NOT IDENT.
RB-83	-4.084E-02	1.226E-01	1.073E-01	6.257E-02	NOT IDENT.
RB-84	-1.278E-01	1.501E-01	1.194E-01	7.656E-02	NOT IDENT.
KR-85	1.137E+01	1.527E+01	1.253E+01	7.788E+00	NOT IDENT.
SR-85	5.503E-02	7.388E-02	6.065E-02	3.769E-02	NOT IDENT.
RB-86	8.971E-01	1.351E+00	1.227E+00	6.891E-01	NOT IDENT.
Y-88	-2.780E-03	4.920E-02	4.145E-02	2.510E-02	NOT IDENT.
ZR-88	-1.002E-02	5.636E-02	4.834E-02	2.875E-02	NOT IDENT.
Y-91	8.751E-01	2.178E+01	1.880E+01	1.111E+01	NOT IDENT.
NB-94	-1.611E-02	6.355E-02	5.419E-02	3.243E-02	NOT IDENT.
NB-95	4.982E-02	6.973E-02	6.328E-02	3.558E-02	NOT IDENT.
NB-95M	-1.294E-01	2.123E-01	1.627E-01	1.083E-01	NOT IDENT.
ZR-95	-1.046E-01	1.192E-01	9.492E-02	6.079E-02	NOT IDENT.
NB-97	4.714E+02	1.056E+03	0.000E+00	5.385E+02	SHORT HLIF
ZR-97	-5.030E+02	1.764E+04	0.000E+00	8.998E+03	SHORT HLIF
MO-99	-1.228E+00	5.539E+00	4.702E+00	2.826E+00	NOT IDENT.
TC-99M	-4.046E+09	1.412E+10	0.000E+00	7.203E+09	SHORT HLIF
RH-101	2.036E-02	4.779E-02	4.456E-02	2.438E-02	NOT IDENT.
RH-102	4.141E-02	6.354E-02	5.604E-02	3.242E-02	NOT IDENT.
RU-103	1.456E-02	7.107E-02	6.108E-02	3.626E-02	FAIL ABUN
RH-106	1.038E-01	5.876E-01	5.219E-01	2.998E-01	FAIL ABUN
RU-106	1.038E-01	5.875E-01	5.219E-01	2.998E-01	FAIL ABUN
AG-108M	-7.949E-03	6.464E-02	5.509E-02	3.298E-02	NOT IDENT.
AG-110M	-1.154E-02	8.014E-02	5.997E-02	4.089E-02	NOT IDENT.
IN-111	-2.442E-01	4.720E-01	3.605E-01	2.408E-01	NOT IDENT.
IN-113M	-6.037E-04	8.043E-02	6.969E-02	4.104E-02	NOT IDENT.
SN-113	-6.037E-04	8.043E-02	6.969E-02	4.104E-02	NOT IDENT.
IN-114M	1.350E-01	2.705E-01	2.261E-01	1.380E-01	NOT IDENT.
CD-115	-1.500E+00	3.583E+00	3.110E+00	1.828E+00	NOT IDENT.
SN-117M	3.450E-02	6.138E-02	5.469E-02	3.132E-02	NOT IDENT.
SB-122	9.484E-02	8.589E-01	7.673E-01	4.382E-01	NOT IDENT.
I-123	5.963E+03	8.094E+03	0.000E+00	4.130E+03	SHORT HLIF
TE-123M	2.993E-02	4.064E-02	3.649E-02	2.073E-02	NOT IDENT.
I-124	8.573E-02	4.639E-01	3.916E-01	2.367E-01	NOT IDENT.
SB-124	1.579E-02	8.220E-02	7.150E-02	4.194E-02	FAIL ABUN
SB-125	-9.255E-02	1.811E-01	1.508E-01	9.242E-02	NOT IDENT.
TE-125M	-5.061E+00	1.143E+01	9.953E+00	5.830E+00	NOT IDENT.
I-126	2.348E-02	2.774E-01	2.118E-01	1.415E-01	NOT IDENT.
SB-126	-4.397E-02	1.879E-01	1.598E-01	9.589E-02	FAIL ABUN
SB-127	-6.179E-01	8.850E-01	7.258E-01	4.515E-01	NOT IDENT.
XE-127	-6.389E-02	6.395E-02	5.581E-02	3.263E-02	NOT IDENT.
I-131	-8.352E-02	1.290E-01	1.080E-01	6.583E-02	NOT IDENT.
TE-132	-5.998E-02	3.301E-01	2.968E-01	1.684E-01	NOT IDENT.
BA-133	-4.534E-02	8.459E-02	6.242E-02	4.316E-02	NOT IDENT.
I-133	-1.213E+02	1.311E+02	0.000E+00	6.690E+01	SHORT HLIF
CS-134	1.419E-01	9.316E-02	8.724E-02	4.753E-02	NOT IDENT.
CS-135	1.178E-01	2.597E-01	2.373E-01	1.325E-01	NOT IDENT.
I-135	1.958E+09	6.393E+09	0.000E+00	3.262E+09	SHORT HLIF
CS-136	-4.188E-02	1.734E-01	1.486E-01	8.846E-02	NOT IDENT.
CE-139	-1.529E-02	4.597E-02	3.906E-02	2.345E-02	NOT IDENT.
BA-140	6.939E-02	3.560E-01	3.200E-01	1.816E-01	NOT IDENT.
LA-140	5.454E-02	9.388E-02	8.570E-02	4.790E-02	NOT IDENT.
CE-141	1.064E-02	7.772E-02	6.831E-02	3.965E-02	NOT IDENT.
CE-143	2.204E+01	1.630E+01	1.331E+01	8.314E+00	FAIL ABUN
CE-144	-3.587E-01	3.013E-01	2.447E-01	1.537E-01	NOT IDENT.
PM-144	-5.976E-02	6.320E-02	5.100E-02	3.225E-02	NOT IDENT.
PR-144	-4.038E+00	4.270E+00	3.446E+00	2.179E+00	NOT IDENT.
PM-146	-4.447E-02	9.068E-02	7.493E-02	4.627E-02	NOT IDENT.
ND-147	-3.878E-01	6.966E-01	5.961E-01	3.554E-01	NOT IDENT.

PM-149	5.507E-01	2.733E+01	2.437E+01	1.394E+01	NOT IDENT.
EU-152	-7.584E-02	1.921E-01	1.589E-01	9.802E-02	FAIL ABUN
GD-153	-4.287E-02	1.061E-01	8.273E-02	5.412E-02	NOT IDENT.
EU-154	-1.090E-01	1.347E-01	9.951E-02	6.871E-02	FAIL ABUN
EU-155	1.208E-01	1.423E-01	1.317E-01	7.259E-02	FAIL ABUN
TB-160	1.342E-01	3.112E-01	2.716E-01	1.588E-01	FAIL ABUN
HO-166M	-1.866E-02	1.122E-01	9.612E-02	5.727E-02	FAIL ABUN
TM-171	1.830E+01	3.091E+01	2.901E+01	1.577E+01	FAIL ABUN
LU-176	8.220E-03	4.108E-02	3.676E-02	2.096E-02	FAIL ABUN
LU-177	5.108E-01	9.680E-01	9.016E-01	4.939E-01	NOT IDENT.
LU-177M	-1.067E-02	3.250E-01	2.798E-01	1.658E-01	FAIL ABUN
HF-181	5.748E-02	7.789E-02	6.919E-02	3.974E-02	NOT IDENT.
W-181	-1.123E-01	4.050E-01	3.517E-01	2.066E-01	NOT IDENT.
TA-182	3.540E-01	2.476E-01	2.418E-01	1.263E-01	NOT IDENT.
RE-183	-7.934E-02	1.577E-01	1.329E-01	8.046E-02	FAIL ABUN
RE-184	-5.221E-02	3.646E-01	3.257E-01	1.860E-01	FAIL ABUN
OS-185	-2.718E-02	7.358E-02	6.263E-02	3.754E-02	FAIL ABUN
RE-188	-7.616E-02	2.416E-01	2.065E-01	1.233E-01	NOT IDENT.
W-188	-1.439E+00	1.283E+01	9.942E+00	6.547E+00	NOT IDENT.
IR-192	-5.387E-03	5.821E-02	5.116E-02	2.970E-02	FAIL ABUN
AU-195	9.156E-02	2.641E-01	2.408E-01	1.347E-01	FAIL ABUN
TL-200	1.354E+00	2.469E+01	0.000E+00	1.260E+01	SHORT HLIF
TL-201	1.058E+00	3.073E+00	2.699E+00	1.568E+00	NOT IDENT.
TL-202	-1.129E-02	1.035E-01	8.820E-02	5.281E-02	NOT IDENT.
HG-203	-2.099E-02	6.275E-02	5.506E-02	3.202E-02	NOT IDENT.
BI-207	-8.901E-02	1.082E-01	8.818E-02	5.519E-02	FAIL ABUN
TL-207	-1.057E+00	1.161E+00	9.599E-01	5.925E-01	FAIL ABUN
PO-209	2.058E+01	1.840E+01	1.661E+01	9.389E+00	NOT IDENT.
BI-210	-5.099E+00	3.723E+00	3.345E+00	1.900E+00	NOT IDENT.
PB-210	-5.099E+00	3.723E+00	3.345E+00	1.900E+00	NOT IDENT.
PO-210	-5.099E+00	3.718E+00	3.345E+00	1.897E+00	NOT IDENT.
PB-211	-1.343E+00	1.996E+00	1.504E+00	1.018E+00	NOT IDENT.
BI-212	6.328E-01	5.778E-01	5.313E-01	2.948E-01	NOT IDENT.
PO-215	-1.057E+00	1.161E+00	9.599E-01	5.925E-01	FAIL ABUN
RN-219	8.416E-02	8.025E-01	6.981E-01	4.094E-01	NOT IDENT.
RN-220	1.436E+00	4.635E+01	4.125E+01	2.365E+01	NOT IDENT.
RA-223	-1.057E+00	1.161E+00	9.599E-01	5.925E-01	FAIL ABUN
AC-227	4.563E-01	6.155E-01	5.695E-01	3.140E-01	NOT IDENT.
TH-227	4.563E-01	6.170E-01	5.695E-01	3.148E-01	FAIL ABUN
TH-229	-4.576E-01	7.321E-01	6.528E-01	3.735E-01	FAIL ABUN
PA-231	4.306E-01	2.574E+00	2.313E+00	1.313E+00	NOT IDENT.
TH-231	-1.057E+00	1.161E+00	9.599E-01	5.925E-01	FAIL ABUN
U-231	4.563E-01	5.492E-01	4.630E-01	2.802E-01	FAIL ABUN
PA-233	6.770E-02	1.140E-01	1.037E-01	5.815E-02	FAIL ABUN
PA-234	4.562E-02	7.903E-01	6.679E-01	4.032E-01	FAIL ABUN
PA-234M	-8.849E+00	1.095E+01	8.597E+00	5.588E+00	NOT IDENT.
TH-234	-1.834E+00	1.605E+00	1.239E+00	8.190E-01	FAIL ABUN
U-235	-4.810E-02	2.951E-01	2.553E-01	1.506E-01	FAIL ABUN
NP-236	-1.122E-01	1.217E-01	1.002E-01	6.209E-02	NOT IDENT.
NP-237	4.968E+00	1.203E+00	5.119E-01	6.136E-01	NOT IDENT.
U-238	-1.834E+00	1.605E+00	1.239E+00	8.190E-01	FAIL ABUN
NP-239	5.113E-02	2.856E-01	2.283E-01	1.457E-01	NOT IDENT.
CM-243	1.001E-01	1.274E-01	1.178E-01	6.500E-02	NOT IDENT.
AM-246	1.629E-01	3.006E-01	2.708E-01	1.534E-01	NOT IDENT.
CM-247	7.114E-02	7.189E-02	6.536E-02	3.668E-02	NOT IDENT.
CF-249	9.966E-03	7.478E-02	6.537E-02	3.815E-02	NOT IDENT.
CF-251	4.088E-02	1.773E-01	1.655E-01	9.047E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	580.8869
46.50	580.8869
46.50	580.8869
48.70	623.1837
49.72	613.4730
51.35	746.7390
52.39	759.2487
52.97	786.2238
53.15	834.4846
53.44	847.5578
54.07	767.7510
56.28	866.0762
56.28	866.0807
57.37	859.6538
57.53	893.3950
57.53	893.3997
57.60	893.5452
57.98	665.0720
57.98	665.0720
59.32	667.1881
59.32	667.1881
59.40	667.3120
59.54	667.5318
59.72	667.8145
60.01	668.2663
61.10	351.5826
61.14	351.6147
61.30	351.7447
63.00	388.4232
63.29	388.6780
63.29	388.6780
63.58	378.6197
64.28	361.5074
65.12	371.3490
65.20	371.4146
65.20	371.4146
66.05	350.5816
66.72	344.1714
66.83	344.2564
66.91	349.2637
67.20	350.4727
67.20	350.4727
67.75	375.6709
67.85	375.7518
68.90	391.5050
68.90	391.5050
69.30	378.3143
69.67	370.2536
70.82	362.1710
70.82	362.1710
70.83	362.1784
72.80	401.2333
72.87	401.2924
72.87	401.2924
74.67	397.2401
74.81	397.3526
74.81	397.3526
74.81	397.3526
74.81	397.3526
74.81	397.3526
74.81	397.3526
74.81	397.3526
74.97	397.4812
75.28	397.7303
75.70	398.0659
77.11	399.1889
77.11	399.1889

77.11	399.1889
77.11	399.1889
77.11	399.1889
77.11	399.1889
77.11	399.1889
78.38	351.0540
79.62	386.9435
79.80	387.0791
79.80	387.0791
80.11	396.4607
80.18	396.5143
80.30	396.6055
80.30	396.6055
80.57	412.0738
81.00	441.4376
81.07	441.4972
81.07	441.4972
81.07	441.4972
81.07	441.4972
82.60	425.9357
83.37	362.1096
83.78	400.7813
83.78	400.7813
83.78	400.7813
83.78	400.7813
84.21	396.4955
84.90	418.5482
85.43	428.2030
86.29	473.6258
86.50	404.3578
86.54	404.3878
86.59	404.4257
86.72	404.5217
86.79	404.5717
86.94	404.6856
87.30	404.9514
87.30	404.9514
87.30	404.9514
87.30	404.9514
87.30	404.9514
87.30	404.9514
87.57	405.1513
87.88	405.3812
88.03	405.4911
88.36	405.7350
88.47	405.8170
89.95	236.0643
91.11	236.5549
92.29	237.0489
92.38	237.0872
92.38	237.0872
93.35	231.2410
94.00	226.8114
94.67	217.6774
94.67	217.6796
94.90	208.3665
94.90	208.3665
94.90	208.3665
94.90	208.3665
95.87	196.1613
95.87	196.1613
96.73	245.1711
97.43	236.0218
98.44	210.1573
98.44	210.1573
98.88	206.1067
99.55	208.4444
99.55	208.4444
99.86	223.2994
100.00	223.3511
100.10	217.0676
103.18	249.9482
103.76	221.5629
105.00	206.0757
105.31	221.0582
108.00	264.7072
109.28	239.5745

111.00	206.9767
111.00	206.9767
111.76	220.1054
112.95	237.7216
115.19	211.5548
116.30	214.0730
117.00	214.2996
117.00	214.2996
117.66	229.1379
121.11	217.7907
121.62	217.9545
121.78	218.0054
122.06	218.0949
122.32	218.1773
122.32	218.1773
122.32	218.1773
122.32	218.1773
123.07	216.2322
127.23	241.2592
129.76	240.3585
131.20	245.2628
133.02	244.7739
133.54	268.2250
135.34	232.2208
136.00	220.1960
136.25	209.1458
136.48	208.0980
140.51	241.6729
140.51	0.0000
142.18	222.0229
142.65	217.6737
143.76	221.3605
144.24	221.5007
144.24	221.5007
144.24	221.5007
144.24	221.5007
145.22	203.7704
145.44	215.0887
147.16	223.4670
152.43	214.7437
152.70	207.9972
153.22	226.3305
154.21	249.3847
154.21	249.3847
154.21	249.3847
154.21	249.3847
155.03	241.6594
156.02	229.4026
158.56	210.6574
159.00	0.0000
159.00	205.0423
160.31	253.5574
161.27	249.2573
162.32	241.5222
162.64	241.6141
163.35	233.7585
163.89	213.1704
165.85	255.2457
167.43	222.1660
171.28	224.3284
171.86	223.3164
172.10	223.3789
176.55	206.1001
176.60	206.1127
181.06	217.1960
184.41	227.3828
185.71	227.7063
186.00	227.7789
190.27	203.7261
192.34	218.9324
193.63	226.0848
197.04	213.4486
198.01	201.0962
198.60	218.2869
200.40	221.3966
201.83	228.9356
202.84	252.6328
205.31	233.3716

208.36	249.5209
208.81	264.1584
209.75	263.4984
209.75	263.4984
210.97	238.3490
215.65	210.2116
216.55	225.0339
218.09	240.0321
222.10	204.1786
223.80	225.7005
226.40	206.8674
227.00	207.9094
227.08	207.9266
227.20	210.7215
228.16	209.0628
228.18	209.0679
228.18	209.0679
231.56	219.9418
235.69	262.3371
236.00	262.4123
236.00	262.4123
238.63	218.2087
238.63	218.2087
238.63	218.2087
238.63	218.2087
239.00	280.3299
240.98	280.8357
241.98	187.3940
241.98	187.3940
241.98	187.3940
244.69	177.3327
245.39	186.4677
247.94	185.5743
248.90	175.3613
249.79	158.5164
252.40	169.2847
252.85	188.2736
252.85	188.2736
254.15	0.0000
256.20	170.7976
256.20	170.7976
260.50	214.2918
260.90	221.9892
262.80	198.4912
264.65	185.4243
268.24	190.7802
268.79	210.0510
269.46	209.2116
269.46	209.2116
269.46	209.2116
269.46	209.2116
271.23	180.6878
273.65	235.9456
276.40	186.2914
277.35	174.8439
277.60	172.9474
277.60	172.9474
278.00	179.7703
278.60	183.7262
279.20	198.3279
279.53	214.8322
280.46	216.9316
281.68	183.2178
283.67	176.7180
284.30	175.8354
285.00	166.2146
285.90	175.0891
286.10	177.0623
286.10	177.0623
287.40	192.8307
288.45	0.0000
290.67	171.8508
290.80	171.8696
291.72	170.4323
293.26	170.6398
293.70	167.5663
295.21	201.8665
295.21	201.8665

295.21	201.8665
295.96	230.6170
296.50	230.7139
297.23	232.4171
298.57	196.5027
299.80	155.7800
299.80	155.7800
300.09	166.8310
300.09	166.8310
300.09	166.8310
300.09	166.8310
300.12	166.8361
301.29	207.0449
302.84	198.1385
303.76	191.3743
303.91	191.3950
304.40	199.3647
304.40	199.3647
304.84	182.6485
306.84	154.2528
308.46	173.2536
311.98	164.7816
316.51	174.3057
318.01	159.5435
319.02	153.6757
319.41	153.7204
320.08	162.7836
323.87	186.2725
323.87	186.2725
323.87	186.2725
323.87	186.2725
325.23	192.4717
328.77	147.7424
333.44	153.2826
334.20	150.1373
334.20	150.1373
334.30	150.1487
338.28	184.1717
338.28	184.1717
338.28	184.1717
338.28	184.1717
338.32	184.1772
338.32	184.1772
338.32	184.1772
340.50	180.0010
340.57	180.0092
344.27	193.9529
345.85	160.4481
350.59	178.0085
351.07	166.6315
351.92	147.1157
351.92	147.1157
351.92	147.1157
355.39	0.0000
356.01	147.5288
364.48	156.6201
366.43	155.7948
367.43	147.6389
367.94	0.0000
369.80	127.1910
374.96	147.3389
383.85	131.4967
387.95	152.7725
388.63	155.9798
391.69	152.0889
391.69	152.0889
392.90	162.7032
398.62	184.3620
400.65	166.6647
401.10	173.0413
401.81	161.5073
402.60	144.6887
404.84	177.6771
410.95	141.1928
411.60	160.3661
413.65	149.9330
414.70	156.4140
415.30	161.7922

415.76	153.3208
417.63	0.0000
418.52	152.5114
423.70	149.7775
427.08	149.0089
427.89	158.7337
432.53	132.2847
433.93	148.5391
439.47	156.5826
439.56	156.5892
439.89	155.5400
443.98	166.7362
444.90	170.0753
445.03	170.0897
445.03	170.0897
445.03	170.0897
445.03	170.0897
453.90	162.2458
463.38	162.0218
468.07	171.2272
473.00	177.1992
475.06	150.9559
475.35	165.3076
476.78	156.6125
477.59	161.0955
477.96	158.9216
482.03	121.6687
484.57	138.4506
487.03	141.9629
490.36	123.3286
492.35	121.2362
497.08	115.9669
507.63	0.0000
510.53	0.0000
510.84	151.6278
511.00	151.6402
511.85	133.0528
511.85	133.0528
513.99	135.0000
513.99	135.0000
520.41	122.8051
520.65	122.8217
527.90	117.8379
528.96	0.0000
529.64	121.5716
529.87	0.0000
531.02	109.8542
537.32	110.2028
543.00	125.1262
546.56	0.0000
549.76	101.7211
552.65	103.7001
555.20	88.2094
563.23	91.3212
563.90	91.3502
568.70	91.5605
569.32	91.5895
569.50	91.5967
569.67	91.6040
573.80	99.2023
574.00	99.2101
574.64	97.3865
578.91	111.5244
579.30	0.0000
583.14	118.2656
585.48	108.7626
591.81	85.0859
592.07	90.7054
593.00	92.6167
595.88	89.9297
600.56	92.9406
602.52	0.0000
602.71	88.0989
602.71	88.0989
603.60	89.9822
604.41	94.0454
604.70	95.6252
609.31	106.8228

609.31	106.8228
609.31	106.8228
609.31	106.8228
610.33	106.5582
612.46	110.1213
614.37	94.4727
618.01	93.2747
621.84	98.5816
621.84	98.5816
631.29	106.6105
633.02	95.2612
633.10	95.2637
634.78	105.8213
635.90	112.5494
636.97	88.7473
645.85	97.7143
646.12	93.8919
656.30	117.0804
657.75	118.7565
657.90	0.0000
661.65	93.5567
661.65	93.5567
664.57	109.4458
666.33	91.8109
666.33	91.8109
675.00	90.2073
677.61	91.2759
685.20	86.6946
692.80	87.9434
695.00	96.8271
696.49	110.5861
696.49	110.5861
697.00	108.6505
697.49	96.9238
698.33	87.1639
698.50	83.2527
699.00	93.0657
702.63	105.9592
706.10	80.5626
706.58	0.0000
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709.31	89.5204
711.68	93.5458
713.82	88.6992
717.42	83.8918
720.50	86.9602
721.93	100.8520
722.20	114.7058
722.78	121.6547
722.78	121.6547
722.89	121.6607
722.95	121.6637
723.30	121.6817
724.18	110.8379
727.18	91.1532
733.00	111.2234
735.90	90.4735
739.58	91.5979
742.81	80.7489
744.21	79.7949
747.13	95.8617
751.79	58.0212
752.31	65.0365
753.82	87.0998
755.35	95.1647
756.15	88.1805
756.87	86.1995
763.93	100.5029
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766.84	75.4596
776.49	106.0305
778.00	108.1102
778.57	104.0914
778.89	104.1039
783.80	90.1190
785.46	97.2680
792.07	97.5070

795.84	78.3178
796.30	79.3482
798.80	116.0763
801.93	95.8222
805.60	91.8677
810.29	78.7314
810.76	76.6992
815.85	92.2104
817.79	75.8699
818.51	73.8387
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828.27	0.0000
831.60	94.7919
831.96	97.8969
834.83	110.3751
836.80	0.0000
846.75	112.9119
848.13	101.5649
856.28	0.0000
856.80	112.2689
860.37	98.8779
867.32	103.2877
867.82	97.0438
871.10	109.6899
873.19	111.8589
874.81	102.5076
875.33	0.0000
876.40	108.8420
879.36	102.6655
880.27	114.2265
880.51	114.2344
881.50	125.8066
883.24	104.8999
884.67	98.6541
889.25	115.6235
896.60	102.2123
898.02	122.2899
899.00	137.0967
903.28	97.6873
911.07	87.8815
911.07	87.8815
911.07	87.8815
919.63	110.4289
920.93	106.2256
925.00	123.3859
925.24	123.3973
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937.48	123.8872
944.10	122.0128
946.00	129.5846
949.00	129.7087
962.29	134.5642
964.01	131.0471
966.15	141.9146
968.20	133.0169
969.11	130.5388
969.11	130.5388
969.11	130.5388
977.42	100.5926
980.50	112.5998
983.50	106.2018
989.30	105.3075
996.32	108.8013
1001.03	120.9428
1001.68	106.7999
1004.76	97.0830
1021.30	0.0000
1024.50	0.0000
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1036.00	100.0231
1037.82	85.3862
1038.57	91.8335
1038.76	0.0000
1045.16	76.3704
1046.59	87.4506
1048.07	93.0149

1050.47	92.1590
1050.47	92.1590
1062.04	93.3971
1063.62	93.4382
1076.63	76.1476
1077.35	78.9508
1078.86	78.9854
1085.78	92.1801
1099.22	89.7305
1112.02	90.0547
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1115.52	118.3147
1120.29	74.2811
1120.29	74.2811
1120.29	74.2811
1120.29	74.2811
1120.51	76.1649
1121.28	74.3004
1124.00	0.0000
1129.67	72.5885
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1147.95	0.0000
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1173.22	60.1033
1175.09	60.1340
1177.93	27.8384
1189.05	39.2817
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1213.00	26.0321
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1236.41	0.0000
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1260.41	0.0000
1271.85	13.7043
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1298.22	0.0000
1312.09	18.7858
1325.50	22.1071
1325.50	22.1071
1332.49	23.8486
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1362.66	0.0000
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1368.53	0.0000
1376.25	12.0498
1384.27	18.1091
1394.10	17.1425
1395.20	16.1380
1407.95	10.1164
1434.06	11.1952
1436.60	8.1465
1457.56	0.0000
1460.81	13.3110
1489.15	8.2435
1509.49	14.4910
1596.49	13.7083
1620.62	10.5981
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1691.02	6.4502
1691.02	6.4502
1706.46	0.0000
1750.46	0.0000
1764.49	6.5437
1764.49	6.5437
1764.49	6.5437
1764.49	6.5437
1770.23	9.8262
1771.40	13.1050
1791.20	0.0000
1808.65	7.5416

1836.01

11.3705

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202001377

Total Uranium Activity	-5.4796E+00	ug/g
Total Uranium Counting Unc.	4.7776E+00	ug/g
Total Uranium Tpu	2.4376E-06	ug/g
Total Uranium Mda	3.6890E+00	ug/g

```

*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 935341                          SAMPLE ID   : G1202001377
*  ANALYST       : MXR1                             DETECTOR    : GAM07
*  SAMPLE DATE   : 22-DEC-2009 00:00:00.00          COUNT TIME   : 0 01:00:00.00
*  ANALYSIS DATE : 31-DEC-2009 15:32:35.38          SAMPLE ALQT  : 155.440 GRAM
*
*****

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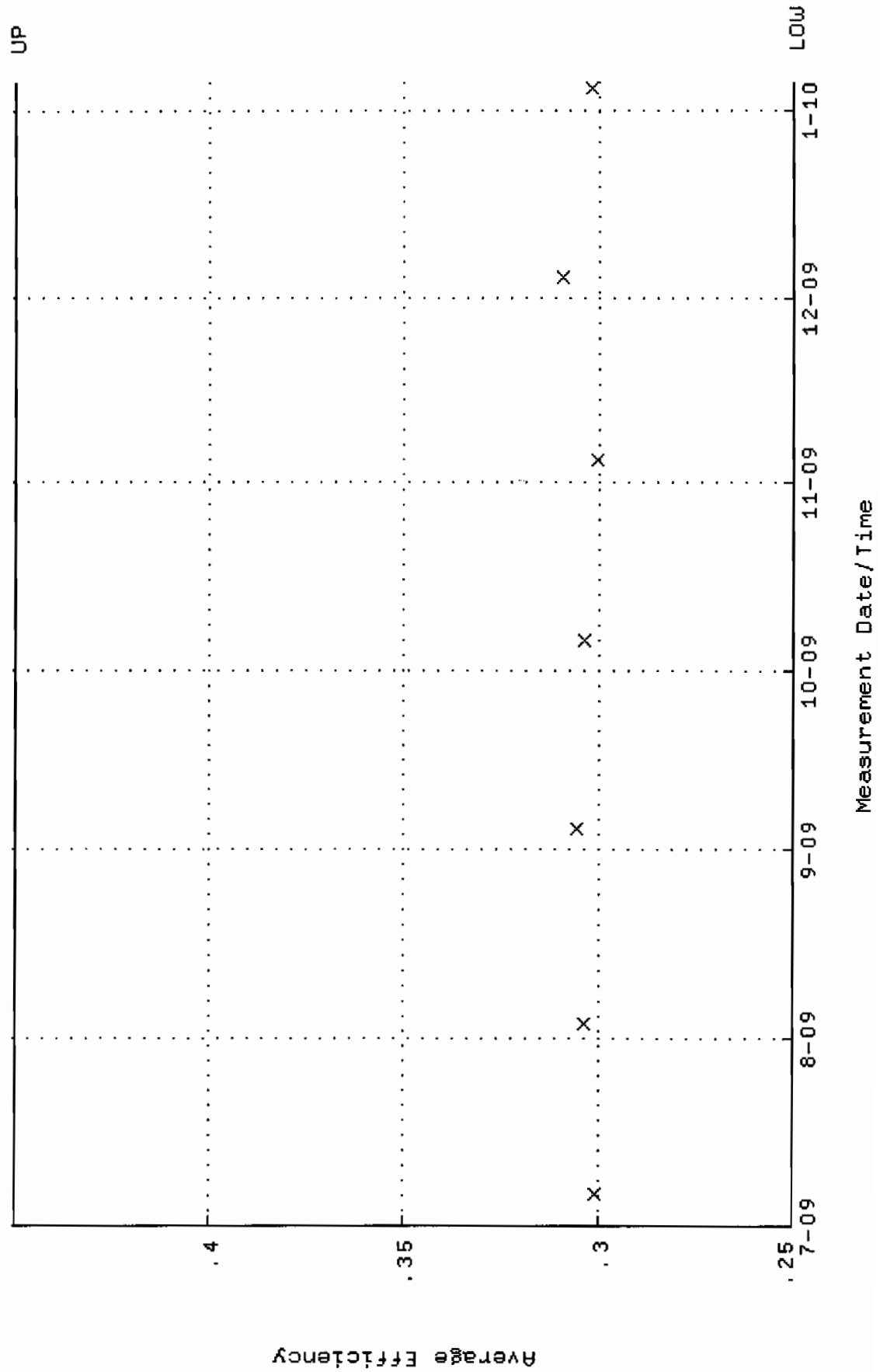
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.763E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 3.838E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 5.840E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.860E+00

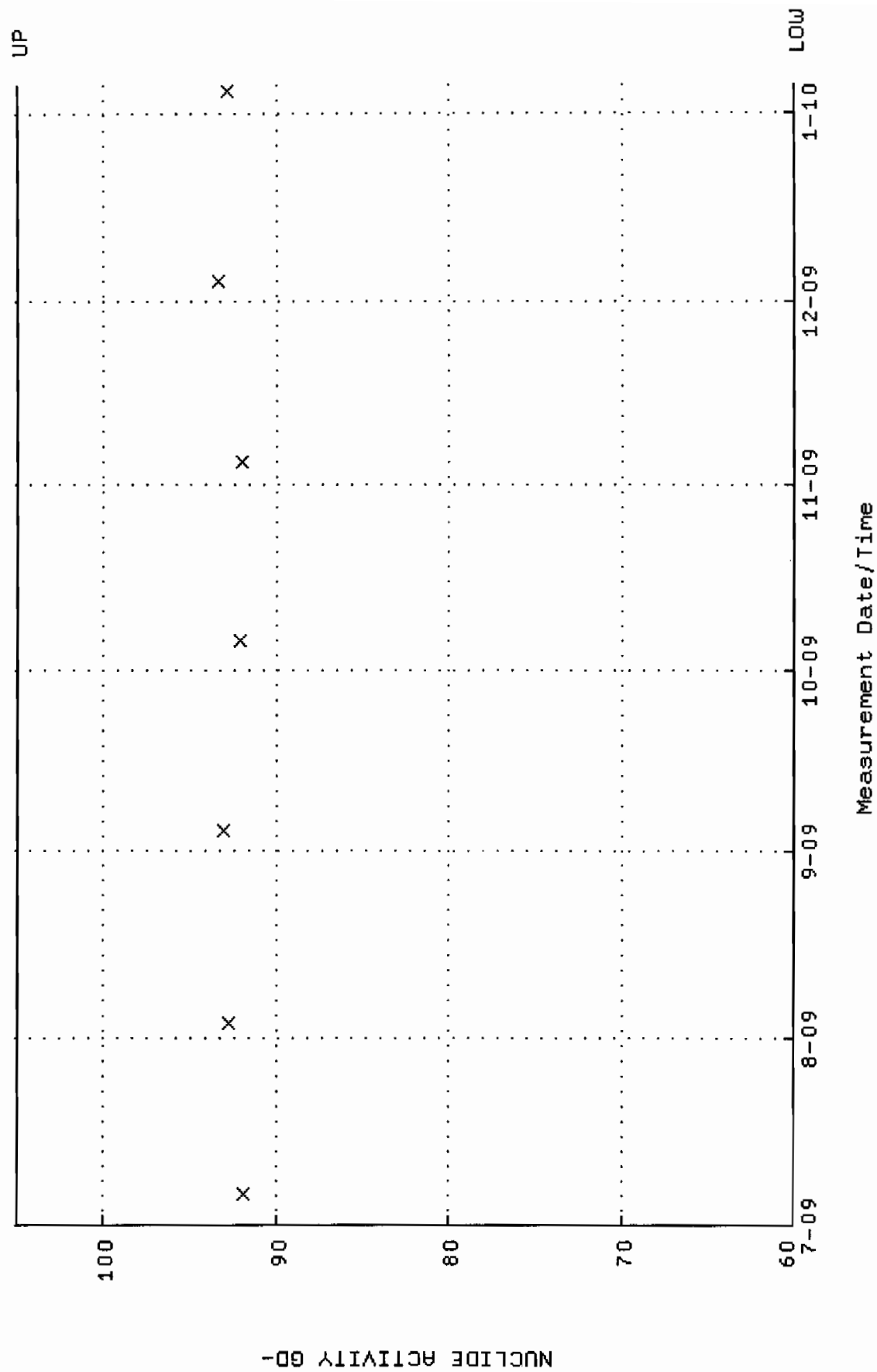
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BACKGROUND AND EFFICIENCY DATA

QA filename : DKA100:[ENV_ALPHA.QA.W]W021.QAF;4
 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



QA filename : DKA100:[ENV_ALPHA.QA.W]W021.QAF;4
 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: 60.0000 through 105.000

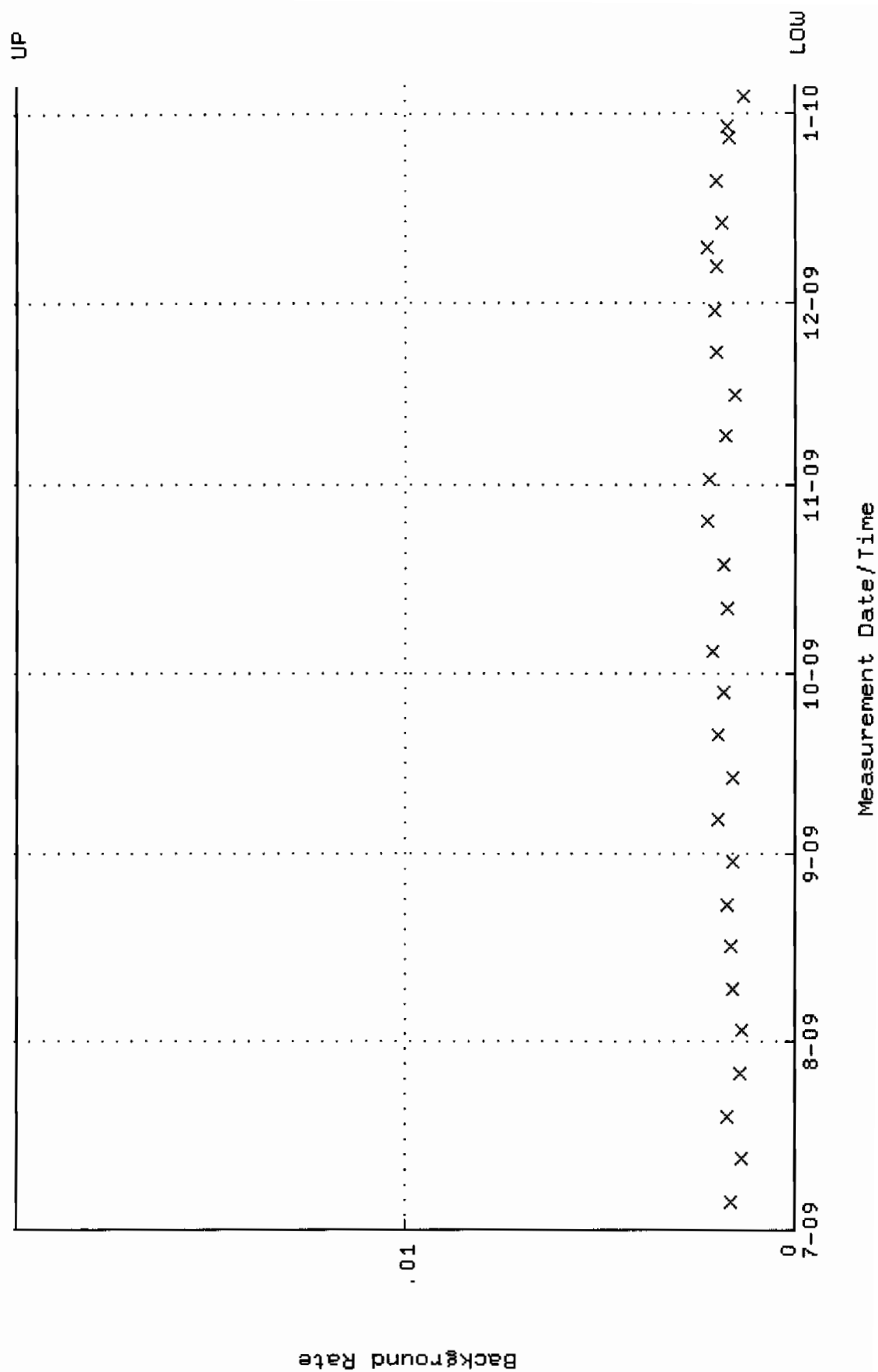


QA filename : DKA100:[ENV_ALPHA.QA.B]B021.QAF;1

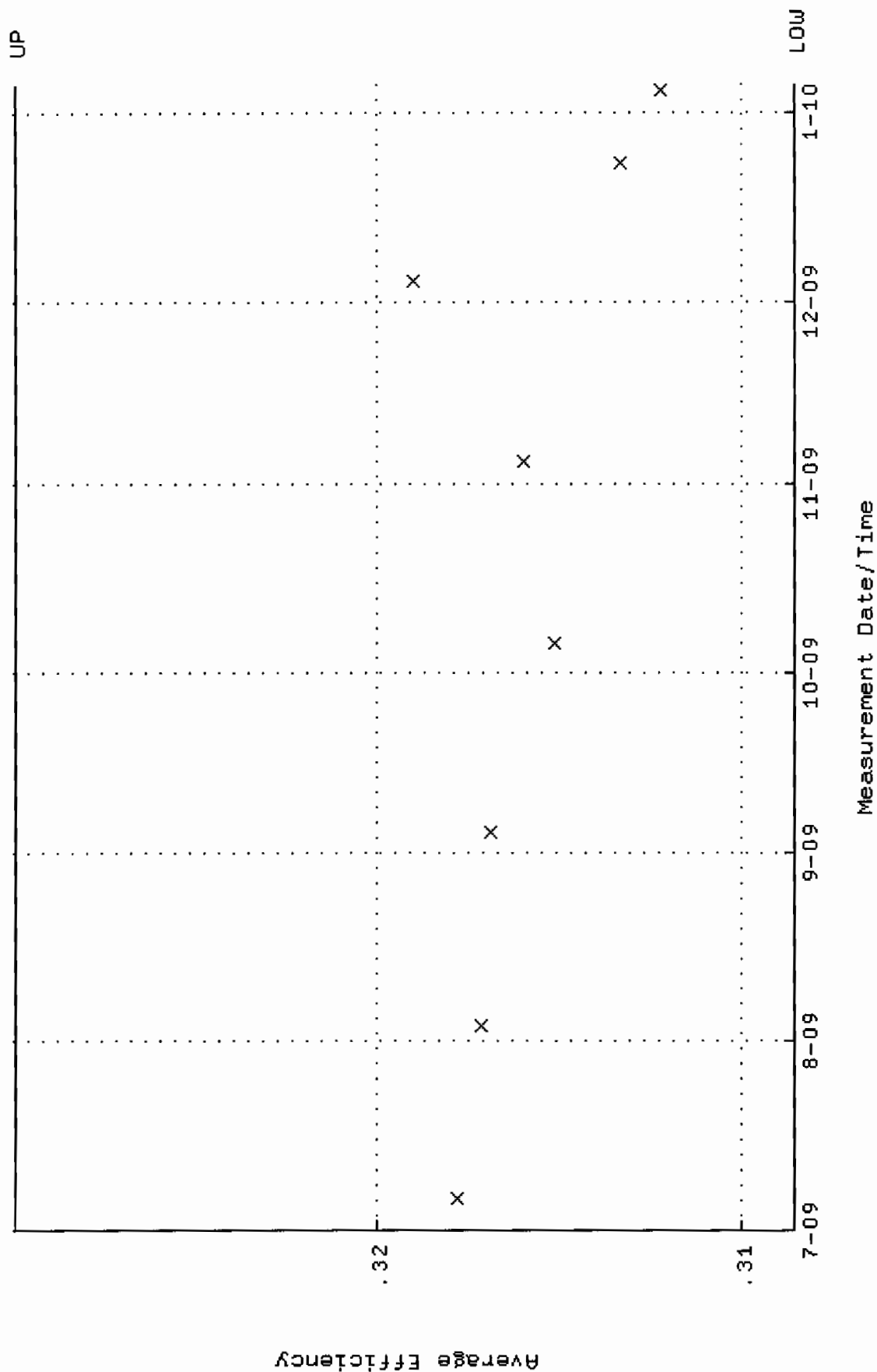
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:11:57 through 5-JAN-2010 12:00:00

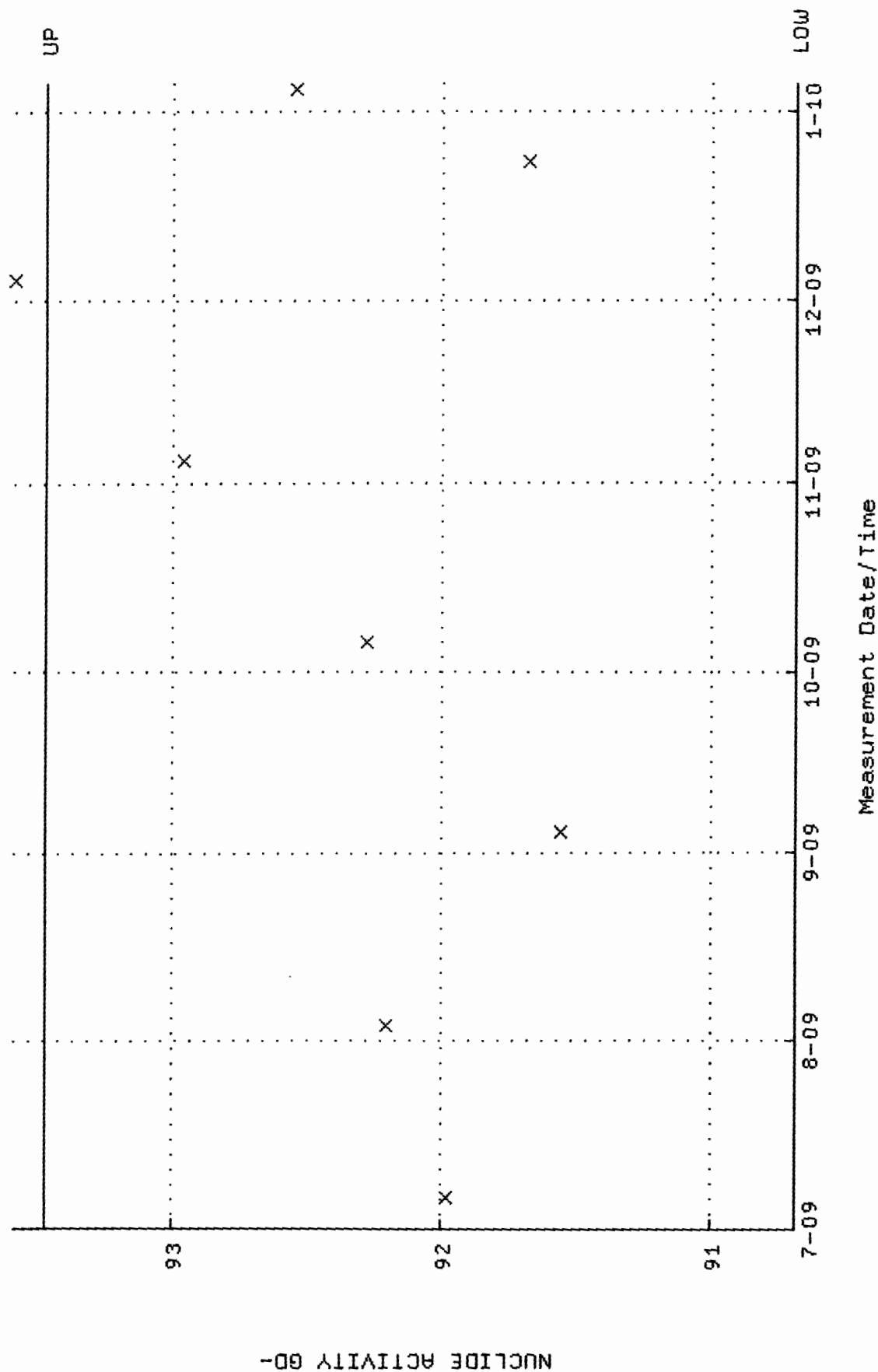
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



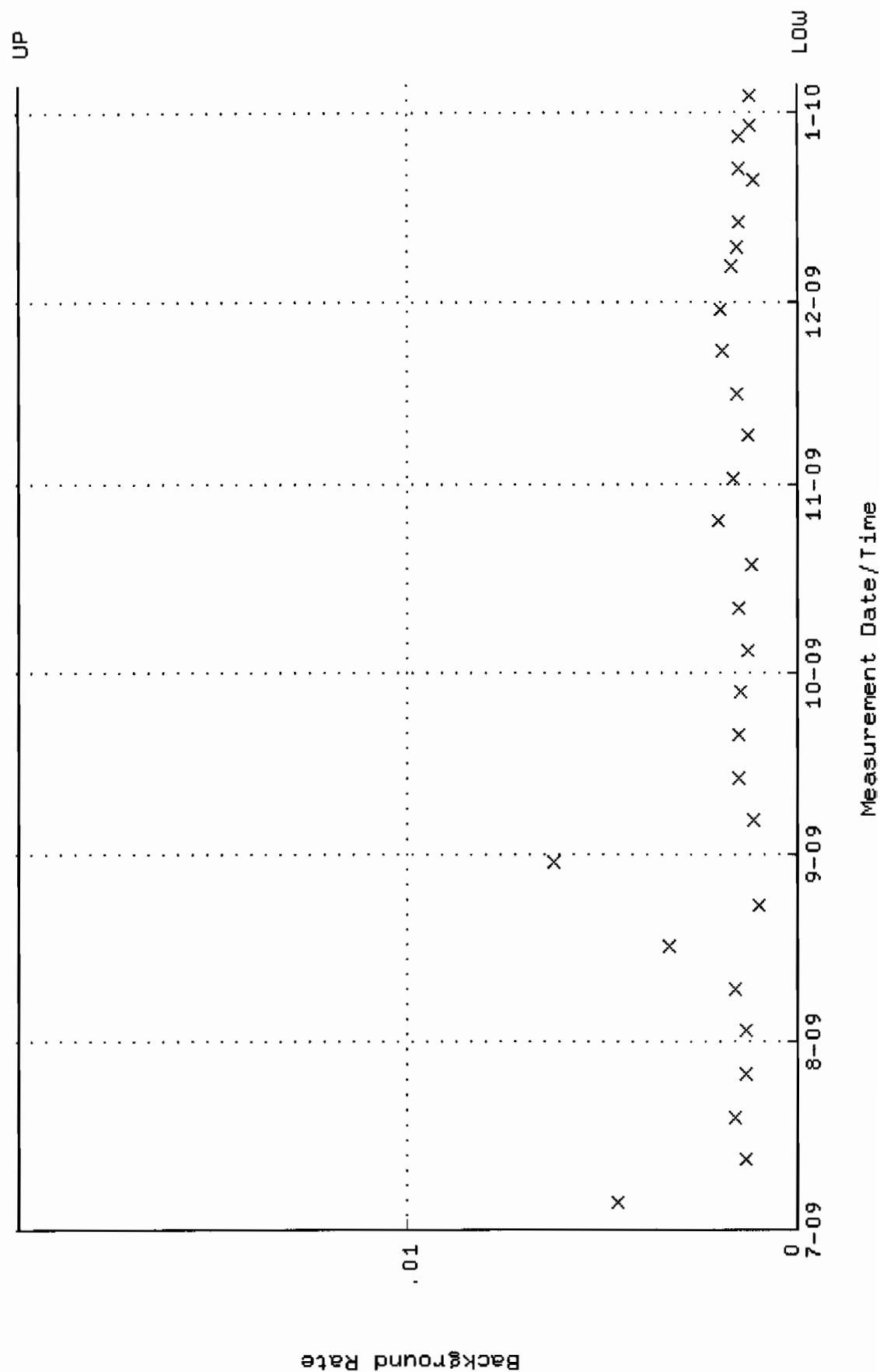
QA filename : DKA100:[ENV_ALPHA.QA.W]W022.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.308540 through 0.329898



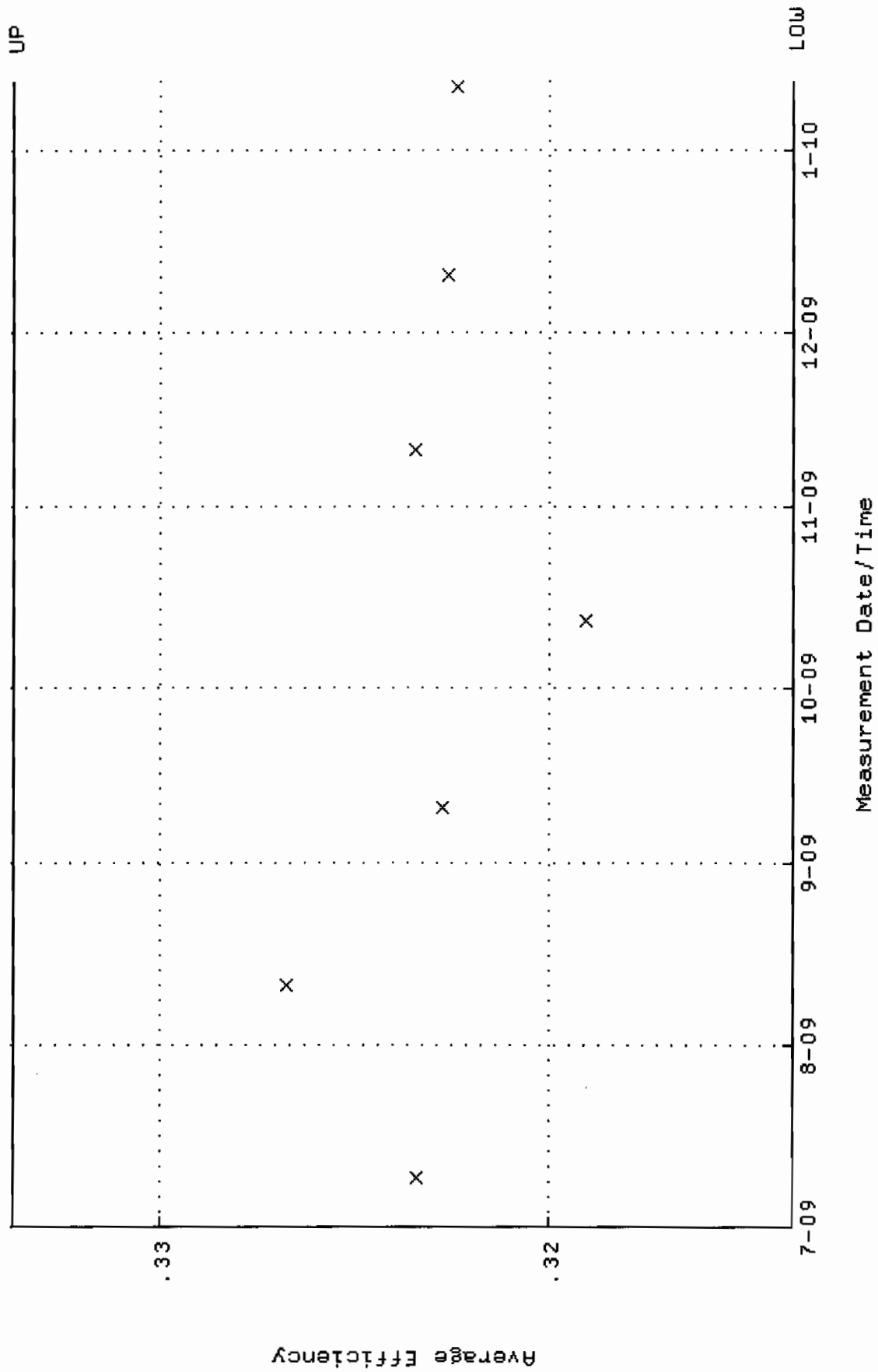
QA filename : DKA100:[ENV_ALPHA,QA.W]W022.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:13 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 90.6887 through 93.4713



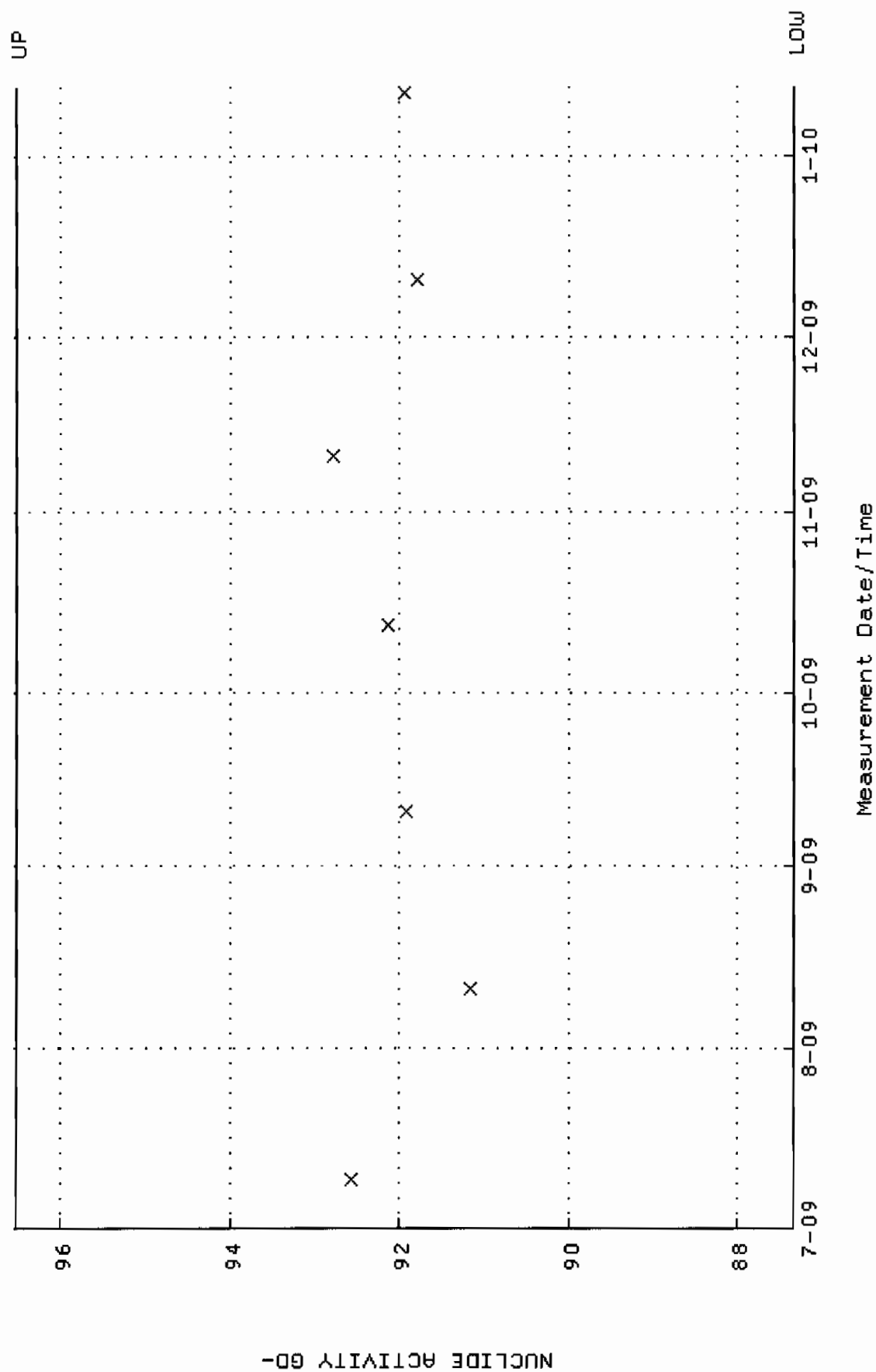
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



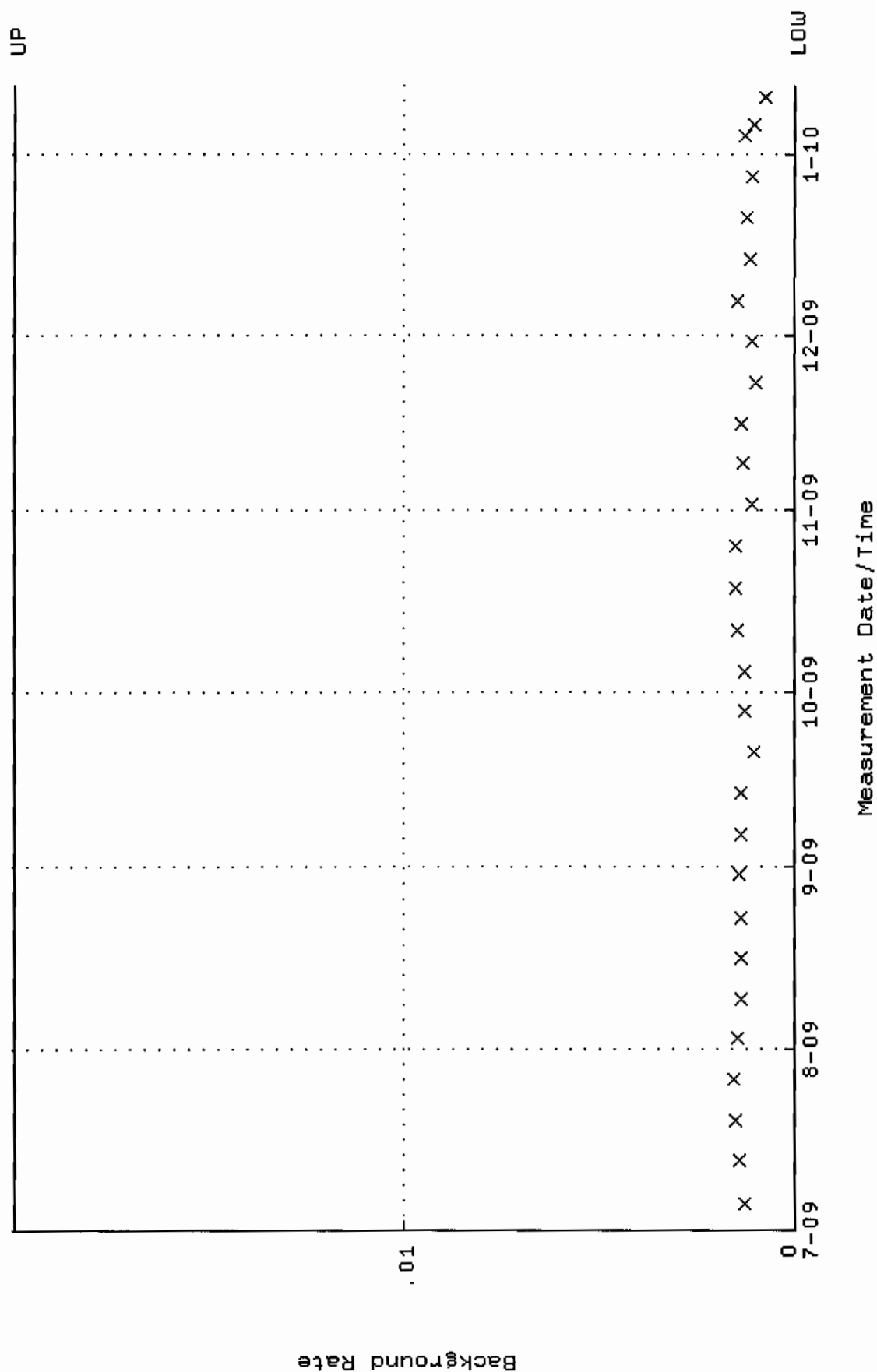
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.313761 through 0.333761



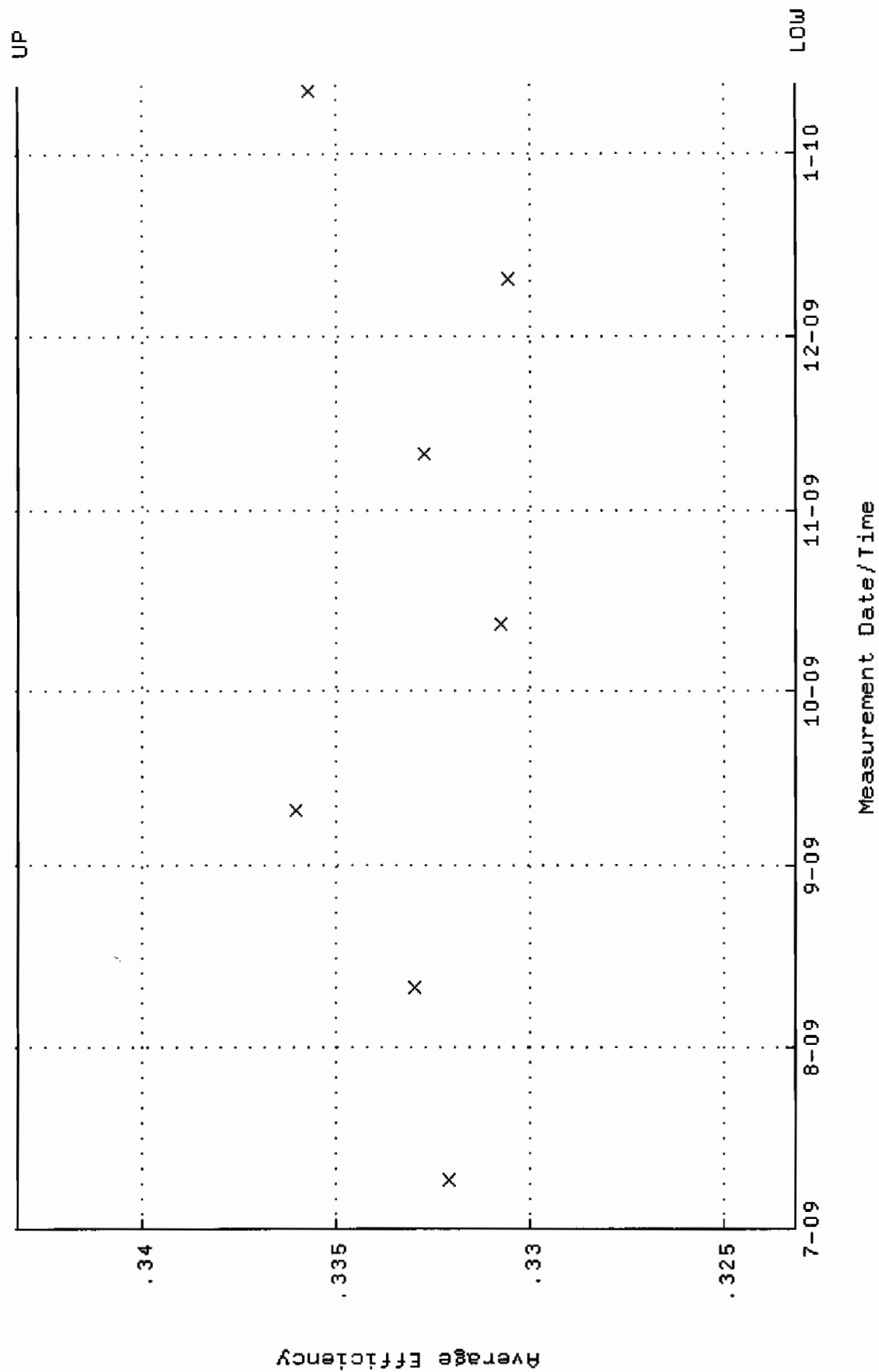
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.3348 through 96.5280



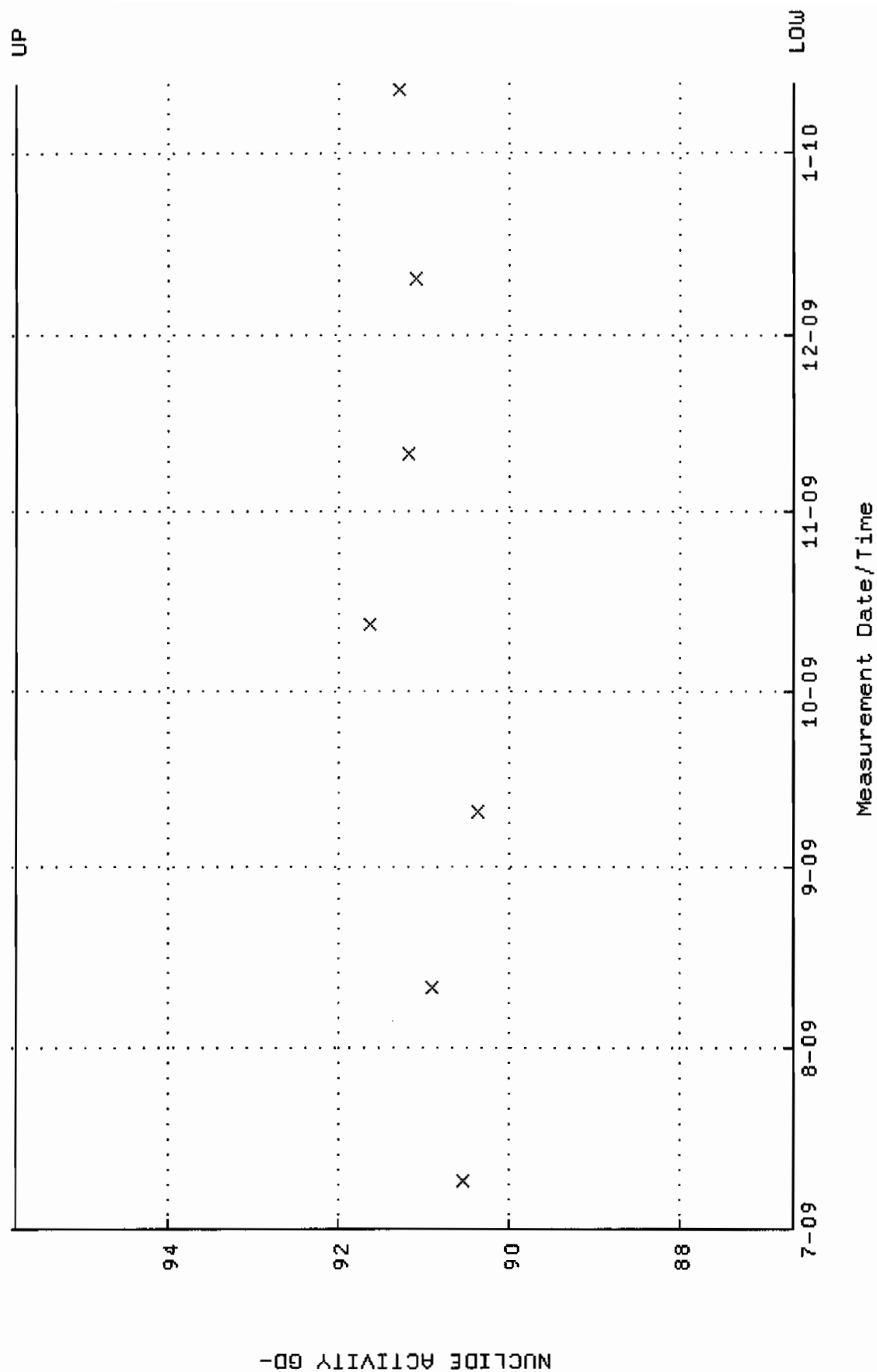
QA filename : DKA100:[ENV_ALPHA.QA.B]B072.QAF;1
 Parameter Name : BACKRATE (Background Rate)
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



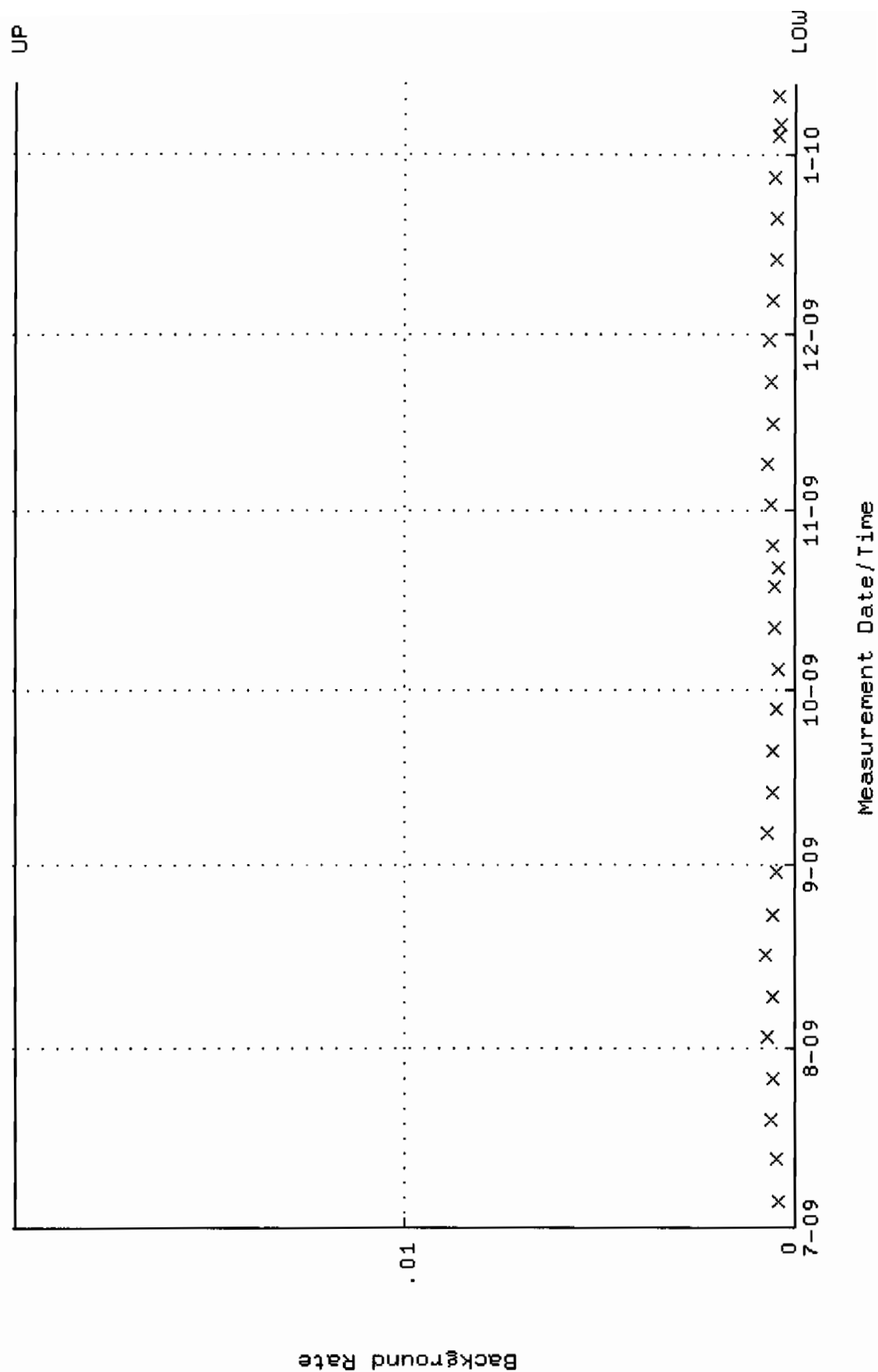
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.323184 through 0.343184



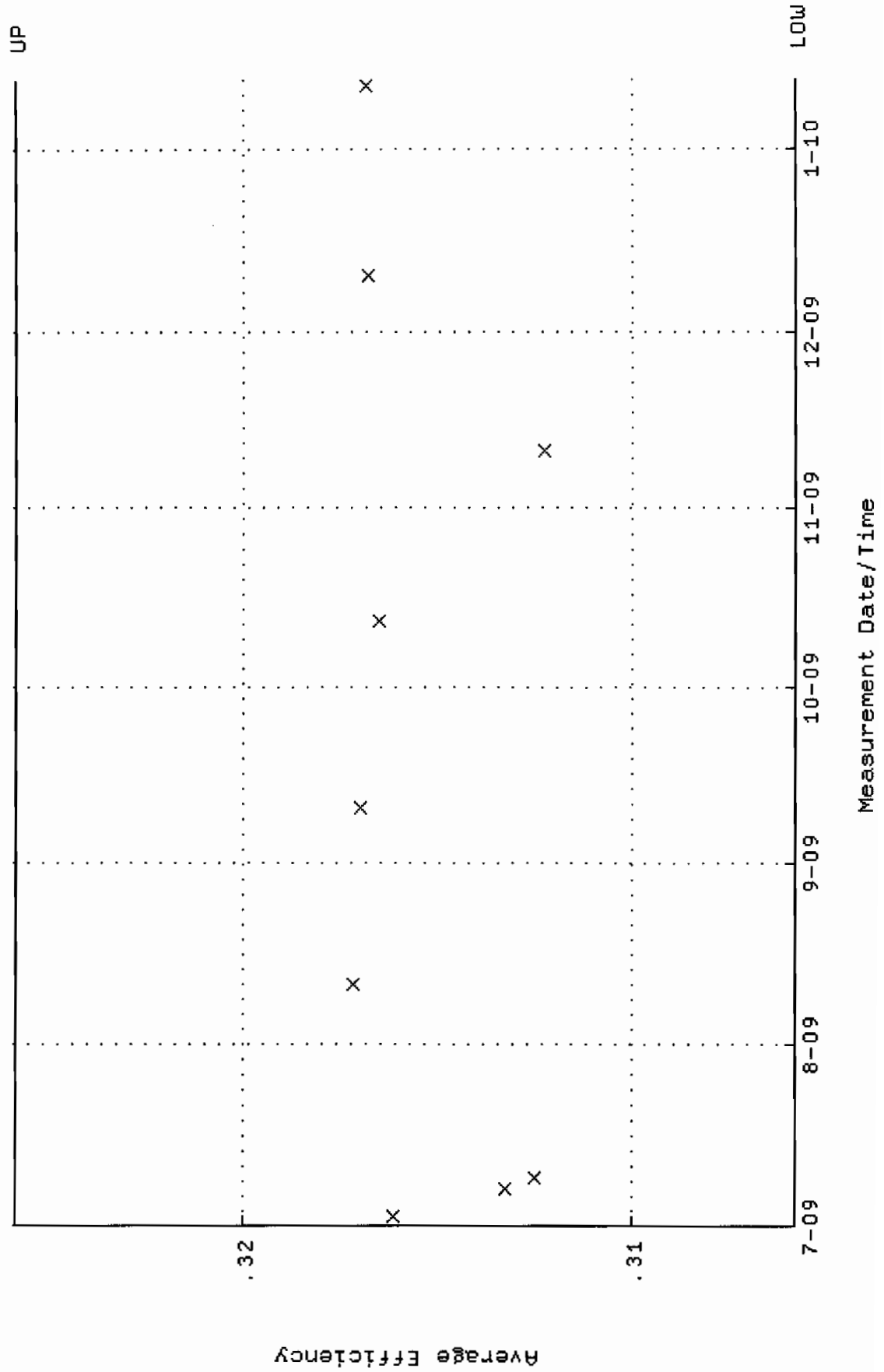
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.6734 through 95.7970



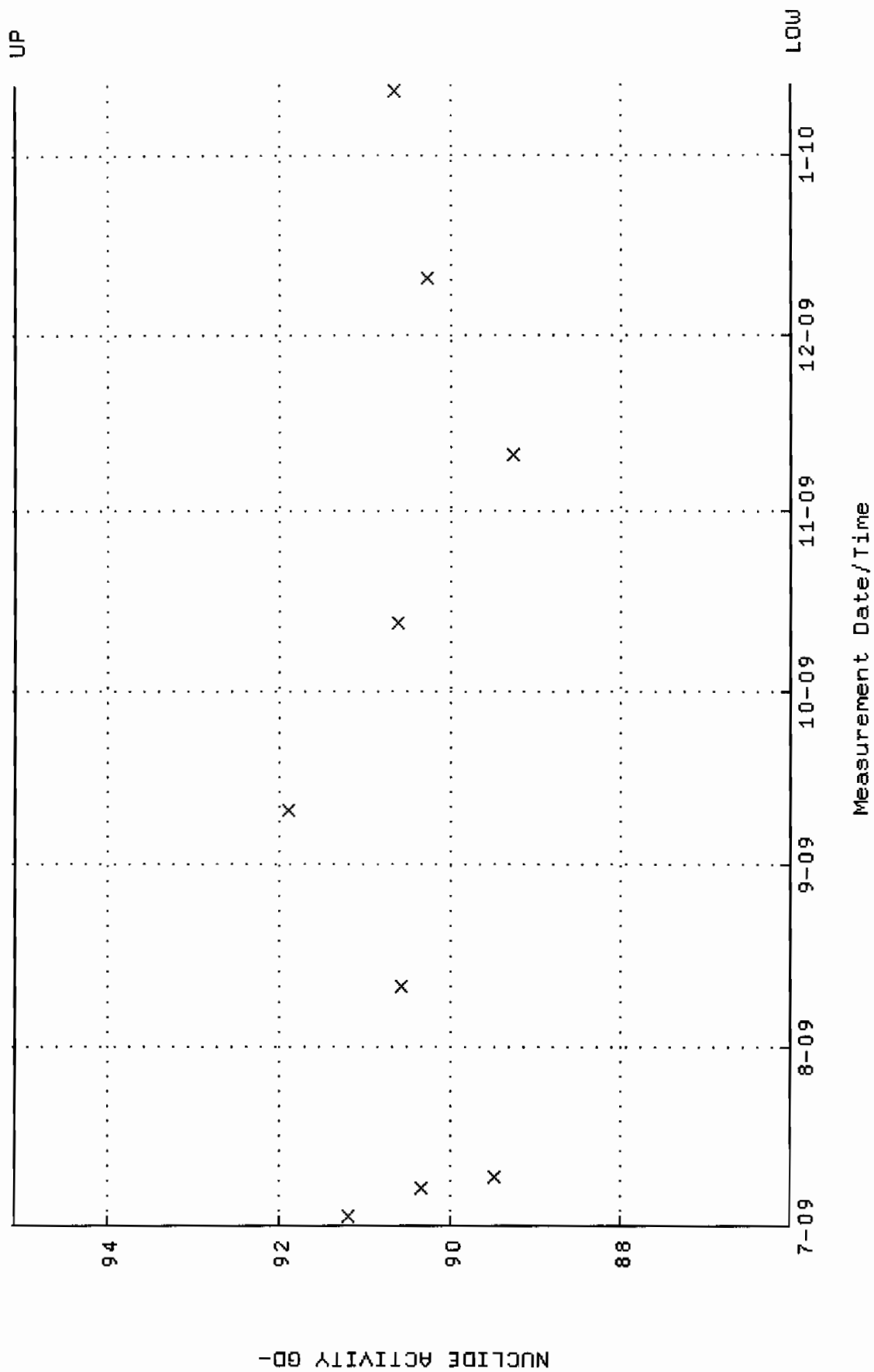
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.305830 through 0.325830



QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUL-2009 15:04:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.0289 through 95.0845

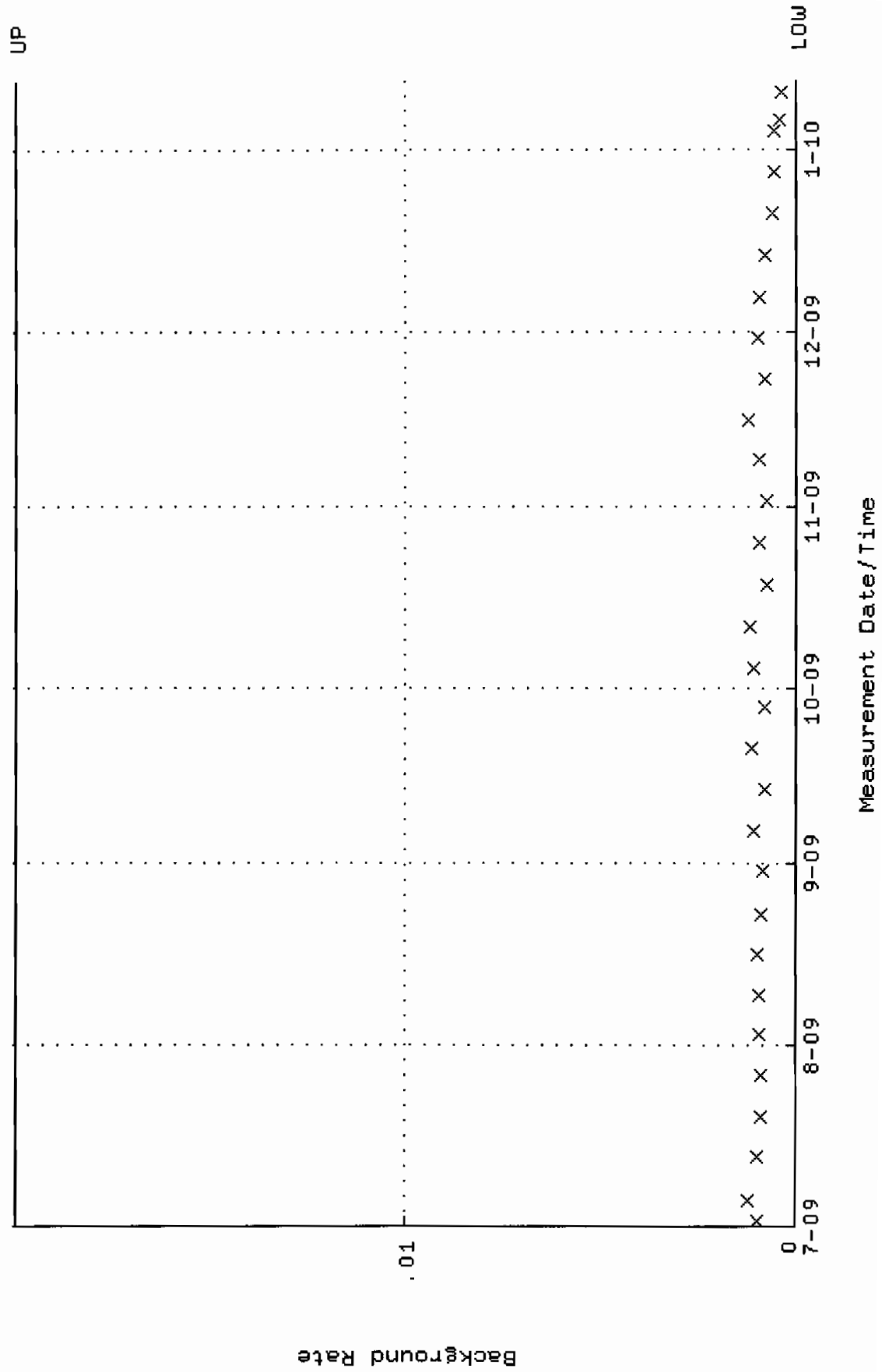


QA filename : DKA100:[ENV_ALPHA.QA.B]B074.QAF;2

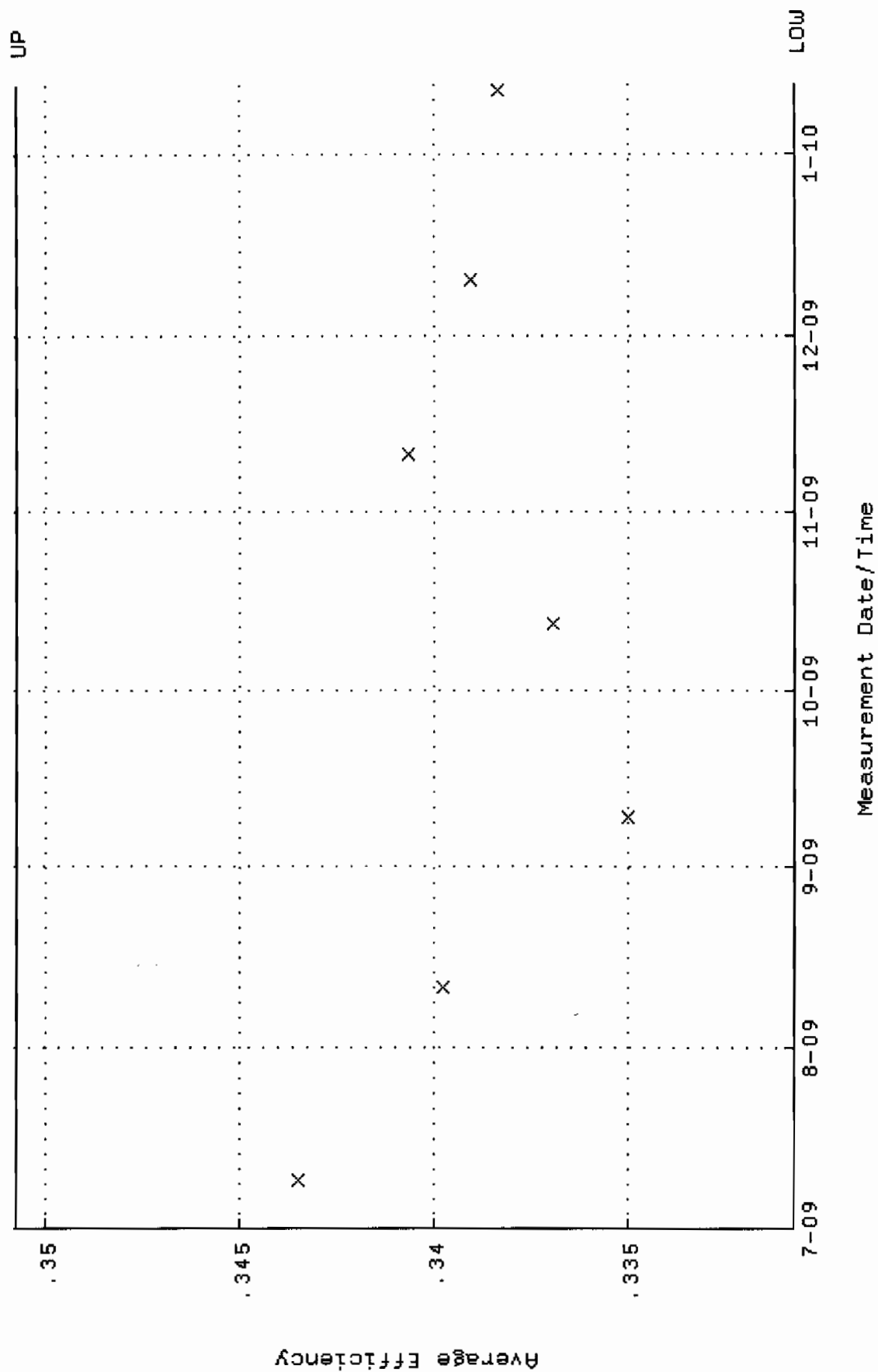
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 1-JUL-2009 21:39:57 through 12-JAN-2010 12:00:00

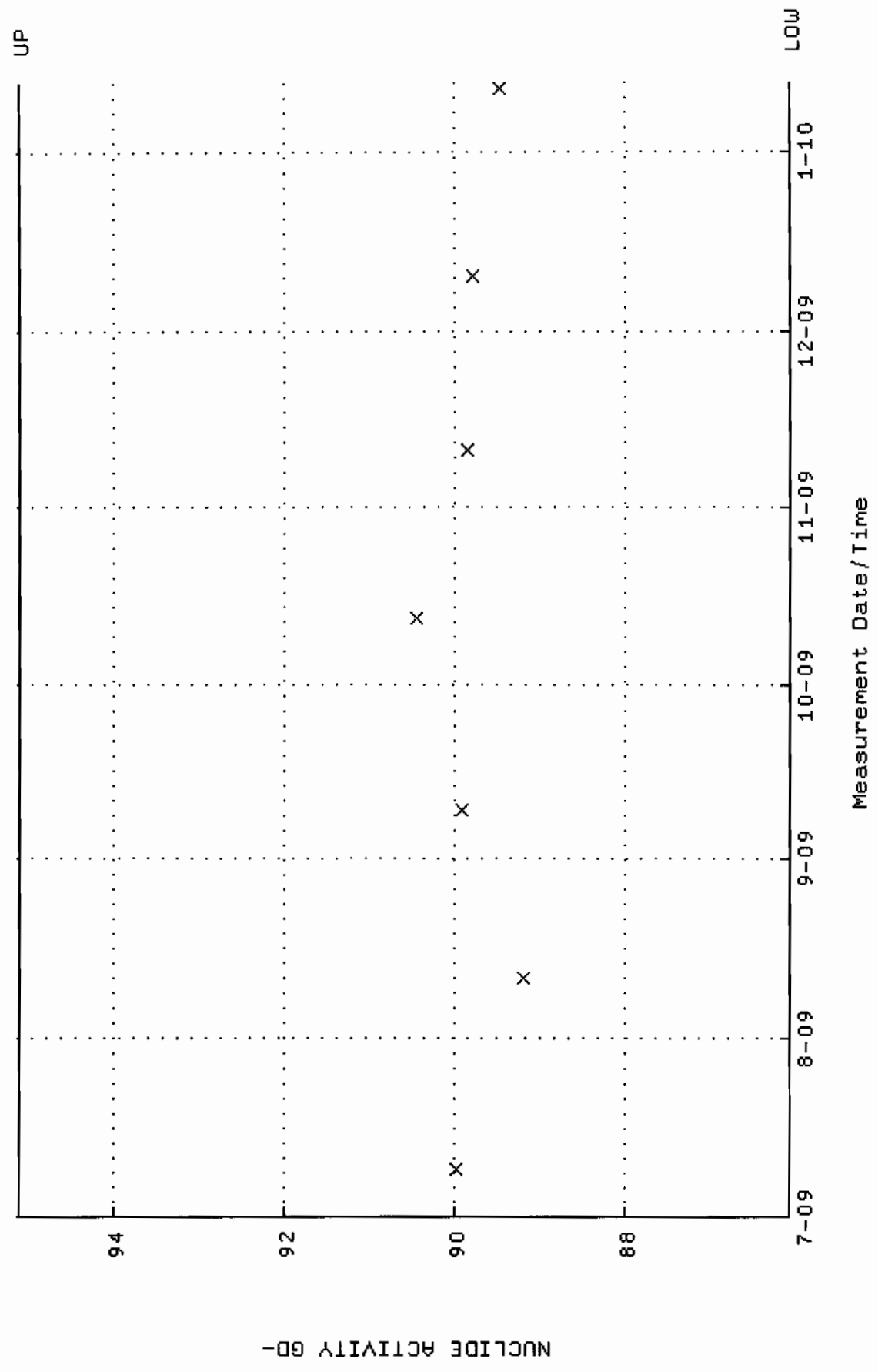
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



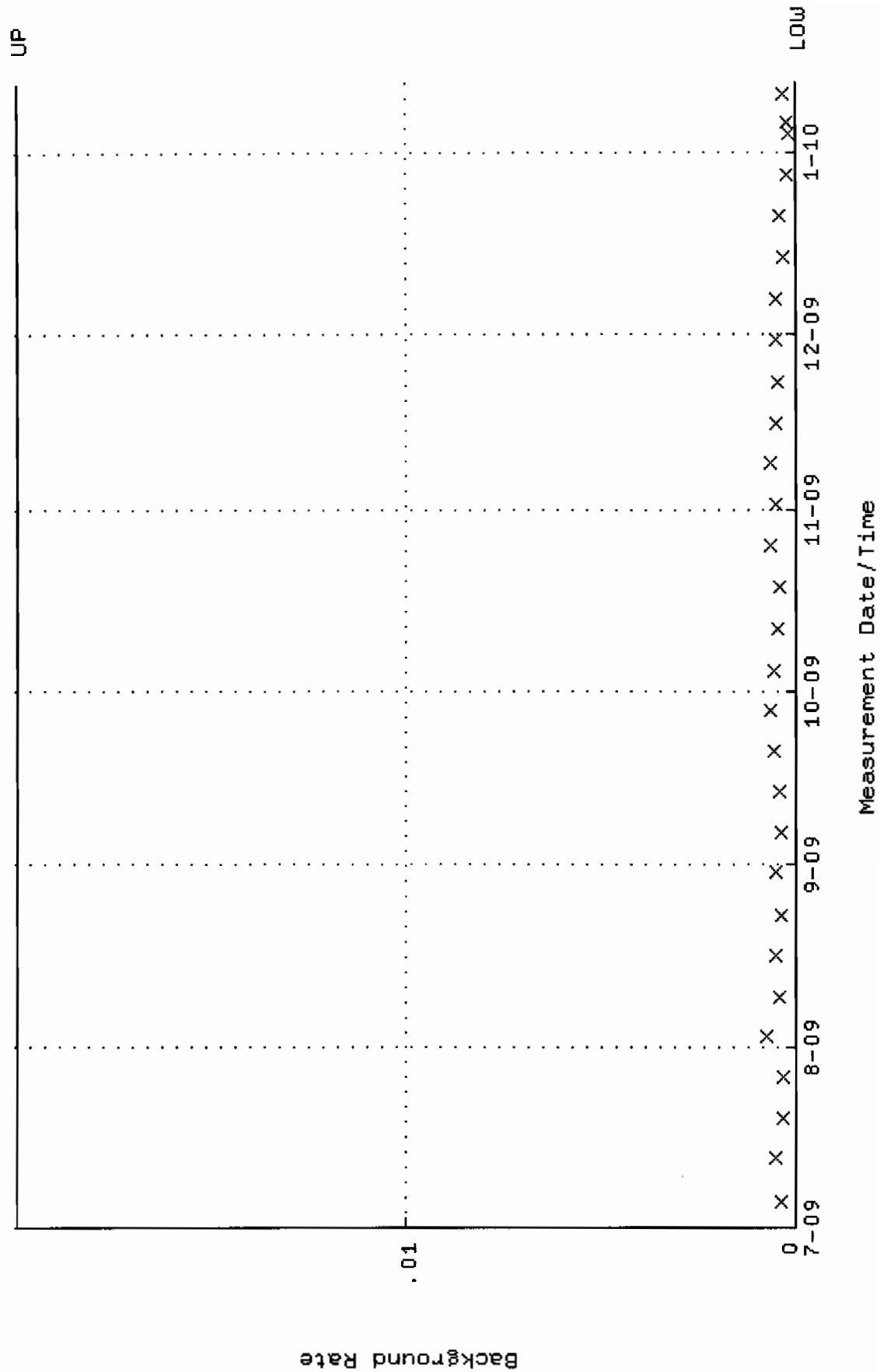
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.330740 through 0.350740



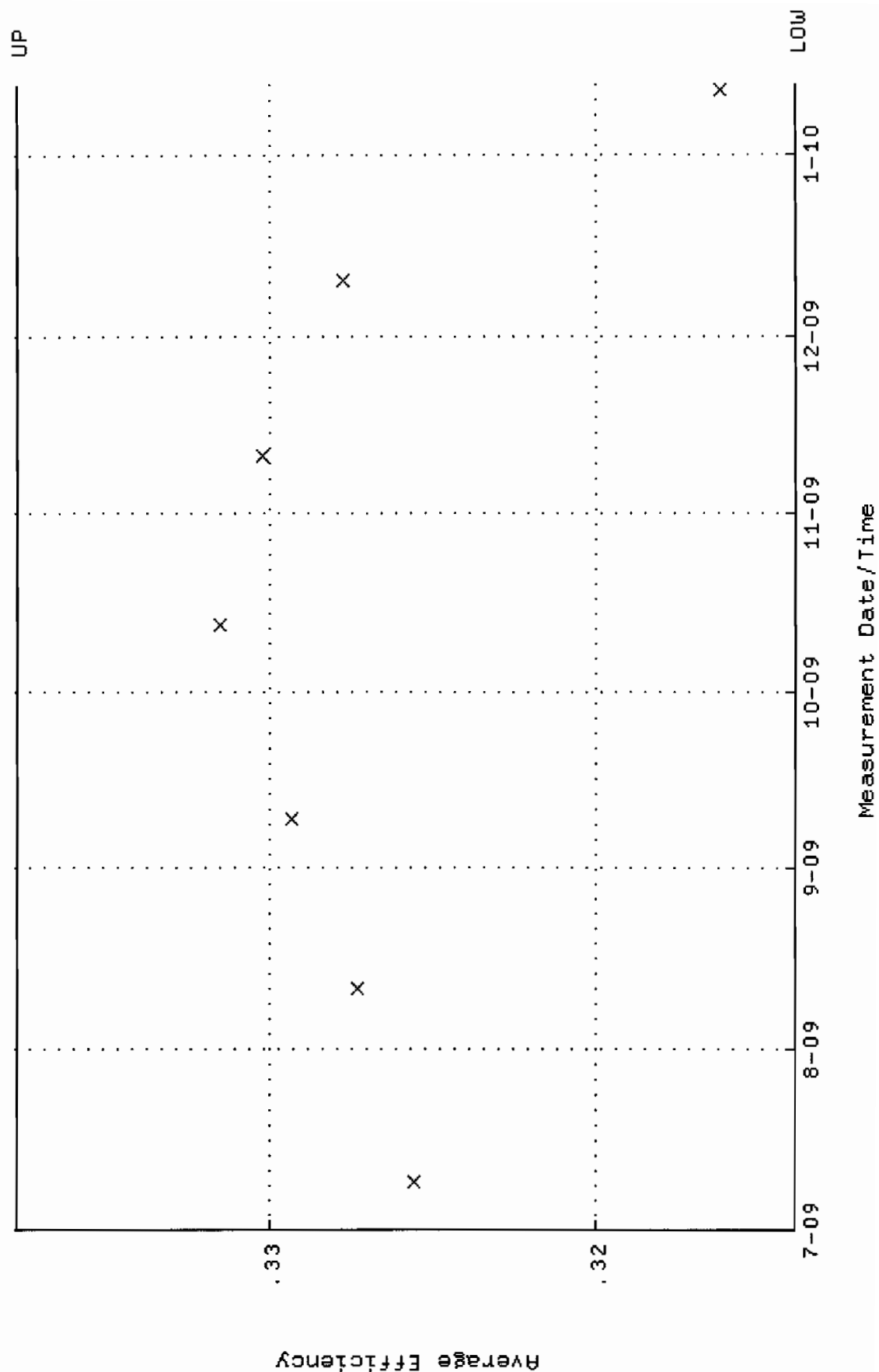
QA filename : DKA100:[ENV_ALPHA.QA.W]W084.QAF;5
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.0569 through 95.1155



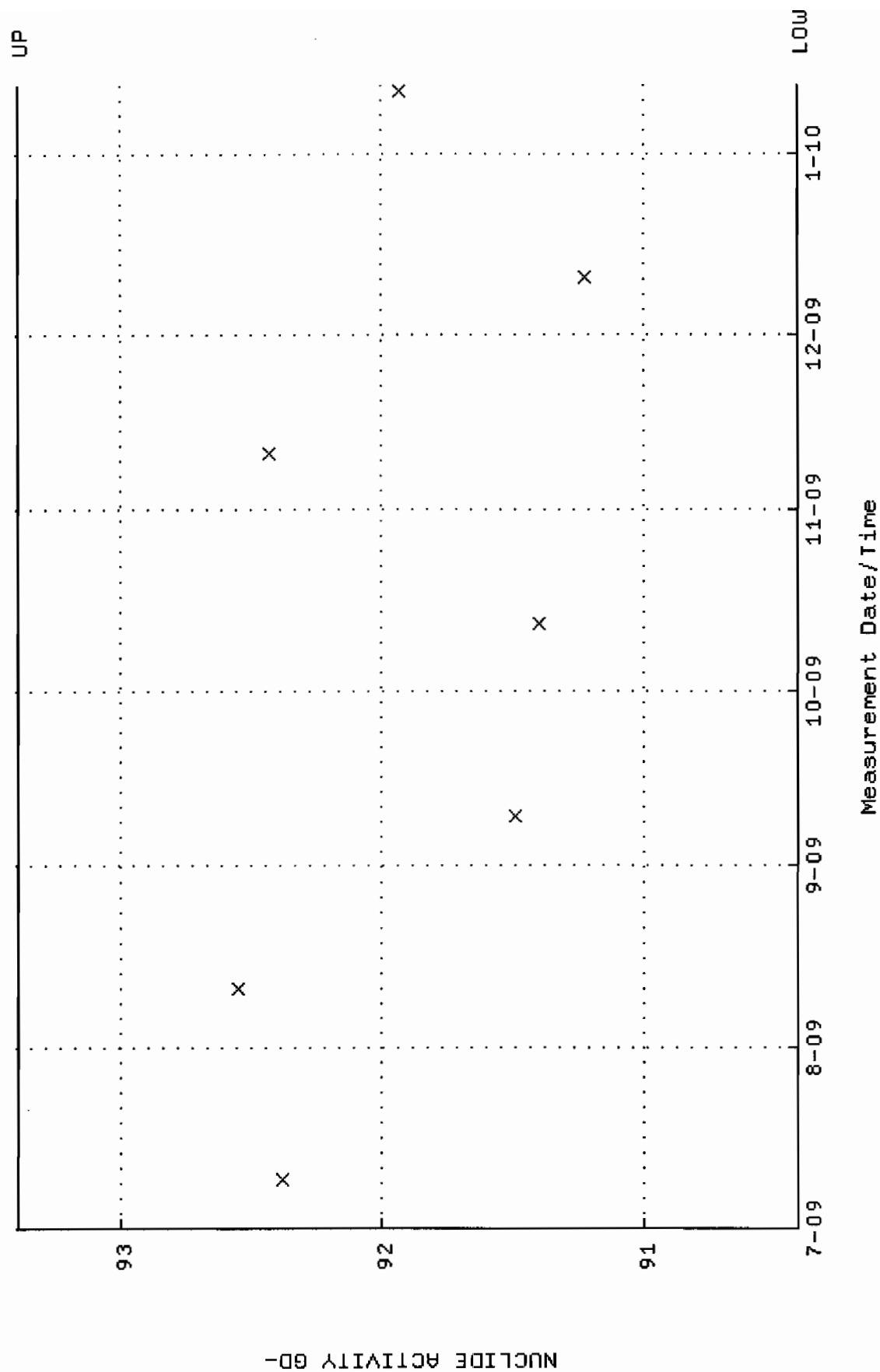
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 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



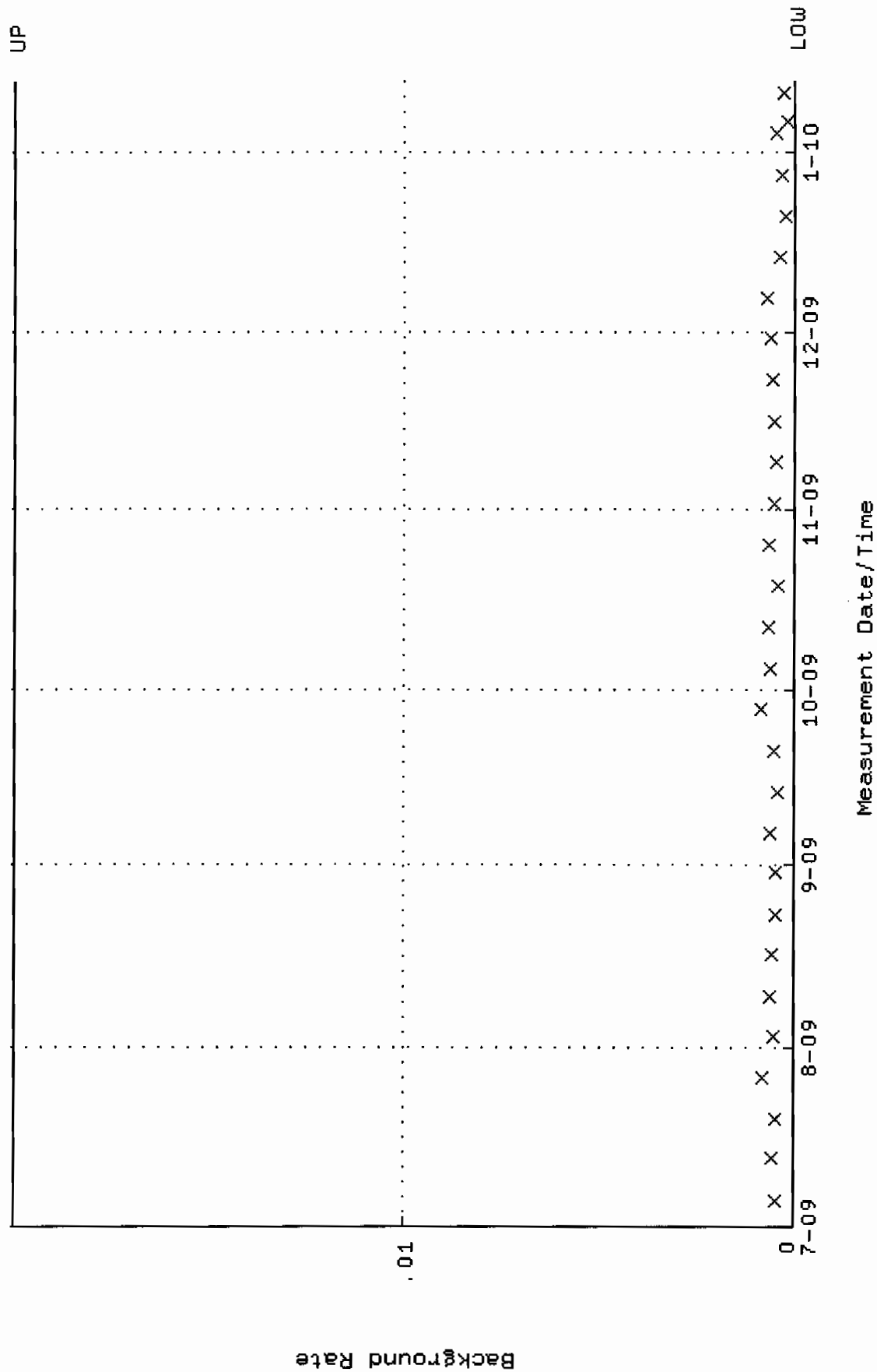
QA filename : DKA100:[ENV_ALPHA,QA.W]W085.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.313884 through 0.337714



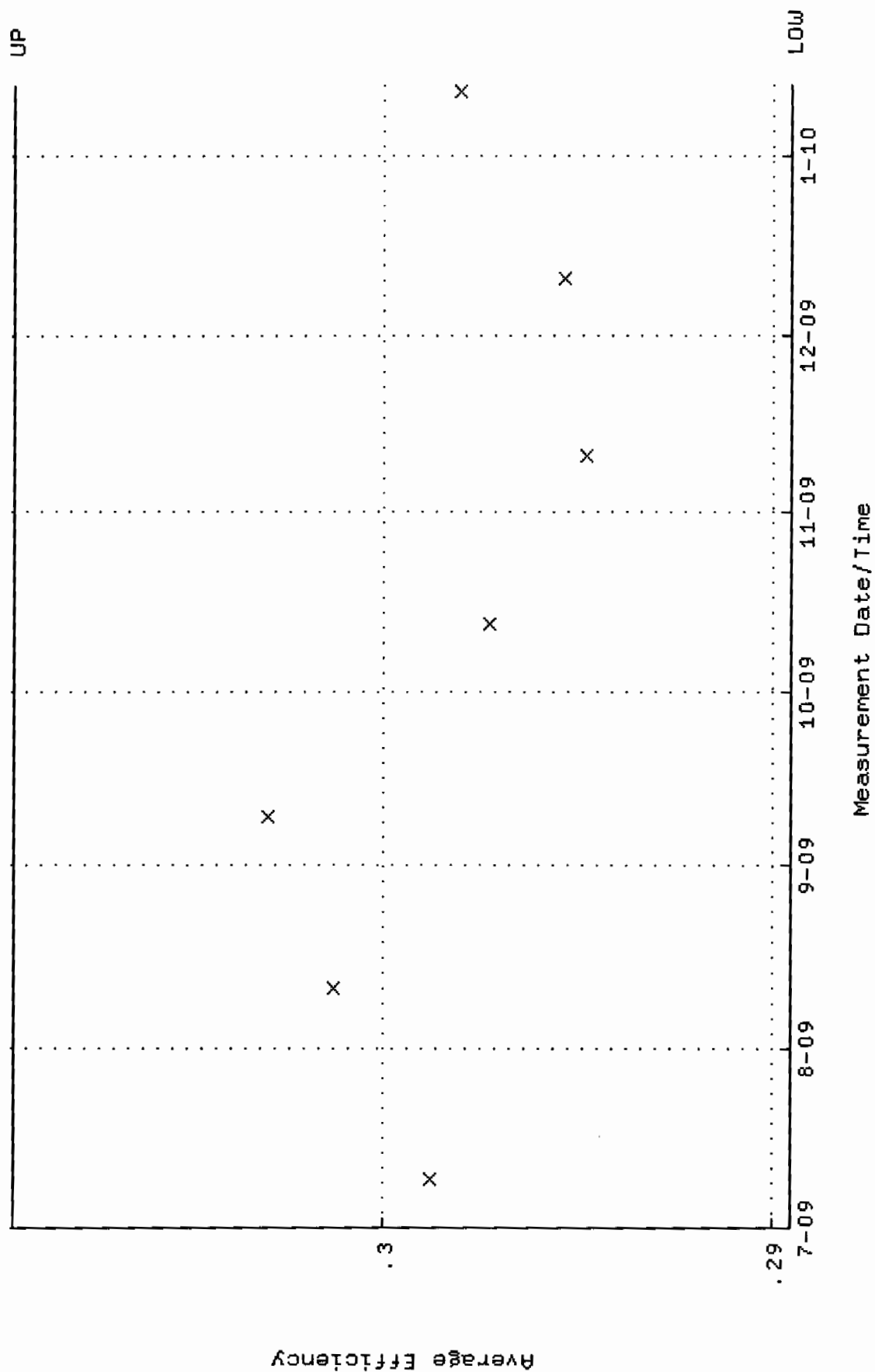
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
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 Lower/Upper Lmts: 90.4059 through 93.3969



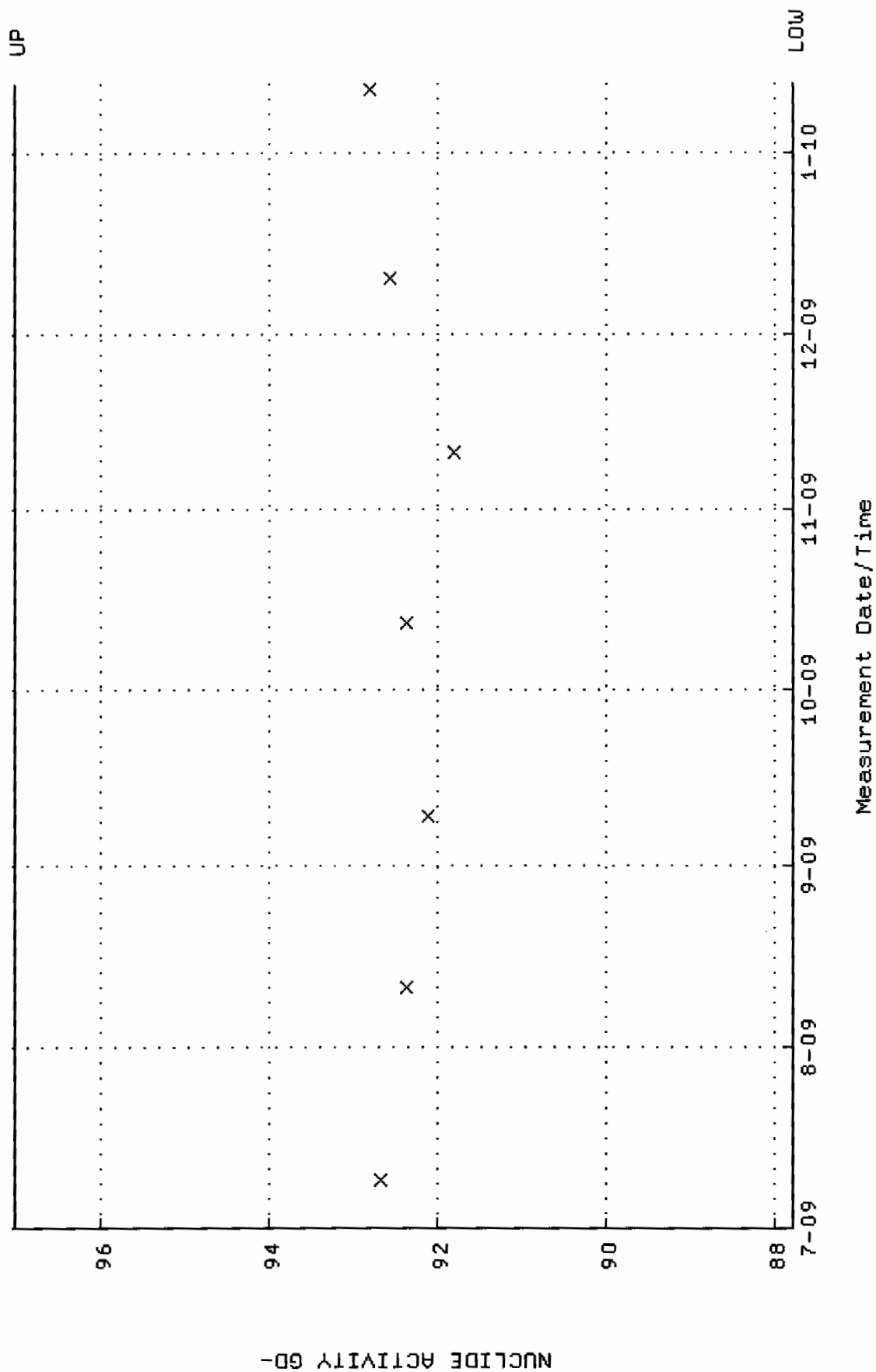
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 Parameter Name : BACKRATE (Background Rate)
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



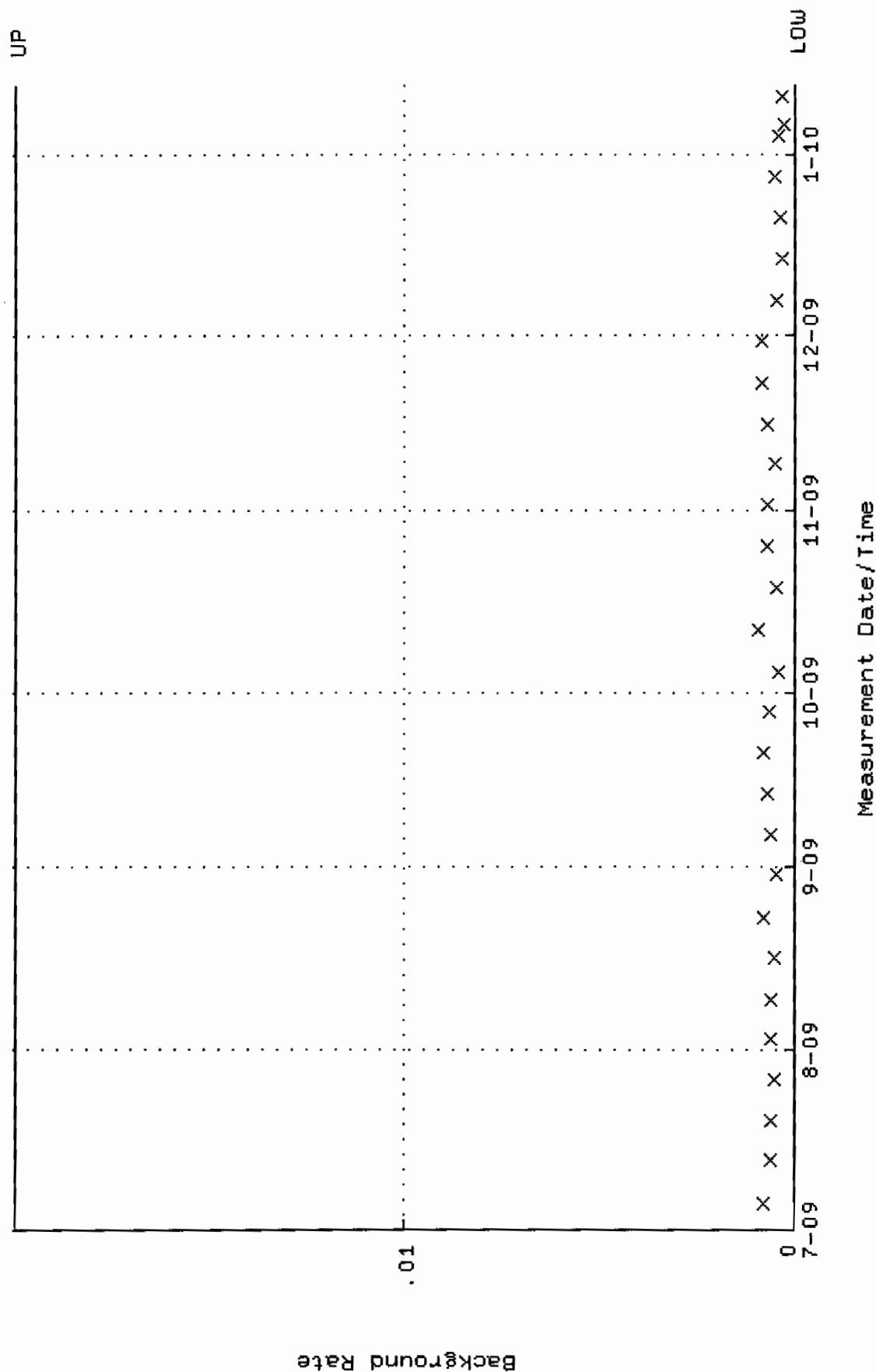
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.289508 through 0.309508



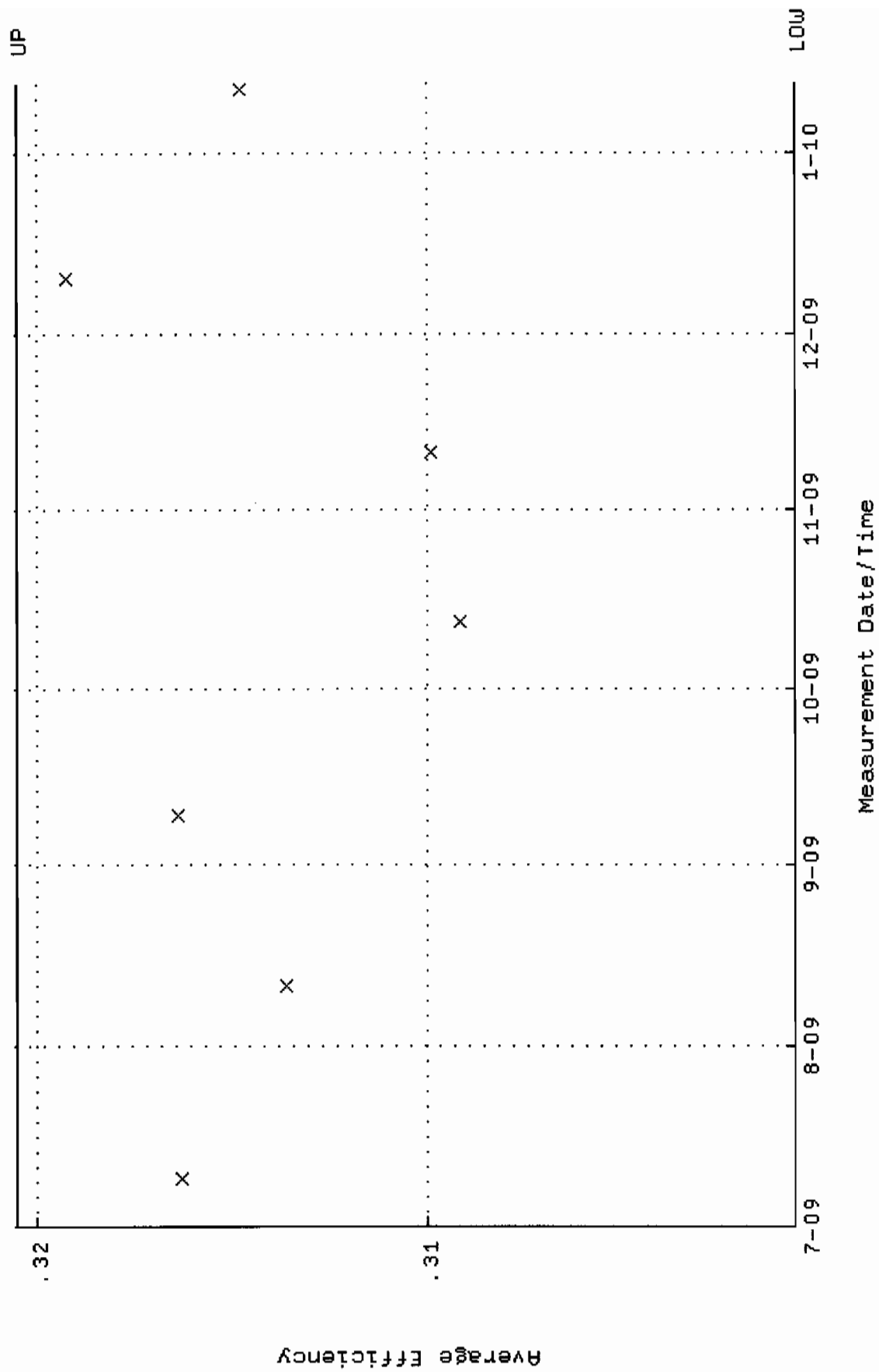
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 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
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 Lower/Upper Lmts: 87.7898 through 97.0308



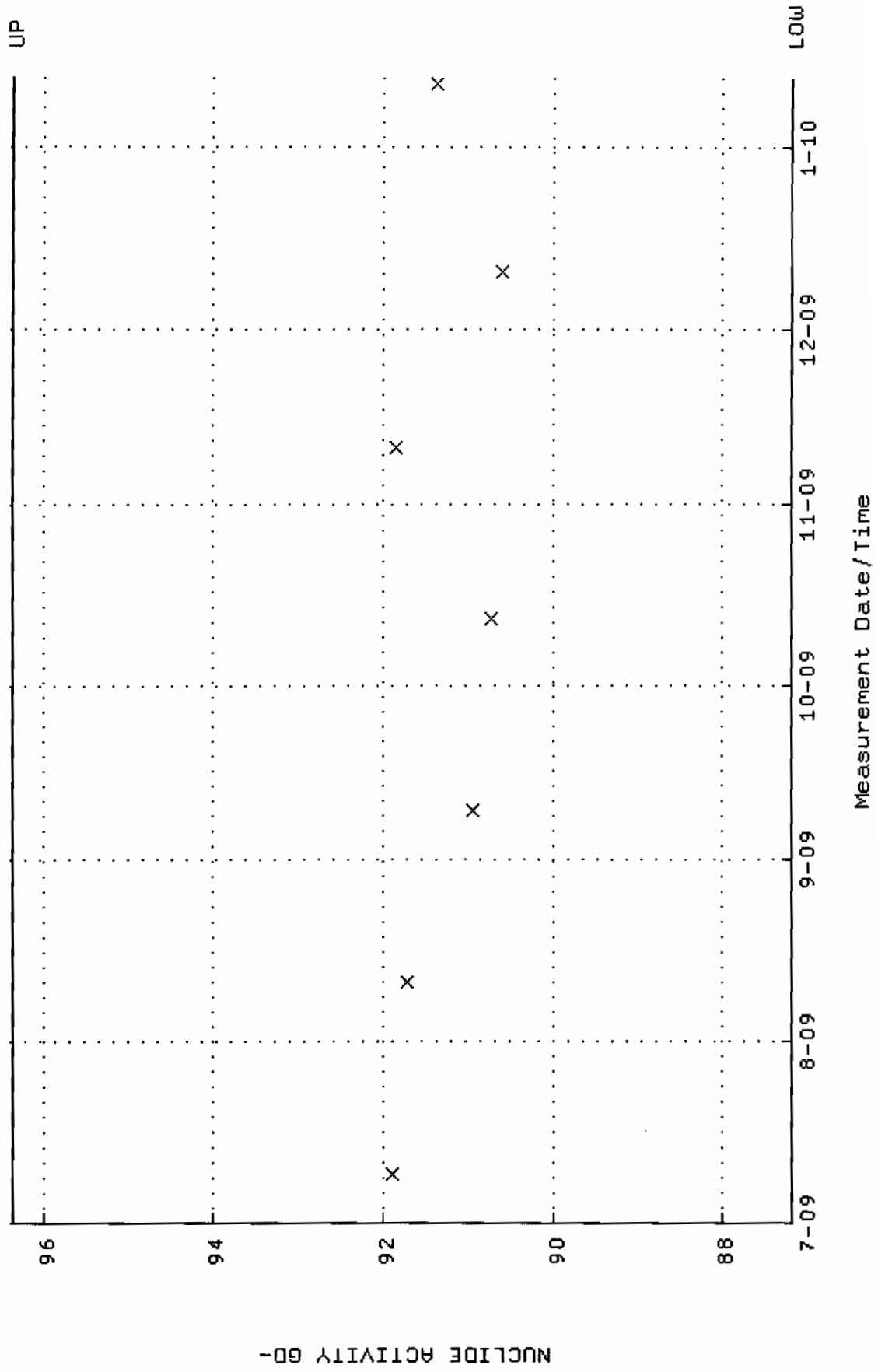
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



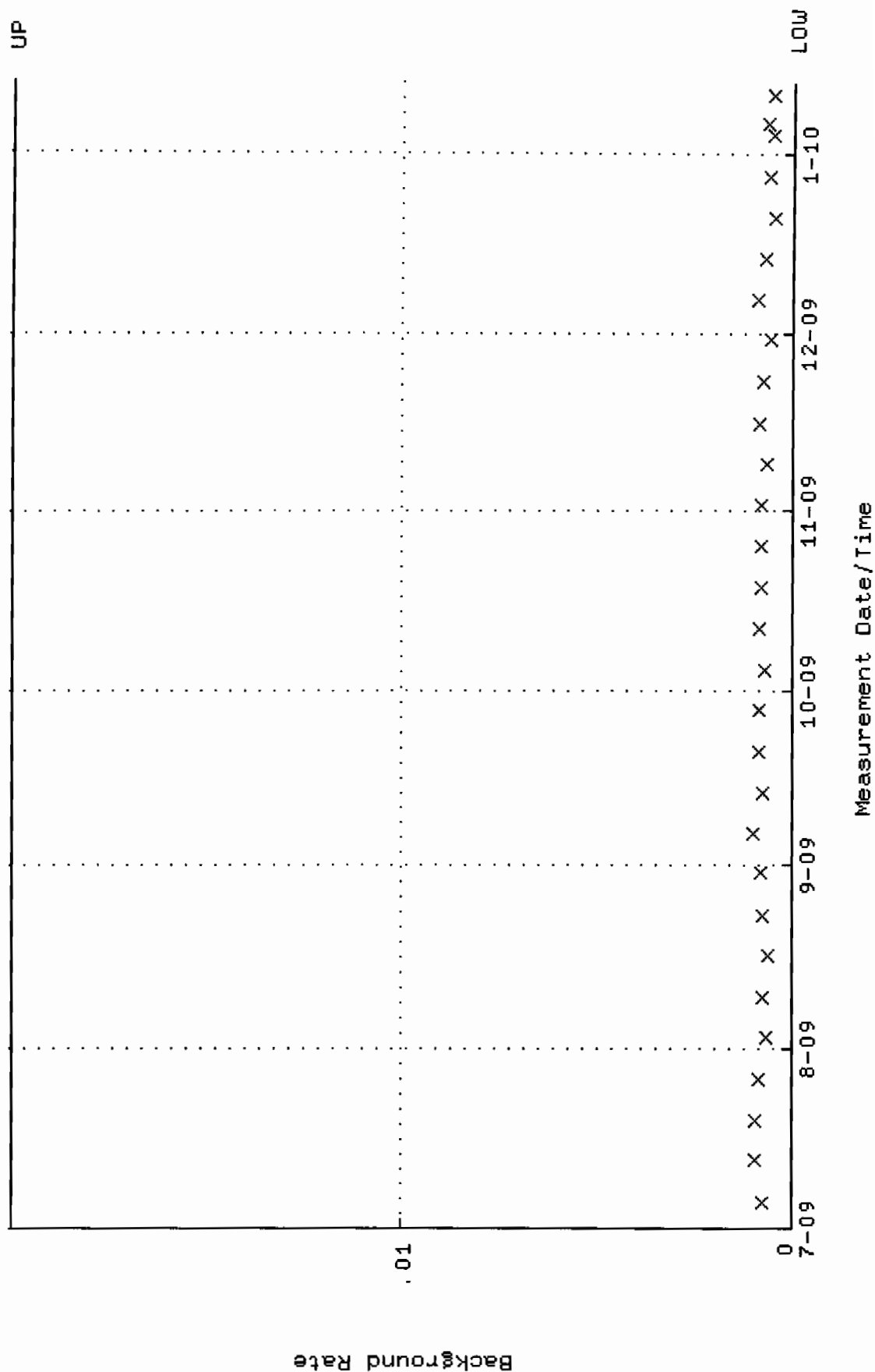
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 Parameter Name : AVRGEFF (Average Efficiency)
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 Lower/Upper Lmts: 0.300530 through 0.320530



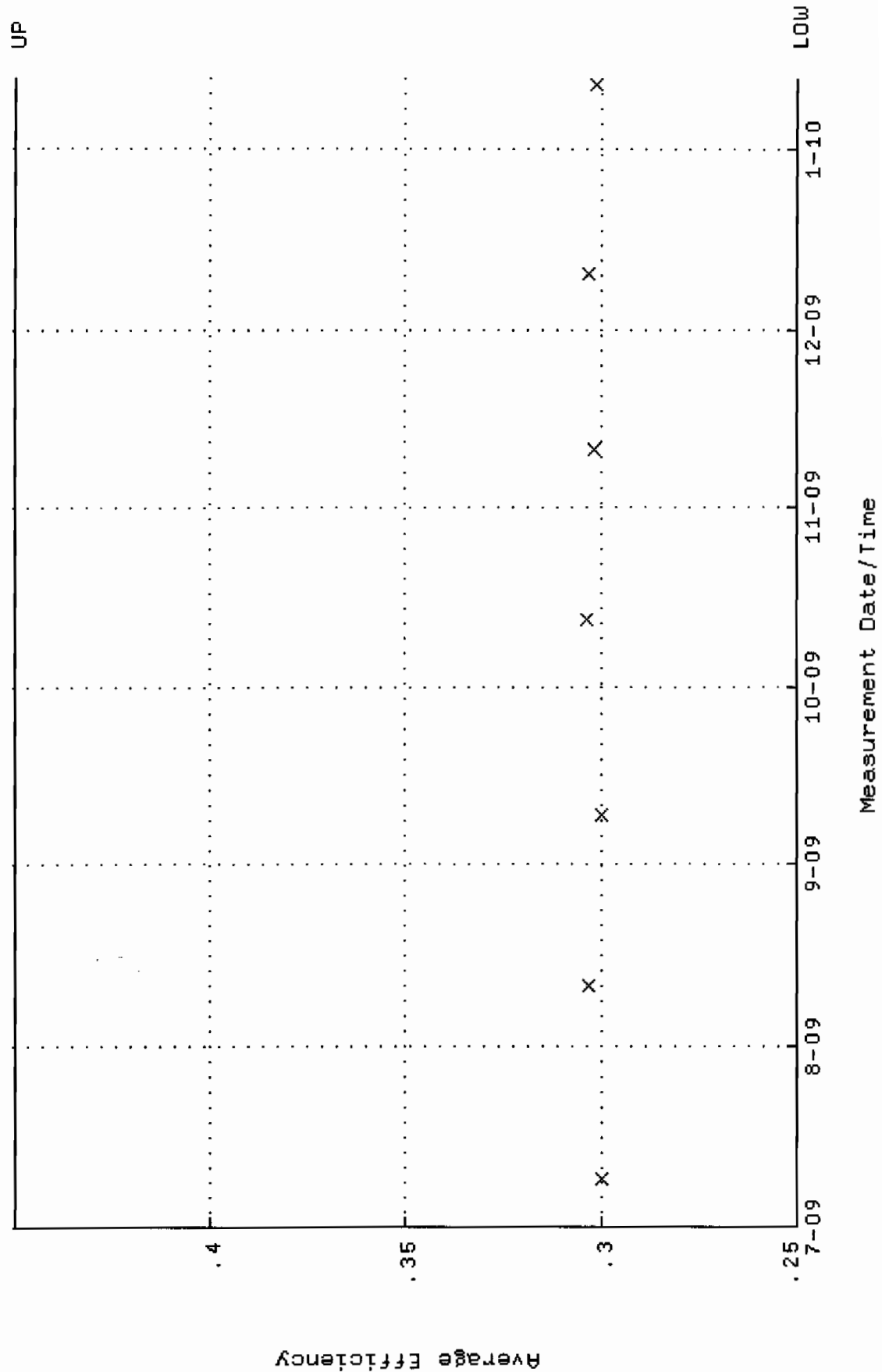
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 Lower/Upper Lmts: 87.1845 through 96.3619



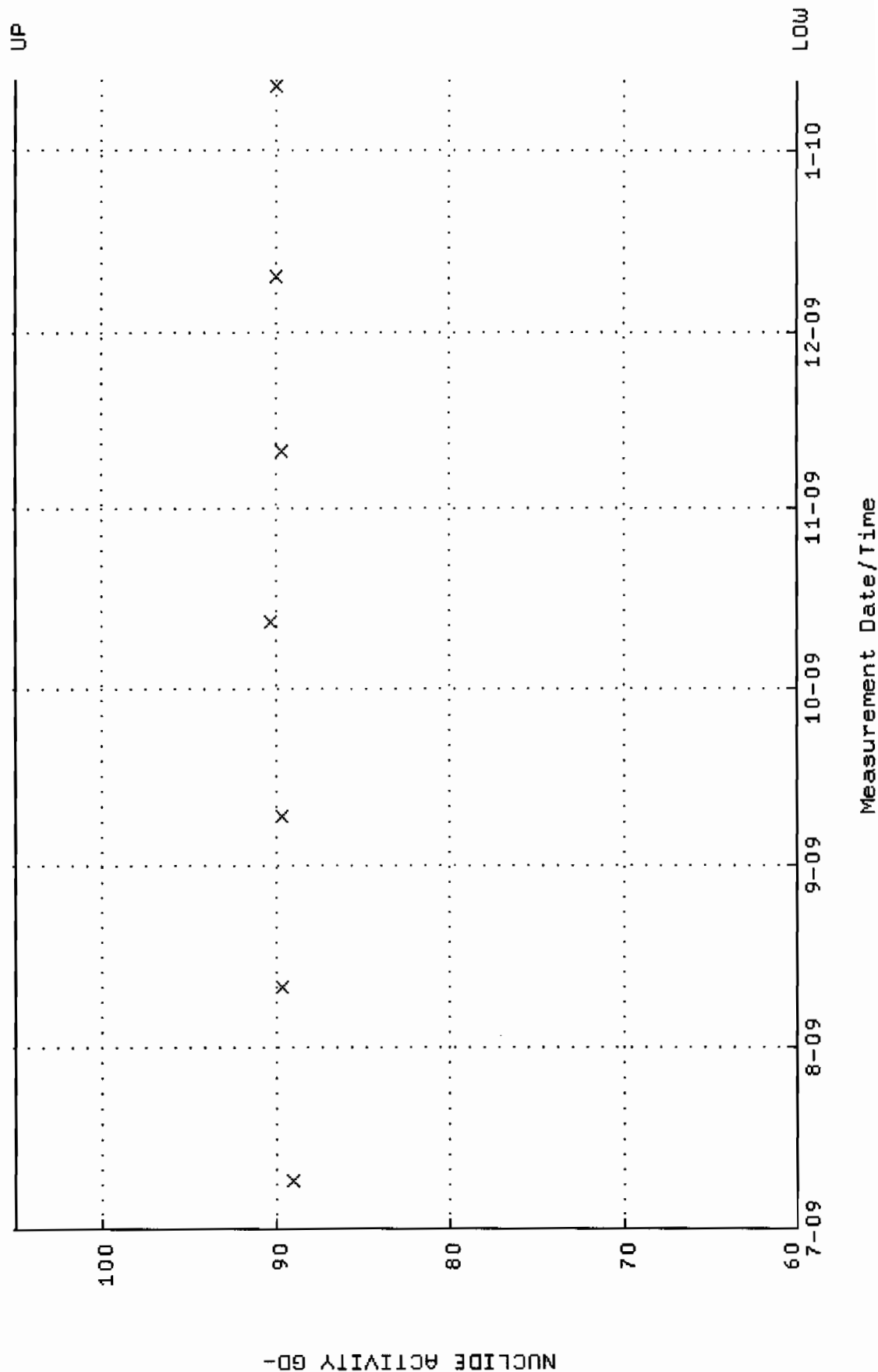
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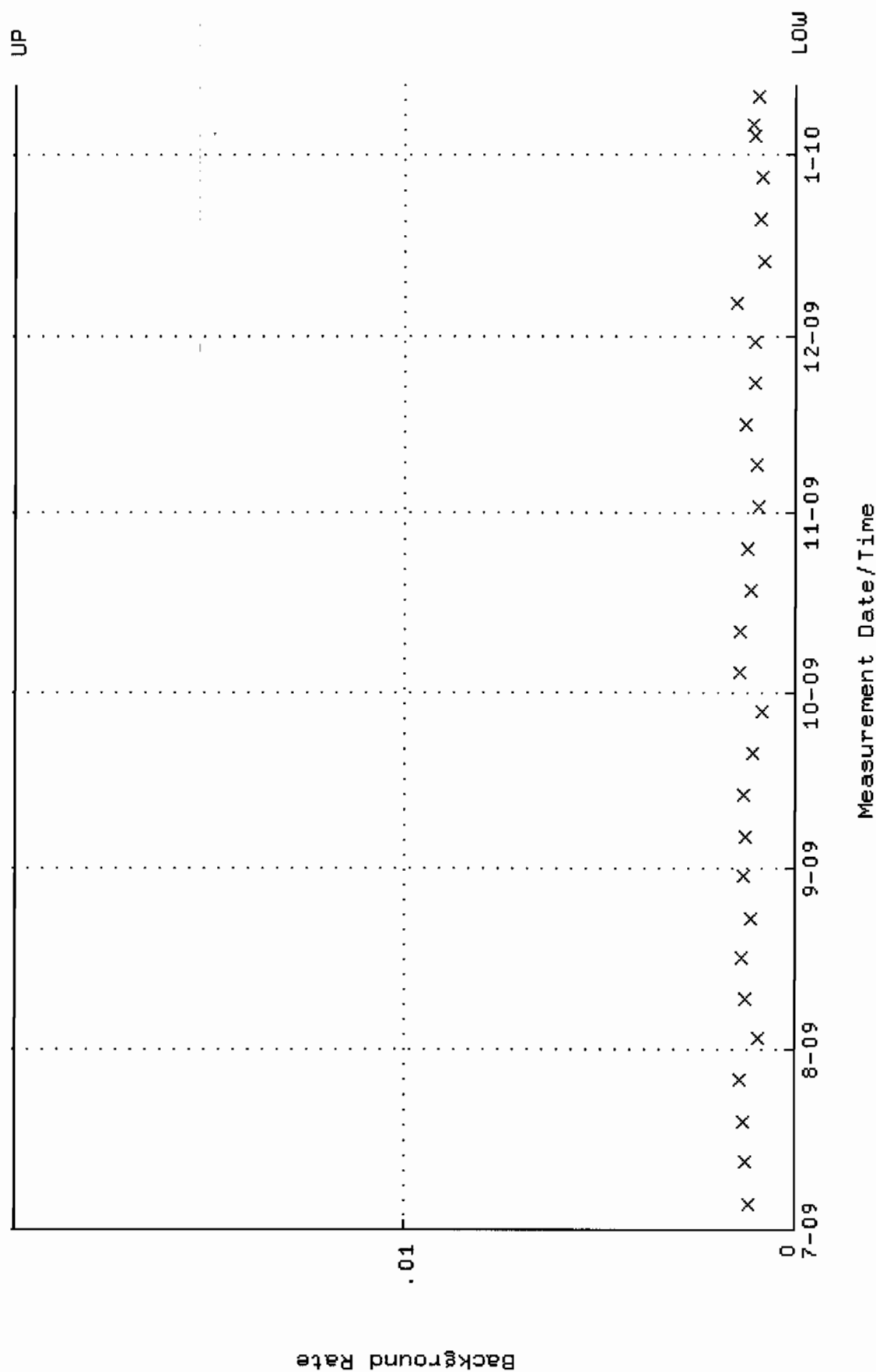
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 Lower/Upper Lmts: 0.250000 through 0.450000



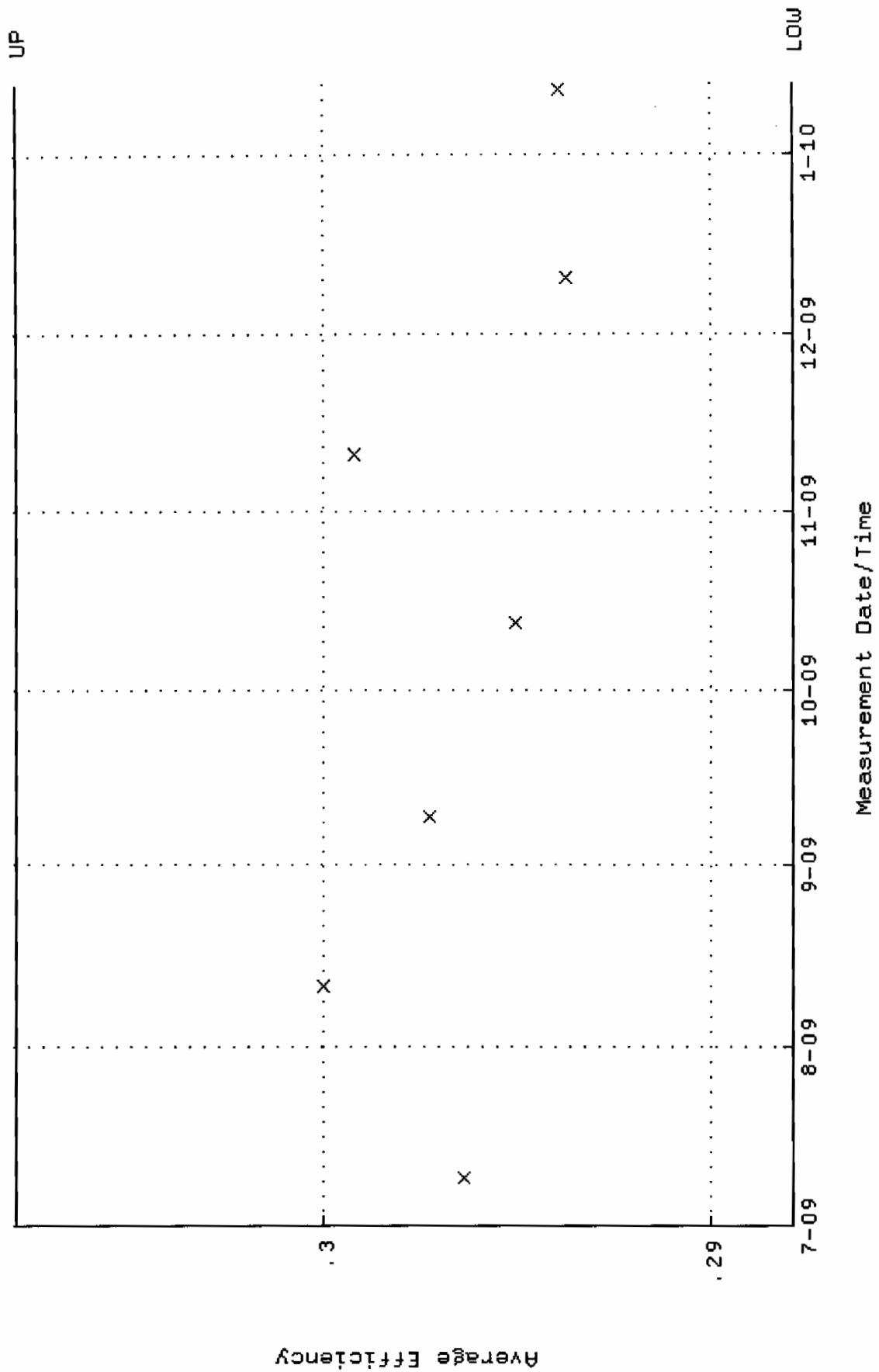
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 Lower/Upper Lmts: 60.0000 through 105.0000



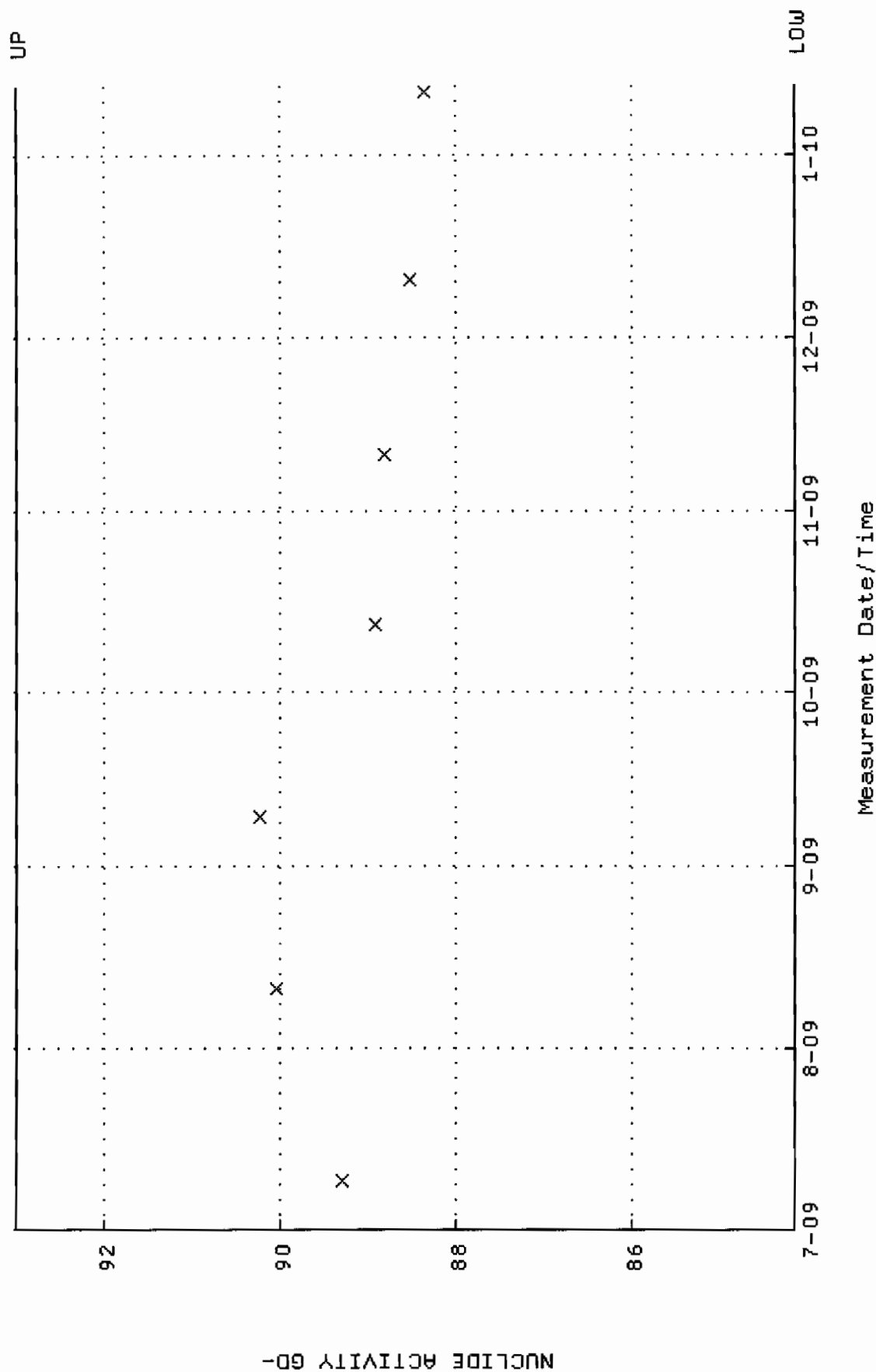
QA filename : DKA100:[ENV_ALPHA.QA.B]B088.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



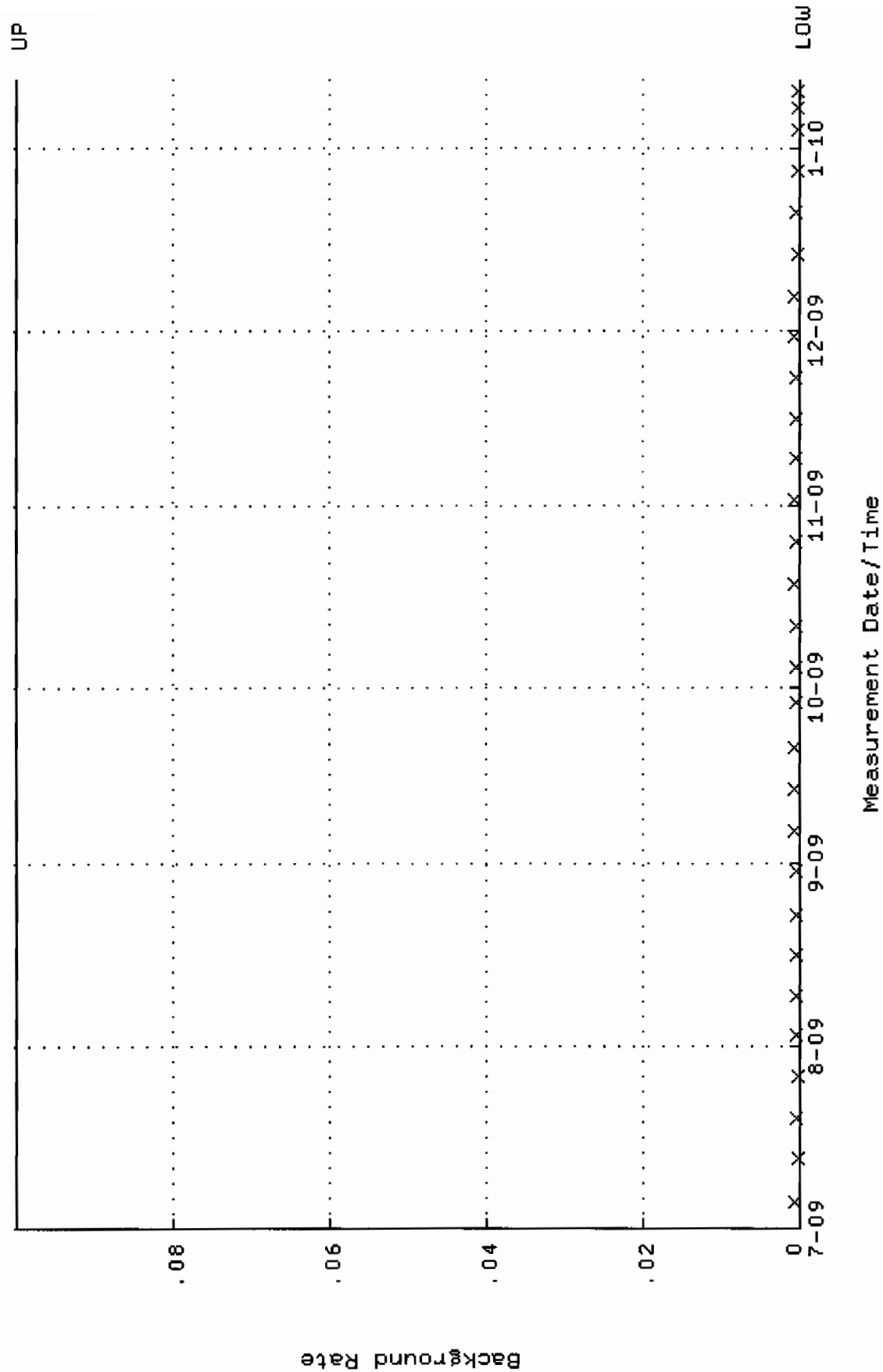
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.287888 through 0.307888



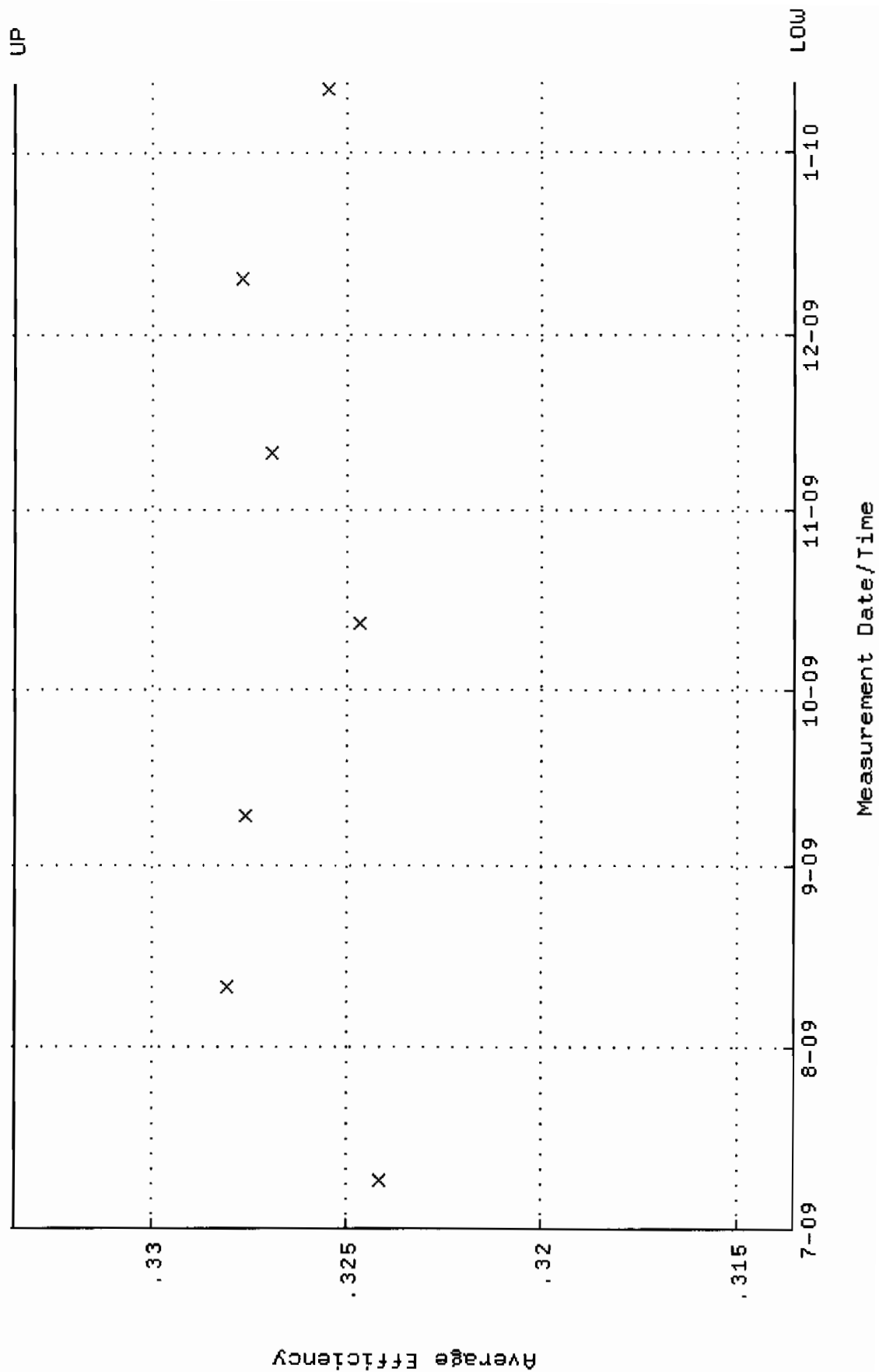
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.1413 through 92.9983



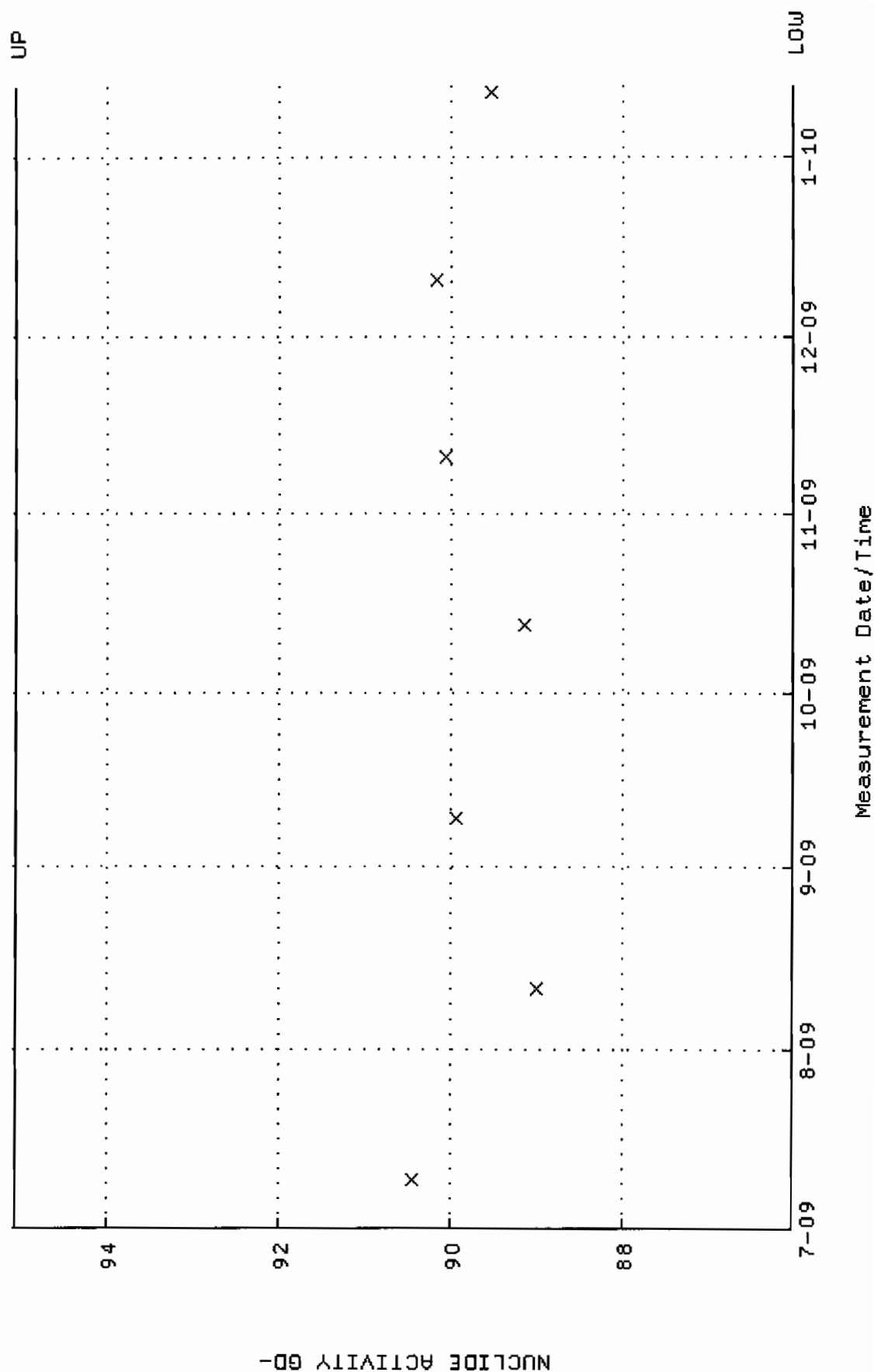
QA filename : DKA100:[ENV_ALPHA.QA.B]B089.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



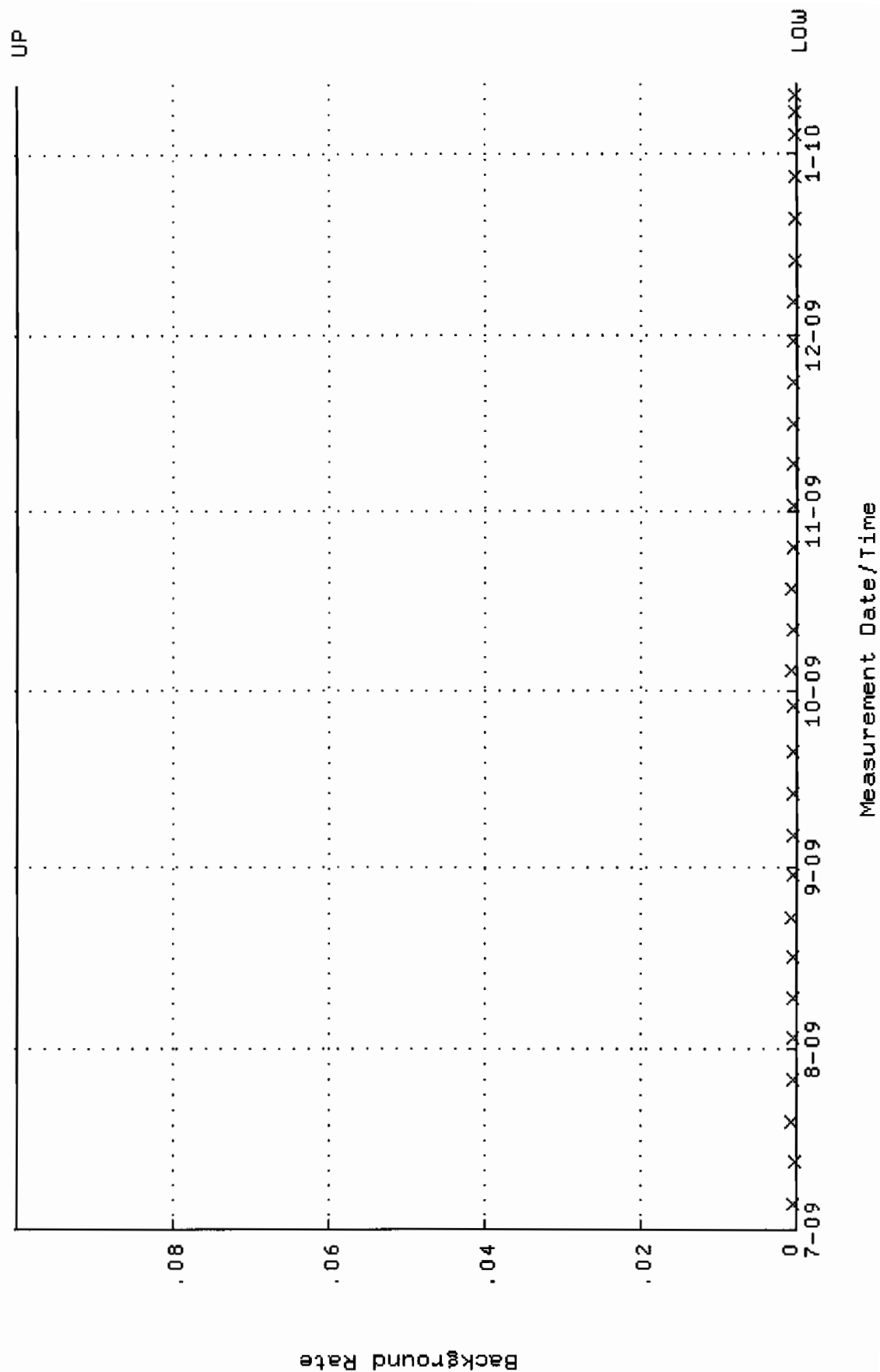
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.313529 through 0.333529



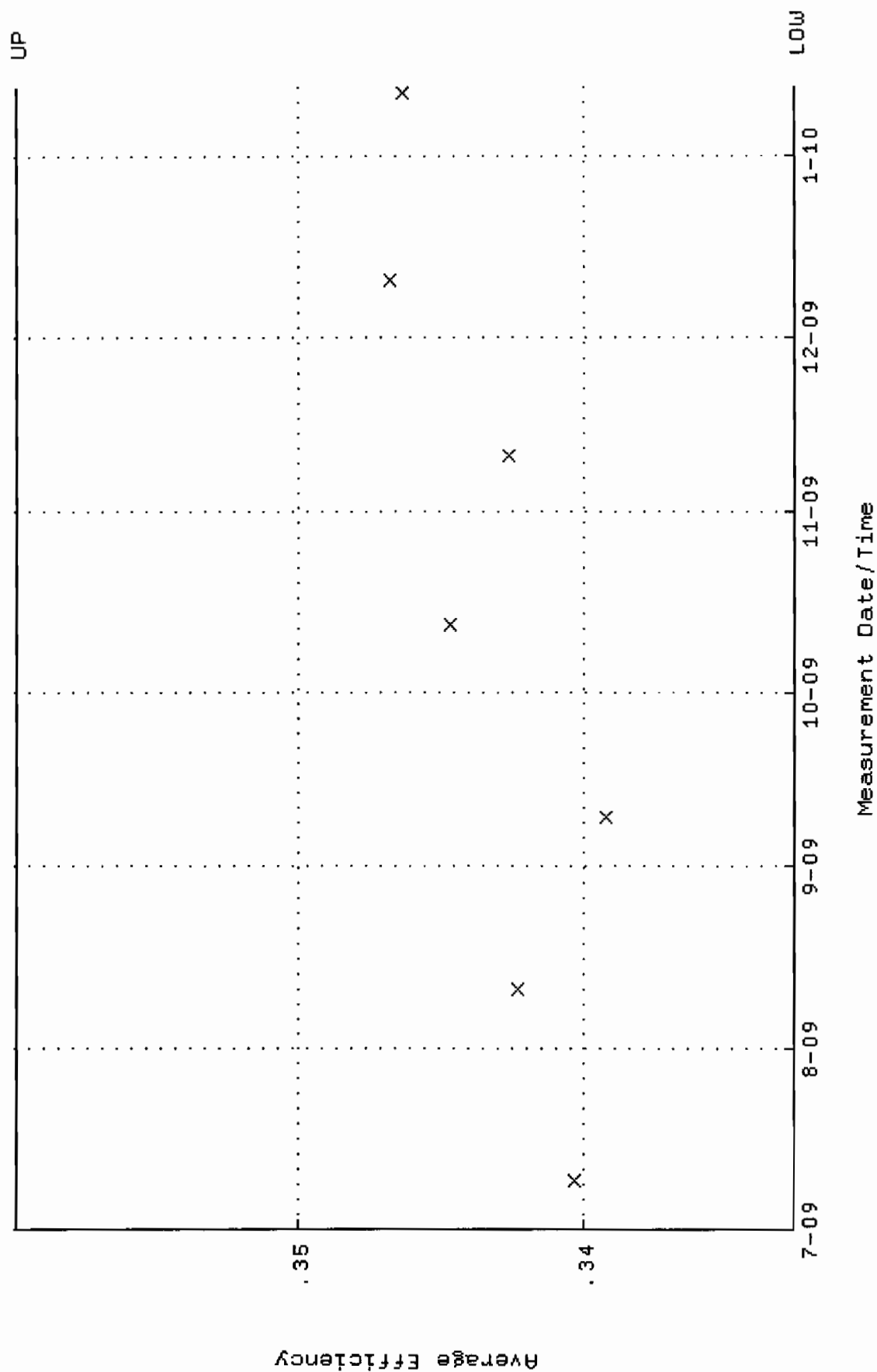
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.0139 through 95.0680



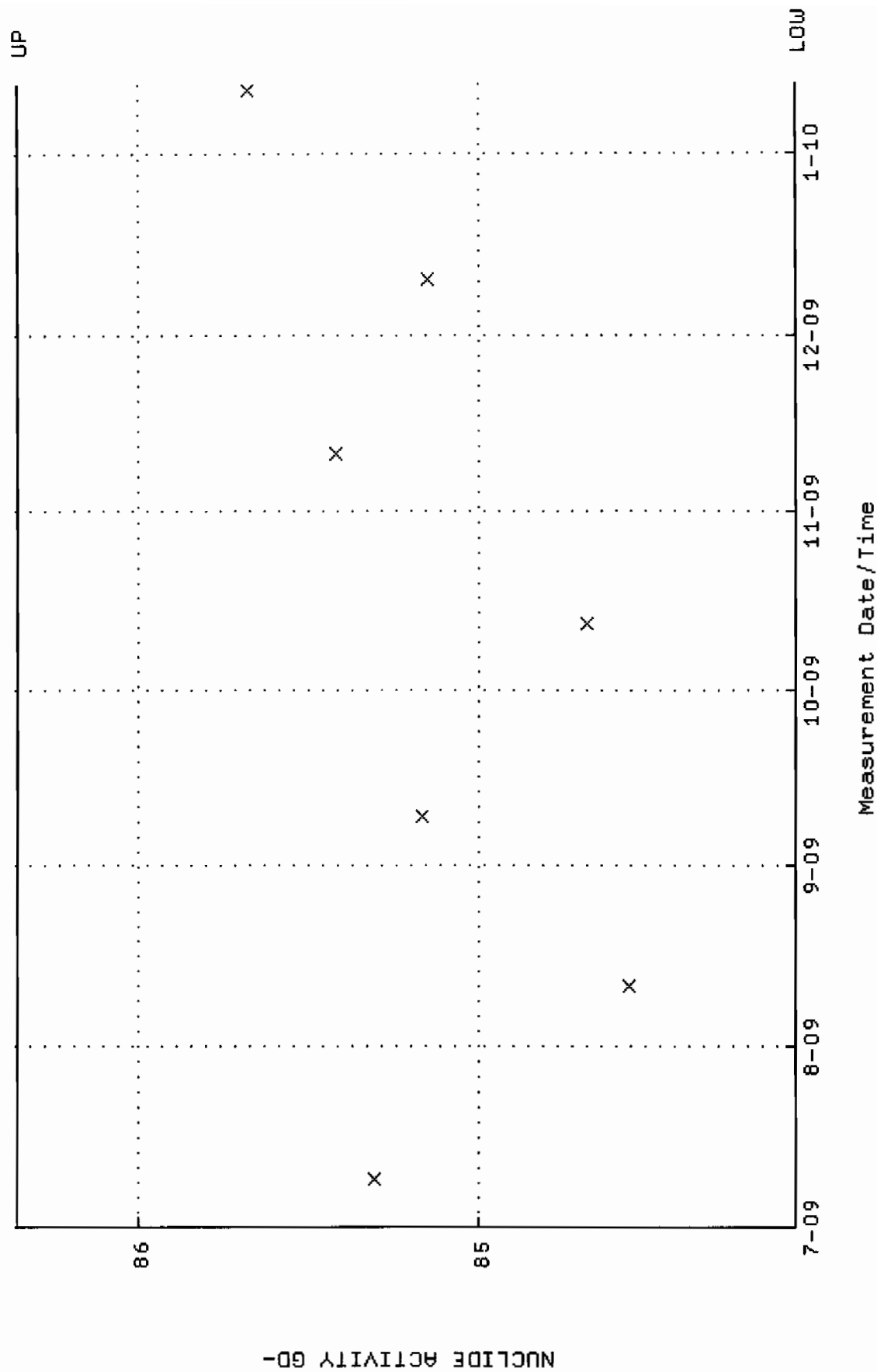
QA filename : DKA100:[ENV_ALPHA.QA.B]B090.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



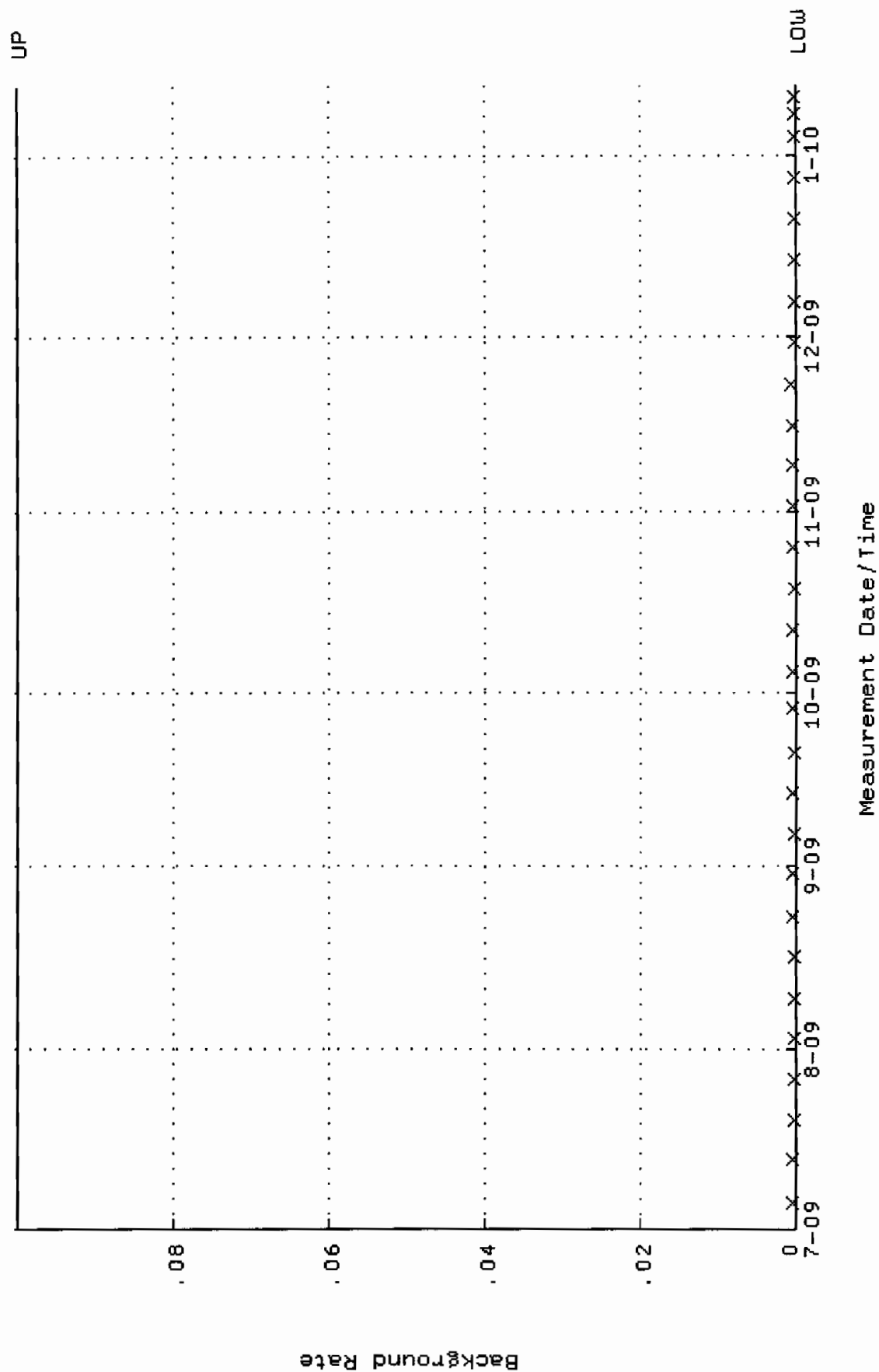
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.332648 through 0.359902



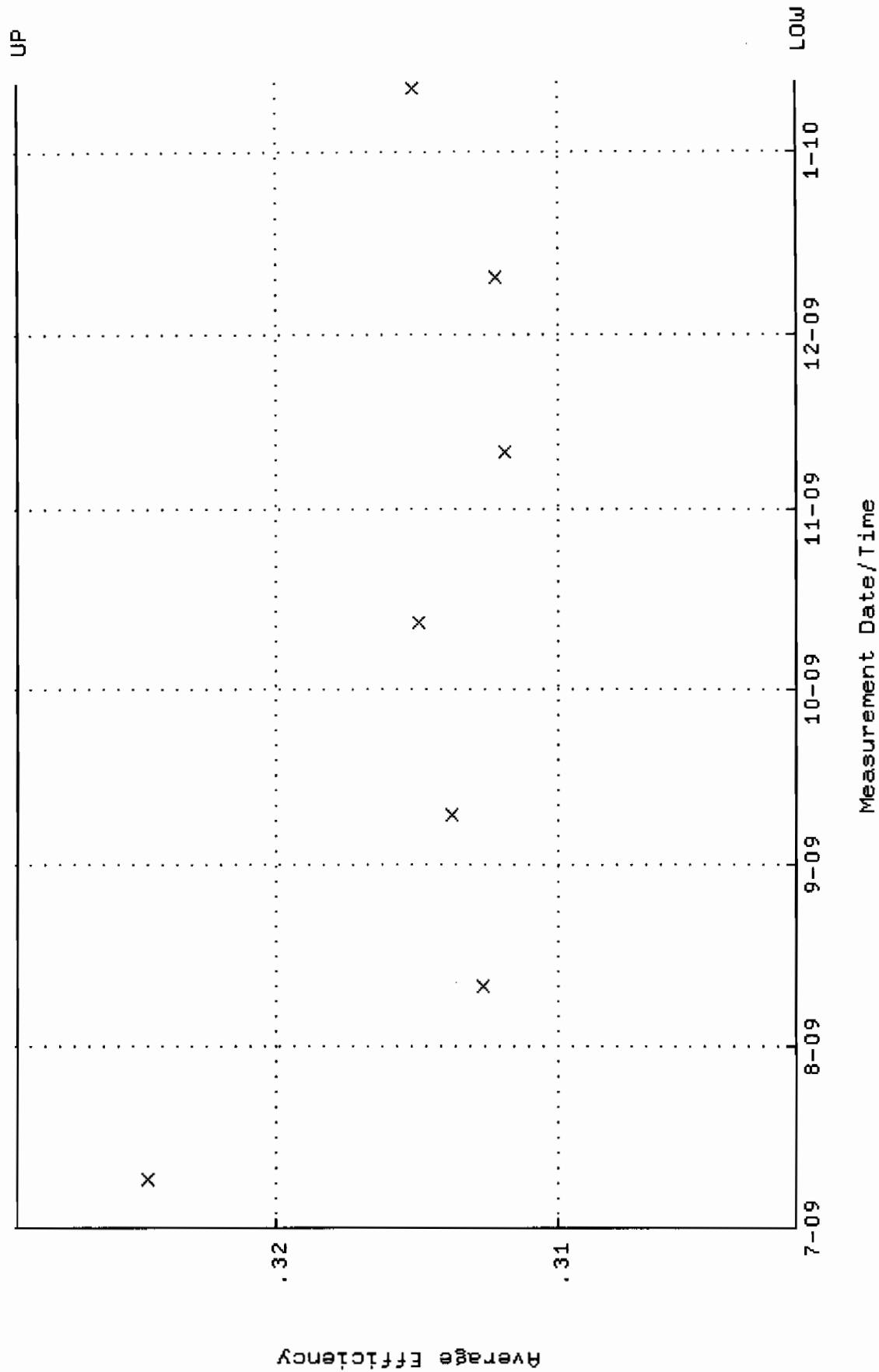
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.0764 through 86.3518



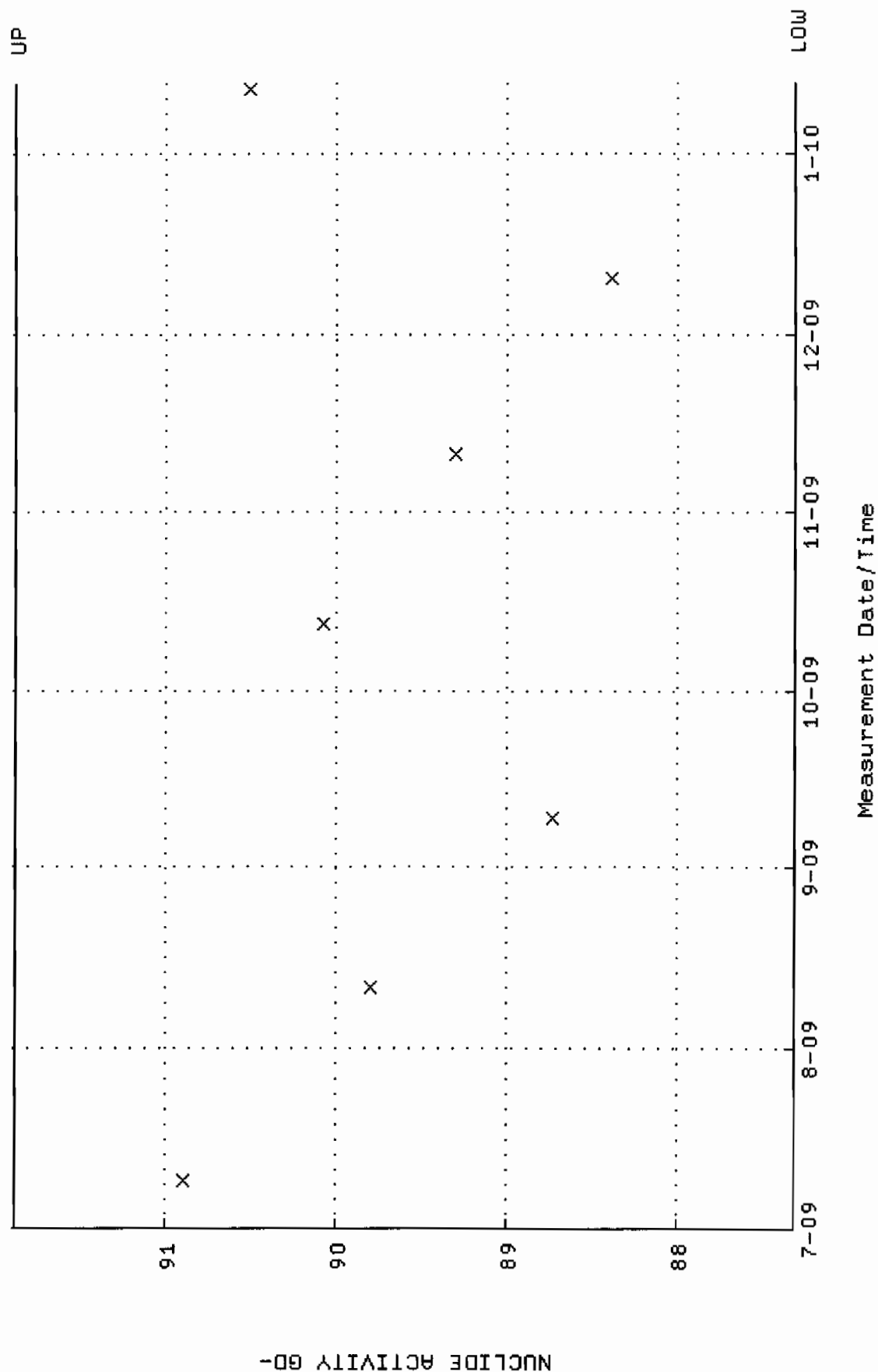
QA filename : DKA100:[ENV_ALPHA.QA.B]B091.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



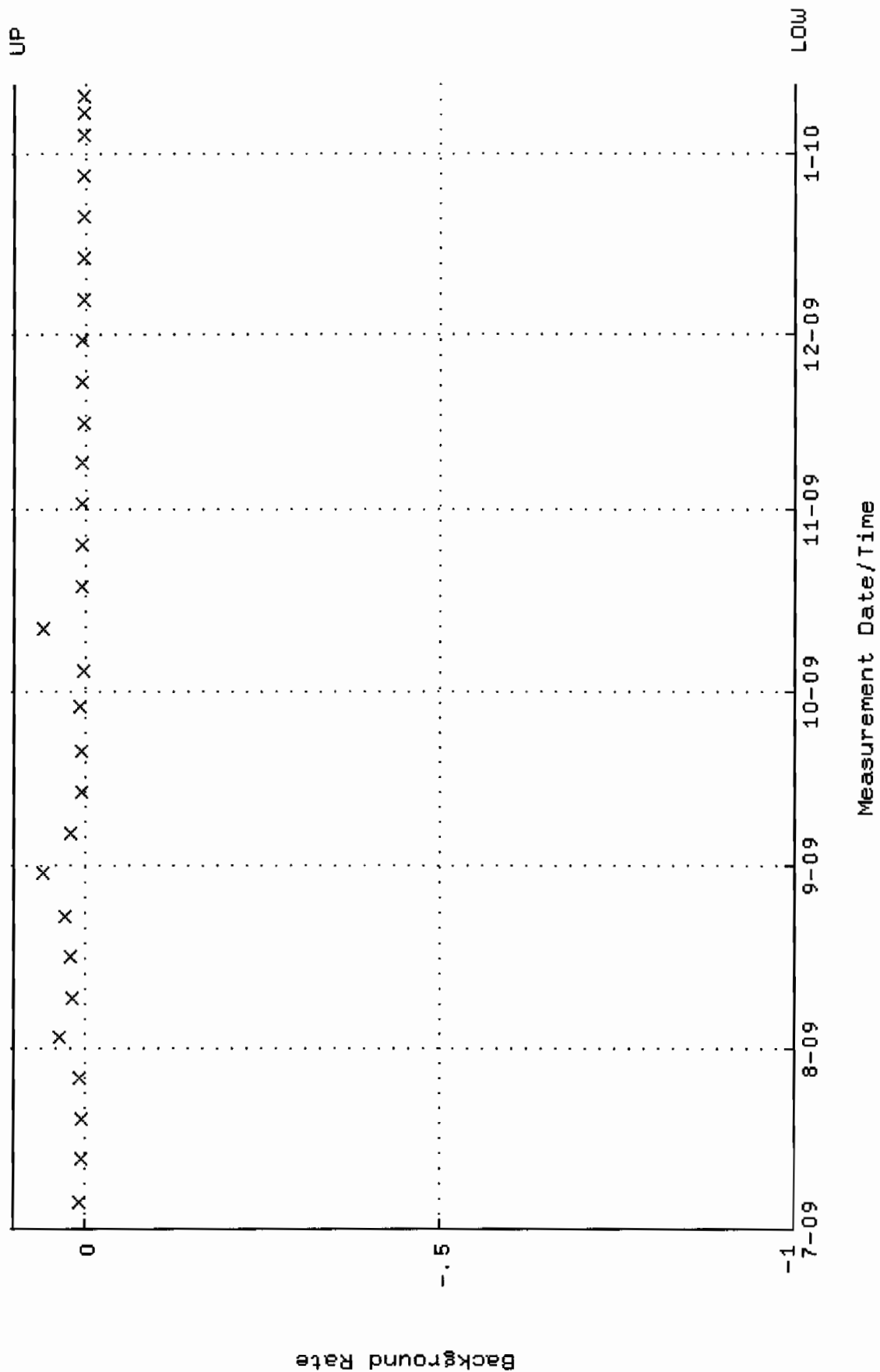
QA filename : DKA100:[ENV_ALPHA.QA.W]w092.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.301529 through 0.329133



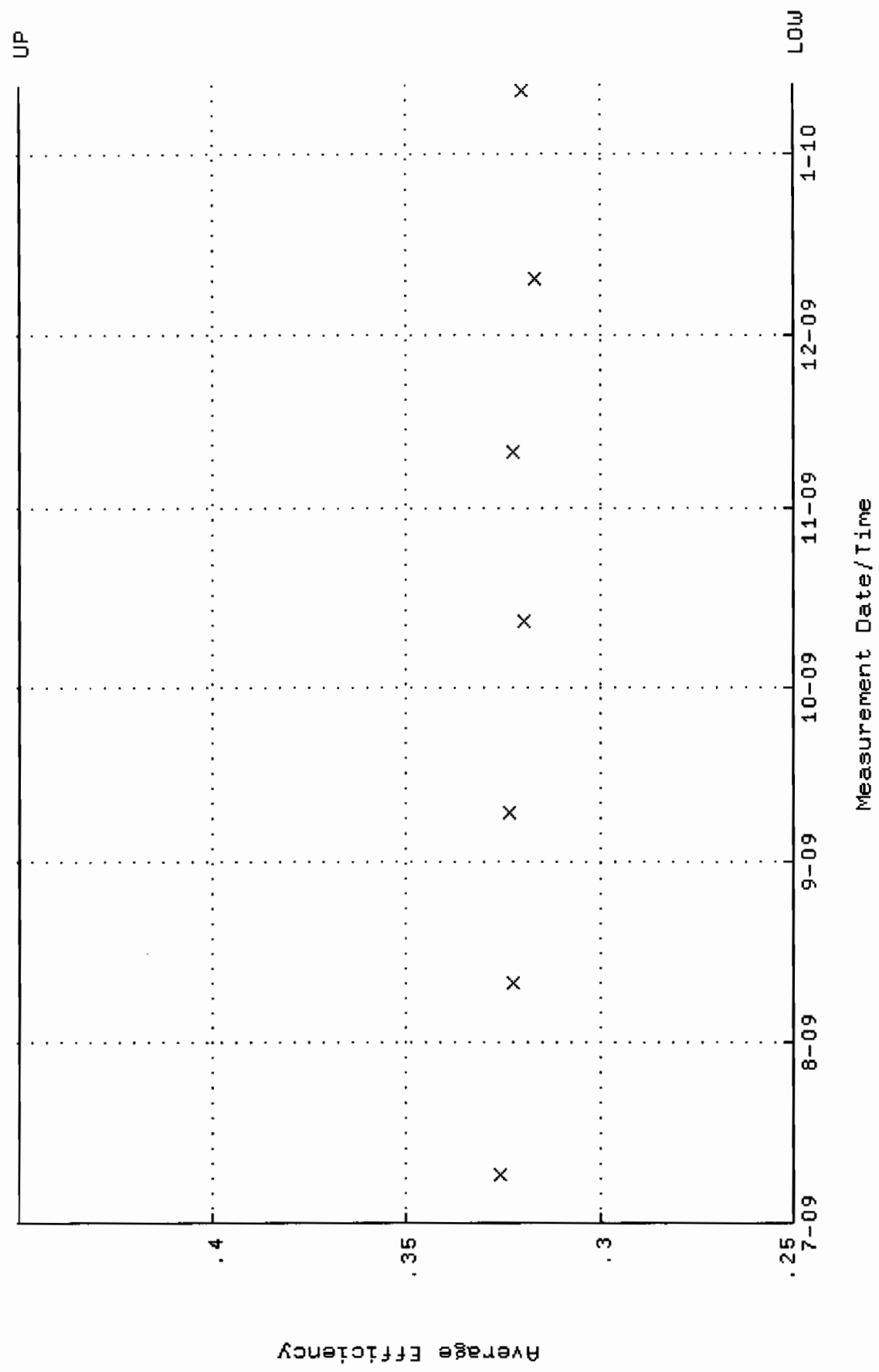
QA filename : DKA100:[ENV_ALPHA.QA.W]W092.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.3140 through 91.8878



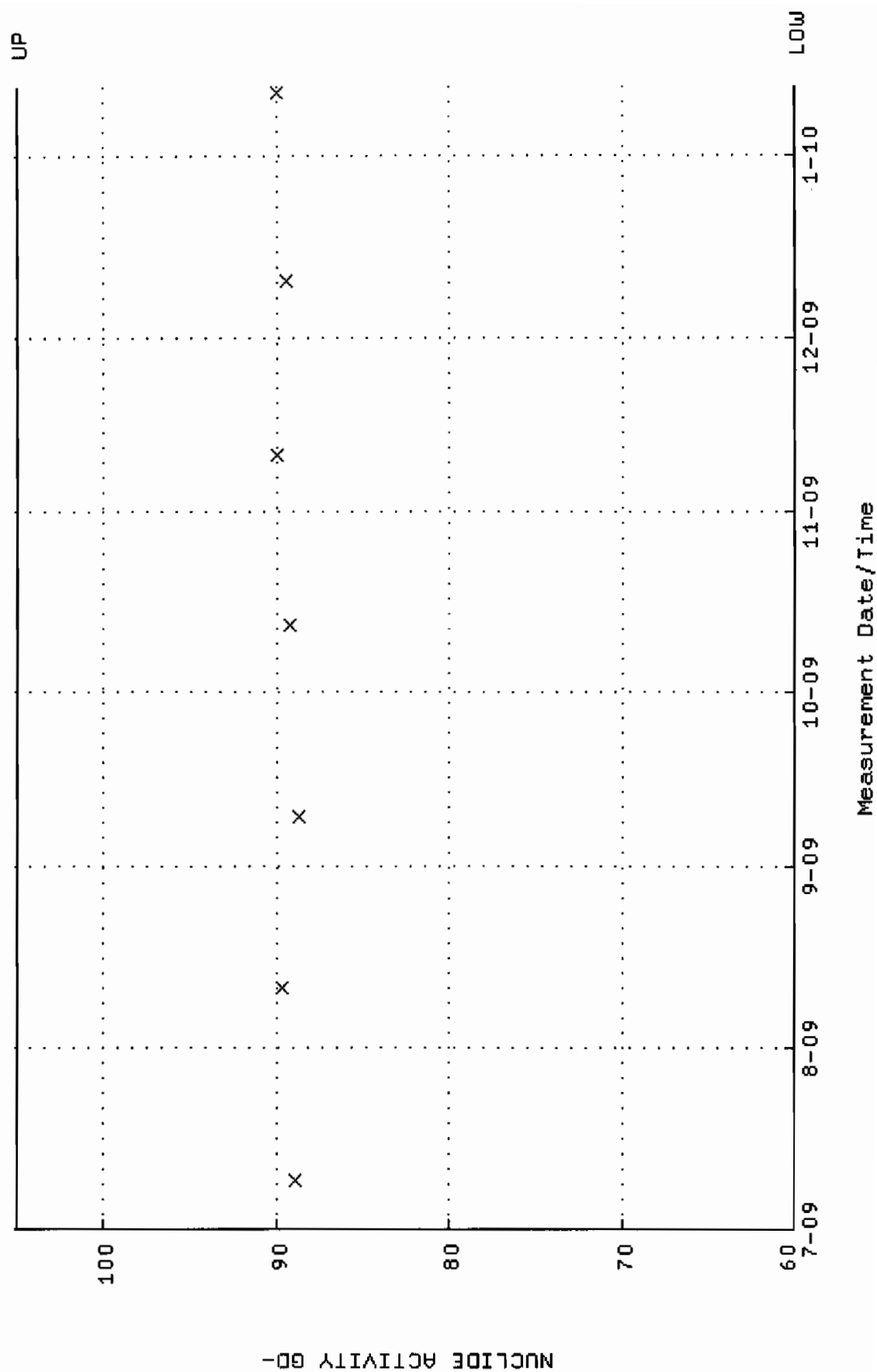
QA filename : DKA100:[ENV_ALPHA.QA.B]B092.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: -1.00000 through 0.100000



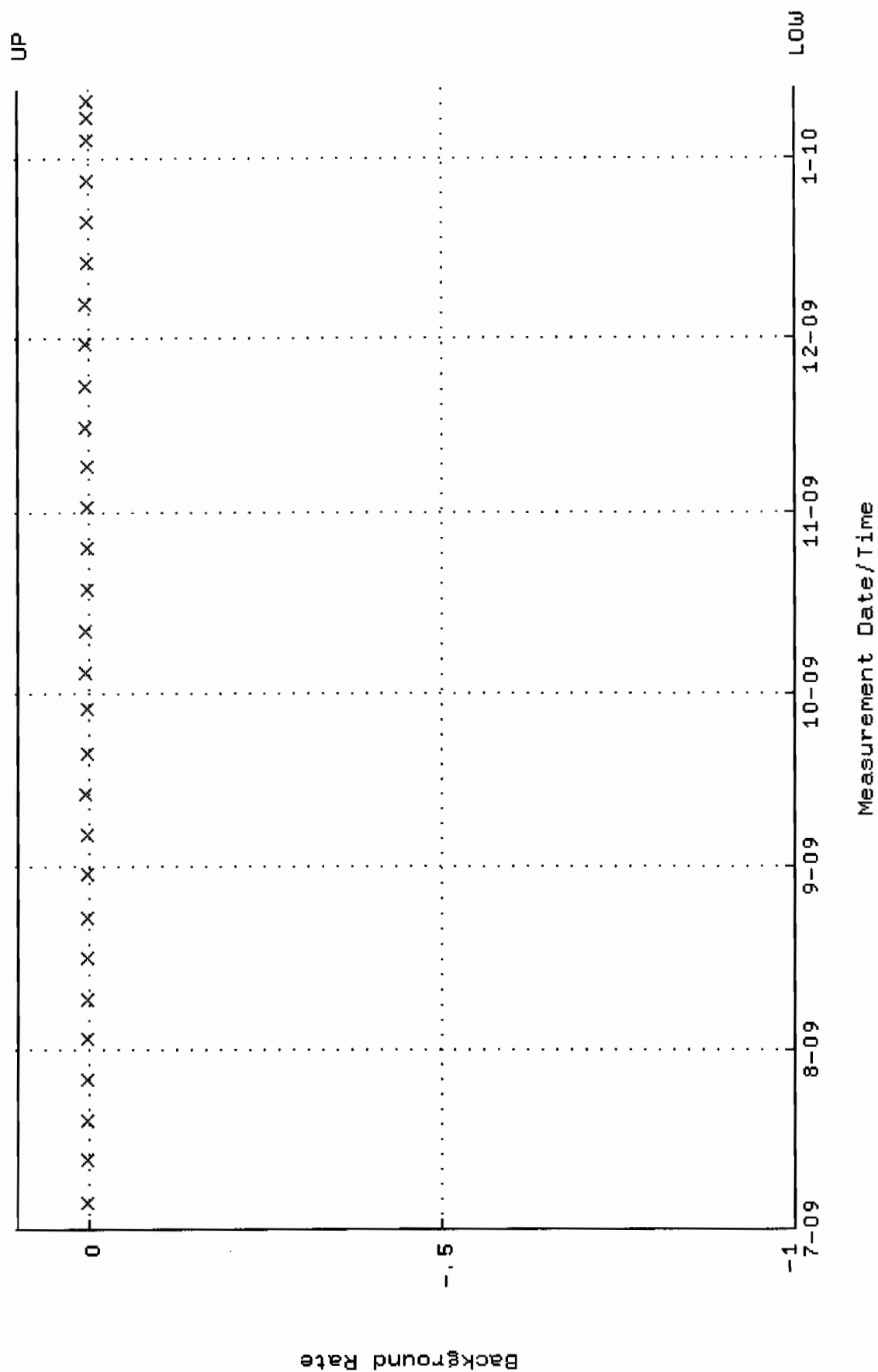
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



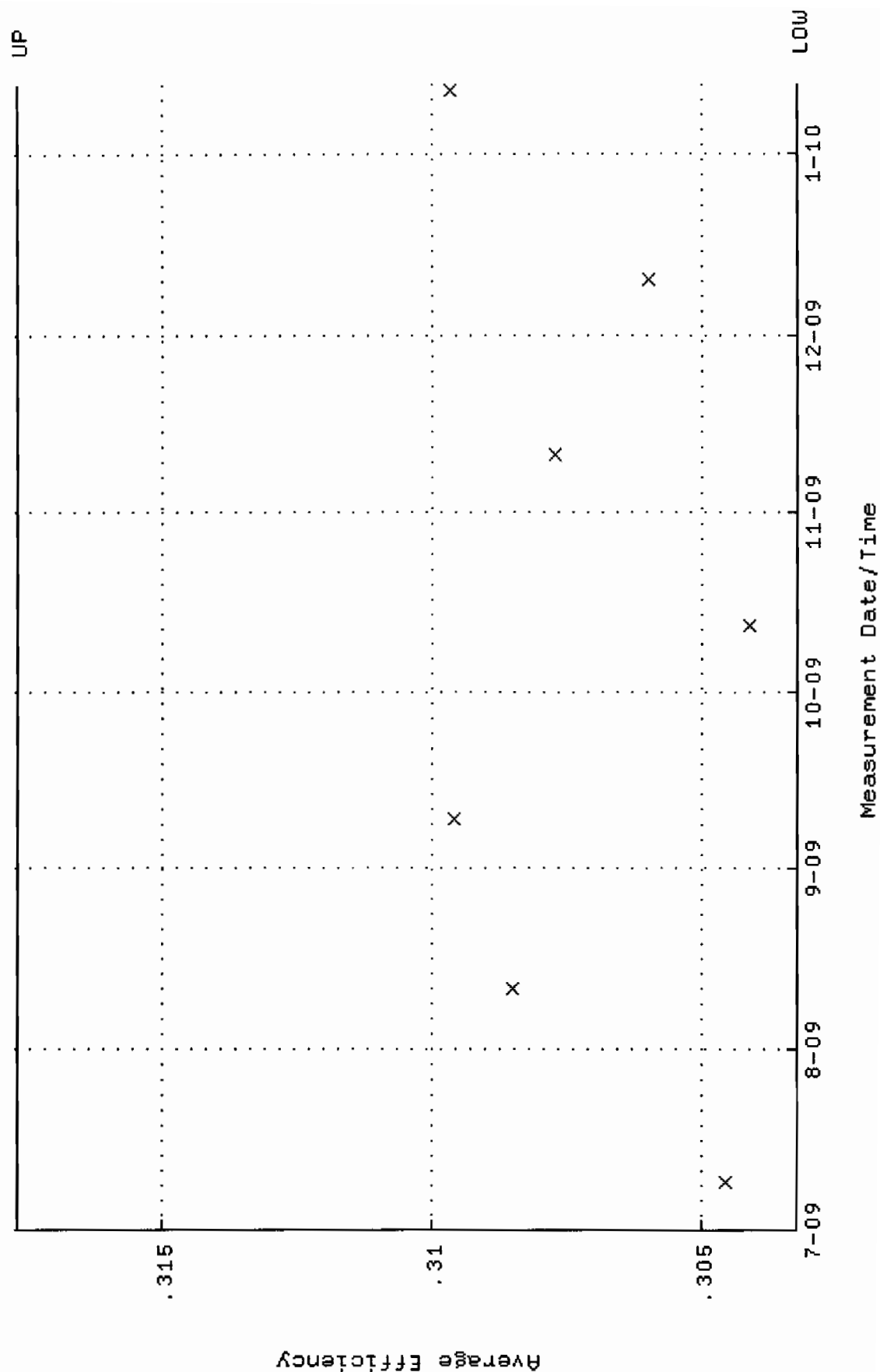
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
 Parameter Name : NACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



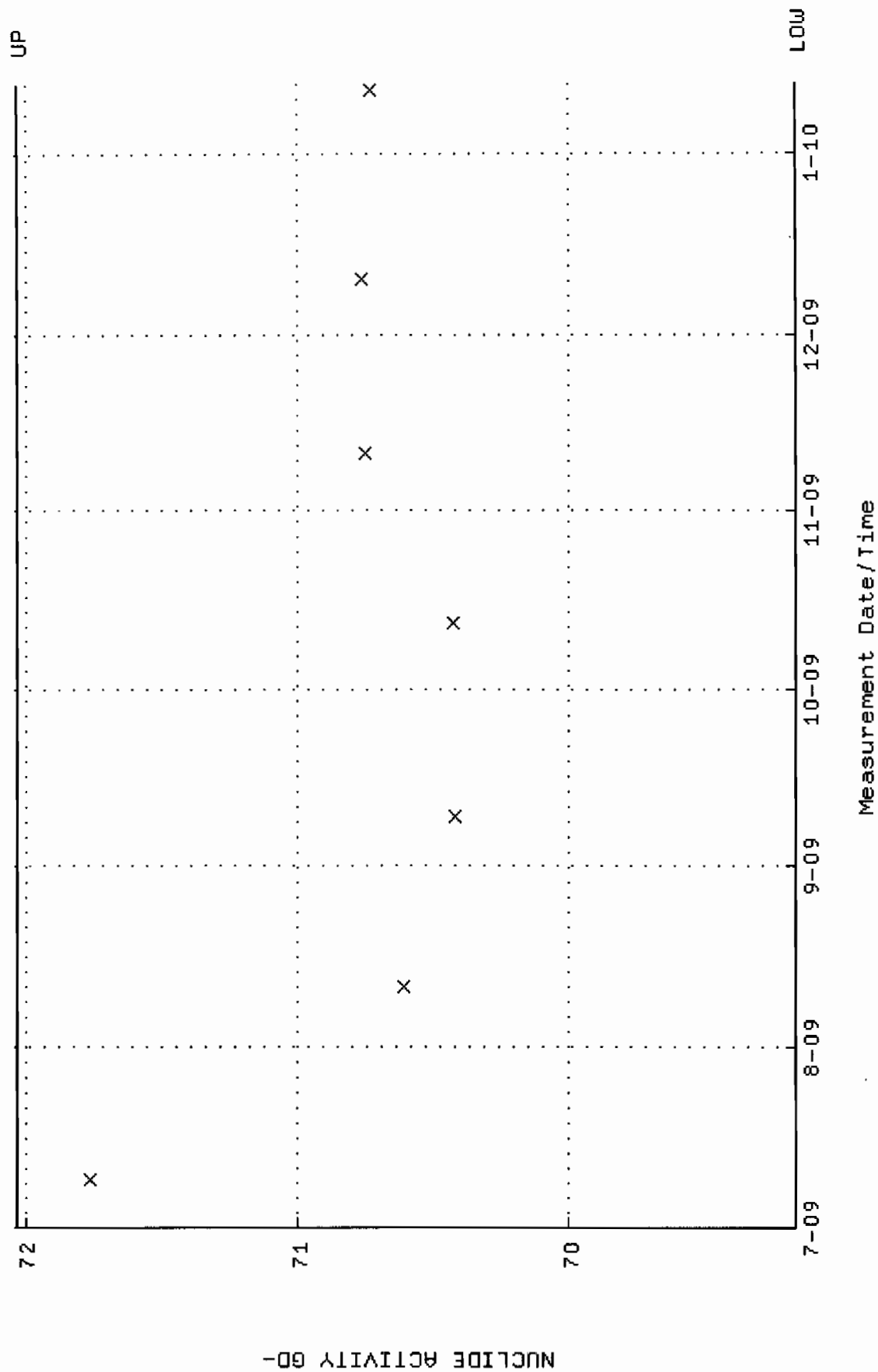
QA filename : DKA100:[ENV_ALPHA.QA.B]B093.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: -1.00000 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.w]U107.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.303231 through 0.317703



QA filename : DKA100:[ENV_ALPHA.QA.W]W107.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 69.1572 through 72.0358

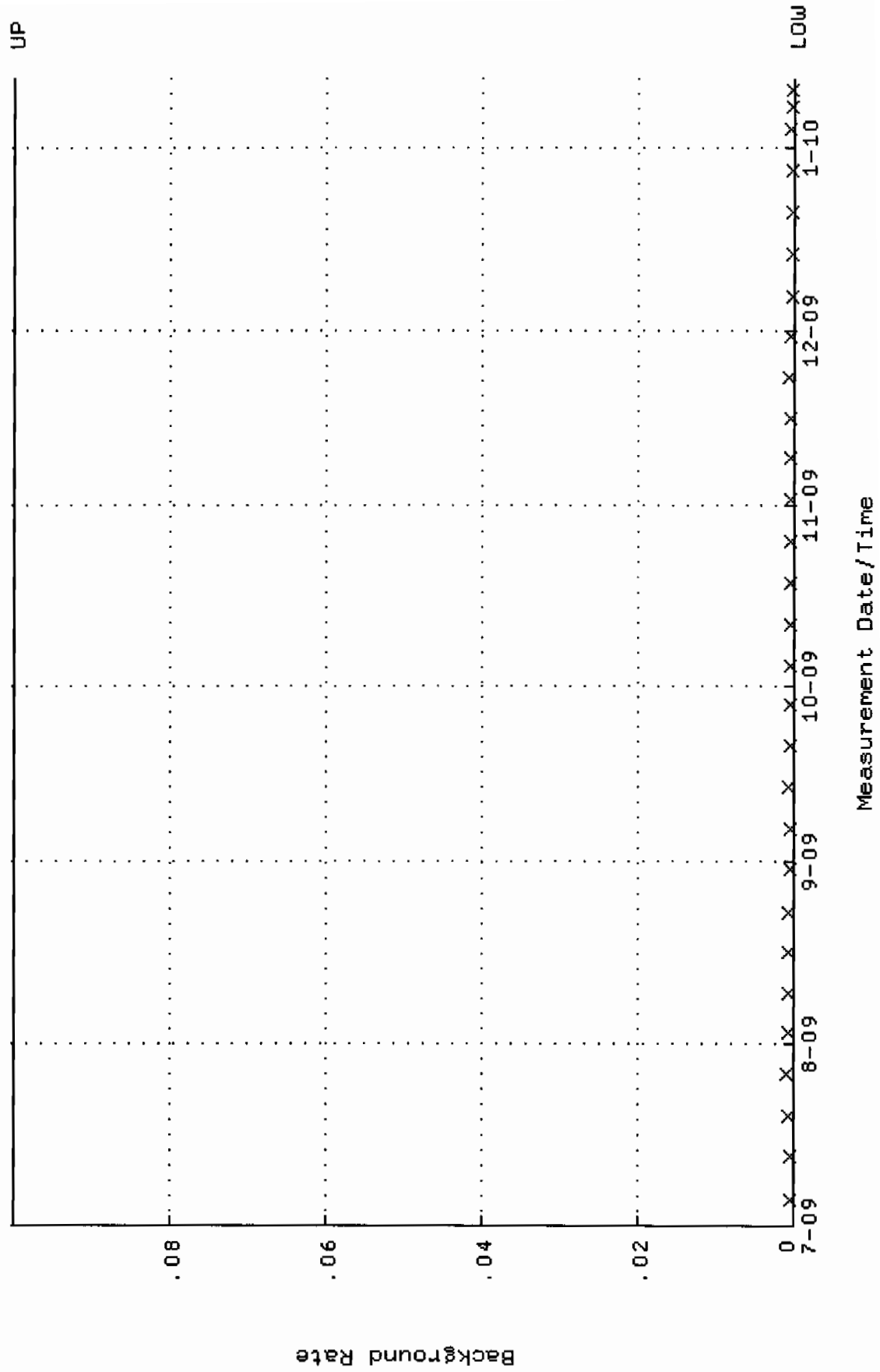


QA filename : DKA100:[ENV_ALPHA.QA.B]B107.QAF;2

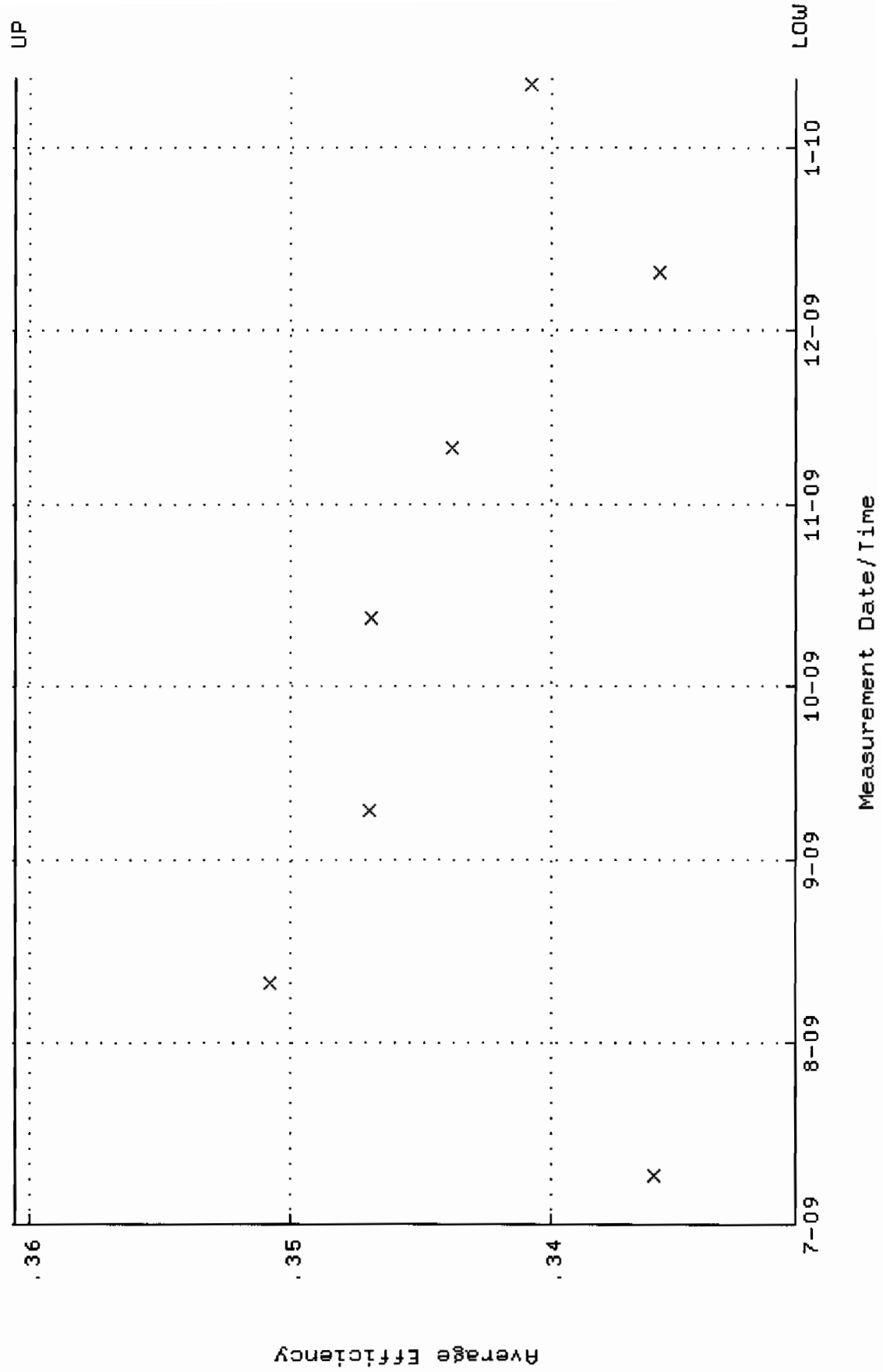
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:12:07 through 12-JAN-2010 12:00:00

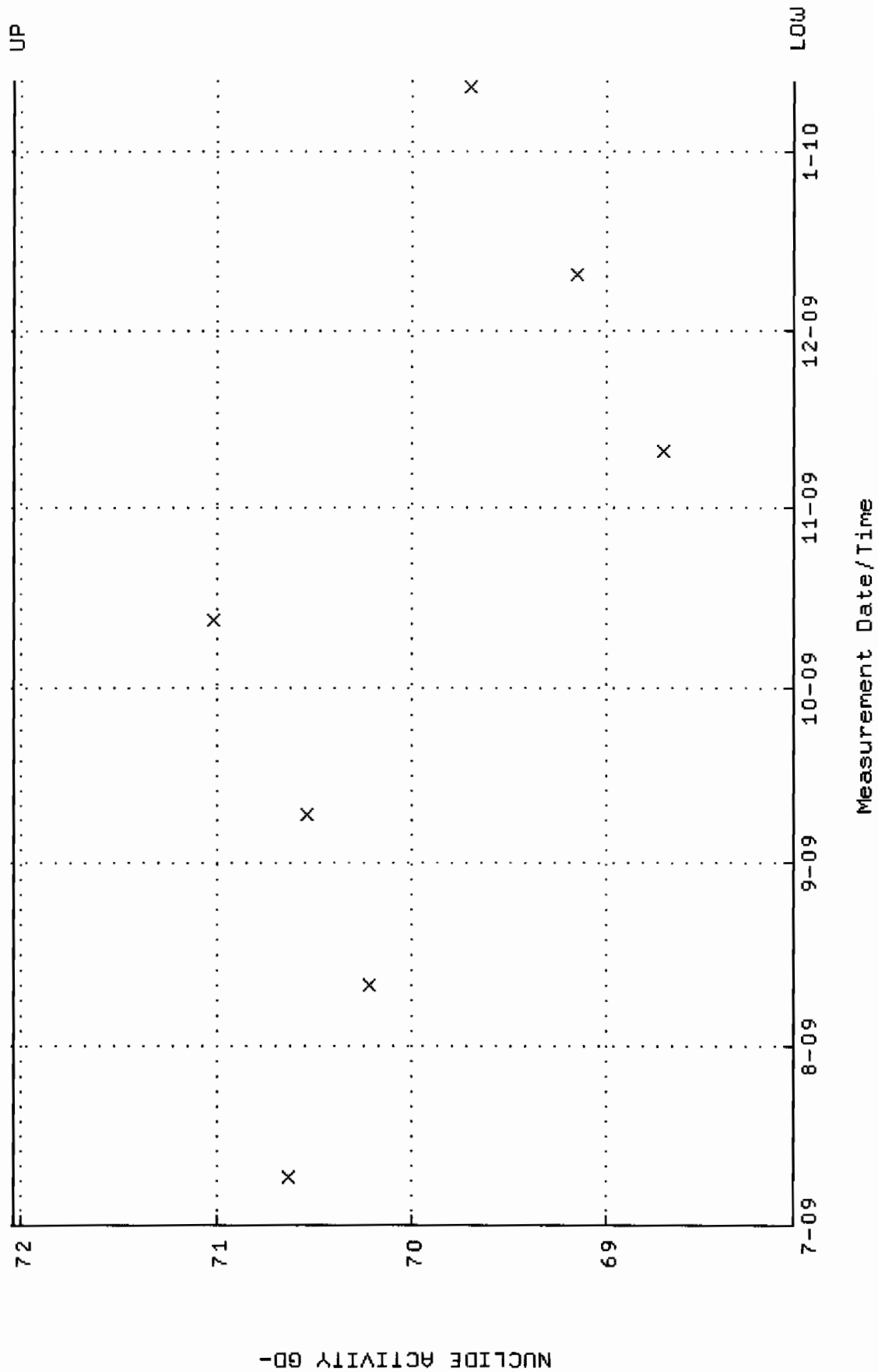
Lower/Upper Lmts: 0.000000E+00 through 0.100000



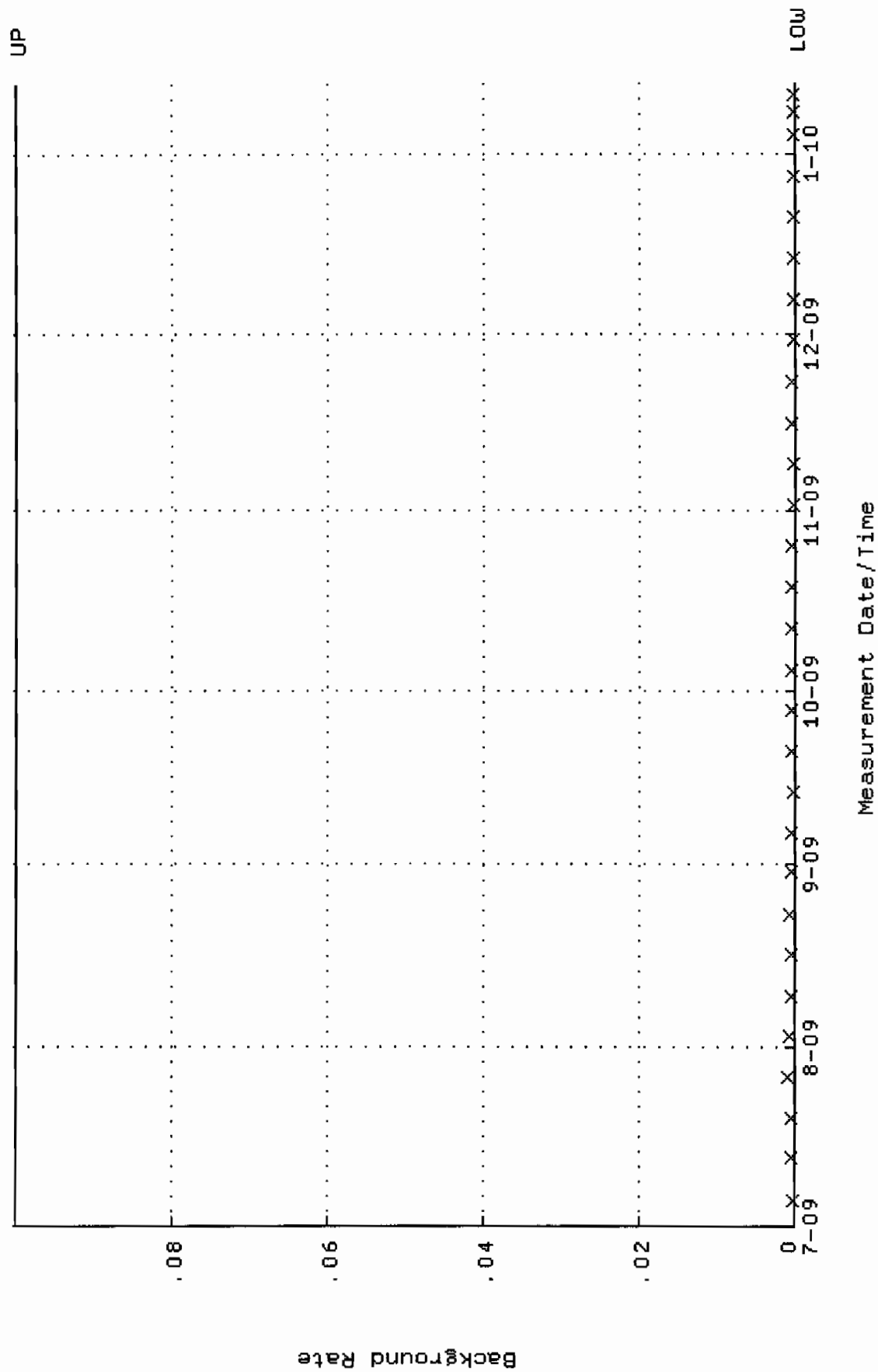
QA filename : DKA100:[ENV_ALPHA,QA,W]w108.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.330641 through 0.360561



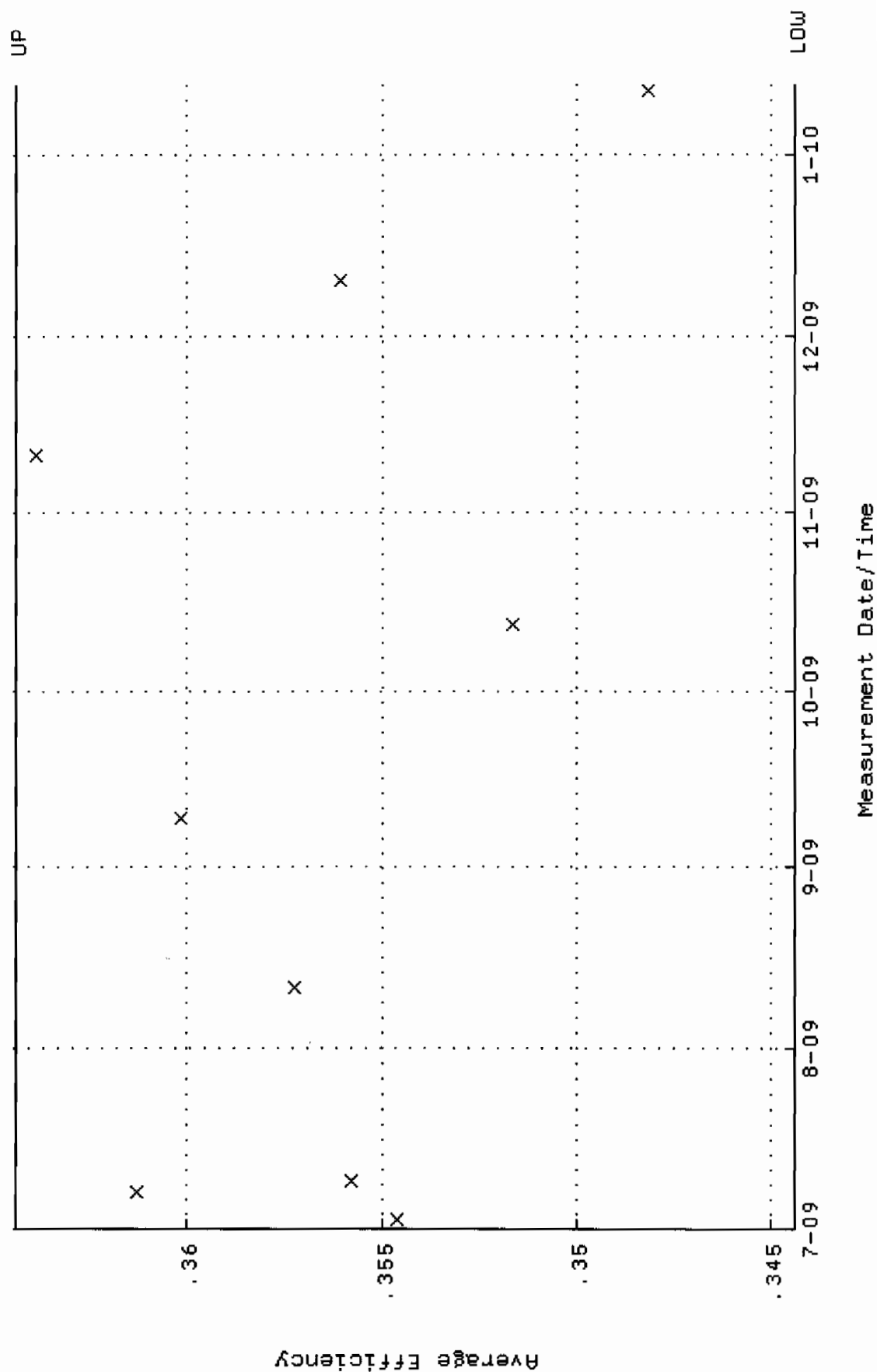
QA filename : DKA100:[ENV_ALPHA.QA.W]W108.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 68.0460 through 72.0402



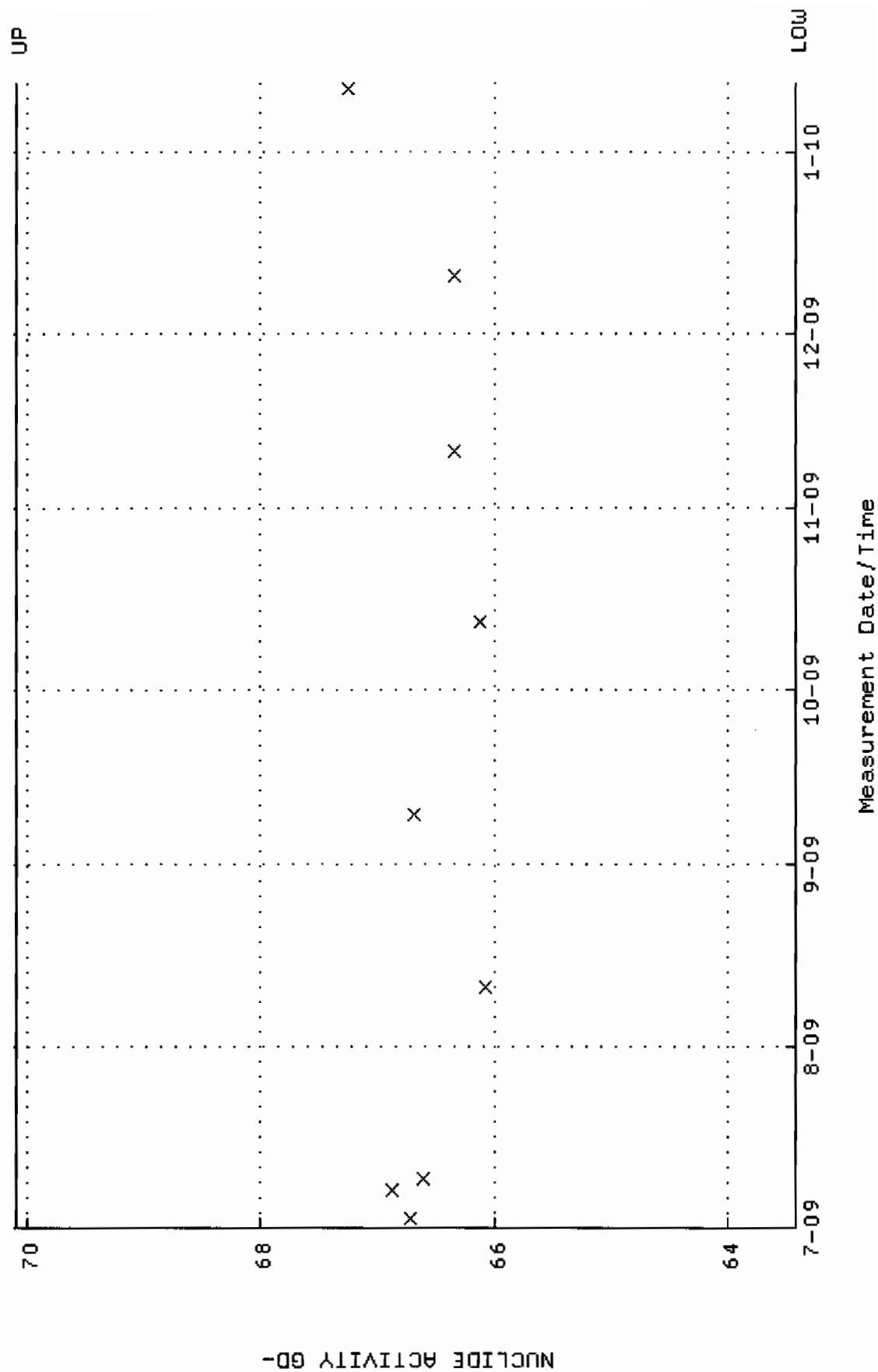
QA filename : DKA100:[ENV_ALPHA.QA.B]B108.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:07 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



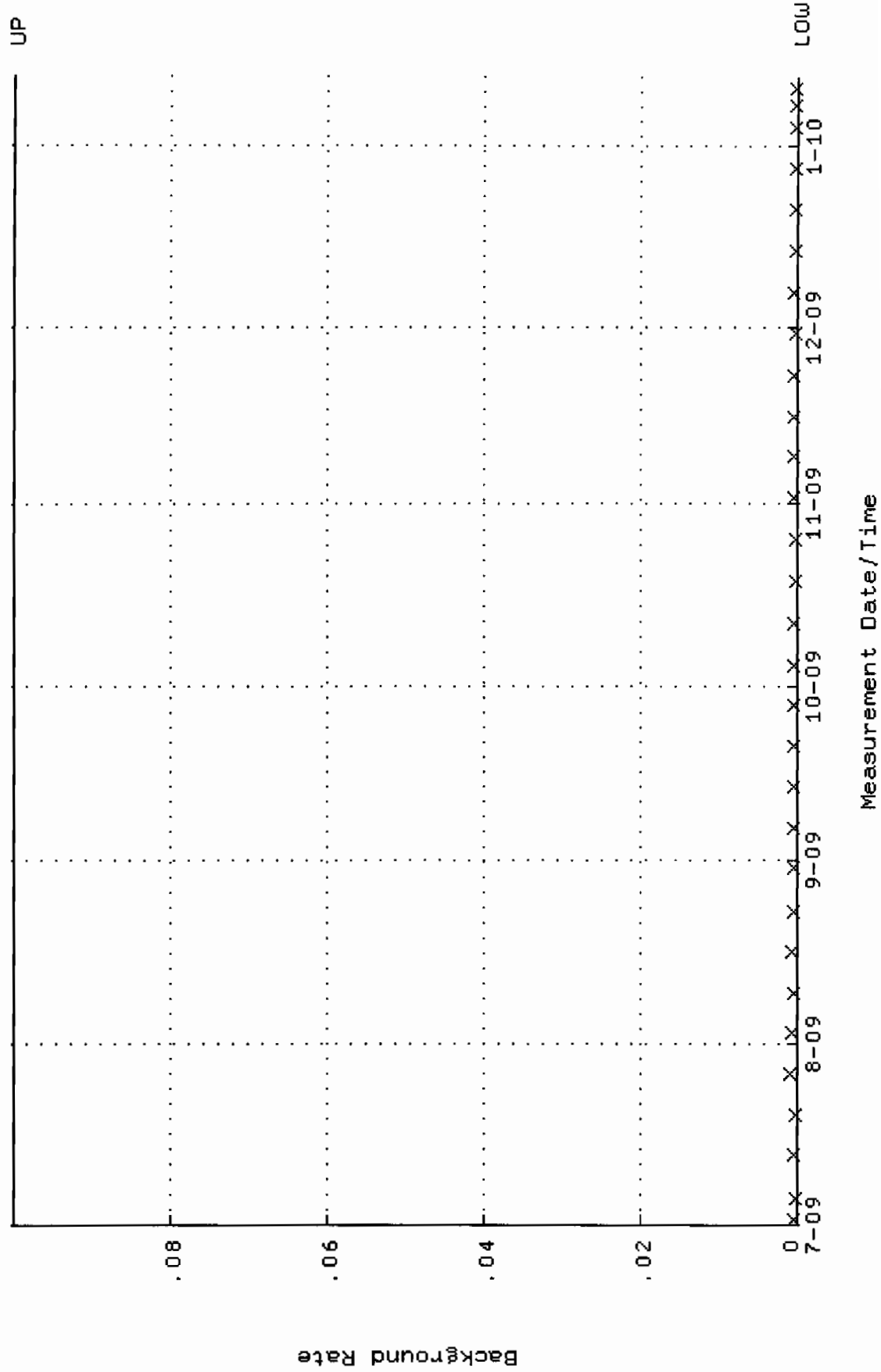
QA filename : DKA100:[ENV_ALPHA.QA.W]w109.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:17 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.344397 through 0.364397



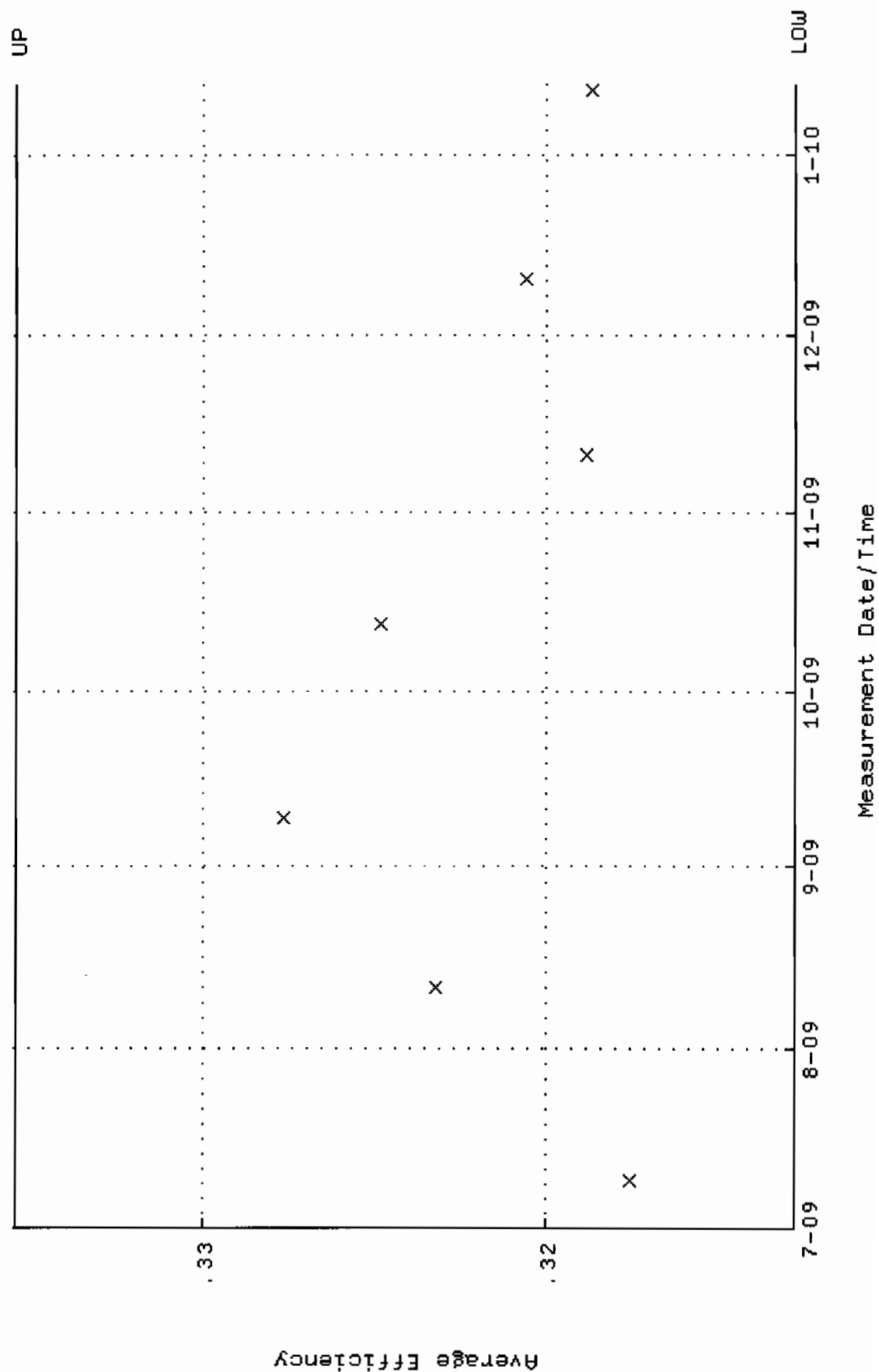
QA filename : DKA100:[ENV_ALPHA.QA.W]w109.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUL-2009 15:04:17 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 63.4194 through 70.0952



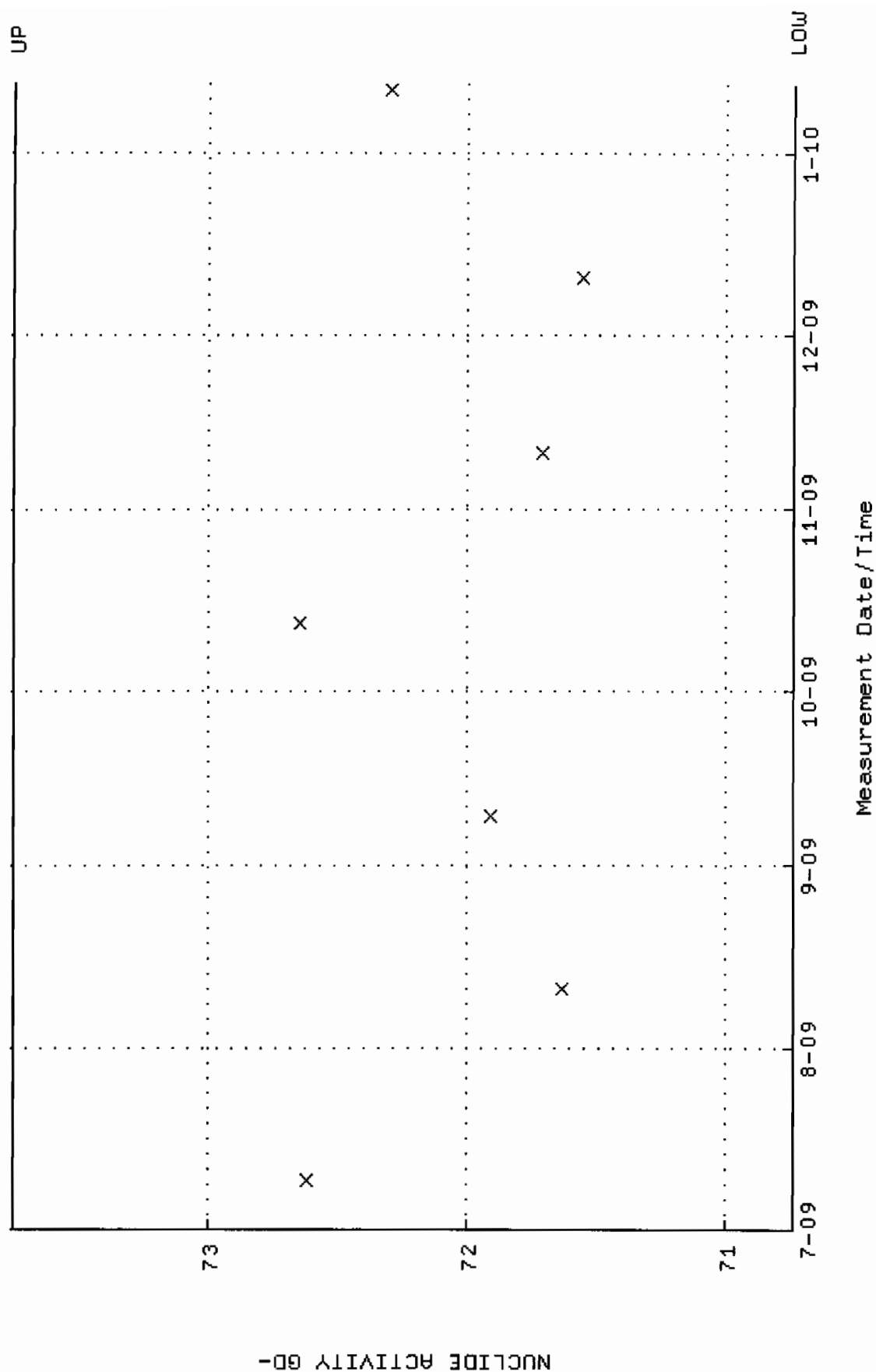
QA filename : DKA100:[ENV_ALPHA.QA.B]B109.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUL-2009 21:40:02 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



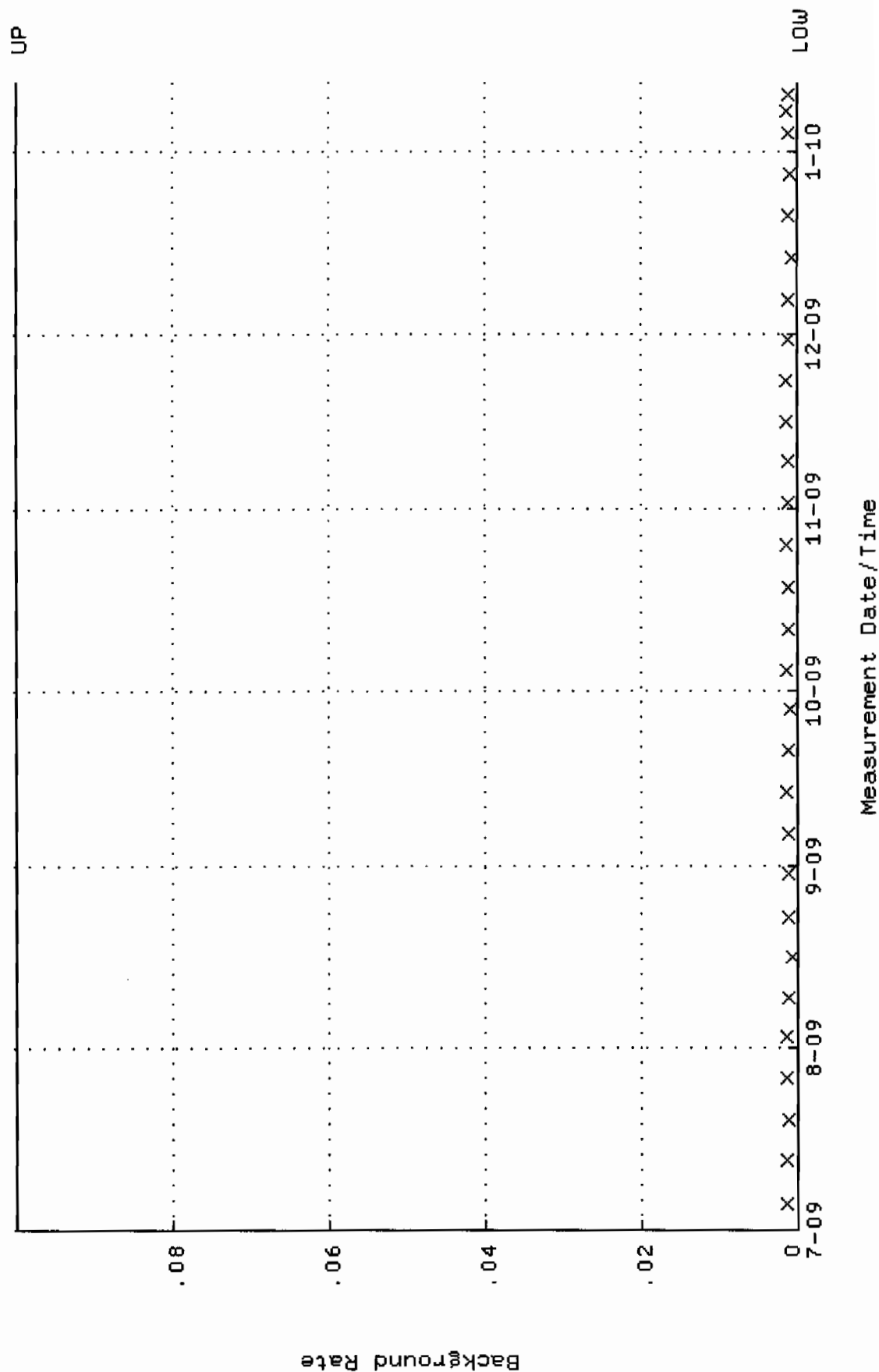
QA filename : DKA100:[ENV_ALPHA.QA.W]W110.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.312683 through 0.335479



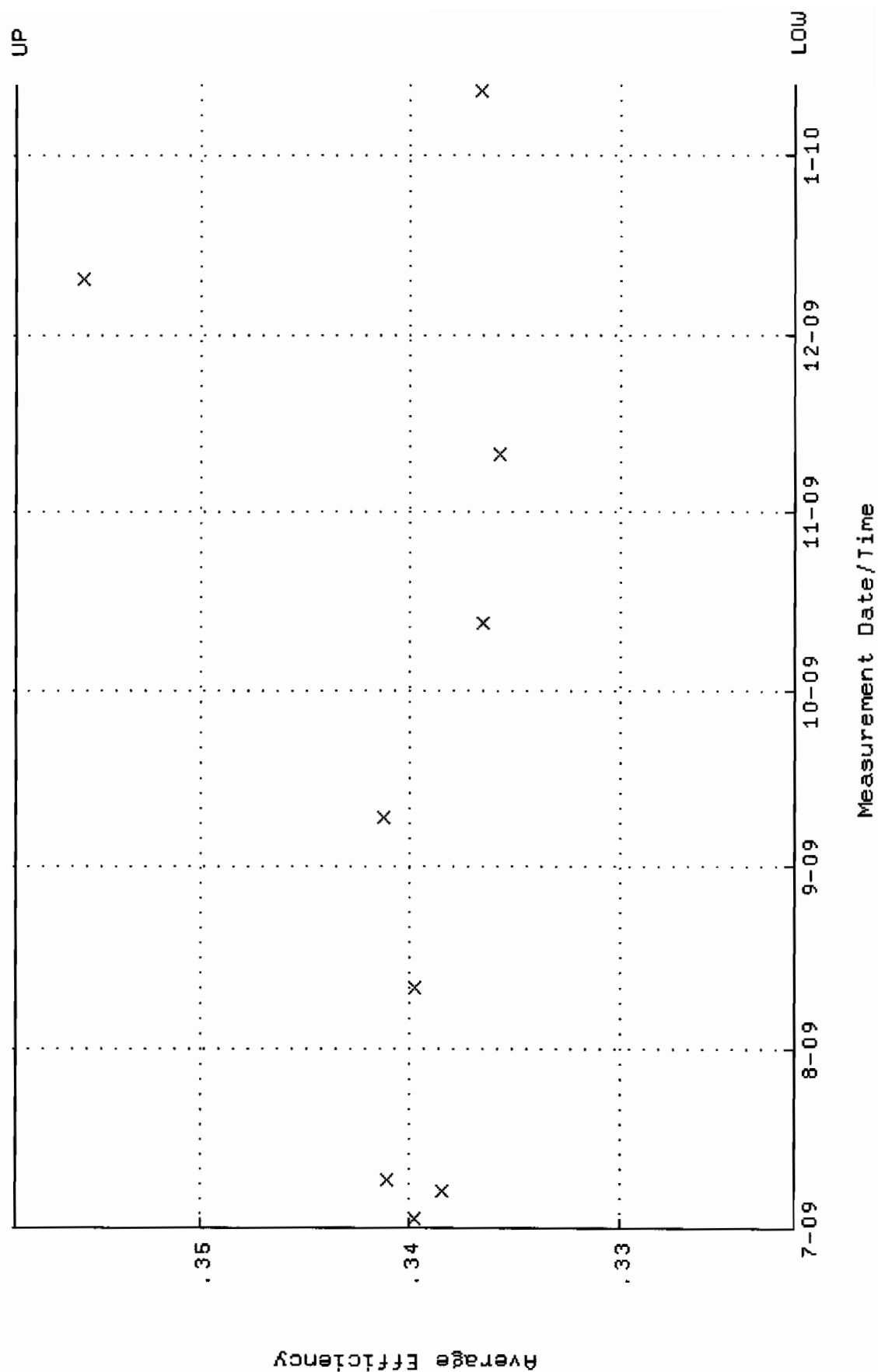
QA filename : DKA100:[ENV_ALPHA.QA.W]W110.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 70.7404 through 73.7542



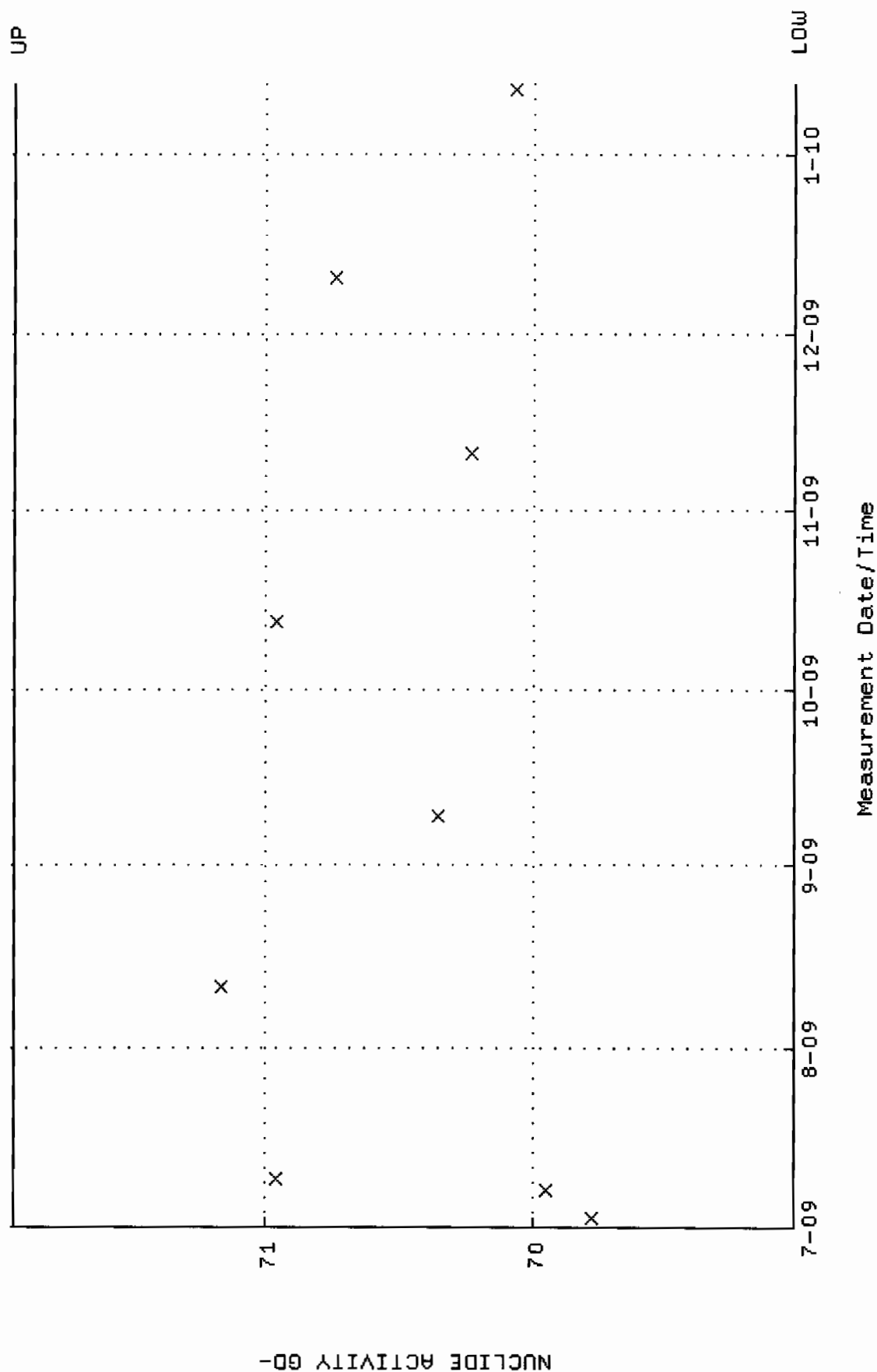
QA filename : DKA100:[ENV_ALPHA,QA,B]B110.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:07 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



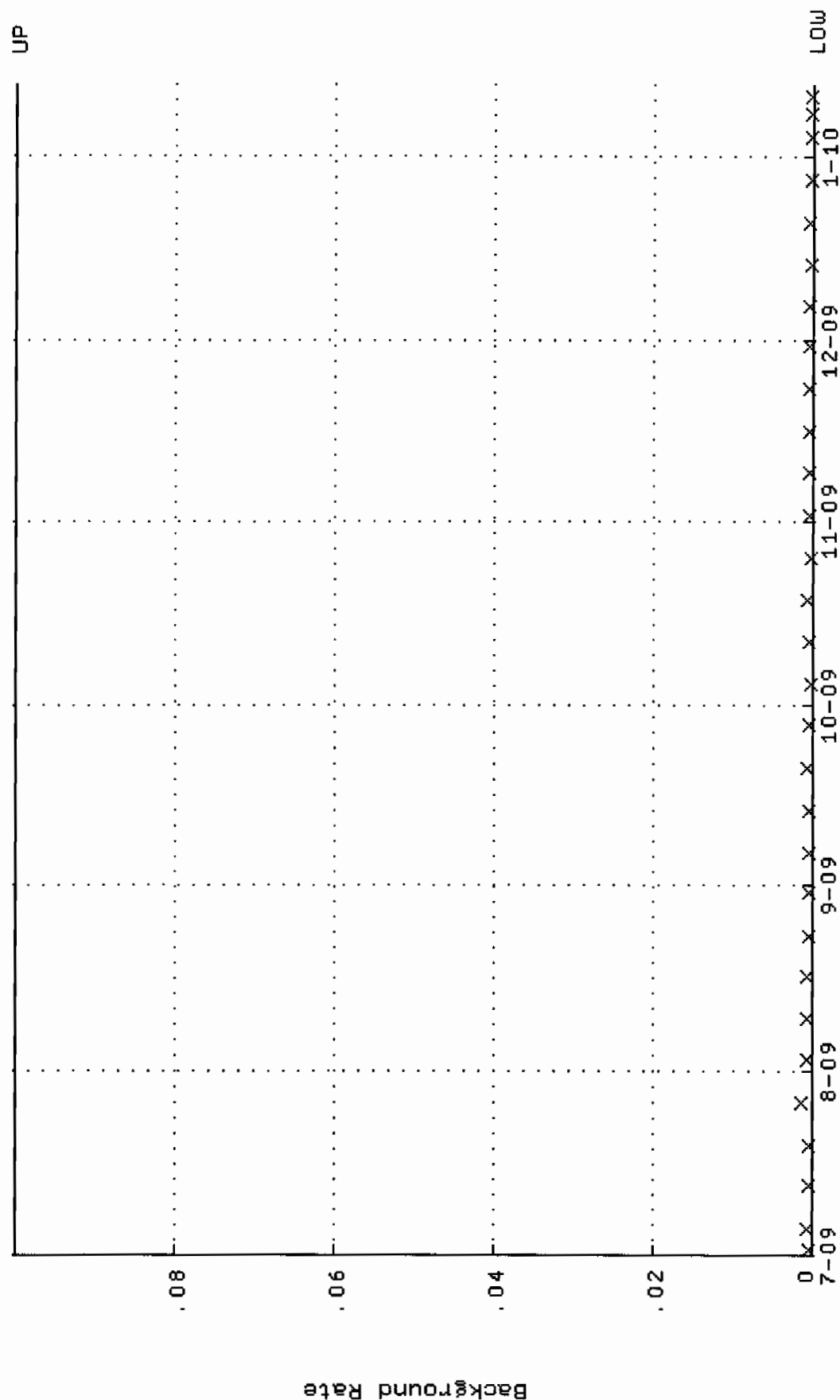
QA filename : DKA100:[ENV_ALPHA.QA.W]W111.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:17 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.321662 through 0.358794



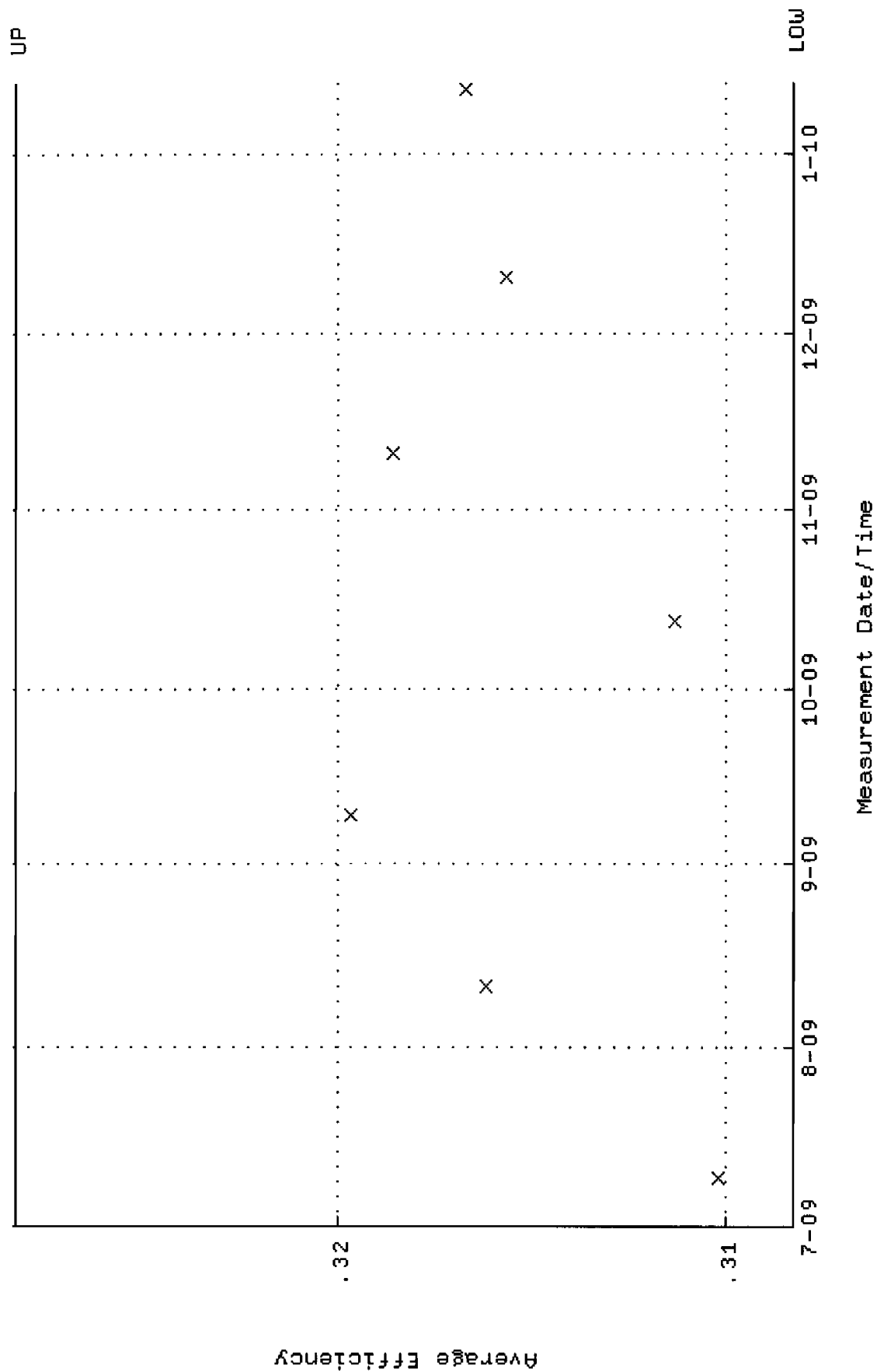
QA filename : DKA100:[ENV_ALPHA.QA.W]w111.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUL-2009 15:04:17 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 69.0200 through 71.9448



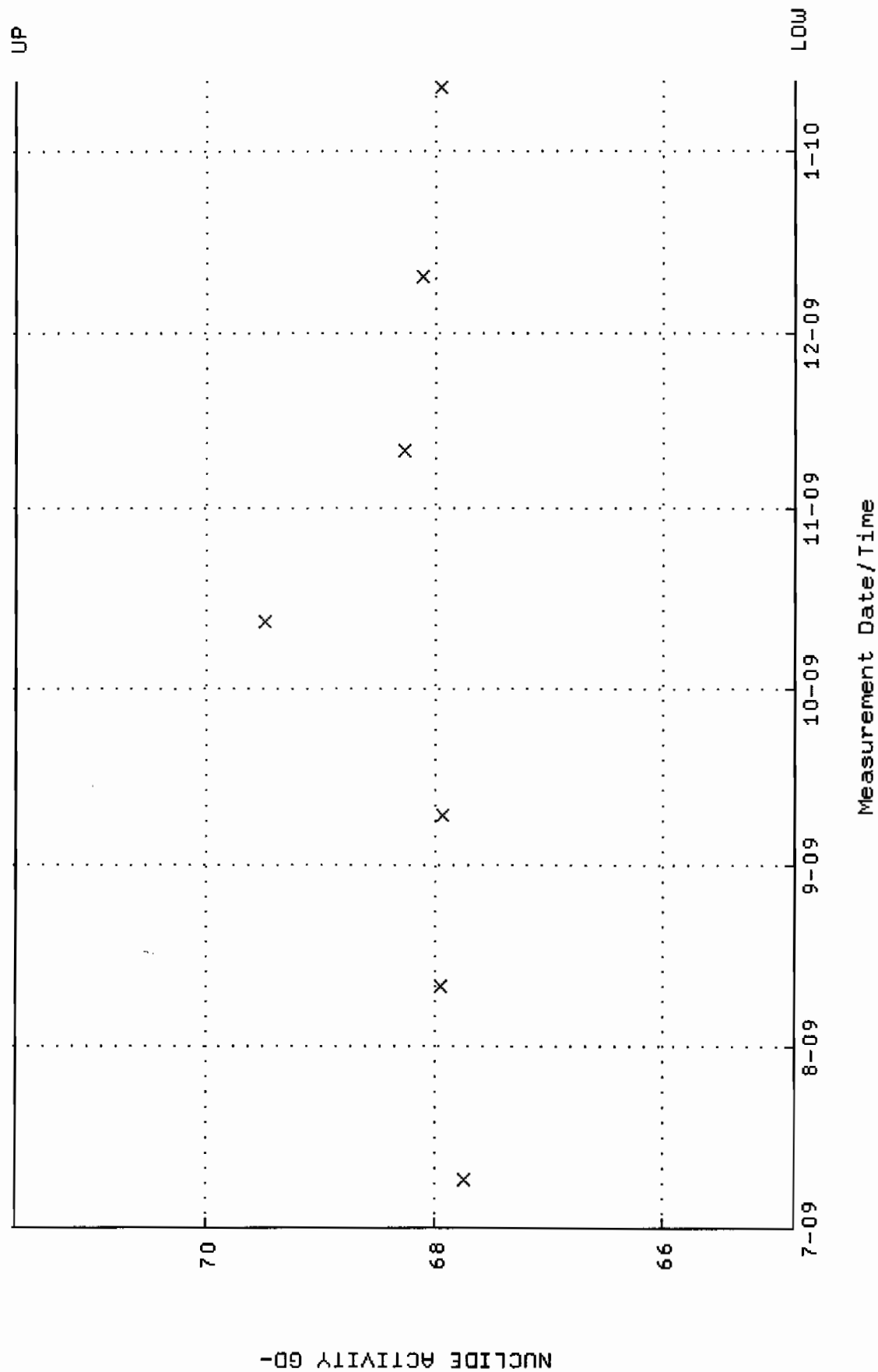
QA filename : DKA100:[ENV_ALPHA.QA.B]B111.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUL-2009 21:40:02 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



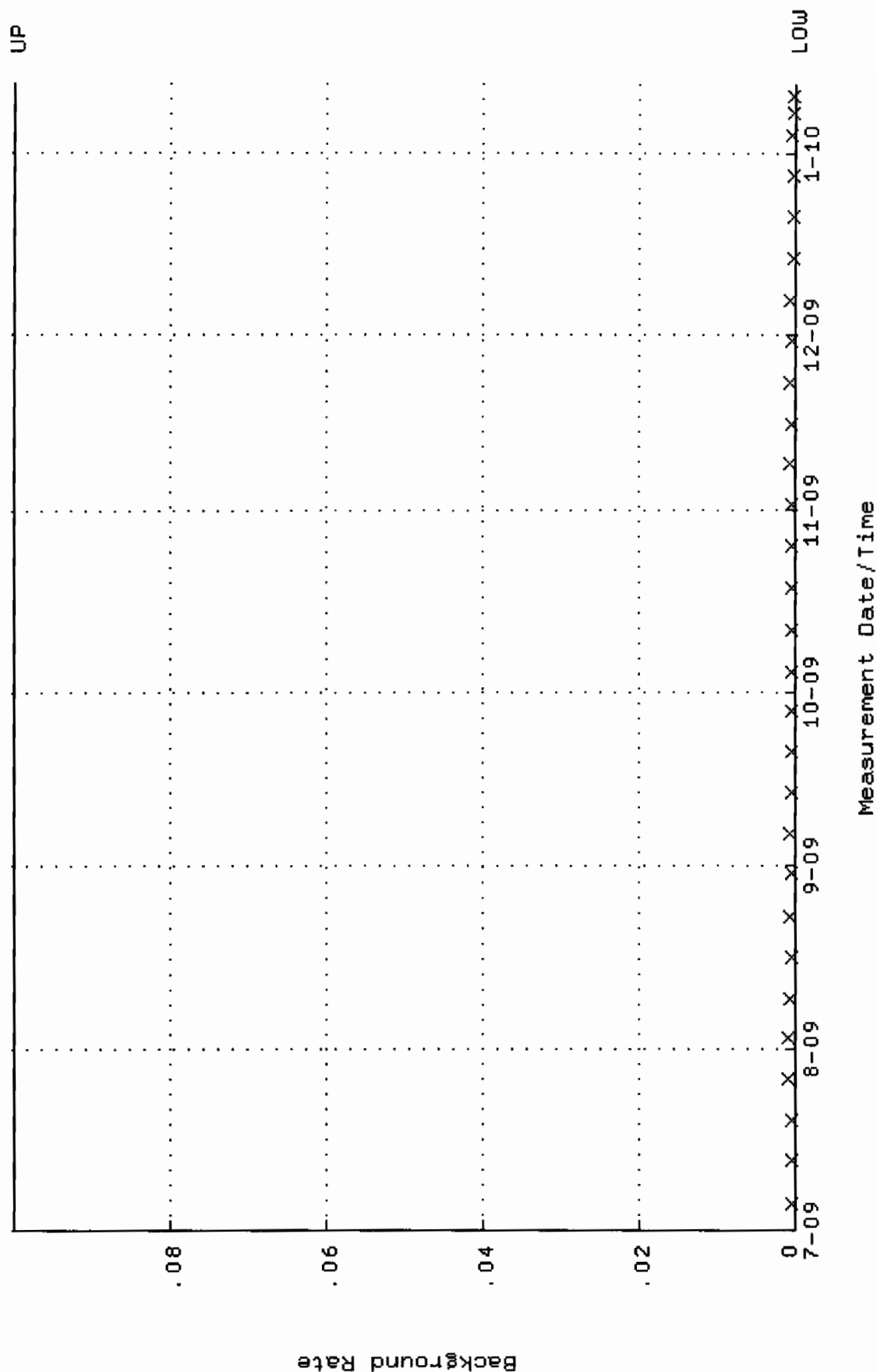
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.308263 through 0.328263



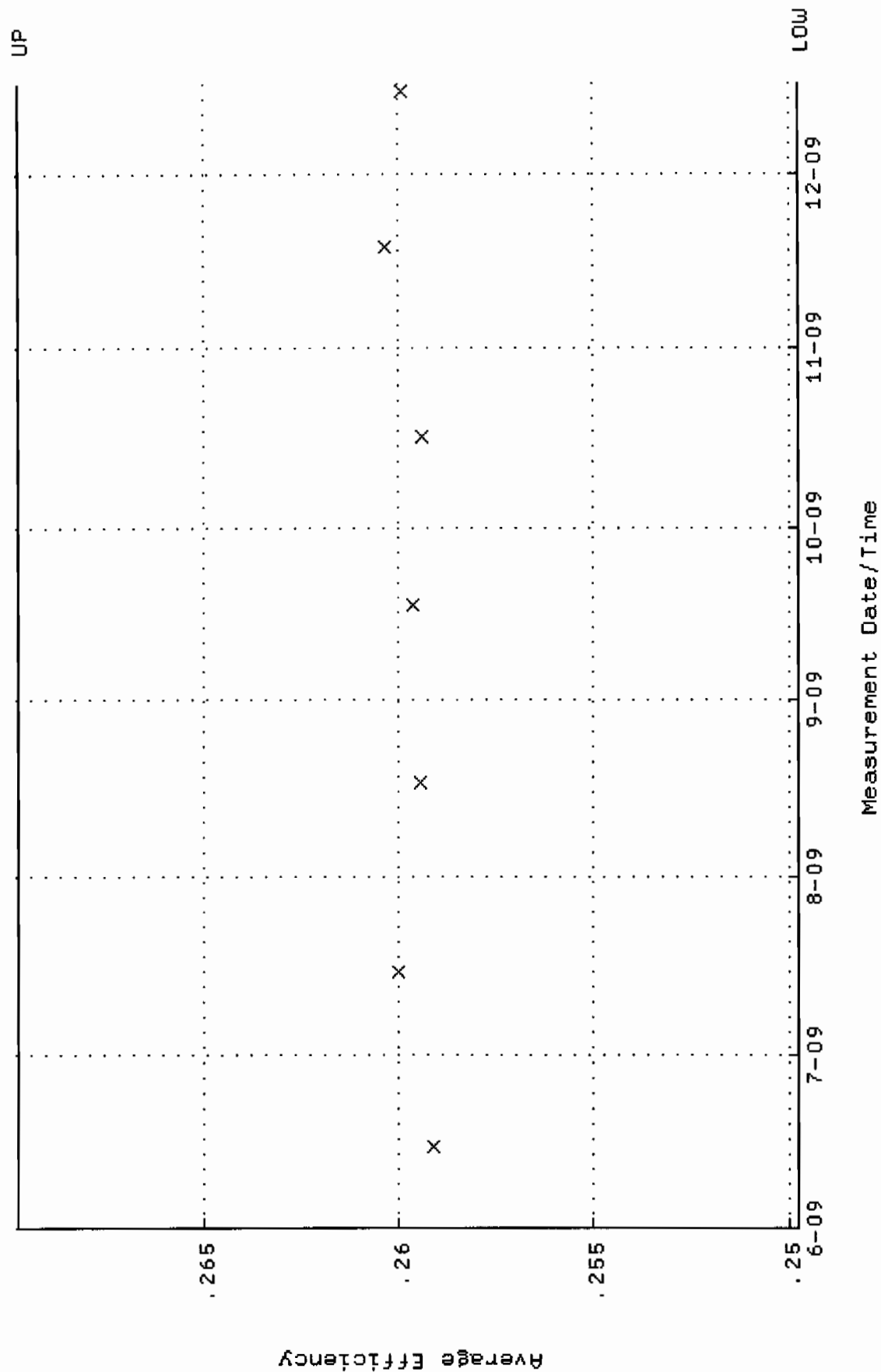
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:16 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 64.8451 through 71.6709



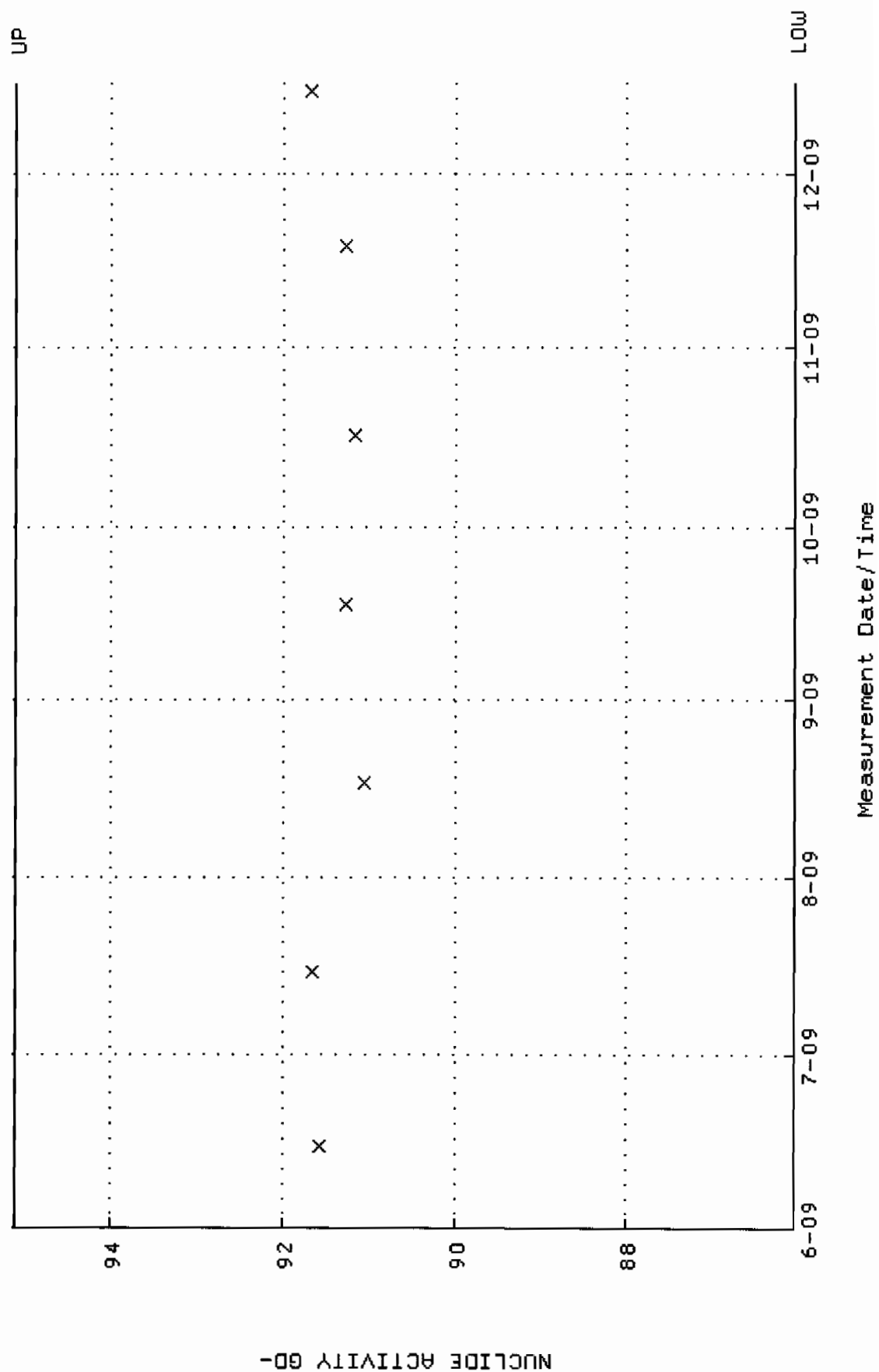
QA filename : DKA100:[ENV_ALPHA.QA.B]B112.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:07 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



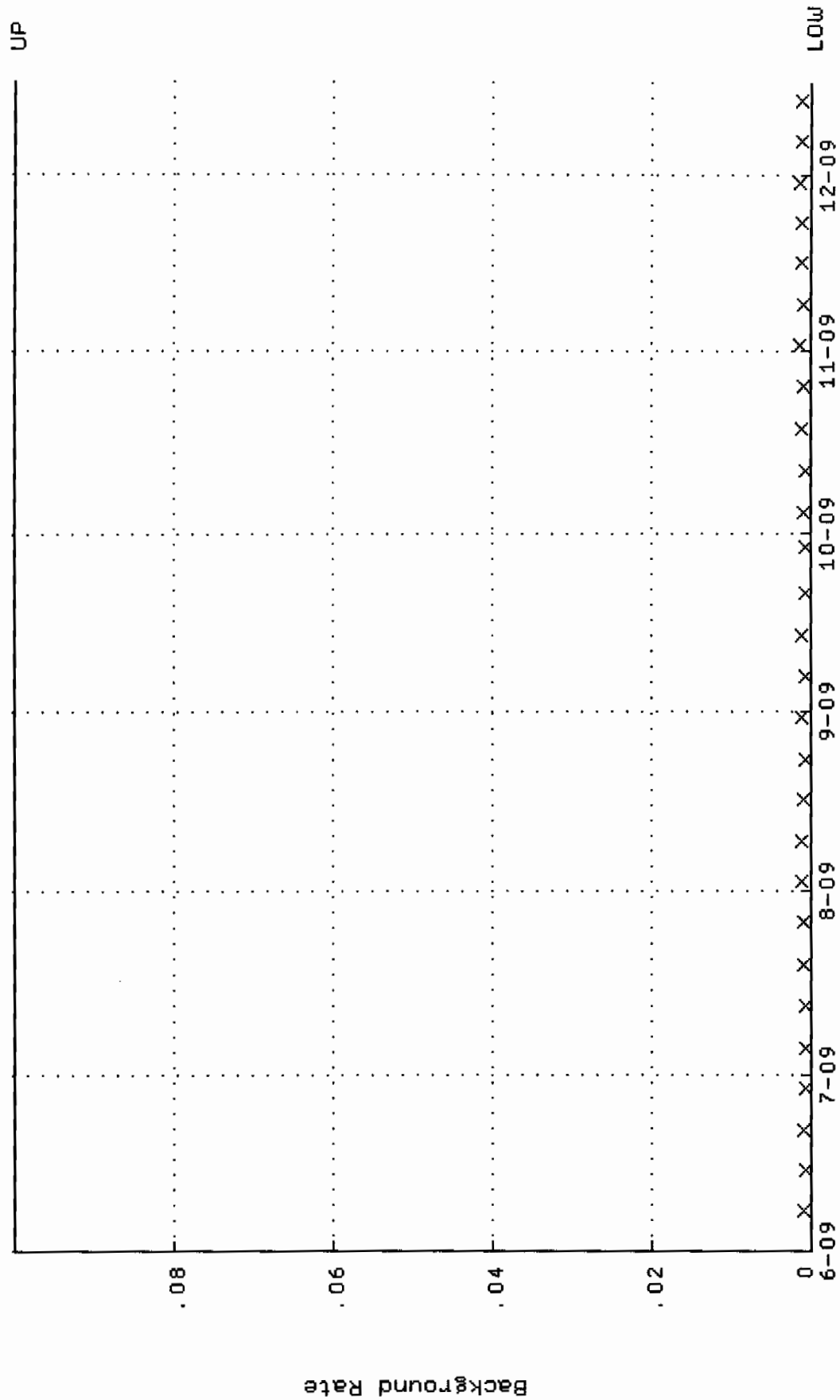
QA filename : DKA100:[ENV_ALPHA.QA.W]W123.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:35:03 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.249752 through 0.269752



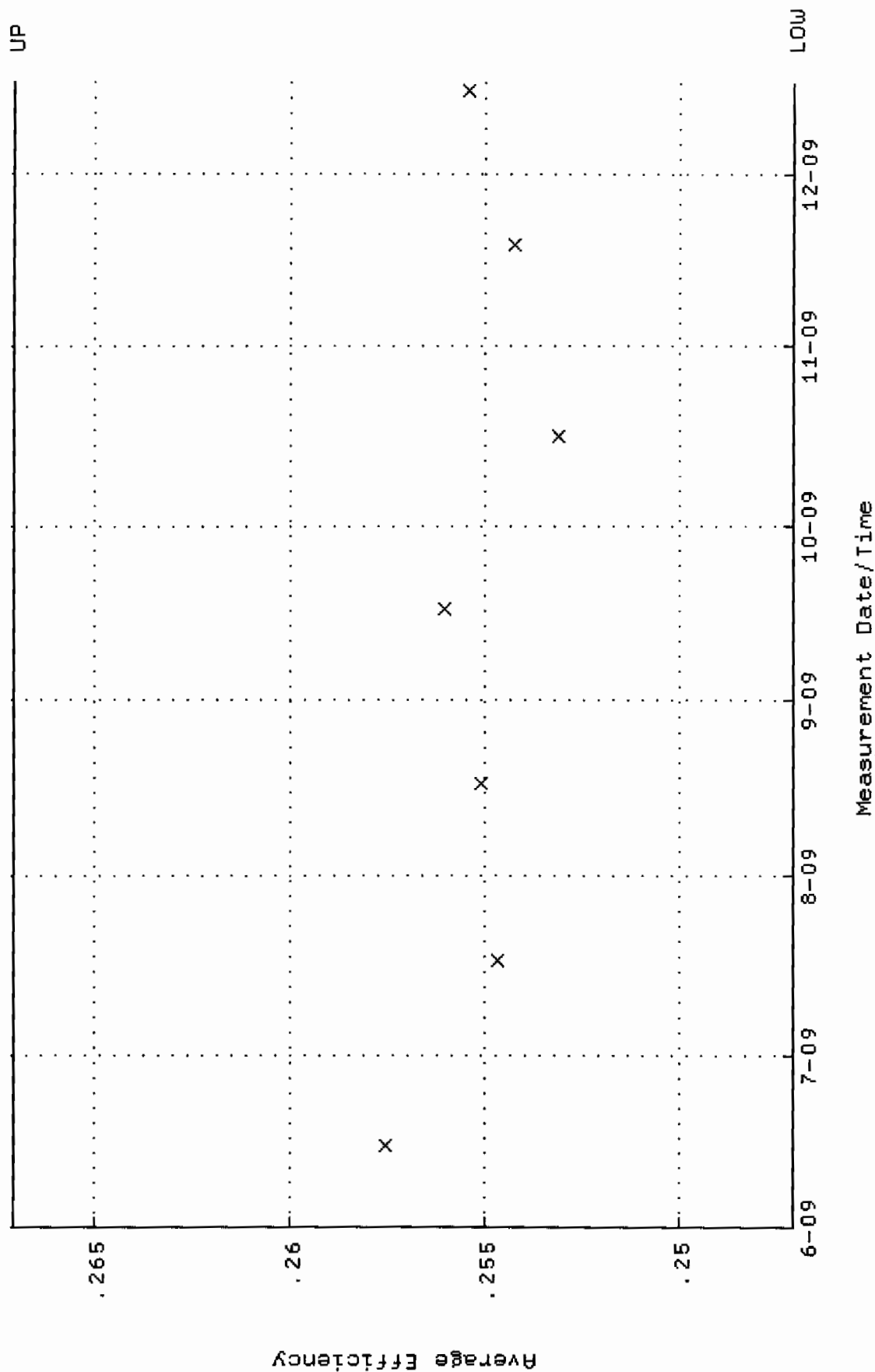
QA filename : DKA100:[ENV_ALPHA.QA.W]W123.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:03 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 86.0496 through 95.1074



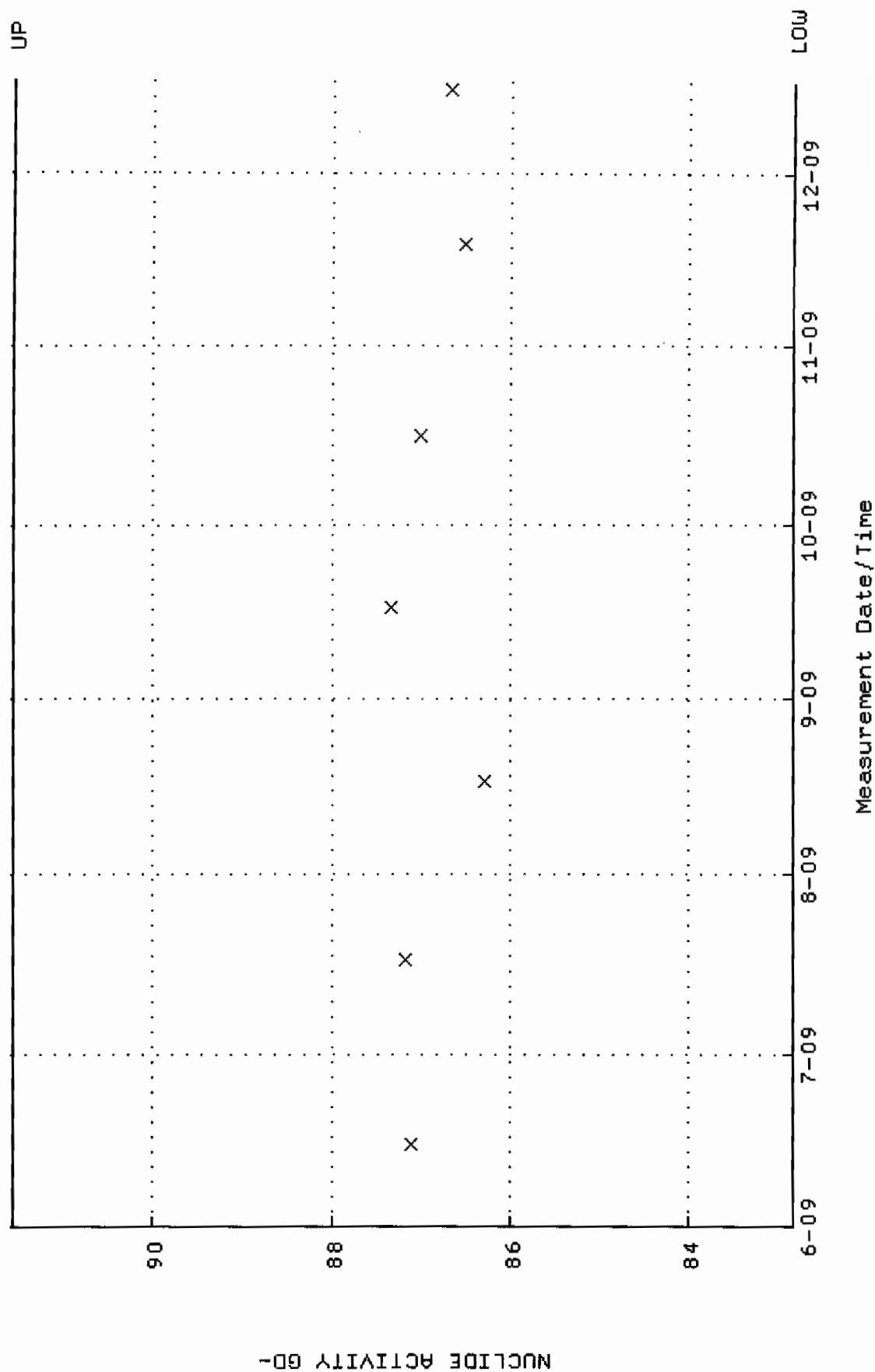
QA filename : DKA100:[ENV_ALPHA.QA.B]B123.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:09:22 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



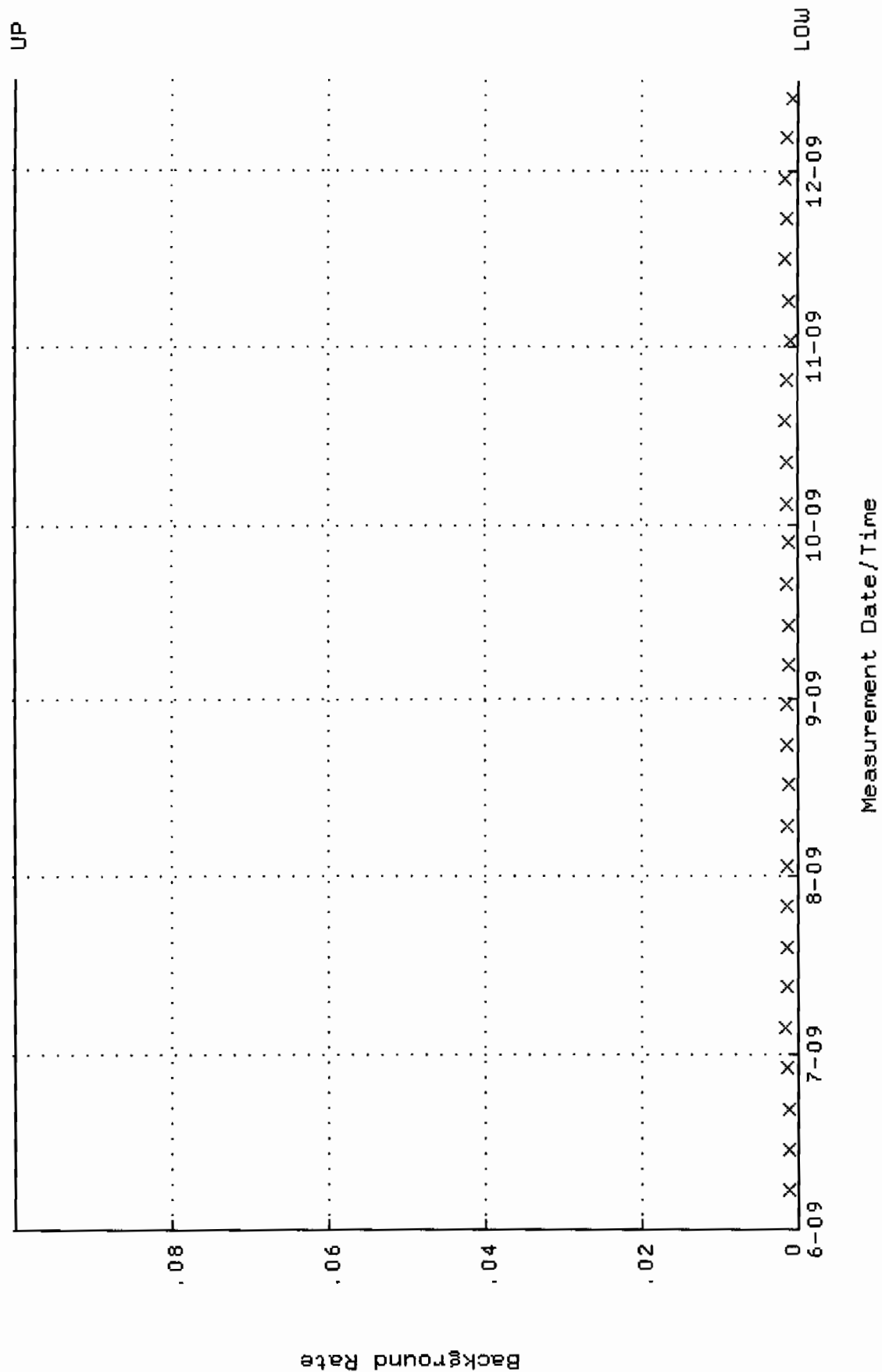
QA filename : DKA100:[ENV_ALPHA.QA.W]w138.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:25 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.247085 through 0.267085



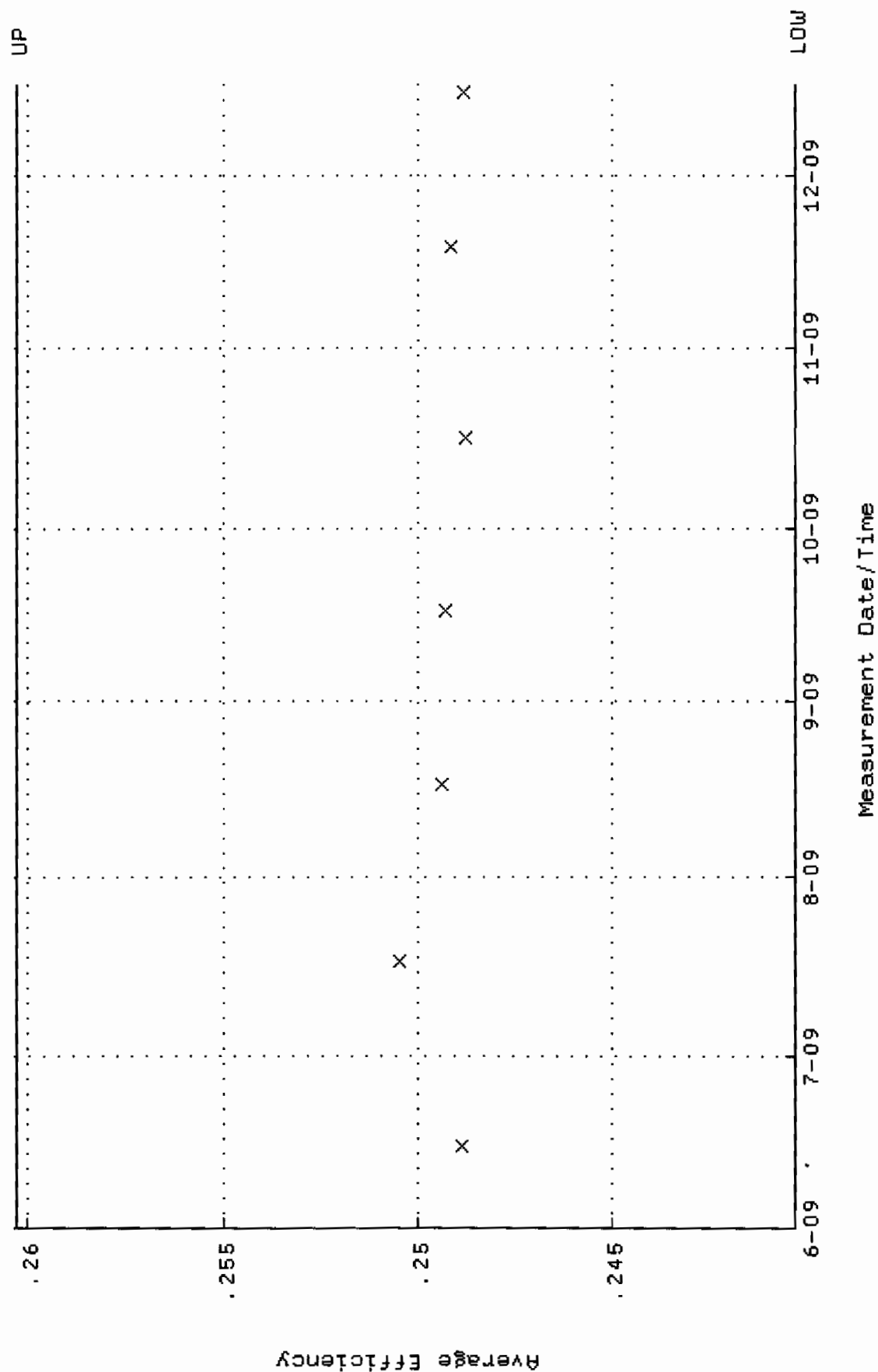
QA filename : DKA100:[ENV_ALPHA.QA.W]W138.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:25 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 82.8399 through 91.5599



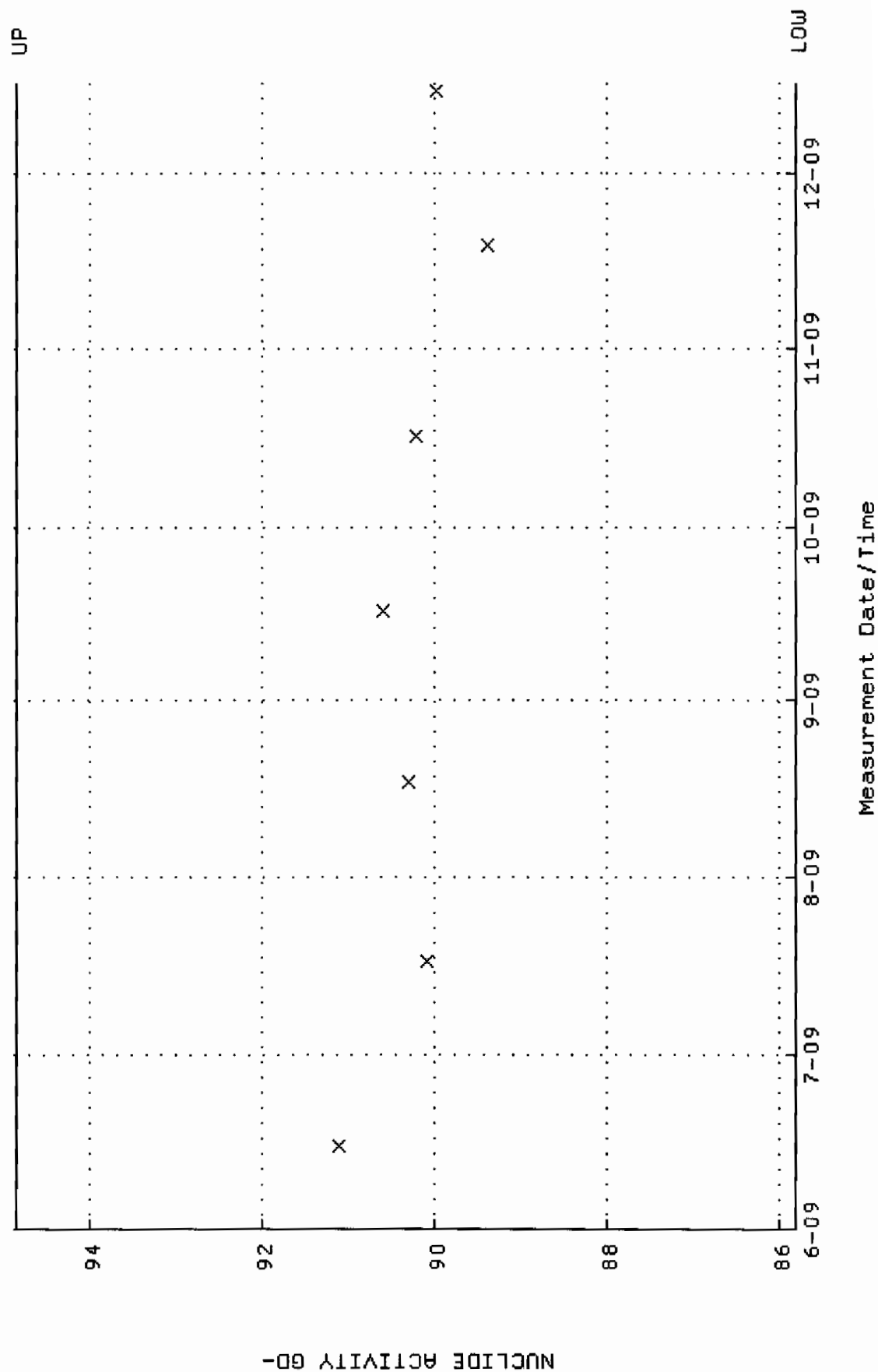
QA filename : DKA100:[ENV_ALPHA.QA.B]B138.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:23 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



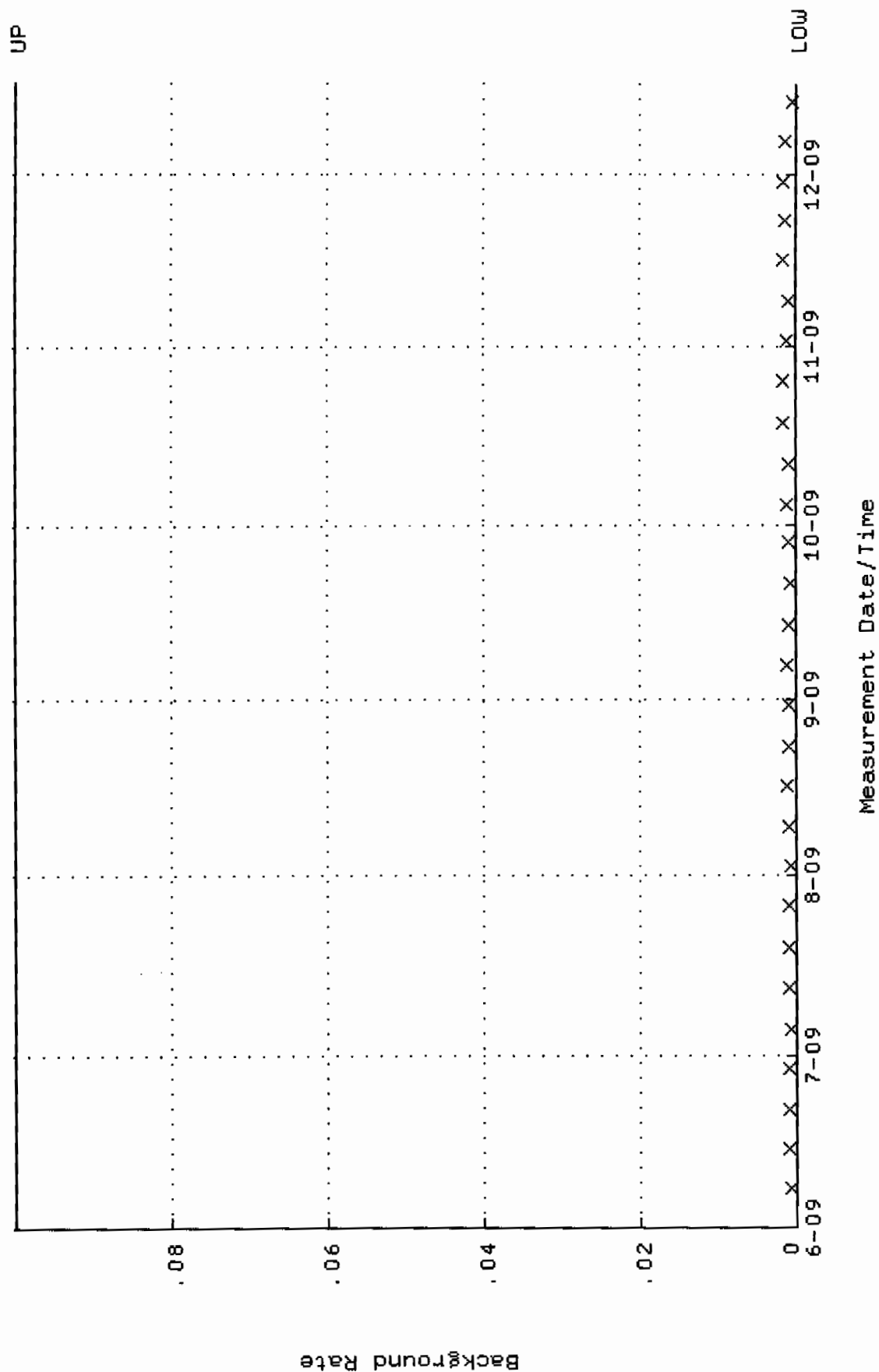
QA filename : DKA100:[ENV_ALPHA.QA.W]W139.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:30 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.240299 through 0.260299



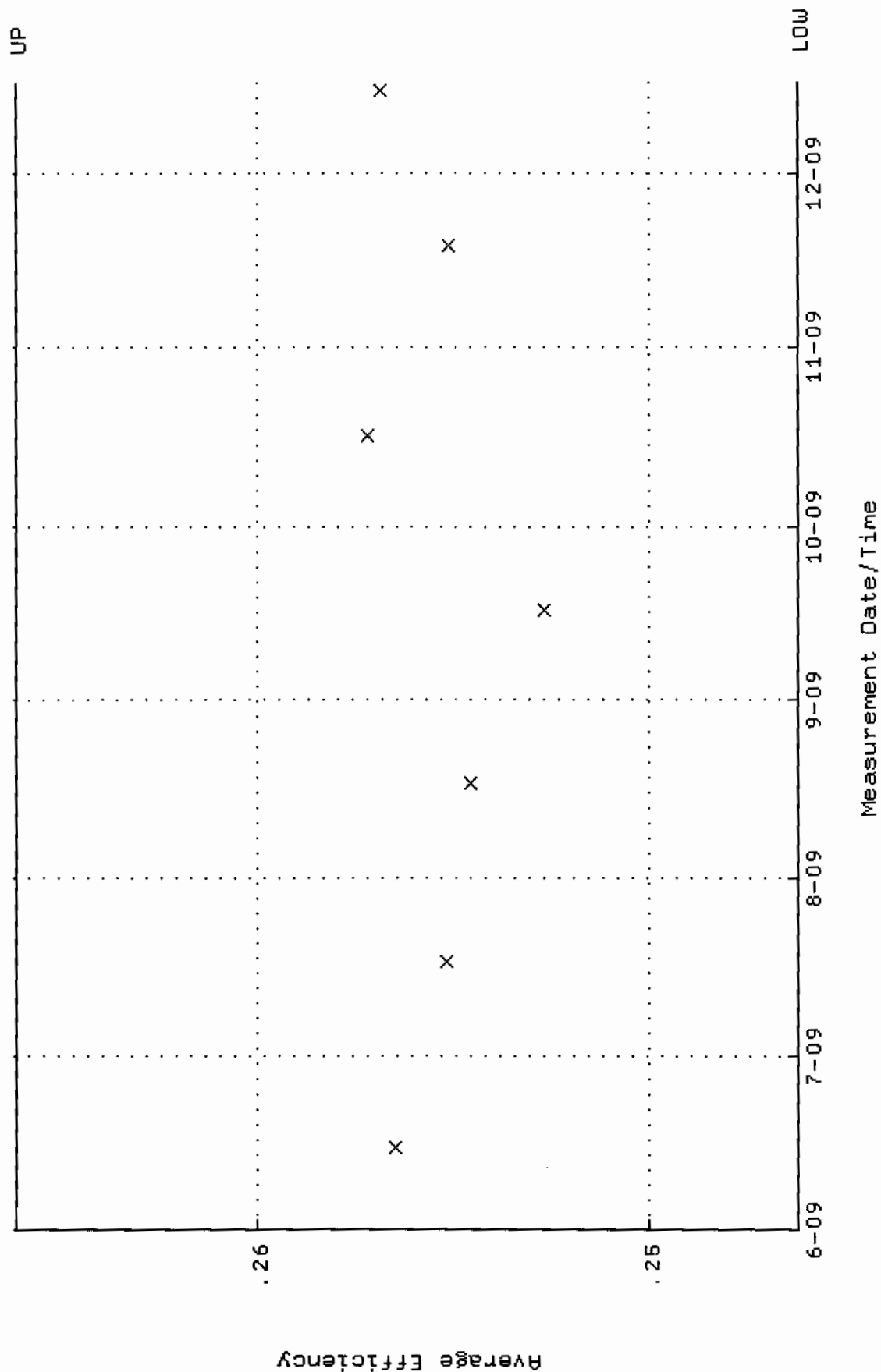
QA filename : DKA100:[ENV-ALPHA.QA.W]W139.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:30 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 85.8145 through 94.8477



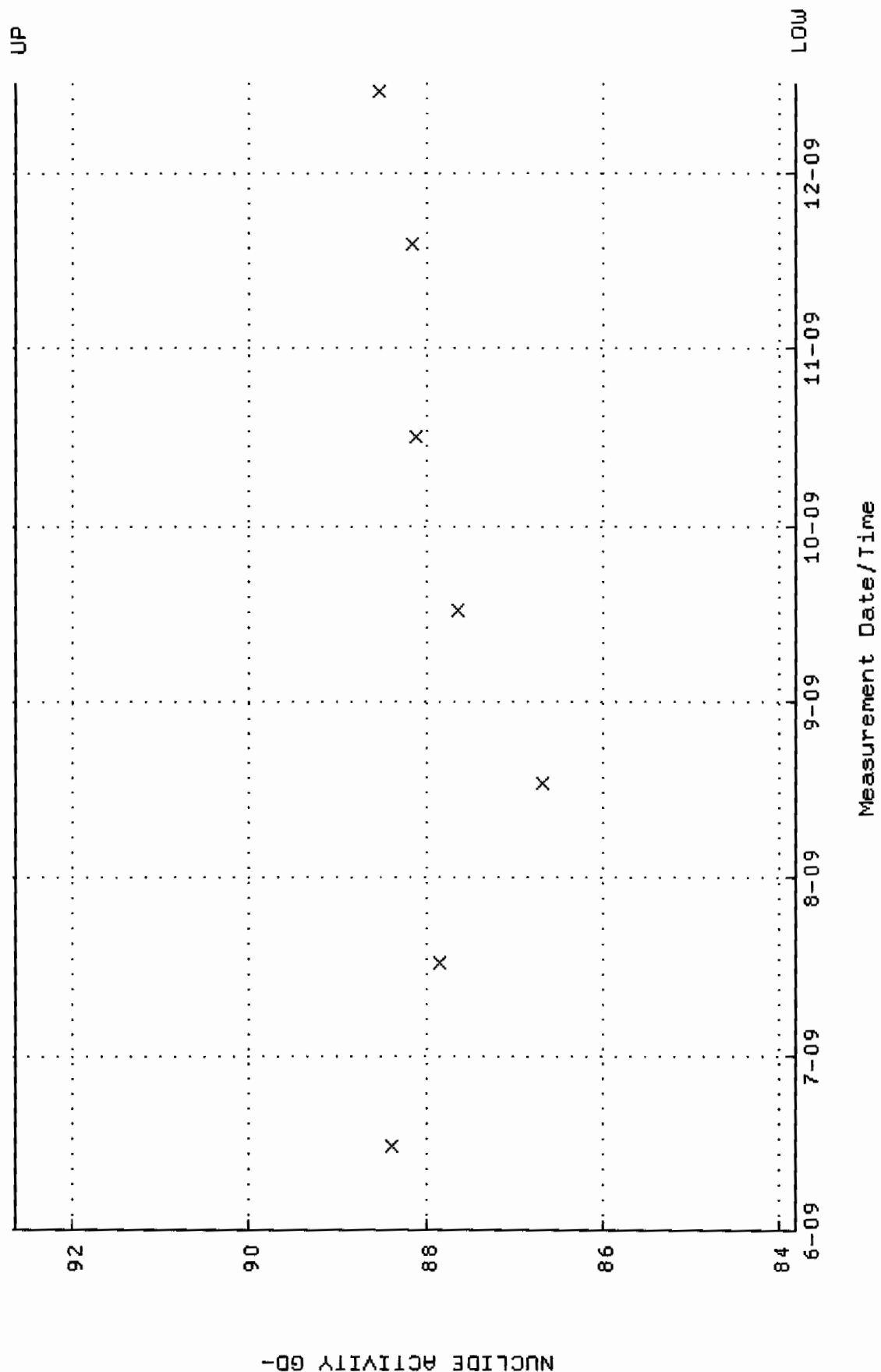
QA filename : DKA100:[ENV_ALPHA.QA.B]B139.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:28 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



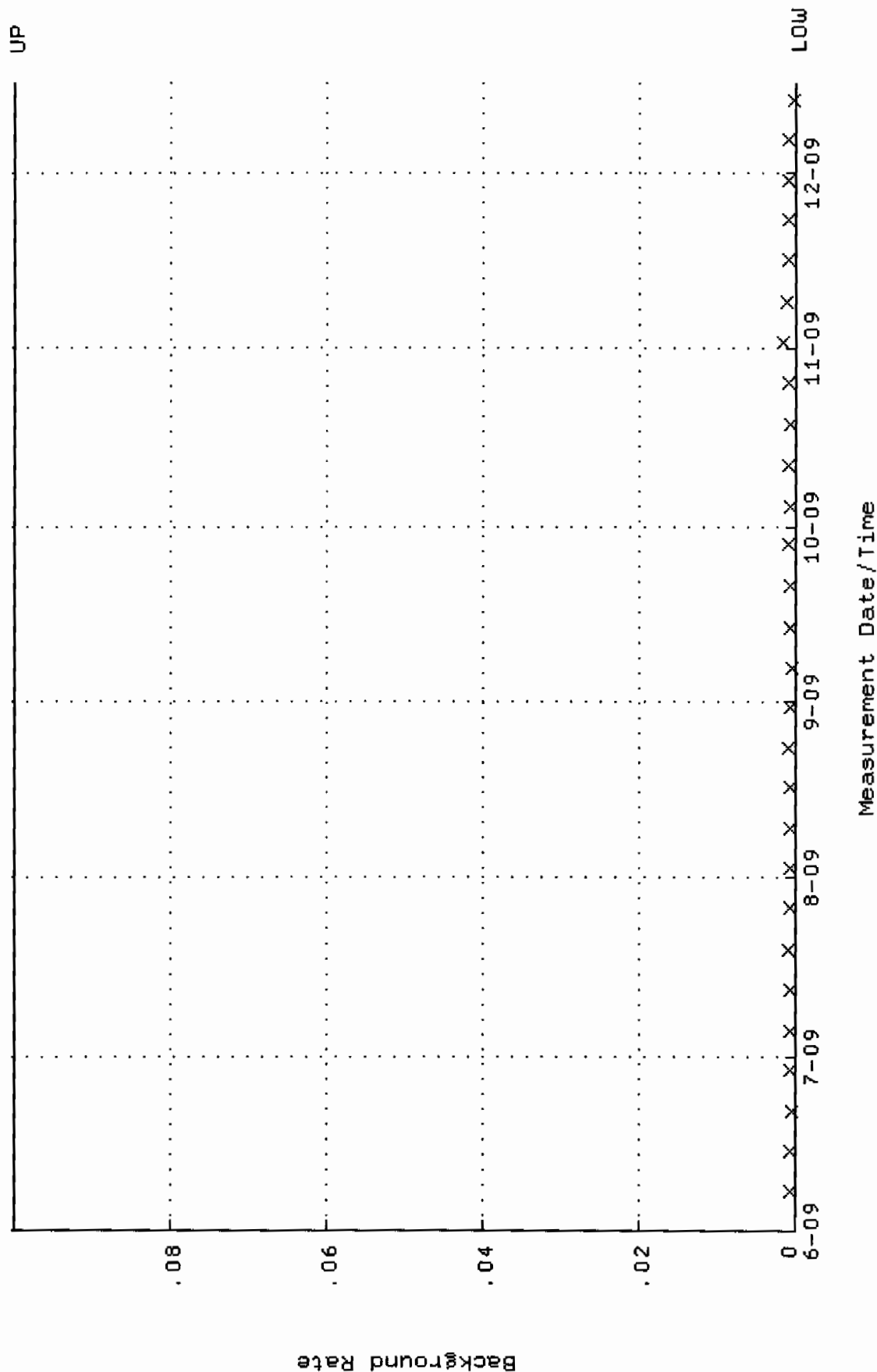
QA filename : DKA100:[ENV_ALPHA.QA.W]W140.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:37 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.246178 through 0.266178



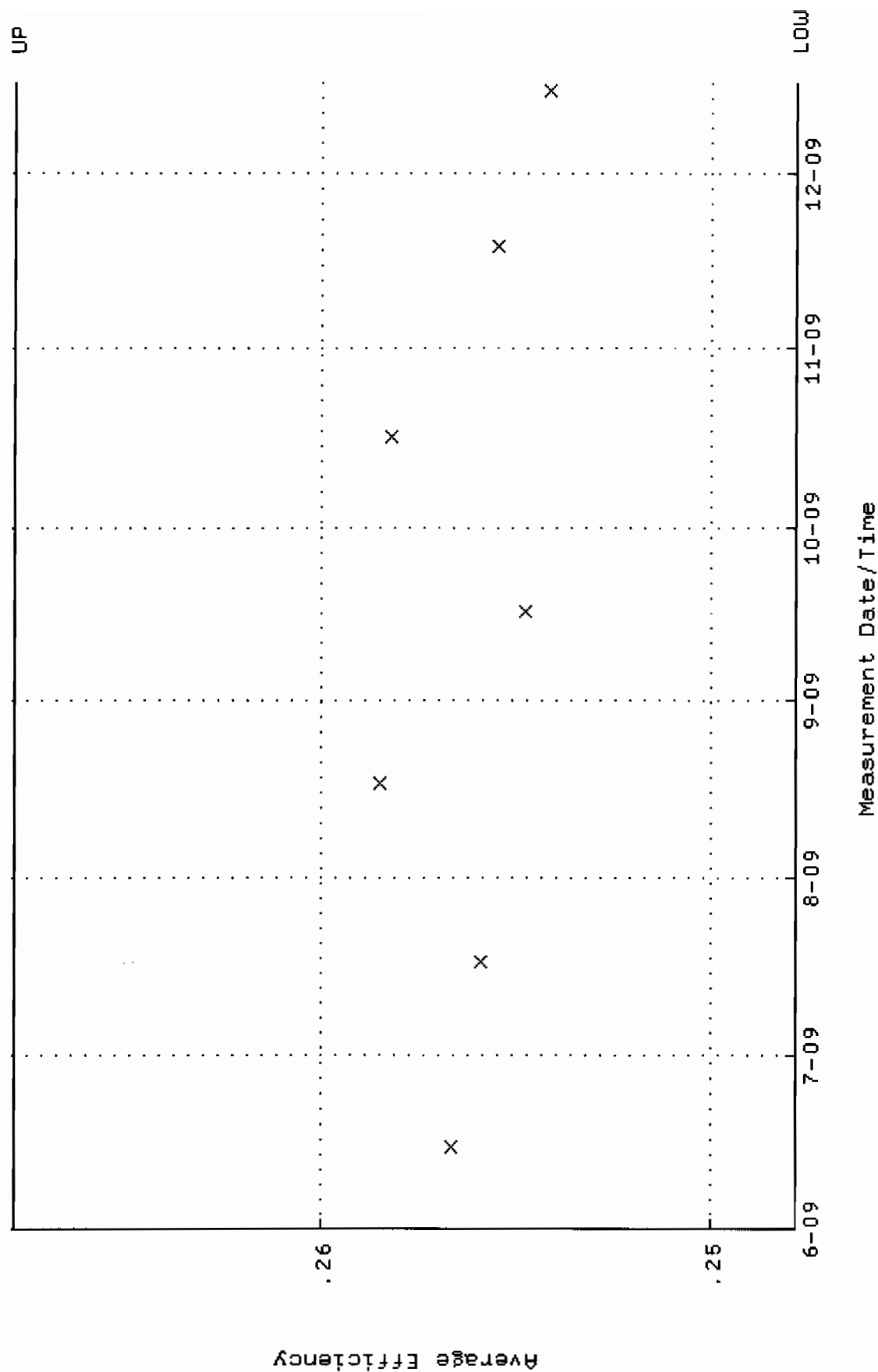
QA filename : DKA100:[ENV_ALPHA.QA.W]W140.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:37 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 83.8171 through 92.6399



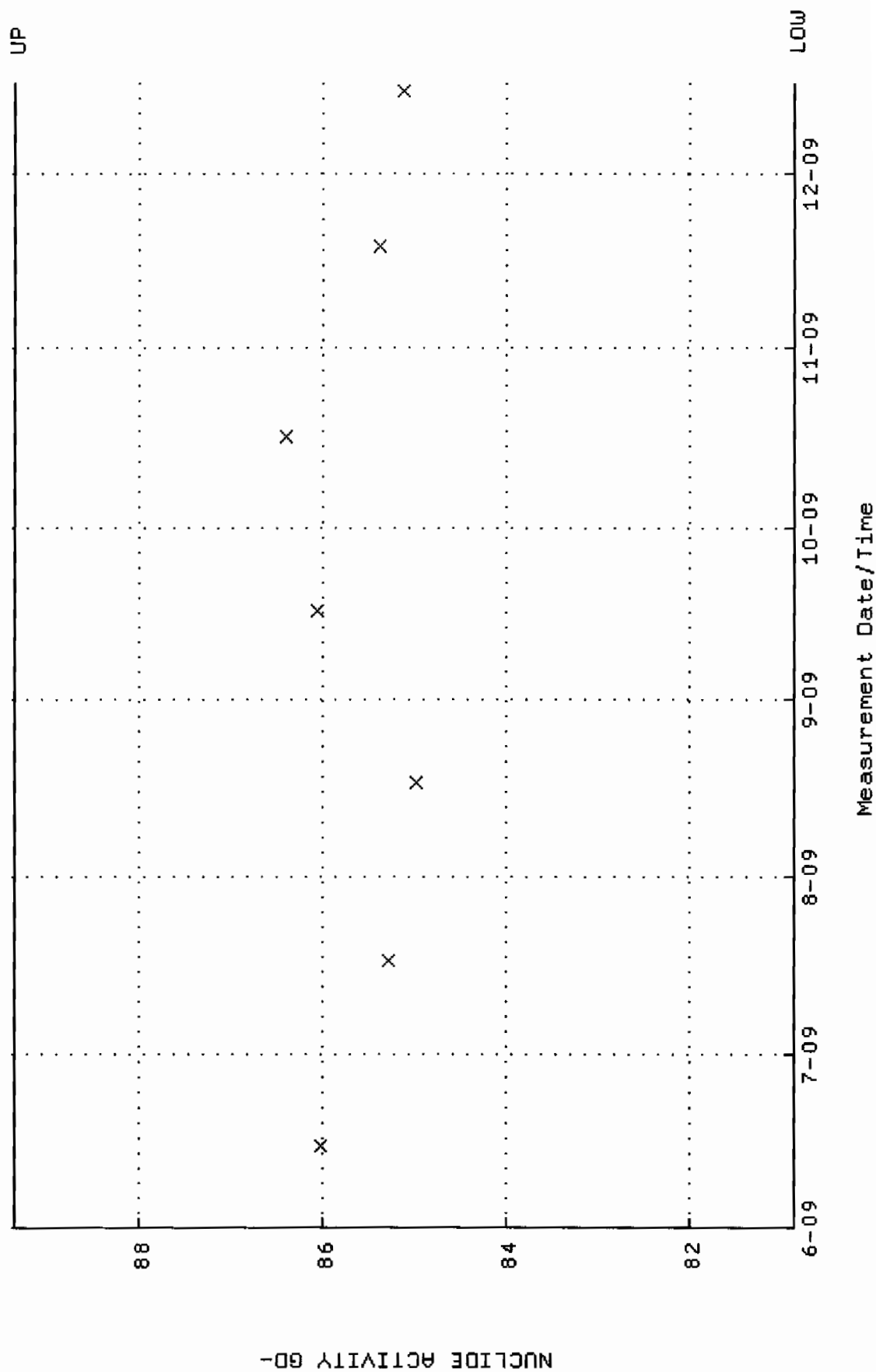
QA filename : DKA100:[ENV_ALPHA.QA.B]B140.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:33 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



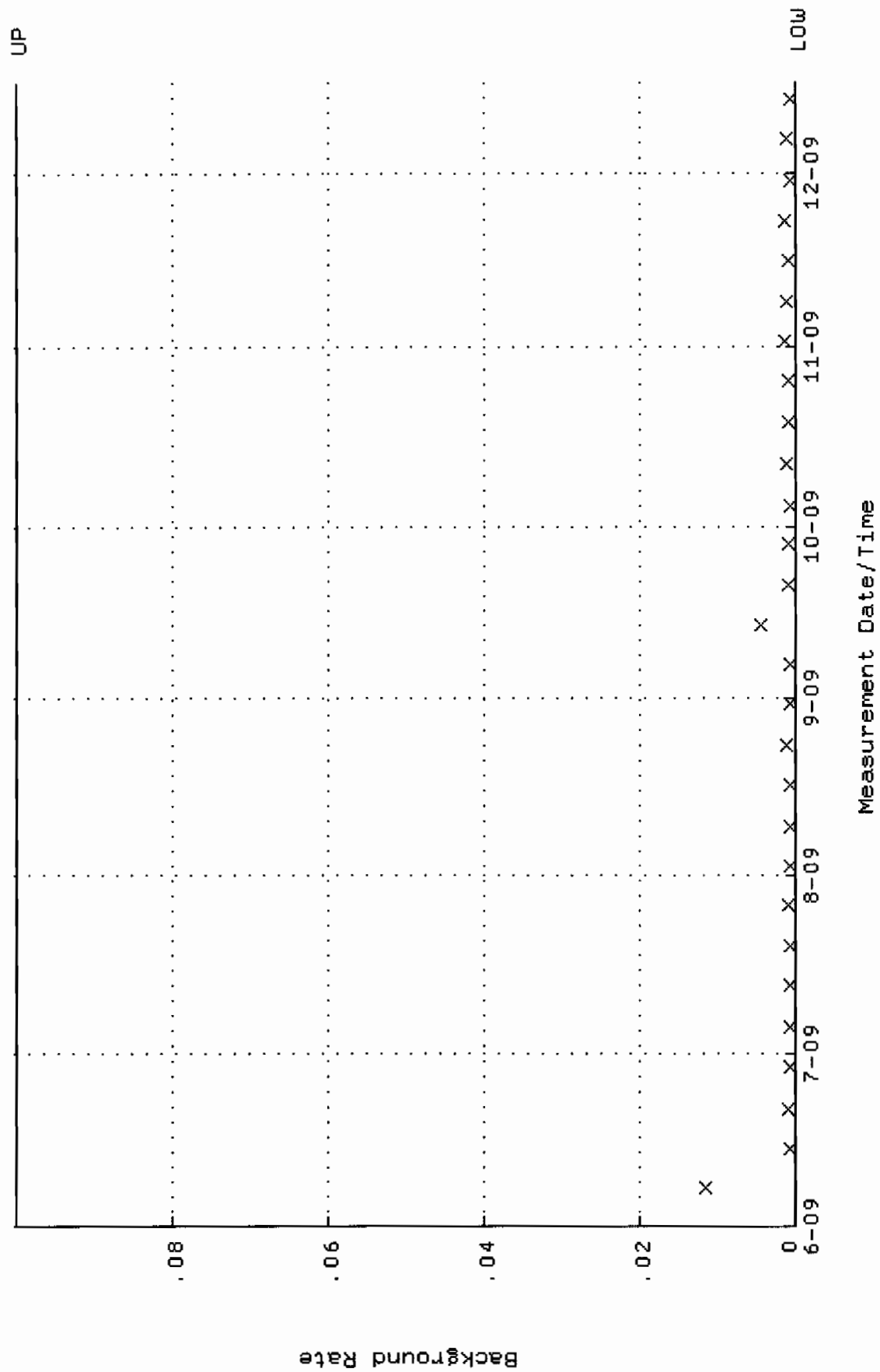
QA filename : DKA100:[ENV_ALPHA.QA.W]W141.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:41 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.247845 through 0.267845



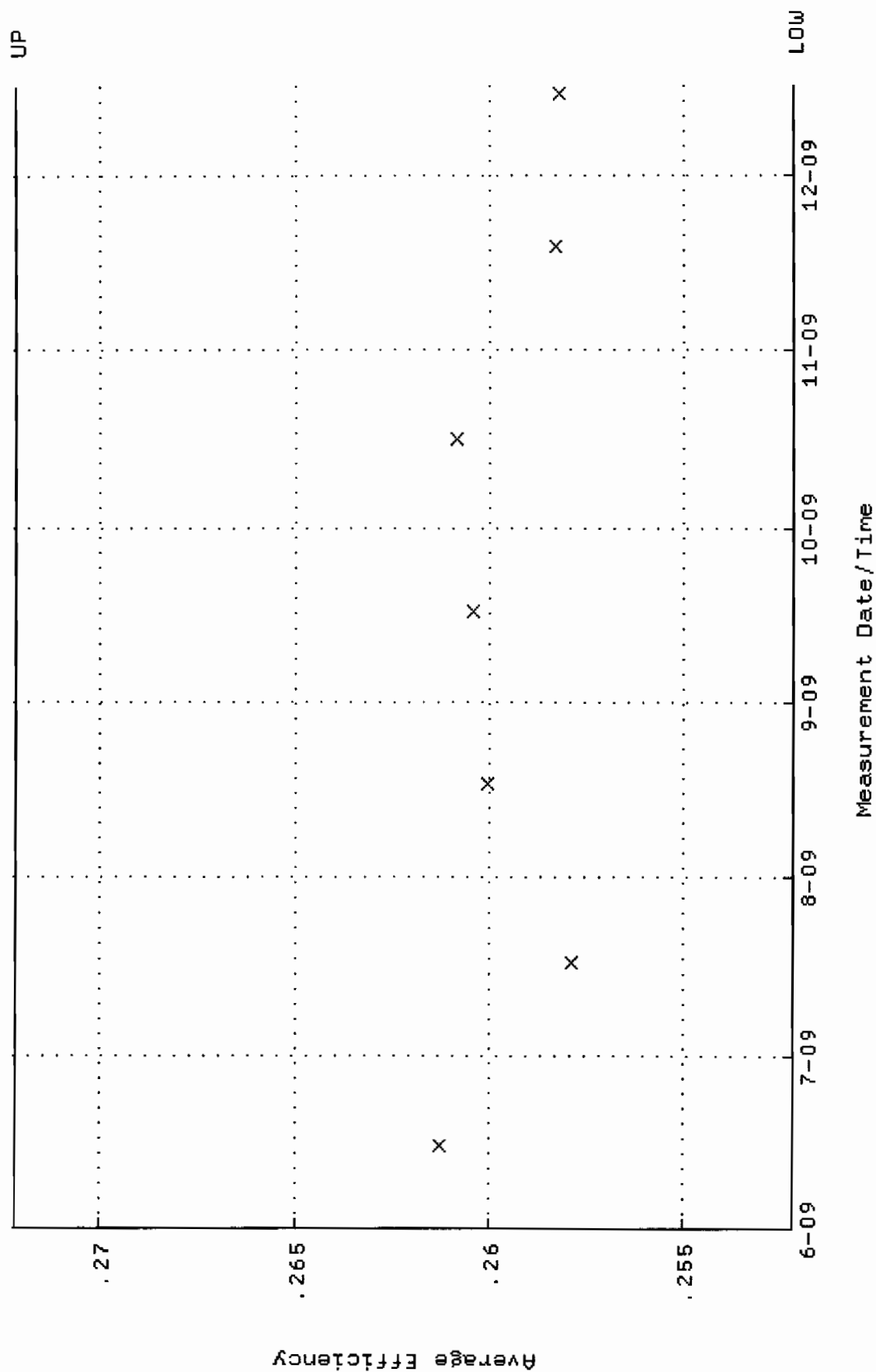
QA filename : DKA100:[ENV_ALPHA.QA.W]W141.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:41 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 80.8595 through 89.3711



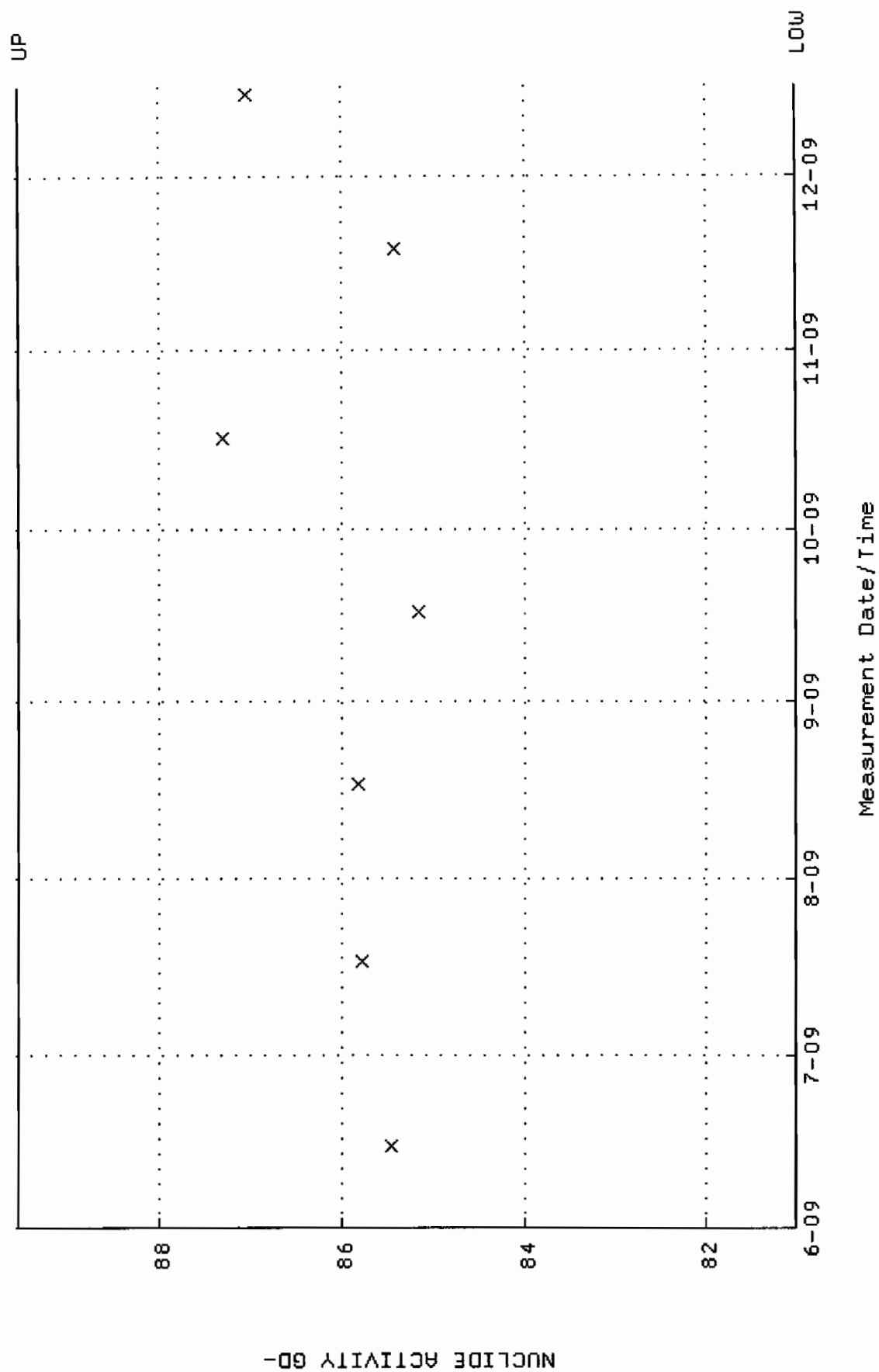
QA filename : DKA100:[ENV_ALPHA.QA.B]B141.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:37 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



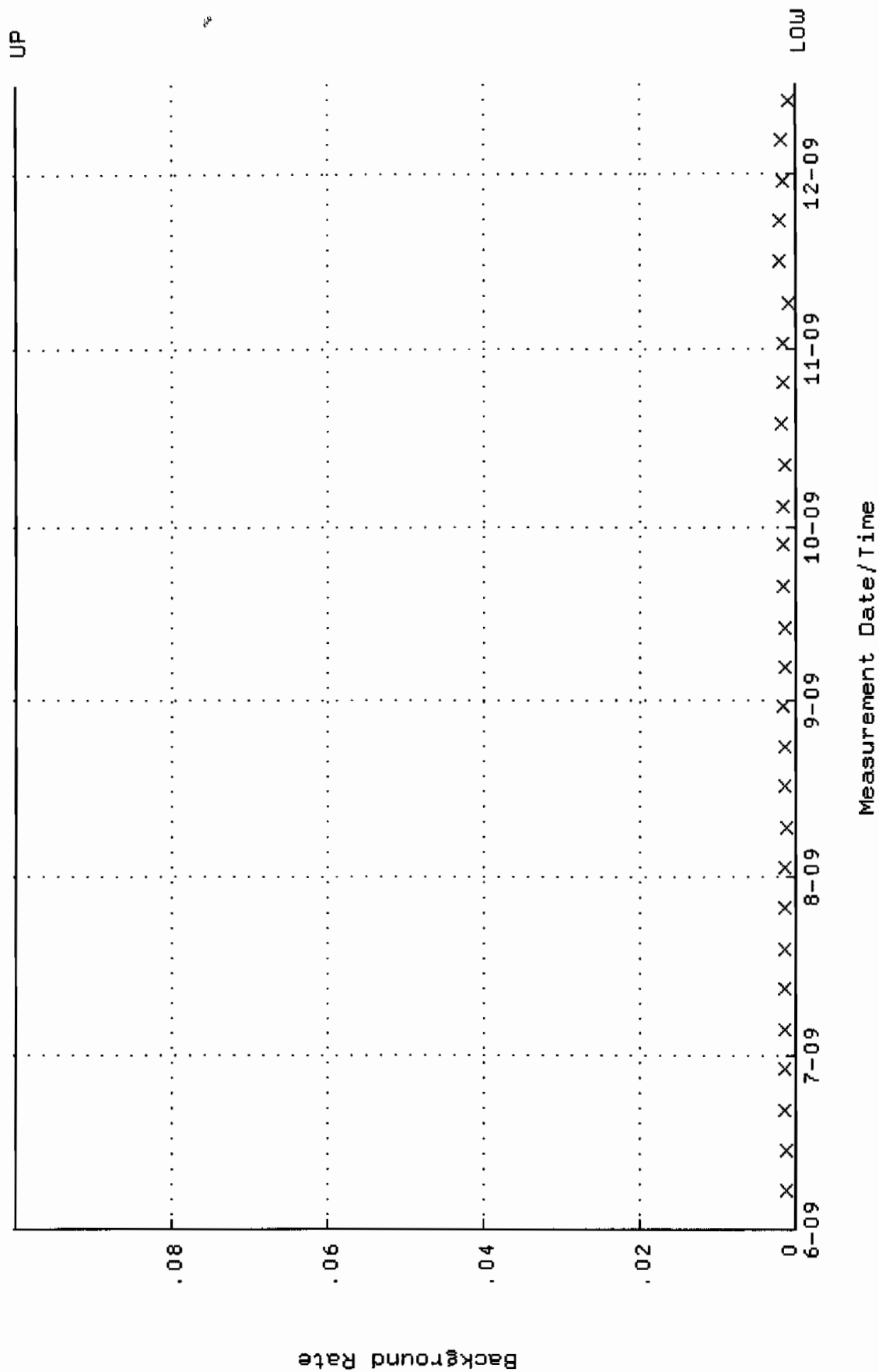
QA filename : DKA100: [ENV_ALPHA.QA.W]W142.QAF; 2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:46 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.252182 through 0.272182



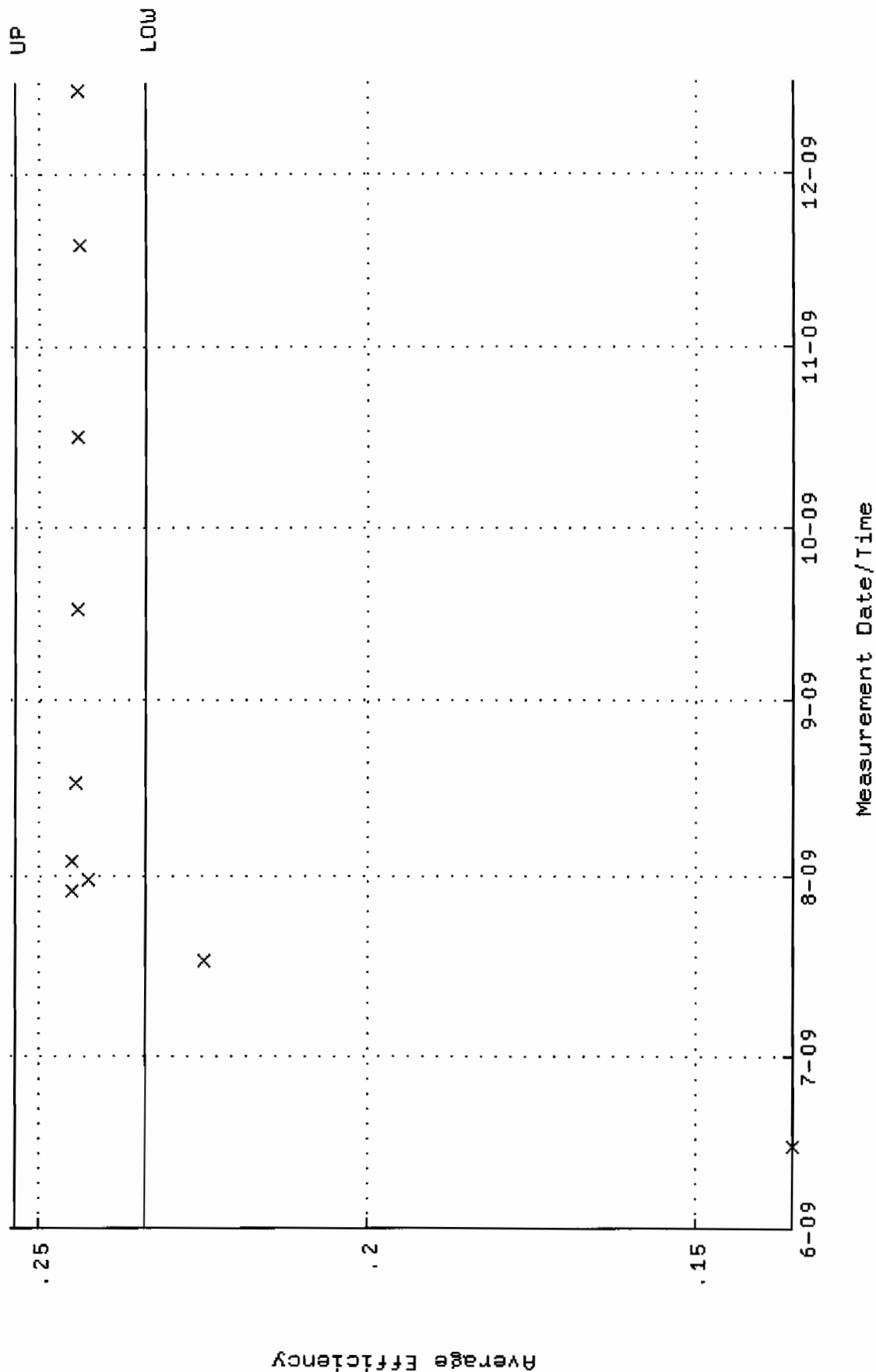
QA filename : DKA100:[ENV_ALPHA.QA.W]W142.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:46 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 81.0245 through 89.5533



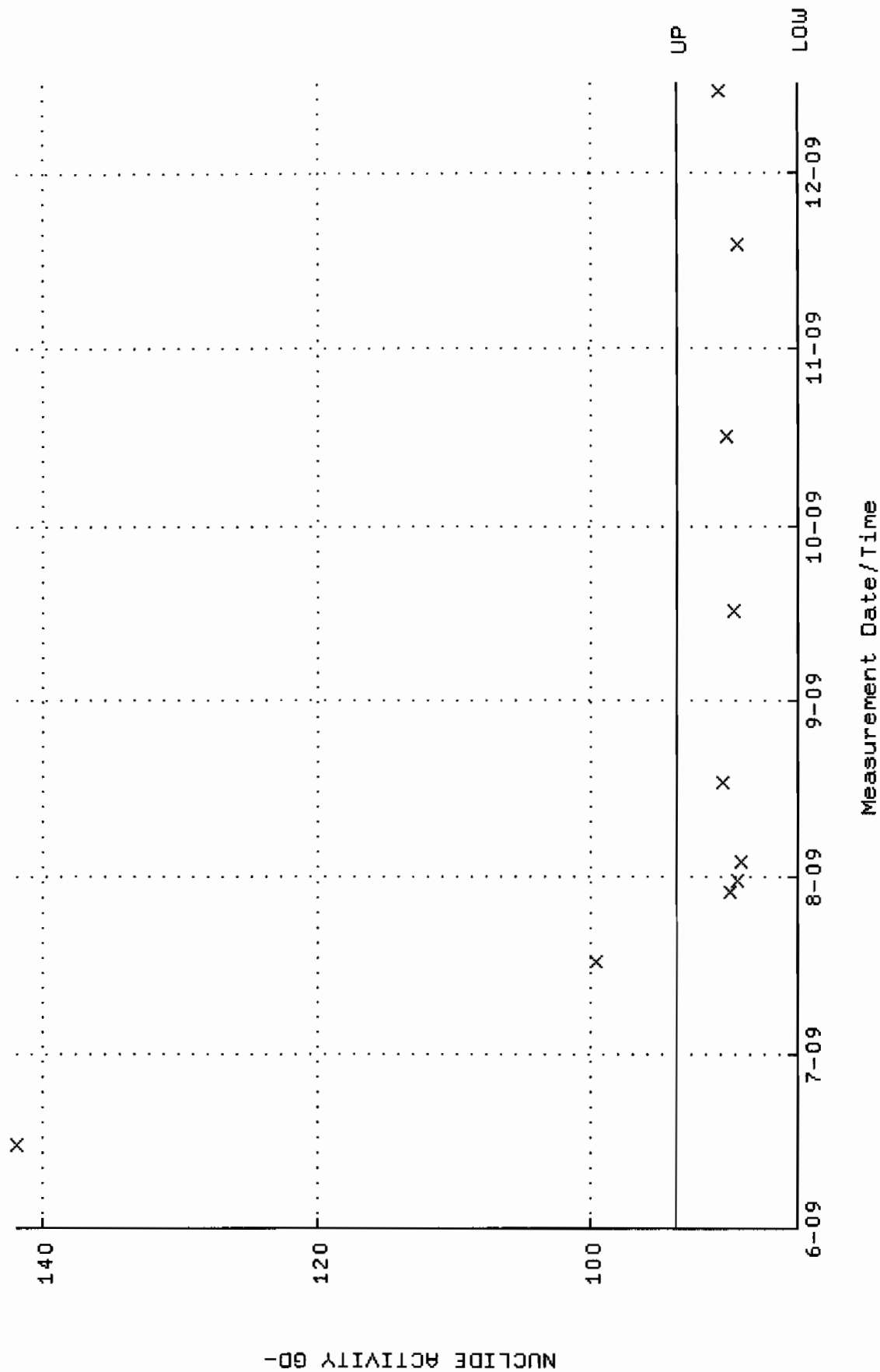
QA filename : DKA100:[ENV_ALPHA.QA.B]B142.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:42 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



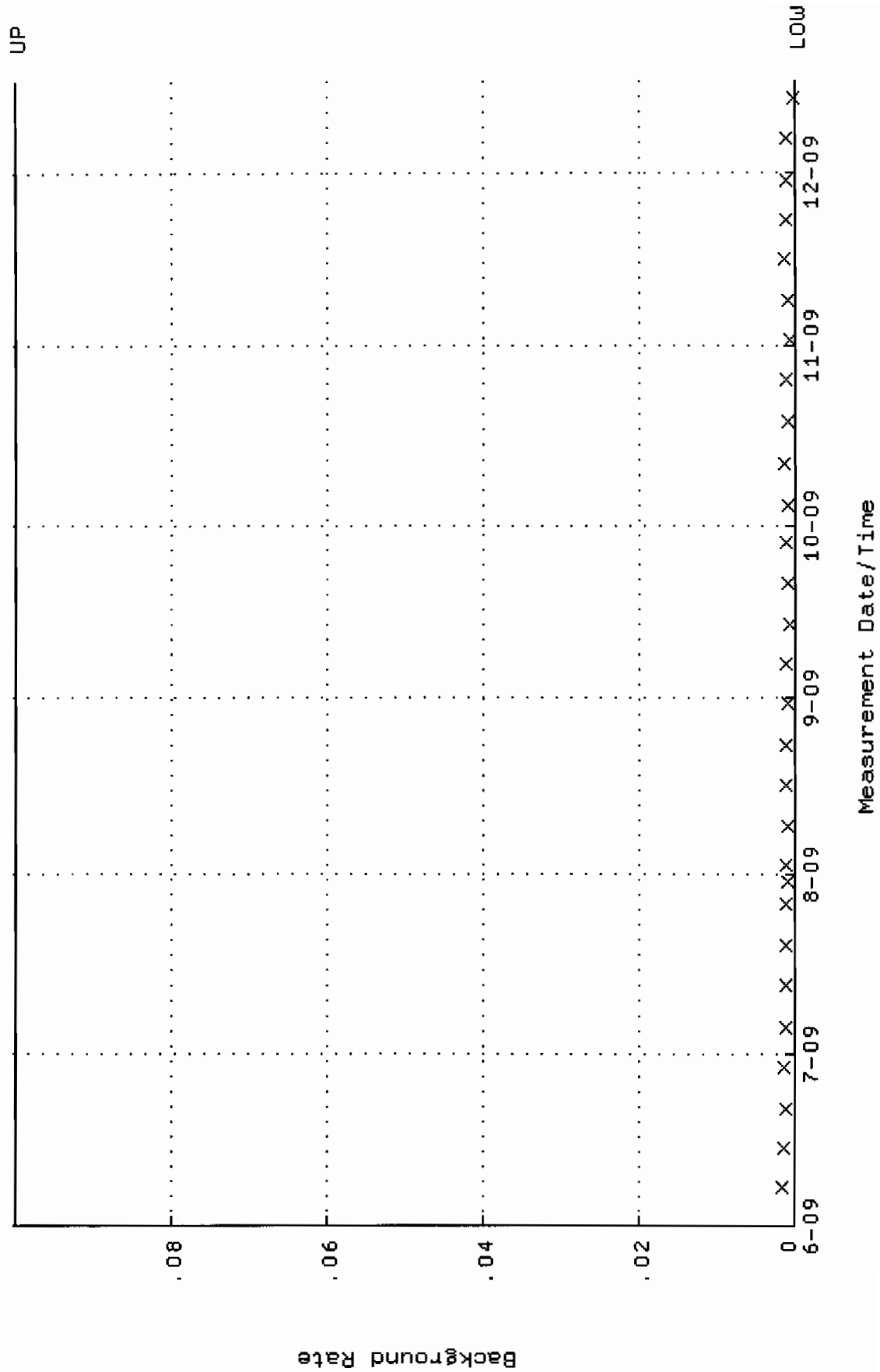
QA filename : DKA100:[ENV_ALPHA.QA.W]w143.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:52 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.233879 through 0.253879



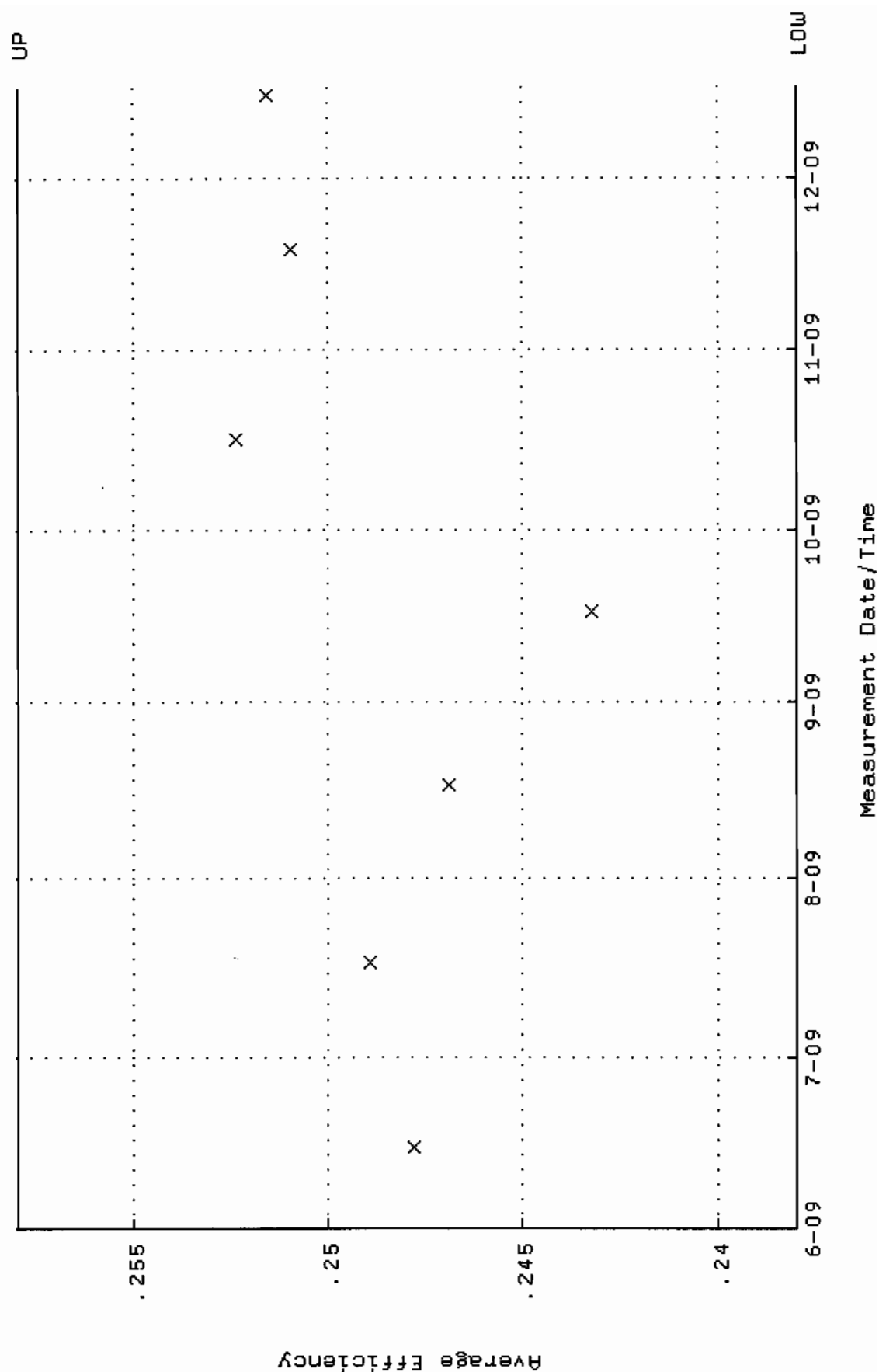
QA filename : DKA100:[ENV_ALPHA.QA.W]W143.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:52 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.9200 through 93.8590



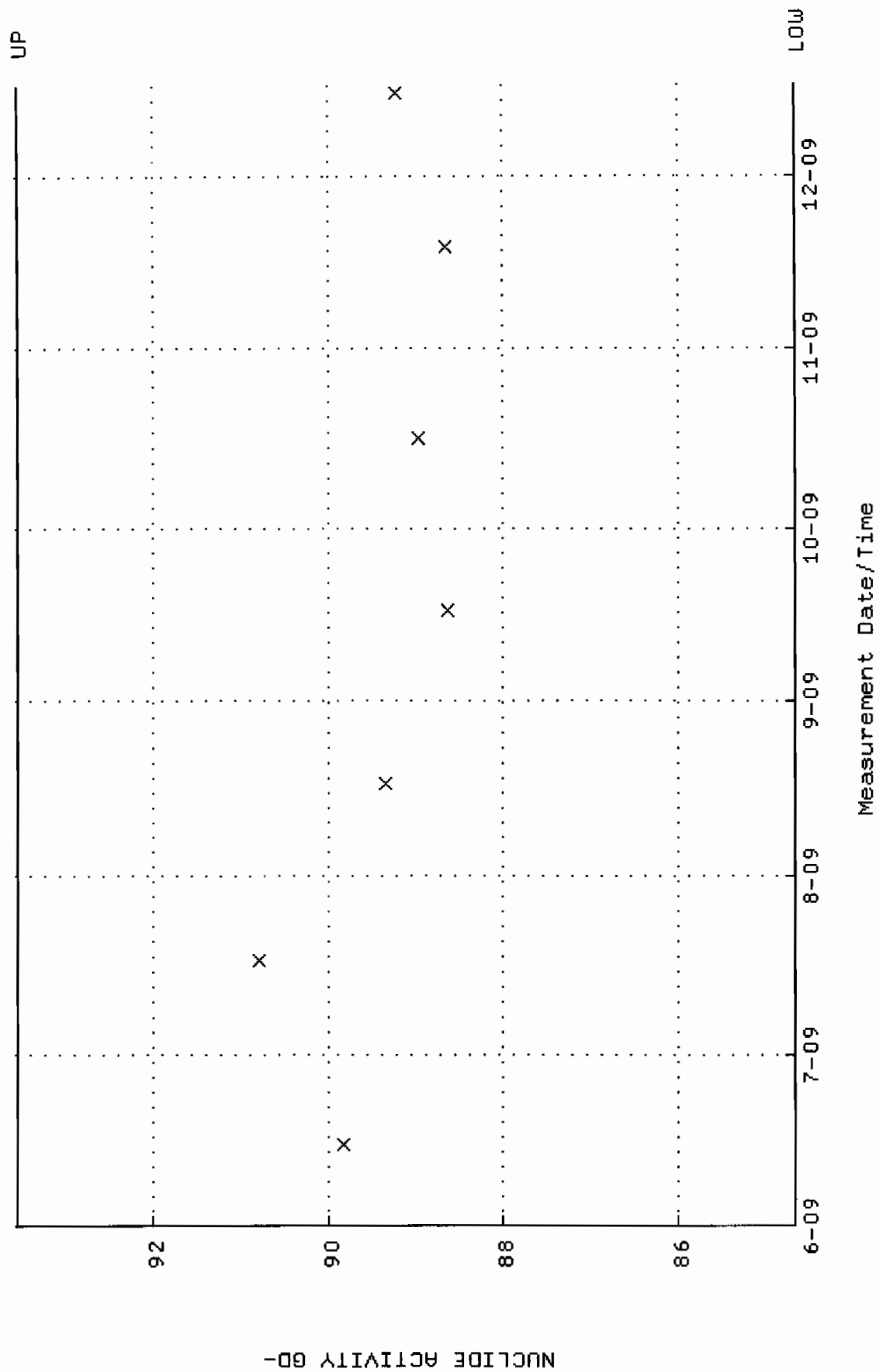
QA filename : DKA100:[ENV_ALPHA.QA.B]B143.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:47 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



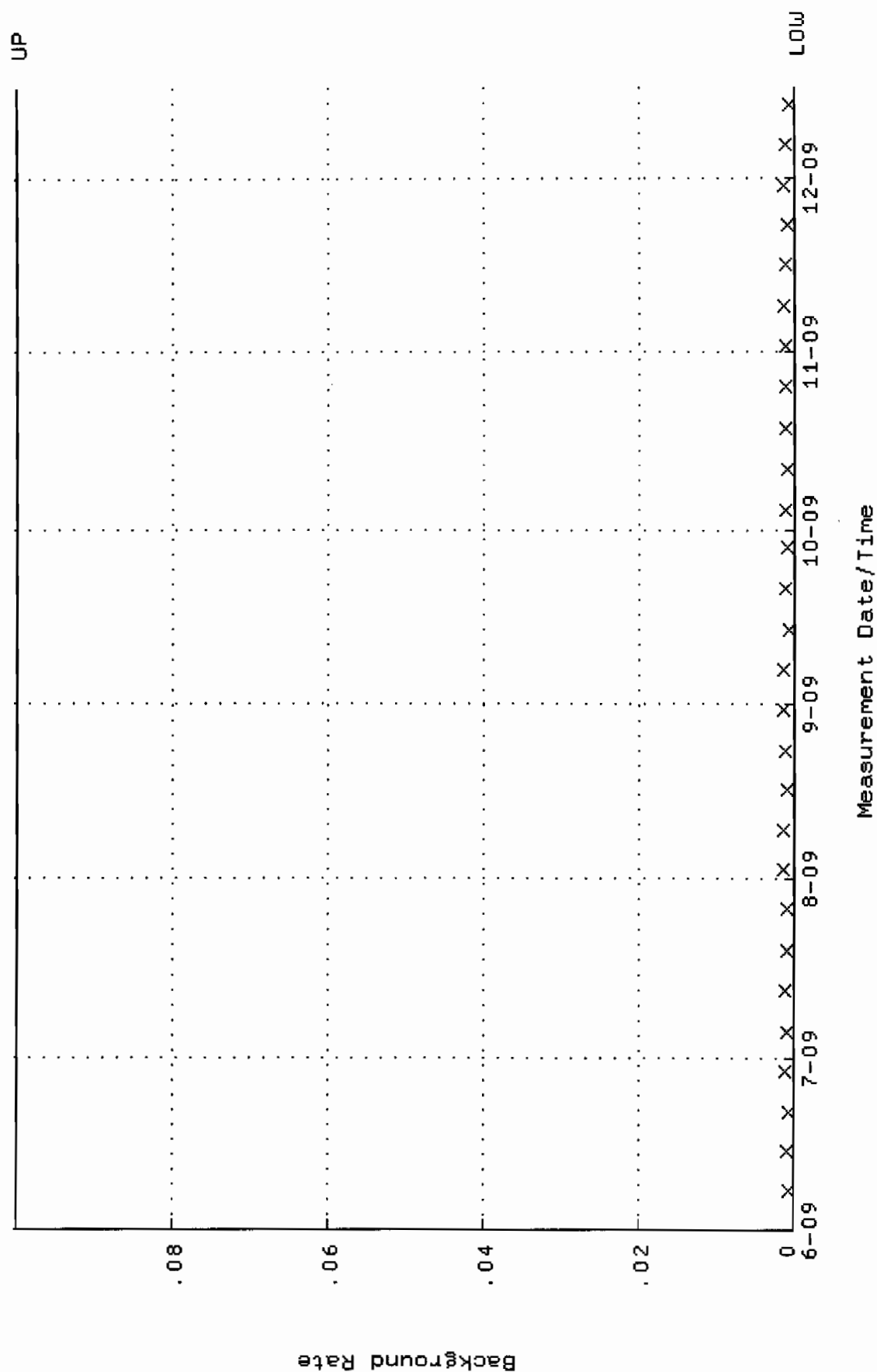
QA filename : DKA100:[ENV_ALPHA.QA.W]W144.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:36:58 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.237963 through 0.257963



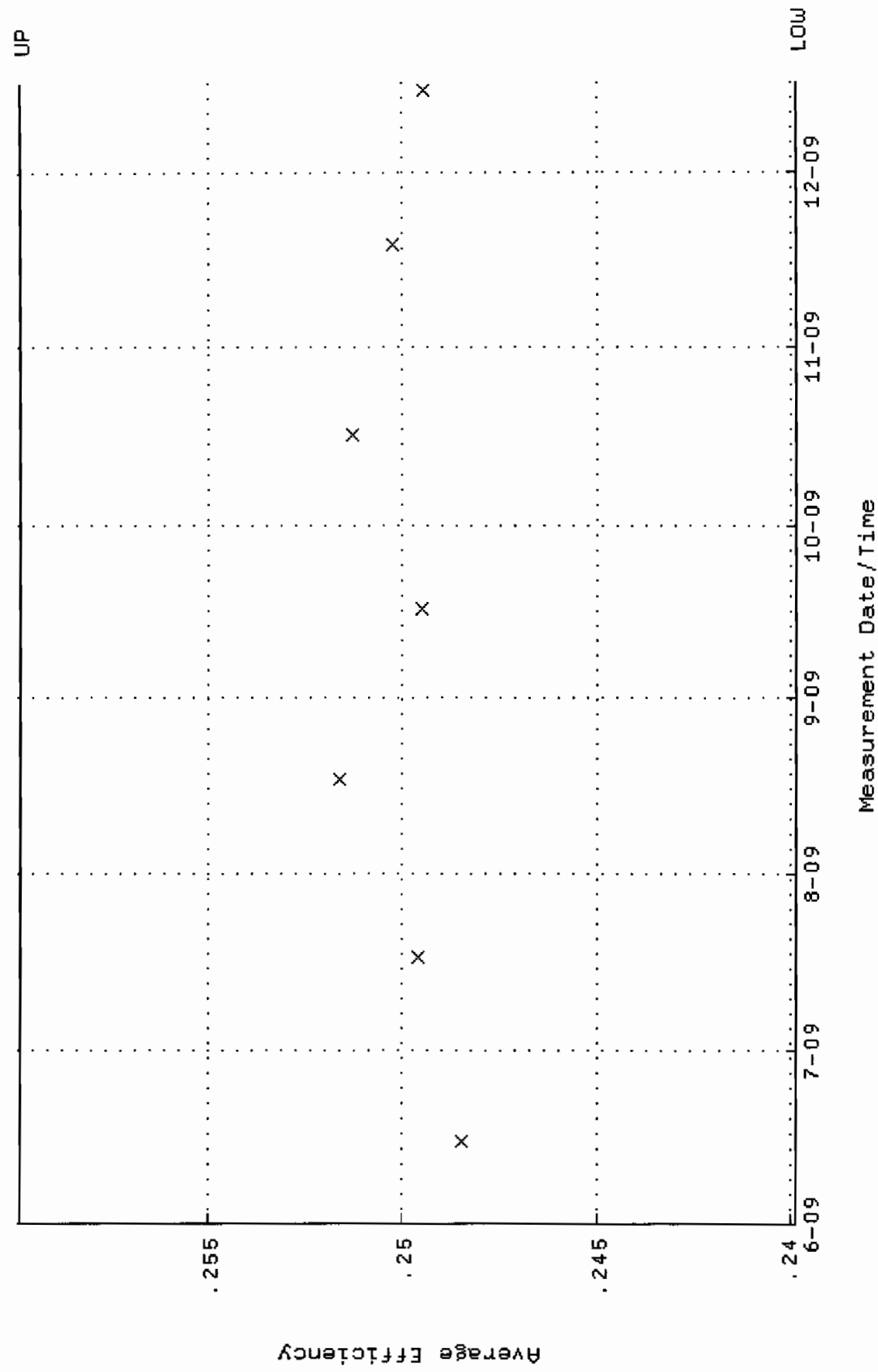
QA filename : DKA100:[ENV_ALPHA.QA.W]W144.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:36:58 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.6507 through 93.5613



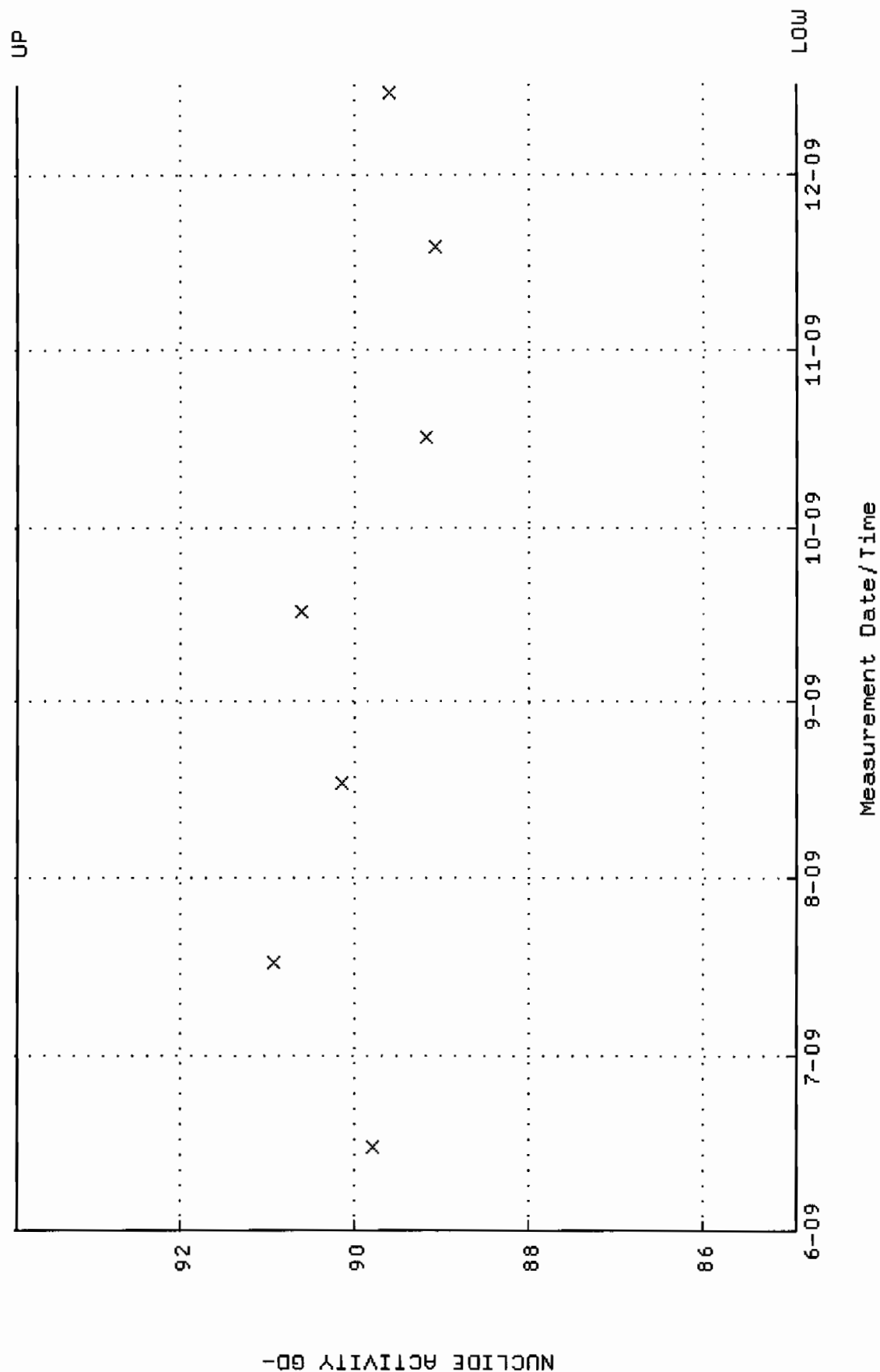
QA filename : DKA100:[ENV_ALPHA.QA.B]B144.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:51 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



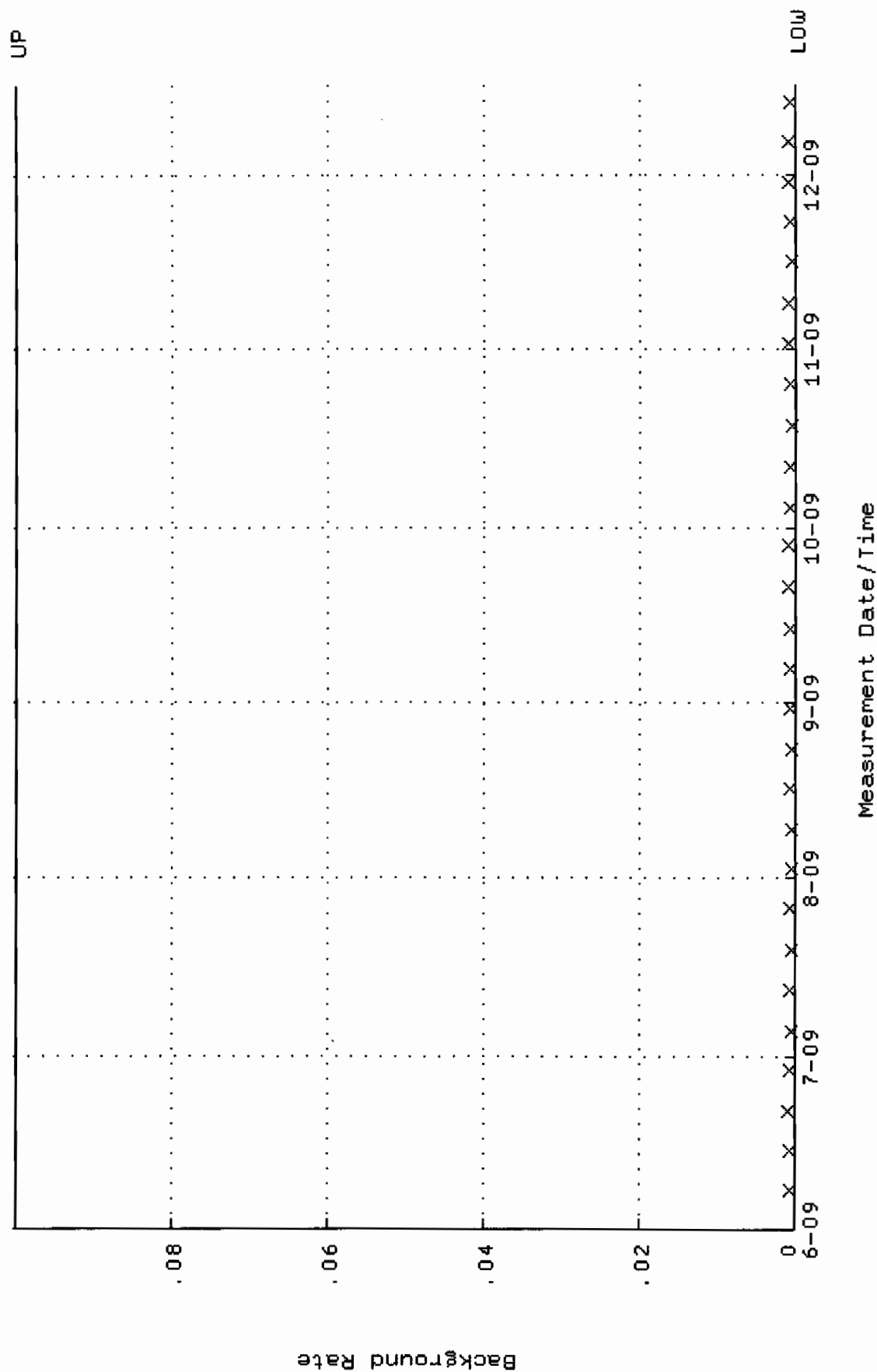
QA filename : DKA100: [ENV_ALPHA.QA.W]u145.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:37:03 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.239850 through 0.259850



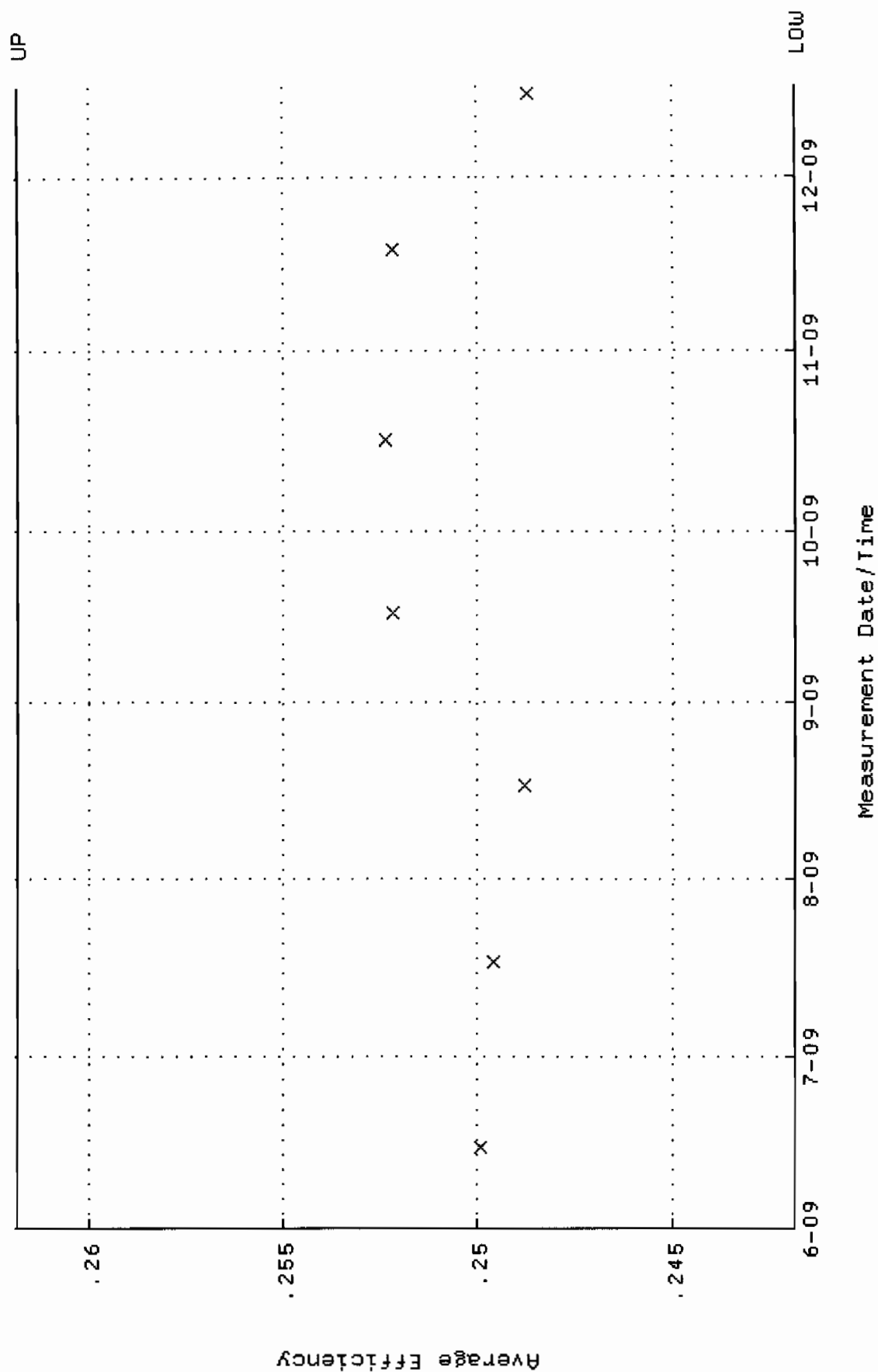
QA filename : DKA100:[ENV_ALPHA.QA.W]U145.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:37:03 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.9354 through 93.8760



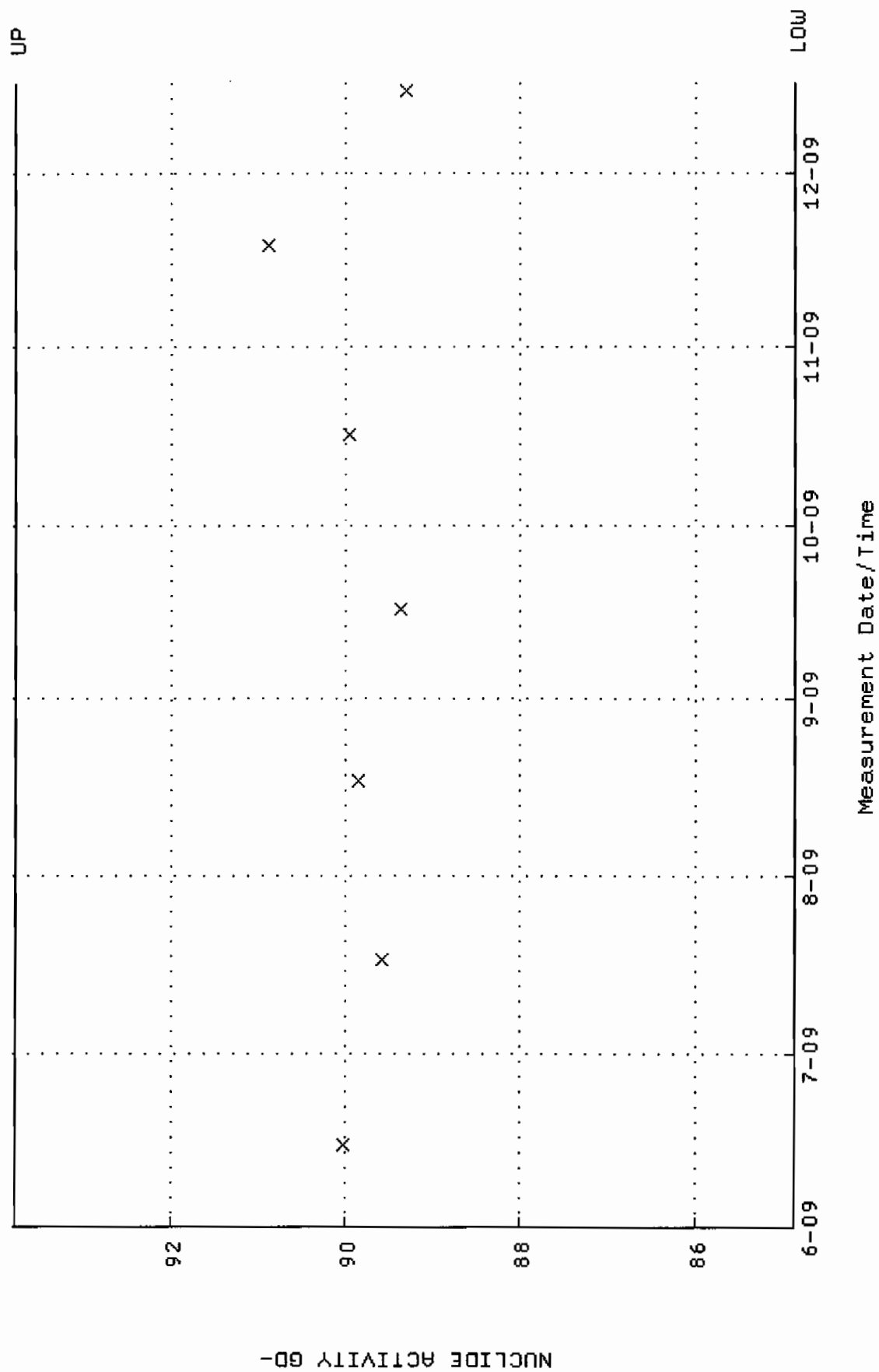
QA filename : DKA100:[ENV_ALPHA.QA.B]B145.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:10:56 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



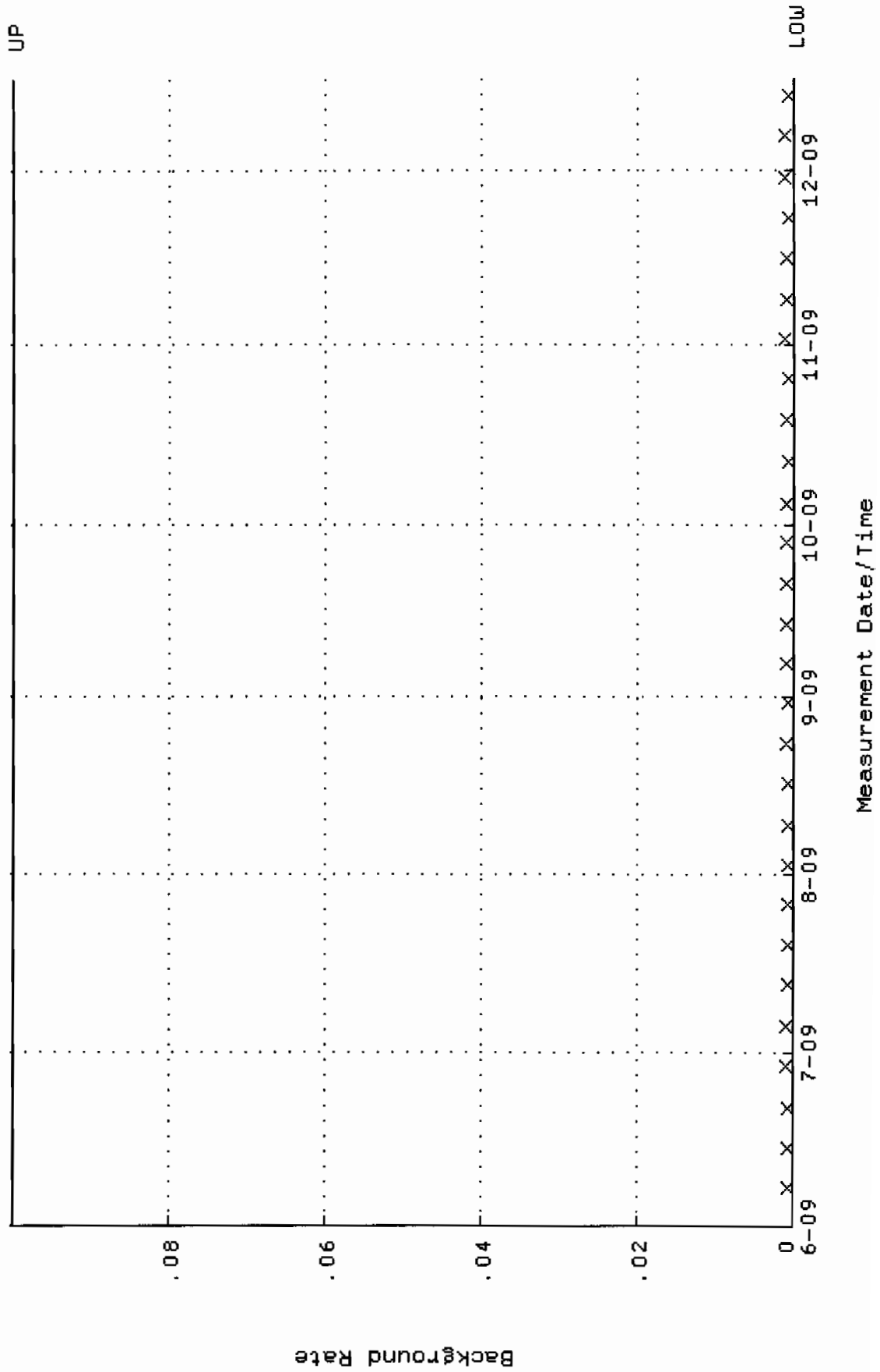
QA filename : DKA100:[ENV_ALPHA.QA.W]W146.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUN-2009 10:37:08 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.241831 through 0.261831



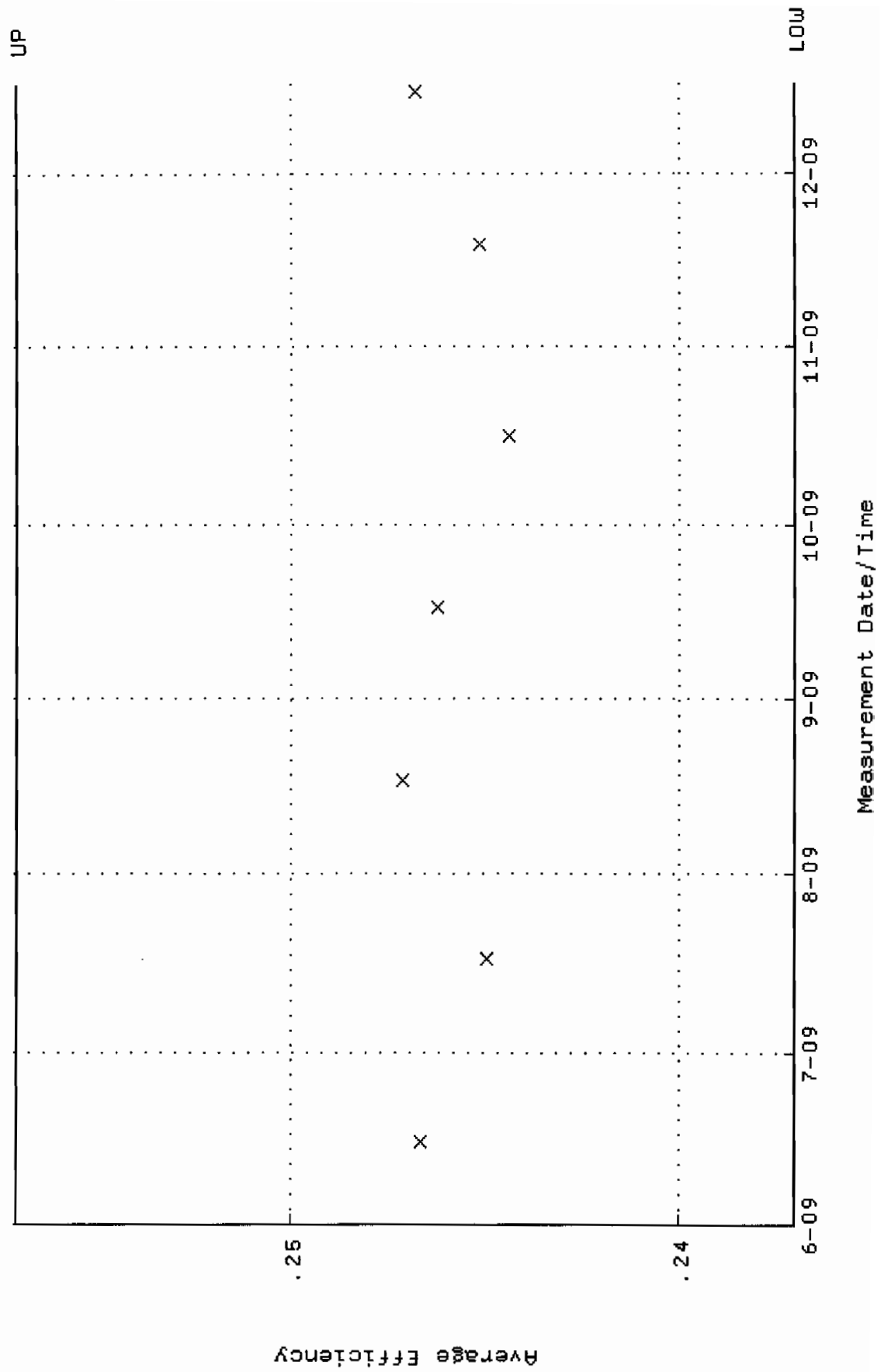
QA filename : DKA100:[ENV_ALPHA.QA.W]W146.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:37:08 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.8578 through 93.7902



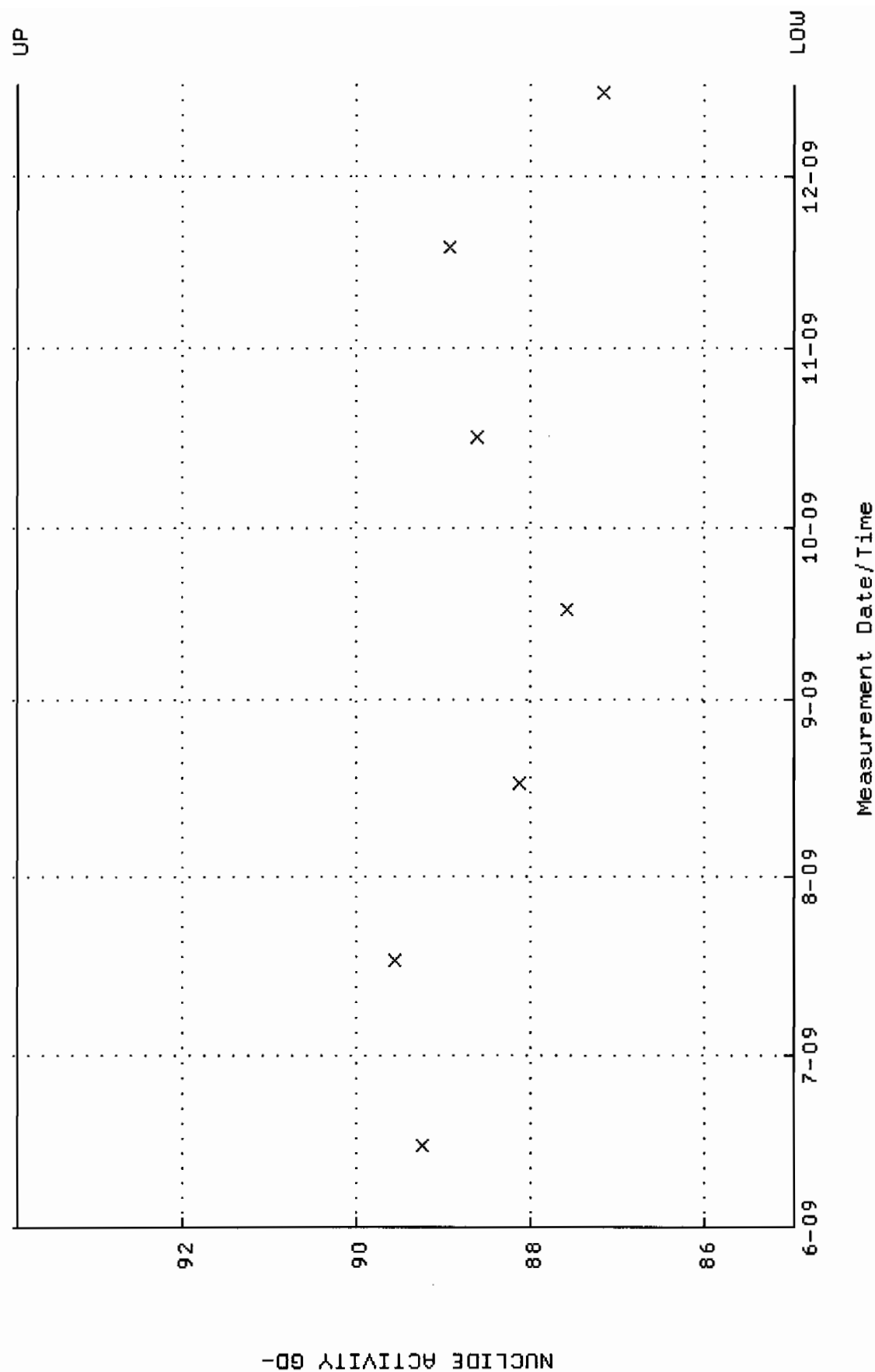
QA filename : DKA100:[ENV_ALPHA.QA.B]B146.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:11:01 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



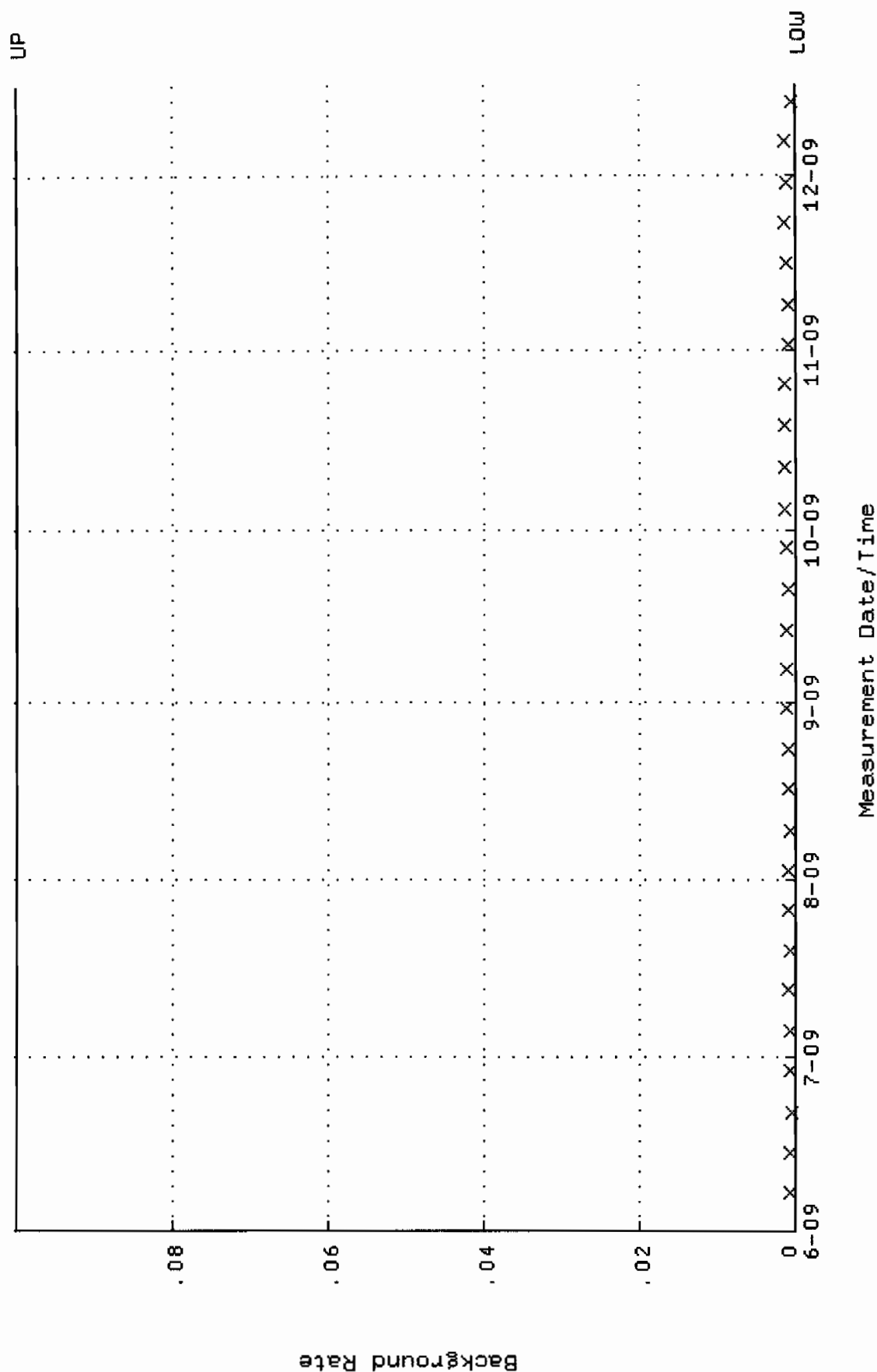
QA filename : DKA100:[ENV_ALPHA.QA.W]W147.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:37:13 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.237046 through 0.257046



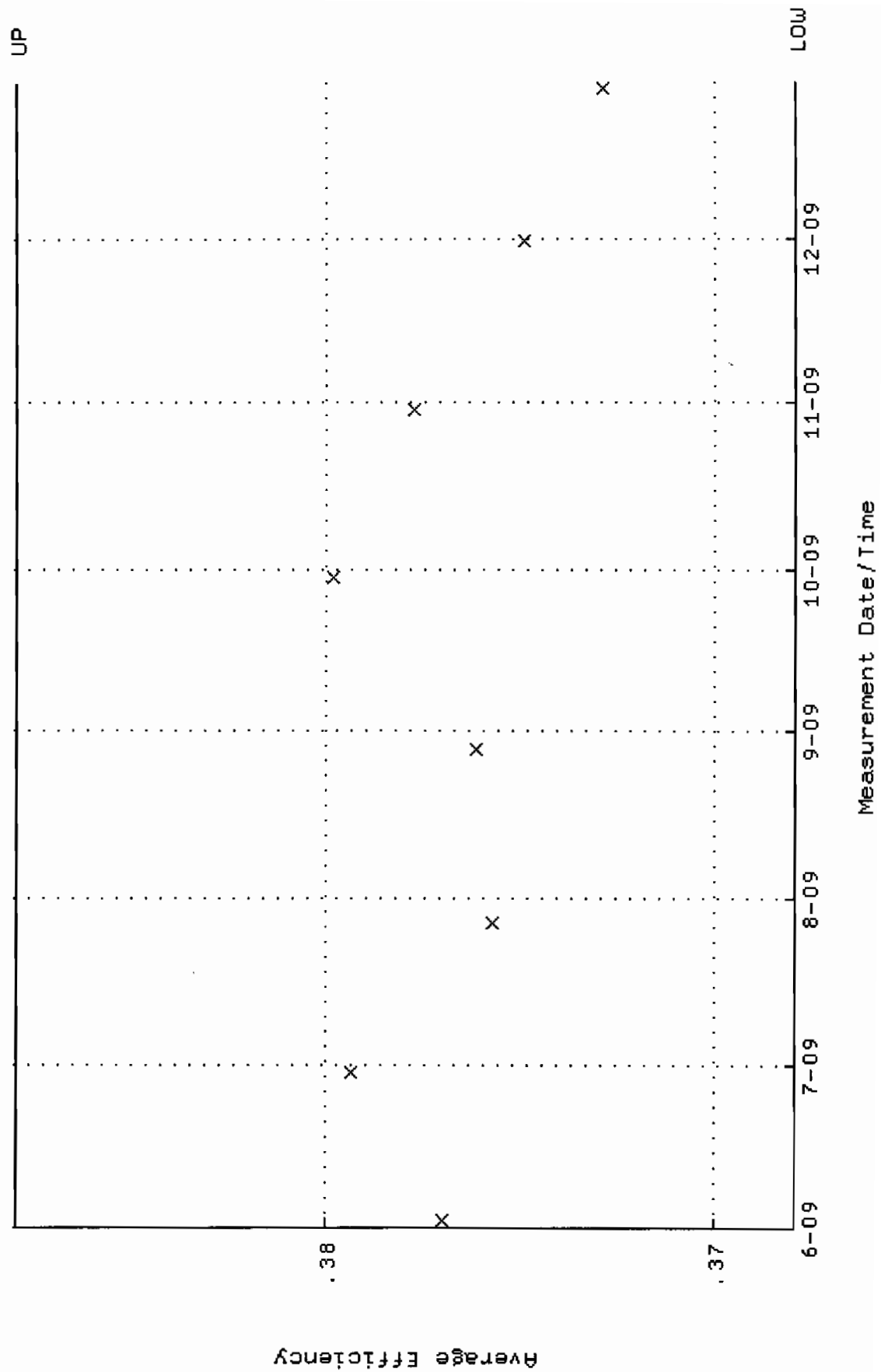
QA filename : DKA100:[ENV_ALPHA.QA.W]W147.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUN-2009 10:37:13 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.9777 through 93.9227



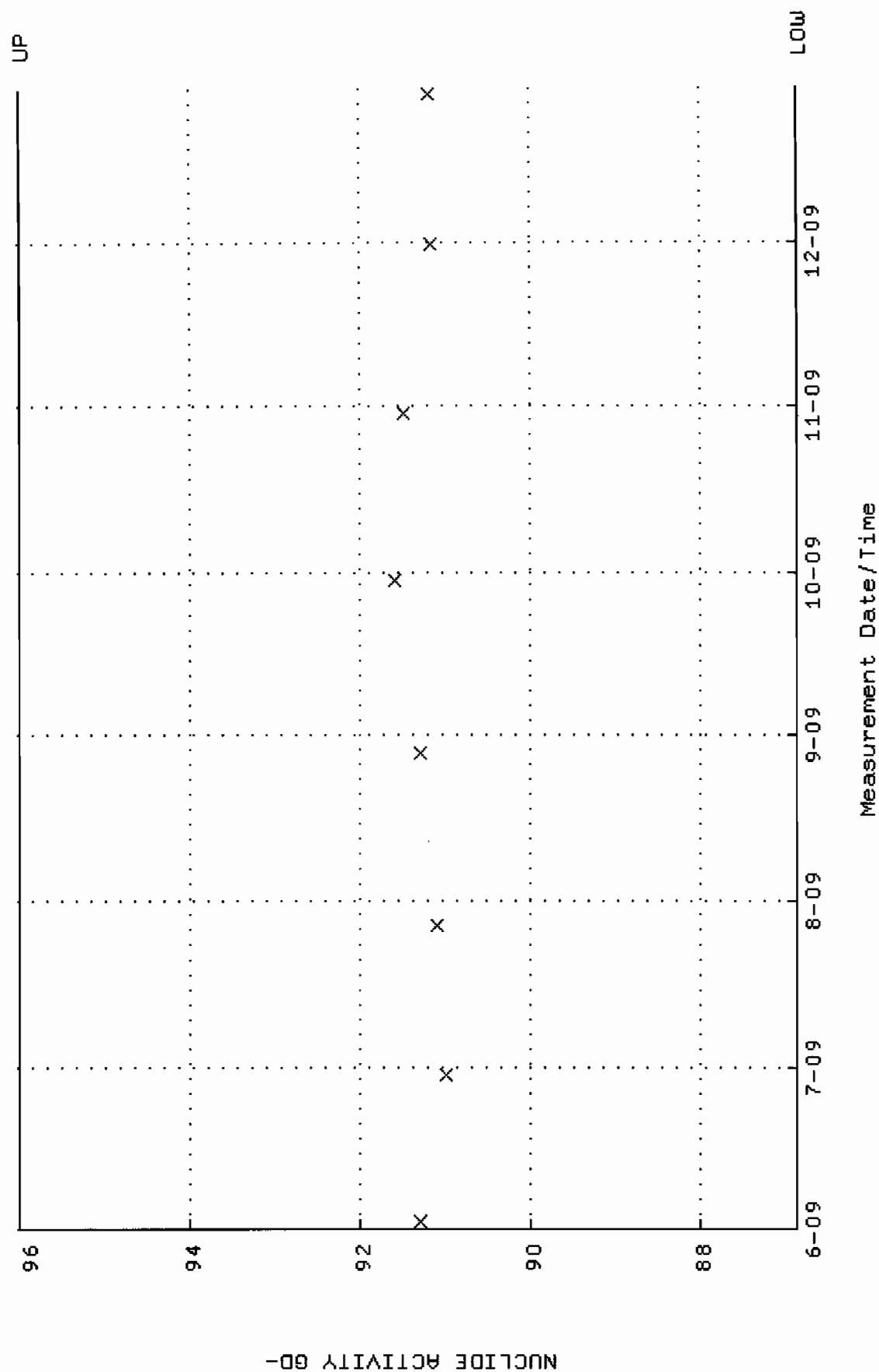
QA filename : DKA100:[ENV_ALPHA.QA.B]B147.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 7-JUN-2009 17:11:05 through 16-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



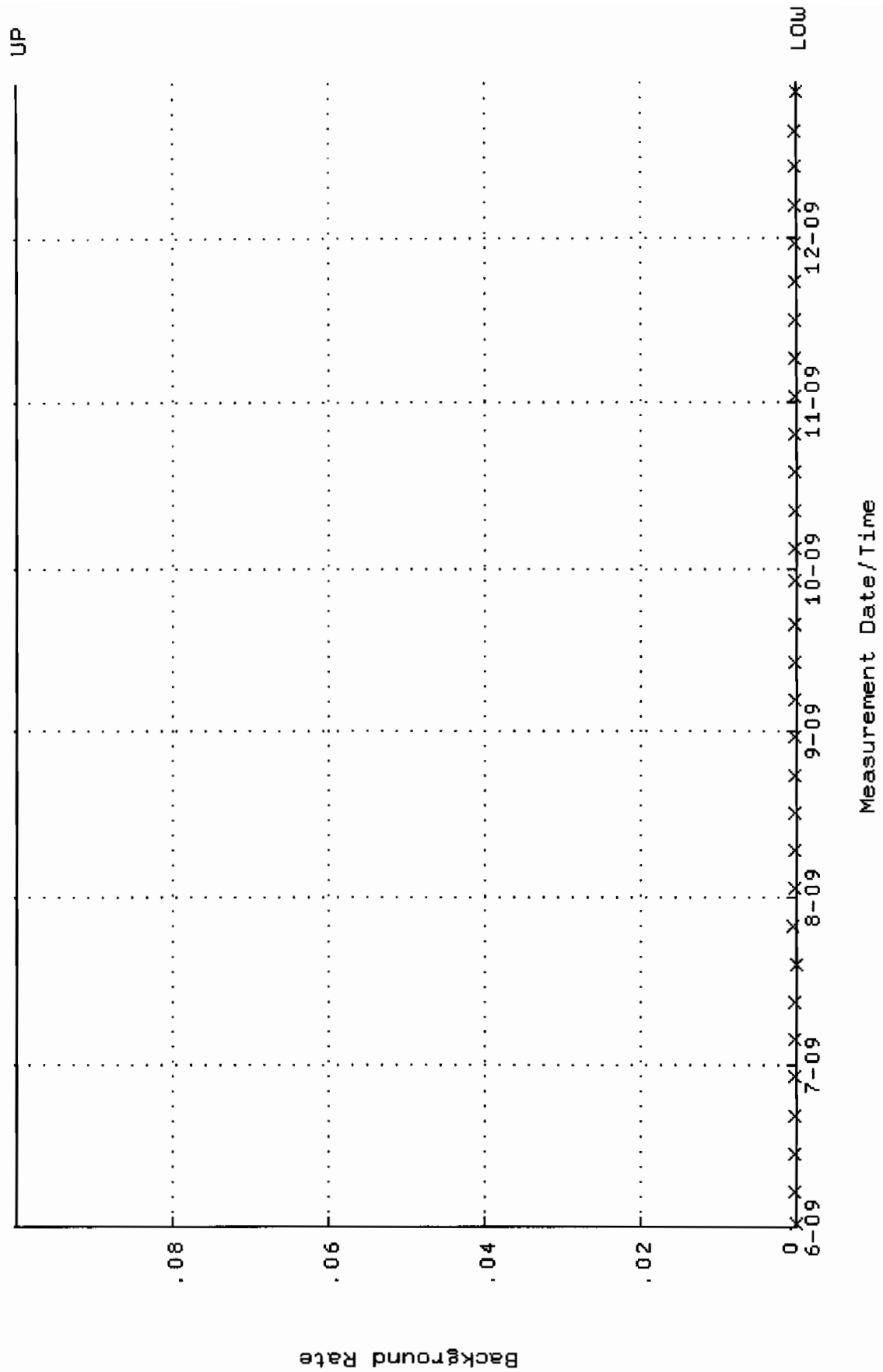
QA filename : DKA100:[ENV_ALPHA.QA.W]w221.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-JUN-2009 11:18:10 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.367948 through 0.387948



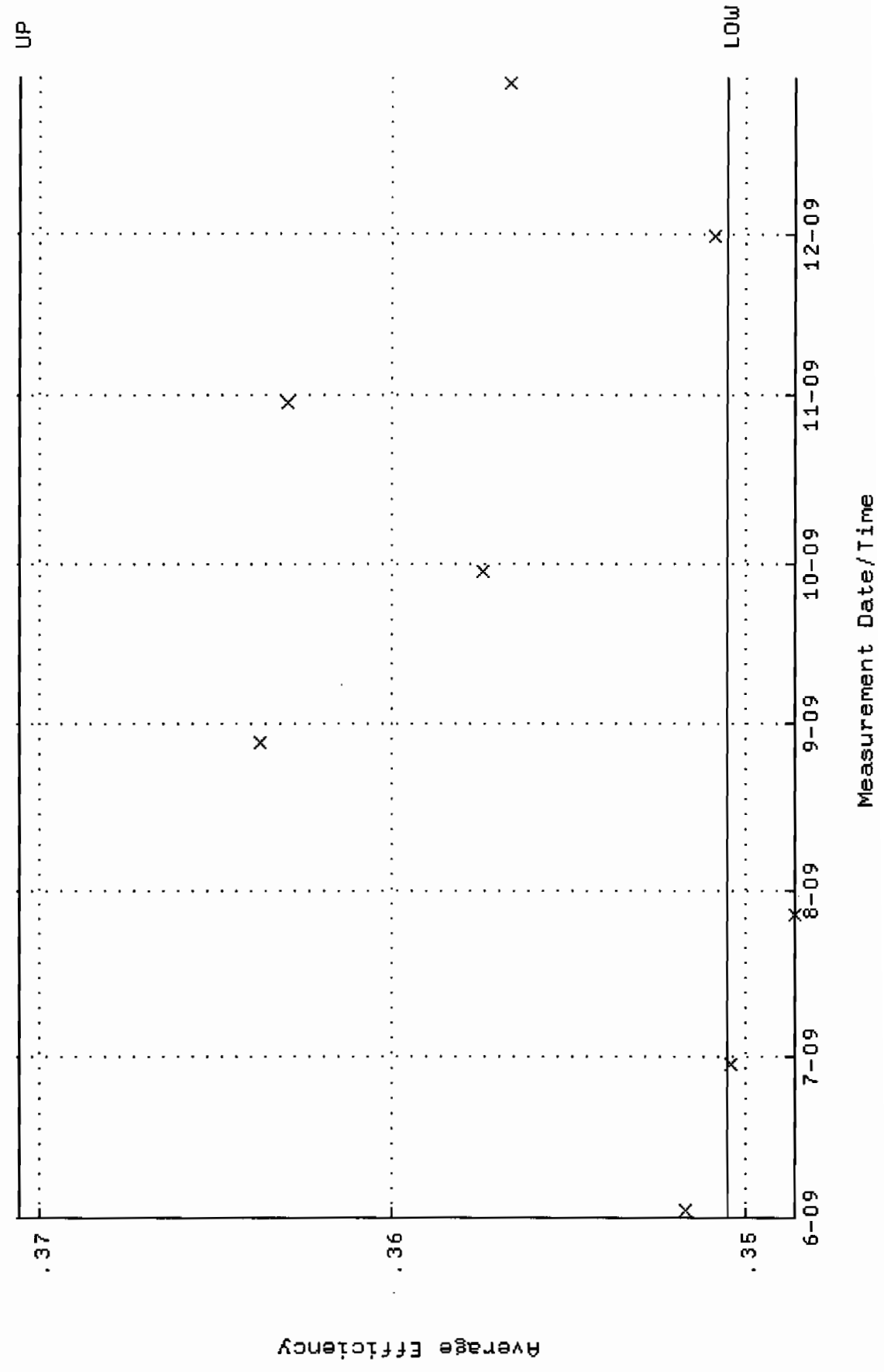
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:10 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.8591 through 96.0021



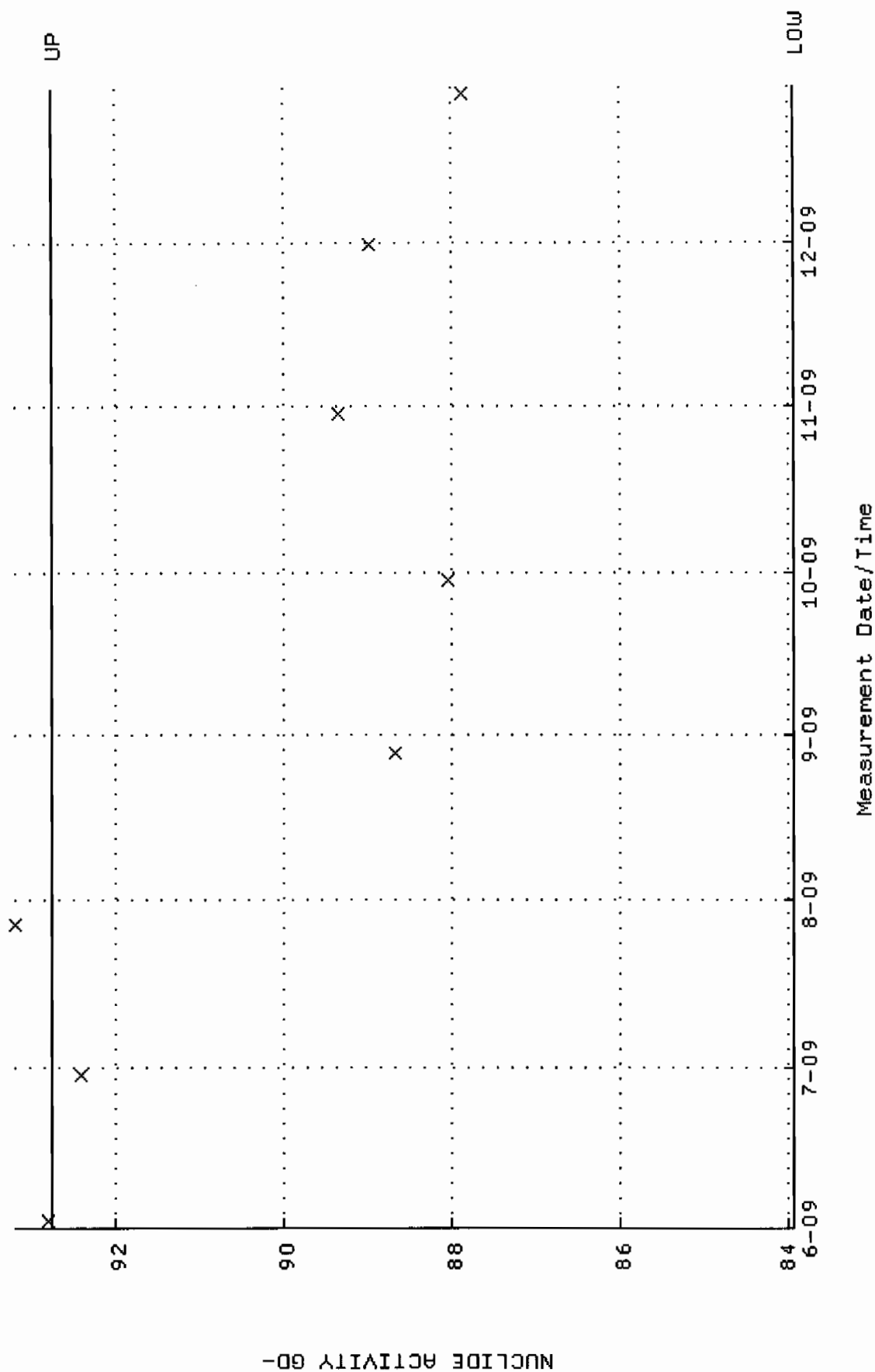
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:25 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



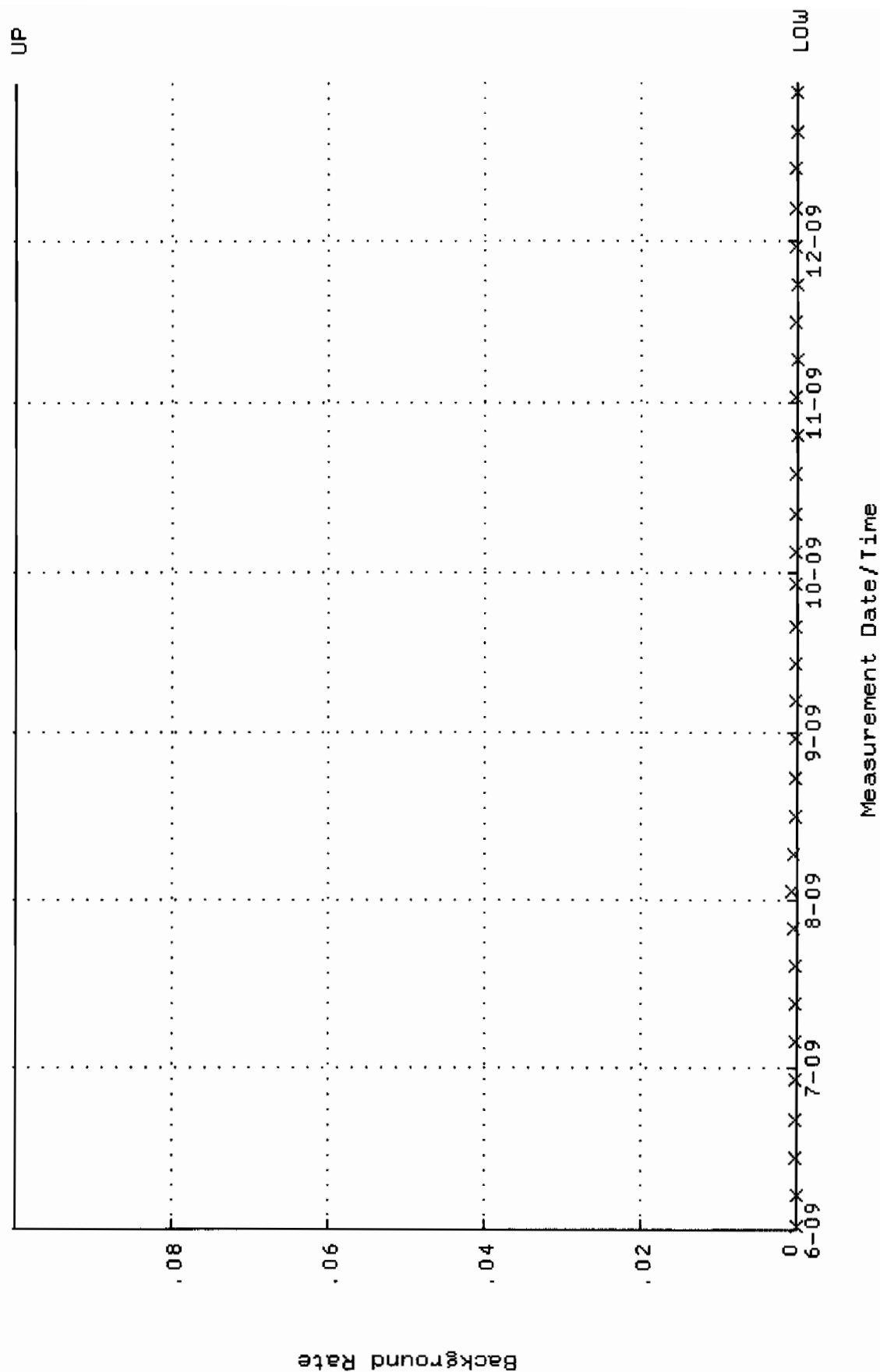
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:15 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.350566 through 0.370566



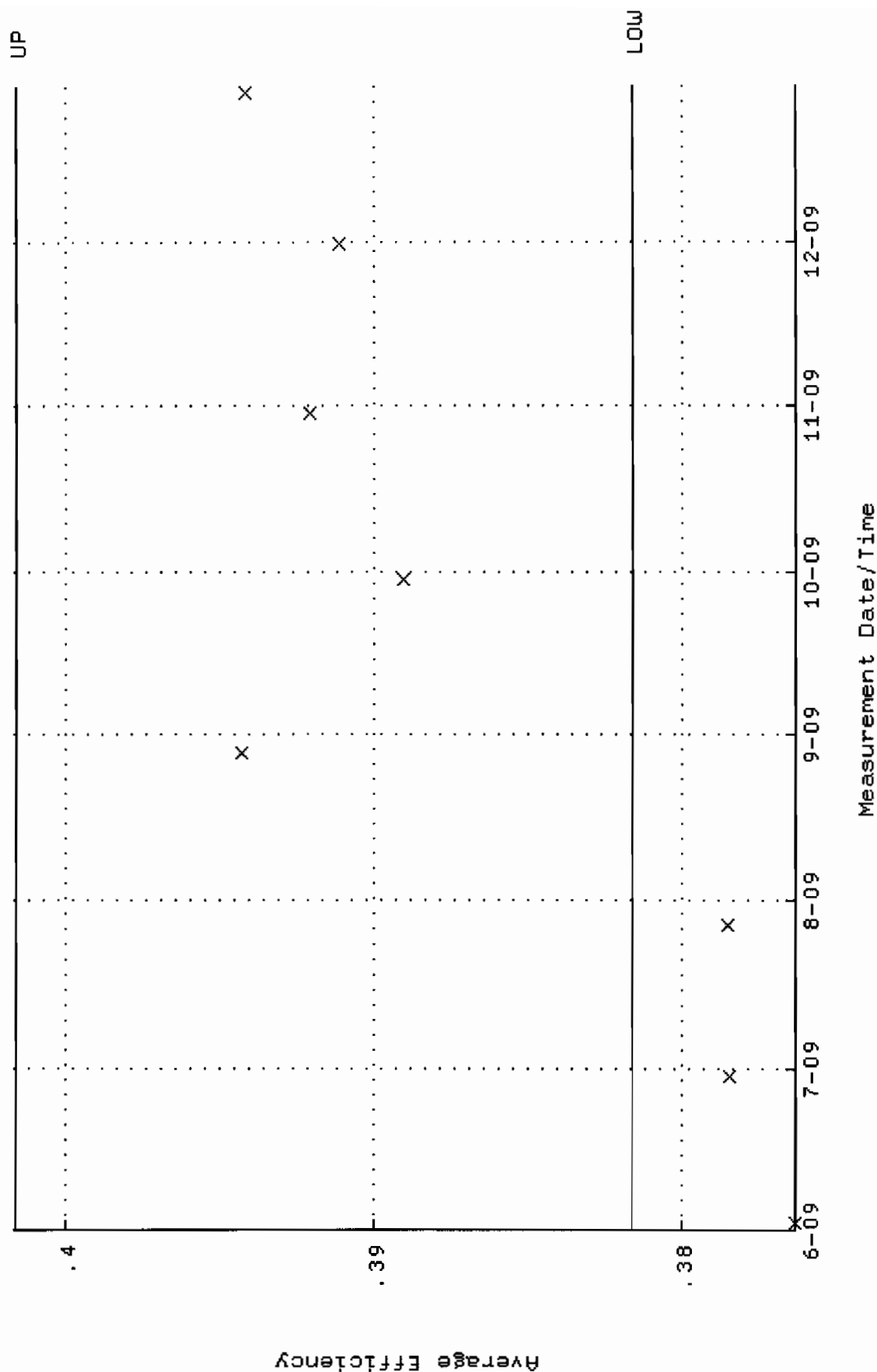
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:15 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 83.9445 through 92.7807



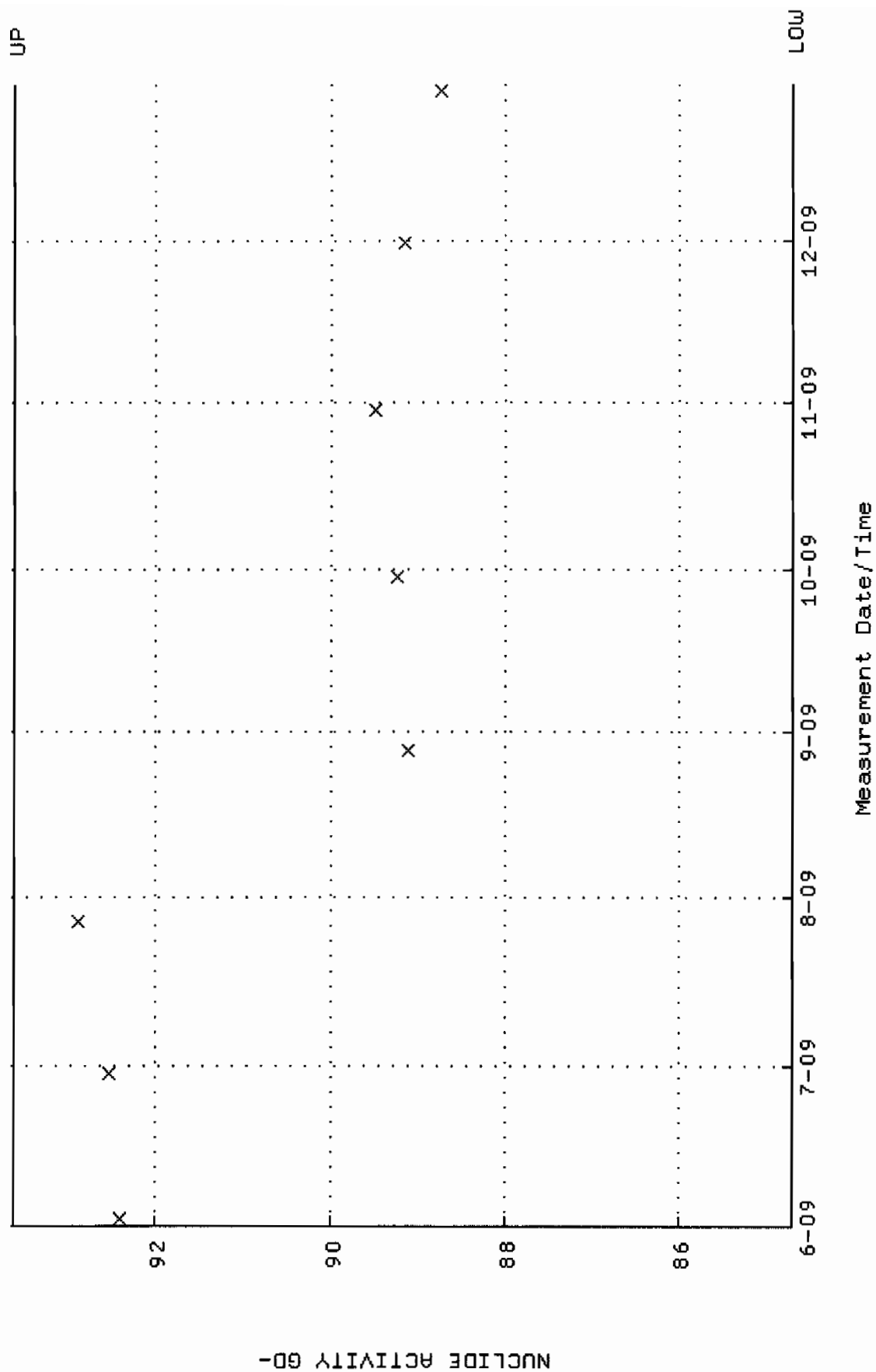
QA filename : DKA100:[ENV_ALPHA.QA.B]B222.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:30 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



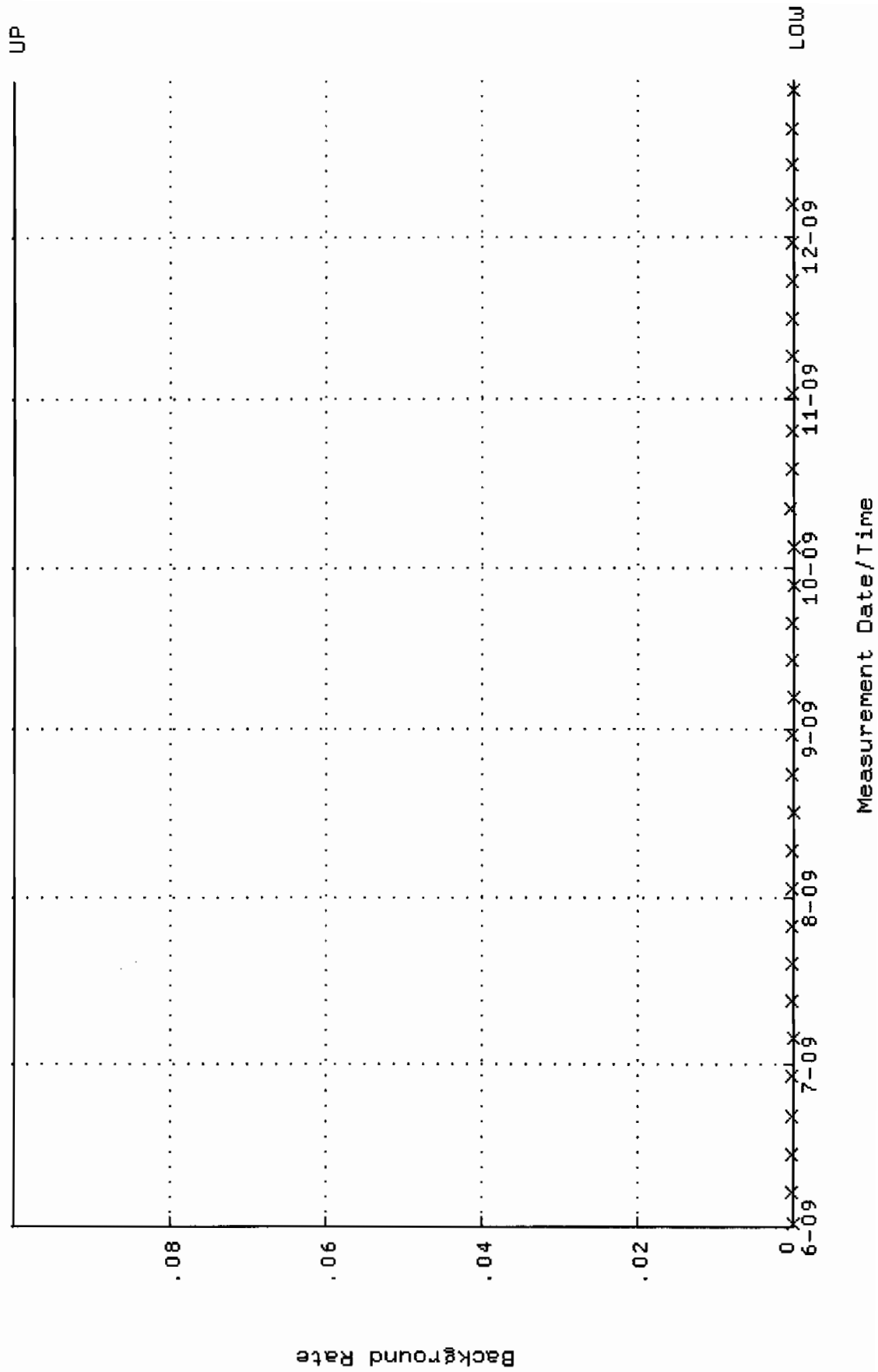
QA filename : DKA100:[ENV_ALPHA.QA.W]W225.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:31 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.381631 through 0.401631



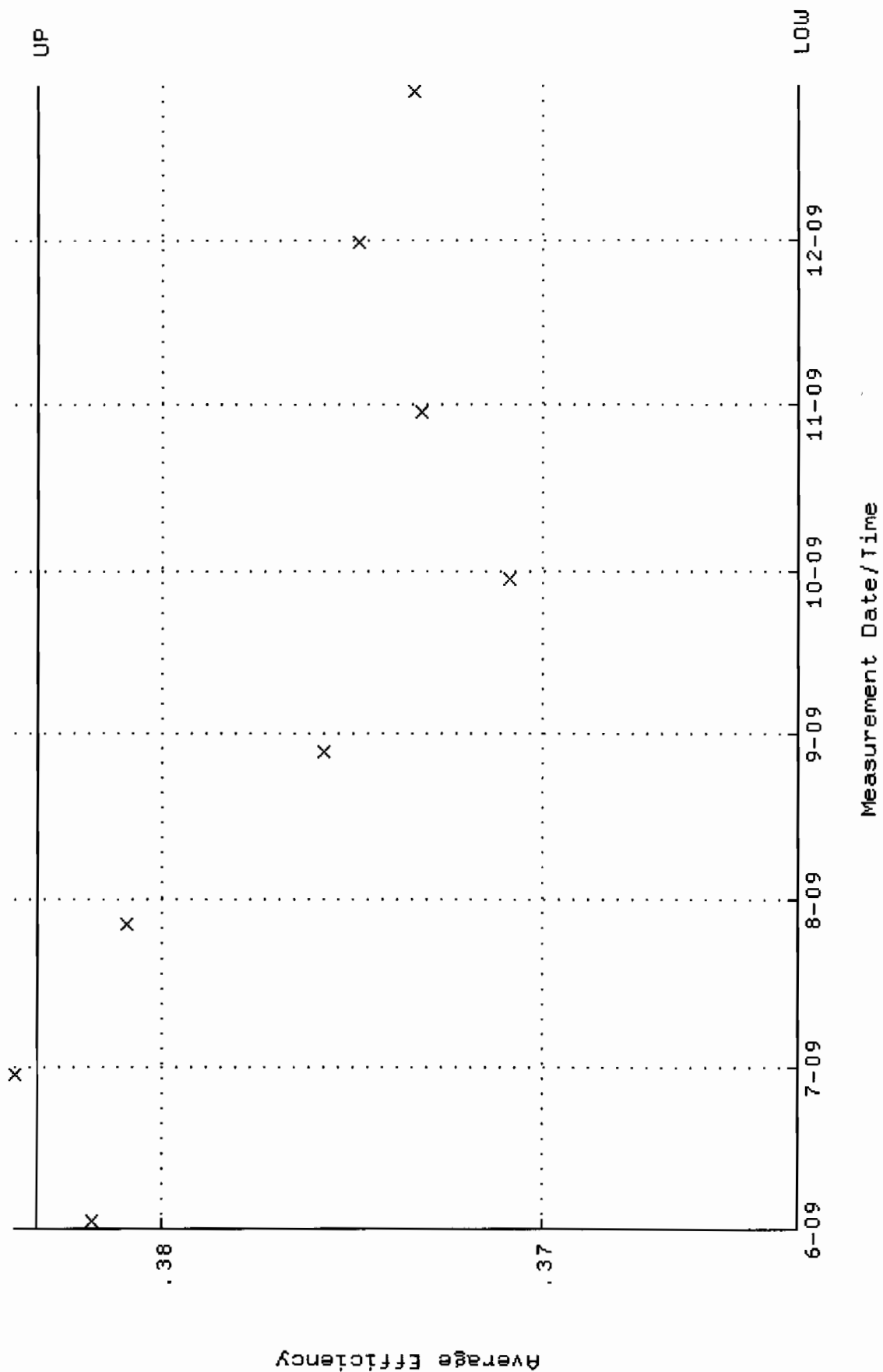
QA filename : DKA100:[ENV_ALPHA.QA.W]W225.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:31 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.7082 through 93.6248



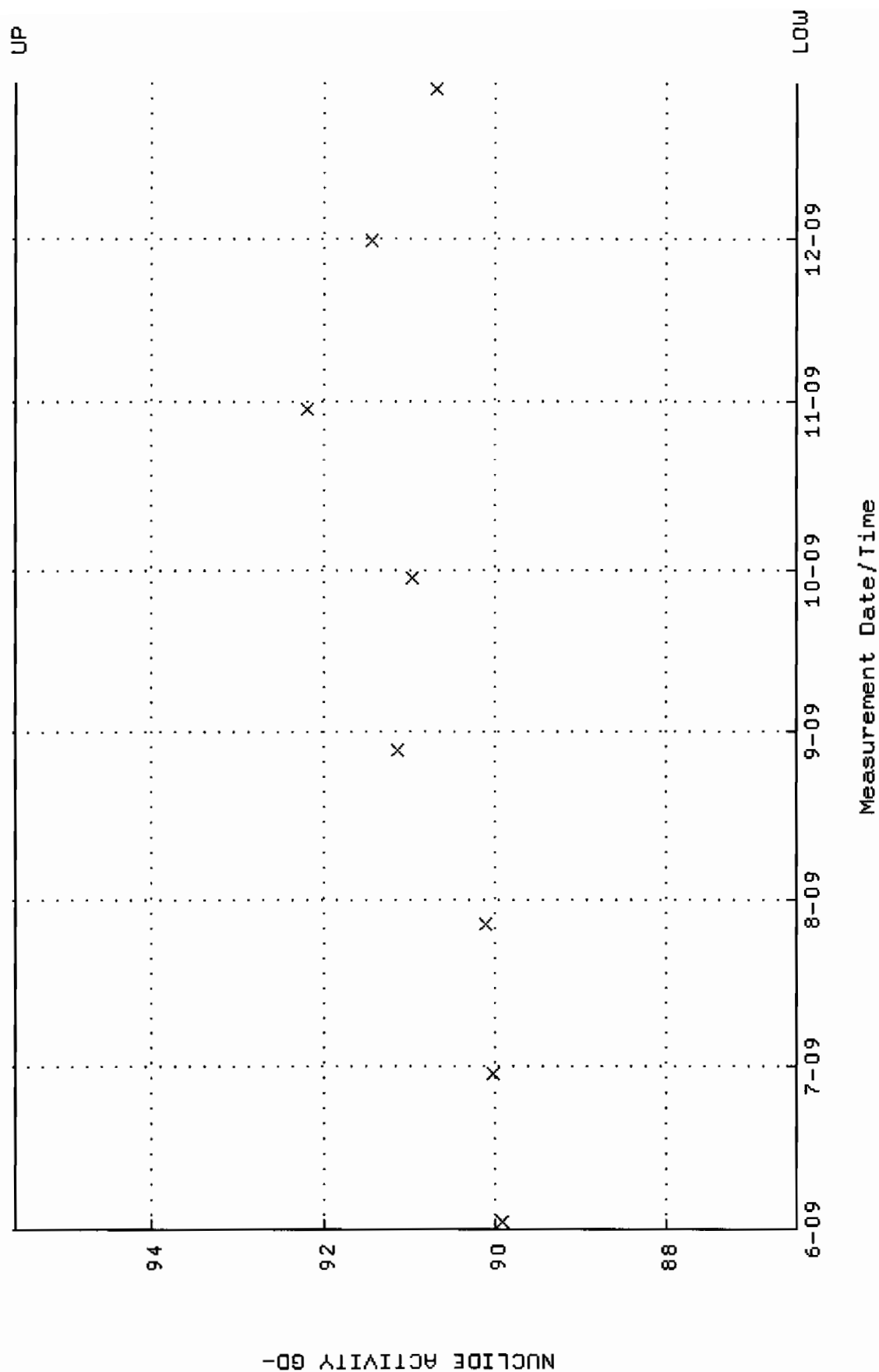
QA filename : DKA100:[ENV_ALPHA.QA.B]B225.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:43 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



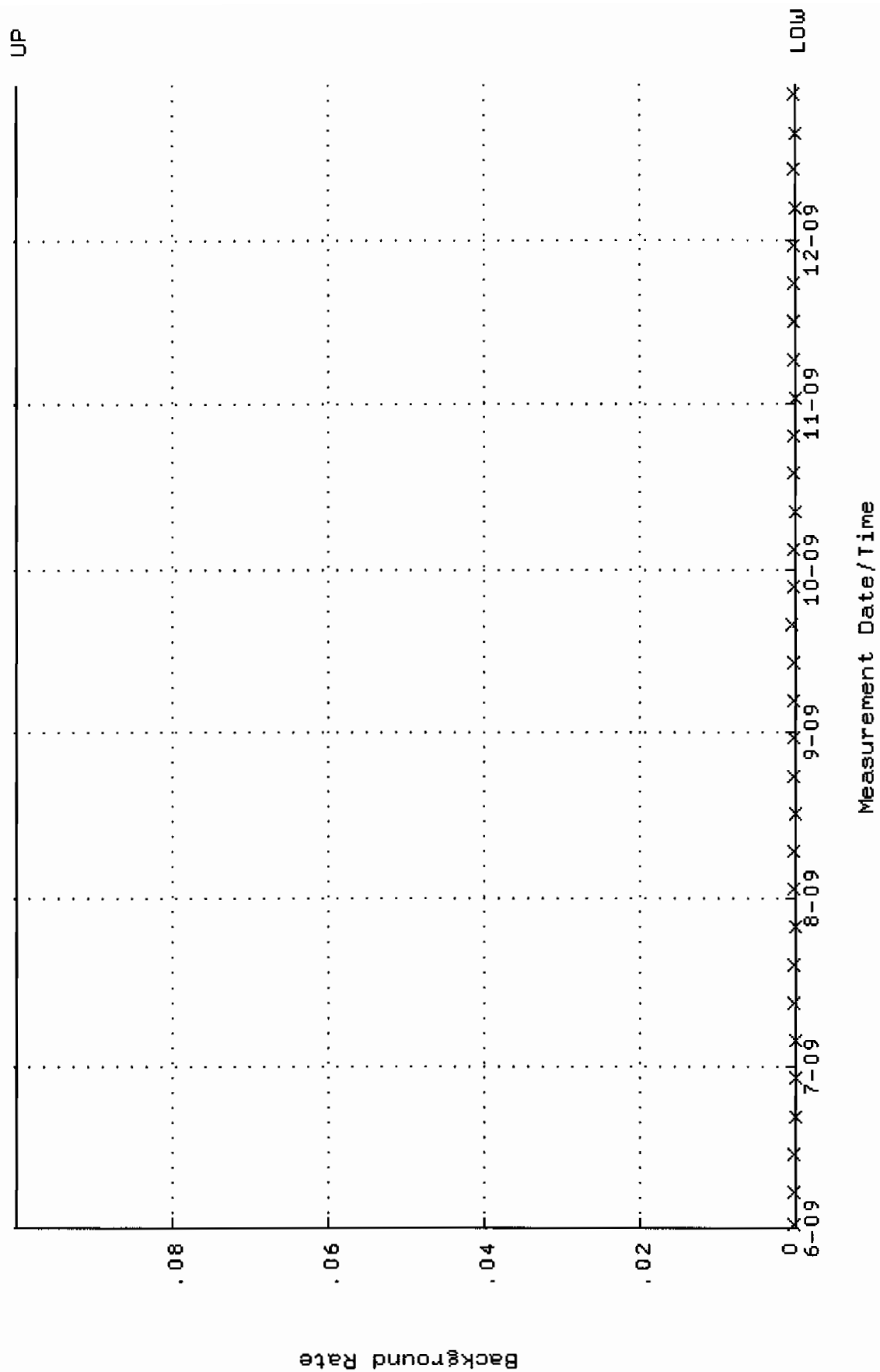
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:36 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.363285 through 0.383285



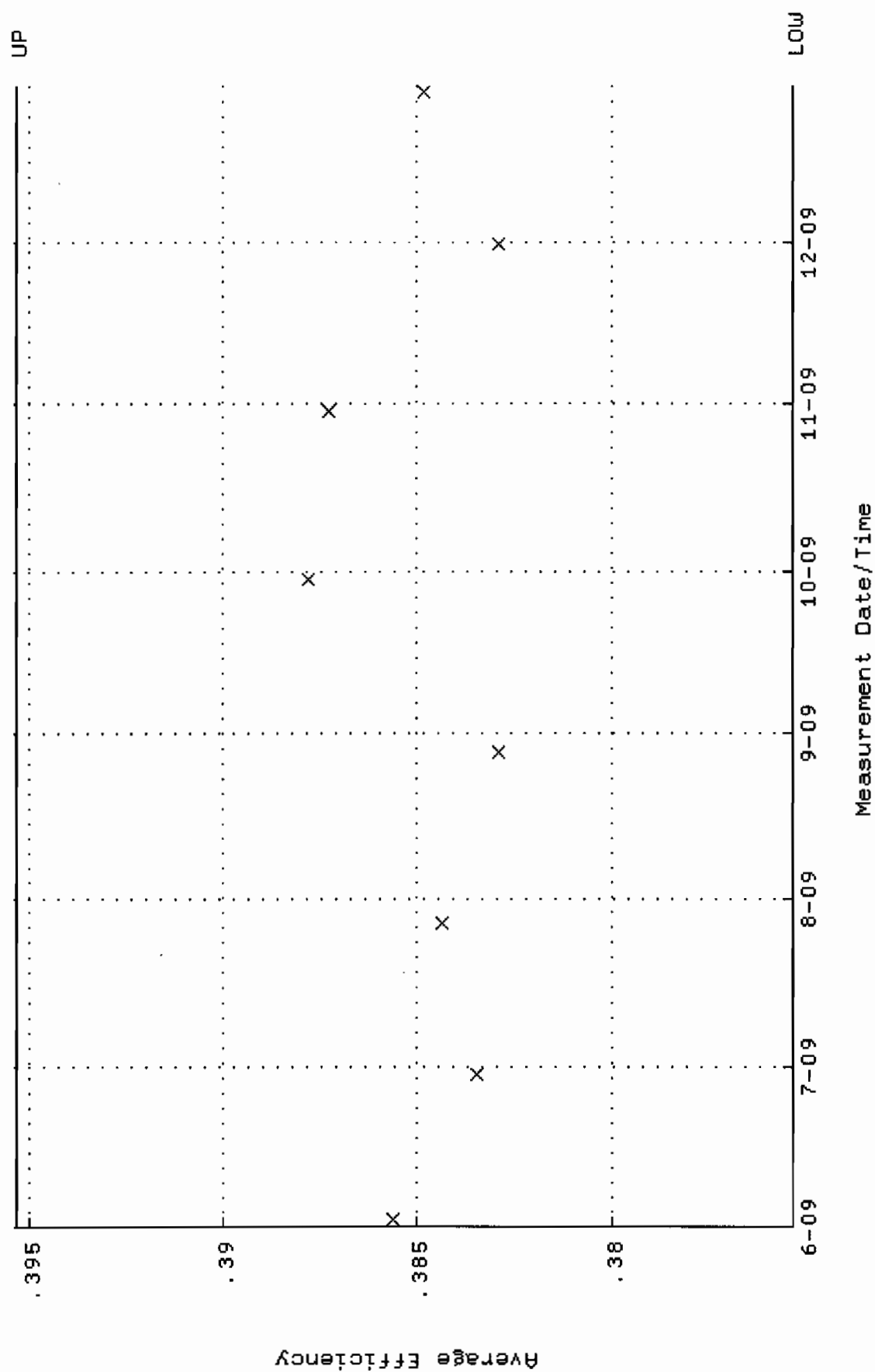
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:36 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 86.4888 through 95.5928



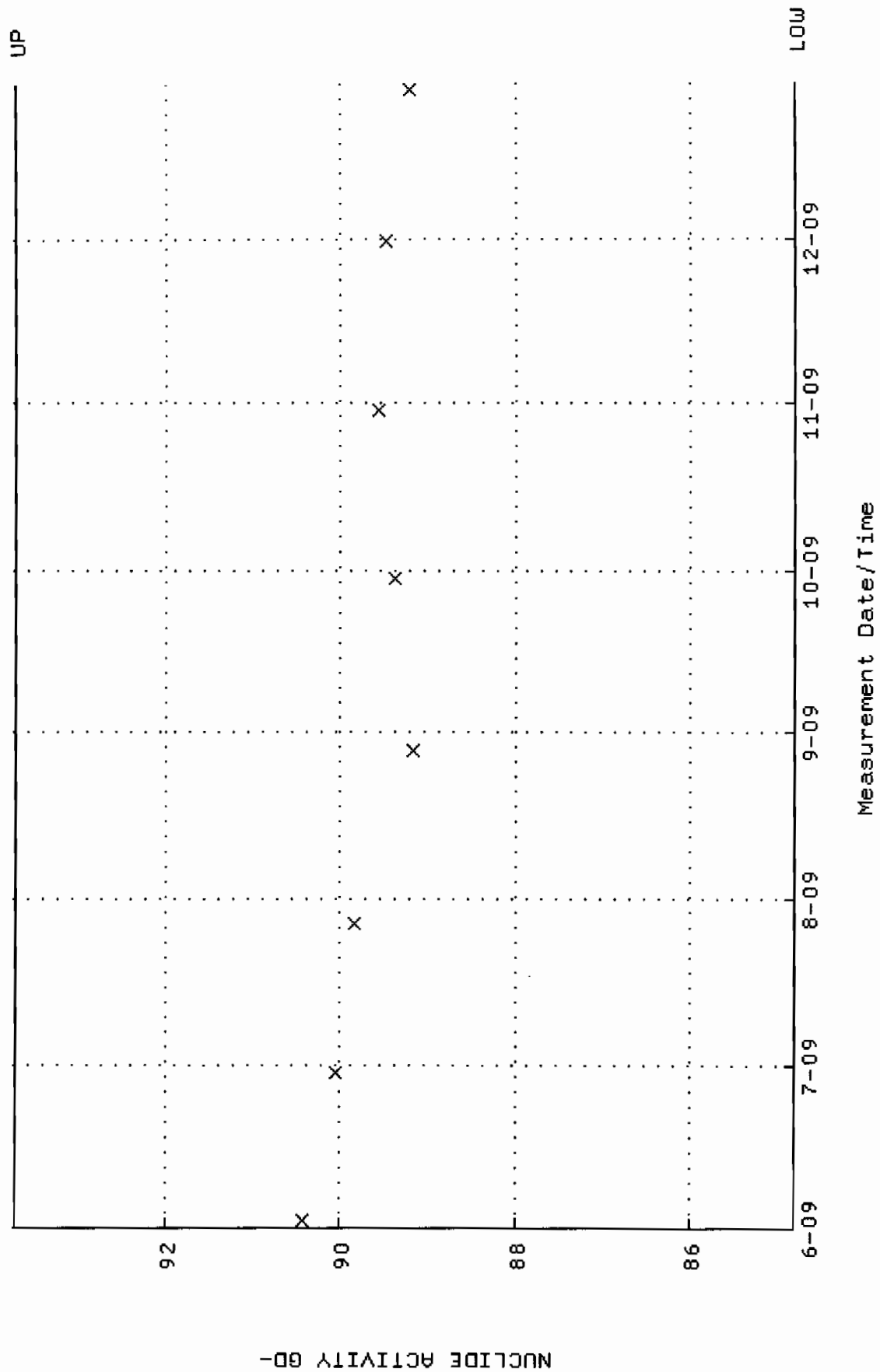
QA filename : DKA100:[ENV_ALPHA.QA.B]B226.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:47 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



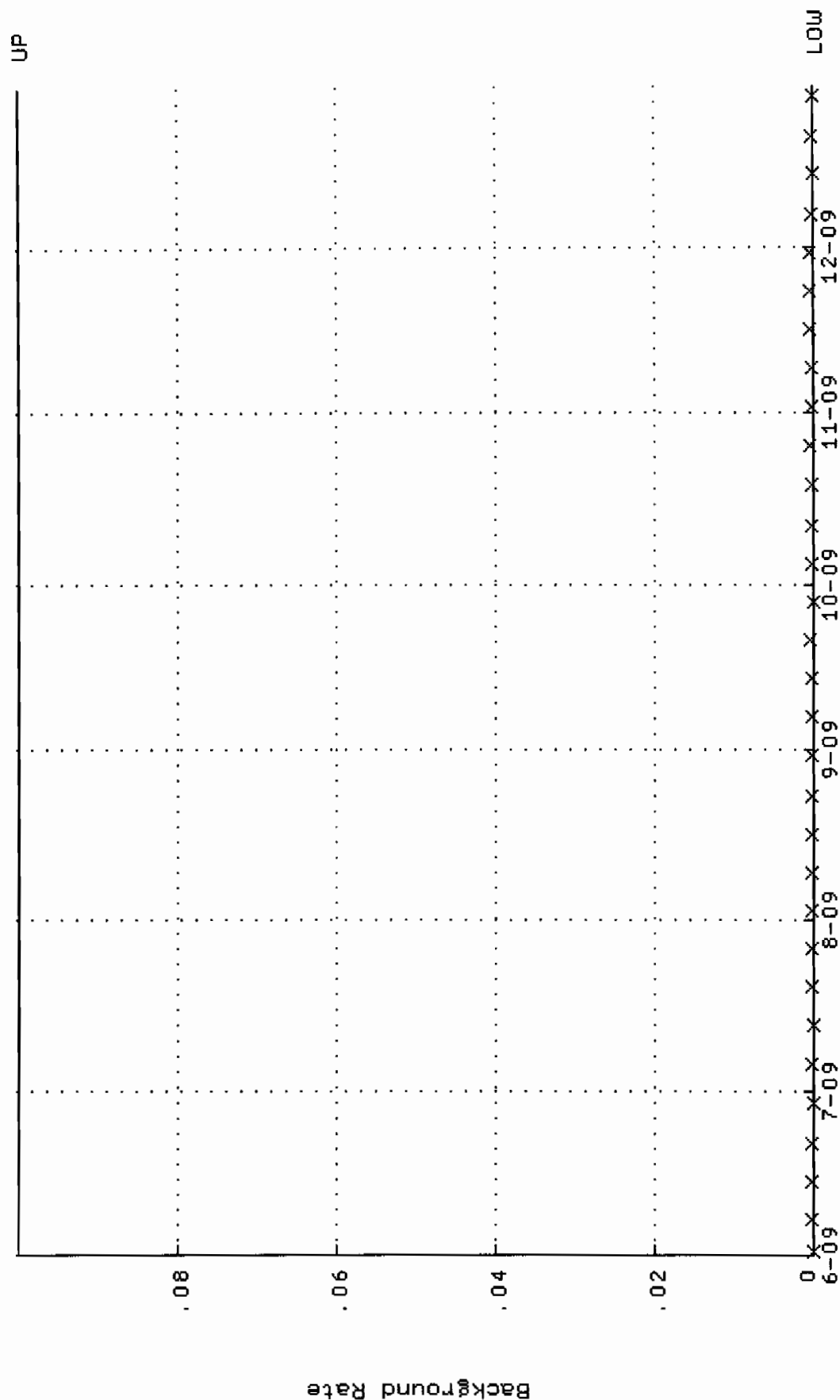
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:41 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.375328 through 0.395328



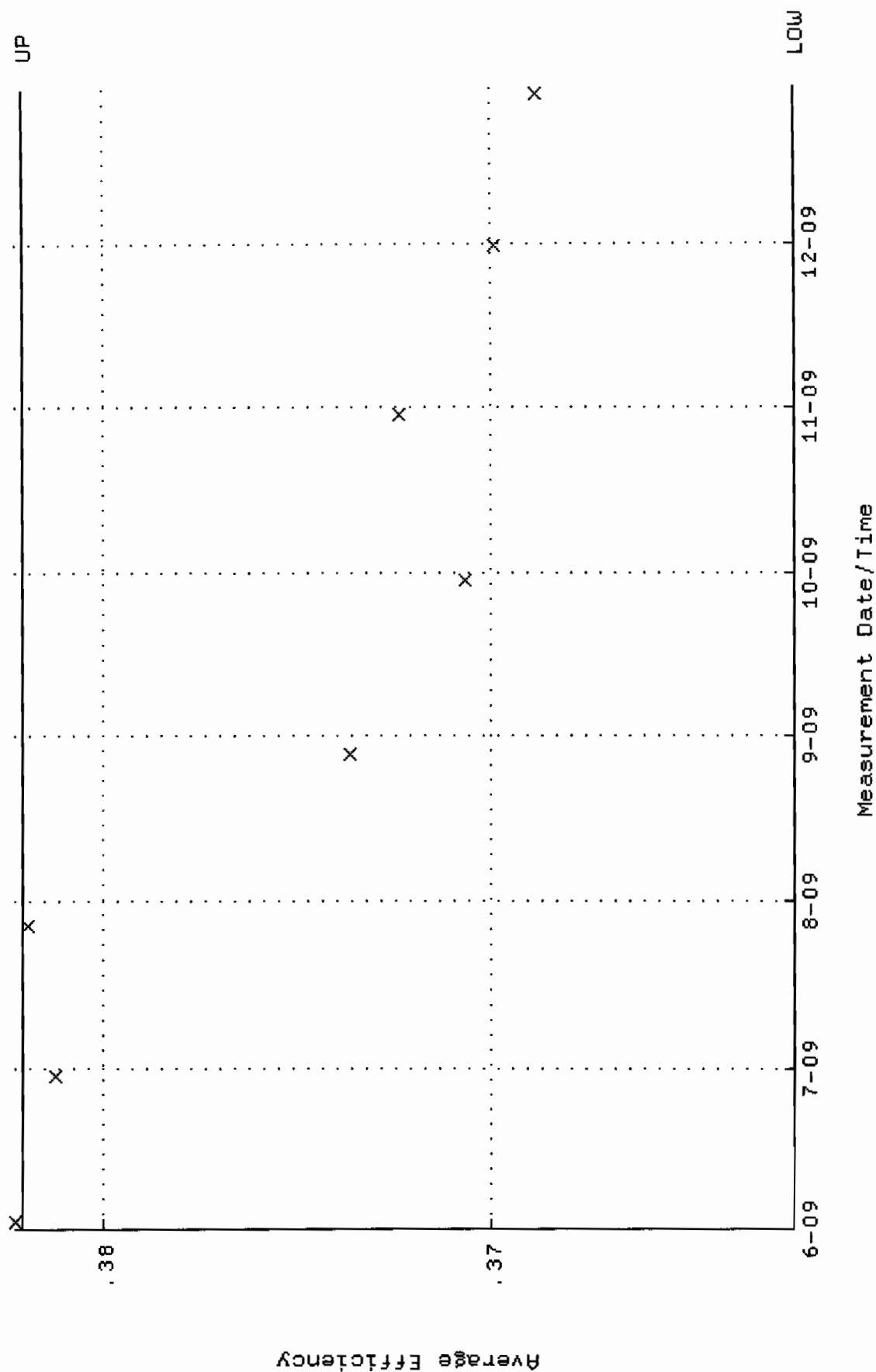
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:41 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 84.8011 through 93.7275



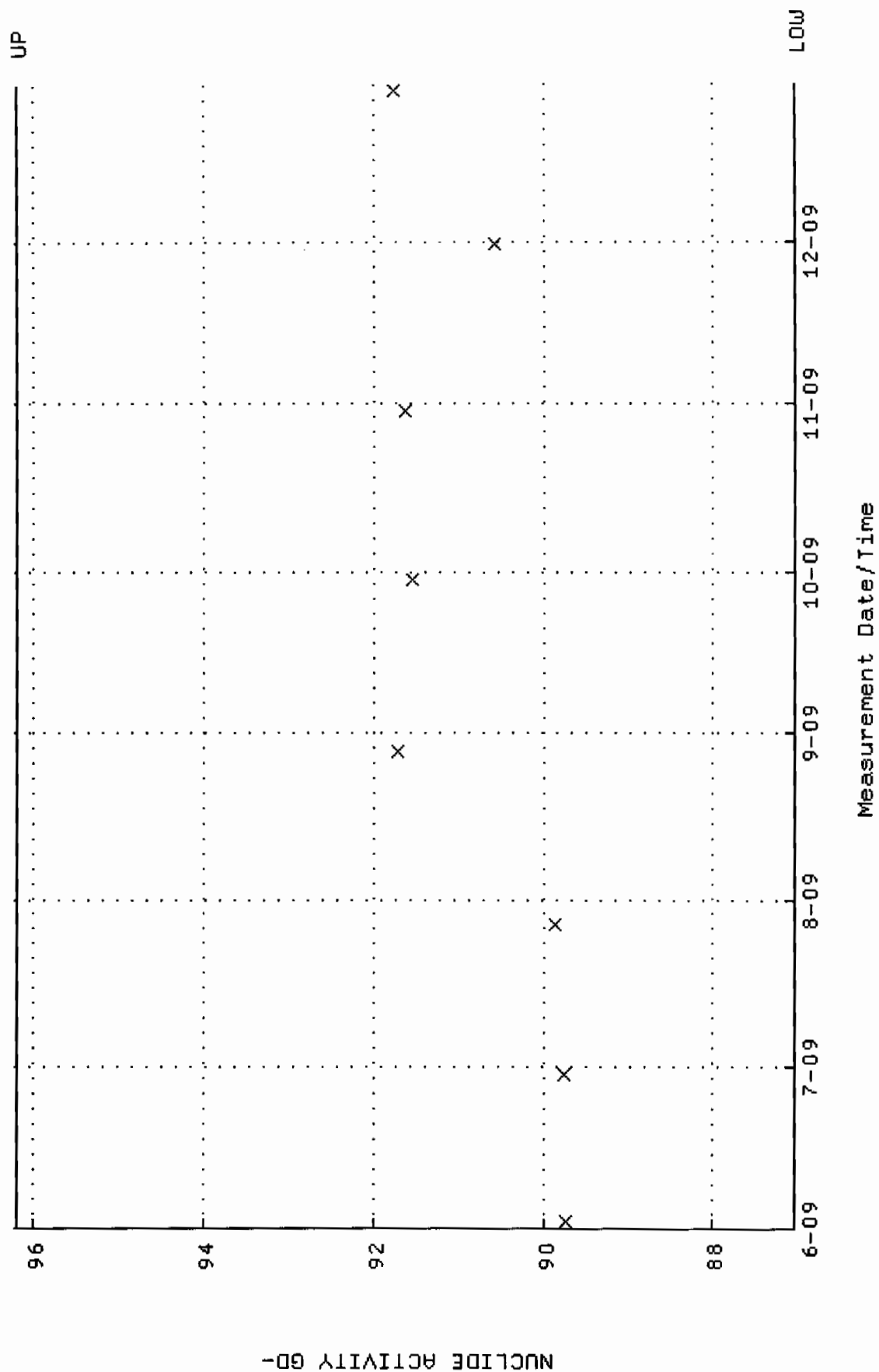
QA filename : OKA100:[ENV_ALPHA.QA.B]B227.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:52 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



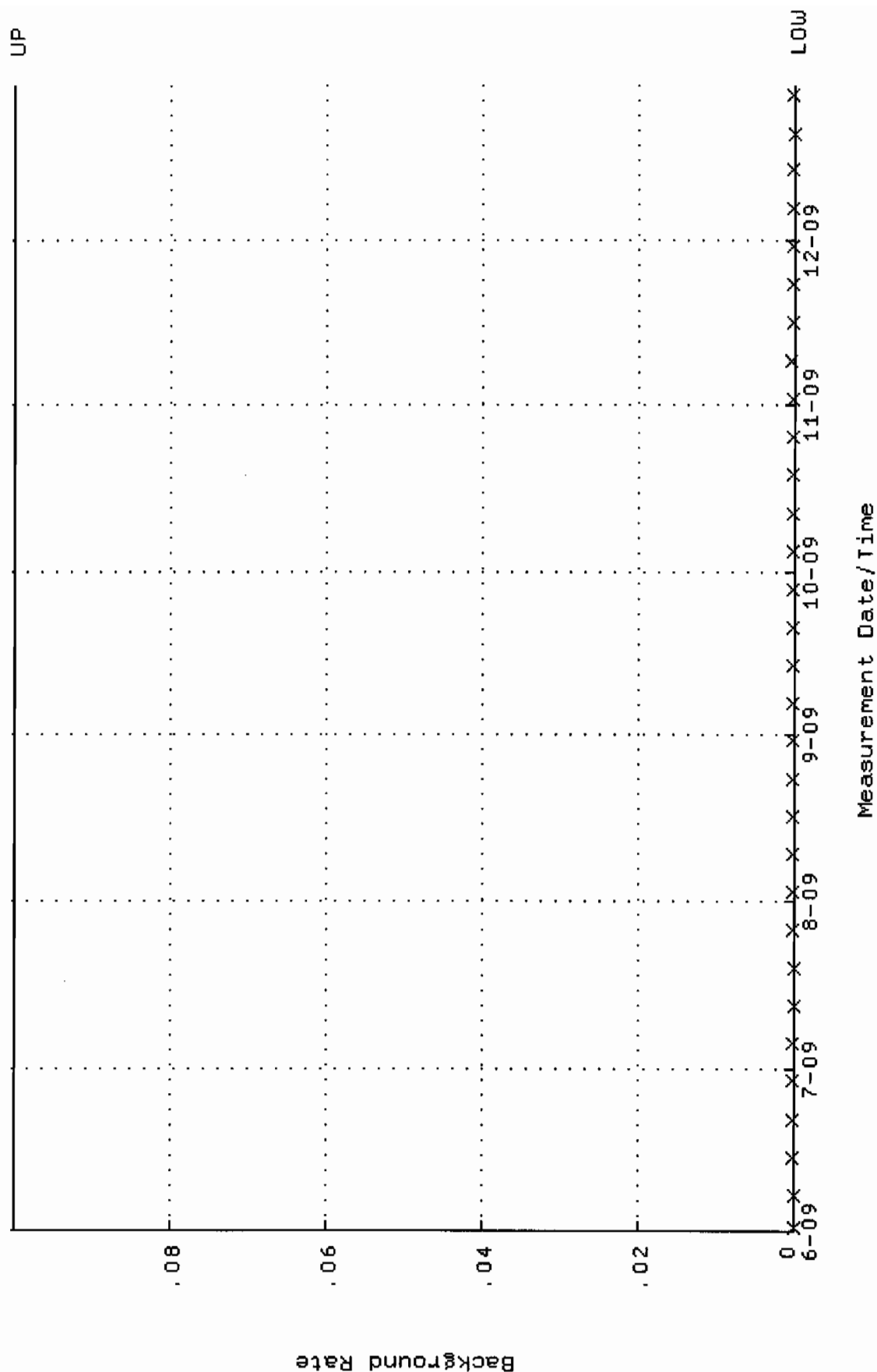
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:47 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.362134 through 0.382134



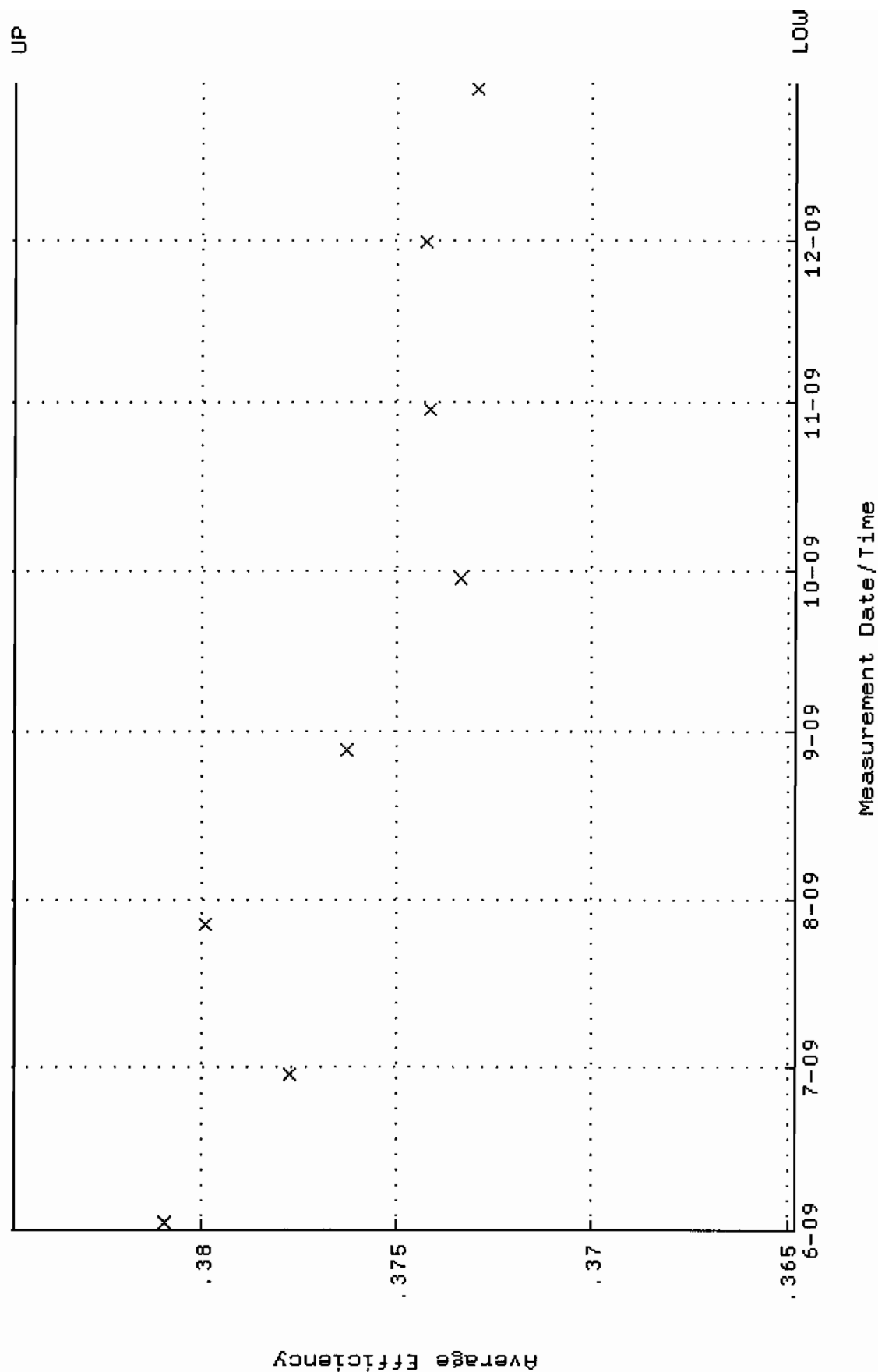
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUN-2009 11:18:47 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 87.0370 through 96.1988



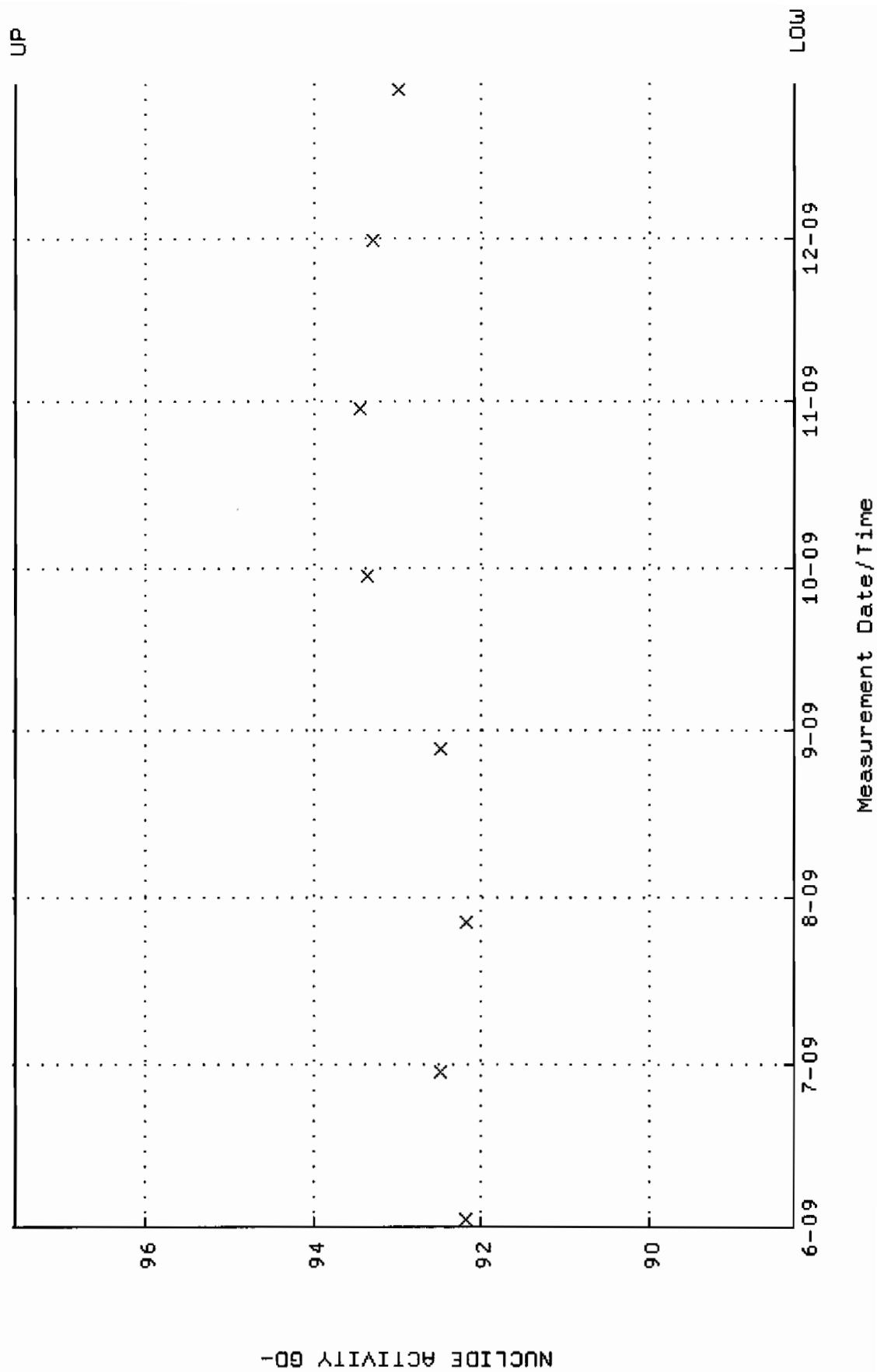
QA filename : DKA100:[ENV-ALPHA.QA.B]B228.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:44:57 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



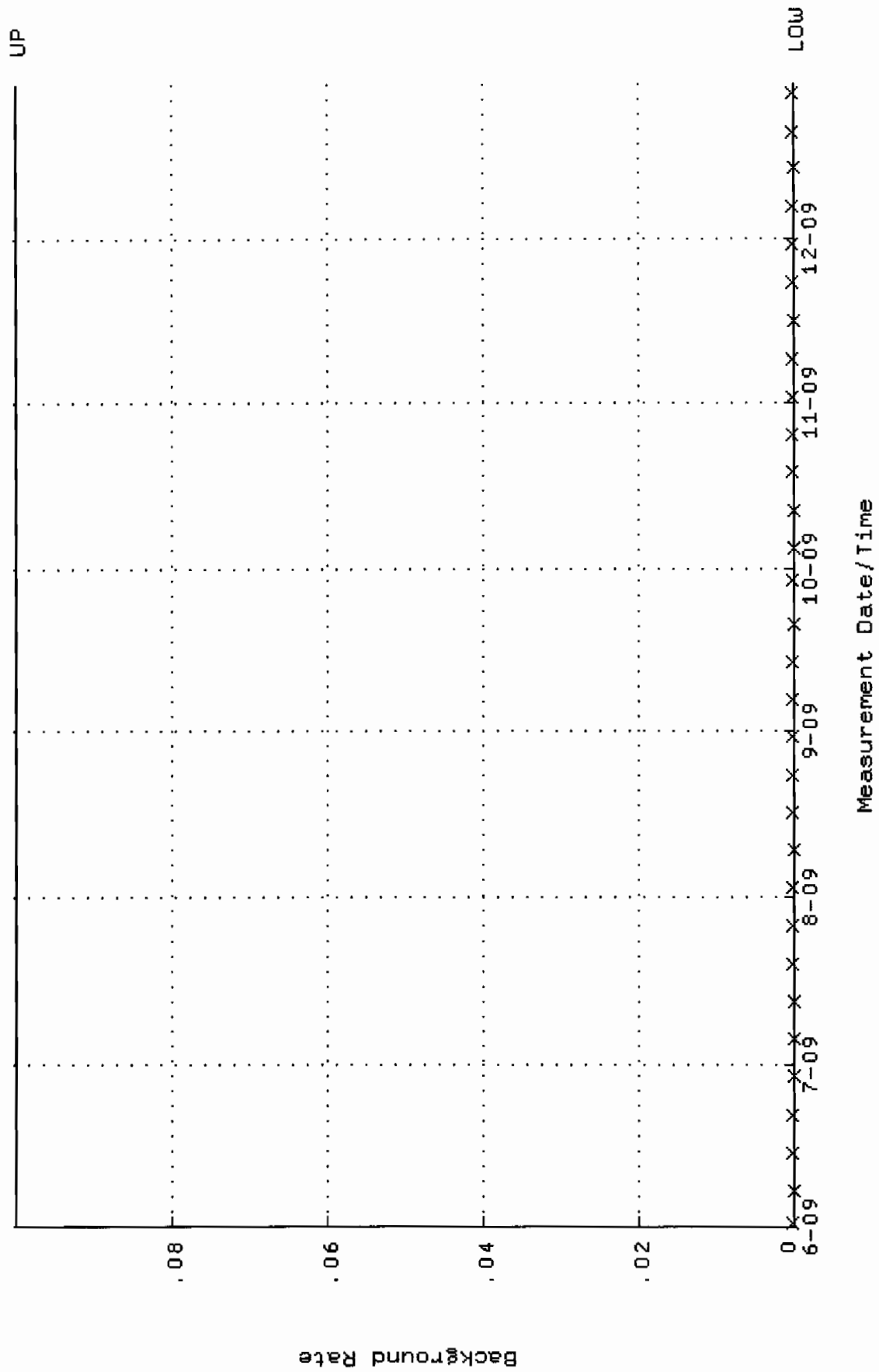
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUN-2009 11:18:53 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.364789 through 0.384789



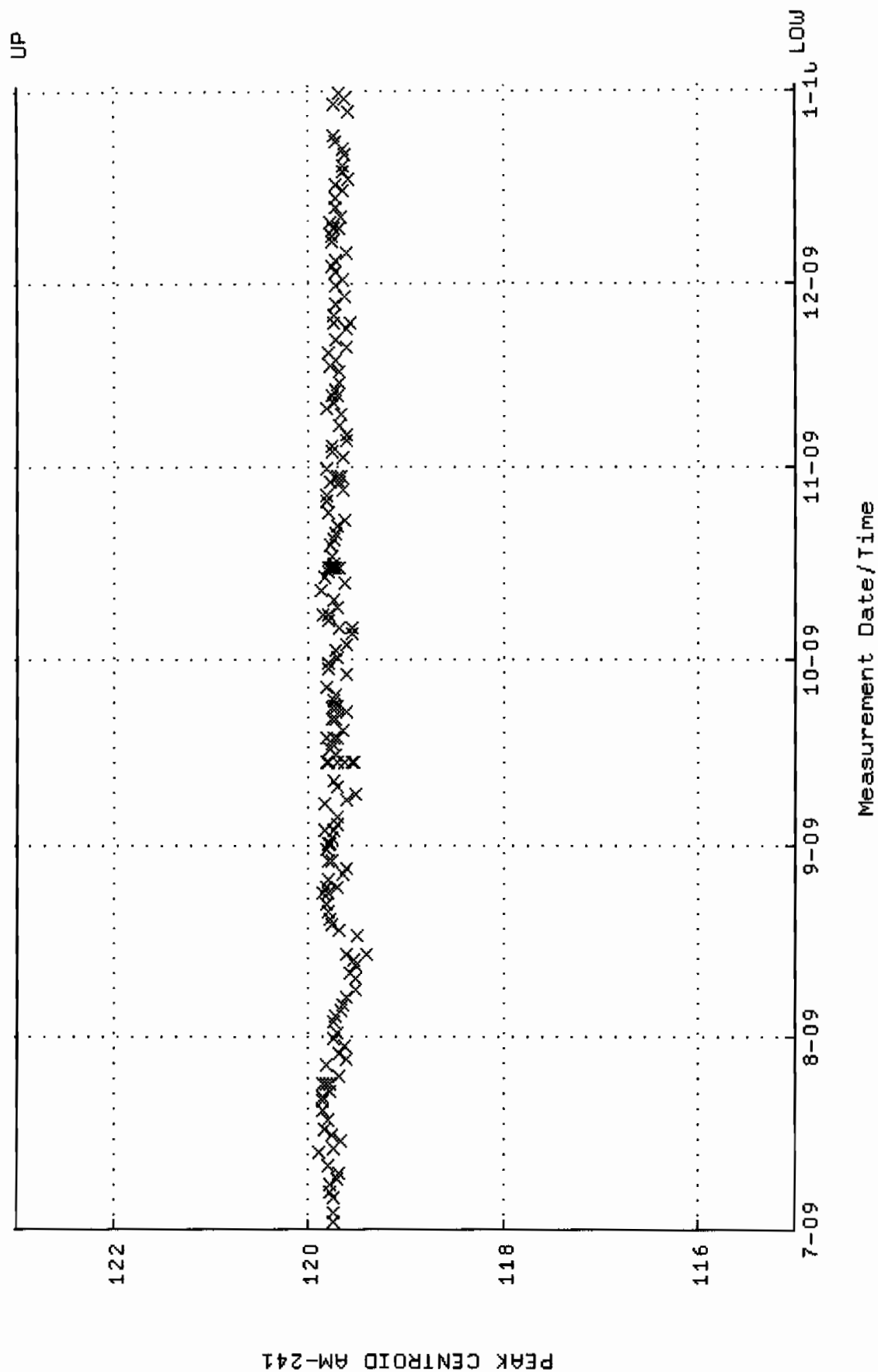
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JUN-2009 11:18:53 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 88.2691 through 97.5605



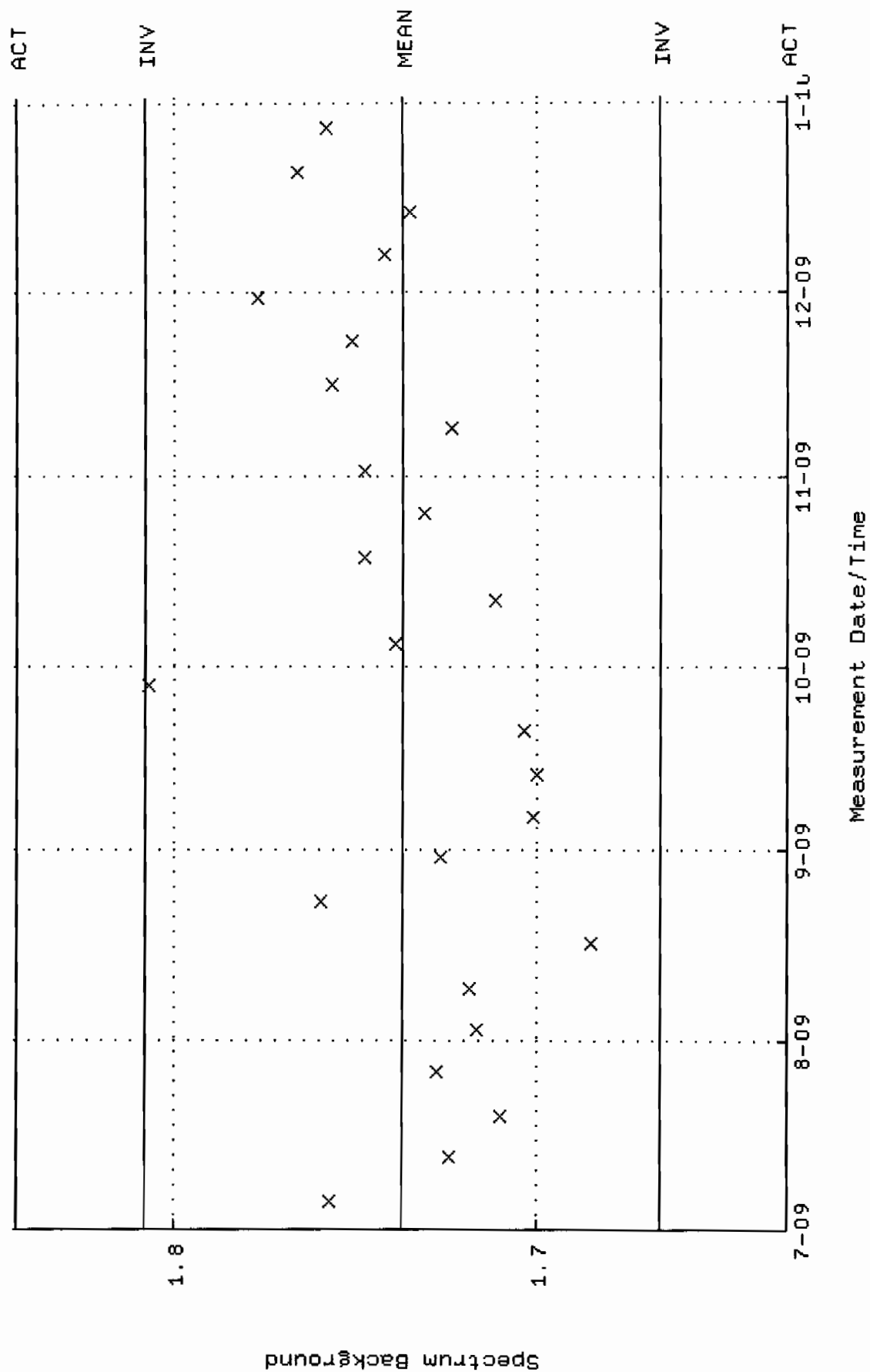
QA filename : DKA100:[ENV_ALPHA.QA.B]B229.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUN-2009 17:45:01 through 29-DEC-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



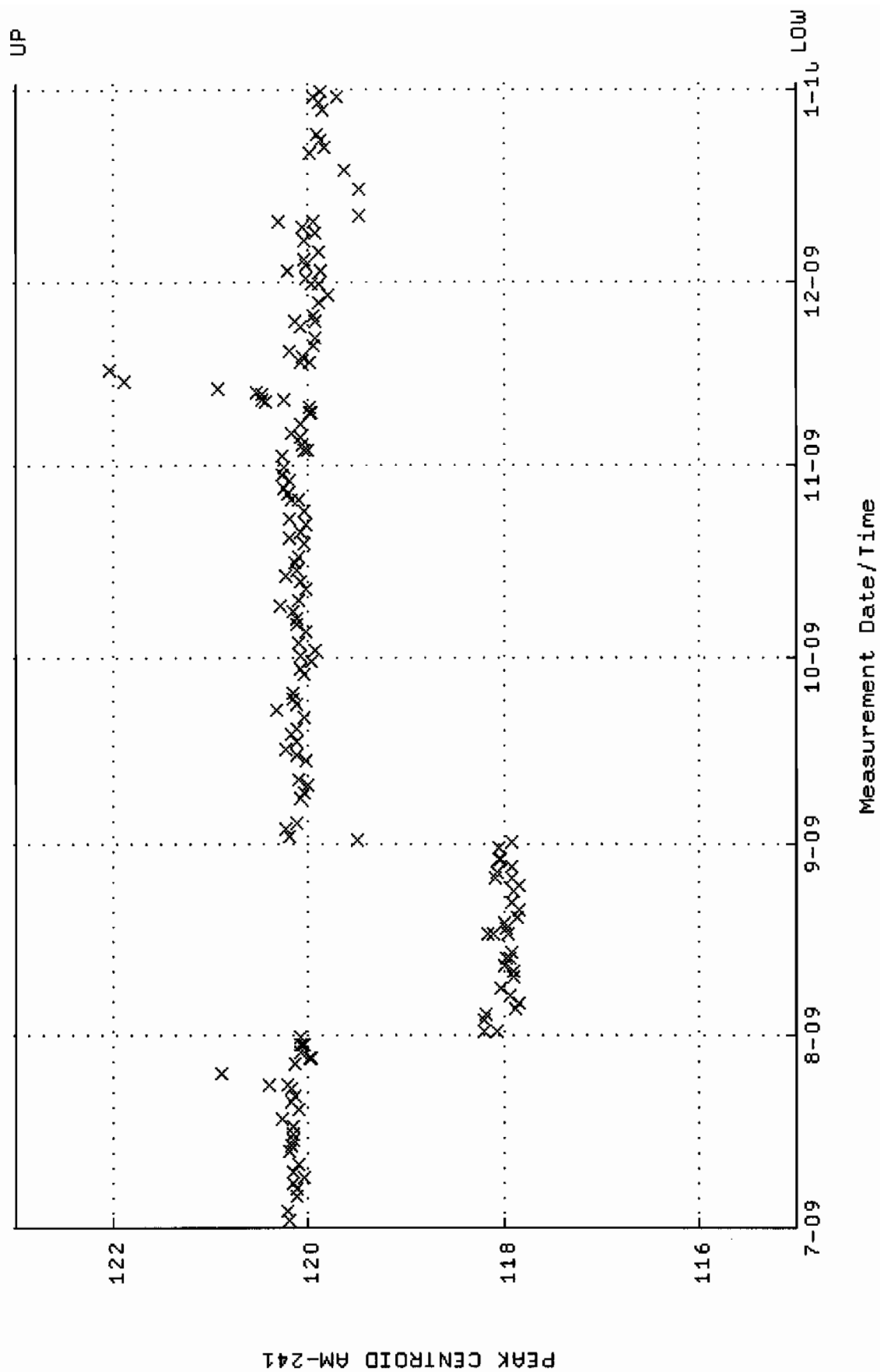
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM01_500MLMB.QAF;1
 Parameter Name : PSCENTROD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:58:53 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



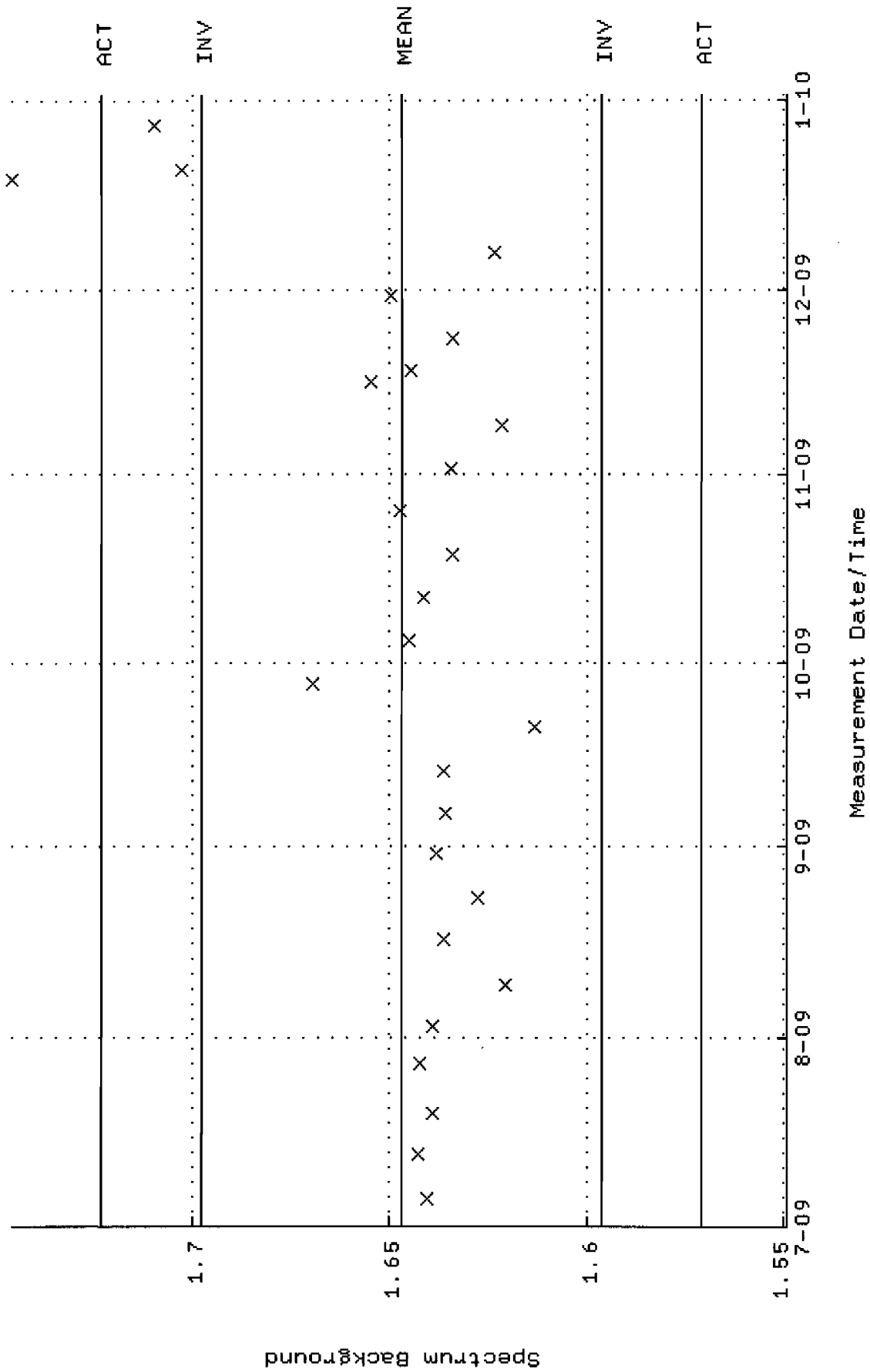
QA filename : DKA100:[CANNBERRA.GAMMA.SCUSR.QA]LBC_GAM01.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:24 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



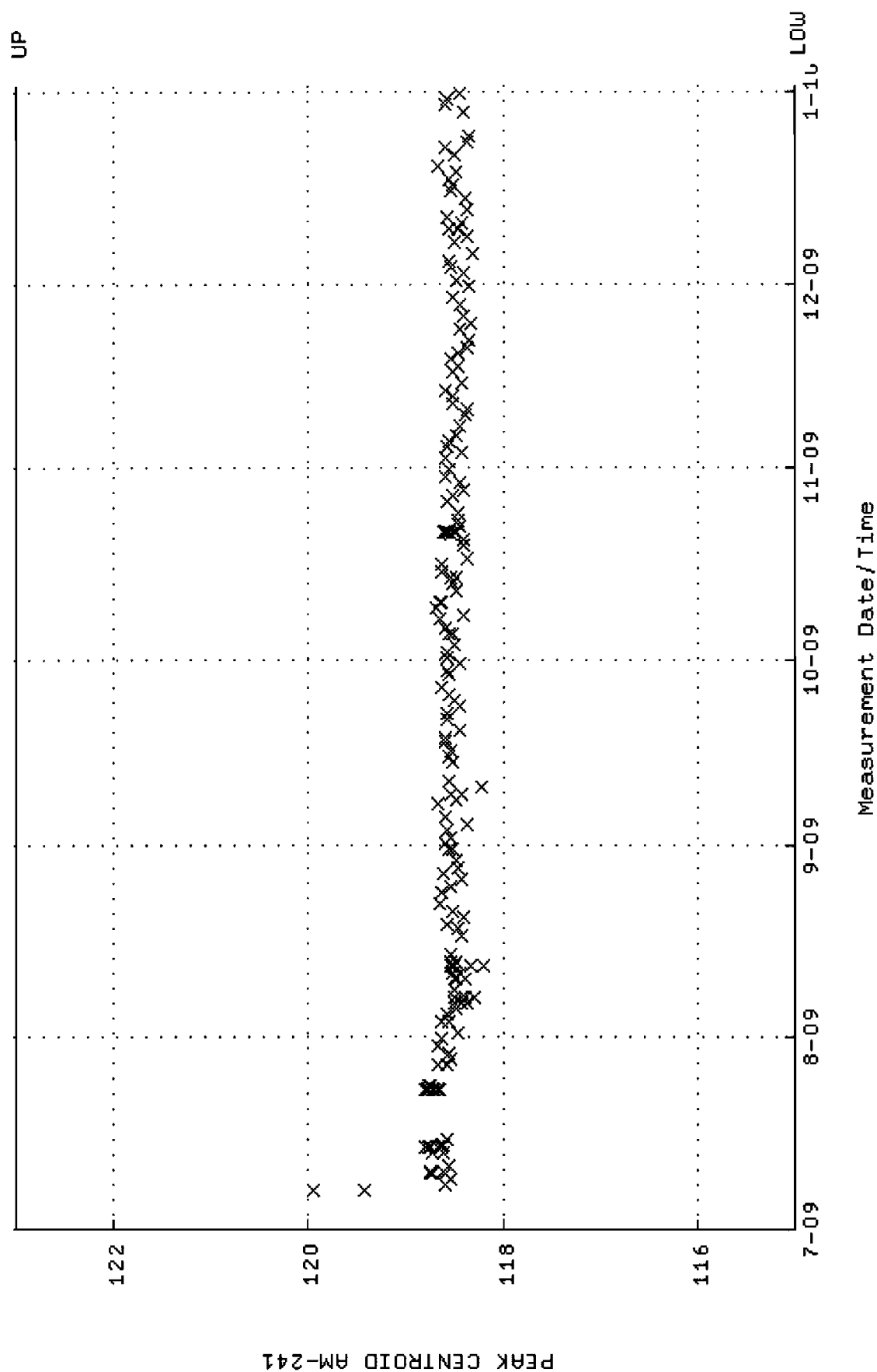
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:08 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



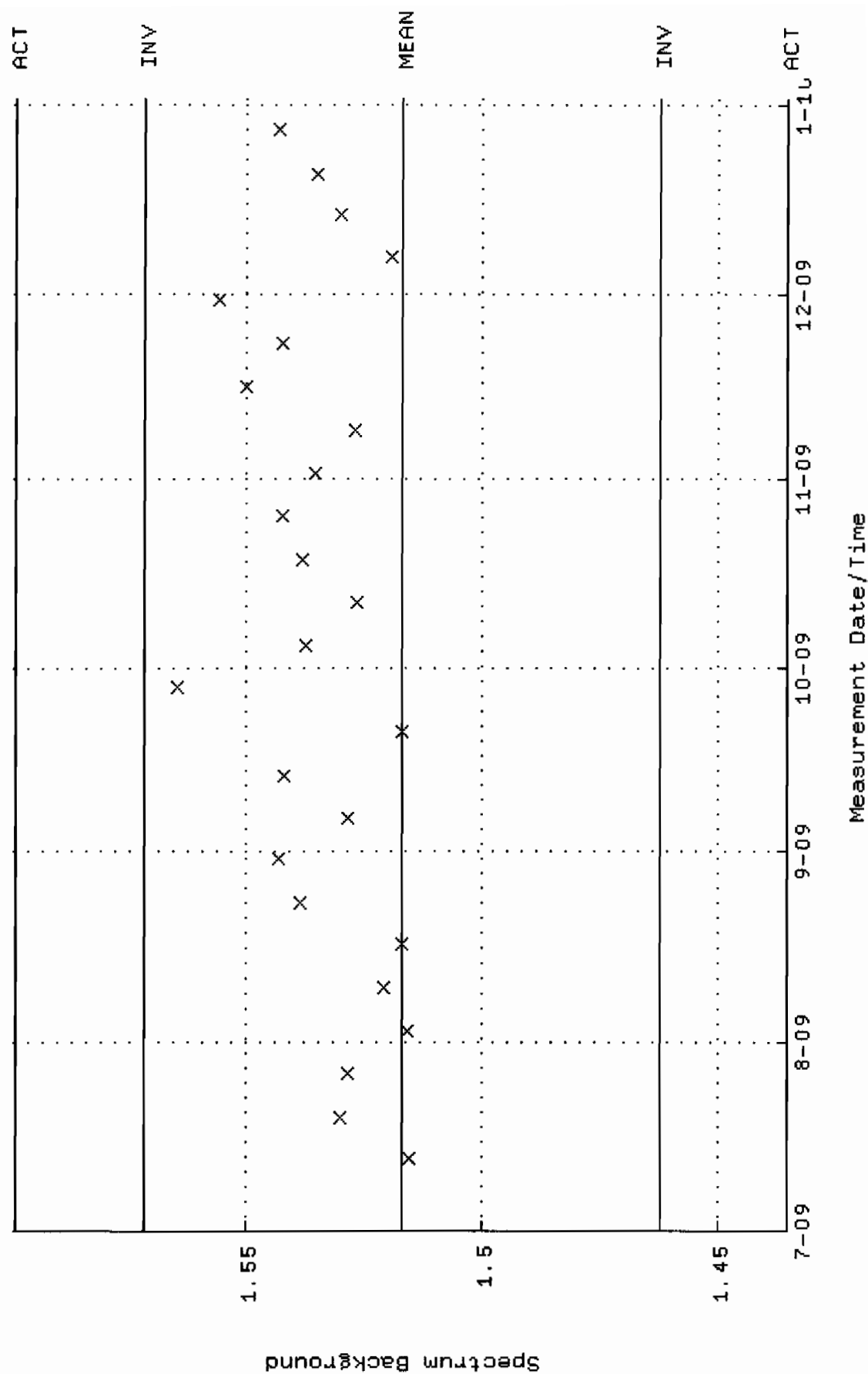
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM05.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:50:04 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.64719 +- 2.547087E-02 (1.55 %)



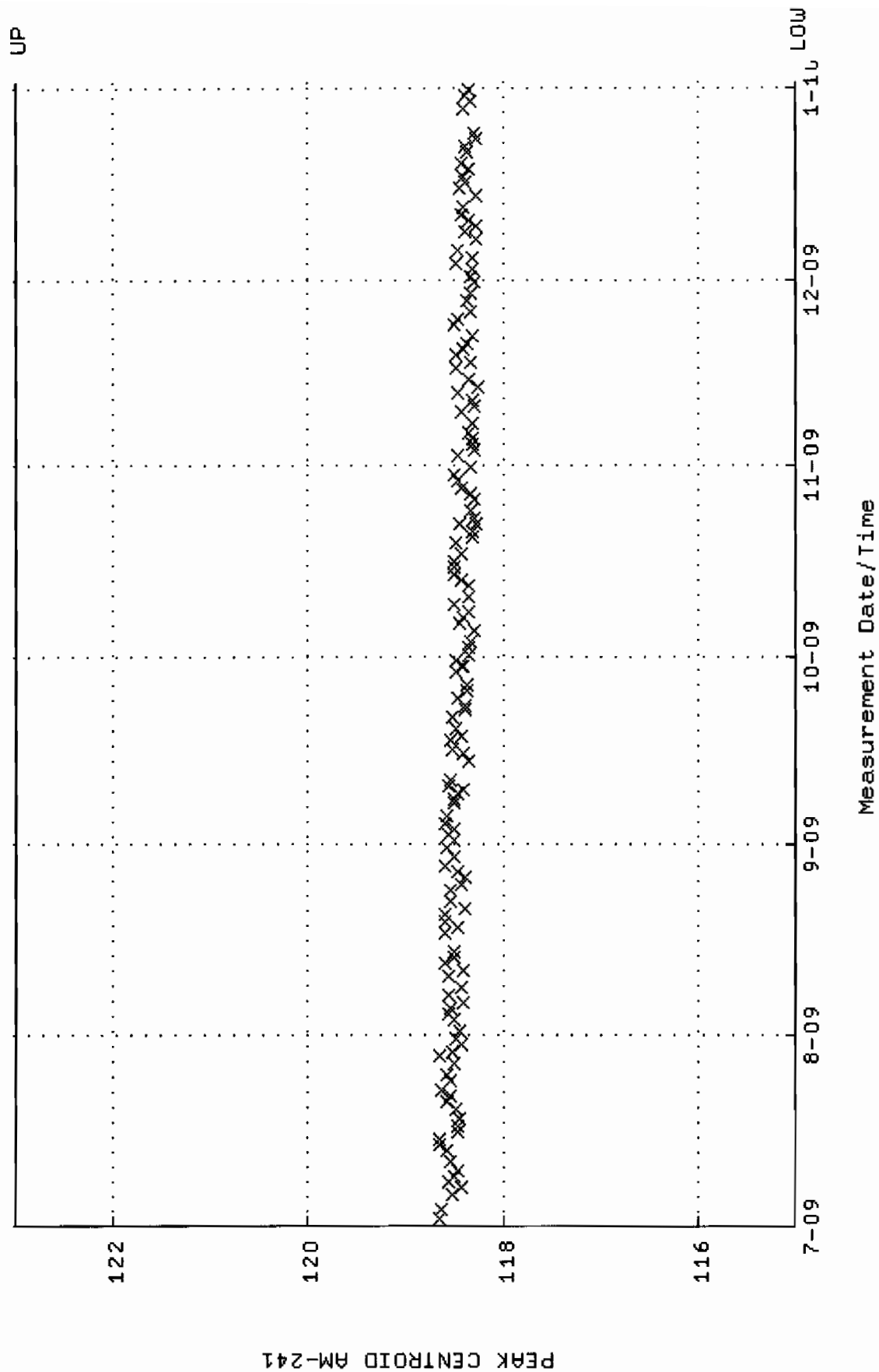
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 7-JUL-2009 09:02:00 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



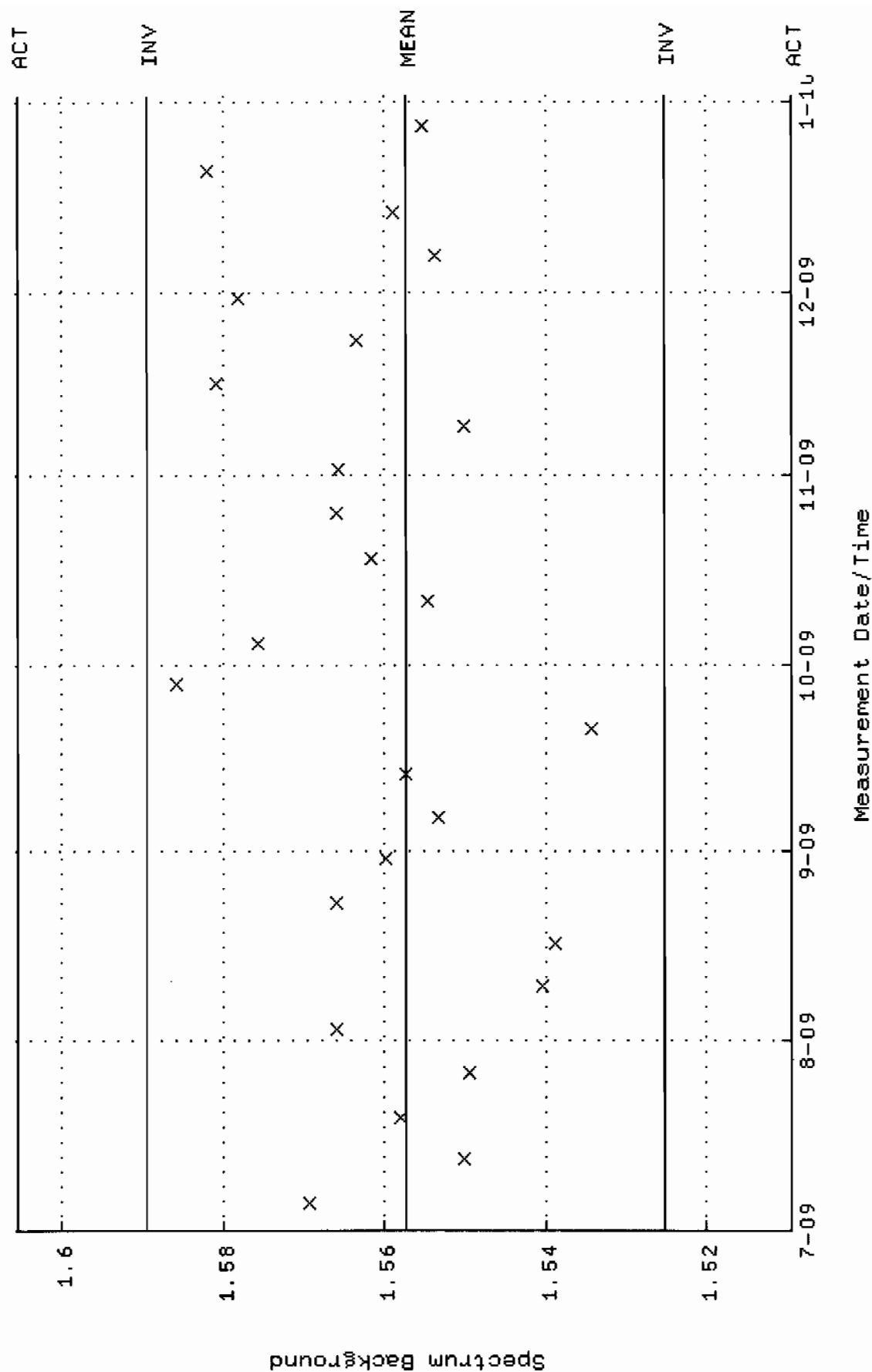
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 12-JUL-2009 17:17:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



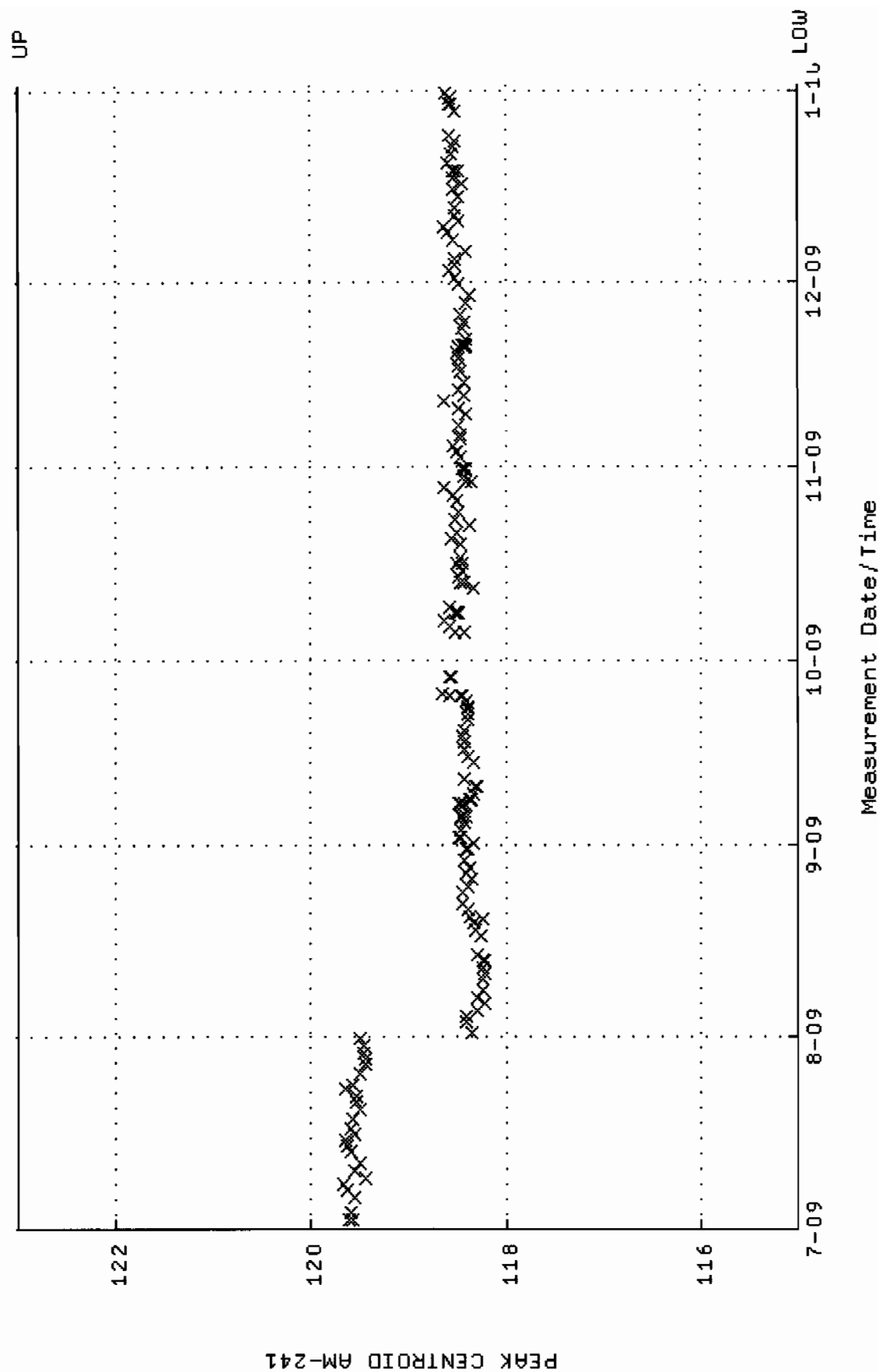
QA filename : DKA100:[CANSBERRA.GAMMA.SCUSR.QA]QCC-GAM12-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:11 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



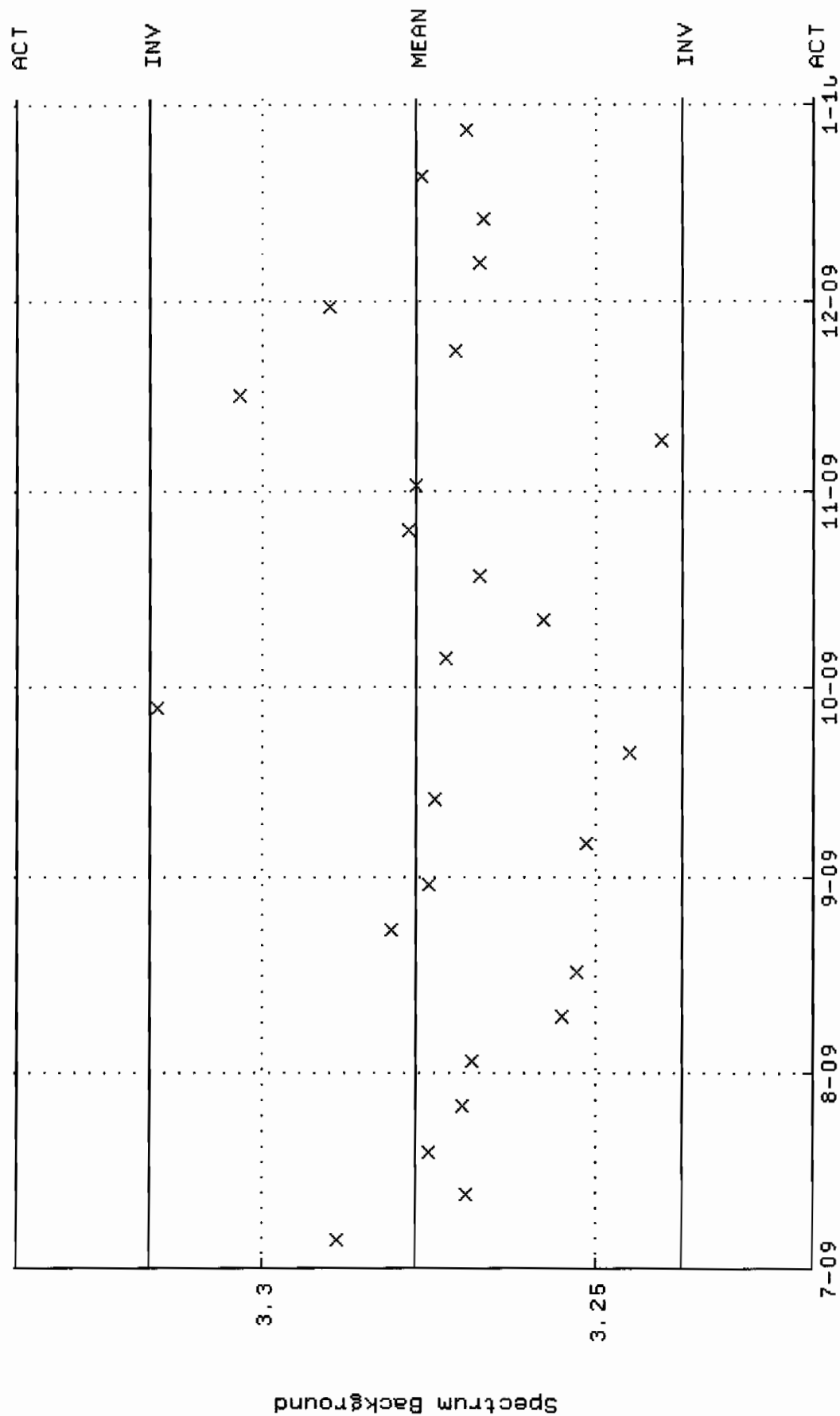
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:04 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



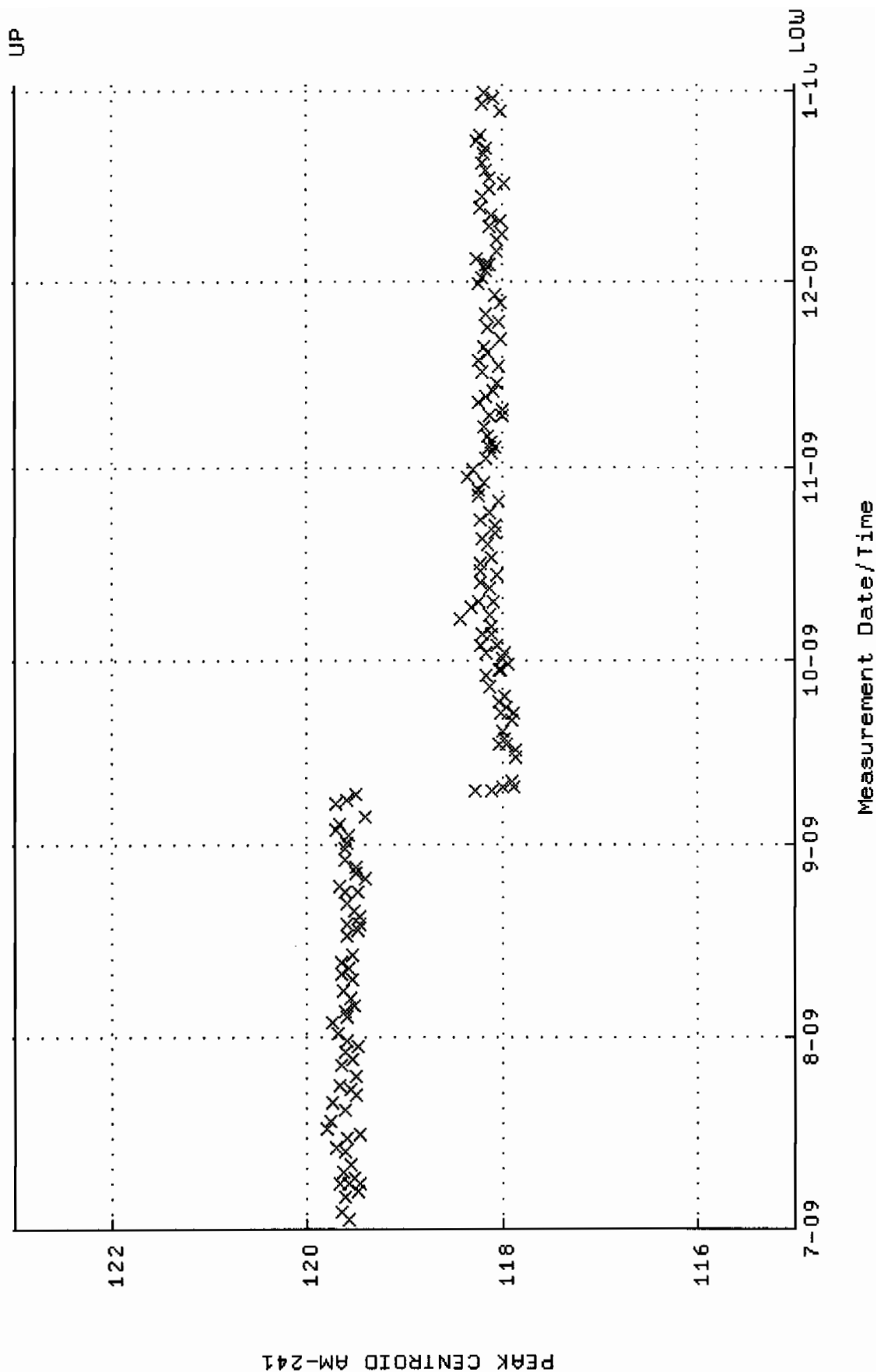
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM13-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:30 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



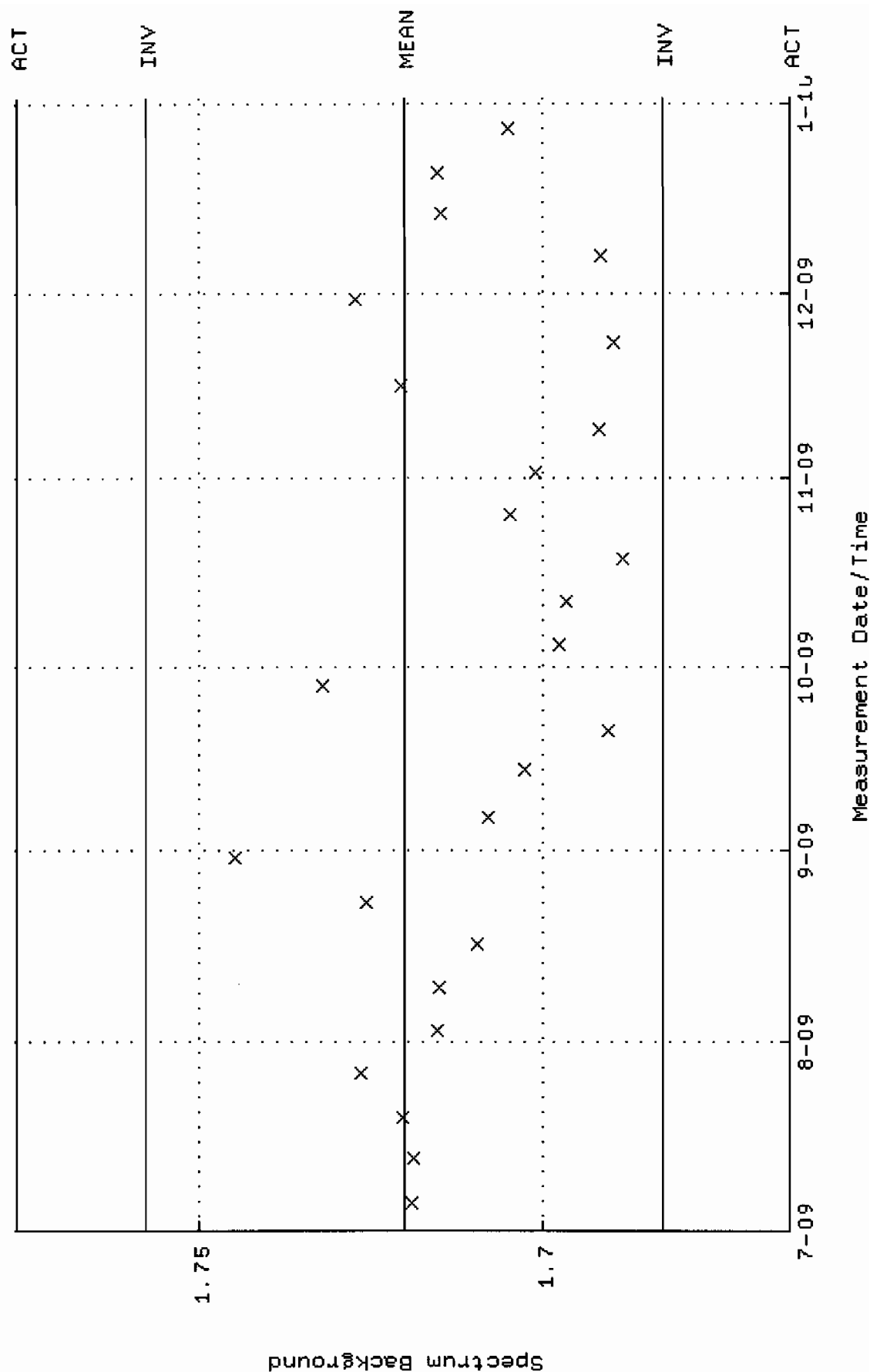
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM13.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:16 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



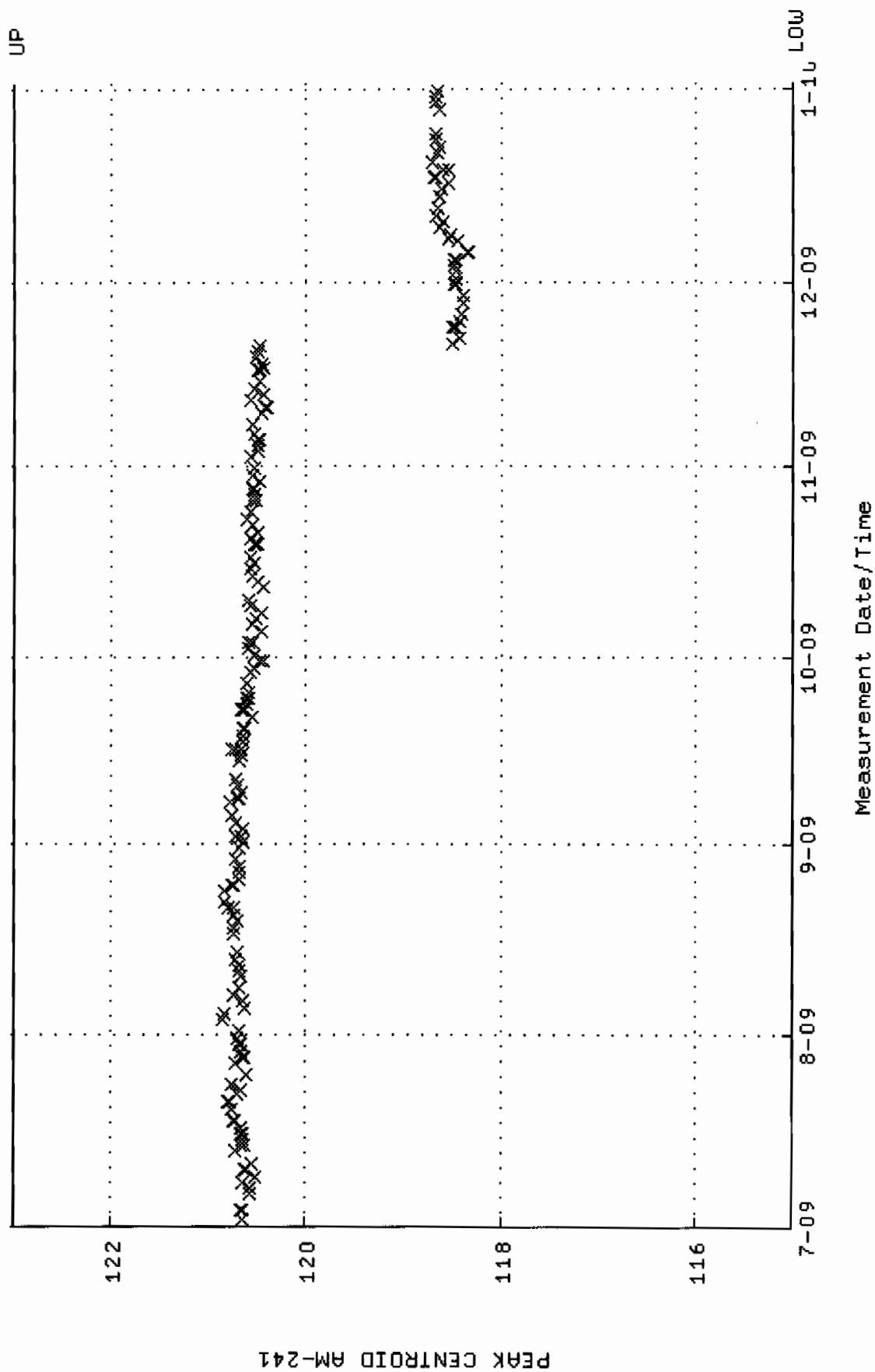
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM15-CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



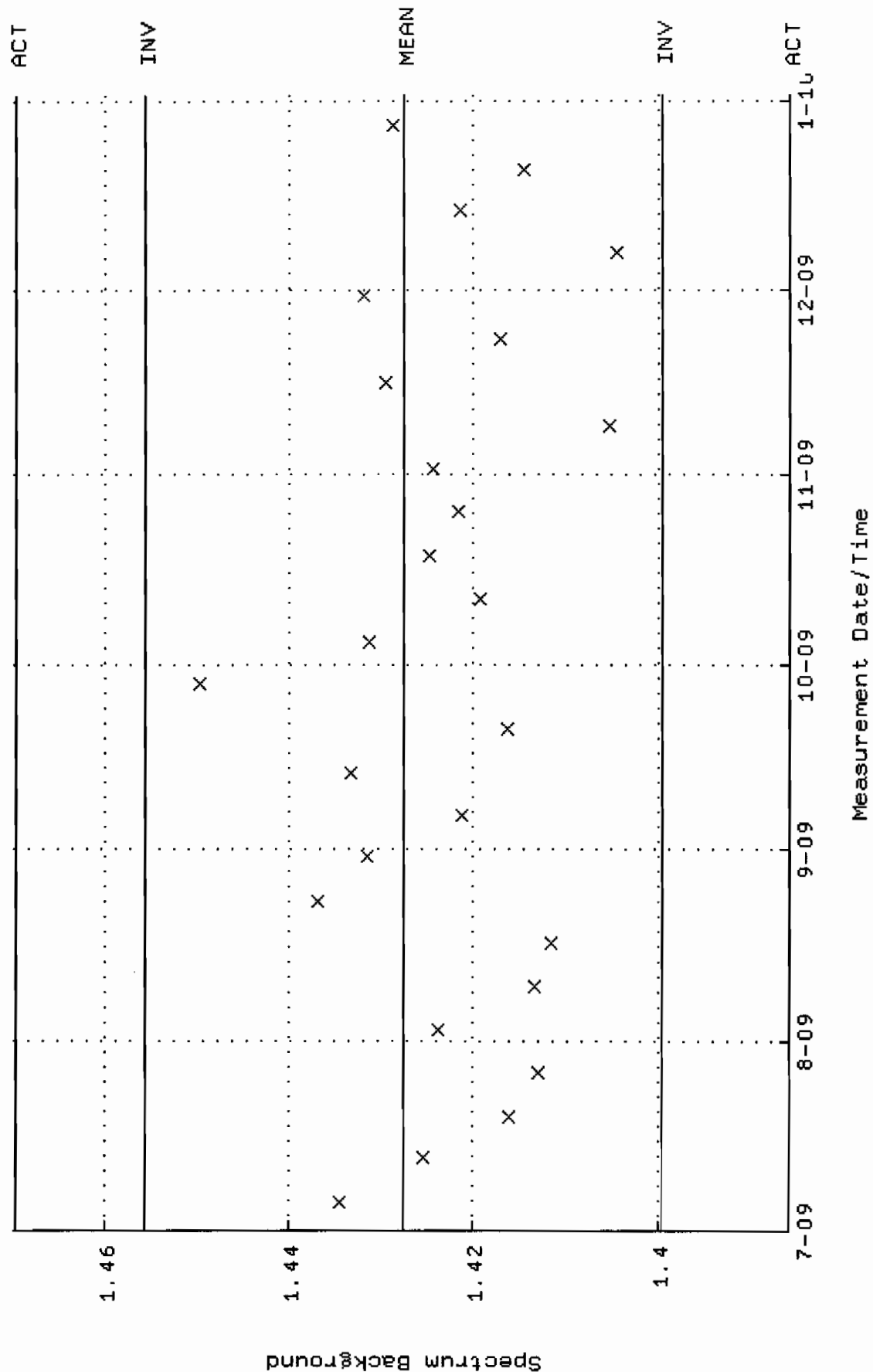
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



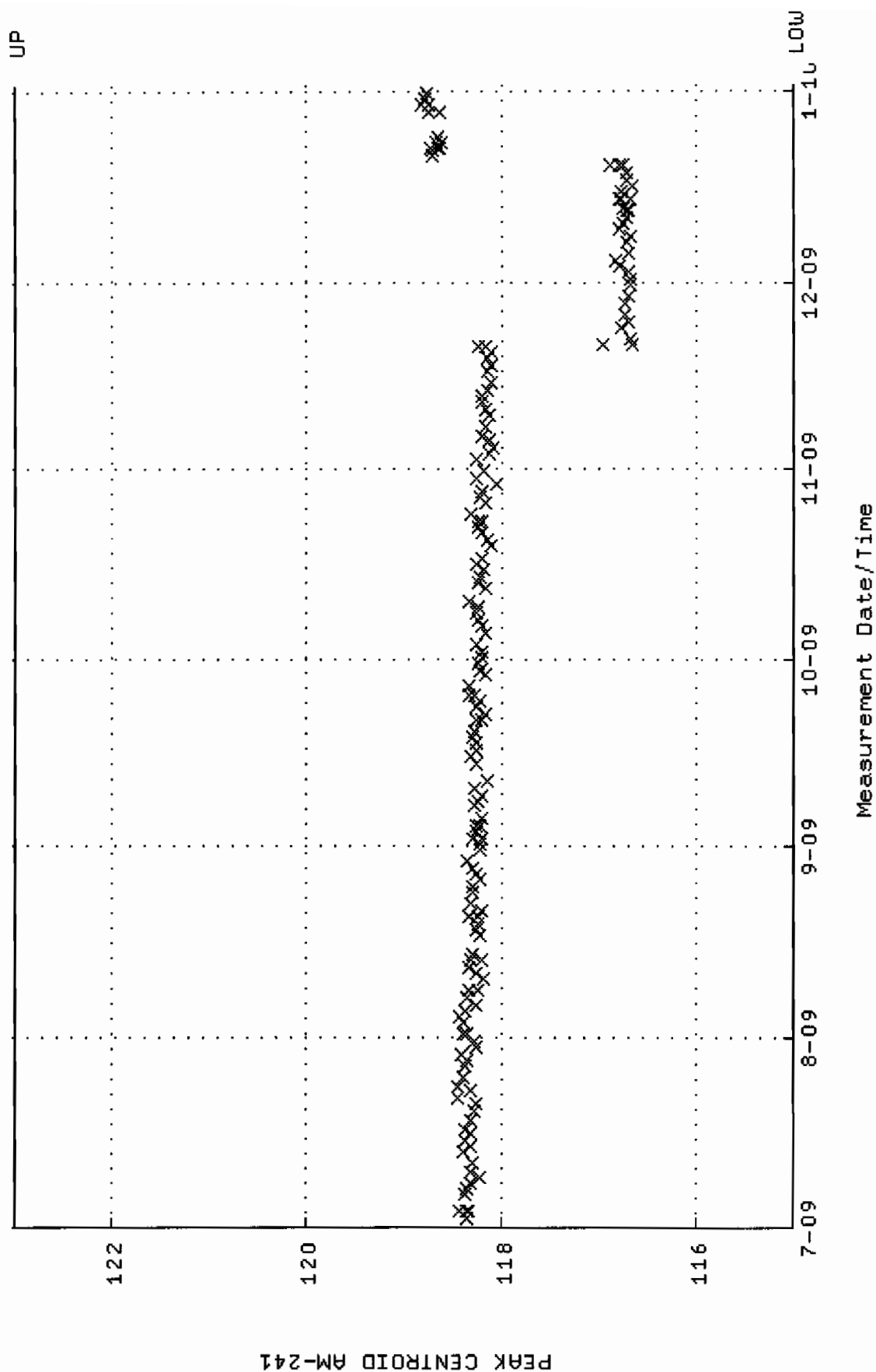
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:26 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



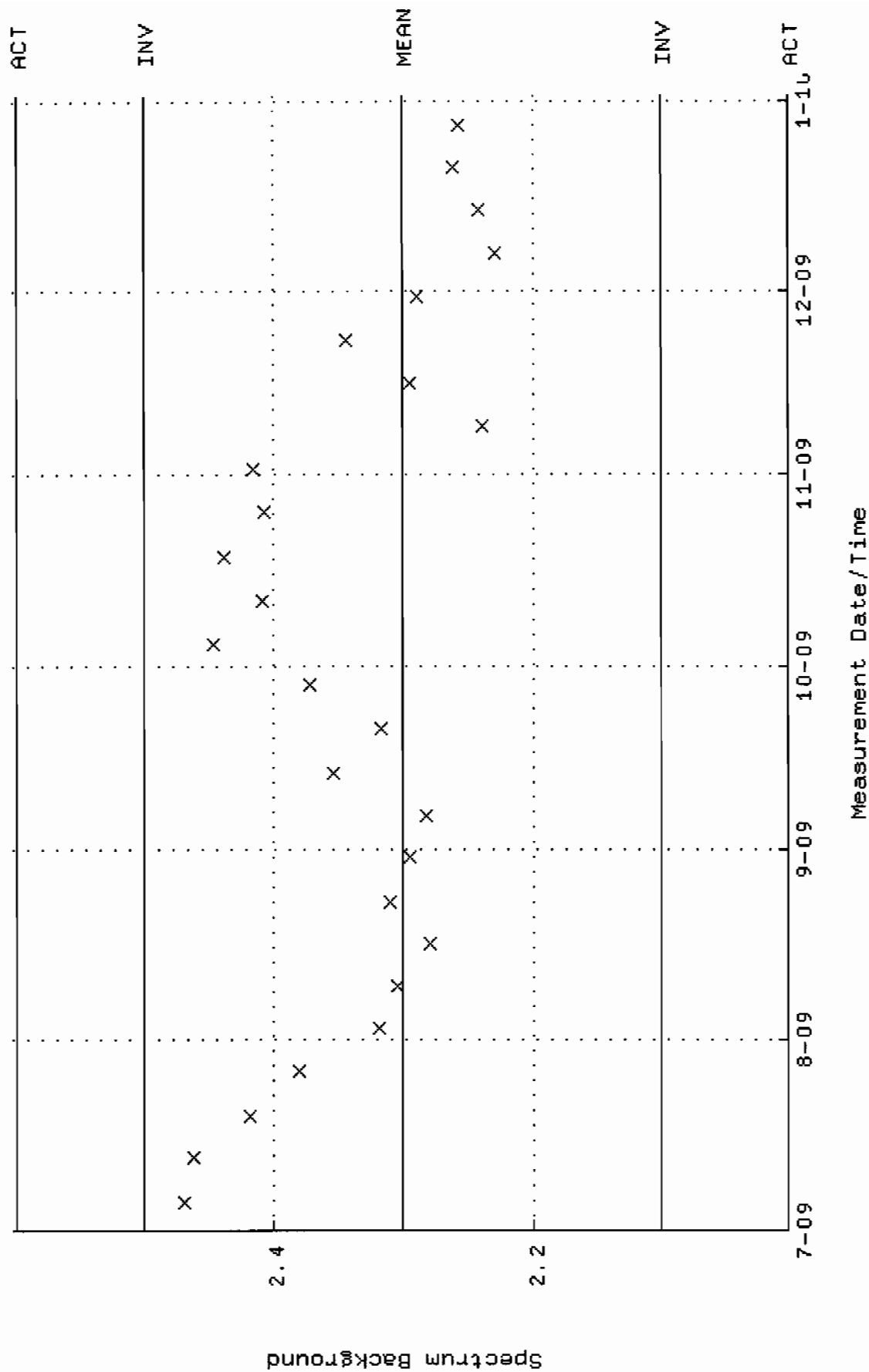
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:11 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



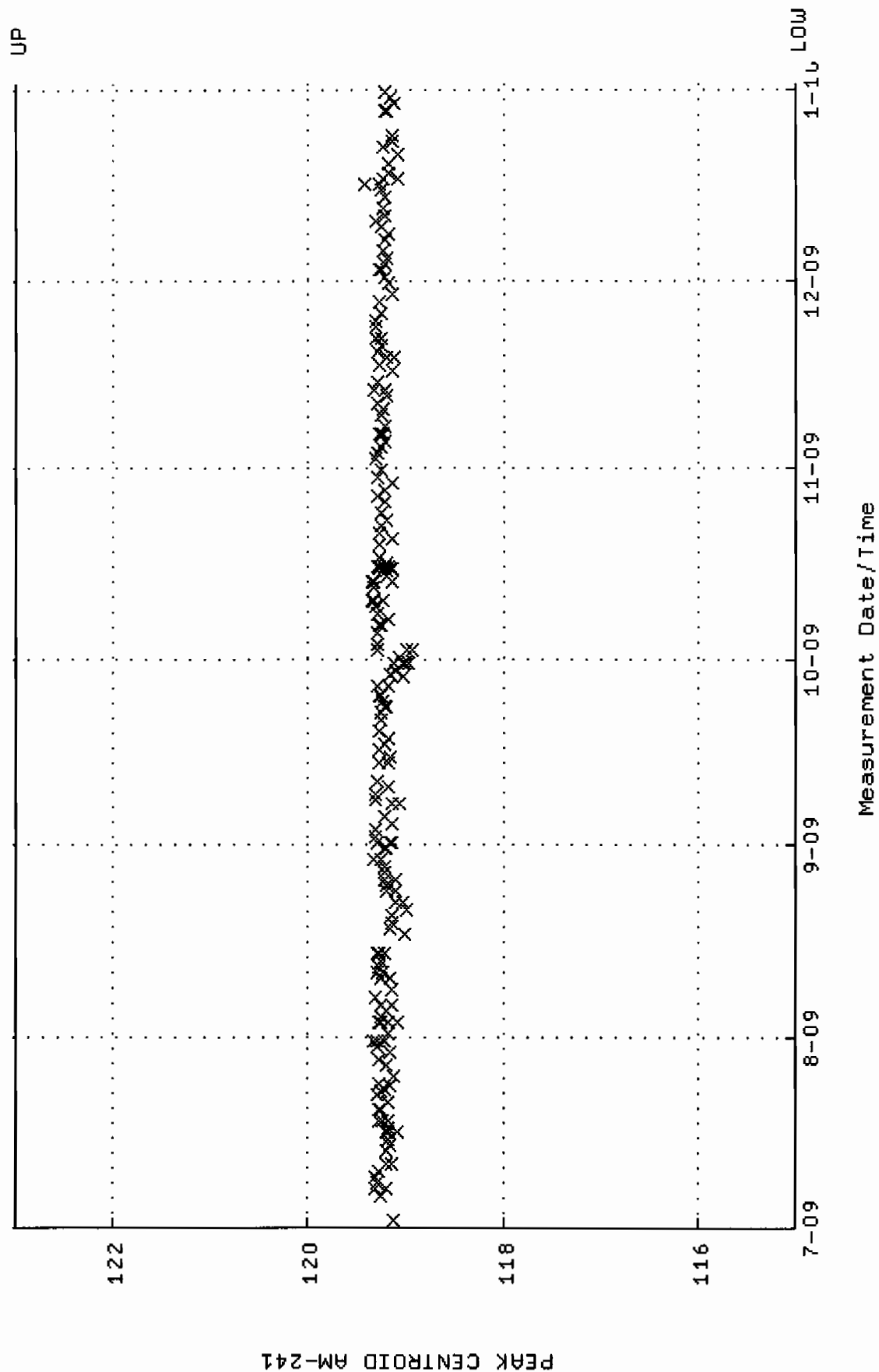
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM18-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



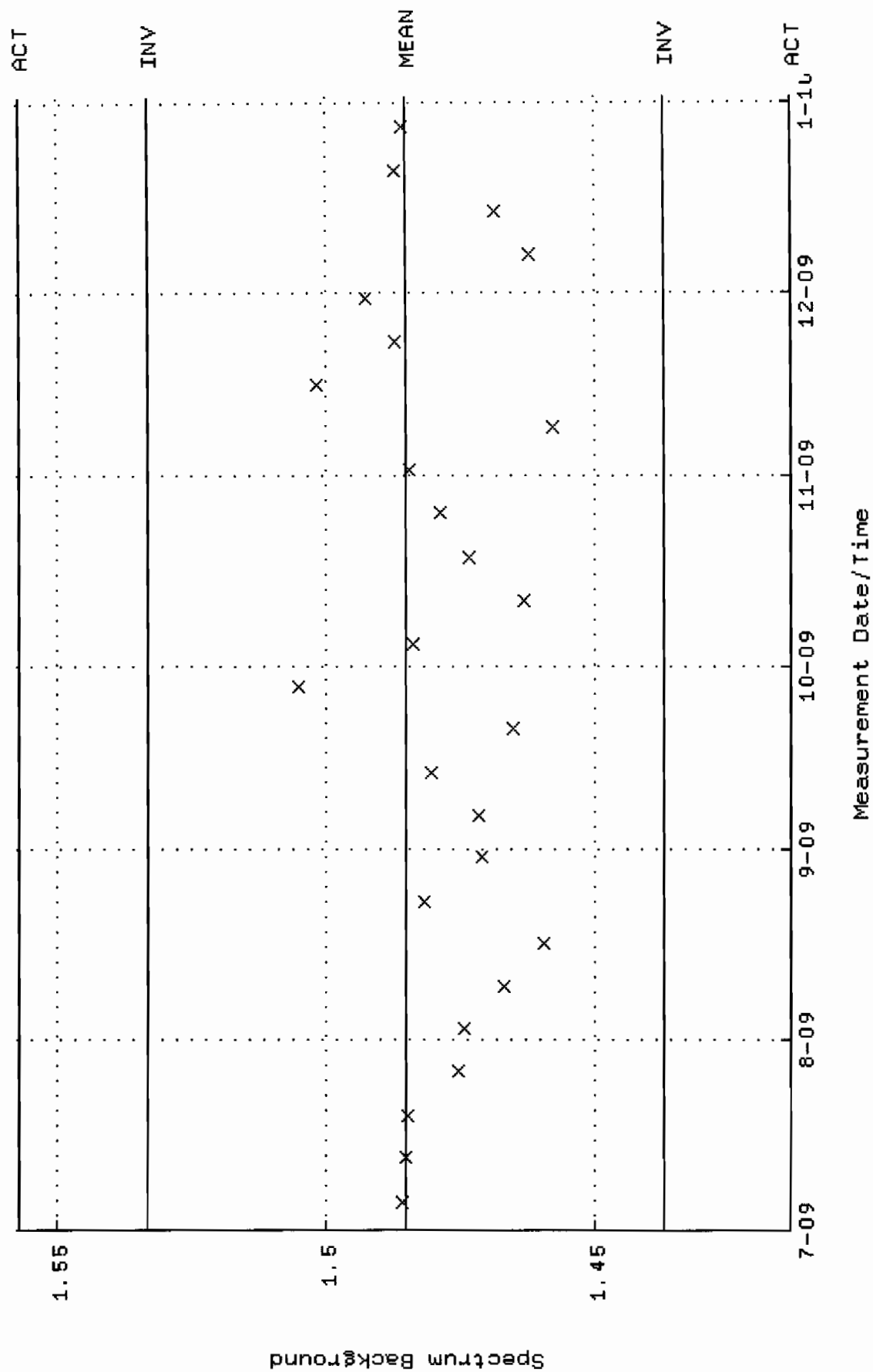
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



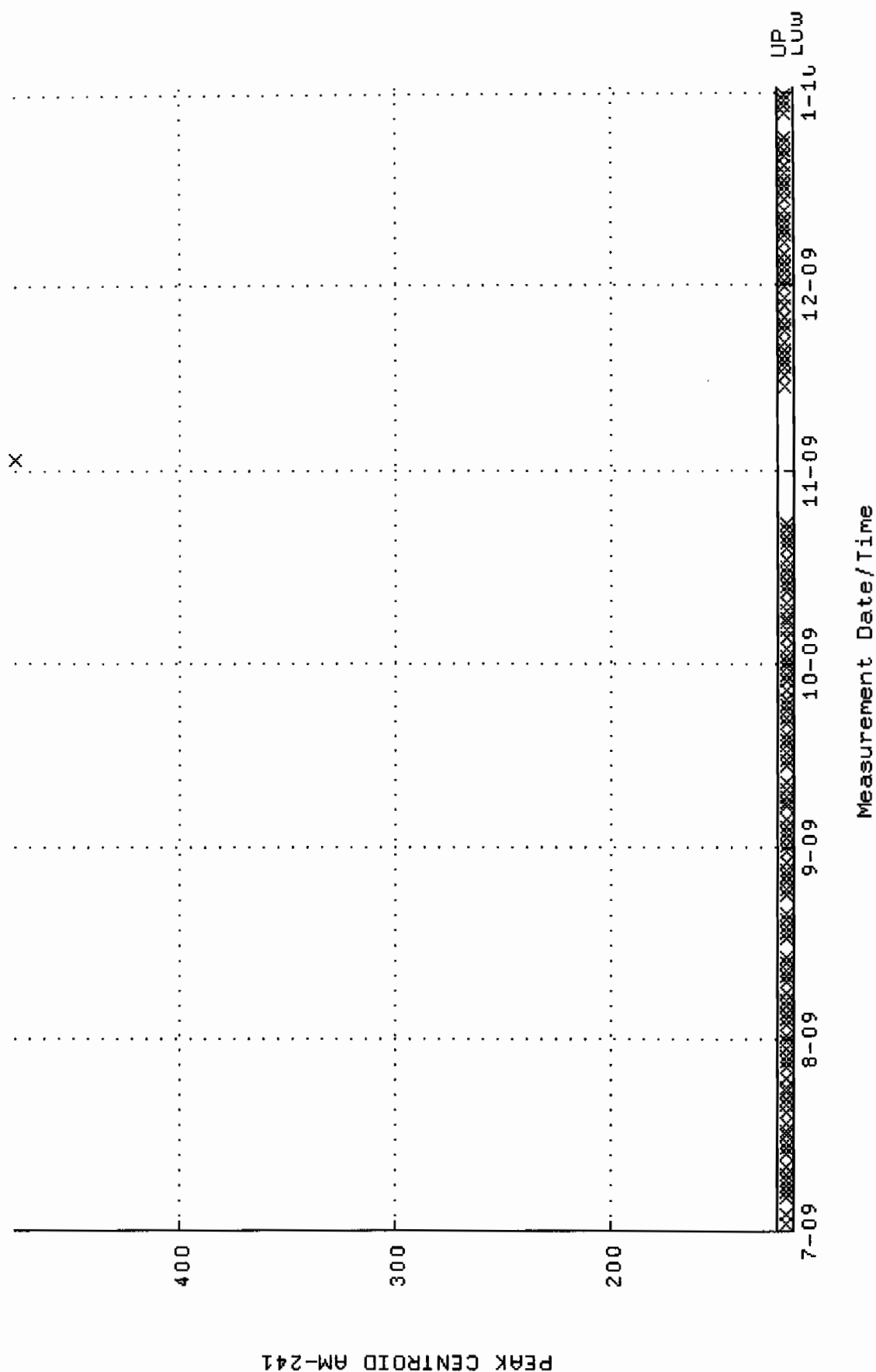
```

QA filename      : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM20.QAF;1
Parameter Name   : BACKRATE (Spectrum Background Rate)
Start/End Dates  : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)

```



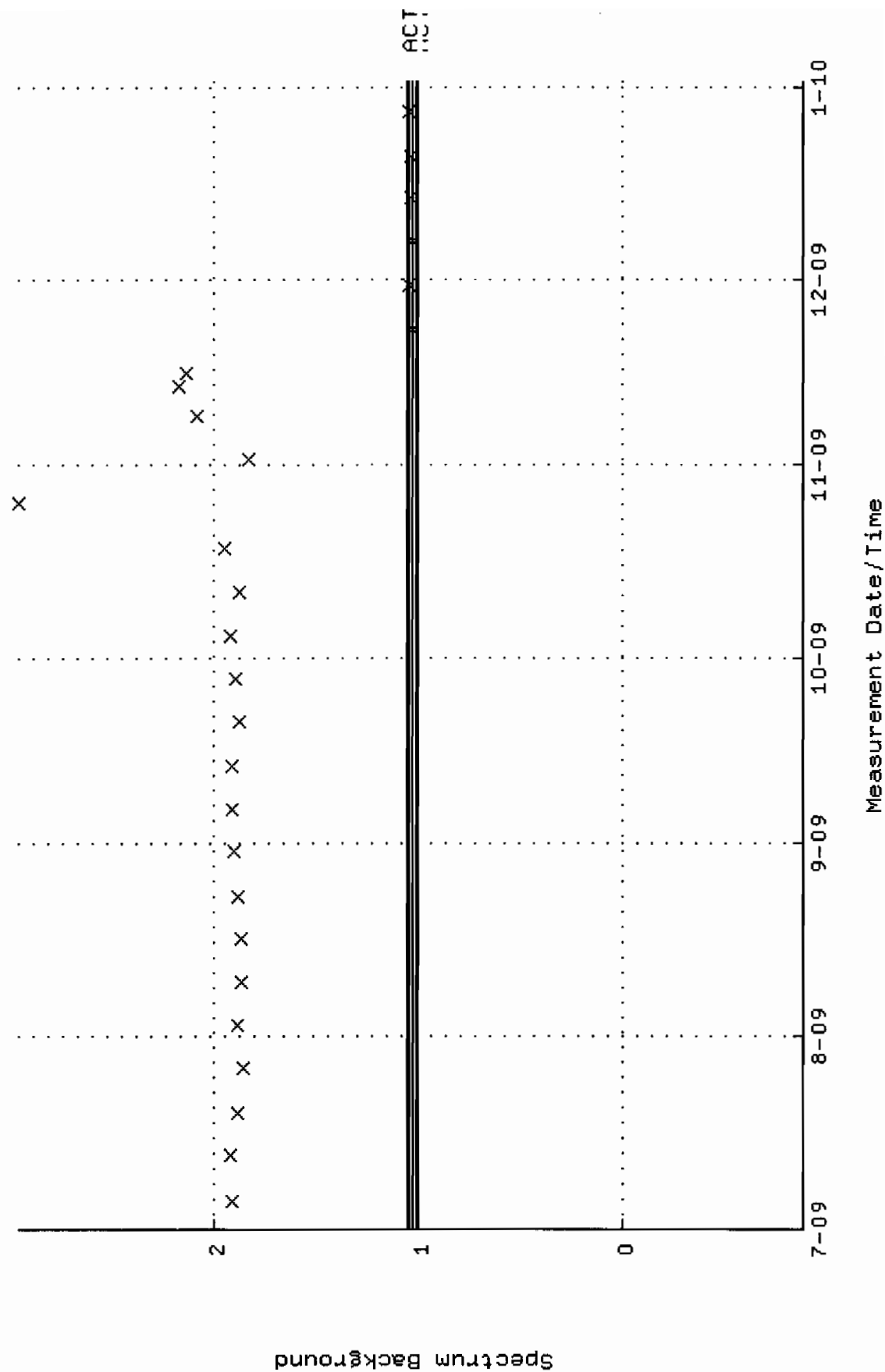
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM21-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:49:13 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



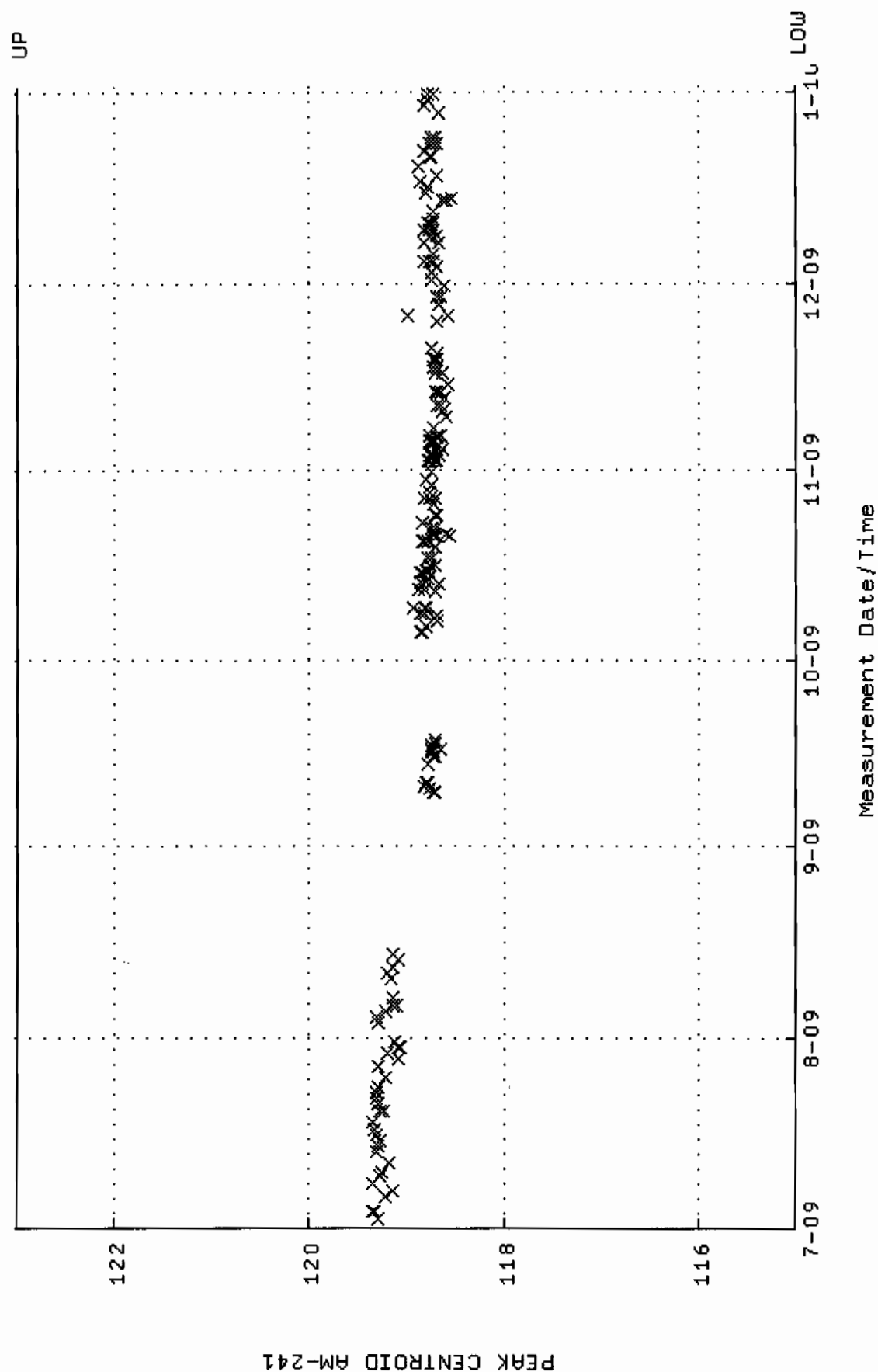
```

QA filename      : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM21.QAF;1
Parameter Name   : BACKRATE (Spectrum Background Rate)
Start/End Dates  : 5-JUL-2009 13:54:04 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.03312 +- 8.784250E-03 (0.85 %)

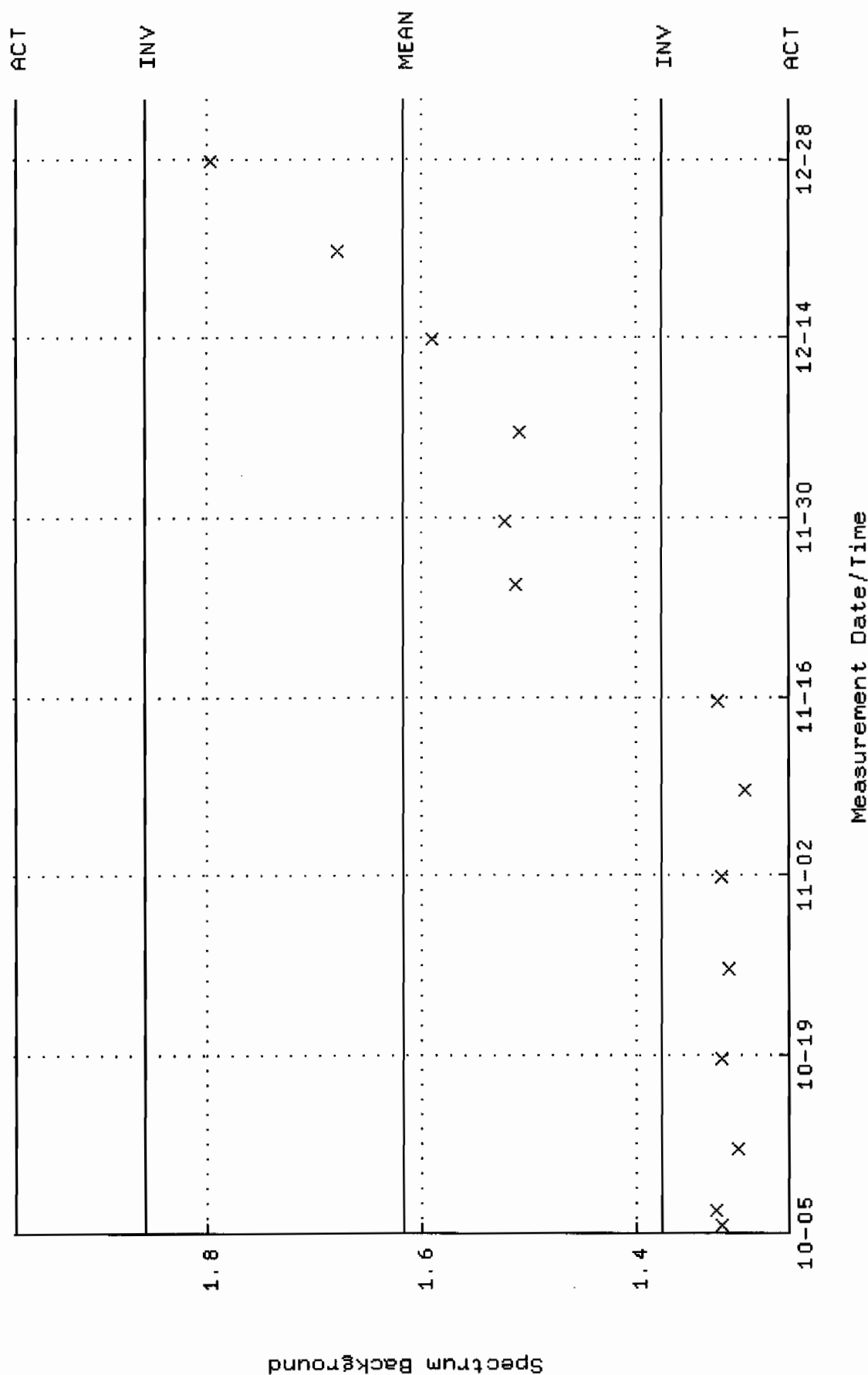
```



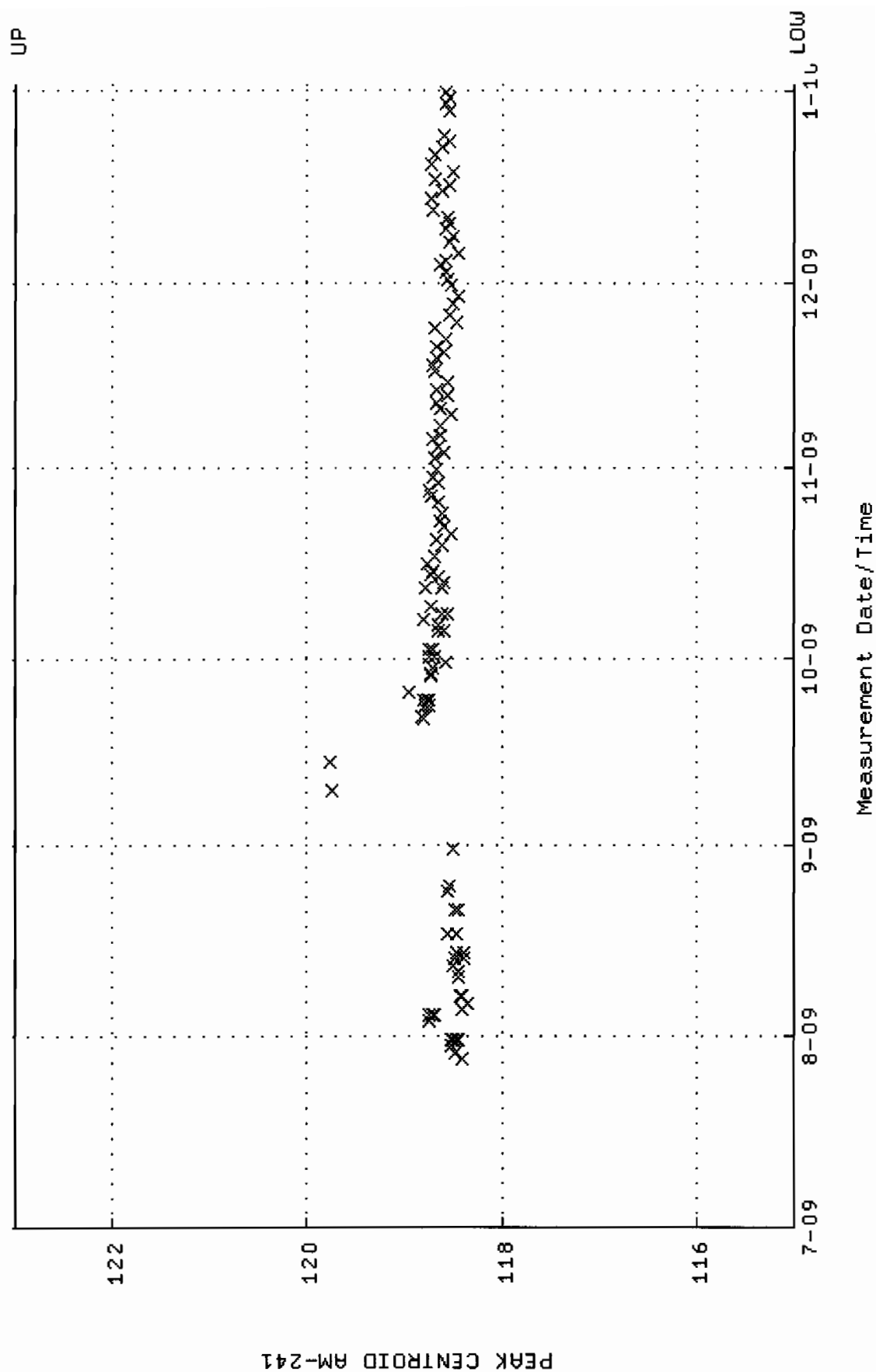
QA filename : DKA100:[CANSBERRA.GAMMA.SCUSR.QA]QCC-GAM23-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



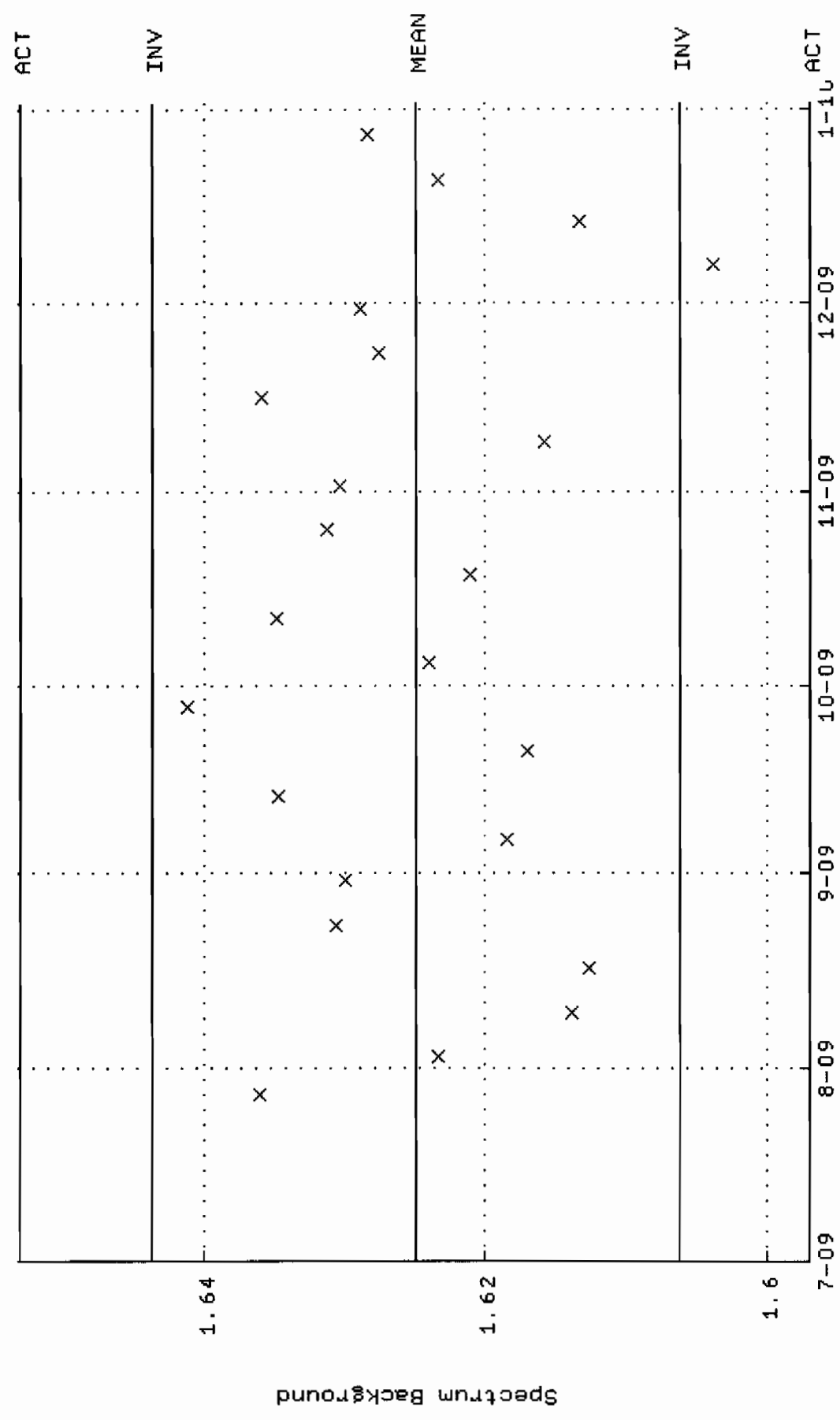
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM25_2LMB.QAF;1
 Parameter Name : PSCENTRD-59 (PEAK CENTROID AM-241)
 Start/End Dates : 28-JUL-2009 10:32:53 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM25.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 27-JUL-2009 17:25:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.62502 +- 9.370414E-03 (0.58 %)



STANDARDS DATA

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. Analyticals 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:

W.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/28/06
RC-S-045-073-a

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	Weighting	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		A Solution Material Info	
Parent Code:	1032	Isotope:	Mixed Gamma
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL	Prep Date:	11/30/2006
Reference Date:	10/01/2006	Verification Date:	12/02/2009
Ampoule Mass (g):	5.31725 g	Expiration Date:	12/02/2010
Uncertainty:	+/- 2.81 %	Primary Code:	1032-A
LogBook No:	RC-S-045-073	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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

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. Int. 1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67 Pass
Stdev = 64.065 Rule 3 (Pass/Fail)

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.5666667
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 - Ver. Jar. 1
Mixed Gamma N1	854.2	pCi/L
Mixed Gamma N2	907.6	pCi/L
Mixed Gamma N3	898.9	pCi/L

Mean Value (Counting) =
Stdev =

886.90
28.651
95.01
Rule 3 (Pass/Fail)

Certificate Value =
Lower Limit =
Upper Limit =
Rule 1 (Pass/Fail)
Two sigma =
10 % of Mean =
Rule 2 (Pass/Fail)

933.44144
829.597644
944.202356
Pass
57.30235597
88.69000000
Pass

Handwritten:
12/2/09
12/2/09
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 - Tab-5
Mixed Gamma N1	1572	pCi/L - Ver - Tab-2
Mixed Gamma N2	1495	pCi/L - Ver - Tab-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

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.

U.S. Stamp issued 12/2/09

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 4/11/2000 *fit c hell 12/1/04*

angela d. johnson 12/3/04

TRM

Invoice:

5 boxes of TRM-1
 10 " " TRM-2 and 3
 5 " each of NRM-1 through 6
 7 " baghouse dirt

Use 1/4 gm x 10 samples WITH Together
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	425 ± 14	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

9911627-01-20

Attention Nancy Slater At GEL
Not for Log-In

SF 2001-COC (10-97)
Supersedes (5-97) Issue

Internal Lab
Batch No.

SARWR No. N/A

ANALYSIS REQUEST AND CHAIN OF CUSTODY
Press F1 for Instructions for each field.

Page 1 of 1
AR/COC- 602945

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		Date Shipped: 11-15-99 Carrier/Vendor No: 226194 Lab Contact: EDIE KENT Lab Destination: GEL 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: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154	
Location		Tech Area VI		Reference LOV (available at SMO)	
Building N/A	Room N/A	ER Sample ID or Sample Location Detail		Sample Type	
Sample No. - Fraction				Method	Preservative
050484 - 001	PEM-1	N/A	N/A	11/15/99 1100 S	P 1L 4C G SA
050486 - 001	TRM-2	N/A	N/A	11/15/99 1100 S	G 1L 4C G SA
050488 - 001	NRM-2 N3HD	N/A	N/A	11/15/99 1100 S	G 1L 4C 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		Special Instructions/QC Requirements	
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Signature: [Signature]		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 with characterization and materials being sent to GEL over before as Hank Hinton	
Sample Team		Name Douglas E. Perry		Please list as separate report.	
Members		Douglas E. Perry		Abnormal Conditions on Receipt Lab Use	
1. Relinquished by [Signature]		Date 11-16-99 Time 0900		Date	
1. Received by [Signature]		Date		Date	
2. Relinquished by		Date		Date	
2. Received by		Date		Date	
3. Relinquished by		Date		Date	
3. Received by		Date		Date	

Original To Accompany Samples, Laboratory Copy (White) 1st Copy To Accompany Samples, Return to SMO (Blue) 2nd Copy SMO Suspense Copy (Yellow) 3rd Copy Field Copy (Pink)

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Lehn 4/30/04
 Lott & Shale 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.

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

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



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
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www.analytiscinc.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: WMS
W. Mao, Radiochemist

QA Approved: DM Montgomery
D. M. Montgomery, QA Manager

Date: 12-11-08

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1283
Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3
Reference Date:	12/09/2008
Ampoule Mass (g):	5.20453 g
Uncertainty:	+/- 5 %
LogBook No:	RC-S-051-002

A Solution Material Info	
Isotope:	Uranium-232
Prepared By:	Daniel Roy
Prep Date:	12/16/2008
Verification Date:	12/30/2008
Expiration Date:	12/30/2009
Primary Code:	1283-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.0245 g
Density(g/mL):	1.0285
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

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

1374



National Institute of Standards & Technology Certificate

Standard Reference Material 4334H Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterwiesing, 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
21/04

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 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, $u_c(y)/y$, (%) [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 $u_c(y)/y \equiv |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u_c(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.
- [q] $|\partial y / \partial x_i| \cdot (x_i / y) = |\lambda \cdot t|$
- [r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.
- [s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$. 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	
Parent Code:	1374
Prepared By:	Mary Aders
Carrier Conc:	0.5M HNO3
Reference Date:	06/07/1994
Ampoule Mass (g):	5.5 g
Uncertainty:	+/- .72 %
LogBook No:	RC-S-051-093

A Solution Material Info	
Isotope:	Phutonium-242
Prepared By:	Ashley Drochter
Prep Date:	12/02/2009
Verification Date:	12/08/2009
Expiration Date:	12/08/2010
Primary Code:	1374-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3616 g
Density(g/mL):	1.0136
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL/dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8553 \text{ dpm/mL}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0136 \text{ g/mL}) / (250 \text{ mL}) = 33.4010 \text{ dpm/g}$

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: Jut c cell
12/8/09
12/9/09
12/9/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 935341

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243273001	SAMPLE	MXR1	GAM15	30-DEC-09 22:47	DONE	CAN	16-FEB-09 00:00
243274001	SAMPLE	MXR1	GAM17	30-DEC-09 22:47	DONE	CAN	27-JAN-09 00:00
243274002	SAMPLE	MXR1	GAM12	30-DEC-09 22:52	DONE	CAN	10-FEB-09 00:00
243274003	SAMPLE	MXR1	GAM01	30-DEC-09 23:06	DONE	CAN	30-JAN-09 00:00
243274004	SAMPLE	MXR1	GAM25	30-DEC-09 23:06	DONE	CAN	07-OCT-09 00:00
243274005	SAMPLE	MXR1	GAM13	31-DEC-09 14:35	DONE	CAN	02-FEB-09 00:00
243274006	SAMPLE	MXR1	GAM17	31-DEC-09 14:35	DONE	CAN	27-JAN-09 00:00
243274007	SAMPLE	MXR1	GAM18	31-DEC-09 14:35	DONE	CAN	23-APR-09 00:00
243274008	SAMPLE	MXR1	GAM20	31-DEC-09 14:36	DONE	CAN	26-AUG-09 00:00
243274009	SAMPLE	MXR1	GAM21	31-DEC-09 14:36	DONE	CAN	28-JUL-09 00:00
243274010	SAMPLE	MXR1	GAM23	31-DEC-09 14:37	DONE	CAN	02-JUN-09 00:00
1202001375	MB	MXR1	GAM15	31-DEC-09 14:42	DONE	CAN	16-FEB-09 00:00
1202001376	DUP	MXR1	GAM05	31-DEC-09 15:32	DONE	CAN	11-JUN-09 00:00
1202001377	LCS	MXR1	GAM07	31-DEC-09 15:32	DONE	CAN	20-JUL-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 935836

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202002408	MB	KXM4	1072	30-DEC-09 10:44	DONE		
1202002409	DUP	KXM4	1073	30-DEC-09 10:44	DONE		
1202002410	LCS	KXM4	1074	30-DEC-09 10:44	DONE		
243273001	SAMPLE	KXM4	1083	30-DEC-09 10:44	DONE		
243274001	SAMPLE	KXM4	1084	30-DEC-09 10:44	DONE		
243274002	SAMPLE	KXM4	1085	30-DEC-09 10:44	DONE		
243274003	SAMPLE	KXM4	1086	30-DEC-09 10:44	DONE		
243274004	SAMPLE	KXM4	1087	30-DEC-09 10:44	DONE		
243274005	SAMPLE	KXM4	1088	30-DEC-09 10:44	DONE		
243274006	SAMPLE	KXM4	1089	30-DEC-09 10:44	DONE		
243274007	SAMPLE	KXM4	1090	30-DEC-09 10:44	DONE		
243274008	SAMPLE	KXM4	1091	30-DEC-09 10:44	DONE		
243274009	SAMPLE	KXM4	1092	30-DEC-09 10:44	DONE		
243274010	SAMPLE	KXM4	1093	30-DEC-09 10:44	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 935838

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243274008	SAMPLE	KXM4	1107	29-DEC-09 11:04	DONE		
243274009	SAMPLE	KXM4	1108	29-DEC-09 11:04	DONE		
243274010	SAMPLE	KXM4	1109	29-DEC-09 11:04	DONE		
1202002411	MB	KXM4	1110	29-DEC-09 11:04	DONE		
1202002412	DUP	KXM4	1111	29-DEC-09 11:04	DONE		
1202002413	LCS	KXM4	1112	29-DEC-09 11:04	DONE		
243273001	SAMPLE	KXM4	1220	29-DEC-09 15:35	DONE		
243274001	SAMPLE	KXM4	1221	29-DEC-09 15:35	DONE		
243274002	SAMPLE	KXM4	1222	29-DEC-09 15:36	DONE		
243274003	SAMPLE	KXM4	1225	29-DEC-09 15:36	DONE		
243274004	SAMPLE	KXM4	1226	29-DEC-09 15:36	DONE		
243274005	SAMPLE	KXM4	1227	29-DEC-09 15:36	DONE		
243274006	SAMPLE	KXM4	1228	29-DEC-09 15:36	DONE		
243274007	SAMPLE	KXM4	1229	29-DEC-09 15:36	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 938206

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202007529	DUP	KXM4	1021	07-JAN-10 09:01	DONE		
1202007530	LCS	KXM4	1022	07-JAN-10 09:01	DONE		
1202007528	MB	KXM4	1125	07-JAN-10 09:01	DUSE		
243273001	SAMPLE	KXM4	1137	07-JAN-10 17:57	DONE		
243274001	SAMPLE	KXM4	1138	07-JAN-10 17:57	DONE		
243274002	SAMPLE	KXM4	1139	07-JAN-10 17:57	DONE		
243274003	SAMPLE	KXM4	1140	07-JAN-10 17:57	DONE		
243274004	SAMPLE	KXM4	1141	07-JAN-10 17:58	DONE		
243274005	SAMPLE	KXM4	1142	07-JAN-10 17:58	DONE		
243274006	SAMPLE	KXM4	1143	07-JAN-10 17:58	DONE		
243274007	SAMPLE	KXM4	1144	07-JAN-10 17:58	DONE		
243274008	SAMPLE	KXM4	1145	07-JAN-10 17:58	DONE		
243274009	SAMPLE	KXM4	1146	07-JAN-10 17:58	DONE		
243274010	SAMPLE	KXM4	1147	07-JAN-10 17:58	DONE		
1202007528	MB	KXM4	1123	08-JAN-10 12:40	DONE		