

Thursday, January 14, 2010

# 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: 10-1264  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

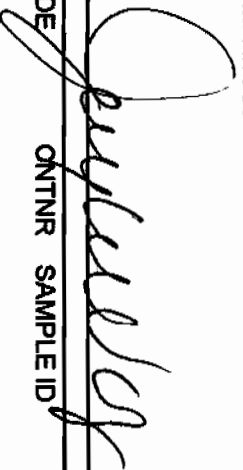
Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 1/14/2010  
TURNAROUND/REPORT DUE: 2/13/2010  
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background  
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	QNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1						
1		1	RE12-10-8094	R	1/11/2010	
1		1	RE12-10-8095	R	1/11/2010	
1		1	RE12-10-8096	R	1/11/2010	
1		1	RE12-10-8097	R	1/11/2010	
HASL-300:AM-241						
1		1	RE12-10-8094	R	1/11/2010	
1		1	RE12-10-8095	R	1/11/2010	
1		1	RE12-10-8096	R	1/11/2010	
1		1	RE12-10-8097	R	1/11/2010	
HASL-300:ISOPU						
1		1	RE12-10-8094	R	1/11/2010	

Thursday, January 14, 2010

REQUEST NUMBER: 10-1264

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
	SW-846:6020	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
	SW-846:6850	1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8098	W	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
	SW-846:7470A	1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8098	W	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
	SW-846:7471A	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
	SW-846:8082	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
	SW-846:8321A_MOD	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	

Thursday, January 14, 2010

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REQUEST NUMBER: 10-1264

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
SW-846:8321A_MOD	1	1	RE12-10-8096	R	1/11/2010	
			RE12-10-8097	R	1/11/2010	
			RE12-10-8094	R	1/11/2010	
SW-846:9012A	1	1	RE12-10-8095	R	1/11/2010	
			RE12-10-8096	R	1/11/2010	
			RE12-10-8097	R	1/11/2010	
			RE12-10-8098	W	1/11/2010	

Final Page of REQUEST NUMBER 10-1264

Thursday, January 14, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1264

LOS ALAMOS

REQUEST NUMBER: 10-1264

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/13/2010

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
RE12-10-8098	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-8098	1	POLY	SW-846:6850	Ice	W
RE12-10-8098	1	POLY	TCN	Sodium Hydroxide	W
RE12-10-8096	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8096	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8096	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8094	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8094	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8094	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8097	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8097	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8097	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8095	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8095	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8095	1	POLY	Met+U+CLO4+CN	Ice	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:

Date

Time

Remarks:

Printed Name

Signature



## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2500

EVENT NAME: 4th Qtr. FY09 - SWMU 12-002 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-8094

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/11/2010		MEDIA:	QBT3		OK
TIME COLLECTED (HH:MM)		11:08		SUB-MEDIA:	TUFF 1		
PRS ID:	12-002	OK		SAMPLE TECH CODE:	HA		
LOCATION ID:	12-610787			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	1.9m	0.4 ft	SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.8 ft		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R			EXCAVATED: YES/NO/NA	NO/NA		
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA	NO/NA			BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS 500	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None		
1		Met+U+CLO4+C N	1 L POLY 1.6 12m 1/11/10	Ice		
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None		

## SAMPLE DESC:

Light brown dry decomposed tuff

## SAMPLE COMMENTS:

Location in middle of road, asphalt 0-0.7 ft

LOCATION DESC: la-32

## FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 33 dpm  
Beta/Gamma = 2320 dpm

PID  $\frac{\text{Ambient Reading}}{0} = 0$  ppm

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

J. Marin

RELINQUISHED BY (Printed Name) <u>Riley Wos</u> (Signature) <u>[Signature]</u>	Date/Time 1/11/10 14:30	RECEIVED BY (Printed Name) (Signature) <u>[Signature]</u>	Date/Time 1/11/10 14:30
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2500

EVENT NAME: 4th Qtr. FY09 - SWMU 12-002 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-8095

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/11/2010		MEDIA:	QBT3		OK
TIME COLLECTED (HH:MM)		11:30		SUB-MEDIA:	TUFF 1		
PRS ID:	12-002	OK		SAMPLE TECH CODE:	HA		
LOCATION ID:	12-610787			FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	0	2.0 ft		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	3.3 ft		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R			EXCAVATED: YES (NO) NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES (NO) NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS 500 ppm 4/1/10	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None		
1		Met+U+CLO4+C N	100L POLY 1 L ppm 4/1/10	Ice		
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None		

SAMPLE DESC:

Light brown, dry, decomposed tuff

SAMPLE COMMENTS:

LOCATION DESC:

1a-32

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 33 dpm

Beta/Gamma = 2.70 dpm


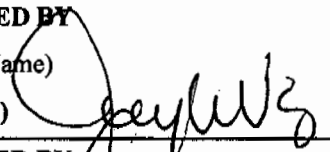
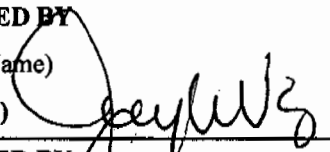
PID  $\frac{\text{Ambient}}{\text{Reading}} = \frac{0}{0}$  ppm

COLLECTED BY (PRINT)

L. Lopez

REVIEWED BY (PRINT)

J. Marin

RELINQUISHED BY (Printed Name) Riley Evans (Signature) 	Date/Time 1/11/10 14:30	RECEIVED BY (Printed Name)  (Signature) 	Date/Time 1/11/10 1430
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2500

EVENT NAME: 4th Qtr. FY09 - SWMU 12-002 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-8096

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/11/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		11:05		SUB-MEDIA:		TUFF 1	
PRS ID: 12-002		12-001a-99		SAMPLE TECH CODE:		HA	
LOCATION ID: UNK		12-610680		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		OK		FIELD PREP:		NA	
TOP DEPTH: 0		OK		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		0.5		SCREEN/PORT DESC:			
FIELD MATRIX: R		S		EXCAVATED: YES/NO		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO		NA	
BOREHOLE: YES/NO NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		Met+U+CLO4+C N	1 GAL POLY	Ice	Yes	
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: Medium brown moist soil, few roots

SAMPLE COMMENTS:

N/A

LOCATION DESC:

1a26

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 5$  dpm

PID

 $\text{BY} \leq 2280$  dpmambient  $\frac{0}{0}$  PPM  
reading  $\frac{0}{0}$ 

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

RELINQUISHED BY (Printed Name) R. Saunders (Signature) R. Saunders	Date/Time 1/11/10 1430	RECEIVED BY (Printed Name) (Signature)	Date/Time 1/11/10 1430
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2500

EVENT NAME: 4th Qtr. FY09 - SWMU 12-002 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-8097

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/11/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		11:12		SUB-MEDIA:		TUFF 1	
PRS ID: 12-002		12-001a-99		SAMPLE TECH CODE:		HA	
LOCATION ID: UNK		12-610680		FIELD QC TYPE:		FD	
LOCATION TYPE: GENERIC		OK		FIELD PREP:		NA	
TOP DEPTH: 0		1.0 ft		SAMPLE USAGE:		QC	
BOTTOM DEPTH: 0		2.0 ft		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		S		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA	
BOREHOLE: YES/NO/NA		NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes 01-11-10	
1		Met+U+CLO4+C N	1 GAL POLY	Ice	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: QC Sample of Medium brown sandy soil, moist, few rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

1a 26

FIELD SCREENING/MEASUREMENT RESULTS:

 $\alpha \leq 55$  dpm

PID

BY  $\leq 2430$  dpmambient  
reading 0.0 ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

Dan Byers

RELINQUISHED BY (Printed Name) R Saunders (Signature) R Saunders	Date/Time 1/11/10 1430	RECEIVED BY (Printed Name) [Signature] (Signature) [Signature]	Date/Time 1/11/10 1430
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2500

EVENT NAME: 4th Qtr. FY09 - SWMU 12-002 of CU 12-001(a)-99 - Threemile Cyn.

SAMPLE ID: RE12-10-8098

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/10/2010	MEDIA:	NA		OK	
TIME COLLECTED (HH:MM)		11:12	SUB-MEDIA:	OTHER			
PRS ID:	12-002	12-001a-99	SAMPLE TECH CODE:	DC			
LOCATION ID:	UNK	12-610680	FIELD QC TYPE:	ER			
LOCATION TYPE:	GENERIC		FIELD PREP:	UF			
TOP DEPTH:	0		SAMPLE USAGE:	QC			
BOTTOM DEPTH:	0		SCREEN/PORT DESC:				
FIELD MATRIX:	W		EXCAVATED: YES/NO/NA	NO			
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA	NO
BOREHOLE: YES/NO/NA	NO		BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION:	NA

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

SAMPLE DESC: QC Sample of RE12-10-8097

SAMPLE COMMENTS: NA

LOCATION DESC: 1a-26

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

Dan Byers

RELINQUISHED BY (Printed Name) Riley Evans (Signature)	Date/Time 1/11/10 14:30	RECEIVED BY (Printed Name) (Signature)	Date/Time 1/11/10 1430
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## Rad Screening Data Release Form

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

RE12-10-7272

7273

7274

7854

7855

7281

8094

8095

RE12-10-7856

7857

8096

8097

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):

RE12-10-7271 Field Rinse

RE12-10-8098 " "

Reason:

.....

Print Last Name MARIN Signature Jan R. Marin Date 1/11/10



2609 North River Road, Port Allen, Louisiana 70767  
1 (800) 401-4277 FAX (225) 581-2996

ARS Sample Delivery Group: ARS1-10-00044  
Analysis Description: Gross Alpha/Beta in (Soil, Sludge, Waste, Sediment [SO])  
Analysis Test Method:  
Request or PO Number:  
Date Received: 1/12/2010  
Report Date: 01/13/10 17:57

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Trace/Chem Recovery	Sample Matrix
ARS1-10-00044-001	RE12-10-7272	GROSS ALPHA	7.324	8.994	12.781	3.695		PC/g	1/13/2010	CR		SO
ARS1-10-00044-001	RE12-10-7272	GROSS BETA	24.960	9.476	7.840	3.382		PC/g	1/13/2010	CR		SO
ARS1-10-00044-002	RE12-10-7273	GROSS ALPHA	-0.747	4.281	13.555	3.962		PC/g	1/13/2010	CR		SO
ARS1-10-00044-002	RE12-10-7273	GROSS BETA	20.852	9.400	10.601	4.746		PC/g	1/13/2010	CR		SO
ARS1-10-00044-003	RE12-10-7274	GROSS ALPHA	5.946	9.276	15.184	4.812		PC/g	1/13/2010	CR		SO
ARS1-10-00044-003	RE12-10-7274	GROSS BETA	35.211	11.781	7.708	3.310		PC/g	1/13/2010	CR		SO
ARS1-10-00044-004	RE12-10-7854	GROSS ALPHA	14.420	12.028	13.362	4.038		PC/g	1/13/2010	CR		SO
ARS1-10-00044-004	RE12-10-7854	GROSS BETA	23.381	9.179	7.641	3.274		PC/g	1/13/2010	CR		SO
ARS1-10-00044-005	RE12-10-7855	GROSS ALPHA	11.135	12.861	19.661	7.099		PC/g	1/13/2010	CR		SO
ARS1-10-00044-005	RE12-10-7855	GROSS BETA	32.484	11.324	8.220	3.566		PC/g	1/13/2010	CR		SO
ARS1-10-00044-006	RE12-10-7281	GROSS ALPHA	7.379	9.635	15.016	4.855		PC/g	1/13/2010	CR		SO
ARS1-10-00044-006	RE12-10-7281	GROSS BETA	26.206	9.694	7.691	3.315		PC/g	1/13/2010	CR		SO
ARS1-10-00044-007	RE12-10-8094	GROSS ALPHA	5.877	9.060	15.214	4.865		PC/g	1/13/2010	CR		SO
ARS1-10-00044-007	RE12-10-8094	GROSS BETA	27.356	10.025	7.905	3.413		PC/g	1/13/2010	CR		SO
ARS1-10-00044-008	RE12-10-8095	GROSS ALPHA	12.001	11.500	14.798	4.689		PC/g	1/13/2010	CR		SO
ARS1-10-00044-008	RE12-10-8095	GROSS BETA	23.743	9.328	8.104	3.515		PC/g	1/13/2010	CR		SO
ARS1-10-00044-009	RE12-10-7856	GROSS ALPHA	1.764	6.652	13.665	4.289		PC/g	1/13/2010	CR		SO
ARS1-10-00044-009	RE12-10-7856	GROSS BETA	31.222	10.713	7.415	3.178		PC/g	1/13/2010	CR		SO
ARS1-10-00044-010	RE12-10-7857	GROSS ALPHA	7.819	9.885	14.648	4.627		PC/g	1/13/2010	CR		SO
ARS1-10-00044-010	RE12-10-7857	GROSS BETA	33.430	11.500	8.194	3.551		PC/g	1/13/2010	CR		SO
ARS1-10-00044-011	RE12-10-8096	GROSS ALPHA	0.440	7.280	16.634	5.535		PC/g	1/13/2010	CR		SO
ARS1-10-00044-011	RE12-10-8096	GROSS BETA	38.135	12.367	7.699	3.315		PC/g	1/13/2010	CR		SO
ARS1-10-00044-012	RE12-10-8097	GROSS ALPHA	11.228	11.049	14.038	4.435		PC/g	1/13/2010	CR		SO
ARS1-10-00044-012	RE12-10-8097	GROSS BETA	35.741	11.883	7.611	3.271		PC/g	1/13/2010	CR		SO
NOTES:												

Project Manager Review

**DATA VALIDATION COVER SHEET**

5121-1

**Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1264 VALIDATION DATE: 02/23/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves 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 checked="" 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 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. It should be noted that the parent samples for both the solid and aqueous QC analyses were from other LANL RNs, and the parent sample raw data were not included in the data package. No sample data were qualified as a result.


Reviewed by: Monica Dymerski Level I Date: 02/24/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_


Mr. Peter Steves

DATE: 02/23/10




LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5121-2</b> <b>LC/MS/MS Perchlorate Analytical Data Validation Checklist</b>	<b>Records Use only</b> 

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"/>	1. The Internal Standard (IS) relative retention time has shifted by more than 0.98 to 1.02 seconds.	R, PERC0	J, PERC0
<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, PERC0b	R, PERC0b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The IS are count is <25% of the expected value.	UJ, PERC1a	J, PERC1a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The IS area count is <70% but >25% of the average of that obtained from the calibration standards.	UJ, PERC1b	J, PERC1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. The IS area count is >130% of the average of that obtained from the calibration standards.	UJ, PERC1c	J, PERC1c
<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, PERC1d	R, PERC1d
<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, PERC4	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+, PERC4a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, PERC4d	N/A
<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, PERC4e	R, PERC4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, PERC7	J, PERC7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.99.	UJ, R, PERC7a	J, PERC7a

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST	
5121-2	Records Use only
<b>LC/MS/MS Perchlorate Analytical Data Validation Checklist</b> 	

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"/>	13. The ICV and/or CCV were recovered outside the method limits.	UJ, R, PERC7c	J, PERC7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, PERC7d	J, PERC7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, PERC7f	R, PERC7f
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16. The affected analyte is considered not detected because ion abundance ratios did not meet specifications.	N/A	R, PERC8
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. The ion ratio documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	N/A	R, PERC8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ PERC9	J-, PERC9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The holding time was > 2 times the applicable holding time requirement.	R, PERC9a	J-, PERC9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, PERC12	J-, PERC12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, PERC12a	J-, PERC12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, PERC12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC12c	R, PERC12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The MS/MSD percent recovery was <10%	R, PERC12d	R, PERC12d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The MS/MSD percent recovery was >10% but <75%	UJ, PERC12e	J, PERC12e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The MS/MSD percent recovery was >125%.	N/A	J+, PERC12f

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5121-2</b>  <b>LC/MS/MS Perchlorate Analytical Data Validation Checklist</b>	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"/>	27. The MS/MSD relative percent difference was >20%.	UJ, PERC12g	J, PERC12g
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	28. The affected analytes are considered suspect because the sample was diluted without any target analytes identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, PERC15	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	29. The sample was diluted because target analytes were > the initial verification calibration.	UJ, PERC15a	J, PERC15a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	30. The Contract Required Detection Limit check standard (CRI) sample did not pass method-acceptance limits.	UJ, R, PERC16	J, PERC16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	31. The Interference Check Sample was not within $\pm 20\%$ of the known value.	UJ, PERC16a	J, PERC16a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, PERC16c	R, PERC16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	33. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, PERC19	J, R, PERC19
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	34. Duplicate, dilution, or reanalysis.	UJ, PERC88	J, PERC88

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 243783  
 Extraction Type: Filter/DAI  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0  
 Client Sample No. RE12-10-8098  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264  
 GEL Sample ID: 244880001  
 Date Filtered: 21-JAN-10  
 Injection Volume (uL): 20  
 %Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:53	per0121034a
	Perchlorate Isotope Ratio						1	21-JAN-10 17:53	per0121034a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:53	per0121034a
	Perchlorate-O(18)			0.490	ug/L		1	21-JAN-10 17:53	per0121034a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X %Solids  
 Aliquot

P.S. 02/23/10

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944712

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE12-10-8096

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881001

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 93.2

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.533	2.13	0.533	ug/kg	U	1	27-JAN-10 21:47	per0127021a
	Perchlorate Isotope Ratio						1	27-JAN-10 21:47	per0127021a
14797-73-0	Perchlorate-101	.533	2.13	0.533	ug/kg	U	1	27-JAN-10 21:47	per0127021a
	Perchlorate-O(18)			5.25	ug/kg		1	27-JAN-10 21:47	per0127021a

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

\*Concentration =

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

P.S. 02/23/10

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 244712  
 Extraction Type: Solid Prep  
 Sample Volume/Weight: 2.00 g  
 Concentrated Extract Volume: 20.0  
 Client Sample No. RE12-10-8094  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264-1  
 GEL Sample ID: 244881002  
 Date Filtered: 27-JAN-10  
 Injection Volume (uL): 20  
 % Solids: 94.4

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.53	2.12	0.530	ug/kg	U	1	27-JAN-10 22:19	per0127025a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:19	per0127025a
14797-73-0	Perchlorate-101	.53	2.12	0.530	ug/kg	U	1	27-JAN-10 22:19	per0127025a
	Perchlorate-O(18)			5.43	ug/kg		1	27-JAN-10 22:19	per0127025a

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

\*Concentration =  
 Instrument Value X Concentrated Extract Volume X 1  
 Aliquot %Solids

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244719

Extraction Type: Solid Prep

Client Sample No.

RE12-10-8097

Date Received: 15-JAN-10

GEL Job No (SDC): 10-1264-1

GEL Sample ID: 244881003

Date Filtered: 27-JAN-10

Injection Volume (mL): 20

%Solids: 92

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>A</sup>	MDL	RL	Conc <sup>*</sup>	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.543	2.17	0.543	ug/kg	U	1	27-JAN-10 22:27	per0127026a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:27	per0127026a
14797-73-0	Perchlorate-101	.543	2.17	0.543	ug/kg	U	1	27-JAN-10 22:27	per0127026a
	Perchlorate-O(18)			5.63	ug/kg		1	27-JAN-10 22:27	per0127026a

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

\*Concentration =

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

P.S. 02/23/10

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 244712  
 Extraction Type: Solid Prep  
 Sample Volume/Weight: 2.00 g  
 Concentrated Extract Volume: 20.0  
 Client Sample No. RE12-10-8095  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264-1  
 GEL Sample ID: 244881004  
 Date Filtered: 27-JAN-10  
 Injection Volume (uL): 20  
 %Solids: 90


CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.558	2.23	0.558	ug/kg	U	1	27-JAN-10 22:35	per0127027a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:35	per0127027a
14797-73-0	Perchlorate-101	.558	2.23	0.558	ug/kg	U	1	27-JAN-10 22:35	per0127027a
	Perchlorate-O(18)			5.95	ug/kg		1	27-JAN-10 22:35	per0127027a

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

\*Concentration =  
 Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

P.S. 02/23/10



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

**Section I.**

REQUEST NUMBER: 10-1264      VALIDATION DATE: 02/23/10      LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves      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
<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 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 were >20% with a positive bias for RDX and 2,4,6-trinitrotoluene. The associated sample results were NDs and, thus, were not qualified.
2. The MS/MSD %Rs were > the laboratory UAL for TATB. The associated sample results were NDs and, thus, were not qualified. The MS/MSD RPD was > the laboratory control limit for TATB. The associated sample results were NDs and, thus, were qualified UJ,HE12g. It should be noted that the parent sample for the QC analyses was from another LANL RN, and the parent sample raw data were not included in the data package. No sample data were qualified as a result.
3. It should be noted that the raw ICAL data from the instrument used for the secondary HE analysis were not reported in the data package. Thus, the surrogate RT criteria could not be evaluated. No sample data were qualified as a result.

**Reviewed by:** Monica Dymerski      **Level I**      **Date:** 02/24/10


VALIDATOR'S SIGNATURE: \_\_\_\_\_

*Mr. Peter Steves*


DATE: 02/23/10

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


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

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5122-2</b>  <b>LC/MS/MS High Explosive Analytical Data Validation Checklist</b>	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 $\leq 5$ 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 $\leq 5$ 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	
<b>5122-2</b>  <b>LC/MS/MS High Explosive Analytical Data Validation Checklist</b>	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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32. The MS/MSD percent recover was >70%.	N/A	J+, HE12f
<input checked="" type="checkbox"/>	<input 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	
<b>5122-2</b>  <b>LC/MS/MS High Explosive Analytical Data Validation Checklist</b>	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"/>	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: RE12-10-8096

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881001

Sample Amount 2

Molsture: 6.1

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131028a

Date Analyzed: 01-FEB-10 01:52

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: RE12-10-8096

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881001

Sample Amount 2

Moisture: 6.1

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250032.wiff

Date Analyzed: 25-JAN-10 18:39

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	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: RE12-10-8094

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881002

Sample Amount 2

Moisture: 5.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131029a

Date Analyzed: 01-FEB-10 02:21

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: RE12-10-8094

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881002

Sample Amount 2

Moisture: 5.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250033.wiff

Date Analyzed: 25-JAN-10 18:55

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

\*Concentration =

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

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8097

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881003

Sample Amount 2

Moisture: 8.0

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131030a

Date Analyzed: 01-FEB-10 02:51

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: RE12-10-8097

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881003

Sample Amount 2

Moisture: 8.0

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250034.wiff

Date Analyzed: 25-JAN-10 19:11

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	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: RE12-10-8095

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881004

Sample Amount 2

Moisture: 10.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131031a

Date Analyzed: 01-FEB-10 03:20

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: RE12-10-8095

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881004

Sample Amount 2

Moisture: 10.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 242334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250035.wiff


Date Analyzed: 25-JAN-10 19:26

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB UJ,HE12g	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

DATA VALIDATION COVER SHEET	
5116-1	Records Use only
Data Validation Cover Sheet	
	

**Section I.**

REQUEST NUMBER: 10-1264 VALIDATION DATE: 02/23/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

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

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

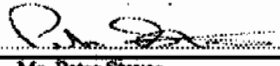
**Section II. Completeness Check**

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

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

None

Reviewed by: Monica Dymerski Level I Date: 02/24/10

VALIDATOR'S SIGNATURE:  DATE: 02/23/10  
Mr. Peter Steves

# **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"/>	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**

Page 1 of 1

SDG Number: 10-1264-1  
Lab Sample ID: 244881002

Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30.02 g  
Column: 1 CLP1  
2 CLP2

Matrix: R  
% Moisture: 5.6  
Project: LANL01004  
SOP Ref: GL-OA-E-040  
Dilution: 10  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW

Client ID: RE12-10-8094  
Batch ID: 943205  
Run Date: 01/20/2010 14:24  
Prep Date: 01/19/2010 20:46  
Data File: 034f3401.d  
034b3401.d

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	35.3	ug/kg	11.8	35.3	1
11104-28-2	Aroclor-1221	U	35.3	ug/kg	11.8	35.3	1
11141-16-5	Aroclor-1232	U	35.3	ug/kg	11.8	35.3	1
53469-21-9	Aroclor-1242	U	35.3	ug/kg	11.8	35.3	1
12672-29-6	Aroclor-1248	U	35.3	ug/kg	11.8	35.3	1
11097-69-1	Aroclor-1254	U	35.3	ug/kg	11.8	35.3	1
11096-82-5	Aroclor-1260	U	35.3	ug/kg	11.8	35.3	1

## PCB

Page 1 of 1

Certificate of Analysis  
Sample SummarySDG Number: 10-1264-1  
Lab Sample ID: 244881004Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30.08 g  
Column: 1 CLP1  
2 CLP2Matrix: R  
% Moisture: 10.5  
Project: LANL01004  
SOP Ref: GL-OA-E-040  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.71	ug/kg	1.24	3.71	1
11104-28-2	Aroclor-1221	U	3.71	ug/kg	1.24	3.71	1
11141-16-5	Aroclor-1232	U	3.71	ug/kg	1.24	3.71	1
53469-21-9	Aroclor-1242	U	3.71	ug/kg	1.24	3.71	1
12672-29-6	Aroclor-1248	U	3.71	ug/kg	1.24	3.71	1
11097-69-1	Aroclor-1254	U	3.71	ug/kg	1.24	3.71	1
11096-82-5	Aroclor-1260	U	3.71	ug/kg	1.24	3.71	1

## PCB

Page 1 of 1

Certificate of Analysis  
Sample SummarySDG Number: 10-1264-1  
Lab Sample ID: 244881001Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.J  
Analyst: JAOC  
Allquot: 30.03 g  
Column: 1 CLP1  
2 CLP2Matrix: R  
%Moisture: 6.1  
Project: LANL01004  
SOP Ref: GL-OA-E-040  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW


CAS No.	Permname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.55	ug/kg	1.18	3.55	1
11104-28-2	Aroclor-1221	U	3.55	ug/kg	1.18	3.55	1
11141-16-5	Aroclor-1232	U	3.55	ug/kg	1.18	3.55	1
53469-21-9	Aroclor-1242	U	3.55	ug/kg	1.18	3.55	1
12672-29-6	Aroclor-1248	U	3.55	ug/kg	1.18	3.55	1
11097-69-1	Aroclor-1254	U	3.55	ug/kg	1.18	3.55	1
11096-82-5	Aroclor-1260	U	3.55	ug/kg	1.18	3.55	1

PCB  
Certificate of Analysis  
Sample Summary

Page 1 of 1

SDG Number: 10-1264-1  
Lab Sample ID: 244881003Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30.03 g  
Column: 1 CLP1  
2 CLP2Matrix: R  
%Moisture: 8  
Project: LANL01004  
SOP Ref: GL-OA-E-040  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.62	ug/kg	1.21	3.62	1
11104-28-2	Aroclor-1221	U	3.62	ug/kg	1.21	3.62	1
11141-16-5	Aroclor-1232	U	3.62	ug/kg	1.21	3.62	1
53469-21-9	Aroclor-1242	U	3.62	ug/kg	1.21	3.62	1
12672-29-6	Aroclor-1248	U	3.62	ug/kg	1.21	3.62	1
11097-69-1	Aroclor-1254	U	3.62	ug/kg	1.21	3.62	1
11096-82-5	Aroclor-1260	U	3.62	ug/kg	1.21	3.62	1

DATA VALIDATION COVER SHEET	
<div style="display: flex; justify-content: space-between;"> <div>5118-1</div> <div style="text-align: center;">Data Validation Cover Sheet</div> </div>	<div style="text-align: center;">Records Use only</div> <div style="text-align: center;">  </div>

Section I.		
REQUEST NUMBER: 10-1240	VALIDATION DATE: 02/23/10	LAB CODE: GEL
CONTRACT LABORATORY NAME: GEL Laboratories LLC		
VALIDATOR: Peter Steves 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"/> TPH-DRO	<input checked="" type="checkbox"/> METALS	<input type="checkbox"/> PCB CONGENERS
<input type="checkbox"/> GENERAL CHEMISTRY	<input type="checkbox"/> RADIOCHEMISTRY	<input type="checkbox"/> LCMSMS HIGH EXPLOSIVES
		<input type="checkbox"/> LCMSMS PERCHLORATES
		<input type="checkbox"/> ORGANOCHLORINE 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. In the solid MB, Sb, Fe, Mg, Mn and Na were detected. The Sb result for sample RE12-10-8095 was a detect  $\leq 5X$  the MB concentration and, thus, was qualified U,I4. The remaining associated Sb sample results were NDs and the Na results for samples -8096 and -8097 were qualified ND and, thus, were not qualified. The Mg result for sample -8096 was a detect  $> 5X$  but  $\leq 50X$  the MB concentration and, thus, was qualified J,I4a. The remaining associated results were detects  $> 50X$  the MB concentration and, thus, were not qualified, based on professional judgment.
2. In the solid ICB/CCBs, Sb, Mg and Na were detected. The Sb result for sample -8095 and the Na results for samples -8096 and -8097 were detects  $\leq 5X$  the greatest associated blank concentration and, thus, were qualified U,I4b. The remaining associated Sb sample results were NDs and, thus, were not qualified. The remaining associated Na sample results and the associated Mg sample results were detects  $> 5X$  the greatest associated blank concentration and, thus, were not qualified.
3. In the FR blank, sample -8098, which was associated with all the soil samples, K was detected. The associated sample results were detects  $> 5X$  the FR blank concentration and, thus, were not qualified.
4. The solid MS %Rs were  $>$  the laboratory UAL for Mg, Mn and K. The associated sample results were detects and, thus, were qualified J+,I6b. The aqueous MS %R was  $<$  the laboratory LAL but  $\geq 10\%$  for Mn. Also, solid MS %Rs were  $>$  the laboratory UAL for Al, Hg and Fe. However, the associated parent sample concentrations were  $> 4X$  the spike concentrations. Thus, the associated sample results were not qualified, based on professional judgment.
5. It should be noted the matrix QC for the for ICP-MS aqueous analyses and for Hg solid analyses were performed on LANL samples from other RNs. No sample data were qualified as a result.

## DATA VALIDATION COVER SHEET

**5118-1**

## Data Validation Cover Sheet

Records Use only



**Reviewed by:** Monica Dymerski      **Level I**      **Date:** 02/24/10

**VALIDATOR'S SIGNATURE:**

**Mr. Peter Steyer**


DATE: 02/23/10

Form 5118-1, Revision 0.0


## LOS ALAMOS

## Environmental Restoration Project




METALS ANALYTICAL DATA VALIDATION CHECKLIST	
5118-2  Metals 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, I9	J-, I9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The instrument performance sample did not pass method acceptance criteria.	R, I16	R, I16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The mass calibration is not within 0.1 amu or %RSD is >5% for any isotope (Be, Mg, Co, In, Pb).	UJ, I16a	J, I16a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Samples were analyzed outside specific method tune time criteria.	N/A	J, I16b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, I16c	R, I16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, I7	J, I7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, I7a	J, I7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. The Initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, I7c	J, I7c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, I7f	R, I7f
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Metals interference check sample percent recover value is <50%.	R, I2	J-, I2

METALS ANALYTICAL DATA VALIDATION CHECKLIST		
5118-2	Records Use only	
Metals Analytical Data Validation Checklist		

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"/>	13. Metals interference check sample percent recovery value is $\geq 50\%$ and $< 80\%$	UJ, I2a	J-, I2a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Metals interference check sample percent recovery value is $> 120\%$ .	N/A	J+, I2b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. Metals interference check sample was not analyzed with the samples.	R, I2c	R, I2c
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. The sample result is $\leq 5X$ the concentration of the related analyte in the method blank.	U, I4	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was $> 5X$ .	N/A	J, I4a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. The sample result is $\leq 5X$ the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The associated matrix spike recovery was $< 10\%$ . Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23. The associated matrix spike recovery was $<$ the LAL but $> 10\%$ . Follow the external laboratory limits located within the associated data package.	UJ, I6a	J+, I6a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. The associated matrix spike recovery was $>$ the UAL. Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b

METALS ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5118-2</b>  <b>Metals Analytical Data Validation Checklist</b>	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"/>	25. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If the LCS information is present, do not Reject. Qualify data based on the LCS information.	R, I6c	R, I6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The sample and the duplicate sample results were $\geq 5X$ the RL and the duplicate RPD was $>20\%$ for water samples and $>35\%$ for soil samples.	UJ, I10a	J, I10a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	UJ, I10d	J, I10d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. The LCS percent recovery was $<10\%$ . Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. The LCS percent recover was $<$ the LAL but $>10\%$ . Follow the external laboratory limits located within the associated data package.	UJ, I12a	J-, I12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The LCS percent recovery was $>$ the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	31. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Do not Reject if MS/MSD information is present. Qualify according to MS/MSD criteria.	R, I12c	R, I12c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The quantitating IS area count is $<10\%$ for metals window in relation to the initial calibration blank. Follow the method-specific windows.	R, I1a	J, I1a

METALS ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5118-2</b>  <b>Metals Analytical Data Validation Checklist</b>	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"/>	33. The IS area count for the quantitating IS is <60% but >10% for metals window in relation to the initial calibration blank. Follow the method-specific windows.	UJ, I1b	J, I1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	34. The IS area count for the quantitating IS is >125% in relation to the metals initial calibration blank. Follow method-specific windows.	UJ, I1c	J, I1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I1d	R, I1d
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	36. Serial dilution sample RPD was >10% and the sample result was >50X the MDL (>100X the MDL for ICPMS). Qualify ONLY the sample used for the serial dilution.	UJ, I18	J, I18
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	37. Serial dilution sample was not analyzed with the samples.	UJ, I18a	J, I18
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	38. The sample result was reported as detected between the IDL and the EDL.	N/A	J, I1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	39. Duplicate, dilution, or reanalysis.	UJ, I88	J, I88
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB, NQ, NQ
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	41. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, I19	J, R, I19

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244880001

BASIS: As Received

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8098

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/28/10 08:26	100127-5	945922
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/25/10 11:48	100125-4	942514
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	01/26/10 17:24	012610-1	942466
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/26/10 17:24	012610-1	942466
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/26/10 17:24	012610-1	942466
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL	01/20/10 10:31	012010W1-6	943087
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-09-7	Potassium	100	ug/L	J	50	150	150	1	P	HSC	01/26/10 17:24	012610-1	942466
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-23-5	Sodium	300	ug/L	U	100	300	300	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	SKJ	01/25/10 12:24	100125-2	942514
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/26/10 17:24	012610-1	942466

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942466	942449	SW846 3005A	50	mL	50	mL	01/19/10	FGA
942514	942490	SW846 3005A	50	mL	50	mL	01/19/10	FGA
943087	943086	SW846 7470A Prep	20	mL	20	mL	01/19/10	TXB3
945922	945920	SW846 3005A	25	mL	25	mL	01/27/10	AXG2

P.S. 2/23/10

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881001

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8096

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 93.9

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2280000	ug/Kg		7070	20800	20800	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-36-0	Antimony	1040	ug/Kg	U	343	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-38-2	Arsenic	0.680	mg/kg	J	0.212	1.06	1.06	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-39-3	Barium	23700	ug/Kg		104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-41-7	Beryllium	0.527	mg/kg		0.0212	0.106	0.106	2	MS	BAJ	02/08/10 08:10	100207-4	942638
7440-43-9	Cadmium	520	ug/Kg	U	104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-70-2	Calcium	761000	ug/Kg		8320	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-47-3	Chromium	5740	ug/Kg		156	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-48-4	Cobalt	893	ug/Kg		156	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-50-8	Copper	2490	ug/Kg		312	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-89-6	Iron	7990000	ug/Kg		8320	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-92-1	Lead	4750	ug/Kg		260	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-95-4	Magnesium J,14a	476000	ug/Kg	N	8840	31200	31200	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-96-5	Manganese J+,16b	203000	ug/Kg	N	208	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-97-6	Mercury	11.3	ug/kg	U	3.84	11.3	11.3	1	AV	JXL1	01/28/10 09:59	012810S1-6	943320
7440-02-0	Nickel	1.97	mg/kg		0.106	0.424	0.424	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-09-7	Potassium J+,16b	462000	ug/Kg	N	6660	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7782-49-2	Selenium	1.06	mg/kg	U	0.529	1.06	1.06	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-22-4	Silver	118	ug/Kg	J	104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-23-5	Sodium U,14b	51400	ug/Kg		7280	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-28-0	Thallium	0.212	mg/kg	U	0.0635	0.212	0.212	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-61-1	Uranium	1.07	mg/kg		0.0141	0.0426	0.0426	2	MS	SKJ	02/09/10 21:55	100209-2	950661
7440-62-2	Vanadium	6110	ug/Kg		104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-66-6	Zinc	35900	ug/Kg		343	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.503	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.512	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.566	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.5	g	50	mL	02/09/10	AXG2

P.S. 2/23/10

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881002

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8094

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 94.4

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	6010000	ug/Kg		7000	20600	20600	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-36-0	Antimony	1030	ug/Kg	U	340	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-38-2	Arsenic	1.12	mg/kg		0.211	1.06	1.06	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-39-3	Barium	74300	ug/Kg		103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-41-7	Beryllium	0.490	mg/kg		0.0211	0.106	0.106	2	MS	BAJ	02/08/10 08:37	100207-4	942638
7440-43-9	Cadmium	514	ug/Kg	U	103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-70-2	Calcium	829000	ug/Kg		8230	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-47-3	Chromium	6970	ug/Kg		154	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-48-4	Cobalt	13400	ug/Kg		154	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-50-8	Copper	7830	ug/Kg		309	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-89-6	Iron	13700000	ug/Kg		8230	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-92-1	Lead	8710	ug/Kg		257	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-95-4	Magnesium	598000	ug/Kg	N	8750	30900	30900	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-96-5	Manganese	418000	ug/Kg	N	206	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-97-6	Mercury	12.3	ug/kg	U	4.17	12.3	12.3	1	AV	JXL	01/28/10 10:01	012810S1-6	943320
7440-02-0	Nickel	5.07	mg/kg		0.106	0.422	0.422	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-09-7	Potassium	613000	ug/Kg	N	6590	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7782-49-2	Selenium	1.06	mg/kg	U	0.528	1.06	1.06	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-22-4	Silver	164	ug/Kg	J	103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-23-5	Sodium	248000	ug/Kg		7200	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-28-0	Thallium	0.105	mg/kg	J	0.0633	0.211	0.211	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-61-1	Uranium	0.692	mg/kg		0.0138	0.0419	0.0419	2	MS	SKJ	02/09/10 21:57	100209-2	950661
7440-62-2	Vanadium	12500	ug/Kg		103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-66-6	Zinc	37900	ug/Kg		340	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.502	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.515	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.519	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.506	g	50	mL	02/09/10	AXG2

P.S. 2/23/10

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881003

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8097

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 92

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2680000	ug/Kg		7050	20700	20700	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-36-0	Antimony	1040	ug/Kg	U	342	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-38-2	Arsenic	0.835	mg/kg	J	0.216	1.08	1.08	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-39-3	Barium	27700	ug/Kg		104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-41-7	Beryllium	0.70	mg/kg		0.0216	0.108	0.108	2	MS	BAJ	02/08/10 08:40	100207-4	942638
7440-43-9	Cadmium	519	ug/Kg	U	104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-70-2	Calcium	805000	ug/Kg		8300	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-47-3	Chromium	8200	ug/Kg		156	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-48-4	Cobalt	950	ug/Kg		156	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-50-8	Copper	3010	ug/Kg		311	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-89-6	Iron	8910000	ug/Kg		8300	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-92-1	Lead	4900	ug/Kg		259	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-95-4	Magnesium J+,16b	486000	ug/Kg	N	8810	31100	31100	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-96-5	Manganese J+,16b	312000	ug/Kg	N	207	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-97-6	Mercury	4.19	ug/kg	J	4.14	12.2	12.2	1	AV	JXL1	01/28/10 10:03	012810S1-6	943320
7440-02-0	Nickel	2.54	mg/kg		0.108	0.432	0.432	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-09-7	Potassium J+,16b	467000	ug/Kg	N	6640	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7782-49-2	Selenium	1.08	mg/kg	U	0.54	1.08	1.08	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-22-4	Silver	121	ug/Kg	J	104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-23-5	Sodium U,14b	54000	ug/Kg		7260	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-28-0	Thallium	0.216	mg/kg	U	0.0648	0.216	0.216	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-61-1	Uranium	1.03	mg/kg		0.0143	0.0434	0.0434	2	MS	SKJ	02/09/10 21:59	100209-2	950661
7440-62-2	Vanadium	6630	ug/Kg		104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-66-6	Zinc	41500	ug/Kg		342	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.503	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.524	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.536	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.501	g	50	mL	02/09/10	AXG2

P.S. 2/23/10



**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881004

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8095

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 90

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	14200000	ug/Kg		7370	21700	21700	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-36-0	Antimony U,14	369	ug/Kg	J	358	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-38-2	Arsenic	2.11	mg/kg		0.219	1.1	1.1	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-39-3	Barium	191000	ug/Kg		108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-41-7	Beryllium	1.06	mg/kg		0.0219	0.11	0.11	2	MS	BAJ	02/08/10 08:44	100207-4	942638
7440-43-9	Cadmium	542	ug/Kg	U	108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-70-2	Calcium	2440000	ug/Kg		8670	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-47-3	Chromium	13500	ug/Kg		163	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-48-4	Cobalt	14200	ug/Kg		163	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-50-8	Copper	11100	ug/Kg		325	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-89-6	Iron	18900000	ug/Kg		8670	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-92-1	Lead	13000	ug/Kg		271	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-95-4	Magnesium J+,16b	2220000	ug/Kg	N	9220	32500	32500	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-96-5	Manganese J+,16b	367000	ug/Kg	N	217	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-97-6	Mercury	18.9	ug/kg		4.33	12.7	12.7	1	AV	JXL1	01/28/10 10:05	012810S1-6	943320
7440-02-0	Nickel	9.28	mg/kg		0.11	0.439	0.439	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-05-7	Potassium J+,16b	1830000	ug/Kg	N	6940	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7782-49-2	Selenium	1.1	mg/kg	U	0.548	1.1	1.1	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-22-4	Silver	542	ug/Kg	U	108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-23-5	Sodium	184000	ug/Kg		7590	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-28-0	Thallium	0.247	mg/kg		0.0658	0.219	0.219	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-61-1	Uranium	1.14	mg/kg		0.0146	0.0443	0.0443	2	MS	SKJ	02/09/10 22:01	100209-2	950661
7440-62-2	Vanadium	27100	ug/Kg		108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-66-6	Zinc	34500	ug/Kg		358	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.509	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.515	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.526	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.504	g	50	mL	02/09/10	AXG2

P.S. 2/23/10

**DATA VALIDATION COVER SHEET****5120-1****Data Validation Cover Sheet**

Records Use only

**Section I.**REQUEST NUMBER: 10-1264 VALIDATION DATE: 02/23/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves 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 checked="" type="checkbox"/> GENERAL CHEMISTRY           | <input type="checkbox"/> RADIOCHEMISTRY  | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS         |
| <input type="checkbox"/> OTHER (DESCRIBE): <u>Total CN only</u> |  |   |  |

**Section II. Completeness Check**

- | YES                                 | NO                       | N/A                                 | (CHECK ONE)                 | YES                                 | NO                       | N/A                                 | (CHECK ONE)              |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 6. RAW/BSS DATA          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2. CASE NARRATIVE           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 3. SAMPLE RESULT FORMS      | <input 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. In the solid ICB, total cyanide was detected. The associated sample results were NDs and, thus, were not qualified.
2. It should be noted that the parent samples for both the solid and aqueous QC analyses were from other LANL RNs. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/24/10


VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves


DATE: 02/23/10

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
<b>5120-2</b>  <b>General Chemistry Analytical Data Validation Checklist</b>	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, I9	J-, I9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, I9b	R, I9b
<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, I7	J, I7
<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, I7a	J, I7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. The ICV and/or CCV were recovered outside the method specific limits.	UJ, I7c	J, I7c
<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, I7d	J, I7d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, I7f	R, I7f
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. The interference check sample percent recovery value is <50%.	R, I2	J-, I2
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. The interference check sample percent recovery value is ≥50% and <80%.	UJ, I2a	J-, I2a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. The interference check sample percent recovery value is >120%.	N/A	J+, I2b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. The interference check sample was not analyzed with the samples.	R, I2c	R, I2c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, I4	N/A

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST		
5120-2  General Chemistry Analytical Data Validation Checklist		Records Use only  

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"/>	14. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, I4a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The associate matrix spike recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The associated matrix spike recovery was below the Lower Acceptance Limit (LAL) but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I6a	J-, I6a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The associated matrix spike recovery was above the Upper Acceptance Limit (UAL). Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not reject. Qualify data based on LCS information.	R, I6c	R, I6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The sample and/or the duplicate sample results RPD is not within the acceptance limits. Follow the external laboratory limits located within the associated data package.	UJ, I10b	J, I10b

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
5120-2  General Chemistry Analytical Data Validation Checklist	Records Use only  

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

## GEL LABORATORIES LLC

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

### Certificate of Analysis

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

Report Date: February 4, 2010

Client SDG: 10-1264

Client Sample ID: RE12-10-8098  
Sample ID: 244880001  
Matrix: W  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "As Received"</i>											
Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	01/22/10	1030	942459	1

#### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/21/10	1600	942458

#### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 2/23/10

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

Report Date: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8096  
Sample ID: 244881001  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 6.13%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	72.4	266	ug/kg	1	AXC2	01/18/10	1607	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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

Report Date: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8094  
Sample ID: 244881002  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 5.64%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	69.3	255	ug/kg	1	AXC2	01/18/10	1608	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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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: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8097  
Sample ID: 244881003  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 7.99%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	68.4	252	ug/kg	1	AXC2	01/18/10	1609	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 2/23/10

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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: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8095  
Sample ID: 244881004  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 10.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	73.0	268	ug/kg	1	AXC2	01/18/10	1610	942457	1
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 2/23/10

## DATA VALIDATION COVER SHEET

5119-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-1264 VALIDATION DATE: 02/23/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Peter Steves 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 | <input type="checkbox"/> 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. All gamma-spec results that were rejected by the laboratory due to interference were qualified R,R5a. In the duplicate sample several results were also rejected by the laboratory. No data were qualified as a result.
2. The alpha spec Am-243 tracer %R for sample RE12-10-8096 was < the laboratory LAL. The associated sample result was an ND and, thus, was not qualified.
3. It should be noted that all associated QC analyses were performed on LANL samples from other RNs. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/24/10

VALIDATOR'S SIGNATURE: \_\_\_\_\_

Mr. Peter Steves


DATE: 02/23/10

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

Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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	
<b>5119-2</b>  <b>Rad Analytical Data Validation Checklist</b>	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"/>	21. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6	R, R6
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6a	J-, R6a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. The associated matrix spike recovery was above the UAL. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6b	J+, R6b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	24. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not Reject. Qualify data based on LCS information. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6c	R, R6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, R19	J, R, R19
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27. Quantification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ

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**Certificate of Analysis**

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

Report Date: January 29, 2010

Client Sample ID:	RE12-10-8096	Project:	LANL01004
Sample ID:	244881001	Client ID:	LANL010
Matrix:	R		
Collect Date:	11-JAN-10		
Receive Date:	15-JAN-10		
Collector:	Client		
Moisture:	6.13%		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00321	0.0427	+/-0.00285	0.050	pCi/g		KXM4	01/26/10	1417	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00524	0.0216	+/-0.00371	0.050	pCi/g		KXM4	01/23/10	1208	942754	3
Plutonium-239/240	U	0.0144	0.0247	+/-0.0044	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.15	0.116	+/-0.105	0.100	pCi/g		KXM4	01/26/10	2026	942756	4
Uranium-235/236		0.0832	0.0719	+/-0.0205	0.100	pCi/g						
Uranium-238		1.43	0.0672	+/-0.125	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0196	0.257	+/-0.0771	0.200	pCi/g		MXR1	01/26/10	1324	942718	5
Bismuth-211	UI	3.06	R,R5a	0.241	+/-0.178	pCi/g						
Bismuth-214		0.881		0.0788	+/-0.0653	0.200	pCi/g					
Cadmium-109	UI	2.79	R,R5a	1.02	+/-0.401	pCi/g						
Cerium-139	U	0.00467		0.038	+/-0.0104	0.050	pCi/g					
Cesium-134	UI	0.0808	R,R5a	0.0597	+/-0.0248	0.100	pCi/g					
Cesium-137		0.244		0.0459	+/-0.0241	0.100	pCi/g					
Cobalt-60	U	-0.0111		0.0435	+/-0.0137	0.100	pCi/g					
Europium-152	U	0.032		0.118	+/-0.0391	0.200	pCi/g					
Lanthanum-140	U	-0.0107		0.0816	+/-0.0297	pCi/g						
Lead-212		1.30		0.0632	+/-0.0604	0.100	pCi/g					
Lead-214		1.06		0.0788	+/-0.0677	0.100	pCi/g					
Mercury-203	U	0.0228		0.0513	+/-0.0163	0.100	pCi/g					
Potassium-40		31.1		0.367	+/-1.34	1.00	pCi/g					
Radium-223	U	-0.00783		0.753	+/-0.255	pCi/g						
Radium-224	UI	2.99	R,R5a	0.719	+/-0.393	pCi/g						
Radium-226		0.881		0.0788	+/-0.0653	pCi/g						
Radium-228		1.27		0.152	+/-0.132	0.500	pCi/g					
Ruthenium-106	U	-0.418		0.336	+/-0.116	0.800	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 29, 2010

Client Sample ID: RE12-10-8096  
Sample ID: 244881001

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>											
GAMMA SPEC "Dry Weight Corrected"											
Sodium-22	U	-0.0129	0.0493	+/-0.0153	0.080	pCi/g					
Strontium-85	UI	0.0843	R,R5a	0.0523	+/-0.0151	pCi/g					
Thallium-208		0.351	0.041	+/-0.0281	0.080	pCi/g					
Thorium-227	U	0.178	0.490	+/-0.138		pCi/g					
Thorium-231	U	-0.00783	0.753	+/-0.255		pCi/g					
Thorium-234		2.03	2.01	+/-0.913	2.00	pCi/g					
Tin-113	U	-0.00774	0.0477	+/-0.0138	0.100	pCi/g					
Uranium-235	U	0.125	0.288	+/-0.0832	0.500	pCi/g					
Yttrium-88	U	0.00897	0.0382	+/-0.011	0.100	pCi/g					

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	47.1 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	92.7	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8094  
Sample ID: 244881002  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 5.64%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000758	0.0219	+/-0.00129	0.050	pCi/g		KXM4	01/26/10	1417	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0204	+/-0.00124	0.050	pCi/g		KXM4	01/23/10	1208	942754	3
Plutonium-239/240	U	0.00123	0.0233	+/-0.00214	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.637	0.101	+/-0.0637	0.100	pCi/g		KXM4	01/26/10	2026	942756	4
Uranium-235/236	U	0.0241	0.0626	+/-0.0115	0.100	pCi/g						
Uranium-238		0.683	0.0585	+/-0.0671	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0153	0.196	+/-0.0574	0.200	pCi/g		MXR1	01/26/10	1320	942718	5
Bismuth-211	UI	2.79	R,R5a	0.278	+/-0.249	pCi/g						
Bismuth-214		0.879		0.0949	+/-0.0775	pCi/g						
Cadmium-109	UI	3.50	R,R5a	0.877	+/-0.454	pCi/g						
Cerium-139	U	-0.017		0.0391	+/-0.0116	pCi/g						
Cesium-134	UI	0.137	R,R5a	0.0755	+/-0.0356	pCi/g						
Cesium-137	U	-0.00896		0.0512	+/-0.0158	pCi/g						
Cobalt-60	U	0.0122		0.0543	+/-0.0159	pCi/g						
Europium-152	U	-0.121		0.111	+/-0.0372	pCi/g						
Lanthanum-140	U	-0.0621		0.102	+/-0.0354	pCi/g						
Lead-212		1.32		0.0777	+/-0.0902	pCi/g						
Lead-214		0.969		0.097	+/-0.0902	pCi/g						
Mercury-203	U	0.0139		0.0547	+/-0.0159	pCi/g						
Potassium-40		32.8		0.425	+/-1.67	pCi/g						
Radium-223	U	-0.307		0.863	+/-0.309	pCi/g						
Radium-224	UI	3.71	R,R5a	0.885	+/-0.488	pCi/g						
Radium-226		0.879		0.0949	+/-0.0775	pCi/g						
Radium-228		1.36		0.168	+/-0.136	pCi/g						
Ruthenium-106	U	-0.0421		0.454	+/-0.137	pCi/g						
Sodium-22	U	0.0104		0.0642	+/-0.0191	pCi/g						

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8094  
Sample ID: 244881002  
Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	U	0.0336	0.0506	+/-0.0153		pCi/g						
Thallium-208		0.443	0.048	+/-0.0397	0.080	pCi/g						
Thorium-227	U	0.0326	0.535	+/-0.157		pCi/g						
Thorium-231	U	-0.307	0.863	+/-0.309		pCi/g						
Thorium-234	U	0.523	1.78	+/-0.507	2.00	pCi/g						
Tin-113	U	0.011	0.0649	+/-0.0182	0.100	pCi/g						
Uranium-235	U	0.0389	0.288	+/-0.0817	0.500	pCi/g						
Yttrium-88	U	0.0107	0.0393	+/-0.0107	0.100	pCi/g						

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	101	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

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

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8097  
Sample ID: 244881003  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 7.99%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00786	0.0235	+/-0.00514	0.050	pCi/g		KXM4	01/26/10	1417	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00429	0.0236	+/-0.00249	0.050	pCi/g		KXM4	01/23/10	1208	942754	3
Plutonium-239/240	U	0.020	0.027	+/-0.00615	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.34	0.120	+/-0.120	0.100	pCi/g		KXM4	01/26/10	2026	942756	4
Uranium-235/236		0.0769	0.0748	+/-0.020	0.100	pCi/g						
Uranium-238		1.57	0.0699	+/-0.136	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0787	0.193	+/-0.0598	0.200	pCi/g		MXR1	01/26/10	1321	942718	5
Bismuth-211	UI	4.86	R,R5a	0.296	+/-0.336	pCi/g						
Bismuth-214		1.20		0.110	+/-0.102	pCi/g						
Cadmium-109	UI	3.63	R,R5a	1.08	+/-0.466	pCi/g						
Cerium-139	U	-0.0202	0.0476	+/-0.0147	0.050	pCi/g						
Cesium-134	UI	0.102	R,R5a	0.0867	+/-0.028	pCi/g						
Cesium-137		0.331	0.0563	+/-0.0439	0.100	pCi/g						
Cobalt-60	U	-0.00931	0.0555	+/-0.0178	0.100	pCi/g						
Europium-152	U	-0.0703	0.153	+/-0.0486	0.200	pCi/g						
Lanthanum-140	U	-0.0348	0.0967	+/-0.0381		pCi/g						
Lead-212		2.02	0.0873	+/-0.122	0.100	pCi/g						
Lead-214		1.69	0.103	+/-0.125	0.100	pCi/g						
Mercury-203	U	0.0438	0.0667	+/-0.0205	0.100	pCi/g						
Potassium-40		34.2	0.531	+/-1.72	1.00	pCi/g						
Radium-223	U	-0.0688	1.04	+/-0.346		pCi/g						
Radium-224	UI	4.89	R,R5a	0.993	+/-0.568	pCi/g						
Radium-226		1.20	0.110	+/-0.102		pCi/g						
Radium-228		1.89	0.202	+/-0.190	0.500	pCi/g						
Ruthenium-106	U	0.217	0.522	+/-0.152	0.800	pCi/g						
Sodium-22	U	-0.0207	0.0642	+/-0.0209	0.080	pCi/g						

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

Report Date: January 29, 2010

Client Sample ID:  
Sample ID:

RE12-10-8097  
244881003

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>											
GAMMA SPEC "Dry Weight Corrected"											
Strontium-85	U	0.0513	0.0588	+/-0.018		pCi/g					
Thallium-208		0.605	0.0539	+/-0.0518	0.080	pCi/g					
Thorium-227	U	-0.0346	0.587	+/-0.169		pCi/g					
Thorium-231	U	-0.0688	1.04	+/-0.346		pCi/g					
Thorium-234		2.09	1.68	+/-0.941	2.00	pCi/g					
Tin-113	U	0.00847	0.0724	+/-0.0211	0.100	pCi/g					
Uranium-235	U	0.156	0.350	+/-0.102	0.500	pCi/g					
Yttrium-88	U	-0.0114	0.0281	+/-0.0102	0.100	pCi/g					

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	81.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.8	(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 General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8095  
Sample ID: 244881004  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 10.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00435	0.0215	+/-0.00253	0.050	pCi/g		KXM4	01/27/10	2101	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00135	0.0224	+/-0.00449	0.050	pCi/g		KXM4	01/23/10	1209	942754	4
Plutonium-239/240	U	8.07E-11	0.0256	+/-0.00192	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.06	0.114	+/-0.098	0.100	pCi/g		KXM4	01/26/10	2026	942756	5
Uranium-235/236		0.0726	0.0707	+/-0.0189	0.100	pCi/g						
Uranium-238		1.22	0.066	+/-0.109	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.185	0.357	+/-0.111	0.200	pCi/g		MXR1	01/26/10	1321	942718	6
Bismuth-211	UI	3.84	R,R5a	0.402	+/-0.280	pCi/g						
Bismuth-214		1.12		0.128	+/-0.098	pCi/g						
Cadmium-109	UI	3.04	R,R5a	1.41	+/-0.550	pCi/g						
Cerium-139	U	0.0133		0.0554	+/-0.0162	pCi/g						
Cesium-134	UI	0.116	R,R5a	0.0939	+/-0.0427	pCi/g						
Cesium-137	U	-0.00754		0.0675	+/-0.0209	pCi/g						
Cobalt-60	U	0.0321		0.0796	+/-0.0225	pCi/g						
Europium-152	U	-0.0898		0.171	+/-0.0651	pCi/g						
Lanthanum-140	U	-0.098		0.122	+/-0.0451	pCi/g						
Lead-212		1.69		0.0907	+/-0.0847	pCi/g						
Lead-214		1.34		0.131	+/-0.104	pCi/g						
Mercury-203	U	0.0562		0.0772	+/-0.0237	pCi/g						
Potassium-40		21.2		0.531	+/-1.22	pCi/g						
Radium-223	U	-0.302		1.19	+/-0.412	pCi/g						
Radium-224	UI	4.15	R,R5a	1.03	+/-0.597	pCi/g						
Radium-226		1.12		0.128	+/-0.098	pCi/g						
Radium-228		1.68		0.227	+/-0.170	pCi/g						
Ruthenium-106	U	-0.0353		0.571	+/-0.175	pCi/g						
Sodium-22	U	0.00731		0.0761	+/-0.0229	pCi/g						

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: January 29, 2010

Client Sample ID: RE12-10-8095  
Sample ID: 244881004

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	UI	0.0818	R,R5a	0.0715	+/-0.0208							pCi/g
Thallium-208		0.533		0.0627	+/-0.0493	0.080						pCi/g
Thorium-227	U	0.241		0.710	+/-0.210							pCi/g
Thorium-231	U	-0.302		1.19	+/-0.412							pCi/g
Thorium-234		3.88		2.72	+/-1.33	2.00						pCi/g
Tin-113	U	0.00914		0.0851	+/-0.0248	0.100						pCi/g
Uranium-235	U	-0.0125		0.401	+/-0.120	0.500						pCi/g
Yttrium-88	U	-0.00675		0.0529	+/-0.0168	0.100						pCi/g

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.9	(50%-105%)

### Notes:

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

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

P.S. 2/23/10

Thursday, January 14, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1264

LOS ALAMOS

REQUEST NUMBER: 10-1264

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/13/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

044880, 244881

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-8098	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-8098	1	POLY	SW-846:6850	Ice	W
RE12-10-8098	1	POLY	TCN	Sodium Hydroxide	W
RE12-10-8098	1	AMBER GLASS	8082+NMED+HEXP	Ice	R
RE12-10-8098	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8098	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8094	1	AMBER GLASS	8082+NMED+HEXP	Ice	R
RE12-10-8094	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8094	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8097	1	AMBER GLASS	8082+NMED+HEXP	Ice	R
RE12-10-8097	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8097	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8095	1	AMBER GLASS	8082+NMED+HEXP	Ice	R
RE12-10-8095	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8095	1	POLY	Met+U+CLO4+CN	Ice	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:

Date

Time

Remarks:

Printed Name

Signature

Page 1 of 3  
REQUEST NUMBER: 10-1264

Thursday, January 14, 2010  
**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: 10-1264  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

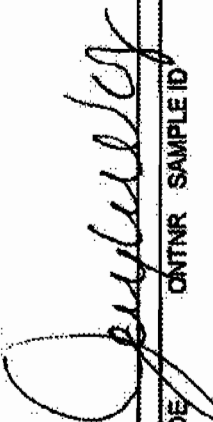
Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 1/14/2010  
TURNAROUND/REPORT DUE: 2/13/2010  
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background  
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	QNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-801.1	1	RE12-10-8084	R	1/11/2010	
		1	RE12-10-8085	R	1/11/2010	
		1	RE12-10-8086	R	1/11/2010	
		1	RE12-10-8087	R	1/11/2010	
	HASL-300-AM-241	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8085	R	1/11/2010	
		1	RE12-10-8086	R	1/11/2010	
		1	RE12-10-8087	R	1/11/2010	
	HASL-300-ISOPU	1	RE12-10-8094	R	1/11/2010	



Thursday, January 14, 2010

REQUEST NUMBER: 10-1264

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	HASL-300:ISOU	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8020	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:6850	1	RE12-10-8098	W	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8098	W	1/11/2010	
	SW-846:7470A	1	RE12-10-8098	W	1/11/2010	
	SW-846:7471A	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8082	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8321A_MOD	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	

REQUEST NUMBER: 10-1264

Thursday, January 14, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846-8321A_MOD	1	RE12-10-8086	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846-9012A	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8098	W	1/11/2010	

Final Page of REQUEST NUMBER 10-1264



January 19, 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 Orders: 244880 244881  
SDG: 10-1264

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 15, 2010, and analyzed for Explosives by LCMSMS, GC Semivolatile PCB, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

Sincerely,

Valerie Davis  
Project Manager

Purchase Order: 72733-001-09  
Chain of Custody: 10-1264  
Enclosures

**Los Alamos National Laboratory (72733-001-09)**  
**LANL ER Project**  
**Work Order #: 244880 and 244881**  
**SDG: 10-1264**

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# Case Narrative

**Case Narrative for  
Los Alamos National Laboratory (72733-001-09)  
LANL ER Project  
Workorder #: 244880 and 244881  
SDG # : 10-1264**

**January 19, 2010**

**Laboratory Identification:**

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

**Summary**

**Sample receipt** The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on January 15, 2010 for analysis. The sample was prepared/analyzed within the required holding time. Shipping container temperature was checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The sample was 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 12-14C 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>
244880001	RE12-10-8098
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095

**Case Narrative**

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

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

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



Valerie Davis

Project Manager



**List of current GEL Certifications as of 19 January 2010**

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

# **Chain of Custody and Supporting Documentation**

Thursday, January 14, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1264

LOS ALAMOS

REQUEST NUMBER: 10-1264

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/13/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

044880, 244881

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-8098	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-8098	1	POLY	SW-846:6850	Ice	W
RE12-10-8098	1	POLY	TCN	Sodium Hydroxide	W
RE12-10-8096	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8096	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8096	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8094	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8094	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8094	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8097	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8097	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8097	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-8095	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-8095	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-8095	1	POLY	Met+U+CLO4+CN	Ice	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:

Date

Time

Remarks:

Printed Name

Signature

Thursday, January 14, 2010  
**LOS ALAMOS**  
 NATIONAL LABORATORY

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

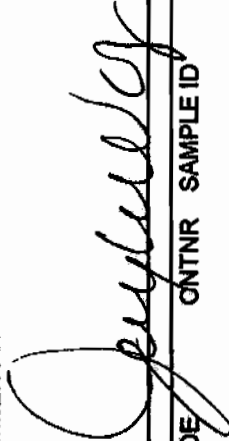
Please analyse the enclosed samples  
 according to the schedule indicated:

SHIP DATE: 1/14/2010  
 TURNAROUND/REPORT DUE: 2/13/2010  
 TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background  
 LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



Page 1 of 3  
 REQUEST NUMBER: 10-1264

These Samples are on:  
 LANL Request Number: 10-1264  
 Per Agreement Number: 126310011  
 Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	QNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	HASL-300-AM-241	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	HASL-300-ISOPU	1	RE12-10-8094	R	1/11/2010	

Thursday, January 14, 2010

Page 2 of 3

REQUEST NUMBER: 10-1264

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	HASL-300:ISOU	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8020	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8850	1	RE12-10-8098	W	1/11/2010	
		1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8098	W	1/11/2010	
	SW-846:7470A	1	RE12-10-8098	W	1/11/2010	
	SW-846:7471A	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8082	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:8321A_MOD	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	

Thursday, January 14, 2010

Page 3 of 3  
REQUEST NUMBER: 10-1264

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:8321A_MOD	1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
	SW-846:9012A	1	RE12-10-8094	R	1/11/2010	
		1	RE12-10-8095	R	1/11/2010	
		1	RE12-10-8096	R	1/11/2010	
		1	RE12-10-8097	R	1/11/2010	
		1	RE12-10-8098	W	1/11/2010	

Final Page of REQUEST NUMBER 10-1264

**SAMPLE RECEIPT & REVIEW FORM**

Client: LANL		SDG/ARCO/Work Order: 10-1264	
Received By: Patricia Dover-Dent		Date Received: JANUARY 15, 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*: 40CPM
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) 2-4, 12-14
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable broken    damaged container    leaking container    other (describe)
5	Samples requiring chemical preservation at proper pH?	X	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 5129 2C

7209 7849 5130 14C

7209 7849 5184 2C

7209 7849 5254 2C

7209 7849 5118 3C

7209 7849 5162 3C

7209 7849 5151 4C

7209 7849 5173 4C

7209 7849 5243 12C

7209 7849 5195 13C

*18*

1/18/10

1A00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

ACTWGT: 49.0 LB MAN  
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMR1A015AGWFO

2c

TO THE ADDRESSEE FROM THE ADDRESSEE



FedEx  
Express



3 of 3

FRI - 15JAN A1  
PRIORITY OVERNIGHT

MPS# 7209 7849 5129

Matr# 7209 7849 5107 0201

XX CHSA

29407  
SC-US  
CHS



Part # 156148-434 NRT V3 04-0

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: 14JAN10  
ACTWGT: 32.0 LB MAN  
CAD: 0014176/CAFE2449

BILL SENDER

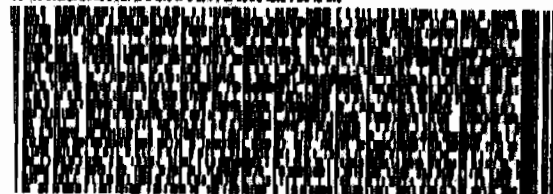
VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMEGL11550000

2c

TO THE ADDRESSEE FROM THE ADDRESSEE



FedEx  
Express



FRI - 15JAN A1  
PRIORITY OVERNIGHT

MPS# 7209 7849 5254

IX CHSA

29407  
SC-US  
CHS

Part # 156148-434 NRT V3 04-0

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: 14JAN10  
ACTWGT: 64.0 LB MAN  
CAD: 0014176/CAFE2449

BILL SENDER

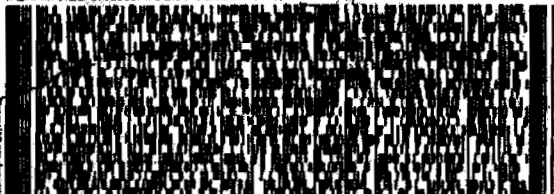
VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMR2A0515BYDO

2c

TO THE ADDRESSEE FROM THE ADDRESSEE



FedEx  
Express



2 of 2

FRI - 15JAN A1  
PRIORITY OVERNIGHT

MPS# 7209 7849 5184

Matr# 7209 7849 5173 0201

XX CHSA

29407  
SC-US  
CHS



Part # 156148-434 NRT V3 04-0

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: 14JAN10  
ACTWGT: 62.0 LB MAN  
CAD: 0014176/CAFE2449

BILL SENDER

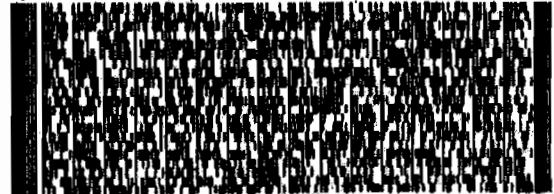
VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMR1A015AGWFO

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FRI - 15JAN A1  
PRIORITY OVERNIGHT

MPS# 7209 7849 5118

Matr# 7209 7849 5107 0201

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Part # 156148-434 NRT V3 04-0



ORIGIN ID: SFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TAGO BLDG 1237 DPU 03  
LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 54.0 LB MAN  
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VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

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(843) 556-8171  
REF: 68010AMR3A05529E00



2 of 2 FRI - 15JAN A1  
TRKH 7209 7849 5162 PRIORITY OVERNIGHT  
NN MASTER NN

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SC-US  
CHS



ORIGIN ID: SFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TAGO BLDG 1237 DPU 03  
LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 57.0 LB MAN  
CAD: 0014176/CAFE2449  
BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407  
(843) 556-8171  
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1 of 2 FRI - 15JAN A1  
TRKH 7209 7849 5173 PRIORITY OVERNIGHT  
NN MASTER NN

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ORIGIN ID: SFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TAGO BLDG 1237 DPU 03  
LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
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VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

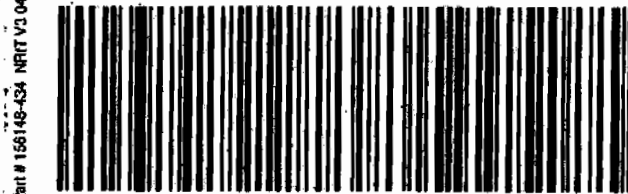
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(843) 556-8171  
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1 of 2 FRI - 15JAN A1  
TRKH 7209 7849 5151 PRIORITY OVERNIGHT  
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SC-US  
CHS



ORIGIN ID: SFA (505) 665-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TAGO BLDG 1237 DPU 03  
LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 14JAN10  
ACTWGT: 41.0 LB MAN  
CAD: 0014176/CAFE2449  
BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

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REF: 68010AMR3A05529E00



FRI - 15JAN A1  
TRKH 7209 7849 5243 PRIORITY OVERNIGHT

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29407  
SC-US  
CHS

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

SHIP DATE: 14JAN10  
ACTWGT: 52.0 LB MAN  
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545  
UNITED STATES US

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

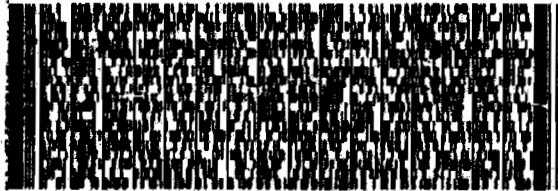
CHARLESTON SC 29407

(843) 556-0171

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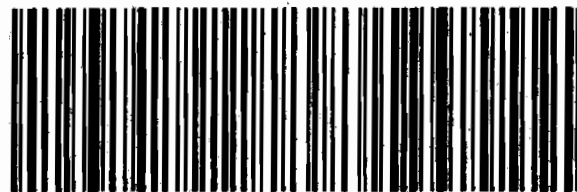
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0201

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PRIORITY OVERNIGHT

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Part # 1521-5-101 1411-1-101



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

SHIP DATE: 14JAN10  
ACTWGT: 49.0 LB MAN  
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545  
UNITED STATES US

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VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-0171

REF: 6B010AMR1A015AGWFO

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PRIORITY OVERNIGHT

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# **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<br>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<br>identification of the analyte (TIC). Quantitation is based on nearest internal standard<br>response factor |
| N/A | Spike recovery limits do not apply. Sample concentration exceeds spike concentration<br>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 PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-1264**

**Method/Analysis Information**

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

**Analytical Method:** SW846 6850 Modified

**Prep Method:** SW846 6850 Modified

**Analytical Batch Number:** 943784

**Prep Batch Number:** 943783

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244880001	RE12-10-8098
1202020836	Interference Check Sample (ICS)
1202020832	Method Blank (MB)
1202020833	Laboratory Control Sample (LCS)
1202020834	244922001(RE15-10-7229) Matrix Spike (MS)
1202020835	244922001(RE15-10-7229) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" 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-067 REV# 6.

**Calibration Information**

**Initial Calibration**

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

10-1264-PERLCMS

**CCV Requirements**

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

**CCB Requirements**

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

**CCV Requirements**

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

**Low Level Standard (CRI) Requirements**

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

**Quality Control (QC) Information****Method Blank (MB) Statement**

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

**Interference Check Sample (ICS)**

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

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**QC Sample Designation**

Client sample 244922001 (RE15-10-7229) from SDG 10-1288-1 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

**Matrix Spike (MS) Recovery Statement**

The MS recoveries were within the established acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries were within the established acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

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

**Retention Time Standard Area Acceptance**

The retention time standard areas were within the required acceptance criteria for all samples and QC.

**Retention Time**

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

10-1264-PERLCMS

Page 2 of 4

## **Technical Information**

### **Holding Time Specifications**

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

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

### **Sample Dilutions**

The samples in this SDG did not require dilutions.

### **Sample Re-extraction/Re-analysis**

The SDG was re-extracted within holding due to an LCS failing acceptance criteria. The re-extraction and analysis passed acceptance criteria and is reported.

## **Miscellaneous Information**

### **Data Exception (DER) Documentation**

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

### **Manual Integrations**

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

### **Method Comments**

The sample in this SDG was not originally analyzed using EPA Method 314.0.

### **Additional Comments**

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

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

### **Perchlorate Isotope Ratio**

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



### System Configuration

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

### Chromatographic Columns

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

Dionex: IonPac AG-16 2 x 50 mm.

### Certification Statement

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

### Review Validation:

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

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

Reviewer: Herbert M. Mace Date: 02/03/10

10-1264-PERLCMS

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# SAMPLE DATA SUMMARY

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 943783  
 Extraction Type: Filter/DAI  
 Client Sample No. RE12-10-8098  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264  
 GEL Sample ID: 244880001  
 Date Filtered: 21-JAN-10  
 Injection Volume (uL): 20  
 %Solids:

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:53	per0121034a
	Perchlorate Isotope Ratio						1	21-JAN-10 17:53	per0121034a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:53	per0121034a
	Perchlorate-O(18)			0.490	ug/L		1	21-JAN-10 17:53	per0121034a

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

\*Concentration =

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

# QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10-1264

Extract Batch Code: 943783

Date Filtered: 21-JAN-10

Matrix: WATER

Sample ID: 1202020833

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.203	ug/L	102		85 - 115
Perchlorate Isotope Ratio		2.85				-
Perchlorate-101	0.200	.208	ug/L	104		85 - 115
Perchlorate-O(18)		.498	ug/L			-

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

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10-1264

Extract Batch Code: 943783

Date Filtered: 21-JAN-10

Matrix: WATER

Sample ID: 1202020836

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.21	ug/L	105		70 - 130
Perchlorate Isotope Ratio		2.98				
Perchlorate-101	0.200	.205	ug/L	103		70 - 130
Perchlorate-O(18)		.483	ug/L			

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

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

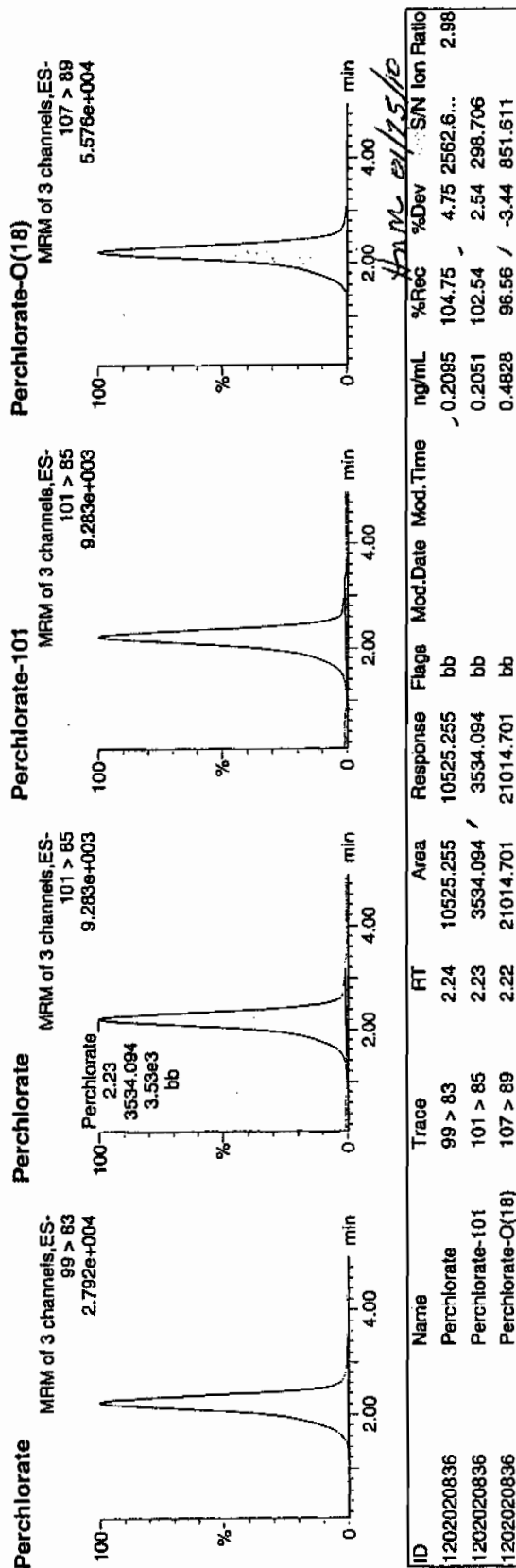
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Date: 21-Jan-2010  
Time: 15:12:58  
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Vial: 1:3,C

6622  
01-22-10

1202020836 | 943784 | L22 | 105 | 11



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

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-1264

Extract Batch Code: 243783

Date Extracted: 21-JAN-10

GEL MS/PS ID: 1202020834

Client ID: RE15-10-7229

GEL MSD/PSD ID: 1202020835

QC Type: MS

Compound <sup>^</sup>	Spike Added	Sample Conc	Units	MS Conc	MS Rec	#	MSD Conc	MSD Rec	#	RPD	#	RPD Limit	Recovery Limit
Perchlorate	0.200	0.0027	ug/L	0.203	100		.209	103		2.96		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.11			3.01			0			-
Perchlorate-101	0.200	0.00268	ug/L	0.191	93.9		.203	100		6.22		30	75 - 125
Perchlorate-O(18)	0	0.482	ug/L	0.458			.486			5.84			-

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

Comments:



Perchlorate Initial Calibration Blank

GEL Job No.(SDG): 10-1264

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	21-JAN-10	per0121001a	IPB001
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121001a	IPB001
Perchlorate	0.00	0	NA	21-JAN-10	per0121002a	IPB001
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121002a	IPB001

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

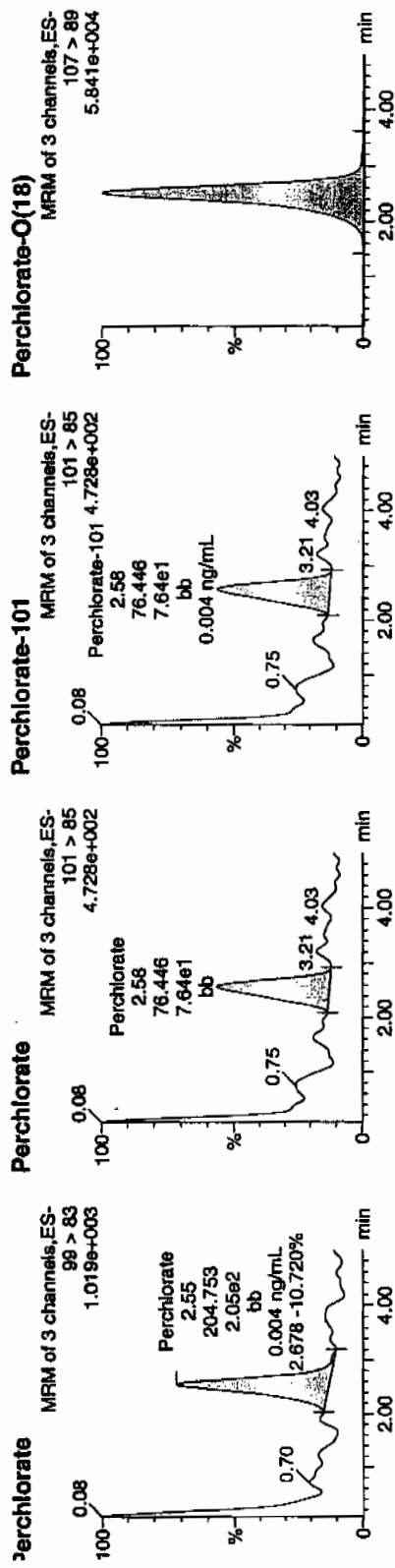
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Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012110a.cdb 22 Jan 2010 13:03:55

Name: per0121001a  
Date: 21-Jan-2010  
Time: 13:28:21  
D: IPB001  
/tai: 1:1,A

QW2  
01-22-10



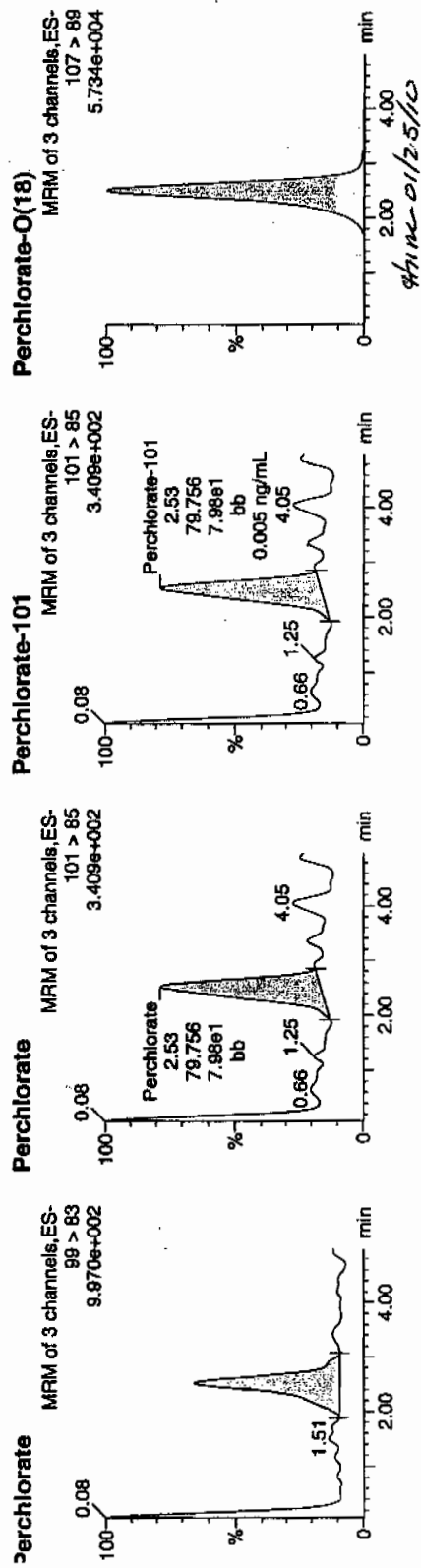
Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
Perchlorate	99 > 83	2.55	204.753	204.753	bb			0.0041	0.0041		36.786	2.68
Perchlorate-101	101 > 85	2.58	76.446	76.446	bb			0.0044	0.0044		19.217	
Perchlorate-O(18)	107 > 89	2.51	21984.707	21984.707	bb			0.5051	101.02	1.02	3540.1...	

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

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Date: 21-Jan-2010  
Time: 13:36:33  
ID: IPB001  
Vial: 1:1,A



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB001	Perchlorate	99 > 83	2.51	210.246	210.246	bb			0.0042			60.536	2.64
PB001	Perchlorate-101	101 > 85	2.53	79.756	79.756	bb			0.0046			7.448	
PB001	Perchlorate-O(18)	107 > 89	2.51	21671.338	21671.338	bb			0.4979	99.58	-0.42	681.037	

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

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1264

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	21-JAN-10	per0121008a	IPB002
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121008a	IPB002
Perchlorate	0.00	0	NA	21-JAN-10	per0121010a	IPB003
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121010a	IPB003
Perchlorate	0.00	0	NA	21-JAN-10	per0121021a	IPB004
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121021a	IPB004
Perchlorate	0.00	0	NA	21-JAN-10	per0121032a	IPB005
Perchlorate-101	0.00	0	NA	21-JAN-10	per0121032a	IPB005
Perchlorate	0.00	0	NA	21-JAN-10	per0121043a	IPB006
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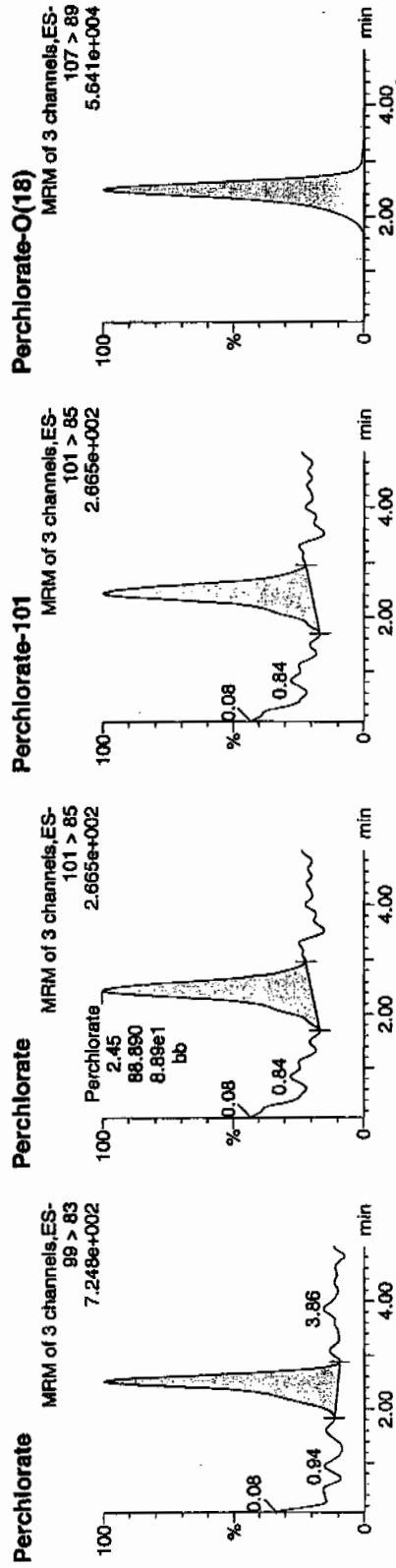
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

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Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121008a  
Date: 21-Jan-2010  
Time: 14:24:42  
ID: IPB002  
Vial: 1:1,A

01-22-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB002	Perchlorate	99 > 83	2.51	222.464	222.464	bb			0.0044			42.609	2.50
PB002	Perchlorate-101	101 > 85	2.45	88.890	88.890	bb			0.0052			32.880	
PB002	Perchlorate-O(18)	107 > 89	2.49	21012.908	21012.908	bb			0.4828	96.56	-3.44	1392.1...	

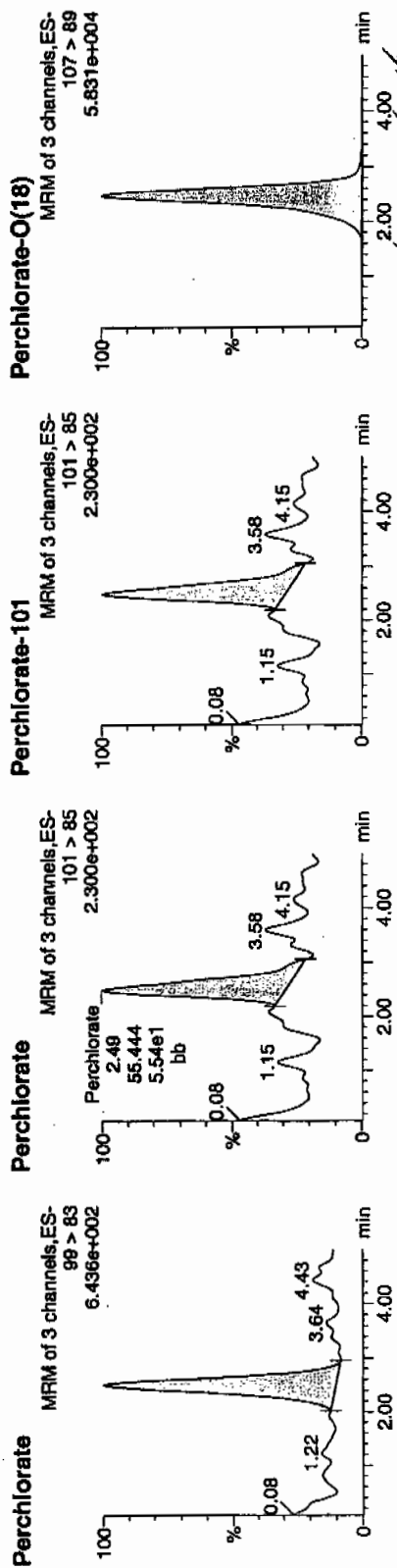
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121010a  
Date: 21-Jan-2010  
Time: 14:40:46  
ID: IPB003  
Vial: 1:1,A

01-22-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
PB003	Perchlorate	99 > 83	2.50	193.590	193.590	bb			0.0039	104.378			3.49
PB003	Perchlorate-101	101 > 85	2.49	55.444	55.444	bb			0.0032	26.855			
PB003	Perchlorate-O(18)	107 > 89	2.49	21401.723	21401.723	bb			0.4917	98.34	-1.66	6111.1...	

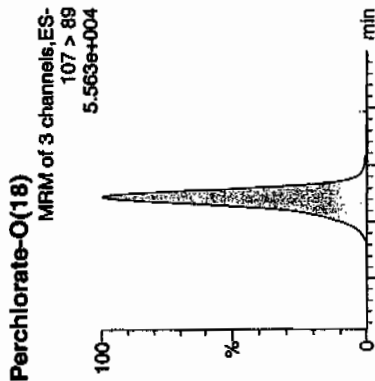
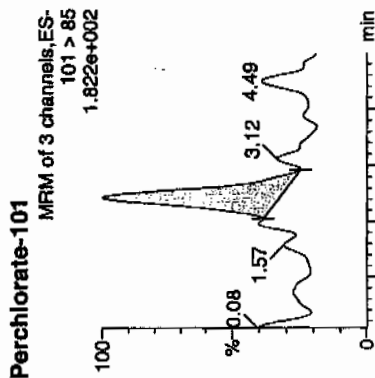
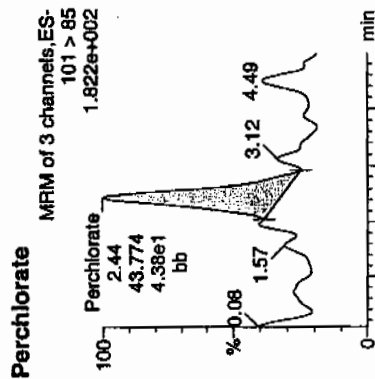
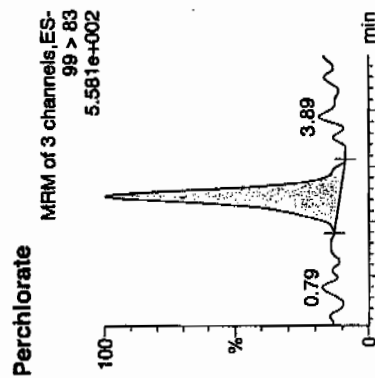
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121021a  
Date: 21-Jan-2010  
Time: 16:09:13  
ID: IPB004  
Vial: 1:1,A

333  
Q-27-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB004	Perchlorate	99 > 83	2.46	180.474	180.474	bb			0.0036	41.034	4.12	333	26.500
PB004	Perchlorate-101	101 > 85	2.44	43.774	43.774	bb			0.0025	40.786			
PB004	Perchlorate-Q(18)	107 > 89	2.45	20657.713	20657.713	bb			0.4746	94.92	-5.08	4317.2...	

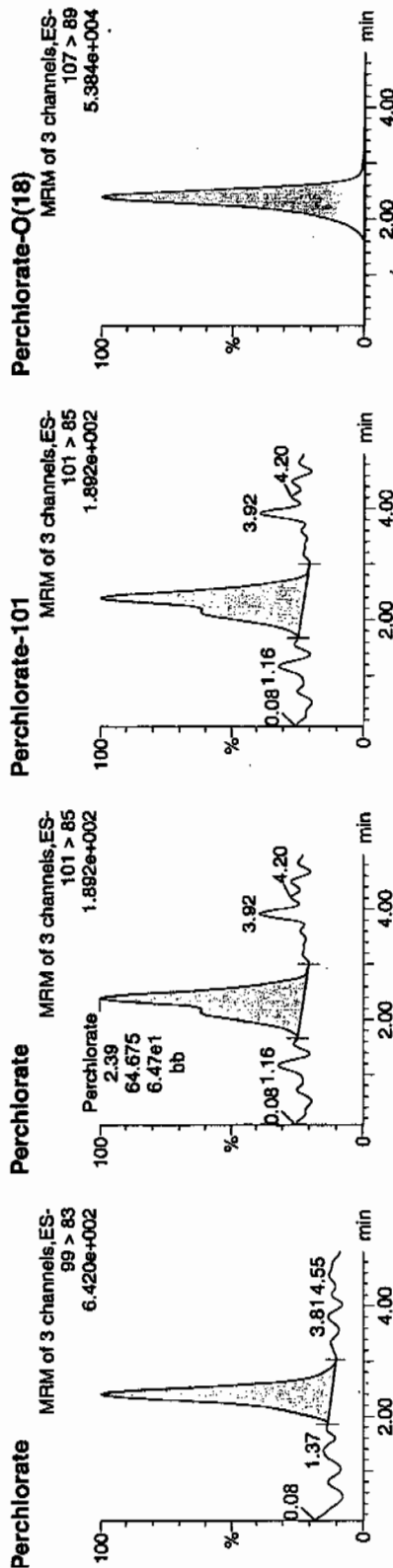
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121032a  
Date: 21-Jan-2010  
Time: 17:37:38  
ID: IPB005  
Vial: 1:1,A

01-22-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	IS/N	Ion Ratio
Perchlorate	99 > 83	2.40	202.343	202.343	bb			0.0040			37.250	3.13
Perchlorate-101	101 > 85	2.39	64.675	64.675	bb			0.0038			58.231	
Perchlorate-O(18)	107 > 89	2.40	19935.807	19935.807	bb			0.4580	91.61	-8.39	6054.8...	



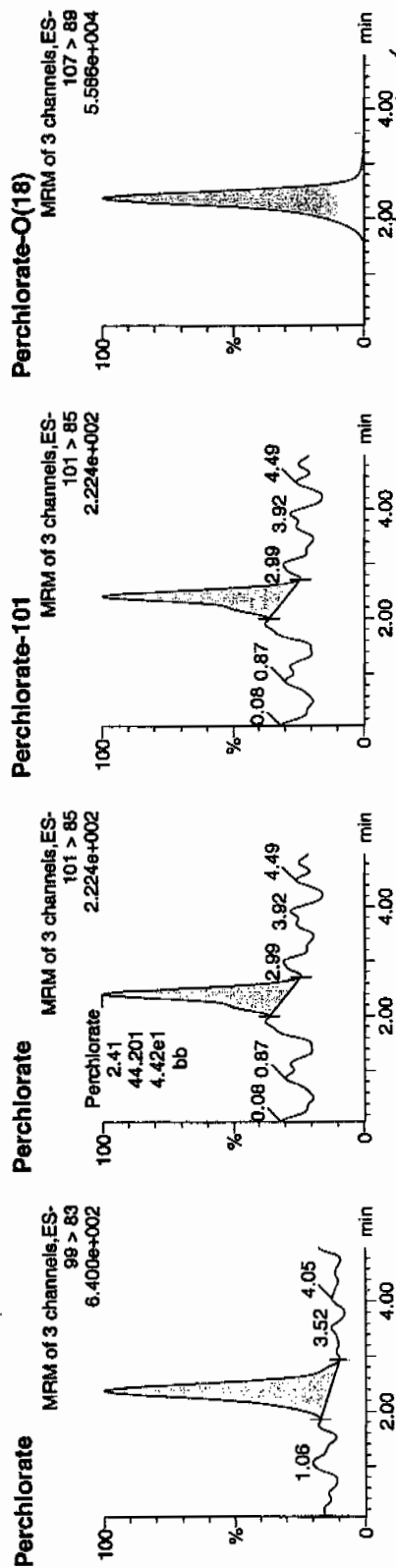
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121043a  
Date: 21-Jan-2010  
Time: 19:06:10  
ID: IPB006  
Vial: 1:1,A

01-27-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	SN	Ion Ratio
IPB006	Perchlorate	99 > 83	2.38	198.120	198.120	bb			0.0039			39.917	4.48
IPB006	Perchlorate-101	101 > 85	2.41	44.201	44.201	bb			0.0026			36.086	
IPB006	Perchlorate-O(18)	107 > 89	2.38	20708.193	20708.193	bb			0.4758	95.16	-4.84	2496.8...	

01-27-10

Nairb.ref

;Positive ion monoisotopic and average masses from solution  
 ;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H<sub>2</sub>O.  
 ;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

QUATRO ULTIMA: nairb\_01\_08\_08.ca

Calibration Report - MS1 Static

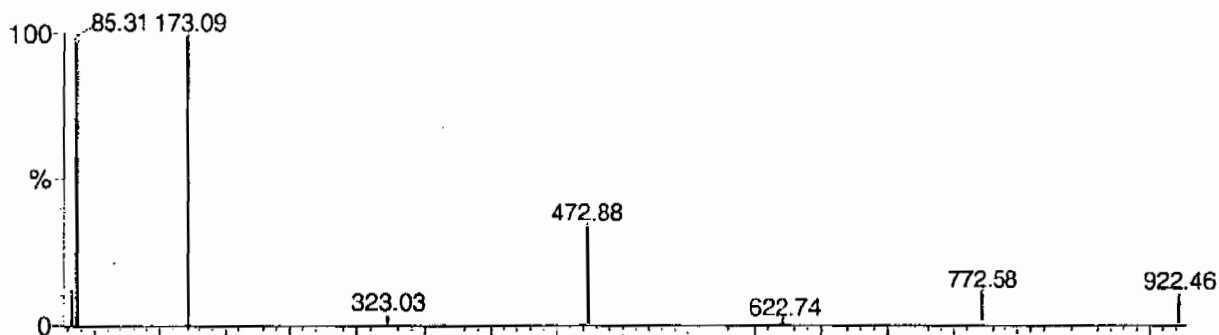
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

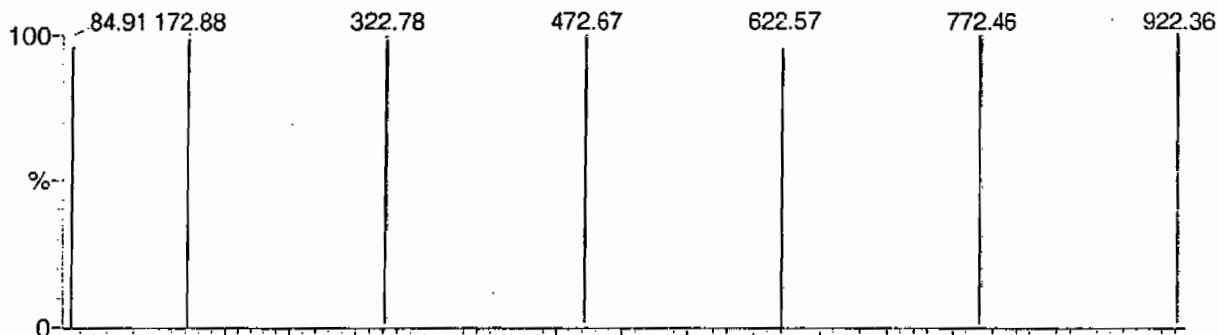
POINTS HIGHLIGHTED BY CURV 01-07-03

Data file: STATMS1 - Uncalibrated

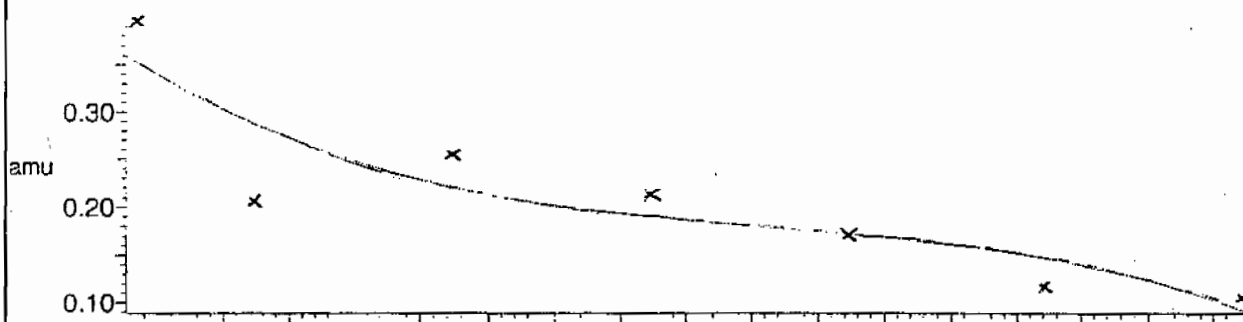
7 matches of 7 tested references



Reference file: Nairb

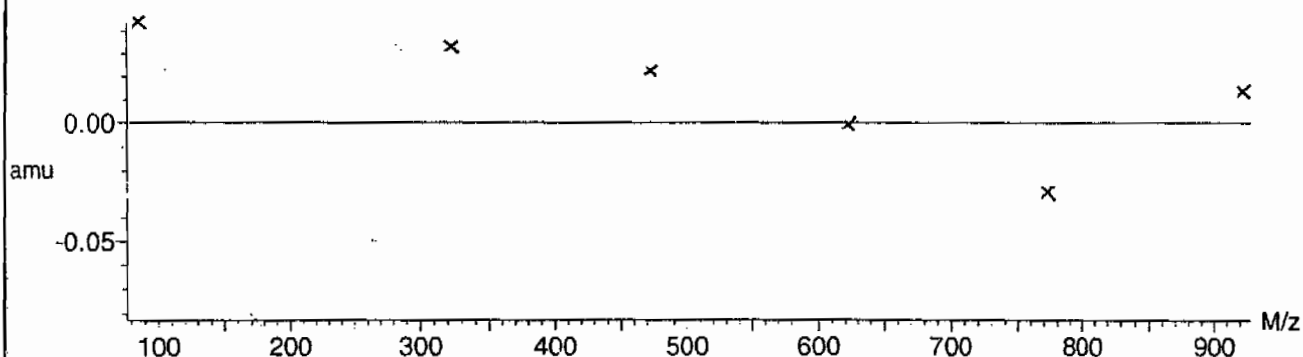


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.212012 \times 10^{-2} \pm 0.024108$



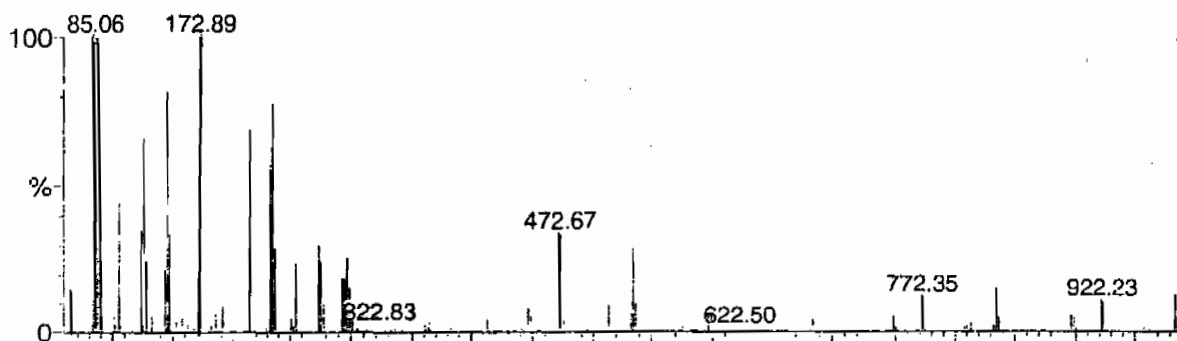
Calibration Report - MS1 Scanning

Page 1 of 1

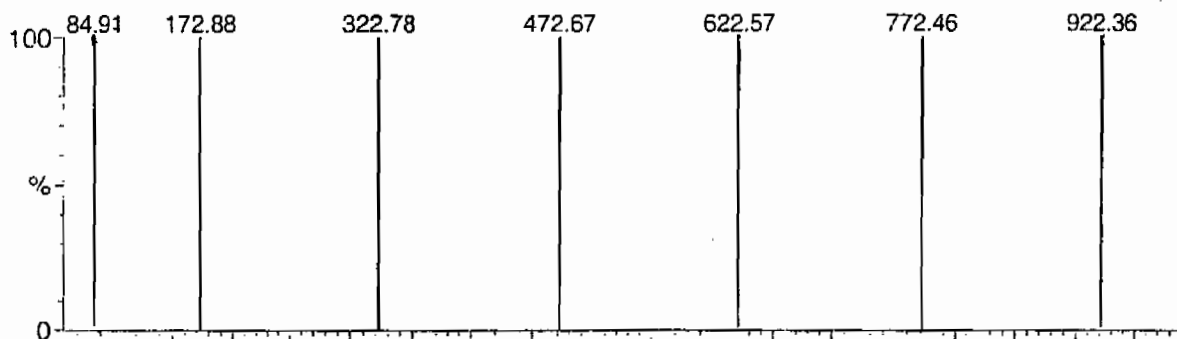
Printed: Tue Jan 08 12:20:09 2008

Data file: SCNMS1 - Uncalibrated

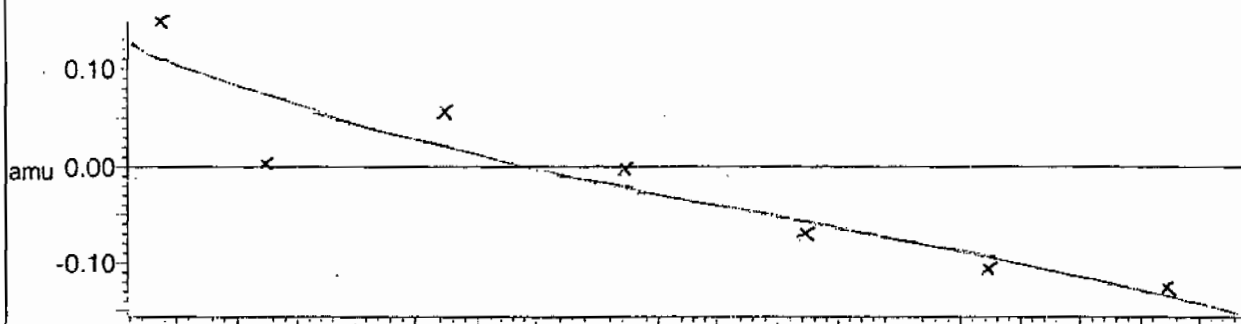
7 matches of 7 tested references



Reference file: Nairb

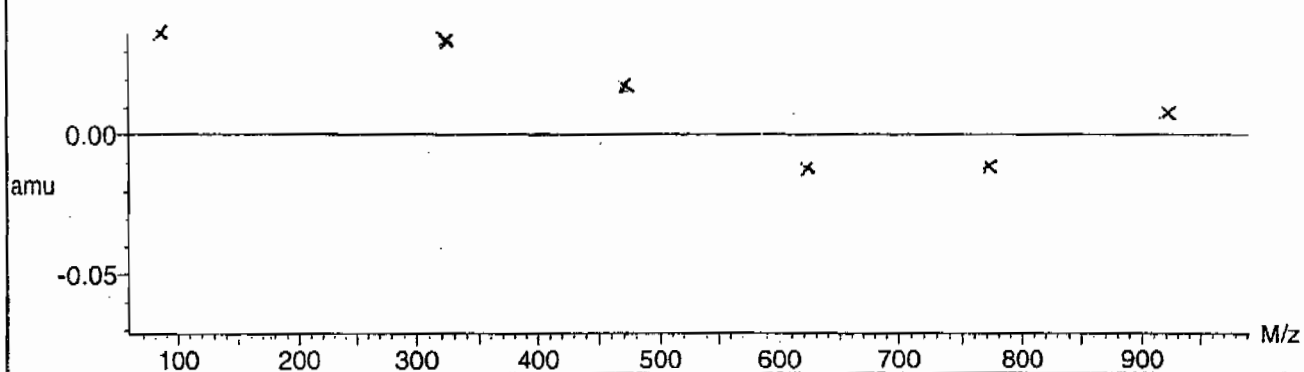


Mass difference (Raw - Ref mass)



Residuals

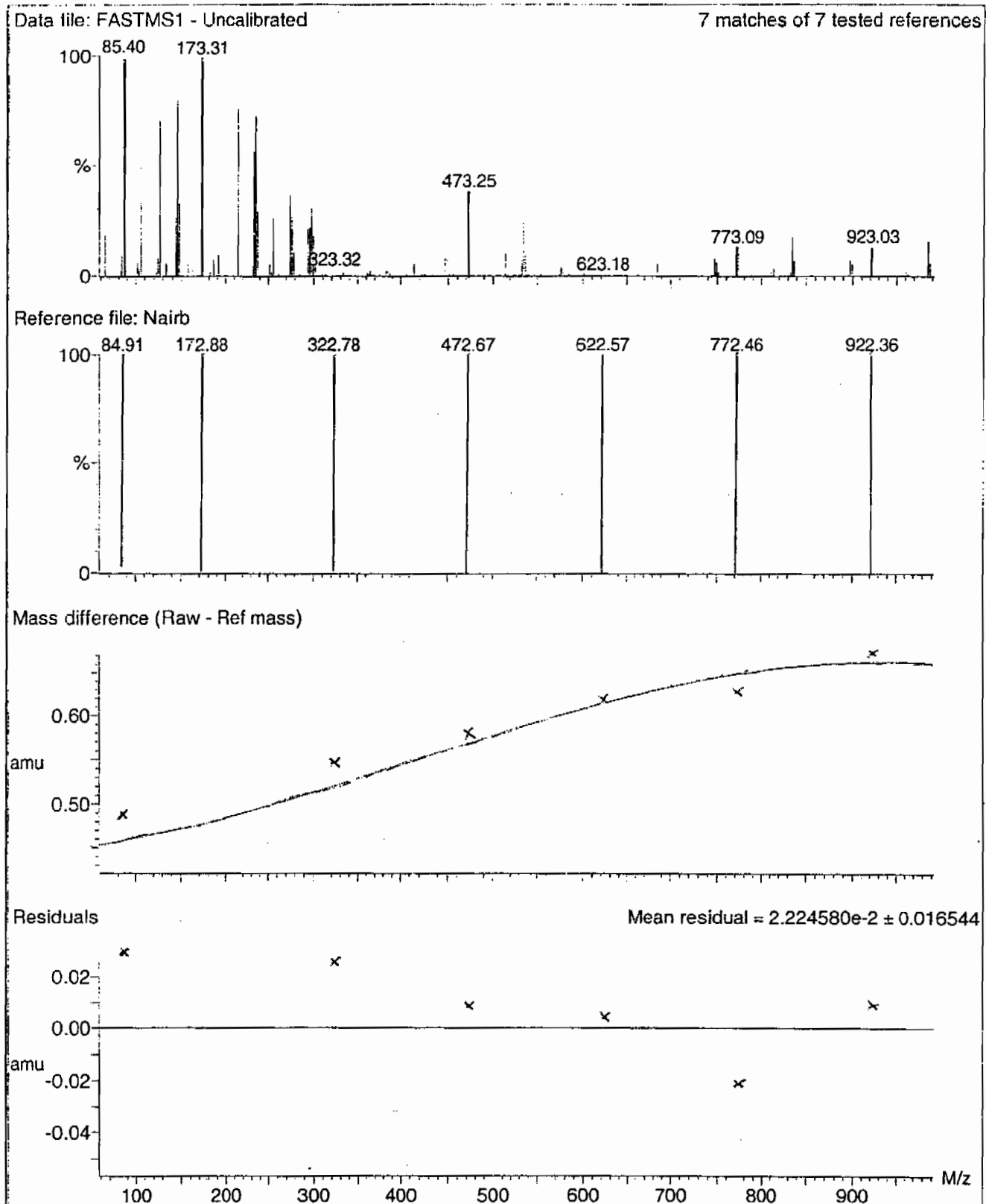
Mean residual =  $2.732691 \times 10^{-2} \pm 0.020653$



Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:21:04 2008



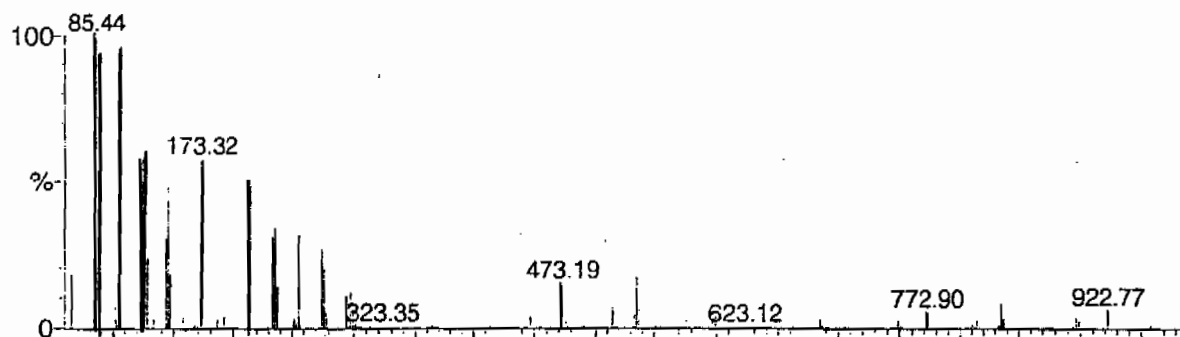
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

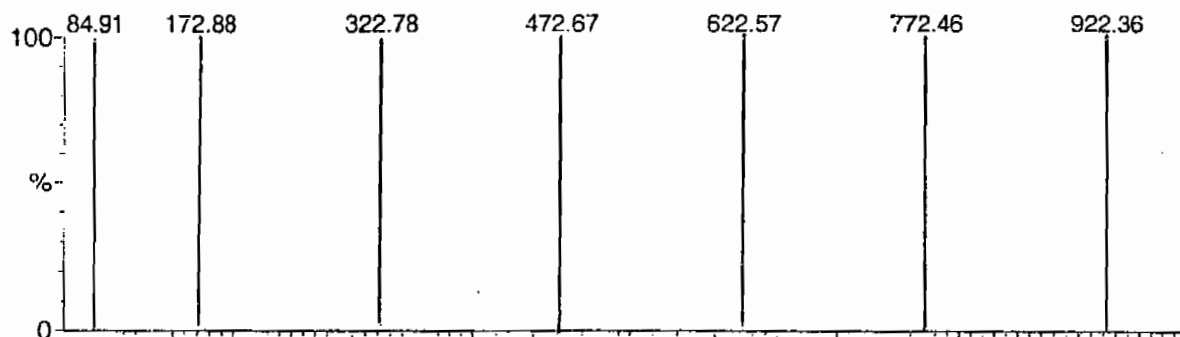
Printed: Tue Jan 08 12:23:51 2008

Data file: FASTMS2 - Uncalibrated

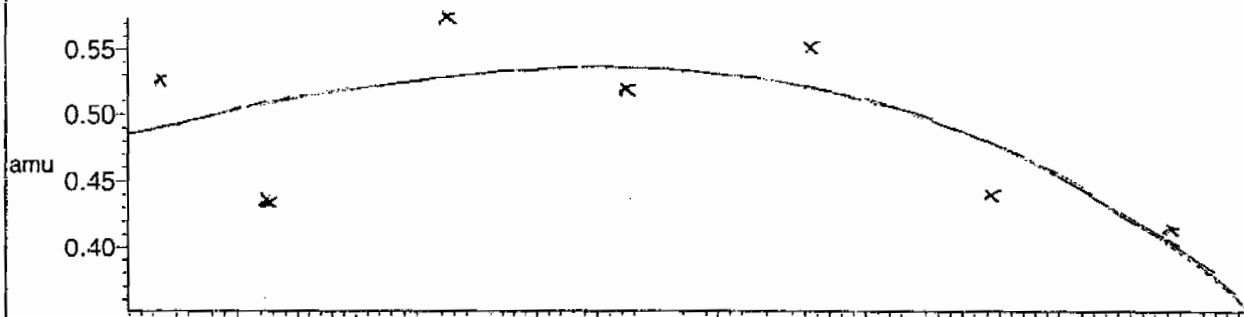
7 matches of 7 tested references



Reference file: Nairb

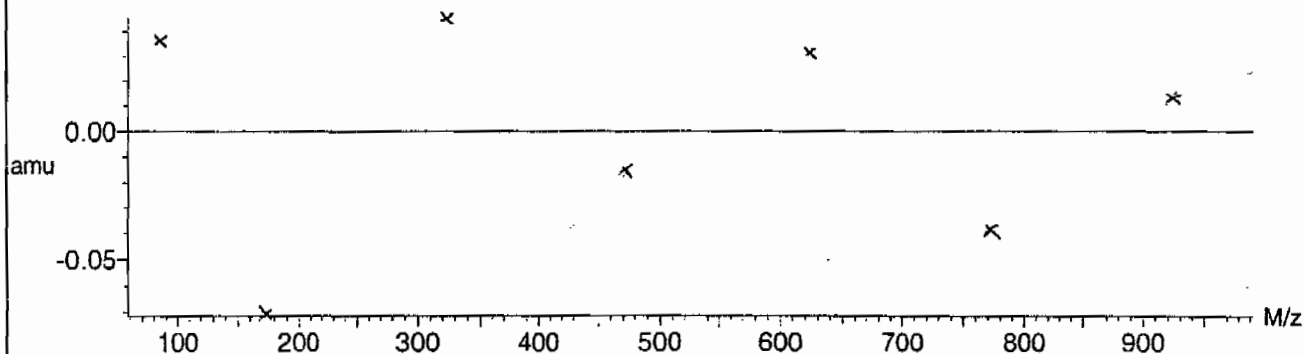


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.598289 \times 10^{-2} \pm 0.017899$



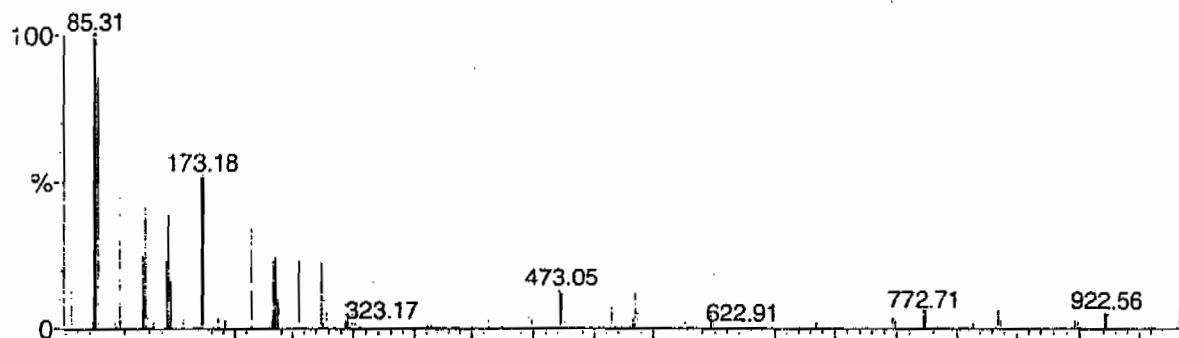
Calibration Report - MS2 Scanning

Page 1 of 1

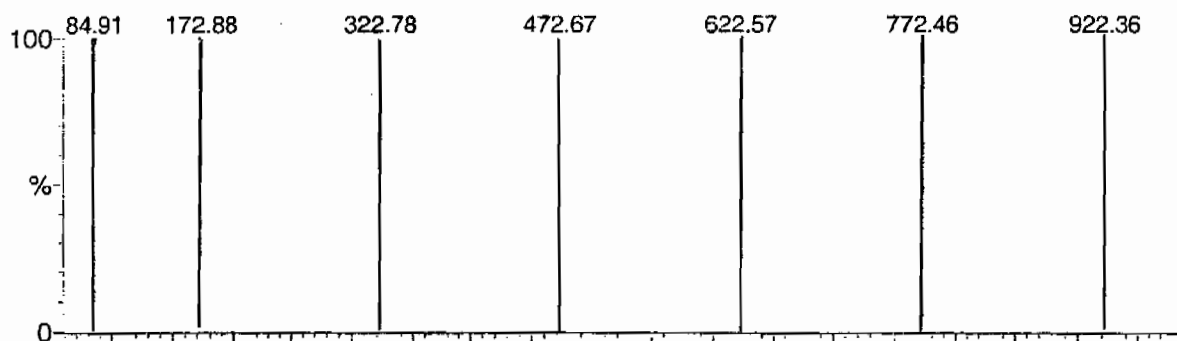
Printed: Tue Jan 08 12:22:56 2008

Data file: SCNMS2 - Uncalibrated

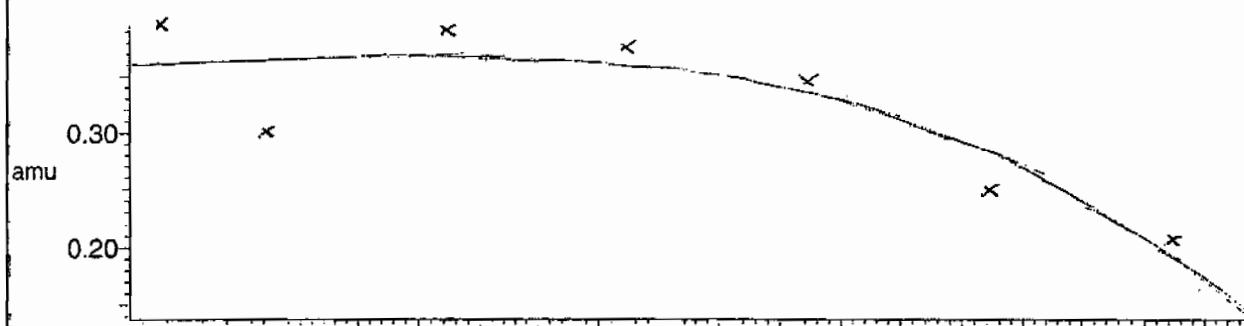
7 matches of 7 tested references



Reference file: Nairb

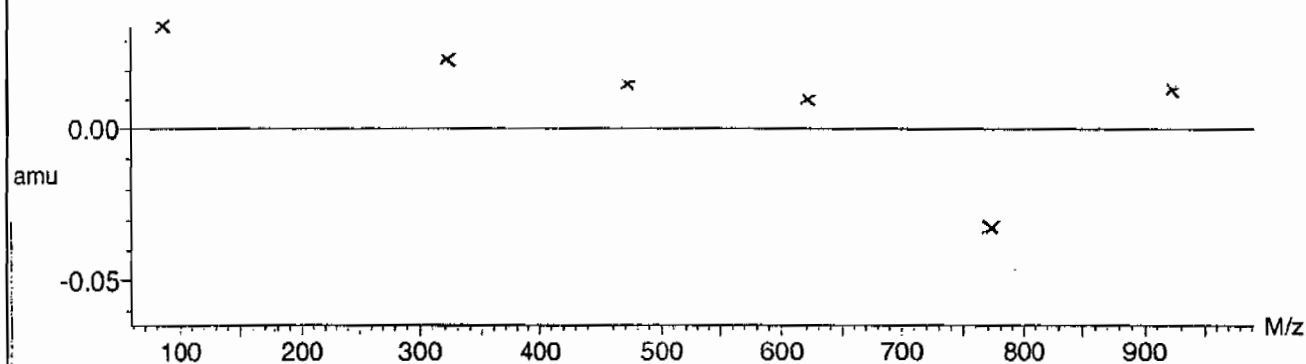


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $2.782494 \times 10^{-2} \pm 0.017442$



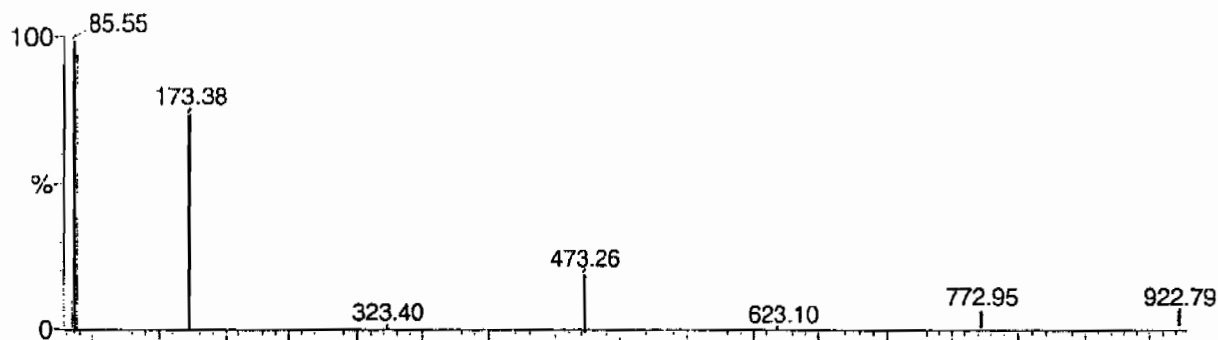
Calibration Report - MS2 Static

Page 1 of 1

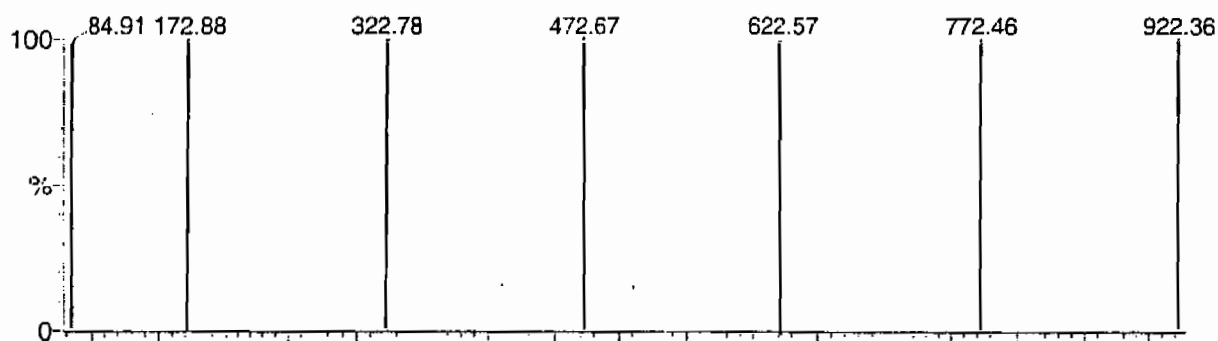
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

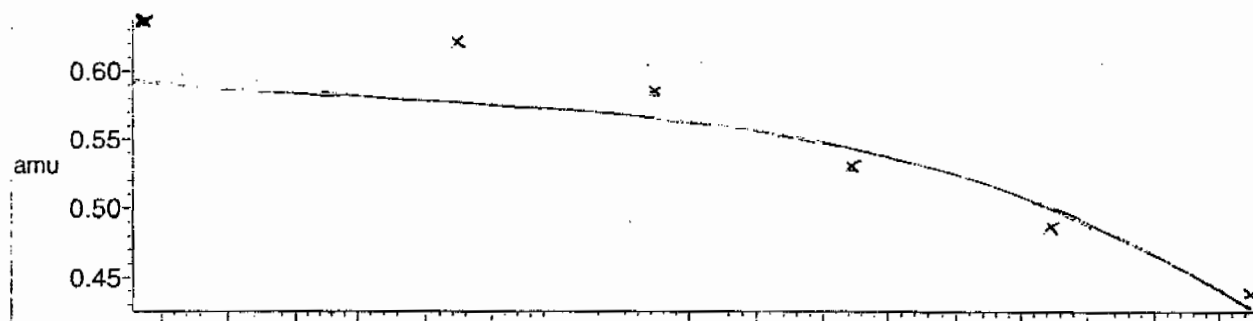
7 matches of 7 tested references



Reference file: Nairb

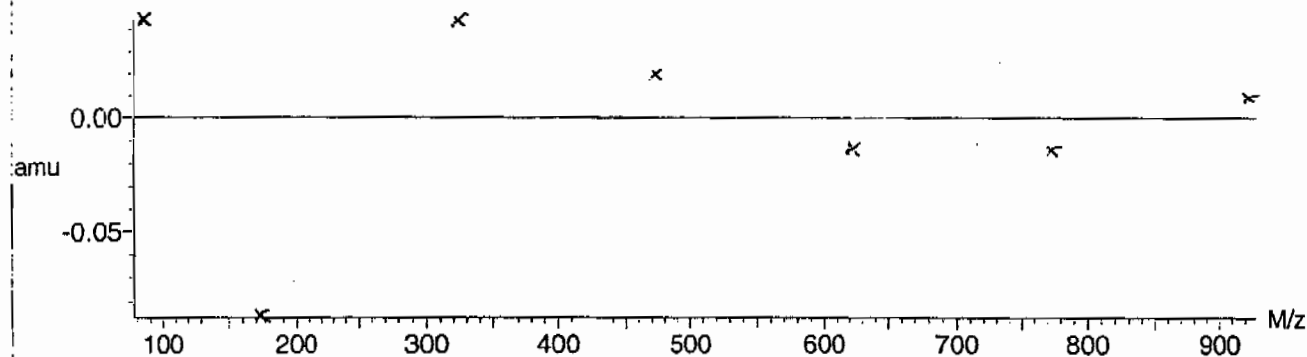


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.295980 \times 10^{-2} \pm 0.025603$





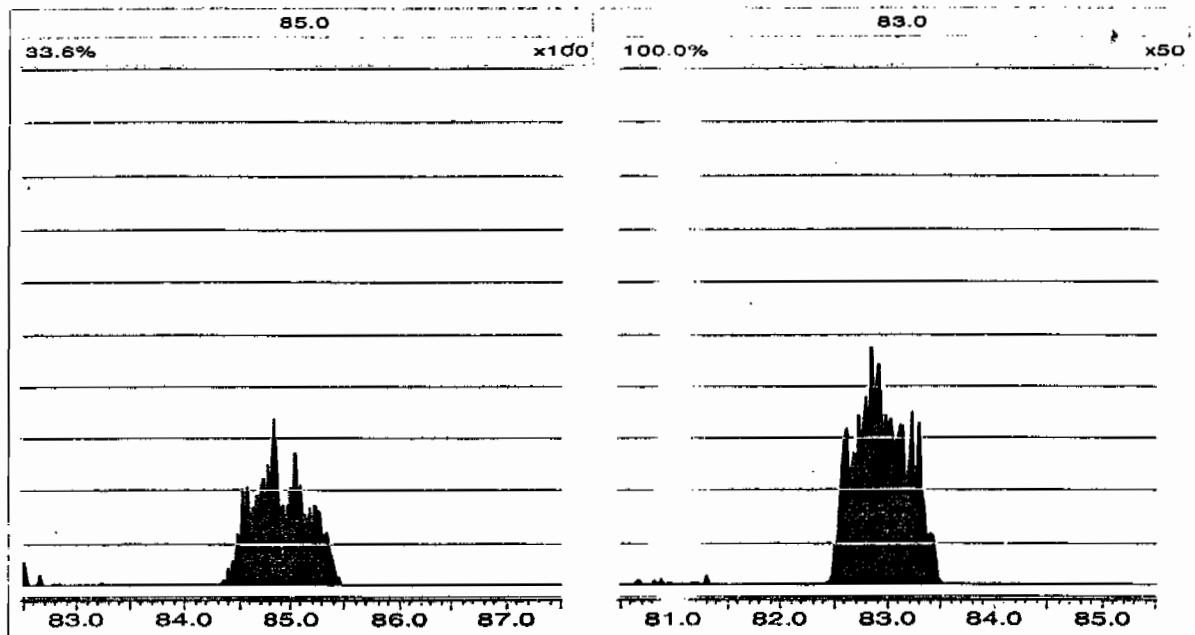
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

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

Printed: Thursday, January 21, 2010 13:23:09 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1264

Lab Code: GEL

Instrument ID: LCMSMS

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

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98-1.02
MidLevel Standard Area	per0121006a	21-JAN-10	21436.2				
Lower Area Limit			10718.1				
Upper Area Limit			42872.4				
1202020832	per0121012a	21-JAN-10 14:56	21028	2.48	2.47653	.999	
1202020833	per0121013a	21-JAN-10 15:04	21689.9	2.48	2.48902	1.004	
1202020836	per0121014a	21-JAN-10 15:12	21014.7	2.22	2.2406	1.009	
244880001	per0121034a	21-JAN-10 17:53	21333.9	2.4	2.4145	1.006	

# SAMPLE DATA

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 943783  
 Extraction Type: Filter/DAI  
 Client Sample No. RE12-10-8098  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264  
 GEL Sample ID: 244880001  
 Date Filtered: 21-JAN-10  
 Injection Volume (uL): 20

%Solids:

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:53	per0121034a
	Perchlorate Isotope Ratio						1	21-JAN-10 17:53	per0121034a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 17:53	per0121034a
	Perchlorate-O(18)			0.490	ug/L		1	21-JAN-10 17:53	per0121034a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X <sup>1</sup> %Solids  
 Aliquot

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121034a

Date: 21-Jan-2010

Time: 17:53:44

ID: 244880001

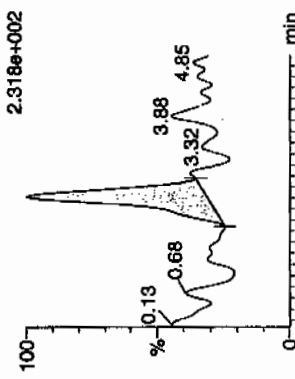
Vial: 1:5,E

61-22-10

12221943734 | 122211

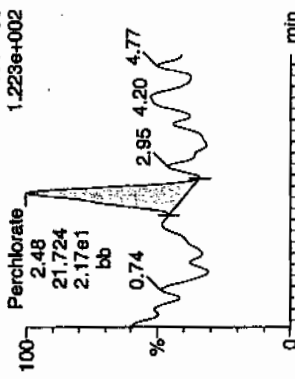
Perchlorate

MRM of 3 channels, ES-  
99 > 83  
2.318e+002



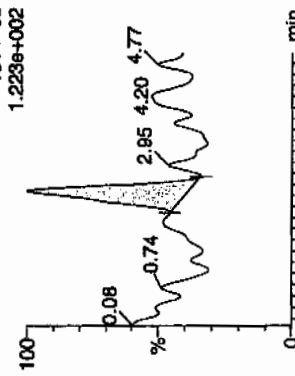
Perchlorate

MRM of 3 channels, ES-  
101 > 85  
1.223e+002



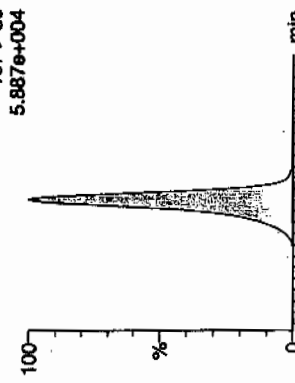
Perchlorate-101

MRM of 3 channels, ES-  
101 > 85  
1.223e+002



Perchlorate-O(18)

MRM of 3 channels, ES-  
107 > 89  
5.887e+004



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244880001	Perchlorate	99 > 83	2.41	53.773	53.773	bb			0.0011			13.462	2.48
244880001	Perchlorate-101	101 > 85	2.48	21.724	21.724	bb			0.0013			22.074	
244880001	Perchlorate-O(18)	107 > 89	2.40	21333.875	21333.875	bb			0.4902	98.03	-1.97	6808.0...	

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

# STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No.(SDG): 10-1264

Instrument ID: LCMSMS

Date Analyzed: 21-JAN-10

HP/IC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

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

Perchlorate

Coefficient of Determination:

Calibration Curve: 50239.06

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1264

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 21-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16.2 X 50 mm

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

Paramname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 17232.4

Response Type: External Standard

Curve Type: RF



Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012110a.mdb 22 Jan 2010 13:03:42  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012110a.cdb 22 Jan 2010 13:03:55

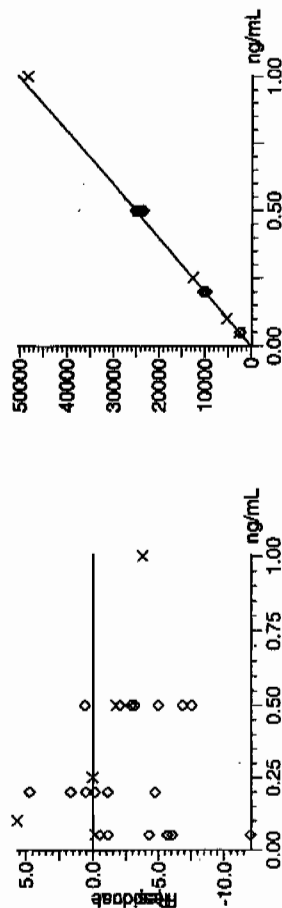
Compound name: Perchlorate

Response Factor: 50239

RF SD: 1769.18, % Relative SD: 3.52151

Response type: External Std, Area

Curve type: RF



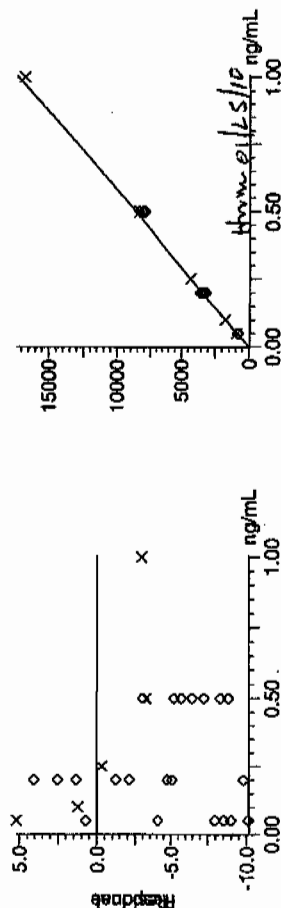
Compound name: Perchlorate-101

Response Factor: 17232.4

RF SD: 596.582, % Relative SD: 3.46198

Response type: External Std, Area

Curve type: RF

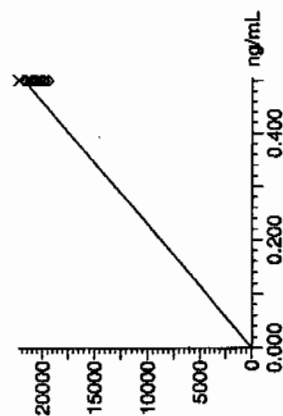
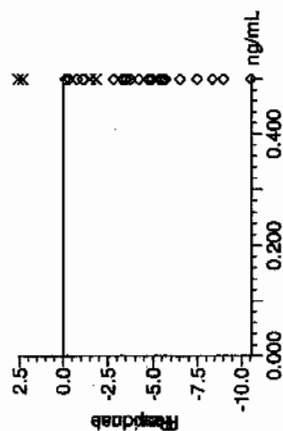


Quantify Calibration Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Compound name: Perchlorate-O(18)  
Response Factor: 43525.2  
RF SD: 974.018, % Relative SD: 2.23783 -  
Response type: External Std, Area  
Curve type: RF



51-22-10

Perchlorate Initial Calibration Verification

GEL Job No.(SDG): 10-1264

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units:  $\mu\text{g/L}$

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	100.6	21-JAN-10 14:32	per0121009a
Perchlorate Isotope Ratio		3.02		21-JAN-10 14:32	per0121009a
Perchlorate-101	.5	.48	96.98	21-JAN-10 14:32	per0121009a

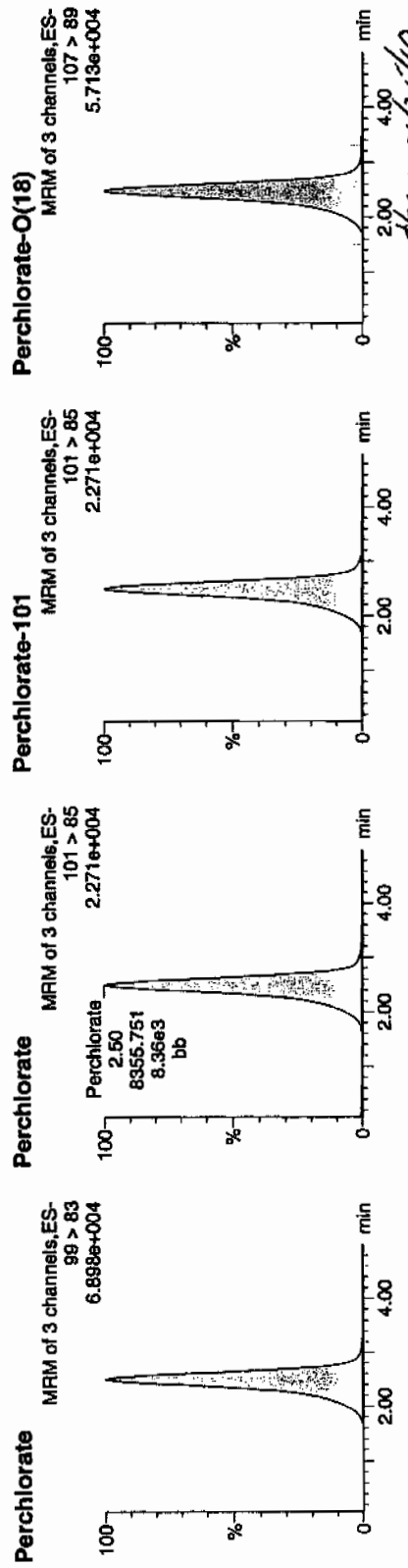
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121009a  
Date: 21-Jan-2010  
Time: 14:32:44  
ID: WCL100118-06ICV  
Vial: 1:2,A

*Per*  
*WCL*  
*01-22-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06ICV	Perchlorate	99 > 83	2.50	25269.490	25269.490	bb			0.5030	100.60	0.60	4248.9...	3.02
WCL100118-06ICV	Perchlorate-101	101 > 85	2.50	8355.751	8355.751	bb			0.4849	96.98	-3.02	240.922	
WCL100118-06ICV	Perchlorate-O(18)	107 > 89	2.49	20988.775	20988.775	bb			0.4822	96.44	-3.56	177.662	

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1264

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.48	95.02	21-JAN-10 16:01	per0121020a
Perchlorate Isotope Ratio		3.02		21-JAN-10 16:01	per0121020a
Perchlorate-101	.5	.46	91.69	21-JAN-10 16:01	per0121020a
Perchlorate	.5	.49	97.97	21-JAN-10 17:29	per0121031a
Perchlorate Isotope Ratio		3.01		21-JAN-10 17:29	per0121031a
Perchlorate-101	.5	.47	94.78	21-JAN-10 17:29	per0121031a
Perchlorate	.5	.48	96.84	21-JAN-10 18:58	per0121042a
Perchlorate Isotope Ratio		3.02		21-JAN-10 18:58	per0121042a
Perchlorate-101	.5	.47	93.55	21-JAN-10 18:58	per0121042a

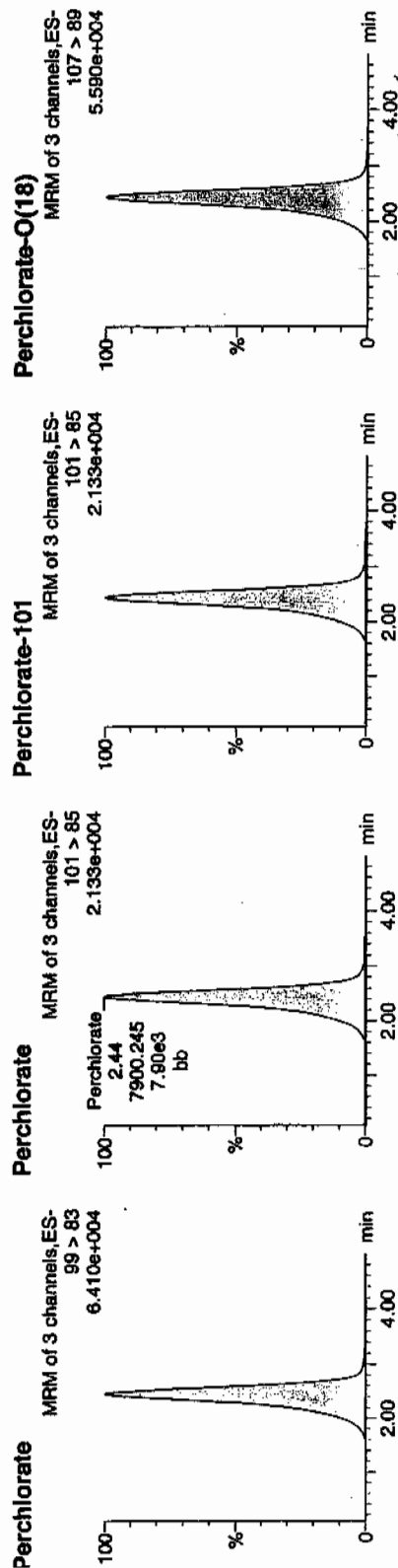
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121020a  
Date: 21-Jan-2010  
Time: 16:01:10  
ID: WCL100118-06CCV  
Vial: 1:2,A

*Pues  
and  
01-22-10*



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
NCL100118-06CCV	Perchlorate	99 > 83	2.45	23869.734	23869.734	bb			0.4751	95.02	-4.98	3481.7...	3.02
NCL100118-06CCV	Perchlorate-101	101 > 85	2.44	7900.245	7900.245	bb			0.4585	91.69	-8.31	1784.4...	
NCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.44	20707.582	20707.582	bb			0.4758	95.15	-4.85	3634.6...	

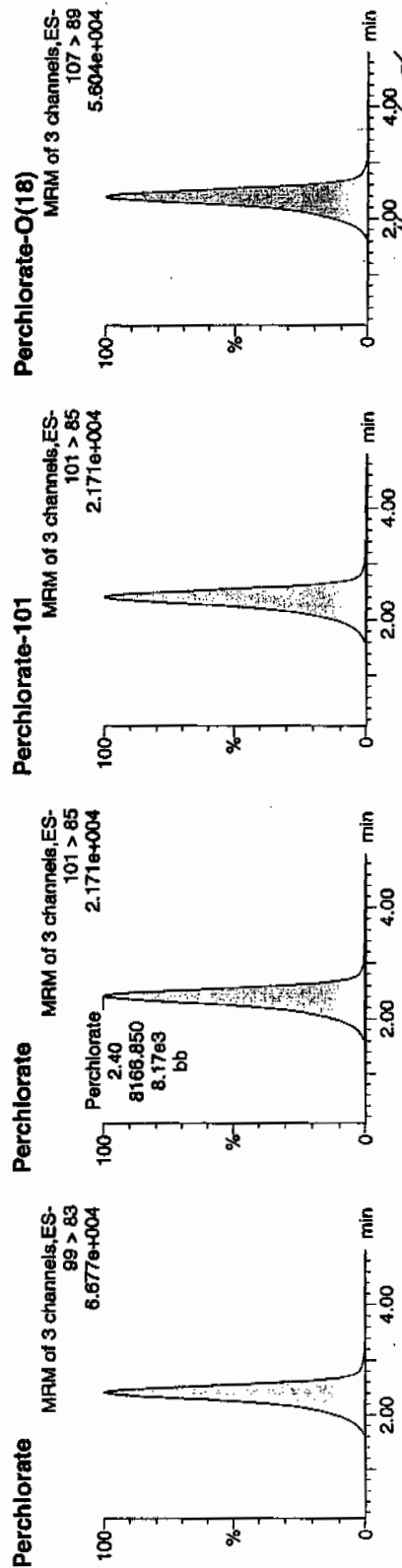
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121031a  
Date: 21-Jan-2010  
Time: 17:29:35  
ID: WCL100118-06CCV  
Vial: 1:2,A

*Peres*  
*WCL*  
*01-22-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	np/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-06CCV	Perchlorate	98 > 83	2.41	24610.193	24610.193	bb			0.4899	97.97	-2.03	4084.3...	3.01
WCL100118-06CCV	Perchlorate-101	101 > 85	2.40	8166.850	8166.850	bb			0.4739	94.78	-5.22	3008.0...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.39	20595.035	20595.035	bb			0.4732	94.64	-5.36	2737.1...	

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

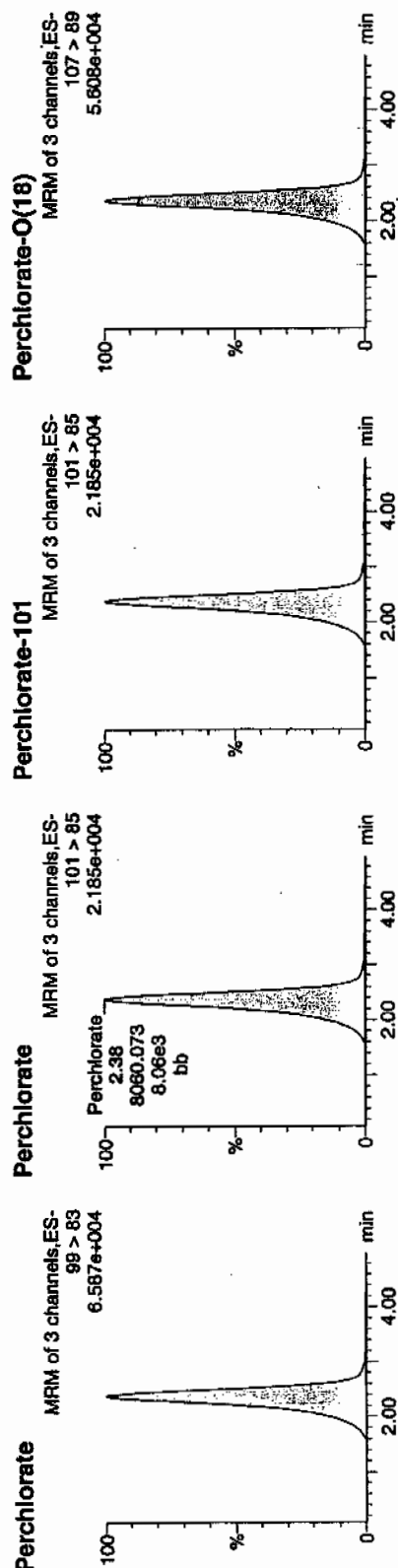
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121042a  
Date: 21-Jan-2010  
Time: 18:58:08  
ID: WCL100118-06CCV  
Vial: 1:2,A

*per*  
*01-22-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	2.38	24326.305	24326.305	bb			0.4842	96.84	-3.16	4480.0...	3.02
WCL100118-06CCV	Perchlorate-101	101 > 85	2.38	8060.073	8060.073	bb			0.4677	93.55	-6.45	2422.8...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.35	20560.480	20560.480	bb			0.4724	94.48	-5.52	2760.4...	

*Ammonia*



## Perchlorate MDL Verification

Lab Name: General Engineering LaboratoriesGEL Job No.(SDG): 10-1264Lab Code: GELReporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	99.52	21-JAN-10 14:48	per0121011a
Perchlorate Isotope Ratio		3.23		21-JAN-10 14:48	per0121011a
Perchlorate-101	.05	.04	89.89	21-JAN-10 14:48	per0121011a
Perchlorate	.05	.05	95.71	21-JAN-10 16:17	per0121022a
Perchlorate Isotope Ratio		2.91		21-JAN-10 16:17	per0121022a
Perchlorate-101	.05	.05	95.94	21-JAN-10 16:17	per0121022a
Perchlorate	.05	.04	88.01	21-JAN-10 17:45	per0121033a
Perchlorate Isotope Ratio		2.81		21-JAN-10 17:45	per0121033a
Perchlorate-101	.05	.05	91.47	21-JAN-10 17:45	per0121033a
Perchlorate	.05	.05	94.38	21-JAN-10 19:14	per0121044a
Perchlorate Isotope Ratio		2.99		21-JAN-10 19:14	per0121044a

Form 3

Perchlorate MDL Verification

GEL Job No.(SDG): 10-1264

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/L

Perchlorate-101	.05	.05	92.04	21-JAN-10 19:14	per0121044a
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**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Willson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121011a

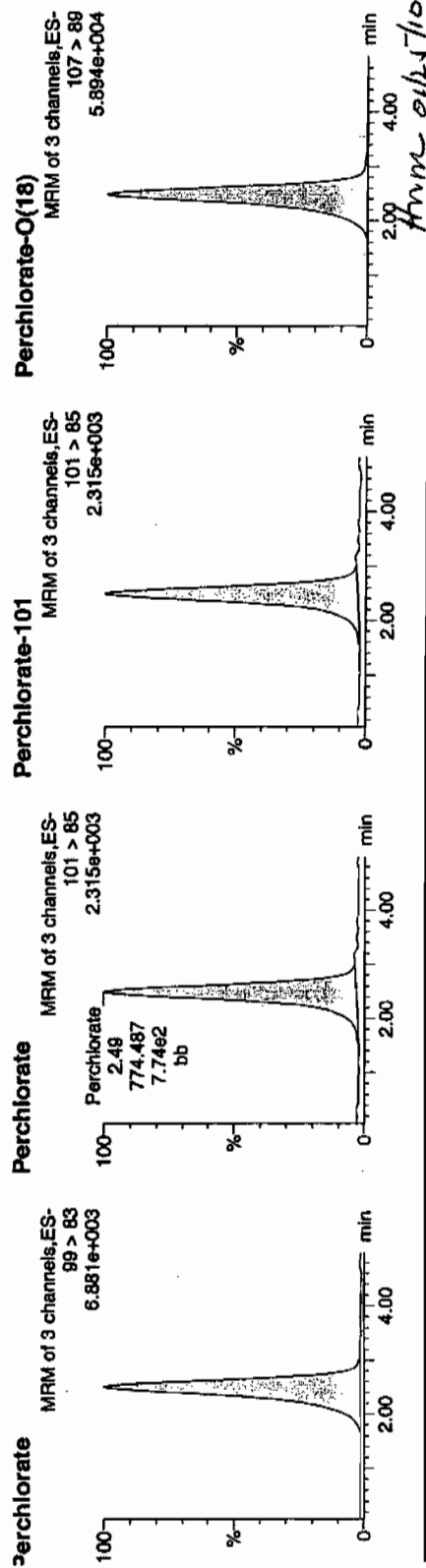
Date: 21-Jan-2010

Time: 14:48:48

D: WCL100118-07CRI

Vial: 1:2, B

*Pass and*  
*01-22-10*



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	on Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.50	2499.918	2499.918	bb			0.0498	99.52	-0.48	607.914	3.23
WCL100118-07CRI	Perchlorate-101	101 > 85	2.49	774.487	774.487	bb			0.0449	88.89	-10.11	129.026	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.49	21733.771	21733.771	bb			0.4993	99.87	-0.13	6289.1...	

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121022a

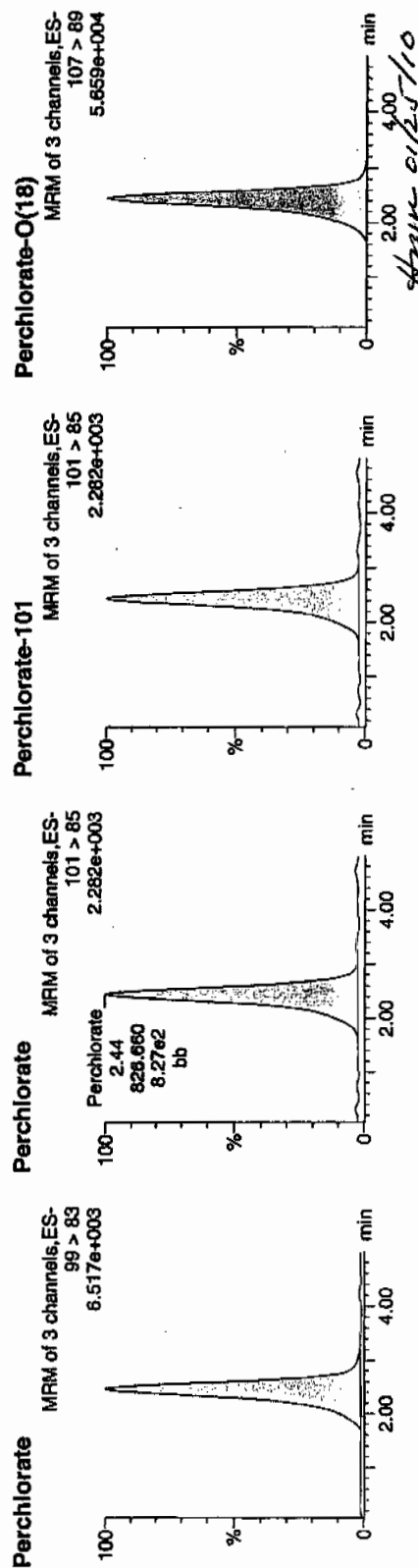
Date: 21-Jan-2010

Time: 16:17:15

ID: WCL100118-07CRI

Vial: 1:2,B

Page 22  
01-22-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	SN	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.46	2404.126	2404.126	bb			0.0479	95.71	-4.29	1416.1...	2.91
WCL100118-07CRI	Perchlorate-101	101 > 85	2.44	826.660	826.660	bb			0.0480	95.94	-4.06	220.967	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.45	20843.346	20843.346	bb			0.4789	95.78	-4.22	6422.2...	

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

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121033a

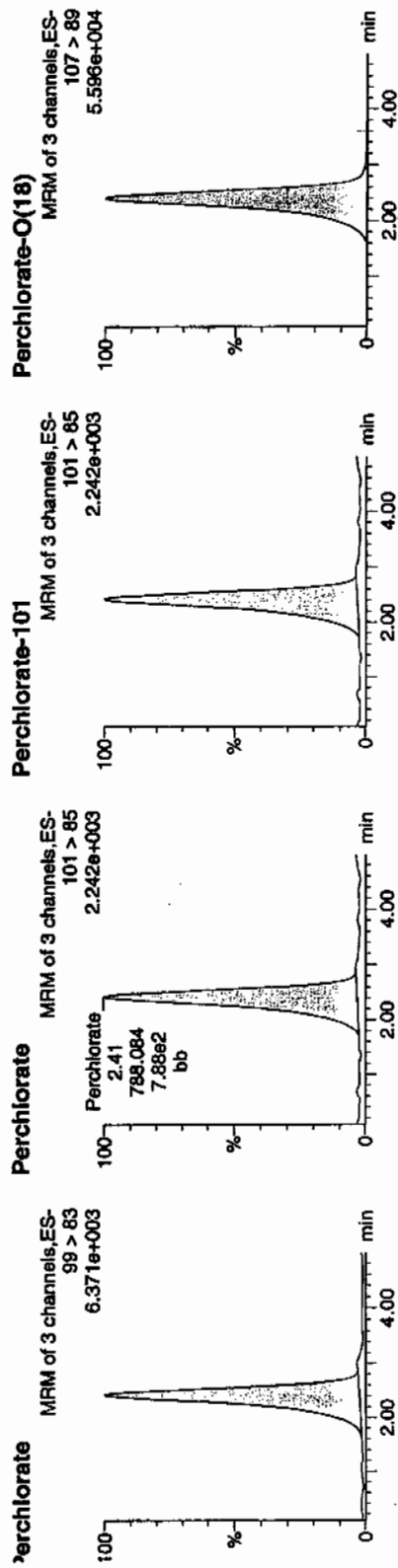
Date: 21-Jan-2010

Time: 17:45:40

D: WCL100118-07CRI

File: 1:2,B

Pass  
01-22-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	IS/N Ion Ratio
VCL100118-07CRI	Perchlorate	99 > 83	2.41	2210.652	bb			0.0440	88.01	-11.99	1276.3...
VCL100118-07CRI	Perchlorate-101	101 > 85	2.41	788.084	bb			0.0457	91.47	-8.53	244.908
VCL100118-07CRI	Perchlorate-Q(18)	107 > 89	2.40	20678.830	bb			0.4751	95.02	-4.98	2996.1...

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

# Quantify Sample Report MassLynx 4.0 SP4

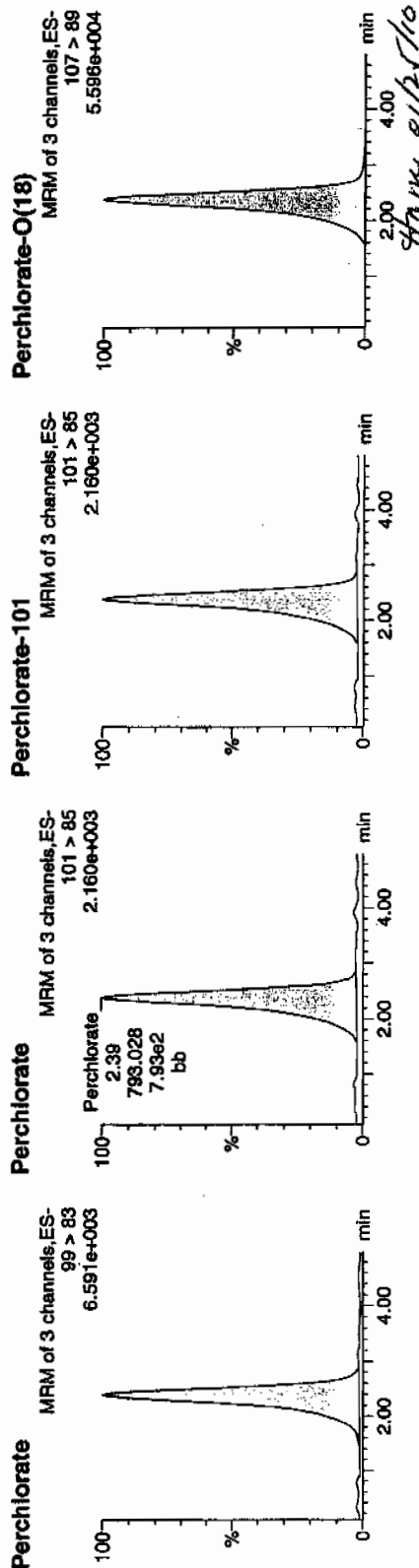
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
 Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121044a  
 Date: 21-Jan-2010  
 Time: 19:14:12  
 ID: WCL100118-07CRI  
 Vial: 1:2,B

*Per*  
*and*  
*9-27-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	SN	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.39	2370.722	2370.722	bb			0.0472	94.38	-5.62	291.307	2.99
WCL100118-07CRI	Perchlorate-101	101 > 85	2.39	793.028	793.028	bb			0.0460	92.04	-7.96	115.670	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.38	20985.957	20985.957	bb			0.4822	96.43	-3.57	648.883	

# QUALITY CONTROL

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: EPA 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 943783  
 Extraction Type: Filter/DAI  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0  
 Client Sample No. MB  
 Date Received: 21-JAN-10  
 GEL Job No (SDG): 10-1264  
 GEL Sample ID: 1202020832  
 Date Filtered: 21-JAN-10  
 Injection Volume (uL): 20  
 %Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	21-JAN-10 14:56	per0121012a
	Perchlorate Isotope Ratio						1	21-JAN-10 14:56	per0121012a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	21-JAN-10 14:56	per0121012a
	Perchlorate-O(18)			0.483	ug/L		1	21-JAN-10 14:56	per0121012a

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

\*Concentration =  
 Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$



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

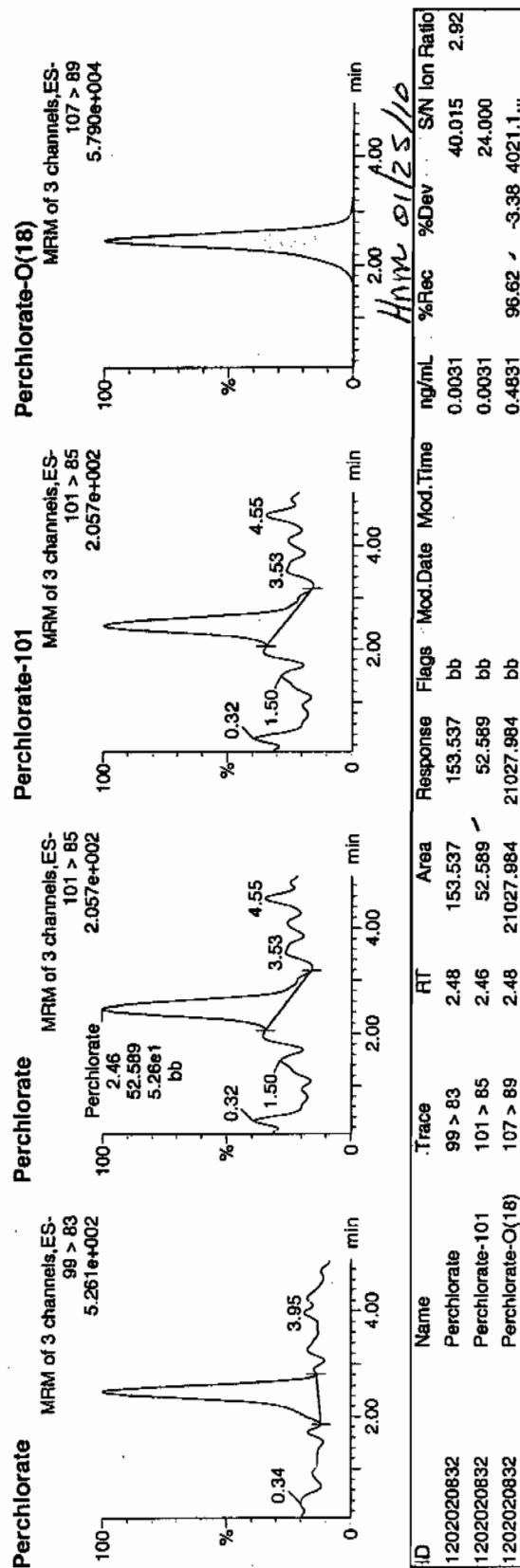
Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121012a  
Date: 21-Jan-2010  
Time: 14:56:53  
ID: 1202020832  
Vial: 1:3,A

01-22-10

1202020832 | 1202020832 | 1202020832



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

**Perchlorate Analysis Data Sheet**

Lab Name: GEL Laboratories LLC      Client Sample No. LCS

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: WATER

Extraction Batch ID: 943783

Extraction Type: Filter/DAI

Date Received: 21-JAN-10

GEL Job No (SDG): 10-1264

GEL Sample ID: 1202020833

Date Filtered: 21-JAN-10

Injection Volume (uL): 20

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

%Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.203	ug/L		1	21-JAN-10 15:04	per0121013a
	Perchlorate Isotope Ratio			2.85			1	21-JAN-10 15:04	per0121013a
14797-73-0	Perchlorate-101	.05	.2	0.208	ug/L		1	21-JAN-10 15:04	per0121013a
	Perchlorate-O(18)			0.498	ug/L		1	21-JAN-10 15:04	per0121013a

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

\*Concentration =

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

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

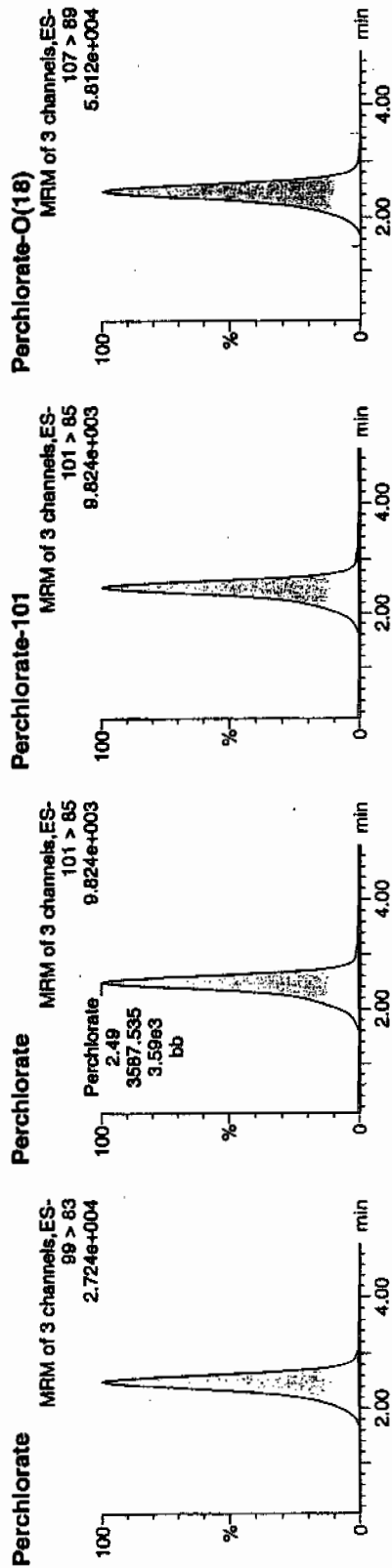
Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

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Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121013a  
Date: 21-Jan-2010  
Time: 15:04:55  
ID: 1202020833  
Vial: 1:3,B

LANC | 943784 | L2Q | L5 | 11

01-22-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202020833	Perchlorate	99 > 83	2.49	10216.783	10216.783	bb			0.2034	101.68	1.68	562.419	2.85
1202020833	Perchlorate-101	101 > 85	2.49	3587.535	3587.535	bb			0.2082	104.09	4.09	1450.1...	
1202020833	Perchlorate-O(18)	107 > 89	2.48	21689.895	21689.895	bb			0.4983	99.57	-0.33	2614.2...	

10216.783  
50239 = 0.2034  
H111111  
01/25/10

# MISCELLANEOUS DATA

# Prep Logbook

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

Batch ID: 943783 Verified by: \_\_\_\_\_ Lab SOP: GL-OA-E-067 REV# 6  
 Analyst: Charles Wilson Instrument: MicroMass Quattro Ultima  
 Method: SW846 6850 Modified

Sample ID	Run Date	Initial Volume (mL)	Final Volume (mL)	Prepped Factor (mL/mL)
1202020832 MB	21-JAN-2010 11:26:13	10	10	1
1202020833 LCS	21-JAN-2010 11:26:13	10	10	1
244418001 - 2	21-JAN-2010 11:26:13	10	10	1
244602001 - 2	21-JAN-2010 11:26:13	10	10	1
244610001 - 2	21-JAN-2010 11:26:13	10	10	1
244614001 - 2	21-JAN-2010 11:26:13	10	10	1
244618001 - 2	21-JAN-2010 11:26:13	10	10	1
244719001 - 2	21-JAN-2010 11:26:13	10	10	1
244719002 - 2	21-JAN-2010 11:26:13	10	10	1
244719003 - 2	21-JAN-2010 11:26:13	10	10	1
244722001 - 2	21-JAN-2010 11:26:13	10	10	1
244722002 - 2	21-JAN-2010 11:26:13	10	10	1
244722003 - 2	21-JAN-2010 11:26:13	10	10	1
244722004 - 2	21-JAN-2010 11:26:13	10	10	1
244849001	21-JAN-2010 11:26:13	10	10	1
244880001 - 2	21-JAN-2010 11:26:13	10	10	1
244893001 - 2	21-JAN-2010 11:26:13	10	10	1
244912001 - 2	21-JAN-2010 11:26:13	10	10	1
244919001 - 2	21-JAN-2010 11:26:13	10	10	1
244922001 - 2	21-JAN-2010 11:26:13	10	10	1
1202020834 - 2 MS (244922001)	21-JAN-2010 11:26:13	10	10	1
1202020835 - 2 MSD (244922001)	21-JAN-2010 11:26:13	10	10	1
244925001 - 2	21-JAN-2010 11:26:13	10	10	1
1202020836 ICS	21-JAN-2010 11:26:13	10	10	1

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments
ICS	1202020836	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	Desalting cartridges used: B101/0211609 & B1000311609
LCS	1202020833	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	
MS	1202020834	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	
MSD	1202020835	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.2	mL	
RGNT	All	500 ppm Carbonate, Bicarbonate, Chloride, Sulfate	1236492	10	mL	
RGNT	All	O2SI HPLC Grade Water	1246195	10	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/21/10

Extr. Injection Volume: 20uL

Sequence Number: per012110a

Initial Calibration Date: 01/21/10

Method: EPA 6850-Modified

Int. Std.: UCL091019-03.2

Mobile Phase Lot#: 1254342, 1246195

Standard-Samp Reagent Lot#: 1233976

Reviewed BY: *hnm*  
Date: *2/25/10*  
SOP: GL-OA-E-067 Rev.6  
Alt Check Std. ID: WCL100118-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0121001a	IPB001	CWW	1/21/2010 13:28			1		USE	B
per0121002a	IPB001	CWW	1/21/2010 13:36			1		USE	B
per0121003a	WCLICAL-01	CWW	1/21/2010 13:44			1		USE	I
per0121004a	WCLICAL-02	CWW	1/21/2010 13:52			1		USE	I
per0121005a	WCLICAL-03	CWW	1/21/2010 14:00			1		USE	I
per0121006a	WCLICAL-04	CWW	1/21/2010 14:08			1		USE	I
per0121007a	WCLICAL-05	CWW	1/21/2010 14:16			1		USE	I
per0121008a	IPB002	CWW	1/21/2010 14:24			1		USE	B
per0121009a	WCLICV	CWW	1/21/2010 14:32			1		USE	C
per0121010a	IPB003	CWW	1/21/2010 14:40			1		USE	B
per0121011a	WCLCRI	CWW	1/21/2010 14:48			1		USE	C
per0121012a	1202020832	CWW	1/21/2010 14:56	943784	VARIOUS	1	LANL	USE	S
per0121013a	1202020833	CWW	1/21/2010 15:04	943784	VARIOUS	1	LANL	USE	S
per0121014a	1202020836	CWW	1/21/2010 15:12	943784	VARIOUS	1	LANL	USE	S
per0121015a	244418001	CWW	1/21/2010 15:21	943784	10-1195-1	1	LANL	USE	S
per0121016a	244602001	CWW	1/21/2010 15:29	943784	10-1212-1	1	LANL	USE	S
per0121017a	244610001	CWW	1/21/2010 15:37	943784	10-1215	1	LANL	USE	S
per0121018a	244614001	CWW	1/21/2010 15:45	943784	10-1218-1	1	LANL	USE	S
per0121019a	244618001	CWW	1/21/2010 15:53	943784	10-1220	1	LANL	USE	S
per0121020a	WCLCCV	CWW	1/21/2010 16:01			1		USE	C
per0121021a	IPB004	CWW	1/21/2010 16:09			1		USE	B
per0121022a	WCLCRI	CWW	1/21/2010 16:17			1		USE	C
per0121023a	244719001	CWW	1/21/2010 16:25	943784	10-1239	1	LANL	USE	S
per0121024a	244719002	CWW	1/21/2010 16:33	943784	10-1239	1	LANL	USE	S
per0121025a	244719003	CWW	1/21/2010 16:41	943784	10-1239	1	LANL	USE	S
per0121026a	244722001	CWW	1/21/2010 16:49	943784	10-1234-1	1	LANL	USE	S
per0121027a	244722002	CWW	1/21/2010 16:57	943784	10-1234-1	1	LANL	USE	S
per0121028a	244722003	CWW	1/21/2010 17:05	943784	10-1234-1	1	LANL	USE	S
per0121029a	244722004	CWW	1/21/2010 17:13	943784	10-1234-1	1	LANL	USE	S

per0121030a	244849001	CWW	1/21/2010 17:21	943784	10-1262-1	1	LANL	USE	S
per0121031a	WCLCCV	CWW	1/21/2010 17:29			1		USE	C
per0121032a	IPB005	CWW	1/21/2010 17:37			1		USE	B
per0121033a	WCLCRI	CWW	1/21/2010 17:45			1		USE	C
per0121034a	244880001	CWW	1/21/2010 17:53	943784	10-1264	1	LANL	USE	S
per0121035a	244893001	CWW	1/21/2010 18:01	943784	10-1278-1	1	LANL	USE	S
per0121036a	244912001	CWW	1/21/2010 18:09	943784	10-1282	1	LANL	USE	S
per0121037a	244919001	CWW	1/21/2010 18:17	943784	10-1286	1	LANL	USE	S
per0121038a	244922001	CWW	1/21/2010 18:25	943784	10-1288-1	1	LANL	USE	S
per0121039a	1202020834	CWW	1/21/2010 18:34	943784	10-1288-1	1	LANL	USE	S
per0121040a	1202020835	CWW	1/21/2010 18:42	943784	10-1288-1	1	LANL	USE	S
per0121041a	244925001	CWW	1/21/2010 18:50	943784	10-1270	1	LANL	USE	S
per0121042a	WCLCCV	CWW	1/21/2010 18:58			1		USE	C
per0121043a	IPB006	CWW	1/21/2010 19:06			1		USE	B
per0121044a	WCLCRI	CWW	1/21/2010 19:14			1		USE	C
per0121045a	1202011842	CWW	1/21/2010 19:22	940151	10-1156	1	LANL	USE	S
per0121046a	1202011843	CWW	1/21/2010 19:30	940151	10-1156	1	LANL	USE	S
per0121047a	1202011846	CWW	1/21/2010 19:38	940151	10-1156	1	LANL	USE	S
per0121048a	244224001	CWW	1/21/2010 19:46	940151	10-1156	1	LANL	USE	S
per0121049a	1202011844	CWW	1/21/2010 19:54	940151	10-1156	1	LANL	USE	S
per0121050a	1202011845	CWW	1/21/2010 20:02	940151	10-1156	1	LANL	USE	S
per0121051a	244224002	CWW	1/21/2010 20:10	940151	10-1156	1	LANL	USE	S
per0121052a	244224003	CWW	1/21/2010 20:18	940151	10-1156	1	LANL	USE	S
per0121053a	244224004	CWW	1/21/2010 20:26	940151	10-1156	1	LANL	USE	S
per0121054a	WCLCCV	CWW	1/21/2010 20:34			1		USE	C
per0121055a	IPB007	CWW	1/21/2010 20:42			1		USE	B
per0121056a	WCLCRI	CWW	1/21/2010 20:50			1		USE	C
per0121057a	244224005	CWW	1/21/2010 20:59	940151	10-1156	1	LANL	USE	S
per0121058a	244224006	CWW	1/21/2010 21:07	940151	10-1156	1	LANL	USE	S
per0121059a	244224007	CWW	1/21/2010 21:15	940151	10-1156	1	LANL	USE	S
per0121060a	244224008	CWW	1/21/2010 21:23	940151	10-1156	1	LANL	USE	S
per0121061a	244224009	CWW	1/21/2010 21:31	940151	10-1156	1	LANL	USE	S
per0121062a	244224010	CWW	1/21/2010 21:39	940151	10-1156	1	LANL	USE	S
per0121063a	244224011	CWW	1/21/2010 21:47	940151	10-1156	1	LANL	USE	S
per0121064a	244224012	CWW	1/21/2010 21:55	940151	10-1156	1	LANL	USE	S
per0121065a	WCLCCV	CWW	1/21/2010 22:03			1		USE	C
per0121066a	IPB008	CWW	1/21/2010 22:11			1		USE	B

per0121067a	WCLCRI	CWW	1/21/2010 22:19	940151	10-1156	1	LANL	USE	C
per0121068a	244224013	CWW	1/21/2010 22:27	940151	10-1156	1	LANL	USE	S
per0121069a	244224014	CWW	1/21/2010 22:36	940151	10-1156	1	LANL	USE	S
per0121070a	244224015	CWW	1/21/2010 22:44	940151	10-1156	1	LANL	USE	S
per0121071a	244224016	CWW	1/21/2010 22:52	940151	10-1156	1	LANL	USE	S
per0121072a	244224017	CWW	1/21/2010 23:00	940151	10-1156	1	LANL	USE	S
per0121073a	244224018	CWW	1/21/2010 23:08	940151	10-1156	1	LANL	USE	S
per0121074a	244224019	CWW	1/21/2010 23:16	940151	10-1156	1	LANL	USE	S
per0121075a	244224020	CWW	1/21/2010 23:24	940151	10-1156	1	LANL	USE	S
per0121076a	WCLCCV	CWW	1/21/2010 23:32			1		USE	C
per0121077a	IPB009	CWW	1/21/2010 23:40			1		USE	B
per0121078a	WCLCRI	CWW	1/21/2010 23:48			1		USE	C



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

Dataset: C:\MassLynx\Perchlorate.PRO\per012110a.qld

Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121039a

Date: 21-Jan-2010

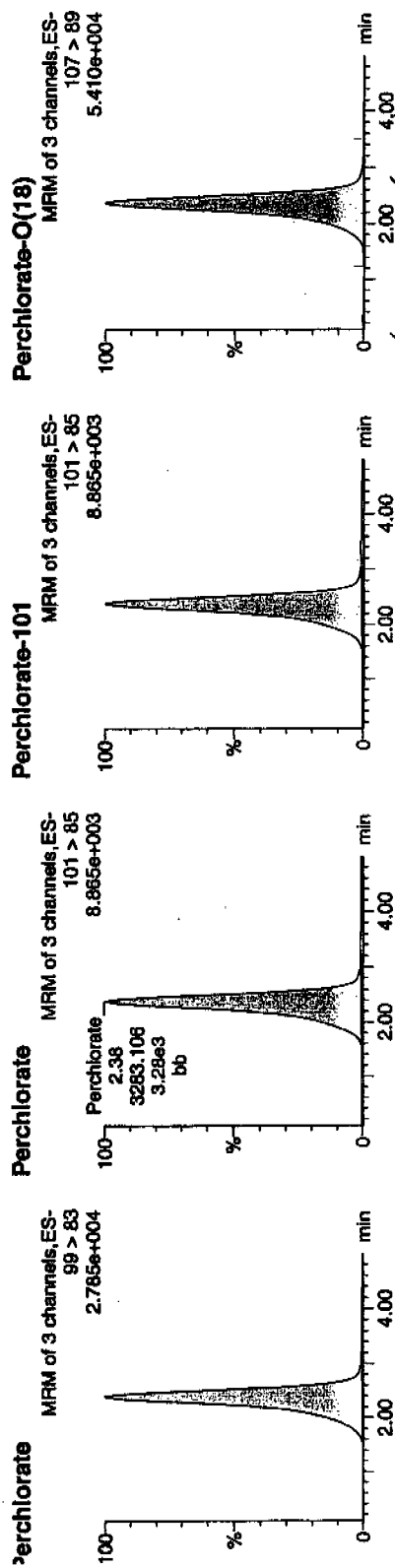
Time: 18:34:00

D: 1202020834

/lal: 1:6,D

01-22-10

1943734 / 1202 / MS / 11



Name	Trace	RT	Area	Response	Flags	Mod	Date	Mod	Time	Int	%Rec	%Dev	SN	Ratio
202020834	Perchlorate	99 > 83	2.39	10214.022	10214.022	bb				-0.2033	101.65	1.65	2934.4...	3.11
202020834	Perchlorate-101	101 > 85	2.38	3283.106	3283.106	bb				0.1905	95.26	-4.74	2696.7...	
202020834	Perchlorate-O(18)	107 > 89	2.36	19942.906	19942.906	bb				0.4582	91.64	-8.36	3312.7...	

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

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

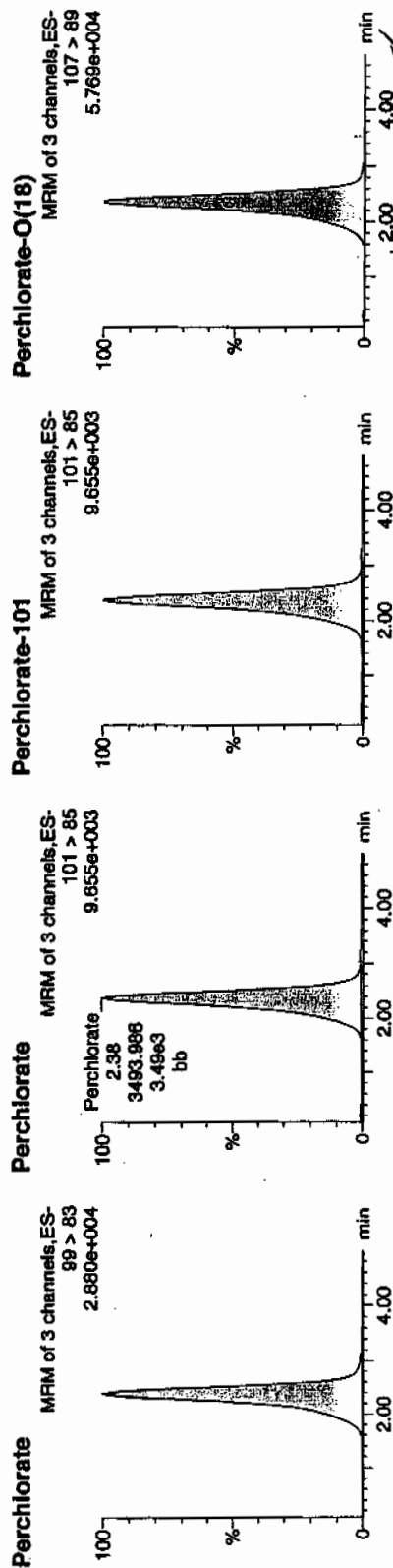
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Last Altered: Friday, January 22, 2010 1:03:56 PM Eastern Standard Time  
Printed: Friday, January 22, 2010 1:16:11 PM Eastern Standard Time

Name: per0121040a  
Date: 21-Jan-2010  
Time: 18:42:02  
ID: 1202020835  
Vial: 1:6,E

1202020835 | LIA | MSO | 11

Q1-22-10



$$\frac{10520.571}{50239} = 0.2094$$

## Isotope Ratio Criteria

### Isotope Ratio $^{35}\text{Cl}/^{37}\text{Cl}$

2.31-3.85

## Tune Criteria

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

# LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-1264-1**

**Method/Analysis Information**

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

**Analytical Method:** SW846 6850 Modified

**Prep Method:** SW846 6850 Modified

**Analytical Batch Number:** 944720

**Prep Batch Number:** 944719

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202023104	Interference Check Sample (ICS)
1202023100	Method Blank (MB)
1202023101	Laboratory Control Sample (LCS)
1202023102	244852001(RE12-10-7856) Matrix Spike (MS)
1202023103	244852001(RE12-10-7856) 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-067 REV# 6.

10-1264-1-PERLCMS

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### **Calibration Information**

#### **Initial Calibration**

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

#### **CCV Requirements**

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

#### **CCB Requirements**

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

#### **CCV Requirements**

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

#### **Low Level Standard (CRI) Requirements**

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

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

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

#### **Interference Check Sample (ICS)**

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

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **QC Sample Designation**

Client sample 244852001 (RE12-10-7856) from SDG 10-1263 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

#### **Matrix Spike (MS) Recovery Statement**

The MS recoveries were within the established acceptance limits.

#### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries were within the established acceptance limits.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

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

#### **Retention Time Standard Area Acceptance**

The retention time standard areas were within the required acceptance criteria for all samples and QC.

### **Retention Time**

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

### **Technical Information**

#### **Holding Time Specifications**

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

#### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

#### **Sample Dilutions**

The samples in this SDG did not require dilutions.

#### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG except for dilutions.

### **Miscellaneous Information**

#### **Data Exception (DER) Documentation**

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

#### **Manual Integrations**

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

#### **Method Comments**

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

#### **Additional Comments**

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

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

#### **Perchlorate Isotope Ratio**

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

#### **System Configuration**

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

#### **Chromatographic Columns**

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

Dionex: IonPac AG-16 2 x 50 mm.

#### **Certification Statement**

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

#### **Review Validation:**

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

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

Reviewer: Robert M. Mace Date: 02/03/10

10-1264-1-PERLCMS

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# SAMPLE DATA SUMMARY

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944719

Extraction Type: Solid Prep

Client Sample No.

RE12-10-8096

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881001

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 93.9

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.533	2.13	0.533	ug/kg	U	1	27-JAN-10 21:47	per0127021a
	Perchlorate Isotope Ratio						1	27-JAN-10 21:47	per0127021a
14797-73-0	Perchlorate-101	.533	2.13	0.533	ug/kg	U	1	27-JAN-10 21:47	per0127021a
	Perchlorate-O(18)			5.25	ug/kg		1	27-JAN-10 21:47	per0127021a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1 %Solids  
Aliquot

**Perchlorate Analysis Data Sheet**

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 944719

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE12-10-8094

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881002

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 24.4

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.53	2.12	0.530	ug/kg	U	1	27-JAN-10 22:19	per0127025a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:19	per0127025a
14797-73-0	Perchlorate-101	.53	2.12	0.530	ug/kg	U	1	27-JAN-10 22:19	per0127025a
	Perchlorate-O(18)			5.43	ug/kg		1	27-JAN-10 22:19	per0127025a

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

\*Concentration =

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

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244719

Extraction Type: Solid Prep

Client Sample No.

RE12-10-8097

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881003

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 92

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.543	2.17	0.543	ug/kg	U	1	27-JAN-10 22:27	per0127026a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:27	per0127026a
14797-73-0	Perchlorate-101	.543	2.17	0.543	ug/kg	U	1	27-JAN-10 22:27	per0127026a
	Perchlorate-O(18)			5.63	ug/kg		1	27-JAN-10 22:27	per0127026a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X <sup>1</sup>  
Aliquot %Solids

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244719

Extraction Type: Solid Prep

Client Sample No.

RE12-10-8095

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881004

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 90

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.558	2.23	0.558	ug/kg	U	1	27-JAN-10 22:35	per0127027a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:35	per0127027a
14797-73-0	Perchlorate-101	.558	2.23	0.558	ug/kg	U	1	27-JAN-10 22:35	per0127027a
	Perchlorate-O(18)			5.95	ug/kg		1	27-JAN-10 22:35	per0127027a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1 %Solids  
Aliquot

# QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL GEL Job No. (SDG): 10-1264-1

Extract Batch Code: 944712 Date Filtered: 27-JAN-10

Matrix: SOIL Sample ID: 1202023101

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.06	ug/kg	103		70 - 130
Perchlorate Isotope Ratio		3.17				-
Perchlorate-101	2.00	1.95	ug/kg	97.4		70 - 130
Perchlorate-O(18)		4.89	ug/kg			-

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

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10-1264-1

Extract Batch Code: 244719

Date Filtered: 27-JAN-10

Matrix: SOIL

Sample ID: 1202023104

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.05	ug/kg	103		70 - 130
Perchlorate Isotope Ratio		3.17				
Perchlorate-101	2.00	1.95	ug/kg	97.3		70 - 130
Perchlorate-O(18)		4.93	ug/kg			

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



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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

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Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

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Date: 27-Jan-2010

Time: 20:51:34

ID: 1202023102/4

Label: 1:3,C

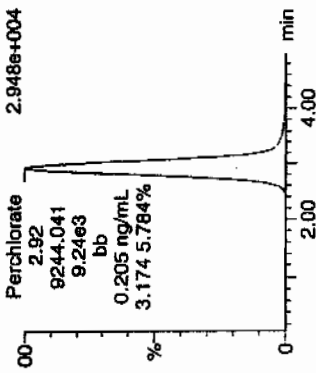
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1202023102/4

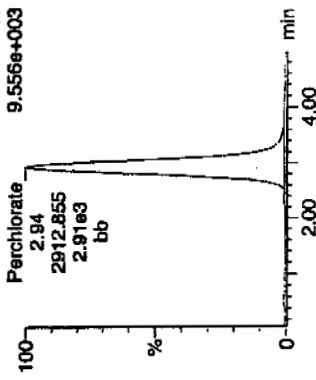
Perchlorate

MRM of 3 channels ES-  
99 > 83



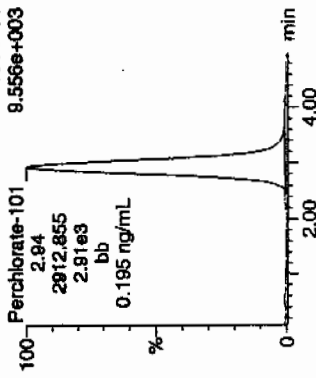
Perchlorate

MRM of 3 channels ES-  
101 > 85



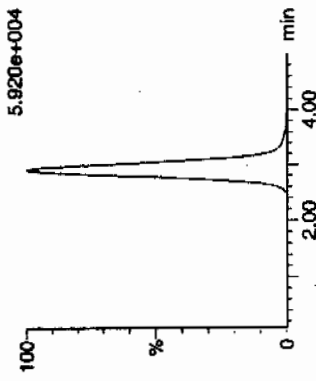
Perchlorate-101

MRM of 3 channels ES-  
101 > 85



Perchlorate-O(18)

MRM of 3 channels ES-  
107 > 89



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202023102	Perchlorate	2.92	9244.041	9244.041	bb			0.2054	102.72	2.72	1893.9...	3.17
202023102	Perchlorate-101	2.94	2912.855	2912.855	bb			0.1946	97.29	-2.71	1890.1...	
202023102	Perchlorate-O(18)	2.91	18491.609	18491.609	bb			0.4932	98.64	-1.36	3720.9...	

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

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-1264-1

Extract Batch Code: 944719

Date Extracted: 27-JAN-10

GEL MS/PS ID: 1202023102

Client ID: RE12-10-7856

GEL MSD/PSD ID: 1202023103

QC Type: MS

Compound <sup>^</sup>	Spike Added	Sample Conc	Units	MS Conc	MS Rec	#	MSD Conc	MSD Rec	#	RPD	#	RPD Limit	Recovery Limit
Perchlorate	2.21	0.058	ug/kg	2.23	98.3		2.25	99.3		1.02		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3			3			0			-
Perchlorate-101	2.21	0.0638	ug/kg	2.24	98.3		2.26	99.4		1.06		30	75 - 125
Perchlorate-O(18)	0	5.52	ug/kg	5.36			5.4			.748			-

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

Comments:

Form 4

Perchlorate Initial Calibration Blank

GEL Job No.(SDG): 10-1264-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	27-JAN-10	per0127001a	IPB001
Perchlorate-101	0.00	0	NA	27-JAN-10	per0127001a	IPB001
Perchlorate	0.00	0	NA	27-JAN-10	per0127002a	IPB001
Perchlorate-101	0.00	0	NA	27-JAN-10	per0127002a	IPB001

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

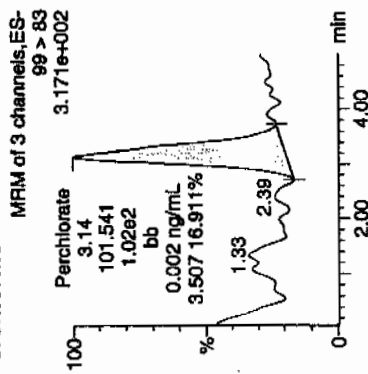
Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012710a.mdb 28 Jan 2010 10:22:42  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012710a.cdb 28 Jan 2010 12:32:46

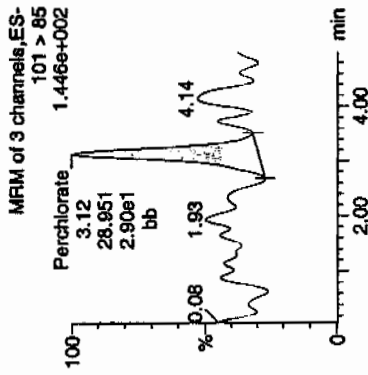
Name: per0127001a  
Date: 27-Jan-2010  
Time: 19:06:51  
D: IPB001  
Vial: 1:1,A

*Cur*  
*01-28-10*

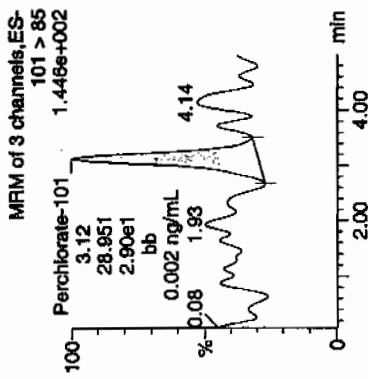
**Perchlorate**



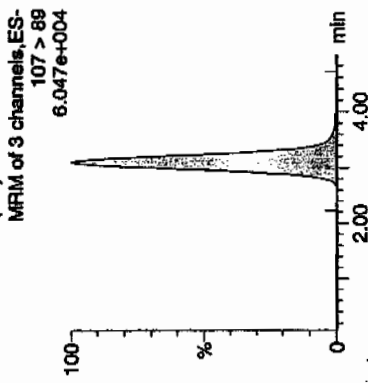
**Perchlorate**



**Perchlorate-101**



**Perchlorate-O(18)**



*4444 01/29/10*

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83	3.14	101.541	101.541	bb			0.0023			43.847	3.51
IPB001	Perchlorate-101	101 > 85	3.12	28.951	28.951	bb			0.0019			16.582	
IPB001	Perchlorate-O(18)	107 > 89	3.10	18671.002	18671.002	bb			0.4980	99.60	-0.40	1853.0...	

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127002a

Date: 27-Jan-2010

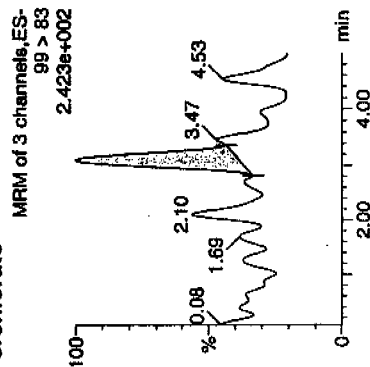
Time: 19:15:04

D: IPB001

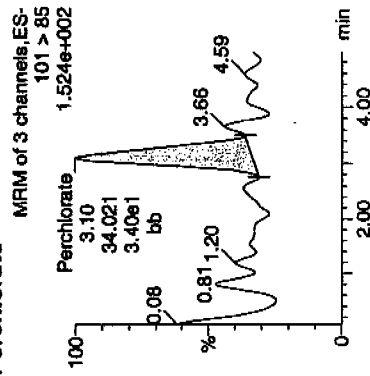
/ial: 1:1,A

0-28-10

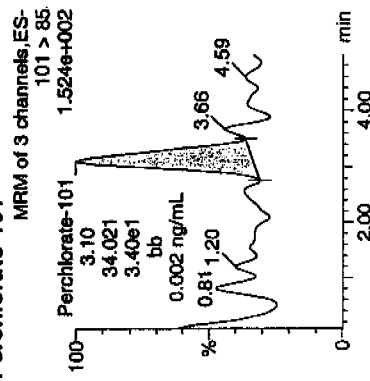
Perchlorate



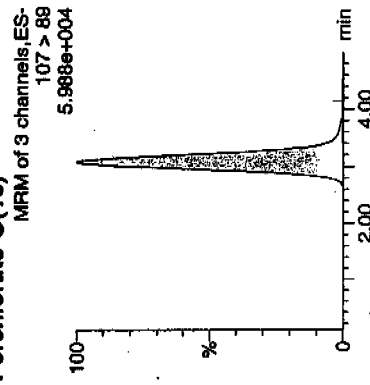
Perchlorate



Perchlorate-101



Perchlorate-O(18)



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
PB001	Perchlorate	99 > 83	3.10	41.383	41.383	bb			0.0009			8.994	1.22
PB001	Perchlorate-101	101 > 85	3.10	34.021	34.021	bb			0.0023			16.085	
PB001	Perchlorate-O(18)	107 > 89	3.09	18576.500	18576.500	bb			0.4955	99.10	-0.90	3756.9...	

Handwritten signature: *Charters W. Wilson*

Handwritten notes: 0.99, 1.22, 16.085

Perchlorate Continuing Calibration Blank

GEL Job No.(SDG): 10-1264-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	27-JAN-10	per0127008a	IPB002
Perchlorate-101	0.00	0	NA	27-JAN-10	per0127008a	IPB002
Perchlorate	0.00	0	NA	27-JAN-10	per0127010a	IPB003
Perchlorate-101	0.00	0	NA	27-JAN-10	per0127010a	IPB003
Perchlorate	0.00	0	NA	27-JAN-10	per0127023a	IPB004
Perchlorate-101	0.00	0	NA	27-JAN-10	per0127023a	IPB004
Perchlorate	0.00	0	NA	27-JAN-10	per0127036a	IPB005
Perchlorate-101	0.00	0	NA	27-JAN-10	per0127036a	IPB005

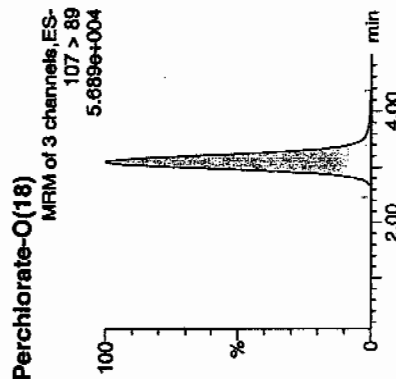
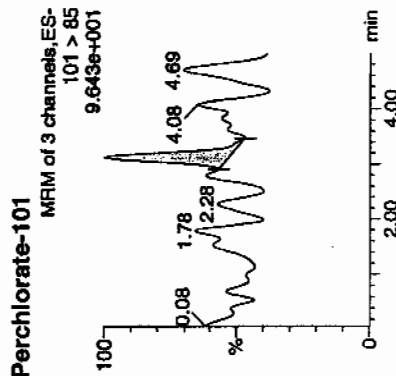
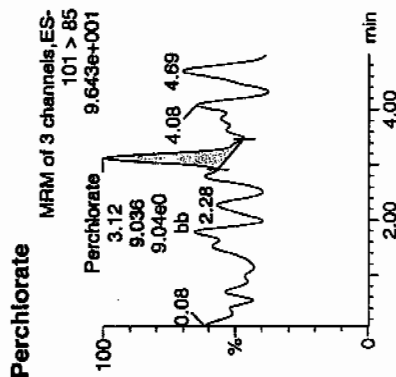
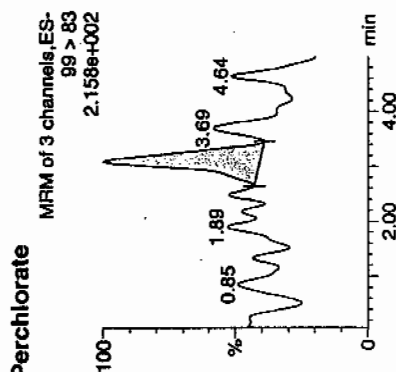
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127008a  
Date: 27-Jan-2010  
Time: 20:03:21  
D: IPB002  
/ial: 1:1,A

01-28-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
PB002	Perchlorate	99 > 83	3.09	42.079	42.079	bb			0.0009			12.512	4.66
PB002	Perchlorate-101	101 > 85	3.12	9.036	9.036	bb			0.0006			12.364	
PB002	Perchlorate-O(18)	107 > 89	3.10	17949.510	17949.510	bb			0.4788	95.75	-4.25	5202.8...	

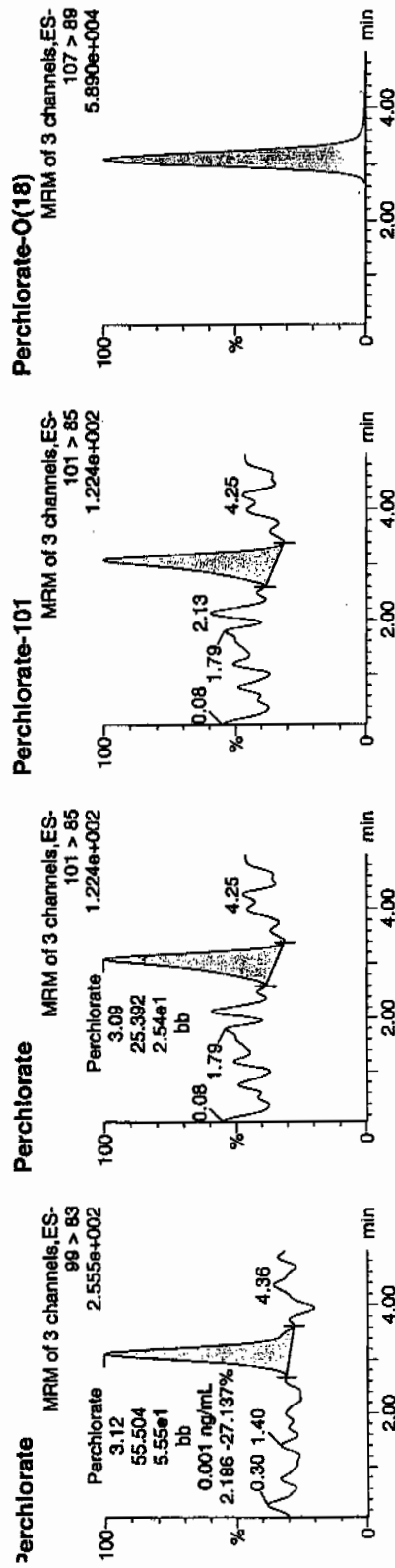
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127010a  
Date: 27-Jan-2010  
Time: 20:19:25  
D: IPB003  
/lal: 1:1,A

01-23-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
PB003	Perchlorate	99 > 83	3.12	55.504	55.504	bb			0.0012			10.142	2.19
PB003	Perchlorate-101	101 > 85	3.09	25.392	25.392	bb			0.0017			17.762	
PB003	Perchlorate-Q(18)	107 > 89	3.10	18617.938	18617.938	bb			0.4966	99.32	-0.68	4293.7...	

0.0012  
0.0017  
0.4966



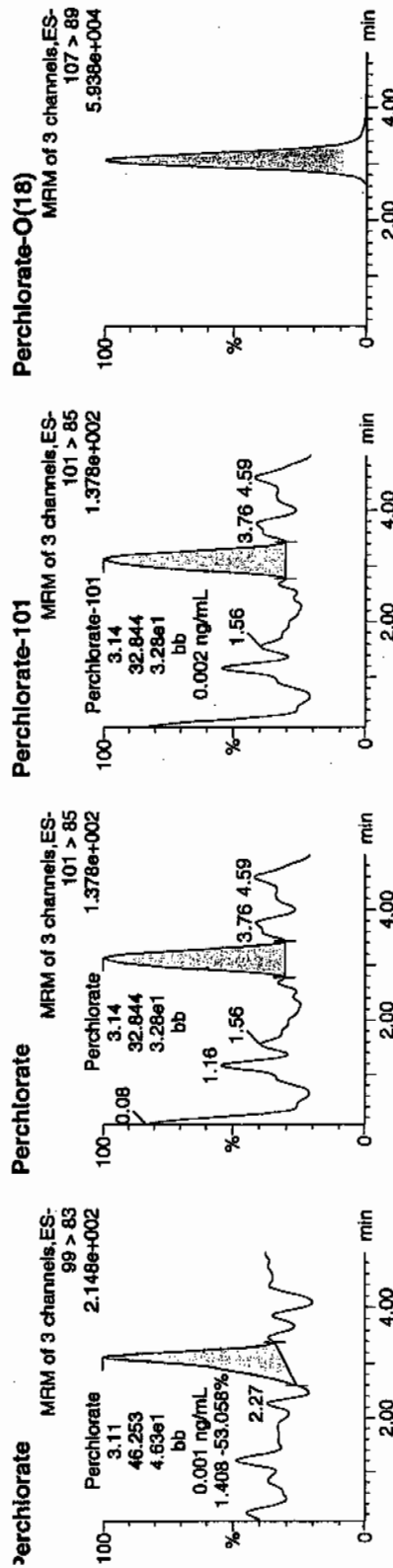
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127023a  
Date: 27-Jan-2010  
Time: 22:03:52  
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/lat: 1:1,A

01-13-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB004	Perchlorate	99 > 83	3.11	46.253	46.253	bb			0.0010			37.540	1.41
PB004	Perchlorate-101	101 > 85	3.14	32.844	32.844	bb			0.0022			16.463	
PB004	Perchlorate-O(18)	107 > 89	3.06	18551.006	18551.006	bb			0.4948	98.96	-1.04	7426.3...	

Handwritten: 01/29/10  
01/29/10

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

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Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127036a

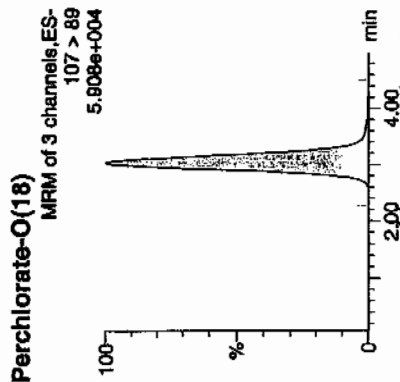
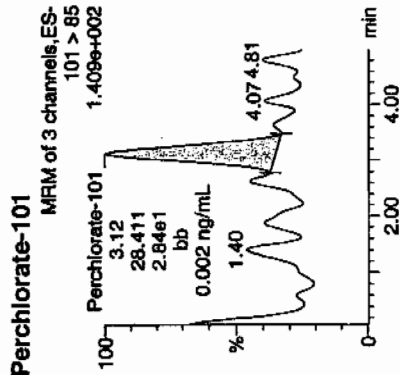
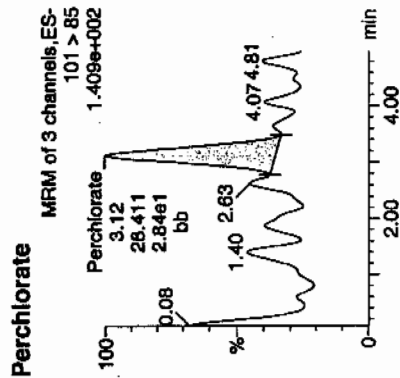
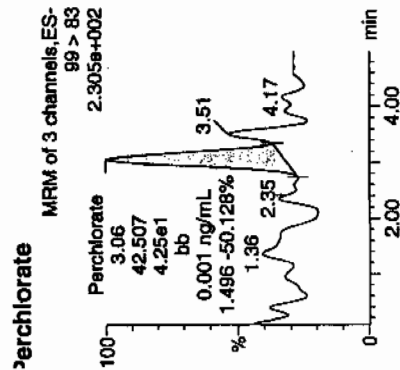
Date: 27-Jan-2010

Time: 23:48:26

D: IPB005

/lal: 1:1,A

01-28-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
PB005	Perchlorate	99 > 83	3.06	42.507	42.507	bb			0.0009			16.200	1.50
PB005	Perchlorate-101	101 > 85	3.12	28.411	28.411	bb			0.0019			23.260	
PB005	Perchlorate-O(18)	107 > 89	3.04	18369.904	18369.904	bb			0.4900	97.99	-2.01	3034.0...	

01-28-10

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

QUATRO ULTIMA: nairb 01.08.08.cal

Calibration Report - MS1 Static

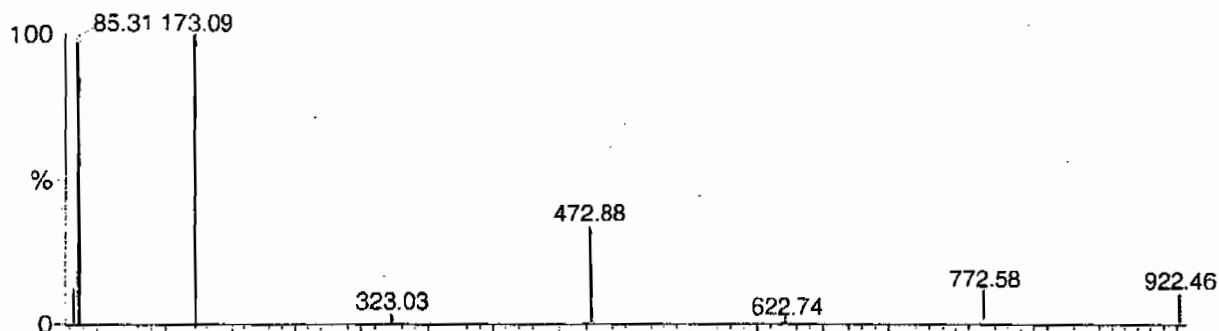
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

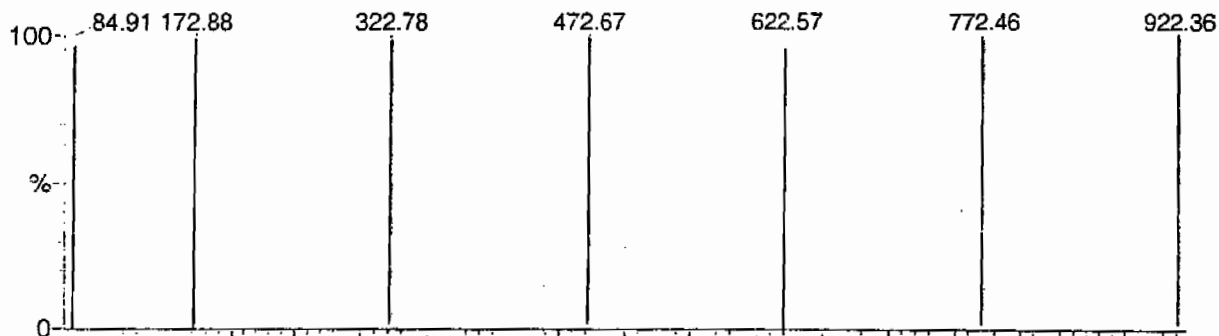
DATA REPRODUCED BY GEL 01-01-03

Data file: STATMS1 - Uncalibrated

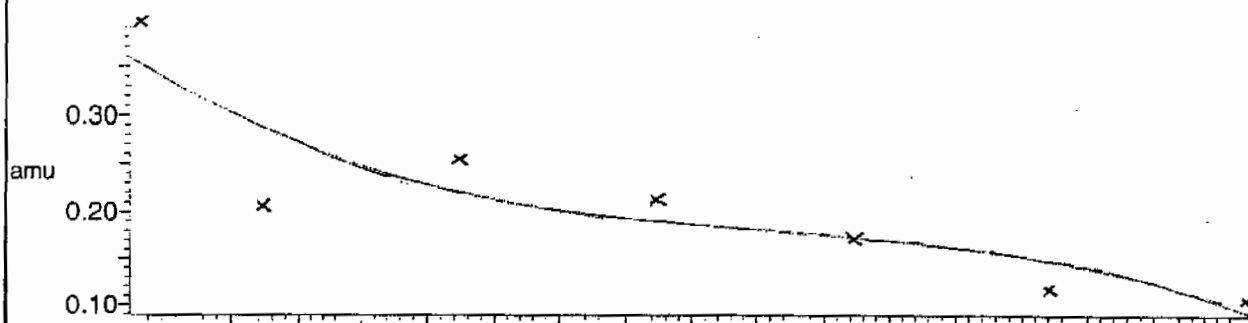
7 matches of 7 tested references



Reference file: Nairb

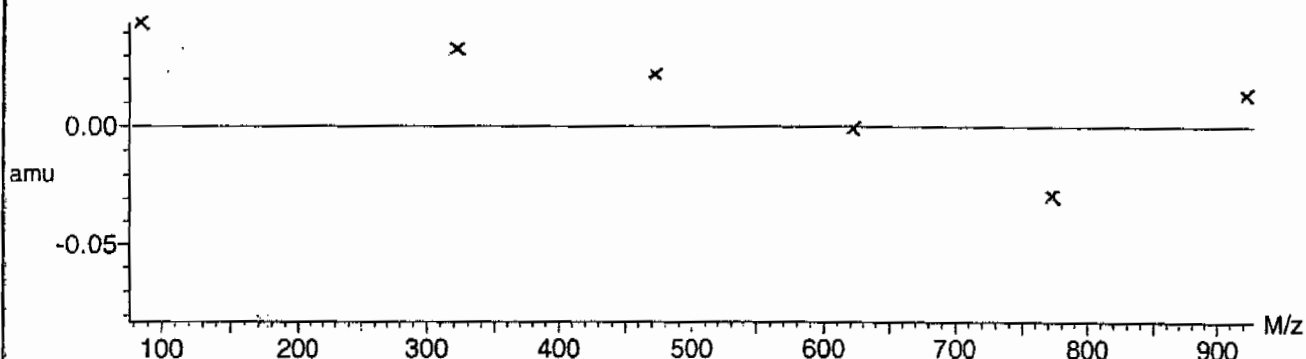


Mass difference (Raw - Ref mass)



Residuals

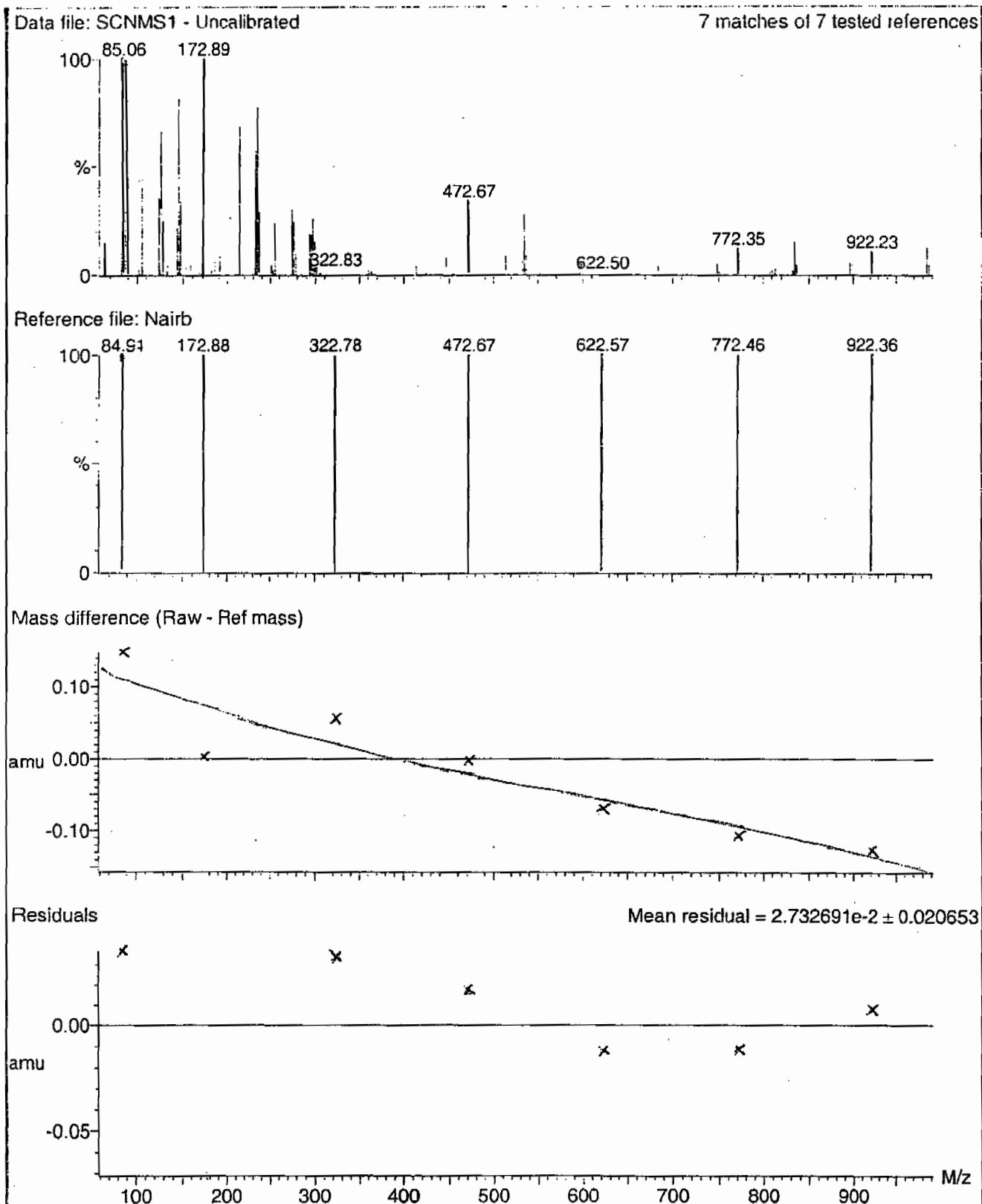
Mean residual =  $3.212012 \times 10^{-2} \pm 0.024108$



Calibration Report - MS1 Scanning

Page 1 of 1

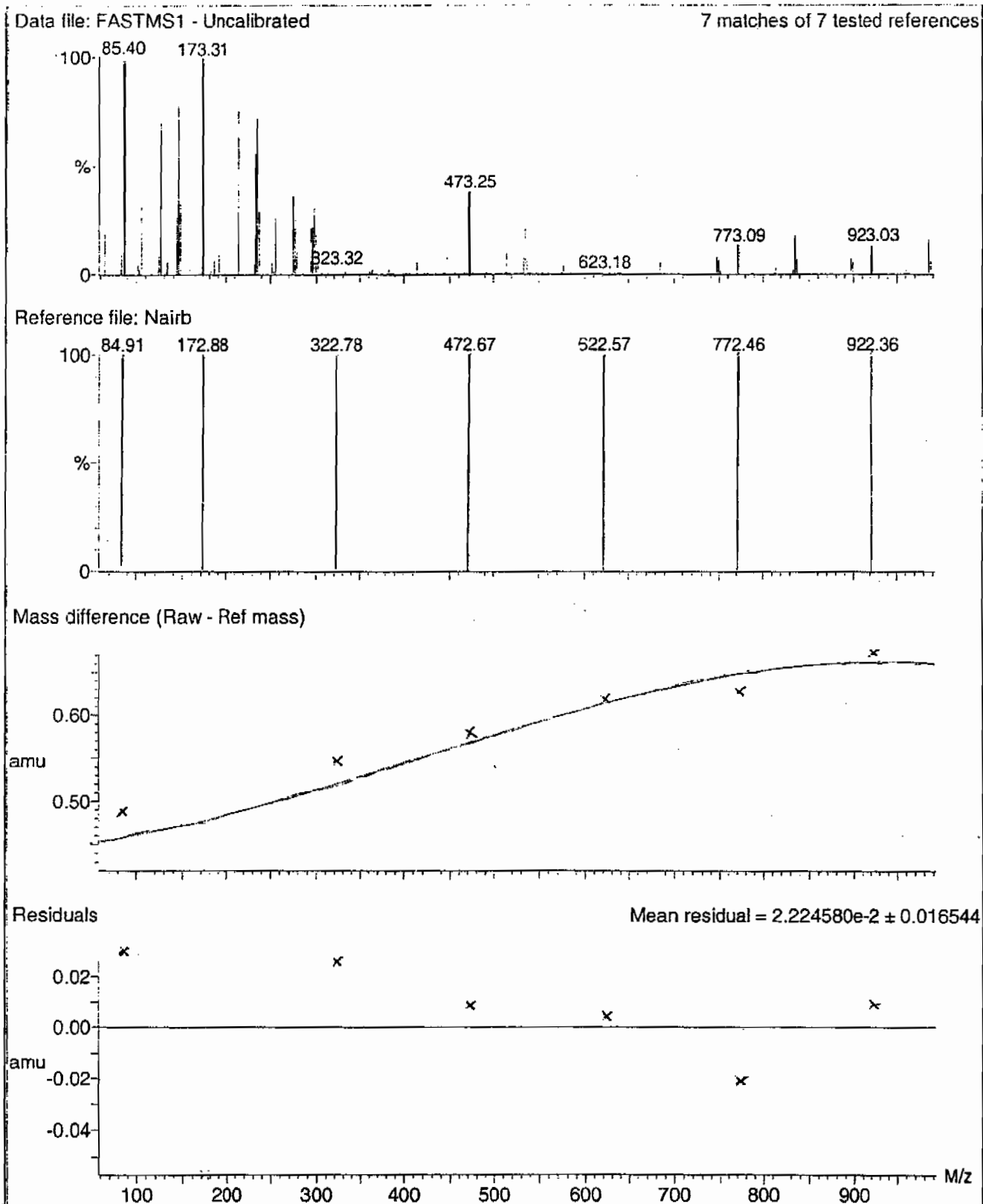
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Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

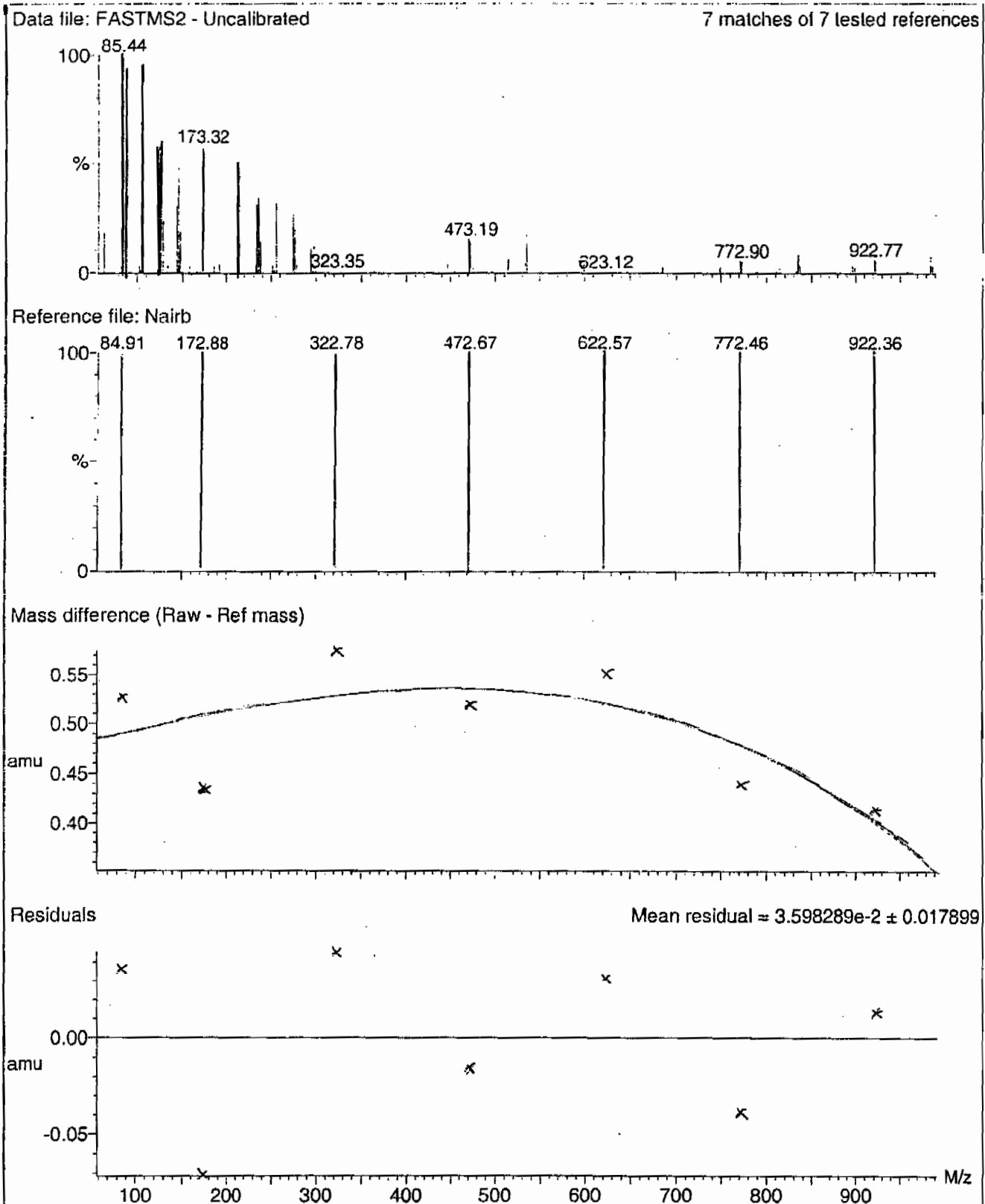
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Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

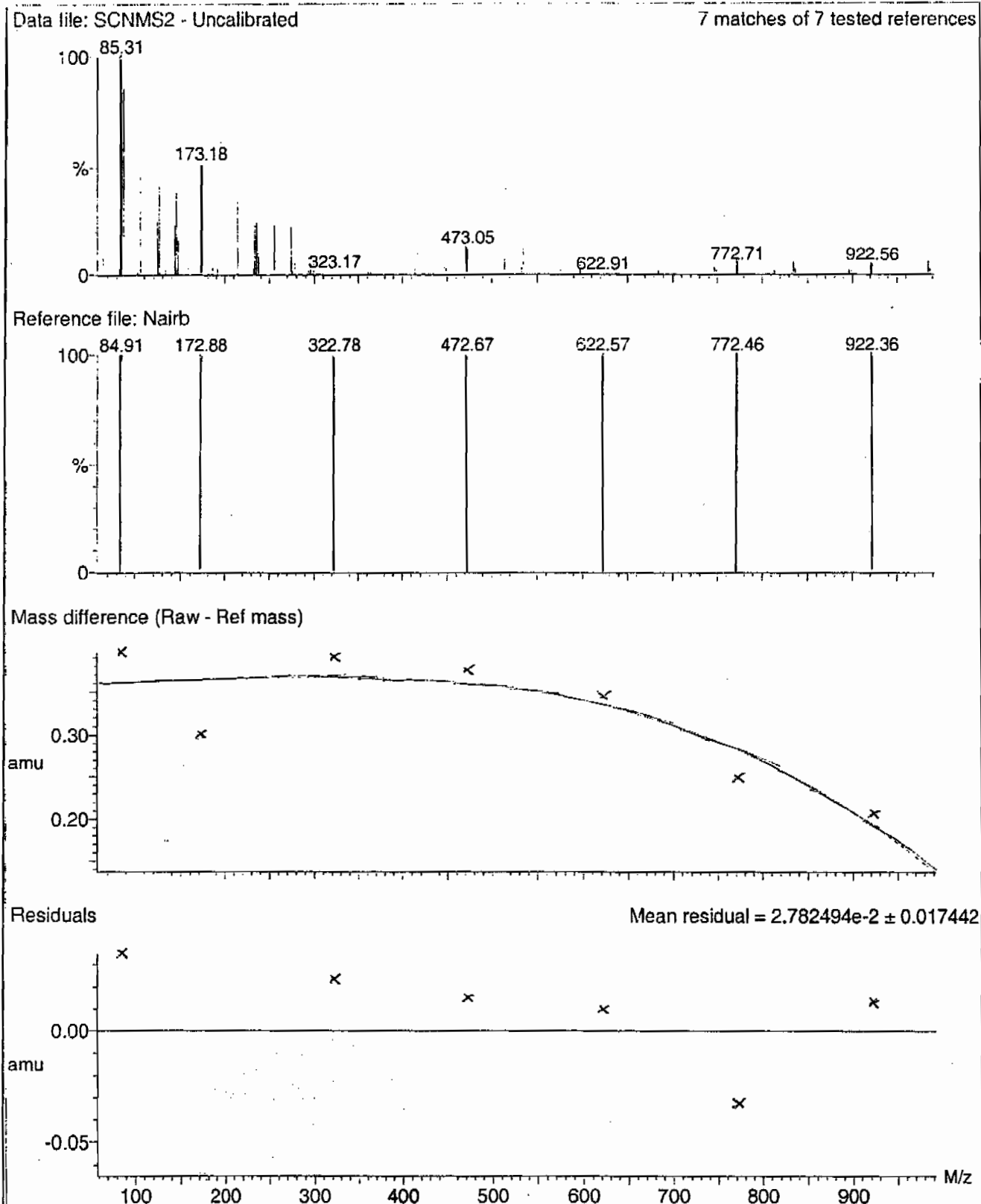
Printed: Tue Jan 08 12:23:51 2008



Calibration Report - MS2 Scanning

Page 1 of 1

Printed: Tue Jan 08 12:22:56 2008





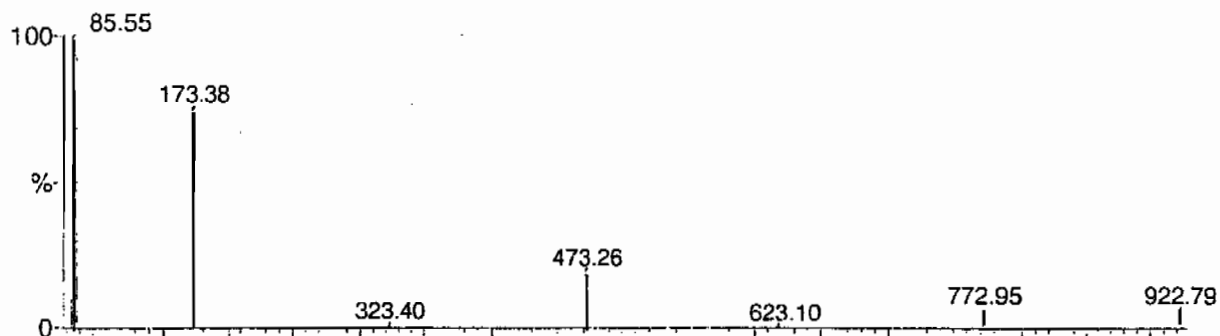
Calibration Report - MS2 Static

Page 1 of 1

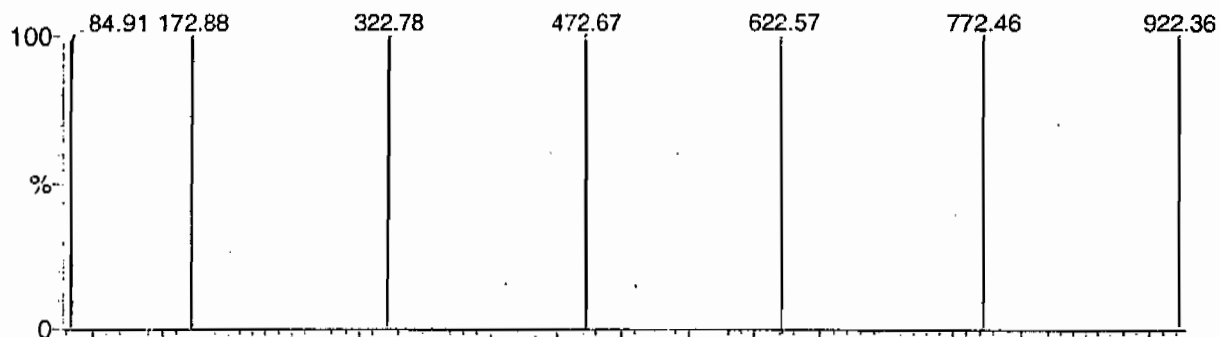
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Data file: STATMS2 - Uncalibrated

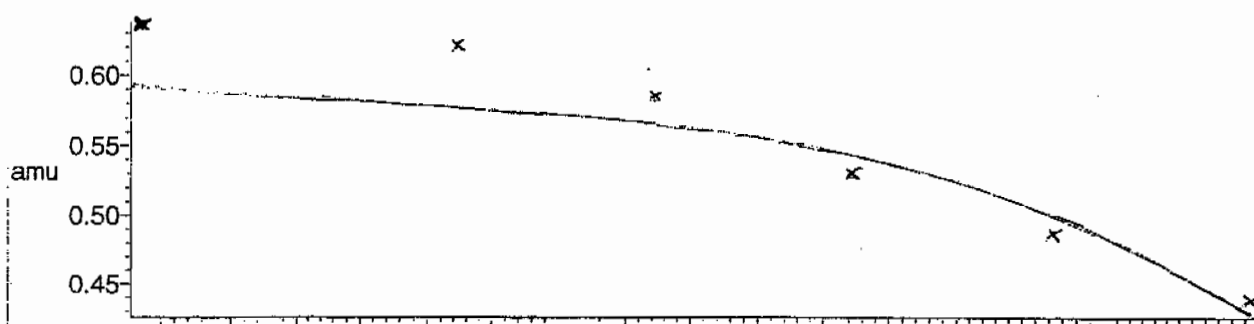
7 matches of 7 tested references



Reference file: Nairb

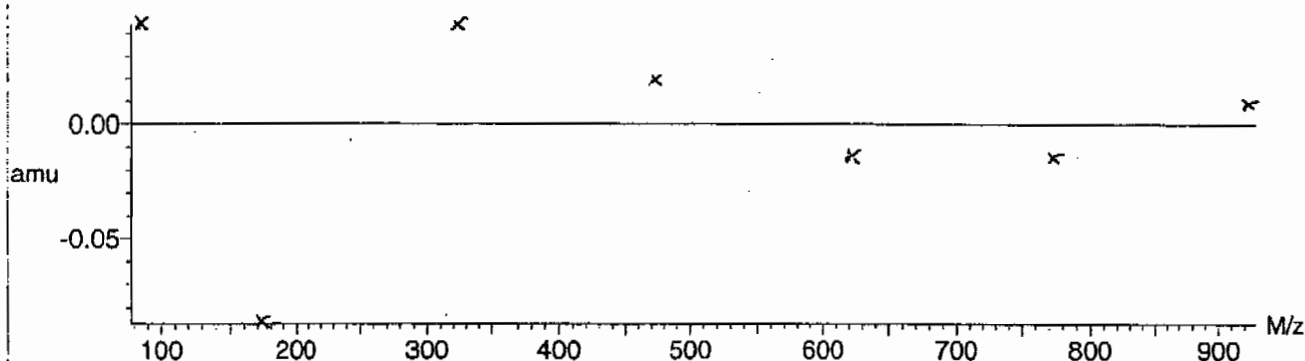


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $3.295980 \times 10^{-2} \pm 0.025603$



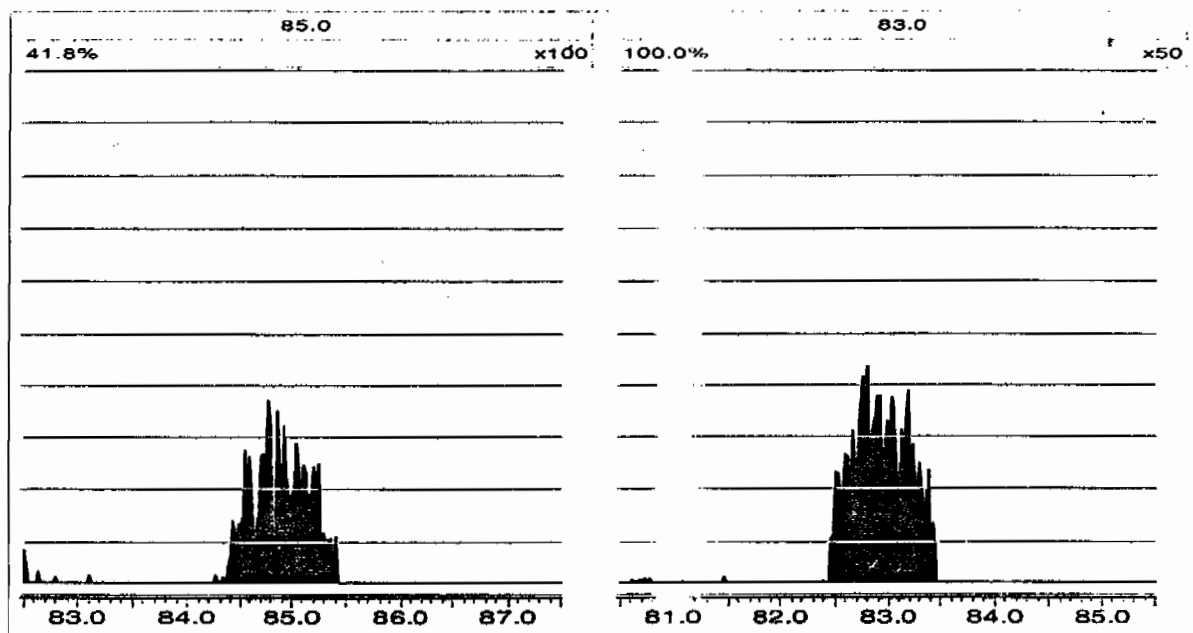
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

File: C:\MassLynx\Perchlorate.PROVACQUDB\Perchlorate.IPR

Printed: Wednesday, January 27, 2010 16:13:13 Eastern Standard Time



Perchlorate RT And Area Summary

GEL Job No.(SDG): 10-1264-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG-16.2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98-1.02
MidLevel Standard Area	per0127006a	27-JAN-10	18703.3				
Lower Area Limit			9351.65				
Upper Area Limit			37406.6				
1202023100	per0127012a	27-JAN-10 20:35	17755.4	3.09	3.09778	1.003	
1202023101	per0127013a	27-JAN-10 20:43	18324.5	3.09	3.0978	1.003	
1202023104	per0127014a	27-JAN-10 20:51	18491.6	2.91	2.92378	1.005	
244881001	per0127021a	27-JAN-10 21:47	18483.7	3.07	3.09785	1.009	
244881002	per0127025a	27-JAN-10 22:19	19207.7	3.06	3.07288	1.004	
244881003	per0127026a	27-JAN-10 22:27	19405.7	3.06	3.07285	1.004	
244881004	per0127027a	27-JAN-10 22:35	19981.3	3.06	3.08532	1.008	

# SAMPLE DATA

P perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244719

Extraction Type: Solid Prep

Client Sample No.

RE12-10-8096

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881001

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 93.9

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.533	2.13	0.533	ug/kg	U	1	27-JAN-10 21:47	per0127021a
	Perchlorate Isotope Ratio						1	27-JAN-10 21:47	per0127021a
14797-73-0	Perchlorate-101	.533	2.13	0.533	ug/kg	U	1	27-JAN-10 21:47	per0127021a
	Perchlorate-O(18)			5.25	ug/kg		1	27-JAN-10 21:47	per0127021a

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

\*Concentration =

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

Identify Sample Report MassLynx 4.0 SP4  
e GEL Group, LLC Analyst: Charlers W. Wilson

tsaset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

st Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
inted: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

ime: per0127021a

ite: 27-Jan-2010

ne: 21:47:48

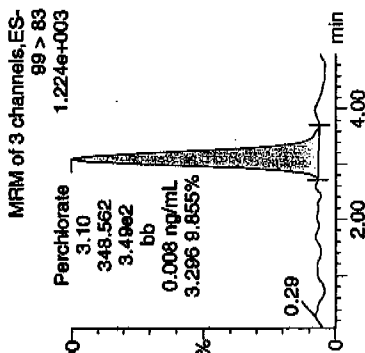
: 244881001

al: 1:4,D

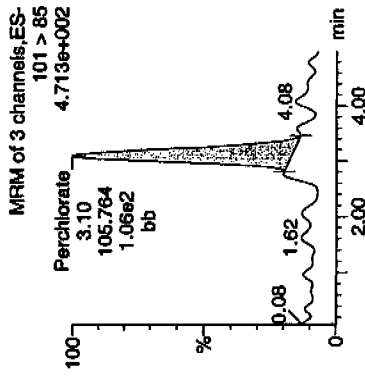
01-28-10

11/20/2010

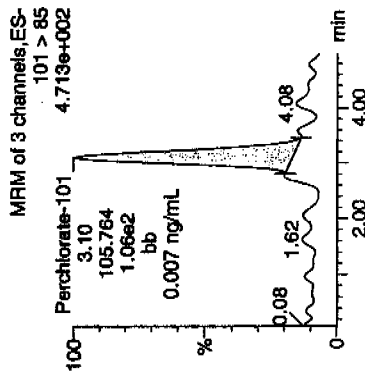
Perchlorate



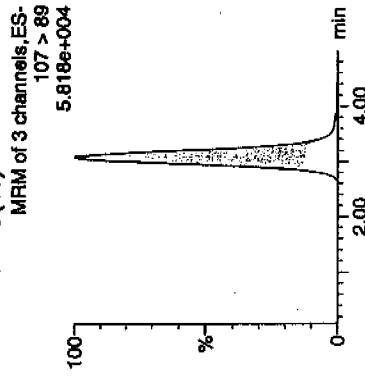
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN:Ion Ratio
4881001	Perchlorate	99 > 83	3.10	348.562	bb			0.0077	28.154	3.30	
4881001	Perchlorate-101	101 > 85	3.10	105.764	bb			0.0071	31.343		
4881001	Perchlorate-O(18)	107 > 89	3.07	18483.729	bb			0.4930	98.60	-1.40	3737.8...

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

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 244719  
 Extraction Type: Solid Prep  
 Client Sample No. RE12-10-8094  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264-1  
 GEL Sample ID: 244881002  
 Date Filtered: 27-JAN-10  
 Injection Volume (uL): 20  
 % Solids: 24.4

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.53	2.12	0.530	ug/kg	U	1	27-JAN-10 22:19	per0127025a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:19	per0127025a
14797-73-0	Perchlorate-101	.53	2.12	0.530	ug/kg	U	1	27-JAN-10 22:19	per0127025a
	Perchlorate-O(18)			5.43	ug/kg		1	27-JAN-10 22:19	per0127025a

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

\*Concentration =

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

Identify Sample Report MassLynx 4.0 SP4  
e GEL Group, LLC Analyst: Charlers W. Wilson

taset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

st Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
nted: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

me: per0127025a

te: 27-Jan-2010

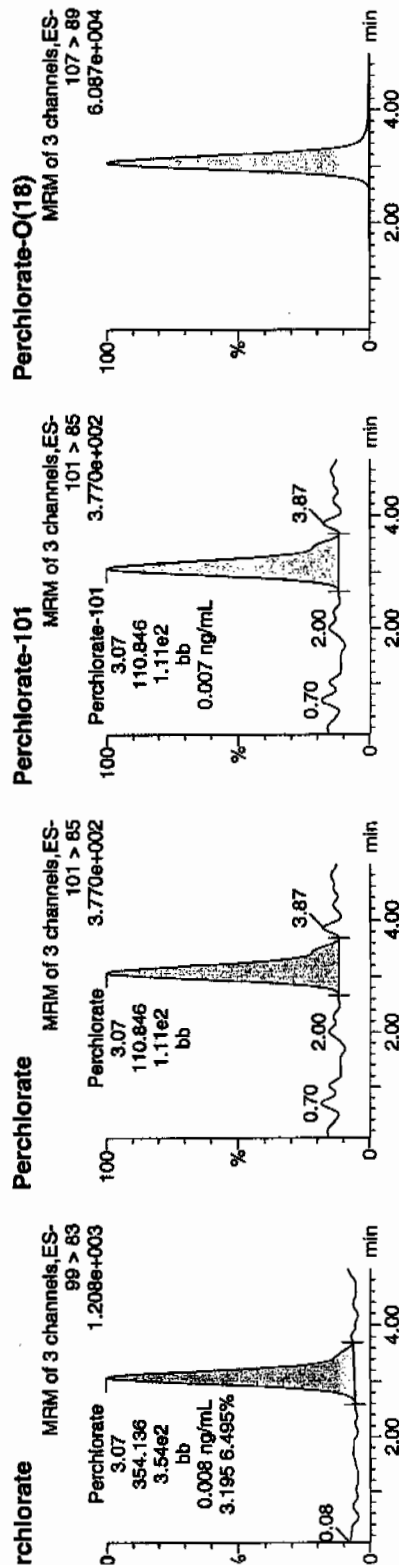
ne: 22:19:56

: 244881002

il: 1:4,E

01-28-10

11222 | 944720 | 3020 | 1 |



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
4881002	Perchlorate	99 > 83	3.07	354.136	bb			0.0079			94.974	3.19
4881002	Perchlorate-101	101 > 85	3.07	110.846	bb			0.0074			22.608	
4881002	Perchlorate-O(18)	107 > 89	3.06	19207.723	bb			0.5123	102.46	2.46	1662.9...	

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



Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244719

Extraction Type: Solid Prep

Client Sample No.

RE12-10-8097

Date Received: 15-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 244881003

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 22

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.543	2.17	0.543	ug/kg	U	1	27-JAN-10 22:27	per0127026a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:27	per0127026a
14797-73-0	Perchlorate-101	.543	2.17	0.543	ug/kg	U	1	27-JAN-10 22:27	per0127026a
	Perchlorate-O(18)			5.63	ug/kg		1	27-JAN-10 22:27	per0127026a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1  
Aliquot %Solids

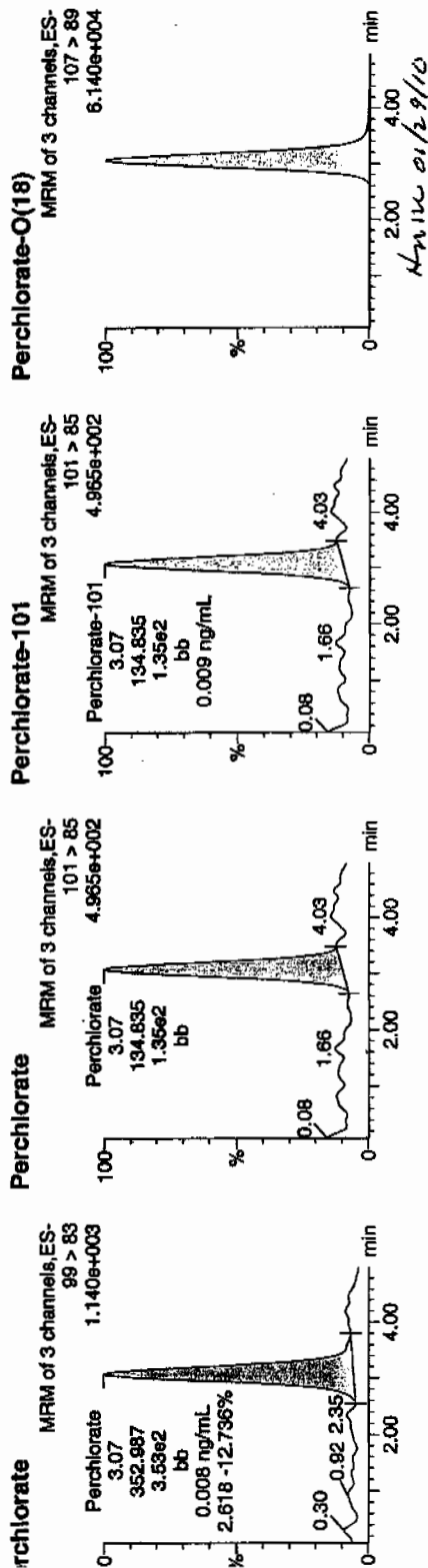
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e GEL Group, LLC Analyst: Charters W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Sample Name: per0127026a  
Date: 27-Jan-2010  
Time: 22:27:57  
Sample ID: 244881003  
Sample Weight: 1.4, F

01-28-10

1500-144720 | 3000 | 1



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
4881003	Perchlorate	3.07	352.987	352.987	bb			0.0078	✓		53.530	2.62
4881003	Perchlorate-101	3.07	134.835	134.835	bb			0.0090			33.551	
4881003	Perchlorate-O(18)	3.06	19405.703	19405.703	bb			0.5176	103.52	3.52	3231.1...	

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

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 944719  
 Extraction Type: Solid Prep  
 Client Sample No. RE12-10-8095  
 Date Received: 15-JAN-10  
 GEL Job No (SDG): 10-1264-1  
 GEL Sample ID: 244881004  
 Date Filtered: 27-JAN-10  
 Injection Volume (uL): 20  
 % Solids: 20

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.558	2.23	0.558	ug/kg	U	1	27-JAN-10 22:35	per0127027a
	Perchlorate Isotope Ratio						1	27-JAN-10 22:35	per0127027a
14797-73-0	Perchlorate-101	.558	2.23	0.558	ug/kg	U	1	27-JAN-10 22:35	per0127027a
	Perchlorate-O(18)			5.95	ug/kg		1	27-JAN-10 22:35	per0127027a

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

\*Concentration =

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

uantify Sample Report MassLynx 4.0 SP4  
 re GEL Group, LLC Analyst: Charlers W. Wilson

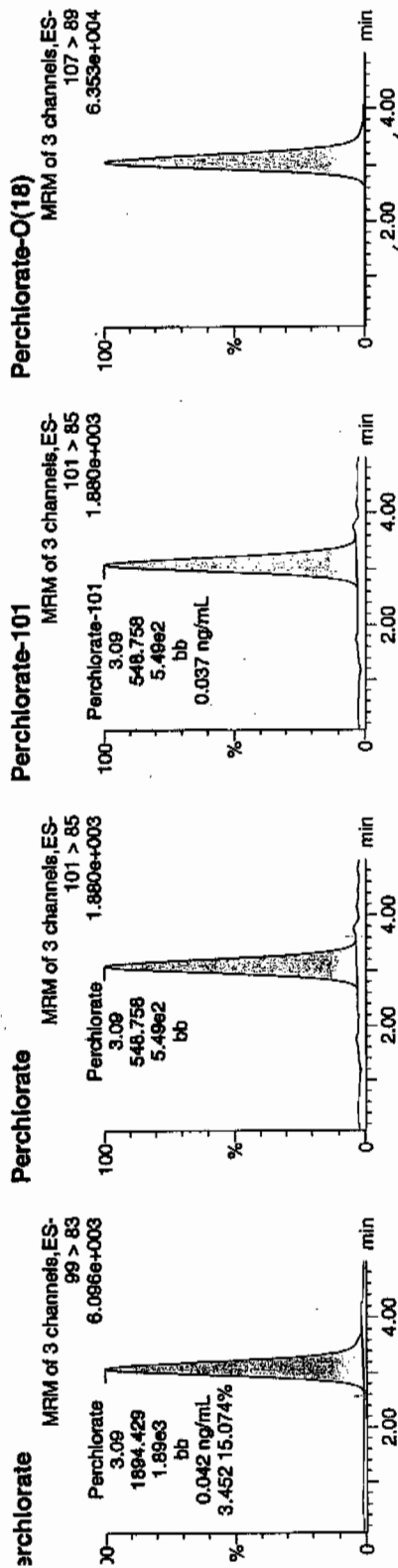
ataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

ist Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
 inted: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

ame: per0127027a  
 ate: 27-Jan-2010  
 me: 22:35:59  
 i: 244881004  
 ial: 1:5,A

and  
 Or 23-10

1 LANC 944720 / 5070 111



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
Perchlorate	99 > 83	3.09	1894.429	1894.429	bb			0.0421			622.290	3.45
Perchlorate-101	101 > 85	3.09	548.758	548.758	bb			0.0367			366.257	
Perchlorate-O(18)	107 > 89	3.06	19981.273	19981.273	bb			0.5329	106.59	6.59	2232.9...	

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

# STANDARDS DATA

Perchlorate Initial Calibration

GEL Job No.(SDG): 10-1264-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 27-JAN-10

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

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

Parname Perchlorate

Coefficient of Determination:

Calibration Curve: 44996.9

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1264-1

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 27-JAN-10

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

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

Parname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 14970.68

Response Type: External Standard

Curve Type: RF

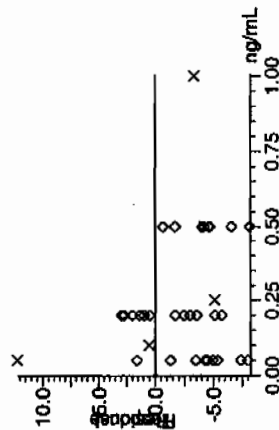
Quantify Calibration Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

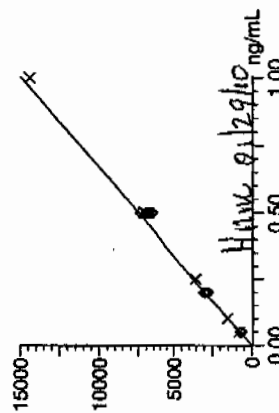
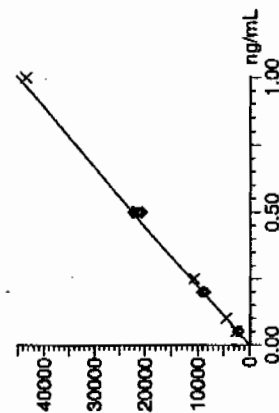
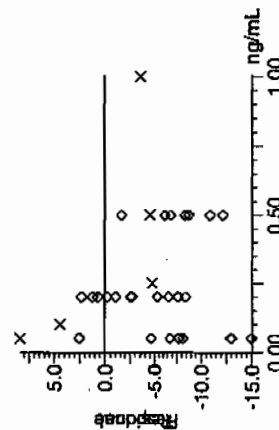
Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012710a.mdb 28 Jan 2010 10:22:42  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012710a.cdb 28 Jan 2010 12:32:46

Compound name: Perchlorate  
Response Factor: 44996.9  
RF SD: 3216.47, % Relative SD: 7.1482  
Response type: External Std, Area  
Curve type: RF



Compound name: Perchlorate-101  
Response Factor: 14970.7  
RF SD: 904.041, % Relative SD: 6.03875  
Response type: External Std, Area  
Curve type: RF



01-28-10



Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
 Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

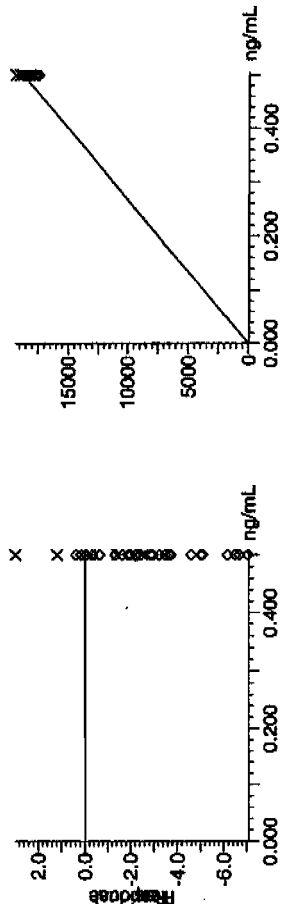
Compound name: Perchlorate-O(18)

Response Factor: 37492.1

RF SD: 809.25, % Relative SD: 2.15846

Response type: External Std, Area

Curve type: RF



Form 3

Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1264-1

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	99.32	27-JAN-10 20:11	per0127009a
Perchlorate Isotope Ratio		3.04		27-JAN-10 20:11	per0127009a
Perchlorate-101	.5	.49	98.31	27-JAN-10 20:11	per0127009a

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127009a

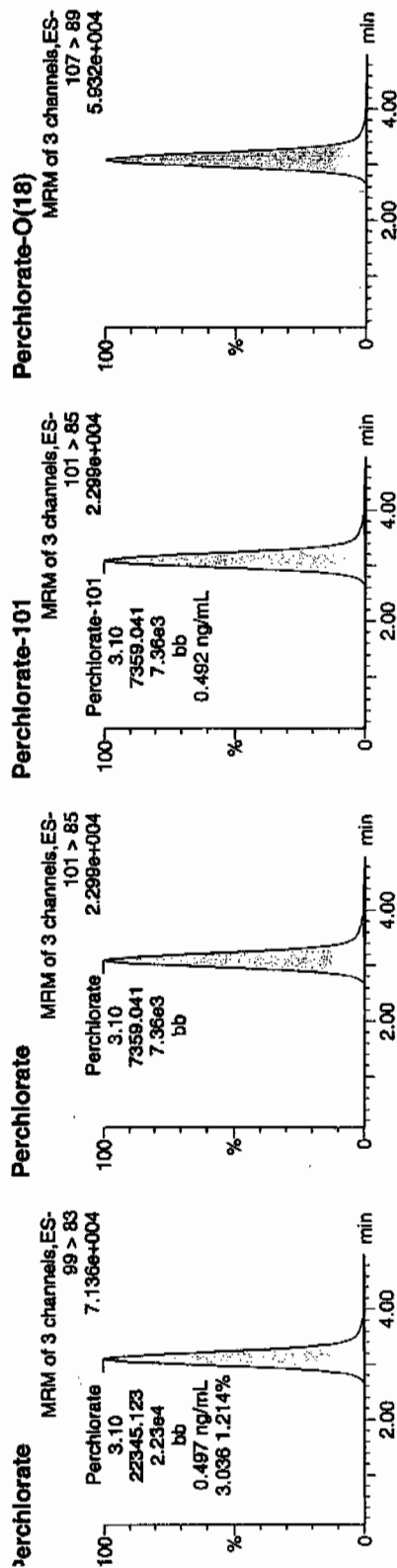
Date: 27-Jan-2010

Time: 20:11:23

D: WCL100118-06ICV

/Ial: 1:2,A

*Per*  
*and*  
*01-28-10*



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion	Ratio
WCL100118-06ICV	Perchlorate	99 > 83	3.10	22345.123	22345.123	bb		0.4966	99.32	-0.68	3082.7...		3.04
WCL100118-06ICV	Perchlorate-101	101 > 85	3.10	7359.041	7359.041	bb		0.4916	98.31	-1.69	5894.4...		
WCL100118-06ICV	Perchlorate-O(18)	107 > 89	3.09	18816.395	18816.395	bb		0.5019	100.38	0.38	2751.6...		

Form 3

Perchlorate Continuing Calibration Verification

GEL Job No.(SDG): 10-1264-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.49	98.29	27-JAN-10 21:55	per0127022a
Perchlorate Isotope Ratio		3.15		27-JAN-10 21:55	per0127022a
Perchlorate-101	.5	.47	93.85	27-JAN-10 21:55	per0127022a
Perchlorate	.5	.48	96.02	27-JAN-10 23:40	per0127035a
Perchlorate Isotope Ratio		3.08		27-JAN-10 23:40	per0127035a
Perchlorate-101	.5	.47	93.69	27-JAN-10 23:40	per0127035a

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127022a

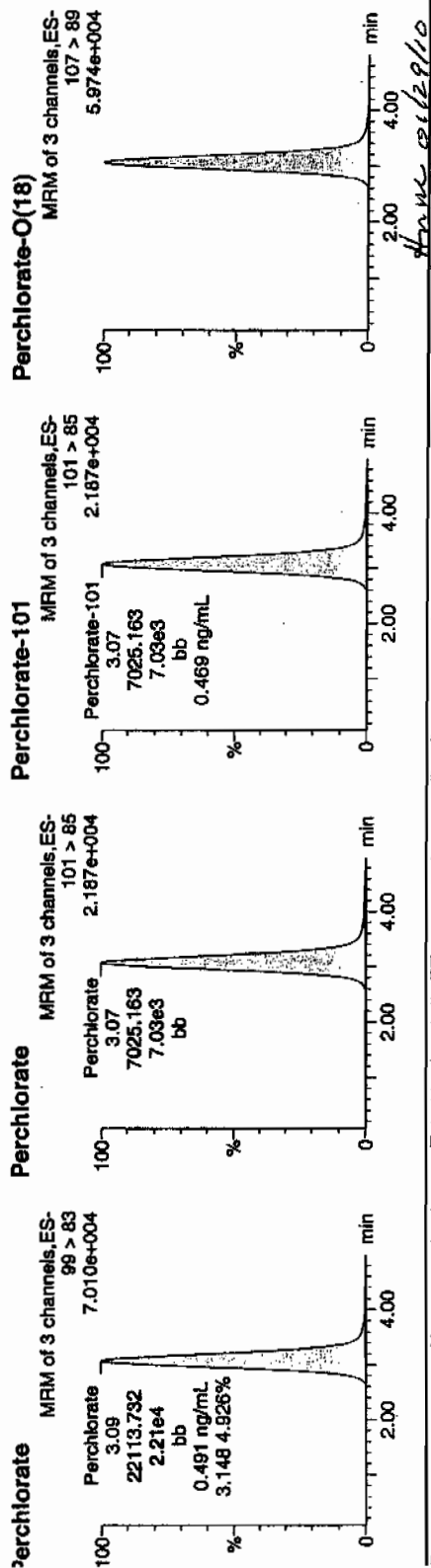
Date: 27-Jan-2010

Time: 21:55:50

D: WCL100118-06CCV

Vial: 1:2,A

*Run  
01-28-10*



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06CCV	Perchlorate	3.09	22113.732	22113.732	bb			0.4915	98.29	-1.71	1382.8...	3.15
WCL100118-06CCV	Perchlorate-101	3.07	7025.163	7025.163	bb			0.4693	93.85	-6.15	1288.0...	
WCL100118-06CCV	Perchlorate-O(18)	3.06	18686.016	18686.016	bb			0.4984	99.68	-0.32	7209.1...	

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

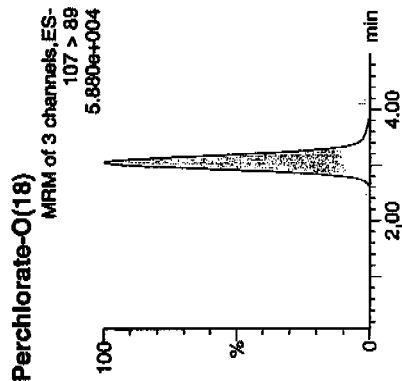
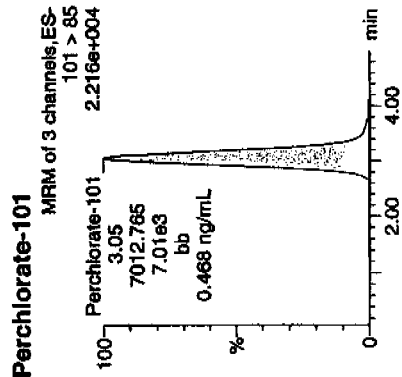
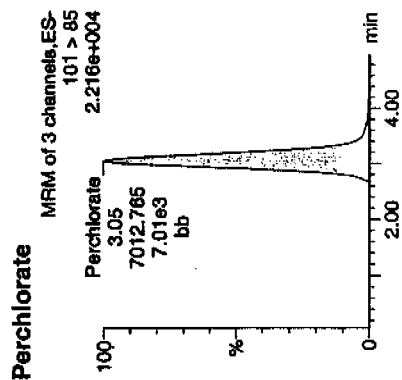
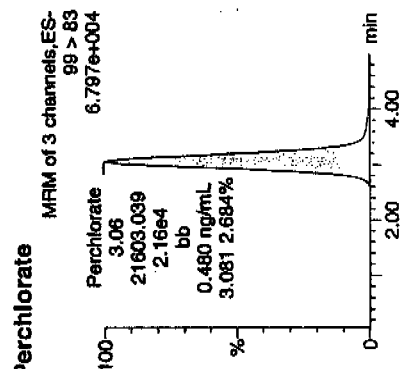
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Sample Name: per0127035a  
Date: 27-Jan-2010  
Time: 23:40:23  
D: WCL100118-06CCV  
File: 1:2,A

Pure  
and  
01-28-10



Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	3.06	21603.039	bb			0.4801	96.02	-3.98	2226.4...	3.08
WCL100118-06CCV	Perchlorate-101	101 > 85	3.05	7012.765	bb			0.4684	93.69	-6.31	2428.2...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	3.05	18438.480	bb			0.4918	98.36	-1.64	9048.2...	

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1264-1

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	95.72	27-JAN-10 20:27	per0127011a
Perchlorate Isotope Ratio		2.81		27-JAN-10 20:27	per0127011a
Perchlorate-101	.05	.05	102.55	27-JAN-10 20:27	per0127011a
Perchlorate	.05	.05	101.57	27-JAN-10 22:11	per0127024a
Perchlorate Isotope Ratio		3.2		27-JAN-10 22:11	per0127024a
Perchlorate-101	.05	.05	95.39	27-JAN-10 22:11	per0127024a
Perchlorate	.05	.05	96.55	27-JAN-10 23:56	per0127037a
Perchlorate Isotope Ratio		3.11		27-JAN-10 23:56	per0127037a
Perchlorate-101	.05	.05	93.2	27-JAN-10 23:56	per0127037a

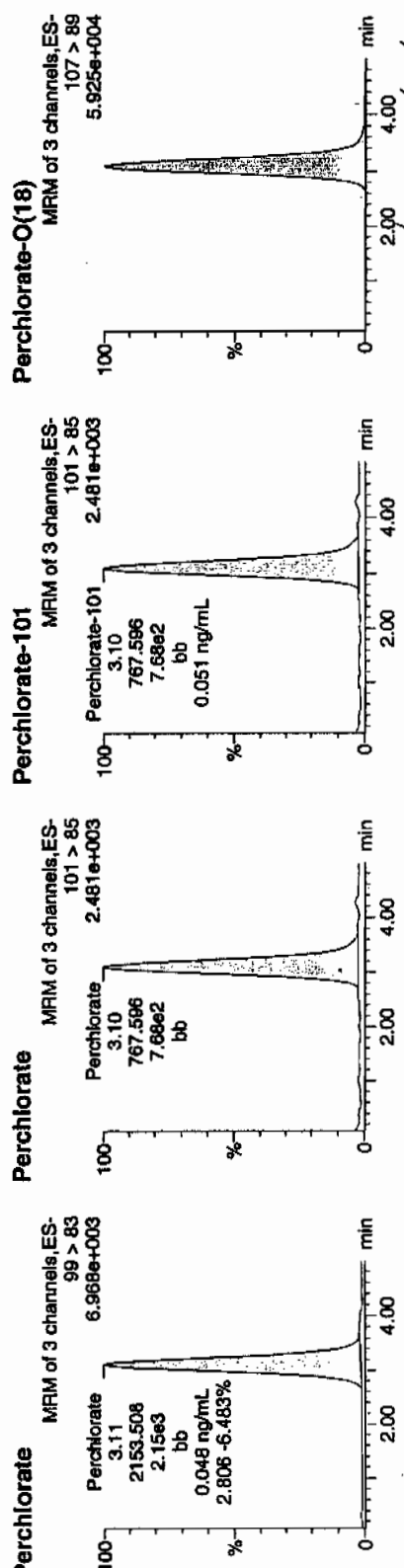
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127011a  
Date: 27-Jan-2010  
Time: 20:27:27  
D: WCL100118-07CRI  
Vial: 1:2,B

Pure  
WCL  
01-28-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	IS/N	Ion Ratio
VCL100118-07CRI	Perchlorate	3.11	2153.508	2153.508	bb			0.0479	95.72	-4.28	654.175	2.81
VCL100118-07CRI	Perchlorate-101	3.10	767.596	767.596	bb			0.0513	102.55	2.55	790.867	
VCL100118-07CRI	Perchlorate-Q(18)	3.10	18733.061	18733.061	bb			0.4997	99.93	-0.07	1495.5...	

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



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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

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Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

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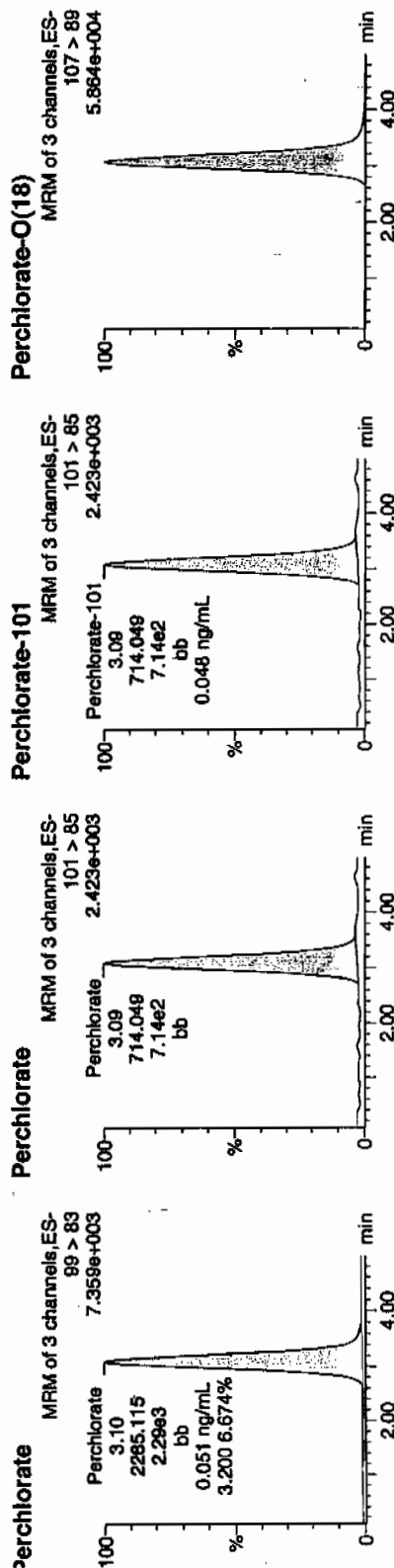
Date: 27-Jan-2010

Time: 22:11:54

D: WCL100118-07CRI

Fial: 1:2,B

Pass  
and  
0-18-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Int.Ratio
NCL100118-07CRI	Perchlorate	99 > 83	3.10	2285.115	2285.115	bb			0.0508	101.57	-1.57	722.371	3.20
NCL100118-07CRI	Perchlorate-101	101 > 85	3.09	714.049	714.049	bb			0.0477	95.39	-4.61	823.829	
NCL100118-07CRI	Perchlorate-O(18)	107 > 89	3.07	18776.434	18776.434	bb			0.5008	100.16	-0.16	2962.4...	

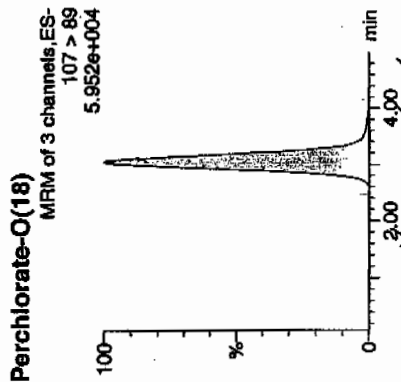
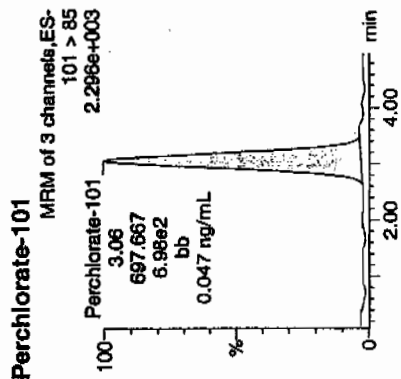
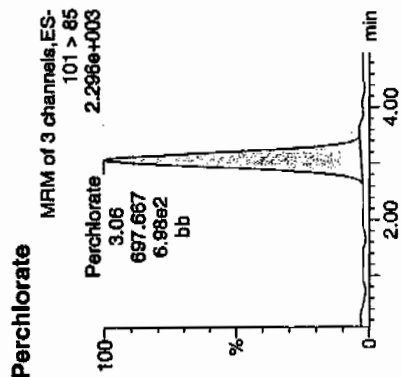
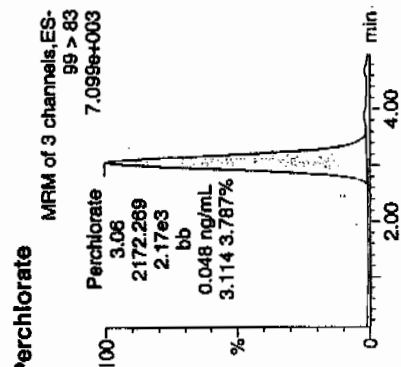
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

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Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Sample Name: per0127037a  
Date: 27-Jan-2010  
Time: 23:56:28  
File: WCL100118-07CRI  
Label: 1:2,B

*Perchlorate  
01-28-10*



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	3.06	2172.289	bb			0.0483	96.55	-3.45	380.352	3.11
WCL100118-07CRI	Perchlorate-101	101 > 85	3.06	697.667	bb			0.0466	93.20	-6.80	456.926	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	3.05	18625.547	bb			0.4968	99.36	-0.64	10317...	

# QUALITY CONTROL

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244712

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

MB

Date Received: 27-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 1202023100

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

% Solids: 100

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	0.500	ug/kg	U	1	27-JAN-10 20:35	per0127012a
	Perchlorate Isotope Ratio						1	27-JAN-10 20:35	per0127012a
14797-73-0	Perchlorate-101	.5	2	0.500	ug/kg	U	1	27-JAN-10 20:35	per0127012a
	Perchlorate-O(18)			4.74	ug/kg		1	27-JAN-10 20:35	per0127012a

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

\*Concentration =

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Sample Name: per0127012a

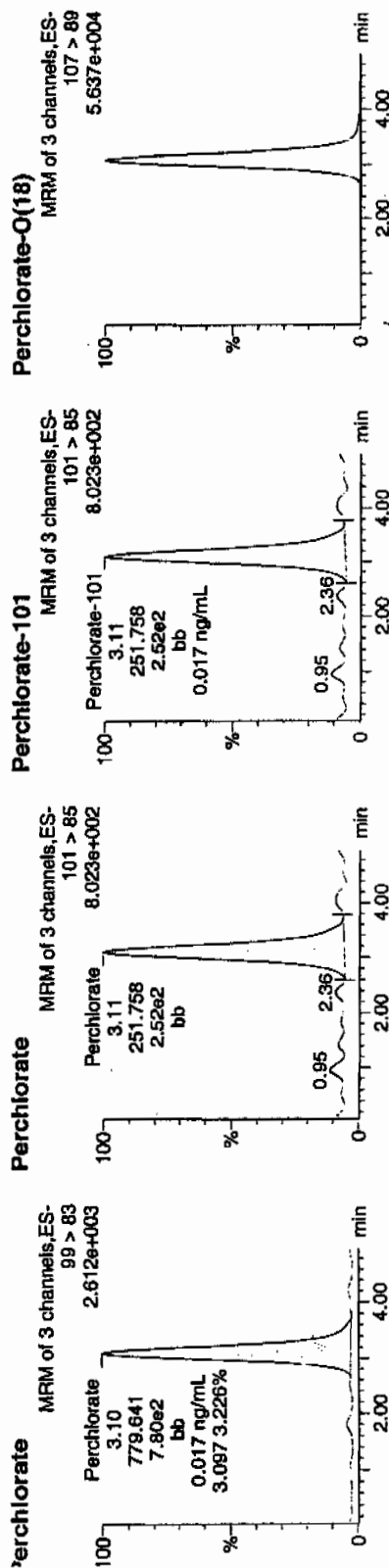
Date: 27-Jan-2010

Time: 20:35:29

D: 1202023100

File: 1:3.A

1202023100 | 94720 | 5020 | 10611 |  
01-28-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202023100 Perchlorate	99 > 83	3.10	779.641	779.641	bb			0.0173			197.636	3.10
202023100 Perchlorate-101	101 > 85	3.11	251.758	251.758	bb			0.0168			69.233	
202023100 Perchlorate-O(18)	107 > 89	3.09	17755.354	17755.354	bb			0.4735	94.72	-5.28	2331.0...	

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 244712

Extraction Type: Solid Prep

Client Sample No.

LCS

Date Received: 27-JAN-10

GEL Job No (SDG): 10-1264-1

GEL Sample ID: 1202023101

Date Filtered: 27-JAN-10

Injection Volume (uL): 20

%Solids: 100

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	2.06	ug/kg		1	27-JAN-10 20:43	per0127013a
	Perchlorate Isotope Ratio			3.17			1	27-JAN-10 20:43	per0127013a
14797-73-0	Perchlorate-101	.5	2	1.95	ug/kg	J	1	27-JAN-10 20:43	per0127013a
	Perchlorate-O(18)			4.89	ug/kg		1	27-JAN-10 20:43	per0127013a

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

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1  
Aliquot %Solids

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127013a

Date: 27-Jan-2010

Time: 20:43:32

D: 1202023104

Vial: 1:3,B

Perchlorate

01-23-10

MRM of 3 channels, ES-

99 > 83

2.912e+004

Perchlorate

3.10

9263.501

9.26e3

bb

0.208 ng/mL

3.175 5.830%

min

2.00

4.00

Perchlorate

MRM of 3 channels, ES-

101 > 85

9.361e+003

Perchlorate

3.10

2917.719

2.92e3

bb

0.195 ng/mL

min

2.00

4.00

Perchlorate-101

MRM of 3 channels, ES-

101 > 85

9.361e+003

Perchlorate-101

3.10

2917.719

2.92e3

bb

0.195 ng/mL

min

2.00

4.00

Perchlorate-O(18)

MRM of 3 channels, ES-

107 > 89

5.818e+004

Perchlorate-O(18)

3.17

2499.1...

2.93

283.686

min

2.00

4.00

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202023104	Perchlorate	99 > 83	3.10	9263.501	9263.501	bb			-0.2059	102.93	2.93	2499.1...	3.17
1202023104	Perchlorate-101	101 > 85	3.10	2917.719	2917.719	bb			0.1949	97.45	-2.55	283.686	
1202023104	Perchlorate-O(18)	107 > 89	3.09	18324.533	18324.533	bb			0.4888	97.75	-2.25	11559...	

$$\frac{9263.501}{44996.9} = 0.2059$$

4nmw  
01/29/10

# MISCELLANEOUS DATA



# Prep Logbook

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

Batch ID: 944719 Verified by: Lab SOP: GL-OA-E-067 REV# 6  
 Analyst: Jareth Shirley Instrument: MicroMass Quatro Ultima  
 Method: SW846 6850 Modified

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202023100 MB	27-JAN-2010 16:47:18	2	20	10
1202023101 LCS	27-JAN-2010 16:47:18	2	20	10
244852001	27-JAN-2010 16:47:18	2	20	10
1202023102 MS (244852001)	27-JAN-2010 16:47:18	2	20	10
1202023103 MSD (244852001)	27-JAN-2010 16:47:18	2	20	10
244852002	27-JAN-2010 16:47:18	2	20	10
244852003	27-JAN-2010 16:47:18	2	20	10
244852004	27-JAN-2010 16:47:18	2	20	10
244881001	27-JAN-2010 16:47:18	2	20	10
244881002	27-JAN-2010 16:47:18	2	20	10
244881003	27-JAN-2010 16:47:18	2	20	10
244881004	27-JAN-2010 16:47:18	2	20	10
244888001	27-JAN-2010 16:47:18	2	20	10
244888002	27-JAN-2010 16:47:18	2	20	10
244888003	27-JAN-2010 16:47:18	2	20	10
244888004	27-JAN-2010 16:47:18	2	20	10
244888005	27-JAN-2010 16:47:18	2	20	10
244888006	27-JAN-2010 16:47:18	2	20	10
244902001	27-JAN-2010 16:47:18	2	20	10
1202023104 ICS	27-JAN-2010 16:47:18	2	20	10

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments
ICS	1202023104	10 ug/L ICS/CCV Second Source	UCL091230-01.2	.4	mL	Desalting cartridges used: 090414-1-Ba & 091130-1-H
LCS	1202023101	10 ug/L LCS/CCV Second Source	UCL091230-01.2	.4	mL	
MS	1202023102	10 ug/L MS/CCV Second Source	UCL091230-01.2	.4	mL	
MSD	1202023103	10 ug/L MSD/CCV Second Source	UCL091230-01.2	.4	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/27/10

Extr. Injection Volume: 20uL

Sequence Number: per012710a

Initial Calibration Date: 01/27/10

Method: EPA 6850-Modified

Int. Std.: UCL100122-01

Mobile Phase Lot#: 1254342, 1246195

Standard-Samp Reagent Lot#: 1233976

Reviewed BY: *hmc*

Date: 01/29/10

SOP: GL-OA-E-067 Rev.6

Alt Check Std. ID: WCL100118-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0127001a	IPB001	CWW	1/27/2010 19:06			1		USE	B
per0127002a	IPB001	CWW	1/27/2010 19:15			1		USE	B
per0127003a	WCLICAL-01	CWW	1/27/2010 19:23			1		USE	I
per0127004a	WCLICAL-02	CWW	1/27/2010 19:31			1		USE	I
per0127005a	WCLICAL-03	CWW	1/27/2010 19:39			1		USE	I
per0127006a	WCLICAL-04	CWW	1/27/2010 19:47			1		USE	I
per0127007a	WCLICAL-05	CWW	1/27/2010 19:55			1		USE	I
per0127008a	IPB002	CWW	1/27/2010 20:03			1		USE	B
per0127009a	WCLICV	CWW	1/27/2010 20:11			1		USE	C
per0127010a	IPB003	CWW	1/27/2010 20:19			1		USE	B
per0127011a	WCLCRI	CWW	1/27/2010 20:27			1		USE	C
per0127012a	1202023100	CWW	1/27/2010 20:35	944720	VARIOUS	1	LANL	USE	S
per0127013a	1202023101	CWW	1/27/2010 20:43	944720	VARIOUS	1	LANL	USE	S
per0127014a	1202023104	CWW	1/27/2010 20:51	944720	VARIOUS	1	LANL	USE	S
per0127015a	244852001	CWW	1/27/2010 20:59	944720	10-1263	1	LANL	USE	S
per0127016a	1202023102	CWW	1/27/2010 21:07	944720	10-1263	1	LANL	USE	S
per0127017a	1202023103	CWW	1/27/2010 21:15	944720	10-1263	1	LANL	USE	S
per0127018a	244852002	CWW	1/27/2010 21:23	944720	10-1263	1	LANL	USE	S
per0127019a	244852003	CWW	1/27/2010 21:31	944720	10-1263	1	LANL	USE	S
per0127020a	244852004	CWW	1/27/2010 21:39	944720	10-1263	1	LANL	USE	S
per0127021a	244881001	CWW	1/27/2010 21:47	944720	10-1264-1	1	LANL	USE	S
per0127022a	WCLCCV	CWW	1/27/2010 21:55			1		USE	C
per0127023a	IPB004	CWW	1/27/2010 22:03			1		USE	B
per0127024a	WCLCRI	CWW	1/27/2010 22:11			1		USE	C
per0127025a	244881002	CWW	1/27/2010 22:19	944720	10-1264-1	1	LANL	USE	S
per0127026a	244881003	CWW	1/27/2010 22:27	944720	10-1264-1	1	LANL	USE	S
per0127027a	244881004	CWW	1/27/2010 22:35	944720	10-1264-1	1	LANL	USE	S
per0127028a	244888001	CWW	1/27/2010 22:44	944720	10-1278	1	LANL	USE	S
per0127029a	244888002	CWW	1/27/2010 22:52	944720	10-1278	1	LANL	USE	S

per0127030a	244888003	CWW	1/27/2010 23:00	944720	10-1278	1	LANL	USE	S
per0127031a	244888004	CWW	1/27/2010 23:08	944720	10-1278	1	LANL	USE	S
per0127032a	244888005	CWW	1/27/2010 23:16	944720	10-1278	1	LANL	USE	S
per0127033a	244888006	CWW	1/27/2010 23:24	944720	10-1278	1	LANL	USE	S
per0127034a	244902001	CWW	1/27/2010 23:32	944720	10-1274	1	LANL	USE	S
per0127035a	WCLCCV	CWW	1/27/2010 23:40			1		USE	C
per0127036a	IPB005	CWW	1/27/2010 23:48			1		USE	B
per0127037a	WCLCRI	CWW	1/27/2010 23:56			1		USE	C
per0127038a	1202024385	CWW	1/28/2010 0:04	945223	VARIOUS	1	LANL	USE	S
per0127039a	1202024386	CWW	1/28/2010 0:12	945223	VARIOUS	1	LANL	USE	S
per0127040a	1202024389	CWW	1/28/2010 0:20	945223	VARIOUS	1	LANL	USE	S
per0127041a	245089001	CWW	1/28/2010 0:28	945223	10-1293	1	LANL	USE	S
per0127042a	245089002	CWW	1/28/2010 0:36	945223	10-1293	1	LANL	USE	S
per0127043a	1202024387	CWW	1/28/2010 0:44	945223	10-1293	1	LANL	USE	S
per0127044a	1202024388	CWW	1/28/2010 0:52	945223	10-1293	1	LANL	USE	S
per0127045a	245089003	CWW	1/28/2010 1:00	945223	10-1293	1	LANL	USE	S
per0127046a	245089004	CWW	1/28/2010 1:08	945223	10-1293	1	LANL	USE	S
per0127047a	245110001	CWW	1/28/2010 1:16	945223	10-1295	1	LANL	USE	S
per0127048a	WCLCCV	CWW	1/28/2010 1:24			1		USE	C
per0127049a	IPB006	CWW	1/28/2010 1:33			1		USE	B
per0127050a	WCLCRI	CWW	1/28/2010 1:41			1		USE	C
per0127051a	245110002	CWW	1/28/2010 1:49	945223	10-1295	1	LANL	USE	S
per0127052a	245112001	CWW	1/28/2010 1:57	945223	10-1325	1	LANL	USE	S
per0127053a	245120001	CWW	1/28/2010 2:05	945223	10-1328-1	1	LANL	USE	S
per0127054a	245135001	CWW	1/28/2010 2:13	945223	10-1300-1	1	LANL	USE	S
per0127055a	245135002	CWW	1/28/2010 2:21	945223	10-1300-1	1	LANL	USE	S
per0127056a	245137001	CWW	1/28/2010 2:29	945223	10-1303-1	1	LANL	USE	S
per0127057a	245137002	CWW	1/28/2010 2:37	945223	10-1303-1	1	LANL	USE	S
per0127058a	245137003	CWW	1/28/2010 2:45	945223	10-1303-1	1	LANL	USE	S
per0127059a	245140001	CWW	1/28/2010 2:53	945223	10-1335	1	LANL	USE	S
per0127060a	245231002	CWW	1/28/2010 3:01	945223	10-1344	1	LANL	USE	S
per0127061a	WCLCCV	CWW	1/28/2010 3:09			1		USE	C
per0127062a	IPB007	CWW	1/28/2010 3:18			1		USE	B
per0127063a	WCLCRI	CWW	1/28/2010 3:26			1		USE	C
per0127064a	245237001	CWW	1/28/2010 3:34	945223	10-1346	1	LANL	DUSE-DL	S
per0127065a	IPB008	CWW	1/28/2010 3:42			1		USE	B
per0127066a	245237002	CWW	1/28/2010 3:50	945223	10-1346	1	LANL	DUSE-DL	S

per0127067a	IPB009	CWW	1/28/2010 3:58			1		USE	B
per0127068a	245242001	CWW	1/28/2010 4:07	945223	10-1348	1	LANL	USE	S
per0127069a	245242002	CWW	1/28/2010 4:15	945223	10-1348	1	LANL	USE	S
per0127070a	WCLCCV	CWW	1/28/2010 4:23			1		USE	C
per0127071a	IPB010	CWW	1/28/2010 4:31			1		USE	B
per0127072a	WCLCRI	CWW	1/28/2010 4:39			1		USE	C
per0127073a	1202023081	CWW	1/28/2010 4:47	944711	10-1272	1	LANL	USE	S
per0127074a	1202023082	CWW	1/28/2010 4:55	944711	10-1272	1	LANL	USE	S
per0127075a	1202023085	CWW	1/28/2010 5:04	944711	10-1272	1	LANL	USE	S
per0127076a	244899001	CWW	1/28/2010 5:12	944711	10-1272	1	LANL	USE	S
per0127077a	1202023083	CWW	1/28/2010 5:20	944711	10-1272	1	LANL	USE	S
per0127078a	1202023084	CWW	1/28/2010 5:28	944711	10-1272	1	LANL	USE	S
per0127079a	244899002	CWW	1/28/2010 5:36	944711	10-1272	1	LANL	USE	S
per0127080a	244899003	CWW	1/28/2010 5:44	944711	10-1272	1	LANL	USE	S
per0127081a	244899004	CWW	1/28/2010 5:52	944711	10-1272	1	LANL	USE	S
per0127082a	244899005	CWW	1/28/2010 6:00	944711	10-1272	1	LANL	USE	S
per0127083a	WCLCCV	CWW	1/28/2010 6:08			1		USE	C
per0127084a	IPB011	CWW	1/28/2010 6:16			1		USE	B
per0127085a	WCLCRI	CWW	1/28/2010 6:24			1		USE	C
per0127086a	244899006	CWW	1/28/2010 6:32	944711	10-1272	1	LANL	USE	S
per0127087a	244899007	CWW	1/28/2010 6:40	944711	10-1272	1	LANL	USE	S
per0127088a	244899008	CWW	1/28/2010 6:48	944711	10-1272	1	LANL	USE	S
per0127089a	244899009	CWW	1/28/2010 6:56	944711	10-1272	1	LANL	USE	S
per0127090a	244899010	CWW	1/28/2010 7:04	944711	10-1272	1	LANL	USE	S
per0127091a	244899011	CWW	1/28/2010 7:12	944711	10-1272	1	LANL	USE	S
per0127092a	244899012	CWW	1/28/2010 7:20	944711	10-1272	1	LANL	USE	S
per0127093a	244899013	CWW	1/28/2010 7:28	944711	10-1272	1	LANL	USE	S
per0127094a	244899014	CWW	1/28/2010 7:36	944711	10-1272	1	LANL	USE	S
per0127095a	244899015	CWW	1/28/2010 7:45	944711	10-1272	1	LANL	USE	S
per0127096a	WCLCCV	CWW	1/28/2010 7:53			1		USE	C
per0127097a	IPB012	CWW	1/28/2010 8:01			1		USE	B
per0127098a	WCLCRI	CWW	1/28/2010 8:09			1		USE	C
per0127099a	244899016	CWW	1/28/2010 8:17	944711	10-1272	1	LANL	USE	S
per0127100a	244899017	CWW	1/28/2010 8:25	944711	10-1272	1	LANL	USE	S
per0127101a	244899018	CWW	1/28/2010 8:33	944711	10-1272	1	LANL	USE	S
per0127102a	244899019	CWW	1/28/2010 8:41	944711	10-1272	1	LANL	USE	S
per0127103a	244899020	CWW	1/28/2010 8:49	944711	10-1272	1	LANL	USE	S

per0127104a	IPB013	CWW	1/28/2010 8:58	Screen	1		USE	B
per0127105a	1260110-Supp	CWW	1/28/2010 9:06	Inhouse	1	GEL	DUSE	B
per0127106a	WCLCCV	CWW	1/28/2010 9:14		1		USE	C
per0127107a	IPB014	CWW	1/28/2010 9:22		1		USE	B
per0127108a	WCLCRI	CWW	1/28/2010 9:30		1		USE	C

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127016a

Date: 27-Jan-2010

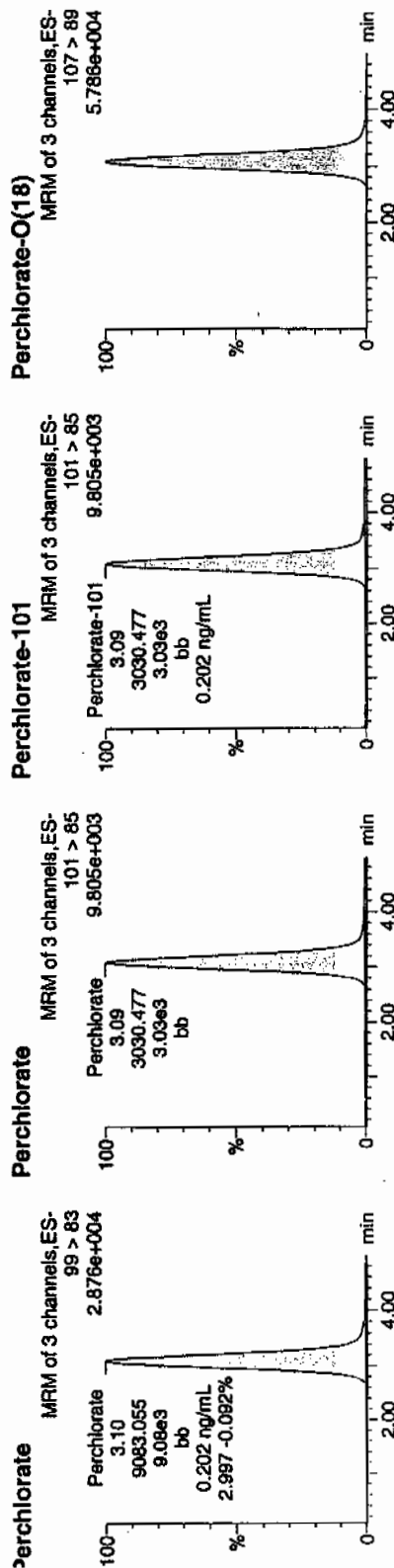
Time: 21:07:38

D: 1202023102

/lal: 1:3,E

01-28-10

1202023102 | 3020 MS | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202023102	Perchlorate	99 > 83	3.10	9083.055	9083.055	bb			0.2019	100.93	0.93	2070.5...	3.00
1202023102	Perchlorate-101	101 > 85	3.09	3030.477	3030.477	bb			0.2024	101.21	1.21	1948.5...	
1202023102	Perchlorate-O(18)	107 > 89	3.07	18194.547	18194.547	bb			0.4853	97.06	-2.94	5808.2...	

3EL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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

Dataset: C:\MassLynx\Perchlorate.PRO\per012710a.qld

Last Altered: Thursday, January 28, 2010 12:32:47 PM Eastern Standard Time  
Printed: Thursday, January 28, 2010 12:45:42 PM Eastern Standard Time

Name: per0127017a

Date: 27-Jan-2010

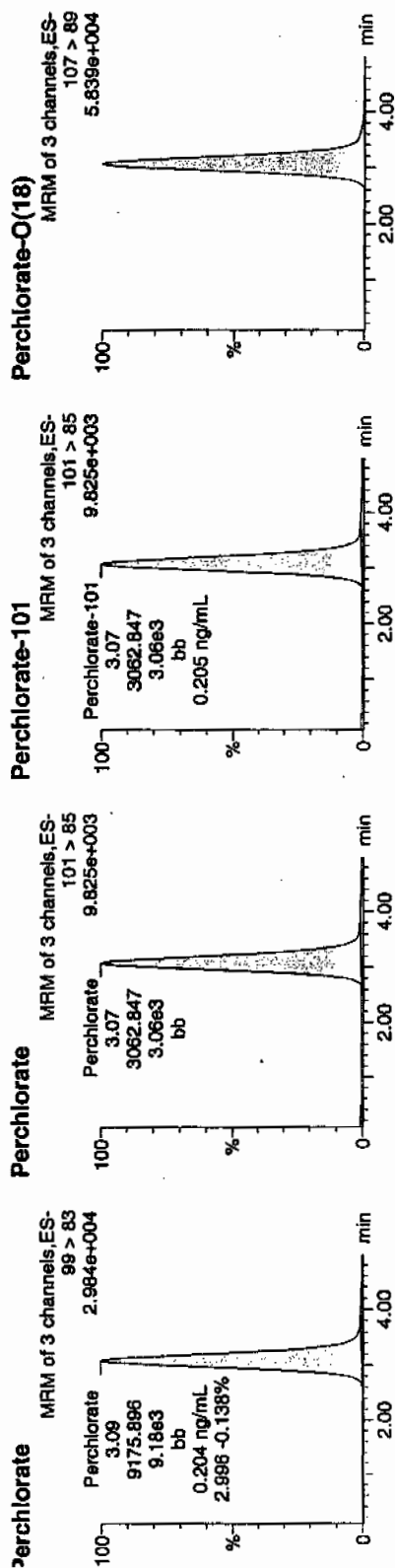
Time: 21:15:39

D: 1202023103

/lat: 1:3,F

01-25-10

1202023103 | 3062.847 | 1750 | 11



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202023103	Perchlorate	99 > 83	3.09	9175.896	9175.896	bb			0.2039	101.96	1.96	1080.1...	3.00
1202023103	Perchlorate-101	101 > 85	3.07	3062.847	3062.847	bb			0.2046	102.30	2.30	578.785	
1202023103	Perchlorate-O(18)	107 > 89	3.07	18331.102	18331.102	bb			0.4889	97.79	-2.21	4227.4...	

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

### Isotope Ratio Criteria

#### Isotope Ratio $^{35}\text{Cl}/^{37}\text{Cl}$

2.31-3.85

### Tune Criteria

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



# LC/MS/MS EXPLOSIVES ANALYSIS

**LC/MS/MS Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1264-1**

**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:** 942335

**Prep Batch Number:** 942334

**Sample Analysis**

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

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202017300	Method Blank (MB)
1202017301	Laboratory Control Sample (LCS)
1202017302	244847001(RE12-10-7272) Matrix Spike (MS)
1202017303	244847001(RE12-10-7272) Matrix Spike Duplicate (MSD)

**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.

10-1264-1-EXPLCMS

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#### **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. New surrogate limits went into effect midnight on 01/31/10. Samples for Primary analyte analysis were analyzed both before and after midnight on 01/31/10. This fact is documented on the Form 2.

##### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries were within the established acceptance limits.

##### **QC Sample Designation**

Client sample 244847001 (RE12-10-7272) from SDG 10-1262 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

##### **Matrix Spike (MS) Recovery Statement**

The MS spike recoveries were within the established acceptance limits.

##### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD spike recoveries were within the established acceptance limits.

##### **MS/MSD Relative Percent Difference (RPD) Statement**

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

##### **Internal Standard (ISTD) Acceptance**

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

#### **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.

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## **Secondary Analyte Analysis**

### **Calibration Information**

#### **Initial Calibration**

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

#### **Calibration Verification Standard Requirements**

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

#### **Calibration Blank Requirements**

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

#### **CRI Requirements**

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

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

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

#### **Surrogate Recoveries**

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

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries were within the established acceptance limits.

#### **QC Sample Designation**

Client sample 244847001 (RE12-10-7272) from SDG 10-1262 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

#### **Matrix Spike (MS) Recovery Statement**

The Matrix Spike (1202017302) did not meet spike recovery limits for TATB at 440%. The recovery limits The MS recovered TATB at 440%. The recovery limits are 44-166%. Since the LCS met acceptance limits for TATB, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 785558.

#### **Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD spike recoveries were within the established acceptance limits.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

The MS/MSD RPD for TATB was 92.2%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 785558.

#### **Internal Standard (ISTD) Acceptance**

The internal standards were not added to the secondary analyte extracts.

10-1264-1-EXPLCMS

### **Technical Information**

#### **Holding Time Specifications**

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

#### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

#### **Sample Dilutions**

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

#### **Sample Re-extraction/Re-analysis**

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

### **Miscellaneous Information**

#### **Data Exception (DER) Documentation**

Data exception report 785558 was generated for this SDG.

The MS recovered TATB at 440%. The recovery limits are 44-166%. Since the LCS met acceptance limits for TATB, the noted exception is attributed to vagaries in the extraction process. The data are reported.

The MS/MSD RPD for TATB was 92.2%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported.

#### **Manual Integrations**

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

#### **Flagging Convention**

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

#### **Additional Comments**

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

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

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

### System Configuration

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

### Chromatographic Columns

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

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

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

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

### Certification Statement

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

### Review Validation:

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

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

Reviewer: Hester K. Mass Date: 02/04/10

# SAMPLE DATA SUMMARY

1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8096

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881001

Sample Amount 2

Moisture: 6.1

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131028a

Date Analyzed: 01-FEB-10 01:52

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: RE12-10-8096

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881001

Sample Amount 2

Moisture: 6.1

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250032.wiff

Date Analyzed: 25-JAN-10 18:39

Units: ug/kg

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

\*Concentration =

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

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8094

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881002

Sample Amount 2

Moisture: 5.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131029a

Date Analyzed: 01-FEB-10 02:21

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: RE12-10-8094

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881002

Sample Amount 2

Moisture: 5.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250033.wiff

Date Analyzed: 25-JAN-10 18:55

Units: ug/kg

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

\*Concentration =

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

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8097

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881003

Sample Amount 2

Moisture: 8.0

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131030a

Date Analyzed: 01-FEB-10 02:51

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: RE12-10-8097

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881003

Sample Amount 2

Moisture: 8.0

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250034.wiff

Date Analyzed: 25-JAN-10 19:11

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: RE12-10-8095

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881004

Sample Amount 2

Moisture: 10.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131031a

Date Analyzed: 01-FEB-10 03:20

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: RE12-10-8095

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881004

Sample Amount 2

Moisture: 10.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250035.wiff

Date Analyzed: 25-JAN-10 19:26

Units: ug/kg

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

\*Concentration =

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

# QUALITY CONTROL SUMMARY



# High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
244881001	RE12-10-8096	102	70 - 144	
244881001	RE12-10-8096	104	73.7 - 133.3	
244881002	RE12-10-8094	99.4	70 - 144	
244881002	RE12-10-8094	87.2	73.7 - 133.3	
244881003	RE12-10-8097	101	70 - 144	
244881003	RE12-10-8097	87.2	73.7 - 133.3	
244881004	RE12-10-8095	103	70 - 144	
244881004	RE12-10-8095	102	73.7 - 133.3	
1202017300	MB for batch 942334	93.6	73.7 - 133.3	
1202017300	MB for batch 942334	102	73.7 - 133.3	
1202017301	LCS for batch 942334	97.5	73.7 - 133.3	
1202017301	LCS for batch 942334	110	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) 10-1264-1

Extract Batch Code: 942334

Date Extracted: 22-JAN-10

GEL LCS ID: 1202017301

GEL LCSDUP ID:

Analysis Date/Time: 31-JAN-10 18:59

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	4060	81.3					62.1 – 124
2,4,6-Trinitrotoluene	5000	5030	101					78.3 – 132
2,4-Dinitrotoluene	5000	5150	103					82.7 – 132
2,6-Dinitrotoluene	5000	4740	94.9					86.9 – 122
2-Amino-4,6-dinitrotoluene	5000	4750	95					84.2 – 149
4-Amino-2,6-dinitrotoluene	5000	5080	102					85.6 – 133
HMX	5000	4340	86.8					66.5 – 142
Nitrobenzene	5000	5170	103					71.8 – 126
PETN	5000	4210	84.2					64.6 – 147
RDX	5000	4970	99.5					78.7 – 144
Tetryl	5000	3150	62.9					31.2 – 119
m-Dinitrobenzene	5000	4570	91.4					80.9 – 127
m-Nitrotoluene	5000	4460	89.1					71.9 – 126
o-Nitrotoluene	5000	4840	96.8					75 – 123
p-Nitrotoluene	5000	4830	96.6					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) 10-1264-1

Extract Batch Code: 942334

Date Extracted: 22-JAN-10

GEL LCS ID: 1202017301

GEL LCSDUP ID:

Analysis Date/Time: 25-JAN-10 14:59

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	5410	108					64.8 - 128
2,6-Diamino-4-nitrotoluene	5000	4930	98.6					69.6 - 133
3,5-Dinitroaniline	5000	5260	105					77.3 - 123
tris(o-cresyl) phosphate	5000	5040	101					84.3 - 120
*ATB	5000	5370	107					46.8 - 166

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

\* Values outside of QC limits

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Extract Batch Code: 942334

Date Extracted: 22-JAN-10

GEL Spike ID: 1202017302

GEL SpikeDup ID: 1202017303

Analysis Date/Time: 31-JAN-10 19:58

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	4910	98.2	4700	94.1	4.32	30	70.7 - 130
2,4,6-Trinitrotoluene	5000	0	5060	101	6180	124	20	30	83.4 - 138
2,4-Dinitrotoluene	5000	0	5010	100	5340	107	6.38	30	79.1 - 137
2,6-Dinitrotoluene	5000	0	4880	97.6	5060	101	3.63	30	85.4 - 125
2-Amino-4,6-dinitrotoluene	5000	0	5140	103	4790	95.7	7.24	30	77.4 - 154
4-Amino-2,6-dinitrotoluene	5000	0	5110	102	6090	122	17.6	30	77.3 - 140
HMX	5000	0	4650	93	4440	88.9	4.56	30	66.7 - 144
Nitrobenzene	5000	0	5240	105	4660	93.1	11.9	30	70.4 - 129
PETN	5000	0	4040	80.8	4060	81.1	.399	30	61.9 - 153
RDX	5000	0	5340	107	4630	92.6	14.2	30	73 - 140
Tetryl	5000	0	4520	90.3	4810	96.3	6.4	30	46.8 - 138
m-Dinitrobenzene	5000	0	4930	98.5	4650	93	5.78	30	83.5 - 126
m-Nitrotoluene	5000	0	4430	88.5	4520	90.4	2.08	30	68.6 - 135
o-Nitrotoluene	5000	0	4210	84.2	4900	98	15.1	30	71.2 - 131
p-Nitrotoluene	5000	0	4350	87	4810	96.2	10	30	69.3 - 133

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

# High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7272

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Extract Batch Code: 942334

Date Extracted:22-JAN-10

GEL Spike ID: 1202017302

GEL SpikeDup ID:1202017303

Analysis Date/Time: 25-JAN-10 15:31

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	3720	74.4	4490	89.8	18.8	30	51.6 - 127
2,6-Diamino-4-nitrotoluene	5000	0	4030	80.6	4750	95	16.4	30	58.9 - 135
3,5-Dinitroaniline	5000	0	5200	104	4970	99.4	4.52	30	72.8 - 125
tris(o-cresyl) phosphate	5000	0	4540	90.8	3990	79.8	12.9	30	79.1 - 124
TATB	5000	0	22000	440 *	8120	162	92.2 *	30	43.9 - 166

#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): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 31-JAN-10 12:35

GEL Data File: EXP0131001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	536.185
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	570.359
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report

SEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Mon Feb 01 14:31:20 2010, Page 1 of 103

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Method: C:\MASSLYNX\NEW\_EXP.PRO\MethDB\013110expa.mdb, Time: Mon Feb 01 10:41:50 2010

Calibration: Untitled, Time: Mon Feb 01 14:26:07 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131001a

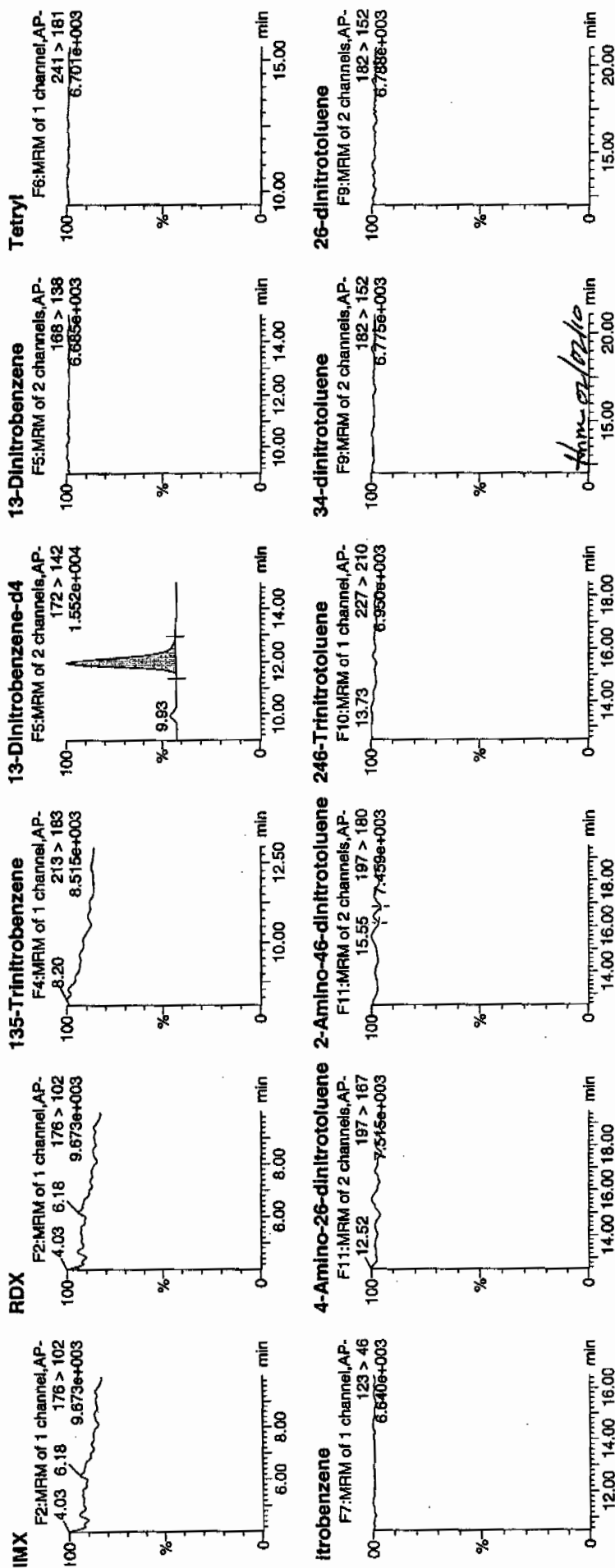
Date: 31-Jan-2010

Time: 12:35:42

J: XIBLK01

File: 1:1,A

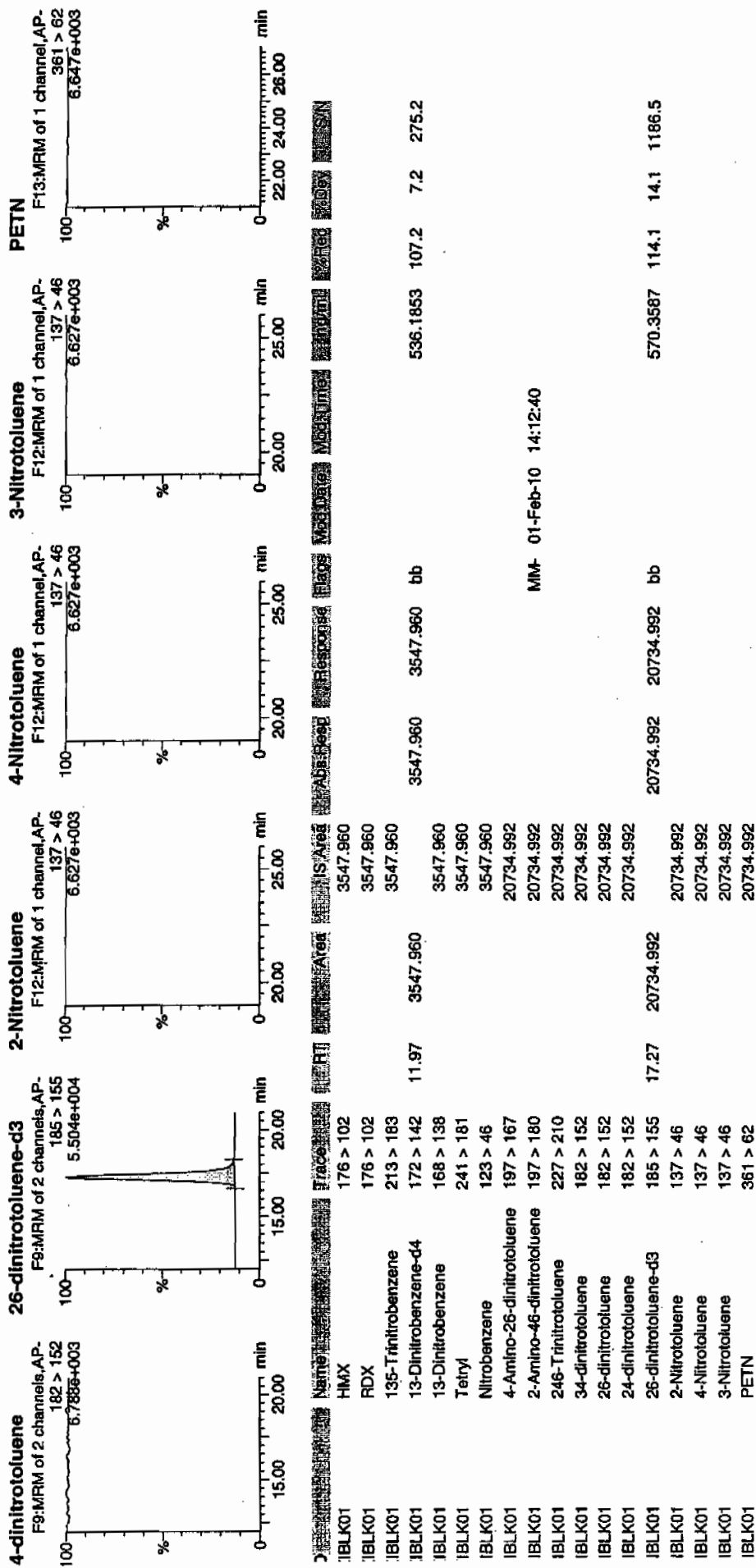
2/1/10



Printed: Mon Feb 01 14:31:20 2010, Page 2 of 103

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

Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



MM- 01-Feb-10 14:12:40



Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 31-JAN-10 13:05

GEL Data File: EXP0131002a

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	504.609
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	521.251
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

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131002a

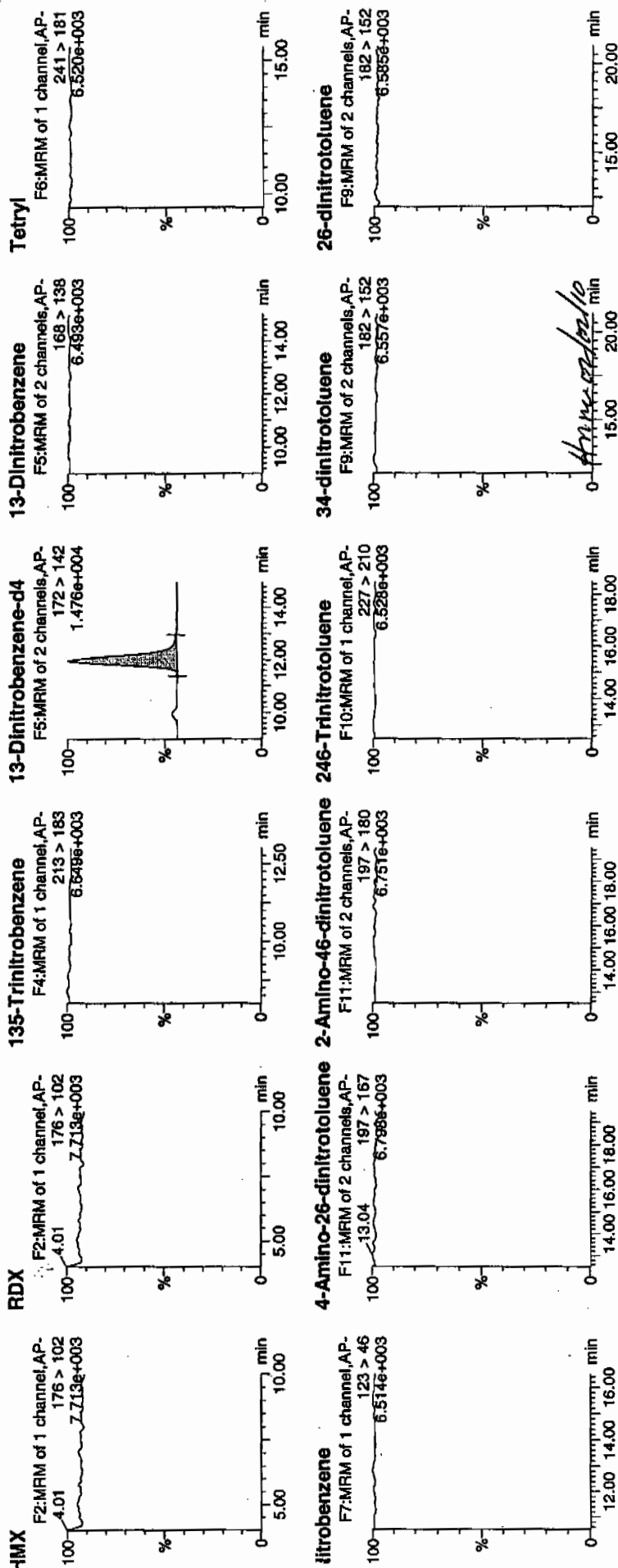
Date: 31-Jan-2010

Time: 13:05:29

ID: XIBLK01

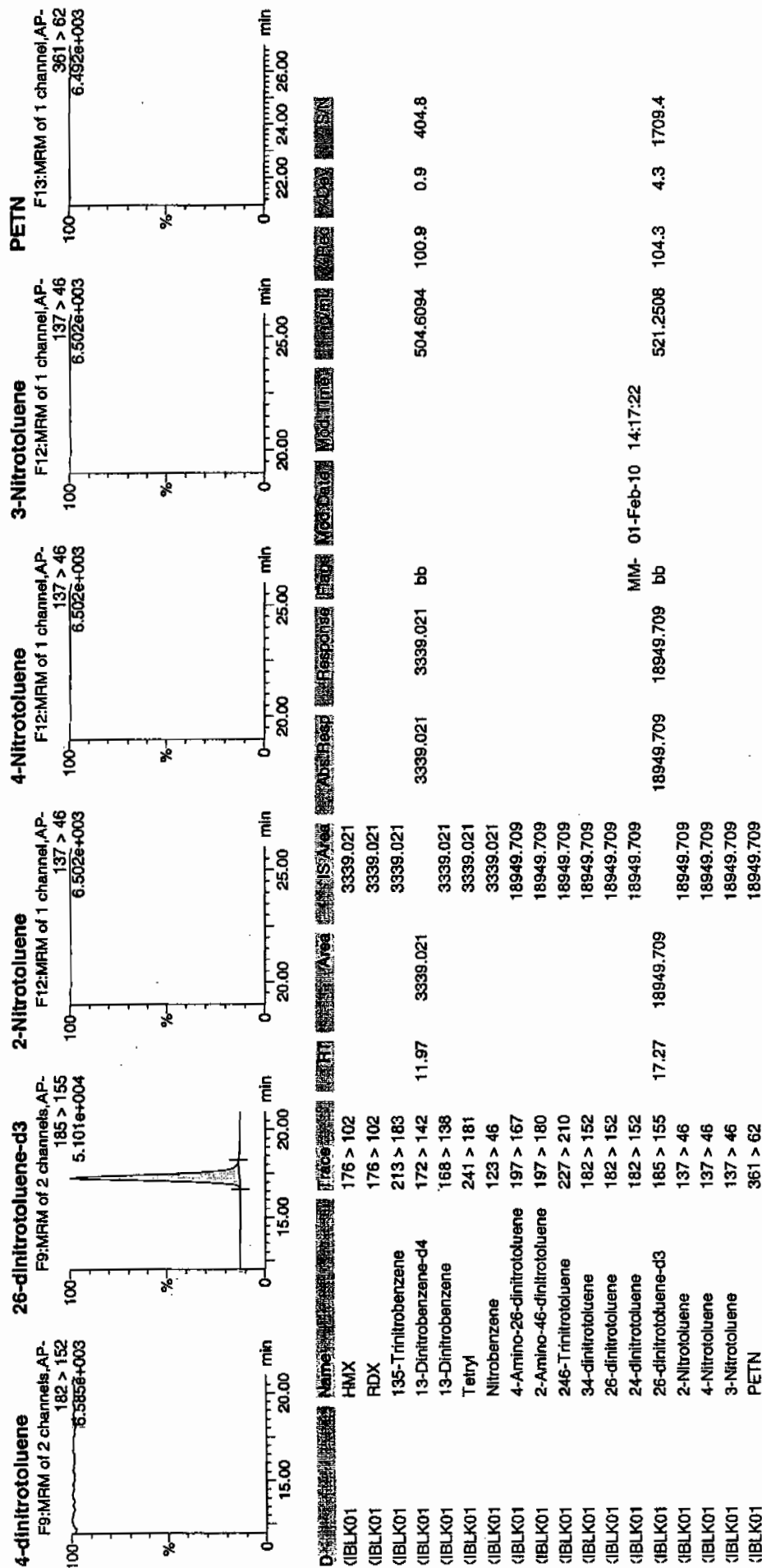
Vial: 1:1,A

WAP  
2/1/10



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

Dataset: C:\MASSLYNX\New\_Exp.PROV013110expA.qld, Time: Mon Feb 01 14:26:08 2010



Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 10:28

GEL Data File: EXS01250001.wiff

Instrument ID: LCMSMS

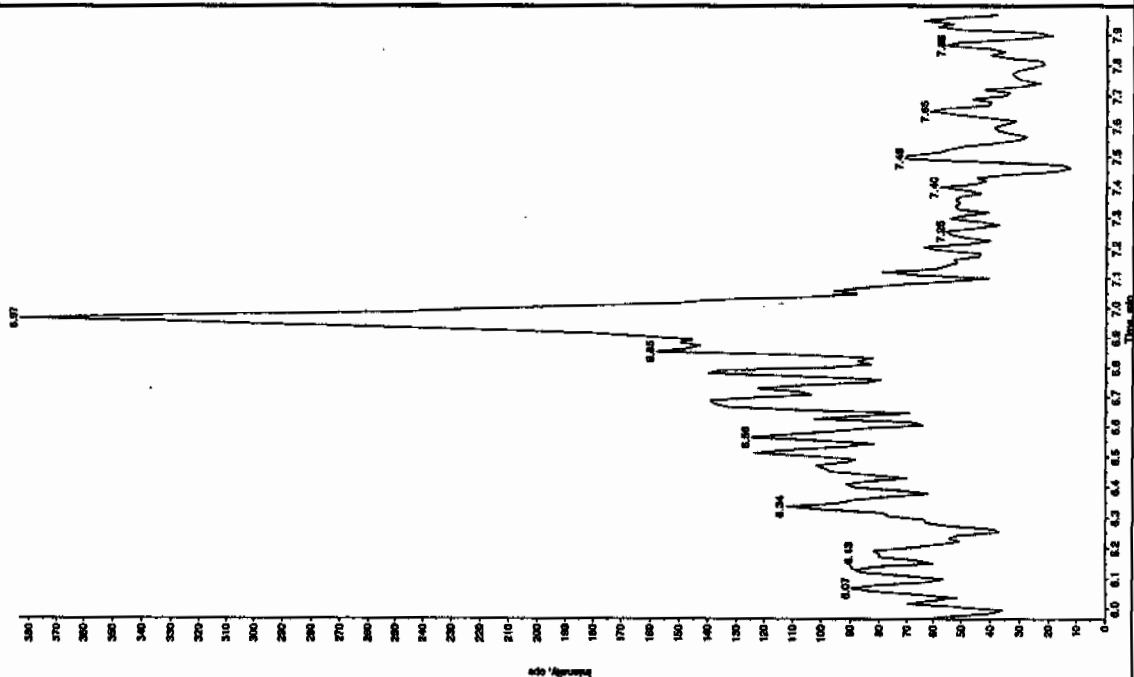
Column: Phenomenex Ultracarb 5u ODS(20)

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

See 1/27/10

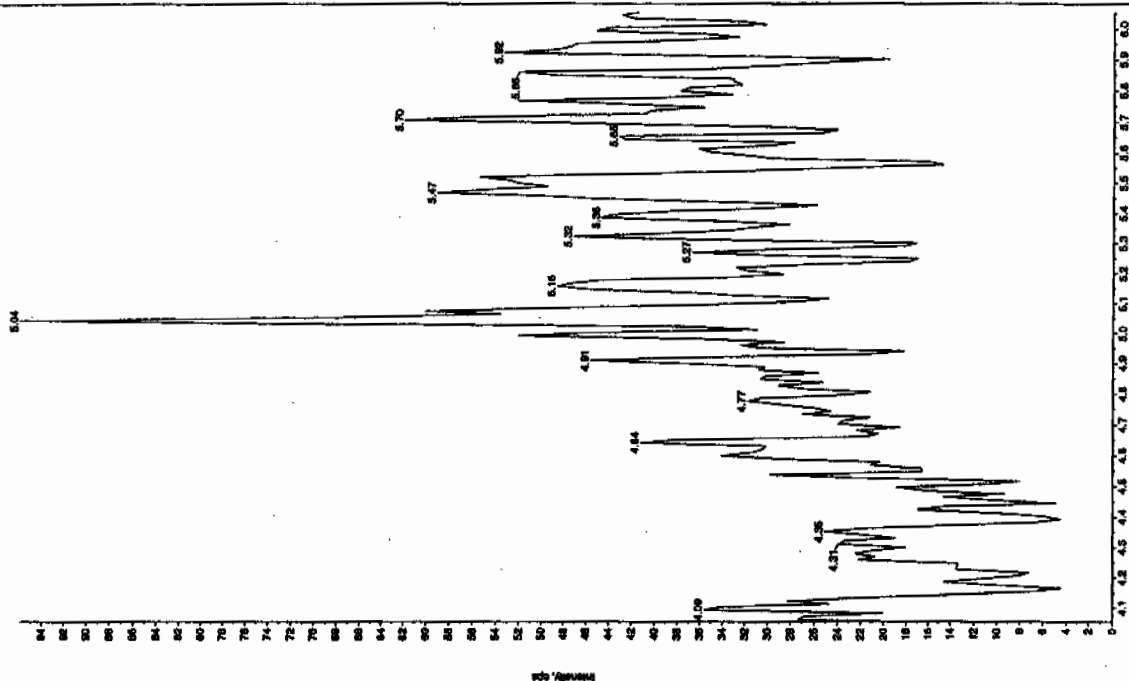
File Name: 'XBLK01' Sample ID: '11111' File: 'EXS01250001.mif'  
 Method: 'LCMS-EXP' Method: '257.2204.9' Method: '112.046.0' Method: '112.046.0' Method: '112.046.0'

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 10:28:30 AM  
 Acq. Time: 10:28:30 AM  
 Modified: No



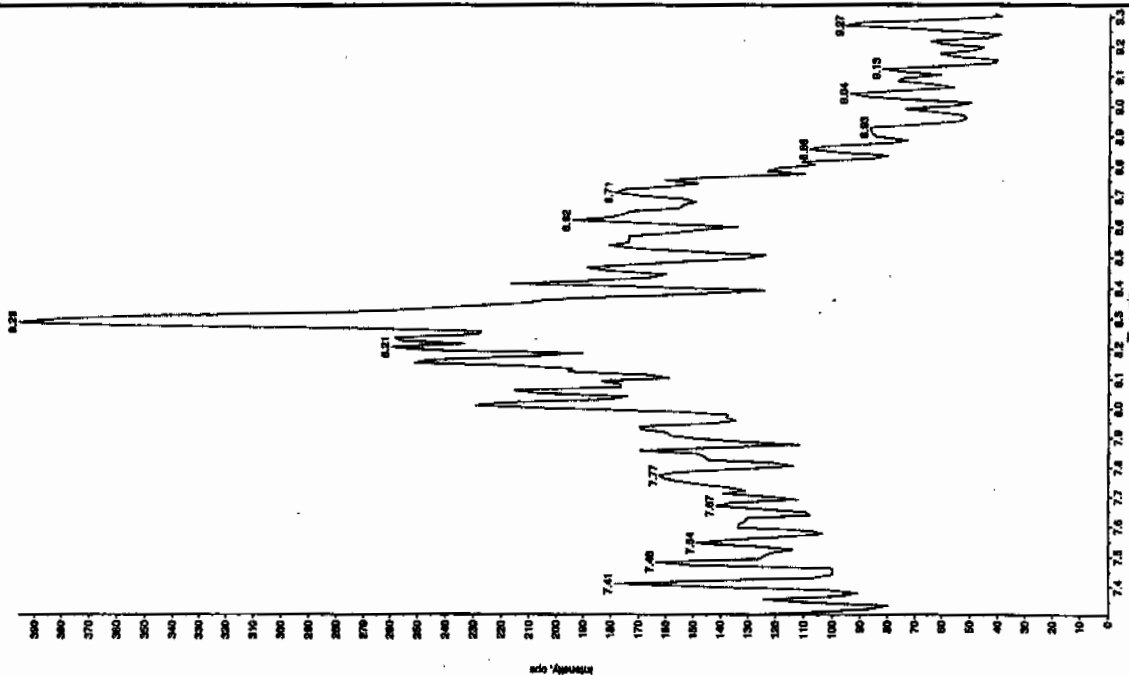
Sample Name: "XBLU001" Sample ID: "111111" File: "EX001250001.wif"  
 Peak Name: "28-Dinitro-4-nitrofluorene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:28:30 AM  
 Modified: No



Sample Name: "XBLU001" Sample ID: "111111" File: "EX001250001.wif"  
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.17151.9 amu"  
 Comment: "LCMSXP\_B" Annotation: ""

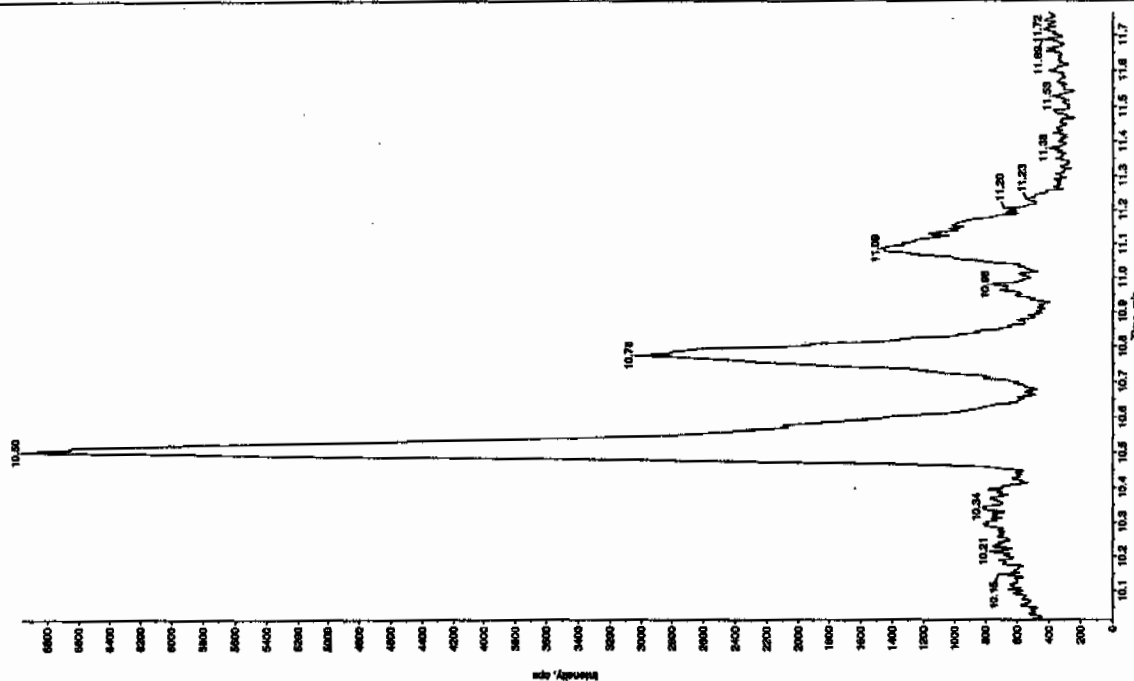
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:28:30 AM  
 Modified: No



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

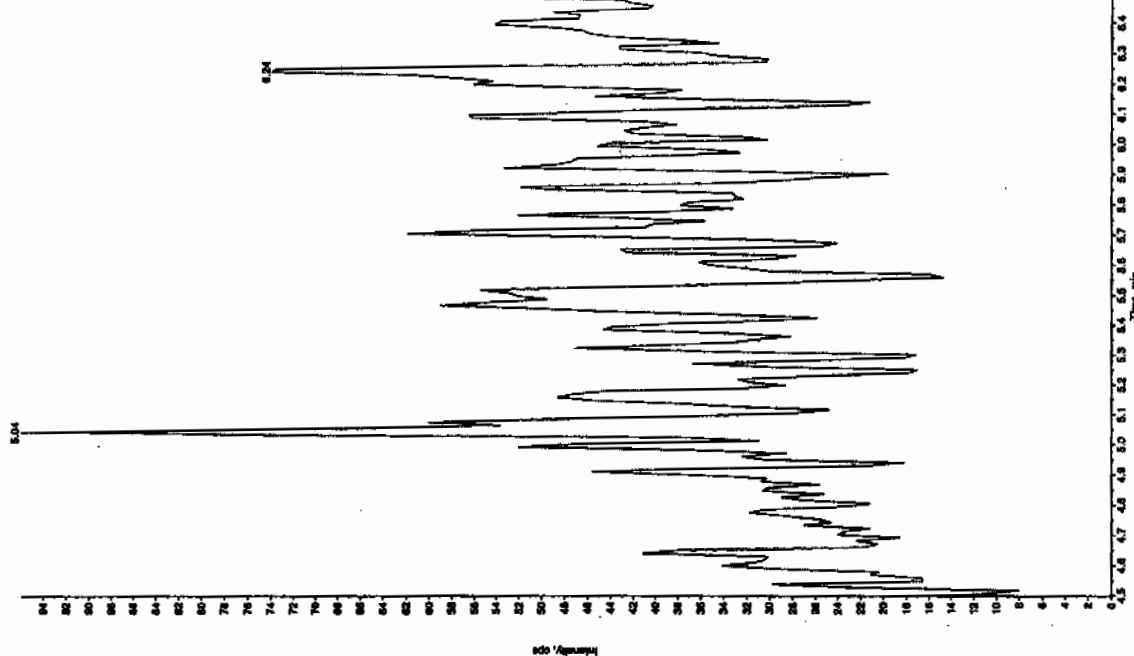
Sample Name: "XBL001" Sample ID: "XBL001" File: "XBL001.D" Mass(es): "358.1810 amu"  
 Peak Name: "bis(p-cresyl) phosphate" Annotation: ""  
 Comment: "LCMS-EXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:28:30 AM  
 Modified: No



Sample Name: "XBL001" Sample ID: "XBL001" File: "XBL001.D" Mass(es): "165.0460 amu"  
 Peak Name: "24-Diamino-2-oxo-2,3-dihydro-1,4-benzodioxine" Annotation: ""  
 Comment: "LCMS-EXP\_B" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 10:28:30 AM  
 Modified: No



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

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 10:46

GEL Data File: EXS01250002.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

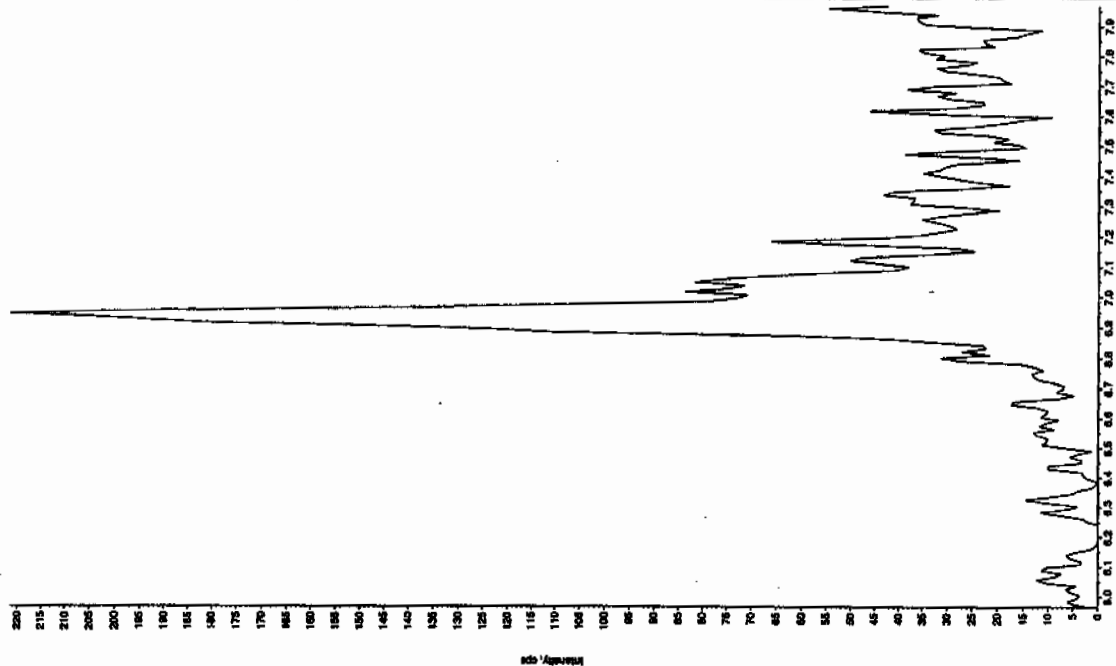
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0



San 1/27/10

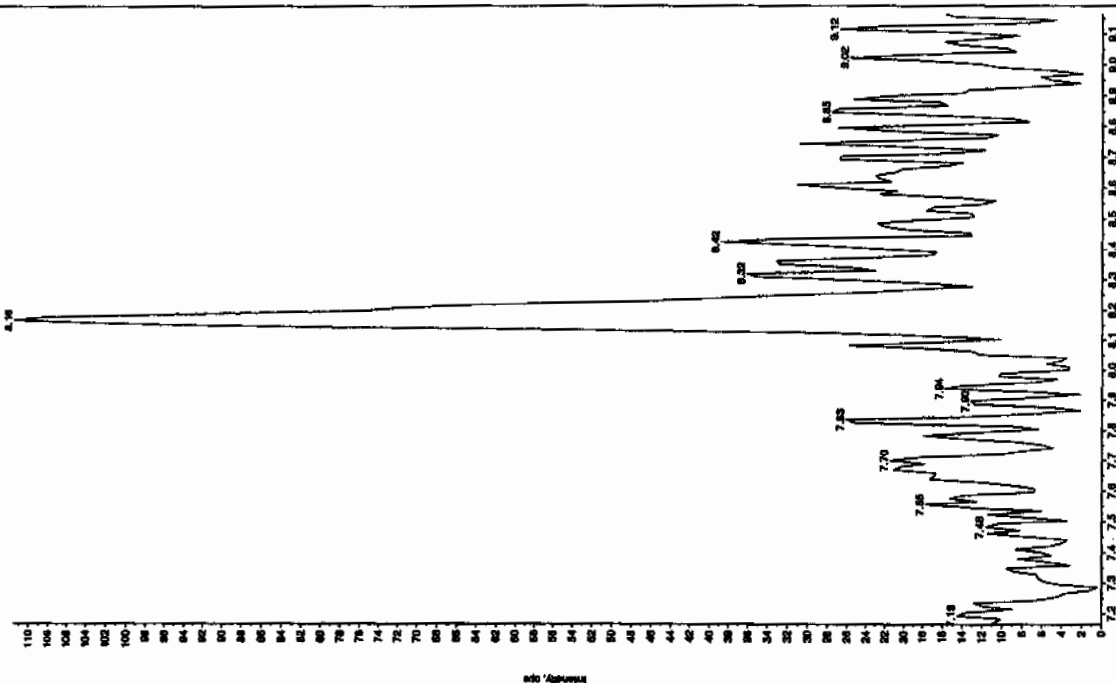
Sample Name: "XBL001" Sample ID: "11111" File: "E:\S01250002.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Concentration: "1.00" Method: "100.046.0 amu"

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Date: 1/25/2010  
 Time: 10:46:38 AM  
 Modified: No



Sample Name: "XBL001" Sample ID: "11111" File: "E:\S01250002.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Concentration: "1.00" Method: "100.046.0 amu"

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Date: 1/25/2010  
 Time: 10:46:38 AM  
 Modified: No



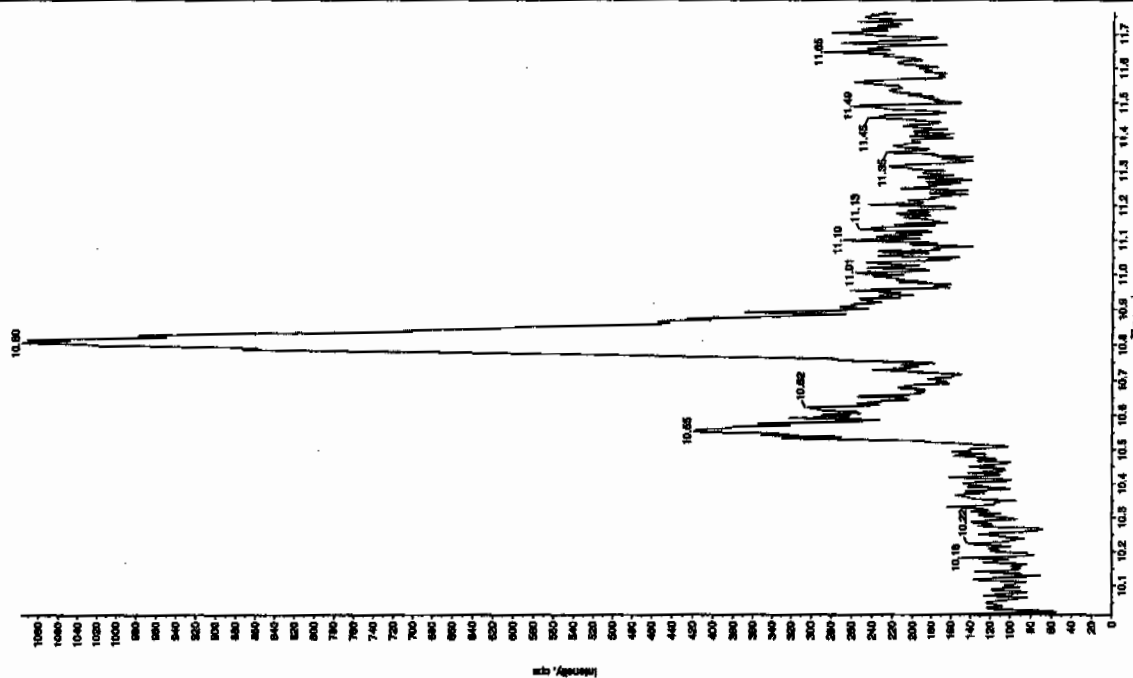
San 01/27/10

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



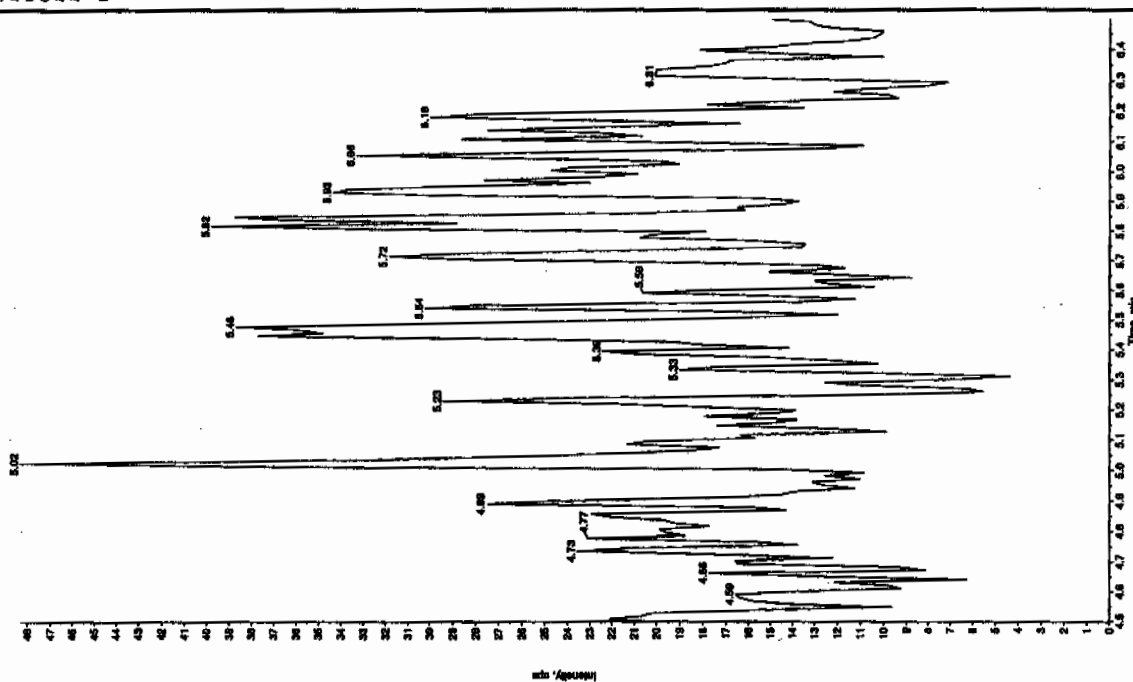
Sample Name: "XBLX01" Sample ID: "T1LEP" File: "EX0126002.wif"  
 Peak Name: "bis(2-ethyl phosphite)" Mass(es): "369.191.0 amu"  
 Comment: "LCMSXP\_B" Annotation: "1"

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 10/16/10 AM  
 Acq. Time: 10:46:38 AM  
 Modified: No



Sample Name: "XBLX01" Sample ID: "T1LEP" File: "EX0126002.wif"  
 Peak Name: "24-Diamino-6-nitroindane" Mass(es): "165.046.0 amu"  
 Comment: "LCMSXP\_B" Annotation: "1"

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 10/16/10 AM  
 Acq. Time: 10:46:38 AM  
 Modified: No



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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 31-JAN-10 16:32

GEL Data File: EXP0131009a

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	533.449
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	543.732
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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Quantify Sample Report  
 EL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Sample Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131009a

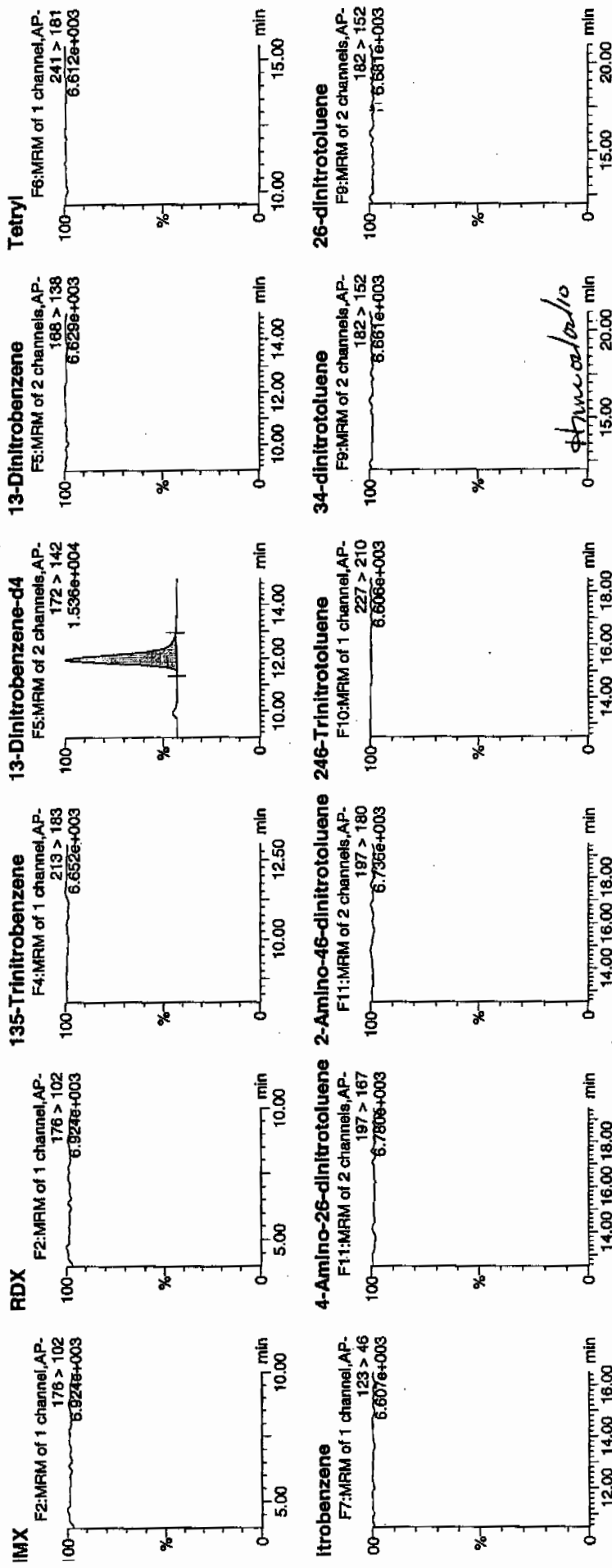
Date: 31-Jan-2010

Time: 16:32:03

Operator: XIBLK02

Label: 1:1,A

*Handwritten:* 2/1/10

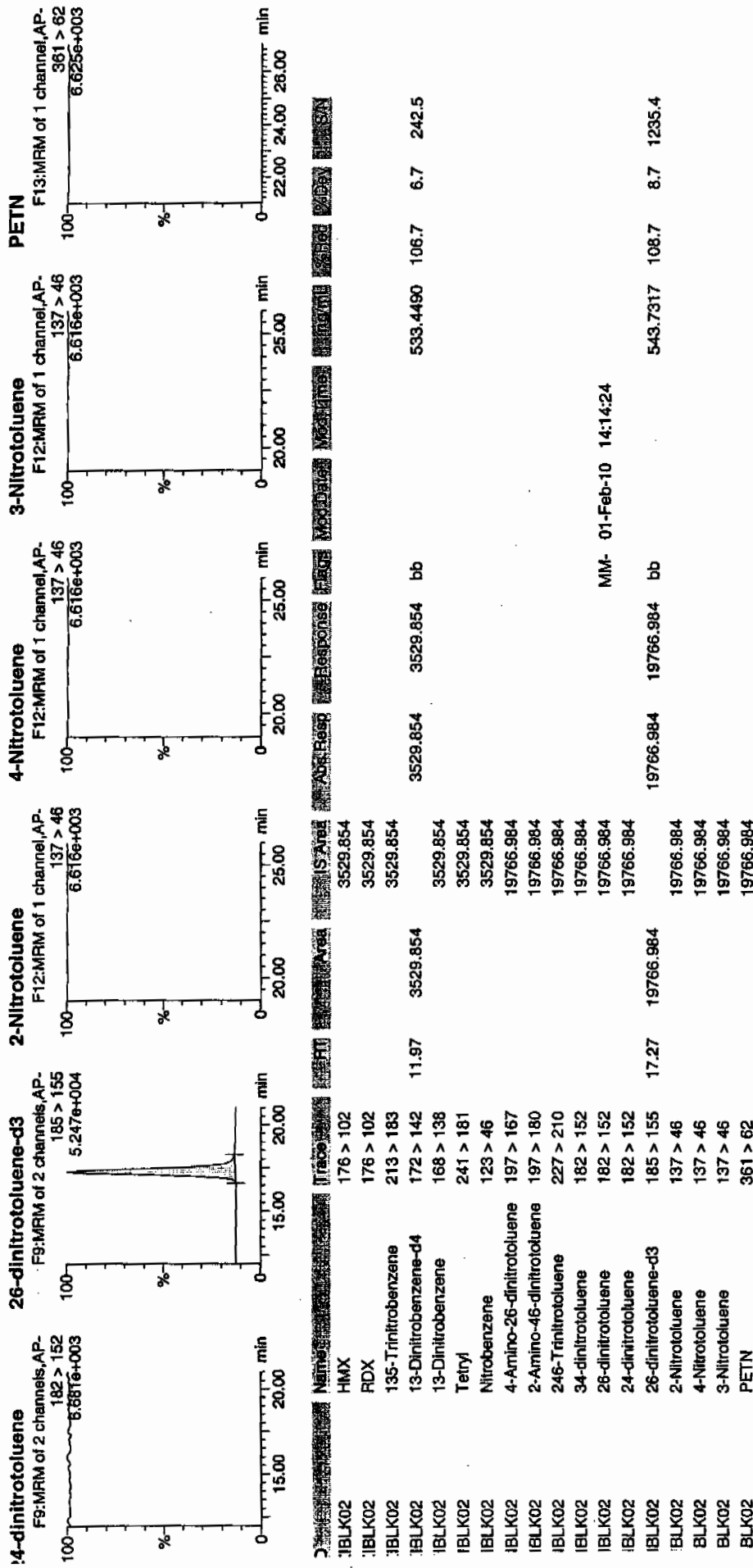


# Quantify Sample Report

SEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Mon Feb 01 14:31:20 2010, Page 18 of 103

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 31-JAN-10 17:31

GEL Data File: EXP0131011a

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	504.9
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	516.084
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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Quantify Sample Report  
EL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Sample Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131011a

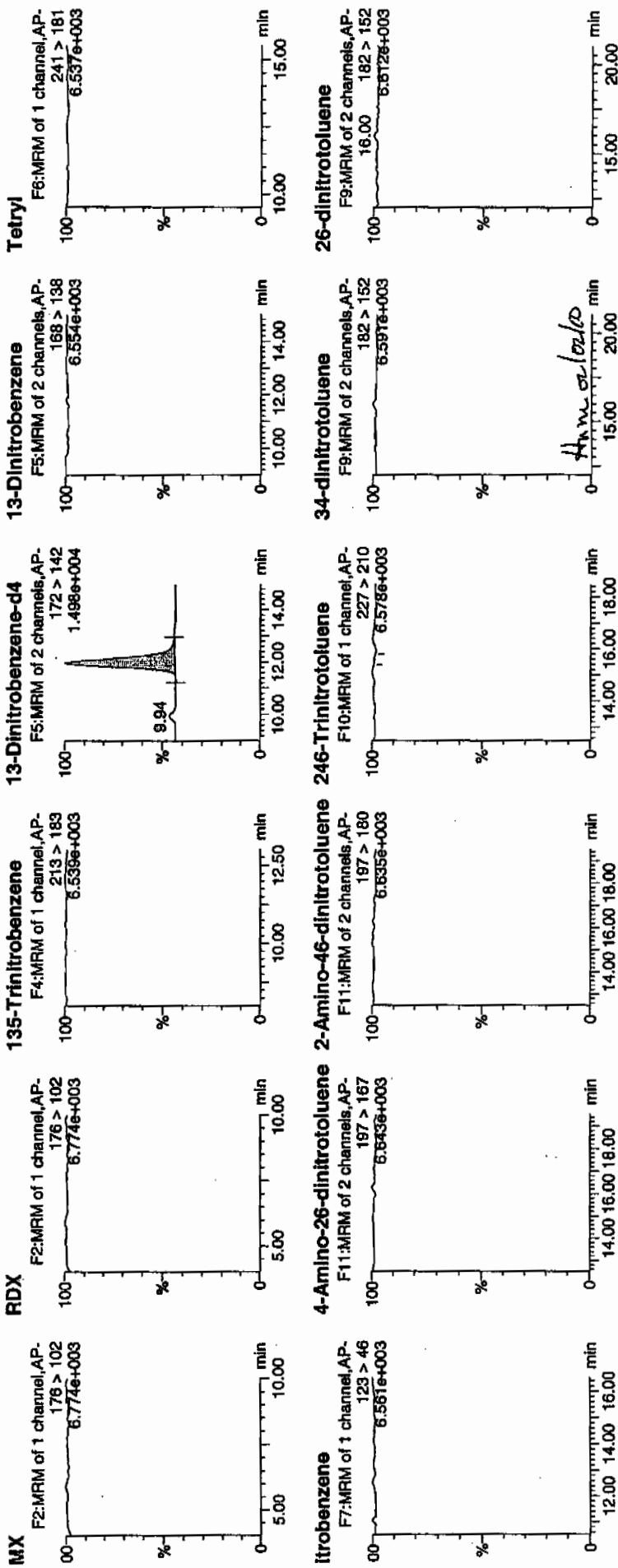
Acquire Date: 31-Jan-2010

Time: 17:31:00

File: XIBLK03

Ratio: 1:1,A

2/1/10

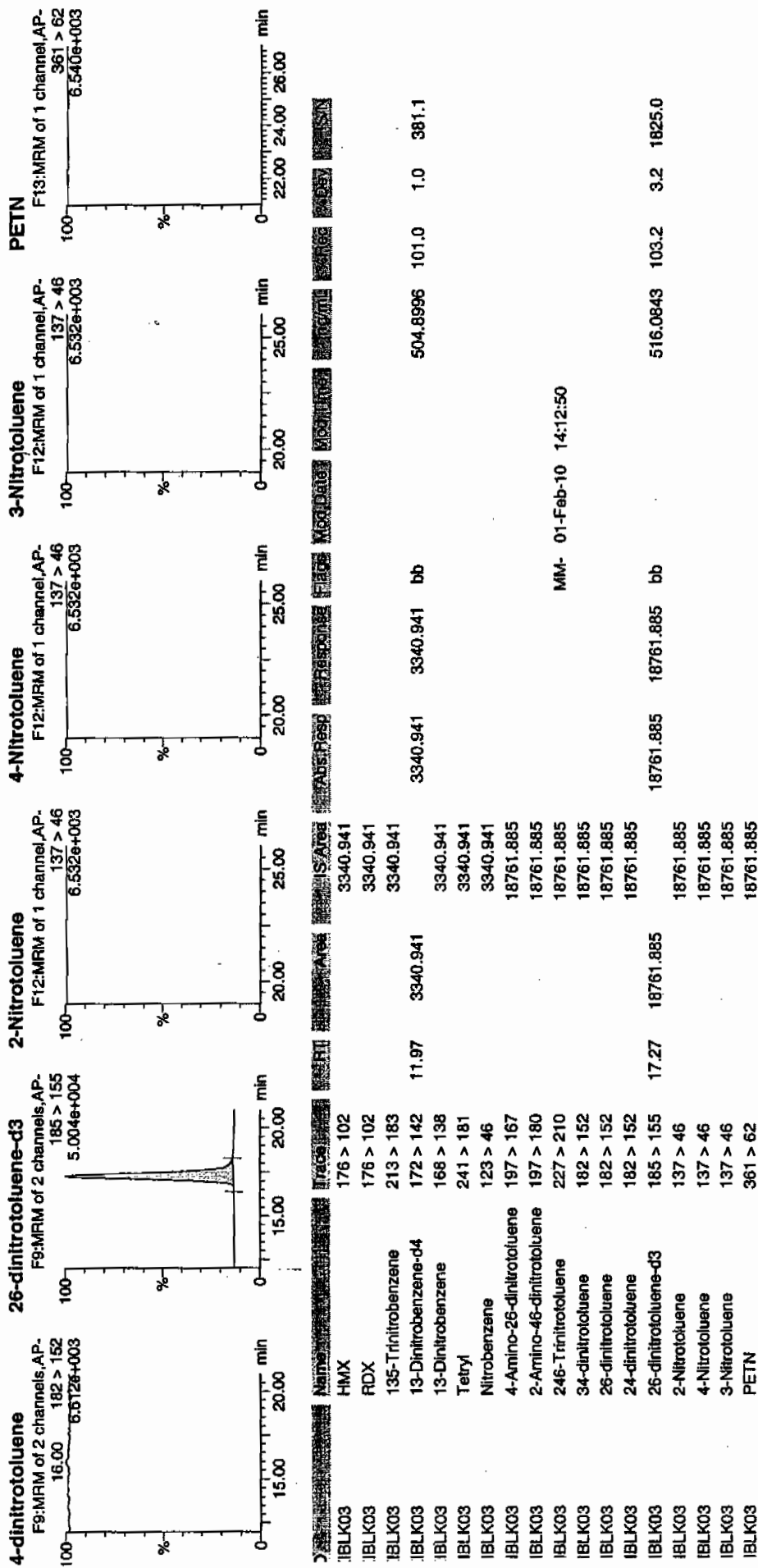




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Quantify Sample Report  
iEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp\PRO1013110expA.qld, Time: Mon Feb 01 14:26:08 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 31-JAN-10 23:54

GEL Data File: EXP0131024a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	469.819
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	476.945
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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Quantify Sample Report  
JEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Sample: C:\MASSLYNX\NEW\_EXP.PRO\data\EXP0131024a

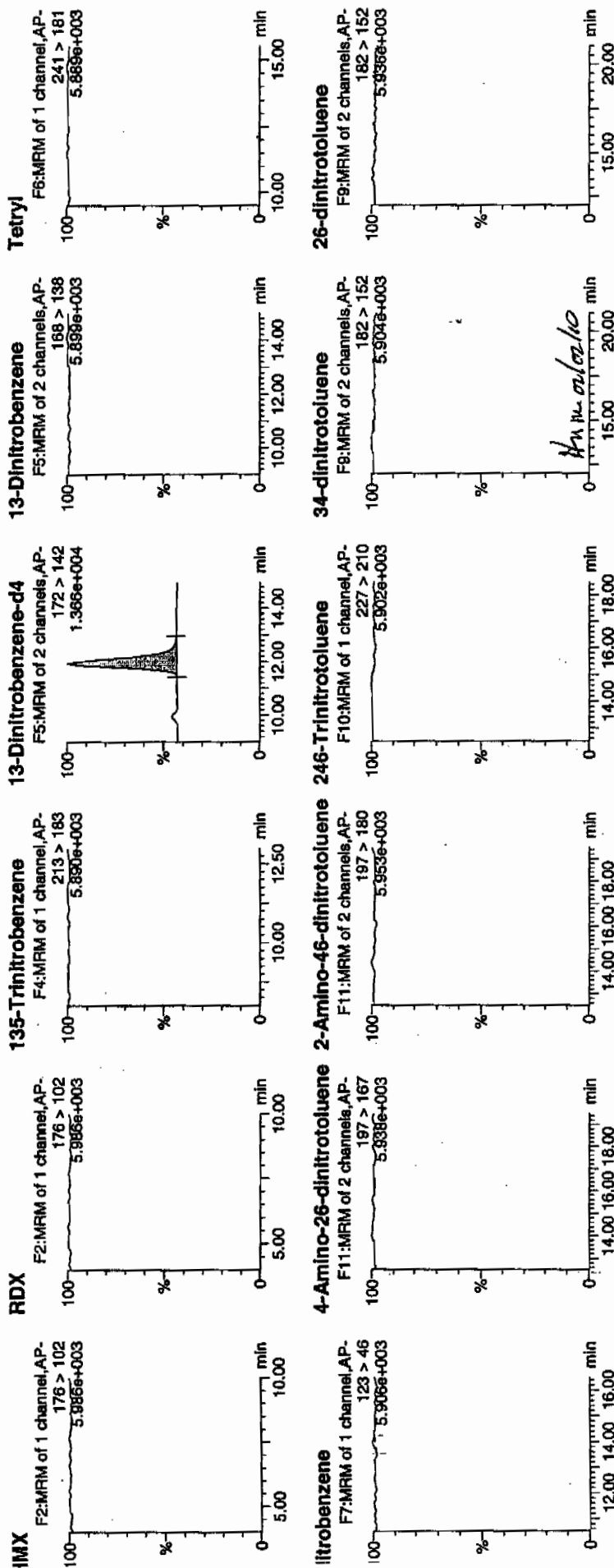
Date: 31-Jan-2010

Time: 23:54:18

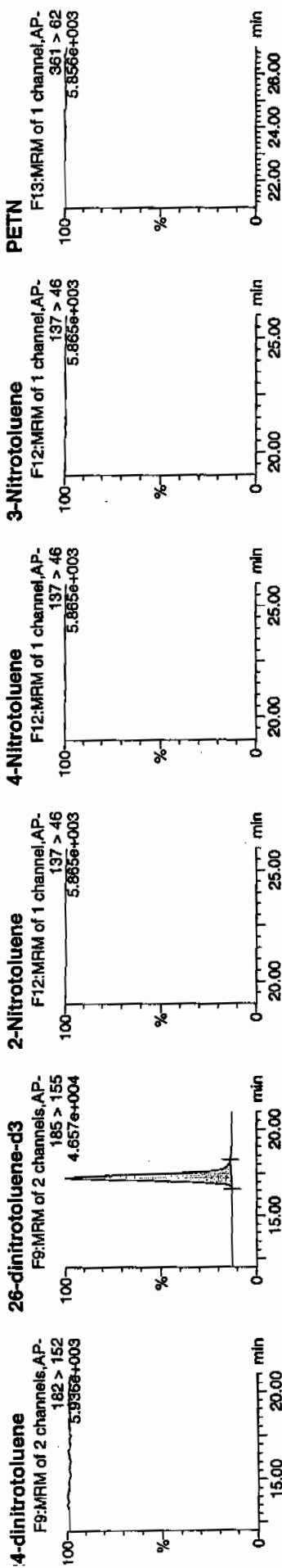
ID: XIBLK04

Ratio: 1:1,A

1077  
2/1/10



Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

[illegible]

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 01-FEB-10 06:17

GEL Data File: EXP0131037a

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	447.977
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	480.86
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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Quantify Sample Report  
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131037a

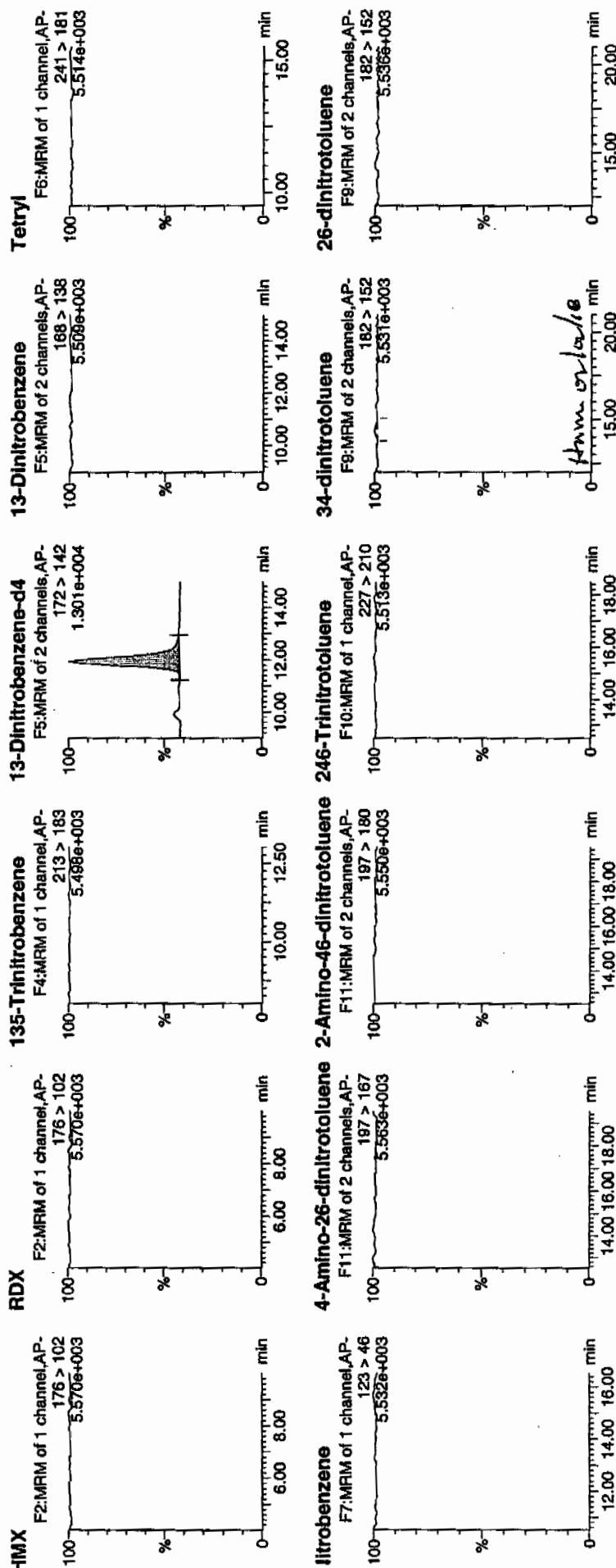
Date: 01-Feb-2010

Time: 06:17:40

ID: XIBLK05

Vial: 1:1,A

1/1/10  
2/1/10

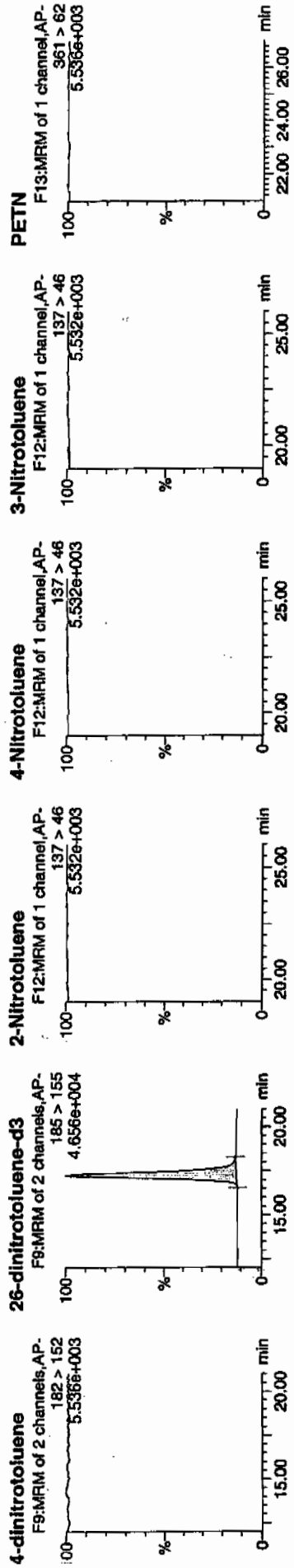


EL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

Printed: Mon Feb 01 14:31:20 2010, Page 74 of 103

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

Dataset: C:\MASSLYNX\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



Name	Trace	Area	IS Area	Response	Area	Response	Area	Response	Area	Response
IBLK05	HMX	176 > 102	2964.285							
IBLK05	RDX	176 > 102	2964.285							
IBLK05	135-Trinitrobenzene	213 > 183	2964.285							
IBLK05	13-Dinitrobenzene-d4	172 > 142	11.95	2964.285						
IBLK05	13-Dinitrobenzene	168 > 138	2964.285							
IBLK05	Tetryl	241 > 181	2964.285							
IBLK05	Nitrobenzene	123 > 46	2964.285							
IBLK05	4-Amino-26-dinitrotoluene	197 > 167	17481.314							
IBLK05	2-Amino-46-dinitrotoluene	197 > 180	17481.314							
IBLK05	246-Trinitrotoluene	227 > 210	17481.314							
IBLK05	34-dinitrotoluene	182 > 152	17481.314							
IBLK05	26-dinitrotoluene	182 > 152	17481.314							
IBLK05	24-dinitrotoluene	182 > 152	17481.314							
IBLK05	26-dinitrotoluene-d3	185 > 155	17.25	17481.314						
IBLK05	2-Nitrotoluene	137 > 46	17481.314							
IBLK05	4-Nitrotoluene	137 > 46	17481.314							
IBLK05	3-Nitrotoluene	137 > 46	17481.314							
IBLK05	PETN	361 > 62								
				2964.285	2964.285	bb	447.9774	89.6	-10.4	214.0
				17481.314	17481.314	bb	480.8596	96.2	-3.8	1773.7

MM- 01-Feb-10 14:13:13

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 25-JAN-10 12:54

GEL Data File: EXS01250010.wiff

Instrument ID: LCMSMS

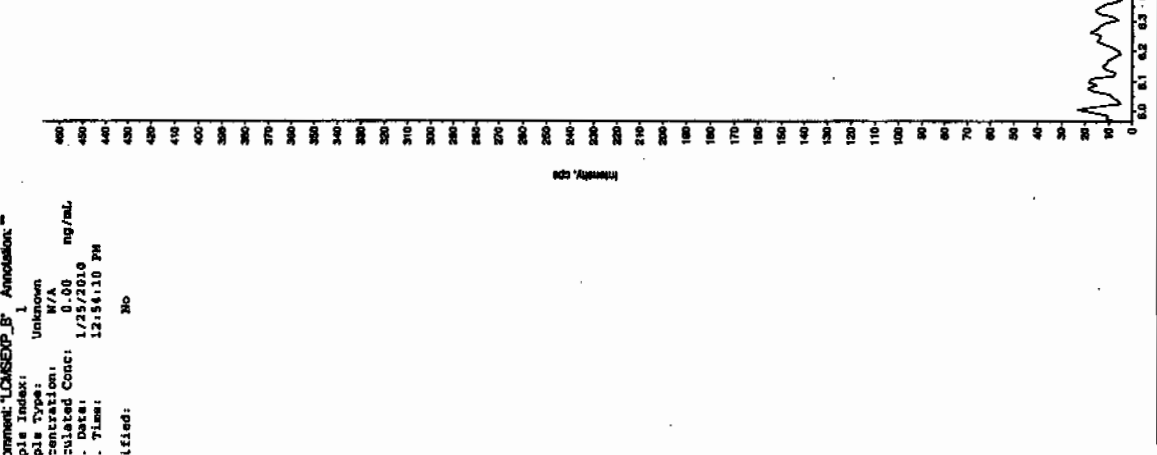
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.7
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

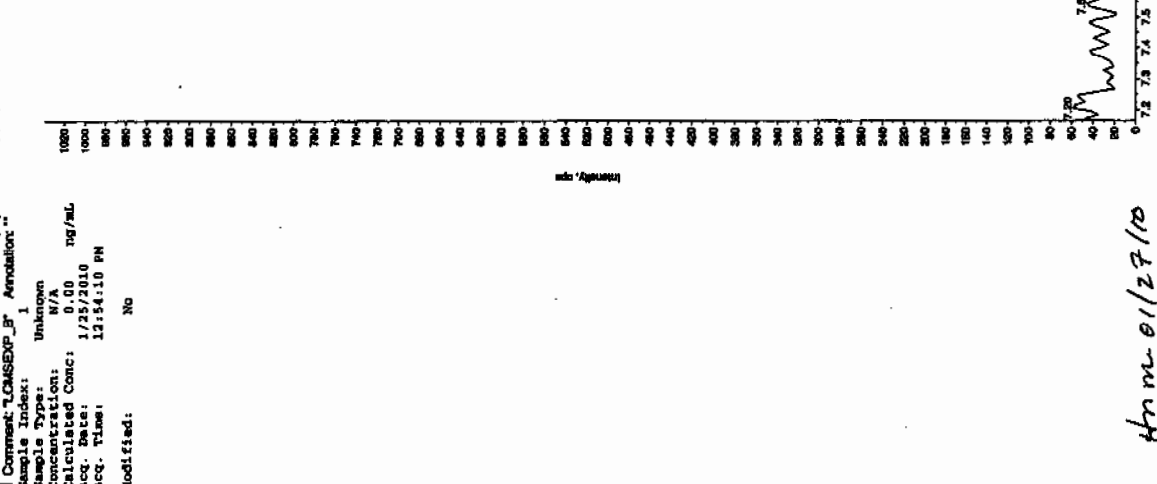


See 112710

Sample Name: "XBL02" Sample ID: "TILER" File: "EX01250010.wif"  
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"  
 Concentration: "0.00 ng/mL"  
 Date: "1/25/2010"  
 Time: "12:54:10 PM"  
 Modified: "No"



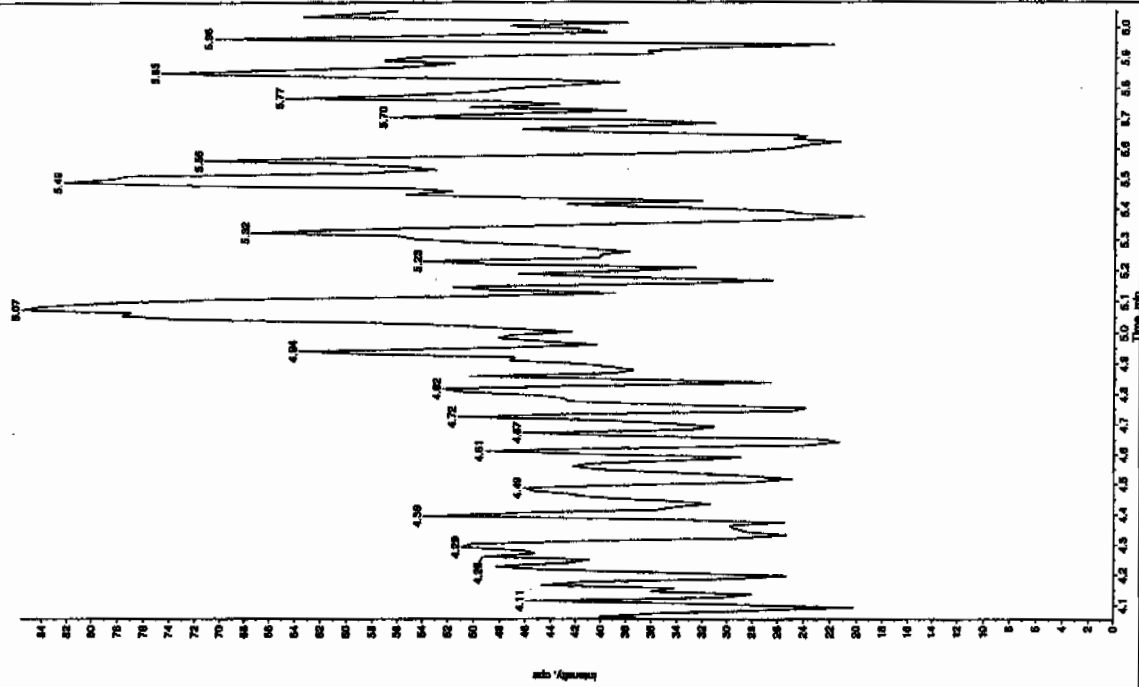
Sample Name: "XBL02" Sample ID: "TILER" File: "EX01250010.wif"  
 Peak Name: "35-Dinitrobenzyl" Mass(es): "182.046.0 amu"  
 Concentration: "0.00 ng/mL"  
 Date: "1/25/2010"  
 Time: "12:54:10 PM"  
 Modified: "No"



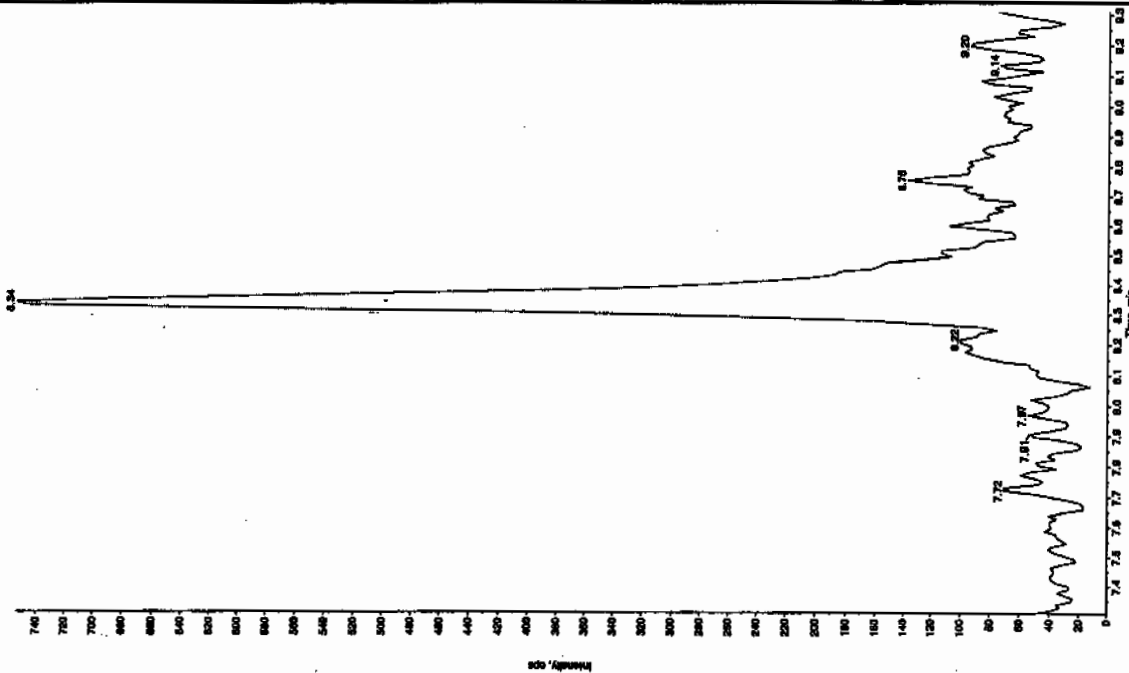
L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

See 01/27/10

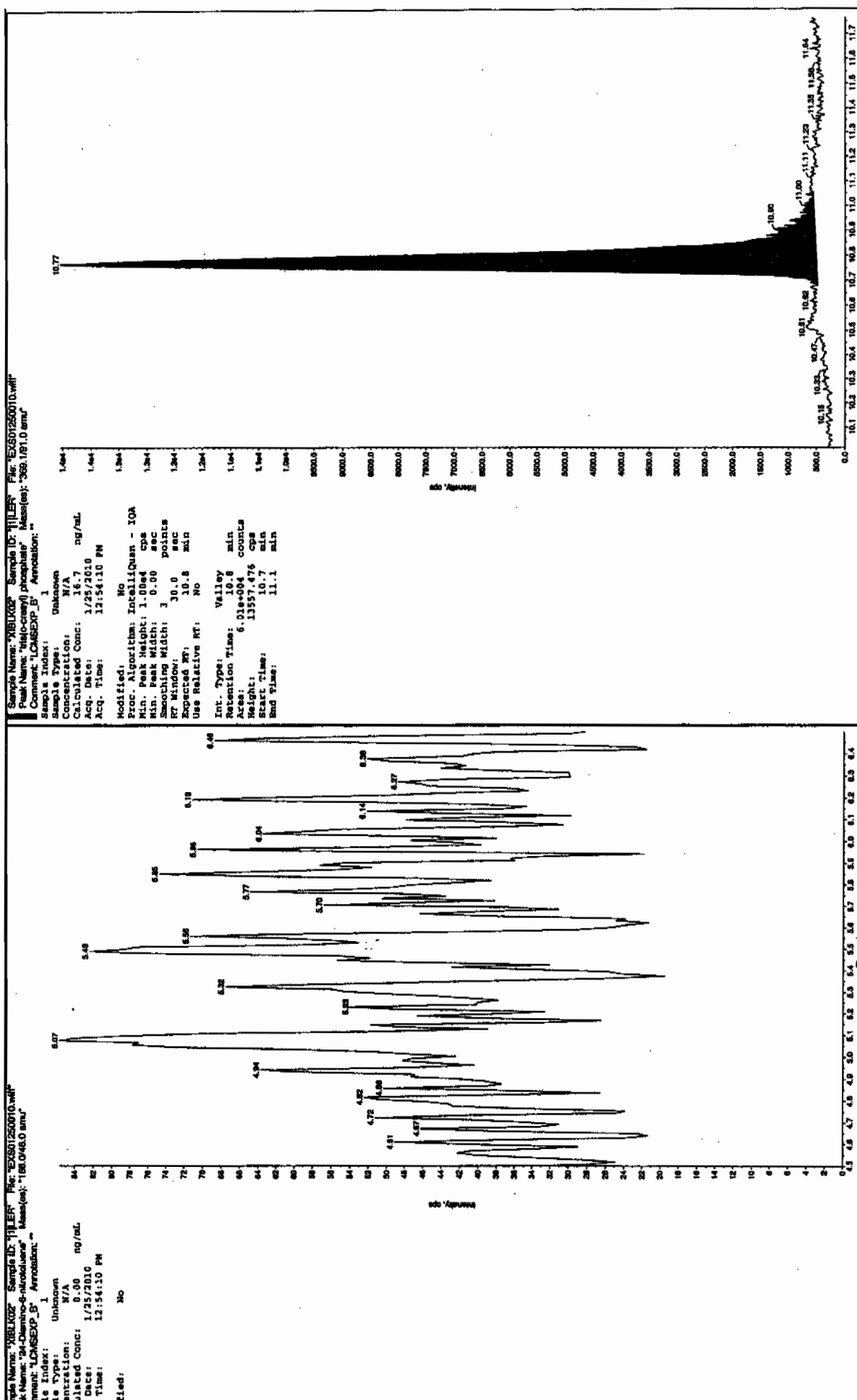
Sample Name: "XBLK02" Sample ID: "JHLER" File: "EX001250010.wif"  
 Peak Name: "26-Dinitro-4-nitrobenzene" Mass(es): "166.0460 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 12:54:10 PM  
 Modified: NO



Sample Name: "XBLK02" Sample ID: "JHLER" File: "EX001250010.wif"  
 Peak Name: "34-Chlorobenzene" Mass(es): "162.171519 amu"  
 Comment: "LCMSEXP\_B" Annotation: ""  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 12:54:10 PM  
 Modified: NO



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



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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 25-JAN-10 13:25

GEL Data File: EXS01250012.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

Jan 1/27/10

Sample Name: "XIBLX03" Sample ID: "111111" File: "EX01260012.wif"

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

Comment: "LCMSXP\_B" Annotation: "1"

Sample Index: 1

Sample Type: Unknown

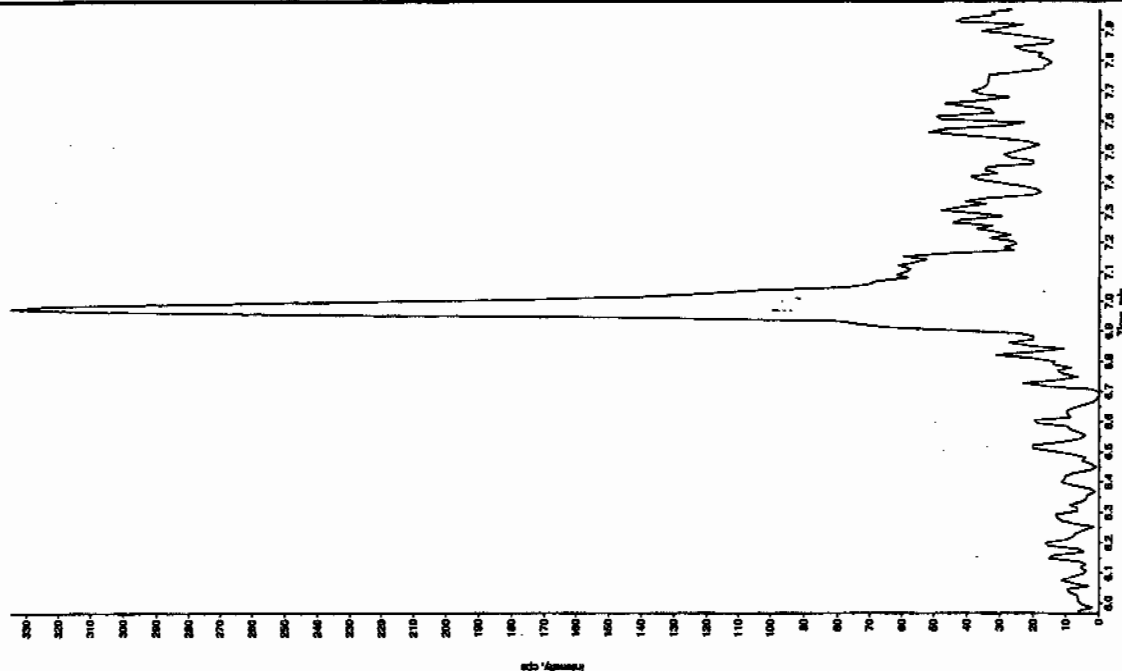
Concentration: 0.00 ng/mL

Calculated Conc: 1/25/2010

Acq. Date: 1:25:34 PM

Acq. Time: 1:25:34 PM

Modified: No



Sample Name: "XIBLX03" Sample ID: "111111" File: "EX01260012.wif"

Peak Name: "35-Dinitrobenz" Mass(es): "182.048.0 amu"

Comment: "LCMSXP\_B" Annotation: "1"

Sample Index: 1

Sample Type: Unknown

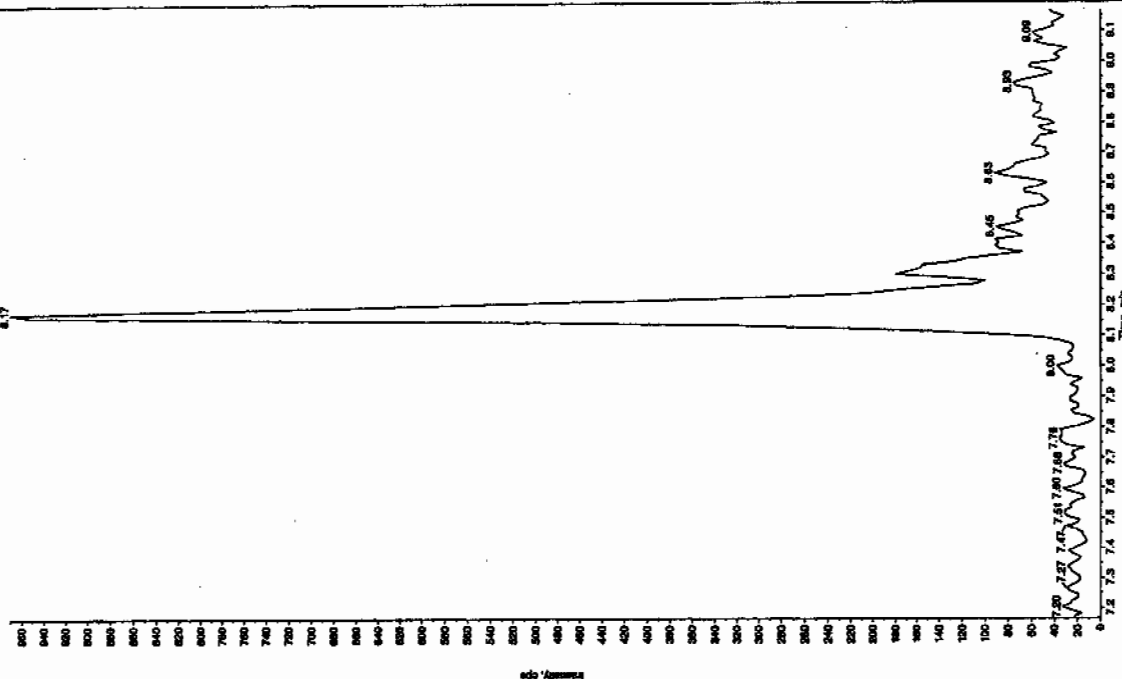
Concentration: 0.00 ng/mL

Calculated Conc: 1/25/2010

Acq. Date: 1:25:34 PM

Acq. Time: 1:25:34 PM

Modified: No

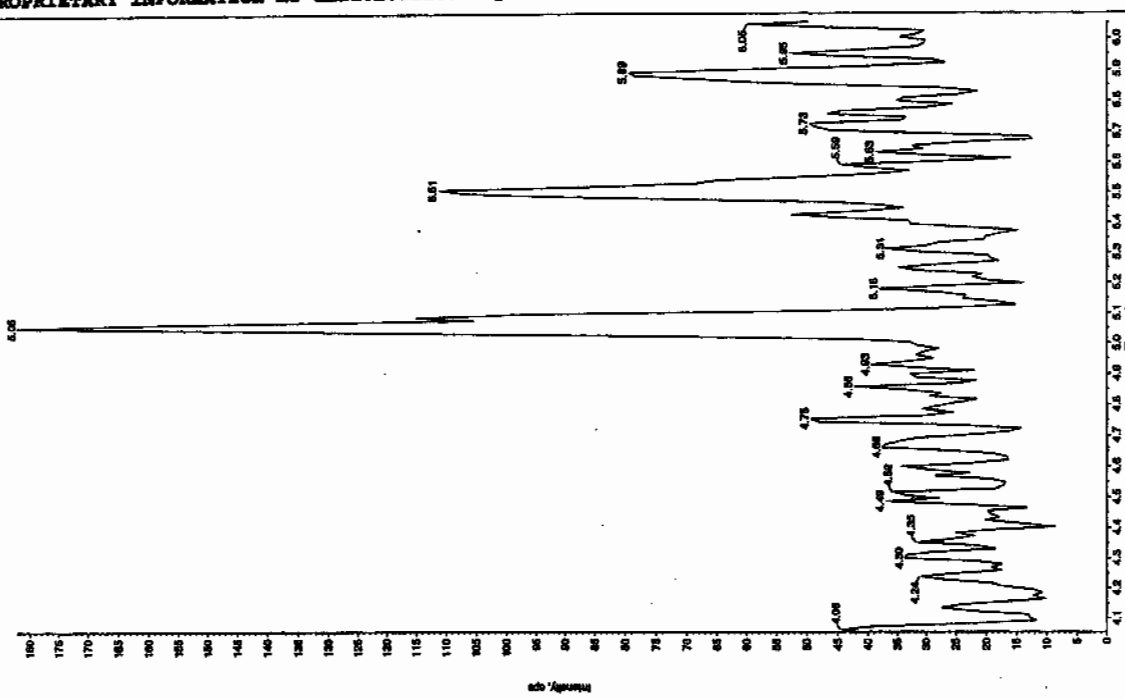


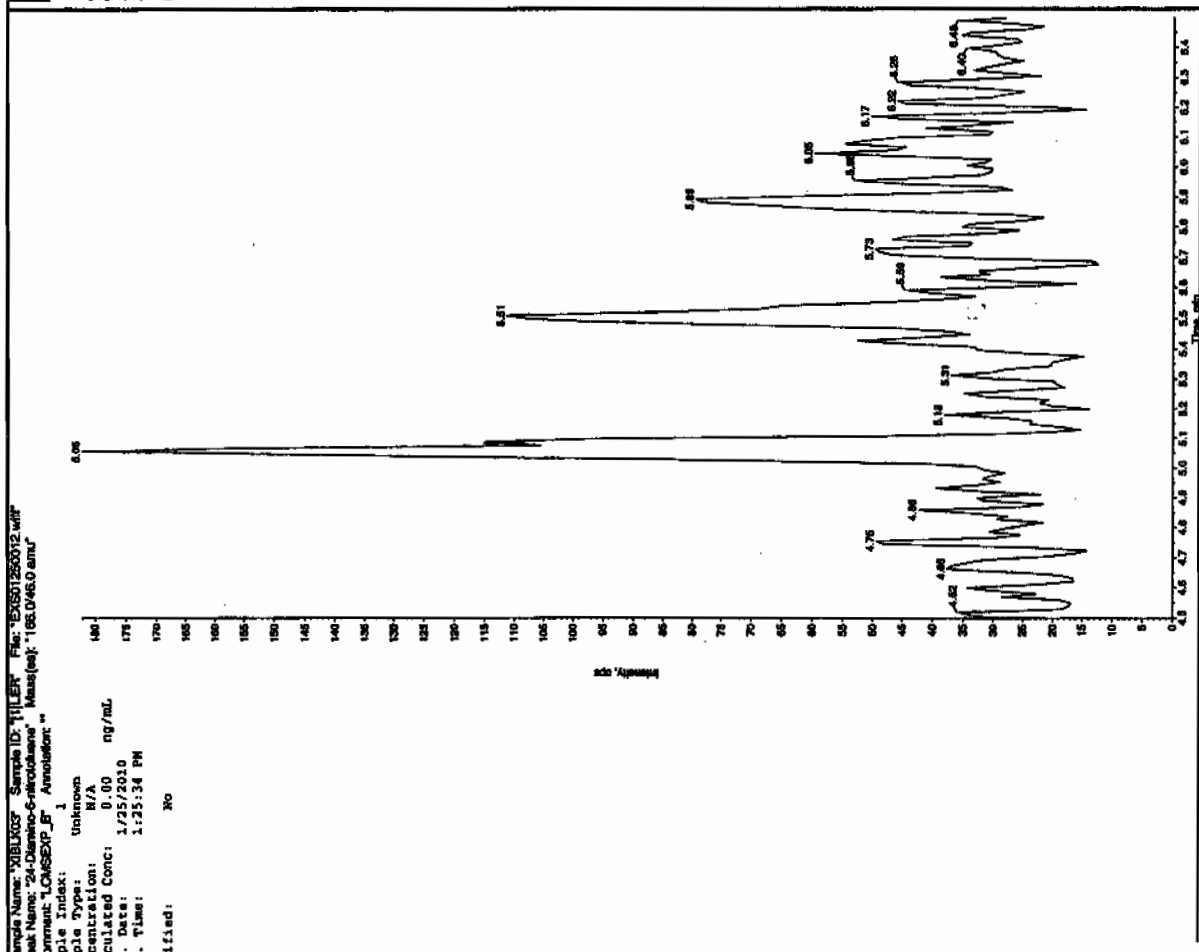
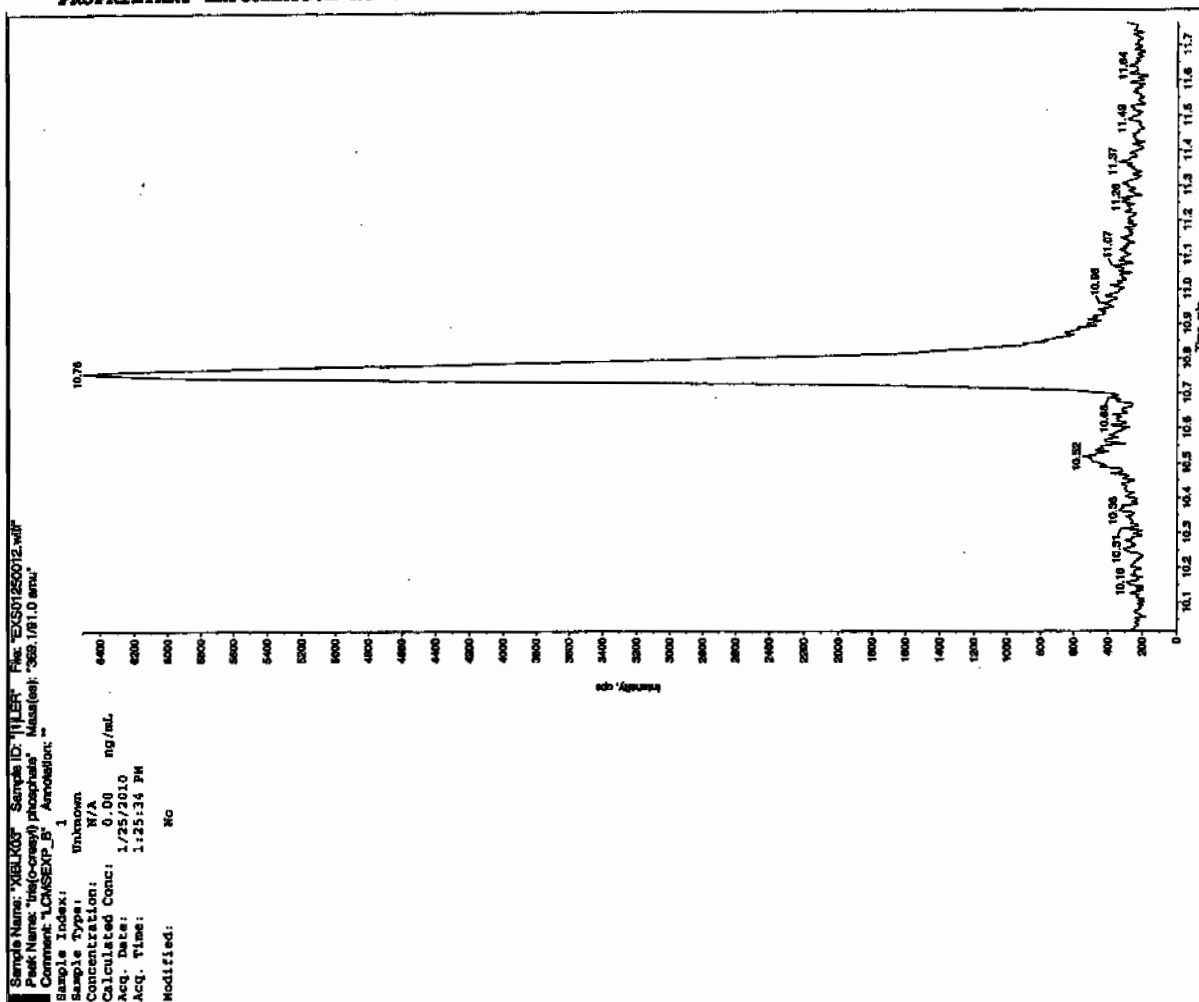
Jan 01/27/10

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

Sample Name: "081007" Sample ID: "11LEP" File: "EX001250012.wif"  
 Peak Name: "34-Dehydro-4-methoxy" Mass(es): "168.0440 amu"  
 Concentration: "1.00E-05" Annotation: "1"

Sample Type: Unknown  
 Concentration: 0.00 ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 1/25/2010  
 Acq. Time: 1:25:34 PM  
 Modified: No





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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 25-JAN-10 14:28

GEL Data File: EXS01250016.wiff

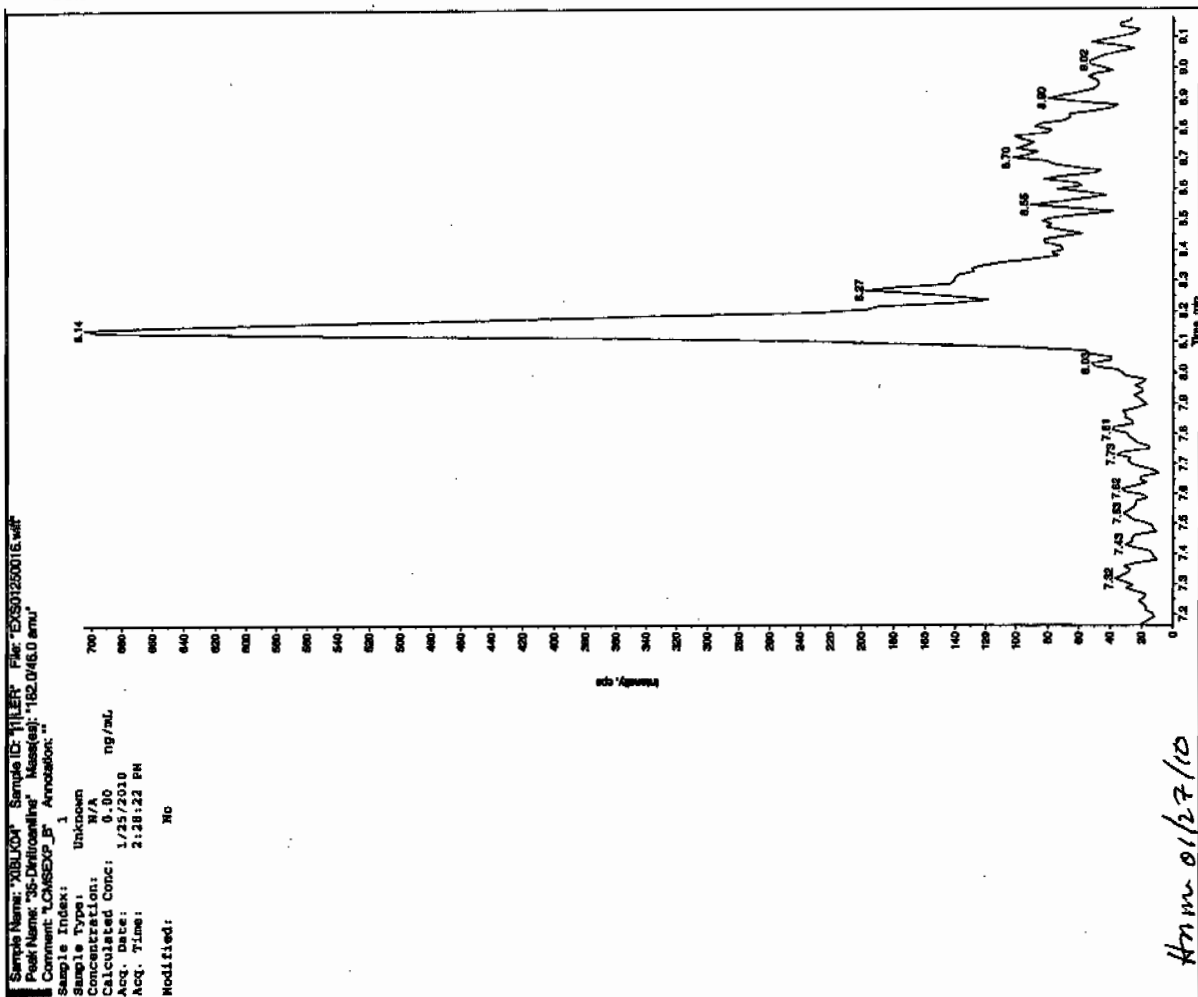
Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

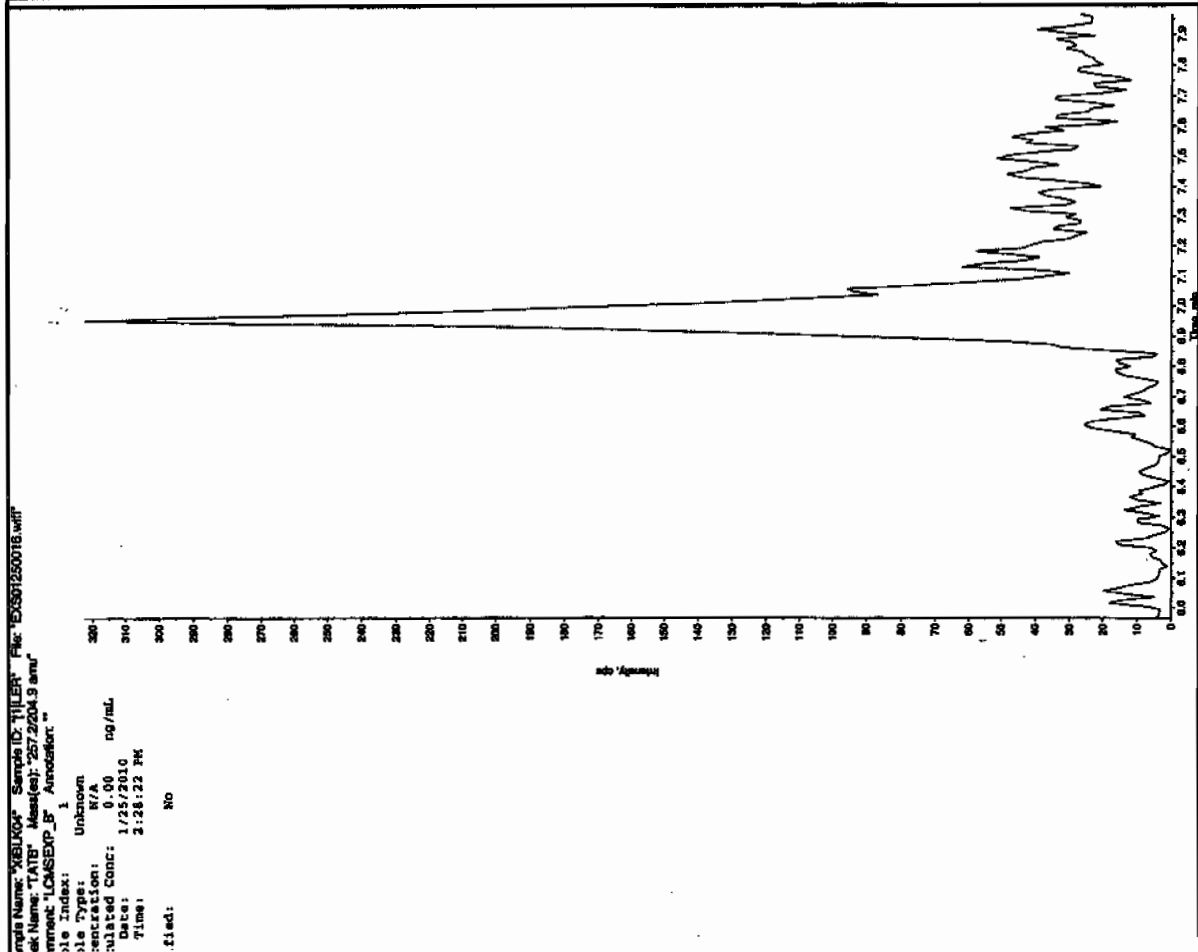
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0



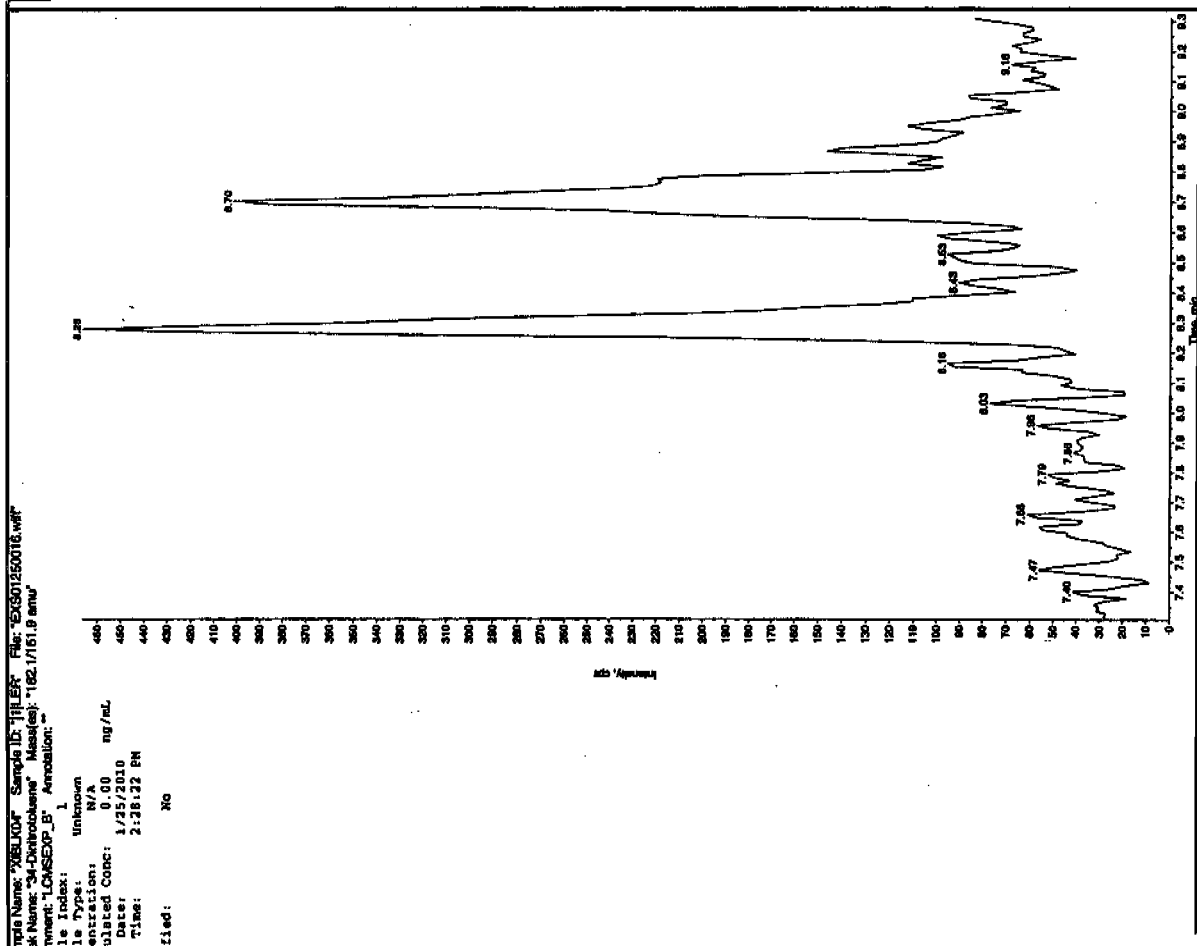
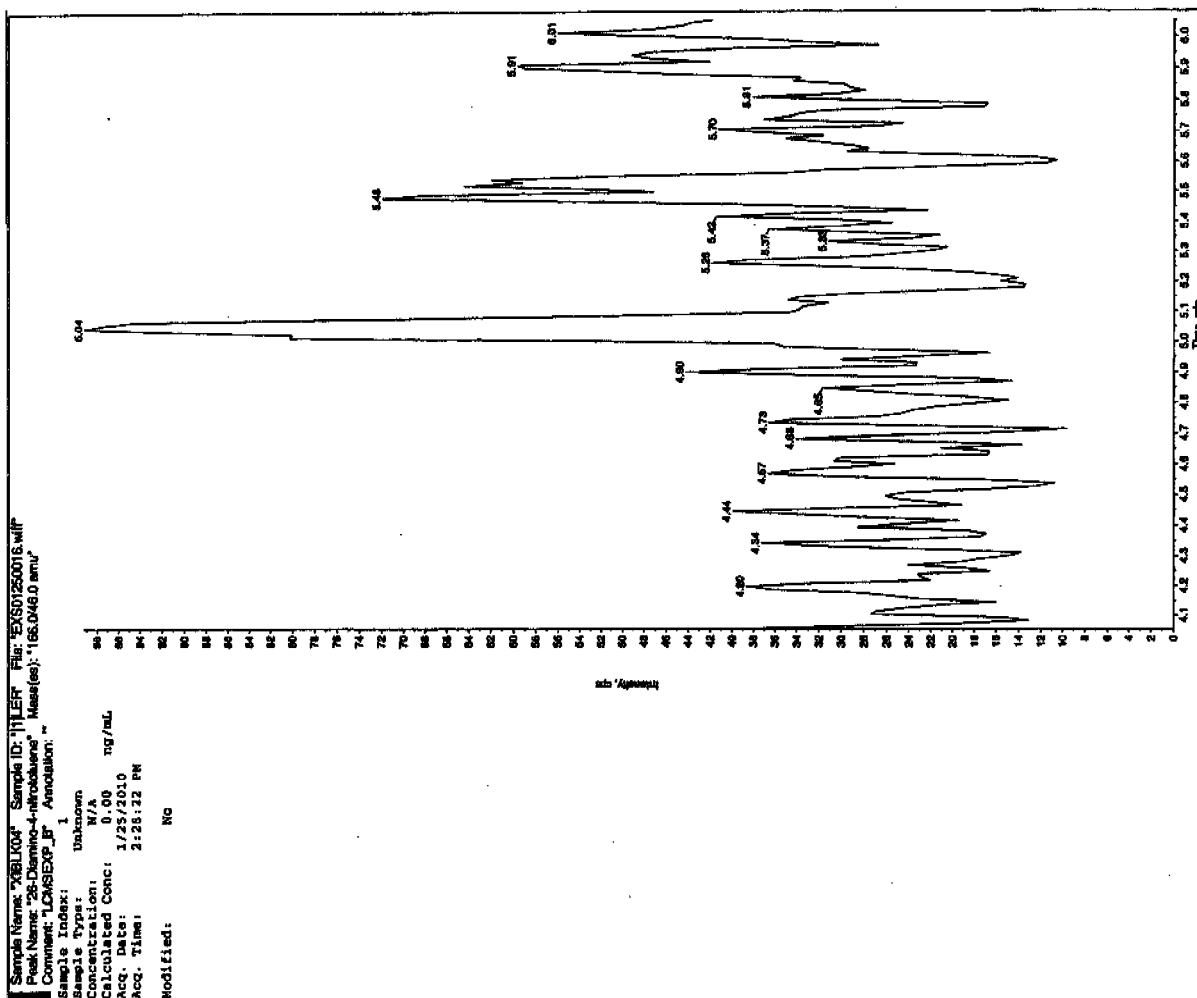
Jan 11/27/10



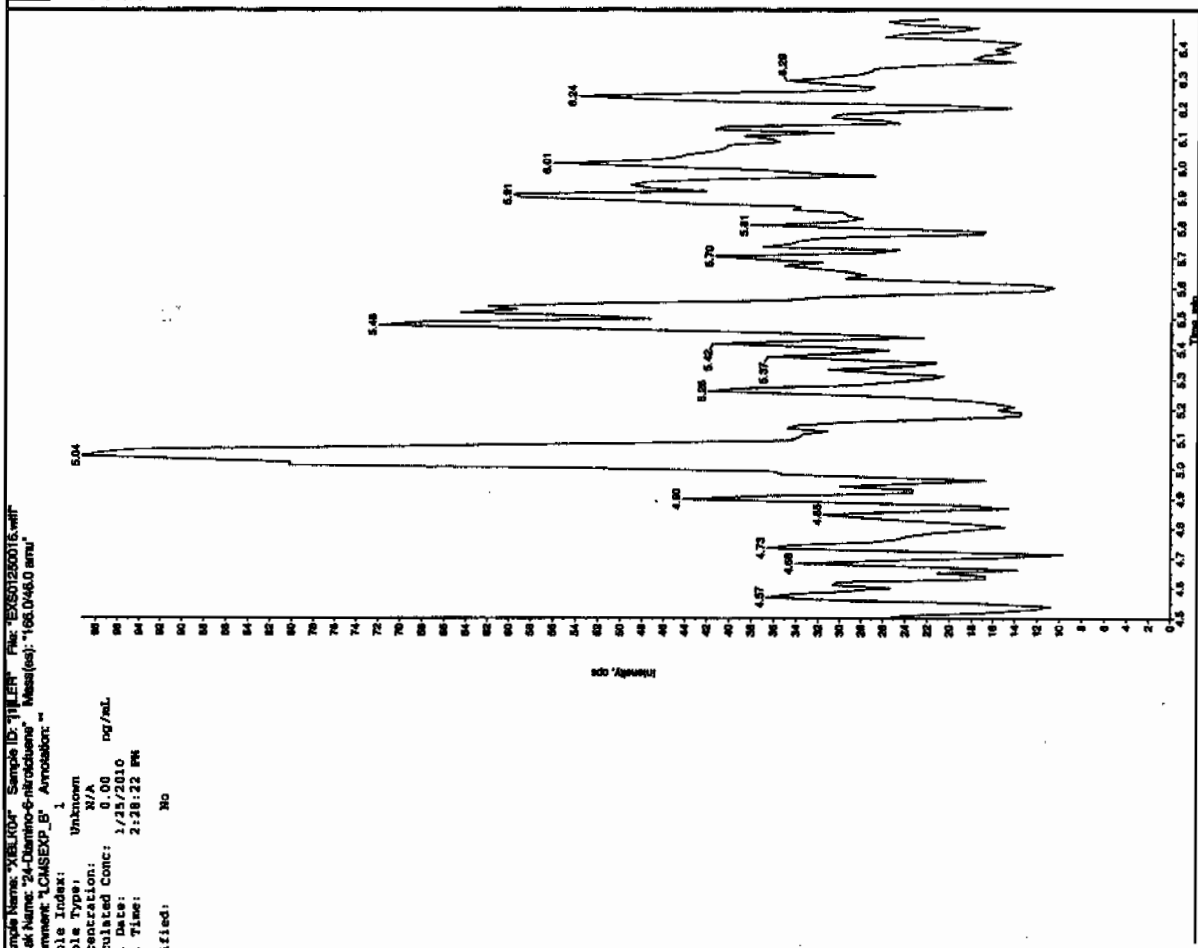
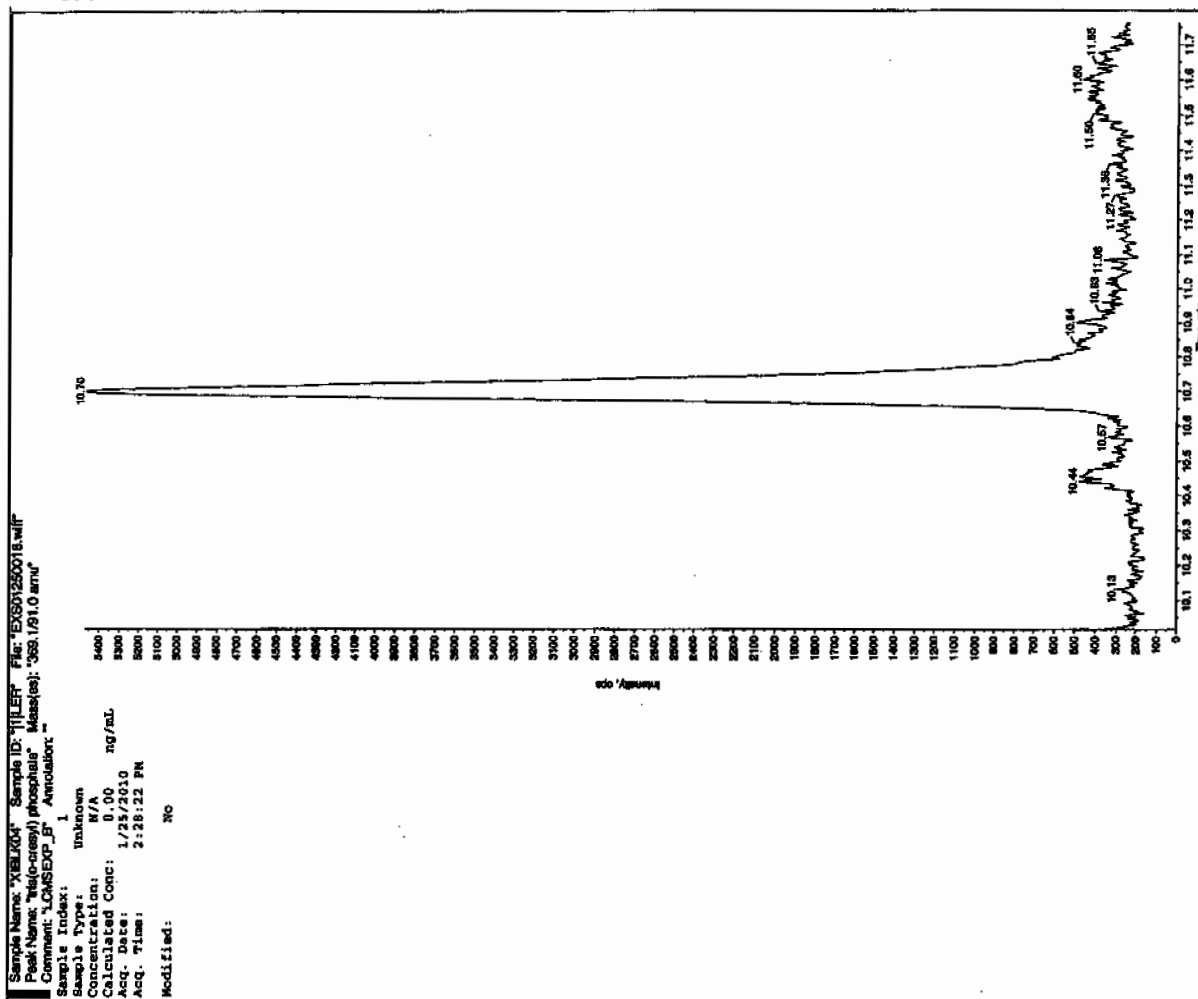
Ann 01/27/10



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



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



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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 25-JAN-10 16:49

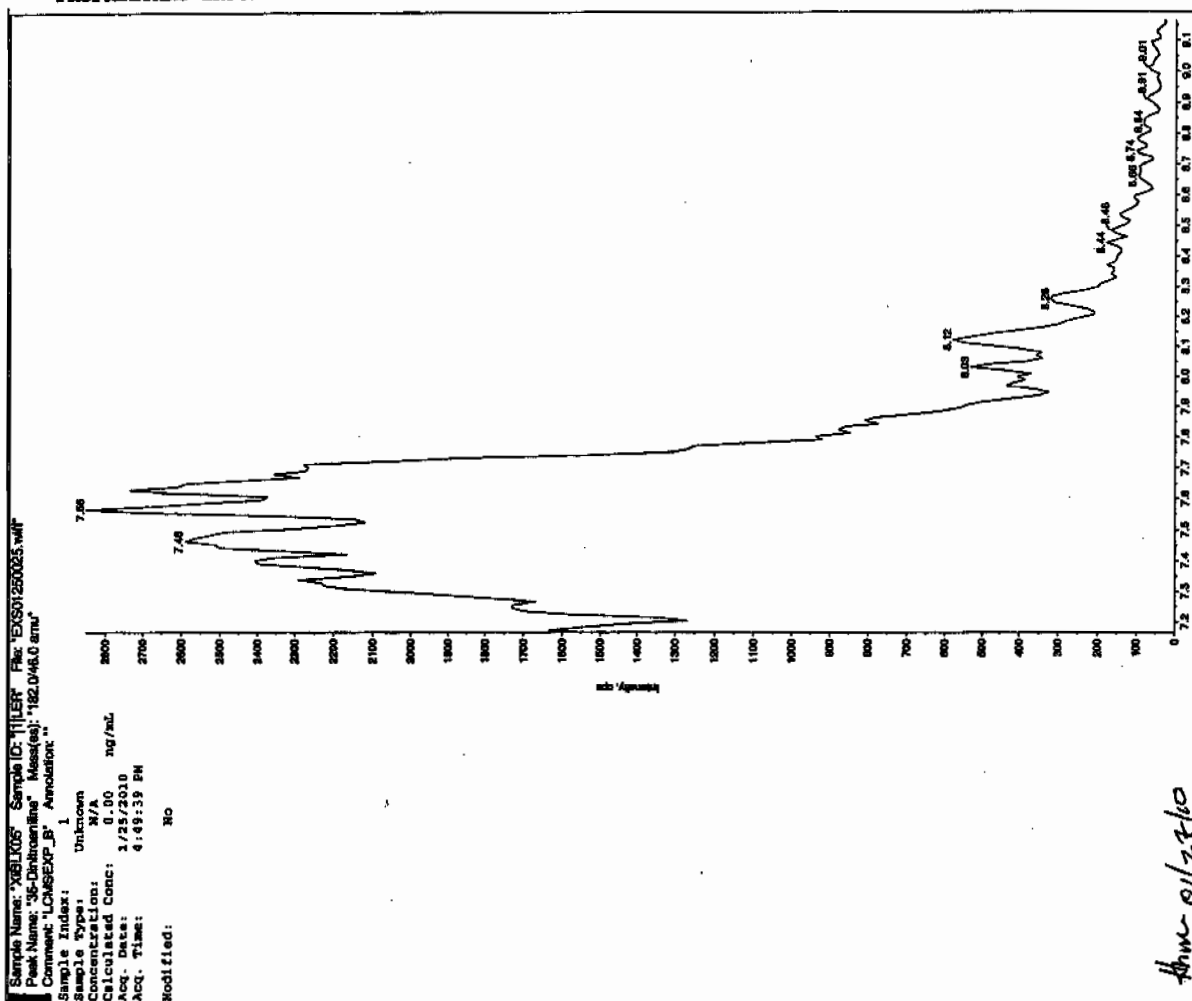
GEL Data File: EXS01250025.wiff

Instrument ID: LCMSMS

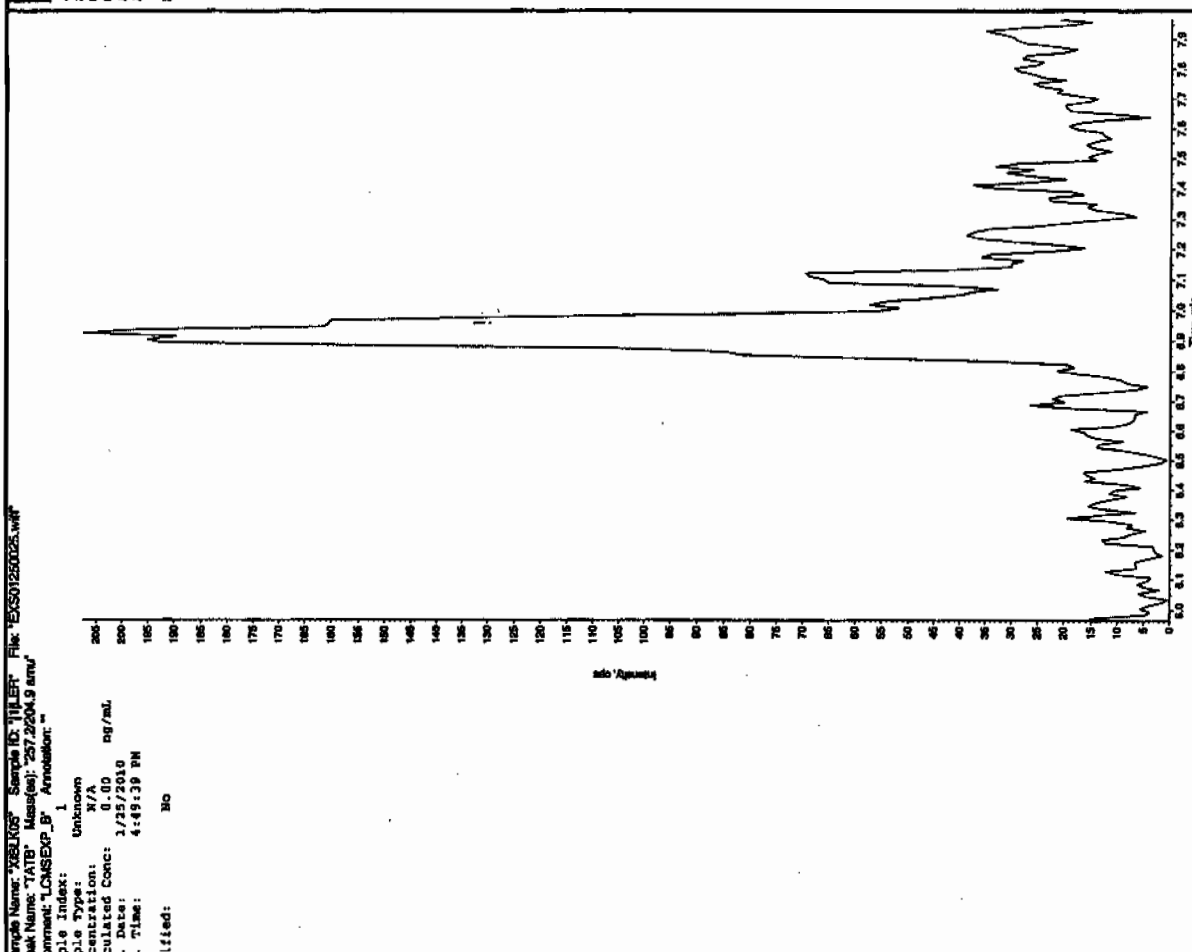
Column: Phenomenex Ultracarb 5u ODS(20)

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

Len 11/27/10

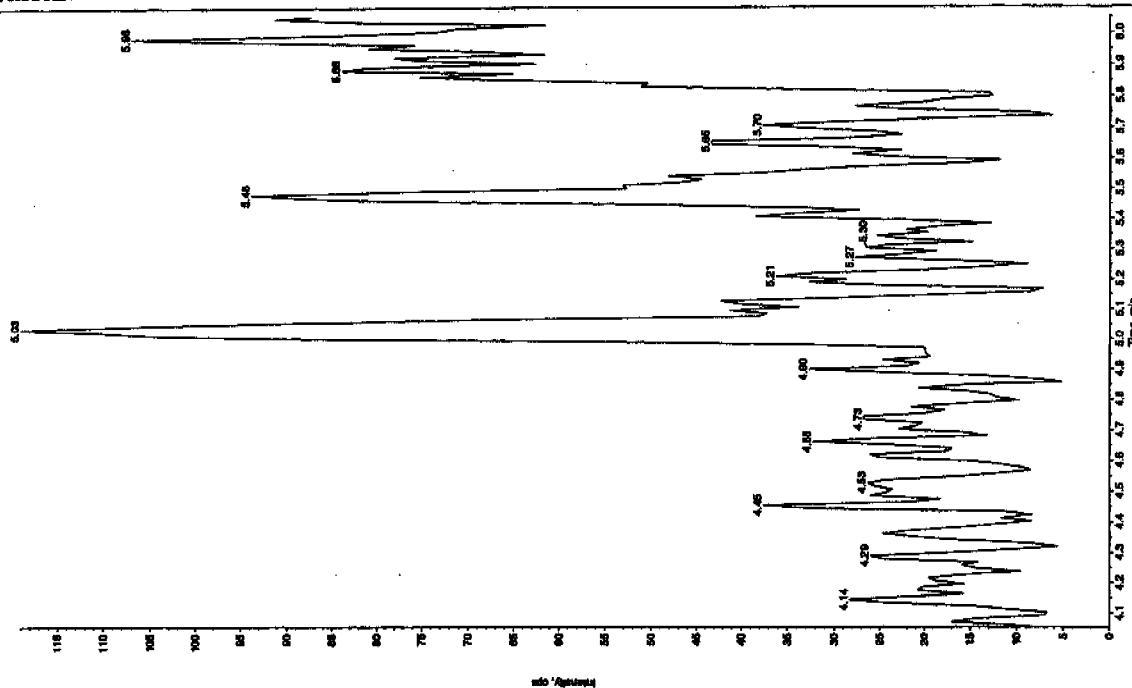


Amc 01/27/10

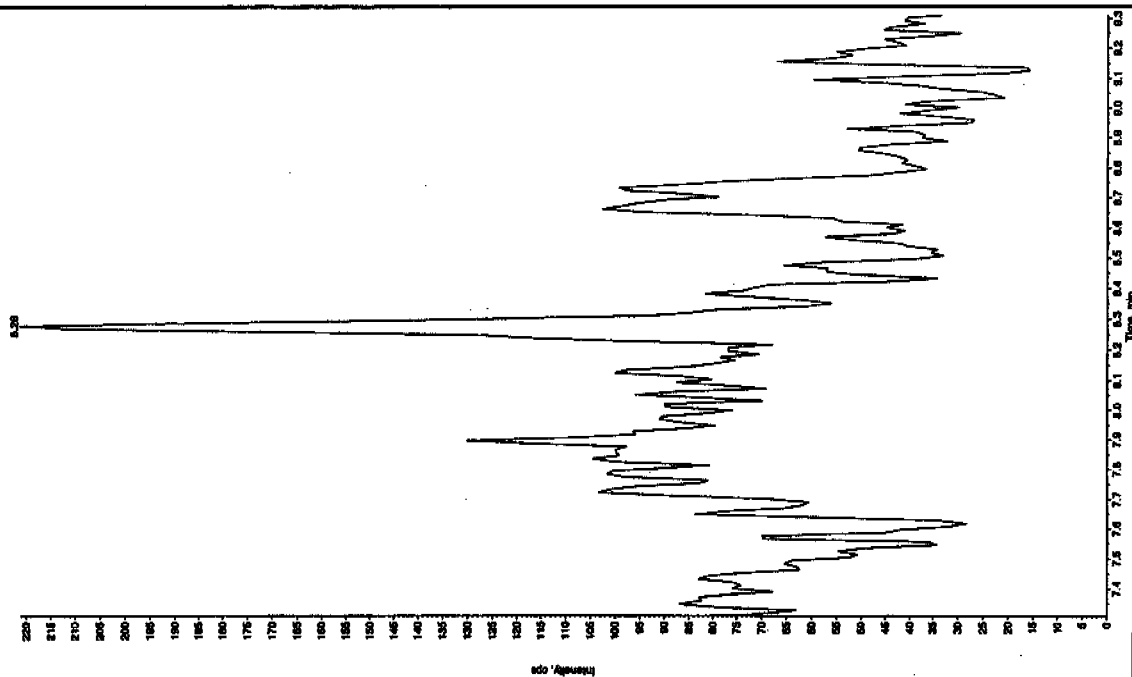


L. SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

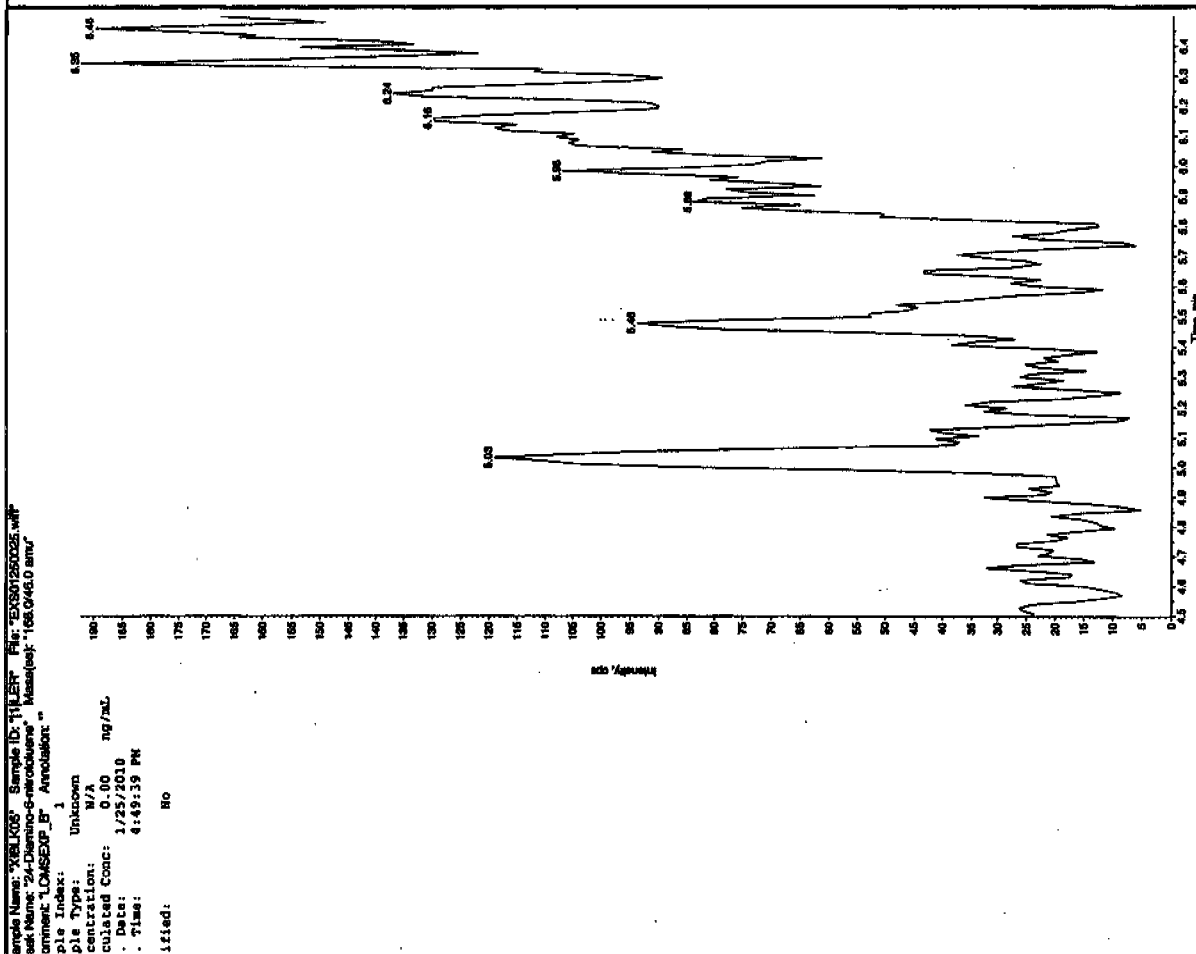
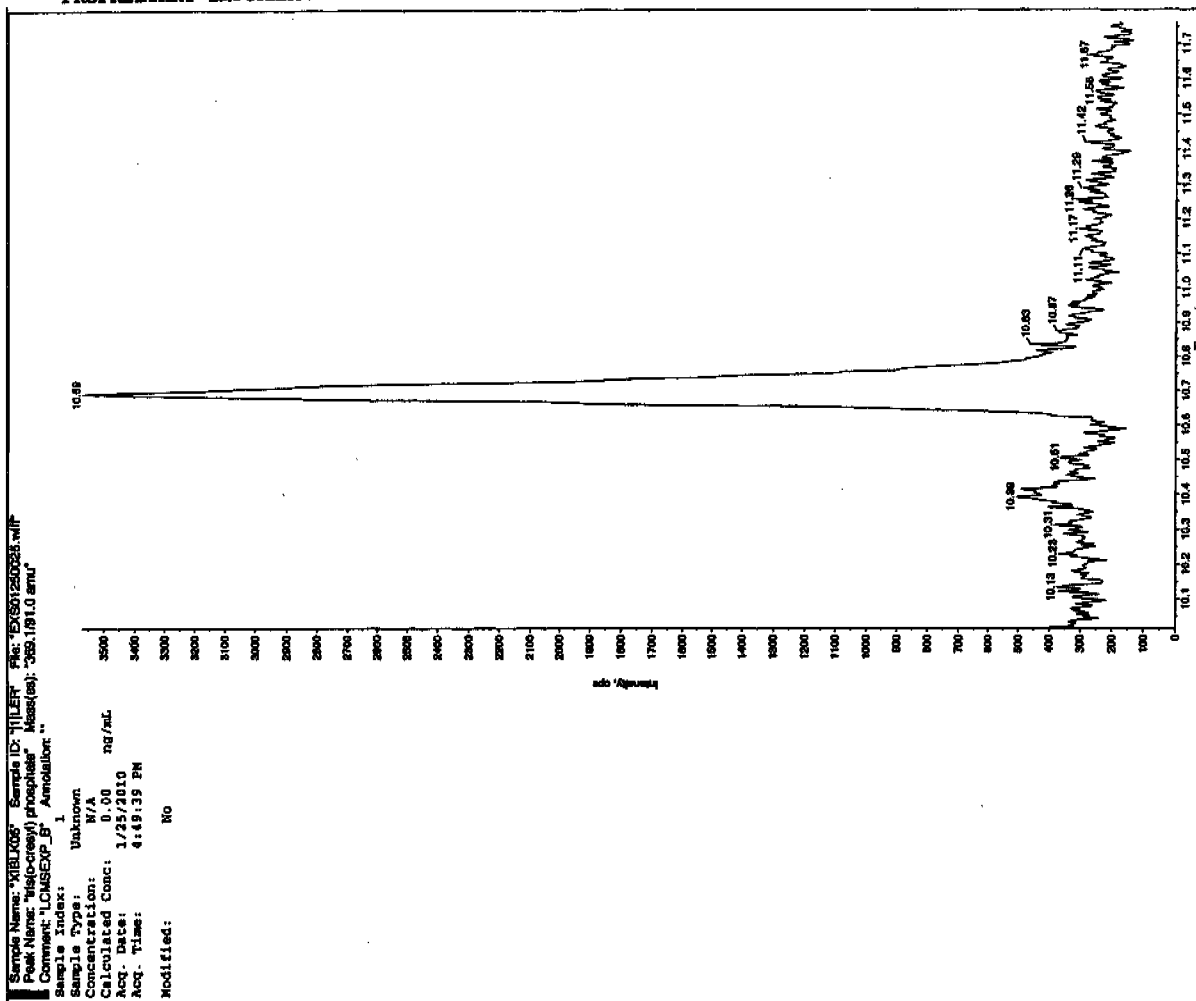
Sample Name: "XBL005" Sample ID: "111ER" File: "EX501250025.wil"  
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "165.0416.0 amu"  
 Comment: "LCMS/EXP\_B" Annotation: "-"  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 4/19/10 PM  
 Acq. Time: 4:49:33 PM  
 Modified: No



Sample Name: "XBL005" Sample ID: "111ER" File: "EX501250025.wil"  
 Peak Name: "34-Dinitrofluorene" Mass(es): "162.1151.9 amu"  
 Comment: "LCMS/EXP\_B" Annotation: "-"  
 Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A ng/mL  
 Calculated Conc: 1/25/2010  
 Acq. Date: 4/19/10 PM  
 Acq. Time: 4:49:33 PM  
 Modified: No



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



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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1264-1

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 25-JAN-10 20:14

GEL Data File: EXS01250038.wiff

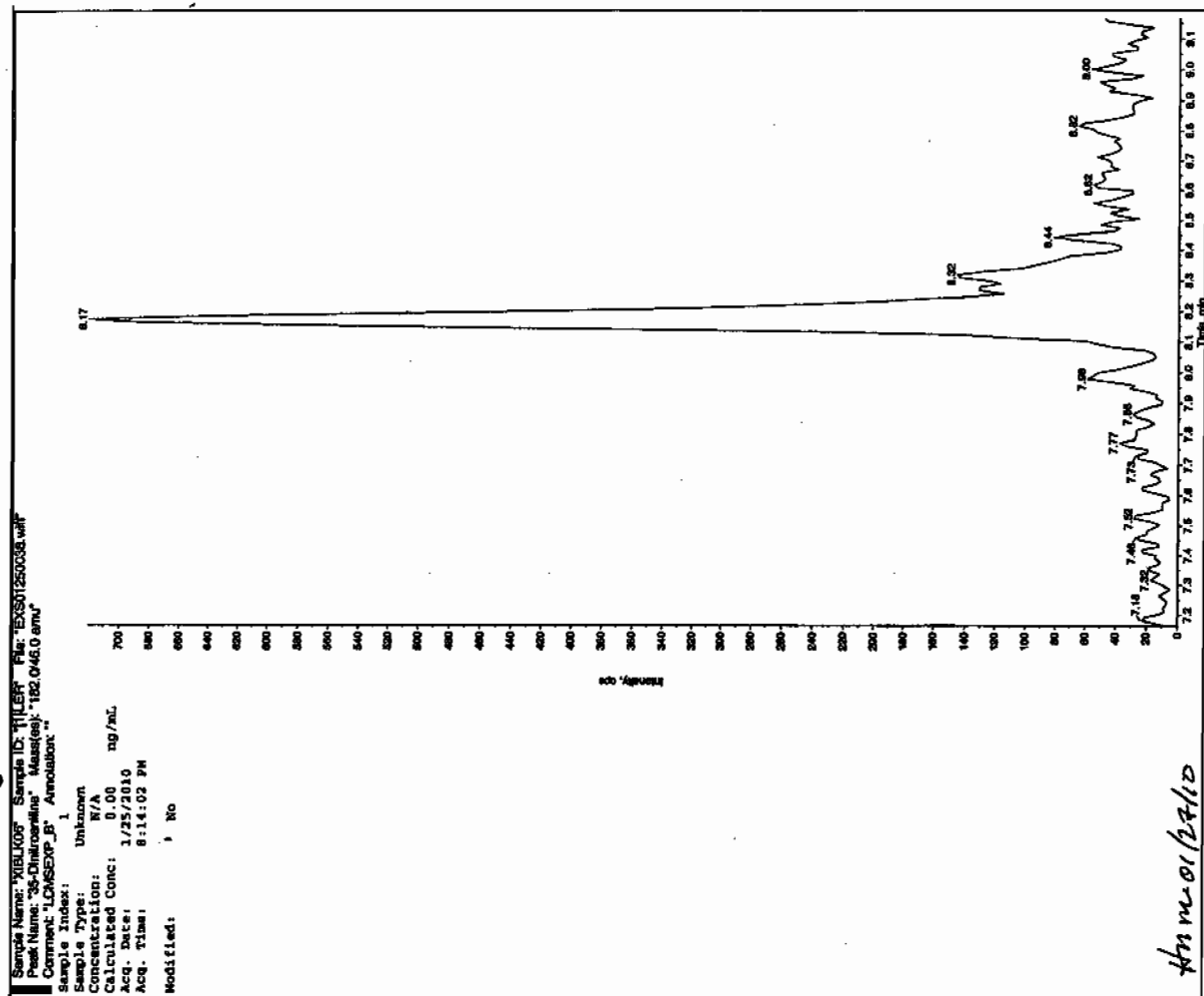
Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

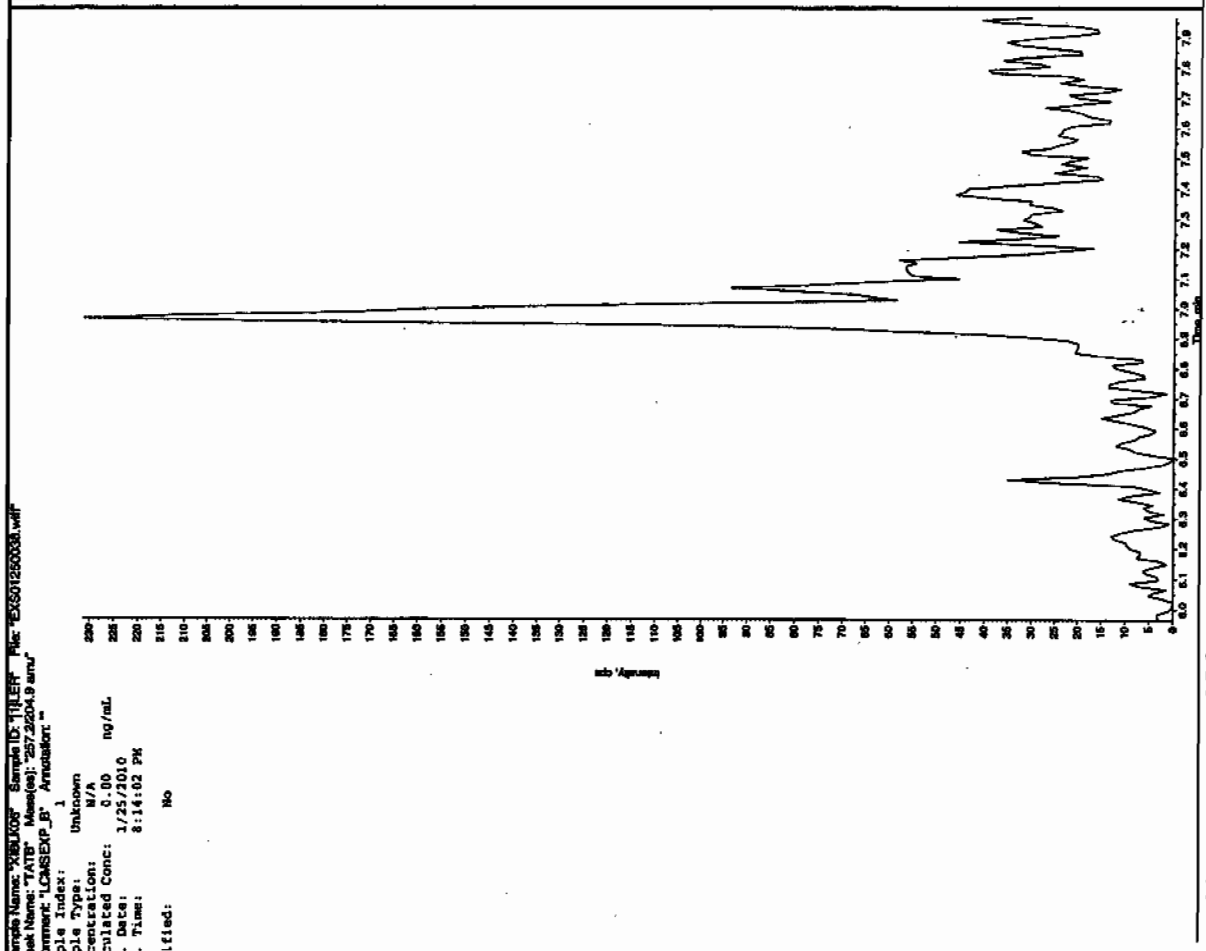
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0



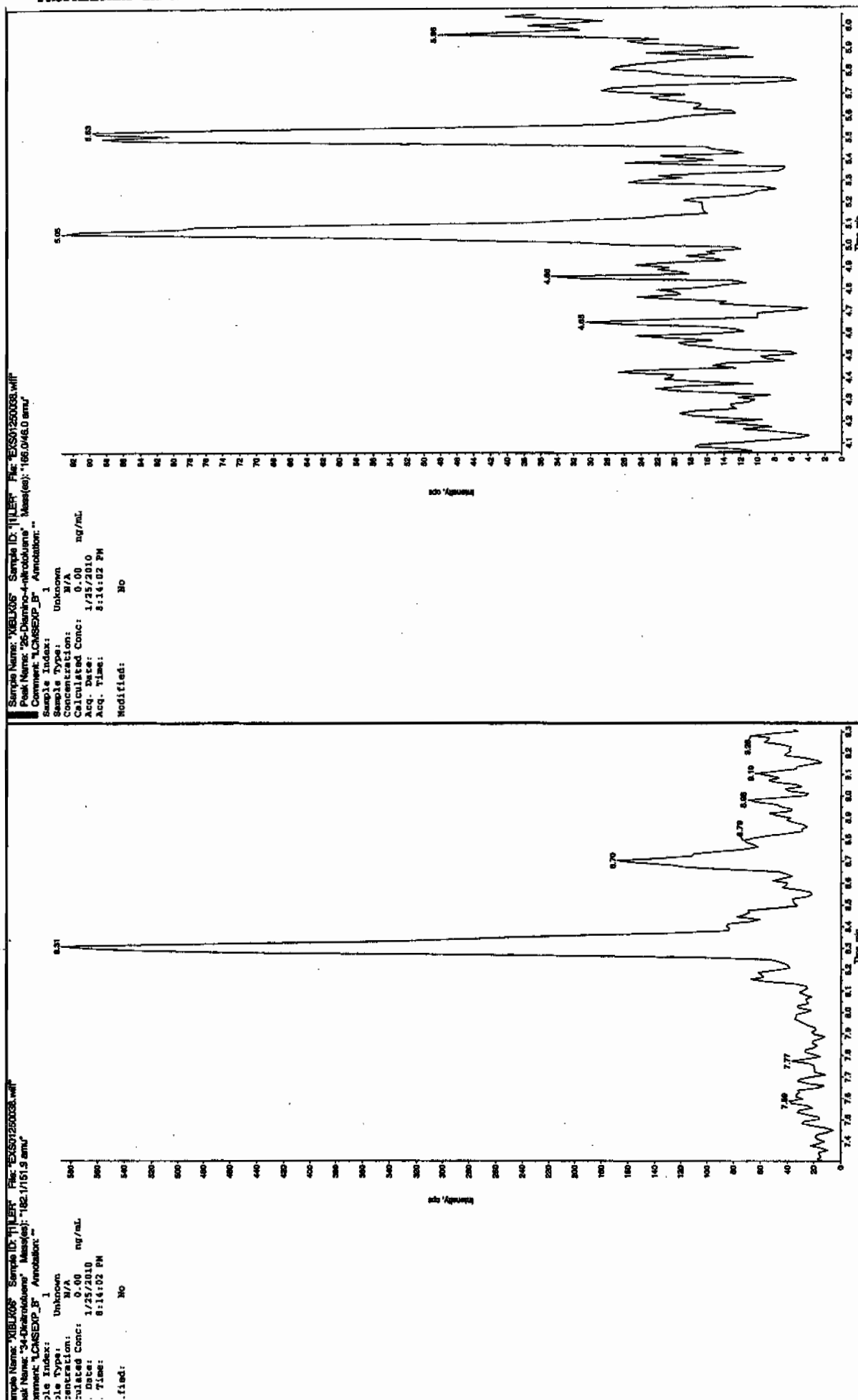
Scan 1/22/10



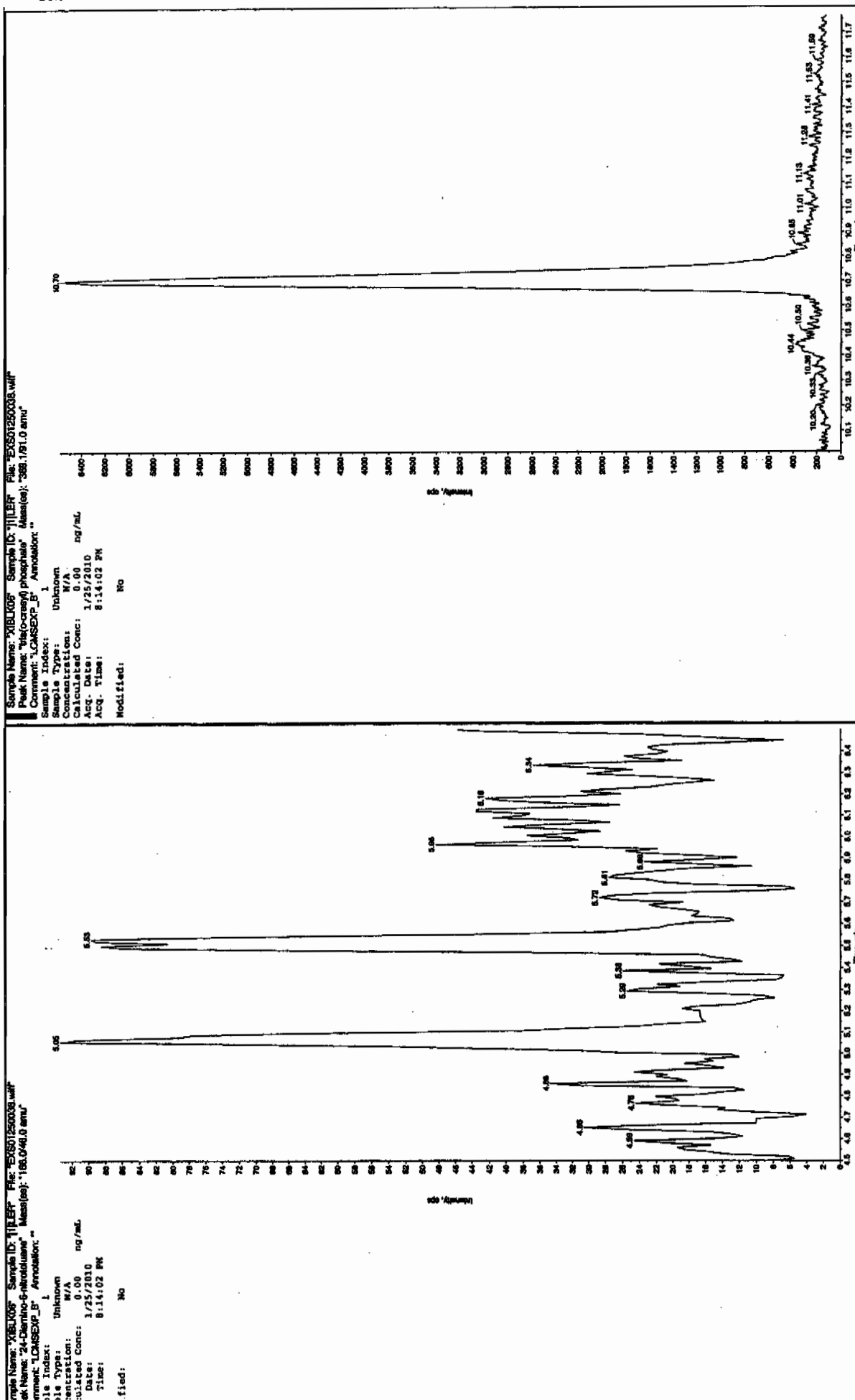
Scan 1/22/10



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



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



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

Nairb.ref

;Positive ion monoisotopic and average masses from solution  
 ;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H<sub>2</sub>O.  
 ;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

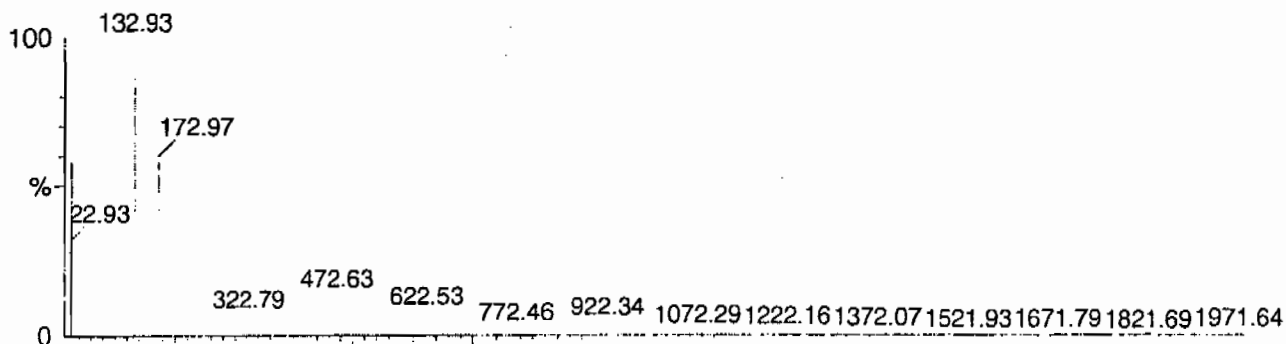
Calibration Report - MS1 Static

Page 1 of 1

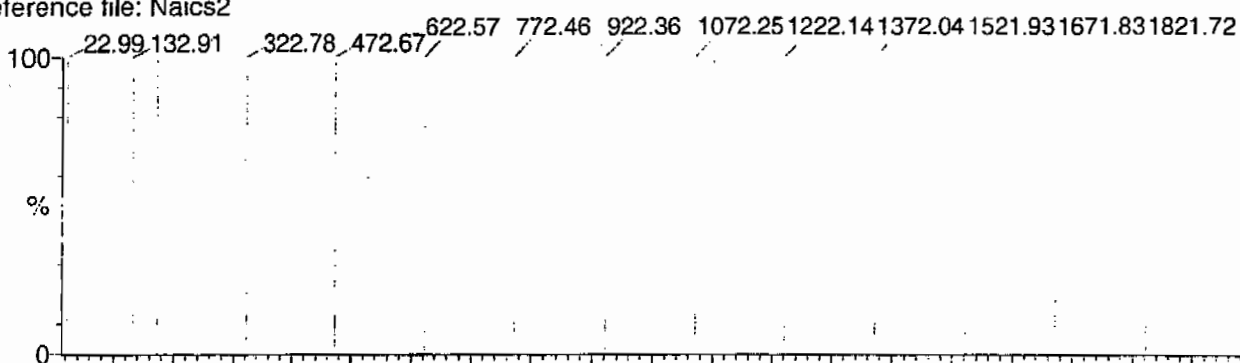
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

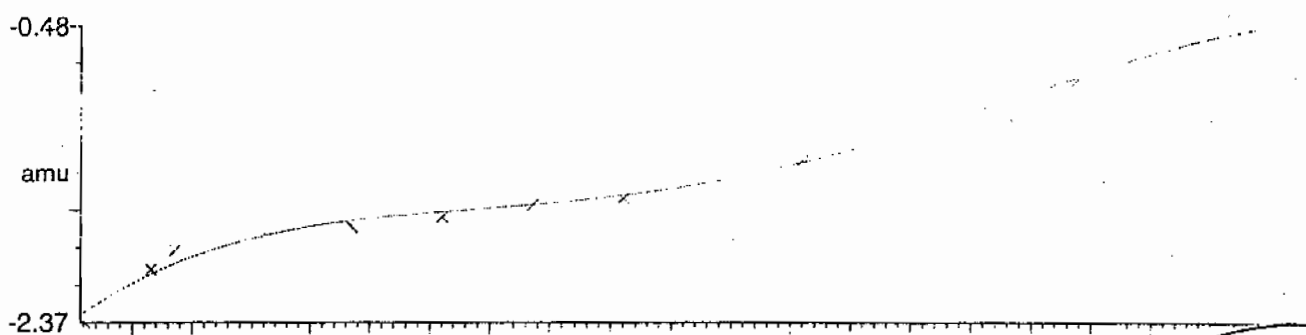
15 matches of 15 tested references



Reference file: Naics2

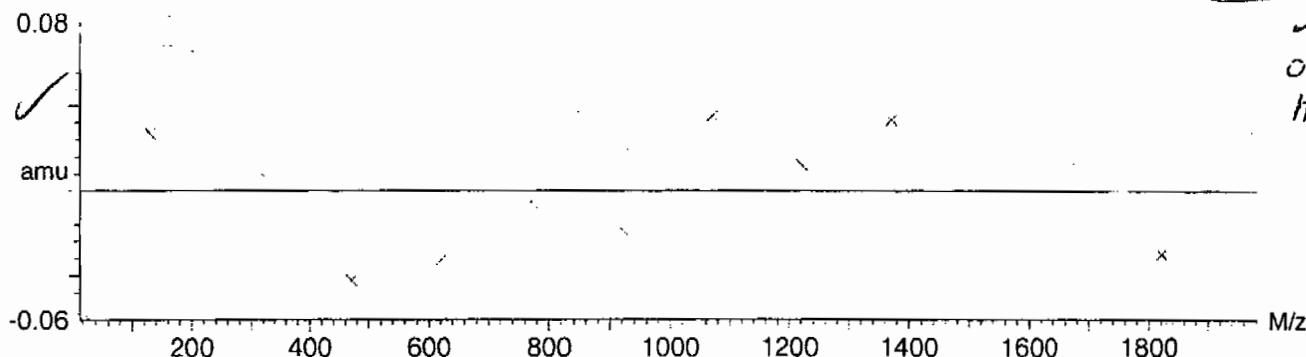


Mass difference (Raw - Ref mass)



Residuals

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



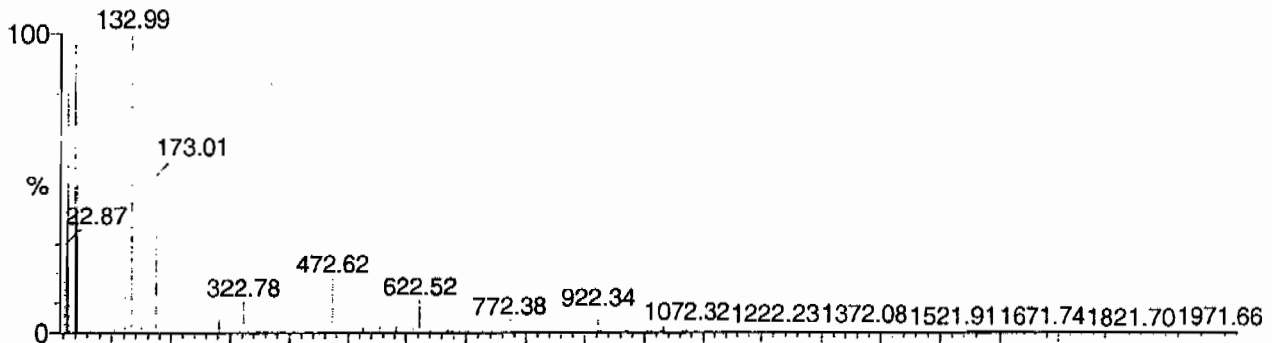
Calibration Report - MS1 Scanning

Page 1 of 1

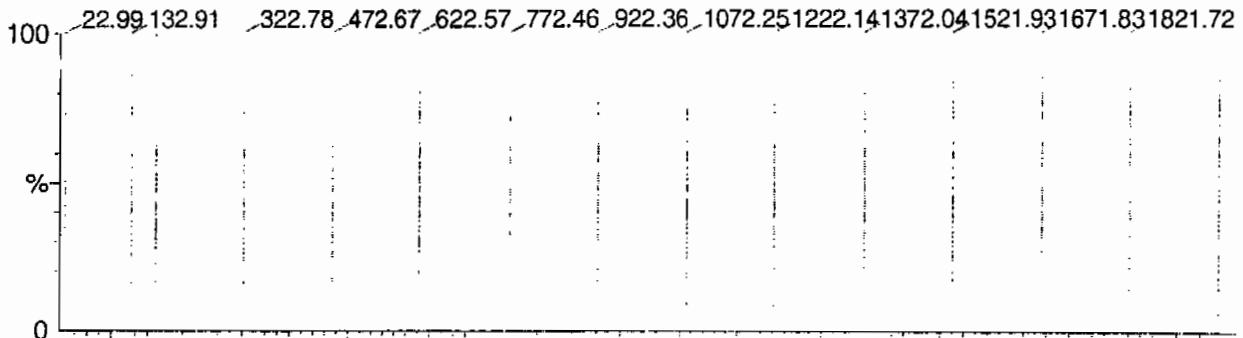
Printed: Fri Aug 25 10:51:06 2006

Data file: SCNMS1 - Calibrated

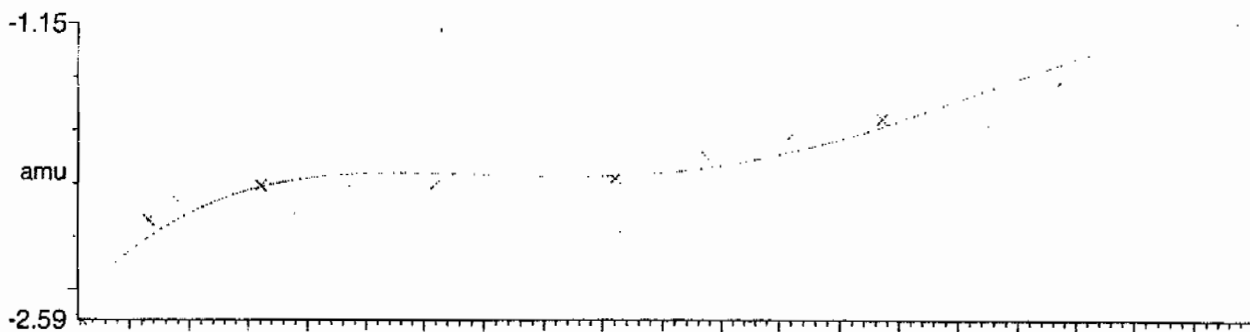
15 matches of 15 tested references



Reference file: Naics2

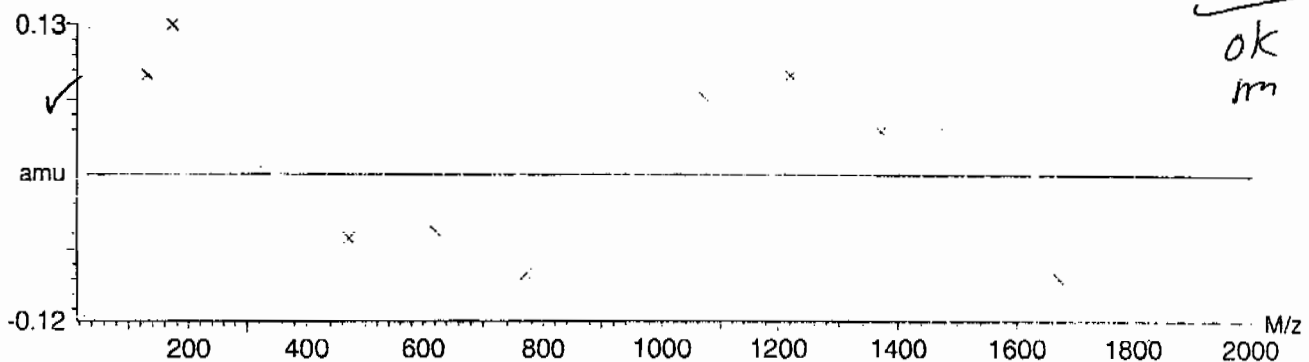


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $-5.432715 \times 10^{-9} \pm 0.069858$



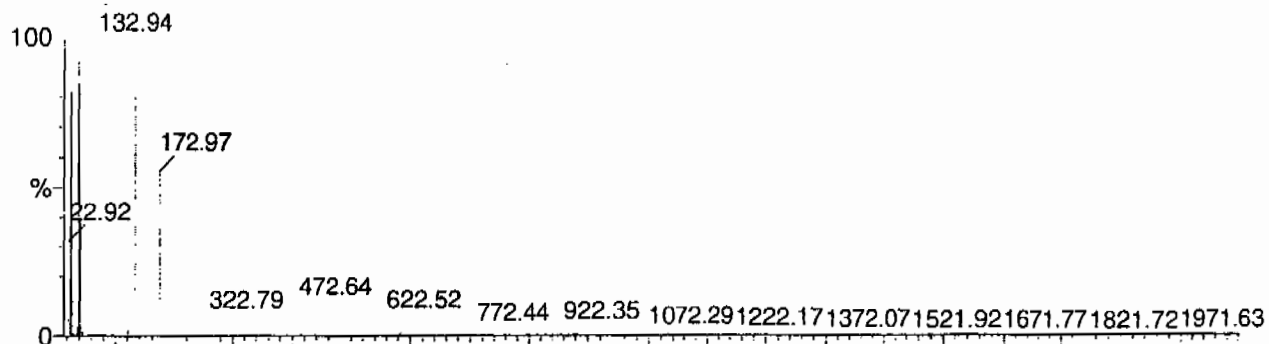
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

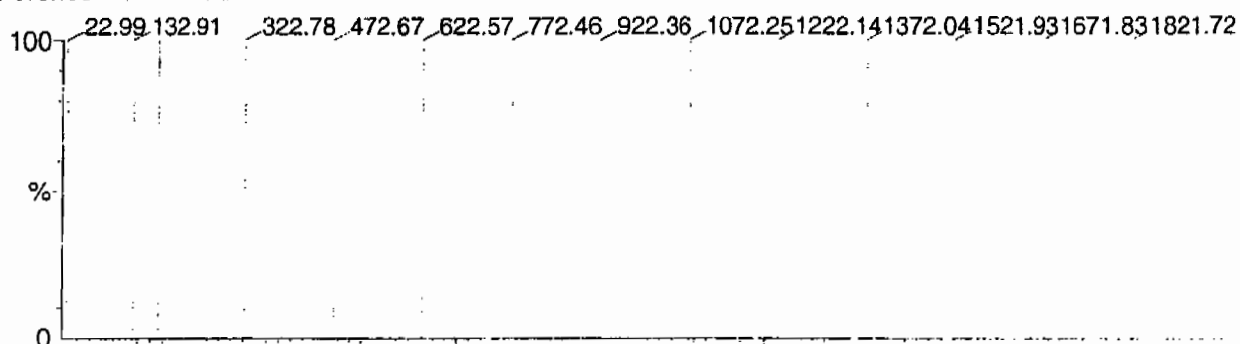
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

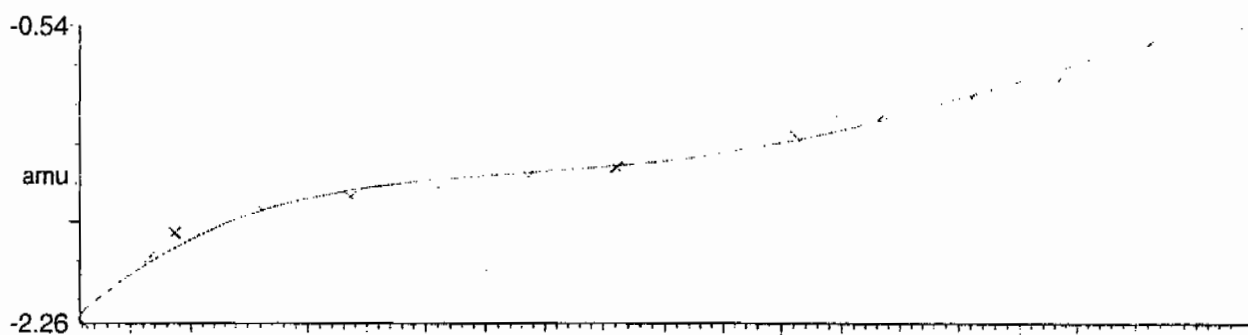
15 matches of 15 tested references



Reference file: Naics2

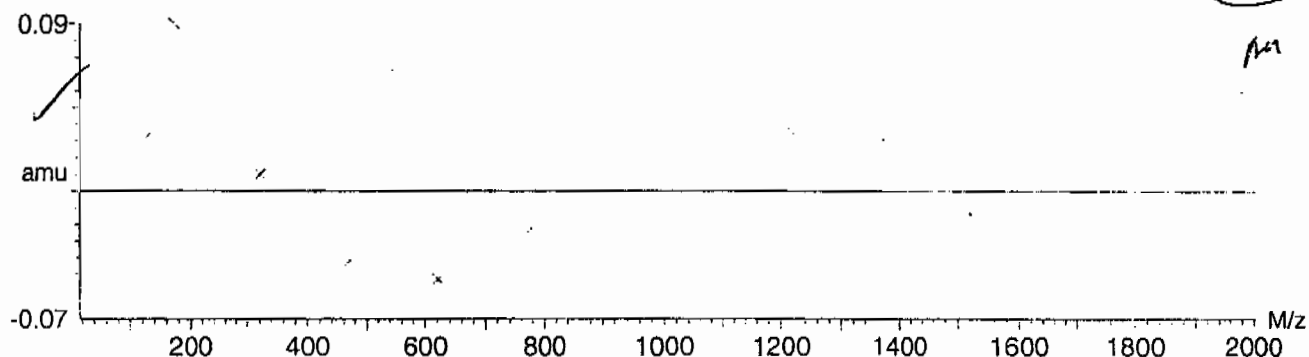


Mass difference (Raw - Ref mass)



Residuals

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



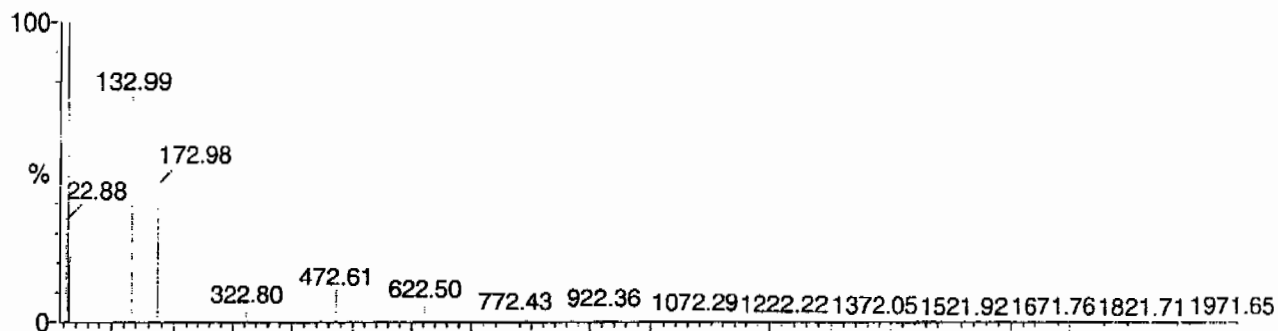
Calibration Report - MS2 Static

Page 1 of 1

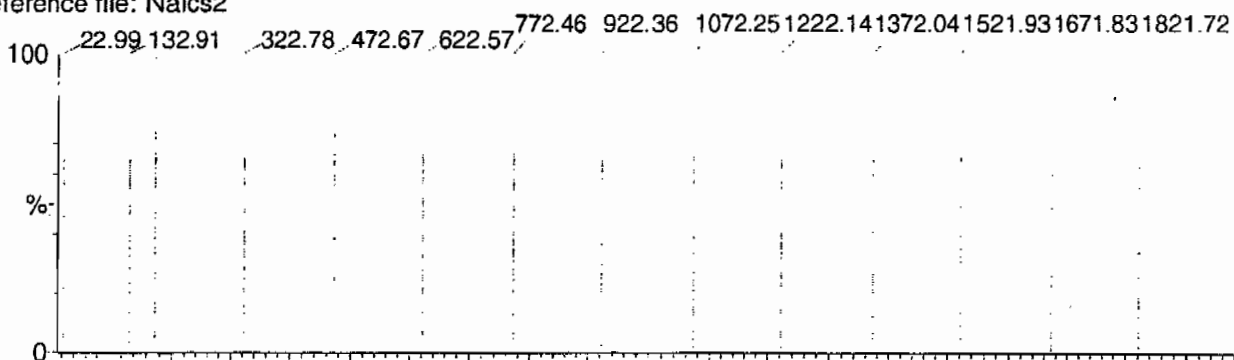
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

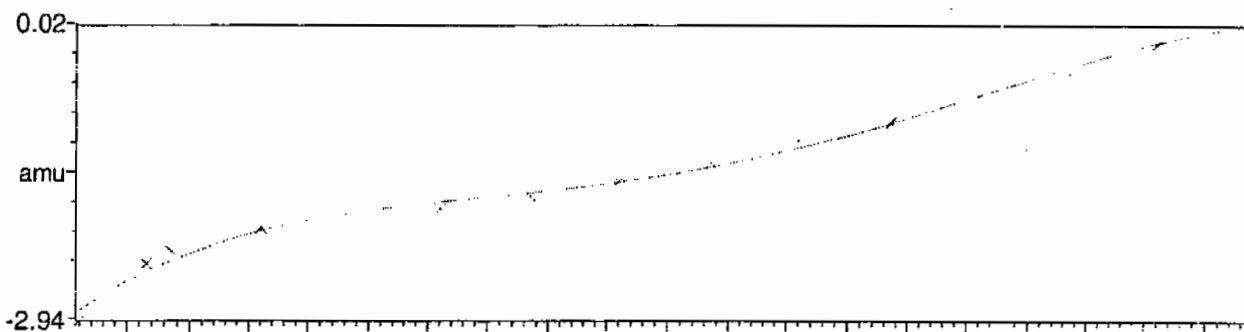
15 matches of 15 tested references



Reference file: Naics2

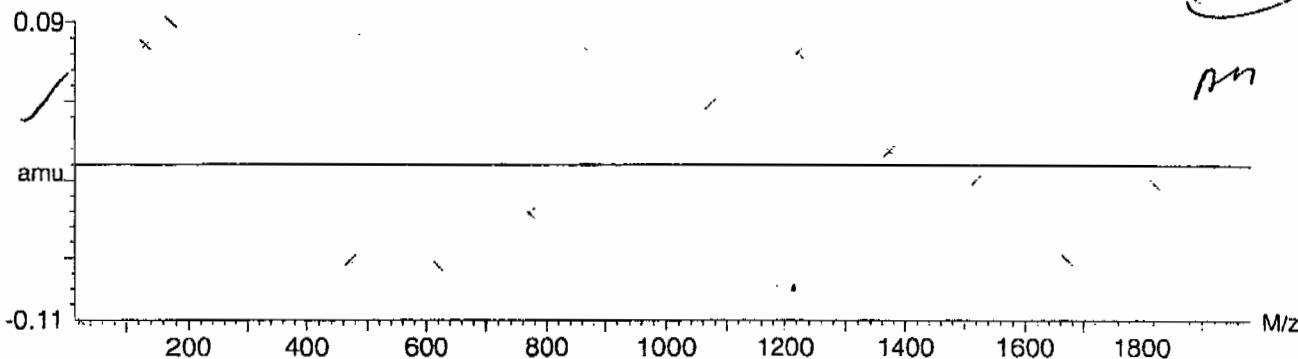


Mass difference (Raw - Ref mass)



Residuals

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





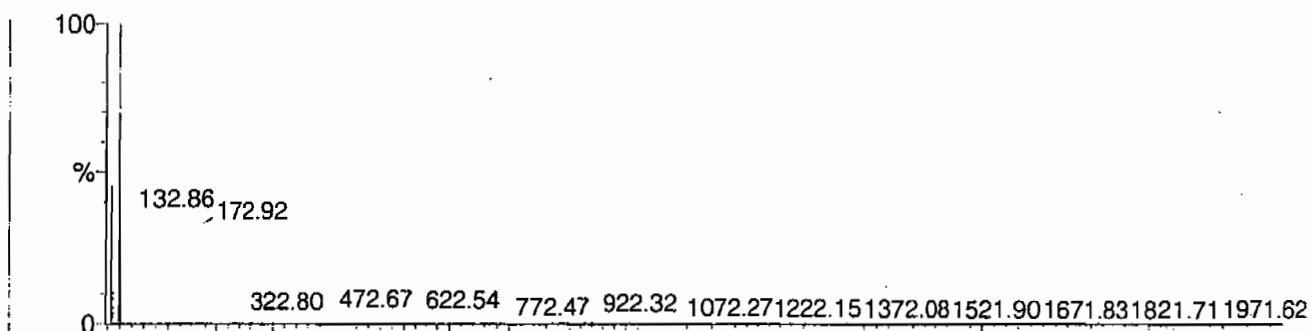
Calibration Report - MS2 Scanning

Page 1 of 1

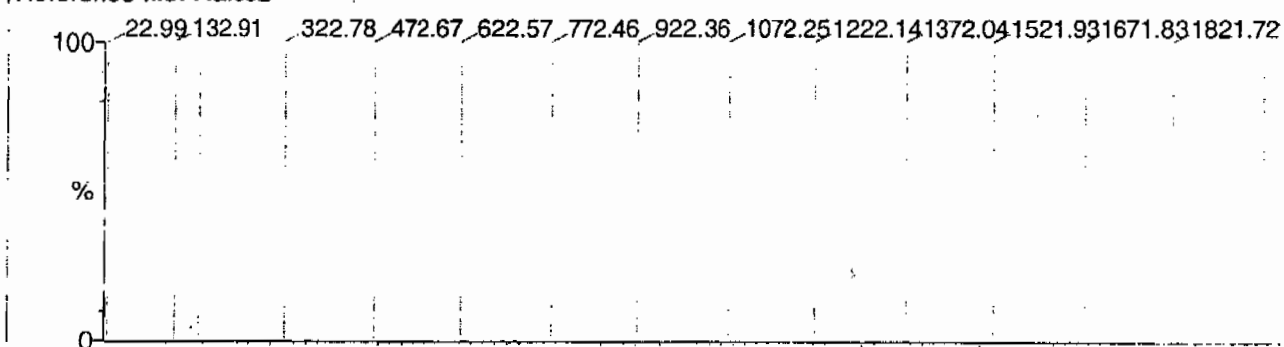
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

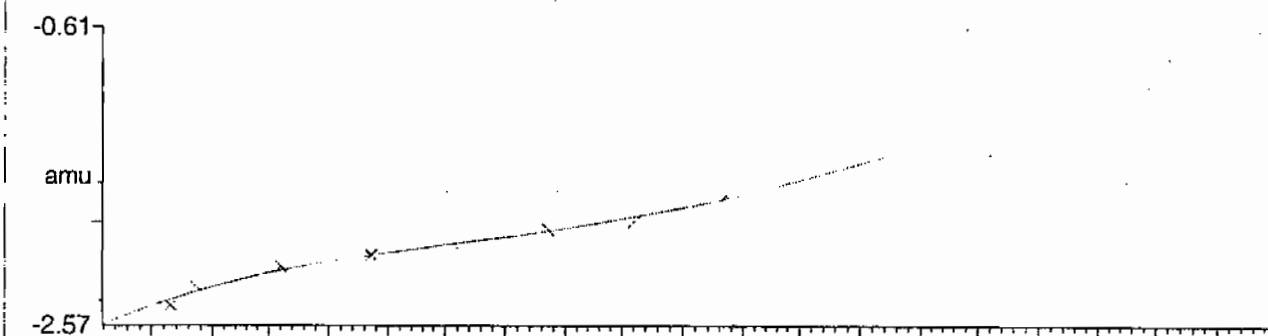
14 matches of 15 tested references



Reference file: Naics2

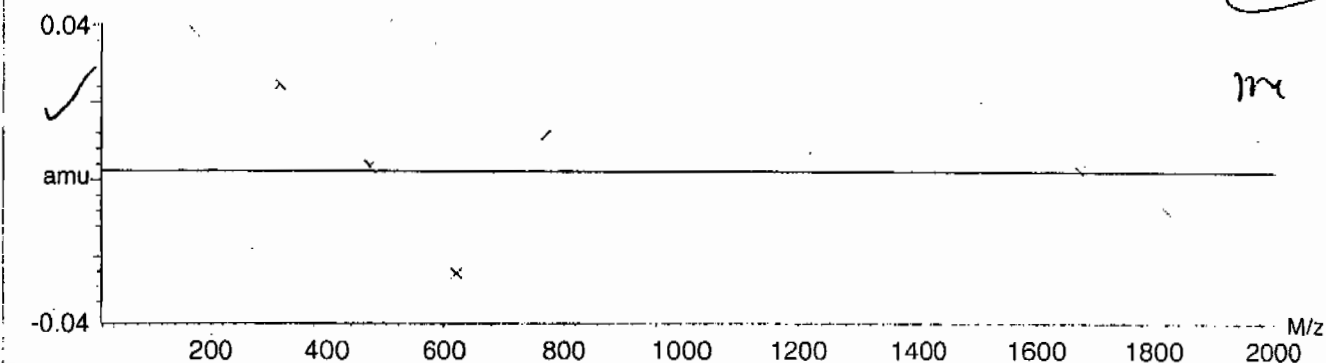


Mass difference (Raw - Ref mass)



Residuals

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



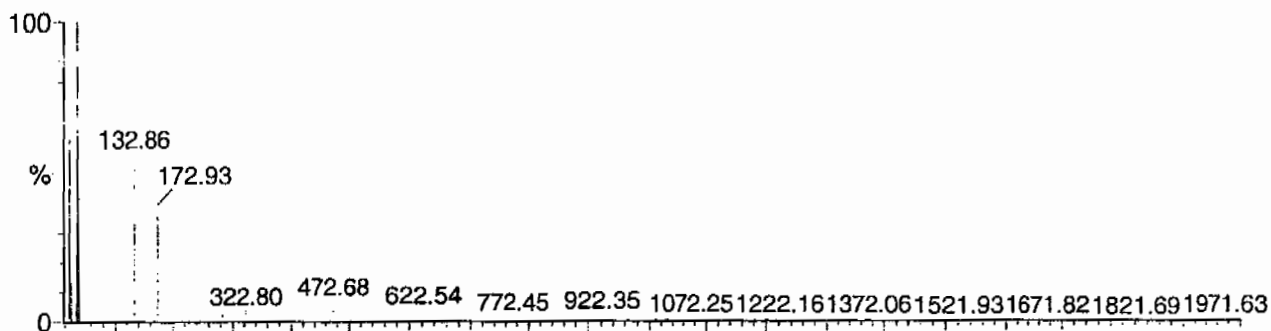
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

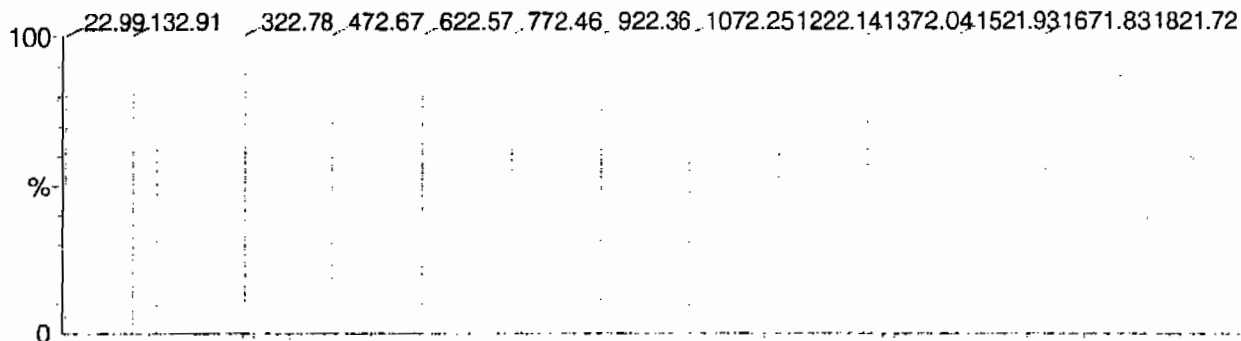
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

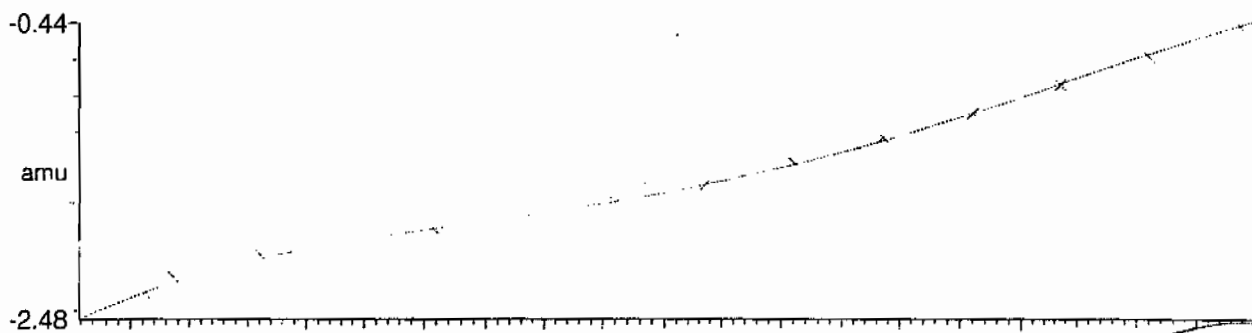
14 matches of 15 tested references



Reference file: Naics2

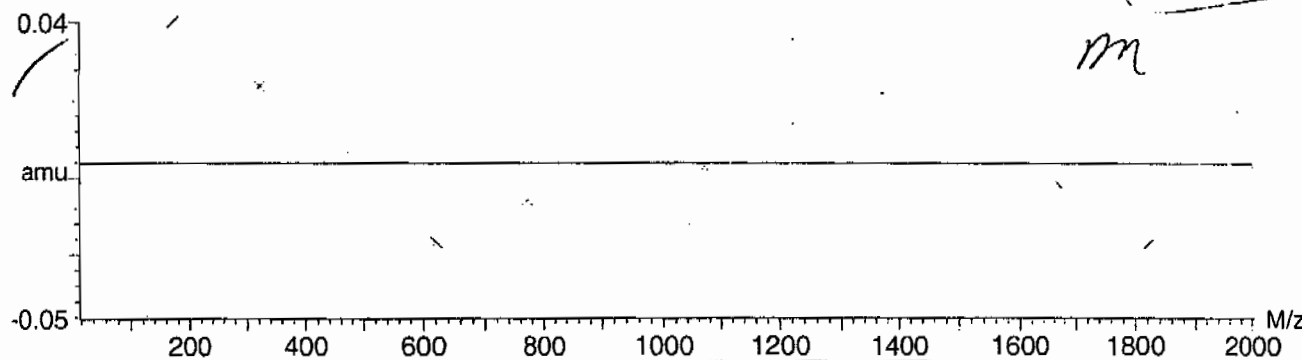


Mass difference (Raw - Ref mass)



Residuals

Mean residual =  $-6.785350e-9 \pm 0.023134$

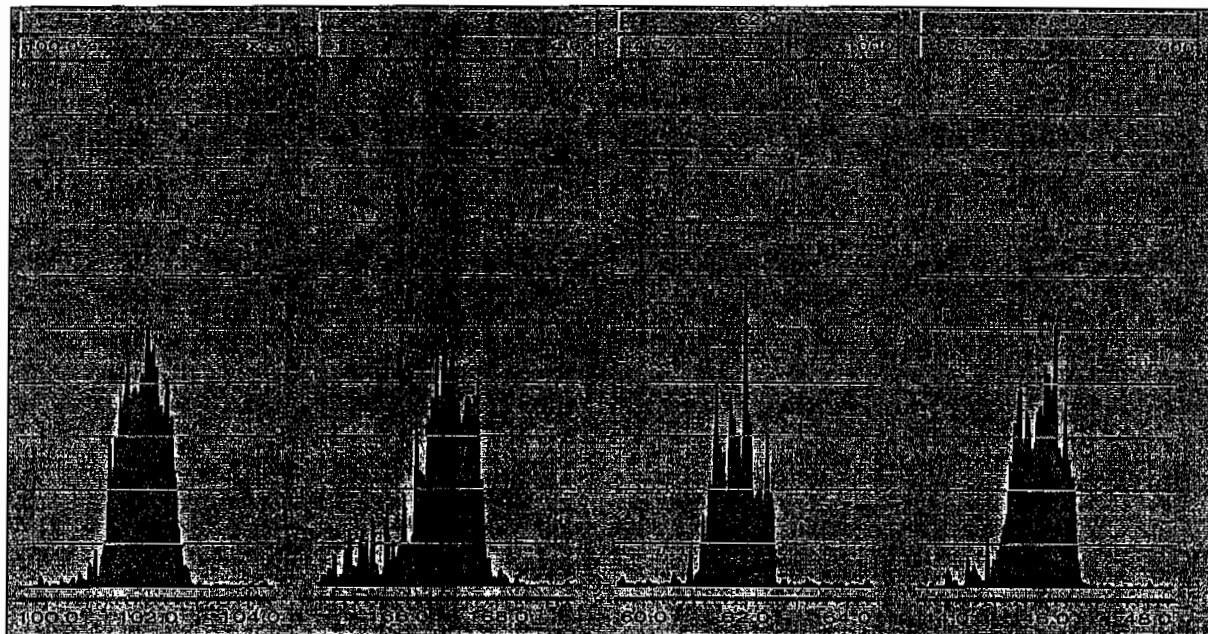


# Quattro Micro Tune Parameters

Page 1

Parameter File: C:\MASSLYNX\NEW\_EXP.PROVACQUDB\explosives04.IPR

Printed : Sun Jan 31 12:32:54 2010



# High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

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) #
			3308.52	11.961	18177.133	17.265
Upper Limit			4301.076	12.461	23630.2729	17.765
Lower Limit			2315.964	11.461	12723.9931	16.765
RE12-10-8096	01-feb-10 01:52	EXP0131028a	3071.05	11.946	17994.7	17.248
RE12-10-8094	01-feb-10 02:21	EXP0131029a	2948.79	11.946	17939.8	17.248
RE12-10-8097	01-feb-10 02:51	EXP0131030a	3186.26	11.946	17887.9	17.248
RE12-10-8095	01-feb-10 03:20	EXP0131031a	3050.38	11.946	17510.9	17.248
MB for batch 942334	31-jan-10 18:29	EXP0131013a	3132.8	11.946	18680.1	17.269
LCS for batch 942334	31-jan-10 18:59	EXP0131014a	3252.73	11.946	17898.4	17.247

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: RE12-10-8096

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881001

Sample Amount 2

Moisture: 6.1

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131028a

Date Analyzed: 01-FEB-10 01:52

Units: ug/kg

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

\*Concentration =

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

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

Dataset: C:\MASSLYNX\New\_Exp\PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP\PRO\data\EXP0131028a

Date: 01-Feb-2010

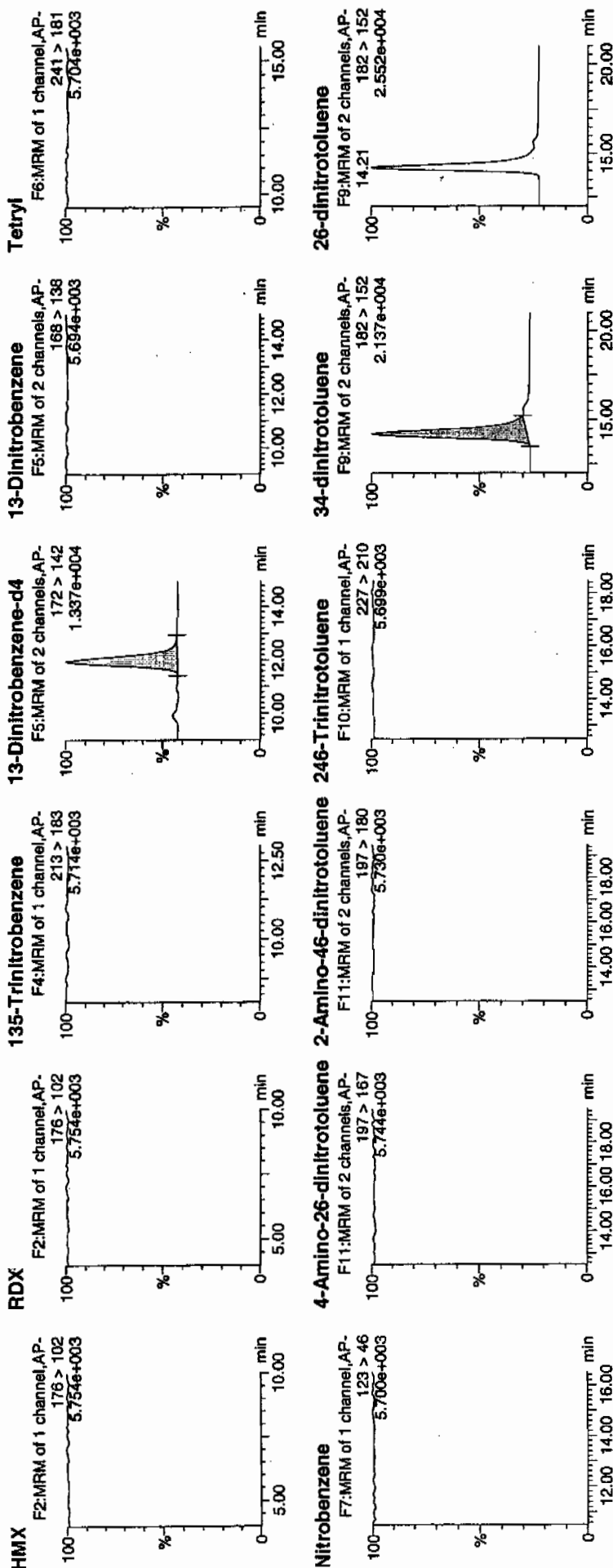
Time: 01:52:13

ID: 244881001

Vial: 1:6,A

MSD  
2/1/10

742335 / 8000 / 21

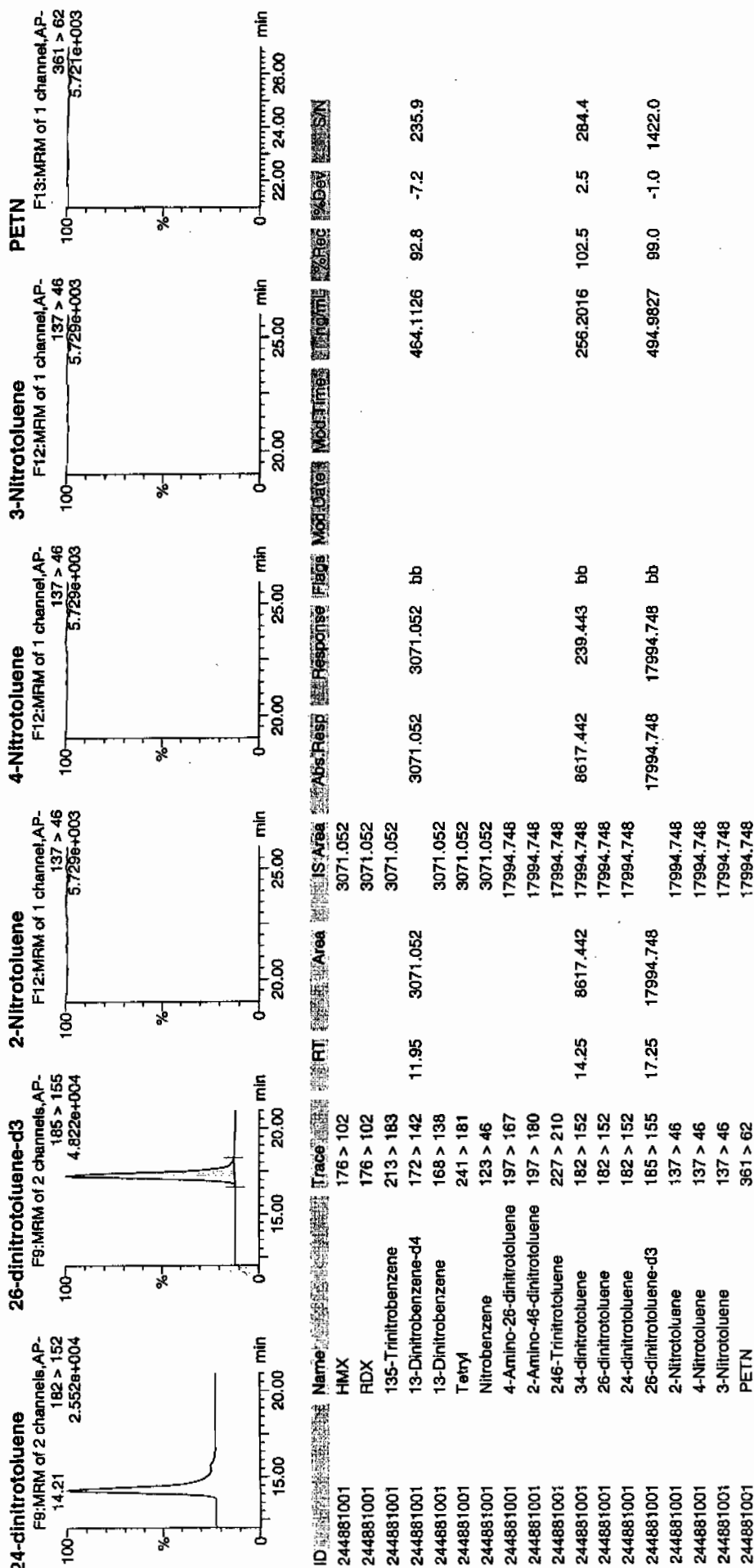


done on 2/1/10

Printed: Mon Feb 01 14:31:20 2010, Page 56 of 103

Quantify Sample Report  
3EL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010





1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8096

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881001

Sample Amount 2

Moisture: 6.1

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250032.wiff

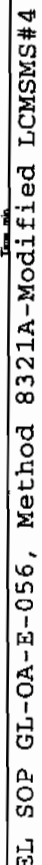
Date Analyzed: 25-JAN-10 18:39

Units: ug/kg

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

\*Concentration =

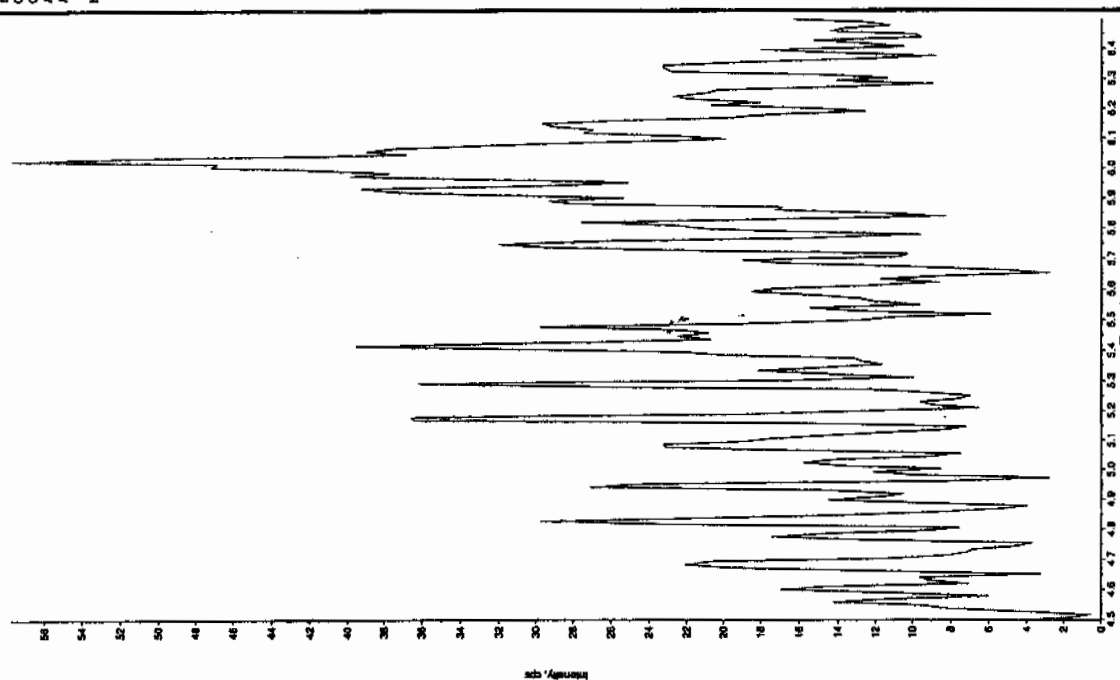
Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor





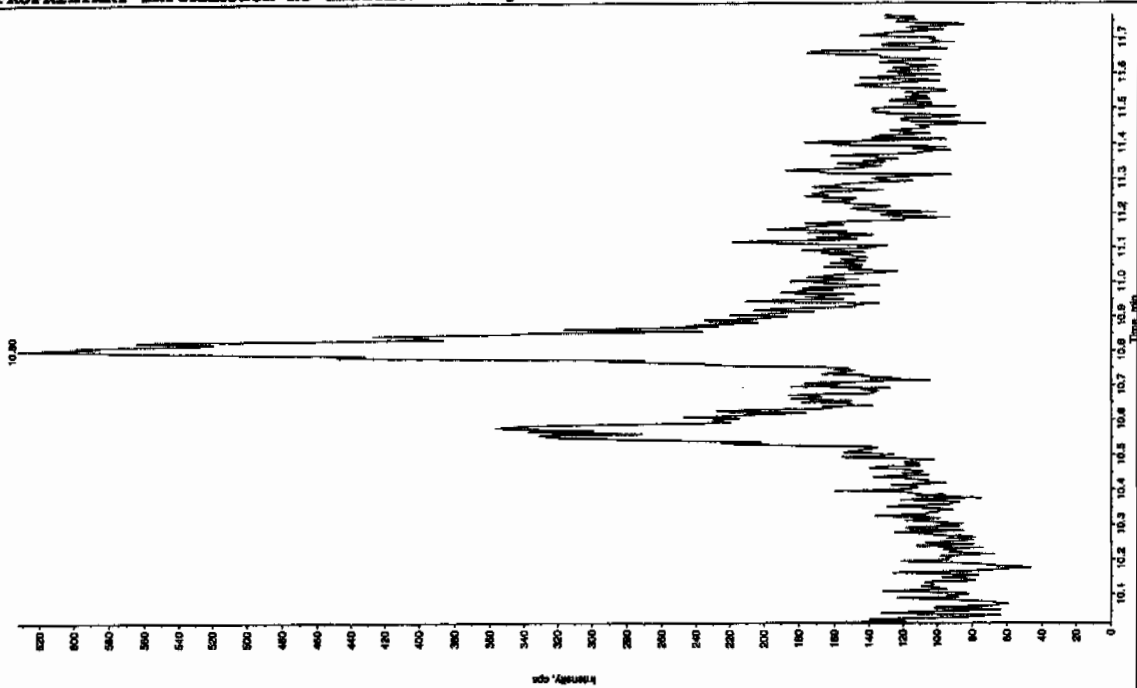
Sample Name: "244881001" Sample ID: "94233521ER" File: "EX501250032.wif"  
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 6:39:46 PM  
 Modified: No



Sample Name: "244881001" Sample ID: "94233521ER" File: "EX501250032.wif"  
 Peak Name: "Vial(O-cresyl) phosphoric acid" Mass(es): "368.181.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 6:39:46 PM  
 Modified: No



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: RE12-10-8094

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881002

Sample Amount 2

Moisture: 5.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131029a

Date Analyzed: 01-FEB-10 02:21

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 Feb 01 14:31:20 2010, Page 57 of 103

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

Dataset: C:\MASSLYNX\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP\_PRO\Data\EXP0131029a

Date: 01-Feb-2010

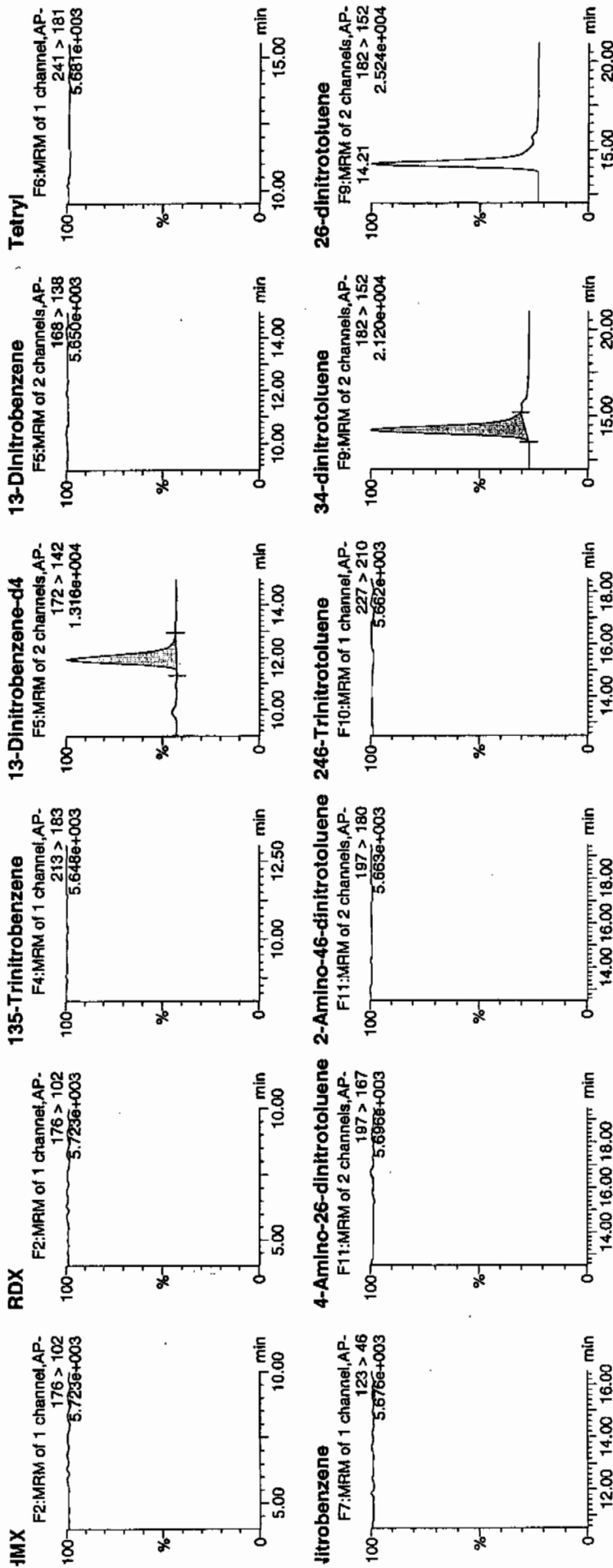
Time: 02:21:43

ID: 244881002

Label: 1:6,B

1477  
2/10

WAV 942335 / 8022 / 21

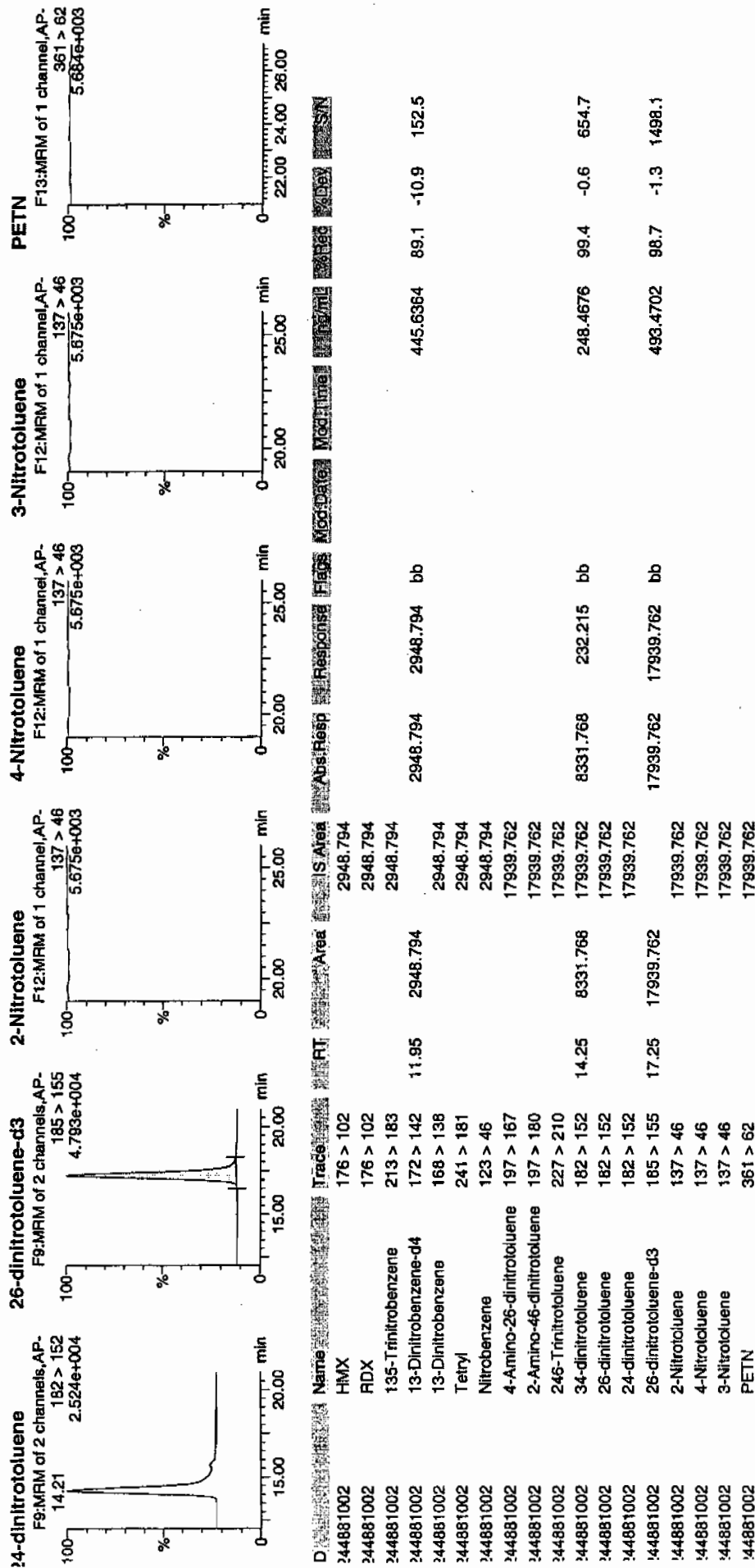


Handwritten signature: *Handwritten signature*

Printed: Mon Feb 01 14:31:20 2010, Page 58 of 103

Quantify Sample Report  
3EL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp\PRO1013110expA.qld, Time: Mon Feb 01 14:26:08 2010



1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8094

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881002

Sample Amount 2

Moisture: 5.6

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250033.wiff

Date Analyzed: 25-JAN-10 18:55

Units: ug/kg

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

\*Concentration =

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



2007 1/27/10

Sample Name: 24481002 Sample ID: 94233521 LEP File: EX501250033.wif

Peak Name: 35-Dinitrofluorene Mass(es): 182.046.0 amu

Comment: LCX832125 Annotation: "

Sample Index: 1

Sample Type: Unknown

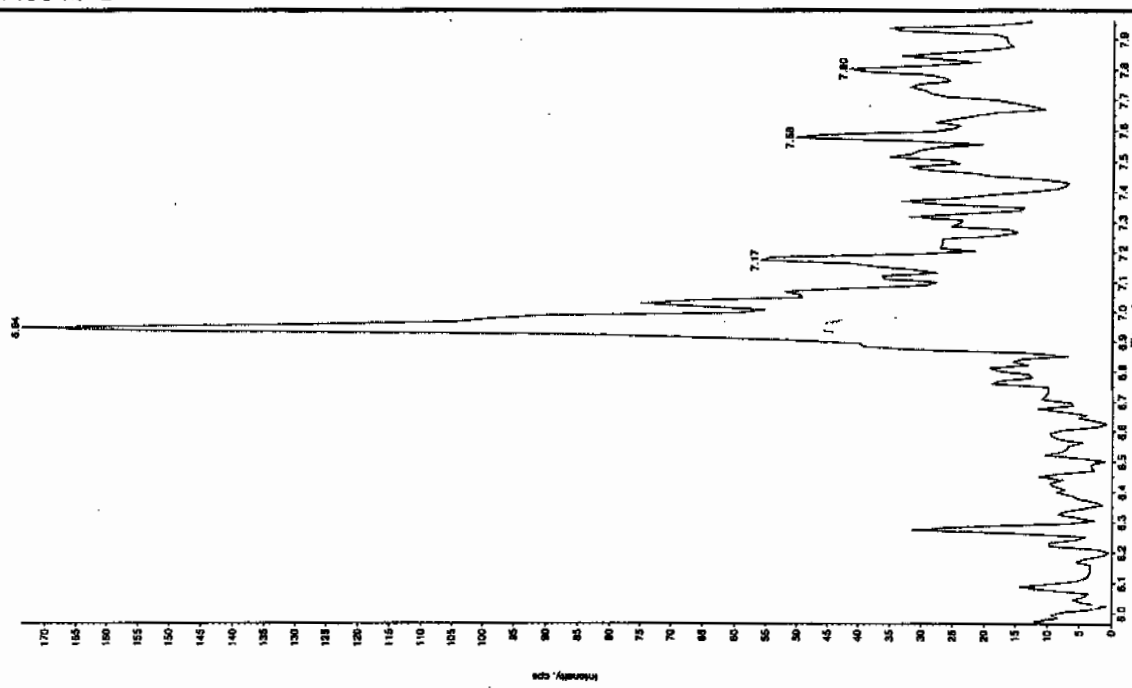
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 6:55:30 PM

Modified: Yes



Sample Name: 24481002 Sample ID: 94233521 LEP File: EX501250033.wif

Peak Name: 35-Dinitrofluorene 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: 1/25/2010

Acq. Time: 6:55:30 PM

Modified: No

2007 1/27/10

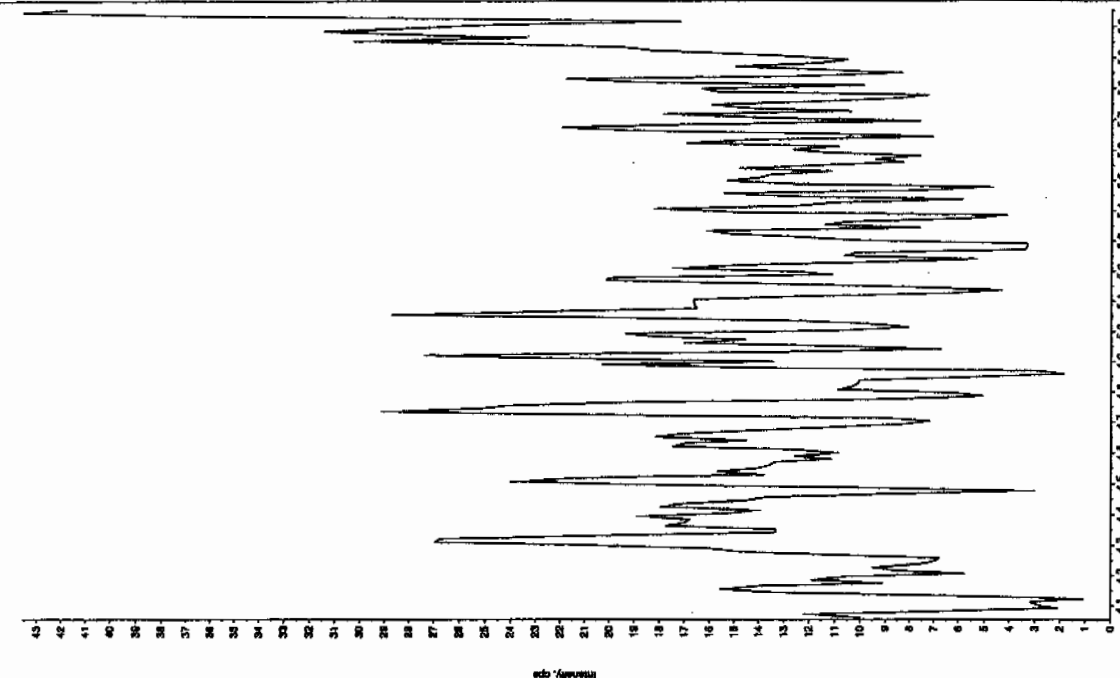
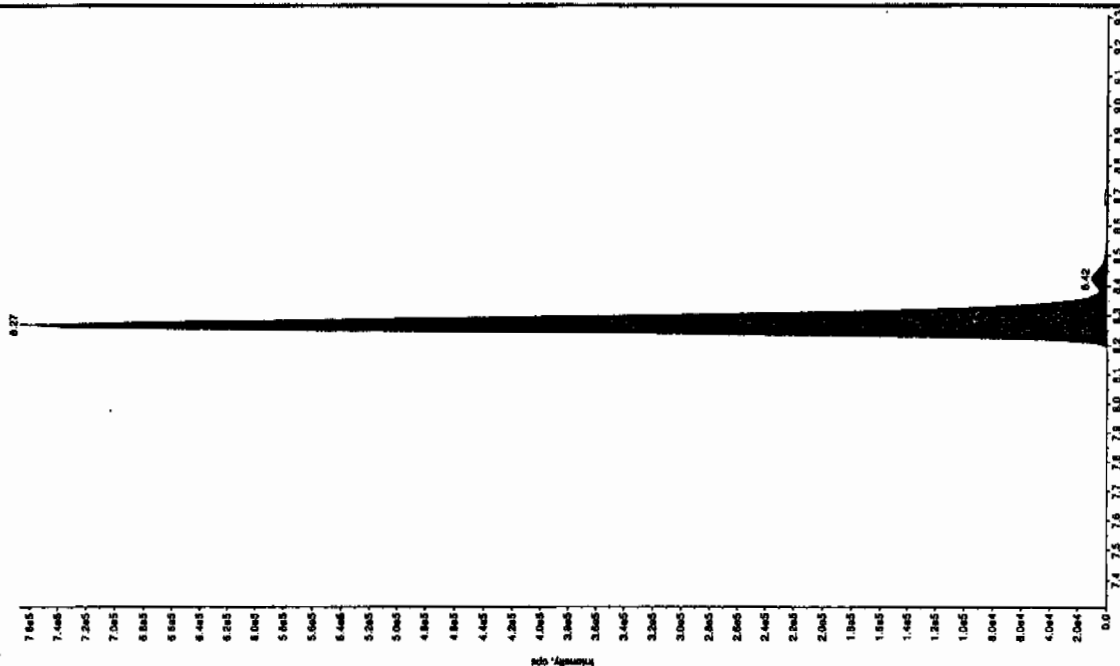
EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "244881002" Sample ID: "94235321ER" File: "EXS01250033.wif"  
 Peak Name: "26-Diethyl-4-nitrofluorene" Mass(es): "166.046.0 amu"  
 Comment: "LCX832125" Annotation: ""

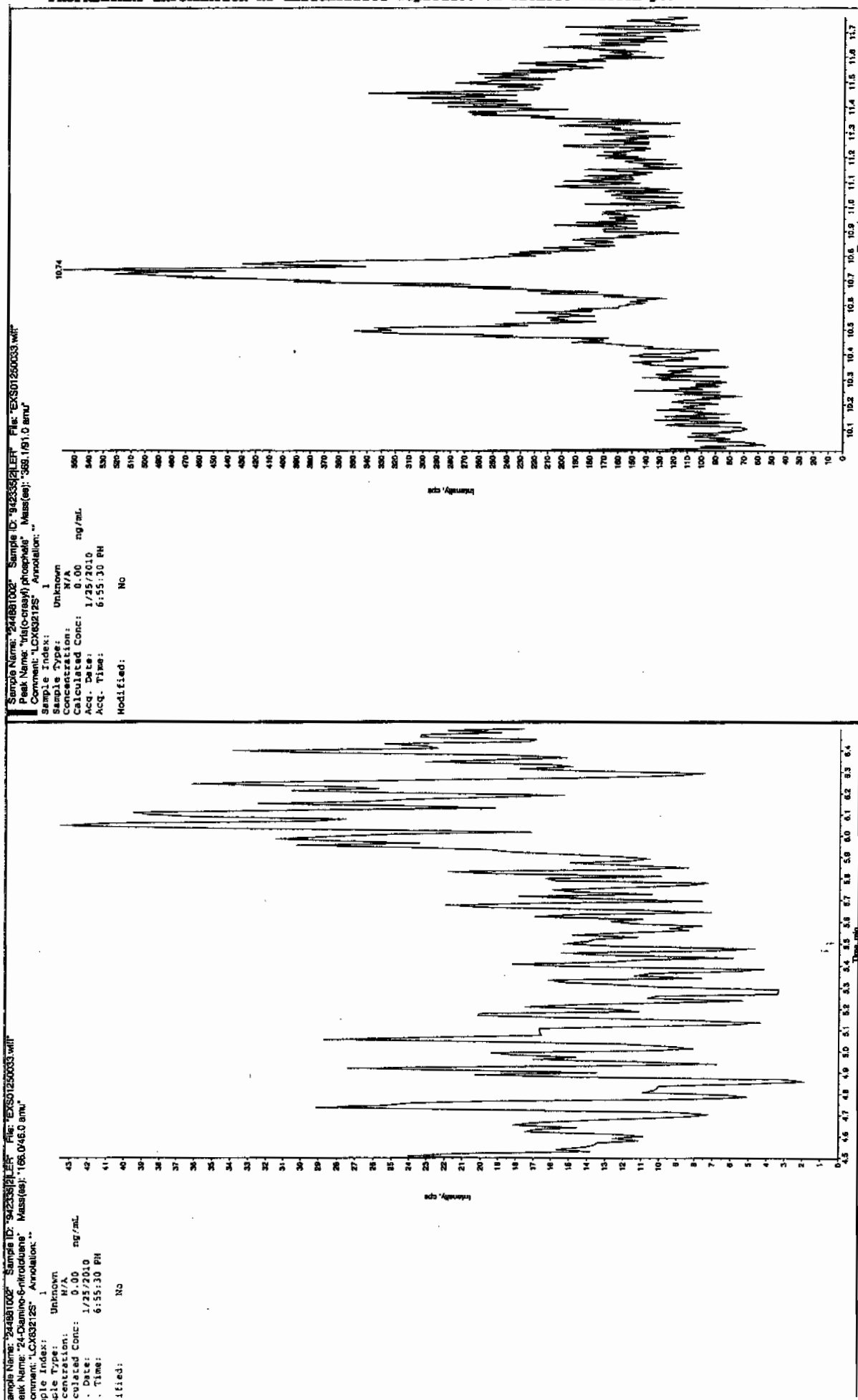
Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 1.00 ng/mL  
 Date: 1/25/2010  
 Acq. Time: 6:55:30 PM  
 Modified: No

Sample Name: "244881002" Sample ID: "94235321ER" File: "EXS01250033.wif"  
 Peak Name: "34-Diethyl-4-nitrofluorene" Mass(es): "162.17151.9 amu"  
 Comment: "LCX832125" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 1.00 ng/mL  
 Date: 1/25/2010  
 Acq. Time: 6:55:30 PM  
 Modified: No  
 c. Algorithm: IntelliQuan - IQA  
 Peak Height: 1460.00 cps  
 Peak Width: 0.00 sec  
 Window: 3 points  
 Window: 15.0 sec  
 Selected RT: 8.31 min  
 Relative RT: No  
 Type: Valley  
 Retention Time: 8.31 min  
 Counts: 2,916,005 counts  
 Sht: 767848.480 cps  
 RT Time: 8.17 min  
 Time: 8.52 min



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: RE12-10-8097

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881003

Sample Amount 2

Moisture: 8.0

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131030a

Date Analyzed: 01-FEB-10 02:51

Units: ug/kg

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

\*Concentration =

Instrument Value	X	Concentrated Extract Volume	X	Dilution Factor
		Sample Amount		

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

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131030a

Date: 01-Feb-2010

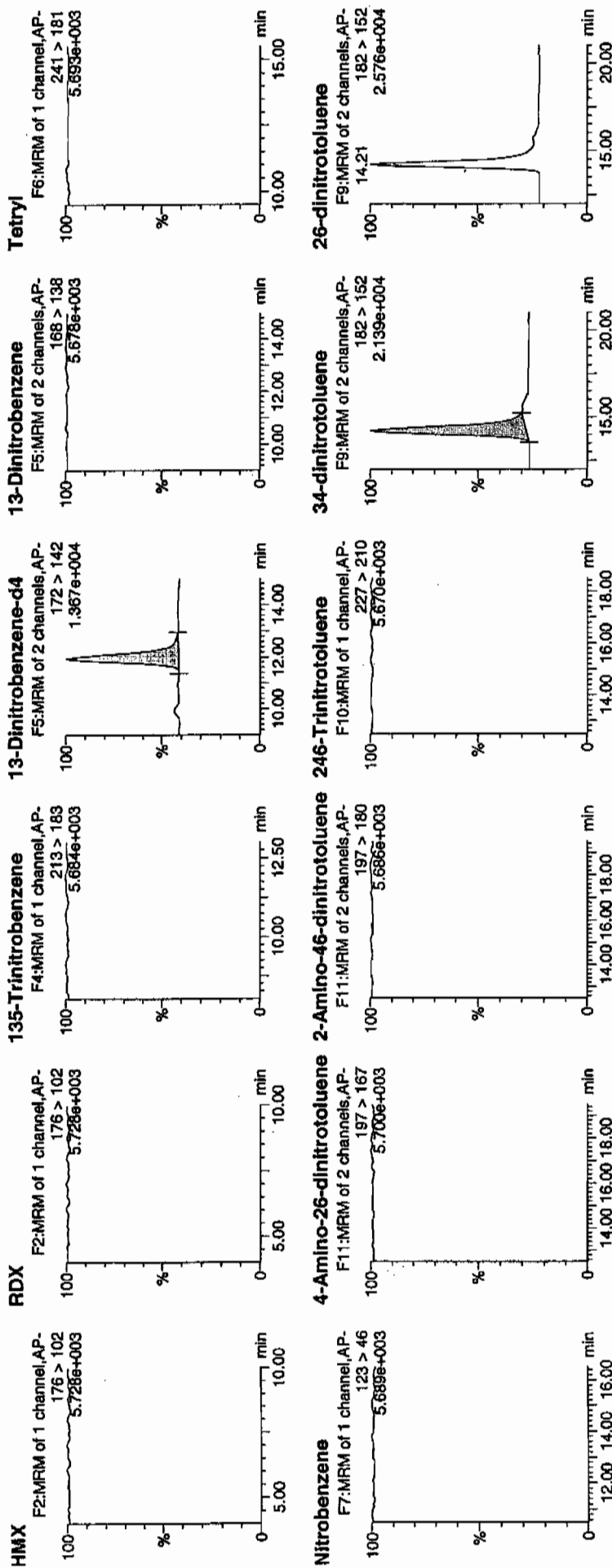
Time: 02:51:13

ID: 244881003

Vial: 1:6,C

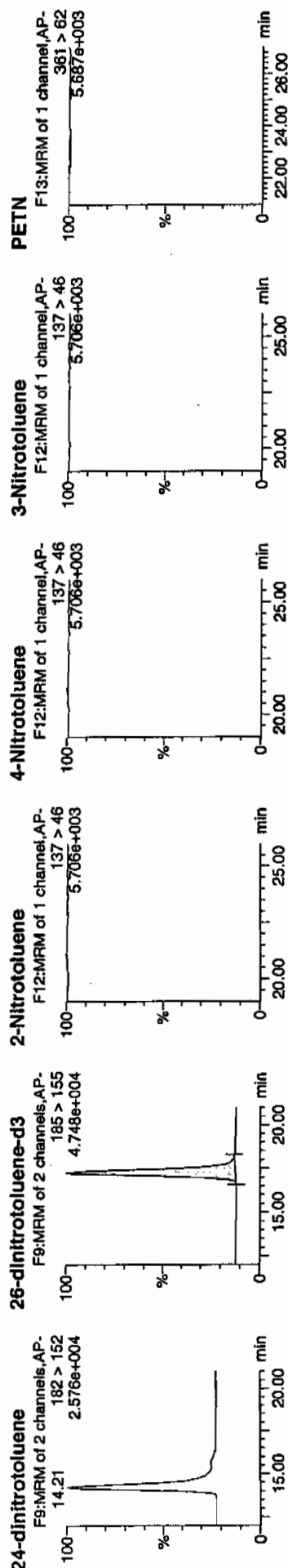
2/1/10

WAV 942335 / 8022 / 21



Handwritten signature/initials.

Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

[illegible]

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8097

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881003

Sample Amount 2

Moisture: 8.0

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250034.wiff

Date Analyzed: 25-JAN-10 19:11

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

Jan 11/27/10

Sample Name: "24481003" Sample ID: "94233321LEF" File: "EXS01250034.will"

Peak Name: "1A1B" Mass(es): "257.27204.9 amu"

Comment: "LCX032125" Annotation: ""

File Index: 1

Sample Type: Unknown

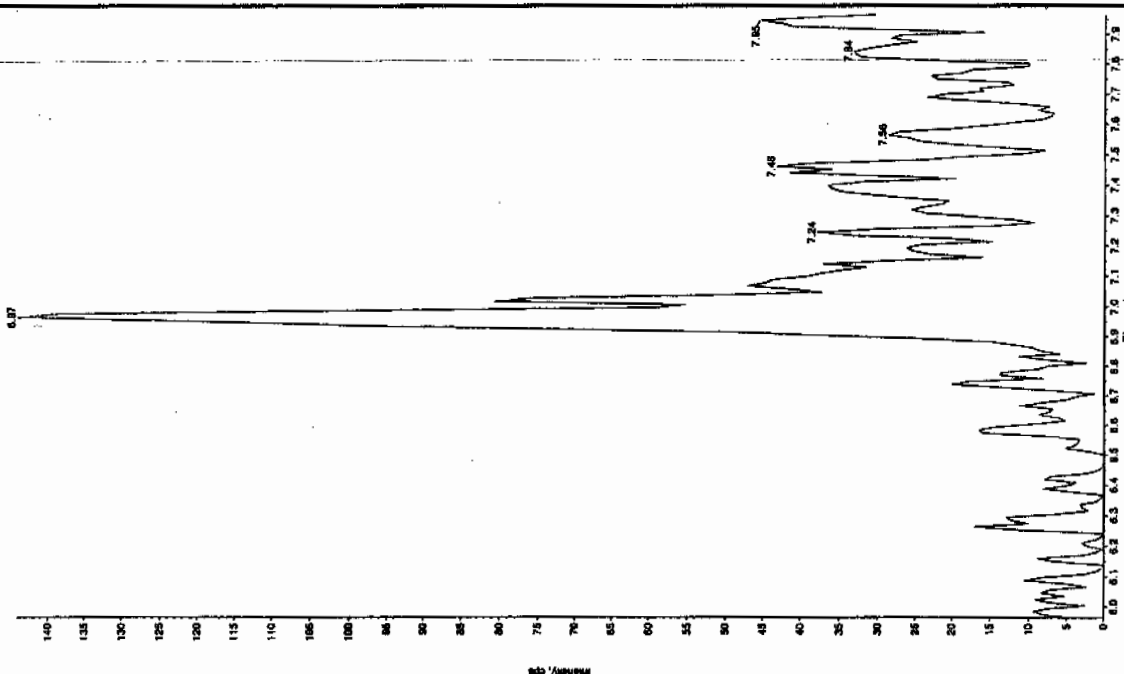
Concentration: N/A ng/mL

Calculated Conc: 0.00

Date: 1/25/2010

Time: 7:11:11 PM

ified: No



Sample Name: "24481003" Sample ID: "94233321LEF" File: "EXS01250034.will"

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

Comment: "LCX032125" Annotation: ""

File Index: 1

Sample Type: Unknown

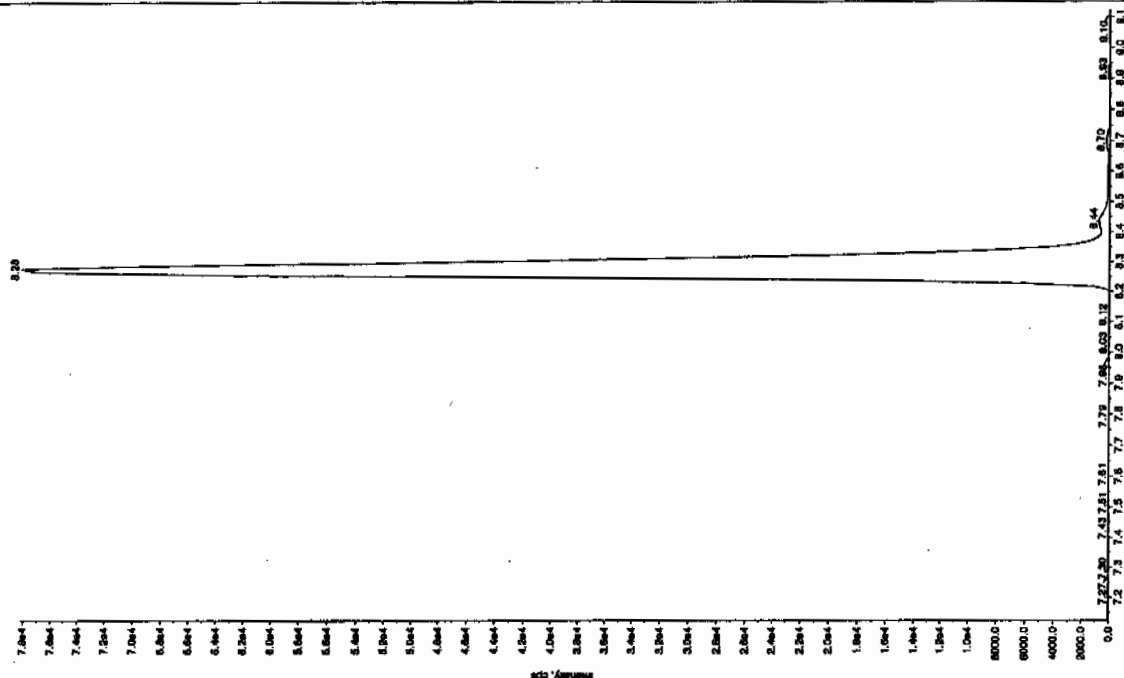
Concentration: N/A ng/mL

Calculated Conc: 0.00

Date: 1/25/2010

Time: 7:11:11 PM

Modified: Yes

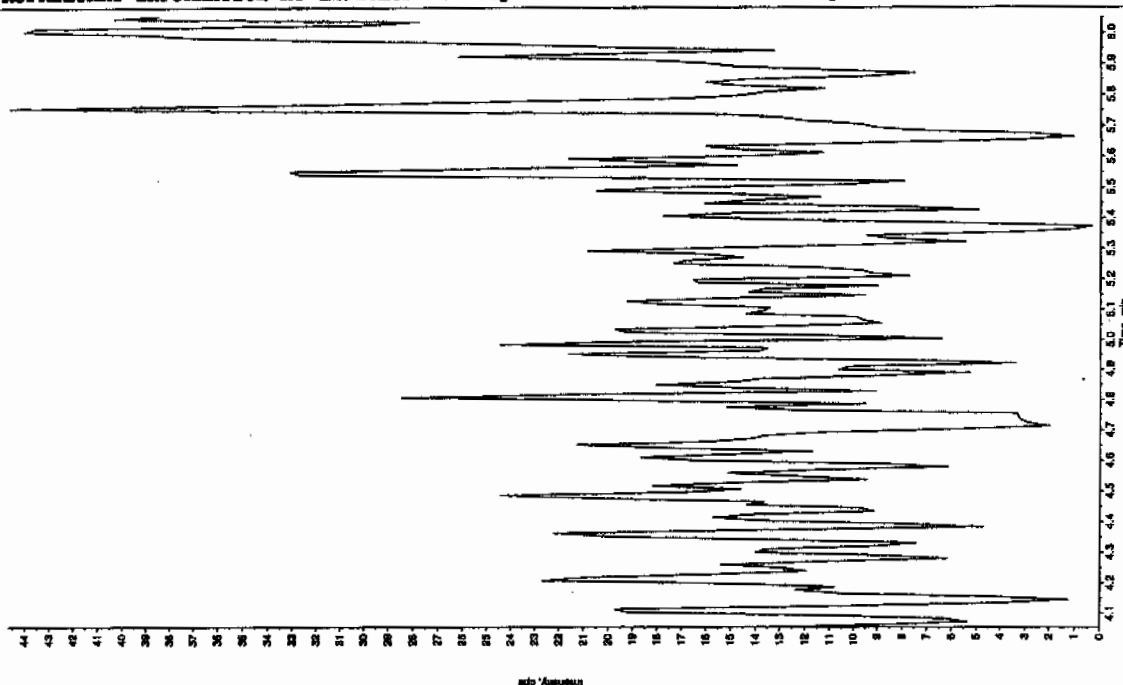


Jan 11/27/10



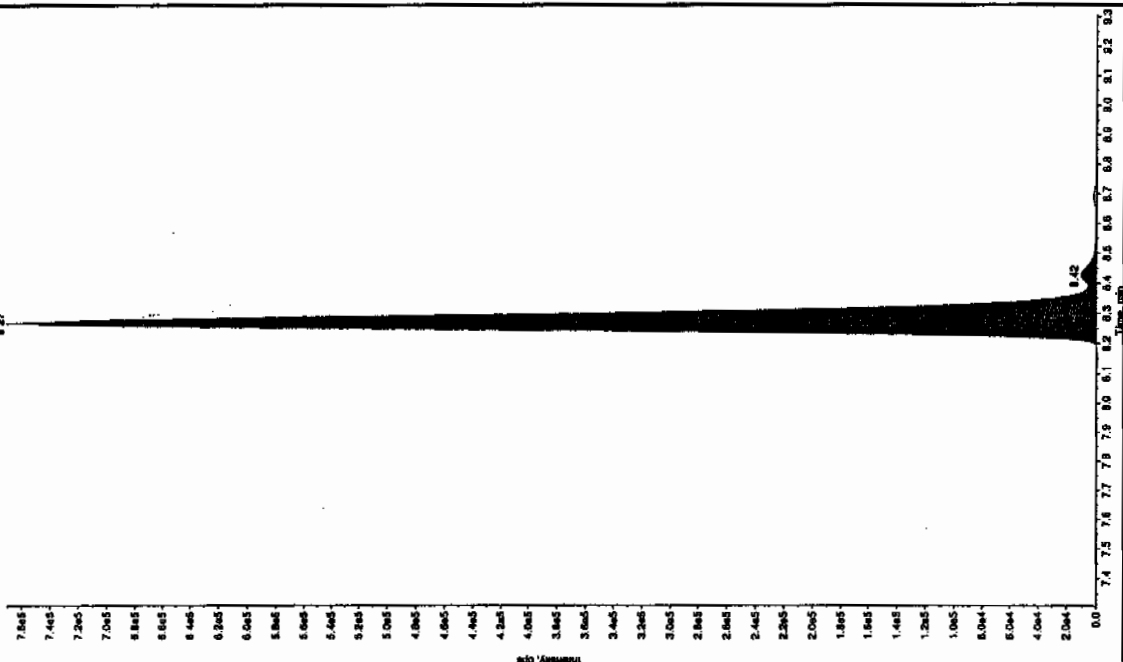
Sample Name: "244891003" Sample ID: "94233321ER" File: "EX501250034.wif"  
 Peak Name: "26-Diamino-4-nitrochloride" Mass(es): "166.046.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 0.00 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 7:11:11 PM  
 Modified: No

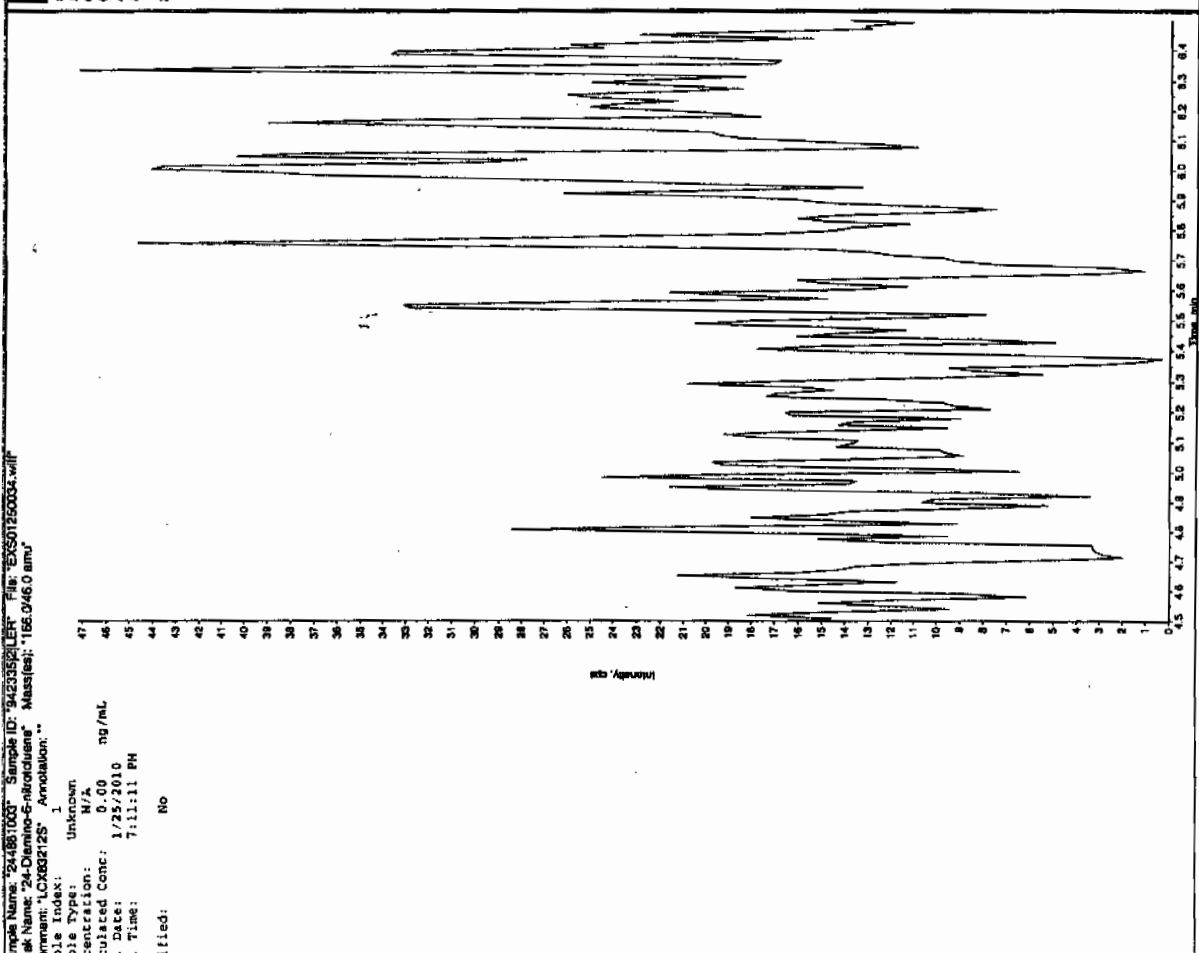
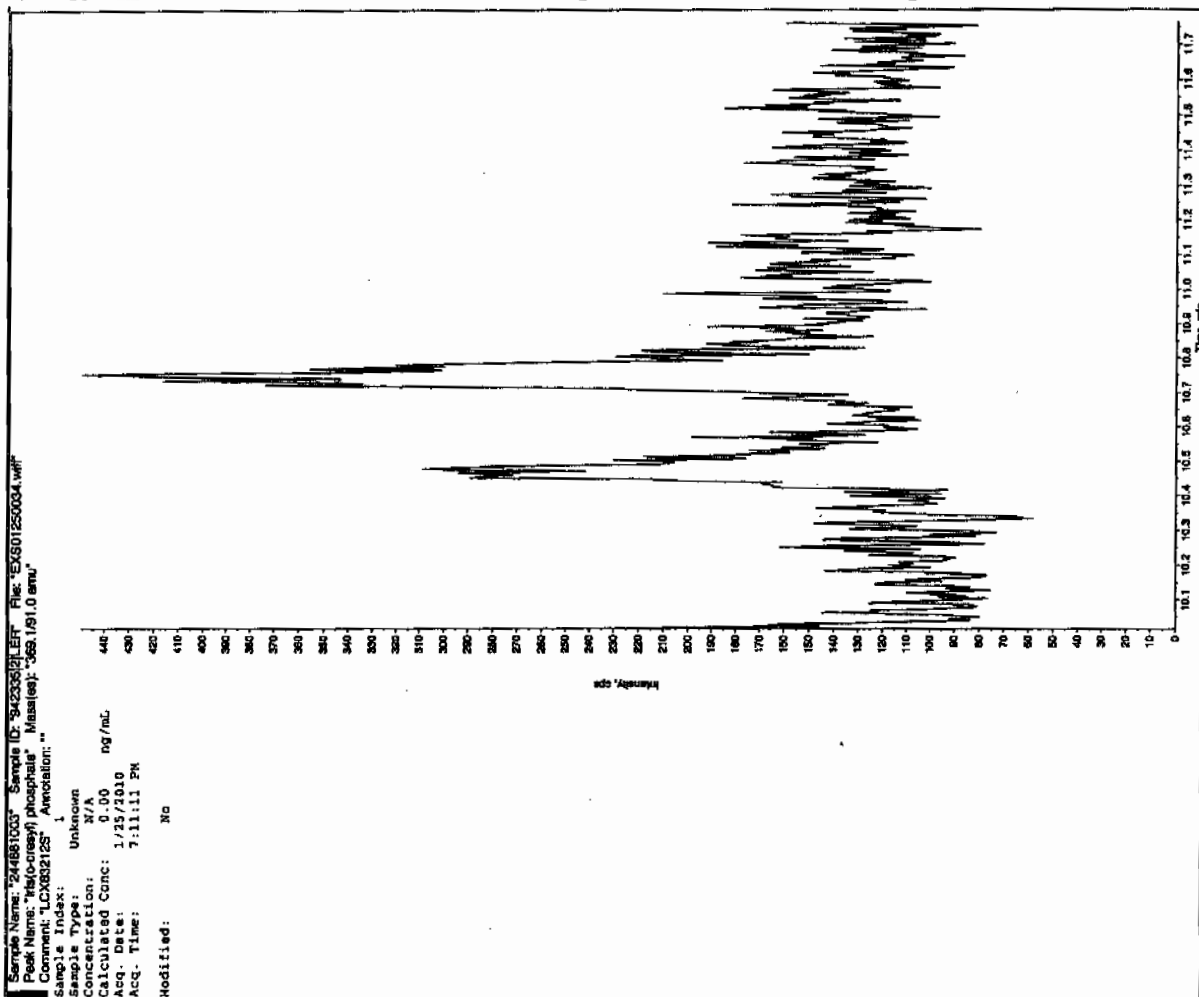


Sample Name: "244891003" Sample ID: "94233321ER" File: "EX501250034.wif"  
 Peak Name: "26-Diamino-4-nitrochloride" Mass(es): "166.046.0 amu"  
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1  
 Sample Type: Unknown  
 Concentration: N/A  
 Calculated Conc: 216.0 ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 7:11:11 PM  
 Modified: No  
 Algorithm: IntelliQuan - IOA  
 Peak Height: 166.00 cps  
 Peak Width: 3.00 sec  
 Window Width: 15.0 sec  
 Window: 8.31 min  
 Relative RT: No  
 Type: Valley  
 Retention Time: 8.27 min  
 Area: 2.91e+006 counts  
 Height: 77133.875 cps  
 RT Time: 8.16 min  
 Time: 8.61 min



EL 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: RE12-10-8095

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881004

Sample Amount 2

Moisture: 10.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131031a

Date Analyzed: 01-FEB-10 03:20

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 Feb 01 14:31:20 2010, Page 61 of 103

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

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Sample Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131031a

Date: 01-Feb-2010

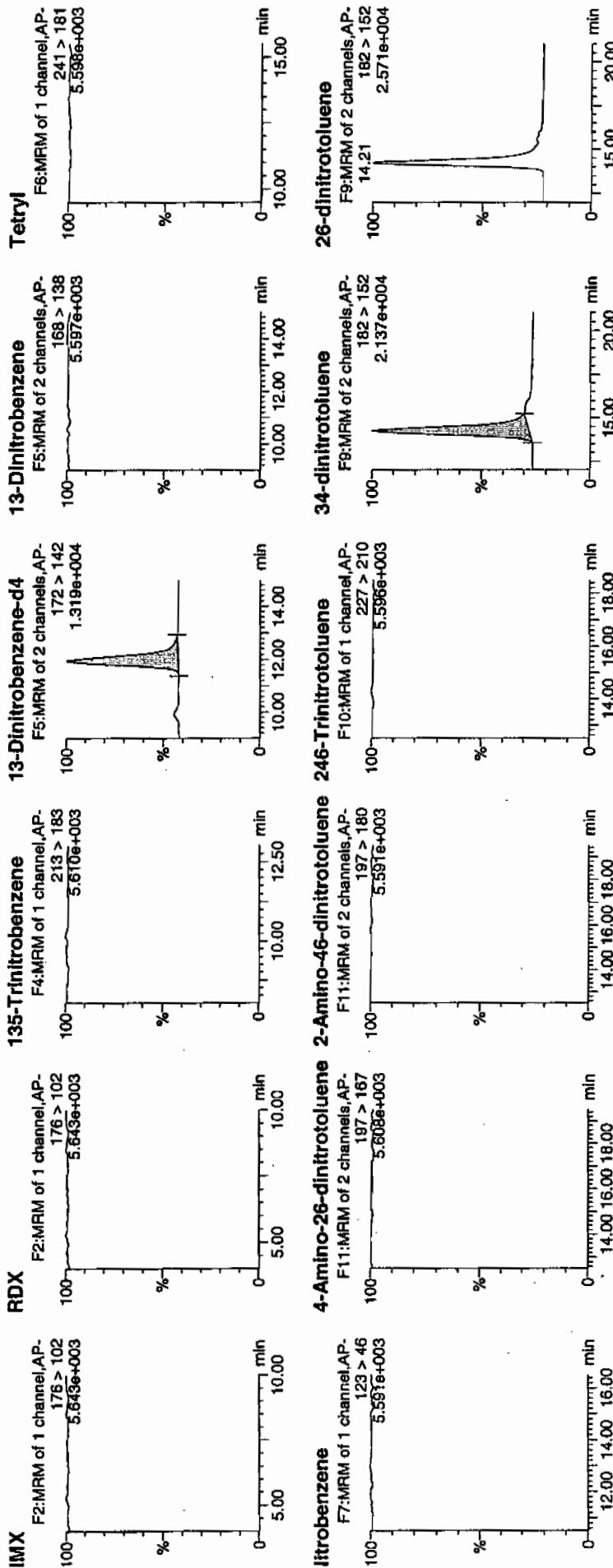
Time: 03:20:43

ID: 244881004

File: 1:6.D

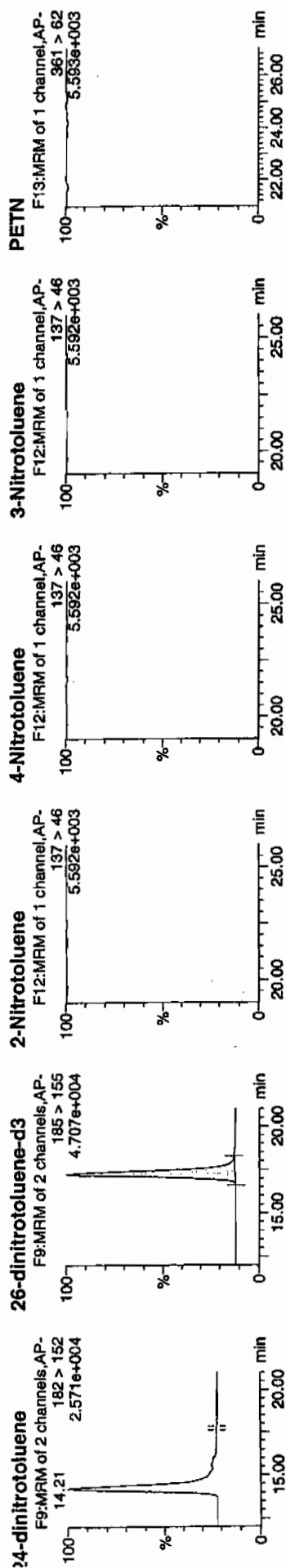
NOT  
2/1/10

LANC 942335 / SOLAS / 21



Handwritten signature/initials.

Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



ID	Name	Trace	RT	Area	IS Area	Abs. Resp.	Response Flag	Mold Date	Samp No	Purity %	Dilution
244881004	HMX	176 > 102		3050.379							
244881004	RDX	176 > 102		3050.379							
244881004	135-Trinitrobenzene	213 > 183		3050.379							
244881004	13-Dinitrobenzene-d4	172 > 142	11.95	3050.379		3050.379	bb		460.9884	92.2	-7.8
244881004	13-Dinitrobenzene	168 > 138		3050.379							420.7
244881004	Tetryl	241 > 181		3050.379							
244881004	Nitrobenzene	123 > 46		3050.379							
244881004	4-Amino-26-dinitrotoluene	197 > 167		17510.943							
244881004	2-Amino-46-dinitrotoluene	197 > 180		17510.943							
244881004	246-Trinitrotoluene	227 > 210		17510.943							
244881004	34-dinitrotoluene	182 > 152	14.25	8460.464		8460.464	bb		258.4842	103.4	3.4
244881004	26-dinitrotoluene	182 > 152		17510.943							440.5
244881004	24-dinitrotoluene	182 > 152		17510.943							
244881004	26-dinitrotoluene-d3	185 > 155	17.25	17510.943		17510.943	MM-	01-Feb-10 14:20:32	481.6746	96.3	-3.7
244881004	2-Nitrotoluene	137 > 46		17510.943			bb				1022.9
244881004	4-Nitrotoluene	137 > 46		17510.943							
244881004	3-Nitrotoluene	137 > 46		17510.943							
244881004	PETN	361 > 62		17510.943							

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-8095

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 244881004

Sample Amount 2

Moisture: 10.5

Amount Units g

Date Received: 15-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250035.wiff

Date Analyzed: 25-JAN-10 19:26

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

See 1127110

Sample Name: "244881004" Sample ID: "94233521EP" File: "EX501250035.will"

Peak Name: "TATB" Mass(es): "257.2704.9 amu"

Comment: "LCX832125" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: 0.00 ng/mL

Calculated Conc: 1/25/2010

Acq. Date: 7:26:53 PM

Acq. Time: 7:26:53 PM

Modified: No

Sample Name: "244881004" Sample ID: "94233521EP" File: "EX501250035.will"

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

Comment: "LCX832125" Annotation: ""

Sample Index: 1

Sample Type: Unknown

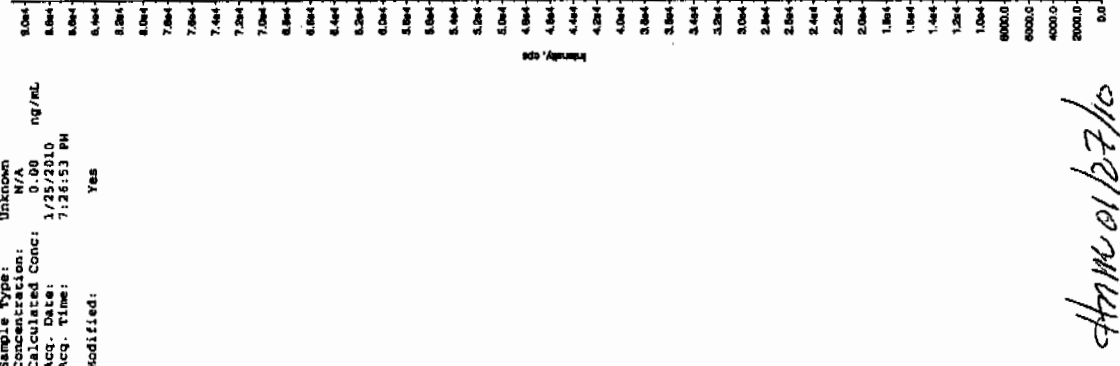
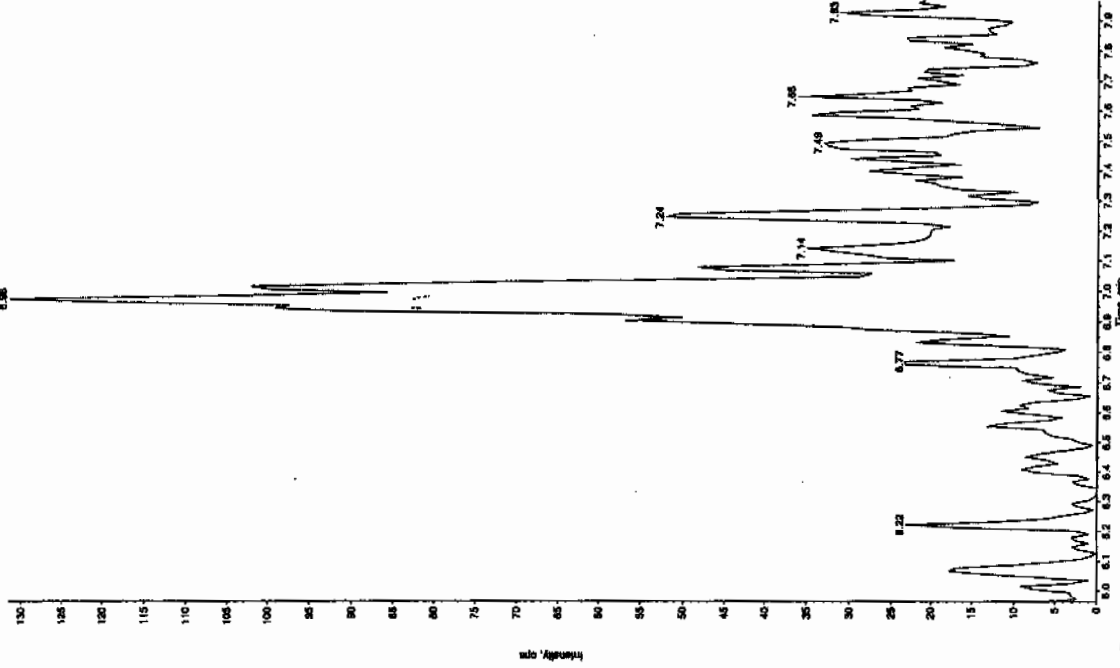
Concentration: 0.00 ng/mL

Calculated Conc: 1/25/2010

Acq. Date: 7:26:53 PM

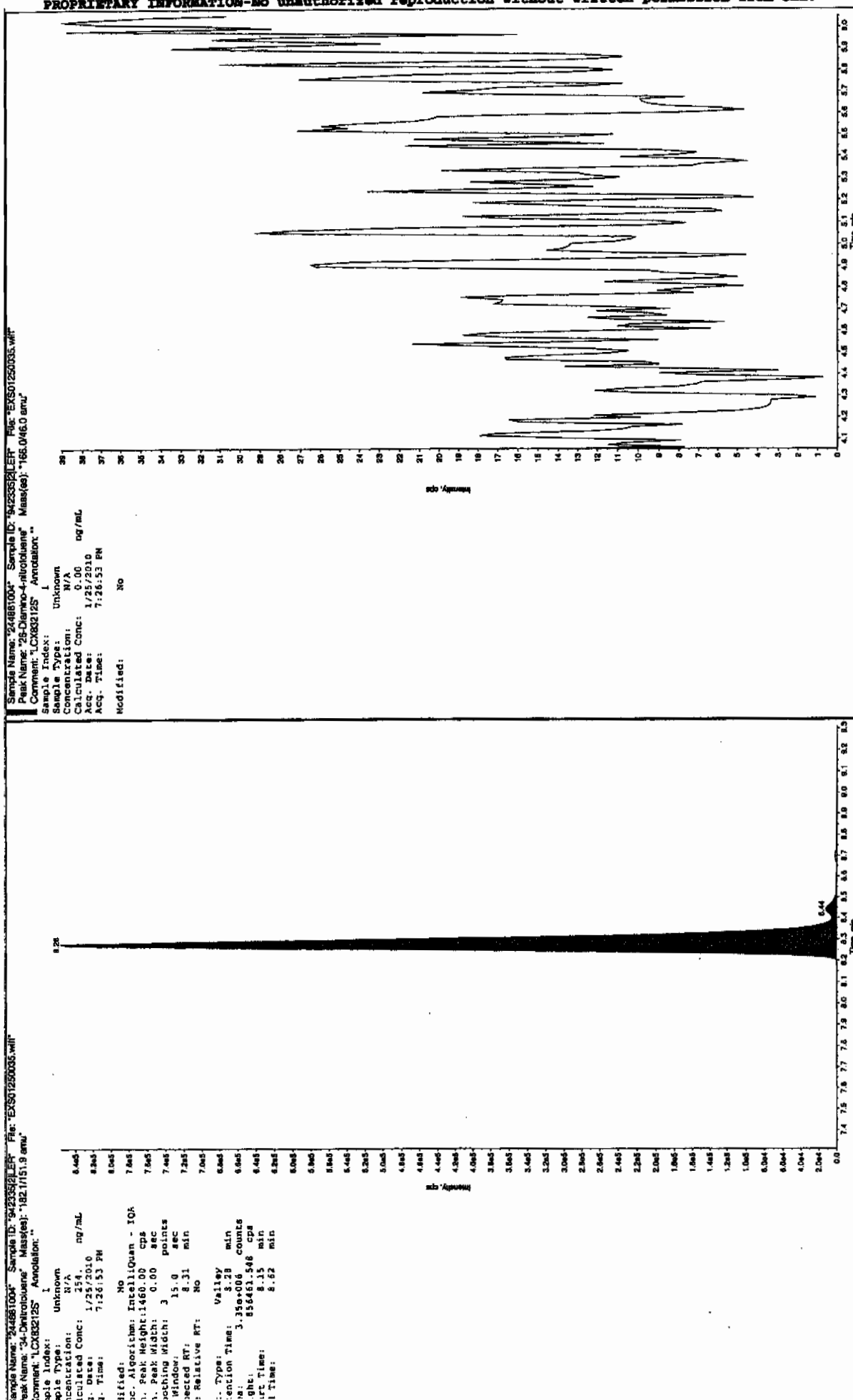
Acq. Time: 7:26:53 PM

Modified: Yes



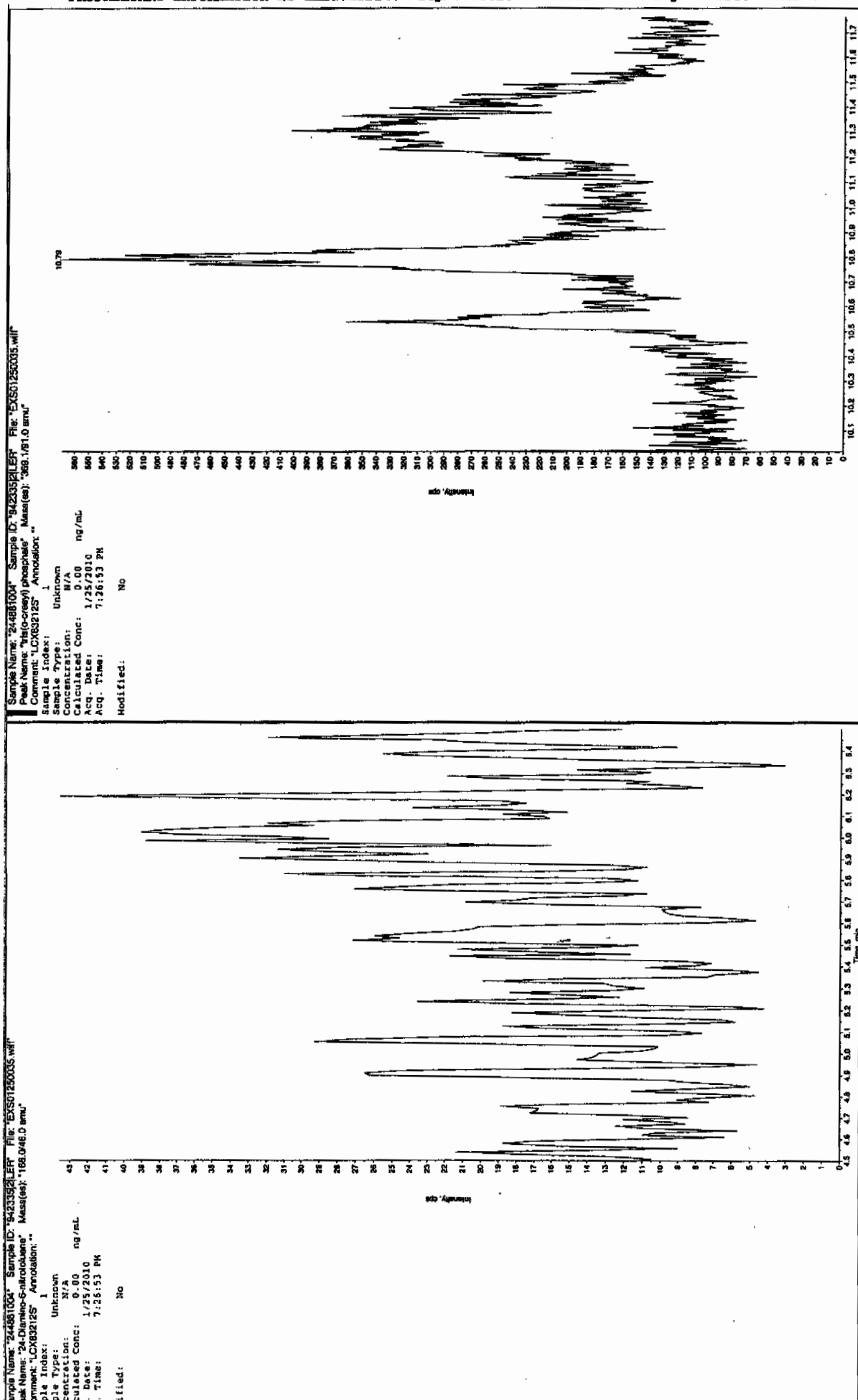
3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

See 1127110



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





3L 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)	12.5	25	100	200	400	500		300
<b>Primary Analytes</b>								
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
<b>Secondary Analytes</b>								
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: 10-1264-1

Lab Code: GEL

Run Date: 25-JAN-10.31-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:	EXP0131003a	EXP0131004a	EXP0131005a	EXP0131006a	EXP0131007a	EXP0131008a			
Data File:									
1,3-Dinitrobenzene-d4	6.817	6.914	7.084	6.68	6.053	6.154	6.617	6.35	
2,4,6-Trinitrotoluene	.295	.339	.31	.306	.338	.353	0.324	7.032	
2,4-Dinitrotoluene	.218	.221	.235	.245	.266	.269	0.242	9.045	
2,6-Dinitrotoluene	1.128	1.167	1.048	1.099	1.099	1.104	1.108	3.534	
2,6-Dinitrobenzene-d3	38.769	38.103	38.437	36.61	34.533	31.673	36.354	7.635	
2-Amino-4,6-dinitrotoluene	.416	.381	.381	.395	.412	.445	0.405	6.043	
3,4-Dinitrotoluene	.957	.893	.877	.919	.979	.983	0.935	4.811	
4-Amino-2,6-dinitrotoluene	.23	.23	.276	.291	.298	.319	0.274	13.366	
HMX	3.605	3.476	3.373	3.479	3.76	3.523	3.536	3.761	
Nitrobenzene	.639	.744	.762	.798	.876	.803	0.770	10.21	
PETN	2.471	2.449	1.998	1.841	1.518	.307	1.764	19.85	
RDX	2.199	2.109	2.168	2.219	2.463	2.423	2.264	6.382	
Tetryl	.945	.774	.832	.817	.844	.751	0.827	8.193	
m-Dinitrobenzene	1.34	1.134	1.093	1.184	1.209	1.14	1.183	7.337	
m-Nitrotoluene	.108	.109	.091	.092	.09	.096	0.098	8.887	
o-Nitrotoluene	.143	.172	.146	.151	.152	.167	0.155	7.546	
p-Nitrotoluene	.089	.085	.076	.074	.074	.08	0.080	7.916	

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

\* Values outside of QC Limit

Form 6

# Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1264-1

Lab Code: GEL

Run Date: 25-JAN-10.31-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Linear

Calibration Level:	1	2	3	4	5	6	Slope	Intercept	COD	Q
Data File:	EXP0131003a	EXP0131004a	EXP0131005a	EXP0131006a	EXP0131007a	EXP0131008a				
Parname										
1,3,5-Trinitrobenzene	817.757	1447.53	4695.28	8548.34	16411.1	20141.8	3.277	24.282	.999	

Linear fit:  $Y = mx + b$   
where b is Intercept and m is slope

COD is Coefficient of Determination

Q column used to flag COD values outside of Limit (<0.990)

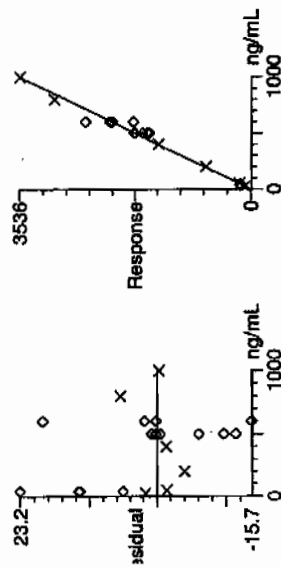
\* Values outside of QC Limit

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

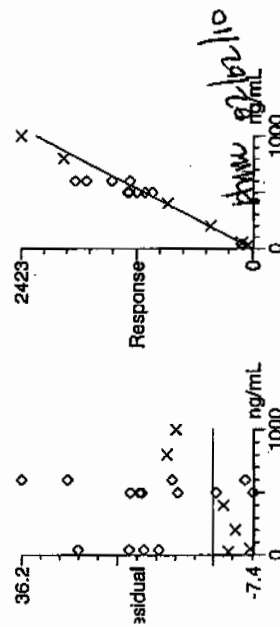
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Method: C:\MASSLYNX\NEW\_EXP.PRO\MethDB\1013110expA.mdb, Time: Mon Feb 01 10:41:50 2010  
Calibration: Untitled, Time: Mon Feb 01 14:26:07 2010

Compound name: HMX  
Response Factor: 3.53591  
RF SD: 0.132997, % Relative SD: 3.76133  
Response type: Internal Std (Ref 4), Area \* (IS Conc. / IS Area)  
Response type: RF



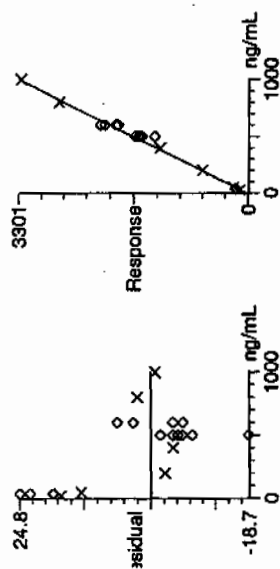
Compound name: RDX  
Response Factor: 2.26349  
RF SD: 0.14453, % Relative SD: 6.38187  
Response type: Internal Std (Ref 4), Area \* (IS Conc. / IS Area)  
Response type: RF



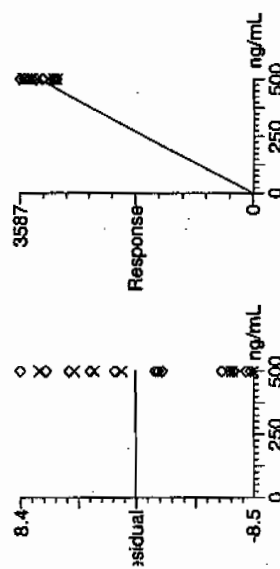
Printify Calibration Report  
EL Laboratories, LLC / Analyst: Michael A. Penny

itaset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 135-Trinitrobenzene  
Correlation coefficient:  $r = 0.999487$ ,  $r^2 = 0.998974$   
Calibration curve:  $3.27689 \times 10^4 \times \text{Area} + 24.2817$   
Response type: Internal Std (Ref 4), Area \* (IS Conc. / IS Area)  
Response type: Linear, Origin: Exclude, Weighting: Null, Axis trans: None



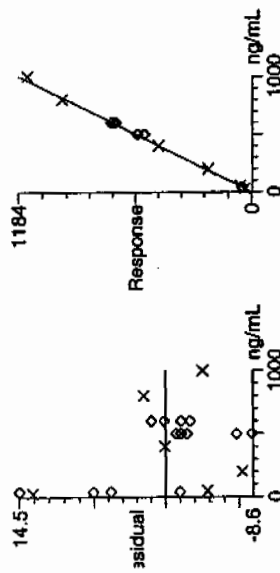
Compound name: 13-Dinitrobenzene-d4  
Response Factor: 6.61704  
RF SD: 0.420192, % Relative SD: 6.35015  
Response type: External Std, Area  
Response type: RF



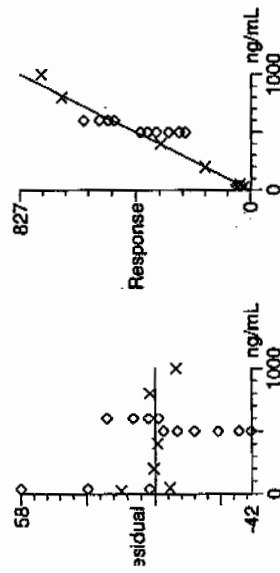
Quantify Calibration Report  
EL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 13-Dinitrobenzene  
Response Factor: 1.18353  
RF SD: 0.0868371, % Relative SD: 7.33714  
Response type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
Response type: RF



Compound name: Tetra  
Response Factor: 0.82703  
RF SD: 0.0677622, % Relative SD: 8.19344  
Response type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
Response type: RF



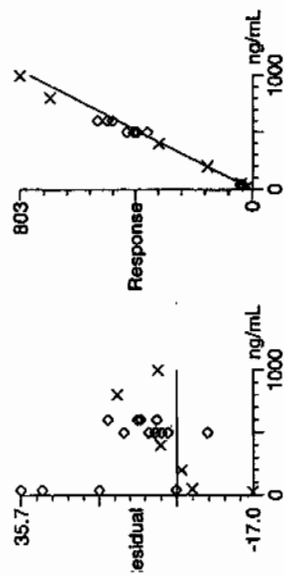


# Quantify Calibration Report

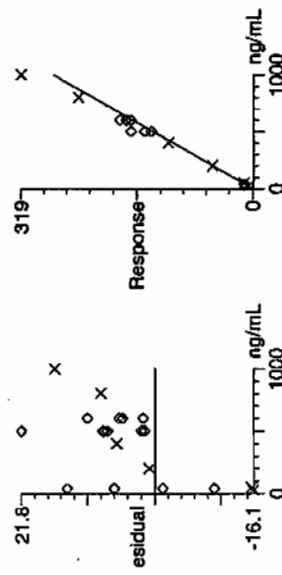
EL Laboratories, LLC / Analyst: Michael A. Penny

atset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

compound name: Nitrobenzene  
 response factor: 0.770294  
 RF SD: 0.0786442, % Relative SD: 10.2096  
 response type: Internal Std ( Ref 4 ), Area \* ( IS Conc. / IS Area )  
 curve type: RF



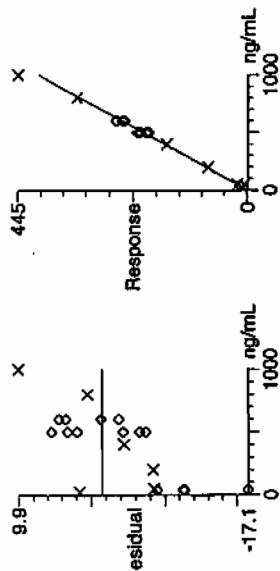
compound name: 4-Amino-26-dinitrotoluene  
 response factor: 0.274065  
 RF SD: 0.0366302, % Relative SD: 13.3655  
 response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
 curve type: RF



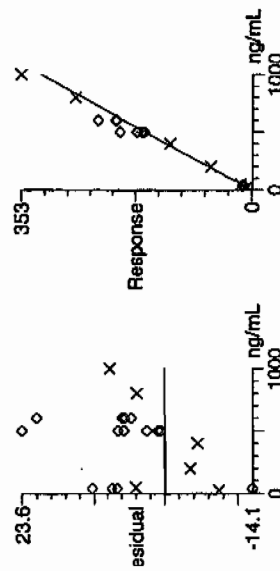
Quantify Calibration Report  
 EL Laboratories, LLC / Analyst: Michael A. Penny

atset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

compound name: 2-Amino-46-dinitrotoluene  
 response factor: 0.404725  
 RF SD: 0.0244566, % Relative SD: 6.04278  
 response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
 curve type: RF



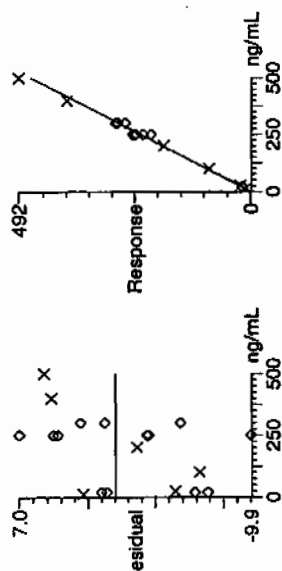
compound name: 246-Trinitrotoluene  
 response factor: 0.323375  
 RF SD: 0.022739, % Relative SD: 7.03176  
 response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
 curve type: RF



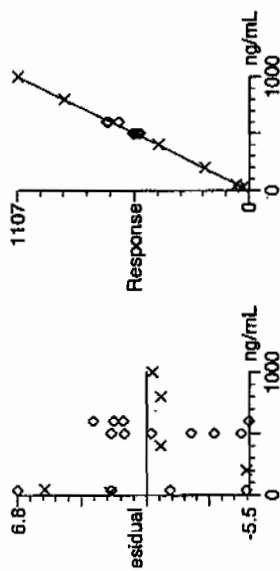
uantify Calibration Report  
EL Laboratories, LLC / Analyst: Michael A. Penny

atasset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ompound name: 34-dinitrotoluene  
esponse Factor: 0.934589  
RF SD: 0.0449669, % Relative SD: 4.8114  
esponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RF



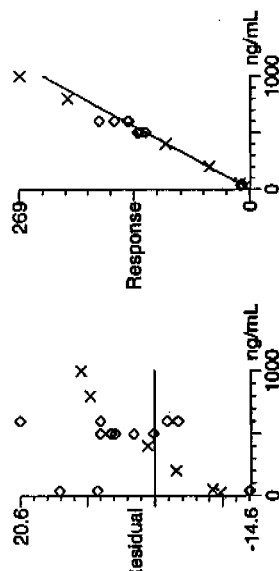
ompound name: 26-dinitrotoluene  
esponse Factor: 1.10747  
RF SD: 0.0391335, % Relative SD: 3.53361  
esponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RF



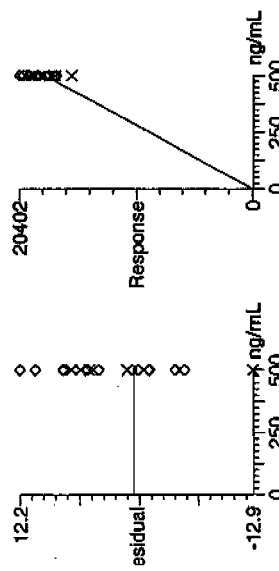
Quantify Calibration Report  
iEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 24-dinitrotoluene  
Response Factor: 0.242324  
RF SD: 0.0219184, % Relative SD: 9.0451  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF



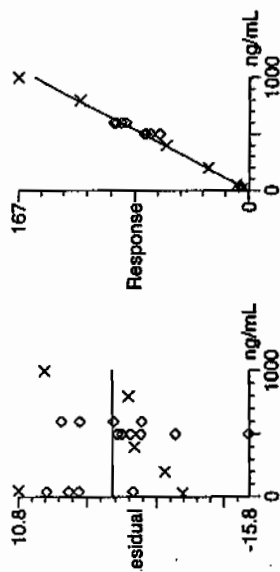
Compound name: 26-dinitrotoluene-d3  
Response Factor: 36.3543  
RF SD: 2.7758, % Relative SD: 7.6354  
Response type: External Std, Area  
Curve type: RF



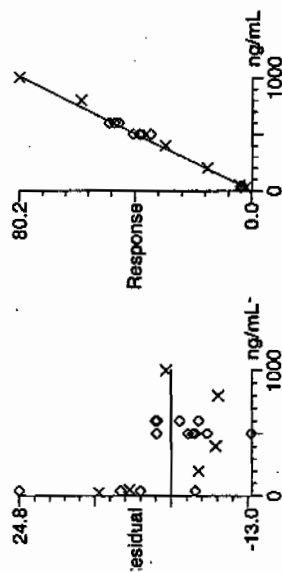
uantify Calibration Report  
EL Laboratories, LLC / Analyst : Michael A. Penny

ataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ompound name: 2-Nitrotoluene  
esponse Factor: 0.155239  
RF SD: 0.0117139, % Relative SD: 7.54574  
esponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RF



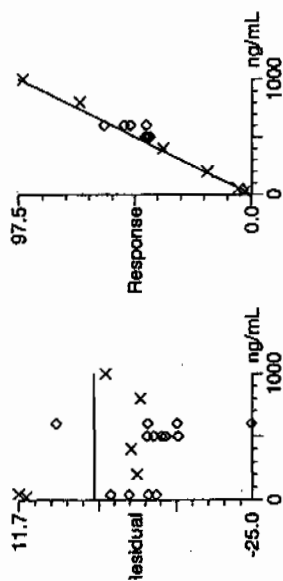
ompound name: 4-Nitrotoluene  
esponse Factor: 0.0795663  
RF SD: 0.00629818, % Relative SD: 7.91564  
esponse type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
urve type: RF



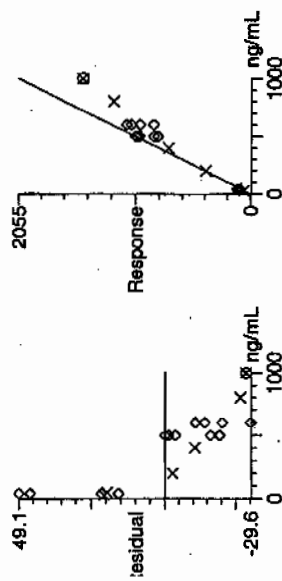
# Quantify Calibration Report iEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp\PRO1013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Compound name: 3-Nitrotoluene  
Response Factor: 0.0975163  
RF SD: 0.0086625, % Relative SD: 8.88697  
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF



Compound name: PETN  
Response Factor: 2.05549  
RF SD: 0.408005, % Relative SD: 19.8495  
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): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0131010a

Analysis Date: 31-JAN-10 17:01

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	574.951	96	
1,3-Dinitrobenzene-d4	500	507.449	101	
2,4,6-Trinitrotoluene	600	632.569	105	
2,4-Dinitrotoluene	600	723.495	121	*
2,6-Dinitrotoluene	600	610.251	102	
2,6-Dinitrotoluene-d3	500	500.938	100	
2-Amino-4,6-dinitrotoluene	600	600.809	100	
3,4-Dinitrotoluene	300	307.705	103	
4-Amino-2,6-dinitrotoluene	600	631.208	105	
HMX	600	601.092	100	
Nitrobenzene	600	653.475	109	
PETN	600	480.333	80	
RDX	600	646.666	108	
Tetryl	600	616.556	103	
m-Dinitrobenzene	600	608.411	101	
m-Nitrotoluene	600	635.669	106	
o-Nitrotoluene	600	633.972	106	
p-Nitrotoluene	600	613.107	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 Feb 01 14:31:20 2010, Page 19 of 103

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

atset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ame: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131010a

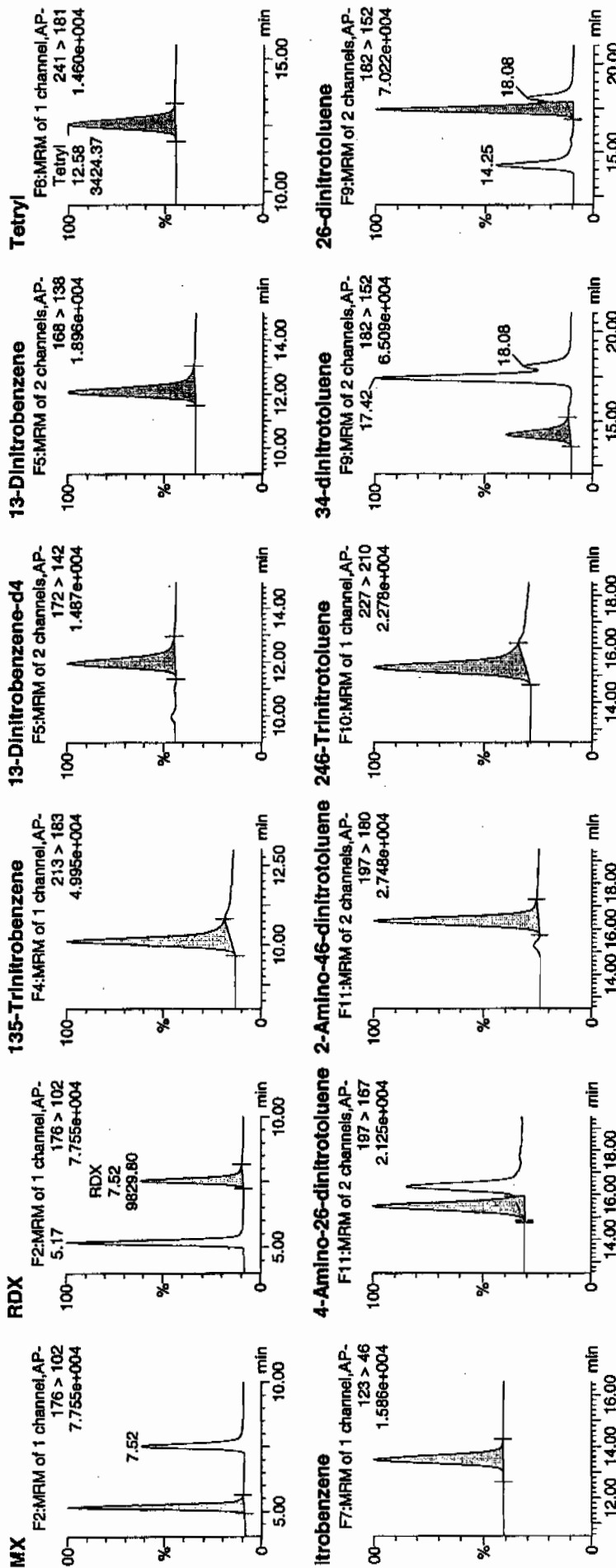
ate: 31-Jan-2010

ime: 17:01:32

); WXX100131-07ICV

iat: 1:1,B

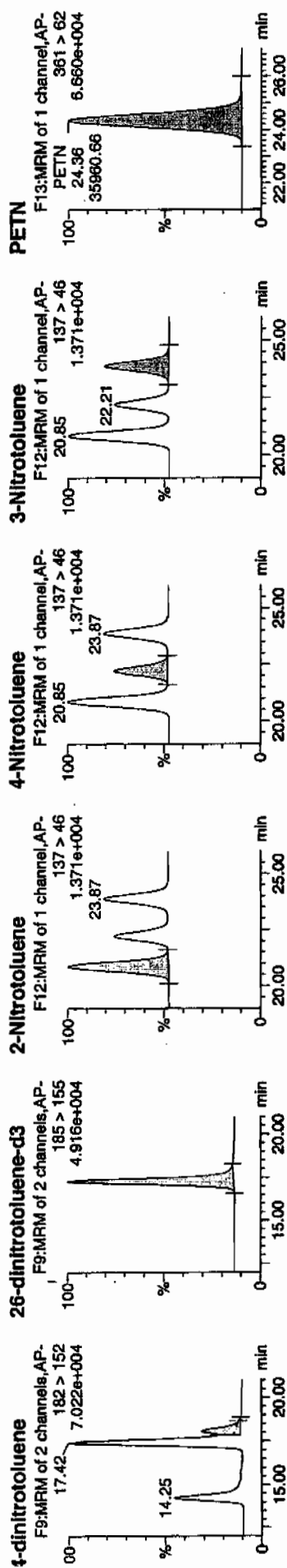
2/1/10



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ataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



Name	Trace	RT	Area	IS Area	AnstResp	Response	Flags	ModTime	Intensity	XPeak	S/N	
XX100131-07ICV	HMX	176 > 102	5.17	14273.410	3357.813	14273.410	2125.403	bb	601.0916	100.2	0.2	1839.9
XX100131-07ICV	RDX	176 > 102	7.52	9829.800	3357.813	9829.800	1463.721	bb	646.8664	107.8	7.8	1058.7
XX100131-07ICV	135-Trinitrobenzene	213 > 183	10.12	12815.647	3357.813	12815.847	1908.332	bb	574.9511	95.8	-4.2	641.7
XX100131-07ICV	13-Dinitrobenzene-d4	172 > 142	11.95	3357.813		3357.813	3357.813	bb	507.4494	101.5	1.5	373.2
XX100131-07ICV	13-Dinitrobenzene	168 > 138	12.07	4835.725	3357.813	4835.725	720.071	bb	608.4105	101.4	1.4	417.4
XX100131-07ICV	Tetryl	241 > 181	12.58	3424.366	3357.813	3424.366	509.910	bb	616.5560	102.8	2.8	275.6
XX100131-07ICV	Nitrobenzene	123 > 46	13.50	3380.434	3357.813	3380.434	503.368	bb	653.4753	108.9	8.9	257.9
XX100131-07ICV	4-Amino-26-dinitrotoluene	197 > 167	15.46	6300.810	18211.244	6300.810	172.992	MM	631.2081	105.2	5.2	190.1
XX100131-07ICV	2-Amino-46-dinitrotoluene	197 > 180	16.34	8856.581	18211.244	8856.581	243.162	bb	600.8089	100.1	0.1	611.8
XX100131-07ICV	246-Trinitrotoluene	227 > 210	15.28	7450.480	18211.244	7450.480	204.557	bb	632.5693	105.4	5.4	255.6
XX100131-07ICV	34-dinitrotoluene	182 > 152	14.25	10474.310	18211.244	10474.310	287.578	bb	307.7054	102.6	2.6	546.3
XX100131-07ICV	26-dinitrotoluene	182 > 152	17.42	24615.543	18211.244	24615.543	675.834	MM	610.2514	101.7	1.7	823.3
XX100131-07ICV	24-dinitrotoluene	182 > 152	18.08	6385.596	18211.244	6385.596	175.320	MM	723.4953	120.6	20.6	188.0
XX100131-07ICV	26-dinitrotoluene-d3	185 > 155	17.27	18211.244		18211.244	18211.244	bb	500.9378	100.2	0.2	1985.1
XX100131-07ICV	2-Nitrotoluene	137 > 46	20.85	3584.595	18211.244	3584.595	98.417	bb	633.9724	105.7	5.7	773.5
XX100131-07ICV	4-Nitrotoluene	137 > 46	22.21	1776.785	18211.244	1776.785	48.783	bb	613.1070	102.2	2.2	407.7
XX100131-07ICV	3-Nitrotoluene	137 > 46	23.87	2257.761	18211.244	2257.761	61.988	bb	635.6689	105.9	5.9	490.8
XX100131-07ICV	PETN	361 > 62	24.36	35960.660	18211.244	35960.660	987.320	bb	480.3325	80.1	-19.9	3900.0

# GRAND MEAN AVERAGE

Vendor: Restek  
 Date of Analysis: 01/31/10  
 Time of Injection: 1701  
 Standard Number: WXX100131-07ICV  
 Data File: EXP0131010a

HMX	100.2
RDX	107.8
135-TNB	95.8
13-DNB	101.4
Tetryl	102.8
Nitrobenzene	108.9
4A-26-DNT	105.2
2A-46-DNT	100.1
246-TNT	105.4
34-DNT(surr)	102.6
26-DNT	101.7
24-DNT	120.6
2-NT	105.7
4-NT	102.2
3-NT	105.9
PETN	80.1

1007  
2/1/10

Total 1646.4

Average 102.9

*Ammonia or 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: 10-1264-1      Run Date: 25-JAN-10.31-JAN-10      HPLC Column: YMC J-Sphere ODS-H8Q

Lab Code: GEL      Method: 8321A Modified

LCMSMS Instrument ID: LCMSMS4

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01250003.wiff	EXS01250004.wiff	EXS01250005.wiff	EXS01250006.wiff	EXS01250007.wiff	EXS01250008.wiff	EXS01250009.wiff					
Parname:												
2,4-Diamino-6-nitrotoluene	124000	243000	556000	1130000	1930000	2390000	4860000	-20500	2450	-006	.9993	
2,6-Diamino-4-nitrotoluene	196000	379000	859000	1770000	2910000	3810000	7350000	-50100	3930	-114	.9996	
3,4-Dinitrotoluene	318000	666000	1460000	3270000	4740000	5910000	10800000	-61500	14400	-3.5	.9975	
3,5-Dinitroaniline	504000	1060000	2200000	4760000	6820000	8600000	14400000	-27700	10200	-1.48	.9998	
TATB	71000	141000	345000	692000	1070000	1350000	2660000	-94.4	1410	-043	.9998	
tris(o-cresyl) phosphate	456000	2410000	5510000	10100000	15300000	19000000	29700000	-337000	23800	-4.41	.9996	

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

012510ICAL

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

Fit	Quadratic	Weighting	None	Iterate No
a0	-94.4			
a1	1.41e+003			
a2	-0.043			
Correlation coefficient 0.9998				
Use Area				

Peak Name: 35-Dinitroaniline  
No Internal Standard  
Q1/Q3 Masses: 182.00/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.77e+004			
a1	1.02e+004			
a2	-1.48			
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	-6.15e+004			
a1	1.44e+004			
a2	-3.5			
Correlation coefficient 0.9975				
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	-5.01e+004			
a1	3.93e+003			
a2	-0.114			
Correlation coefficient 0.9996				
Use Area				

*OK*  
1/27/10

*Amw 1/27/10*

Page 1

012510ICAL

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

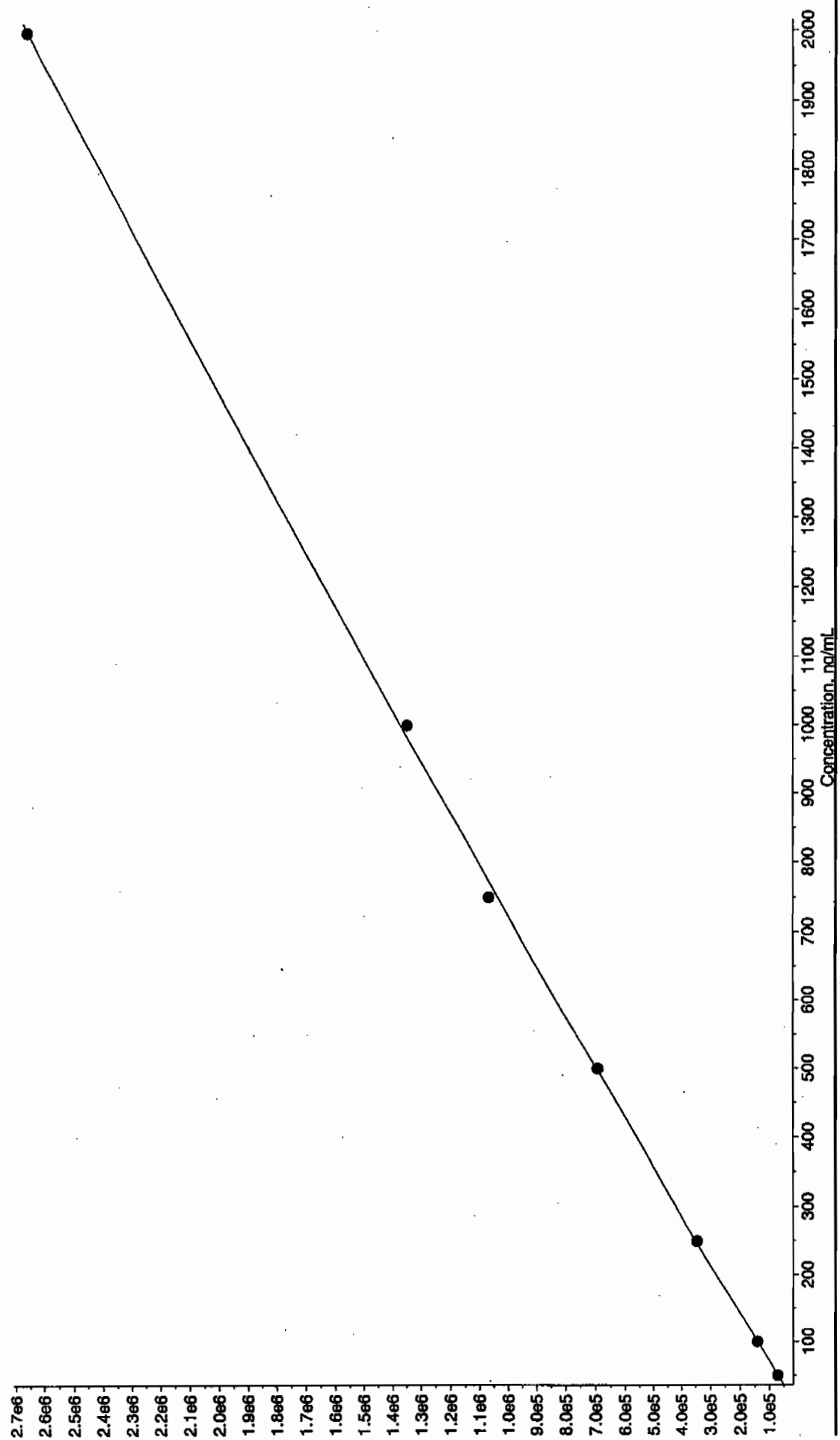
Fit	Quadratic	Weighting	None	Iterate No
a0	-2.05e+004			
a1	2.45e+003			
a2	-0.00578			
Correlation coefficient 0.9993				
Use Area				

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

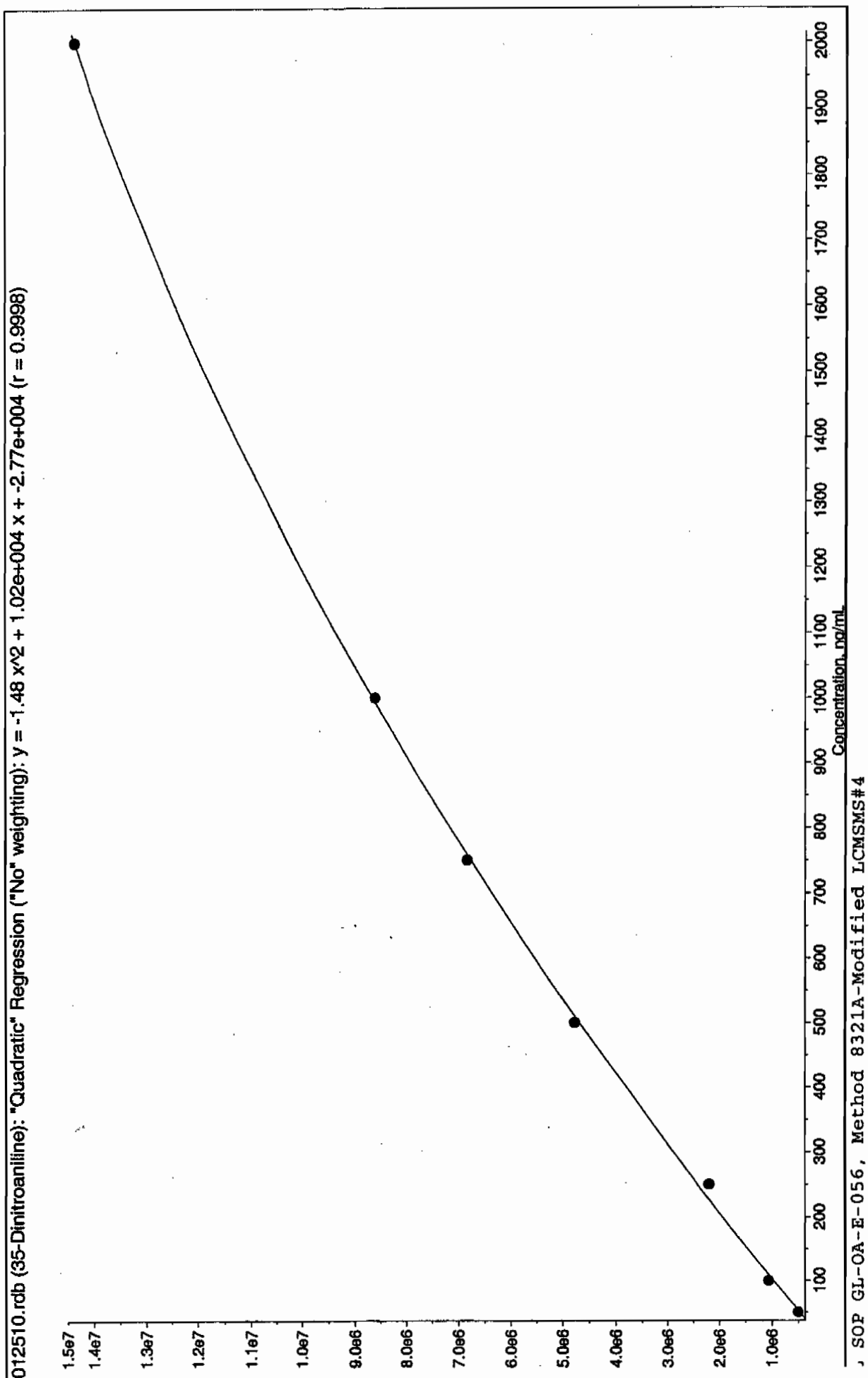
Fit	Quadratic	Weighting	None	Iterate No
a0	-3.37e+005			
a1	2.38e+004			
a2	-4.41			
Correlation coefficient 0.9996				
Use Area				

Page 2

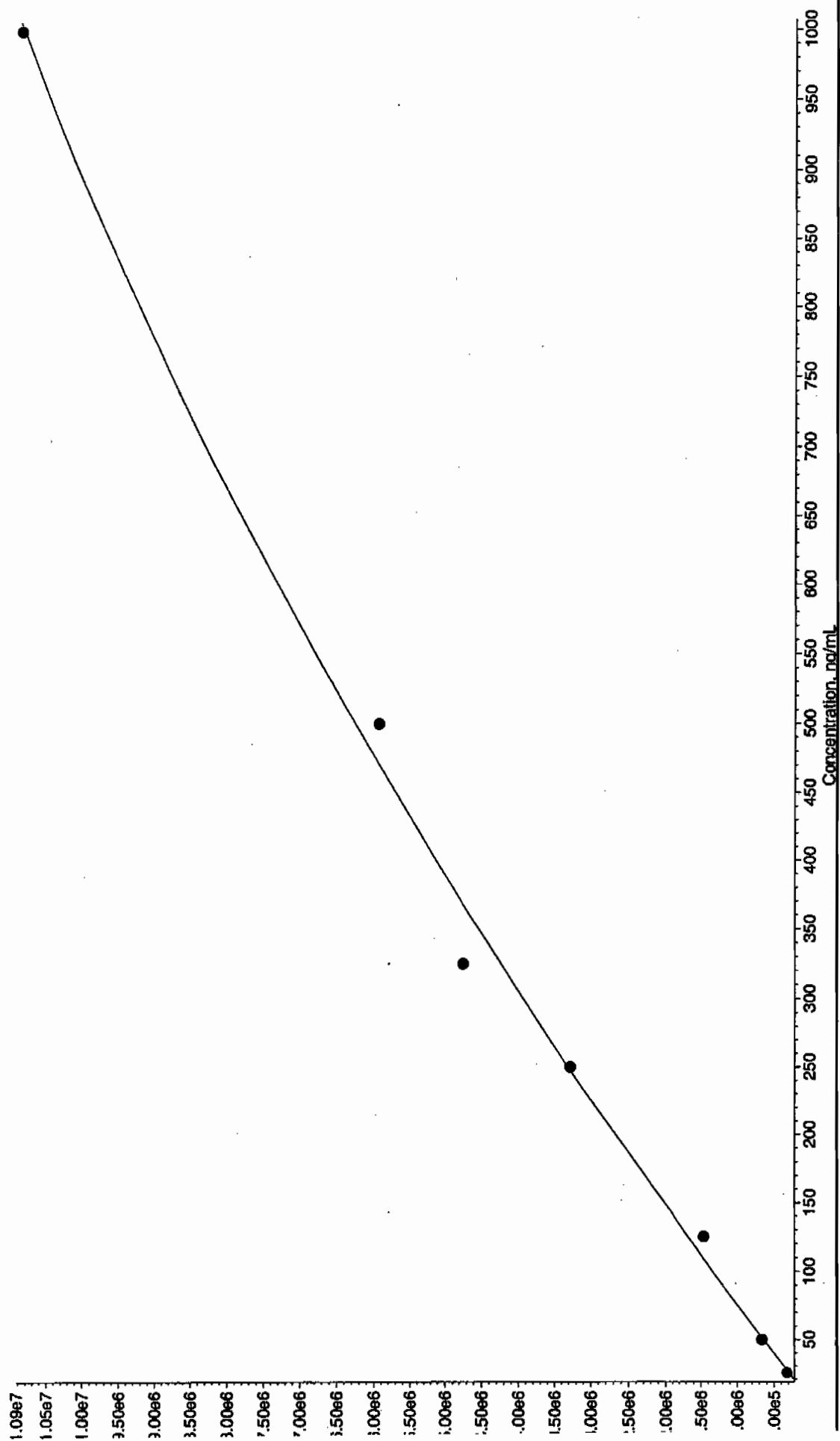
012510.rdb (TATB): "Quadratic" Regression ("No" weighting):  $y = -0.043 x^2 + 1.41e+003 x + -94.4$  ( $r = 0.9998$ )



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



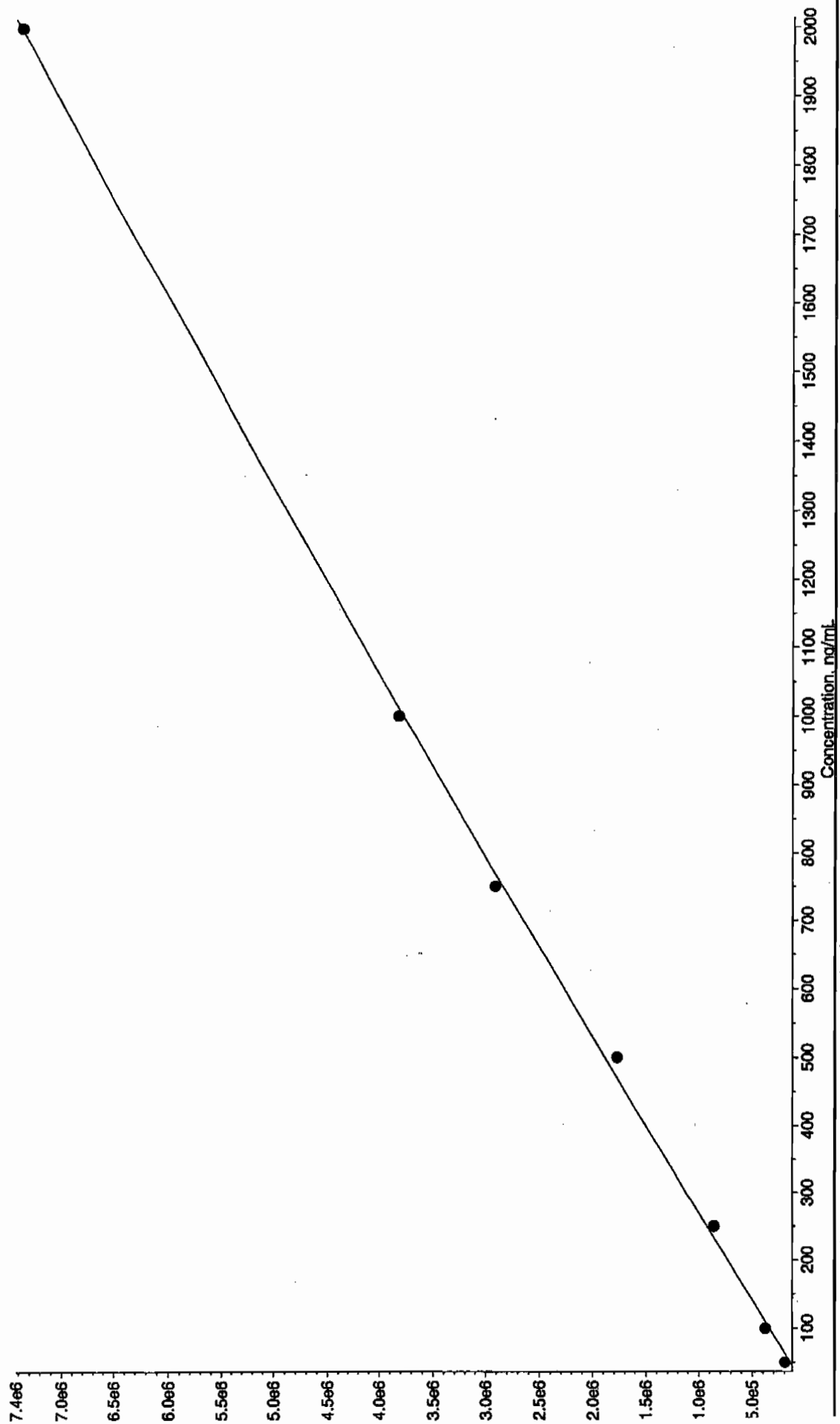
012510.rdb (34-Dinitrotoluene): "Quadratic" Regression ("No" weighting):  $y = -3.5 \times 10^{-4} x^2 + 1.44 \times 10^{-4} x + -6.15 \times 10^{-4}$  ( $r = 0.9975$ )



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

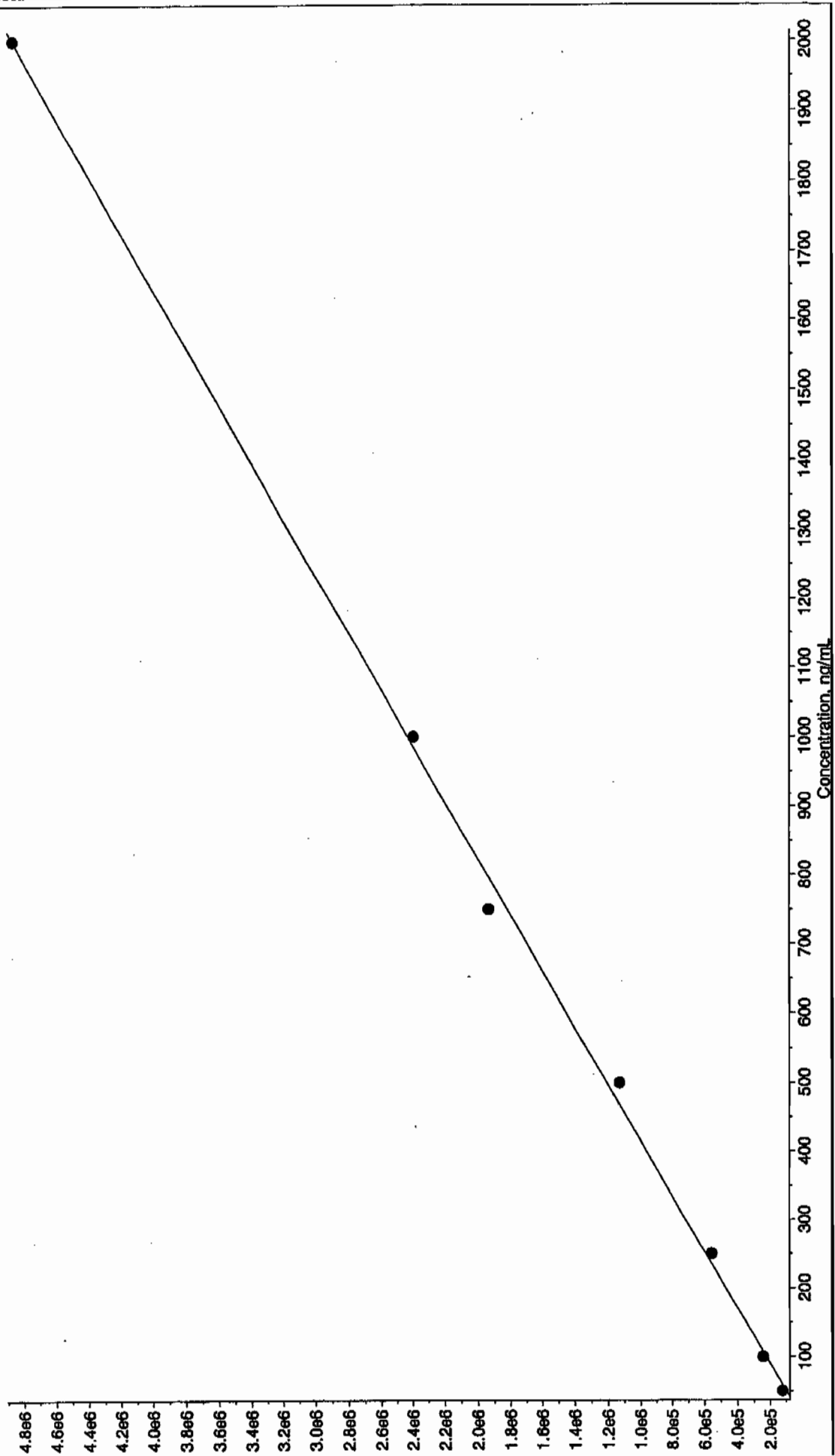


012510.rdb (26-Diamino-4-nitrotoluene): "Quadratic" Regression ("No" weighting):  $y = -0.114 x^2 + 3.93e+003 x + -5.01e+004$  ( $r = 0.9996$ )

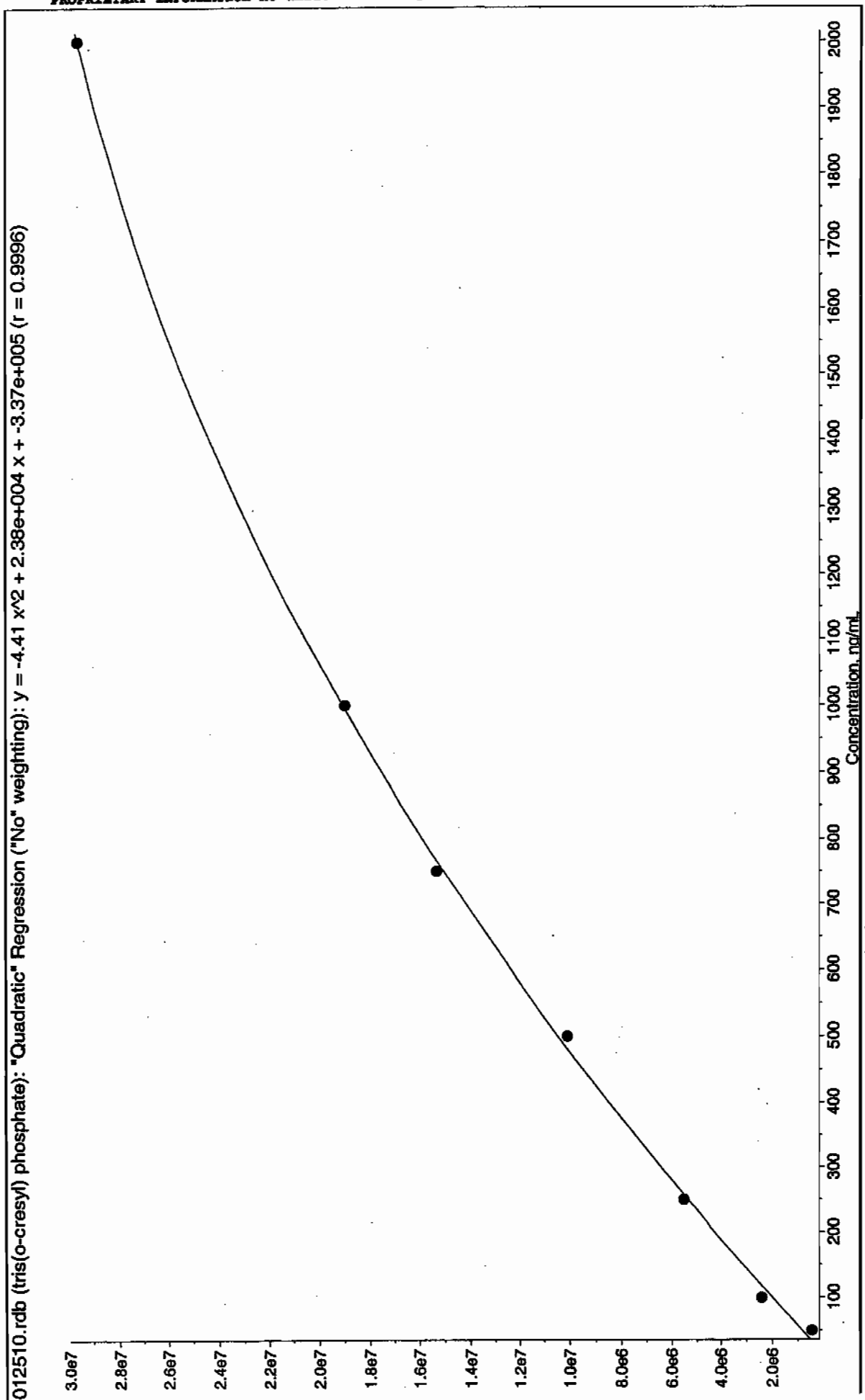


SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

012510.rdb (24-Diamino-6-nitrotoluene): "Quadratic" Regression ("No" weighting):  $y = -0.00578 x^2 + 2.45e+003 x + -2.05e+004$  ( $r = 0.9993$ )



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



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

7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01250011.wiff

Analysis Date: 25-JAN-10 13:09

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	486	97	
2,6-Diamino-4-nitrotoluene	500	478	96	
3,4-Dinitrotoluene	250	228	91	
3,5-Dinitroaniline	500	485	97	
TATB	500	478	96	
tris(o-cresyl) phosphate	500	509	102	

Recovery Limits:

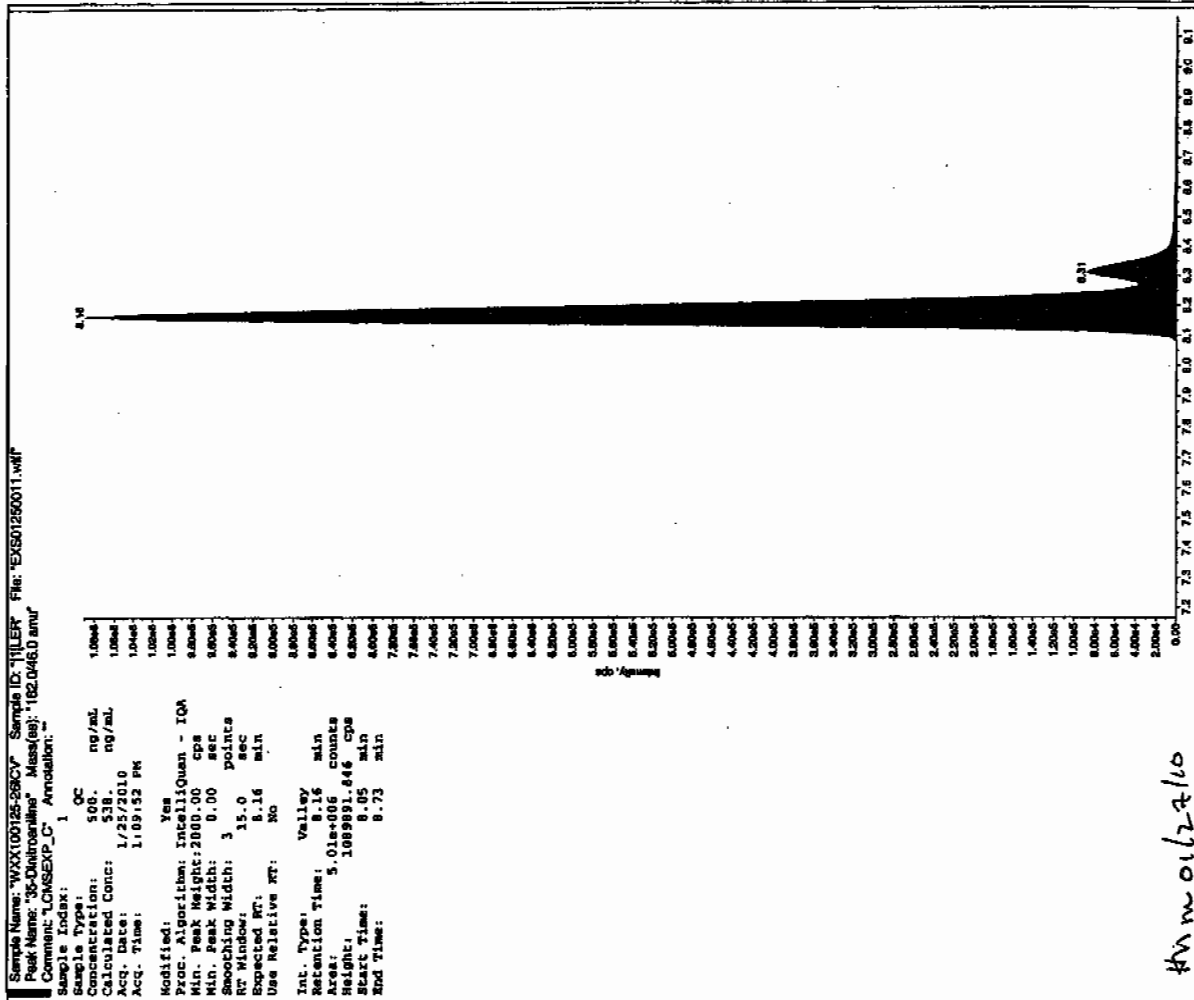
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

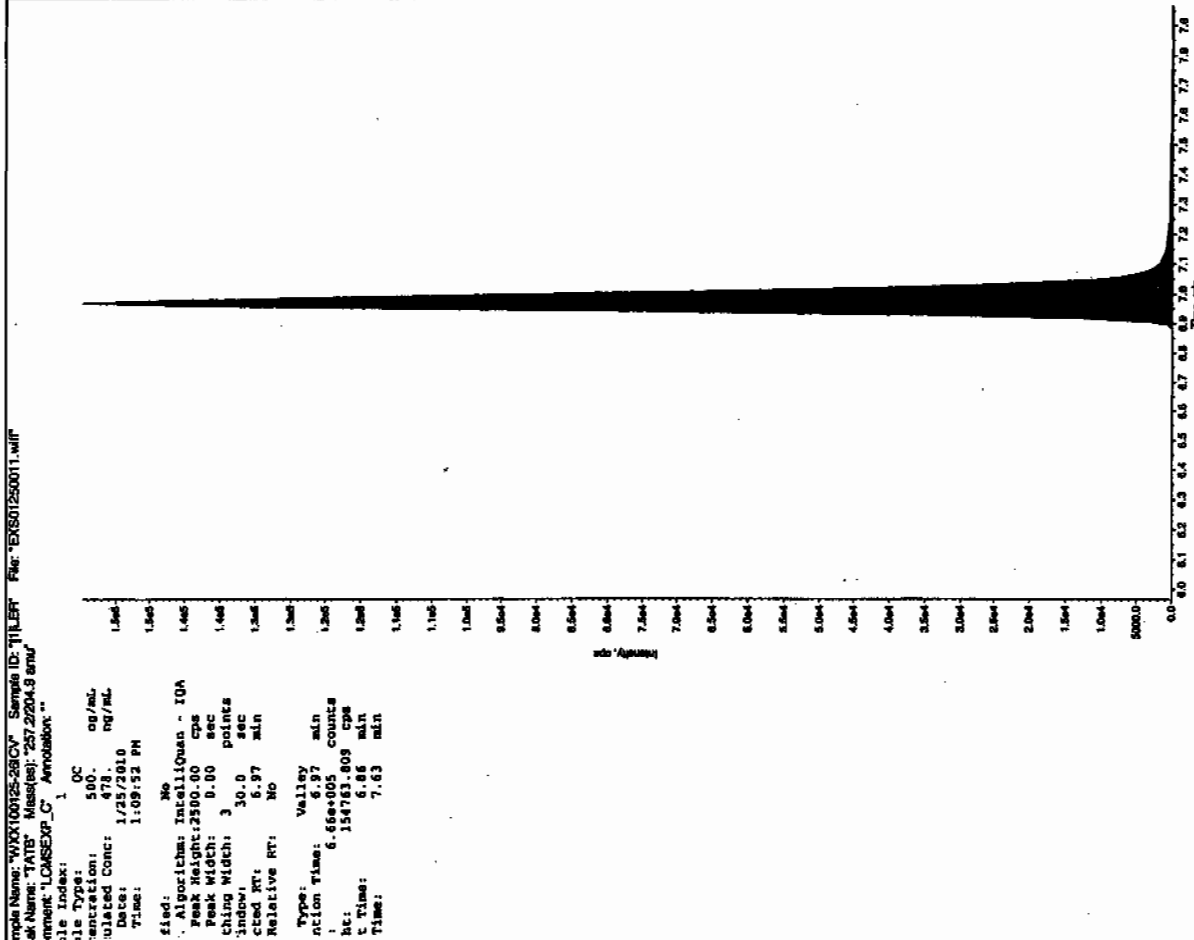
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Before scan 1127110

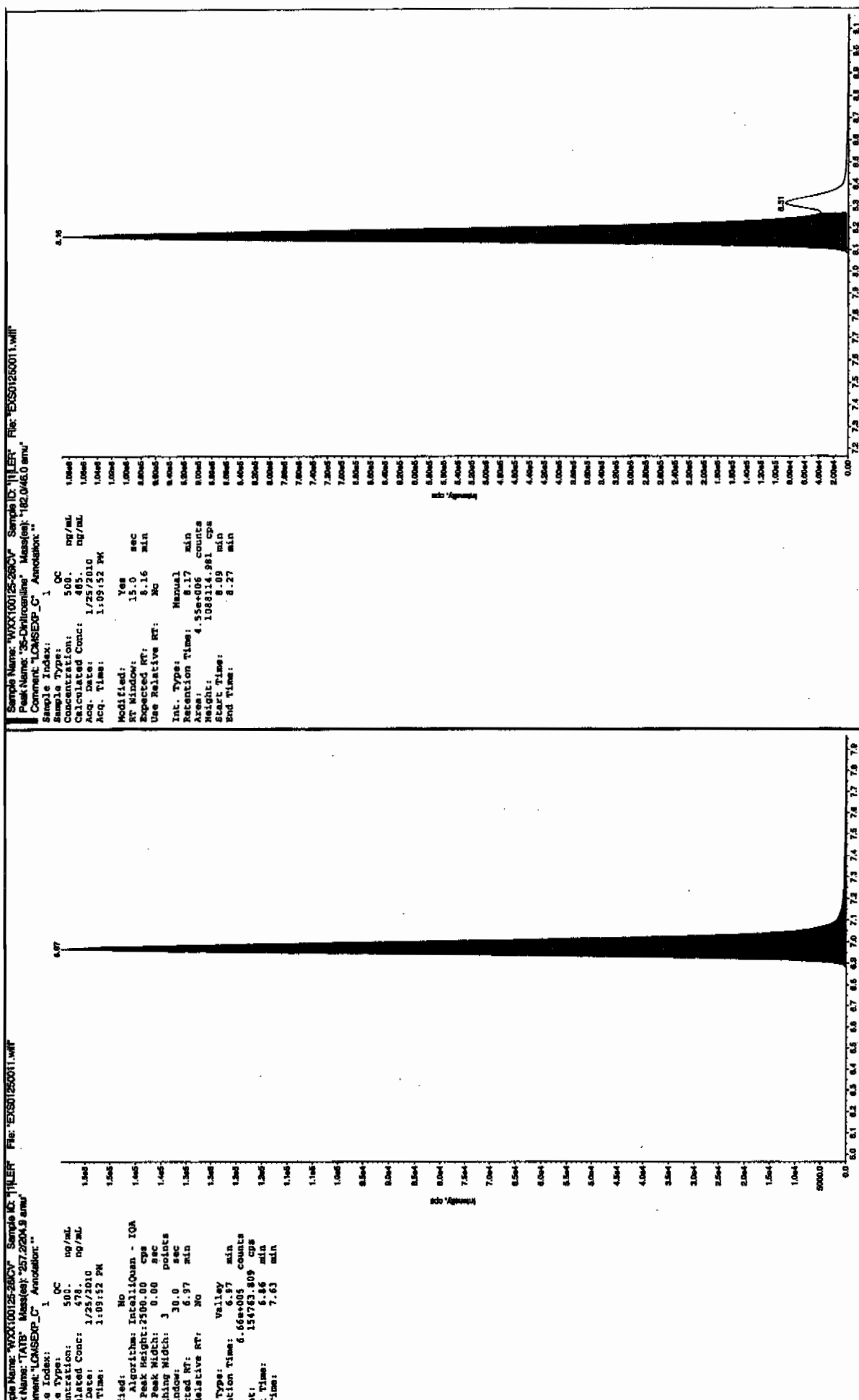


After scan 1127110

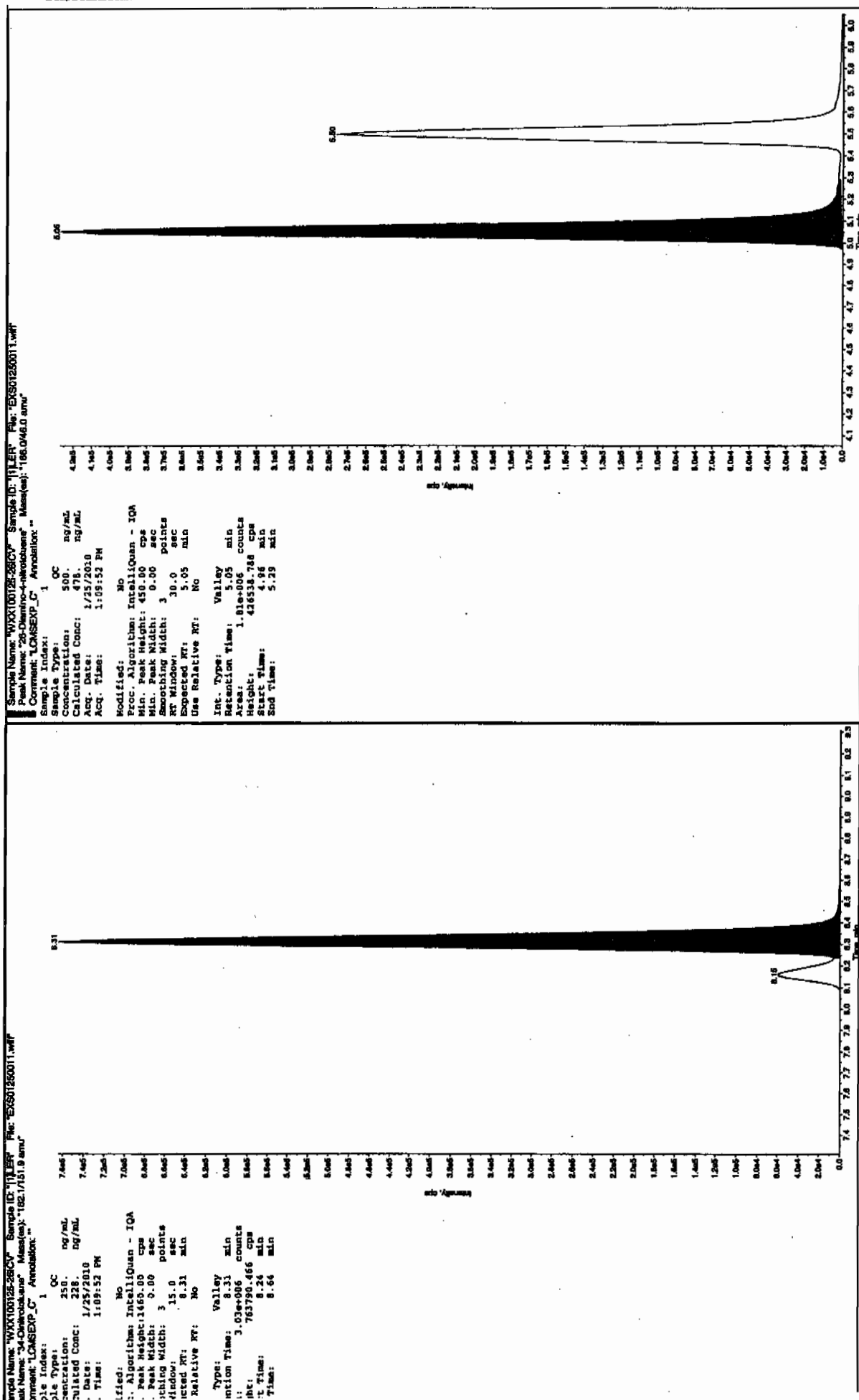


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

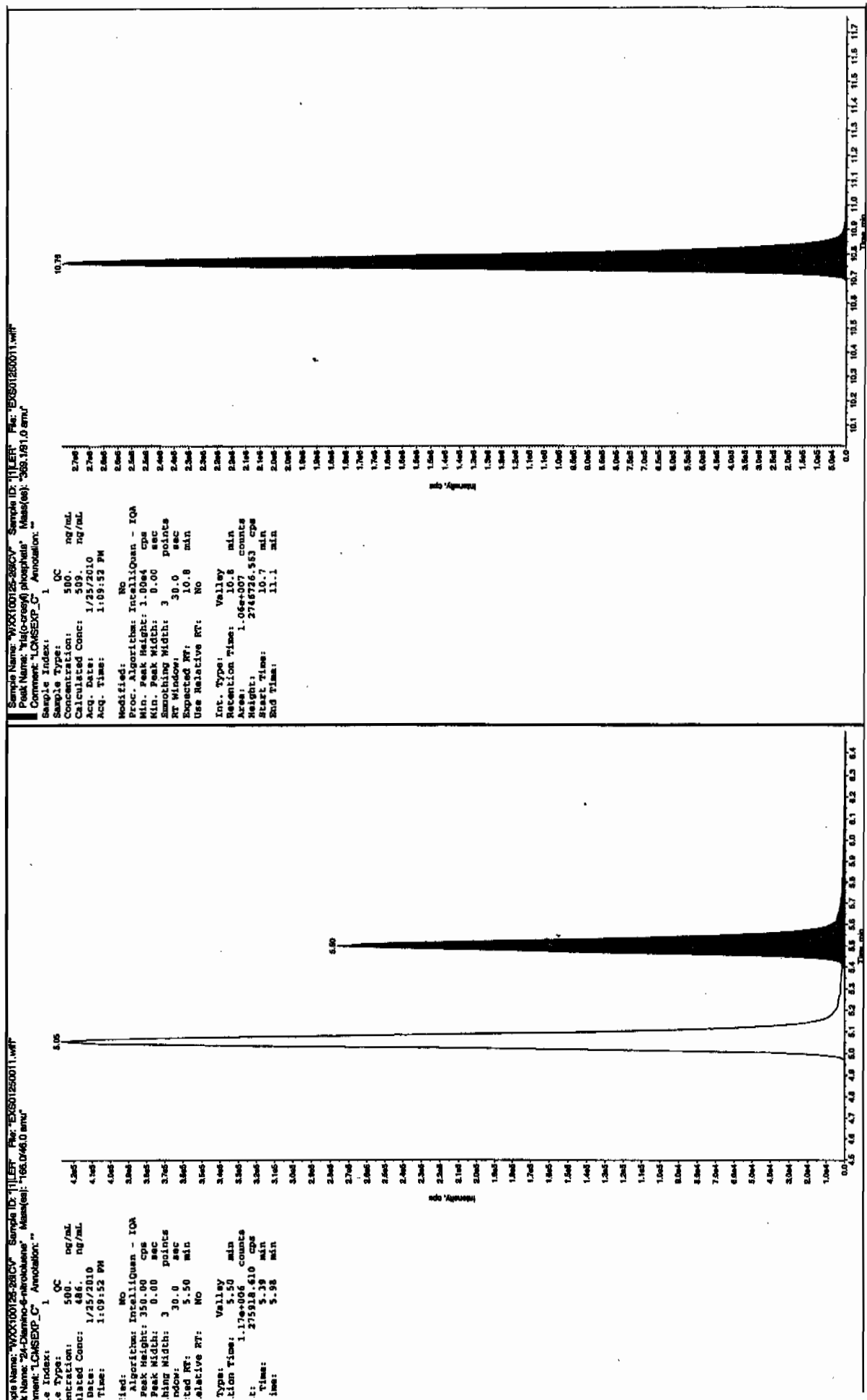
after Jan 11/27/10



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



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



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



7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0131012a

Analysis Date: 31-JAN-10 18:00

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	49.91	125	
1,3-Dinitrobenzene-d4	500	464.651	93	
2,4,6-Trinitrotoluene	40	34.349	86	
2,4-Dinitrotoluene	40	34.169	85	
2,6-Dinitrotoluene	40	40.741	102	
2,6-Dinitrotoluene-d3	500	491.472	98	
2-Amino-4,6-dinitrotoluene	40	33.169	83	
3,4-Dinitrotoluene	20	18.64	93	
4-Amino-2,6-dinitrotoluene	40	36.063	90	
HMX	40	49.27	123	
Nitrobenzene	40	54.27	136	*
PETN	40	48.438	121	
RDX	40	46.365	116	
Tetryl	40	51.492	129	
m-Dinitrobenzene	40	42.934	107	
m-Nitrotoluene	40	36.494	91	
o-Nitrotoluene	40	42.977	107	
p-Nitrotoluene	40	42.008	105	

Recovery Limits:

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

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

Quantify Sample Report

EL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Mon Feb 01 14:31:20 2010, Page 23 of 103

atset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

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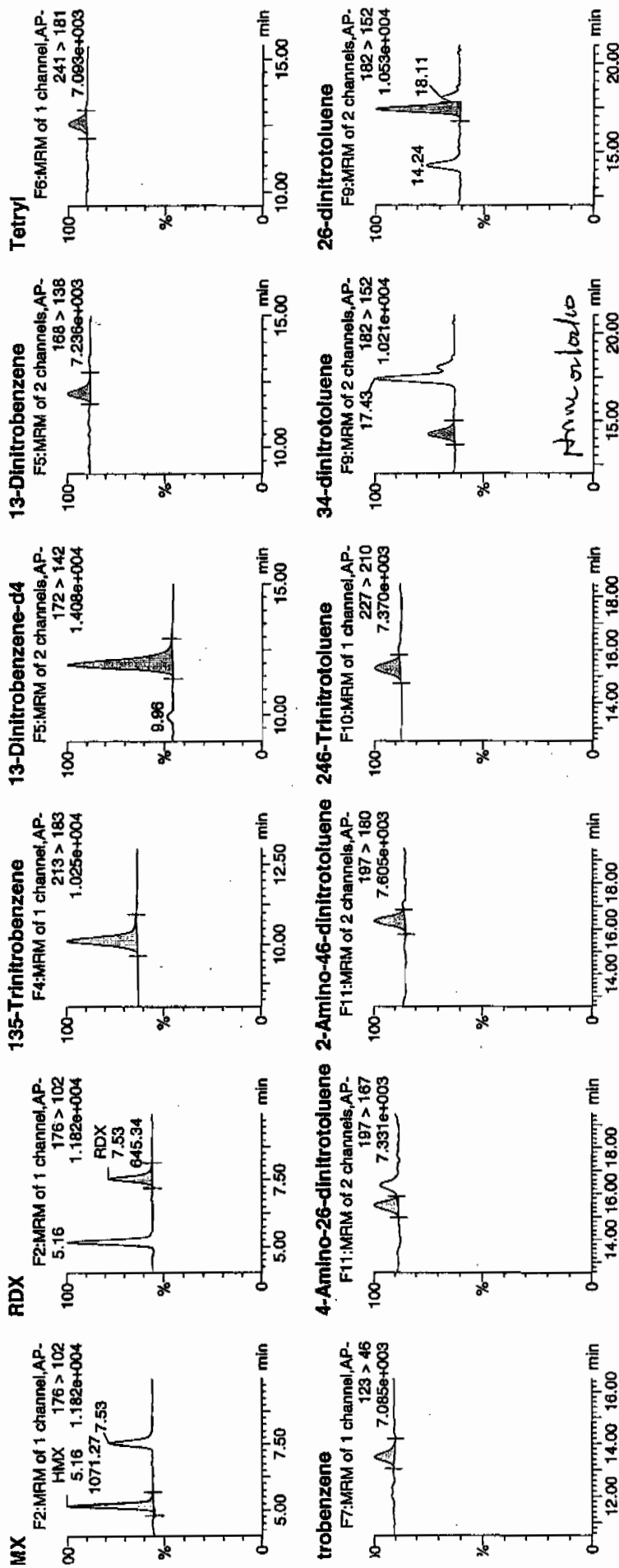
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ime: 18:00:29

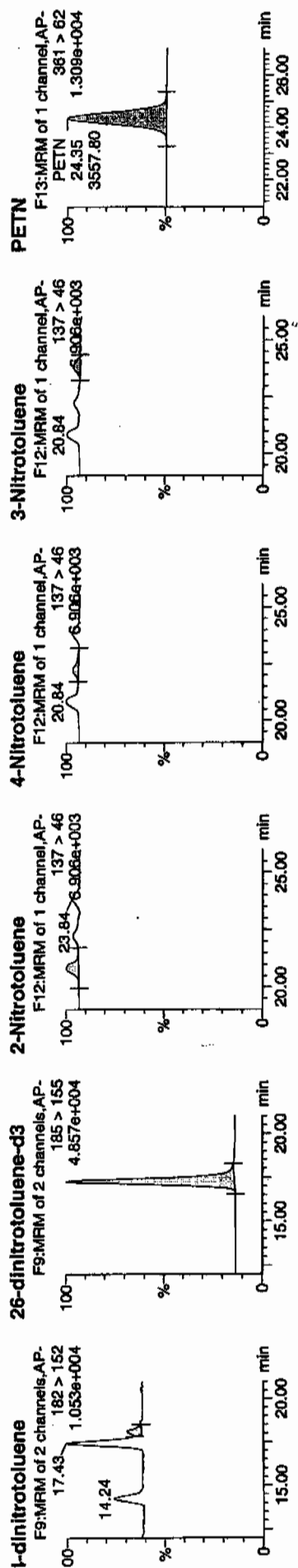
i: WXX100131-08CRI

al: 1:1,C

107  
2110



Dataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



Name	Trace	Area	IS Area	Abst Resp	Response	Volume	Conc	Conc	Conc		
HMX	176 > 102	5.16	1071.274	3074.615	1071.274	174.213	bb	49.2696	123.2	23.2	176.9
RDX	176 > 102	7.53	645.342	3074.615	645.342	104.947	bb	46.3651	115.9	15.9	87.8
135-Trinitrobenzene	213 > 183	10.12	1155.013	3074.615	1155.013	187.831	bb	49.9098	124.8	24.8	285.9
13-Dinitrobenzene-d4	172 > 142	11.94	3074.615		3074.615	3074.615	bb	464.6511	92.9	-7.1	285.5
13-Dinitrobenzene	168 > 138	12.06	312.461	3074.615	312.461	50.813	bb	42.9335	107.3	7.3	28.6
Tetryl	241 > 181	12.56	261.867	3074.615	261.867	42.585	bb	51.4919	128.7	28.7	26.8
Nitrobenzene	123 > 46	13.48	257.061	3074.615	257.061	41.804	bb	54.2699	135.7	35.7	18.5
4-Amino-26-dinitrotoluene	197 > 167	15.48	353.181	17867.123	353.181	9.884	MM	01-Feb-10	14:09:31		29.8
2-Amino-46-dinitrotoluene	197 > 180	16.33	479.701	17867.123	479.701	13.424	bb	36.0627	90.2	-9.8	29.8
246-Trinitrotoluene	227 > 210	15.30	396.924	17867.123	396.924	11.108	bb	33.1685	82.9	-17.1	40.0
34-dinitrotoluene	182 > 152	14.23	622.514	17867.123	622.514	17.421	bb	34.3492	85.9	-14.1	63.0
26-dinitrotoluene	182 > 152	17.43	1612.311	17867.123	1612.311	45.119	MM	18.6399	93.2	-6.8	61.2
24-dinitrotoluene	182 > 152	18.11	295.880	17867.123	295.880	8.280	MM	01-Feb-10	14:14:41	1.9	102.6
26-dinitrotoluene-d3	185 > 155	17.26	17867.123	17867.123	17867.123	17867.123	bb	34.1692	85.4	-14.6	19.5
2-Nitrotoluene	137 > 46	20.84	238.405	17867.123	238.405	6.672	bb	491.4721	98.3	-1.7	2404.7
4-Nitrotoluene	137 > 46	22.26	119.440	17867.123	119.440	3.342	bb	42.9765	107.4	7.4	72.7
3-Nitrotoluene	137 > 46	23.84	127.168	17867.123	127.168	3.559	bb	42.0084	105.0	5.0	31.8
PETN	361 > 62	24.35	3557.804	17867.123	3557.804	99.563	bb	36.4935	91.2	-8.8	39.4
								48.4375	121.1	21.1	1061.2

# GRAND MEAN AVERAGE

Vendor: UltraScientific  
 Date of Analysis 01/31/10  
 Time of Injection 1800  
 Standard Number WXX100131-08CRI  
 Data File EXP0131012a

HMX	123.2
RDX	115.9
135-TNB	124.8
13-DNB	107.3
Tetryl	128.7
Nitrobenzene	135.7
4A-26-DNT	90.2
2A-46-DNT	82.9
246-TNT	85.9
34-DNT(surr)	93.2
26-DNT	101.9
24-DNT	85.4
2-NT	107.4
4-NT	105.0
3-NT	91.2
PETN	121.1

Total 1699.8

Average 106.2

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

No single analyte > +/- 60%

not  
2/1/10

Handwritten: 02/01/10

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0131023a

Analysis Date: 31-JAN-10 23:24

LCMSMS ID: 203

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	637.282	106	
1,3-Dinitrobenzene-d4	500	464.266	93	
2,4,6-Trinitrotoluene	600	638.785	106	
2,4-Dinitrotoluene	600	588.5	98	
2,6-Dinitrotoluene	600	607.361	101	
2,6-Dinitrotoluene-d3	500	497.466	99	
2-Amino-4,6-dinitrotoluene	600	588.786	98	
3,4-Dinitrotoluene	300	285.637	95	
4-Amino-2,6-dinitrotoluene	600	610.979	102	
HMX	600	612.887	102	
Nitrobenzene	600	627.147	105	
PETN	600	516.513	86	
RDX	600	764.781	127	*
Tetryl	600	654.376	109	
m-Dinitrobenzene	600	600.713	100	
m-Nitrotoluene	600	547.947	91	
o-Nitrotoluene	600	598.923	100	
p-Nitrotoluene	600	615.302	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

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

Dataset: C:\MASSLYNX\New\_Exp.PRO\1013110expA.qld, Time: Mon Feb 01 14:26:08 2010

File: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131023a

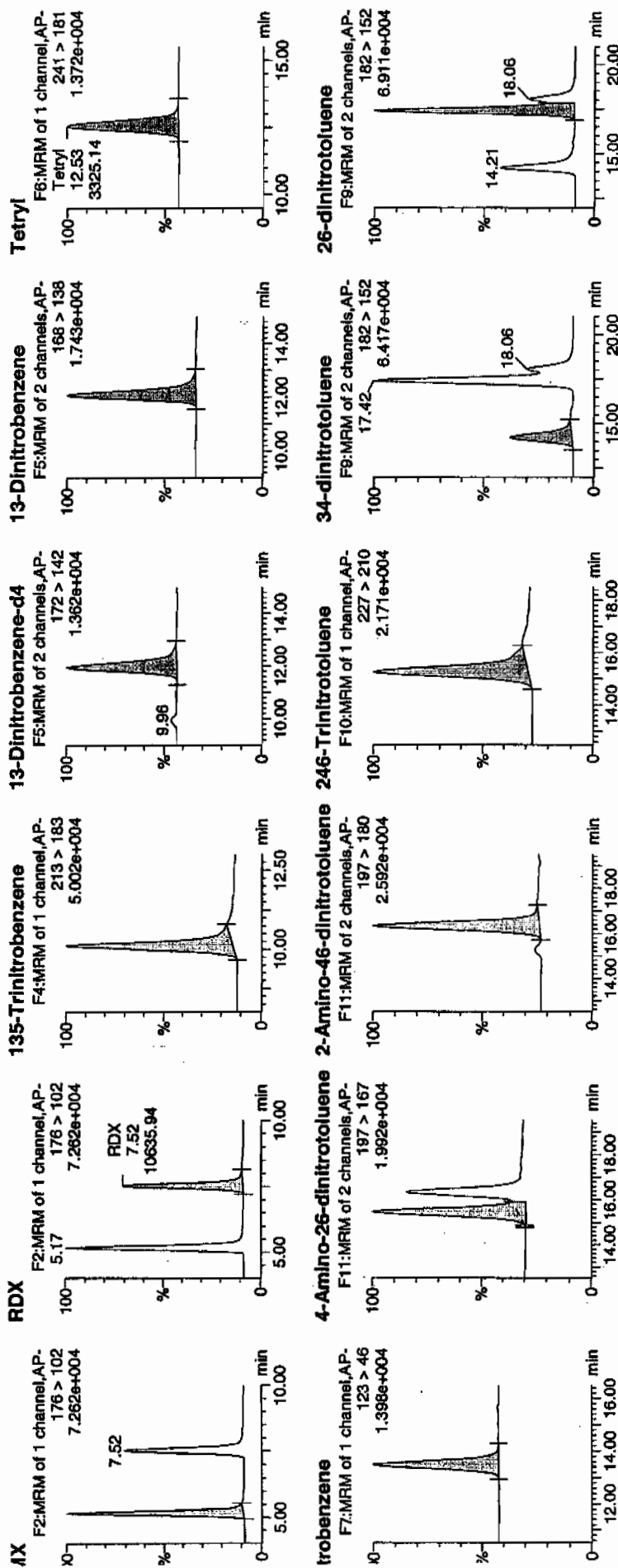
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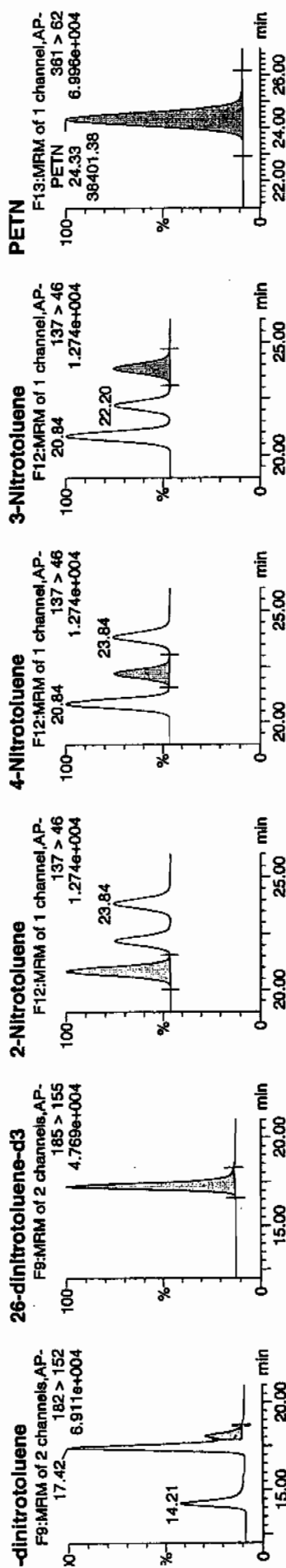
Ratio: 1:1,B

WXX  
2/1/10



Handwritten note: 18.06

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



Name	Trace	RT	Area	IS Area	Aut. Resp	Response	Flags	Mod. Date	Mod. Time	Mod. User	Mod. Date	Mod. Time	Mod. User
XX100131-07CCV	HMx	176 > 102	5.17	13315.021	3072.067	13315.021	2167.111	bb	612.8872	102.1	2.1	1699.3	
XX100131-07CCV	RDX	176 > 102	7.52	10635.938	3072.067	10635.938	1731.072	bb	764.7812	127.5	27.5	1152.2	
XX100131-07CCV	135-Trinitrobenzene	213 > 183	10.11	12980.002	3072.067	12980.002	2112.584	bb	637.2822	106.2	6.2	408.1	
XX100131-07CCV	13-Dinitrobenzene-d4	172 > 142	11.95	3072.067		3072.067	3072.067	bb	464.2660	92.9	-7.1	199.8	
XX100131-07CCV	13-Dinitrobenzene	168 > 138	12.07	4368.239	3072.067	4368.239	710.961	bb	600.7134	100.1	0.1	639.4	
XX100131-07CCV	Tetryl	241 > 181	12.53	3325.136	3072.067	3325.136	541.189	bb	654.3764	109.1	9.1	174.0	
XX100131-07CCV	Nitrobenzene	123 > 46	13.50	2968.155	3072.067	2968.155	483.088	bb	627.1467	104.5	4.5	145.4	
XX100131-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.46	6056.611	18085.023	6056.611	167.448	MM	610.9791	101.8	1.8	613.1	
XX100131-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.34	8619.199	18085.023	8619.199	238.297	bb	588.7863	98.1	-1.9	342.7	
XX100131-07CCV	246-Trinitrotoluene	227 > 210	15.28	7471.539	18085.023	7471.539	206.567	bb	638.7847	106.5	6.5	374.9	
XX100131-07CCV	34-dinitrotoluene	182 > 152	14.25	9655.705	18085.023	9655.705	266.953	bb	285.6368	95.2	-4.8	337.9	
XX100131-07CCV	26-dinitrotoluene	182 > 152	17.42	24329.137	18085.023	24329.137	672.632	MM	607.3606	101.2	1.2	799.7	
XX100131-07CCV	24-dinitrotoluene	182 > 152	18.06	5158.121	18085.023	5158.121	142.608	MM	588.4998	98.1	-1.9	165.1	
XX100131-07CCV	26-dinitrotoluene-d3	185 > 155	17.25	18085.023		18085.023	18085.023	bb	497.4659	99.5	-0.5	1384.8	
XX100131-07CCV	2-Nitrotoluene	137 > 46	20.84	3362.948	18085.023	3362.948	92.976	bb	598.9229	99.8	-0.2	410.2	
XX100131-07CCV	4-Nitrotoluene	137 > 46	22.20	1770.788	18085.023	1770.788	48.957	bb	615.3022	102.6	2.6	219.8	
XX100131-07CCV	3-Nitrotoluene	137 > 46	23.84	1932.704	18085.023	1932.704	53.434	bb	547.9474	91.3	-8.7	224.7	
XX100131-07CCV	PETN	361 > 82	24.33	38401.375	18085.023	38401.375	1061.690	bb	516.5135	86.1	-13.9	7743.6	

GRAND MEAN AVERAGE

Vendor: Restek  
 Date of Analysis: 01/31/10  
 Time of Injection: 2324  
 Standard Number: WXX100131-07CCV  
 Data File: EXP0131023a

HMX	102.1
RDX	127.5
135-TNB	106.2
13-DNB	100.1
Tetryl	109.1
Nitrobenzene	104.5
4A-26-DNT	101.8
2A-46-DNT	98.1
246-TNT	106.5
34-DNT(surr)	95.2
26-DNT	101.2
24-DNT	98.1
2-NT	99.8
4-NT	102.6
3-NT	91.3
PETN	86.1

*not  
2/1/10*

Total 1630.2

Average 101.9

*Sum of 10/10*

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): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0131025a

Analysis Date: 01-FEB-10 00:23

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	47.388	118	
1,3-Dinitrobenzene-d4	500	460.081	92	
2,4,6-Trinitrotoluene	40	44.837	112	
2,4-Dinitrotoluene	40	34.303	86	
2,6-Dinitrotoluene	40	37.847	95	
2,6-Dinitrotoluene-d3	500	472.155	94	
2-Amino-4,6-dinitrotoluene	40	37.493	94	
3,4-Dinitrotoluene	20	20.126	101	
4-Amino-2,6-dinitrotoluene	40	42.632	107	
HMX	40	42.352	106	
Nitrobenzene	40	52.368	131	*
PETN	40	58.047	145	*
RDX	40	45.288	113	
Tetryl	40	51.384	128	
m-Dinitrobenzene	40	42.219	106	
m-Nitrotoluene	40	38.946	97	
o-Nitrotoluene	40	41.495	104	
p-Nitrotoluene	40	38.44	96	

Recovery Limits:

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

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

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

Dataset: C:\MASSLYNX\New\_Exp.PRO\13110expA.qld, Time: Mon Feb 01 14:26:08 2010

File: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131025a

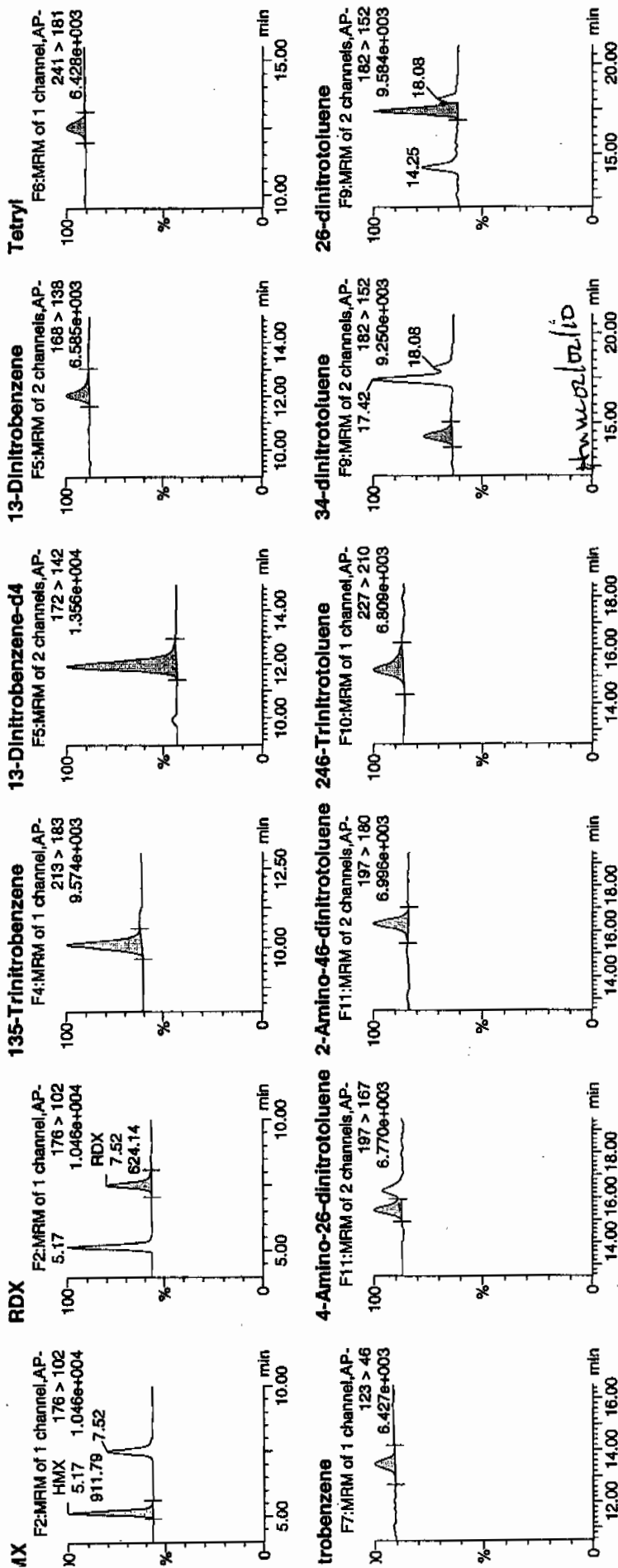
Date: 01-Feb-2010

Time: 00:23:47

Sample: WXX100131-08CRI

Label: 1:1,C

2/1/10

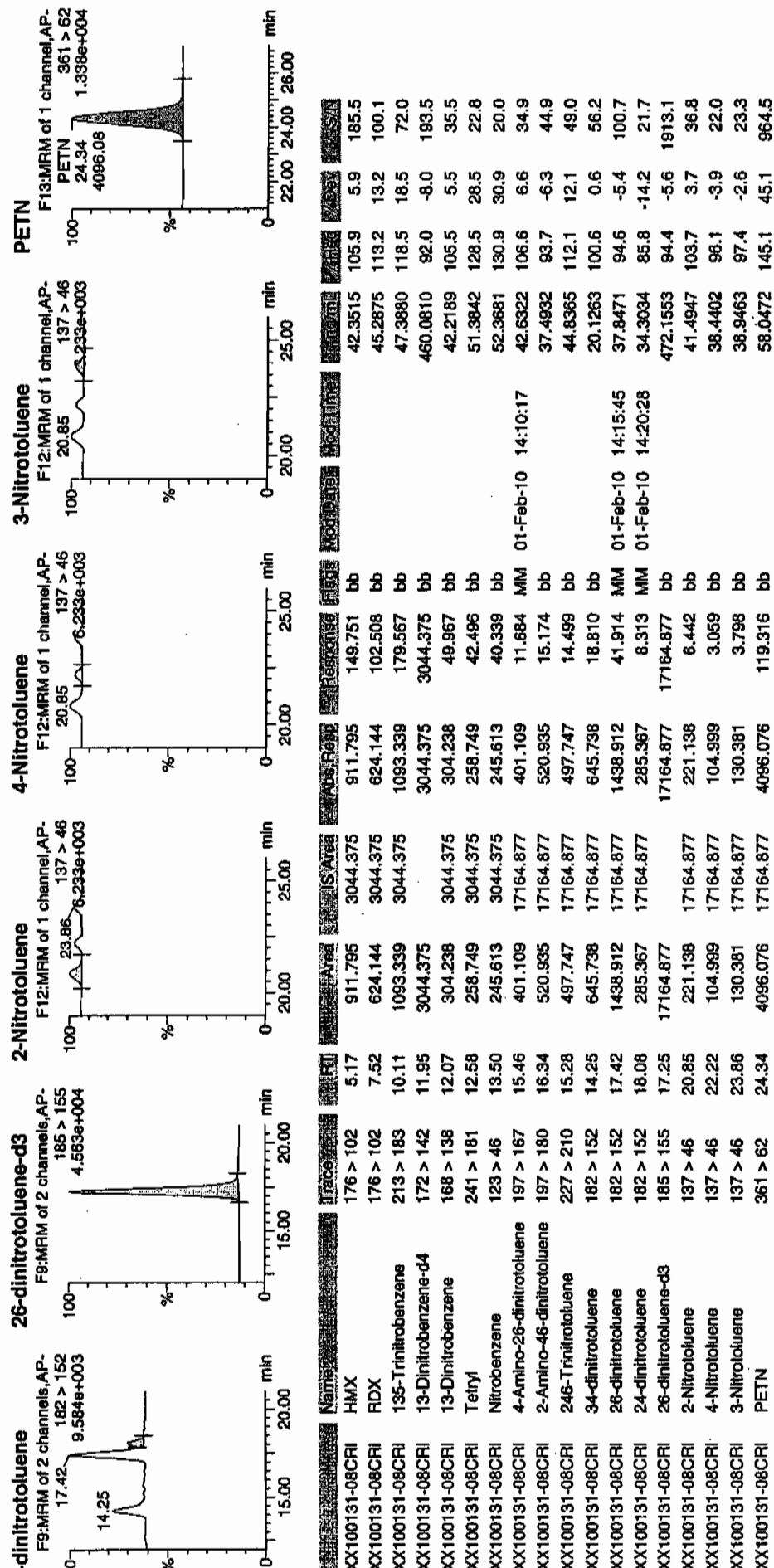


## Identify Sample Report

iL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Mon Feb 01 14:31:20 2010, Page 50 of 103

Dataset: C:\WASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



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

GRAND MEAN AVERAGE

Vendor: UltraScientific  
 Date of Analysis 02/01/10  
 Time of Injection 0023  
 Standard Number WXX100131-08CRI  
 Data File EXP0131025a

HMX	105.9
RDX	113.2
135-TNB	118.5
13-DNB	105.5
Tetryl	128.5
Nitrobenzene	130.9
4A-26-DNT	106.6
2A-46-DNT	93.7
246-TNT	112.1
34-DNT(surr)	100.6
26-DNT	94.6
24-DNT	85.8
2-NT	103.7
4-NT	96.1
3-NT	97.4
PETN	145.1

*not  
2/1/10*

Total 1738.2

Average 108.6

*sum cr 102/10*

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): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0131036a

Analysis Date: 01-FEB-10 05:48

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	619.54	103	
1,3-Dinitrobenzene-d4	500	465.834	93	
2,4,6-Trinitrotoluene	600	727.525	121	*
2,4-Dinitrotoluene	600	578.961	96	
2,6-Dinitrotoluene	600	566.88	94	
2,6-Dinitrotoluene-d3	500	497.579	100	
2-Amino-4,6-dinitrotoluene	600	625.459	104	
3,4-Dinitrotoluene	300	307.704	103	
4-Amino-2,6-dinitrotoluene	600	665.68	111	
HMX	600	716.713	119	
Nitrobenzene	600	695.32	116	
PETN	600	536.263	89	
RDX	600	817.178	136	*
Tetryl	600	720.721	120	*
m-Dinitrobenzene	600	590.68	98	
m-Nitrotoluene	600	520.045	87	
o-Nitrotoluene	600	580	97	
p-Nitrotoluene	600	591.823	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

Printed: Mon Feb 01 14:31:20 2010, Page 71 of 103

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

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ame: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131036a

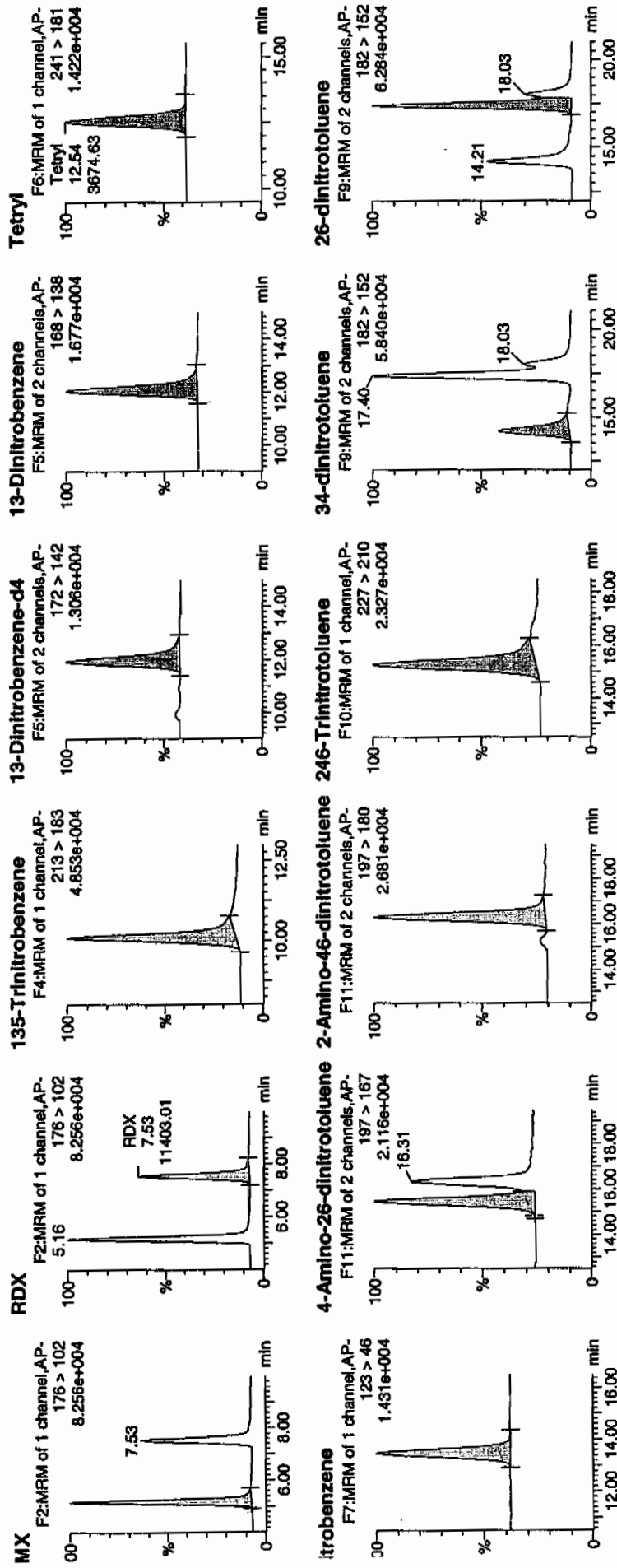
ate: 01-Feb-2010

ime: 05:48:12

b: WXX100131-07CCV

ial: 1:1,B

WXX  
2/1/10

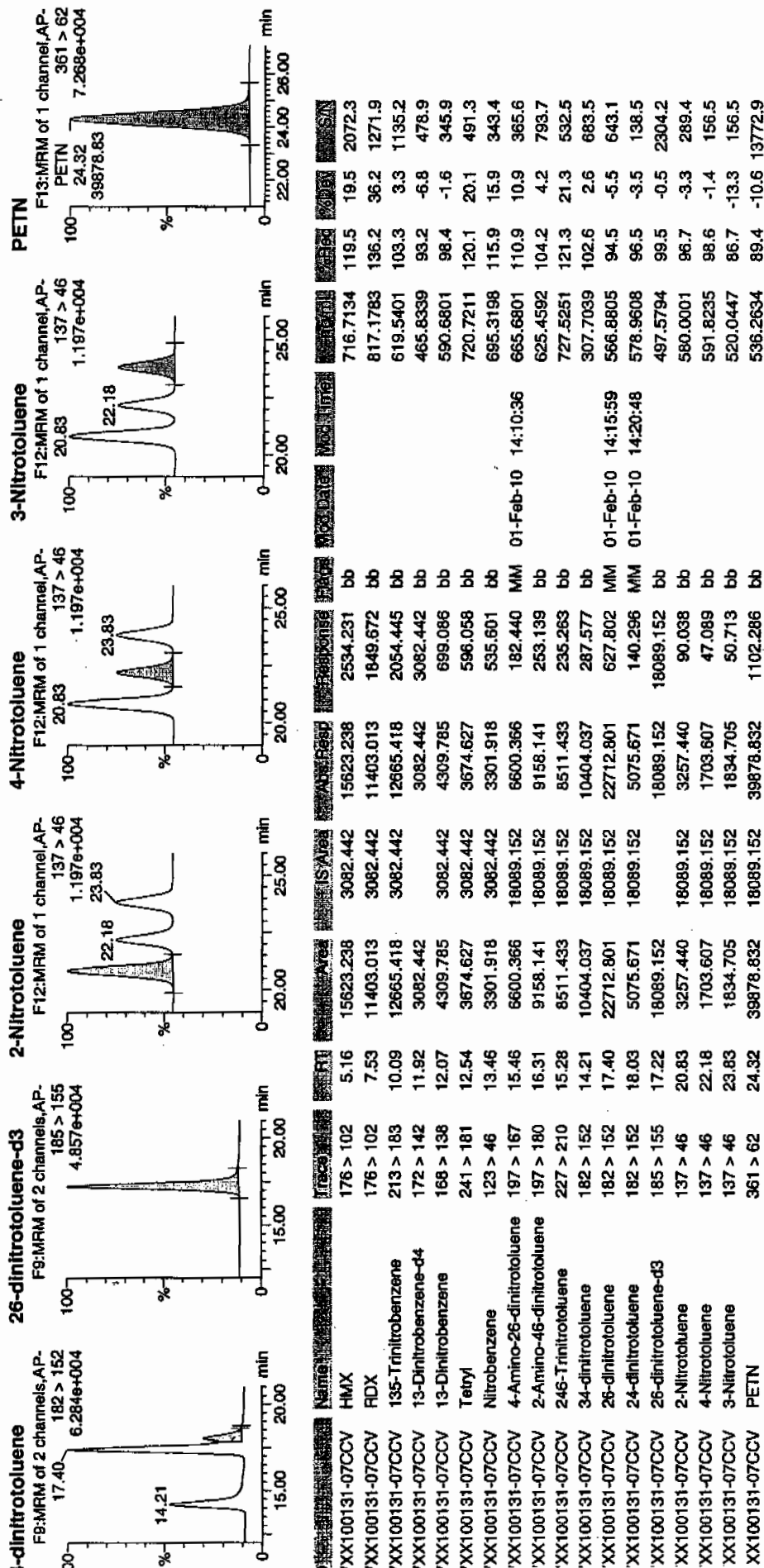


Handwritten note: 18.03

Printed: Mon Feb 01 14:31:20 2010, Page 72 of 103

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

atset: C:\MASSLYNX\New\_Exp\PROV013110expA.qld, Time: Mon Feb 01 14:26:08 2010



# GRAND MEAN AVERAGE

Vendor: Restek  
 Date of Analysis: 02/01/10  
 Time of Injection: 0548  
 Standard Number: WXX100131-07CCV  
 Data File: EXP0131036a

HMX		119.5
RDX		136.2
135-TNB		103.3
13-DNB		98.4
Tetryl		120.1
Nitrobenzene		115.9
4A-26-DNT		110.9
2A-46-DNT		104.2
246-TNT		121.3
34-DNT(surr)		102.6
26-DNT		94.5
24-DNT		96.5
2-NT		96.7
4-NT		98.6
3-NT		86.7
PETN		89.4
Total		1694.8

*not  
2/1/10*

Average

105.9

*sum or 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): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0131038a

Analysis Date: 01-FEB-10 06:47

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	49.136	123	
1,3-Dinitrobenzene-d4	500	458.24	92	
2,4,6-Trinitrotoluene	40	43.141	108	
2,4-Dinitrotoluene	40	43.475	109	
2,6-Dinitrotoluene	40	39.505	99	
2,6-Dinitrotoluene-d3	500	477.39	95	
2-Amino-4,6-dinitrotoluene	40	36.273	91	
3,4-Dinitrotoluene	20	20.207	101	
4-Amino-2,6-dinitrotoluene	40	45.674	114	
HMX	40	45.383	113	
Nitrobenzene	40	47.136	118	
PETN	40	59.642	149	*
RDX	40	44.161	110	
Tetryl	40	63.108	158	*
m-Dinitrobenzene	40	45.819	115	
m-Nitrotoluene	40	35.978	90	
o-Nitrotoluene	40	39.069	98	
p-Nitrotoluene	40	49.932	125	

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

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

Dataset: C:\MASSLYNX\New\_Exp\PRO1013110expA.qld, Time: Mon Feb 01 14:26:08 2010

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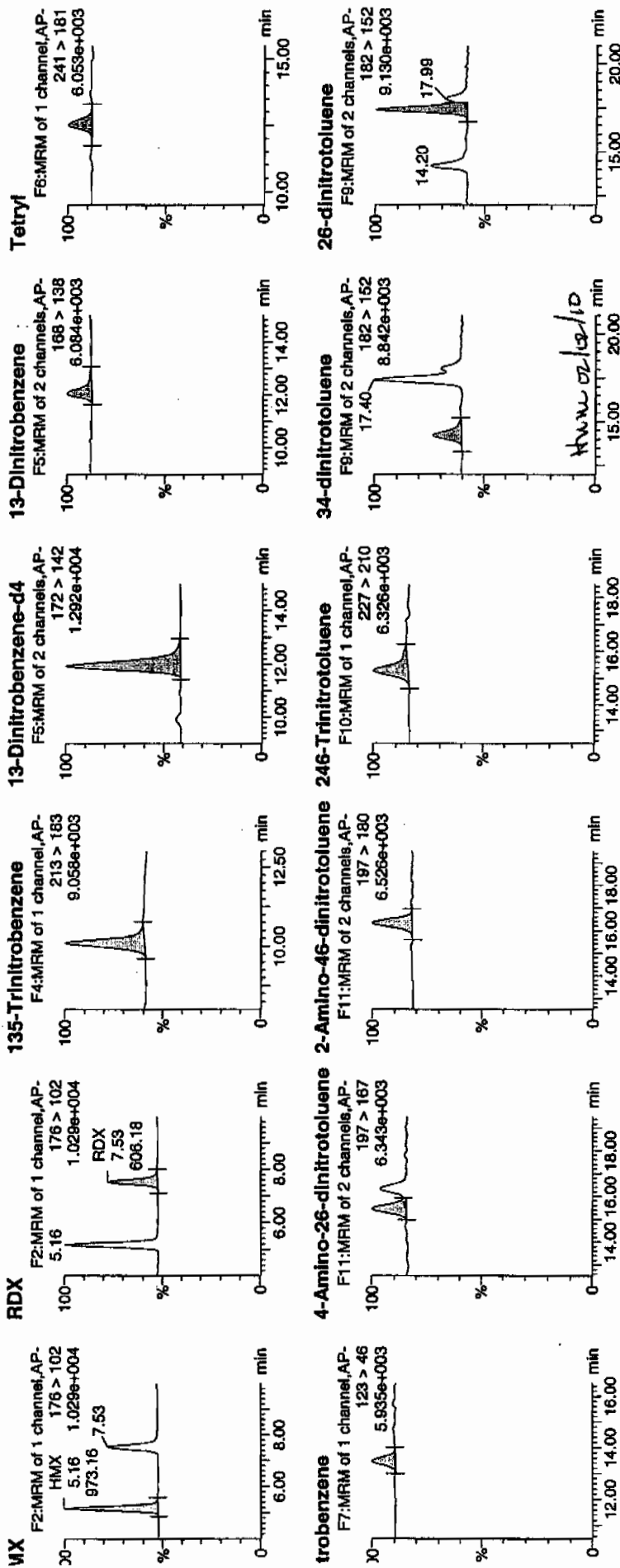
ate: 01-Feb-2010

me: 06:47:09

: WXX100131-08CRI

al: 1:1,C

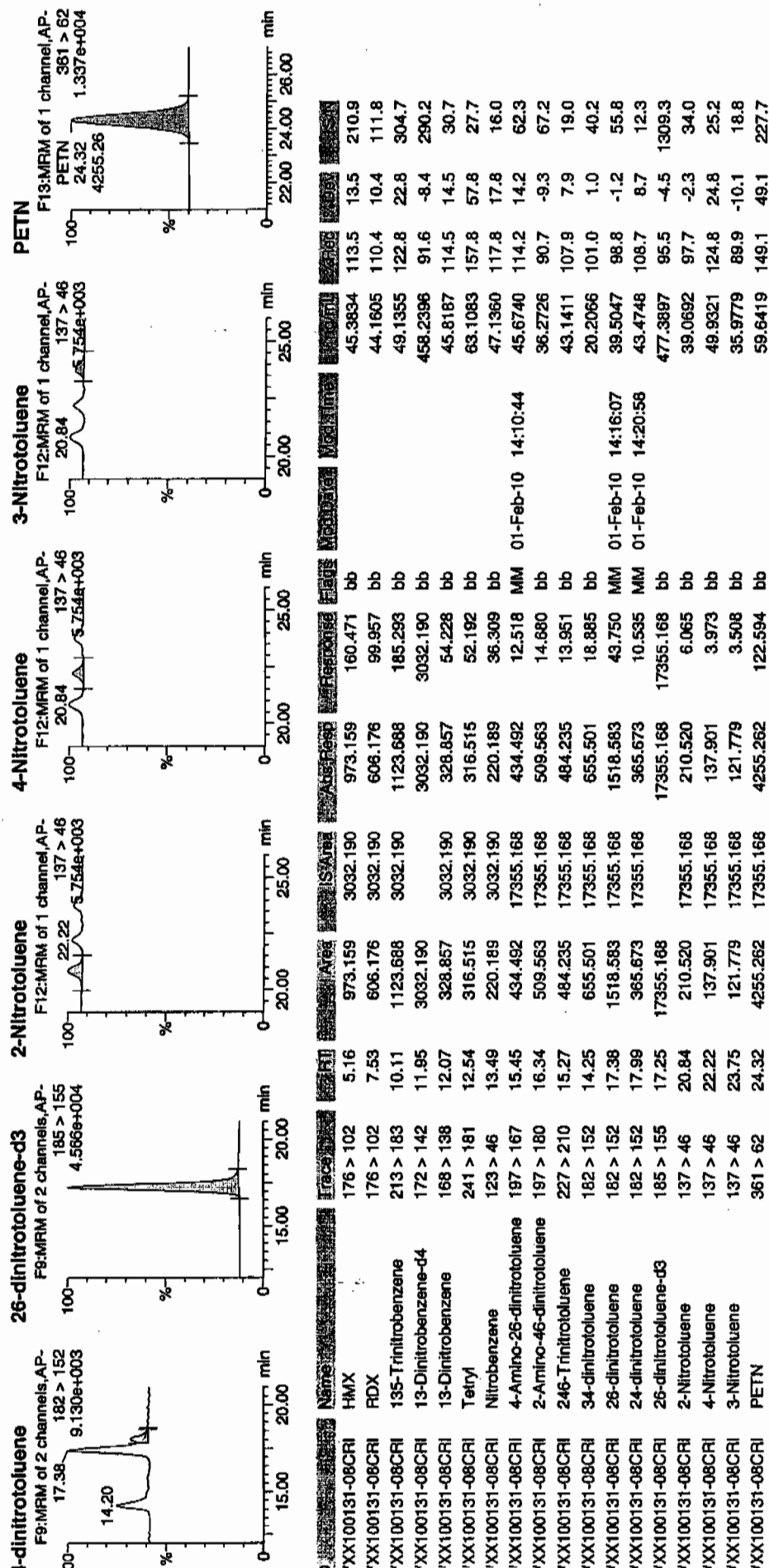
2/1/10



Printed: Mon Feb 01 14:31:20 2010, Page 76 of 103

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

Dataset: C:\MASSLYNX\New\_Exp\PRO013110expA.qld, Time: Mon Feb 01 14:26:08 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific  
 Date of Analysis 02/01/10  
 Time of Injection 0647  
 Standard Number WXX100131-08CRI  
 Data File EXP0131038a

HMX	113.5
RDX	110.4
135-TNB	122.8
13-DNB	114.5
Tetryl	157.8
Nitrobenzene	117.8
4A-26-DNT	114.2
2A-46-DNT	90.7
246-TNT	107.9
34-DNT(surr)	101.0
26-DNT	98.8
24-DNT	108.7
2-NT	97.7
4-NT	124.8
3-NT	89.9
PETN	149.1

*not  
2/1/10*

Total 1819.6

Average 113.7

*from 02/02/10*

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): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250013.wiff

Analysis Date: 25-JAN-10 13:41

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	104	104	
2,6-Diamino-4-nitrotoluene	100	106	106	
3,4-Dinitrotoluene	50	46.7	94	
3,5-Dinitroaniline	100	104	104	
TATB	100	96.4	96	
tris(o-cresyl) phosphate	100	117	117	

Recovery Limits:

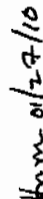
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

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

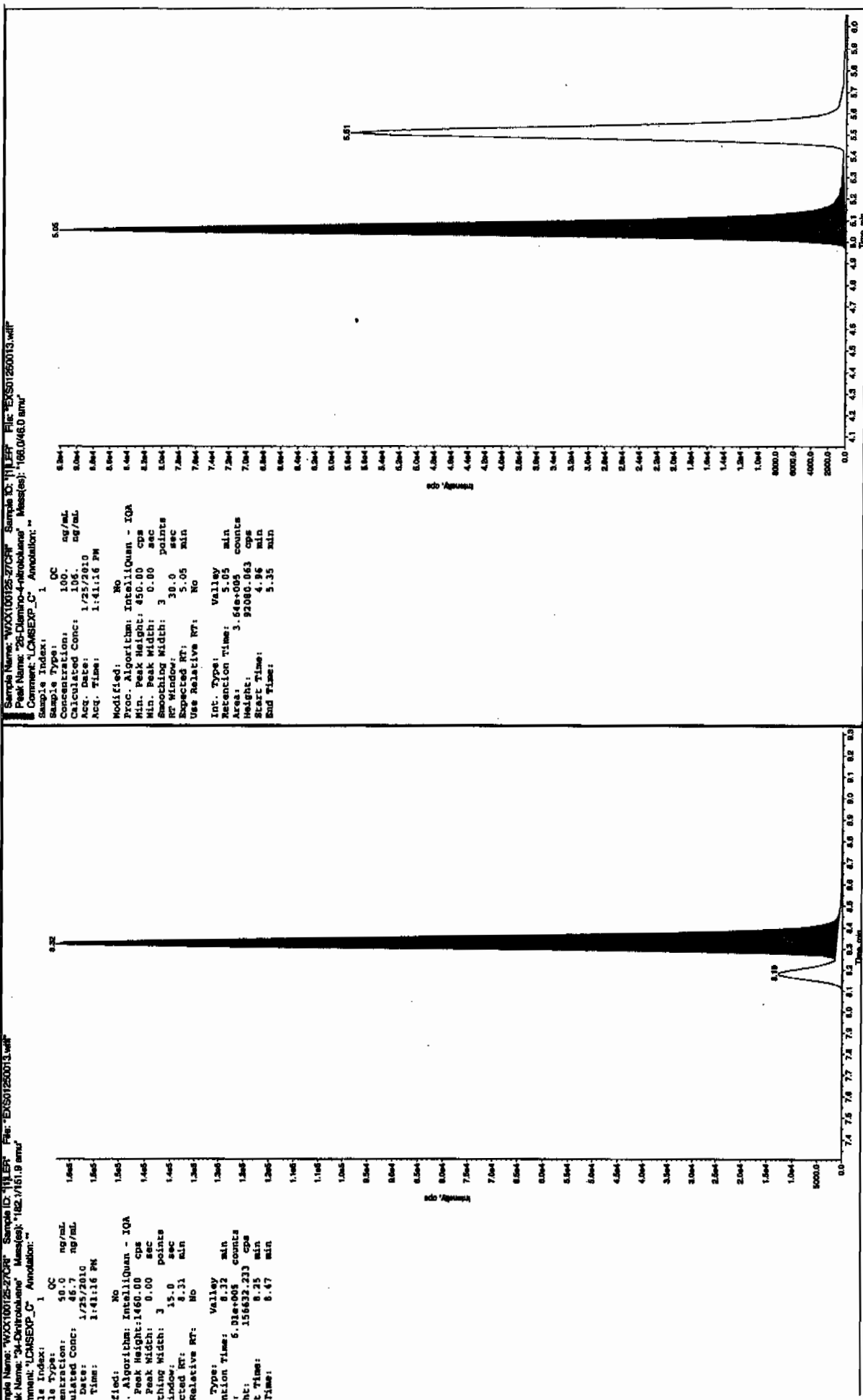
Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

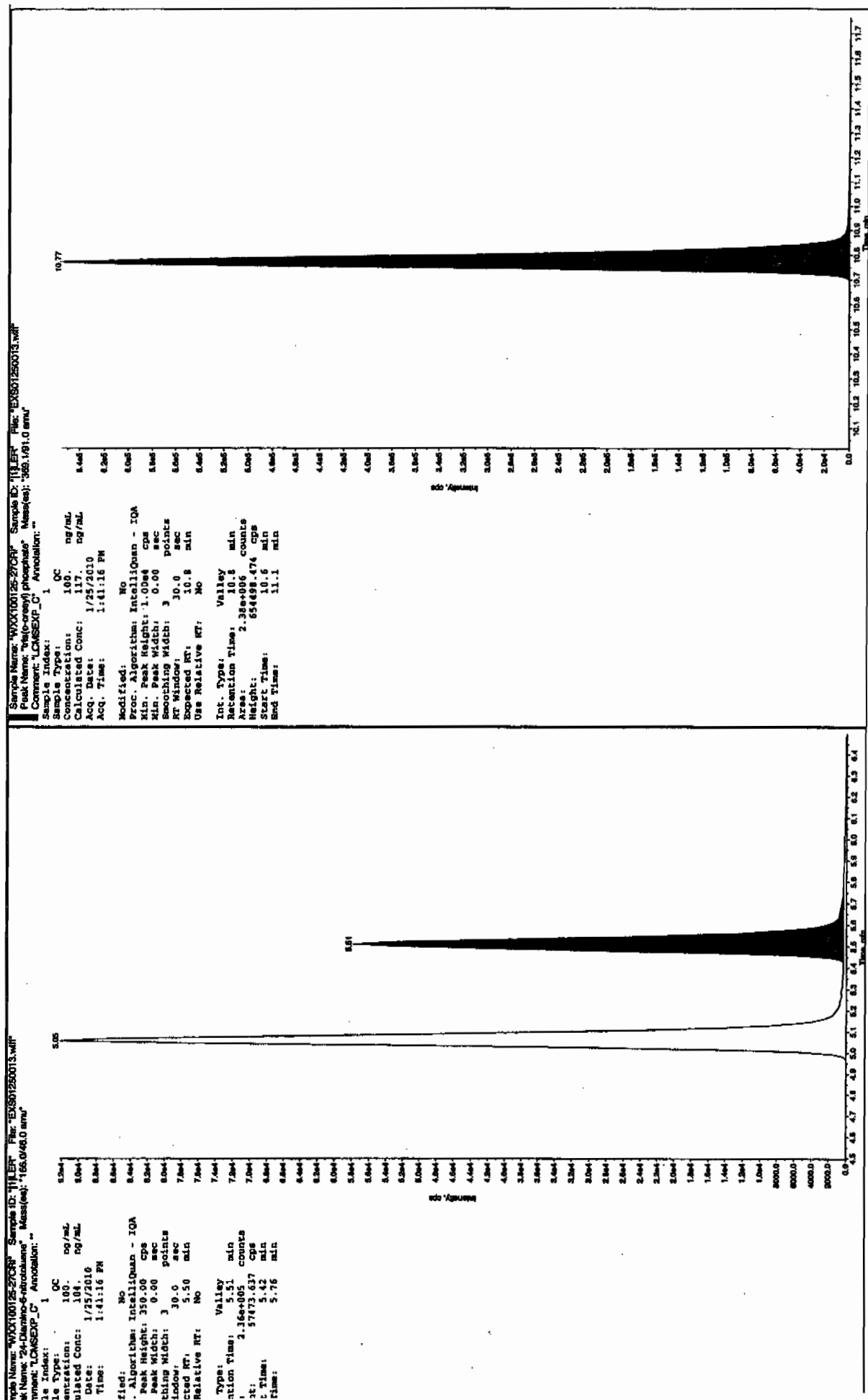
\* Value outside of Recovery Limits



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



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



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



7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250024.wiff

Analysis Date: 25-JAN-10 16:33

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	456	91	
2,6-Diamino-4-nitrotoluene	500	429	86	
3,4-Dinitrotoluene	250	232	93	
3,5-Dinitroaniline	500	523	105	
TATB	500	534	107	
tris(o-cresyl) phosphate	500	455	91	

Recovery Limits:

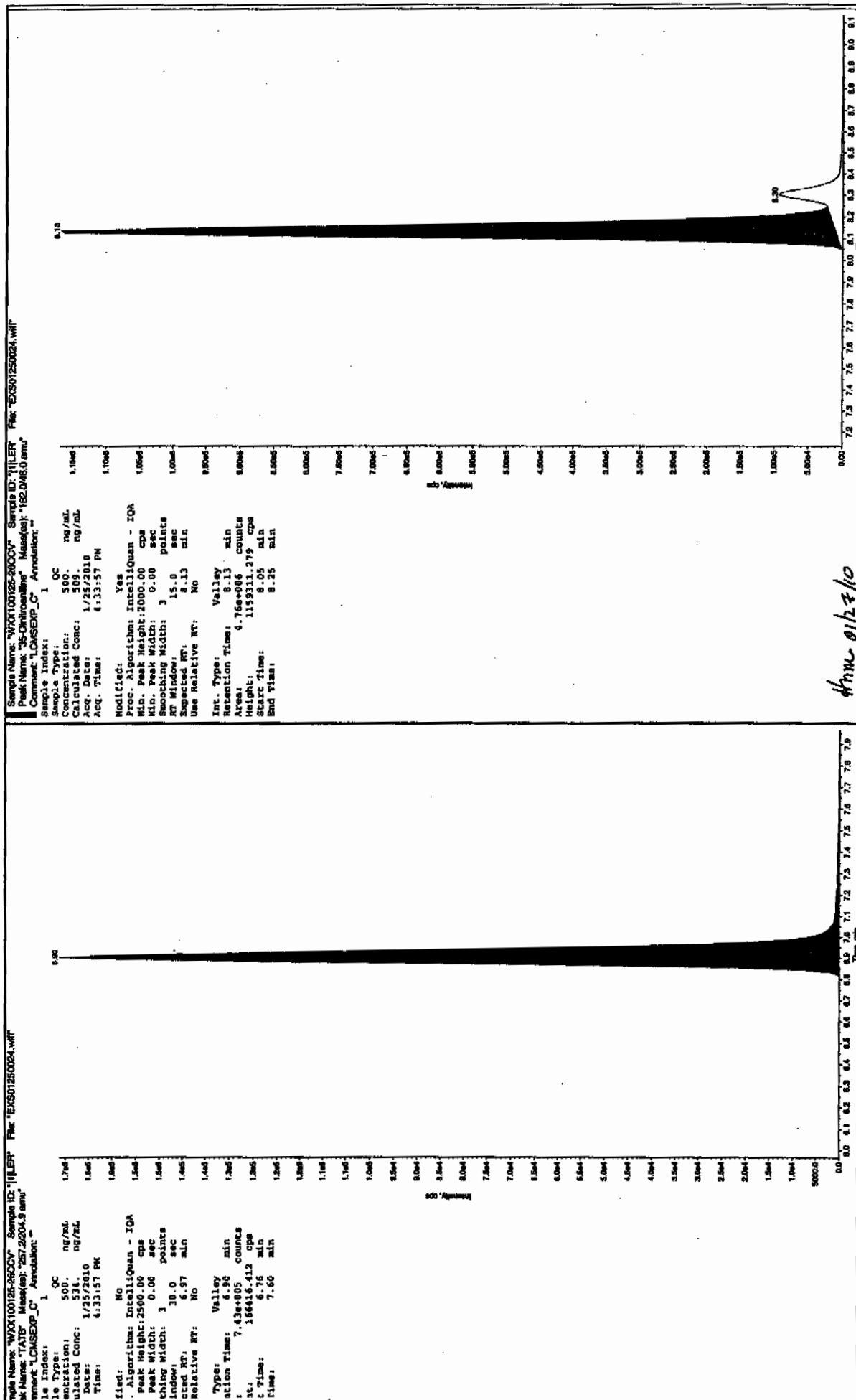
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

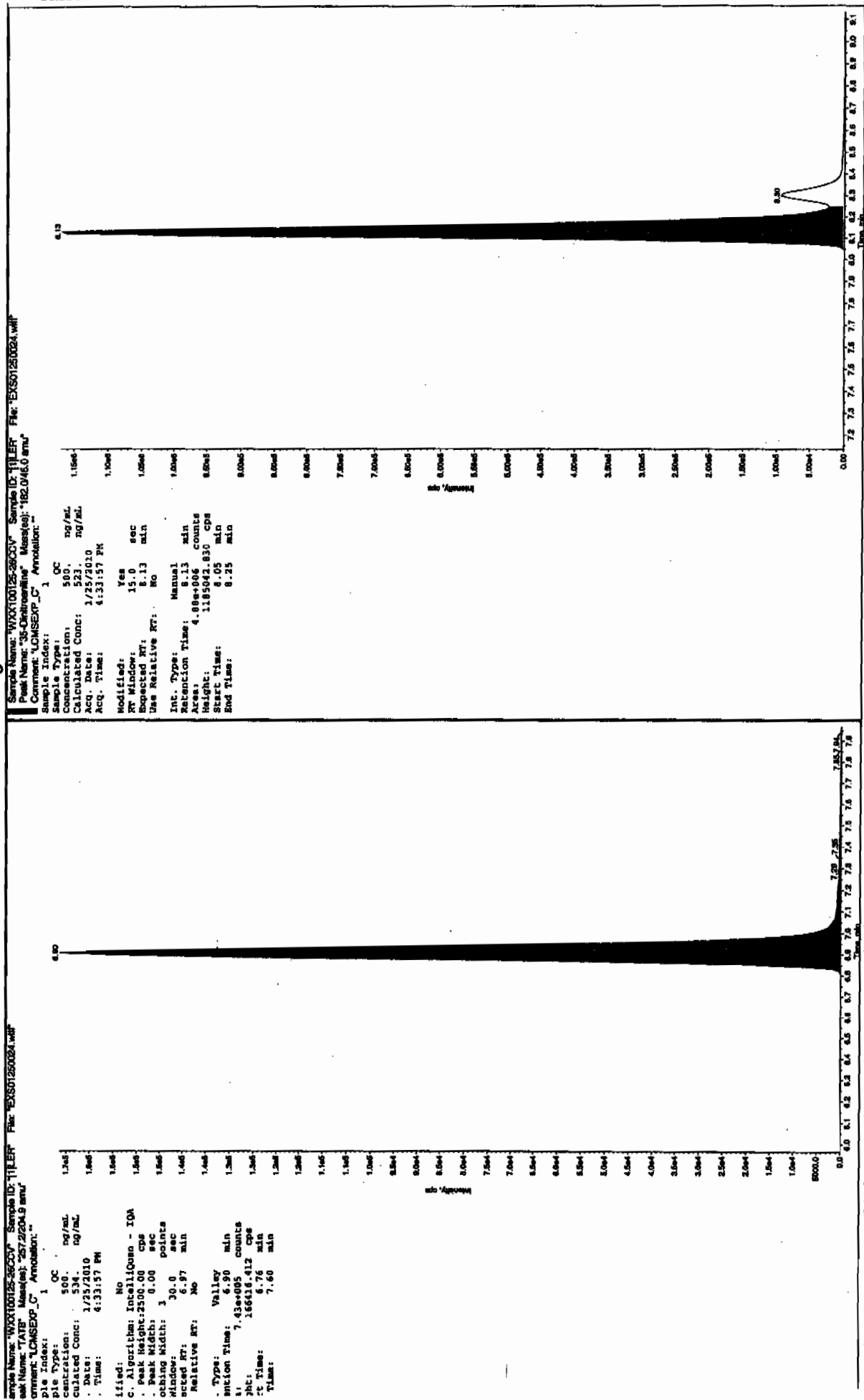
Before Scan 1127110



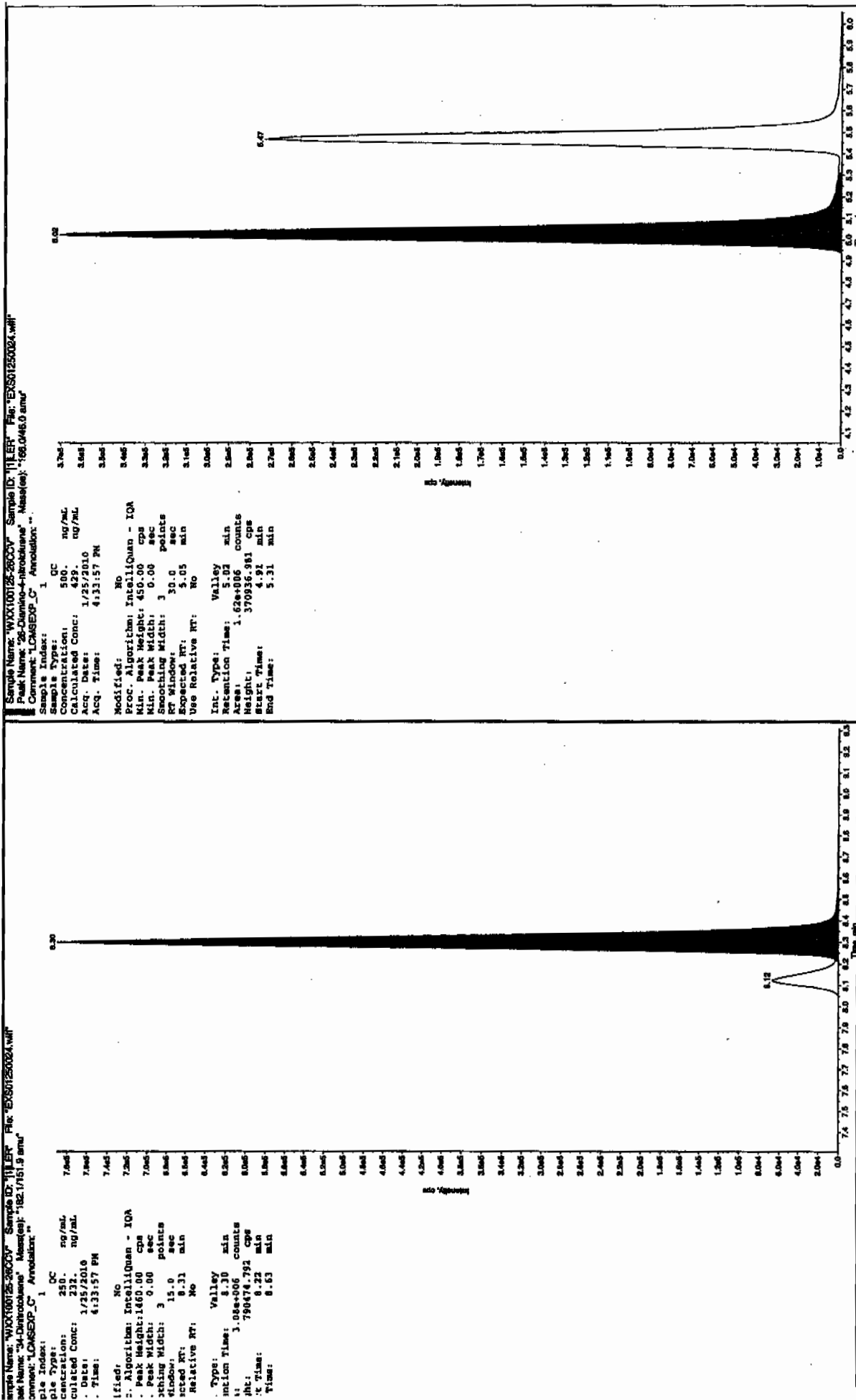
After 01/23/10

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

after Jan 18/2010

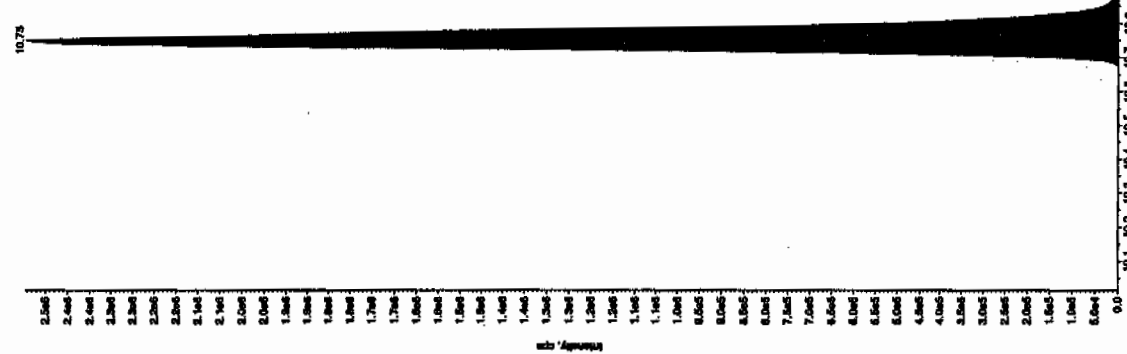


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



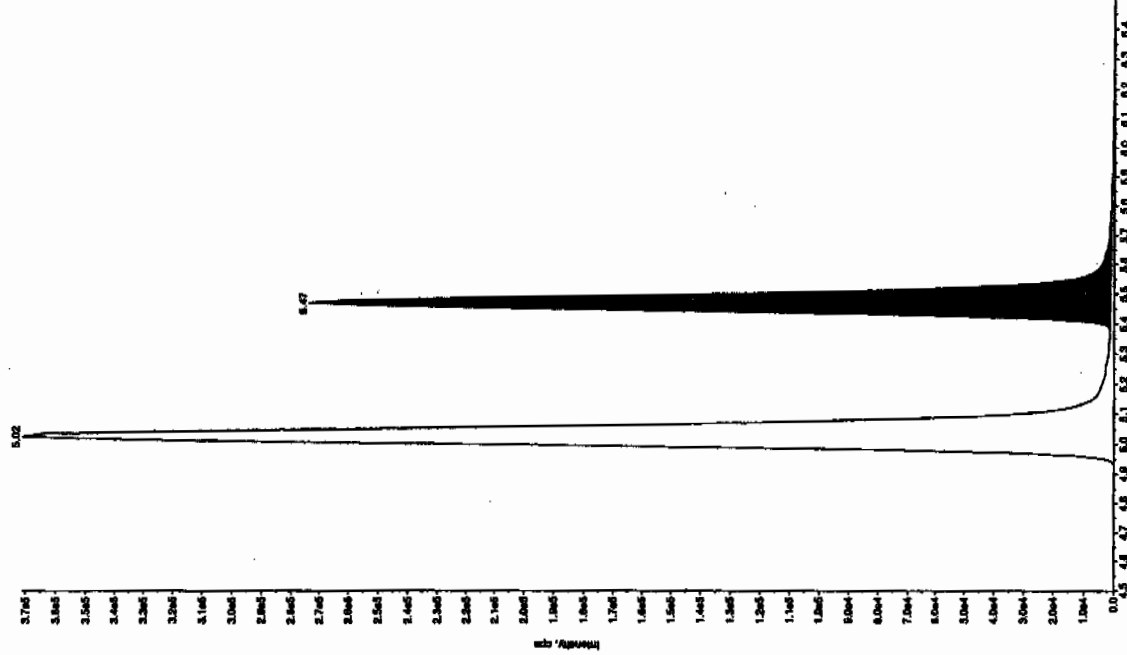
L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100125-282CV" Sample ID: "11157" File: "EX50125024.w"   
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "398.181.0 amu"   
 Comment: "LCMS-EXP\_C" Annotation: "1"   
 Sample Index: 1   
 Sample Type: QC   
 Concentration: 500. ng/mL   
 Calculated Conc: 455. ng/mL   
 Acq. Date: 1/25/2010   
 Acq. Time: 4:33:57 PM



Modified: No   
 Proc: Algorithm: IntelliQuan - IQA   
 Min. Peak Height: 1.00e4 cps   
 Min. Peak Width: 0.00 sec   
 Smoothing Width: 3 points   
 RT Window: 30.0 sec   
 Expected RT: 10.8 min   
 Use Relative RT: No   
 Int. Type: Valley   
 Retention Time: 10.8 min   
 Area: 9.58e+006 counts   
 Height: 2495266.602 cps   
 Start Time: 10.7 min   
 End Time: 11.0 min

Sample Name: "WXX100125-282CV" Sample ID: "11157" File: "EX50125024.w"   
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "398.181.0 amu"   
 Comment: "LCMS-EXP\_C" Annotation: "1"   
 Sample Index: 1   
 Sample Type: QC   
 Concentration: 500. ng/mL   
 Calculated Conc: 455. ng/mL   
 Acq. Date: 1/25/2010   
 Acq. Time: 4:33:57 PM



Modified: No   
 Proc: Algorithm: IntelliQuan - IQA   
 Min. Peak Height: 350.00 cps   
 Min. Peak Width: 0.00 sec   
 Smoothing Width: 3 points   
 RT Window: 30.0 sec   
 Expected RT: 5.50 min   
 Use Relative RT: No   
 Int. Type: Valley   
 Retention Time: 5.47 min   
 Area: 1.10e+006 counts   
 Height: 272505.035 cps   
 Start Time: 5.36 min   
 End Time: 5.61 min

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

7B  
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250026.wiff

Analysis Date: 25-JAN-10 17:05

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	104	104	
2,6-Diamino-4-nitrotoluene	100	108	108	
3,4-Dinitrotoluene	50	46.3	93	
3,5-Dinitroaniline	100	105	105	
TATB	100	99.8	100	
tris(o-cresyl) phosphate	100	110	110	

Recovery Limits:

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

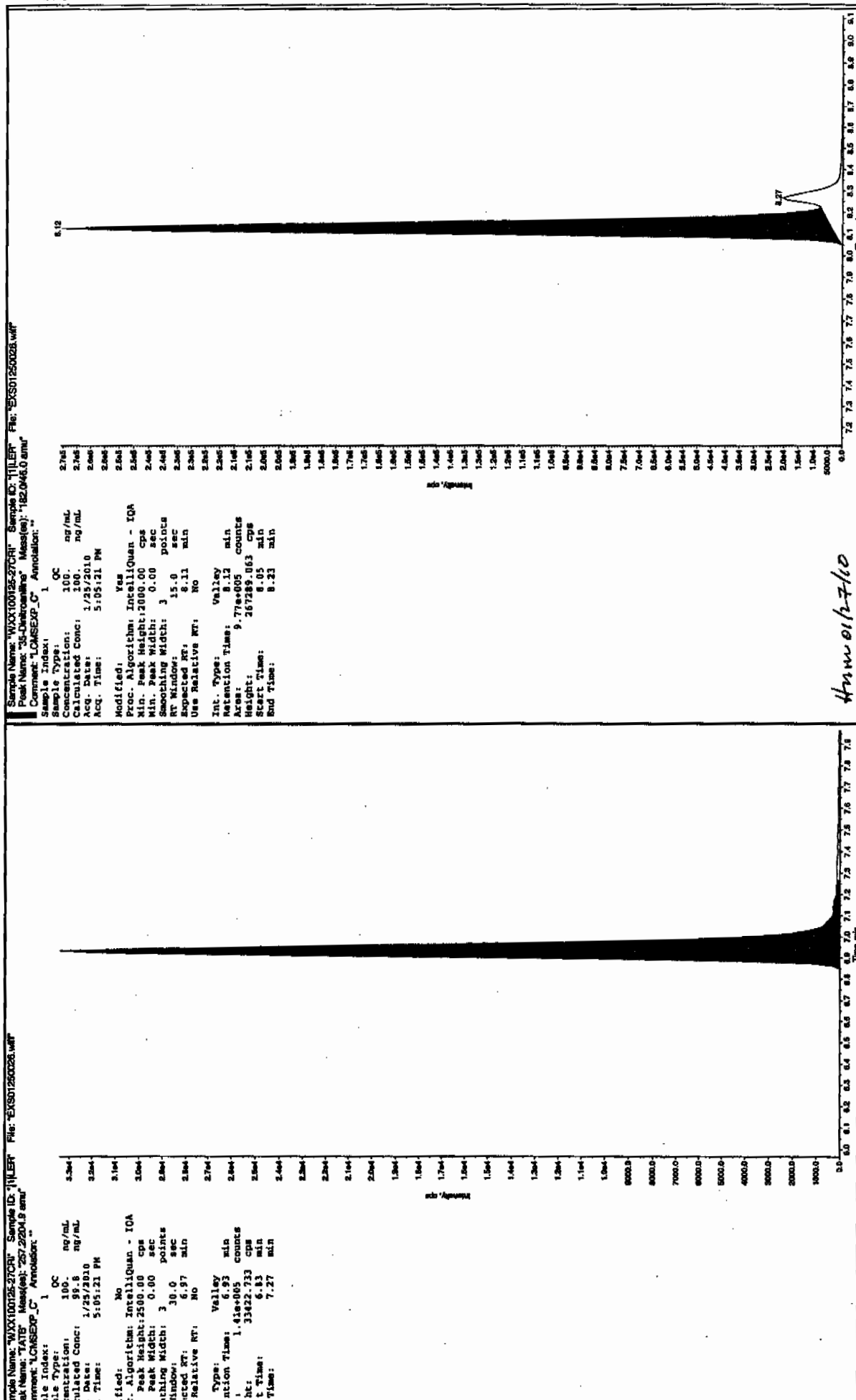
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

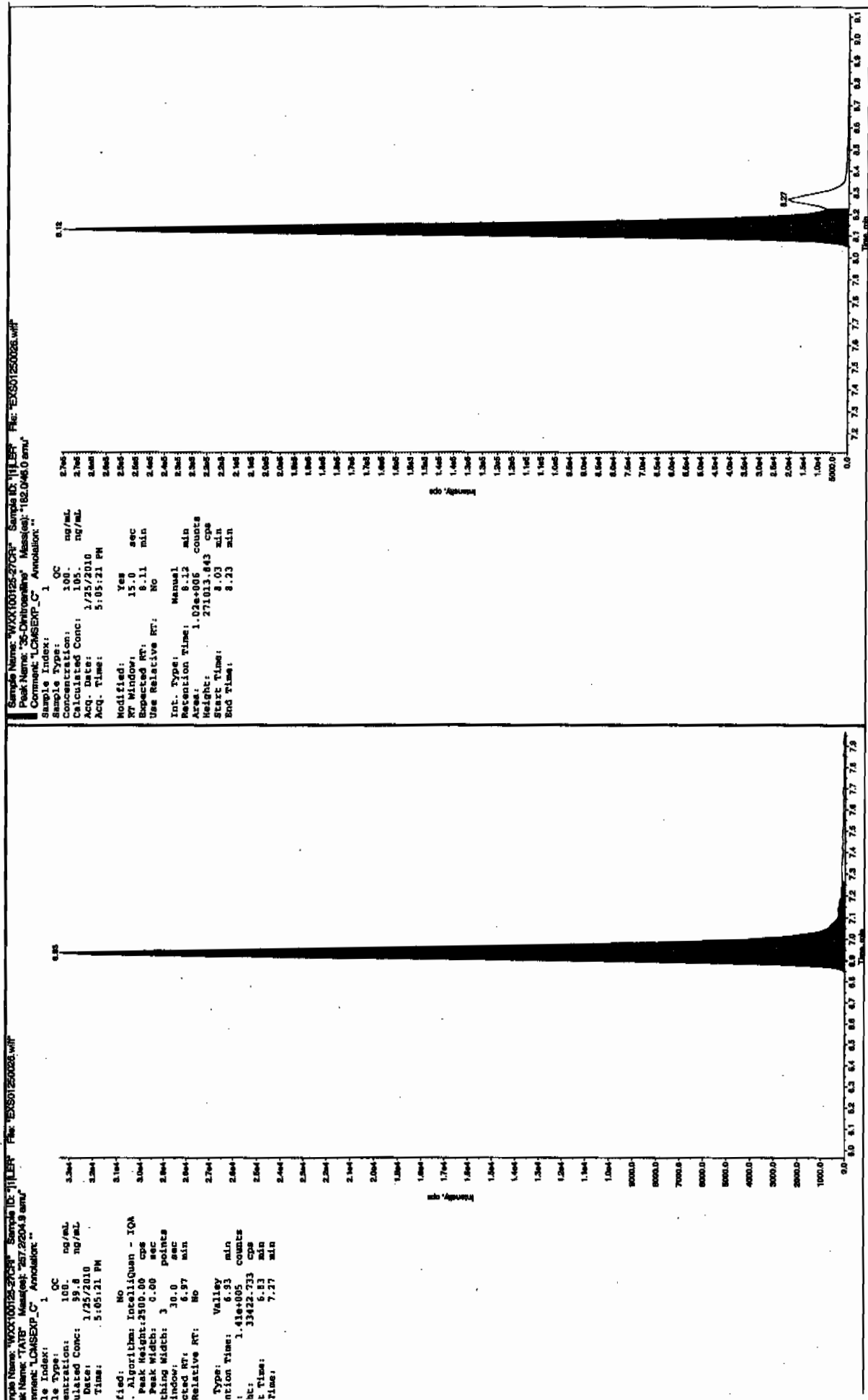
Before Jan 11/27/10



After Jan 11/27/10

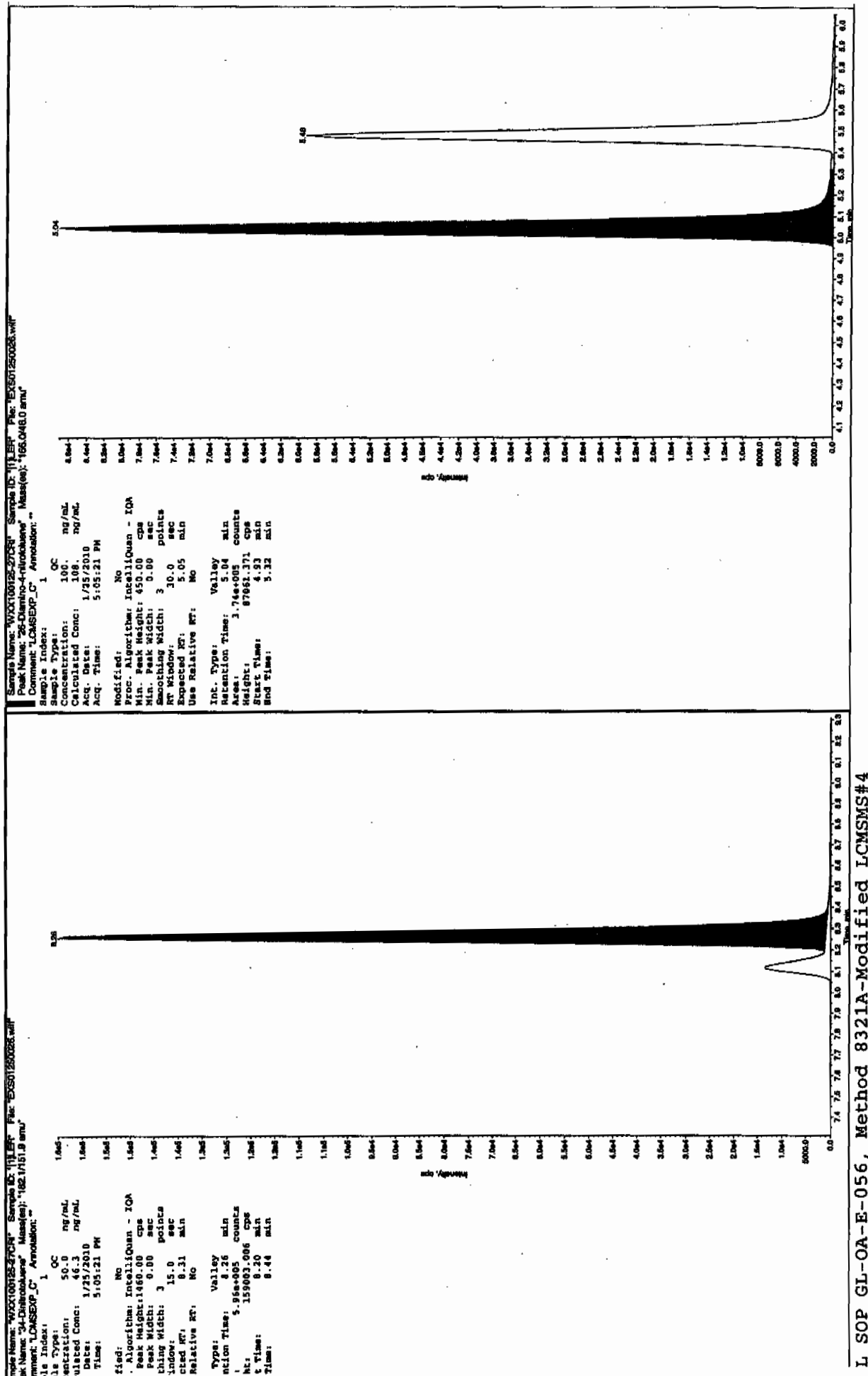
L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

after scan 167/10

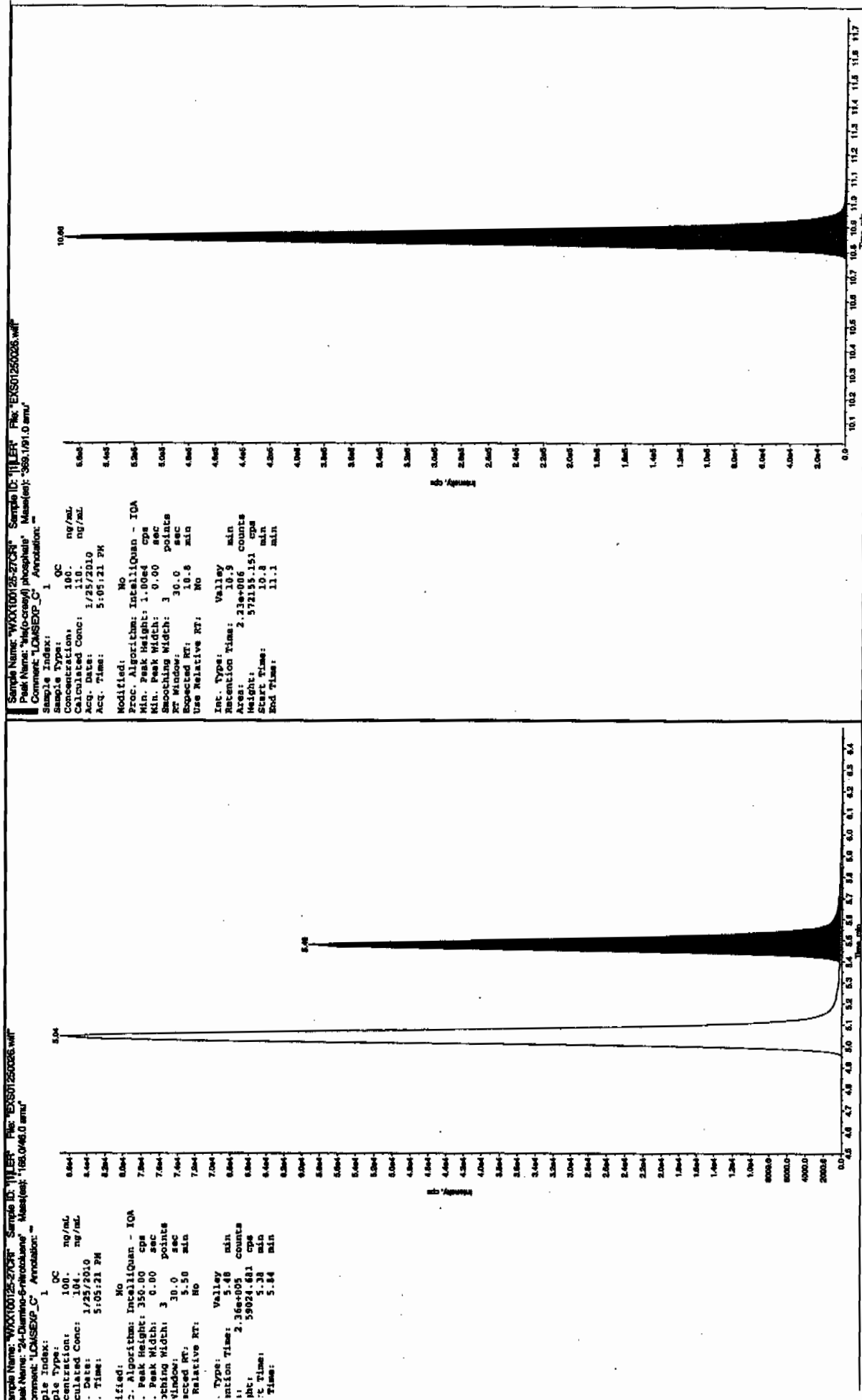


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





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



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

7A  
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250037.wiff

Analysis Date: 25-JAN-10 19:58

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	471	94	
2,6-Diamino-4-nitrotoluene	500	433	87	
3,4-Dinitrotoluene	250	219	88	
3,5-Dinitroaniline	500	494	99	
TATB	500	508	102	
tris(o-cresyl) phosphate	500	486	97	

Recovery Limits:

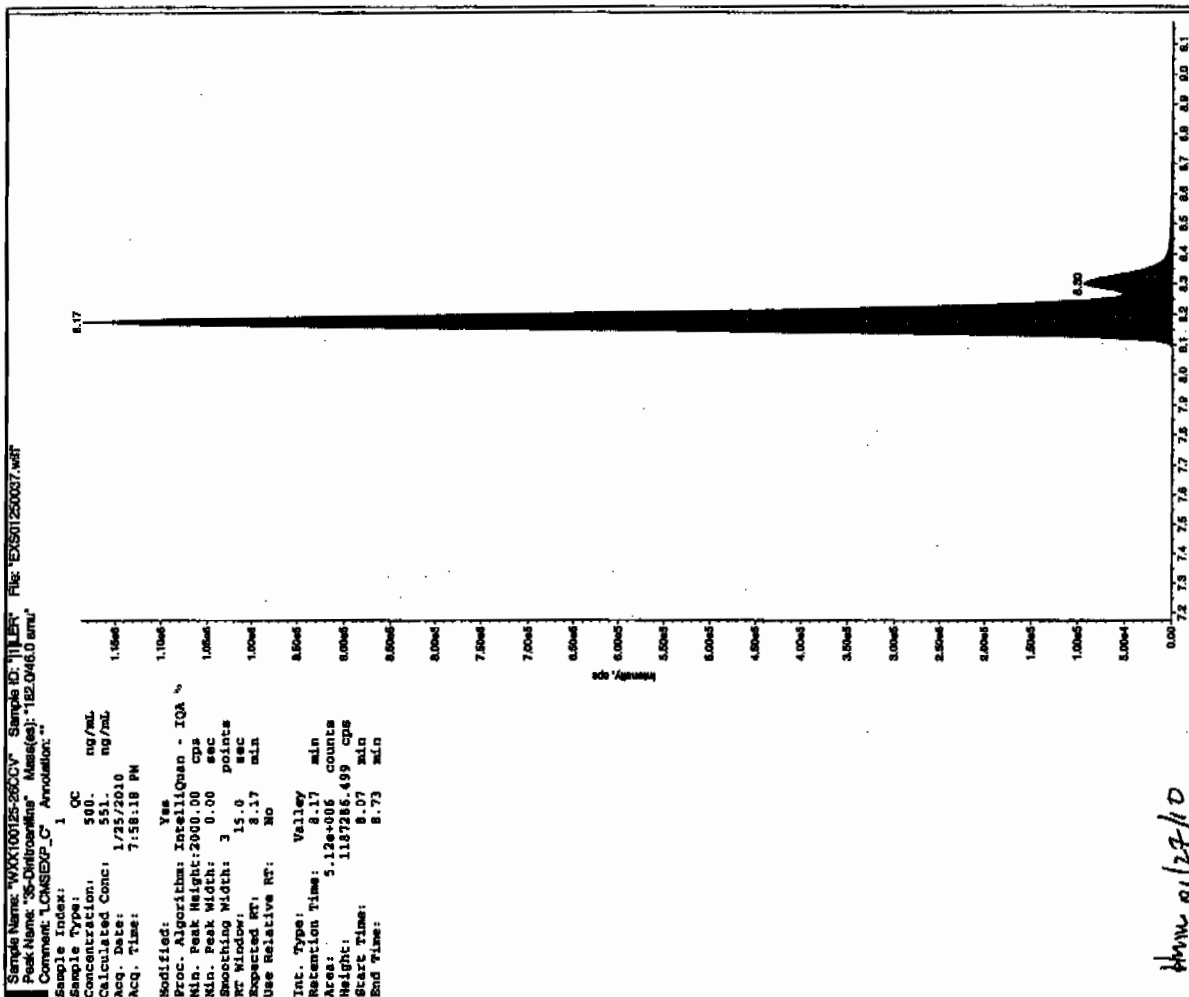
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,  
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

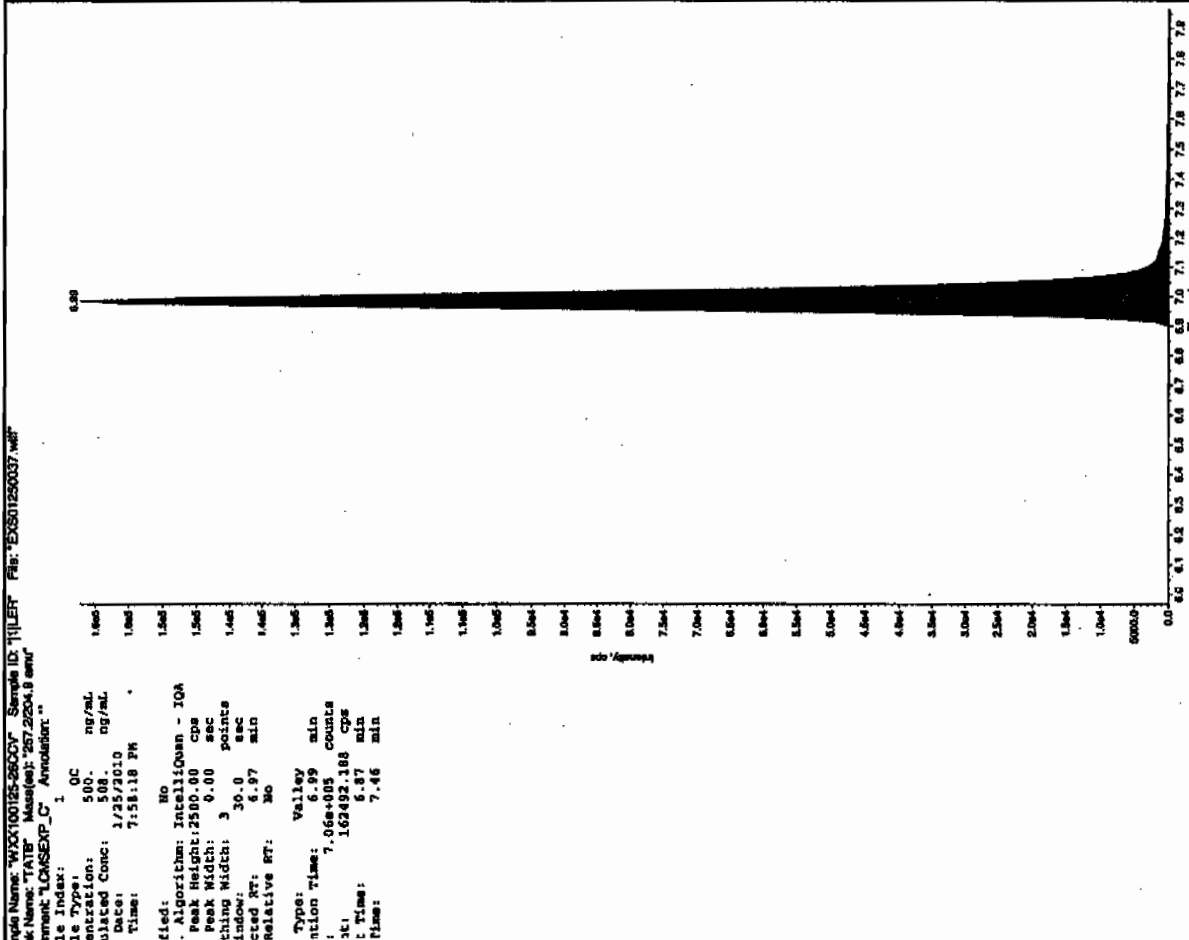
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

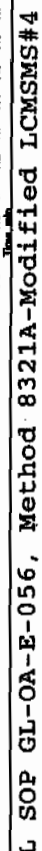
Before Scan 1127110



After 01/27/10

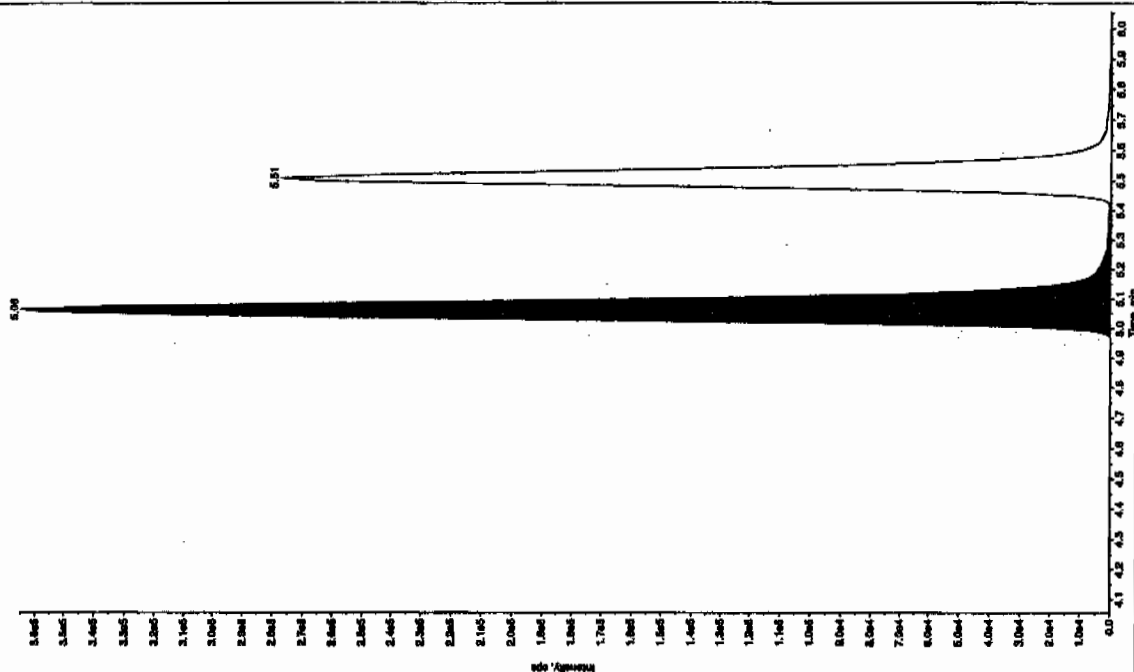


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



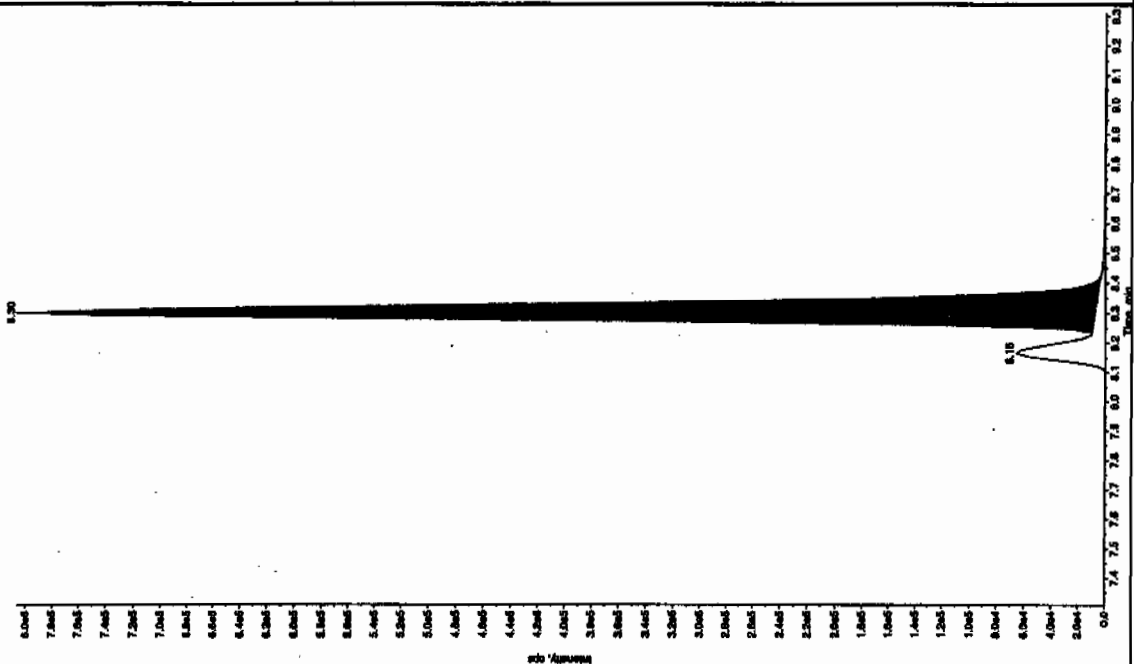
Sample Name: "WXX100125-2800V" Sample ID: "11157" File: "EX501250037.wml"  
 Peak Name: "28-Dimino-4-nitrothiophene" Mass(es): "166.046.0 amu"  
 Comment: "LCMSEXP\_C" Annotation: "

Sample Index: 1  
 Sample Type: QC  
 Concentration: 500. ng/mL  
 Calculated Conc: 433. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 7:58:18 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Peak Height: 490.00 cps  
 Min. Peak Width: 0.00 points  
 Smoothing Width: 3 points  
 RT Window: 30.0 sec  
 Expected RT: 5.05 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 5.06 min  
 Area: 1.63e+006 counts  
 Height: 365156.569 cps  
 Start Time: 4.95 min  
 End Time: 5.34 min

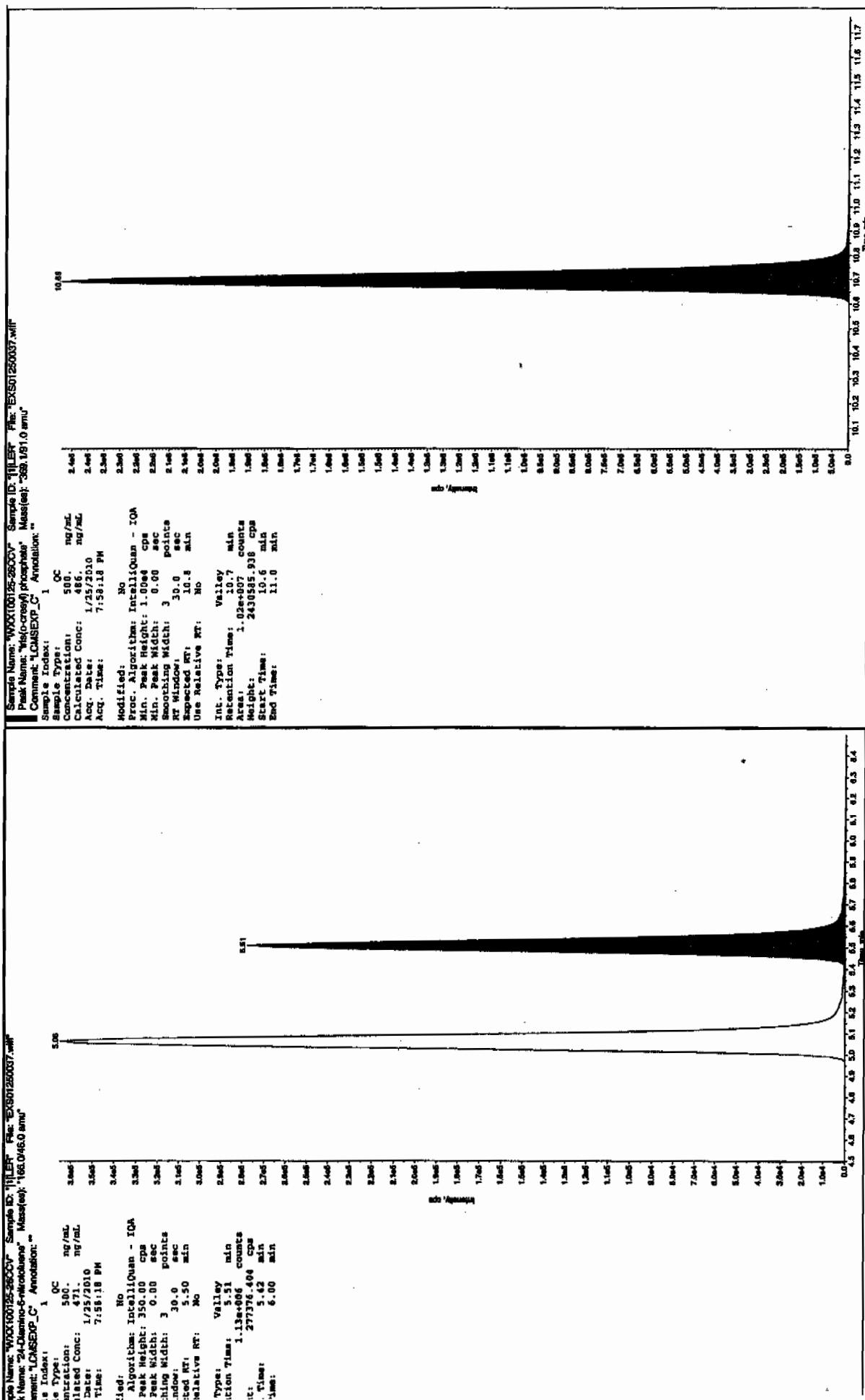


Sample Name: "WXX100125-2800V" Sample ID: "11157" File: "EX501250037.wml"  
 Peak Name: "34-Dinitrothiophene" Mass(es): "182.17151.9 amu"  
 Comment: "LCMSEXP\_C" Annotation: "

Sample Index: 1  
 Sample Type: QC  
 Concentration: 250. ng/mL  
 Calculated Conc: 219. ng/mL  
 Acq. Date: 1/25/2010  
 Acq. Time: 7:58:18 PM  
 Modified: No  
 Proc. Algorithm: IntelliQuan - IQA  
 Peak Height: 1460.00 cps  
 Min. Peak Width: 0.00 sec  
 Smoothing Width: 3 points  
 RT Window: 15.0 sec  
 Expected RT: 8.31 min  
 Use Relative RT: No  
 Int. Type: Valley  
 Retention Time: 8.30 min  
 Area: 2.91e+006 counts  
 Height: 799018.311 cps  
 Start Time: 8.24 min  
 End Time: 8.42 min



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



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

**7B**  
**Explosives CRI Standard**

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1264-1

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250039.wiff

Analysis Date: 25-JAN-10 20:29

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	97.3	97	
3,4-Dinitrotoluene	50	46.6	93	
3,5-Dinitroaniline	100	104	104	
TATB	100	103	103	
tris(o-cresyl) phosphate	100	111	111	

**Recovery Limits:**

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

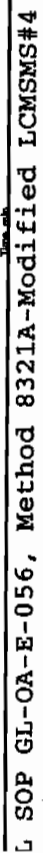
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

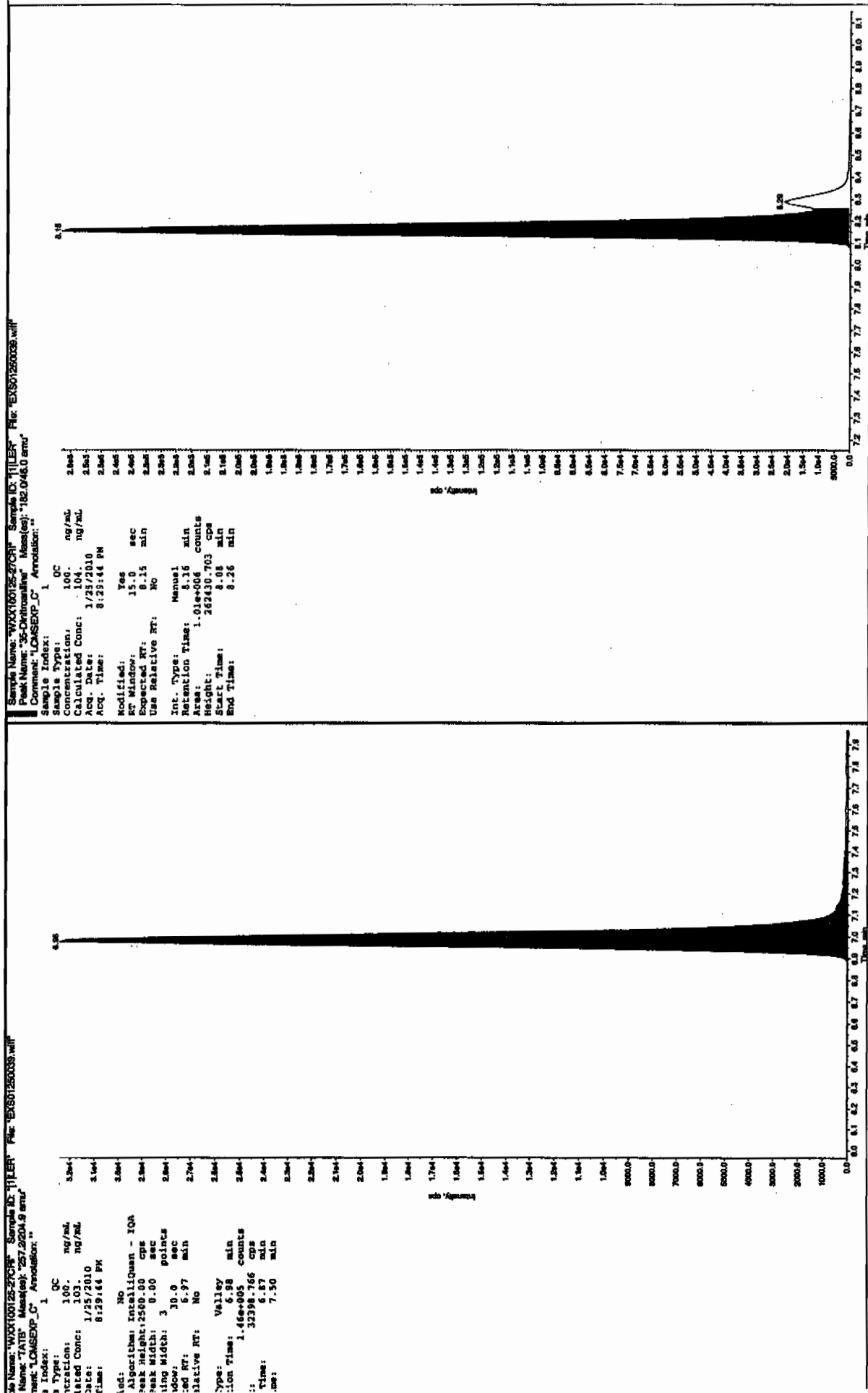
# Column used to flag Recovery outside of Limits

\* Value outside of Recovery Limits

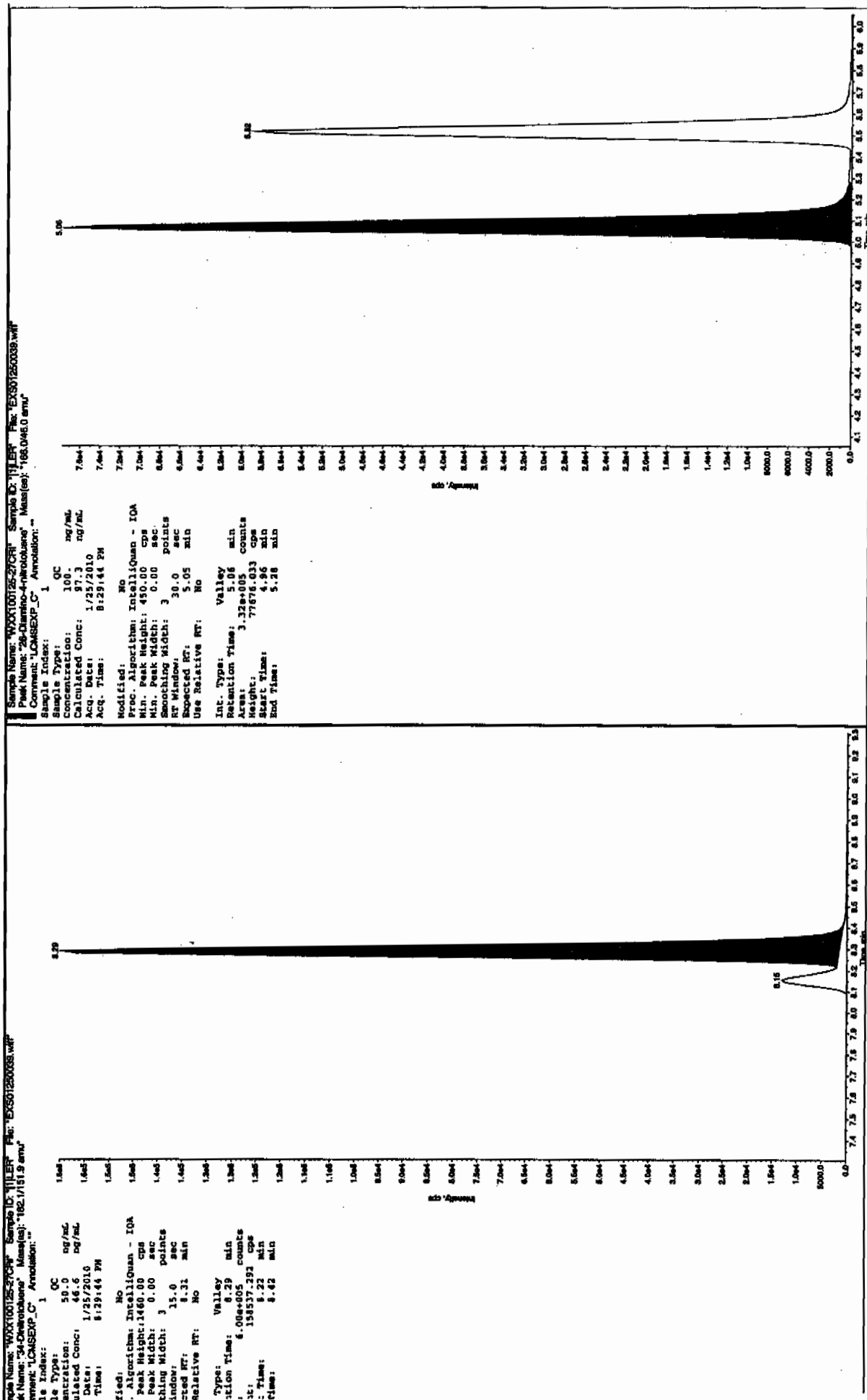




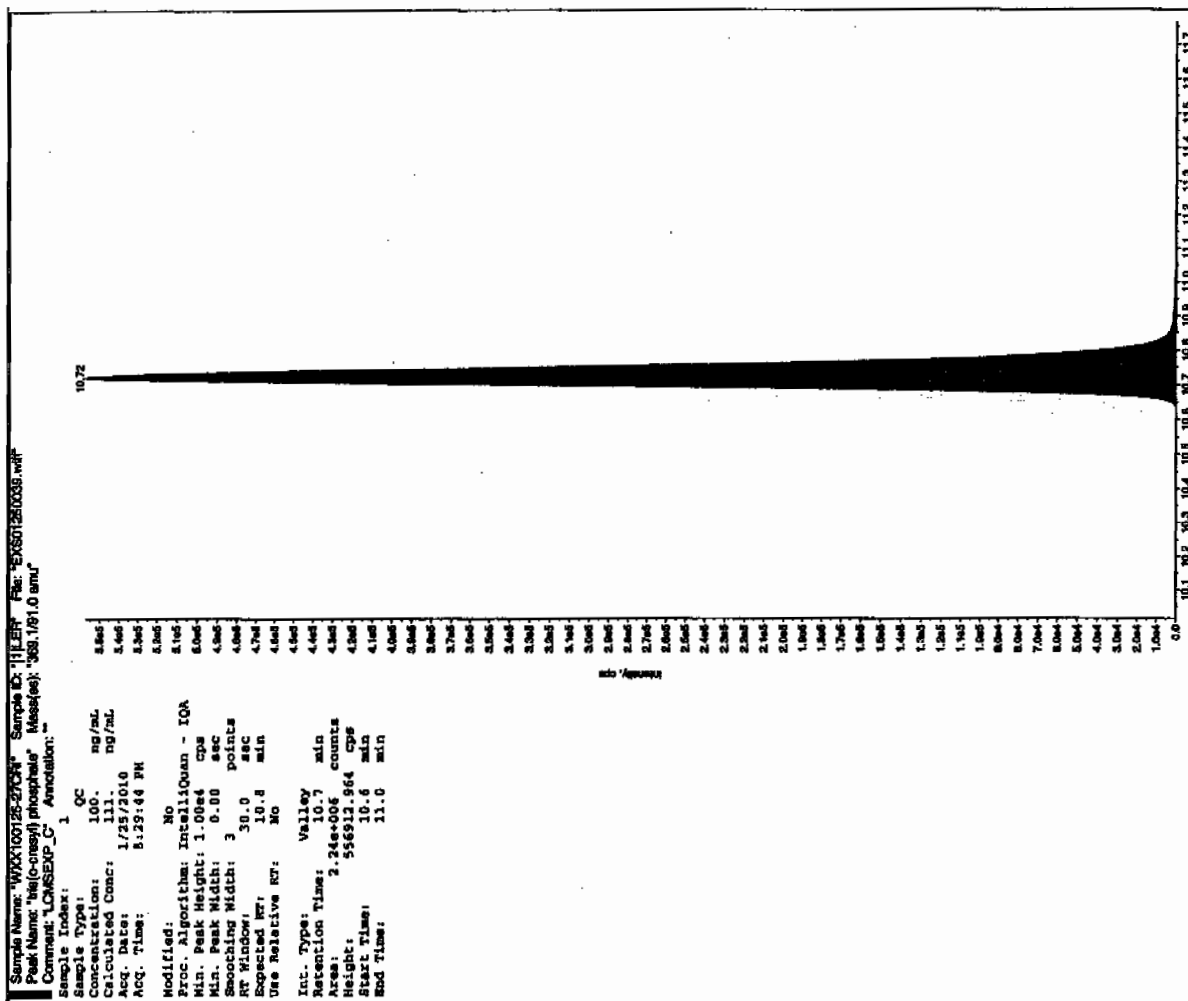
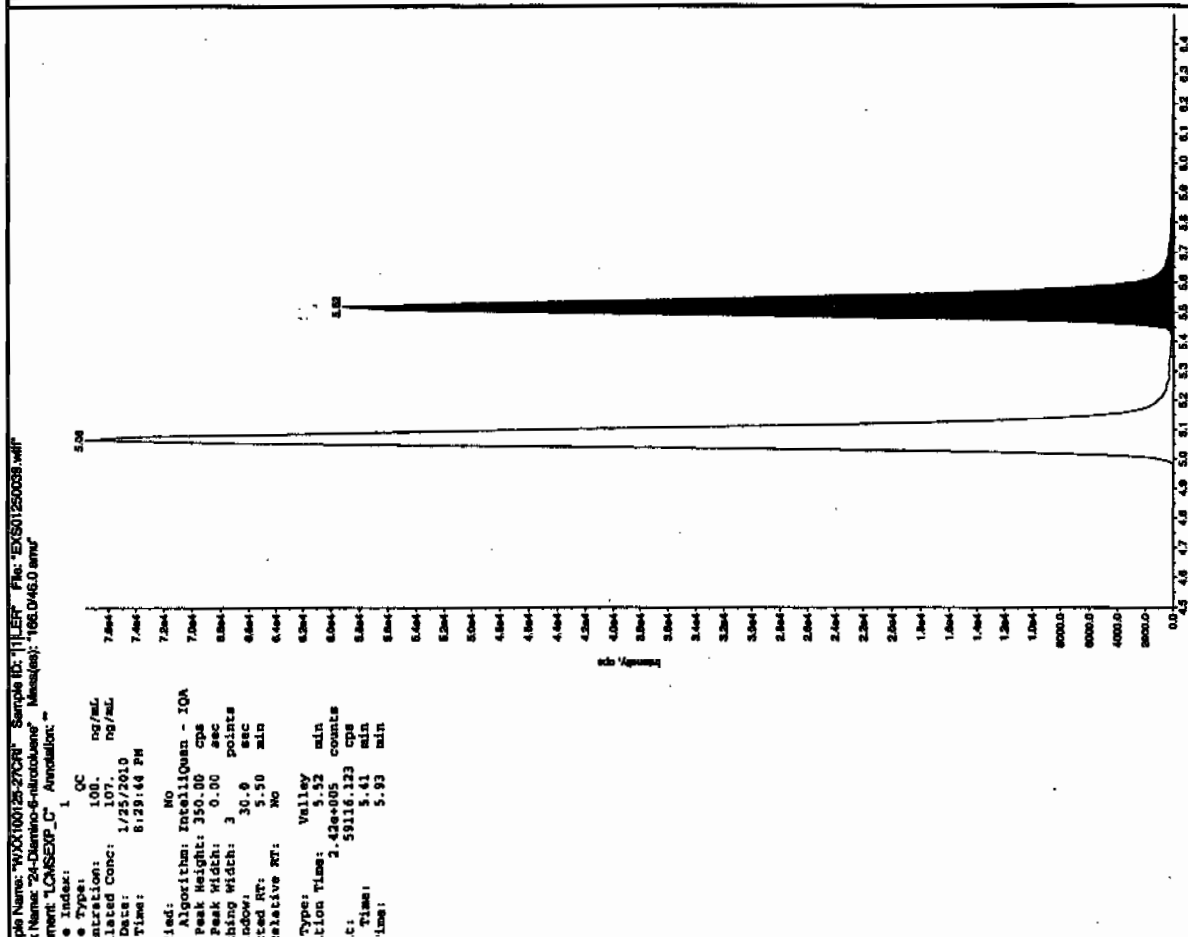
after 11/27/10



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



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



# QUALITY CONTROL DATA

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 1202017300

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131013a

Date Analyzed: 31-JAN-10 18:29

Units: ug/kg

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

\*Concentration =

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

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

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qtd, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131013a

Date: 31-Jan-2010

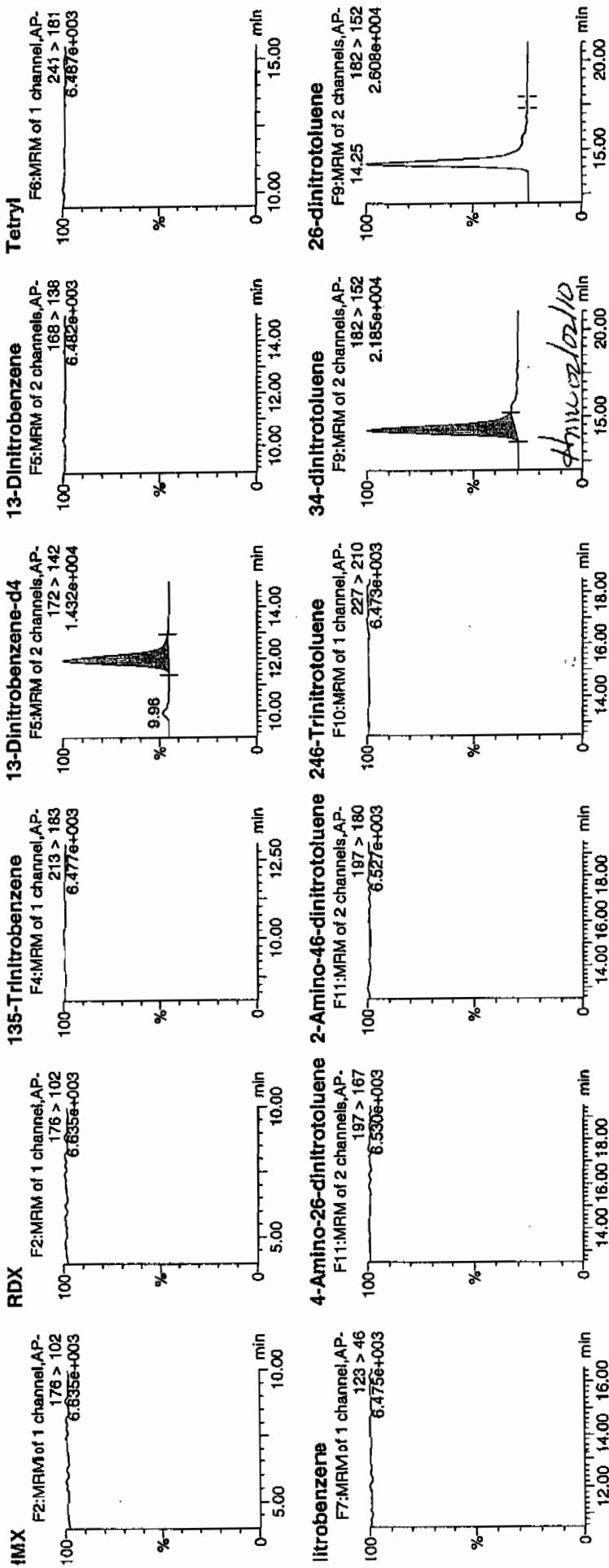
Time: 18:29:57

D: 1202017300

/lat: 1:4,A

not  
 2/1/10

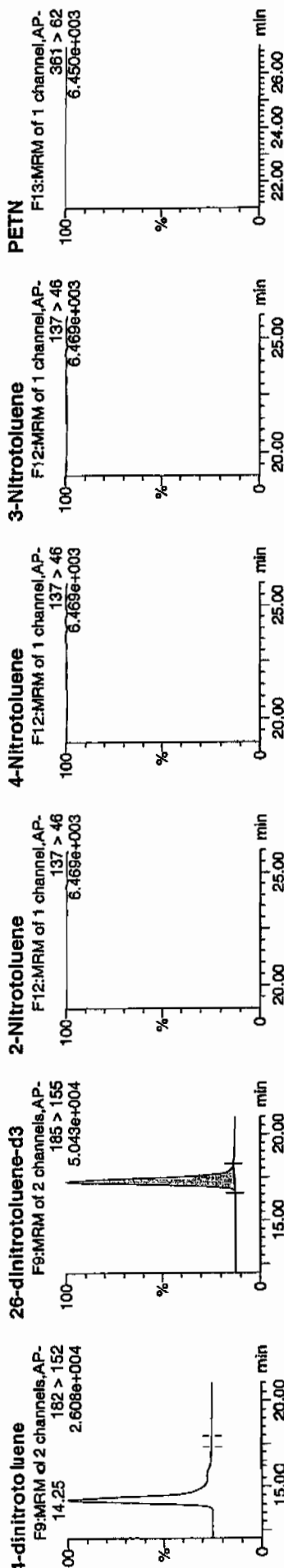
WAW 942335 / 8032 / MB 121



Printed: Mon Feb 01 14:31:20 2010, Page 26 of 103

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

atset: C:\MASSLYNX\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



Name	176 > 102	176 > 102	213 > 183	172 > 142	168 > 138	241 > 181	123 > 46	197 > 167	197 > 180	227 > 210	182 > 152	182 > 152	182 > 152	185 > 155	137 > 46	137 > 46	137 > 46	361 > 62
202017300	HMIX																	
202017300	RDX																	
202017300	135-Trinitrobenzene																	
202017300	13-Dinitrobenzene-d4			11.95														
202017300	13-Dinitrobenzene																	
202017300	Tetryl																	
202017300	Nitrobenzene																	
202017300	4-Amino-26-dinitrotoluene																	
202017300	2-Amino-46-dinitrotoluene																	
202017300	246-Trinitrotoluene																	
202017300	34-dinitrotoluene																	
202017300	26-dinitrotoluene																	
202017300	24-dinitrotoluene																	
202017300	26-dinitrotoluene-d3																	
202017300	2-Nitrotoluene																	
202017300	4-Nitrotoluene																	
202017300	3-Nitrotoluene																	
202017300	PETN																	



1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 1202017300

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250017.wiff

Date Analyzed: 25-JAN-10 14:44

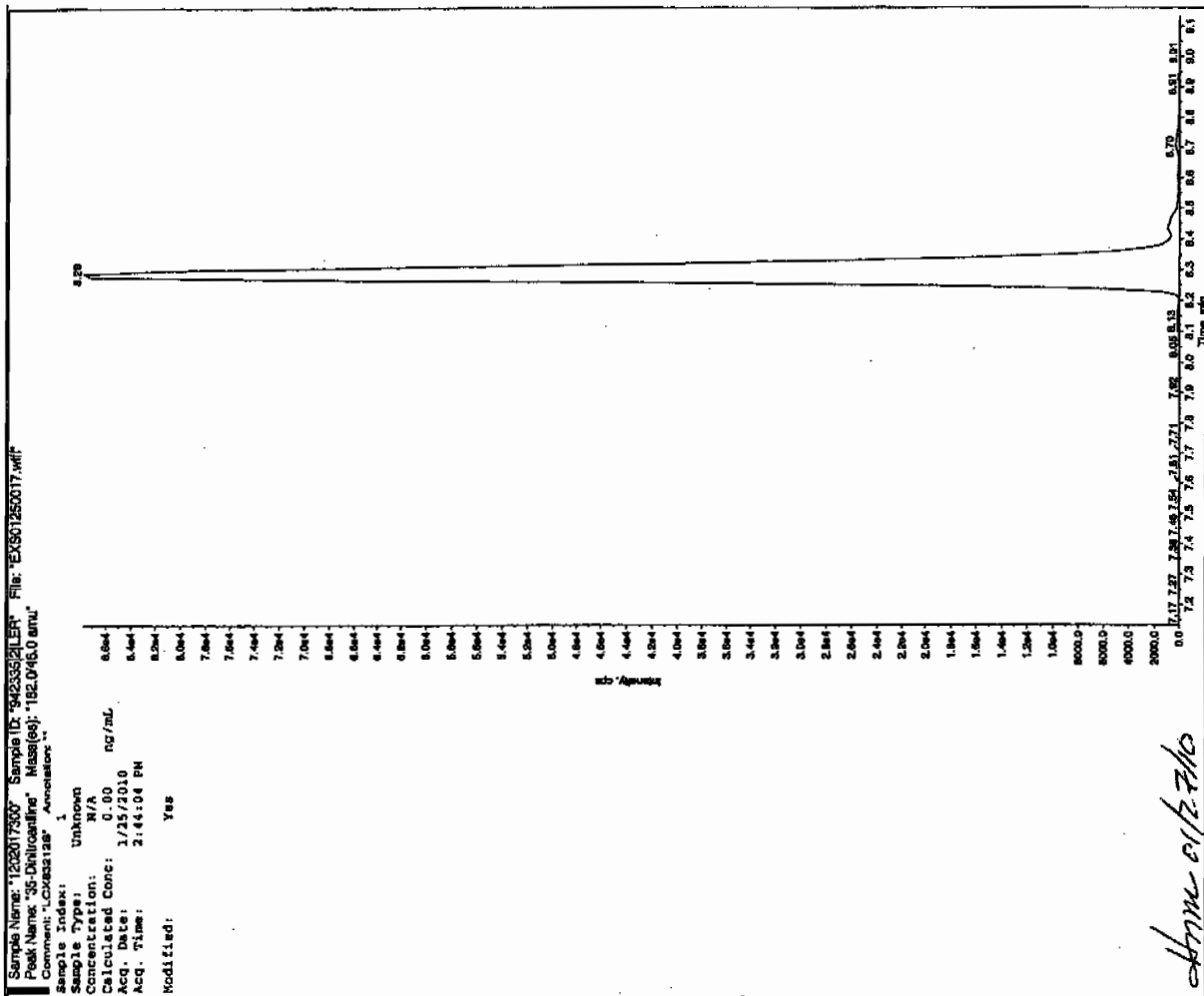
Units: ug/kg

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

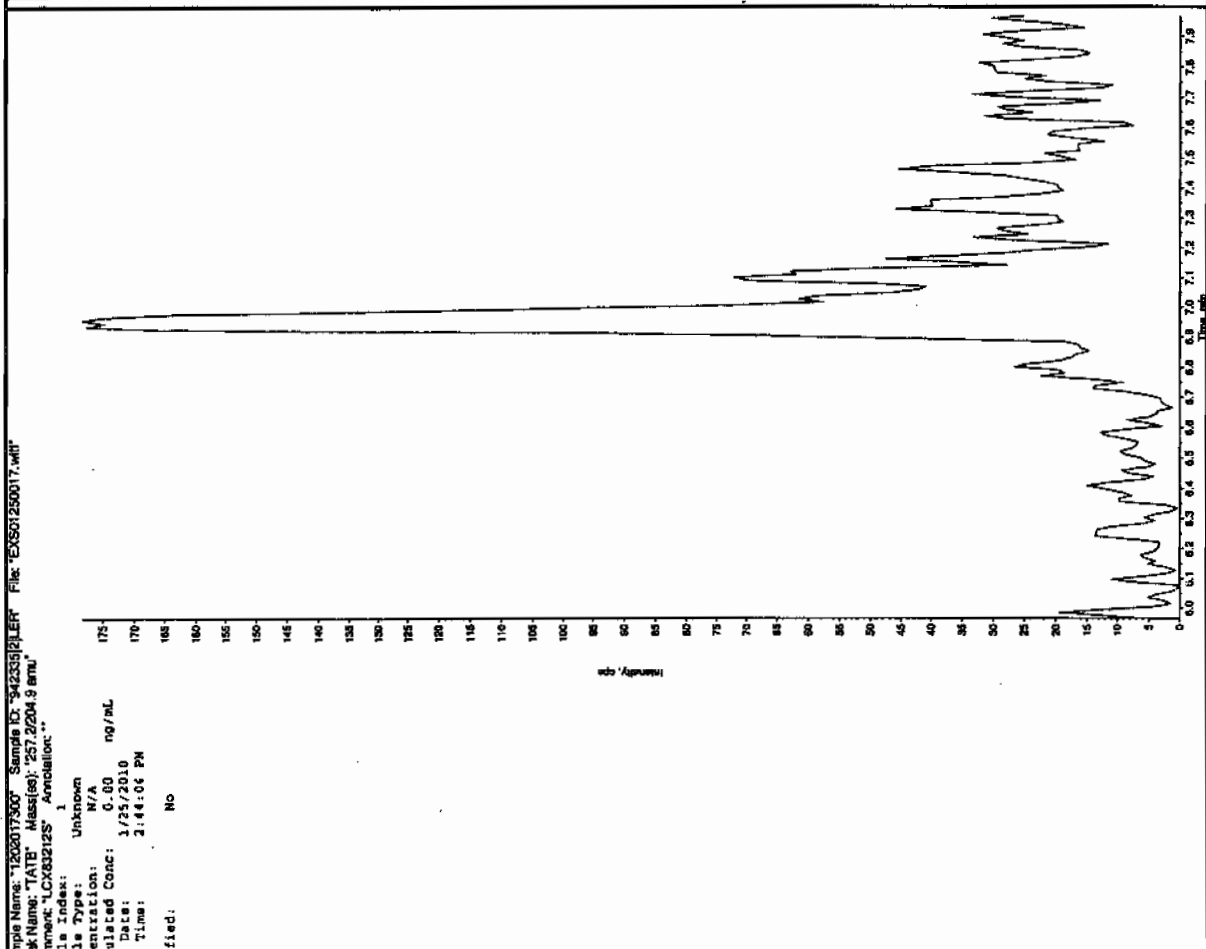
\*Concentration =

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

Jan 11/27/10



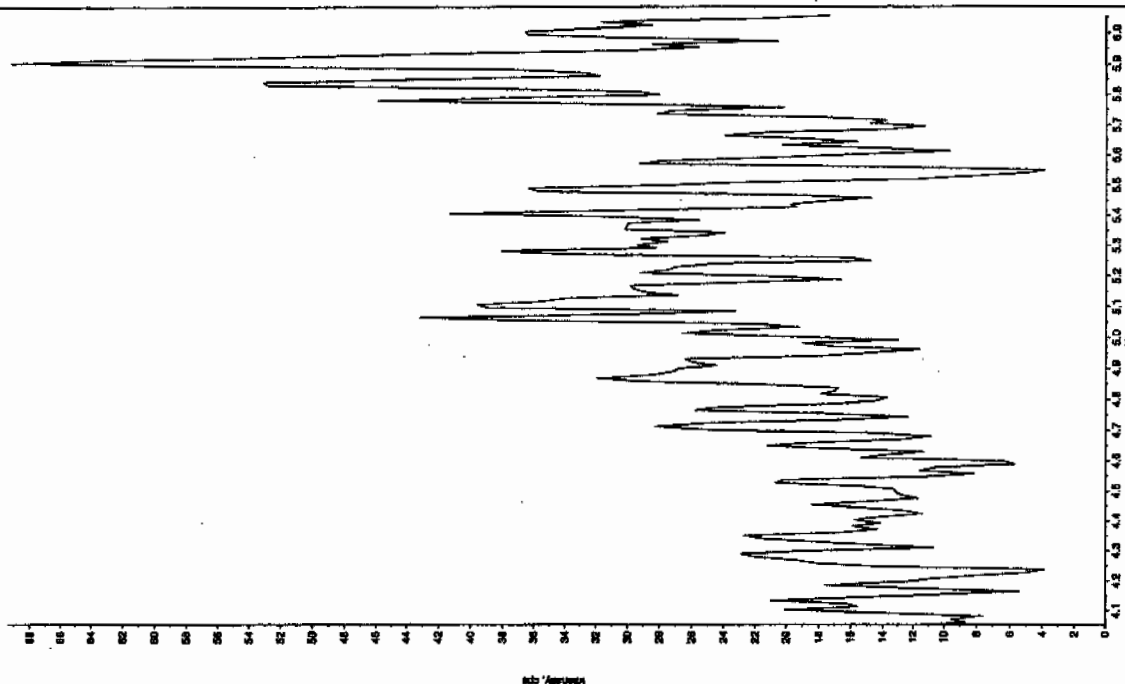
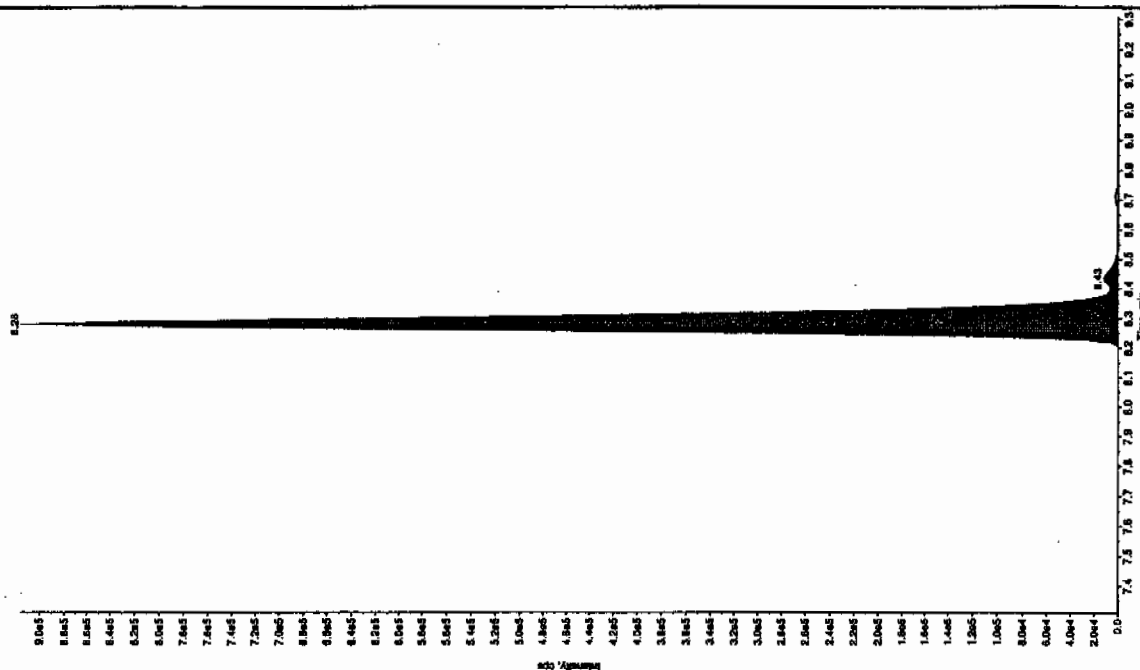
Jan 11/27/10

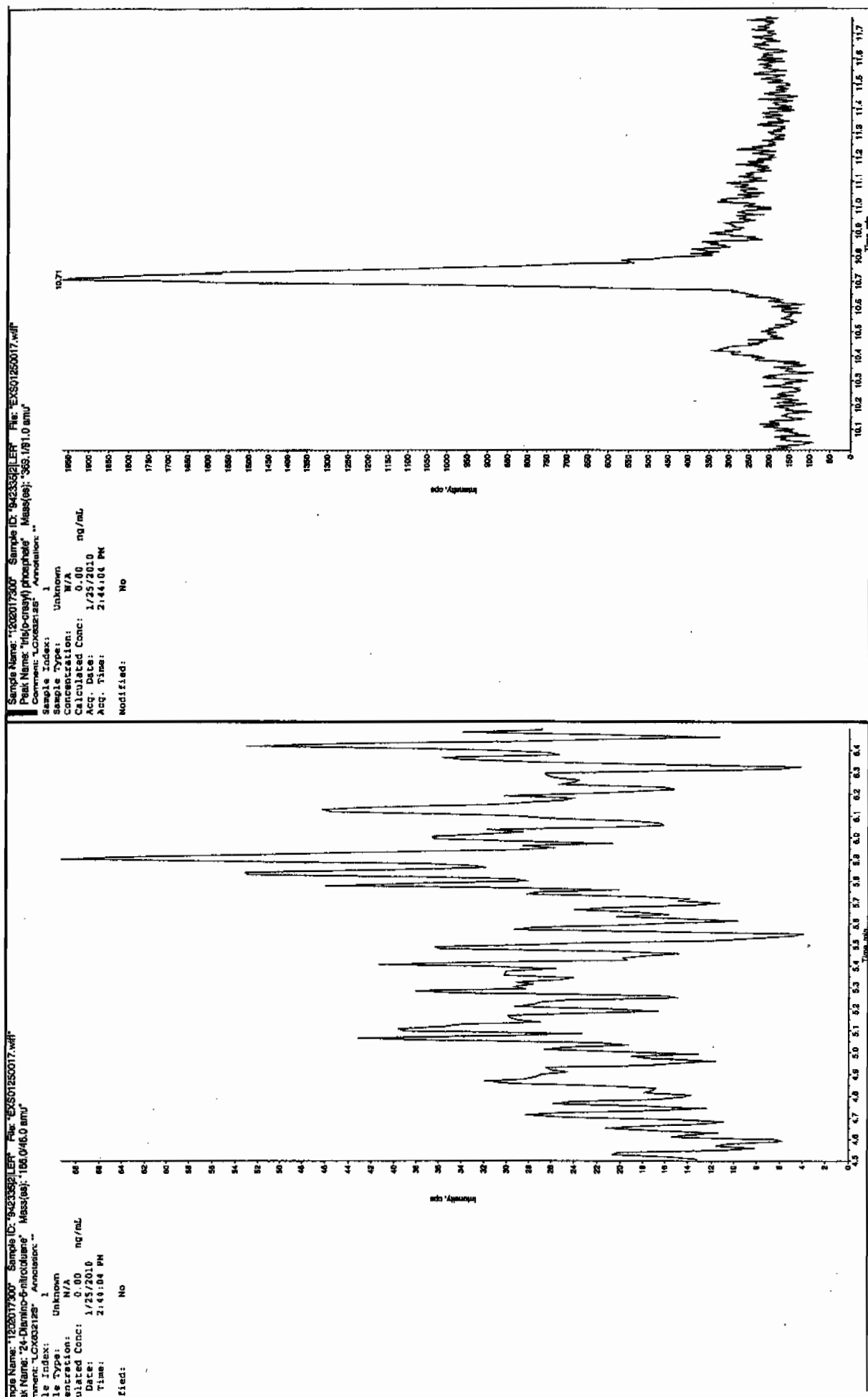


L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Current: "LCX032128"	Annotation: "
Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	0.00
Acq. Date:	1/25/2010
Acq. Time:	2:44:04 PM
Modified:	No
	ng/mL

Sample Name: "1202017300" Sample ID: "9423352|LER" File: "EXS01250017.wdl"  
 Sample Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"

[illegible]



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 942334

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 1202017301

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0131014a

Date Analyzed: 31-JAN-10 18:59

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5030	
121-14-2	2,4-Dinitrotoluene	5150	
121-82-4	RDX	4970	
19406-51-0	4-Amino-2,6-dinitrotoluene	5080	
2691-41-0	HMX	4340	
35572-78-2	2-Amino-4,6-dinitrotoluene	4750	
479-45-8	Tetryl	3150	
606-20-2	2,6-Dinitrotoluene	4740	
78-11-5	PETN	4210	
88-72-2	o-Nitrotoluene	4840	
98-95-3	Nitrobenzene	5170	
99-08-1	m-Nitrotoluene	4460	
99-35-4	1,3,5-Trinitrobenzene	4060	
99-65-0	m-Dinitrobenzene	4570	
99-99-0	p-Nitrotoluene	4830	

\*Concentration =

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

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

atset: C:\MASSLYNX\New\_Exp\_PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

ame: C:\MASSLYNX\NEW\_EXP\_PRO\Data\EXP0131014a

ate: 31-Jan-2010

ime: 18:59:27

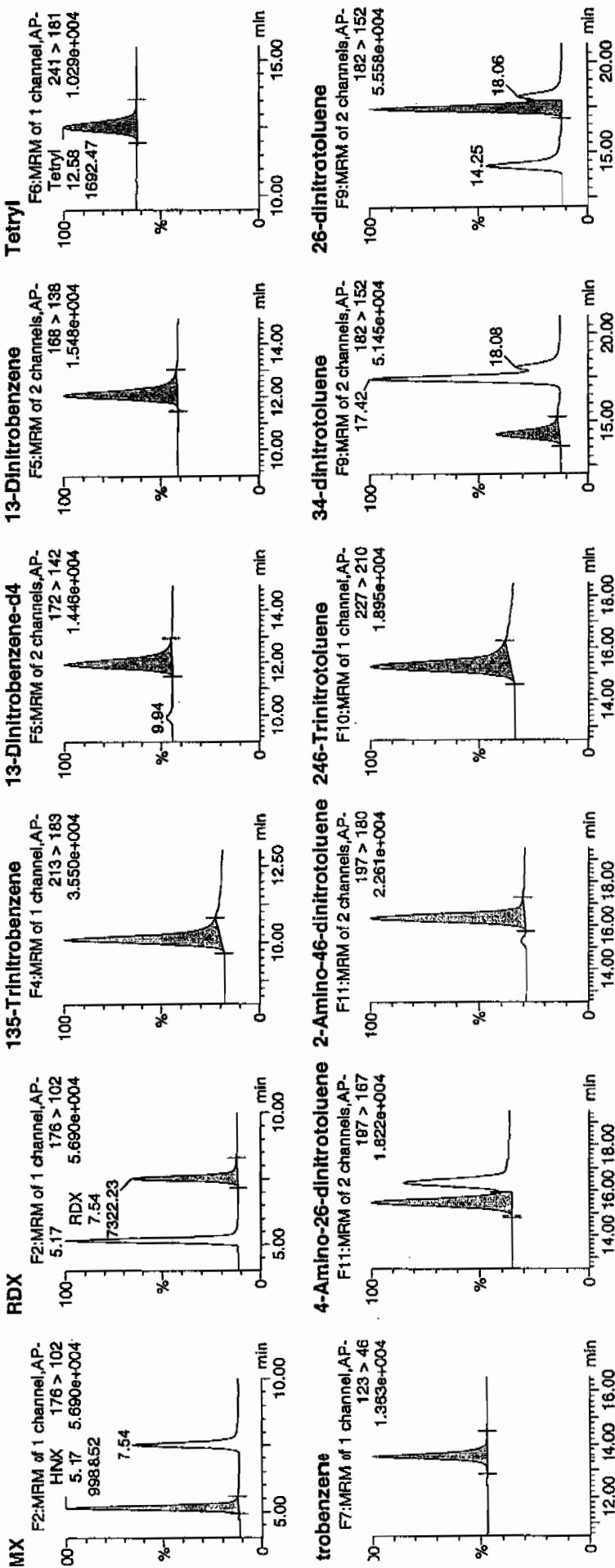
i: 1202017301

ial: 1:4,B

1477

2/1/10

LAUW 942335 / 8000 / 108 / 21

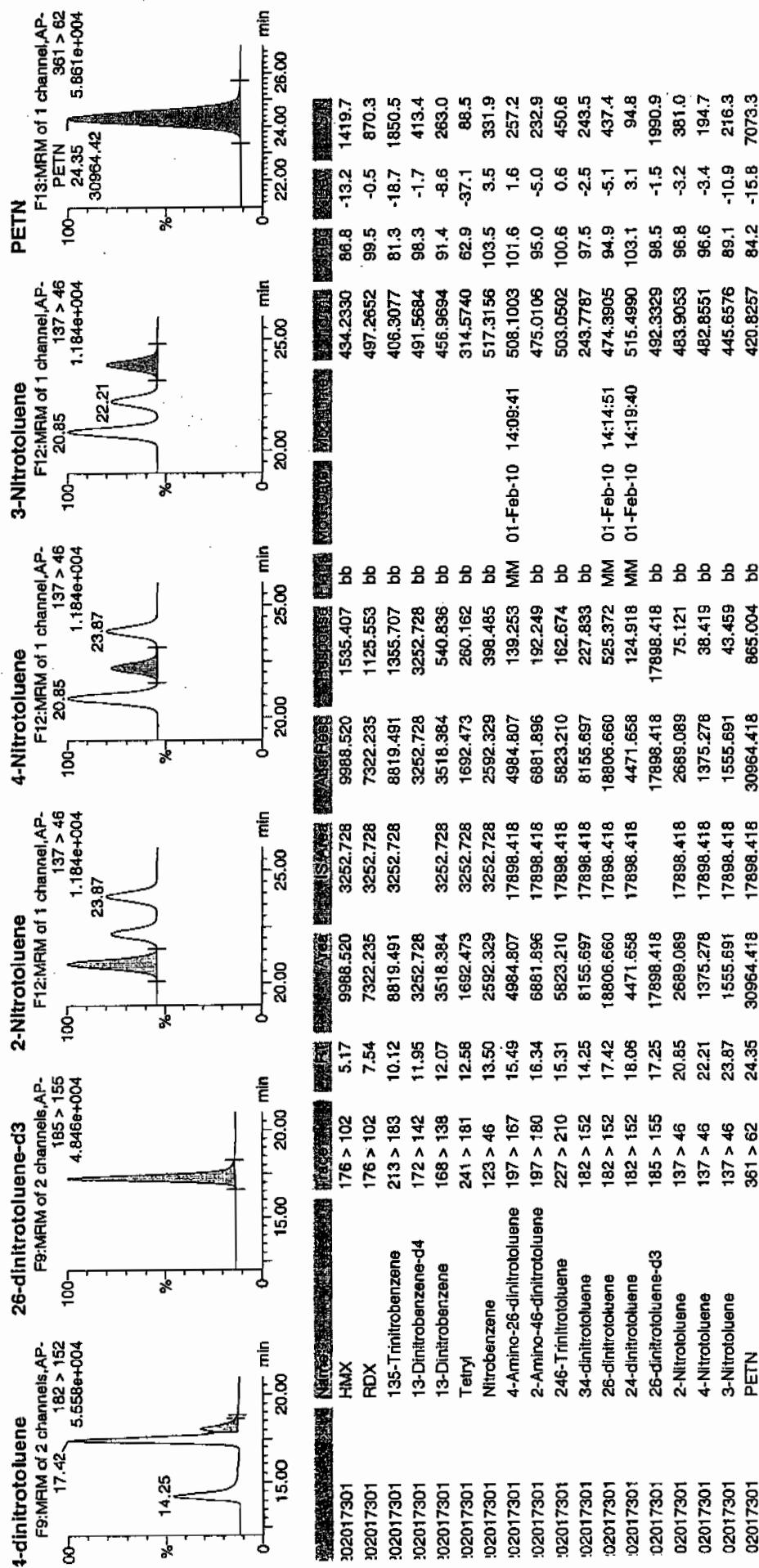


Handwritten signature: Anne O. O'Leary

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

Printed: Mon Feb 01 14:31:20 2010, Page 28 of 103

ataset: C:\MASSLYN\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010



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

1

# High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 942334

Lab Code: GEL

GEL Job No (SDG) 10-1264-1

Matrix: SOIL

GEL Sample ID: 1202017301

Sample Amount 2

Moisture:

Amount Units g

Date Received: 17-JAN-10

Extraction Type Sonication

Extraction Batch ID: 942334

Concentrated Extract Volume (mL) 10

Date Extracted: 22-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250018.wiff

Date Analyzed: 25-JAN-10 14:59

Units: ug/kg

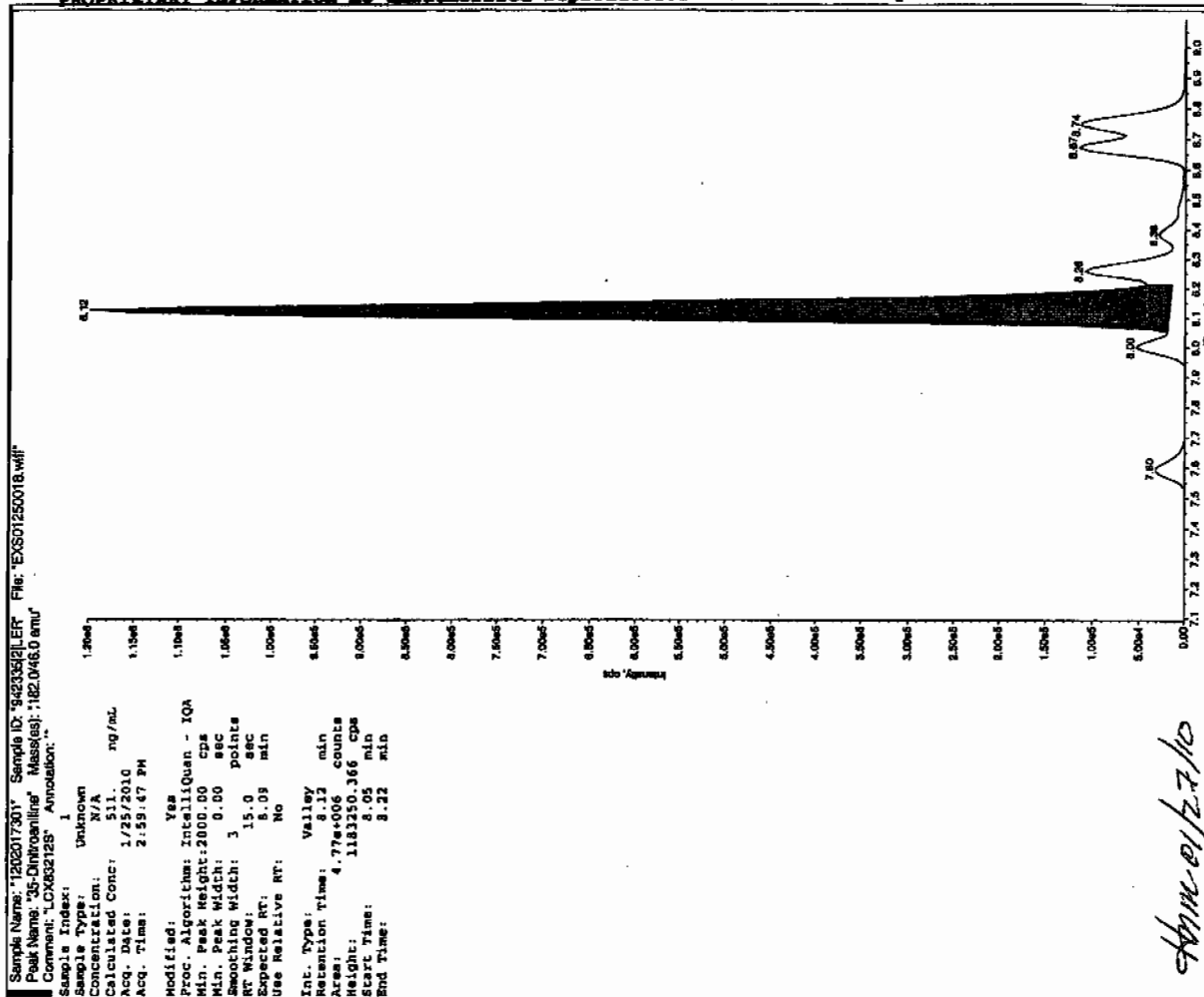
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	5370	
59229-75-3	2,6-Diamino-4-nitrotoluene	4930	
618-87-1	3,5-Dinitroaniline	5260	
6629-29-4	2,4-Diamino-6-nitrotoluene	5410	
78-30-8	tris(o-cresyl) phosphate	5040	

\*Concentration =

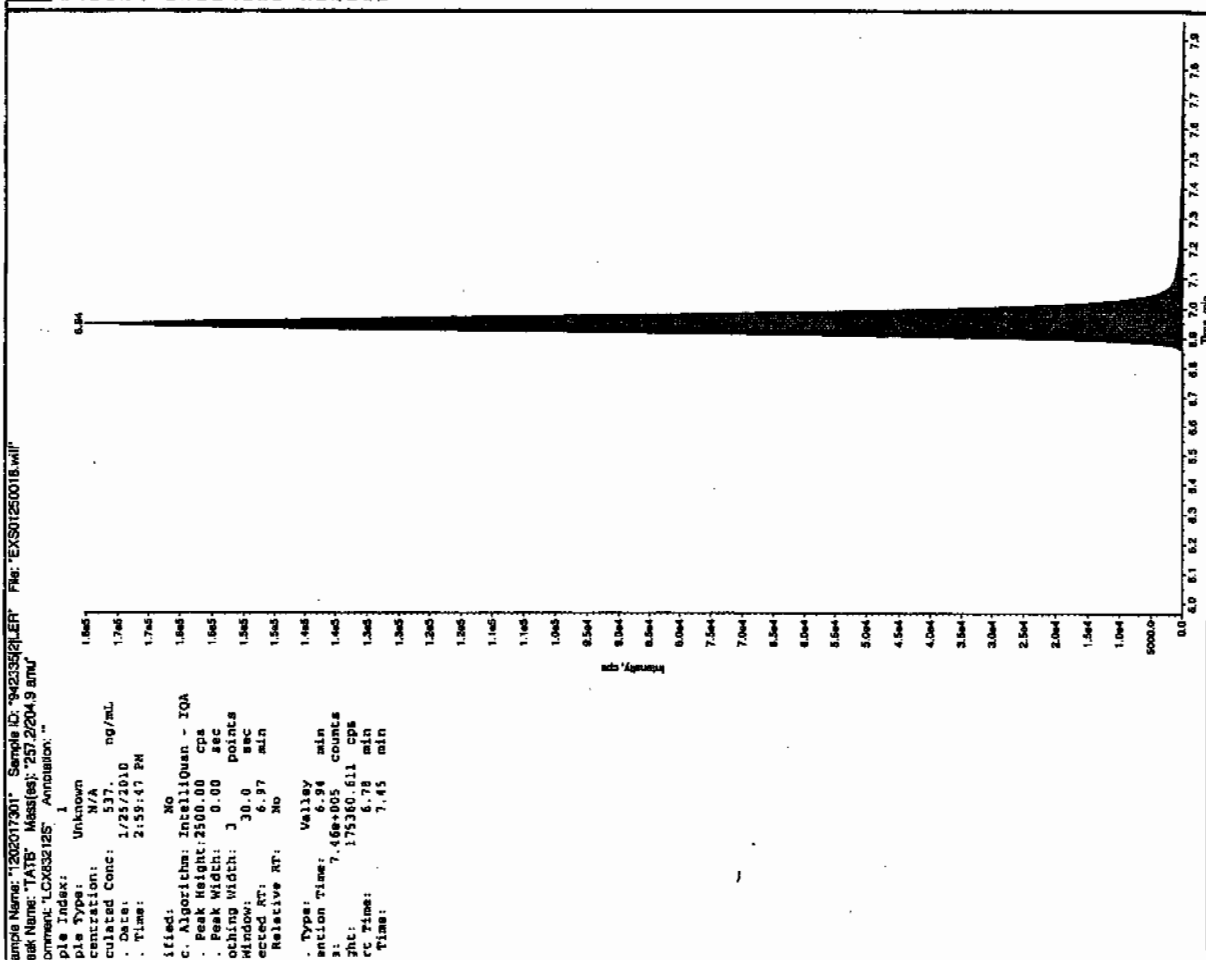
Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$  X Dilution Factor



Before Scan 1127110

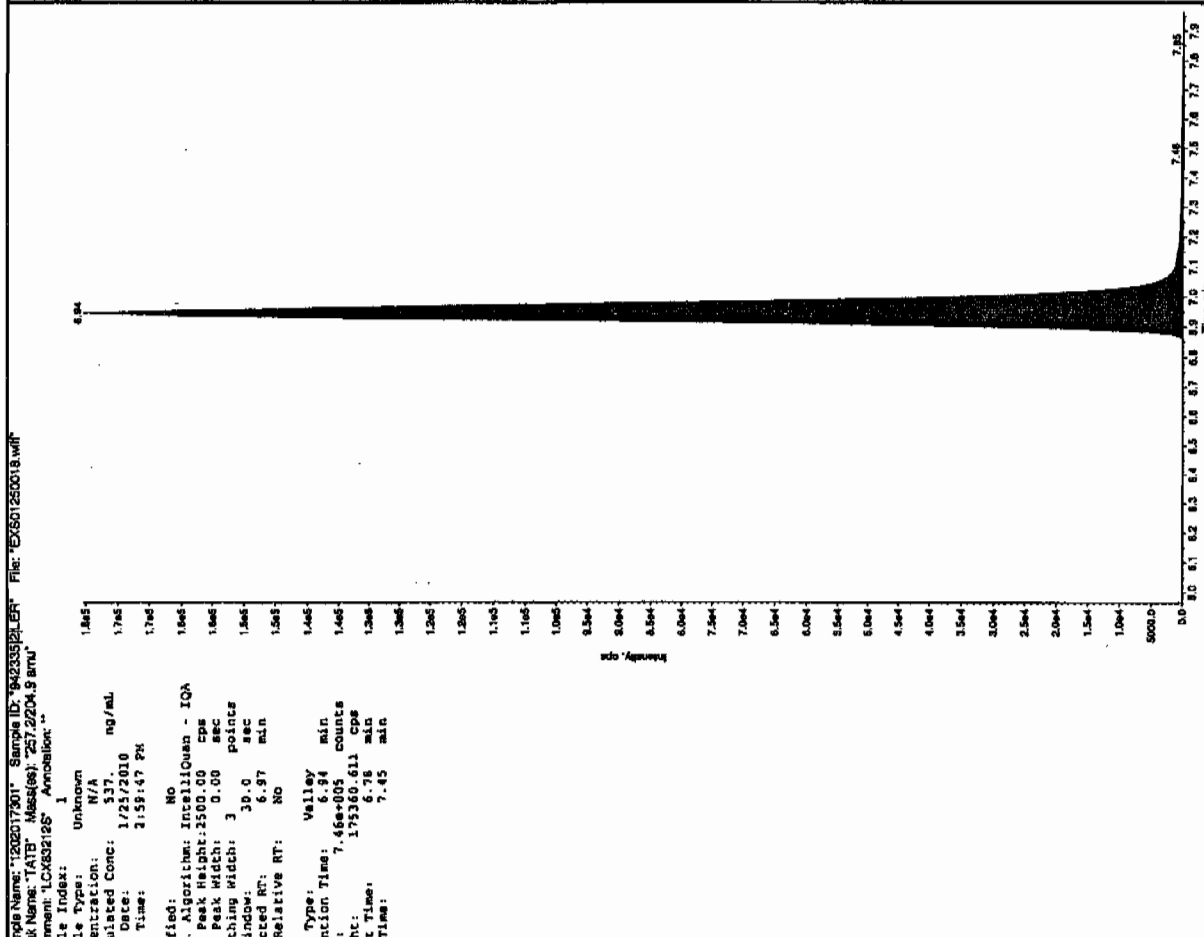
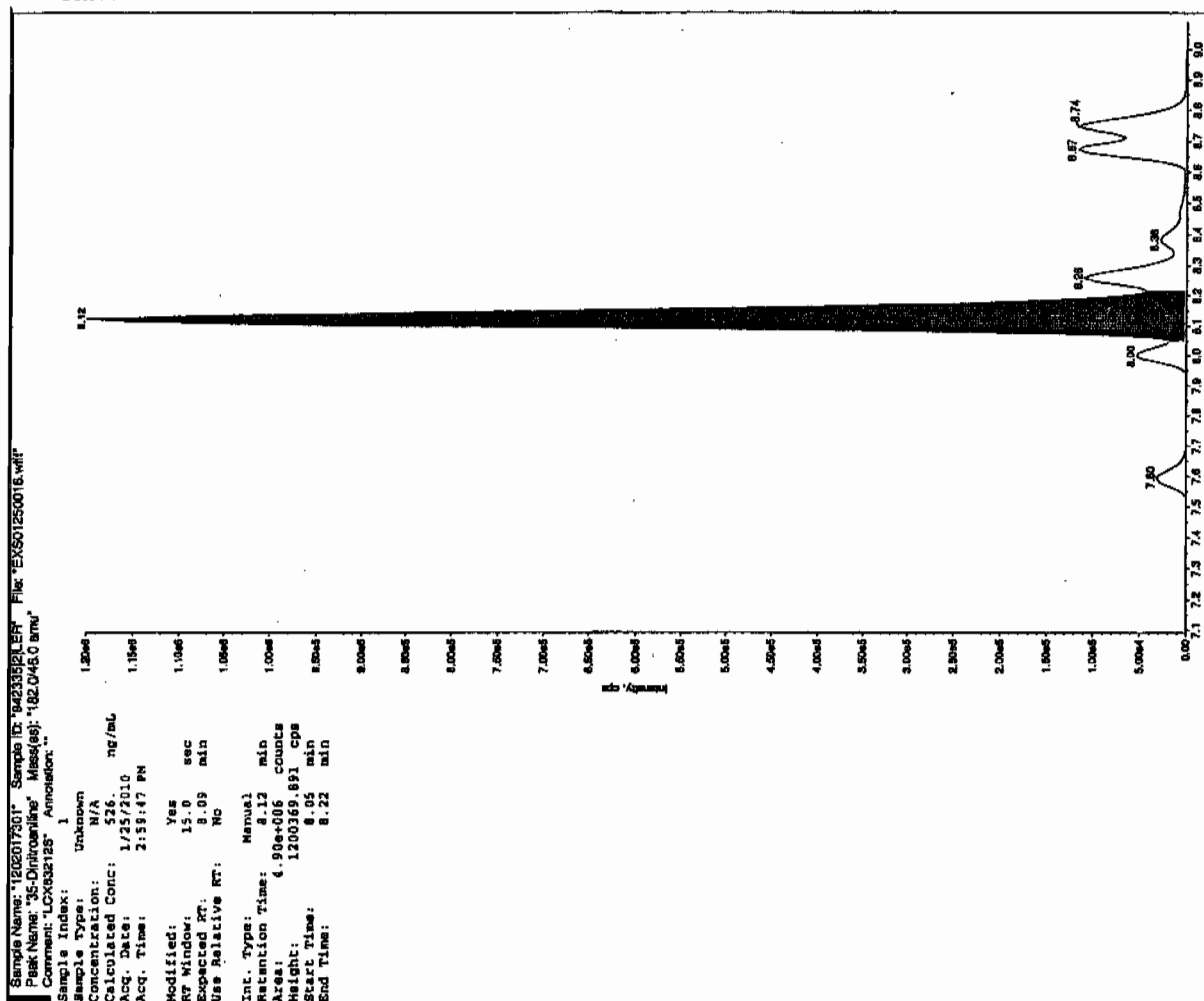


After Scan 1127110

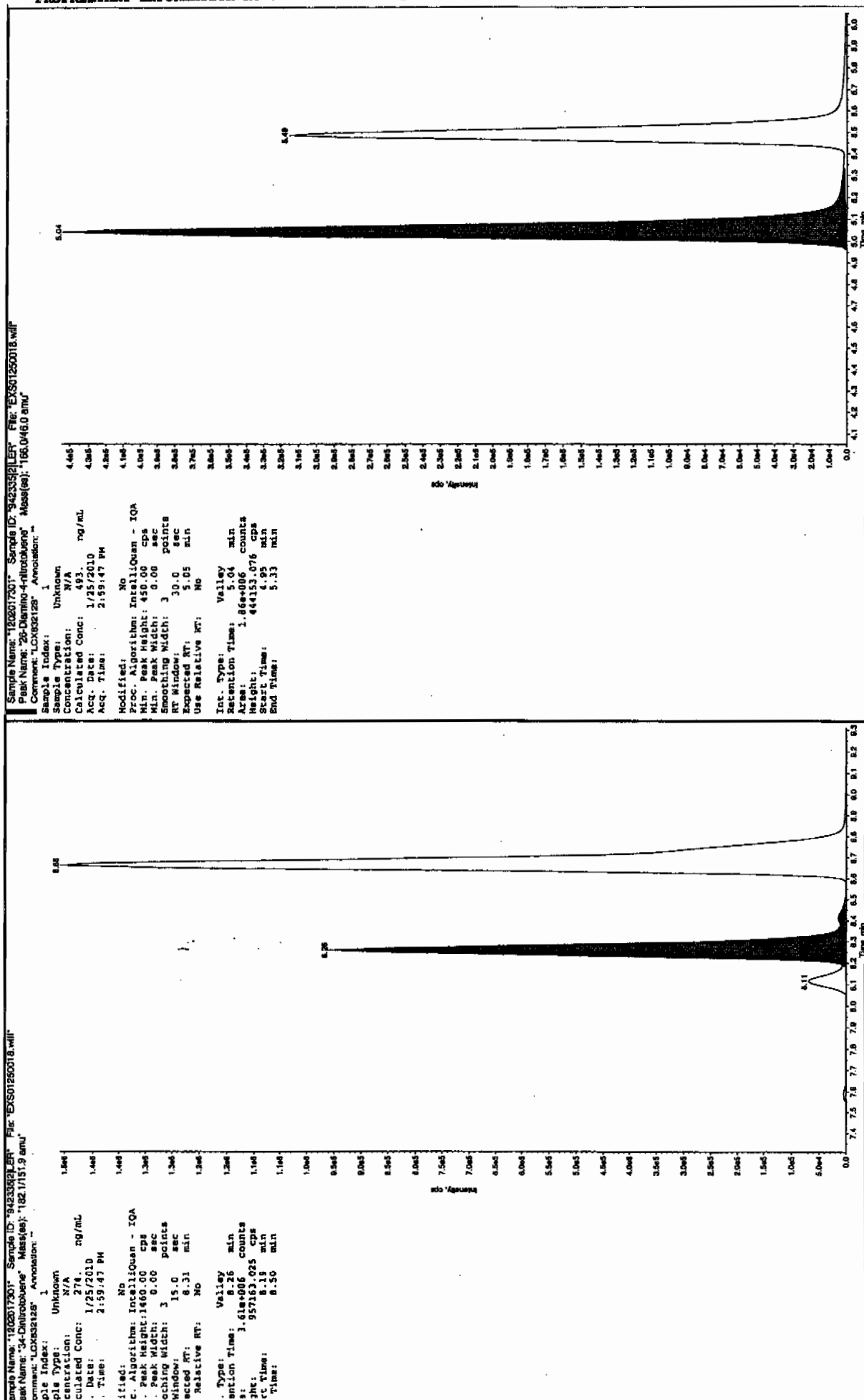


IL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

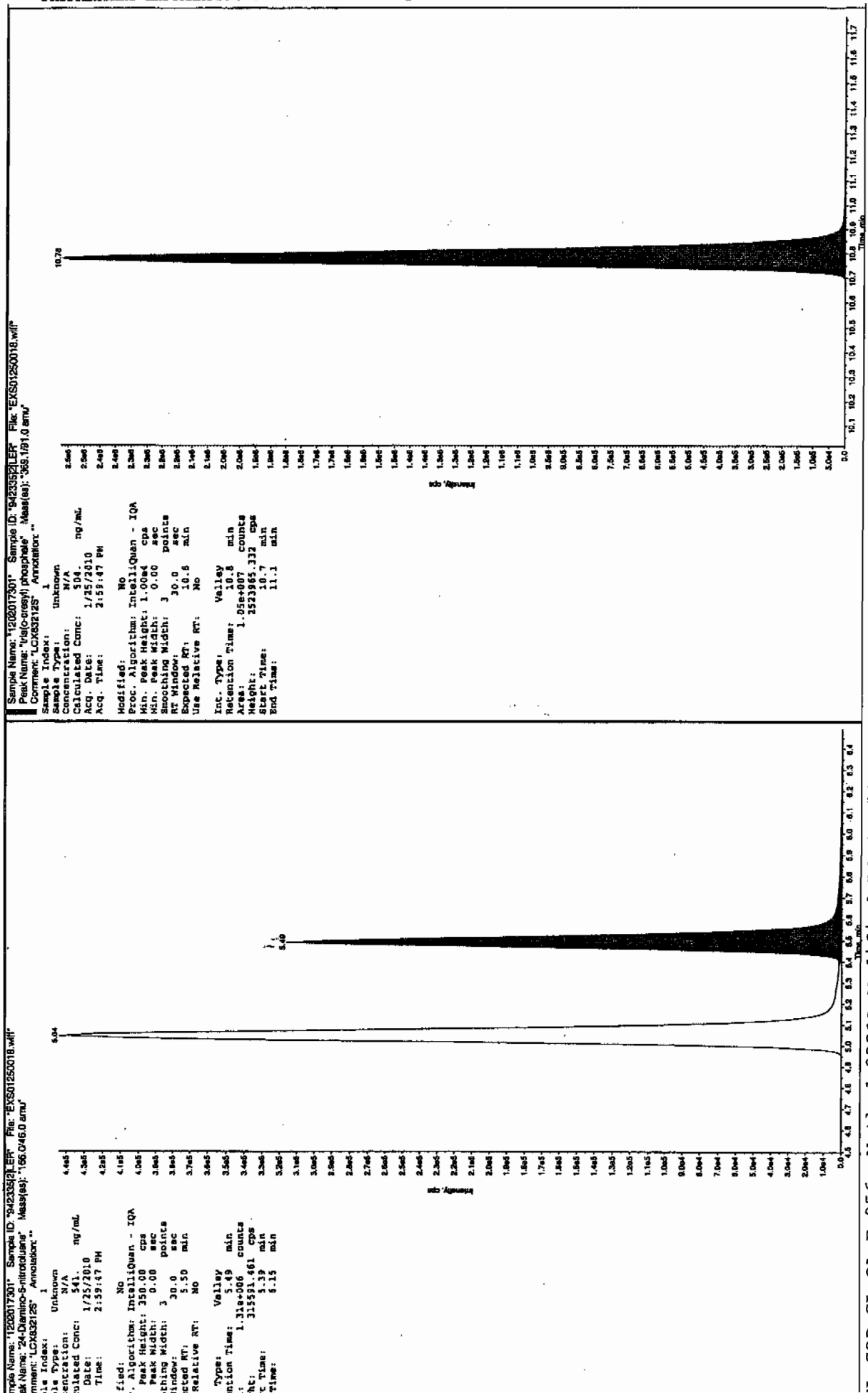
after Dec 11/27/10



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



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



IL 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: 942334 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)
1202017300 MB	22-JAN-2010 14:22:11	2	10	5
1202017301 LCS	22-JAN-2010 14:22:11	2	10	5
244847001	22-JAN-2010 14:22:11	2	10	5
1202017302 MS (244847001)	22-JAN-2010 14:22:11	2	10	5
1202017303 MSD (244847001)	22-JAN-2010 14:22:11	2	10	5
244847002	22-JAN-2010 14:22:11	2	10	5
244847003	22-JAN-2010 14:22:11	2	10	5
244847004	22-JAN-2010 14:22:11	2	10	5
244852001	22-JAN-2010 14:22:11	2	10	5
244852002	22-JAN-2010 14:22:11	2	10	5
244852003	22-JAN-2010 14:22:11	2	10	5
244852004	22-JAN-2010 14:22:11	2	10	5
244881001	22-JAN-2010 14:22:11	2	10	5
244881002	22-JAN-2010 14:22:11	2	10	5
244881003	22-JAN-2010 14:22:11	2	10	5
244881004	22-JAN-2010 14:22:11	2	10	5
244905001	22-JAN-2010 14:22:11	2	10	5
244905002	22-JAN-2010 14:22:11	2	10	5
244905003	22-JAN-2010 14:22:11	2	10	5
244905004	22-JAN-2010 14:22:11	2	10	5
244905005	22-JAN-2010 14:22:11	2	10	5
244905006	22-JAN-2010 14:22:11	2	10	5

### Comments:

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202017301	8321 Explosives LCS	DXX091230-03	.1	mL	Final Solvent: ACN
LCS	1202017301	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
MS	1202017302	8321 Explosives LCS	DXX091230-03	.1	mL	
MS	1202017302	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
MSD	1202017303	8321 Explosives LCS	DXX091230-03	.1	mL	
MSD	1202017303	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
SURR	All	3,4-Dinitrofluorene (8330 Sur.) 100ppm	EXP100121-02	.05	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/31/10  
 Extr. Injection Volume: 50uL  
 Sequence Number: 013110expA  
 Initial Calibration Date: 01/31/10  
 Method: SW846 8321A-Modified  
 Int. Std.: UXX091230-01.4  
 Mobile Phase Lot#: 1261302, 1250738  
 Standard-Samp Reagent Lot#: 1260901, 1246195  
 Reviewed BY: *hnm*  
 Date: *02/02/10*  
 SOP: GL-OA-E-056 Rev.12  
 Alt Check Std. ID: WXX100131-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0131001a	XIBLK01	MAP	1/31/10 12:35			1		USE	B
EXP0131002a	XIBLK01	MAP	1/31/10 13:05			1		USE	B
EXP0131003a	WXXICAL-01	MAP	1/31/10 13:34			1		USE	I
EXP0131004a	WXXICAL-02	MAP	1/31/10 14:04			1		USE	I
EXP0131005a	WXXICAL-03	MAP	1/31/10 14:34			1		USE	I
EXP0131006a	WXXICAL-04	MAP	1/31/10 15:03			1		USE	I
EXP0131007a	WXXICAL-05	MAP	1/31/10 15:33			1		USE	I
EXP0131008a	WXXICAL-06	MAP	1/31/10 16:02			1		USE	I
EXP0131009a	XIBLK02	MAP	1/31/10 16:32			1		USE	B
EXP0131010a	WXXICV	MAP	1/31/10 17:01			1		USE	C
EXP0131011a	XIBLK03	MAP	1/31/10 17:31			1		USE	B
EXP0131012a	WXXCRI	MAP	1/31/10 18:00			1		USE	C
EXP0131013a	1202017300	MAP	1/31/10 18:29	942335	Various	2	LANL	USE	S
EXP0131014a	1202017301	MAP	1/31/10 18:59	942335	Various	2	LANL	USE	S
EXP0131015a	244847001	MAP	1/31/10 19:28	942335	10-1266	2	LANL	USE	S
EXP0131016a	1202017302	MAP	1/31/10 19:58	942335	10-1266	2	LANL	USE	S
EXP0131017a	1202017303	MAP	1/31/10 20:27	942335	10-1266	2	LANL	USE	S
EXP0131018a	244847002	MAP	1/31/10 20:57	942335	10-1266	2	LANL	USE	S
EXP0131019a	244847003	MAP	1/31/10 21:26	942335	10-1266	2	LANL	USE	S
EXP0131020a	244847004	MAP	1/31/10 21:56	942335	10-1266	2	LANL	USE	S
EXP0131021a	244852001	MAP	1/31/10 22:25	942335	10-1263	2	LANL	USE	S
EXP0131022a	244852002	MAP	1/31/10 22:55	942335	10-1263	2	LANL	USE	S
EXP0131023a	WXXCCV	MAP	1/31/10 23:24			1		USE	C
EXP0131024a	XIBLK04	MAP	1/31/10 23:54			1		USE	B
EXP0131025a	WXXCRI	MAP	2/1/10 0:23			1		USE	C
EXP0131026a	244852003	MAP	2/1/10 0:53	942335	10-1263	2	LANL	USE	S
EXP0131027a	244852004	MAP	2/1/10 1:22	942335	10-1263	2	LANL	USE	S
EXP0131028a	244881001	MAP	2/1/10 1:52	942335	10-1264-1	2	LANL	USE	S
EXP0131029a	244881002	MAP	2/1/10 2:21	942335	10-1264-1	2	LANL	USE	S

EXP0131030a	244881003	MAP	2/1/10 2:51	942335	10-1264-1	2	LANL	USE	S
EXP0131031a	244881004	MAP	2/1/10 3:20	942335	10-1264-1	2	LANL	USE	S
EXP0131032a	244905001	MAP	2/1/10 3:50	942335	10-1277	2	LANL	USE	S
EXP0131033a	244905002	MAP	2/1/10 4:19	942335	10-1277	2	LANL	USE	S
EXP0131034a	244905003	MAP	2/1/10 4:49	942335	10-1277	2	LANL	USE	S
EXP0131035a	244905004	MAP	2/1/10 5:18	942335	10-1277	2	LANL	USE	S
EXP0131036a	WXXCCV	MAP	2/1/10 5:48			1		USE	C
EXP0131037a	XIBLK05	MAP	2/1/10 6:17			1		USE	B
EXP0131038a	WXXCRI	MAP	2/1/10 6:47			1		USE	C
EXP0131039a	244905005	MAP	2/1/10 7:16	942335	10-1277	2	LANL	USE	S
EXP0131040a	244905006	MAP	2/1/10 7:46	942335	10-1277	2	LANL	USE	S
EXP0131041a	XIBLK06	MAP	2/1/10 8:15			1		USE	B
EXP0131042a	1202021892	MAP	2/1/10 8:45	944240	10-1294	2	LANL	USE	S
EXP0131043a	1202021893	MAP	2/1/10 9:14	944240	10-1294	2	LANL	USE	S
EXP0131044a	245090002	MAP	2/1/10 9:44	944240	10-1294	2	LANL	USE	S
EXP0131045a	1202021894	MAP	2/1/10 10:13	944240	10-1294	2	LANL	USE	S
EXP0131046a	1202021895	MAP	2/1/10 10:43	944240	10-1294	2	LANL	USE	S
EXP0131047a	245090003	MAP	2/1/10 11:12	944240	10-1294	2	LANL	USE	S
EXP0131048a	245090004	MAP	2/1/10 11:41	944240	10-1294	2	LANL	USE	S
EXP0131049a	WXXCCV	MAP	2/1/10 12:29			1		USE	C
EXP0131050a	XIBLK07	MAP	2/1/10 12:58			1		USE	B
EXP0131051a	WXXCRI	MAP	2/1/10 13:28			1		USE	C



GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 01/25/10  
 Extr. Injection Volume: 10uL  
 Sequence Number: 012510exs  
 Initial Calibration Date: 012510  
 Method: 8321A-Modified  
 Int. Std.: N/A  
 Mobile Phase Lot#: 1250738, 1246467  
 Standard-Samp Reagent Lot#: 1246195, 1253092  
 SOP: GL-OA-E-056 Rev.12  
 Alt Check Std. ID: WXX100125-26

Reviewed By: *[Signature]*  
 Date: 2/27/10

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01250001.wiff	XIBLK01	LER	1/25/2010 10:28			1		USE	B
EXS01250002.wiff	XIBLK01	LER	1/25/2010 10:46			1		USE	B
EXS01250003.wiff	WXXICAL-19	LER	1/25/2010 11:02			1		USE	I
EXS01250004.wiff	WXXICAL-20	LER	1/25/2010 11:18			1		USE	I
EXS01250005.wiff	WXXICAL-21	LER	1/25/2010 11:33			1		USE	I
EXS01250006.wiff	WXXICAL-22	LER	1/25/2010 11:51			1		USE	I
EXS01250007.wiff	WXXICAL-23	LER	1/25/2010 12:07			1		USE	I
EXS01250008.wiff	WXXICAL-24	LER	1/25/2010 12:22			1		USE	I
EXS01250009.wiff	WXXICAL-25	LER	1/25/2010 12:38			1		USE	I
EXS01250010.wiff	XIBLK02	LER	1/25/2010 12:54			1		USE	B
EXS01250011.wiff	WXXICV	LER	1/25/2010 13:09			1		USE	C
EXS01250012.wiff	XIBLK03	LER	1/25/2010 13:25			1		USE	B
EXS01250013.wiff	WXXCRI	LER	1/25/2010 13:41			1		USE	C
EXS01250014.wiff	1202015503	LER	1/25/2010 13:56			2	LANL	USE	S
EXS01250015.wiff	1202015504	LER	1/25/2010 14:12			2	LANL	USE	S
EXS01250016.wiff	XIBLK04	LER	1/25/2010 14:28	941660	VARIOUS 10-1214	1		USE	B
EXS01250017.wiff	1202017300	LER	1/25/2010 14:44			2	LANL	USE	S
EXS01250018.wiff	1202017301	LER	1/25/2010 14:59			2	LANL	USE	S
EXS01250019.wiff	244847001	LER	1/25/2010 15:15			2	LANL	USE	S
EXS01250020.wiff	1202017302	LER	1/25/2010 15:31			2	LANL	USE	S
EXS01250021.wiff	1202017303	LER	1/25/2010 15:46			2	LANL	USE	S
EXS01250022.wiff	244847002	LER	1/25/2010 16:02			2	LANL	USE	S
EXS01250023.wiff	244847003	LER	1/25/2010 16:18			2	LANL	DUSE-RA	S
EXS01250024.wiff	WXXCCV	LER	1/25/2010 16:33			2	LANL	USE	S
EXS01250025.wiff	XIBLK05	LER	1/25/2010 16:49			1		USE	C
EXS01250026.wiff	WXXCRI	LER	1/25/2010 17:05			1		USE	B
EXS01250027.wiff	244847004	LER	1/25/2010 17:21			1		USE	C
EXS01250028.wiff	244852001	LER	1/25/2010 17:36	942335	10-1262	2	LANL	USE	S
EXS01250029.wiff	244852002	LER	1/25/2010 17:52	942335	10-1263	2	LANL	USE	S
EXS01250030.wiff	244852003	LER	1/25/2010 18:08	942335	10-1263	2	LANL	USE	S

EXS01250031.wiff	244852004	LER	1/25/2010 18:24	942335	10-1263	2	LANL	USE	S
EXS01250032.wiff	244881001	LER	1/25/2010 18:39	942335	10-1264-1	2	LANL	USE	S
EXS01250033.wiff	244881002	LER	1/25/2010 18:55	942335	10-1264-1	2	LANL	USE	S
EXS01250034.wiff	244881003	LER	1/25/2010 19:11	942335	10-1264-1	2	LANL	USE	S
EXS01250035.wiff	244881004	LER	1/25/2010 19:26	942335	10-1264-1	2	LANL	USE	S
EXS01250036.wiff	244905001	LER	1/25/2010 19:42	942335	10-1277	2	LANL	USE	S
EXS01250037.wiff	WXXCCV	LER	1/25/2010 19:58			1		USE	C
EXS01250038.wiff	XIBLK06	LER	1/25/2010 20:14			1		USE	B
EXS01250039.wiff	WXXCRI	LER	1/25/2010 20:29			1		USE	C
EXS01250040.wiff	244905002	LER	1/25/2010 20:45	942335	10-1277	2	LANL	USE	S
EXS01250041.wiff	244905003	LER	1/25/2010 21:01	942335	10-1277	2	LANL	USE	S
EXS01250042.wiff	244905004	LER	1/25/2010 21:16	942335	10-1277	2	LANL	USE	S
EXS01250043.wiff	244905005	LER	1/25/2010 21:32	942335	10-1277	2	LANL	USE	S
EXS01250044.wiff	244905006	LER	1/25/2010 21:48	942335	10-1277	2	LANL	USE	S
EXS01250045.wiff	WXXCCV	LER	1/25/2010 22:04			1		USE	C
EXS01250046.wiff	XIBLK07	LER	1/25/2010 22:19			1		USE	B
EXS01250047.wiff	WXXCRI	LER	1/25/2010 22:35			1		USE	C
EXS01250048.wiff	1202017304	LER	1/25/2010 22:51	942337	VARIOUS	2	LANL	USE	S
EXS01250049.wiff	1202017305	LER	1/25/2010 23:06	942337	VARIOUS	2	LANL	USE	S
EXS01250050.wiff	244909001	LER	1/25/2010 23:22	942337	10-1279	2	LANL	USE	S
EXS01250051.wiff	244909002	LER	1/25/2010 23:38	942337	10-1279	2	LANL	USE	S
EXS01250052.wiff	244909003	LER	1/25/2010 23:54	942337	10-1279	2	LANL	USE	S
EXS01250053.wiff	244909004	LER	1/26/2010 0:09	942337	10-1279	2	LANL	USE	S
EXS01250054.wiff	244910002	LER	1/26/2010 0:25	942337	10-1281	2	LANL	USE	S
EXS01250055.wiff	1202017306	LER	1/26/2010 0:41	942337	10-1281	2	LANL	USE	S
EXS01250056.wiff	1202017307	LER	1/26/2010 0:56	942337	10-1281	2	LANL	USE	S
EXS01250057.wiff	244910003	LER	1/26/2010 1:12	942337	10-1281	2	LANL	USE	S
EXS01250058.wiff	WXXCCV	LER	1/26/2010 1:28			1		USE	C
EXS01250059.wiff	XIBLK08	LER	1/26/2010 1:44			1		USE	B
EXS01250060.wiff	WXXCRI	LER	1/26/2010 1:59			1		USE	C
EXS01250061.wiff	244910004	LER	1/26/2010 2:15	942337	10-1281	2	LANL	USE	S
EXS01250062.wiff	244910005	LER	1/26/2010 2:31	942337	10-1281	2	LANL	USE	S
EXS01250063.wiff	244910006	LER	1/26/2010 2:46	942337	10-1281	2	LANL	USE	S
EXS01250064.wiff	244910007	LER	1/26/2010 3:02	942337	10-1281	2	LANL	USE	S
EXS01250065.wiff	244910008	LER	1/26/2010 3:18	942337	10-1281	2	LANL	USE	S
EXS01250066.wiff	244910009	LER	1/26/2010 3:33	942337	10-1281	2	LANL	USE	S
EXS01250067.wiff	WXXCCV	LER	1/26/2010 3:49			1		USE	C

EXS01250068.wiff	XIBLK09	LER	1/26/2010 4:05	1	USE	B
EXS01250069.wiff	WXXCRI	LER	1/26/2010 4:21	1	USE	C
EXS01250070.wiff	1202015510	LER	1/26/2010 4:36	2	LANL	S
EXS01250071.wiff	1202015511	LER	1/26/2010 4:52	2	LANL	S
EXS01250072.wiff	244626001	LER	1/26/2010 5:08	2	LANL	S
EXS01250073.wiff	1202015512	LER	1/26/2010 5:23	2	LANL	S
EXS01250074.wiff	1202015513	LER	1/26/2010 5:39	2	LANL	S
EXS01250075.wiff	244626002	LER	1/26/2010 5:55	2	LANL	S
EXS01250076.wiff	244626003	LER	1/26/2010 6:11	2	LANL	S
EXS01250077.wiff	244626004	LER	1/26/2010 6:26	2	LANL	S
EXS01250078.wiff	244626005	LER	1/26/2010 6:42	2	LANL	S
EXS01250079.wiff	244626006	LER	1/26/2010 6:58	2	LANL	S
EXS01250080.wiff	WXXCCV	LER	1/26/2010 7:13	1	USE	C
EXS01250081.wiff	XIBLK10	LER	1/26/2010 7:29	1	USE	B
EXS01250082.wiff	WXXCRI	LER	1/26/2010 7:45	1	USE	C
EXS01250083.wiff	244626007	LER	1/26/2010 8:00	2	LANL	S
EXS01250084.wiff	244626008	LER	1/26/2010 8:16	2	LANL	S
EXS01250085.wiff	244626009	LER	1/26/2010 8:32	2	LANL	S
EXS01250086.wiff	244626010	LER	1/26/2010 8:48	2	LANL	S
EXS01250087.wiff	244626011	LER	1/26/2010 9:03	2	LANL	S
EXS01250088.wiff	244626012	LER	1/26/2010 9:19	2	LANL	S
EXS01250089.wiff	244626013	LER	1/26/2010 9:35	2	LANL	S
EXS01250090.wiff	244626014	LER	1/26/2010 9:50	2	LANL	S
EXS01250091.wiff	244626015	LER	1/26/2010 10:06	2	LANL	S
EXS01250092.wiff	244626016	LER	1/26/2010 10:22	2	LANL	S
EXS01250093.wiff	WXXCCV	LER	1/26/2010 10:37	1	USE	C
EXS01250094.wiff	XIBLK11	LER	1/26/2010 10:53	1	USE	B
EXS01250095.wiff	WXXCRI	LER	1/26/2010 11:09	1	USE	C
EXS01250096.wiff	244847002	LER	1/26/2010 11:25	2	LANL	S
EXS01250097.wiff	XIBLK12	LER	1/26/2010 11:40	1	USE	B
EXS01250098.wiff	1202015498	LER	1/26/2010 11:56	2	LANL	S
EXS01250099.wiff	1202015499	LER	1/26/2010 12:12	2	LANL	S
EXS01250100.wiff	244597001	LER	1/26/2010 12:27	2	LANL	S
EXS01250101.wiff	244599001	LER	1/26/2010 12:43	2	LANL	S
EXS01250102.wiff	1202015500	LER	1/26/2010 12:59	2	LANL	S
EXS01250103.wiff	1202015501	LER	1/26/2010 13:15	2	LANL	S
EXS01250104.wiff	244599002	LER	1/26/2010 13:30	2	LANL	S

EXS01250105.wiff	244599003	LER	1/26/2010 13:46	941658	10-1210	2	LANL	USE	S
EXS01250106.wiff	WXXCVC	LER	1/26/2010 14:02			1		USE	C
EXS01250107.wiff	XIBLK13	LER	1/26/2010 14:17			1		USE	B
EXS01250108.wiff	WXXCRI	LER	1/26/2010 14:33			1		USE	C
EXS01250109.wiff	244599004	LER	1/26/2010 14:49	941658	10-1210	2	LANL	USE	S
EXS01250110.wiff	244599005	LER	1/26/2010 15:05	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250111.wiff	244599006	LER	1/26/2010 15:20	941658	10-1210	2	LANL	USE	S
EXS01250112.wiff	244599007	LER	1/26/2010 15:36	941658	10-1210	2	LANL	USE	S
EXS01250113.wiff	244599008	LER	1/26/2010 15:52	941658	10-1210	2	LANL	USE	S
EXS01250114.wiff	244599009	LER	1/26/2010 16:07	941658	10-1210	2	LANL	USE	S
EXS01250115.wiff	244599010	LER	1/26/2010 16:23	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250116.wiff	244599011	LER	1/26/2010 16:39	941658	10-1210	2	LANL	USE	S
EXS01250117.wiff	244599012	LER	1/26/2010 16:55	941658	10-1210	2	LANL	USE	S
EXS01250118.wiff	244599013	LER	1/26/2010 17:10	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250119.wiff	WXXCVC	LER	1/26/2010 17:26			1		USE	C
EXS01250120.wiff	XIBLK14	LER	1/26/2010 17:42			1		USE	B
EXS01250121.wiff	WXXCRI	LER	1/26/2010 17:57			1		USE	C
EXS01250122.wiff	1202017308	LER	1/26/2010 18:13	942339	VARIOUS	2	LANL	USE	S
EXS01250123.wiff	1202017309	LER	1/26/2010 18:29	942339	VARIOUS	2	LANL	USE	S
EXS01250124.wiff	244916002	LER	1/26/2010 18:45	942339	10-1284	2	LANL	USE	S
EXS01250125.wiff	244916003	LER	1/26/2010 19:00	942339	10-1284	2	LANL	USE	S
EXS01250126.wiff	244917002	LER	1/26/2010 19:16	942339	10-1285	2	LANL	USE	S
EXS01250127.wiff	244917003	LER	1/26/2010 19:32	942339	10-1285	2	LANL	USE	S
EXS01250128.wiff	244917004	LER	1/26/2010 19:47	942339	10-1285	2	LANL	USE	S
EXS01250129.wiff	244923001	LER	1/26/2010 20:03	942339	10-1287	2	LANL	USE	S
EXS01250130.wiff	1202017310	LER	1/26/2010 20:19	942339	10-1287	2	LANL	USE	S
EXS01250131.wiff	1202017311	LER	1/26/2010 20:34	942339	10-1287	2	LANL	USE	S
EXS01250132.wiff	WXXCVC	LER	1/26/2010 20:50			1		USE	C
EXS01250133.wiff	XIBLK15	LER	1/26/2010 21:06			1		USE	B
EXS01250134.wiff	WXXCRI	LER	1/26/2010 21:22			1		USE	C
EXS01250135.wiff	244923002	LER	1/26/2010 21:37	942339	10-1287	2	LANL	USE	S
EXS01250136.wiff	244923003	LER	1/26/2010 21:53	942339	10-1287	2	LANL	USE	S
EXS01250137.wiff	244923004	LER	1/26/2010 22:09	942339	10-1287	2	LANL	USE	S
EXS01250138.wiff	244923005	LER	1/26/2010 22:24	942339	10-1287	2	LANL	USE	S
EXS01250139.wiff	244923006	LER	1/26/2010 22:40	942339	10-1287	2	LANL	USE	S
EXS01250140.wiff	244923007	LER	1/26/2010 22:56	942339	10-1287	2	LANL	USE	S
EXS01250141.wiff	244923008	LER	1/26/2010 23:12	942339	10-1287	2	LANL	USE	S

EXS01250142.wiff	244923009	LER	1/26/2010 23:27	942339	10-1287	2	LANL	USE	S
EXS01250143.wiff	244923010	LER	1/26/2010 23:43	942339	10-1287	2	LANL	USE	S
EXS01250144.wiff	WXXCCV	LER	1/26/2010 23:59			1		USE	C
EXS01250145.wiff	XIBLK16	LER	1/27/2010 0:14			1		USE	B
EXS01250146.wiff	WXXCRI	LER	1/27/2010 0:30			1		USE	C
EXS01250147.wiff	UXX100108-01.2	LER	1/27/2010 0:46	SCREEN	SOLID	2	O2SI	USE	S
EXS01250148.wiff	244599005	LER	1/27/2010 1:02	941658	10-1210	2	LANL	USE	S
EXS01250149.wiff	244599010	LER	1/27/2010 1:17	941658	10-1210	2	LANL	USE	S
EXS01250150.wiff	WXXCCV	LER	1/27/2010 1:33			1		USE	C
EXS01250151.wiff	XIBLK17	LER	1/27/2010 1:49			1		USE	B
EXS01250152.wiff	WXXCRI	LER	1/27/2010 2:04			1		USE	C

Quantify Sample Report  
3EL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP.PRO\Data\EXP0131016a

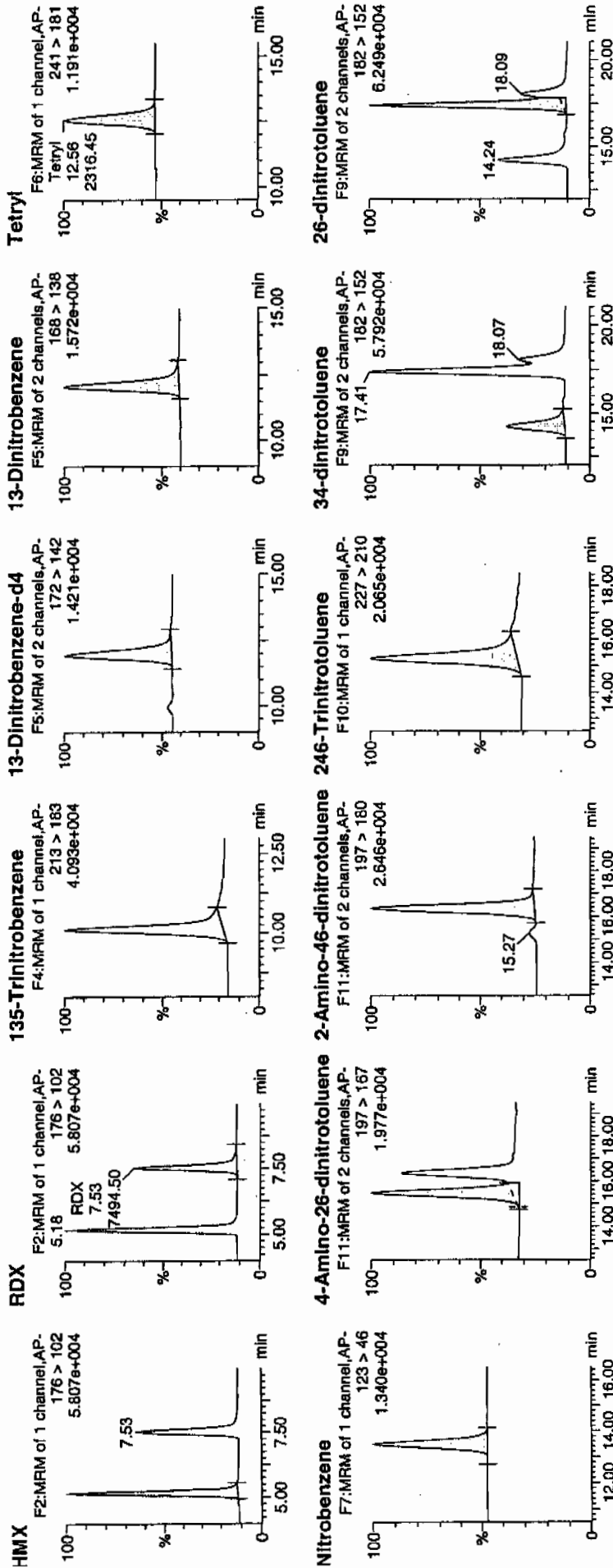
Date: 31-Jan-2010

Time: 19:58:25

ID: 1202017302

Vial: 1:4,D

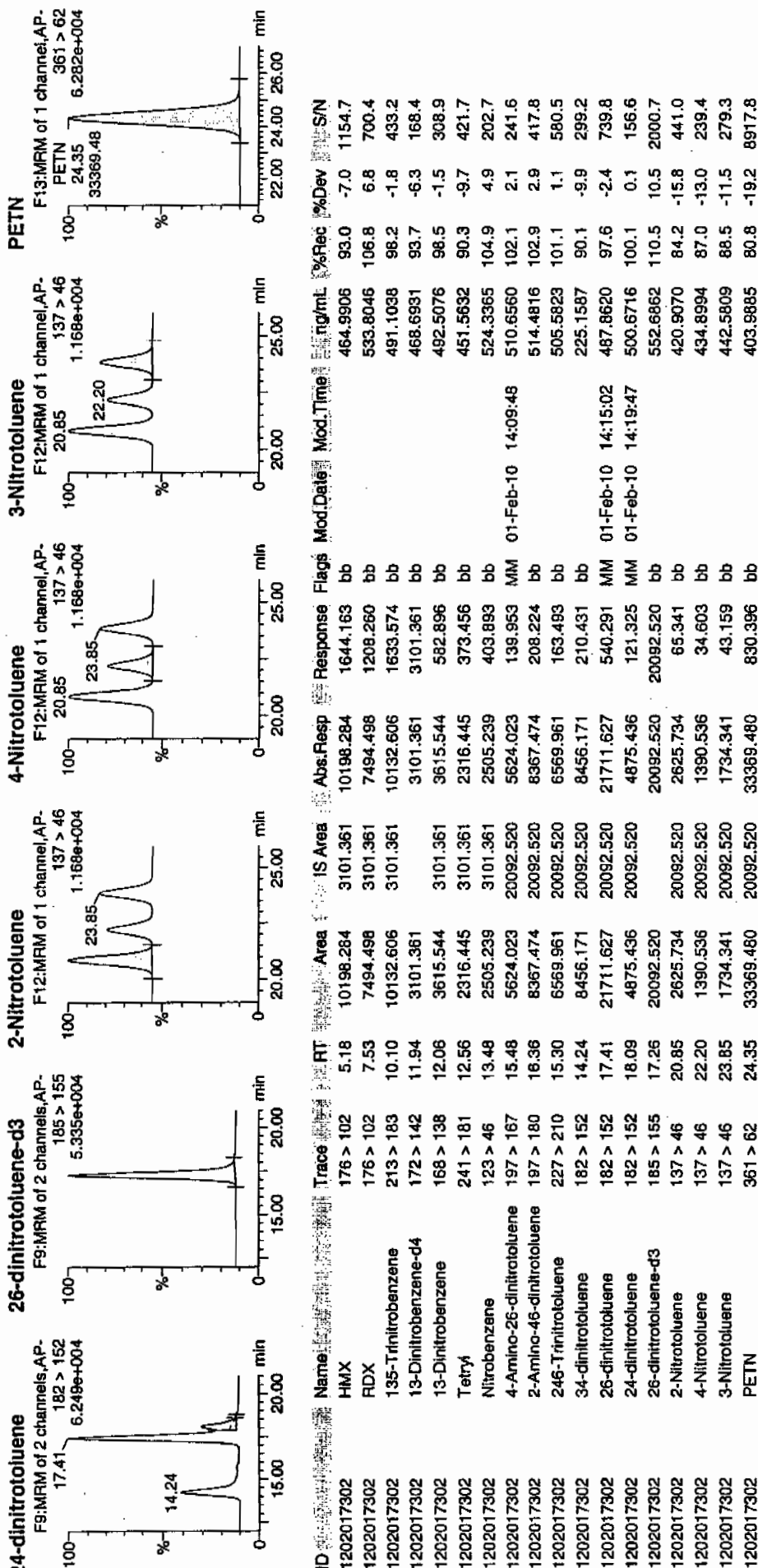
Handwritten notes: *24/11/10*, *24484700128/21*, *942335/Seas*



Handwritten signature: *Amie J. J. J.*

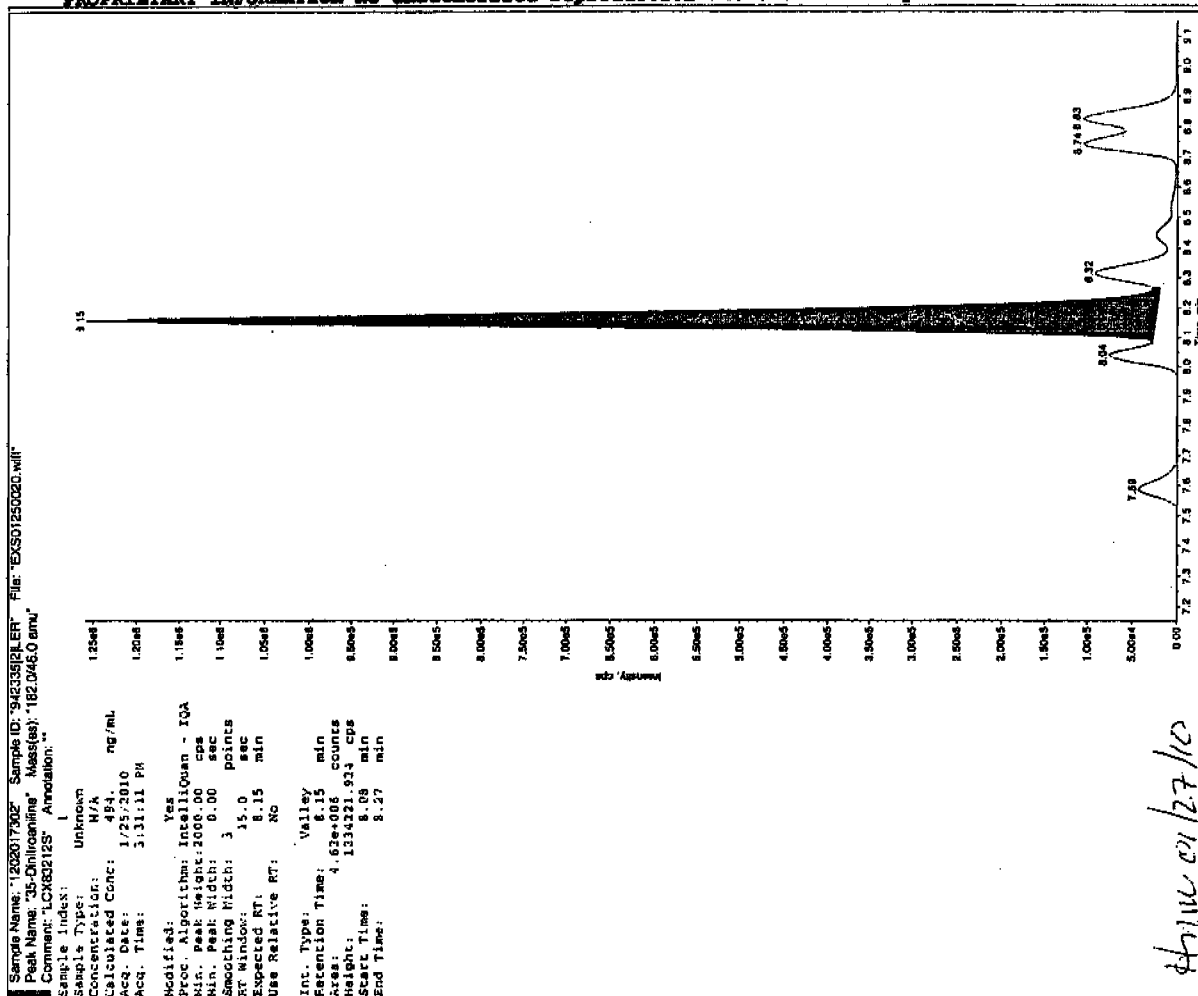
Quantify Sample Report  
JEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New\_Exp.PRO\013110expA.qld, Time: Mon Feb 01 14:26:08 2010

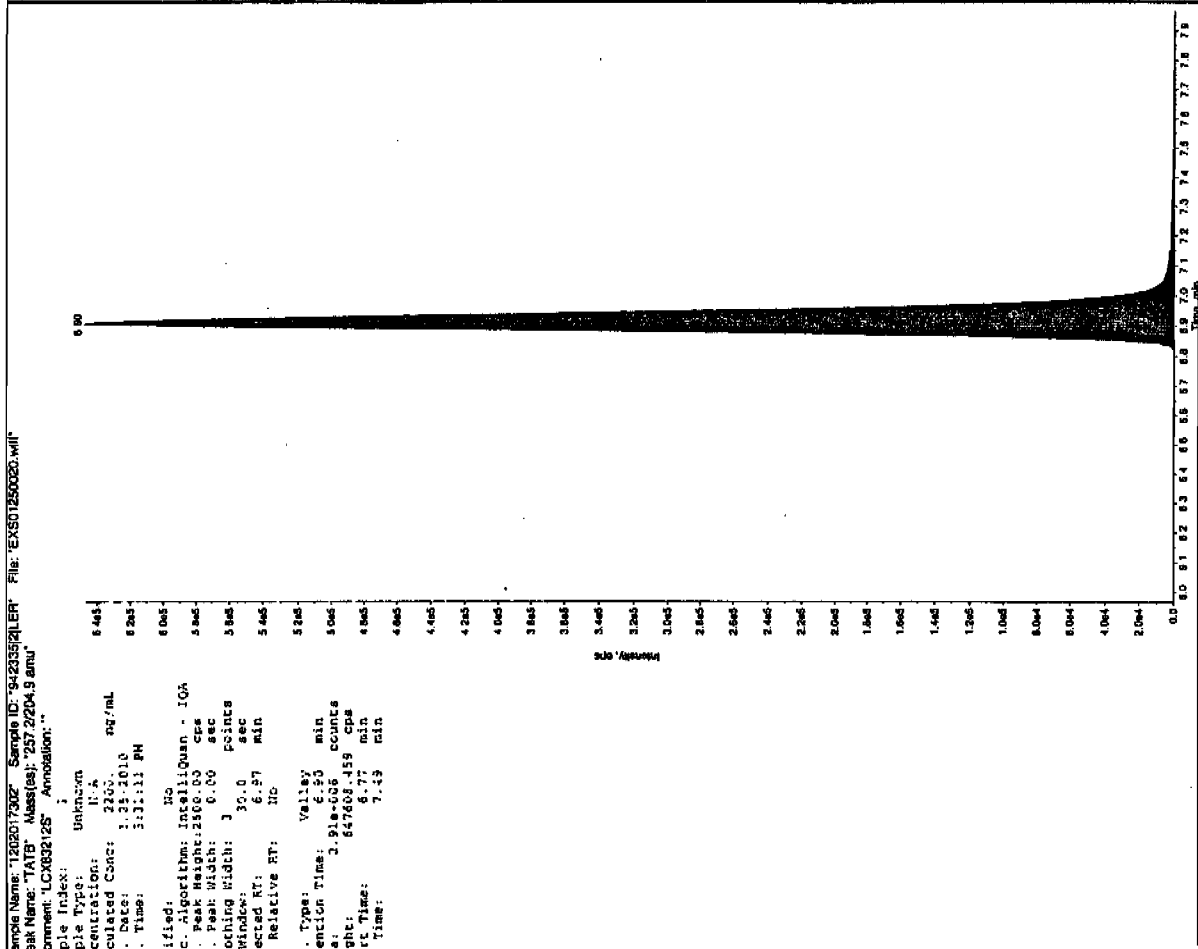


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

Before Jan 11/27/10



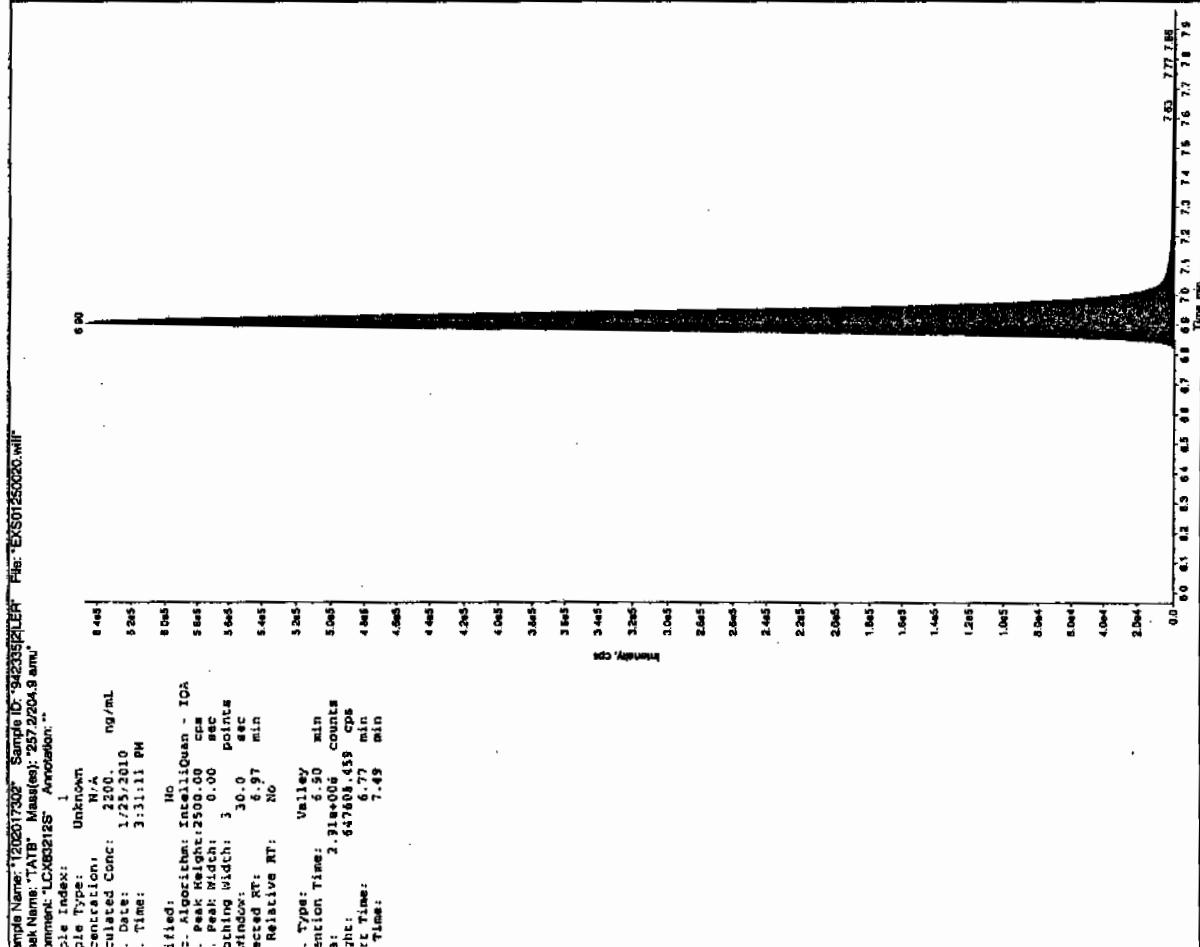
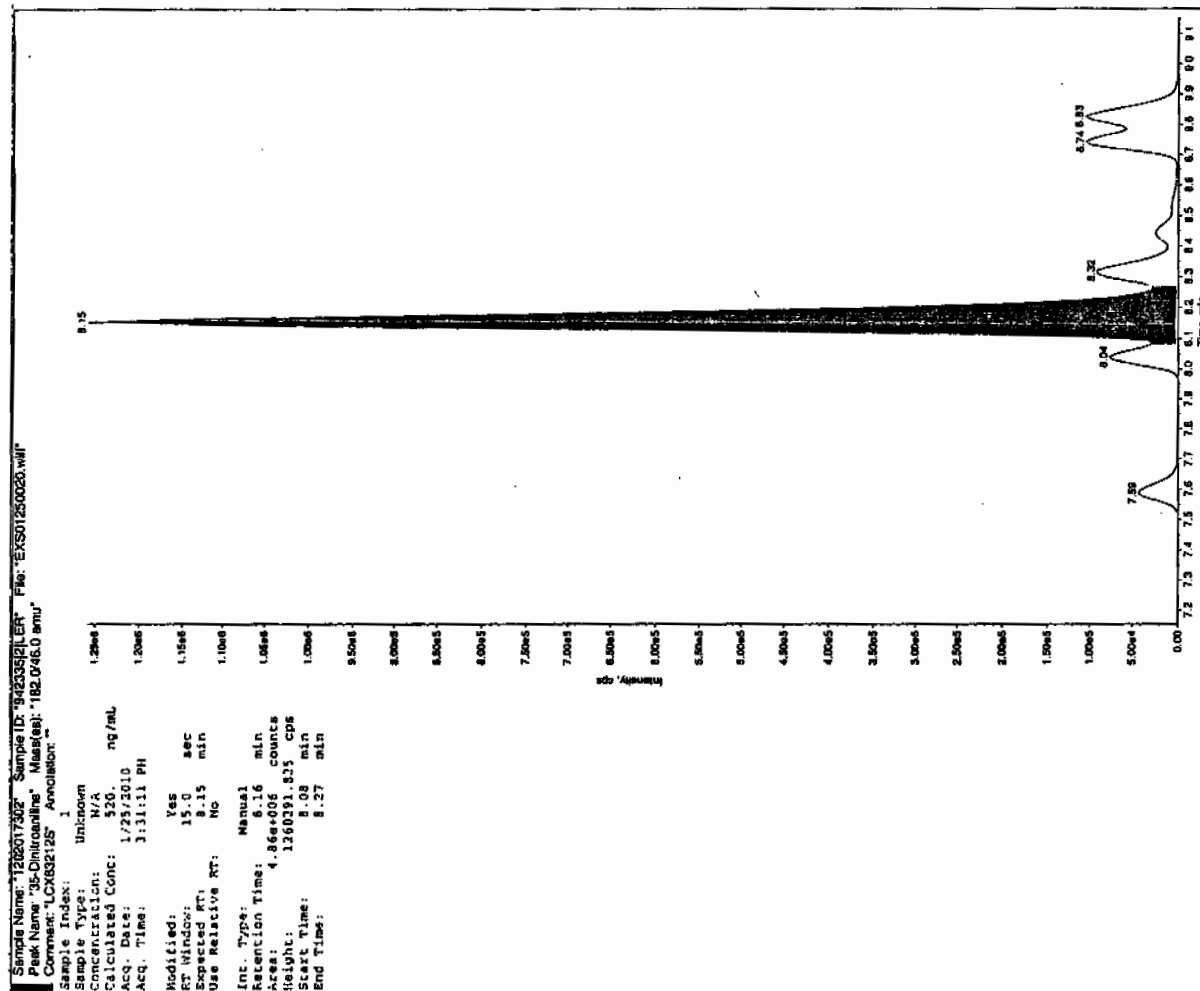
After Jan 11/27/10



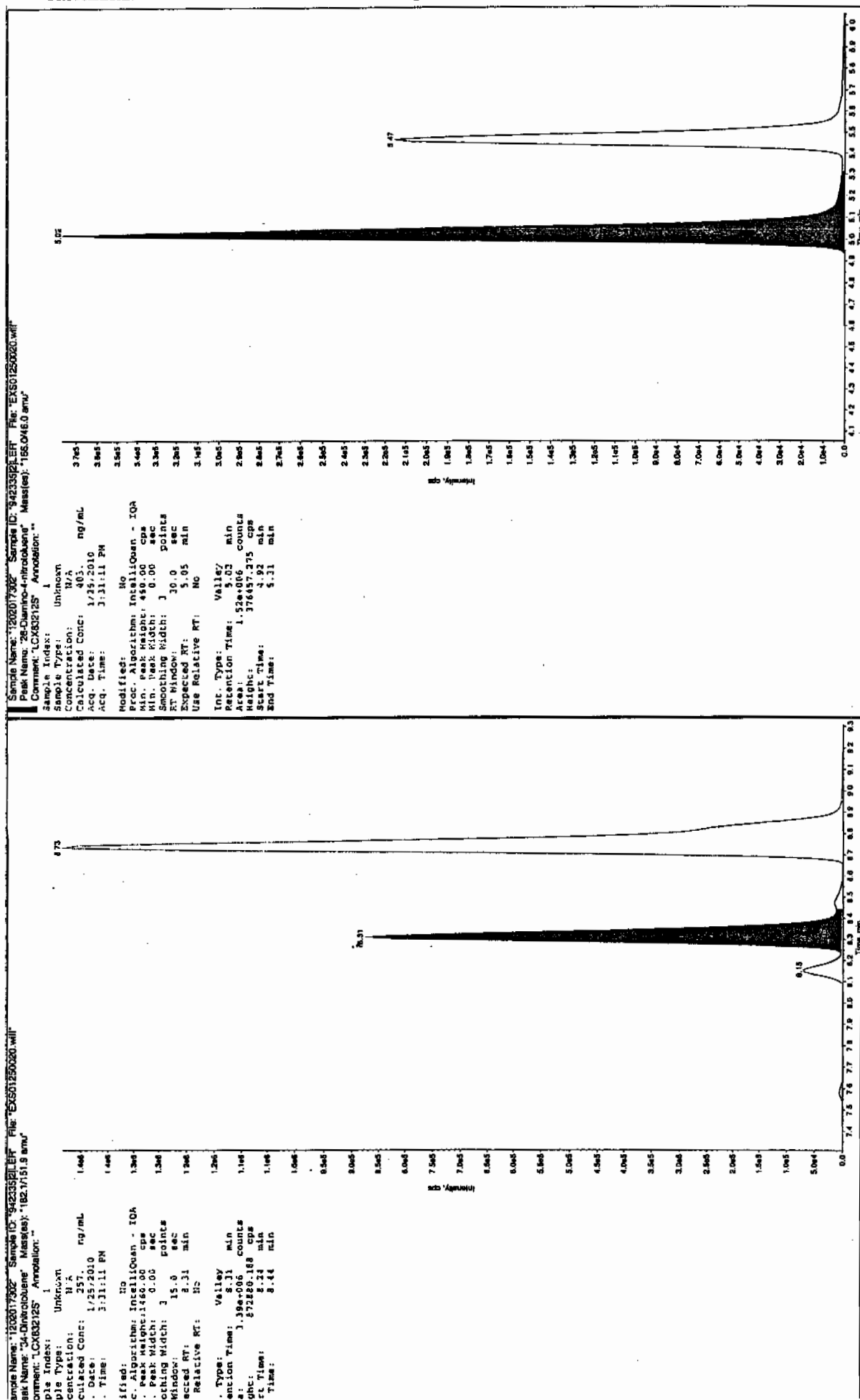
EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



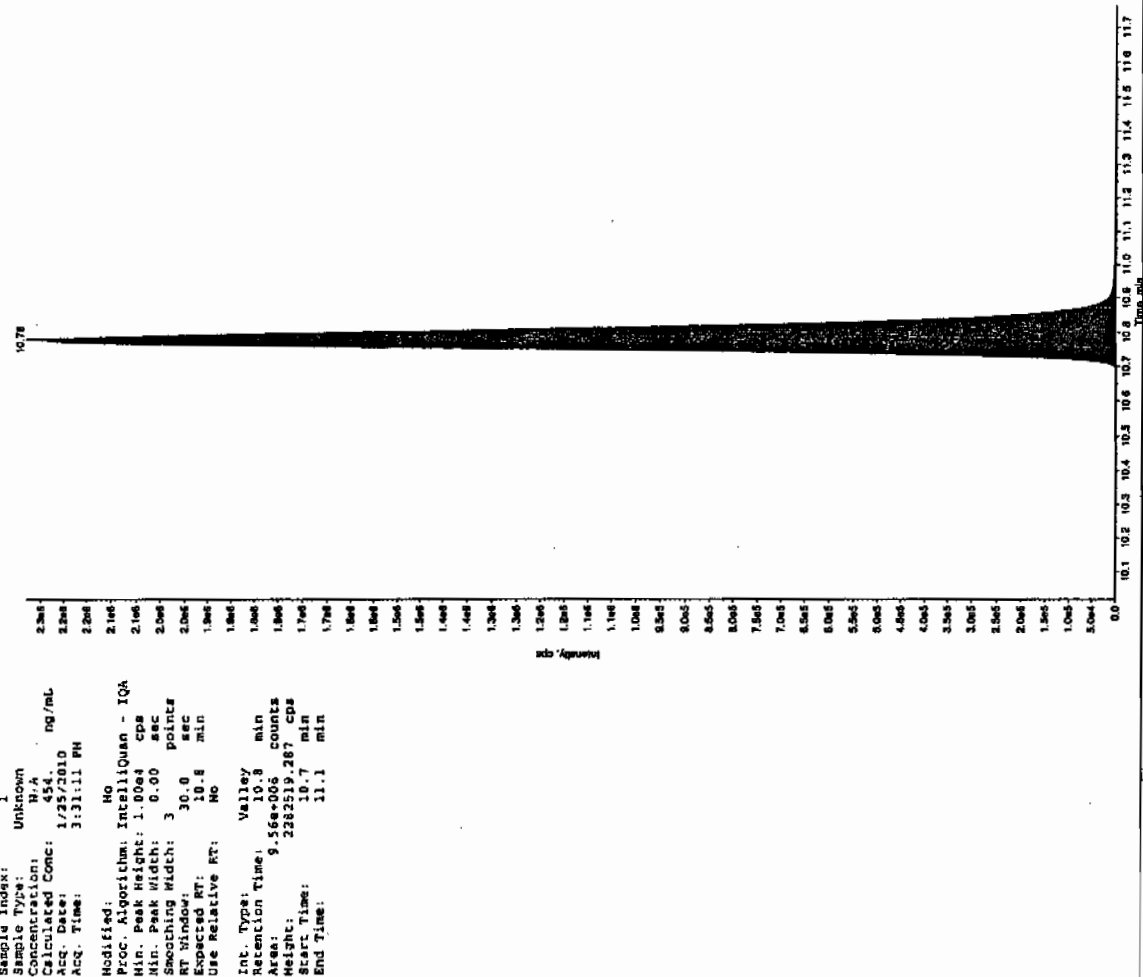
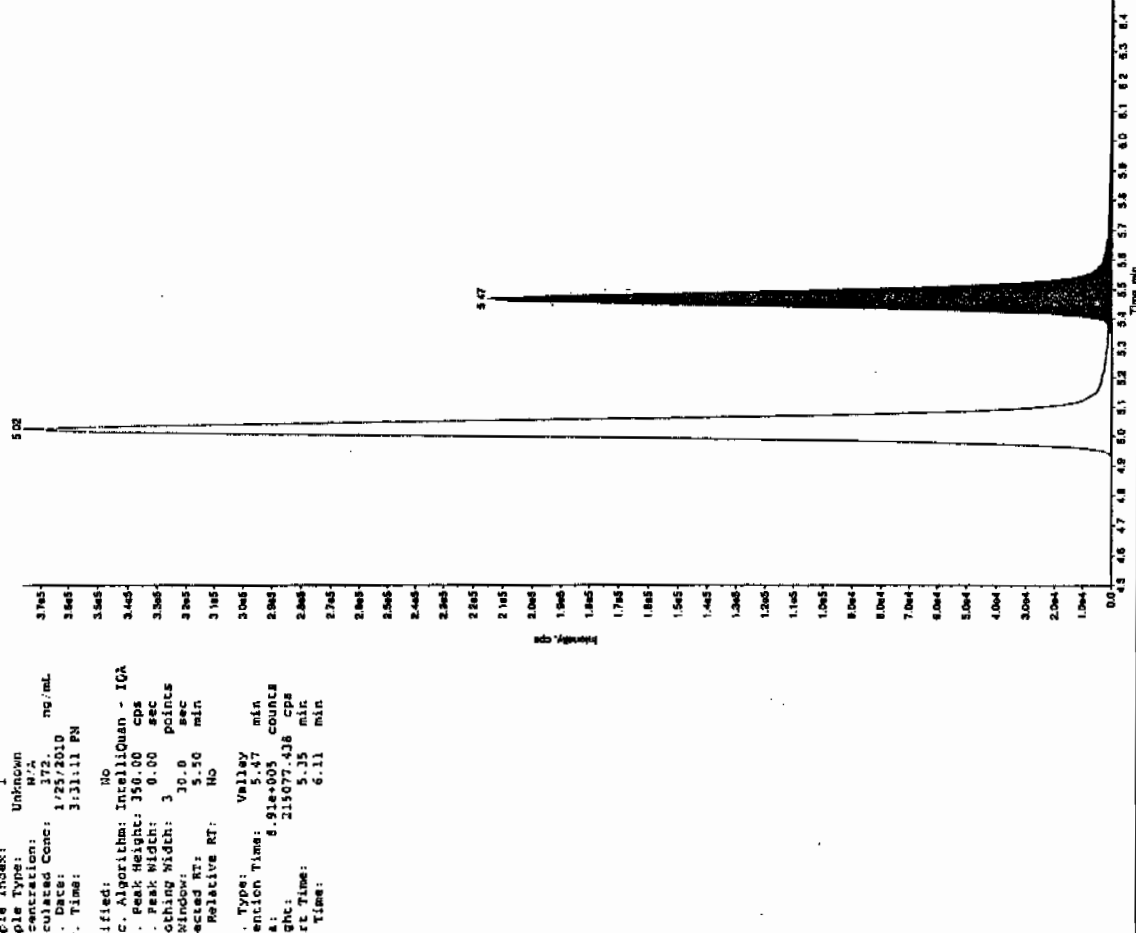
after Jan 11/27/10



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



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



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

Dataset: C:\MASSLYNX\New\_Exp\PRO13110expA.qld, Time: Mon Feb 01 14:26:08 2010

Name: C:\MASSLYNX\NEW\_EXP\PROData\EXP0131017a

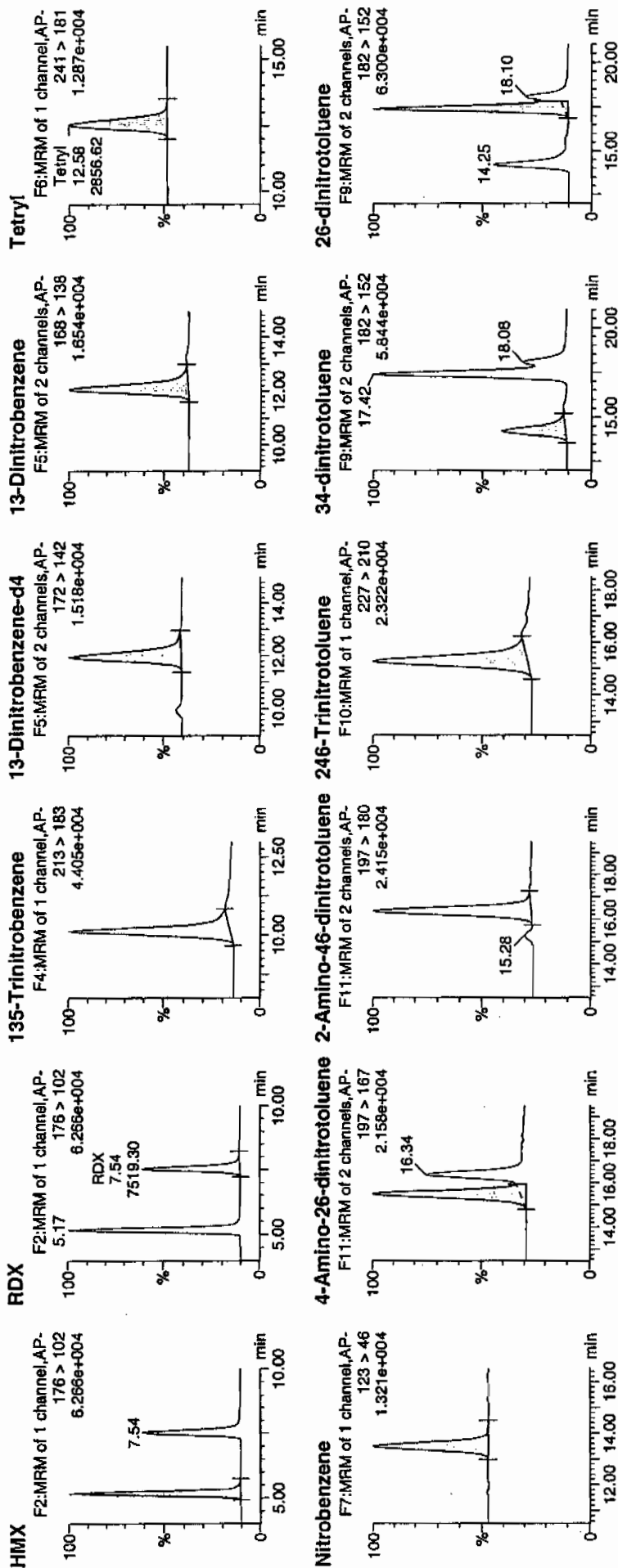
Date: 31-Jan-2010

Time: 20:27:55

ID: 1202017303

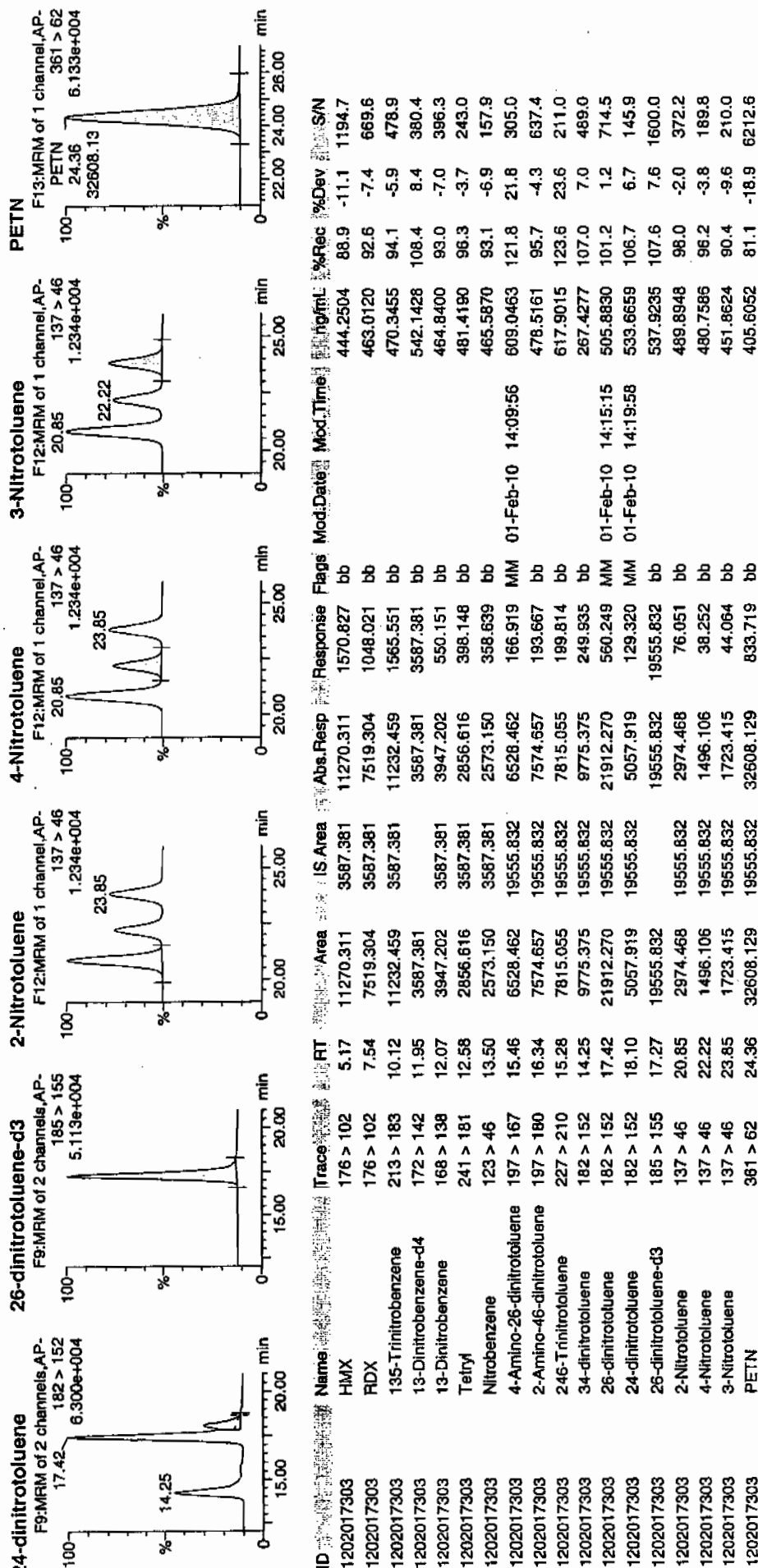
Vial: 1:4,E

LAUL/942335/SOL/244847001 LUG/2 / 2/1/10

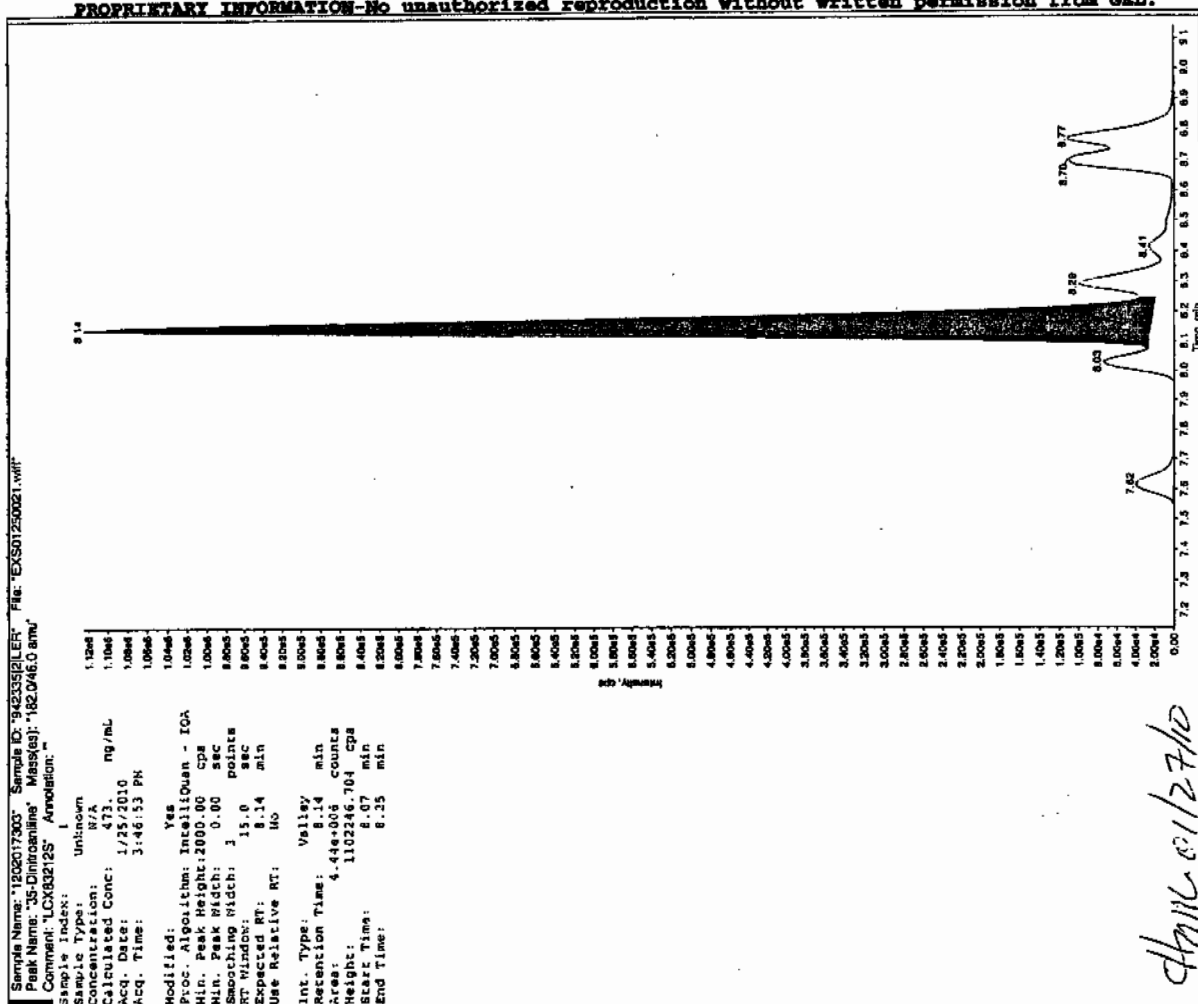


Handwritten signature

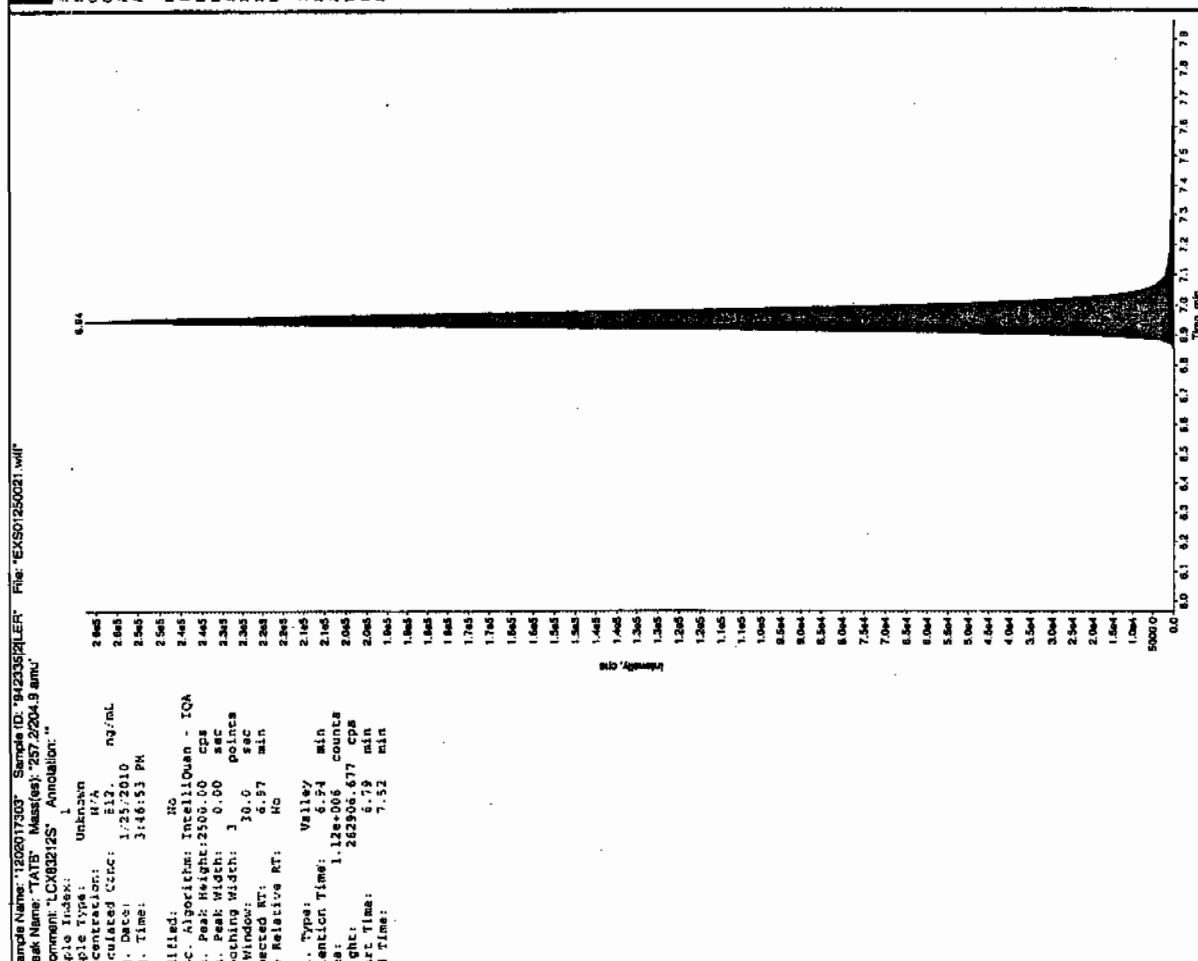
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Before Scan 1127110

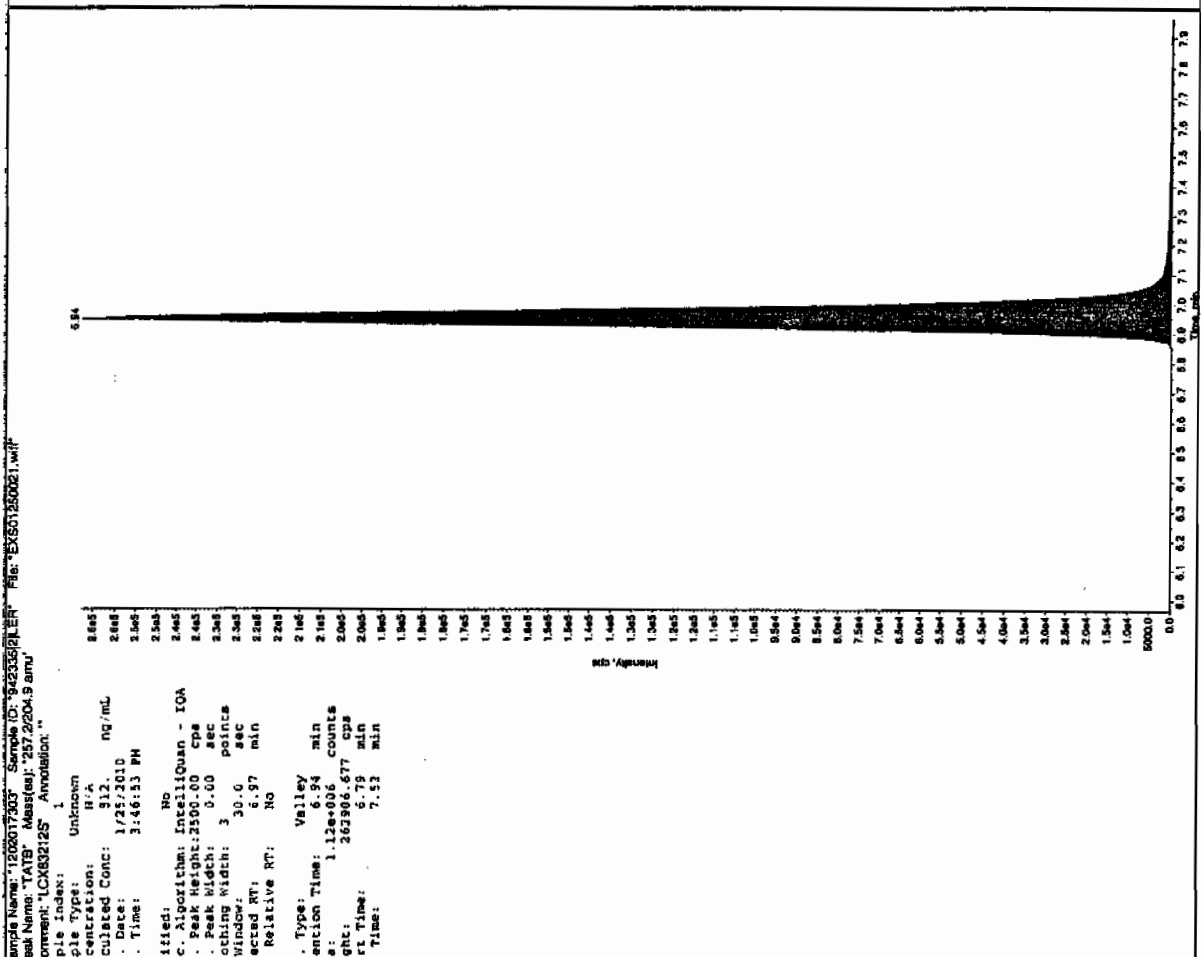
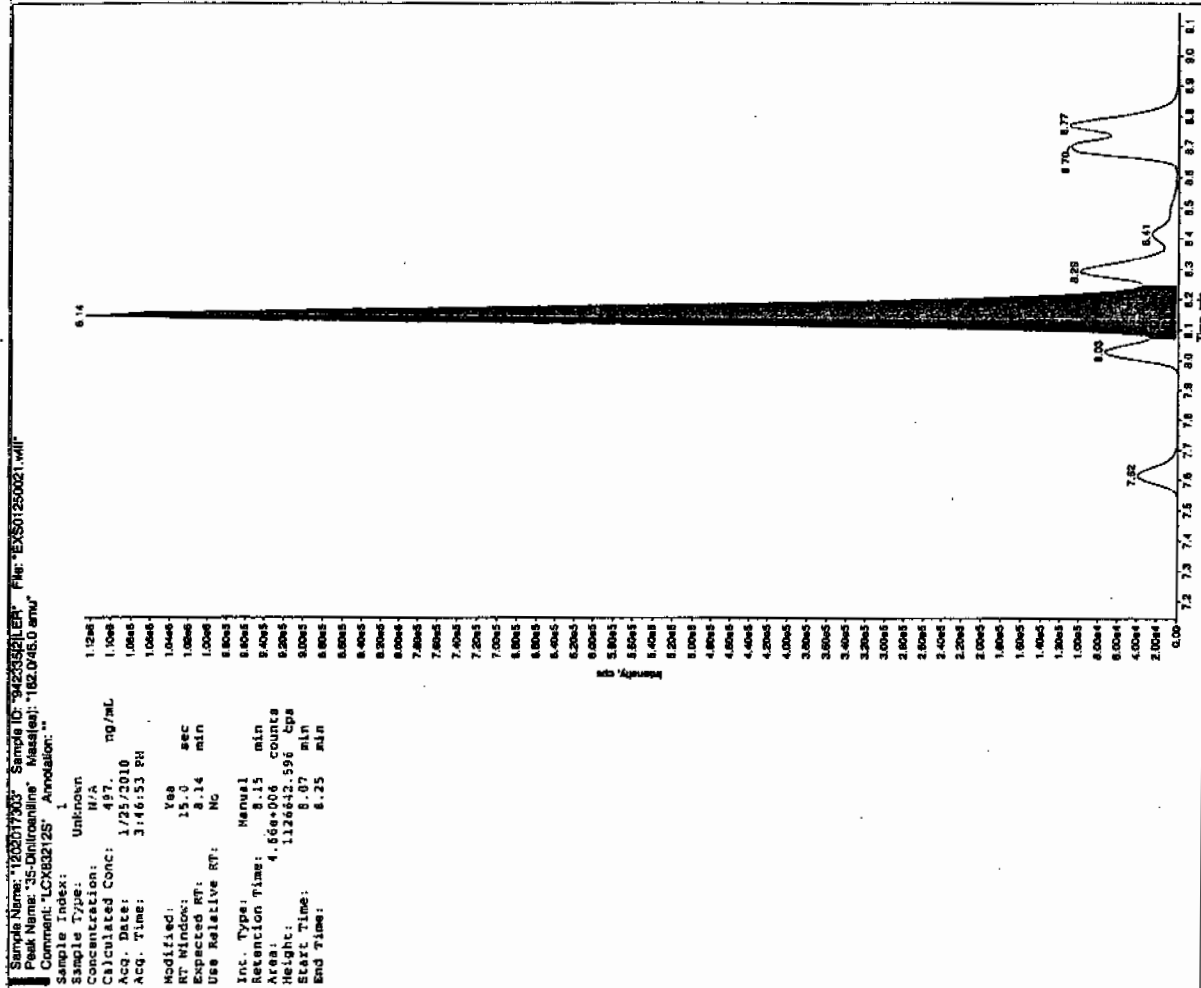


Scan 1127110

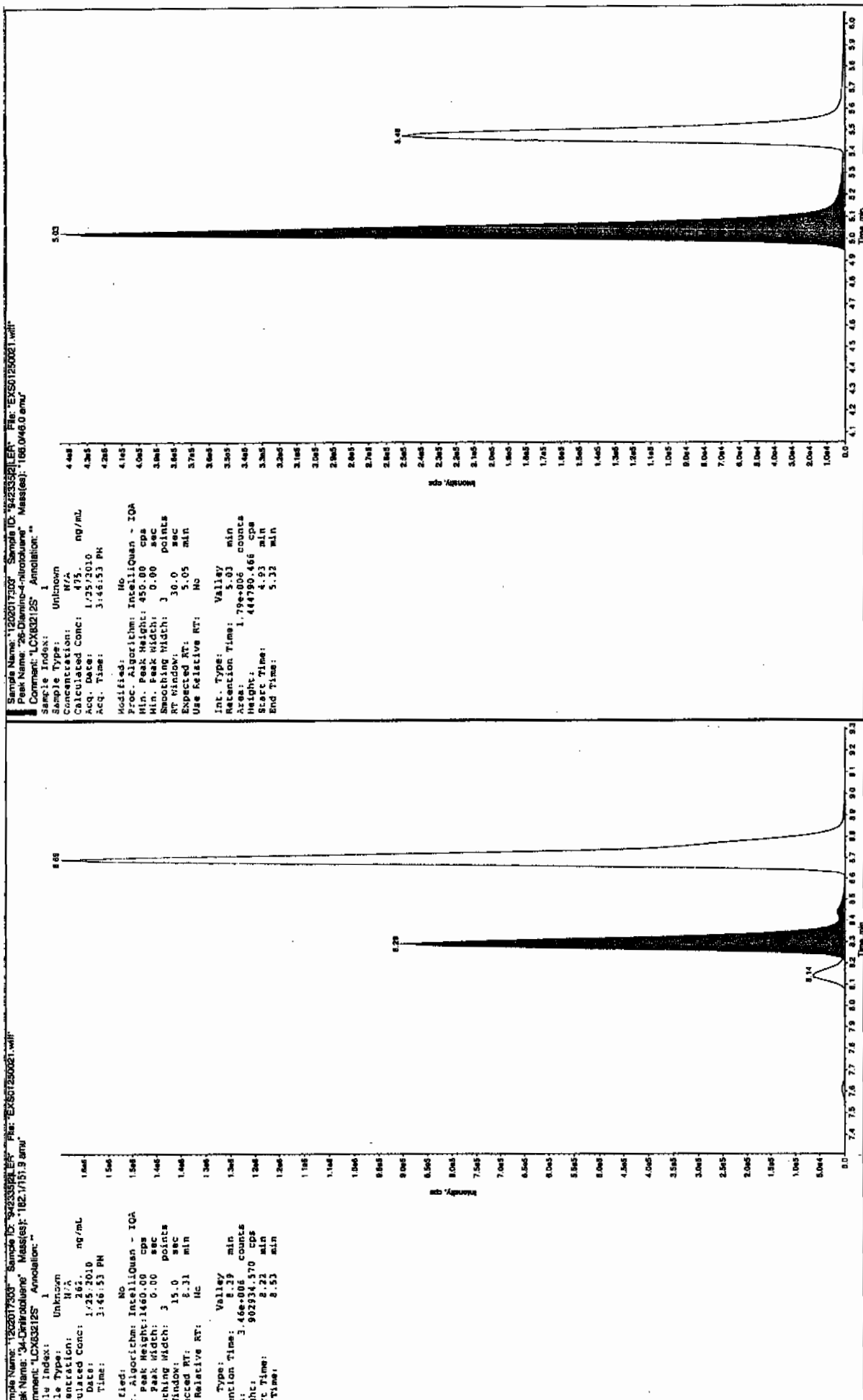


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

after Dec 11/27/10

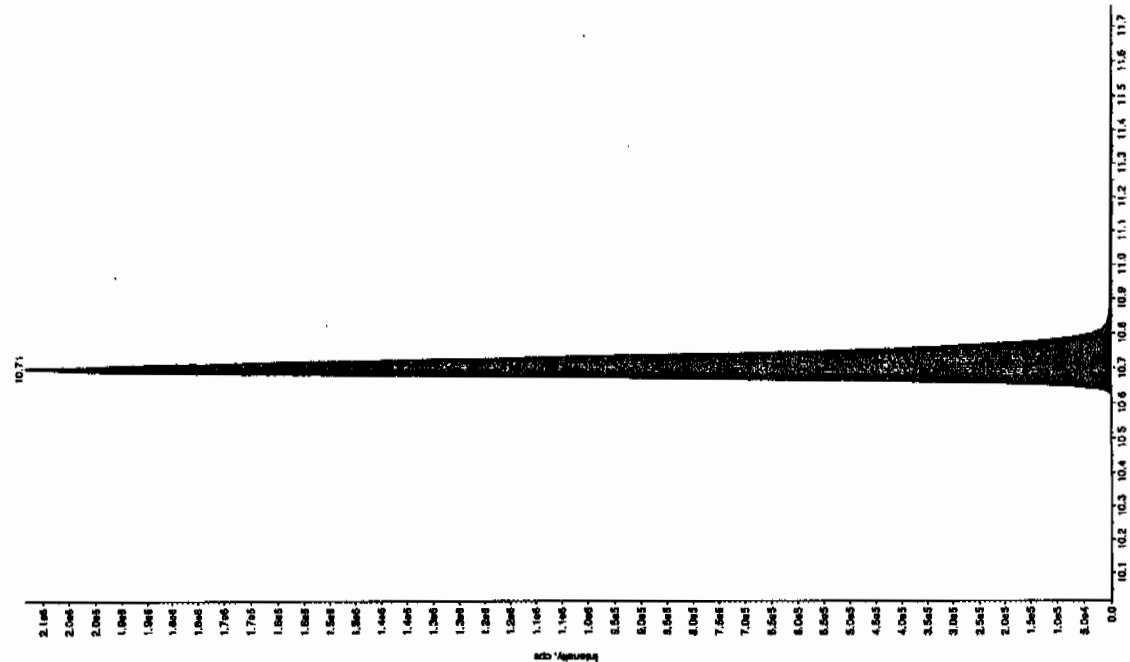


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

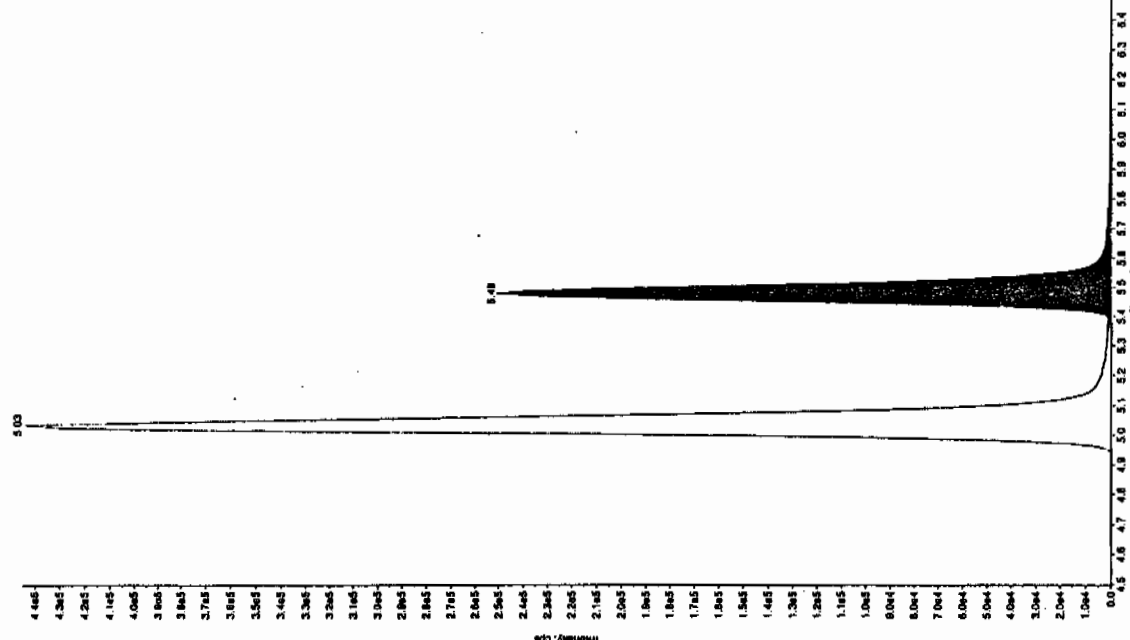


EL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





Sample Index:	1	Annotation:
Comment: LCR822525		
Unknown		
Concentration:	N/A	
Calculated Conc:	359.	
Acq. Date:	1/25/2010	mg/mL
Acq. Time:	3:46:53	PM
Modified:	No	
Proc. Algorithm:	IntelliQuan - IQA	
Peak Weight:	1.000	cps
Peak Width:	3.000	points
Smoothing Width:	10.0	sec
Peak Window:	10.8	min
Expected RT:	No	
Use Relative RT:	No	
Int. Type:	Valley	
Retention Time:	10.7	min
Counts:	3480238	counts
Height:	2089238.56	cps
Start Time:	10.6	min
End Time:	11.0	min



```

FORMER: LCA06581      ANOMALOUS
Sample Index:          UNKNOWN
Concentration:         N/A
Calculated Conc:       449
Date:                  1/25/2010
Time:                  3:45:53 PM
Diluted:               No
C-Algorithm: IntelliQuen - IOR
Peak Height:          370.0 cps
Peak Width:            3.0 sec
Chromatogram Width:   30.0 sec
Windowing:             Rectified RT: 5.50 min
Relative RT:           No
Type:                  Valley
Retention Time:        5.48 min
Area:                  1.08e+04 counts
Height:                250340 x16
RT Time:               5.38 min
RT Error:              5.51 min

```

GEL Laboratories LLC  
Form GEL-DER

DER Report No.: 785558  
Revision No.:

DATA EXCEPTION REPORT			
Mo. Day Yr. 01-FEB-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: LC-MS/MS	Test / Method: SW846 8321A Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 942335	Sample Numbers: See Below		
Potentially affected work order(s)(SDG):244847(10-1262),244852(10-1263),244881(10-1264-1),244905(10-1277)			
Application Issues: Failed Recovery for MS/PS Failed RPD for MS/MSD, or PS/PSD			
Specification and Requirements Exception Description:		DER Disposition:	
<p>1. The Matrix Spike (1202017302) did not meet spike recovery limits for TATB at 440%. The recovery limits are 44-166%.</p> <p>2. The MS/MSD pair (1202017302/3) did not meet RPD acceptance limits for TATB at 92.2%. The acceptance limits are 0-30%.</p>		<p>1. Since the Laboratory Control Sample met acceptance limits for TATB, the noted exception is attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancy is noted in the case narrative.</p> <p>2. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancy is noted in the case narrative.</p>	

Originator's Name:  
Michael Penny 01-FEB-10

Data Validator/Group Leader:  
Herbert Maier 02-FEB-10

GC  
SEMIVOLATILE  
PCB  
ANALYSIS

**PCB Case Narrative**  
**Los Alamos National Laboratory (LANL)**  
**SDG 10-1264-1**

**Method/Analysis Information**

<b>Procedure:</b>	<b>Analysis of Polychlorinated Biphenyls by ECD</b>
Analytical Method:	SW846 8082
Prep Method:	SW846 3550B
Analytical Batch Number:	943205
Prep Batch Number:	943204

**Sample Analysis**

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

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202019498	Method Blank (MB)
1202019499	Laboratory Control Sample (LCS)
1202019500	244881001(RE12-10-8096) Matrix Spike (MS)
1202019501	244881001(RE12-10-8096) Matrix Spike Duplicate (MSD)

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

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 14.

Raw data reports are processed and reviewed by the analyst using the Target software package. False positives have been removed from the Target quantitation reports per standard operating procedures (SOP) section 23.0.

**Calibration Information**

Please note that the 'Cal Date' indicated on each quantitation report reflects the date and time of the most recent calibrated analyte(s) in the Target processing method. Since the laboratory may calibrate with multiple solutions on different days using the same processing method, the Target software will update the 'Cal Date' to the last calibration file, date and time. The correct dates and times for all calibration files are located on the Calibration History report in the Standard Data section in the data package.

Due to software limitations, the Calibration Summary Form 6 may not indicate all the calibration files comprising the initial calibration. A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

**Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

The linear equation used in Target and indicated on the initial calibration summary form is not a conventional linear equation (slope intercept formula) and does not match the equation found in SW-846 method 8000B. The x and y axes are inversed in Target, so that the instrument response is treated as the independent variable (x) and the concentration ratio is treated as the dependent variable (y). The equation used in Target to calculate sample results is adjusted to account for the linear equation inversion and reciprocal slope. The adjusted calculation has been

independently verified to produce valid results.

**Continuing Calibration Verification (CCV) Requirements**

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

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Surrogate Recoveries**

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 244881001 (RE12-10-8096) 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**

Sample 244881002 (RE12-10-8094) was diluted at 1:10 due to the oily matrix of the extract.

**Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG.

**Miscellaneous Information**

**Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and

report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

#### **Data Exception (DER) Documentation**

Data exception 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 VII's will display the results either in the % difference or % drift depending on the type of the calibration curve. If the curve of all analytes is generated using an average response factor (RF), the Form VII will display results using the %difference calculation (RF). If the curve of one or more analytes is generated using a linear curve, the Form VII will display results using the % drift calculation (by concentration) for all analytes.

#### **System Configuration**

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

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

#### **Certification Statement**

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

**Review Validation**

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

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

Reviewer: Jimmi Cao

Date: 2/11/10

## Roadmap for LANL 10-1264-1 PCB

This roadmap was analyzed by jen01212 on 01-21-2010, 15:35.

This roadmap was reviewed by rob01090 on 01-26-2010, 16:22.

This roadmap was packaged by yml on 02-10-2010, 16:55.

This roadmap was validated by jim01140 on 02-11-2010, 07:50.

Front Sample Column

exclude	manual	datafile	sampleid	sampletype	injdte	injtime	sublist	clientid	dilution	prepbatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/031f3101.d	244881001	sample	20-JAN-2010	13:51	10-1264-1.sub	RE12-10-8096	1.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/034b3401.d	244881002	sample	20-JAN-2010	14:24	10-1264-1.sub	RE12-10-8094	10.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/035f3501.d	244881003	sample	20-JAN-2010	14:35	10-1264-1.sub	RE12-10-8097	1.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/036b3601.d	244881004	sample	20-JAN-2010	14:46	10-1264-1.sub	RE12-10-8095	1.00000	943205	UPLOAD BOTH, USE HIGHER

Back Sample Column

exclude	manual	datafile	sampleid	sampletype	injdte	injtime	sublist	clientid	dilution	prepbatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/031f3101.d	244881001	sample	20-JAN-2010	13:51	10-1264-1.sub	RE12-10-8096	1.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/034b3401.d	244881002	sample	20-JAN-2010	14:24	10-1264-1.sub	RE12-10-8094	10.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/035f3501.d	244881003	sample	20-JAN-2010	14:35	10-1264-1.sub	RE12-10-8097	1.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/036b3601.d	244881004	sample	20-JAN-2010	14:46	10-1264-1.sub	RE12-10-8095	1.00000	943205	UPLOAD BOTH, USE HIGHER

Front QC Sample Column

exclude	manual	datafile	sampleid	sampletype	injdte	injtime	sublist	clientid	dilution	prepbatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/018f1801-3.d	1202019498	mb	20-JAN-2010	11:26	10-1264-1.sub	PBLK01	1.00000	943205	
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/019f1901-3.d	1202019499	les	20-JAN-2010	11:38	10-1264-1.sub	PBLK01LCS	1.00000	943205	
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/032f3201.d	1202019500	ms	20-JAN-2010	14:02	10-1264-1.sub	RE12-10-8096MS	1.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/033f3301.d	1202019501	mad	20-JAN-2010	14:13	10-1264-1.sub	RE12-10-8096MSD	1.00000	943205	UPLOAD BOTH, USE HIGHER

Back QC Sample Column

exclude	manual	datafile	sampleid	sampletype	injdte	injtime	sublist	clientid	dilution	prepbatchid	comment
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/018f1801-3.d	1202019498	mb	20-JAN-2010	11:26	10-1264-1.sub	PBLK01	1.00000	943205	
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/019f1901-3.d	1202019499	les	20-JAN-2010	11:38	10-1264-1.sub	PBLK01LCS	1.00000	943205	
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/032f3201.d	1202019500	ms	20-JAN-2010	14:02	10-1264-1.sub	RE12-10-8096MS	1.00000	943205	UPLOAD BOTH, USE HIGHER
<input type="checkbox"/>	N	/chem/ecd2a.i/012010.b/033f3301.d	1202019501	mad	20-JAN-2010	14:13	10-1264-1.sub	RE12-10-8096MSD	1.00000	943205	UPLOAD BOTH, USE HIGHER



# SAMPLE DATA SUMMARY

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: 10-1264-1  
 Lab Sample ID: 244881002

Date Collected: 01/11/2010 12:00  
 Date Received: 01/15/2010 08:50  
 Client: LANL010  
 Method: SW846 8082  
 Inst: ECD2A.I  
 Analyst: JAOC  
 Aliquot: 30.02 g  
 Column: 1 CLP1  
 2 CLP2

Matrix: R  
 %Moisture: 5.6  
 Project: LANL01004  
 SOP Ref: GL-OA-E-040  
 Dilution: 10  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL  
 Level: LOW

Client ID: RE12-10-8094  
 Batch ID: 943205  
 Run Date: 01/20/2010 14:24  
 Prep Date: 01/19/2010 20:46  
 Data File: 034f3401.d  
 034b3401.d

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	35.3	ug/kg	11.8	35.3	1
11104-28-2	Aroclor-1221	U	35.3	ug/kg	11.8	35.3	1
11141-16-5	Aroclor-1232	U	35.3	ug/kg	11.8	35.3	1
53469-21-9	Aroclor-1242	U	35.3	ug/kg	11.8	35.3	1
12672-29-6	Aroclor-1248	U	35.3	ug/kg	11.8	35.3	1
11097-69-1	Aroclor-1254	U	35.3	ug/kg	11.8	35.3	1
11096-82-5	Aroclor-1260	U	35.3	ug/kg	11.8	35.3	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

SDG Number: 10-1264-1  
Lab Sample ID: 244881004

Client ID: RE12-10-8095  
Batch ID: 943205  
Run Date: 01/20/2010 14:46  
Prep Date: 01/19/2010 20:46  
Data File: 036f3601.d  
036b3601.d

Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30.08 g  
Column: 1 CLP1  
2 CLP2

Matrix: R  
%Moisture: 10.5  
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	3.71	ug/kg	1.24	3.71	1
11104-28-2	Aroclor-1221	U	3.71	ug/kg	1.24	3.71	1
11141-16-5	Aroclor-1232	U	3.71	ug/kg	1.24	3.71	1
53469-21-9	Aroclor-1242	U	3.71	ug/kg	1.24	3.71	1
12672-29-6	Aroclor-1248	U	3.71	ug/kg	1.24	3.71	1
11097-69-1	Aroclor-1254	U	3.71	ug/kg	1.24	3.71	1
11096-82-5	Aroclor-1260	U	3.71	ug/kg	1.24	3.71	1

## PCB

Page 1 of 1

Certificate of Analysis  
Sample Summary

SDG Number: 10-1264-1

Lab Sample ID: 244881001

Client ID: RE12-10-8096

Batch ID: 943205

Run Date: 01/20/2010 13:51

Prep Date: 01/19/2010 20:46

Data File: 031f3101.d

031b3101.d

Date Collected: 01/11/2010 12:00

Date Received: 01/15/2010 08:50

Client: LANL010

Method: SW846 8082

Inst: ECD2AJ

Analyst: JAOC

Aliquot: 30.03 g

Column: 1 CLP1

2 CLP2

Matrix: R

% Moisture: 6.1

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	3.55	ug/kg	1.18	3.55	1
11104-28-2	Aroclor-1221	U	3.55	ug/kg	1.18	3.55	1
11141-16-5	Aroclor-1232	U	3.55	ug/kg	1.18	3.55	1
53469-21-9	Aroclor-1242	U	3.55	ug/kg	1.18	3.55	1
12672-29-6	Aroclor-1248	U	3.55	ug/kg	1.18	3.55	1
11097-69-1	Aroclor-1254	U	3.55	ug/kg	1.18	3.55	1
11096-82-5	Aroclor-1260	U	3.55	ug/kg	1.18	3.55	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

SDG Number: 10-1264-1

Lab Sample ID: 244881003

Client ID: RE12-10-8097

Batch ID: 943205

Run Date: 01/20/2010 14:35

Prep Date: 01/19/2010 20:46

Data File: 035f3501.d

035b3501.d

Date Collected: 01/11/2010 12:00

Date Received: 01/15/2010 08:50

Client: LANL010

Method: SW846 8082

Inst: ECD2A.I

Analyst: JAOC

Aliquot: 30.03 g

Column: 1 CLP1

2 CLP2

Matrix: R

%Moisture: 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	3.62	ug/kg	1.21	3.62	1
11104-28-2	Aroclor-1221	U	3.62	ug/kg	1.21	3.62	1
11141-16-5	Aroclor-1232	U	3.62	ug/kg	1.21	3.62	1
53469-21-9	Aroclor-1242	U	3.62	ug/kg	1.21	3.62	1
12672-29-6	Aroclor-1248	U	3.62	ug/kg	1.21	3.62	1
11097-69-1	Aroclor-1254	U	3.62	ug/kg	1.21	3.62	1
11096-82-5	Aroclor-1260	U	3.62	ug/kg	1.21	3.62	1

# QUALITY CONTROL SUMMARY

**PCB**  
**Surrogate Recovery Report**

Page 1 of 1

SDG Number: 10-1264-1

Matrix Type: SOLID

CAP Column (1) : CLP1

CAP Column (2) : CLP2

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1202019498	MB for batch 943204	66	71	73	78
1202019499	LCS for batch 943204	62	66	67	73
244881001	RE12-10-8096	52	56	56	58
1202019500	RE12-10-8096MS	57	60	65	67
1202019501	RE12-10-8096MSD	63	68	71	74
244881002	RE12-10-8094	53 D	48 D	54 D	49 D
244881003	RE12-10-8097	53	56	57	60
244881004	RE12-10-8095	55	58	58	61

**Surrogate**

4CMX = 4cmx

DCB = Decachlorobiphenyl

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**Acceptance Limits**

(34%-105%)

(33%-115%)

PCB

Page 1 of 1

**Quality Control Summary  
Spike Recovery Report**

SDG Number: 10-1264-1

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 943204

Matrix: SOIL

Lab Sample ID: 1202019499

Instrument: ECD2A.I

Analysis Date: 01/20/2010 11:38

Dilution: 1

Analyst: JAOC

Preo Batch ID: 943204

Inj. Vol: 1 uL

Batch ID: 943205

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	22.9	69	41-110
11096-82-5	LCS Aroclor-1260	33.3	0.0	25.8	77	48-110



PCB

Page 1 of 2

Quality Control Summary  
Spike Recovery Report

SDG Number: 10-1264-1

Sample Type: Matrix Spike

Client ID: RE12-10-8096MS

Matrix: R

Lab Sample ID:1202019500

%Moisture: 6.1

Instrument: ECD2A.I

Analysis Date: 01/20/2010 14:02

Dilution: 1

Analyst: JAOC

Pred Batch ID 943204

Inj. Vol: 1 uL

Batch ID: 943205

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	MS Aroclor-1016	35.4	0.00 U	23.0	65	23-117
11096-82-5	MS Aroclor-1260	35.4	0.00 U	26.6	75	27-116

PCB

Page 2 of 2

Quality Control Summary  
Spike Recovery Report

SDG Number: 10-1264-1

Sample Type: Matrix Spike Duplicate

Client ID: RE12-10-8096MSD

Matrix: R

Lab Sample ID:1202019501

%Moisture: 6.1

Instrument: ECD2A.I

Analysis Date: 01/20/2010 14:13

Dilution: 1

Analyst: JAOC

Prep Batch ID: 943204

Inj. Vol: 1 uL

Batch ID: 943205

CAS No	Paramname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD Aroclor-1016	35.4	0.00	U	24.6	70	23-117	7 0-30
11096-82-5	MSD Aroclor-1260	35.4	0.00	U	28.4	80	27-116	7 0-30

## Method Blank Summary

Page 1 of 1

SDG Number:	10-1264-1	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 943204	Instrument ID:	ECD2A.I_2	Data File:	018b1801-1.d
Lab Sample ID:	1202019498		ECD2A.I_1		018f1801-1.d
Column:	CLP2	Prep Date:	01/19/2010 20:46	Analyzed:	01/20/10 11:26
	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 943204	1202019499	019f1901-1.d 019b1901-1.d	01/20/10	1138
02 RE12-10-8096	244881001	031f3101.d 031b3101.d	01/20/10	1351
03 RE12-10-8096MS	1202019500	032f3201.d 032b3201.d	01/20/10	1402
04 RE12-10-8096MSD	1202019501	033f3301.d 033b3301.d	01/20/10	1413
05 RE12-10-8094	244881002	034f3401.d 034b3401.d	01/20/10	1424
06 RE12-10-8097	244881003	035f3501.d 035b3501.d	01/20/10	1435
07 RE12-10-8095	244881004	036f3601.d 036b3601.d	01/20/10	1446

# SAMPLE DATA

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: 10-1264-1

Lab Sample ID: 244881002

Client ID: RE12-10-8094

Batch ID: 943205

Run Date: 01/20/2010 14:24

Prep Date: 01/19/2010 20:46

Data File: 034f3401.d

034b3401.d

Date Collected: 01/11/2010 12:00

Date Received: 01/15/2010 08:50

Client: LANL010

Method: SW846 8082

Inst: ECD2A.I

Analyst: JAOC

Aliquot: 30.02 g

Column: 1 CLP1

2 CLP2

Matrix: R

%Moisture: 5.6

Project: LANL01004

SOP Ref: GL-OA-E-040

Dilution: 10

Inj. Vol: 1 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	35.3	ug/kg	11.8	35.3	1
11104-28-2	Aroclor-1221	U	35.3	ug/kg	11.8	35.3	1
11141-16-5	Aroclor-1232	U	35.3	ug/kg	11.8	35.3	1
53469-21-9	Aroclor-1242	U	35.3	ug/kg	11.8	35.3	1
12672-29-6	Aroclor-1248	U	35.3	ug/kg	11.8	35.3	1
11097-69-1	Aroclor-1254	U	35.3	ug/kg	11.8	35.3	1
11096-82-5	Aroclor-1260	U	35.3	ug/kg	11.8	35.3	1

Data File: /chem/ecd2a.i/012010.b/034f3401.d  
Report Date: 21-Jan-2010 07:51

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/034f3401.d

Lab Smp Id: 244881002

Client Smp ID: RE12-10-8094

Inj Date : 20-JAN-2010 14:24

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244881002|10|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8094|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 34

Dil Factor: 10.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.sub

Target Version: 3.50

Sample Matrix: Soil

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

Name	Value	Description
DF	10.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.02000	Weight of sample extracted (g)
M	5.64190	% Moisture

Cpnd Variable

Local Compound Variable

CONCENTRATIONS

ON-COL FINAL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
-----						
\$ 11 4cmx					CAS #: 877-09-8	
1.772	1.772	0.000	707230 10.5506	3.7	80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
5.606	5.607	-0.001	690274 10.8877	3.8	80.00- 120.00	100.00
-----						

Data File: /chem/ecod2a.i/012010.b/034f3401.d

Date: 20-JAN-2010 14:24

Client ID: RE12-10-8094

Sample Info: 12448910021101

Volume Injected (uL): 1.0

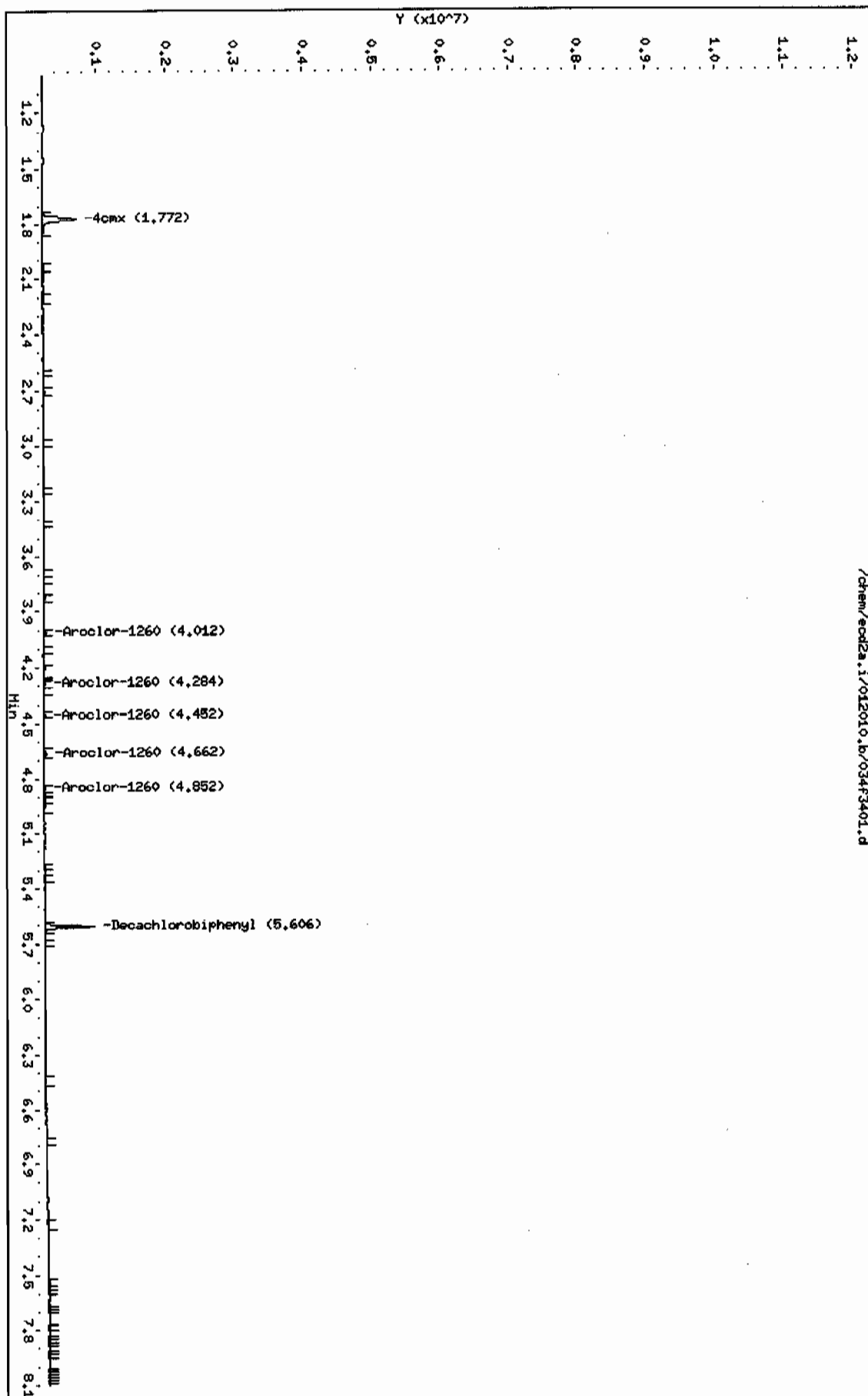
Column phase: CLP1

Instrument: ecod2a.i

Operator: JROC

Column diameter: 0.25

/chem/ecod2a.i/012010.b/034f3401.d



Data File: /chem/ecd2a.i/012010.b/034b3401.d  
Report Date: 21-Jan-2010 07:50

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/034b3401.d

Lab Smp Id: 244881002

Client Smp ID: RE12-10-8094

Inj Date : 20-JAN-2010 14:24

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244881002|10|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8094|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 34

Dil Factor: 10.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.sub

Target Version: 3.50

Sample Matrix: Soil

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

Name	Value	Description
DF	10.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.02000	Weight of sample extracted (g)
M	5.64190	% Moisture

Cpnd Variable

Local Compound Variable

CONCENTRATIONS

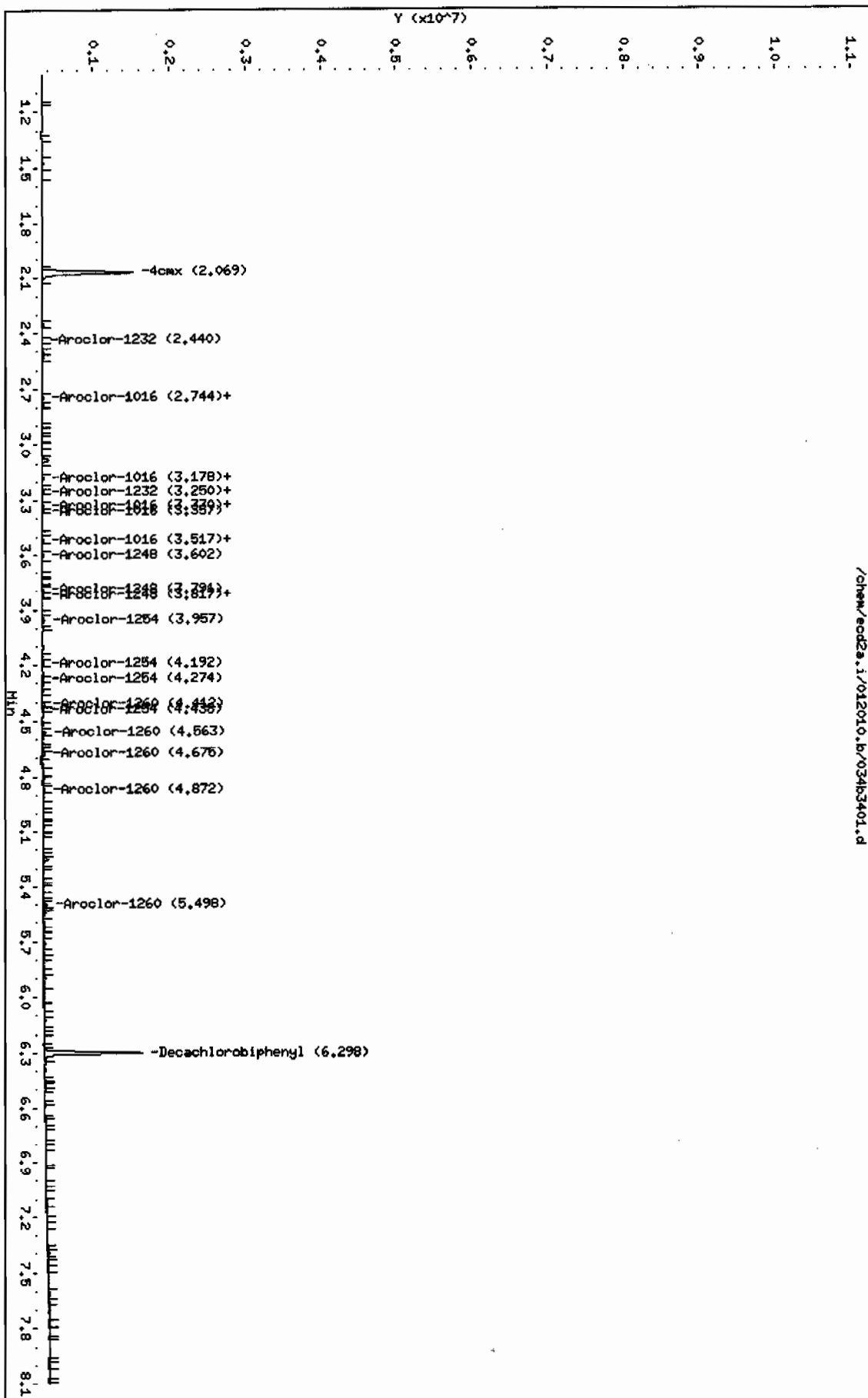
ON-COL FINAL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8	
2.069	2.068	0.001	1333696	9.55665	3.4 80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.298	6.298	0.000	1217946	9.77864	3.4 80.00- 120.00	100.00
-----						



Data File: /chem/eod2a.i/012010.b/034b3401.d  
Date: 20-JAN-2010 14:24  
Client ID: RE12-10-8094  
Sample Info: 12448810021101  
Volume Injected (uL): 1.0  
Column Phase: CLP2

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



**PCB**  
**Certificate of Analysis**  
**Sample Summary**

SDG Number: 10-1264-1

Lab Sample ID: 244881004

Client ID: RE12-10-8095

Batch ID: 943205

Run Date: 01/20/2010 14:46

Prep Date: 01/19/2010 20:46

Data File: 036f3601.d

036b3601.d

Date Collected: 01/11/2010 12:00

Date Received: 01/15/2010 08:50

Client: LANL010

Method: SW846 8082

Inst: ECD2A.I

Analyst: JAOC

Aliquot: 30.08 g

Column: 1 CLP1

2 CLP2

Matrix: R

%Moisture: 10.5

Project: LANL01004

SOP Ref: GL-OA-E-040

Dilution: 1

Inj. Vol: 1 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.71	ug/kg	1.24	3.71	1
11104-28-2	Aroclor-1221	U	3.71	ug/kg	1.24	3.71	1
11141-16-5	Aroclor-1232	U	3.71	ug/kg	1.24	3.71	1
53469-21-9	Aroclor-1242	U	3.71	ug/kg	1.24	3.71	1
12672-29-6	Aroclor-1248	U	3.71	ug/kg	1.24	3.71	1
11097-69-1	Aroclor-1254	U	3.71	ug/kg	1.24	3.71	1
11096-82-5	Aroclor-1260	U	3.71	ug/kg	1.24	3.71	1

Data File: /chem/ecd2a.i/012010.b/036f3601.d  
Report Date: 21-Jan-2010 07:51

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/036f3601.d

Lab Smp Id: 244881004

Client Smp ID: RE12-10-8095

Inj Date : 20-JAN-2010 14:46

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244881004|1|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8095|||

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 36

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.08000	Weight of sample extracted (g)
M	10.45150	% Moisture

Cpnd Variable

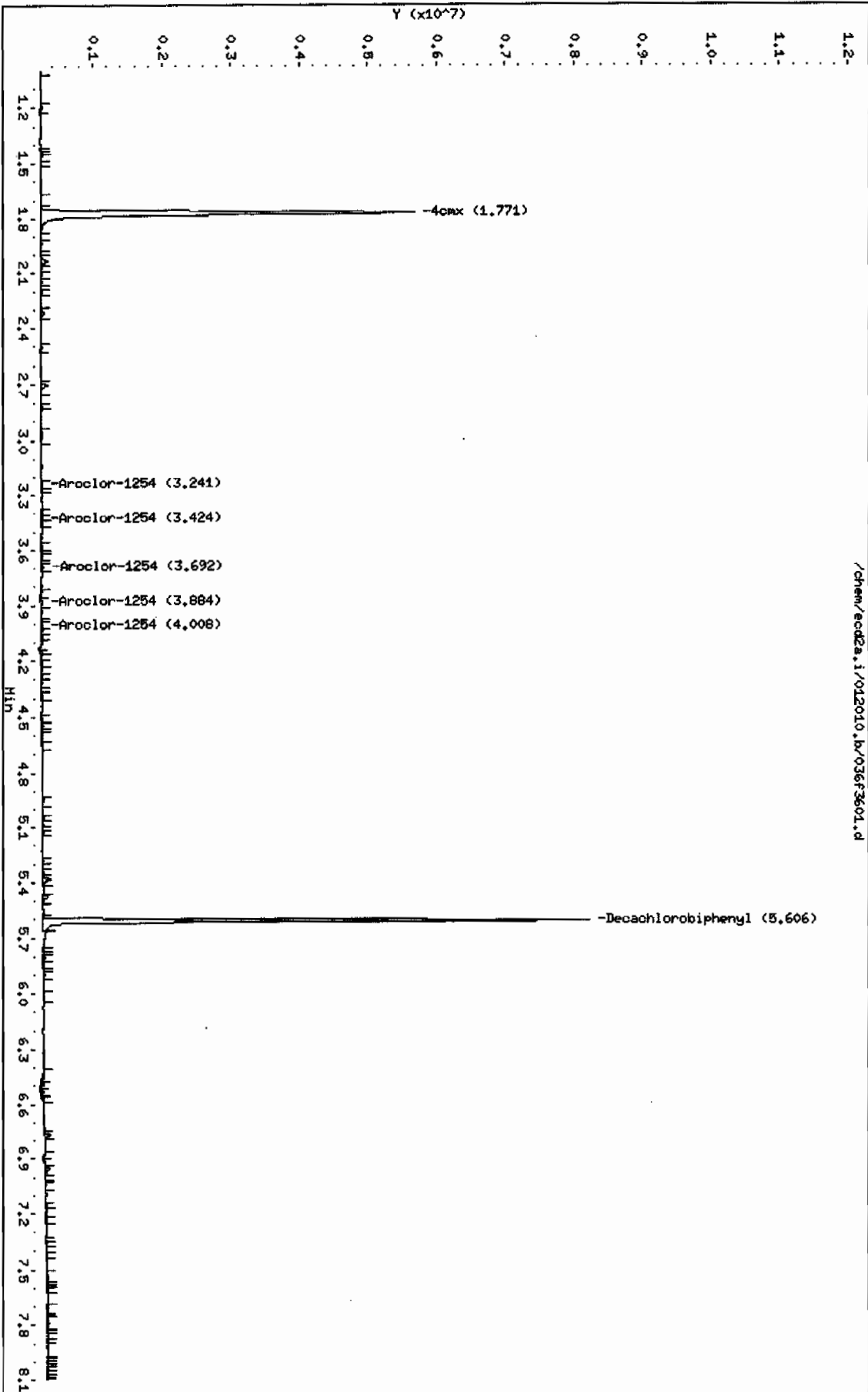
Local Compound Variable

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	
					CAS #: 877-09-8		
1.771	1.772	-0.001	7356501	109.745	4.1	80.00- 120.00	100.00
-----							
					CAS #: 2051-24-3		
5.606	5.607	-0.001	7323361	115.512	4.3	80.00- 120.00	100.00
-----							

Data File: /chem/ecod2a.i/012010.b/036f3601.d  
Date: 20-JAN-2010 14:46  
Client ID: RE12-10-8095  
Sample Info: 124498100411  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: ecod2a.i  
Operator: JADC  
Column diameter: 0.25

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Data File: /chem/ecd2a.i/012010.b/036b3601.d  
Report Date: 21-Jan-2010 07:51

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/036b3601.d

Lab Smp Id: 244881004

Client Smp ID: RE12-10-8095

Inj Date : 20-JAN-2010 14:46

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244881004|1|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8095|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 36

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.08000	Weight of sample extracted (g)
M	10.45150	% Moisture

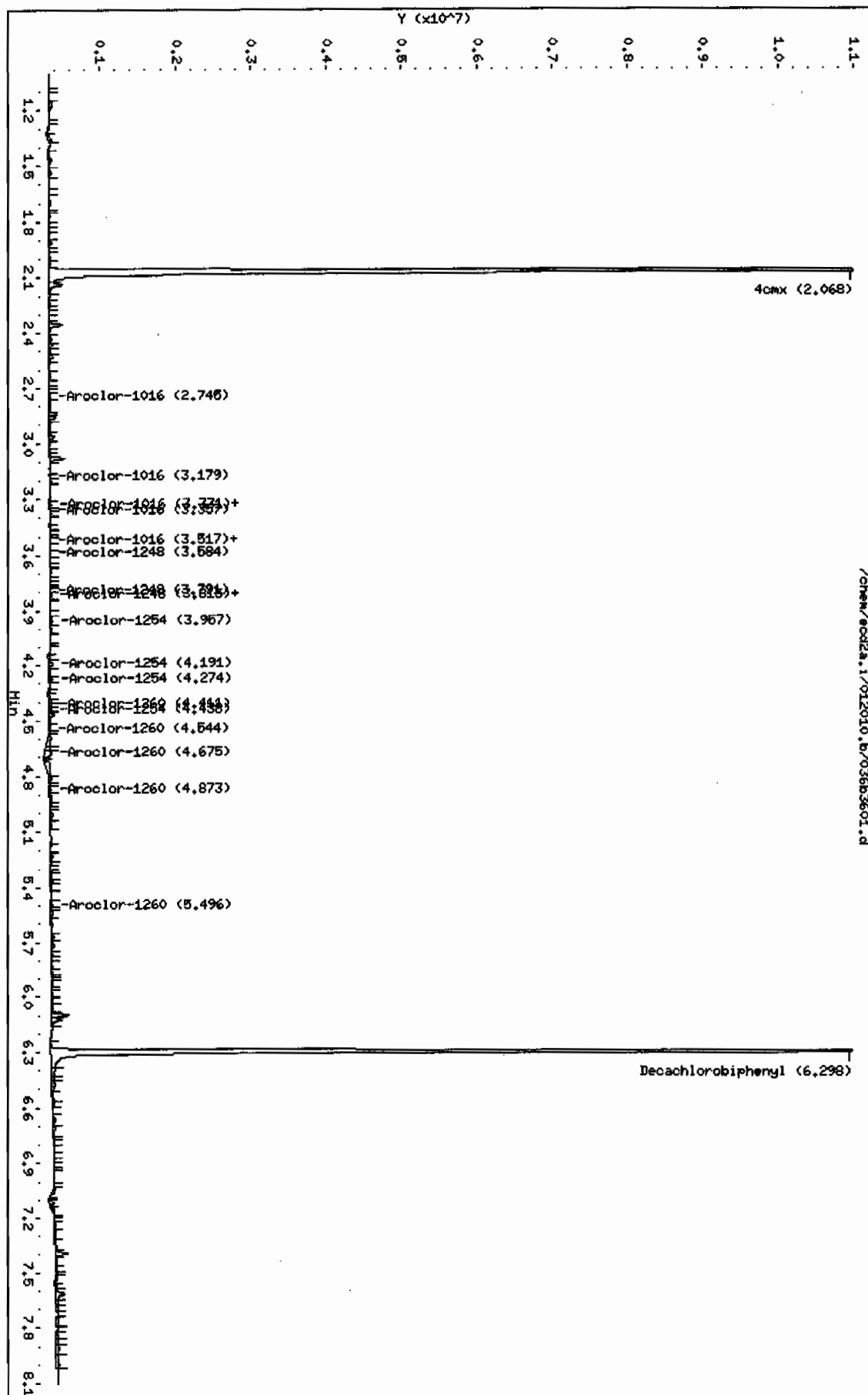
Cpnd Variable

Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8	
2.068	2.068	0.000	16246316	116.414	4.3 80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.298	6.298	0.000	15105005	121.275	4.5 80.00- 120.00	100.00

Data File: /chem/ecod2a.i/012010.b/036b3601.d  
 Date: 20-JAN-2010 14:46  
 Client ID: RE12-10-8095  
 Sample Info: 124488100411  
 Volume Injected (uL): 1.0  
 Column phase: CLP2

Instrument: ecod2a.i  
 Operator: JADC  
 Column diameter: 0.25



**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: 10-1264-1

Lab Sample ID: 244881001

Client ID: RE12-10-8096

Batch ID: 943205

Run Date: 01/20/2010 13:51

Prep Date: 01/19/2010 20:46

Data File: 031f3101.d

031b3101.d

Date Collected: 01/11/2010 12:00

Date Received: 01/15/2010 08:50

Client: LANL010

Method: SW846 8082

Inst: ECD2A.I

Analyst: JAOC

Aliquot: 30.03 g

Column: 1 CLP1

2 CLP2

Matrix: R

%Moisture: 6.1

Project: LANL01004

SOP Ref: GL-OA-E-040

Dilution: 1

Inj. Vol: 1 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.55	ug/kg	1.18	3.55	1
11104-28-2	Aroclor-1221	U	3.55	ug/kg	1.18	3.55	1
11141-16-5	Aroclor-1232	U	3.55	ug/kg	1.18	3.55	1
53469-21-9	Aroclor-1242	U	3.55	ug/kg	1.18	3.55	1
12672-29-6	Aroclor-1248	U	3.55	ug/kg	1.18	3.55	1
11097-69-1	Aroclor-1254	U	3.55	ug/kg	1.18	3.55	1
11096-82-5	Aroclor-1260	U	3.55	ug/kg	1.18	3.55	1

Data File: /chem/ecd2a.i/012010.b/031f3101.d  
Report Date: 21-Jan-2010 14:07

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/031f3101.d  
Lab Smp Id: 244881001 Client Smp ID: RE12-10-8096  
Inj Date : 20-JAN-2010 13:51  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |244881001|1|  
Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8096|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 31  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.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	30.03000	Weight of sample extracted (g)
M	6.13020	% Moisture

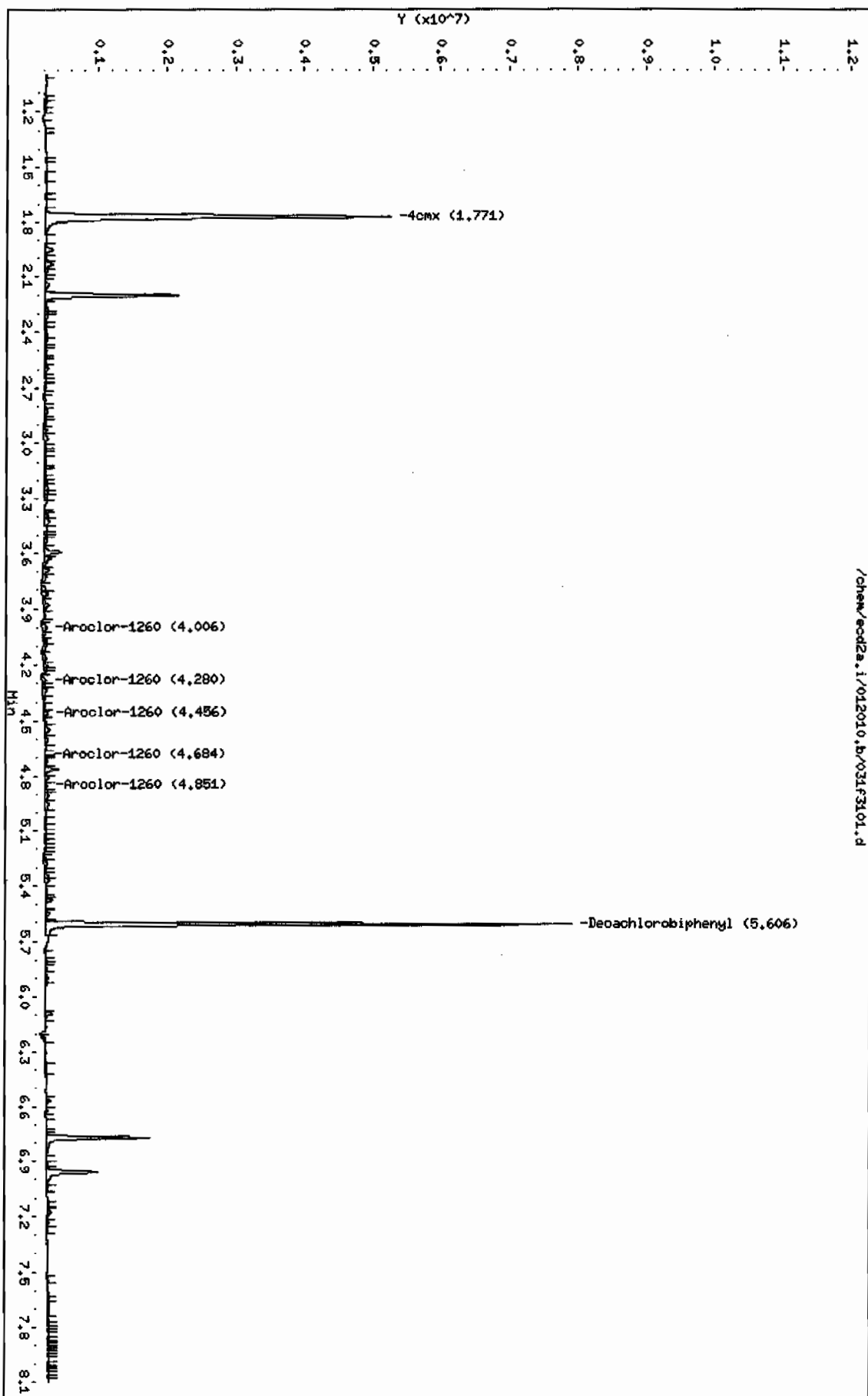
Cpnd Variable Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL RESPONSE ( ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8	
1.771	1.772	-0.001	7007644	104.541	3.7 80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
5.606	5.607	-0.001	7063882	111.419	4.0 80.00- 120.00	100.00



Data File: /chem/eod2a.1/012010.b/031f3101.d  
Date: 20-JAN-2010 13:51  
Client ID: RE12-10-8096  
Sample Info: 12488100111  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: eod2a.1  
Operator: JROC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/031b3101.d

Lab Smp Id: 244881001

Client Smp ID: RE12-10-8096

Inj Date : 20-JAN-2010 13:51

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244881001|1|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8096|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 31

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.03000	Weight of sample extracted (g)
M	6.13020	% Moisture

Cpnd Variable

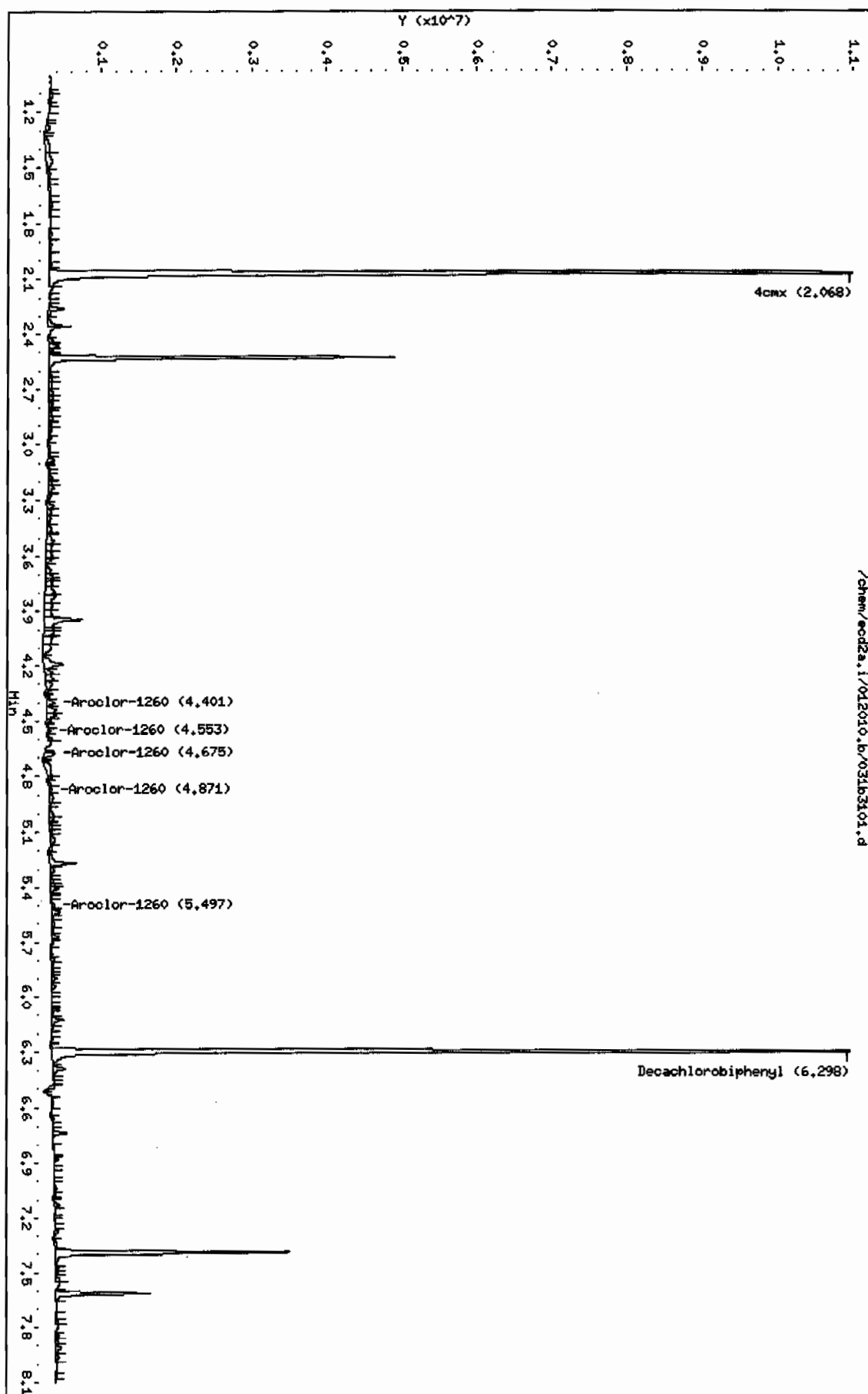
Local Compound Variable

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx							CAS #: 877-09-8	
2.068	2.068	0.000	15579777	111.637	4.0	80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl							CAS #: 2051-24-3	
6.298	6.298	0.000	14493587	116.366	4.1	80.00- 120.00	100.00	

Data File: /chem/ecod2a.i/012010.b/031b3101.d  
Date: 20-JAN-2010 13:51  
Client ID: RE12-10-8096  
Sample Infor: 12488100111  
Volume Injected (uL): 1.0  
Column phase: CLP2

Instrument: ecod2a.i  
Operator: JAC  
Column diameter: 0.25



## PCB

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Certificate of Analysis  
Sample SummarySDG Number: 10-1264-1  
Lab Sample ID: 244881003Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2AJ  
Analyst: JAOC  
Aliquot: 30.03 g  
Column: 1 CLP1  
2 CLP2Matrix: R  
%Moisture: 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	3.62	ug/kg	1.21	3.62	1
11104-28-2	Aroclor-1221	U	3.62	ug/kg	1.21	3.62	1
11141-16-5	Aroclor-1232	U	3.62	ug/kg	1.21	3.62	1
53469-21-9	Aroclor-1242	U	3.62	ug/kg	1.21	3.62	1
12672-29-6	Aroclor-1248	U	3.62	ug/kg	1.21	3.62	1
11097-69-1	Aroclor-1254	U	3.62	ug/kg	1.21	3.62	1
11096-82-5	Aroclor-1260	U	3.62	ug/kg	1.21	3.62	1

Data File: /chem/ecd2a.i/012010.b/035f3501.d  
Report Date: 21-Jan-2010 14:08

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/035f3501.d  
Lab Smp Id: 244881003 Client Smp ID: RE12-10-8097  
Inj Date : 20-JAN-2010 14:35  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |244881003|1|  
Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8097|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 35  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.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	30.03000	Weight of sample extracted (g)
M	7.98510	% 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						
1.774	1.772	0.002	7053138	105.220	3.8 80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3						
5.606	5.607	-0.001	7284269	114.895	4.2 80.00- 120.00	100.00
-----						

Data File: /chem/eod2a.i/012010.b/035f3501.d

Date: 20-JAN-2010 14:35

Client ID: RE12-10-8097

Sample Info: 1244881003111

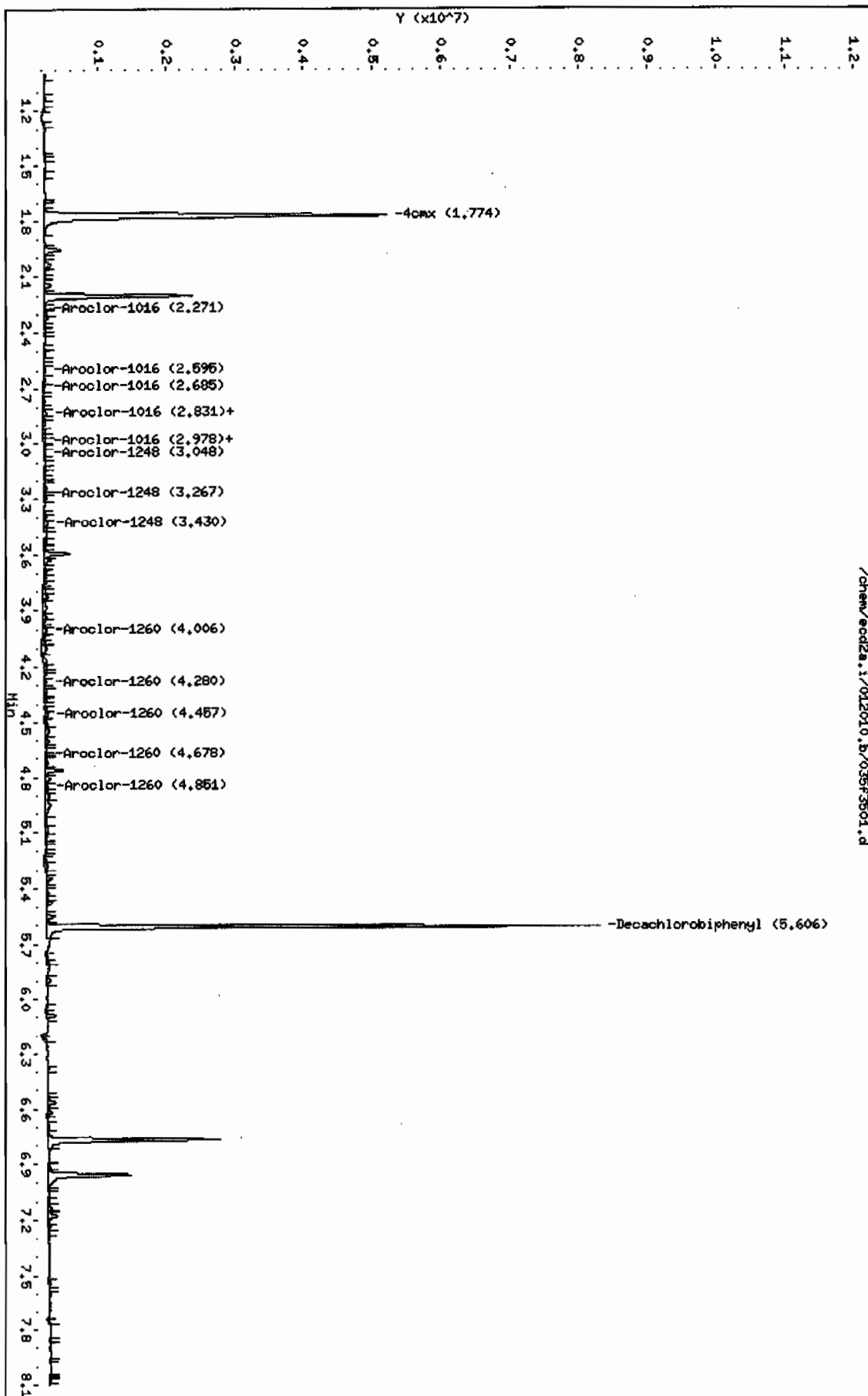
Volume Injected (ul): 1.0

Column phase: CLP1

Instrument: eod2a.i

Operator: JHOC

Column diameter: 0.25



Data File: /chem/ecd2a.i/012010.b/035b3501.d  
 Report Date: 21-Jan-2010 14:08

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# GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/035b3501.d

Lab Smp Id: 244881003

Client Smp ID: RE12-10-8097

Inj Date : 20-JAN-2010 14:35

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |244881003|1|

Misc Info : |ECD82P\_1S|943205|SVA|LANL|SOIL|RE12-10-8097|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 35

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.03000	Weight of sample extracted (g)
M	7.98510	% Moisture

Cpnd Variable

Local Compound Variable

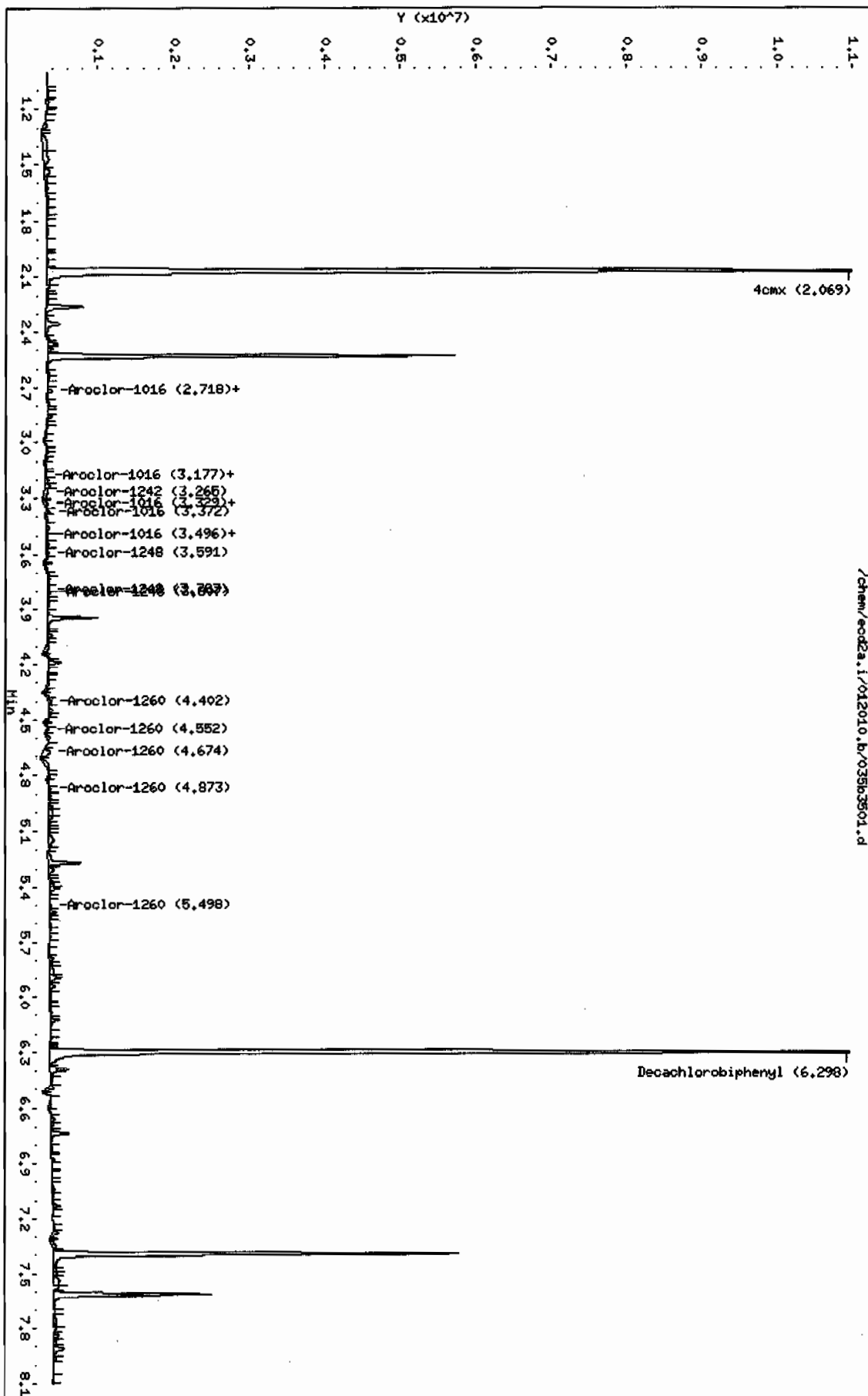
## CONCENTRATIONS

ON-COL FINAL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8	
2.069	2.068	0.001	15699702	112.497	4.1 80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.298	6.298	0.000	14876653	119.441	4.3 80.00- 120.00	100.00

Data File: /chem/ecod2a.i/012010.b/035b3501.d  
 Date: 20-JUN-2010 14:35  
 Client ID: RE12-10-8097  
 Sample Info: 12488100311  
 Volume Injected (uL): 1.0  
 Column Phase: CLP2

Instrument: ecod2a.i  
 Operator: JAO  
 Column diameter: 0.25





# STANDARDS DATA

Report Date: 21-Jan-2010 08:17

### Calibration History

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Start Cal Date: 12-NOV-2009 11:00  
End Cal Date : 20-JAN-2010 10:31

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008f0801.d
07-JAN-2010 08:16	AR1268	/chem/ecd2a.i/010710.b/009f0901.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011f1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023f2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003f0301.d
20-JAN-2010 09:46	AR1660	/chem/ecd2a.i/012010.b/009f0901.d
Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009f0901.d
07-JAN-2010 08:27	AR1268	/chem/ecd2a.i/010710.b/010f1001.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012f1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024f2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004f0401.d
20-JAN-2010 09:57	AR1660	/chem/ecd2a.i/012010.b/010f1001.d
Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010f1001.d
07-JAN-2010 08:38	AR1268	/chem/ecd2a.i/010710.b/011f1101.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013f1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025f2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005f0501.d
20-JAN-2010 10:09	AR1660	/chem/ecd2a.i/012010.b/011f1101.d
Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014f1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026f2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006f0601.d
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012f1201.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010f1001.d
07-JAN-2010 08:49	AR1268	/chem/ecd2a.i/010710.b/012f1201.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011f1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007f0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006f0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012f1201.d
07-JAN-2010 09:00	AR1268	/chem/ecd2a.i/010710.b/013f1301.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015f1501.d

12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027f2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007f0701.d
20-JAN-2010 10:31	AR1660	/chem/ecd2a.i/012010.b/013f1301.d

Continuing Calibration  
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 19:35	AR1660	/chem/ecd2a.i/012010.b/062f6201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 18:06	AR1660	/chem/ecd2a.i/012010.b/054f5401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 16:37	AR1660	/chem/ecd2a.i/012010.b/046f4601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 14:57	AR1660	/chem/ecd2a.i/012010.b/037f3701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:17	AR1660	/chem/ecd2a.i/012010.b/028f2801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:06	AR1660	/chem/ecd2a.i/012010.b/027f2701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:53	AR1268	/chem/ecd2a.i/012010.b/015f1501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:42	AR1660	/chem/ecd2a.i/012010.b/014f1401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012f1201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:35	AR1262	/chem/ecd2a.i/012010.b/008f0801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:24	AR1221	/chem/ecd2a.i/012010.b/007f0701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:13	AR1232	/chem/ecd2a.i/012010.b/006f0601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:02	AR1248	/chem/ecd2a.i/012010.b/005f0501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:51	AR1242	/chem/ecd2a.i/012010.b/004f0401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:40	AR1254	/chem/ecd2a.i/012010.b/003f0301.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:29	AR1660	/chem/ecd2a.i/012010.b/002f0201.d

Report Date: 21-Jan-2010 08:17

### Calibration History

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Start Cal Date: 12-NOV-2009 11:00  
End Cal Date : 20-JAN-2010 10:31

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008b0801.d
07-JAN-2010 08:16	AR1268	/chem/ecd2a.i/010710.b/009b0901.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011b1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023b2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003b0301.d
20-JAN-2010 09:46	AR1660	/chem/ecd2a.i/012010.b/009b0901.d
Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009b0901.d
07-JAN-2010 08:27	AR1268	/chem/ecd2a.i/010710.b/010b1001.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012b1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024b2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004b0401.d
20-JAN-2010 09:57	AR1660	/chem/ecd2a.i/012010.b/010b1001.d
Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010b1001.d
07-JAN-2010 08:38	AR1268	/chem/ecd2a.i/010710.b/011b1101.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013b1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025b2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005b0501.d
20-JAN-2010 10:09	AR1660	/chem/ecd2a.i/012010.b/011b1101.d
Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014b1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026b2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006b0601.d
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012b1201.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010b1001.d
07-JAN-2010 08:49	AR1268	/chem/ecd2a.i/010710.b/012b1201.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011b1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007b0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006b0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012b1201.d
07-JAN-2010 09:00	AR1268	/chem/ecd2a.i/010710.b/013b1301.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015b1501.d

12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027b2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007b0701.d
20-JAN-2010 10:31	AR1660	/chem/ecd2a.i/012010.b/013b1301.d

Continuing Calibration  
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 18:06	AR1660	/chem/ecd2a.i/012010.b/054b5401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 19:35	AR1660	/chem/ecd2a.i/012010.b/062b6201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 16:37	AR1660	/chem/ecd2a.i/012010.b/046b4601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 14:57	AR1660	/chem/ecd2a.i/012010.b/037b3701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:17	AR1660	/chem/ecd2a.i/012010.b/028b2801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 13:06	AR1660	/chem/ecd2a.i/012010.b/027b2701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:53	AR1268	/chem/ecd2a.i/012010.b/015b1501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:42	AR1660	/chem/ecd2a.i/012010.b/014b1401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 10:20	AR1660	/chem/ecd2a.i/012010.b/012b1201.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:35	AR1262	/chem/ecd2a.i/012010.b/008b0801.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:24	AR1221	/chem/ecd2a.i/012010.b/007b0701.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:13	AR1232	/chem/ecd2a.i/012010.b/006b0601.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 09:02	AR1248	/chem/ecd2a.i/012010.b/005b0501.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:51	AR1242	/chem/ecd2a.i/012010.b/004b0401.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:40	AR1254	/chem/ecd2a.i/012010.b/003b0301.d
Ccal Level: 4 , Ccal Amount: 1000		
20-JAN-2010 08:29	AR1660	/chem/ecd2a.i/012010.b/002b0201.d

## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Quant Method : ESTD Target Version : 3.50  
 Last Update : 21-Jan-2010 07:18 Number of Cpnds : 15  
 Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events Values

-----  
 Initial:Start Threshold 500.000000  
 Initial:End Threshold 250.000000  
 Initial:Area Threshold 10000.000000  
 Initial:P-P Resolution 1.000000  
 Initial:Bunch Factor 2.000000  
 Initial:Negative Peaks OFF  
 Initial:Tension 1.100000  
 8.500:Bunch Factor 2.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.273	2.243-2.303	2.258e+03
	2.597	2.567-2.627	4.629e+03
	2.687	2.657-2.717	1.900e+03
	2.822	2.792-2.852	9.835e+02
	2.974	2.944-3.004	1.450e+03
2 Aroclor-1221	1.437	1.407-1.467	4.641e+02
	1.897	1.867-1.927	6.570e+02
	1.996	1.966-2.026	3.467e+02
3 Aroclor-1232	2.026	1.996-2.056	1.165e+03
	2.274	2.244-2.304	9.314e+02
	2.688	2.658-2.718	8.004e+02
	2.730	2.700-2.760	5.102e+02
4 Aroclor-1242	2.974	2.944-3.004	5.840e+02
	2.273	2.243-2.303	1.733e+03
	2.687	2.657-2.717	1.484e+03
	2.730	2.700-2.760	9.058e+02
	2.822	2.792-2.852	7.269e+02
5 Aroclor-1248	2.974	2.944-3.004	1.120e+03
	2.822	2.792-2.852	1.527e+03
	2.974	2.944-3.004	2.027e+03
	3.033	3.003-3.063	1.571e+03
	3.268	3.238-3.298	2.218e+03
	3.422	3.392-3.452	1.913e+03

## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Compound		RT	RT Window	RF
6 Aroclor-1254		3.240	3.210-3.270	2.080e+03
		3.422	3.392-3.452	2.772e+03
		3.692	3.662-3.722	3.742e+03
		3.885	3.855-3.915	2.783e+03
		4.013	3.983-4.043	2.760e+03
7 Aroclor-1260		4.013	3.983-4.043	4.303e+03
		4.285	4.255-4.315	2.791e+03
		4.451	4.421-4.481	2.867e+03
		4.662	4.632-4.692	6.579e+03
		4.852	4.822-4.882	3.193e+03
8 Aroclor-1262		3.822	3.792-3.852	2.273e+03
		4.014	3.984-4.044	3.072e+03
		4.285	4.255-4.316	4.004e+03
		4.450	4.420-4.481	3.573e+03
		4.852	4.822-4.882	2.501e+03
9 Aroclor-1268		4.882	4.852-4.912	9.782e+03
		4.908	4.878-4.938	9.839e+03
		5.041	5.011-5.071	7.469e+03
		5.279	5.249-5.309	3.239e+03
		5.476	5.446-5.506	2.294e+04
M 10 Aroclor-Total		1.000	0.980-1.020	
\$ 11 4cmx		1.772	1.742-1.802	6.703e+04
\$ 12 Decachlorobiphenyl		5.607	5.577-5.637	6.340e+04
13 4,4'-DDT		4.229	4.209-4.249	5.006e+04
14 4,4'-DDD		4.036	4.016-4.056	7.298e+04
15 4,4'-DDE		3.632	3.612-3.652	7.426e+04

## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Quant Method : ESTD Target Version : 3.50  
 Last Update : 21-Jan-2010 07:43 Number of Cpnds : 15  
 Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	1000.000000
Initial:End Threshold	500.000000
Initial:Area Threshold	500.000000
Initial:P-P Resolution	0.000000
Initial:Bunch Factor	3.000000
Initial:Negative Peaks	OFF
Initial:Tension	4.000000
4.200:Tension	1.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.744	2.714-2.774	4.489e+03
	3.178	3.148-3.208	3.434e+03
	3.329	3.299-3.359	2.017e+03
	3.357	3.327-3.387	2.106e+03
	3.516	3.486-3.546	2.794e+03
2 Aroclor-1221	2.290	2.260-2.320	1.263e+03
	2.395	2.365-2.425	7.739e+02
	2.439	2.409-2.469	3.051e+03
3 Aroclor-1232	2.441	2.411-2.471	2.061e+03
	2.744	2.714-2.774	1.960e+03
	3.178	3.148-3.208	1.498e+03
	3.250	3.220-3.280	9.309e+02
4 Aroclor-1242	3.516	3.486-3.546	1.107e+03
	2.744	2.714-2.774	3.445e+03
	3.178	3.148-3.208	2.681e+03
	3.251	3.221-3.281	1.637e+03
	3.329	3.299-3.359	1.508e+03
5 Aroclor-1248	3.516	3.486-3.546	2.145e+03
	3.329	3.299-3.359	3.282e+03
	3.516	3.486-3.546	4.187e+03
	3.603	3.573-3.633	4.451e+03
	3.792	3.762-3.822	4.697e+03
	3.821	3.791-3.851	5.389e+03



## GEL Laboratories LLC

## COMPOUND LISTING

Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Compound	RT	RT Window	RF
6 Aroclor-1254	3.815	3.785-3.845	4.985e+03
	3.957	3.927-3.987	5.799e+03
	4.193	4.163-4.223	4.023e+03
	4.274	4.244-4.304	7.731e+03
	4.438	4.408-4.468	5.608e+03
7 Aroclor-1260	4.411	4.381-4.441	5.785e+03
	4.564	4.534-4.594	7.263e+03
	4.674	4.644-4.704	5.004e+03
	4.872	4.842-4.902	5.795e+03
	5.498	5.468-5.528	9.394e+03
8 Aroclor-1262	4.412	4.383-4.442	4.703e+03
	4.563	4.533-4.593	5.853e+03
	4.872	4.843-4.902	8.946e+03
	5.072	5.043-5.103	7.772e+03
	5.251	5.221-5.281	1.672e+04
9 Aroclor-1268	5.496	5.466-5.526	2.078e+04
	5.528	5.498-5.558	2.083e+04
	5.700	5.670-5.730	1.556e+04
	5.900	5.870-5.930	6.423e+03
	6.124	6.094-6.154	4.919e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
\$ 11 4cmx	2.068	2.038-2.098	1.396e+05
\$ 12 Decachlorobiphenyl	6.298	6.268-6.328	1.246e+05
13 4,4'-DDT	4.814	4.794-4.834	8.705e+04
14 4,4'-DDD	4.600	4.580-4.620	1.499e+05
15 4,4'-DDE	4.195	4.175-4.215	1.504e+05

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:18 jen01212  
 Curve Type : Average

## Calibration File Names:

Level 1: /chem/ecd2a.i/120209.b/008f0801.d  
 Level 2: /chem/ecd2a.i/120209.b/009f0901.d  
 Level 3: /chem/ecd2a.i/120209.b/010f1001.d  
 Level 4: /chem/ecd2a.i/113009a.b/014f1401.d  
 Level 5: /chem/ecd2a.i/120209.b/012f1201.d

Compound	100.000	250.000	500.000	1000.000	4000.000	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5			
1 Aroclor-1016(1)	2582	2384	2270	2158	1895	2258	11.359
(2)	4964	4712	4611	4536	4322	4629	5.094
(3)	2119	1992	1883	1834	1673	1900	8.824
(4)	1123	1028	978	934	855	983	10.212
(5)	1592	1492	1430	1418	1320	1450	6.903
2 Aroclor-1221(1)	++++	++++	++++	464	++++	464	0.000
(2)	++++	++++	++++	657	++++	657	0.000
(3)	++++	++++	++++	347	++++	347	0.000
3 Aroclor-1232(1)	++++	++++	++++	1165	++++	1165	0.000
(2)	++++	++++	++++	931	++++	931	0.000
(3)	++++	++++	++++	800	++++	800	0.000
(4)	++++	++++	++++	510	++++	510	0.000
(5)	++++	++++	++++	584	++++	584	0.000
4 Aroclor-1242(1)	1990	1799	1692	1619	1566	1733	9.686
(2)	1678	1536	1439	1387	1381	1484	8.410
(3)	1015	931	874	843	866	906	7.639
(4)	817	761	714	669	673	727	8.615
(5)	1272	1143	1059	1036	1087	1120	8.434
5 Aroclor-1248(1)	1738	1529	1527	1515	1325	1527	9.560
(2)	2238	2070	1990	2006	1832	2027	7.247
(3)	1706	1611	1571	1551	1415	1571	6.718
(4)	2322	2198	2161	2230	2178	2218	2.874
(5)	2083	1922	1902	1885	1770	1913	5.861
6 Aroclor-1254(1)	2304	2118	2048	2007	1924	2080	6.888
(2)	2981	2797	2739	2702	2642	2772	4.677
(3)	3870	3712	3711	3744	3675	3742	2.011
(4)	2886	2776	2725	2760	2767	2783	2.186
(5)	2994	2820	2741	2711	2533	2760	6.080

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:18 jen01212  
 Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
7 Aroclor-1260(1)	4564	4184	4324	4273	4168	4303	3.706
(2)	3136	2679	2808	2745	2587	2791	7.510
(3)	3148	2736	2898	2878	2673	2867	6.405
(4)	6841	6399	6600	6582	6474	6579	2.551
(5)	3315	3117	3229	3192	3115	3193	2.623
8 Aroclor-1262(1)	2530	2266	2239	2239	2092	2273	6.993
(2)	3295	3066	3031	3051	2917	3072	4.482
(3)	4237	3997	3977	3997	3815	4004	3.763
(4)	3754	3532	3556	3594	3430	3573	3.295
(5)	2578	2453	2481	2538	2454	2501	2.217
9 Aroclor-1268(1)	9960	9712	9638	9856	9743	9782	1.295
(2)	10427	9736	9819	9812	9401	9839	3.768
(3)	7803	7453	7371	7450	7266	7469	2.702
(4)	3410	3296	3214	3182	3091	3239	3.727
(5)	23130	22747	22846	23230	22770	22944	0.963
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	50063	+++++	50063	0.000
14 4,4'-DDD	+++++	+++++	+++++	72978	+++++	72978	0.000
15 4,4'-DDE	+++++	+++++	+++++	74262	+++++	74262	0.000
\$ 11 4cmx	71691	67209	66904	66042	63316	67033	4.509
\$ 12 Decachlorobiphenyl	69072	64043	62394	61590	59897	63399	5.529

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:43 jen01212  
 Curve Type : Average

## Calibration File Names:

Level 1: /chem/ecd2a.i/120209.b/008b0801.d  
 Level 2: /chem/ecd2a.i/120209.b/009b0901.d  
 Level 3: /chem/ecd2a.i/120209.b/010b1001.d  
 Level 4: /chem/ecd2a.i/113009a.b/014b1401.d  
 Level 5: /chem/ecd2a.i/120209.b/012b1201.d

Compound	100.000	250.000	500.000	1000.000	4000.000	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5			
1 Aroclor-1016(1)	4662	4548	4537	4546	4153	4489	4.347
(2)	3382	3406	3459	3527	3397	3434	1.731
(3)	2031	1985	2035	2051	1984	2017	1.523
(4)	2110	2098	2116	2131	2073	2106	1.046
(5)	2721	2745	2805	2886	2815	2794	2.320
2 Aroclor-1221(1)	++++	++++	++++	1263	++++	1263	0.000
(2)	++++	++++	++++	774	++++	774	0.000
(3)	++++	++++	++++	3051	++++	3051	0.000
3 Aroclor-1232(1)	++++	++++	++++	2061	++++	2061	0.000
(2)	++++	++++	++++	1960	++++	1960	0.000
(3)	++++	++++	++++	1498	++++	1498	0.000
(4)	++++	++++	++++	931	++++	931	0.000
(5)	++++	++++	++++	1107	++++	1107	0.000
4 Aroclor-1242(1)	3674	3489	3409	3384	3271	3445	4.346
(2)	2815	2677	2634	2637	2644	2681	2.863
(3)	1696	1624	1594	1606	1663	1637	2.599
(4)	1601	1513	1471	1467	1487	1508	3.655
(5)	2235	2100	2068	2141	2180	2145	3.068
5 Aroclor-1248(1)	3439	3315	3263	3296	3099	3282	3.723
(2)	4291	4205	4192	4250	3996	4187	2.717
(3)	4601	4495	4377	4484	4299	4451	2.609
(4)	4665	4612	4696	4831	4682	4697	1.733
(5)	5471	5399	5390	5477	5208	5389	2.022
6 Aroclor-1254(1)	5121	4955	4998	5025	4828	4985	2.145
(2)	5885	5693	5812	5852	5753	5799	1.330
(3)	4010	3906	3992	4126	4082	4023	2.109
(4)	7559	7611	7766	7925	7797	7731	1.909
(5)	5659	5569	5439	5821	5553	5608	2.538

GEL Laboratories LLC  
INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00  
 End Cal Date : 20-JAN-2010 10:31  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : Falcon  
 Method file : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Cal Date : 21-Jan-2010 07:43 jen01212  
 Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
7 Aroclor-1260(1)	5608	5607	5911	6004	5797	5785	3.079
(2)	6845	7033	7506	7660	7272	7263	4.586
(3)	4810	4804	5158	5233	5016	5004	3.919
(4)	5752	5570	5927	6012	5715	5795	3.029
(5)	8958	8757	9595	9936	9726	9394	5.425
8 Aroclor-1262(1)	4855	4536	4634	4812	4677	4703	2.776
(2)	5760	5648	5834	6083	5942	5853	2.859
(3)	8687	8674	9001	9349	9021	8946	3.121
(4)	7559	7507	7790	8124	7880	7772	3.221
(5)	15890	16154	16824	17584	17141	16719	4.167
9 Aroclor-1268(1)	19681	20538	20944	21652	21077	20778	3.522
(2)	20049	20780	21168	21526	20631	20831	2.683
(3)	14816	15313	15674	16201	15813	15563	3.374
(4)	6082	6303	6421	6627	6683	6423	3.811
(5)	47383	48640	49735	50972	49227	49192	2.697
10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	87046	+++++	87046	0.000
14 4,4'-DDD	+++++	+++++	+++++	149858	+++++	149858	0.000
15 4,4'-DDE	+++++	+++++	+++++	150414	+++++	150414	0.000
11 4cmx	134308	136410	140413	144013	142640	139557	2.945
12 Decachlorobiphenyl	121777	119955	124484	128763	127780	124552	3.031

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.: 10-1264-1

Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1042

Lab File ID: 014F1401 Init. Calib. Date(s): 01/20/10 01/20/10

Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2257.882	2198.691	0.01	-2.6	15.0
(2)	4628.914	4649.732	0.01	0.4	15.0
(3)	1900.304	1876.324	0.01	-1.3	15.0
(4)	983.497	959.236	0.01	-2.5	15.0
(5)	1450.304	1426.869	0.01	-1.6	15.0
Aroclor-1260	4302.665	4447.698	0.01	3.4	15.0
(2)	2791.028	2849.302	0.01	2.1	15.0
(3)	2866.828	2992.152	0.01	4.4	15.0
(4)	6579.193	6851.364	0.01	4.1	15.0
(5)	3193.316	3286.091	0.01	2.9	15.0
4cmx	67032.526	69128.000	0.01	3.1	15.0
Decachlorobiphenyl	63399.298	63600.520	0.01	0.3	15.0

FORM VII PEST

FORM 7  
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A  
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1264-1  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1042  
 Lab File ID: 014B1401 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4489.288	4641.615	0.01	3.4	15.0
(2)	3434.131	3641.300	0.01	6.0	15.0
(3)	2017.371	2107.405	0.01	4.5	15.0
(4)	2105.569	2219.093	0.01	5.4	15.0
(5)	2794.468	2980.439	0.01	6.6	15.0
Aroclor-1260	5785.200	6300.864	0.01	8.9	15.0
(2)	7263.142	7996.785	0.01	10.1	15.0
(3)	5004.167	5508.886	0.01	10.1	15.0
(4)	5795.185	6286.593	0.01	8.5	15.0
(5)	9394.449	10332.067	0.01	10.0	15.0
4cmx	139556.85	151115.54	0.01	8.3	15.0
Decachlorobiphenyl	124551.80	133386.68	0.01	7.1	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.: 10-1264-1

Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1317

Lab File ID: 028F2801 Init. Calib. Date(s): 01/20/10 01/20/10

Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2257.882	2129.526	0.01	-5.7	15.0
(2)	4628.914	4530.205	0.01	-2.1	15.0
(3)	1900.304	1818.396	0.01	-4.3	15.0
(4)	983.497	935.634	0.01	-4.9	15.0
(5)	1450.304	1396.003	0.01	-3.7	15.0
Aroclor-1260	4302.665	4308.956	0.01	0.1	15.0
(2)	2791.028	2708.943	0.01	-2.9	15.0
(3)	2866.828	2790.743	0.01	-2.6	15.0
(4)	6579.193	6631.352	0.01	0.8	15.0
(5)	3193.316	3227.168	0.01	1.1	15.0
4cmx	67032.526	67395.450	0.01	0.5	15.0
Decachlorobiphenyl	63399.298	61616.980	0.01	-2.8	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.: 10-1264-1  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1317  
 Lab File ID: 028B2801 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4489.288	4494.509	0.01	0.1	15.0
(2)	3434.131	3522.680	0.01	2.6	15.0
(3)	2017.371	2024.957	0.01	0.4	15.0
(4)	2105.569	2127.507	0.01	1.0	15.0
(5)	2794.468	2863.002	0.01	2.4	15.0
Aroclor-1260	5785.200	5974.213	0.01	3.3	15.0
(2)	7263.142	7576.802	0.01	4.3	15.0
(3)	5004.167	5176.517	0.01	3.4	15.0
(4)	5795.185	5899.725	0.01	1.8	15.0
(5)	9394.449	9862.945	0.01	5.0	15.0
4cmx	139556.85	147480.22	0.01	5.7	15.0
Decachlorobiphenyl	124551.80	124634.29	0.01	0.1	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.: 10-1264-1  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1457  
 Lab File ID: 037F3701 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2257.882	2157.818	0.01	-4.4	15.0
(2)	4628.914	4612.339	0.01	-0.4	15.0
(3)	1900.304	1847.242	0.01	-2.8	15.0
(4)	983.497	947.696	0.01	-3.6	15.0
(5)	1450.304	1410.346	0.01	-2.8	15.0
Aroclor-1260	4302.665	4429.387	0.01	2.9	15.0
(2)	2791.028	2793.144	0.01	0.1	15.0
(3)	2866.828	2873.803	0.01	0.2	15.0
(4)	6579.193	6775.868	0.01	3.0	15.0
(5)	3193.316	3282.519	0.01	2.8	15.0
4cmx	67032.526	67848.100	0.01	1.2	15.0
Decachlorobiphenyl	63399.298	61533.200	0.01	-2.9	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.: 10-1264-1  
 Instrument ID: ECD2A Calibration Date: 01/20/10 Time: 1457  
 Lab File ID: 037B3701 Init. Calib. Date(s): 01/20/10 01/20/10  
 Heated Purge: (Y/N) N Init. Calib. Times: 0946 1031  
 GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4489.288	4542.551	0.01	1.2	15.0
(2)	3434.131	3561.354	0.01	3.7	15.0
(3)	2017.371	2036.038	0.01	0.9	15.0
(4)	2105.569	2150.694	0.01	2.1	15.0
(5)	2794.468	2909.995	0.01	4.1	15.0
Aroclor-1260	5785.200	6107.583	0.01	5.6	15.0
(2)	7263.142	7758.930	0.01	6.8	15.0
(3)	5004.167	5258.912	0.01	5.1	15.0
(4)	5795.185	5990.873	0.01	3.4	15.0
(5)	9394.449	9837.211	0.01	4.7	15.0
4cmx	139556.85	148251.80	0.01	6.2	15.0
Decachlorobiphenyl	124551.80	122573.96	0.01	-1.6	15.0

FORM VII PEST

Data File: /chem/ecd2a.i/012010.b/003f0301.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/003f0301.d

Lab Smp Id: WAR091102-54

Client Smp ID: AR125401

Inj Date : 20-JAN-2010 08:40

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091102-54

Misc Info : |PCB\_CVS|1254||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 3

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1254.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

6 Aroclor-1254

CAS #: 11097-69-1

3.240	3.240	0.000	2166314	1000.00	1040 80.00- 120.00	100.00
3.422	3.422	0.000	2884126	1000.00	1040 113.14- 153.14	133.14
3.692	3.692	0.000	3941427	1000.00	1050 161.94- 201.94	181.94
3.885	3.885	0.000	2880533	1000.00	1040 112.97- 152.97	132.97
4.013	4.013	0.000	2975958	1000.00	1080 117.37- 157.37	137.37

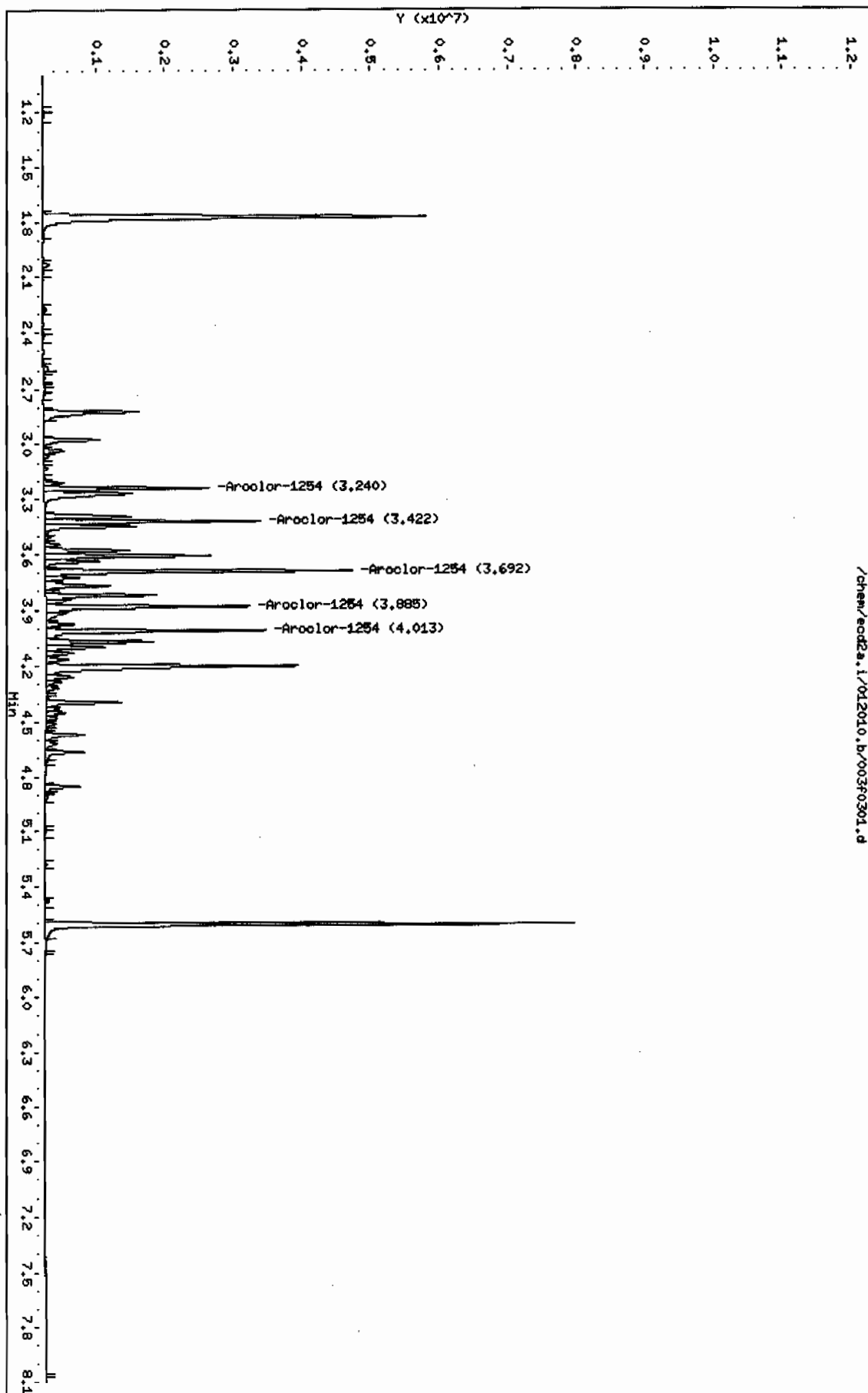
Average of Peak Amounts = 1.05e+03

Data File: /chem/eod2a.i/012010.b/003f0301.d  
Date : 20-JAN-2010 08:40  
Client ID: AR125401  
Sample Info: 1MR091102-54

Column phase: CLP1

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

/chem/eod2a.i/012010.b/003f0301.d



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/003b0301.d

Lab Smp Id: WAR091102-54

Client Smp ID: AR125401

Inj Date : 20-JAN-2010 08:40

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR091102-54

Misc Info : |PCB\_CVS|1254||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 3

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1254.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

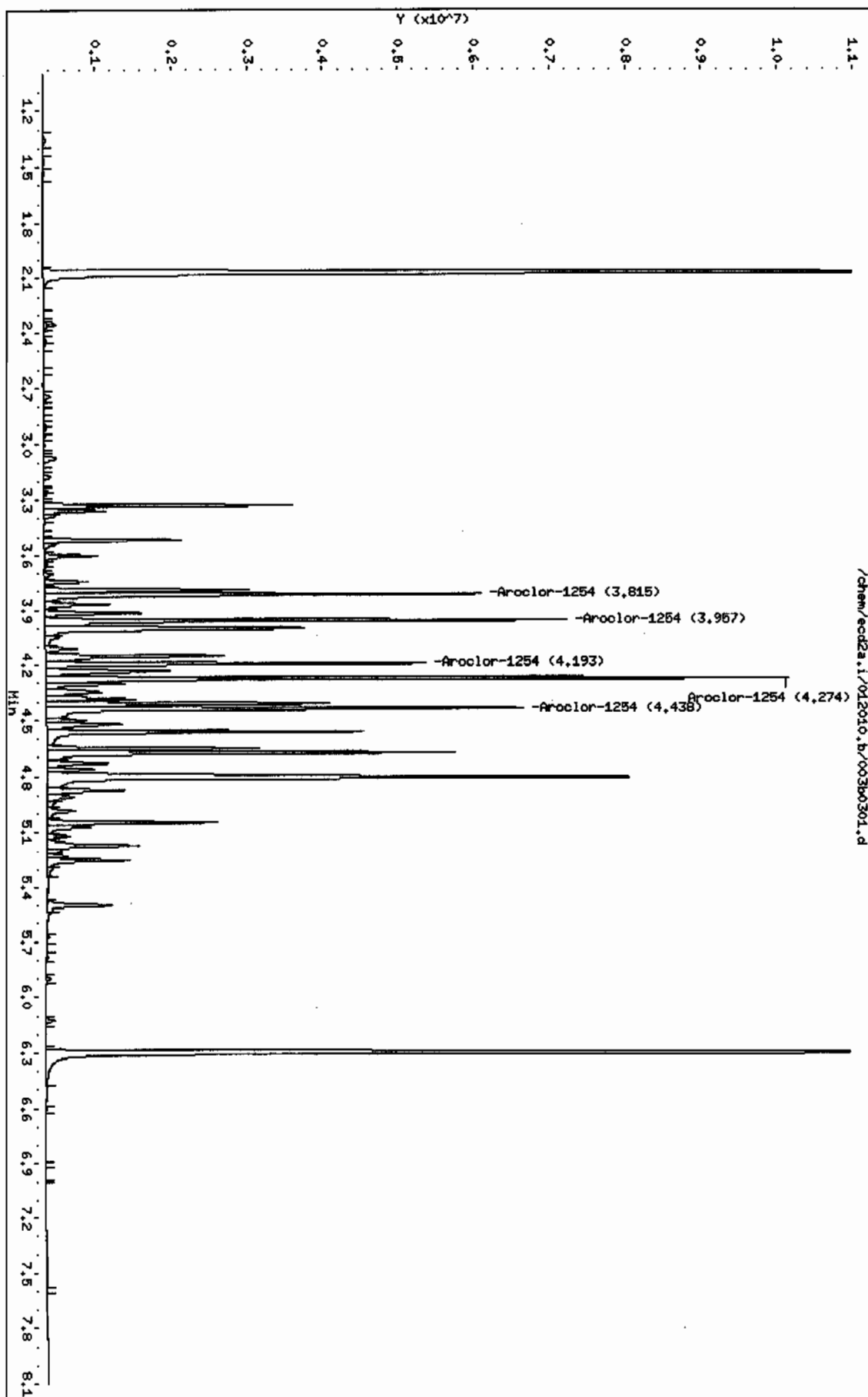
			CAL-AMT	ON-COL				
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO		
6 Aroclor-1254				CAS #: 11097-69-1				
3.815	3.815	0.000	5433134	1000.00	1090	80.00-	120.00	100.00
3.957	3.957	0.000	6190489	1000.00	1070	59.28-	99.28	113.94
4.193	4.193	0.000	4416585	1000.00	1100	0.00-	32.39	81.29
4.274	4.274	0.000	8479694	1000.00	1100	14.94-	54.94	156.07
4.438	4.438	0.000	6121213	1000.00	1090	0.00-	36.25	112.66
Average of Peak Amounts =				1.09e+03				

Data File: /chem/ecd2a.i/012010.b/003b0301.d  
Date: 20-JAN-2010 08:40  
Client ID: AR125401  
Sample Info: IMR091102-54

Column phase: CLP2

Instrument: ecd2a.i  
Operator: JADC  
Column diameter: 0.25

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/004f0401.d

Lab Smp Id: WAR100104-42

Client Smp ID: AR124201

Inj Date : 20-JAN-2010 08:51

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-42

Misc Info : |PCB\_CVS|1242||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 4

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1242.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

			CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
-----			-----	-----	-----	-----
4 Aroclor-1242			CAS #: 53469-21-9			
2.273	2.273	0.000	1875234 1000.00	1080	80.00- 120.00	100.00
2.687	2.687	0.000	1571531 1000.00	1060	63.80- 103.80	83.80
2.730	2.730	0.000	972681 1000.00	1070	31.87- 71.87	51.87
2.822	2.822	0.000	814351 1000.00	1120	23.43- 63.43	43.43
2.974	2.974	0.000	1240605 1000.00	1110	46.16- 86.16	66.16
Average of Peak Amounts =			1.09e+03			



Data File: /chem/eod2a.i/012010.bv004f0401.d

Date: 20-JAN-2010 08:51

Client ID: R124201

Sample Info: IMR091217-42

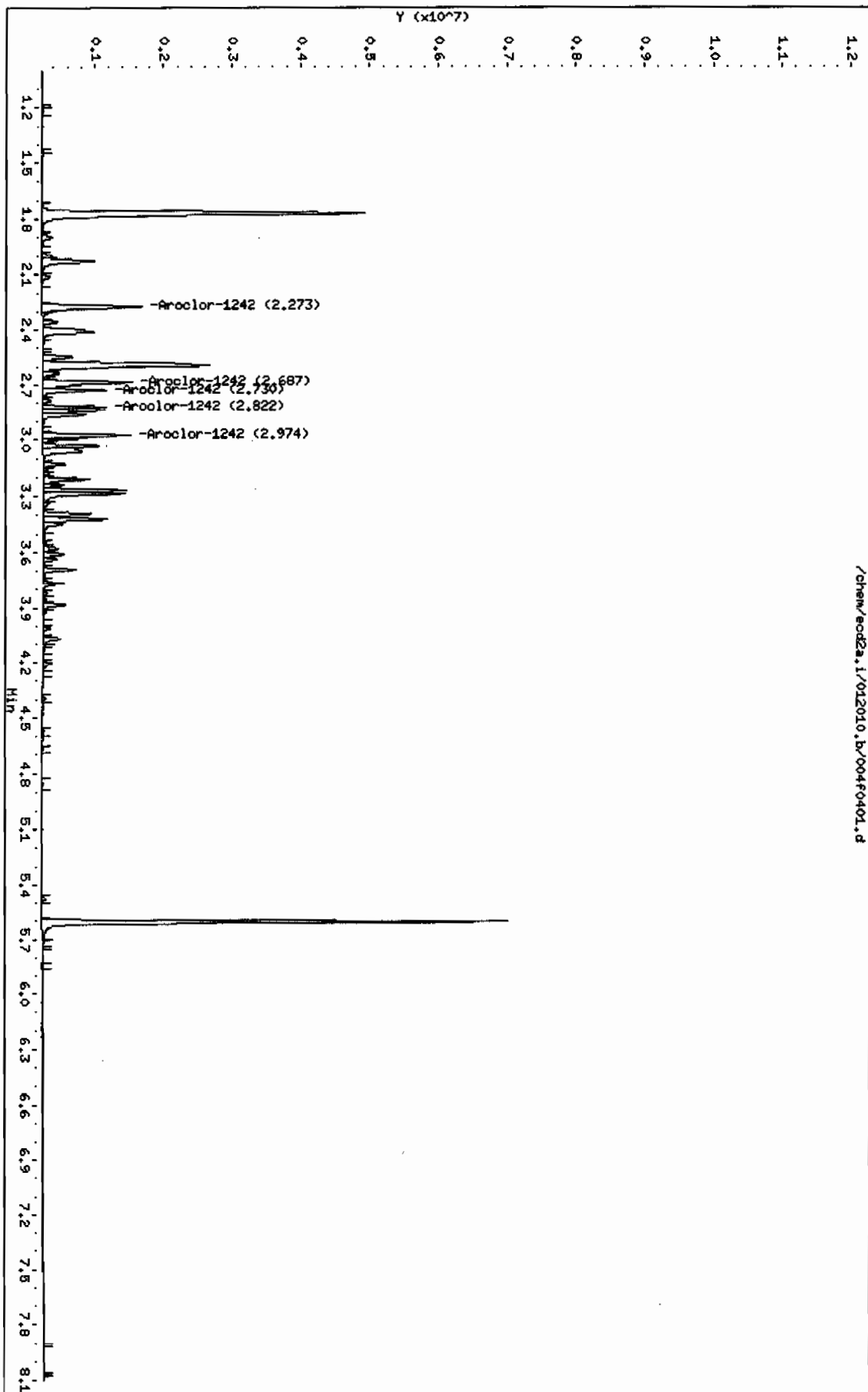
Column phase: CLP1

Instrument: eod2a.i

Operator: JHOC

Column diameter: 0.25

/chem/eod2a.i/012010.bv004f0401.d



Data File: /chem/ecd2a.i/012010.b/004b0401.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/004b0401.d

Lab Smp Id: WAR100104-42

Client Smp ID: AR124201

Inj Date : 20-JAN-2010 08:51

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-42

Misc Info : |PCB\_CVS|1242||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 4

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1242.sub

Target Version: 3.50

Sample Matrix: None

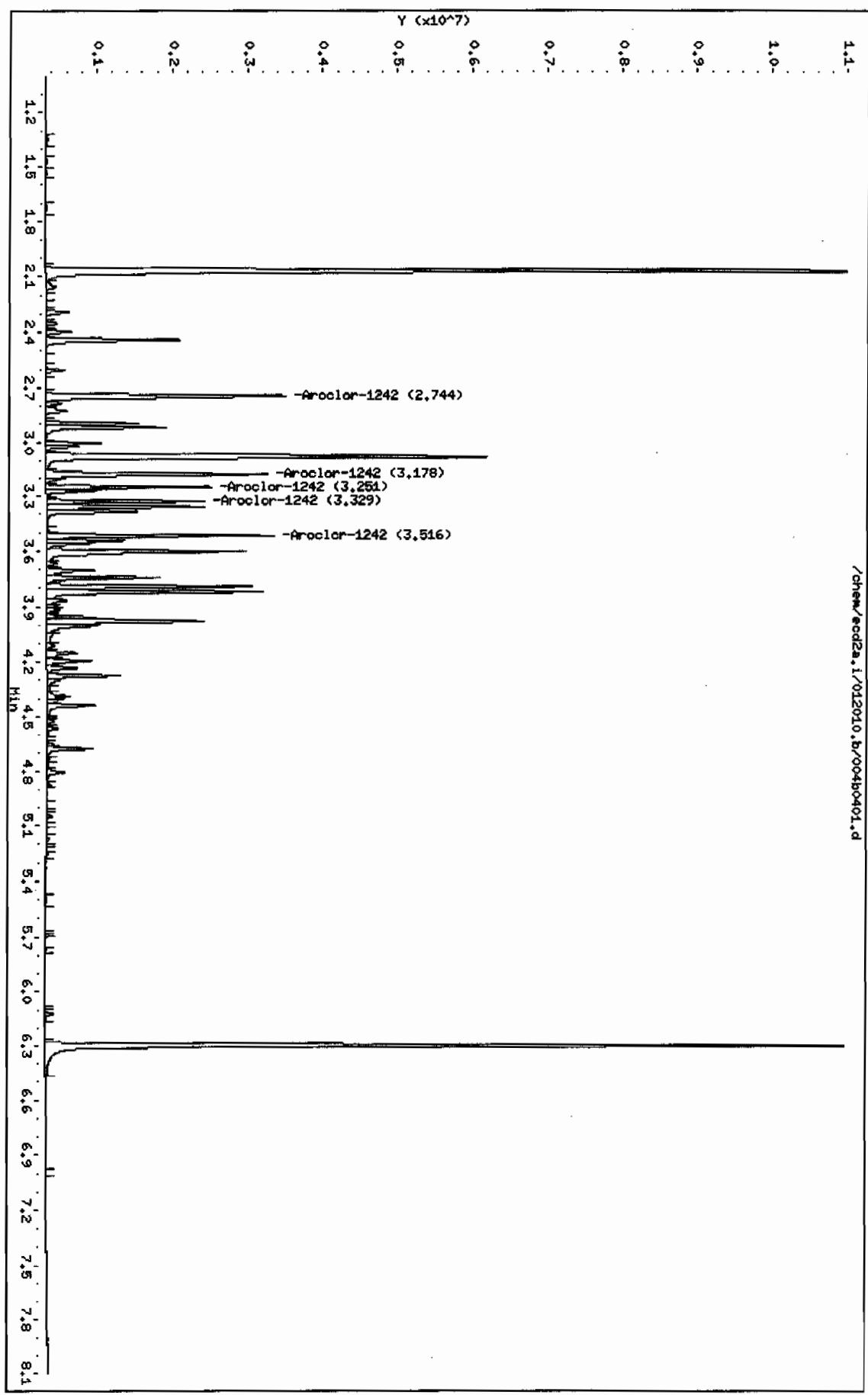
AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE ( ug/L)	ON-COL ( ug/L)	TARGET RANGE	RATIO
4	Aroclor-1242			CAS #: 53469-21-9		
2.744	2.744	0.000	3912542 1000.00	1140	80.00- 120.00	100.00
3.178	3.178	0.000	2995536 1000.00	1120	56.56- 96.56	76.56
3.251	3.251	0.000	1793113 1000.00	1100	25.83- 65.83	45.83
3.329	3.329	0.000	1717280 1000.00	1140	23.89- 63.89	43.89
3.516	3.516	0.000	2490008 1000.00	1160	43.64- 83.64	63.64
Average of Peak Amounts =			1.13e+03			

Data File: /chem/eod2a.i/012010.b/004b0401.d  
Date: 20-JAN-2010 08:51  
Client ID: AR124201  
Sample Info: IWR091217-42

Column phase: CLP2

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



Data File: /chem/ecd2a.i/012010.b/005f0501.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/005f0501.d

Lab Smp Id: WAR100104-48 Client Smp ID: AR124801

Inj Date : 20-JAN-2010 09:02

Operator : JAOC Inst ID: ecd2a.i

Smp Info : |WAR100104-48

Misc Info : |PCB\_CVS|1248||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d

Als bottle: 5 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon Compound Sublist: AR1248.sub

Target Version: 3.50 Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

5 Aroclor-1248

CAS #: 12672-29-6

2.822	2.822	0.000	1538789	1000.00	1010 80.00- 120.00	100.00
2.974	2.974	0.000	2050172	1000.00	1010 113.23- 153.23	133.23
3.033	3.033	0.000	1529787	1000.00	974 79.42- 119.42	99.42
3.268	3.268	0.000	2102388	1000.00	948 116.63- 156.63	136.63
3.422	3.422	0.000	1847950	1000.00	966 100.09- 140.09	120.09

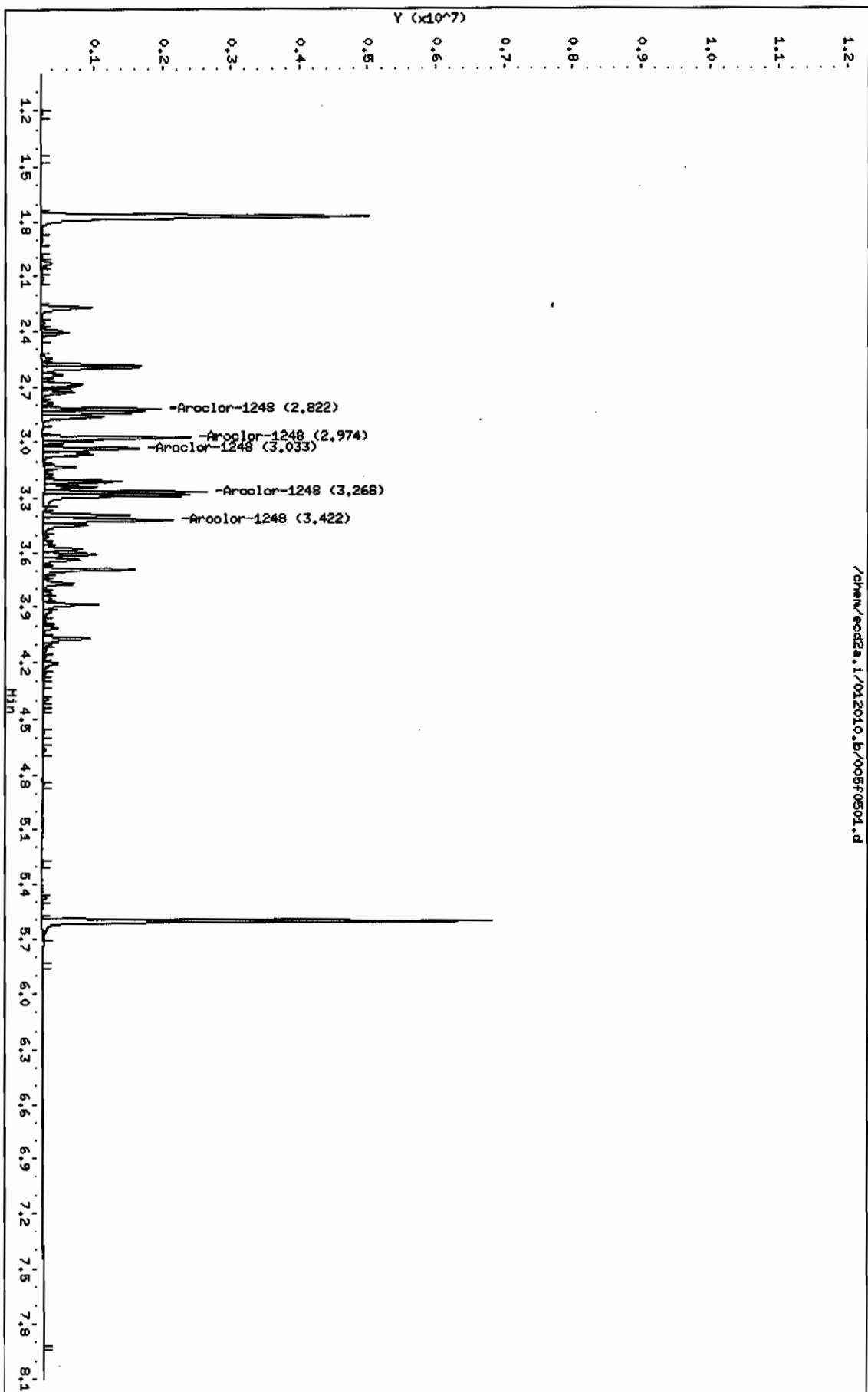
Average of Peak Amounts = 981

Data File: /chem/ecod2a.i/012010.b/005f0501.d  
Date : 20-JAN-2010 09:02  
Client ID: AR124801  
Sample Info: IUPAC091217-48

Column phase: CLP1

Instrument: ecod2a.i  
Operator: JHOC  
Column diameter: 0.25

/chem/ecod2a.i/012010.b/005f0501.d



Data File: /chem/ecd2a.i/012010.b/005b0501.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/005b0501.d

Lab Smp Id: WAR100104-48

Client Smp ID: AR124801

Inj Date : 20-JAN-2010 09:02

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-48

Misc Info : |PCB\_CVS|1248||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 5

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1248.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

5 Aroclor-1248

CAS #: 12672-29-6

3.329	3.329	0.000	3288926	1000.00	1000 80.00- 120.00	100.00
3.516	3.516	0.000	4228638	1000.00	1010 108.57- 148.57	128.57
3.603	3.603	0.000	4521541	1000.00	1020 117.48- 157.48	137.48
3.792	3.792	0.000	4591096	1000.00	977 119.59- 159.59	139.59
3.821	3.821	0.000	5464642	1000.00	1010 146.15- 186.15	166.15

Average of Peak Amounts =

1e+03

Data File: /chem/eod2a.i/012010.b/00500501.d

Date: 20-JAN-2010 09:02

Client ID: AR124801

Sample Info: 144R091217-48

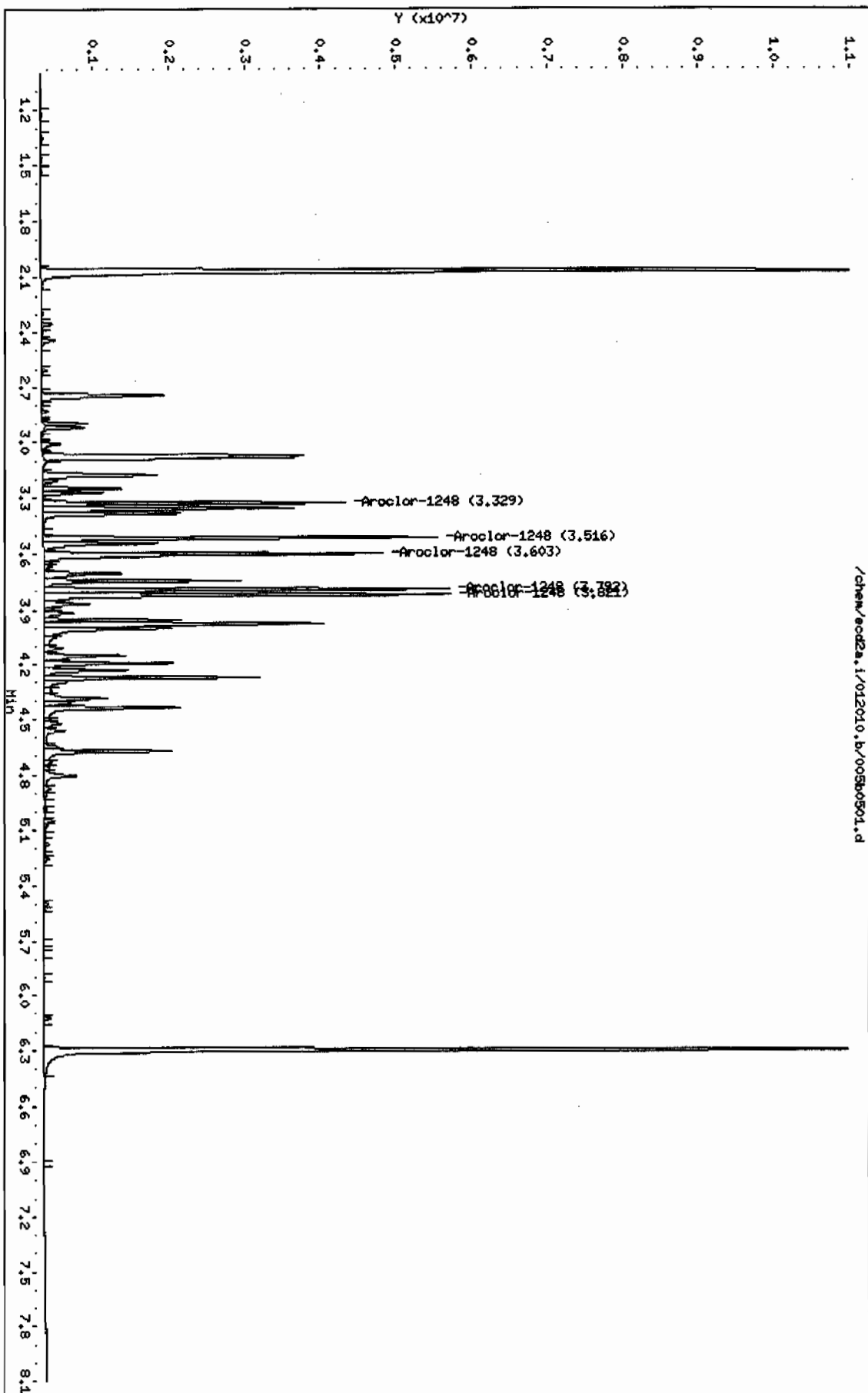
Column phase: CLP2

Instrument: eod2a.i

Operator: JROC

Column diameter: 0.25

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Data File: /chem/ecd2a.i/012010.b/006f0601.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/006f0601.d

Lab Smp Id: WAR100104-32

Client Smp ID: AR123201

Inj Date : 20-JAN-2010 09:13

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-32

Misc Info : |PCB\_CVS|1232||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 6

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1232.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
3 Aroclor-1232						
CAS #: 11141-16-5						
2.026	2.026	0.000	1311036 1000.00	1120	80.00- 120.00	100.00
2.274	2.274	0.000	1064011 1000.00	1140	61.16- 101.16	81.16
2.688	2.688	0.000	900043 1000.00	1120	48.65- 88.65	68.65
2.730	2.730	0.000	578738 1000.00	1130	24.14- 64.14	44.14
2.974	2.974	0.000	683865 1000.00	1170	32.16- 72.16	52.16
Average of Peak Amounts =			1.14e+03			



Data File: /chem/eod2a.i/012010.lv/006f0601.d

Date: 20-JAN-2010 09:13

Client ID: AR123201

Sample Info: IMR100104-32

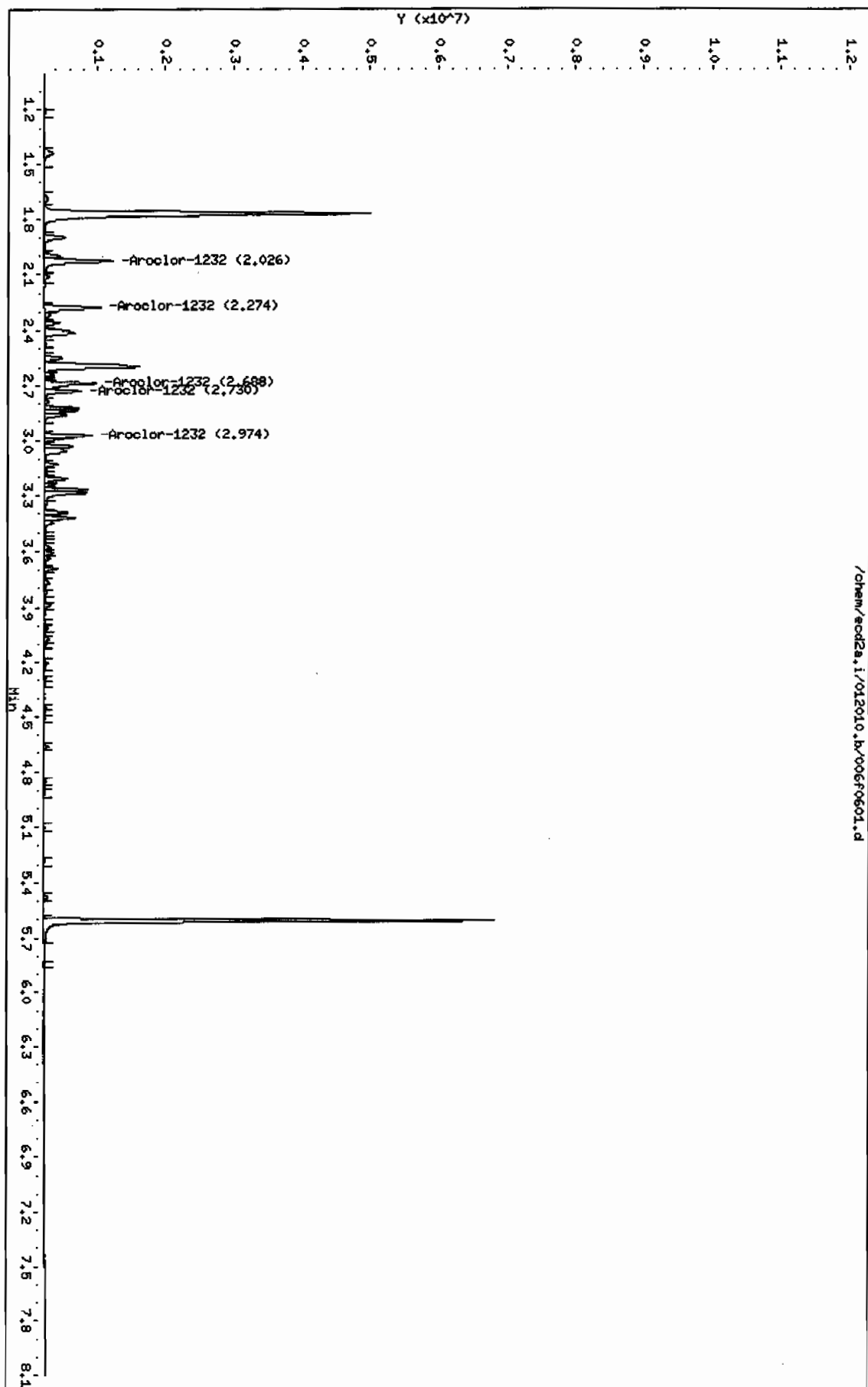
Column phase: CLP1

Instrument: eod2a.i

Operator: JHOC

Column diameter: 0.25

/chem/eod2a.i/012010.lv/006f0601.d



Data File: /chem/ecd2a.i/012010.b/006b0601.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/006b0601.d

Lab Smp Id: WAR100104-32

Client Smp ID: AR123201

Inj Date : 20-JAN-2010 09:13

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-32

Misc Info : |PCB\_CVS|1232||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 6

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1232.sub

Target Version: 3.50

Sample Matrix: None

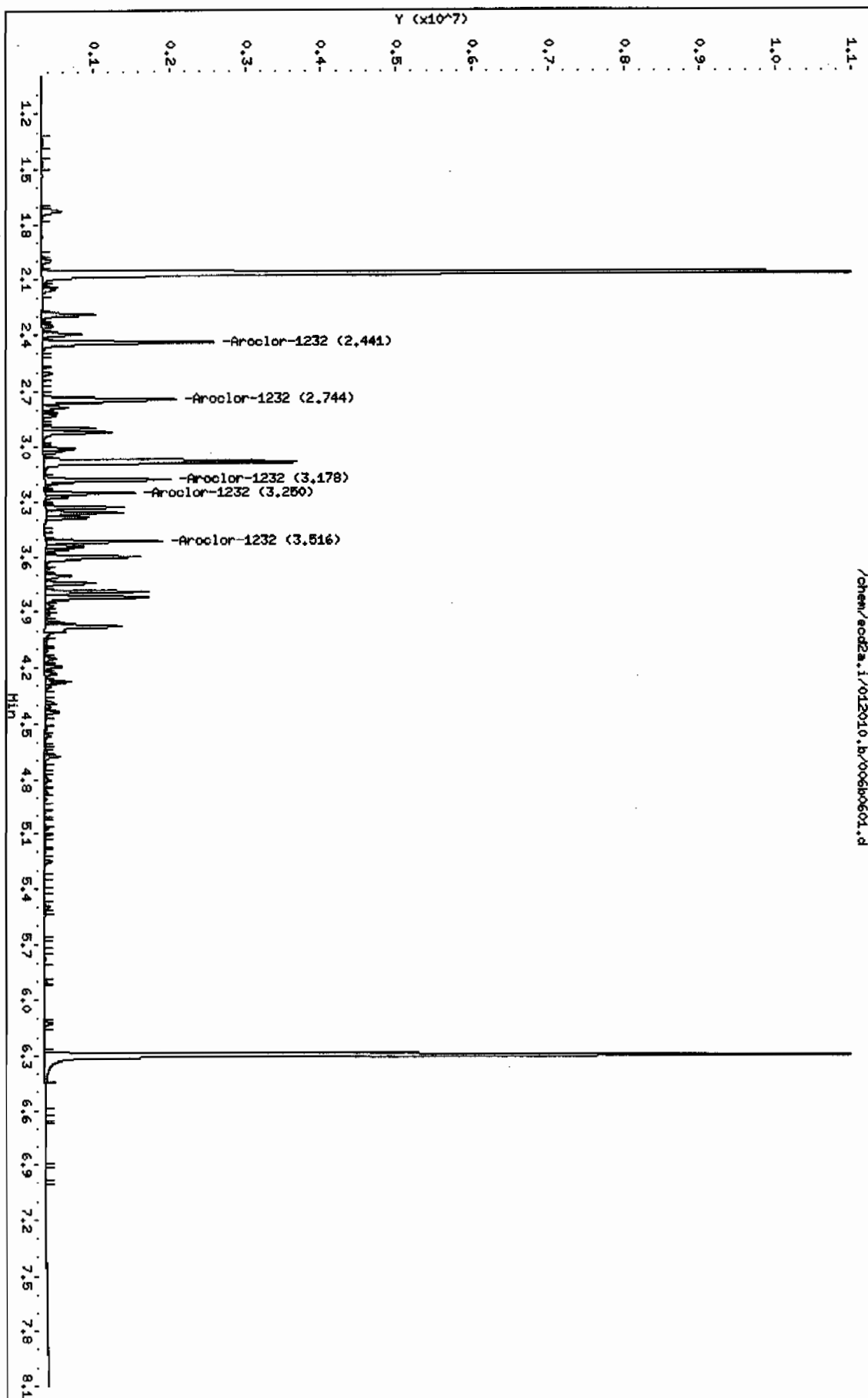
AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE ( ug/L)	ON-COL ( ug/L)	TARGET RANGE	RATIO
3 Aroclor-1232					CAS #: 11141-16-5	
2.441	2.441	0.000	2327135 1000.00	1130	80.00- 120.00	100.00
2.744	2.744	0.000	2232621 1000.00	1140	75.94- 115.94	95.94
3.178	3.178	0.000	1588238 1000.00	1060	48.25- 88.25	68.25
3.250	3.250	0.000	968593 1000.00	1040	21.62- 61.62	41.62
3.516	3.516	0.000	1253282 1000.00	1130	33.86- 73.86	53.86
Average of Peak Amounts =			1.1e+03			

Data File: /chem/eod2a.i/012010.b/0060601.d  
Date: 20-JUN-2010 09:13  
Client ID: AR123201  
Sample Info: 1MR100104-32

Column phase: CLP2

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



Data File: /chem/ecd2a.i/012010.b/007f0701.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/007f0701.d

Lab Smp Id: WAR100104-21

Client Smp ID: AR122101

Inj Date : 20-JAN-2010 09:24

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-21

Misc Info : |PCB\_CVS|1221||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 7

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1221.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
2 Aroclor-1221					CAS #: 11104-28-2	
1.437	1.437	0.000	536762 1000.00	1160	80.00- 120.00	100.00
1.897	1.897	0.000	717743 1000.00	1090	113.72- 153.72	133.72
1.996	1.996	0.000	378073 1000.00	1090	50.44- 90.44	70.44
Average of Peak Amounts =			1.11e+03			

Data File: /chem/eod2a.i/012010.b/007f0701.d

Date: 20-JAN-2010 09:24

Client ID: AR122101

Sample Info: MHRL00104-21

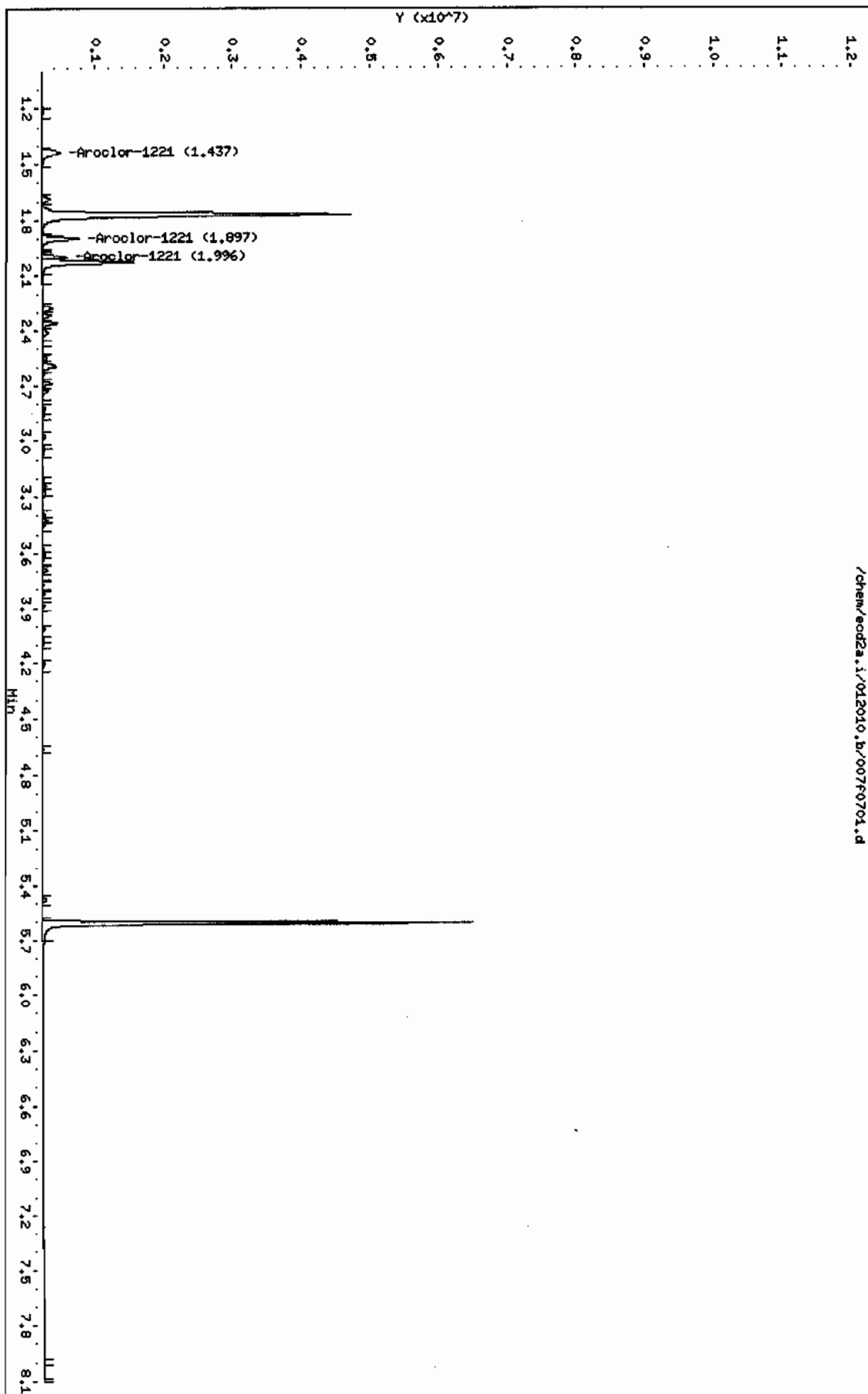
Column phase: CLP1

Instrument: eod2a.i

Operator: JROC

Column diameter: 0.25

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Data File: /chem/ecd2a.i/012010.b/007b0701.d  
Report Date: 21-Jan-2010 07:47

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/007b0701.d

Lab Smp Id: WAR100104-21

Client Smp ID: AR122101

Inj Date : 20-JAN-2010 09:24

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-21

Misc Info : |PCB\_CVS|1221||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 7

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1221.sub

Target Version: 3.50

Sample Matrix: None

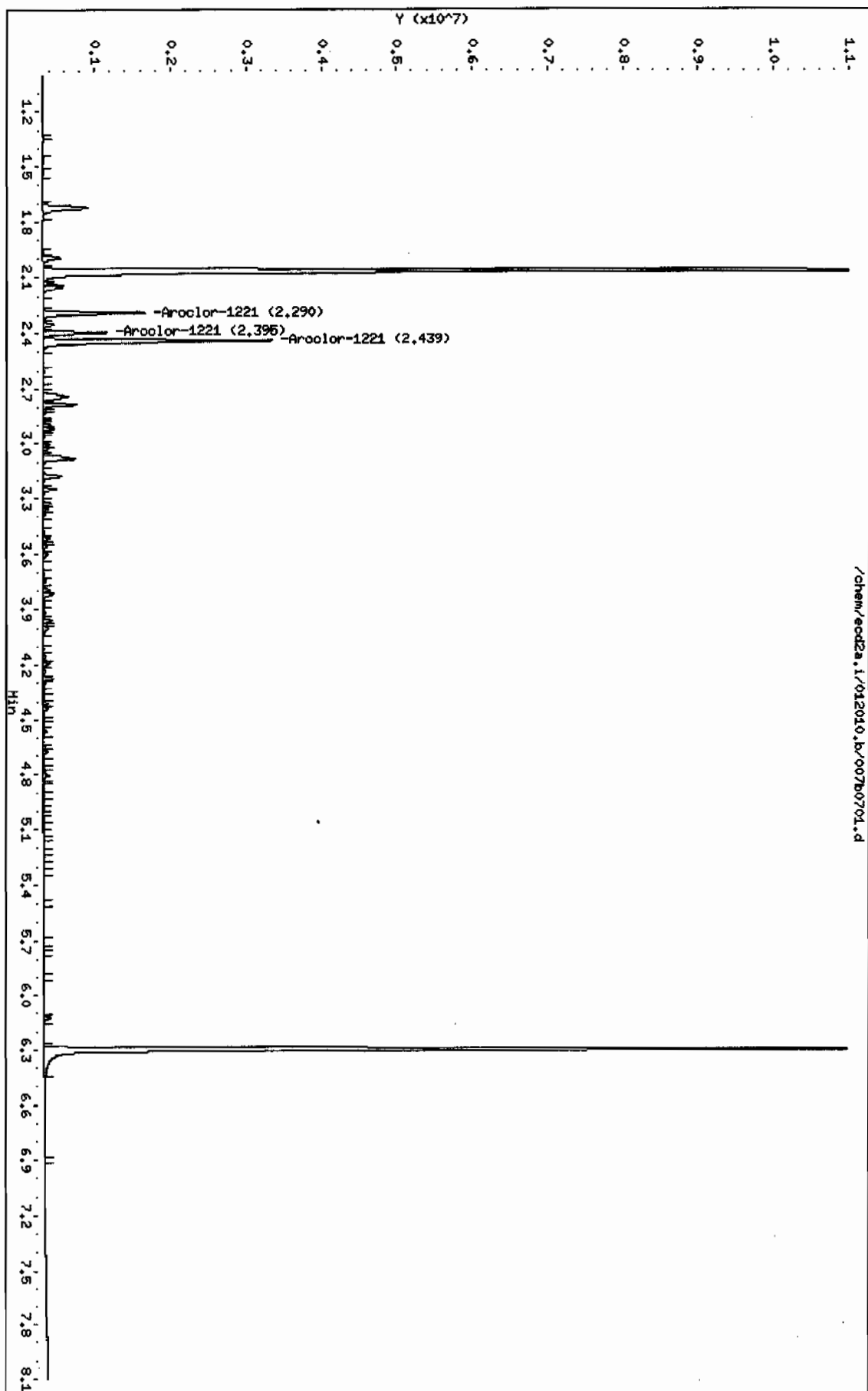
AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE ( ug/L)	ON-COL ( ug/L)	TARGET RANGE	RATIO
2.290	2.290	0.000	1315448 1000.00	1040	80.00- 120.00	100.00
2.395	2.395	0.000	799084 1000.00	1030	40.75- 80.75	60.75
2.439	2.439	0.000	3203175 1000.00	1050	223.50- 263.50	243.50
Average of Peak Amounts =			1.04e+03			

Data File: /chem/eod2a.i/012010.b/007b0701.d  
Date : 20-JAN-2010 09:24  
Client ID: AK122101  
Sample Info: 1MR100104-21

Column phase: CLP2

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



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/014f1401.d

Lab Smp Id: WAR100104-60 01

Client Smp ID: AR166001

Inj Date : 20-JAN-2010 10:42

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-60 01

Misc Info : |PCB\_CVS|1660||CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 14

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

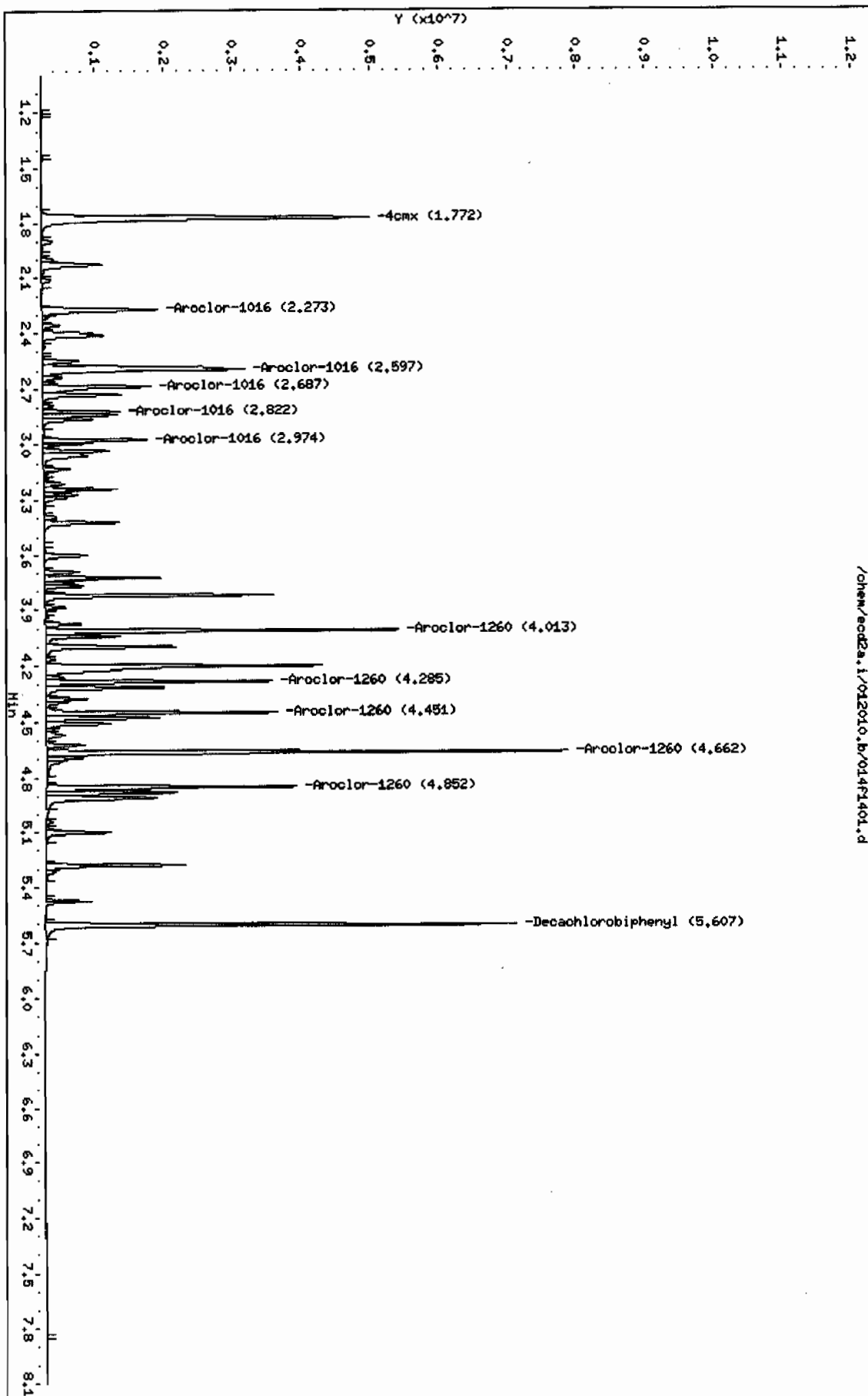
			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		( ug/L)	TARGET RANGE		RATIO
---	-----	-----	-----	-----	-----	-----	-----	-----
\$ 11 4cmx					CAS #: 877-09-8			
1.772	1.772	0.000	6912800	100.000	103	80.00-	120.00	100.00
-----								
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.607	5.607	0.000	6360052	100.000	100	80.00-	120.00	100.00
-----								
1 Aroclor-1016					CAS #: 12674-11-2			
2.273	2.273	0.000	2198690	1000.00	974	80.00-	120.00	100.00
2.597	2.597	0.000	4649732	1000.00	1000	195.96-	235.96	211.48
2.687	2.687	0.000	1876323	1000.00	987	66.90-	106.90	85.34
2.822	2.822	0.000	959235	1000.00	975	24.29-	64.29	43.63
2.974	2.974	0.000	1426869	1000.00	984	46.26-	86.26	64.90
Average of Peak Amounts =					985			
-----								
7 Aroclor-1260					CAS #: 11096-82-5			
4.013	4.013	0.000	4447698	1000.00	1030	80.00-	120.00	100.00
4.285	4.285	0.000	2849302	1000.00	1020	42.54-	82.54	64.06
4.451	4.451	0.000	2992152	1000.00	1040	44.25-	84.25	67.27
4.662	4.662	0.000	6851364	1000.00	1040	135.08-	175.08	154.04
4.852	4.852	0.000	3286090	1000.00	1030	54.83-	94.83	73.88
Average of Peak Amounts =					1.03e+03			



Data File: /chem/eod2a.i/012010.b/014f1401.d  
Date : 20-JAN-2010 10:42  
Client ID: R616001  
Sample Info: INR100104-60 01

Column phase: CLP1

Instrument: eod2a.1  
Operator: JROC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/014b1401.d  
 Lab Smp Id: WAR100104-60 01 Client Smp ID: AR166001  
 Inj Date : 20-JAN-2010 10:42  
 Operator : JAOC Inst ID: ecd2a.i  
 Smp Info : |WAR100104-60 01  
 Misc Info : |PCB\_CVS|1660||CVS|  
 Comment :  
 Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
 Als bottle: 14 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 3.50 Sample Matrix: None

AMOUNTS

			CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	( ug/L)	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8		
2.068	2.068	0.000	15111554	100.000	108	80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.298	6.298	0.000	13338668	100.000	107	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.744	2.744	0.000	4641615	1000.00	1030	80.00- 120.00	100.00
3.178	3.178	0.000	3641300	1000.00	1060	59.59- 99.59	78.45
3.329	3.329	0.000	2107404	1000.00	1040	25.93- 65.93	45.40
3.357	3.357	0.000	2219093	1000.00	1050	27.78- 67.78	47.81
3.516	3.516	0.000	2980438	1000.00	1070	45.06- 85.06	64.21
Average of Peak Amounts =					1.05e+03		
7 Aroclor-1260					CAS #: 11096-82-5		
4.411	4.411	0.000	6300863	1000.00	1090	80.00- 120.00	100.00
4.564	4.564	0.000	7996784	1000.00	1100	108.00- 148.00	126.92
4.674	4.674	0.000	5508885	1000.00	1100	67.45- 107.45	87.43
4.872	4.872	0.000	6286593	1000.00	1080	79.37- 119.37	99.77
5.498	5.498	0.000	10332066	1000.00	1100	145.12- 185.12	163.98
Average of Peak Amounts =					1.1e+03		

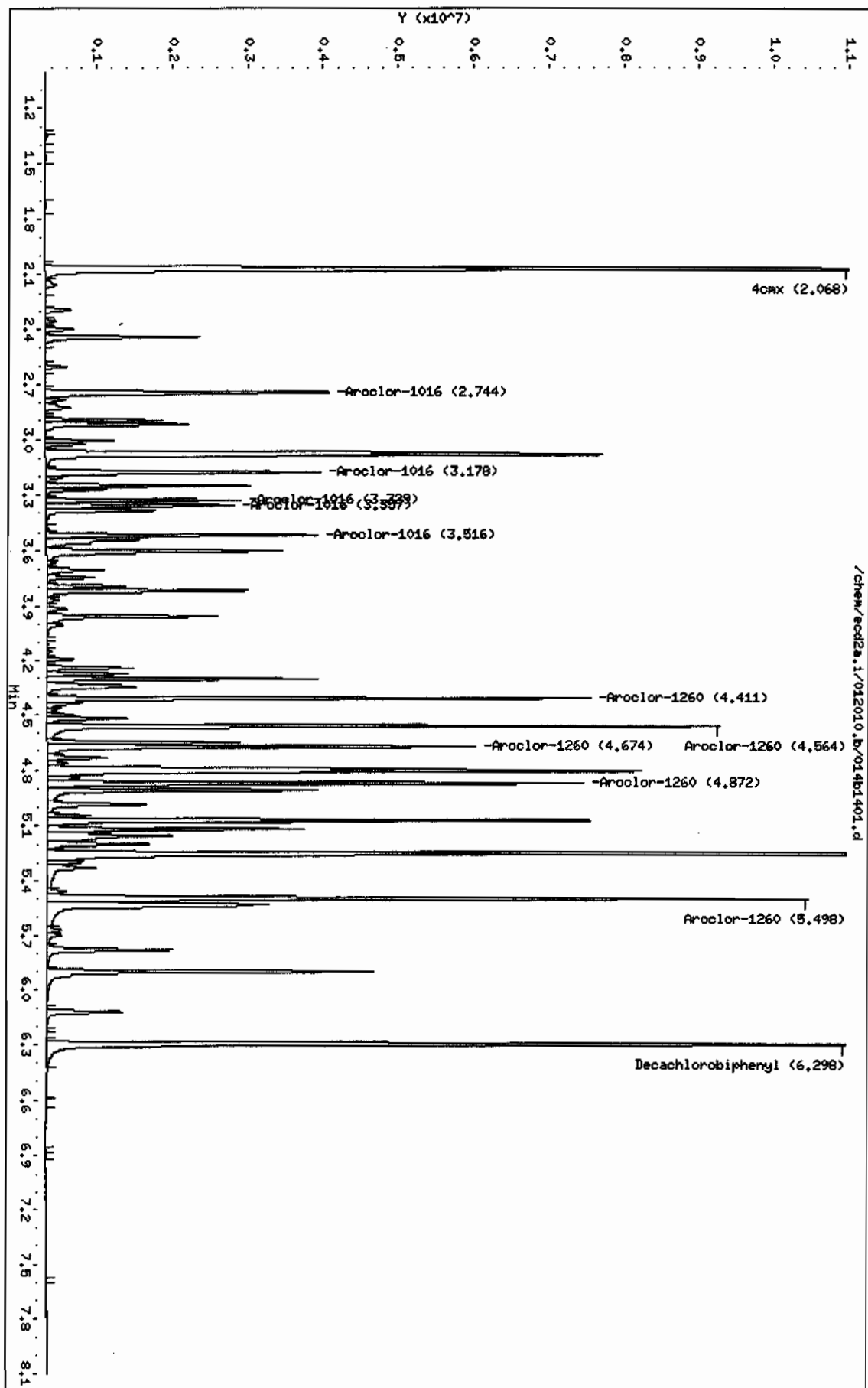
Data File: /chem/eod2a.i/012010.b/014b1401.d  
Date: 20-Jan-2010 10:42  
Client ID: PR16001  
Sample Info: IMR100104-60 01

Instrument: eod2a.i

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Column phase: CLP2

Operator: JHOC  
Column diameter: 0.25



Data File: /chem/ecd2a.i/012010.b/028f2801.d  
 Report Date: 21-Jan-2010 07:50

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/028f2801.d

Lab Smp Id: WAR100104-60 02 Client Smp ID: AR166002

Inj Date : 20-JAN-2010 13:17

Operator : JAOC Inst ID: ecd2a.i

Smp Info : |WAR100104-60 02

Misc Info : |1660

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d

Als bottle: 28 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon Compound Sublist: AR1660.sub

Target Version: 3.50 Sample Matrix: None

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		( ug/L)	TARGET RANGE		RATIO
---	-----	-----	-----	-----	-----	-----	-----	-----
\$ 11 4cmx					CAS #: 877-09-8			
1.772	1.772	0.000	6739545	100.000	100	80.00-	120.00	100.00
-----								
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.607	5.607	0.000	6161698	100.000	97.2	80.00-	120.00	100.00
-----								
1 Aroclor-1016					CAS #: 12674-11-2			
2.275	2.273	0.002	2129526	1000.00	943	80.00-	120.00	100.00
2.597	2.597	0.000	4530205	1000.00	979	195.96-	235.96	212.73
2.688	2.687	0.001	1818396	1000.00	957	66.90-	106.90	85.39
2.823	2.822	0.001	935634	1000.00	951	24.29-	64.29	43.94
2.975	2.974	0.001	1396003	1000.00	962	46.26-	86.26	65.55
Average of Peak Amounts =					959			
-----								
7 Aroclor-1260					CAS #: 11096-82-5			
4.014	4.013	0.001	4308956	1000.00	1000	80.00-	120.00	100.00
4.285	4.285	0.000	2708943	1000.00	970	42.54-	82.54	62.87
4.450	4.451	-0.001	2790743	1000.00	973	44.25-	84.25	64.77
4.663	4.662	0.001	6631352	1000.00	1010	135.08-	175.08	153.90
4.853	4.852	0.001	3227168	1000.00	1010	54.83-	94.83	74.89
Average of Peak Amounts =					993			

Data File: /chem/eod2a.i/012010.b/028f2801.d

Date: 20-JAN-2010 13:17

Client ID: AR16002

Sample Info: IWR100104-60 02

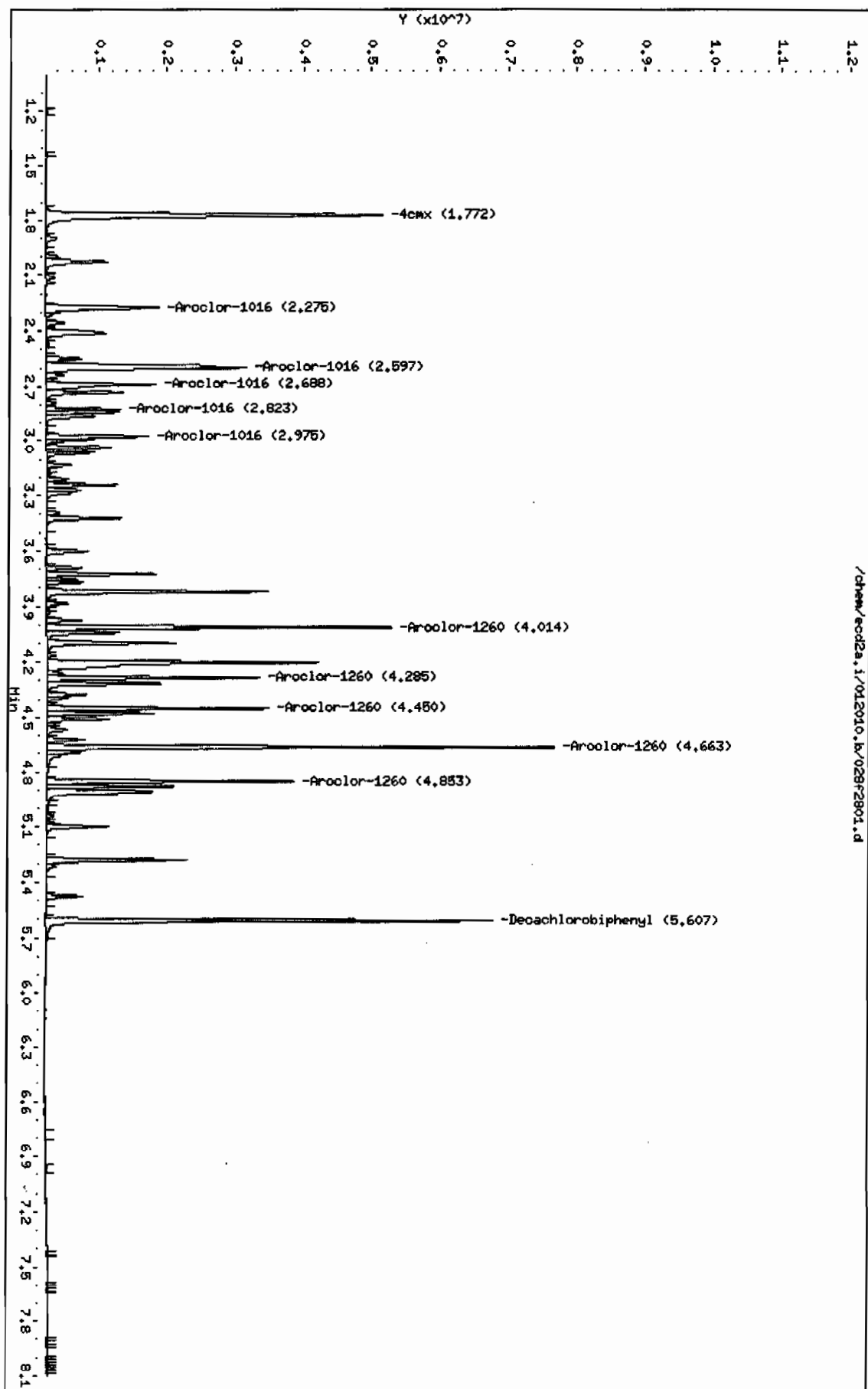
Column phase: CLP1

Instrument: eod2a.i

Operator: JHOC

Column diameter: 0.25

/chem/eod2a.i/012010.b/028f2801.d



Data File: /chem/ecd2a.i/012010.b/028b2801.d  
 Report Date: 21-Jan-2010 07:50

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GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/028b2801.d  
 Lab Smp Id: WAR100104-60 02 Client Smp ID: AR166002  
 Inj Date : 20-JAN-2010 13:17  
 Operator : JAOC Inst ID: ecd2a.i  
 Smp Info : |WAR100104-60 02  
 Misc Info : |16660  
 Comment :  
 Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
 Als bottle: 28 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 3.50 Sample Matrix: None

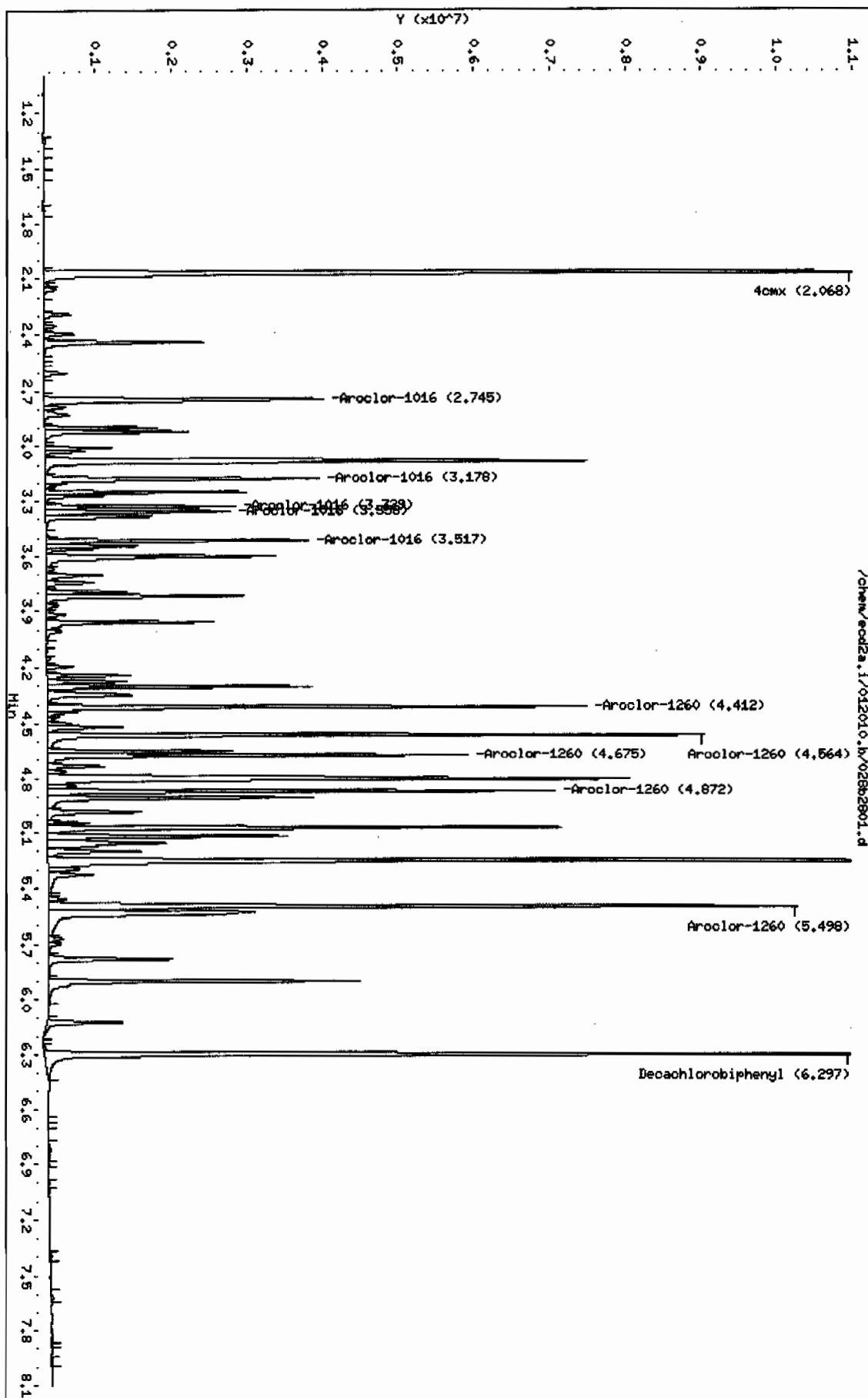
AMOUNTS

				CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		( ug/L)		TARGET RANGE		RATIO
<hr/>									
\$ 11 4cmx					CAS #: 877-09-8				
2.068	2.068	0.000	14748022	100.000	106	80.00- 120.00		100.00	
<hr/>									
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3				
6.297	6.298	-0.001	12463429	100.000	100	80.00- 120.00		100.00	
<hr/>									
1 Aroclor-1016					CAS #: 12674-11-2				
2.745	2.744	0.001	4494509	1000.00	1000	80.00- 120.00		100.00	
3.178	3.178	0.000	3522680	1000.00	1020	59.59- 99.59		78.38	
3.329	3.329	0.000	2024957	1000.00	1000	25.93- 65.93		45.05	
3.358	3.357	0.001	2127507	1000.00	1010	27.78- 67.78		47.34	
3.517	3.516	0.001	2863002	1000.00	1020	45.06- 85.06		63.70	
Average of Peak Amounts =					1.01e+03				
<hr/>									
7 Aroclor-1260					CAS #: 11096-82-5				
4.412	4.411	0.001	5974213	1000.00	1030	80.00- 120.00		100.00	
4.564	4.564	0.000	7576802	1000.00	1040	108.00- 148.00		126.83	
4.675	4.674	0.001	5176517	1000.00	1030	67.45- 107.45		86.65	
4.872	4.872	0.000	5899725	1000.00	1020	79.37- 119.37		98.75	
5.498	5.498	0.000	9862945	1000.00	1050	145.12- 185.12		165.09	
Average of Peak Amounts =					1.04e+03				
<hr/>									

Data File: /chem/eod2a.i/012010.b/02802801.d  
Date: 20-JAN-2010 13:17  
Client ID: AR166002  
Sample Info: IMP100104-60 02

Column phase: CLP2

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



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/037f3701.d

Lab Smp Id: WAR100104-60 03

Client Smp ID: AR166003

Inj Date : 20-JAN-2010 14:57

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-60 03

Misc Info : |PCB\_CVS|1660|CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212

Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 37

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

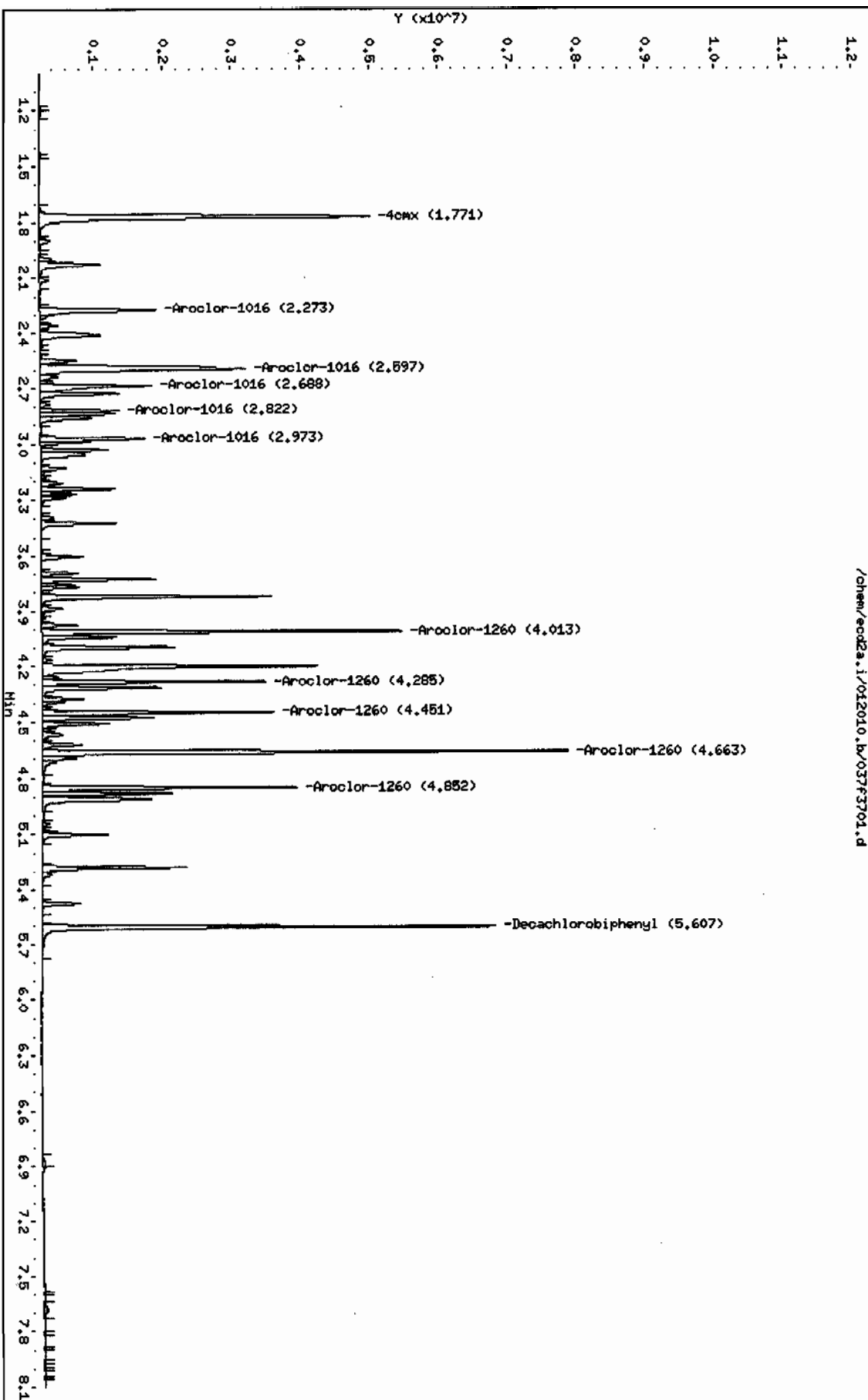
			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		( ug/L)	TARGET RANGE		RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8			
1.771	1.772	-0.001	6784810	100.000	101	80.00-	120.00	100.00
-----								
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3			
5.607	5.607	0.000	6153320	100.000	97.0	80.00-	120.00	100.00
-----								
1 Aroclor-1016					CAS #: 12674-11-2			
2.273	2.273	0.000	2157817	1000.00	956	80.00-	120.00	100.00
2.597	2.597	0.000	4612339	1000.00	996	195.96-	235.96	213.75
2.688	2.687	0.001	1847242	1000.00	972	66.90-	106.90	85.61
2.822	2.822	0.000	947695	1000.00	964	24.29-	64.29	43.92
2.973	2.974	-0.001	1410345	1000.00	972	46.26-	86.26	65.36
Average of Peak Amounts =					972			
-----								
7 Aroclor-1260					CAS #: 11096-82-5			
4.013	4.013	0.000	4429386	1000.00	1030	80.00-	120.00	100.00
4.285	4.285	0.000	2793144	1000.00	1000	42.54-	82.54	63.06
4.451	4.451	0.000	2873803	1000.00	1000	44.25-	84.25	64.88
4.663	4.662	0.001	6775868	1000.00	1030	135.08-	175.08	152.98
4.852	4.852	0.000	3282519	1000.00	1030	54.83-	94.83	74.11
Average of Peak Amounts =					1.02e+03			



Data File: /chem/ecod2a.i/012010.b/037f3701.d  
Date: 20-JAN-2010 14:57  
Client ID: AR166003  
Sample Info: IIAH100104-60 03

Column phase: CLP1

Instrument: ecod2a.i  
Operator: JHOC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/037b3701.d

Lab Smp Id: WAR100104-60 03

Client Smp ID: AR166003

Inj Date : 20-JAN-2010 14:57

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |WAR100104-60 03

Misc Info : |PCB\_CVS|1660| |CVS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 37

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: AR1660.sub

Target Version: 3.50

Sample Matrix: None

AMOUNTS

CAL-AMT ON-COL

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	( ug/L)	TARGET RANGE	RATIO
----	--------	--------	------------------	---------	--------------	-------

\$ 11 4cmx				CAS #: 877-09-8		
2.068	2.068	0.000	14825180 100.000	106	80.00- 120.00	100.00

\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.299	6.298	0.001	12257396 100.000	98.4	80.00- 120.00	100.00

1 Aroclor-1016				CAS #: 12674-11-2		
2.744	2.744	0.000	4542550 1000.00	1010	80.00- 120.00	100.00
3.178	3.178	0.000	3561353 1000.00	1040	59.59- 99.59	78.40
3.329	3.329	0.000	2036038 1000.00	1010	25.93- 65.93	44.82
3.357	3.357	0.000	2150693 1000.00	1020	27.78- 67.78	47.35
3.516	3.516	0.000	2909995 1000.00	1040	45.06- 85.06	64.06

Average of Peak Amounts = 1.02e+03

7 Aroclor-1260				CAS #: 11096-82-5		
4.412	4.411	0.001	6107582 1000.00	1060	80.00- 120.00	100.00
4.564	4.564	0.000	7758929 1000.00	1070	108.00- 148.00	127.04
4.675	4.674	0.001	5258912 1000.00	1050	67.45- 107.45	86.10
4.872	4.872	0.000	5990872 1000.00	1030	79.37- 119.37	98.09
5.499	5.498	0.001	9837210 1000.00	1050	145.12- 185.12	161.07

Average of Peak Amounts = 1.05e+03

Data File: /chem/ecod2a.i/012010.b/037b3701.d

Date: 20-JUN-2010 14:57

Client ID: AR166003

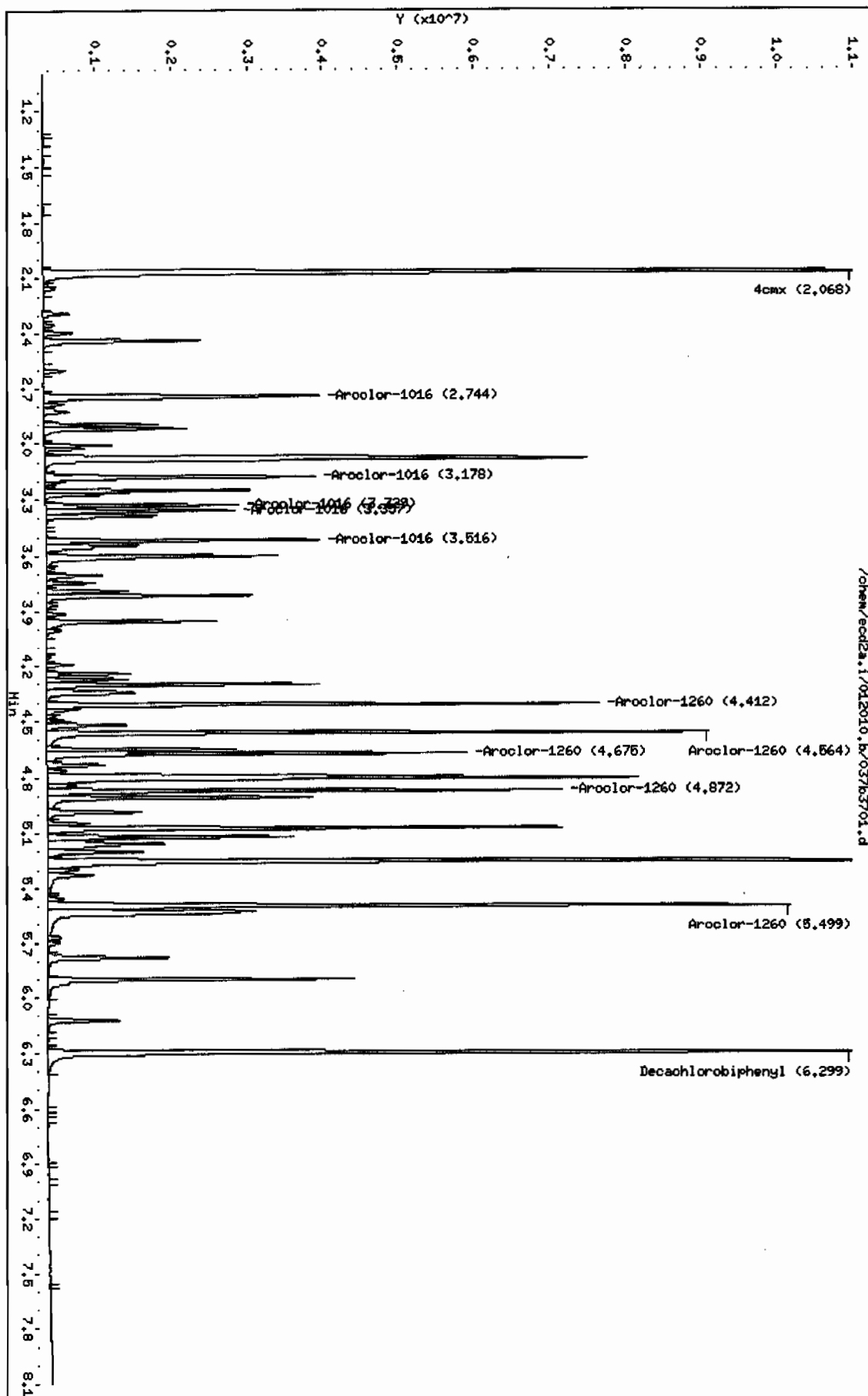
Sample Info: ILMR100104-60 03

Column phase: CLP2

Instrument: ecod2a.i

Operator: JHOC

Column diameter: 0.25



8D  
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1264-1

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 01/20/10 01/20/10

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 1.77			DCB: 5.61		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	01/20/10 0817	1.77	5.60
02	ZZZZZ	ZZZZZ	01/20/10 0829	1.77	5.61
03	AR125401	WAR091102-54	01/20/10 0840		
04	AR124201	WAR100104-42	01/20/10 0851		
05	AR124801	WAR100104-48	01/20/10 0902		
06	AR123201	WAR100104-32	01/20/10 0913		
07	AR122101	WAR100104-21	01/20/10 0924		
08	AR126201	WAR100104-62	01/20/10 0935		
09	AR166001	WAR100120-01	01/20/10 0946	1.77	5.61
10	AR166002	WAR100120-02	01/20/10 0957	1.77	5.61
11	AR166003	WAR100120-03	01/20/10 1009	1.77	5.61
12	AR166004	WAR100120-04	01/20/10 1020	1.77	5.61
13	AR166005	WAR100104-01	01/20/10 1031	1.77	5.61
14	AR166001	WAR100104-60	01/20/10 1042	1.77	5.61
15	AR126801	WAR091106-68	01/20/10 1053		
16	DDTANALOGSTD	WAR091219-DD	01/20/10 1104		
17	PIBLK02	WAR091130-99	01/20/10 1115	1.77	5.61
18	PBLK01	1202019498	01/20/10 1126	1.77	5.61
19	PBLK01LCS	1202019499	01/20/10 1138	1.77	5.61
20	ZZZZZ	ZZZZZ	01/20/10 1149	1.77	5.61
21	ZZZZZ	ZZZZZ	01/20/10 1200	1.77	5.61
22	ZZZZZ	ZZZZZ	01/20/10 1211	1.77	5.61
23	ZZZZZ	ZZZZZ	01/20/10 1222	1.77	5.61
24	ZZZZZ	ZZZZZ	01/20/10 1233	1.77	5.61
25	ZZZZZ	ZZZZZ	01/20/10 1244	1.77	5.61
26	ZZZZZ	ZZZZZ	01/20/10 1255	1.77	5.61
27	ZZZZZ	ZZZZZ	01/20/10 1306	1.77	5.61
28	AR166002	WAR100104-60	01/20/10 1317	1.77	5.61
29	PIBLK03	WAR091130-99	01/20/10 1328	1.77	5.61
30	ZZZZZ	ZZZZZ	01/20/10 1340	1.77	5.61
31	RE12-10-8096	244881001	01/20/10 1351	1.77	5.61
32	RE12-10-8096MS	1202019500	01/20/10 1402	1.77	5.61

S1 = 4cmx (+/- 0.03 MINUTES)  
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC limits.

8D  
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A  
 Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1264-1  
 GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 01/20/10 01/20/10  
 Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 1.77				DCB: 5.61			
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #	
01	RE12-10-8096MSD	1202019501	01/20/10	1413	1.77	5.61	
02	RE12-10-8094	244881002	01/20/10	1424	1.77	5.61	
03	RE12-10-8097	244881003	01/20/10	1435	1.77	5.61	
04	RE12-10-8095	244881004	01/20/10	1446	1.77	5.61	
05	AR166003	WAR100104-60	01/20/10	1457	1.77	5.61	
06	PIBLK04	WAR091130-99	01/20/10	1509	1.77	5.61	
07	ZZZZZ	ZZZZZ	01/20/10	1520	1.77	5.61	
08	ZZZZZ	ZZZZZ	01/20/10	1531	1.77	5.61	
09	ZZZZZ	ZZZZZ	01/20/10	1542	1.77	5.61	
10	ZZZZZ	ZZZZZ	01/20/10	1553	1.77	5.61	
11	ZZZZZ	ZZZZZ	01/20/10	1604	1.77	5.61	
12	ZZZZZ	ZZZZZ	01/20/10	1615	1.77	5.61	
13	ZZZZZ	ZZZZZ	01/20/10	1626	1.77	5.61	
14	AR166004	WAR100104-60	01/20/10	1637	1.77	5.61	
15	PIBLK05	WAR091130-99	01/20/10	1648	1.77	5.61	
16	ZZZZZ	ZZZZZ	01/20/10	1700	1.77	5.61	
17	ZZZZZ	ZZZZZ	01/20/10	1711	1.77	5.61	
18	ZZZZZ	ZZZZZ	01/20/10	1722	1.77	5.61	
19	ZZZZZ	ZZZZZ	01/20/10	1733	1.77	5.61	
20	ZZZZZ	ZZZZZ	01/20/10	1744	1.77	5.61	
21	ZZZZZ	ZZZZZ	01/20/10	1755	1.77	5.61	
22	AR166005	WAR100104-60	01/20/10	1806	1.77	5.61	
23	PIBLK06	WAR091130-99	01/20/10	1818	1.77	5.61	
24	ZZZZZ	ZZZZZ	01/20/10	1829	1.77	5.61	
25	ZZZZZ	ZZZZZ	01/20/10	1840	1.78	5.61	
26	ZZZZZ	ZZZZZ	01/20/10	1851	1.78	5.61	
27	ZZZZZ	ZZZZZ	01/20/10	1902	1.78	5.61	
28	ZZZZZ	ZZZZZ	01/20/10	1913	1.78	5.61	
29	ZZZZZ	ZZZZZ	01/20/10	1924	1.77	5.61	
30	AR166006	WAR100104-60	01/20/10	1935	1.77	5.61	
31	PIBLK07	WAR091130-99	01/20/10	1947	1.77	5.61	
32							

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.: 10-1264-1

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 01/20/10 01/20/10

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION					
S1 : 2.07			DCB: 6.30		
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	01/20/10 0817	2.06	6.29
02	ZZZZZ	ZZZZZ	01/20/10 0829	2.07	6.30
03	AR125401	WAR091102-54	01/20/10 0840		
04	AR124201	WAR100104-42	01/20/10 0851		
05	AR124801	WAR100104-48	01/20/10 0902		
06	AR123201	WAR100104-32	01/20/10 0913		
07	AR122101	WAR100104-21	01/20/10 0924		
08	AR126201	WAR100104-62	01/20/10 0935		
09	AR166001	WAR100120-01	01/20/10 0946	2.07	6.30
10	AR166002	WAR100120-02	01/20/10 0957	2.07	6.30
11	AR166003	WAR100120-03	01/20/10 1009	2.07	6.30
12	AR166004	WAR100120-04	01/20/10 1020	2.07	6.30
13	AR166005	IAR100104-01	01/20/10 1031	2.07	6.30
14	AR166001	WAR100104-60	01/20/10 1042	2.07	6.30
15	AR126801	WAR091106-68	01/20/10 1053		
16	DDTANALOGSTD	WAR091219-DD	01/20/10 1104		
17	PIBLK02	WAR091130-99	01/20/10 1115	2.07	6.30
18	PBLK01	1202019498	01/20/10 1126	2.07	6.30
19	PBLK01LCS	1202019499	01/20/10 1138	2.07	6.30
20	ZZZZZ	ZZZZZ	01/20/10 1149	2.07	6.30
21	ZZZZZ	ZZZZZ	01/20/10 1200	2.07	6.30
22	ZZZZZ	ZZZZZ	01/20/10 1211	2.07	6.30
23	ZZZZZ	ZZZZZ	01/20/10 1222	2.07	6.30
24	ZZZZZ	ZZZZZ	01/20/10 1233	2.07	6.30
25	ZZZZZ	ZZZZZ	01/20/10 1244	2.07	6.30
26	ZZZZZ	ZZZZZ	01/20/10 1255	2.07	6.30
27	ZZZZZ	ZZZZZ	01/20/10 1306	2.07	6.30
28	AR166002	WAR100104-60	01/20/10 1317	2.07	6.30
29	PIBLK03	WAR091130-99	01/20/10 1328	2.07	6.30
30	ZZZZZ	ZZZZZ	01/20/10 1340	2.07	6.30
31	RE12-10-8096	244881001	01/20/10 1351	2.07	6.30
32	RE12-10-8096MS	1202019500	01/20/10 1402	2.07	6.30

S1 = 4cmx  
DCB = Decachlorobiphenyl

QC LIMITS  
(+/- 0.03 MINUTES)  
(+/- 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.: 10-1264-1

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 01/20/10 01/20/10

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
S1 : 2.07				DCB: 6.30			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #		
01	RE12-10-8096MSD	1202019501	01/20/10 1413	2.07	6.30		
02	RE12-10-8094	244881002	01/20/10 1424	2.07	6.30		
03	RE12-10-8097	244881003	01/20/10 1435	2.07	6.30		
04	RE12-10-8095	244881004	01/20/10 1446	2.07	6.30		
05	AR166003	WAR100104-60	01/20/10 1457	2.07	6.30		
06	PIBLK04	WAR091130-99	01/20/10 1509	2.07	6.30		
07	ZZZZZ	ZZZZZ	01/20/10 1520	2.07	6.30		
08	ZZZZZ	ZZZZZ	01/20/10 1531	2.07	6.30		
09	ZZZZZ	ZZZZZ	01/20/10 1542	2.07	6.30		
10	ZZZZZ	ZZZZZ	01/20/10 1553	2.07	6.30		
11	ZZZZZ	ZZZZZ	01/20/10 1604	2.07	6.30		
12	ZZZZZ	ZZZZZ	01/20/10 1615	2.07	6.30		
13	ZZZZZ	ZZZZZ	01/20/10 1626	2.07	6.30		
14	AR166004	WAR100104-60	01/20/10 1637	2.07	6.30		
15	PIBLK05	WAR091130-99	01/20/10 1648	2.07	6.30		
16	ZZZZZ	ZZZZZ	01/20/10 1700	2.07	6.30		
17	ZZZZZ	ZZZZZ	01/20/10 1711	2.07	6.30		
18	ZZZZZ	ZZZZZ	01/20/10 1722	2.07	6.30		
19	ZZZZZ	ZZZZZ	01/20/10 1733	2.07	6.30		
20	ZZZZZ	ZZZZZ	01/20/10 1744	2.07	6.30		
21	ZZZZZ	ZZZZZ	01/20/10 1755	2.07	6.30		
22	AR166005	WAR100104-60	01/20/10 1806	2.07	6.30		
23	PIBLK06	WAR091130-99	01/20/10 1818	2.07	6.30		
24	ZZZZZ	ZZZZZ	01/20/10 1829	2.07	6.30		
25	ZZZZZ	ZZZZZ	01/20/10 1840	2.07	6.30		
26	ZZZZZ	ZZZZZ	01/20/10 1851	2.07	6.30		
27	ZZZZZ	ZZZZZ	01/20/10 1902	2.07	6.30		
28	ZZZZZ	ZZZZZ	01/20/10 1913	2.07	6.30		
29	ZZZZZ	ZZZZZ	01/20/10 1924	2.07	6.30		
30	AR166006	WAR100104-60	01/20/10 1935	2.07	6.30		
31	PIBLK07	WAR091130-99	01/20/10 1947	2.07	6.30		
32							

QC LIMITS  
S1 = 4cmx (+/- 0.03 MINUTES)  
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC limits.

## Identification Summary

Page 1 of 1

SDG Number: 10-1264-1

Client ID: LCS for batch 943204

Lab Sample ID: 1202019499

Data File: 019f1901.d

Data File: 019b1901.d

Inst: ECD2A.I\_1

Inst: ECD2A.I\_2

Column: CLP1

Column: CLP2

Analyzed: 20-JAN-10 11:38

Analyzed: 20-JAN-10 11:38

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							2.6
Column 1	1	2.27	2.24 - 2.3	21.9		ug/kg	
	2	2.6	2.57 - 2.63	21.8		ug/kg	
	3	2.69	2.66 - 2.72	21.5		ug/kg	
	4	2.82	2.79 - 2.85	21.5		ug/kg	
	5	2.97	2.94 - 3	27.6		ug/kg	
					22.8		
Column 2	1	2.74	2.71 - 2.77	22.1		ug/kg	
	2	3.18	3.15 - 3.21	22.5		ug/kg	
	3	3.33	3.3 - 3.36	22		ug/kg	
	4	3.36	3.33 - 3.39	22.1		ug/kg	
	5	3.52	3.49 - 3.55	22.5		ug/kg	
					22.3		
Aroclor-1260							2.59
Column 1	1	4.01	3.98 - 4.04	24.7		ug/kg	
	2	4.29	4.25 - 4.31	24.6		ug/kg	
	3	4.45	4.42 - 4.48	24.9		ug/kg	
	4	4.66	4.63 - 4.69	25.6		ug/kg	
	5	4.85	4.82 - 4.88	26.1		ug/kg	
					25.2		
Column 2	1	4.41	4.38 - 4.44	25.3		ug/kg	
	2	4.56	4.53 - 4.59	25.8		ug/kg	
	3	4.68	4.64 - 4.7	25.5		ug/kg	
	4	4.87	4.84 - 4.9	25.5		ug/kg	
	5	5.5	5.47 - 5.53	27		ug/kg	
					25.8		



## Identification Summary

Page 1 of 1

SDG Number: 10-1264-1

Client ID: RE12-10-8096MS

Lab Sample ID: 1202019500

Data File: 032f3201.d

Data File: 032b3201.d

Inst: ECD2A.I\_1

Inst: ECD2A.I\_2

Column: CLP1

Column: CLP2

Analyzed: 20-JAN-10 14:02

Analyzed: 20-JAN-10 14:02

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							.984
Column 1	1	2.27	2.24 - 2.3	22.1		ug/kg	
	2	2.6	2.57 - 2.63	22.9		ug/kg	
	3	2.69	2.66 - 2.72	22.2		ug/kg	
	4	2.82	2.79 - 2.85	23.4		ug/kg	
	5	2.97	2.94 - 3	24.6		ug/kg	
					23.1		
Column 2	1	2.74	2.71 - 2.77	22.1		ug/kg	
	2	3.18	3.15 - 3.21	24.1		ug/kg	
	3	3.33	3.3 - 3.36	23.3		ug/kg	
	4	3.36	3.33 - 3.39	22.5		ug/kg	
	5	3.52	3.49 - 3.55	24.4		ug/kg	
					23.3		
Aroclor-1260							.19
Column 1	1	4.01	3.98 - 4.04	25.3		ug/kg	
	2	4.28	4.25 - 4.31	26.5		ug/kg	
	3	4.45	4.42 - 4.48	26.8		ug/kg	
	4	4.66	4.63 - 4.69	25.8		ug/kg	
	5	4.85	4.82 - 4.88	28.4		ug/kg	
					26.6		
Column 2	1	4.41	4.38 - 4.44	26.5		ug/kg	
	2	4.56	4.53 - 4.59	25		ug/kg	
	3	4.67	4.64 - 4.7	27		ug/kg	
	4	4.87	4.84 - 4.9	26.6		ug/kg	
	5	5.5	5.47 - 5.53	27.8		ug/kg	
					26.6		

## Identification Summary

Page 1 of 1

SDG Number: 10-1264-1

Client ID: RE12-10-8096MSD

Lab Sample ID: 1202019501

Data File: 033f3301.d

Data File: 033b3301.d

Inst: ECD2A.I\_1

Inst: ECD2A.I\_2

Column: CLP1

Column: CLP2

Analyzed: 20-JAN-10 14:13

Analyzed: 20-JAN-10 14:13

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							2.34
Column 1	1	2.27	2.24 - 2.3	24.4		ug/kg	
	2	2.6	2.57 - 2.63	25		ug/kg	
	3	2.69	2.66 - 2.72	23.8		ug/kg	
	4	2.82	2.79 - 2.85	24.4		ug/kg	
	5	2.97	2.94 - 3	25.5		ug/kg	
					24.6		
Column 2	1	2.74	2.71 - 2.77	24.5		ug/kg	
	2	3.18	3.15 - 3.21	25.1		ug/kg	
	3	3.33	3.3 - 3.36	25.7		ug/kg	
	4	3.36	3.33 - 3.39	23.9		ug/kg	
	5	3.52	3.49 - 3.55	26.9		ug/kg	
					25.2		
Aroclor-1260							.679
Column 1	1	4.01	3.98 - 4.04	26.3		ug/kg	
	2	4.28	4.25 - 4.31	28.2		ug/kg	
	3	4.45	4.42 - 4.48	28.6		ug/kg	
	4	4.66	4.63 - 4.69	27.6		ug/kg	
	5	4.85	4.82 - 4.88	31.3		ug/kg	
					28.4		
Column 2	1	4.41	4.38 - 4.44	27.8		ug/kg	
	2	4.56	4.53 - 4.59	26.2		ug/kg	
	3	4.67	4.64 - 4.7	29.7		ug/kg	
	4	4.87	4.84 - 4.9	28.4		ug/kg	
	5	5.5	5.47 - 5.53	31		ug/kg	
					28.6		

# QUALITY CONTROL DATA

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: 10-1264-1

Lab Sample ID: 1202019498

Client Sample: QC for batch 943204

Client ID: MB for batch 943204

Batch ID: 943205

Run Date: 01/20/2010 11:26

Prep Date: 01/19/2010 20:46

Data File: 018f1801-1.d

018b1801-1.d

Client: LANL010

Method: SW846 8082

Inst: ECD2AJ

Analyst: JAOC

Aliquot: 30 g

Column: 1 CLP1

2 CLP2

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-040

Dilution: 1

Inj. Vol: 1 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.33	ug/kg	1.11	3.33	1
11104-28-2	Aroclor-1221	U	3.33	ug/kg	1.11	3.33	1
11141-16-5	Aroclor-1232	U	3.33	ug/kg	1.11	3.33	1
53469-21-9	Aroclor-1242	U	3.33	ug/kg	1.11	3.33	1
12672-29-6	Aroclor-1248	U	3.33	ug/kg	1.11	3.33	1
11097-69-1	Aroclor-1254	U	3.33	ug/kg	1.11	3.33	1
11096-82-5	Aroclor-1260	U	3.33	ug/kg	1.11	3.33	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/018f1801-3.d  
 Lab Smp Id: 1202019498 Client Smp ID: PBLK01  
 Inj Date : 20-JAN-2010 11:26  
 Operator : JAOC Inst ID: ecd2a.i  
 Smp Info : |1202019498|1|  
 Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MB|||  
 Comment :  
 Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
 Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
 Als bottle: 18 QC Sample: BLANK  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: 10-1264-1.sub  
 Target Version: 3.50 Sample Matrix: Soil  
 Processing Host: hpc1p1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

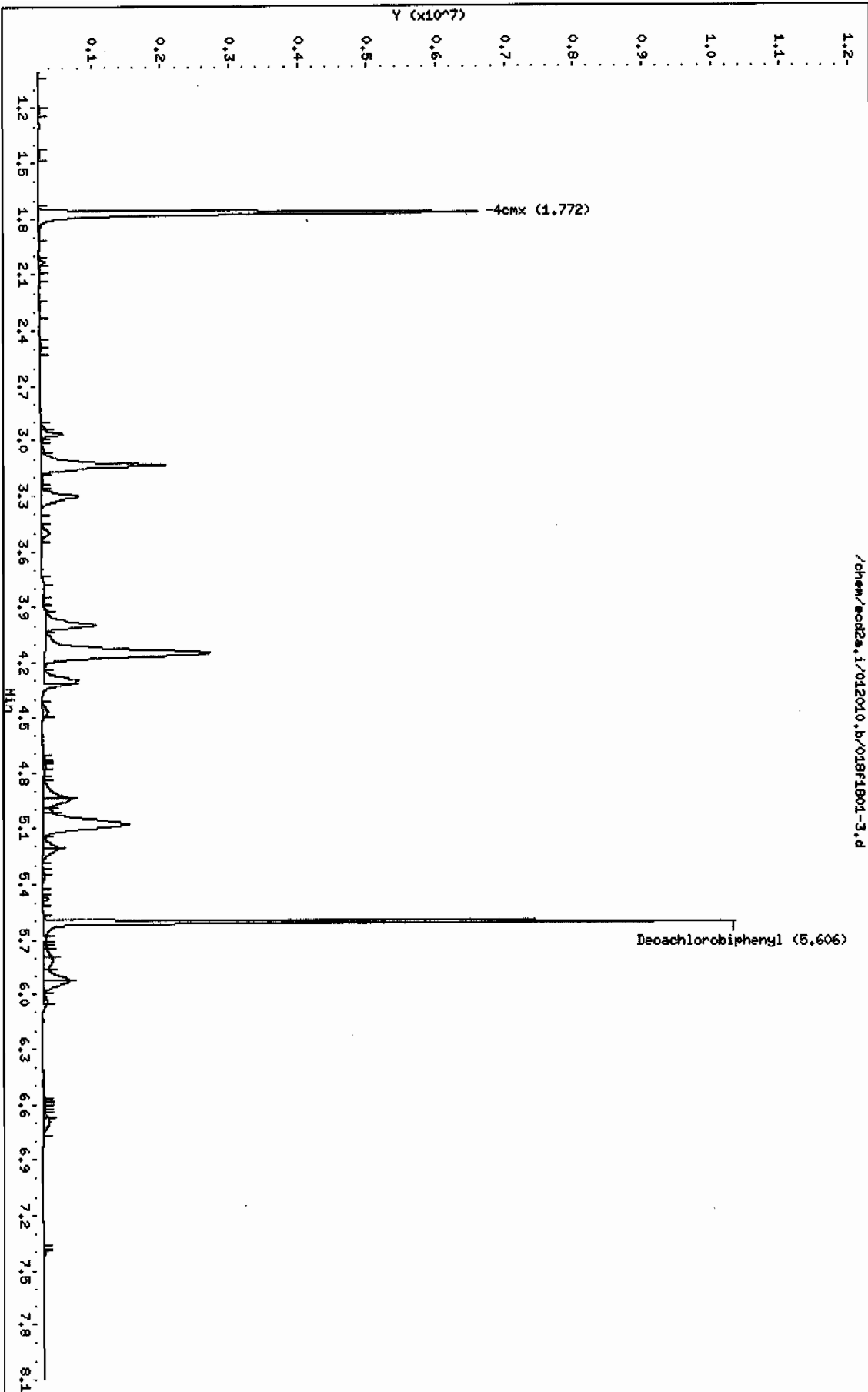
CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx							CAS #: 877-09-8	
1.772	1.772	0.000	8889881	132.620	4.4	80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl							CAS #: 2051-24-3	
5.606	5.607	-0.001	9206422	145.213	4.8	80.00- 120.00	100.00	

Data File: /chem/ecod2a.i/012010.b/018F1801-3.d  
Date: 20-JAN-2010 11:26  
Client ID: PBLK01  
Sample Info: 1120201949811  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: ecod2a.i  
Operator: JROC  
Column diameter: 0.25

Page 1



Data File: /chem/ecd2a.i/012010.b/018b1801-3.d  
 Report Date: 21-Jan-2010 14:04

Page 1

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/018b1801-3.d  
 Lab Smp Id: 1202019498 Client Smp ID: PBLK01  
 Inj Date : 20-JAN-2010 11:26  
 Operator : JAOC Inst ID: ecd2a.i  
 Smp Info : |1202019498|1|  
 Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MB|||  
 Comment :  
 Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
 Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
 Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
 Als bottle: 18 QC Sample: BLANK  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: 10-1264-1.sub  
 Target Version: 3.50 Sample Matrix: Soil  
 Processing Host: hpclp1

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	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS						
		ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8	
2.068	2.068	0.000	19726832 141.353	4.7	80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.298	6.298	0.000	19435554 156.044	5.2	80.00- 120.00	100.00

Data File: /chem/eod2a.i/012010.b/01801801-3.d

Date: 20-JAN-2010 11:26

Client ID: PSLK01

Sample Info: 1120201949811

Volume Injected (uL): 1.0

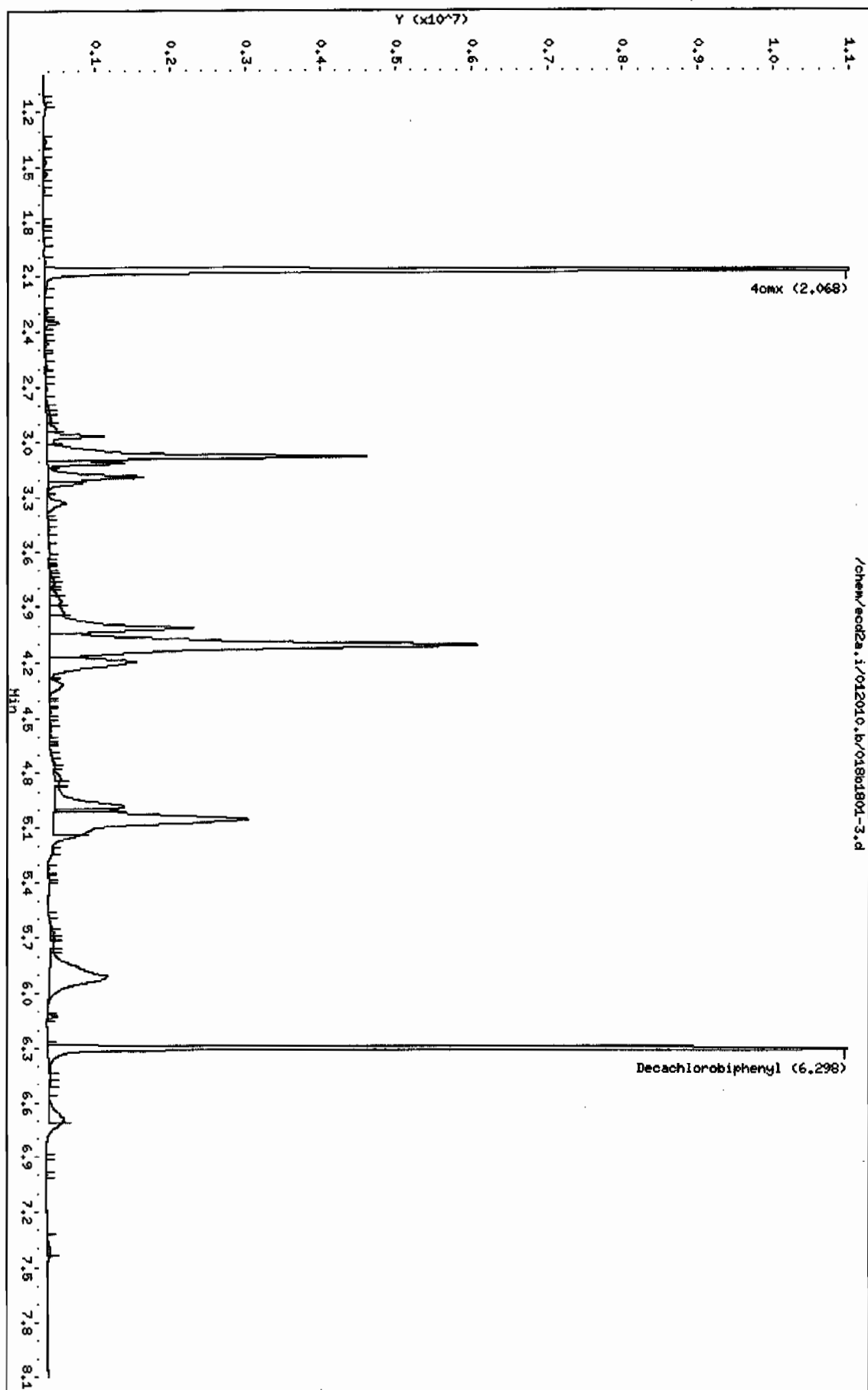
Column phase: CLP2

Instrument: eod2a.1

Operator: JnDC

Column diameter: 0.25

Page 1





**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: 10-1264-1

Lab Sample ID: 1202019499

Client Sample: QC for batch 943204

Client ID: LCS for batch 943204

Batch ID: 943205

Run Date: 01/20/2010 11:38

Prep Date: 01/19/2010 20:46

Data File: 019f1901-1.d

019b1901-1.d

Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30 g  
Column: 1 CLP1  
2 CLP2

Matrix: SOIL

Project: QC  
SOP Ref: GL-OA-E-040  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		22.9	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		25.8	ug/kg	1.11	3.33	2

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/019f1901-3.d  
 Lab Smp Id: 1202019499 Client Smp ID: PBLK01LCS  
 Inj Date : 20-JAN-2010 11:38  
 Operator : JAOC Inst ID: ecd2a.i  
 Smp Info : |1202019499|1|  
 Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|LCS|1|1|  
 Comment :  
 Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
 Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
 Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
 Als bottle: 19 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: 10-1264-1.sub  
 Target Version: 3.50 Sample Matrix: Soil  
 Processing Host: hpc1p1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

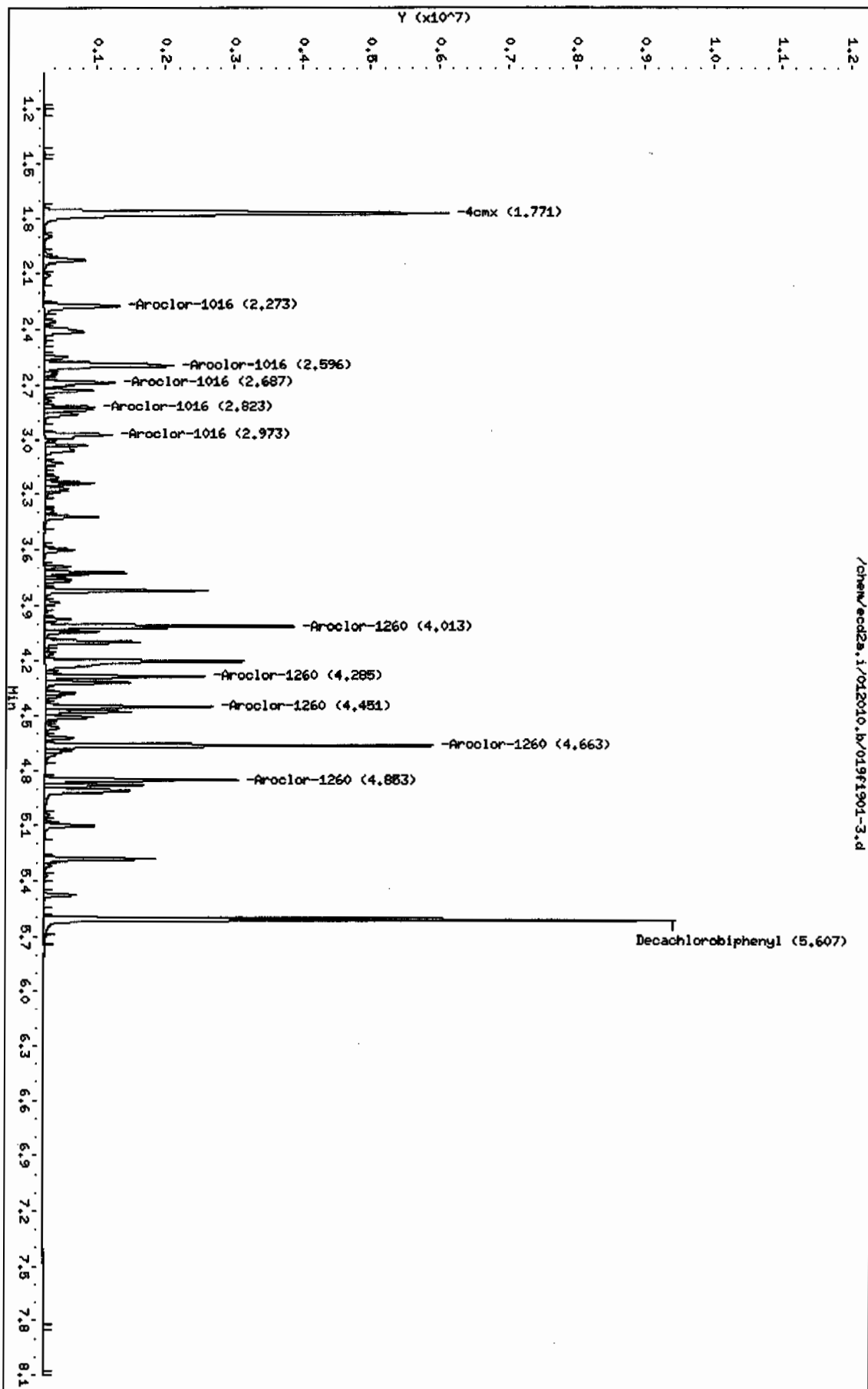
Cpnd Variable Local Compound Variable

CONCENTRATIONS							
RT	EXP RT	DLT RT	ON-COL		FINAL	TARGET RANGE	RATIO
			RESPONSE ( ug/L)		(ug/Kg)		
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx					CAS #: 877-09-8		
1.771	1.772	-0.001	8323513	124.171	4.1	80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.607	5.607	0.000	8506547	134.174	4.5	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.273	2.273	0.000	1484964	657.680	21.9	80.00- 120.00	100.00
2.596	2.597	-0.001	3022099	652.874	21.8	195.96- 235.96	203.51
2.687	2.687	0.000	1224094	644.157	21.5	66.90- 106.90	82.43
2.823	2.822	0.001	633892	644.529	21.5	24.29- 64.29	42.69

CONCENTRATIONS								
			ON-COL		FINAL			
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====
1 Aroclor-1016 (continued)								
2.973	2.974	-0.001	1199691	827.200	27.6	46.26-	86.26	80.79
Average of Peak Concentrations =					22.8			
-----								
7 Aroclor-1260					CAS #: 11096-82-5			
4.013	4.013	0.000	3185673	740.395	24.7	80.00-	120.00	100.00
4.285	4.285	0.000	2059062	737.743	24.6	42.54-	82.54	64.64
4.451	4.451	0.000	2142407	747.309	24.9	44.25-	84.25	67.25
4.663	4.662	0.001	5057896	768.771	25.6	135.08-	175.08	158.77
4.853	4.852	0.001	2502252	783.591	26.1	54.83-	94.83	78.55
Average of Peak Concentrations =					25.2			
-----								

Data File: /chem/ecd2a.i/012010.b/019f1901-3.d  
Date: 20-MAY-2010 11:38  
Client ID: PBLK01LCS  
Sample Info: 1120201949911  
Volume Injected (uL): 1.0  
Column Phase: CLP1

Instrument: ecd2a.i  
Operator: JHOC  
Column diameter: 0.25



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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/019b1901-3.d  
Lab Smp Id: 1202019499 Client Smp ID: PBLK01LCS  
Inj Date : 20-JAN-2010 11:38  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019499|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|LCS|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m  
Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d  
Als bottle: 19 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.sub  
Target Version: 3.50 Sample Matrix: Soil  
Processing Host: hpc1p1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

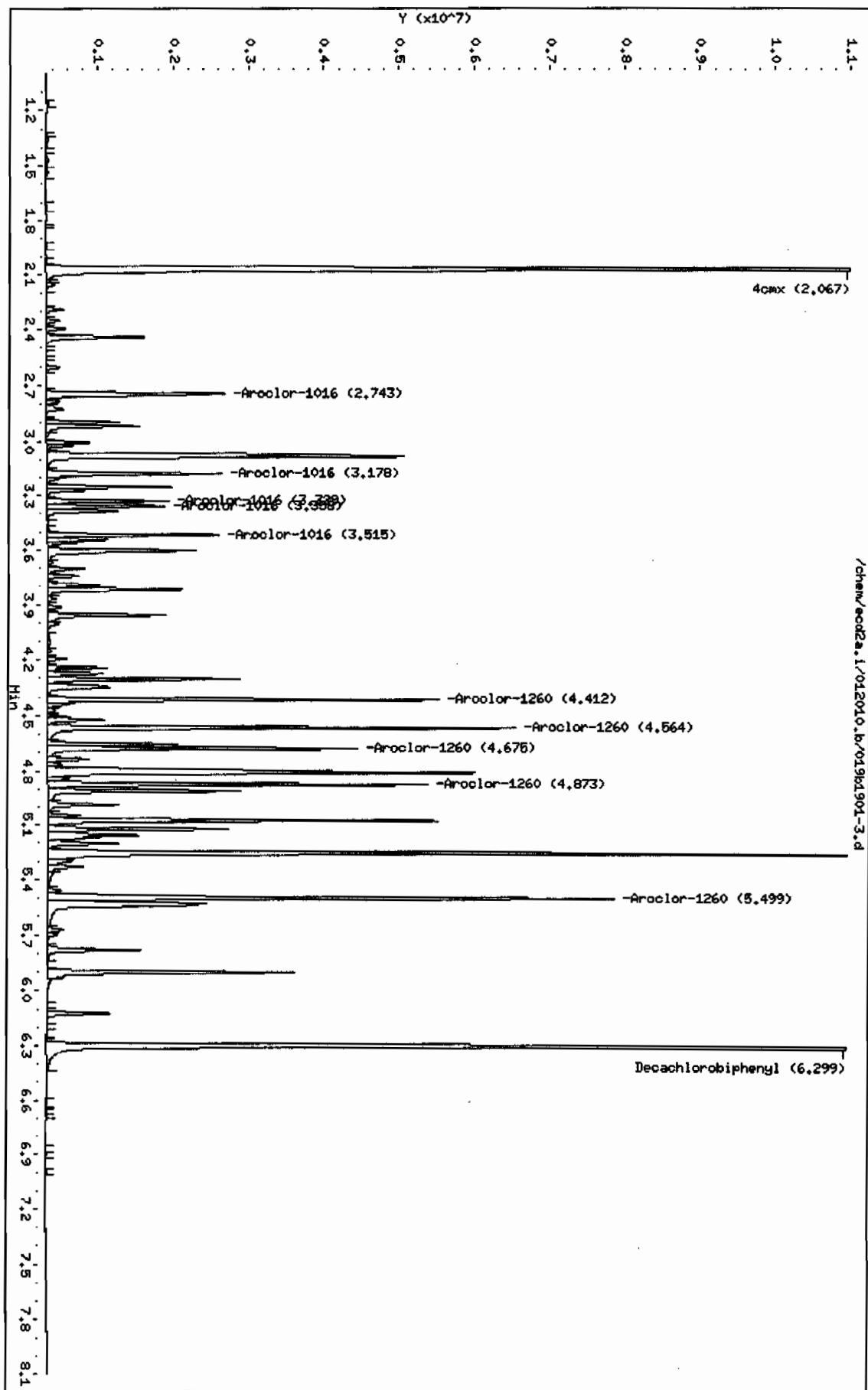
Cpnd Variable Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO
			RESPONSE ( ug/L)	(ug/Kg)		
\$ 11 4cmx					CAS #: 877-09-8	
2.067	2.068	-0.001	18404875 131.881	4.4	80.00- 120.00	100.00
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3	
6.299	6.298	0.001	18114339 145.436	4.8	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2	
2.743	2.744	-0.001	2976782 663.086	22.1	80.00- 120.00	100.00
3.178	3.178	0.000	2316918 674.674	22.5	59.59- 99.59	77.83
3.329	3.329	0.000	1334489 661.499	22.0	25.93- 65.93	44.83
3.358	3.357	0.001	1399179 664.514	22.2	27.78- 67.78	47.00

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		(ug/Kg)	TARGET RANGE		RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====	
1 Aroclor-1016 (continued)									
3.515	3.516	-0.001	1885708 674.800		22.5	45.06-	85.06	63.35	
Average of Peak Concentrations =					22.2				
-----									
7 Aroclor-1260					CAS #: 11096-82-5				
4.412	4.411	0.001	4398795 760.353		25.3	80.00-	120.00	100.00	
4.564	4.564	0.000	5630047 775.153		25.8	108.00-	148.00	127.99	
4.675	4.674	0.001	3835500 766.461		25.5	67.45-	107.45	87.19	
4.873	4.872	0.001	4431145 764.625		25.5	79.37-	119.37	100.74	
5.499	5.498	0.001	7613487 810.424		27.0	145.12-	185.12	173.08	
Average of Peak Concentrations =					25.8				

Data File: /chem/eod2a.i/012010.b/019b1901-3.d  
 Date: 20-04-2010 11:38  
 Client ID: PBLK01LCS  
 Sample Info: 1120201949911  
 Volume Injected (ul): 1.0  
 Column phase: CLP2

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



## PCB

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## Certificate of Analysis

## Sample Summary

SDG Number: 10-1264-1  
Lab Sample ID: 1202019500  
Client Sample: QC for batch 943204  
Client ID: RE12-10-8096MS  
Batch ID: 943205  
Run Date: 01/20/2010 14:02  
Prep Date: 01/19/2010 20:46  
Data File: 032f3201.d  
032b3201.d

Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30.12 g  
Column: 1 CLP1  
2 CLP2

Matrix: R  
%Moisture: 6.1  
Project: QC  
SOP Ref: GL-OA-E-040  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		23.0	ug/kg	1.18	3.54	1
11104-28-2	Aroclor-1221	U	3.54	ug/kg	1.18	3.54	1
11141-16-5	Aroclor-1232	U	3.54	ug/kg	1.18	3.54	1
53469-21-9	Aroclor-1242	U	3.54	ug/kg	1.18	3.54	1
12672-29-6	Aroclor-1248	U	3.54	ug/kg	1.18	3.54	1
11097-69-1	Aroclor-1254	U	3.54	ug/kg	1.18	3.54	1
11096-82-5	Aroclor-1260		26.6	ug/kg	1.18	3.54	1



Data File: /chem/ecd2a.i/012010.b/032f3201.d  
Report Date: 21-Jan-2010 14:07

Page 1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/032f3201.d

Lab Smp Id: 1202019500

Client Smp ID: RE12-10-8096MS

Inj Date : 20-JAN-2010 14:02

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |1202019500|1|

Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m

Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012f1201.d

Als bottle: 32

QC Sample: MS

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.12000	Weight of sample extracted (g)
M	6.13020	% Moisture

Cpnd Variable Local Compound Variable

CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	ON-COL	FINAL	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
\$ 11 4cmx				CAS #: 877-09-8			
1.774	1.772	0.002	7575084 113.006	4.0	80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3			
5.606	5.607	-0.001	8269512 130.435	4.6	80.00- 120.00	100.00	
1 Aroclor-1016				CAS #: 12674-11-2			
2.274	2.273	0.001	1412065 625.394	22.1	80.00- 120.00	100.00 (M)	
2.597	2.597	0.000	2996929 647.437	22.9	195.96- 235.96	212.24	
2.688	2.687	0.001	1193463 628.038	22.2	66.90- 106.90	84.52	
2.823	2.822	0.001	651891 662.830	23.4	24.29- 64.29	46.17	
2.974	2.974	0.000	1009395 695.988	24.6	46.26- 86.26	88.06	
Average of Peak Concentrations =				23.0			

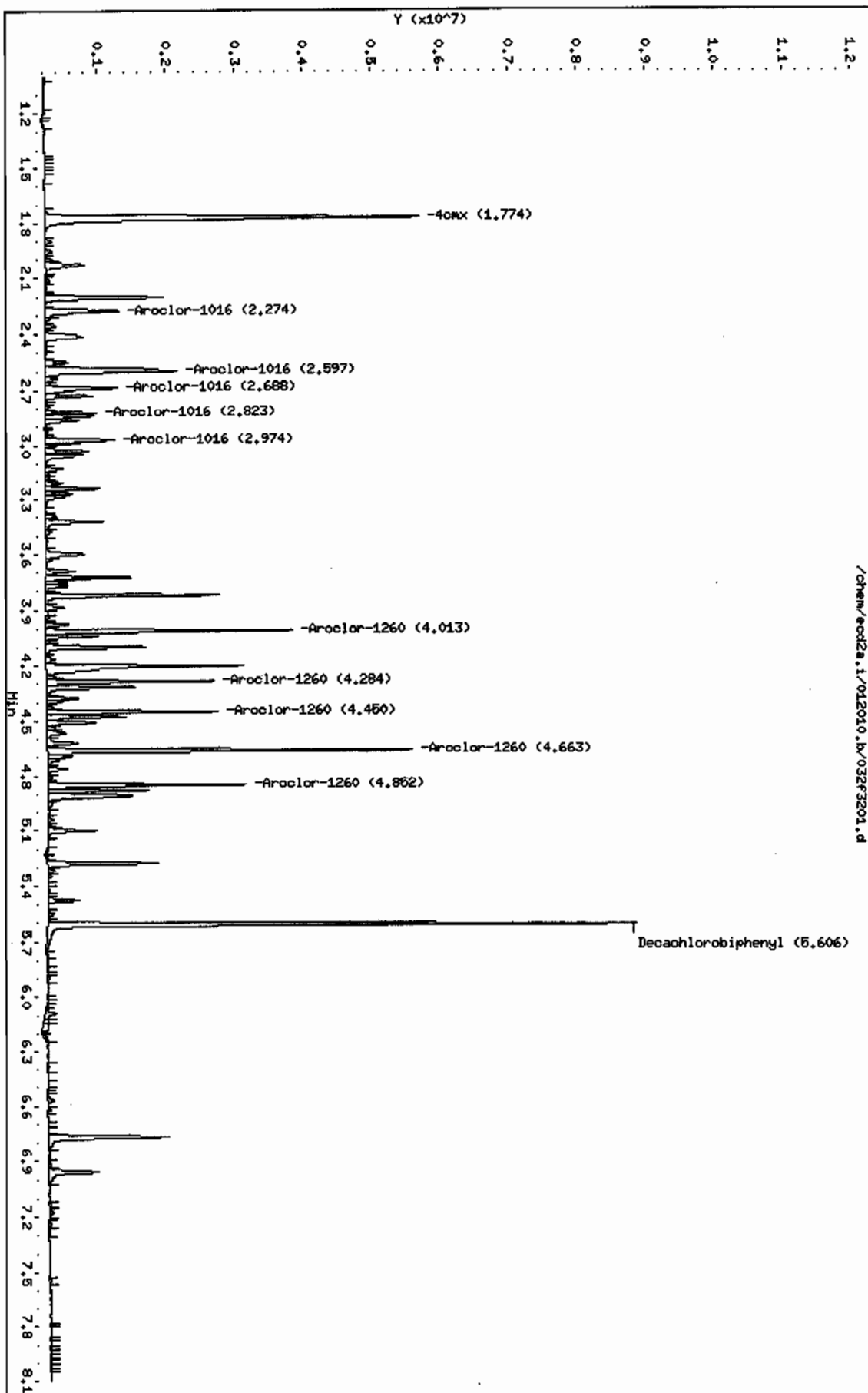
			CONCENTRATIONS				
			ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260					CAS #: 11096-82-5		
4.013	4.013	0.000	3082489	716.414	25.3	80.00- 120.00	100.00 (M)
4.284	4.285	-0.001	2093906	750.227	26.5	42.54- 82.54	67.93
4.450	4.451	-0.001	2169201	756.655	26.8	44.25- 84.25	70.37
4.663	4.662	0.001	4797545	729.200	25.8	135.08- 175.08	155.64
4.852	4.852	0.000	2561759	802.225	28.4	54.83- 94.83	83.11
Average of Peak Concentrations =					26.6		

# QC Flag Legend

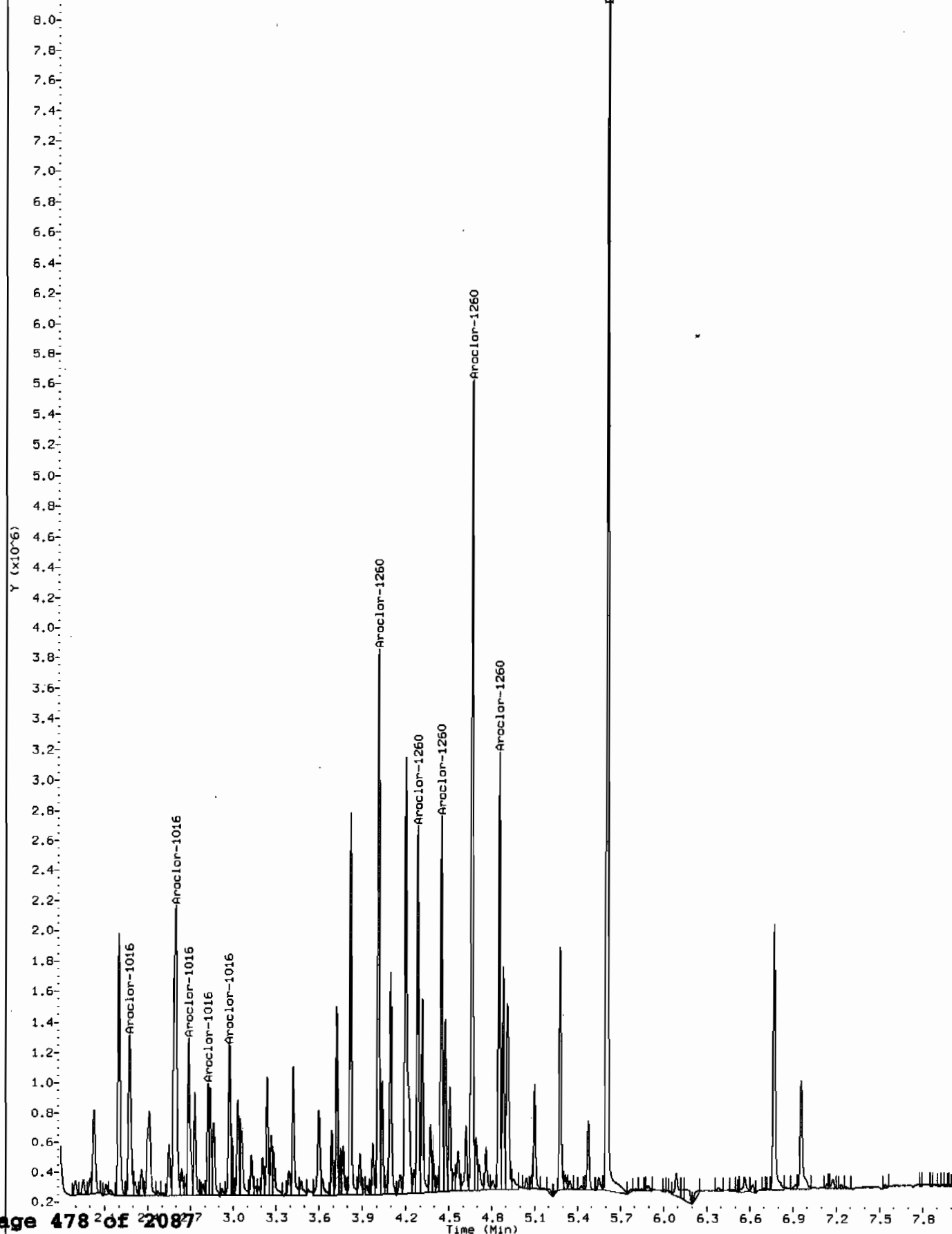
M - Compound response manually integrated.

Data File: /chem/ecd2a.i/012010.b/032F3201.d  
Date: 20-JAN-2010 14:02  
Client ID: RE12-10-8096MS  
Sample Info: 11202019500111  
Volume Injected (uL): 1.0  
Column phase: CLP1

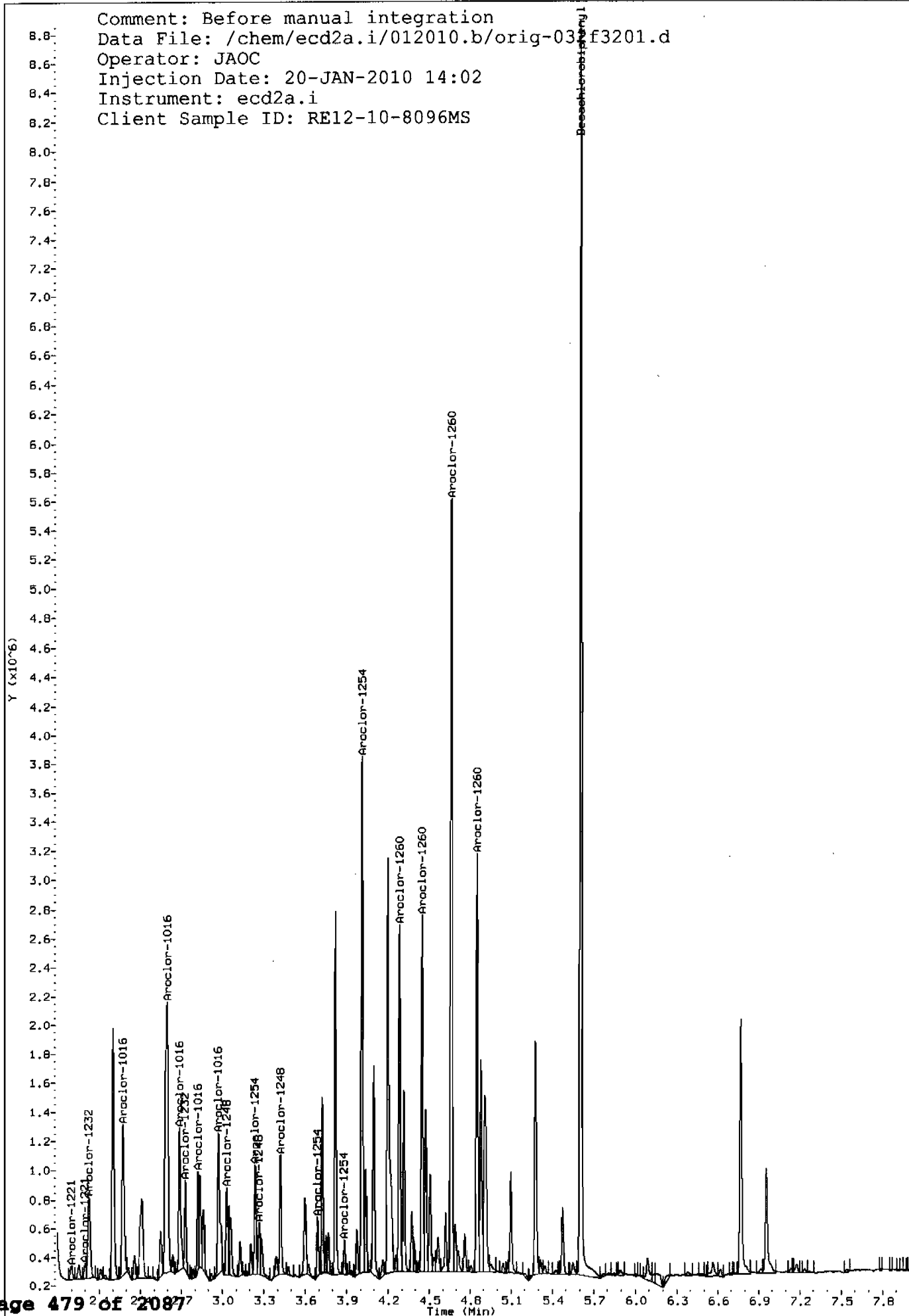
Instrument: ecd2a.i  
Operator: JAO  
Column diameter: 0.25



Comment: Manually Integrated  
Data File: /chem/ecd2a.i/012010.b/032f3201.d  
Operator: JAOC  
Injection Date: 20-JAN-2010 14:02  
Instrument: ecd2a.i  
Client Sample ID: RE12-10-8096MS



Comment: Before manual integration  
Data File: /chem/ecd2a.i/012010.b/orig-03201.d  
Operator: JAOC  
Injection Date: 20-JAN-2010 14:02  
Instrument: ecd2a.i  
Client Sample ID: RE12-10-8096MS



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/032b3201.d

Lab Smp Id: 1202019500

Client Smp ID: RE12-10-8096MS

Inj Date : 20-JAN-2010 14:02

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |1202019500|1|

Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MS|

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 32

QC Sample: MS

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.12000	Weight of sample extracted (g)
M	6.13020	% Moisture

Cpnd Variable

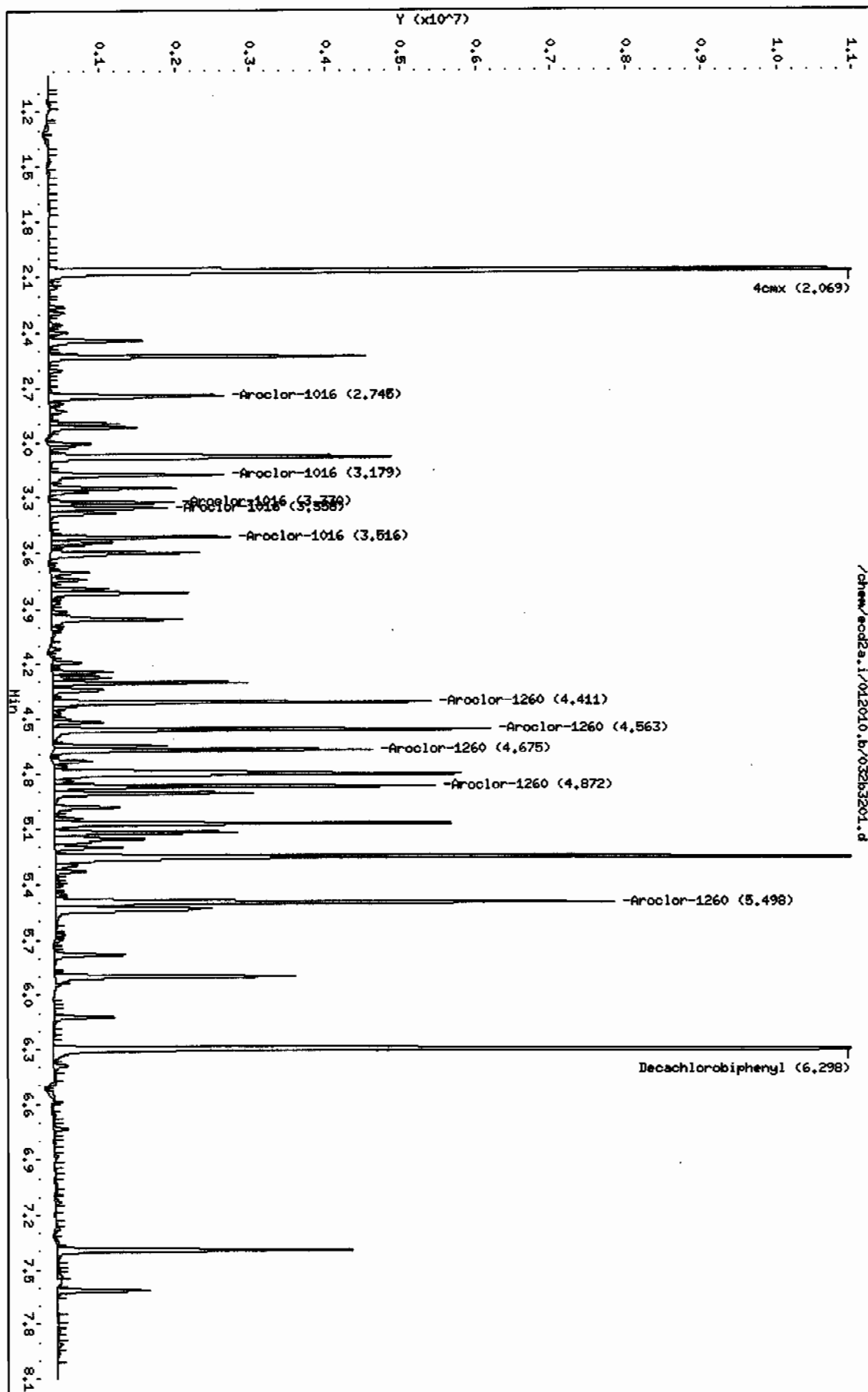
Local Compound Variable

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE ( ug/L)		TARGET RANGE	RATIO
***	*****	*****	*****	*****	*****	*****
\$ 11 4cmx						
			CAS #: 877-09-8			
2.069	2.068	0.001	16875005	120.918	4.3 80.00- 120.00	100.00
-----						
\$ 12 Decachlorobiphenyl						
			CAS #: 2051-24-3			
6.298	6.298	0.000	16680678	133.926	4.7 80.00- 120.00	100.00
-----						
1 Aroclor-1016						
			CAS #: 12674-11-2			
2.745	2.744	0.001	2809573	625.839	22.1 80.00- 120.00	100.00
3.179	3.178	0.001	2338019	680.818	24.1 59.59- 99.59	83.22
3.330	3.329	0.001	1329972	659.260	23.3 25.93- 65.93	47.34
3.358	3.357	0.001	1341249	637.001	22.5 27.78- 67.78	47.74
3.516	3.516	0.000	1925404	689.006	24.4 45.06- 85.06	68.53
Average of Peak Concentrations =			23.3			

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	(ug/Kg)	TARGET RANGE RATIO
==	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.411	4.411	0.000	4342275	750.583	26.5	80.00- 120.00 100.00
4.563	4.564	-0.001	5137682	707.364	25.0	108.00- 148.00 118.32
4.675	4.674	0.001	3826884	764.740	27.0	67.45- 107.45 88.13
4.872	4.872	0.000	4360257	752.393	26.6	79.37- 119.37 100.41
5.498	5.498	0.000	7391456	786.790	27.8	145.12- 185.12 170.22
Average of Peak Concentrations =			26.6			

Data File: /chem/eod2a.i/012010.b/032b3201.d  
 Date: 20-JAN-2010 14:02  
 Client ID: RE12-10-8096HS  
 Sample Info: 1120201950011  
 Volume Injected (uL): 1.0  
 Column phase: CLP2

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





## PCB

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Certificate of Analysis  
Sample Summary

SDG Number: 10-1264-1  
Lab Sample ID: 1202019501  
Client Sample: QC for batch 943204  
Client ID: RE12-10-8096MSD  
Batch ID: 943205  
Run Date: 01/20/2010 14:13  
Prep Date: 01/19/2010 20:46  
Data File: 033f3301.d  
033b3301.d

Date Collected: 01/11/2010 12:00  
Date Received: 01/15/2010 08:50  
Client: LANL010  
Method: SW846 8082  
Inst: ECD2A.I  
Analyst: JAOC  
Aliquot: 30.13 g  
Column: 1 CLP1  
2 CLP2

Matrix: R  
%Moisture: 6.1  
Project: QC  
SOP Ref: GL-OA-E-040  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL  
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		24.6	ug/kg	1.18	3.54	1
11104-28-2	Aroclor-1221	U	3.54	ug/kg	1.18	3.54	1
11141-16-5	Aroclor-1232	U	3.54	ug/kg	1.18	3.54	1
53469-21-9	Aroclor-1242	U	3.54	ug/kg	1.18	3.54	1
12672-29-6	Aroclor-1248	U	3.54	ug/kg	1.18	3.54	1
11097-69-1	Aroclor-1254	U	3.54	ug/kg	1.18	3.54	1
11096-82-5	Aroclor-1260		28.4	ug/kg	1.18	3.54	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/033f3301.d  
Lab Smp Id: 1202019501 Client Smp ID: RE12-10-8096MSD  
Inj Date : 20-JAN-2010 14:13  
Operator : JAOC Inst ID: ecd2a.i  
Smp Info : |1202019501|1|  
Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MSD|||  
Comment :  
Method : /chem/ecd2a.i/012010.b/ECD2-F-8082-111209A.m  
Meth Date : 21-Jan-2010 07:18 jen01212 Quant Type: ESTD  
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d  
Als bottle: 33 QC Sample: MSD  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 10-1264-1.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	30.13000	Weight of sample extracted (g)
M	6.13020	% Moisture

Cpnd Variable Local Compound Variable

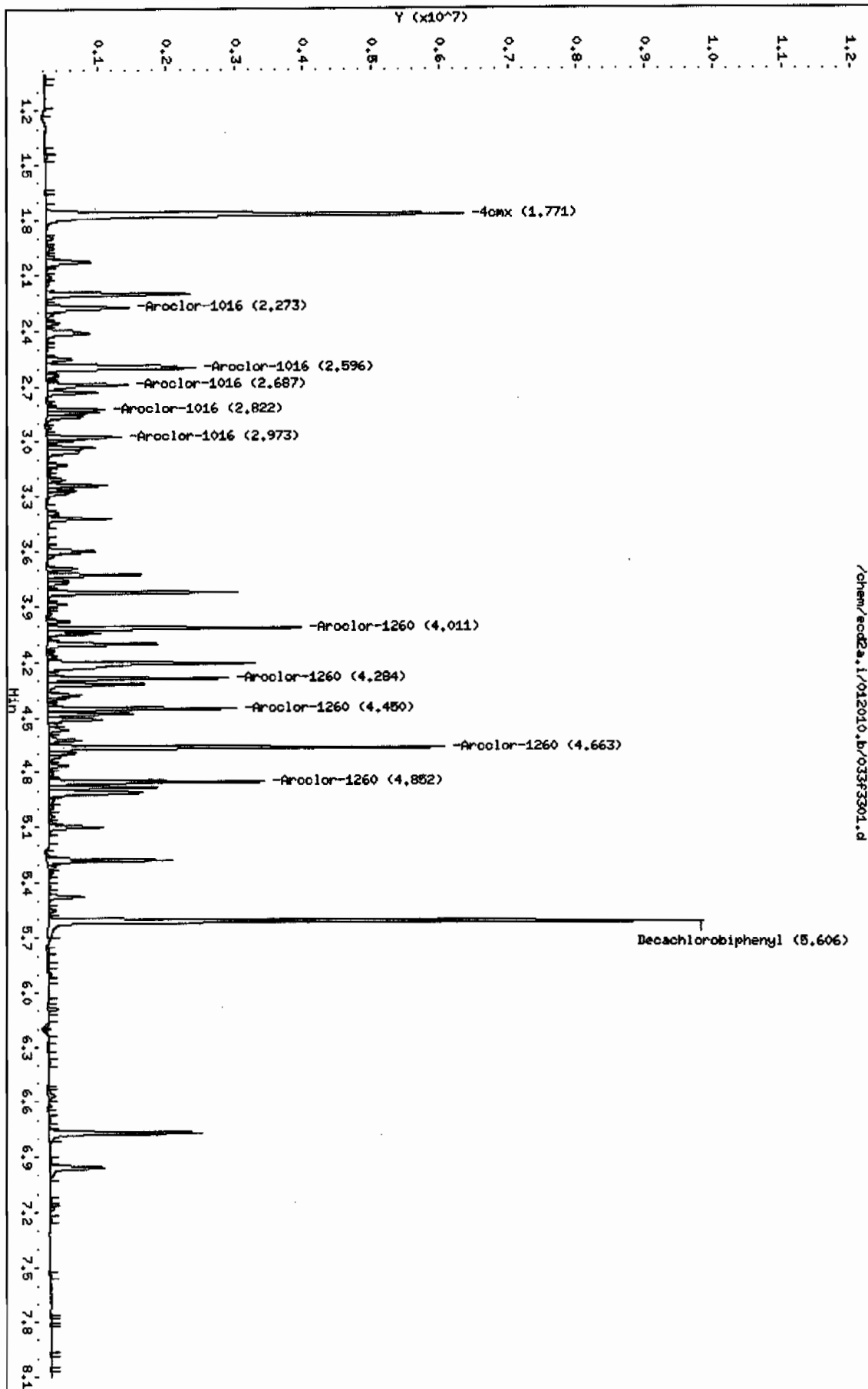
CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE ( ug/L)	ON-COL	FINAL	TARGET RANGE	RATIO
\$ 11 4cmx					CAS #: 877-09-8		
1.771	1.772	-0.001	8482573 126.544	4.5	80.00- 120.00	100.00	
\$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.606	5.607	-0.001	9045758 142.679	5.0	80.00- 120.00	100.00	
1 Aroclor-1016					CAS #: 12674-11-2		
2.273	2.273	0.000	1556273 689.262	24.4	80.00- 120.00	100.00	
2.596	2.597	-0.001	3275969 707.719	25.0	195.96- 235.96	210.50	
2.687	2.687	0.000	1279738 673.439	23.8	66.90- 106.90	82.23	
2.822	2.822	0.000	679604 691.008	24.4	24.29- 64.29	43.67	
2.973	2.974	-0.001	1047333 722.147	25.5	46.26- 86.26	67.30	
Average of Peak Concentrations =				24.6			

			CONCENTRATIONS				
			ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE	( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260					CAS #: 11096-82-5		
4.011	4.013	-0.002	3205725	745.056	26.3	80.00- 120.00	100.00
4.284	4.285	-0.001	2222689	796.369	28.2	42.54- 82.54	69.34
4.450	4.451	-0.001	2320016	809.262	28.6	44.25- 84.25	72.37
4.663	4.662	0.001	5142132	781.575	27.6	135.08- 175.08	160.40
4.852	4.852	0.000	2829123	885.952	31.3	54.83- 94.83	88.25
Average of Peak Concentrations =					28.4		

Data File: /chem/ecod2a.i/012010.b/03f3301.d  
Date: 20-Jan-2010 14:13  
Client ID: RE12-10-8096HSD  
Sample Info: 11202019504111  
Volume Injected (uL): 1.0  
Column phase: CLP1

Instrument: ecod2a.i  
Operator: JHOC  
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/012010.b/033b3301.d

Lab Smp Id: 1202019501

Client Smp ID: RE12-10-8096MSD

Inj Date : 20-JAN-2010 14:13

Operator : JAOC

Inst ID: ecd2a.i

Smp Info : |1202019501|1|

Misc Info : |ECD82P\_1S|943205|SVA|QC A|SOIL|MSD|||

Comment :

Method : /chem/ecd2a.i/012010.b/ECD2-B-8082-111209A.m

Meth Date : 21-Jan-2010 07:43 jen01212 Quant Type: ESTD

Cal Date : 02-DEC-2009 07:50

Cal File: 012b1201.d

Als bottle: 33

QC Sample: MSD

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 10-1264-1.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	30.13000	Weight of sample extracted (g)
M	6.13020	% Moisture

Cpnd Variable

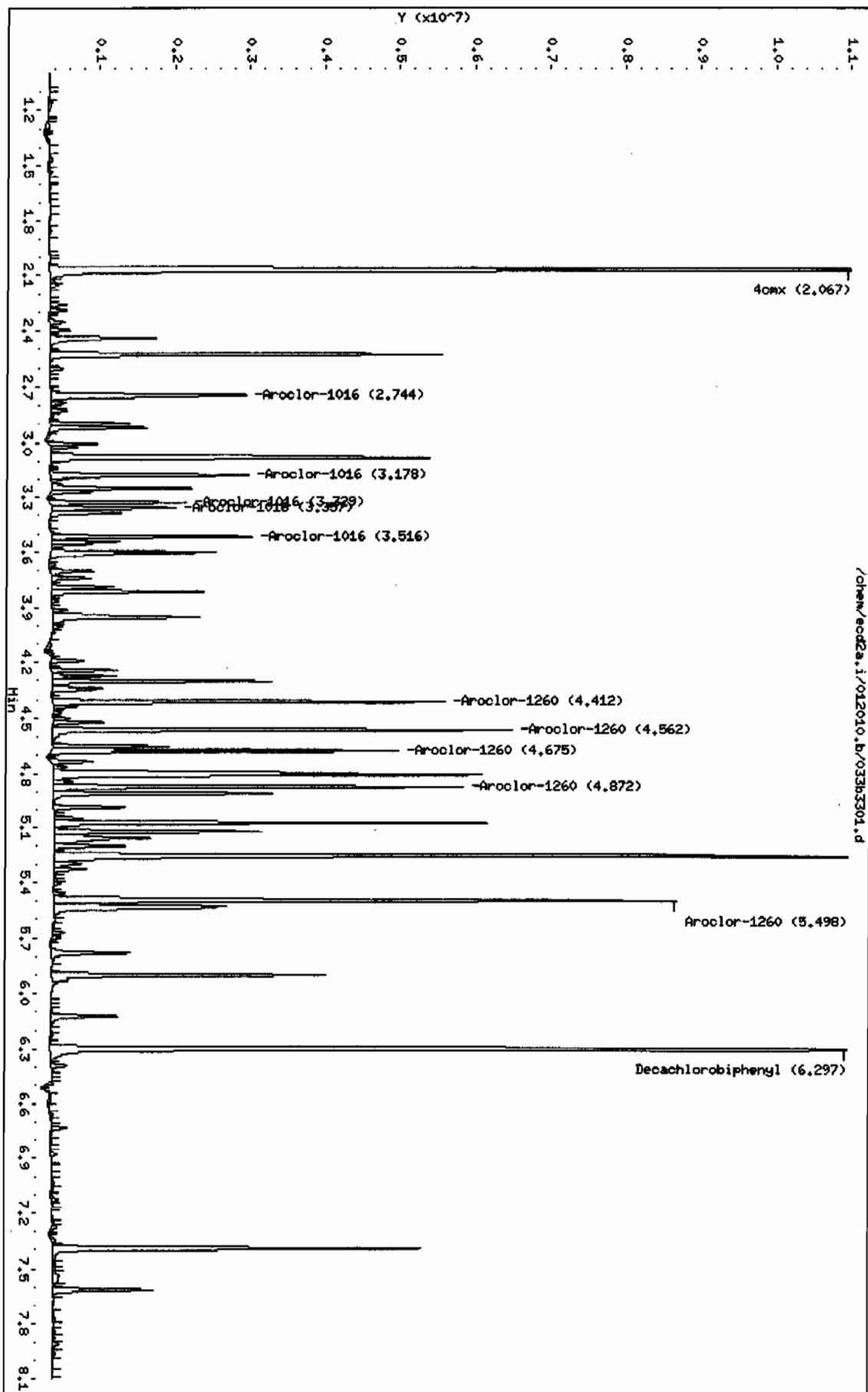
Local Compound Variable

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
<hr/>						
\$ 11 4cmx				CAS #: 877-09-8		
2.067	2.068	-0.001	18861357	135.152	4.8 80.00- 120.00	100.00
<hr/>						
\$ 12 Decachlorobiphenyl				CAS #: 2051-24-3		
6.297	6.298	-0.001	18483051	148.396	5.2 80.00- 120.00	100.00
<hr/>						
1 Aroclor-1016				CAS #: 12674-11-2		
2.744	2.744	0.000	3109352	692.616	24.5 80.00- 120.00	100.00
3.178	3.178	0.000	2440738	710.729	25.1 59.59- 99.59	78.50
3.329	3.329	0.000	1467291	727.328	25.7 25.93- 65.93	47.19
3.357	3.357	0.000	1423045	675.848	23.9 27.78- 67.78	45.77
3.516	3.516	0.000	2122858	759.665	26.8 45.06- 85.06	68.27
Average of Peak Concentrations =				25.2		
<hr/>						

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE ( ug/L)	(ug/Kg)	TARGET RANGE	RATIO
=====	=====	=====	=====	=====	=====	=====
7 Aroclor-1260			CAS #: 11096-82-5			
4.412	4.411	0.001	4546420	785.871	27.8 80.00- 120.00	100.00
4.562	4.564	-0.002	5382617	741.087	26.2 108.00- 148.00	118.39
4.675	4.674	0.001	4201288	839.558	29.7 67.45- 107.45	92.41
4.872	4.872	0.000	4655702	803.374	28.4 79.37- 119.37	102.40
5.498	5.498	0.000	8226860	875.715	31.0 145.12- 185.12	180.95
Average of Peak Concentrations =				28.6		

Data File: /chem/eod2a.i/012010.b/03B3301.d  
 Date: 20-JAN-2010 14:13  
 Client ID: RE12-10-8096HSD  
 Sample Info: 1120201950111  
 Volume Injected (uL): 1.0  
 Column Phase: CLP2

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



# MISCELLANEOUS DATA



## GEL ORGANIC RUN LOG

INSTRUMENT ID: ECD2

DATE: 01/21/2010 METHOD: ECD2-F-8082-111209A.m OPERATOR: JAOC REVIEWED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT: DA699  
ALUMINA LOT: 1240553-A  
COPPER LOT: 236547-A

Calibration & QC Information  
Initial Calibration Dates: See Calibration History and Standards Log  
Initial Calibration Std ID's: See Calibration History and Standards Log  
GEL SOP GL-OA-E-040  
EPA Method: 8082 Polychlorinated Biphenyls PCBs by Gas Chromatography  
Sequence Number: 012010.B Injection Volume: 1.0 uL

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	IWAR091130-99 IB	JAOC	20-JAN-2010 08:17		012010	1.0	CLEAN	
002f0201.d	IWAR100104-60 01	JAOC	20-JAN-2010 08:29		012010	1.0	DUSE	
003f0301.d	IWAR091102-54	JAOC	20-JAN-2010 08:40		012010	1.0	PASSES BOTH COLUMNS	
004f0401.d	IWAR091217-42	JAOC	20-JAN-2010 08:51		012010	1.0	PASSES BOTH COLUMNS	
005f0501.d	IWAR091217-48	JAOC	20-JAN-2010 09:02		012010	1.0	PASSES BOTH COLUMNS	
006f0601.d	IWAR100104-32	JAOC	20-JAN-2010 09:13		012010	1.0	PATTERN ONLY	
007f0701.d	IWAR100104-21	JAOC	20-JAN-2010 09:24		012010	1.0	PATTERN ONLY	
008f0801.d	IWAR100104-62	JAOC	20-JAN-2010 09:35		012010	1.0	PASSES BOTH COLUMNS	
009f0901.d	IWAR100120-01 60	JAOC	20-JAN-2010 09:46		012010	1.0	1660 LEVEL 1	
010f1001.d	IWAR100120-02 60	JAOC	20-JAN-2010 09:57		012010	1.0	1660 LEVEL 2	
011f1101.d	IWAR100120-03 60	JAOC	20-JAN-2010 10:09		012010	1.0	1660 LEVEL 3	
012f1201.d	IWAR100120-04 60	JAOC	20-JAN-2010 10:20		012010	1.0	1660 LEVEL 4	
013f1301.d	IAR100104-01 60	JAOC	20-JAN-2010 10:31		012010	1.0	1660 LEVEL 5	
014f1401.d	IWAR100104-60 01	JAOC	20-JAN-2010 10:42		012010	1.0	PASSES BOTH COLUMNS	
015f1501.d	IWAR091106-68	JAOC	20-JAN-2010 10:53		012010	1.0	PASSES BOTH COLUMNS	

Instrument Batch: /chem/ecd2a.i/012010.b

Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
016f1601.d	IWAR091219-DDT	JAOC	20-JAN-2010 11:04		012010	1.0	DDT	



1042f4201.d	1202018785	JAOC	120-JAN-2010 15:53	942921	1244937	1.0 MS	UPLOAD BOTH, USE HIGHER
1043f4301.d	1202018786	JAOC	120-JAN-2010 16:04	942921	1244937	1.0 MSD	UPLOAD BOTH, USE HIGHER
1044f4401.d	1244937002	JAOC	120-JAN-2010 16:15	942921	1244937	1.0 WSRB	UPLOAD BOTH, USE HIGHER
1045f4501.d	1244874002	JAOC	120-JAN-2010 16:26	942921	1244874	1.0 GEEL	SENT FOR RE, LOW SURROGATES
1046f4601.d	1244874002	JAOC	120-JAN-2010 16:37	1012010	1.0	PASSES BOTH COLUMNS	
1047f4701.d	1244874002	JAOC	120-JAN-2010 16:48	1012010	1.0	CLEAN	
1048f4801.d	1202017036	JAOC	120-JAN-2010 17:00	942243	12010MDLVECD21254-S	1.0 QC A	UPLOAD BOTH, USE BOTH
1049f4901.d	1202017037	JAOC	120-JAN-2010 17:11	942243	12010MDLVECD21254-S	1.0 QC A	UPLOAD BOTH, USE BOTH
1050f5001.d	1244388001	JAOC	120-JAN-2010 17:22	942243	12010MDLVECD21254-S	1.0 QCQA	UPLOAD BOTH, USE BOTH
1051f5101.d	1244388002	JAOC	120-JAN-2010 17:33	942243	12010MDLVECD21254-S	1.0 QCQA	UPLOAD BOTH, USE BOTH
1052f5201.d	1244388003	JAOC	120-JAN-2010 17:44	942243	12010MDLVECD21254-S	1.0 QCQA	UPLOAD BOTH, USE BOTH
1053f5301.d	1244388004	JAOC	120-JAN-2010 17:55	942243	12010MDLVECD21254-S	1.0 QCQA	UPLOAD BOTH, USE BOTH
1054f5401.d	1244388005	JAOC	120-JAN-2010 18:06	1012010	1.0	PASSES BOTH COLUMNS	
1055f5501.d	1244388006	JAOC	120-JAN-2010 18:18	1012010	1.0	CLEAN	

Instrument Batch: /chem/ecd2a.i/012010.b

1056f5601.d	1202016956	JAOC	120-JAN-2010 18:29	942219	12010MDLVECD21254-L	1.0 QC A	UPLOAD BOTH, USE BOTH
1057f5701.d	1202016957	JAOC	120-JAN-2010 18:40	942219	12010MDLVECD21254-L	1.0 QC A	UPLOAD BOTH, USE BOTH
1058f5801.d	1243868001	JAOC	120-JAN-2010 18:51	942219	12010MDLVECD21254-L	1.0 QCQA	UPLOAD BOTH, USE BOTH
1059f5901.d	1243868002	JAOC	120-JAN-2010 19:02	942219	12010MDLVECD21254-L	1.0 QCQA	UPLOAD BOTH, USE BOTH
1060f6001.d	1243868003	JAOC	120-JAN-2010 19:13	942219	12010MDLVECD21254-L	1.0 QCQA	UPLOAD BOTH, USE BOTH
1061f6101.d	1243868004	JAOC	120-JAN-2010 19:24	942219	12010MDLVECD21254-L	1.0 QCQA	UPLOAD BOTH, USE BOTH
1062f6201.d	1243868005	JAOC	120-JAN-2010 19:35	1012010	1.0	PASSES BOTH COLUMNS	
1063f6301.d	1243868006	JAOC	120-JAN-2010 19:47	1012010	1.0	CLEAN	

# Prep Logbook Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 943204      Verified by: \_\_\_\_\_

Analyst: Andrew Schwenin

Method: SW846 3550B

Lab SOP: GL-OA-E-010 REV# 18

Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Clean Up	Prior to Clean up (mL)	Amount Cleaned (mL)	After Clean up (mL)	CleanPrepped Aliquot (mL)	Prepped Factor (mL/g)
1202019498 MB	19-JAN-2010 20:46:16	30	H2SO4/KM2	2	9	1	0.03333	
1202019499 LCS	19-JAN-2010 20:46:16	30	H2SO4/KM2	2	9	1	0.03333	
244837001	19-JAN-2010 20:46:16	30.07	H2SO4/KM2	2	9	1	0.03326	
244837002	19-JAN-2010 20:46:16	30.03	H2SO4/KM2	2	9	1	0.0333	
244837003	19-JAN-2010 20:46:16	30.19	H2SO4/KM2	2	9	1	0.03312	
244837004	19-JAN-2010 20:46:16	30.02	H2SO4/KM2	2	9	1	0.03331	
244837005	19-JAN-2010 20:46:16	30.08	H2SO4/KM2	2	9	1	0.03324	
244837006	19-JAN-2010 20:46:16	30.02	H2SO4/KM2	2	9	1	0.03331	
244847004	19-JAN-2010 20:46:16	30.02	H2SO4/KM2	2	9	1	0.03331	
244852001	19-JAN-2010 20:46:16	30.09	H2SO4/KM2	2	9	1	0.03323	
244852002	19-JAN-2010 20:46:16	30.09	H2SO4/KM2	2	9	1	0.03323	
244881001	19-JAN-2010 20:46:16	30.03	H2SO4/KM2	2	9	1	0.0333	
1202019500 MS (244881001)	19-JAN-2010 20:46:16	30.12	H2SO4/KM2	2	9	1	0.0332	
1202019501 MSD (244881001)	19-JAN-2010 20:46:16	30.13	H2SO4/KM2	2	9	1	0.03319	
244881002	19-JAN-2010 20:46:16	30.02	H2SO4/KM2	2	9	1	0.03331	
244881003	19-JAN-2010 20:46:16	30.03	H2SO4/KM2	2	9	1	0.0333	
244881004	19-JAN-2010 20:46:16	30.08	H2SO4/KM2	2	9	1	0.03324	
Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:		
LCS	1202019499	PCB Laboratory Control	WE100105-07	1	mL	Clean up Date: 01/19/10		
MS	1202019500	PCB Laboratory Control	WE100105-07	1	mL	Clean up Initials: AJS		
MSD	1202019501	PCB Laboratory Control	WE100105-07	1	mL	Verified By: AV		
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	UE091229-15	1	mL	Final Solvent: Hexane		
REGNT	All	1:1 sulfuric acid	11332644	5	mL	Clean Up SOP: GL-OA-E-037		
REGNT	All	Hexane	1256896-B2	150	mL			
REGNT	All	Acetone	1256900	150	mL			
REGNT	All	5% Potassium Permanganate	B1202457-F	5	mL			
SOURC	All	SODIUM SULFATE	1256907	30	g			

# **Metals Analysis**

# Case Narrative

**Metals Fractional Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1264**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244880001	RE12-10-8098
1202017559	Method Blank (MB) ICP
1202017560	Laboratory Control Sample (LCS)
1202017563	244922001(RE15-10-7229L) Serial Dilution (SD)
1202017561	244922001(RE15-10-7229D) Sample Duplicate (DUP)
1202017562	244922001(RE15-10-7229S) Matrix Spike (MS)
1202017705	Method Blank (MB) ICP-MS
1202026084	Method Blank (MB) ICP-MS
1202017706	Laboratory Control Sample (LCS)
1202026085	Laboratory Control Sample (LCS)
1202017709	244925001(WST52-10-11327L) Serial Dilution (SD)
1202026088	244925001(WST52-10-11327L) Serial Dilution (SD)
1202017707	244925001(WST52-10-11327D) Sample Duplicate (DUP)
1202026086	244925001(WST52-10-11327D) Sample Duplicate (DUP)
1202017708	244925001(WST52-10-11327S) Matrix Spike (MS)
1202026087	244925001(WST52-10-11327S) Matrix Spike (MS)
1202019182	Method Blank (MB) CVAA
1202019183	Laboratory Control Sample (LCS)
1202019186	244922001(RE15-10-7229L) Serial Dilution (SD)
1202019184	244922001(RE15-10-7229D) Sample Duplicate (DUP)
1202019185	244922001(RE15-10-7229S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

#### **Method/Analysis Information**

**Analytical Batch:** 942466, 942514, 945922 and 943087  
**Prep Batch :** 942449, 942490, 945920 and 943086  
**Standard Operating Procedures:** GL-MA-E-013 REV# 20, GL-MA-E-006 REV# 9, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23  
**Analytical Method:** SW846 3005/6010B, SW846 3005/6020 and SW846 7470A  
**Prep Method :** SW846 3005A and SW846 7470A Prep

#### **Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

#### **System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.



The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

#### **CRDL Requirements**

All CRDL standard(s) met the referenced advisory control limits with the exception of mercury and potassium, which recovered outside of the advisory limits of 70-130%.

#### **ICSA/ICSAB Statement**

All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

#### **Continuing Calibration Blank (CCB) Requirements**

All continuing calibration blanks (CCB) bracketing this batch met the acceptance criteria.

#### **Continuing Calibration Verification (CCV) Requirements**

All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The MBs analyzed with this SDG met the acceptance criteria.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 244922001 and 244925001.

#### **Matrix Spike (MS) Recovery Statement**

The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. All applicable elements met the acceptance criteria.

#### **Duplicate Relative Percent Difference (RPD) Statement**

The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is 5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements.

**Serial Dilution % Difference Statement**

The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations 25x the IDL/MDL for CVAA, 50X the IDL/MDL for ICP and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the established criteria of less than 10% difference (%D) with the exception of manganese, as indicated by the "E" qualifier.

**Technical Information****Holding Time Specifications**

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

**Sample Dilutions**

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

**Preparation Information**

The samples in this SDG were prepared exactly according to the cited SOP.

**Miscellaneous Information****Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Data Exception (DER) Documentation**

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

**Additional Comments**

Additional comments were not required for this SDG.

**Certification Statement**

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

**Review Validation:**

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

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

Reviewer: Kristen Fauson Date: 2/5/10

# **Sample Data Summary**

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244880001

BASIS: As Received

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8098

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/28/10 08:26	100127-5	945922
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/25/10 11:48	100125-4	942514
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	01/26/10 17:24	012610-1	942466
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/26/10 17:24	012610-1	942466
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/26/10 17:24	012610-1	942466
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	01/20/10 10:31	012010W1-6	943087
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-09-7	Potassium	100	ug/L	J	50	150	150	1	P	HSC	01/26/10 17:24	012610-1	942466
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-23-5	Sodium	300	ug/L	U	100	300	300	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/24/10 17:24	100124-3	942514
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	SKJ	01/25/10 12:24	100125-2	942514
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/26/10 17:24	012610-1	942466
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/26/10 17:24	012610-1	942466

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942466	942449	SW846 3005A	50	mL	50	mL	01/19/10	FGA
942514	942490	SW846 3005A	50	mL	50	mL	01/19/10	FGA
943087	943086	SW846 7470A Prep	20	mL	20	mL	01/19/10	TXB3
945922	945920	SW846 3005A	25	mL	25	mL	01/27/10	AXG2

# **Quality Control Summary**

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICV01										
	Mercury	4.98	ug/L	5	ug/L	99.7	90.0 – 110.0	AV	20-JAN-10 09:53	012010W1-6
	Cadmium	50.8	ug/L	50	ug/L	101.6	90.0 – 110.0	MS	24-JAN-10 15:03	100124-3
	Lead	53.6	ug/L	50	ug/L	107.1	90.0 – 110.0	MS	24-JAN-10 15:03	100124-3
	Manganese	52.9	ug/L	50	ug/L	105.7	90.0 – 110.0	MS	24-JAN-10 15:03	100124-3
	Thallium	53.7	ug/L	50	ug/L	107.3	90.0 – 110.0	MS	24-JAN-10 15:03	100124-3
	Uranium	52.7	ug/L	50	ug/L	105.3	90.0 – 110.0	MS	25-JAN-10 10:54	100125-2
	Beryllium	49.9	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	25-JAN-10 11:20	100125-4
	Aluminum	4910	ug/L	5000	ug/L	98.1	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Arsenic	462	ug/L	500	ug/L	92.4	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Barium	495	ug/L	500	ug/L	99	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Calcium	4940	ug/L	5000	ug/L	98.9	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Chromium	475	ug/L	500	ug/L	95	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Cobalt	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Copper	495	ug/L	500	ug/L	98.9	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Iron	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Magnesium	5360	ug/L	5000	ug/L	107.1	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Nickel	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Potassium	2430	ug/L	2500	ug/L	97.2	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Selenium	2480	ug/L	2500	ug/L	99.3	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Silver	255	ug/L	250	ug/L	101.8	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Sodium	2360	ug/L	2500	ug/L	94.6	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Vanadium	500	ug/L	500	ug/L	100	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Zinc	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	26-JAN-10 09:38	012610-1
	Antimony	50.9	ug/L	50	ug/L	101.9	90.0 – 110.0	MS	28-JAN-10 07:32	100127-5
CCV01										
	Mercury	4.91	ug/L	5	ug/L	98.2	80.0 – 120.0	AV	20-JAN-10 09:59	012010W1-6
	Cadmium	49.6	ug/L	50	ug/L	99.2	90.0 – 110.0	MS	24-JAN-10 15:33	100124-3
	Lead	52.9	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	24-JAN-10 15:33	100124-3
	Manganese	52.5	ug/L	50	ug/L	105.1	90.0 – 110.0	MS	24-JAN-10 15:33	100124-3
	Thallium	53.3	ug/L	50	ug/L	106.7	90.0 – 110.0	MS	24-JAN-10 15:33	100124-3

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Uranium	50.9	ug/L	50	ug/L	101.7	90.0 - 110.0	MS	25-JAN-10 11:05	100125-2
	Beryllium	49.2	ug/L	50	ug/L	98.3	90.0 - 110.0	MS	25-JAN-10 11:28	100125-4
	Aluminum	4880	ug/L	5000	ug/L	97.6	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Arsenic	497	ug/L	500	ug/L	99.4	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Barium	485	ug/L	500	ug/L	97	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Calcium	5030	ug/L	5000	ug/L	100.6	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Chromium	485	ug/L	500	ug/L	97	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Cobalt	495	ug/L	500	ug/L	99	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Copper	477	ug/L	500	ug/L	95.3	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Iron	5140	ug/L	5000	ug/L	102.9	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Magnesium	5240	ug/L	5000	ug/L	104.9	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Nickel	487	ug/L	500	ug/L	97.4	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Potassium	5020	ug/L	5000	ug/L	100.5	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Selenium	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Silver	485	ug/L	500	ug/L	96.9	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Sodium	9840	ug/L	10000	ug/L	98.4	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Vanadium	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Zinc	480	ug/L	500	ug/L	96	90.0 - 110.0	P	26-JAN-10 10:38	012610-1
	Antimony	51.6	ug/L	50	ug/L	103.2	90.0 - 110.0	MS	28-JAN-10 07:44	100127-5
CCV02										
	Mercury	4.83	ug/L	5	ug/L	96.6	80.0 - 120.0	AV	20-JAN-10 10:23	012010W1-6
	Cadmium	49.9	ug/L	50	ug/L	99.8	90.0 - 110.0	MS	24-JAN-10 15:51	100124-3
	Lead	53.3	ug/L	50	ug/L	106.5	90.0 - 110.0	MS	24-JAN-10 15:51	100124-3
	Manganese	53.2	ug/L	50	ug/L	106.4	90.0 - 110.0	MS	24-JAN-10 15:51	100124-3
	Thallium	53.9	ug/L	50	ug/L	107.8	90.0 - 110.0	MS	24-JAN-10 15:51	100124-3
	Uranium	49.8	ug/L	50	ug/L	99.6	90.0 - 110.0	MS	25-JAN-10 11:25	100125-2
	Beryllium	47.2	ug/L	50	ug/L	94.3	90.0 - 110.0	MS	25-JAN-10 11:41	100125-4
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Arsenic	485	ug/L	500	ug/L	97.1	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Barium	476	ug/L	500	ug/L	95.3	90.0 - 110.0	P	26-JAN-10 11:00	012610-1



**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Calcium	5010	ug/L	5000	ug/L	100.1	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Chromium	478	ug/L	500	ug/L	95.6	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Cobalt	487	ug/L	500	ug/L	97.5	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Copper	468	ug/L	500	ug/L	93.7	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Iron	5200	ug/L	5000	ug/L	103.9	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Magnesium	5220	ug/L	5000	ug/L	104.5	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Nickel	479	ug/L	500	ug/L	95.8	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Potassium	5020	ug/L	5000	ug/L	100.5	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Selenium	494	ug/L	500	ug/L	98.9	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Silver	478	ug/L	500	ug/L	95.6	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Sodium	10000	ug/L	10000	ug/L	100	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Vanadium	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Zinc	473	ug/L	500	ug/L	94.5	90.0 - 110.0	P	26-JAN-10 11:00	012610-1
	Antimony	49.4	ug/L	50	ug/L	98.7	90.0 - 110.0	MS	28-JAN-10 08:07	100127-5
CCV03										
	Mercury	4.79	ug/L	5	ug/L	95.7	80.0 - 120.0	AV	20-JAN-10 10:47	012010W1-6
	Cadmium	50	ug/L	50	ug/L	100	90.0 - 110.0	MS	24-JAN-10 16:47	100124-3
	Lead	52.9	ug/L	50	ug/L	105.9	90.0 - 110.0	MS	24-JAN-10 16:47	100124-3
	Manganese	52.9	ug/L	50	ug/L	105.9	90.0 - 110.0	MS	24-JAN-10 16:47	100124-3
	Thallium	54	ug/L	50	ug/L	108	90.0 - 110.0	MS	24-JAN-10 16:47	100124-3
	Uranium	49.4	ug/L	50	ug/L	98.8	90.0 - 110.0	MS	25-JAN-10 11:40	100125-2
	Beryllium	45.3	ug/L	50	ug/L	90.6	90.0 - 110.0	MS	25-JAN-10 11:58	100125-4
	Aluminum	4930	ug/L	5000	ug/L	98.6	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Arsenic	496	ug/L	500	ug/L	99.3	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Barium	491	ug/L	500	ug/L	98.3	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Calcium	5050	ug/L	5000	ug/L	101	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Chromium	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Cobalt	502	ug/L	500	ug/L	100.4	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Copper	484	ug/L	500	ug/L	96.8	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Iron	5290	ug/L	5000	ug/L	105.8	90.0 - 110.0	P	26-JAN-10 12:13	012610-1

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Magnesium	5330	ug/L	5000	ug/L	106.5	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Nickel	495	ug/L	500	ug/L	99	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Potassium	5050	ug/L	5000	ug/L	101	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Selenium	509	ug/L	500	ug/L	101.7	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Silver	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Sodium	10300	ug/L	10000	ug/L	102.6	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Zinc	487	ug/L	500	ug/L	97.5	90.0 - 110.0	P	26-JAN-10 12:13	012610-1
	Antimony	50.4	ug/L	50	ug/L	100.8	90.0 - 110.0	MS	28-JAN-10 08:21	100127-5
CCV04										
	Mercury	4.9	ug/L	5	ug/L	98.1	80.0 - 120.0	AV	20-JAN-10 11:11	012010W1-6
	Cadmium	49.8	ug/L	50	ug/L	99.7	90.0 - 110.0	MS	24-JAN-10 17:42	100124-3
	Lead	53	ug/L	50	ug/L	105.9	90.0 - 110.0	MS	24-JAN-10 17:42	100124-3
	Manganese	52.8	ug/L	50	ug/L	105.7	90.0 - 110.0	MS	24-JAN-10 17:42	100124-3
	Thallium	53.5	ug/L	50	ug/L	107	90.0 - 110.0	MS	24-JAN-10 17:42	100124-3
	Beryllium	47.1	ug/L	50	ug/L	94.1	90.0 - 110.0	MS	25-JAN-10 12:07	100125-4
	Uranium	48.3	ug/L	50	ug/L	96.7	90.0 - 110.0	MS	25-JAN-10 12:13	100125-2
	Aluminum	4920	ug/L	5000	ug/L	98.3	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Arsenic	486	ug/L	500	ug/L	97.3	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Barium	489	ug/L	500	ug/L	97.9	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Calcium	5010	ug/L	5000	ug/L	100.2	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Chromium	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Cobalt	501	ug/L	500	ug/L	100.1	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Copper	484	ug/L	500	ug/L	96.7	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Iron	5220	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Magnesium	5310	ug/L	5000	ug/L	106.2	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Nickel	491	ug/L	500	ug/L	98.1	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Potassium	5030	ug/L	5000	ug/L	100.6	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Selenium	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Silver	492	ug/L	500	ug/L	98.3	90.0 - 110.0	P	26-JAN-10 13:02	012610-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Sodium	10100	ug/L	10000	ug/L	101.3	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Vanadium	493	ug/L	500	ug/L	98.5	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Zinc	485	ug/L	500	ug/L	96.9	90.0 - 110.0	P	26-JAN-10 13:02	012610-1
	Antimony	48.2	ug/L	50	ug/L	96.4	90.0 - 110.0	MS	28-JAN-10 08:43	100127-5
CCV05										
	Cadmium	49.7	ug/L	50	ug/L	99.4	90.0 - 110.0	MS	24-JAN-10 18:32	100124-3
	Lead	52.8	ug/L	50	ug/L	105.5	90.0 - 110.0	MS	24-JAN-10 18:32	100124-3
	Manganese	53.6	ug/L	50	ug/L	107.2	90.0 - 110.0	MS	24-JAN-10 18:32	100124-3
	Thallium	53	ug/L	50	ug/L	106.1	90.0 - 110.0	MS	24-JAN-10 18:32	100124-3
	Beryllium	51.9	ug/L	50	ug/L	103.8	90.0 - 110.0	MS	25-JAN-10 12:17	100125-4
	Uranium	48.5	ug/L	50	ug/L	97	90.0 - 110.0	MS	25-JAN-10 12:37	100125-2
	Aluminum	4930	ug/L	5000	ug/L	98.7	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Arsenic	489	ug/L	500	ug/L	97.9	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Barium	487	ug/L	500	ug/L	97.5	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Calcium	5070	ug/L	5000	ug/L	101.4	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Chromium	488	ug/L	500	ug/L	97.5	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Cobalt	500	ug/L	500	ug/L	100	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Copper	482	ug/L	500	ug/L	96.4	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Iron	5370	ug/L	5000	ug/L	107.4	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Magnesium	5380	ug/L	5000	ug/L	107.5	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Nickel	490	ug/L	500	ug/L	98	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Potassium	5050	ug/L	5000	ug/L	101	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Selenium	507	ug/L	500	ug/L	101.5	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Silver	490	ug/L	500	ug/L	98	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Sodium	10800	ug/L	10000	ug/L	107.9	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Vanadium	492	ug/L	500	ug/L	98.4	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Zinc	484	ug/L	500	ug/L	96.8	90.0 - 110.0	P	26-JAN-10 13:39	012610-1
	Antimony	49.4	ug/L	50	ug/L	98.9	90.0 - 110.0	MS	28-JAN-10 09:04	100127-5
CCV06										
	Cadmium	49.7	ug/L	50	ug/L	99.5	90.0 - 110.0	MS	24-JAN-10 19:09	100124-3

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Lead	53.7	ug/L	50	ug/L	107.5	90.0 - 110.0	MS	24-JAN-10 19:09	100124-3
	Manganese	52.2	ug/L	50	ug/L	104.4	90.0 - 110.0	MS	24-JAN-10 19:09	100124-3
	Thallium	54.3	ug/L	50	ug/L	108.5	90.0 - 110.0	MS	24-JAN-10 19:09	100124-3
	Uranium	48.4	ug/L	50	ug/L	96.9	90.0 - 110.0	MS	25-JAN-10 12:59	100125-2
	Aluminum	4830	ug/L	5000	ug/L	96.6	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Arsenic	474	ug/L	500	ug/L	94.8	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Barium	476	ug/L	500	ug/L	95.2	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Calcium	4950	ug/L	5000	ug/L	99	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Chromium	476	ug/L	500	ug/L	95.3	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Cobalt	487	ug/L	500	ug/L	97.4	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Copper	470	ug/L	500	ug/L	94	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Iron	5120	ug/L	5000	ug/L	102.5	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Nickel	478	ug/L	500	ug/L	95.6	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Potassium	4950	ug/L	5000	ug/L	98.9	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Selenium	485	ug/L	500	ug/L	97	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Silver	479	ug/L	500	ug/L	95.8	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Sodium	9870	ug/L	10000	ug/L	98.7	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Vanadium	481	ug/L	500	ug/L	96.1	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
	Zinc	471	ug/L	500	ug/L	94.1	90.0 - 110.0	P	26-JAN-10 14:50	012610-1
CCV07	Aluminum	4780	ug/L	5000	ug/L	95.6	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Arsenic	476	ug/L	500	ug/L	95.2	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Barium	475	ug/L	500	ug/L	94.9	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Calcium	4900	ug/L	5000	ug/L	98	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Chromium	475	ug/L	500	ug/L	94.9	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Copper	467	ug/L	500	ug/L	93.4	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Iron	5110	ug/L	5000	ug/L	102.2	90.0 - 110.0	P	26-JAN-10 15:38	012610-1
	Magnesium	5160	ug/L	5000	ug/L	103.1	90.0 - 110.0	P	26-JAN-10 15:38	012610-1

SW846

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Nickel	477	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
	Potassium	4900	ug/L	5000	ug/L	98	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
	Selenium	489	ug/L	500	ug/L	97.9	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
	Silver	478	ug/L	500	ug/L	95.5	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
	Sodium	9980	ug/L	10000	ug/L	99.8	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
	Vanadium	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
	Zinc	469	ug/L	500	ug/L	93.8	90.0 – 110.0	P	26-JAN-10 15:38	012610-1
CCV08	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Arsenic	485	ug/L	500	ug/L	97	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Barium	481	ug/L	500	ug/L	96.1	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Calcium	4970	ug/L	5000	ug/L	99.4	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Chromium	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Cobalt	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Copper	476	ug/L	500	ug/L	95.3	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Iron	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Magnesium	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Nickel	482	ug/L	500	ug/L	96.5	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Potassium	4960	ug/L	5000	ug/L	99.1	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Selenium	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Silver	484	ug/L	500	ug/L	96.9	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Sodium	9720	ug/L	10000	ug/L	97.2	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Vanadium	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
	Zinc	475	ug/L	500	ug/L	95.1	90.0 – 110.0	P	26-JAN-10 16:55	012610-1
CCV09	Aluminum	4830	ug/L	5000	ug/L	96.5	90.0 – 110.0	P	26-JAN-10 18:12	012610-1
	Arsenic	486	ug/L	500	ug/L	97.1	90.0 – 110.0	P	26-JAN-10 18:12	012610-1
	Barium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26-JAN-10 18:12	012610-1
	Calcium	4970	ug/L	5000	ug/L	99.4	90.0 – 110.0	P	26-JAN-10 18:12	012610-1
	Chromium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	26-JAN-10 18:12	012610-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cobalt	495	ug/L	500	ug/L	99	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Copper	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Iron	5220	ug/L	5000	ug/L	104.4	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Magnesium	5220	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Nickel	487	ug/L	500	ug/L	97.5	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Potassium	4910	ug/L	5000	ug/L	98.2	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Selenium	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Silver	486	ug/L	500	ug/L	97.3	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Sodium	10200	ug/L	10000	ug/L	101.8	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Vanadium	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
	Zinc	479	ug/L	500	ug/L	95.8	90.0 - 110.0	P	26-JAN-10 18:12	012610-1
CCV10	Aluminum	4780	ug/L	5000	ug/L	95.6	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Arsenic	490	ug/L	500	ug/L	98	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Barium	491	ug/L	500	ug/L	98.2	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Calcium	4900	ug/L	5000	ug/L	97.9	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Chromium	492	ug/L	500	ug/L	98.4	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Cobalt	501	ug/L	500	ug/L	100.2	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Copper	486	ug/L	500	ug/L	97.3	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Iron	5040	ug/L	5000	ug/L	100.7	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Magnesium	5100	ug/L	5000	ug/L	102	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Nickel	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Potassium	4820	ug/L	5000	ug/L	96.5	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Selenium	495	ug/L	500	ug/L	99	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Silver	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Sodium	9290	ug/L	10000	ug/L	92.9	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Vanadium	496	ug/L	500	ug/L	99.3	90.0 - 110.0	P	26-JAN-10 19:22	012610-1
	Zinc	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	26-JAN-10 19:22	012610-1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Mercury	.261	ug/L	.2	ug/L	130.6	70.0 – 130.0	AV	20-JAN-10 09:57	012010W1-6
	Cadmium	1.09	ug/L	1	ug/L	109.1	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Lead	2.42	ug/L	2	ug/L	120.9	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Manganese	6	ug/L	5	ug/L	120	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Thallium	1.24	ug/L	1	ug/L	124.3	70.0 – 130.0	MS	24-JAN-10 15:15	100124-3
	Uranium	.228	ug/L	.2	ug/L	114	70.0 – 130.0	MS	25-JAN-10 10:59	100125-2
	Beryllium	.568	ug/L	.5	ug/L	113.6	70.0 – 130.0	MS	25-JAN-10 11:23	100125-4
	Antimony	2.84	ug/L	3	ug/L	94.8	70.0 – 130.0	MS	28-JAN-10 07:37	100127-5
PQL01										
	Aluminum	202	ug/L	200	ug/L	101.1	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Potassium	99.4	ug/L	150	ug/L	66.3	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Nickel	5.64	ug/L	5	ug/L	112.7	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Magnesium	382	ug/L	300	ug/L	127.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Iron	104	ug/L	100	ug/L	103.8	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Silver	5.01	ug/L	5	ug/L	100.2	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Calcium	205	ug/L	200	ug/L	102.4	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Zinc	9.48	ug/L	10	ug/L	94.8	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Vanadium	5.51	ug/L	5	ug/L	110.1	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Copper	9.35	ug/L	10	ug/L	93.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Cobalt	5.2	ug/L	5	ug/L	103.9	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Chromium	5.04	ug/L	5	ug/L	100.7	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Barium	5.18	ug/L	5	ug/L	103.6	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Arsenic	26.8	ug/L	30	ug/L	89.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Sodium	233	ug/L	300	ug/L	77.8	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
	Selenium	31	ug/L	30	ug/L	103.5	70.0 – 130.0	P	26-JAN-10 09:53	012610-1
PQL02										
	Cobalt	5.09	ug/L	5	ug/L	101.8	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Copper	9.78	ug/L	10	ug/L	97.8	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Vanadium	5.28	ug/L	5	ug/L	105.7	70.0 – 130.0	P	26-JAN-10 12:20	012610-1
	Aluminum	199	ug/L	200	ug/L	99.4	70.0 – 130.0	P	26-JAN-10 12:20	012610-1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source:

ICP CRDL Standard Source

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Magnesium	321	ug/L	300	ug/L	107.2	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Potassium	125	ug/L	150	ug/L	83.6	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Sodium	254	ug/L	300	ug/L	84.6	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Chromium	5.14	ug/L	5	ug/L	102.8	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Barium	5.23	ug/L	5	ug/L	104.5	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Arsenic	29.2	ug/L	30	ug/L	97.2	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Silver	5.42	ug/L	5	ug/L	108.3	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Nickel	5.88	ug/L	5	ug/L	117.6	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Iron	114	ug/L	100	ug/L	114.3	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Zinc	9.95	ug/L	10	ug/L	99.5	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Calcium	203	ug/L	200	ug/L	101.3	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
	Selenium	27.9	ug/L	30	ug/L	92.9	70.0 - 130.0	P	26-JAN-10 12:20	012610-1
PQL03										
	Aluminum	213	ug/L	200	ug/L	106.4	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Silver	5.13	ug/L	5	ug/L	102.7	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Vanadium	5.44	ug/L	5	ug/L	108.9	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Copper	8.8	ug/L	10	ug/L	88	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Cobalt	5.02	ug/L	5	ug/L	100.4	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Chromium	4.88	ug/L	5	ug/L	97.5	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Barium	4.91	ug/L	5	ug/L	98.1	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Arsenic	27.3	ug/L	30	ug/L	91	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Sodium	258	ug/L	300	ug/L	86.1	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Potassium	109	ug/L	150	ug/L	72.9	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Iron	116	ug/L	100	ug/L	115.8	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Magnesium	359	ug/L	300	ug/L	119.7	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Nickel	5.42	ug/L	5	ug/L	108.4	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Zinc	9.4	ug/L	10	ug/L	94	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Calcium	200	ug/L	200	ug/L	99.9	70.0 - 130.0	P	26-JAN-10 14:57	012610-1
	Selenium	30.1	ug/L	30	ug/L	100.4	70.0 - 130.0	P	26-JAN-10 14:57	012610-1



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
ICB01	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 09:55	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 15:09	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 10:56	100125-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 11:21	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 09:45	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 09:45	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 09:45	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 09:45	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 09:45	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 09:45	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 09:45	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 09:45	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 09:45	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 09:45	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 09:45	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 07:35	100127-5
CCB01	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 10:01	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 15:39	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 11:07	100125-2

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 11:30	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 10:46	012610-1
	Arsenic	5.93	+/-30	J	5.0	30.0	LIQ	P	26-JAN-10 10:46	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 10:46	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 10:46	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 10:46	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 10:46	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 10:46	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 10:46	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 10:46	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 10:46	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 10:46	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 07:46	100127-5
<b>CCB02</b>										
	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 10:25	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 15:58	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 11:27	100125-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 11:43	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 11:07	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 11:07	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 11:07	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ng/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 11:07	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 11:07	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 11:07	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 11:07	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 11:07	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 11:07	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 11:07	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 11:07	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 08:10	100127-5
<b>CCB03</b>	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 10:49	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 16:53	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 11:43	100125-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 12:00	100125-4
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 12:27	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 12:27	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 12:27	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 12:27	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 12:27	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 12:27	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 12:27	012610-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ng/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 12:27	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 12:27	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 12:27	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 12:27	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 08:24	100127-5
<b>CCB04</b>	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	20-JAN-10 11:13	012010W1-6
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 17:48	100124-3
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 12:08	100125-4
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 12:15	100125-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 13:09	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:09	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 13:09	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 13:09	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 13:09	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 13:09	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 13:09	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:09	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 13:09	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:09	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 13:09	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 08:45	100127-5

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB05	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 18:38	100124-3
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	25-JAN-10 12:19	100125-4
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 12:39	100125-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 13:46	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:46	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 13:46	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 13:46	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 13:46	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 13:46	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 13:46	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 13:46	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 13:46	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 13:46	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 13:46	012610-1
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	28-JAN-10 09:06	100127-5
CCB06	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	24-JAN-10 19:15	100124-3
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	25-JAN-10 13:02	100125-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 15:04	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:04	012610-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ng/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 15:04	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 15:04	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 15:04	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 15:04	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 15:04	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:04	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 15:04	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:04	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 15:04	012610-1
<b>CCB07</b>	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 15:45	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:45	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 15:45	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 15:45	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 15:45	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 15:45	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 15:45	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 15:45	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 15:45	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 15:45	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 15:45	012610-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ng/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
<b>CCB08</b>										
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 17:02	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 17:02	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 17:02	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 17:02	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 17:02	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 17:02	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 17:02	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 17:02	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 17:02	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 17:02	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 17:02	012610-1
<b>CCB09</b>										
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 18:19	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 18:19	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 18:19	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 18:19	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 18:19	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 18:19	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 18:19	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 18:19	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 18:19	012610-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ug/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
CCB10	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 18:19	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 18:19	012610-1
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	26-JAN-10 19:29	012610-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 19:29	012610-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	26-JAN-10 19:29	012610-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	26-JAN-10 19:29	012610-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	26-JAN-10 19:29	012610-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	26-JAN-10 19:29	012610-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	26-JAN-10 19:29	012610-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	26-JAN-10 19:29	012610-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Sodium	100	+/-300	U	100	300	LIQ	P	26-JAN-10 19:29	012610-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	26-JAN-10 19:29	012610-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	26-JAN-10 19:29	012610-1



**METALS**  
**-3b-**  
**PREPARATION BLANK SUMMARY**

**SDG NO.** 10-1264  
**Contract:** LANL01004  
**Matrix:** WATER

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Acceptance Window</u>	<u>Conc Qual</u>	<u>M</u>	<u>MDL</u>	<u>RDL</u>
1202017559	Arsenic	5	ug/L	+/-30	U	P	5	30
	Barium	1	ug/L	+/-5	U	P	1	5
	Calcium	50	ug/L	+/-200	U	P	50	200
	Chromium	1	ug/L	+/-5	U	P	1	5
	Aluminum	68	ug/L	+/-200	U	P	68	200
	Cobalt	1	ug/L	+/-5	U	P	1	5
	Copper	3	ug/L	+/-10	U	P	3	10
	Iron	30	ug/L	+/-100	U	P	30	100
	Magnesium	85	ug/L	+/-300	U	P	85	300
	Nickel	1.5	ug/L	+/-5	U	P	1.5	5
	Potassium	-63.4	ug/L	+/-150	J	P	50	150
	Selenium	5	ug/L	+/-30	U	P	5	30
	Silver	1	ug/L	+/-5	U	P	1	5
	Sodium	100	ug/L	+/-300	U	P	100	300
	Vanadium	1	ug/L	+/-5	U	P	1	5
	Zinc	3.3	ug/L	+/-10	U	P	3.3	10
1202017705	Beryllium	0.1	ug/L	+/-0.5	U	MS	0.1	0.5
	Cadmium	0.11	ug/L	+/-1	U	MS	0.11	1
	Lead	0.5	ug/L	+/-2	U	MS	0.5	2
	Manganese	1	ug/L	+/-5	U	MS	1	5
	Thallium	0.3	ug/L	+/-1	U	MS	0.3	1
	Uranium	0.05	ug/L	+/-0.2	U	MS	0.05	0.2
1202019182	Mercury	0.066	ug/L	+/-0.2	U	AV	0.066	0.2
1202026084	Antimony	0.5	ug/L	+/-3	U	MS	0.5	3

## METALS

-4-

## Interference Check Sample

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Aluminum	523000	ug/L	500000	ug/L	105	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Arsenic	15.3	ug/L					26-JAN-10 09:59	012610-1
	Barium	1.3	ug/L					26-JAN-10 09:59	012610-1
	Calcium	483000	ug/L	500000	ug/L	96.6	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Chromium	1.81	ug/L					26-JAN-10 09:59	012610-1
	Cobalt	-1.55	ug/L					26-JAN-10 09:59	012610-1
	Copper	3.75	ug/L					26-JAN-10 09:59	012610-1
	Iron	189000	ug/L	200000	ug/L	94.7	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Magnesium	499000	ug/L	500000	ug/L	99.9	80.0 – 120.0	26-JAN-10 09:59	012610-1
	Nickel	3.09	ug/L					26-JAN-10 09:59	012610-1
	Potassium	-162.0	ug/L					26-JAN-10 09:59	012610-1
	Selenium	32.6	ug/L					26-JAN-10 09:59	012610-1
	Silver	4.99	ug/L					26-JAN-10 09:59	012610-1
	Sodium	-12.2	ug/L					26-JAN-10 09:59	012610-1
	Vanadium	-1.22	ug/L					26-JAN-10 09:59	012610-1
	Zinc	8.12	ug/L					26-JAN-10 09:59	012610-1
<b>ICSAB01</b>									
	Aluminum	534000	ug/L	500000	ug/L	107	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Arsenic	504	ug/L	500	ug/L	101	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Barium	481	ug/L	500	ug/L	96.2	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Calcium	488000	ug/L	500000	ug/L	97.7	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Chromium	464	ug/L	500	ug/L	92.7	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Cobalt	440	ug/L	500	ug/L	88	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Copper	550	ug/L	500	ug/L	110	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Iron	189000	ug/L	200000	ug/L	94.8	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Magnesium	503000	ug/L	500000	ug/L	101	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Nickel	426	ug/L	500	ug/L	85.3	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Potassium	5420	ug/L	5000	ug/L	108	80.0 – 120.0	26-JAN-10 10:05	012610-1
	Selenium	2520	ug/L	2500	ug/L	101	80.0 – 120.0	26-JAN-10 10:05	012610-1

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

ICS:

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Silver	267	ug/L	250	ug/L	107	80.0 - 120.0	26-JAN-10 10:05	012610-1
	Sodium	5560	ug/L	5000	ug/L	111	80.0 - 120.0	26-JAN-10 10:05	012610-1
	Vanadium	483	ug/L	500	ug/L	96.6	80.0 - 120.0	26-JAN-10 10:05	012610-1
	Zinc	485	ug/L	500	ug/L	97	80.0 - 120.0	26-JAN-10 10:05	012610-1

## METALS

-4-

## Interference Check Sample

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS4

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Uranium	0.003	ug/L					25-JAN-10 11:01	100125-2
ICSAB01	Uranium	20.5	ug/L	20	ug/L	103	80.0 - 120.0	25-JAN-10 11:03	100125-2

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Cadmium	0.453	ug/L					24-JAN-10 15:21	100124-3
	Lead	0.202	ug/L					24-JAN-10 15:21	100124-3
	Manganese	6.05	ug/L					24-JAN-10 15:21	100124-3
	Thallium	0.009	ug/L					24-JAN-10 15:21	100124-3
<b>ICSAB01</b>									
	Cadmium	20.2	ug/L	20.4	ug/L	99.2	80.0 - 120.0	24-JAN-10 15:27	100124-3
	Lead	21.8	ug/L	20.5	ug/L	106	80.0 - 120.0	24-JAN-10 15:27	100124-3
	Manganese	27.1	ug/L	25.8	ug/L	105	80.0 - 120.0	24-JAN-10 15:27	100124-3
	Thallium	22.6	ug/L	20	ug/L	113	80.0 - 120.0	24-JAN-10 15:27	100124-3

## METALS

-4-

## Interference Check Sample

SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Beryllium	0.054	ug/L					25-JAN-10 11:25	100125-4
ICSAB01	Beryllium	17.4	ug/L	20	ug/L	87.1	80.0 - 120.0	25-JAN-10 11:26	100125-4

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**METALS**  
**-4-**  
**Interference Check Sample**

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SDG No: 10-1264

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Antimony	0.227	ug/L					28-JAN-10 07:39	100127-5
ICSAB01	Antimony	24.0	ug/L	20	ug/L	120	80.0 - 120.0	28-JAN-10 07:42	100127-5

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264

Client ID RE15-10-7229S

Contract: LANL01004

Level: Low

Matrix: WATER

% Solids:

Sample ID: 244922001

Spike ID: 1202017562

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75-125	4880		405		5000	89.5		P
Arsenic	ug/L	75-125	422		5	U	500	84.5		P
Barium	ug/L	75-125	445		4.81	J	500	88		P
Calcium	ug/L	75-125	4600		113	J	5000	89.7		P
Chromium	ug/L	75-125	392		1	U	500	78.3		P
Cobalt	ug/L	75-125	433		1	U	500	86.5		P
Copper	ug/L	75-125	403		3	U	500	80.2		P
Iron	ug/L	75-125	4920		234		5000	93.8		P
Magnesium	ug/L	75-125	4820		128	J	5000	93.9		P
Nickel	ug/L	75-125	394		1.5	U	500	78.5		P
Potassium	ug/L	75-125	4840		291		5000	91		P
Selenium	ug/L	75-125	387		5	U	500	77.4		P
Silver	ug/L	75-125	436		1	U	500	87.2		P
Sodium	ug/L	75-125	5000		323		5000	93.6		P
Vanadium	ug/L	75-125	401		1	U	500	79.9		P
Zinc	ug/L	75-125	388		3.3	U	500	77		P



## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264

Client ID: WST52-10-11327S

Contract: LANL01006

Level: Low

Matrix: WATER

% Solids:

Sample ID: 244925001

Spike ID: 1202017708

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Beryllium	ug/L	75-125	44.7		0.92		50	87.5		MS
Cadmium	ug/L	75-125	9.69		0.214	J	10	94.8		MS
Lead	ug/L	75-125	38.4		8.18		40	75.5		MS
Manganese	ug/L		260		225		50	70.3	N/A	MS
Thallium	ug/L	75-125	91.9		0.3	U	100	91.8		MS
Uranium	ug/L	75-125	49.3		3.03		50	92.5		MS

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264

Client ID RE15-10-7229S

Contract: LANL01004

Level: Low

Matrix: WATER

% Solids:

Sample ID: 244922001

Spike ID: 1202019185

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/L	75-125	1.96		0.066	U	2	97.8		AV

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264

Client ID WST52-10-11327S

Contract: LANL01006

Level: Low

Matrix: WATER

% Solids:

Sample ID: 244925001

Spike ID: 1202026087

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Antimony	ug/L	75-125	158		0.833	J	200	78.6		MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE15-10-7229D

Sample ID: 244922001

Duplicate ID: 1202017561

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	+/-200	405		313		25.6		P
Arsenic	ug/L		5 U		5 U				P
Barium	ug/L	+/-5	4.81 J		4.24 J		12.7		P
Calcium	ug/L	+/-200	113 J		101 J		11.5		P
Chromium	ug/L		1 U		1 U				P
Cobalt	ug/L		1 U		1 U				P
Copper	ug/L		3 U		3 U				P
Iron	ug/L	+/-100	234		191		20.1		P
Magnesium	ug/L		128 J		85 U		200		P
Nickel	ug/L		1.5 U		1.5 U				P
Potassium	ug/L	+/-150	291		260		11.3		P
Selenium	ug/L		5 U		5 U				P
Silver	ug/L		1 U		1 U				P
Sodium	ug/L	+/-300	323		310		3.89		P
Vanadium	ug/L		1 U		1.01 J		200		P
Zinc	ug/L		3.3 U		3.3 U				P

Metals  
-6-  
Duplicate Sample Summary

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: WST52-10-11327D

Sample ID: 244925001

Duplicate ID: 1202017707

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Beryllium	ug/L	+/-5	0.92		0.928		.866		MS
Cadmium	ug/L	+/-1	0.214 J		0.228 J		6.33		MS
Lead	ug/L	+/-2	8.18		7.68		6.41		MS
Manganese	ug/L	+/-20%	225		218		3.31		MS
Thallium	ug/L		0.3 U		0.3 U				MS
Uranium	ug/L	+/-20%	3.03		2.9		4.22		MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE15-10-7229D

Sample ID: 244922001

Duplicate ID: 1202019184

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L		0.066 U		0.066 U				AV

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: WST52-10-11327D

Sample ID: 244925001

Duplicate ID: 1202026086

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Antimony	ug/L	+/-3	0.833 J		0.804 J		3.54		MS

**METALS**  
**-7-**  
**Laboratory Control Sample Summary**

SDG NO. 10-1264

Contract: LANL01004

Aqueous LCS Source:OS2I

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202017560								
	Aluminum	ug/L	5000	4880		97.7	80-120	P
	Arsenic	ug/L	500	478		95.6	80-120	P
	Barium	ug/L	500	484		96.8	80-120	P
	Calcium	ug/L	5000	4960		99.2	80-120	P
	Chromium	ug/L	500	473		94.6	80-120	P
	Cobalt	ug/L	500	477		95.3	80-120	P
	Copper	ug/L	500	477		95.5	80-120	P
	Iron	ug/L	5000	5130		103	80-120	P
	Magnesium	ug/L	5000	5200		104	80-120	P
	Nickel	ug/L	500	475		95	80-120	P
	Potassium	ug/L	5000	4970		99.4	80-120	P
	Selenium	ug/L	500	475		95.1	80-120	P
	Silver	ug/L	500	475		95	80-120	P
	Sodium	ug/L	5000	4860		97.1	80-120	P
	Vanadium	ug/L	500	482		96.3	80-120	P
	Zinc	ug/L	500	465		93	80-120	P



## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1264

Contract: LANL01004

Aqueous LCS Source: O2si

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202017706								
	Beryllium	ug/L	50	51.4		103	80-120	MS
	Cadmium	ug/L	50	50		100	80-120	MS
	Lead	ug/L	50	53.4		107	80-120	MS
	Manganese	ug/L	50	52.2		104	80-120	MS
	Thallium	ug/L	50	51.7		103	80-120	MS
	Uranium	ug/L	50	48		95.9	80-120	MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1264

Contract: LANL01004

Aqueous LCS Source: GEL

Solid LCS Source:

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<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202019183	Mercury	ug/L	2	2.02		101	80-120	AV

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METALS  
-7-  
Laboratory Control Sample Summary

SDG NO. 10-1264

Contract: LANL01004

Aqueous LCS Source: O2si

Solid LCS Source:

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202026085	Antimony	ug/L	50	55.1		110	80-120	MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264

Client ID: RE15-10-7229L

Contract: LANL01004

Matrix: LIQUID

Level: Low

Sample ID: 244922001

Serial Dilution ID: 1202017563

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	405		464	J	14.4			P
Arsenic	5	U	25	U				P
Barium	4.81	J	5.25	J	9.15			P
Calcium	113	J	250	U	100			P
Chromium	1	U	5	U				P
Cobalt	1	U	5	U				P
Copper	3	U	15	U				P
Iron	234		275	J	17.5			P
Magnesium	128	J	425	U	100			P
Nickel	1.5	U	7.5	U				P
Potassium	291		250	U	100			P
Selenium	5	U	25	U				P
Silver	1	U	5	U				P
Sodium	323		500	U	100			P
Vanadium	1	U	5	U				P
Zinc	3.3	U	16.5	U				P

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264 Client ID WST52-10-11327L

Contract: LANL01004

Matrix: LIQUID Level: Low

Sample ID: 244925001 Serial Dilution ID: 1202017709

Analyte	Initial Value ng/L	C	Serial Value ng/L	C	% Difference	Qual	Acceptance Limit	M
Beryllium	.92		1.01	J	9.24			MS
Cadmium	.214	J	.55	U	100			MS
Lead	8.18		8.55	J	4.52			MS
Manganese	225		269		19.6	E	10	MS
Thallium	.3	U	1.5	U				MS
Uranium	3.03		3.1		2.15			MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264

Client ID: RE15-10-7229L

Contract: LANL01004

Matrix: LIQUID

Level: Low

Sample ID: 244922001

Serial Dilution ID: 1202019186

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Mercury	.066	U	.33	U				AV

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264 Client ID WST52-10-11327L

Contract: LANL01004

Matrix: LIQUID Level: Low

Sample ID: 244925001 Serial Dilution ID: 1202026088

Analyte	Initial Value ng/L	C	Serial Value ng/L	C	% Difference	Qual	Acceptance Limit	M
Antimony	.833	J	2.5	U	100			MS

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METALS  
-13-  
SAMPLE PREPARATION SUMMARY

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SDG No: 10-1264

Method Type: P

Contract: LANL01004

Lab Code: GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number 942449							
1202017559	MB for batch 942449	MB	W	19-JAN-10	50mL	50mL	
1202017560	LCS for batch 942449	LCS	W	19-JAN-10	50mL	50mL	
1202017562	RE15-10-7229S	MS	W	19-JAN-10	50mL	50mL	
1202017561	RE15-10-7229D	DUP	W	19-JAN-10	50mL	50mL	
244880001	RE12-10-8098	SAMPLE	W	19-JAN-10	50mL	50mL	

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SW846



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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-1264

Method Type: MS

Contract: LANL01004

Lab Code: GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number 942490</b>							
1202017705	MB for batch 942490	MB	W	19-JAN-10	50mL	50mL	
1202017706	LCS for batch 942490	LCS	W	19-JAN-10	50mL	50mL	
1202017708	WST52-10-11327S	MS	W	19-JAN-10	50mL	50mL	
1202017707	WST52-10-11327D	DUP	W	19-JAN-10	50mL	50mL	
244880001	RE12-10-8098	SAMPLE	W	19-JAN-10	50mL	50mL	
<b>Batch Number 945920</b>							
1202026084	MB for batch 945920	MB	W	27-JAN-10	25mL	25mL	
1202026085	LCS for batch 945920	LCS	W	27-JAN-10	25mL	25mL	
1202026087	WST52-10-11327S	MS	W	27-JAN-10	25mL	25mL	
1202026086	WST52-10-11327D	DUP	W	27-JAN-10	25mL	25mL	
244880001	RE12-10-8098	SAMPLE	W	27-JAN-10	25mL	25mL	

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SW846

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-1264

Method Type: AV

Contract: LANL01004

Lab Code: GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number	943086						
1202019182	MB for batch 943086	MB	W	19-JAN-10	20mL	20mL	
1202019183	LCS for batch 943086	LCS	W	19-JAN-10	20mL	20mL	
1202019185	RE15-10-7229S	MS	W	19-JAN-10	20mL	20mL	
1202019184	RE15-10-7229D	DUP	W	19-JAN-10	20mL	20mL	
244880001	RE12-10-8098	SAMPLE	W	19-JAN-10	20mL	20mL	

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SW846

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 24-JAN-10

End Date: 24-JAN-10

Client Sdg: 10-1264

Method MS

Data File: 100124-3

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Ti	U	V	Zn
S0.0	1	14:44						X						X	X								X			
S10	1	14:50						X						X	X								X			
S100	1	14:57						X						X	X								X			
ICV01	1	15:03						X						X	X								X			
ICB01	1	15:09						X						X	X								X			
CRDL01	1	15:15						X						X	X								X			
ICSA01	1	15:21						X						X	X								X			
ICSAB01	1	15:27						X						X	X								X			
CCV01	1	15:33						X						X	X								X			
CCB01	1	15:39						X						X	X								X			
LR01	1	15:45						X						X	X								X			
CCV02	1	15:51						X						X	X								X			
CCB02	1	15:58						X						X	X								X			
1202017705	1	16:04						X						X	X								X			
1202017706	1	16:10						X						X	X								X			
ZZZZZZ	1	16:16																								
ZZZZZZ	1	16:22																								
ZZZZZZ	1	16:28																								
ZZZZZZ	1	16:35																								
ZZZZZZ	1	16:41																								
CCV03	1	16:47						X						X	X								X			
CCB03	1	16:53						X						X	X								X			
ZZZZZZ	1	16:59																								
ZZZZZZ	1	17:05																								
ZZZZZZ	1	17:11																								
ZZZZZZ	1	17:18																								
244880001	1	17:24						X						X	X								X			
ZZZZZZ	1	17:30																								
ZZZZZZ	1	17:36																								
CCV04	1	17:42						X						X	X								X			
CCB04	1	17:48						X						X	X								X			
ZZZZZZ	1	17:55																								
ZZZZZZ	1	18:01																								
ZZZZZZ	1	18:07																								
ZZZZZZ	1	18:13																								
ZZZZZZ	1	18:19																								
ZZZZZZ	1	18:26																								
CCV05	1	18:32						X						X	X								X			
CCB05	1	18:38						X						X	X								X			
ZZZZZZ	1	18:44																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time																		
1202017707	1	18:50						X					X	X					X	
1202017708	1	18:56						X					X	X					X	
1202017709	5	19:03						X					X	X					X	
CCV06	1	19:09						X					X	X					X	
CCB06	1	19:15						X					X	X					X	

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 25-JAN-10

End Date: 25-JAN-10

Client Sdg: 10-1264

Method MS

Data File: 100125-4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	11:15					X																			
S10	1	11:16					X																			
S100	1	11:18					X																			
ICV01	1	11:20					X																			
ICB01	1	11:21					X																			
CRDL01	1	11:23					X																			
ICSA01	1	11:25					X																			
ICSAB01	1	11:26					X																			
CCV01	1	11:28					X																			
CCB01	1	11:30					X																			
1202017705	1	11:31					X																			
1202017706	1	11:33					X																			
ZZZZZZ	1	11:35																								
ZZZZZZ	1	11:36																								
ZZZZZZ	1	11:38																								
ZZZZZZ	1	11:40																								
CCV02	1	11:41					X																			
CCB02	1	11:43					X																			
ZZZZZZ	1	11:46																								
244880001	1	11:48					X																			
ZZZZZZ	1	11:50																								
ZZZZZZ	1	11:51																								
ZZZZZZ	1	11:53																								
ZZZZZZ	1	11:55																								
ZZZZZZ	1	11:56																								
CCV03	1	11:58					X																			
CCB03	1	12:00					X																			
ZZZZZZ	1	12:02																								
ZZZZZZ	1	12:03																								
ZZZZZZ	1	12:05																								
CCV04	1	12:07					X																			
CCB04	1	12:08					X																			
ZZZZZZ	1	12:10																								
1202017707	1	12:12					X																			
1202017708	1	12:14					X																			
1202017709	5	12:15					X																			
CCV05	1	12:17					X																			
CCB05	1	12:19					X																			

Metals  
-14-  
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 28-JAN-10

Client Sdg: 10-1264

Method MS

Data File: 100127-5

End Date: 28-JAN-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	07:25		X																						
S10	1	07:28		X																						
S100	1	07:30		X																						
ICV01	1	07:32		X																						
ICB01	1	07:35		X																						
CRDL01	1	07:37		X																						
ICSA01	1	07:39		X																						
ICSAB01	1	07:42		X																						
CCV01	1	07:44		X																						
CCB01	1	07:46		X																						
1202026084	1	07:49		X																						
1202026085	1	07:51		X																						
ZZZZZZ	1	07:53																								
ZZZZZZ	1	07:56																								
ZZZZZZ	1	07:58																								
ZZZZZZ	1	08:00																								
ZZZZZZ	1	08:03																								
ZZZZZZ	1	08:05																								
CCV02	1	08:07		X																						
CCB02	1	08:10		X																						
ZZZZZZ	1	08:14																								
ZZZZZZ	1	08:17																								
ZZZZZZ	1	08:19																								
CCV03	1	08:21		X																						
CCB03	1	08:24		X																						
244880001	1	08:26		X																						
ZZZZZZ	1	08:28																								
ZZZZZZ	5	08:31																								
ZZZZZZ	1	08:33																								
ZZZZZZ	1	08:36																								
ZZZZZZ	1	08:38																								
ZZZZZZ	1	08:40																								
CCV04	1	08:43		X																						
CCB04	1	08:45		X																						
ZZZZZZ	1	08:47																								
ZZZZZZ	1	08:50																								
ZZZZZZ	1	08:52																								
ZZZZZZ	1	08:54																								
1202026086	1	08:57		X																						
1202026087	1	08:59		X																						

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Ruu Time
1202026088	5	09:02
CCV05	1	09:04
CCB05	1	09:06

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA3

Start Date: 26-JAN-10

End Date: 26-JAN-10

Client Sdg: 10-1264

Method P

Data File: 012610-1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Ti	U	V	Zn
S0.0	1	09:04	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S0.1	1	09:12			X	X				X	X	X						X	X	X	X				X	X
S0.5	1	09:18	X		X	X			X	X	X	X			X			X	X	X	X				X	X
SCAL	1	09:25	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S10	1	09:32	X						X				X		X							X				
ICV01	1	09:38	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICB01	1	09:45	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL01	1	09:53	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSA01	1	09:59	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSA01	1	10:05	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR01	1	10:12	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR02	1	10:18	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZ	1	10:24																								
ZZZZZ	1	10:32																								
CCV01	1	10:38	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB01	1	10:46	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR03	1	10:53	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV02	1	11:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB02	1	11:07	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZ	1	11:18																								
ZZZZZ	1	11:25																								
ZZZZZ	1	11:32																								
ZZZZZ	1	11:39																								
ZZZZZ	1	11:46																								
ZZZZZ	1	11:53																								
ZZZZZ	1	11:59																								
ZZZZZ	5	12:06																								
CCV03	1	12:13	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL02	1	12:20	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB03	1	12:27	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZ	1	12:35																								
ZZZZZ	1	12:42																								
ZZZZZ	1	12:48																								
ZZZZZ	1	12:55																								
CCV04	1	13:02	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB04	1	13:09	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZ	1	13:24																								
ZZZZZ	1	13:32																								
CCV05	1	13:39	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB05	1	13:46	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X



**Metals**  
**-14-**  
**Analysis Run Log**

[illegible]

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
1202017562	1	19:02	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202017563	5	19:08	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	19:15																								
CCV10	1	19:22	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB10	1	19:29	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: MER536

Start Date: 20-JAN-10

Client Sdg: 10-1264

Method: AV

Data File: 012010W1-6

End Date: 20-JAN-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:41															X									
S0.2	1	09:43															X									
S0.5	1	09:45															X									
S2.0	1	09:47															X									
S5.0	1	09:49															X									
S10	1	09:51															X									
ICV01	1	09:53															X									
ICB01	1	09:55															X									
CRDL01	1	09:57															X									
CCV01	1	09:59															X									
CCB01	1	10:01															X									
ZZZZZZ	1	10:03																								
ZZZZZZ	1	10:05																								
ZZZZZZ	1	10:07																								
ZZZZZZ	1	10:09																								
ZZZZZZ	1	10:11																								
ZZZZZZ	5	10:13																								
ZZZZZZ	1	10:15																								
ZZZZZZ	1	10:17																								
ZZZZZZ	1	10:19																								
1202019182	1	10:21															X									
CCV02	1	10:23															X									
CCB02	1	10:25															X									
1202019183	1	10:27															X									
ZZZZZZ	1	10:29																								
244880001	1	10:31															X									
ZZZZZZ	1	10:33																								
ZZZZZZ	1	10:35																								
ZZZZZZ	1	10:37																								
ZZZZZZ	1	10:39																								
ZZZZZZ	1	10:41																								
1202019184	1	10:43															X									
1202019185	1	10:45															X									
CCV03	1	10:47															X									
CCB03	1	10:49															X									
1202019186	5	10:51															X									
ZZZZZZ	1	10:53																								
ZZZZZZ	1	10:55																								
ZZZZZZ	1	10:57																								
ZZZZZZ	1	10:59																								

[illegible]

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS4

Start Date: 25-JAN-10

End Date: 25-JAN-10

Client Sdg: 10-1264

Method MS

Data File: 100125-2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	10:48																						X		
S10	1	10:50																						X		
S100	1	10:52																						X		
ICV01	1	10:54																						X		
ICB01	1	10:56																						X		
CRDL01	1	10:59																						X		
ICSA01	1	11:01																						X		
ICSAB01	1	11:03																						X		
CCV01	1	11:05																						X		
CCB01	1	11:07																						X		
ZZZZZZ	2	11:10																								
ZZZZZZ	40	11:12																								
ZZZZZZ	2	11:14																								
ZZZZZZ	2	11:16																								
ZZZZZZ	2	11:18																								
ZZZZZZ	2	11:21																								
ZZZZZZ	2	11:23																								
CCV02	1	11:25																						X		
CCB02	1	11:27																						X		
ZZZZZZ	2	11:29																								
ZZZZZZ	2	11:32																								
ZZZZZZ	2	11:34																								
ZZZZZZ	2	11:36																								
ZZZZZZ	10	11:38																								
CCV03	1	11:40																						X		
CCB03	1	11:43																						X		
1202017705	1	11:55																						X		
1202017706	1	11:57																						X		
ZZZZZZ	1	11:59																								
ZZZZZZ	1	12:02																								
ZZZZZZ	1	12:04																								
ZZZZZZ	1	12:06																								
ZZZZZZ	1	12:08																								
ZZZZZZ	1	12:11																								
CCV04	1	12:13																						X		
CCB04	1	12:15																						X		
ZZZZZZ	1	12:17																								
ZZZZZZ	1	12:19																								
ZZZZZZ	1	12:22																								
244880001	1	12:24																						X		

[illegible]

# Standards

**METALS**  
**-10-**  
**Instrument Detection Limits**

SDG NO. 10-1264

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP/MS	Analyte	<u>Wavelength</u>	<u>MDL</u>	<u>RDL</u>
		<u>(nm)</u>	<u>ug/L</u>	<u>ug/L</u>
LIQUID	Aluminum		15.0	30
	Antimony		1.0	3
	Arsenic		1.6	5
	Barium		0.6	2
	Beryllium		0.1	.5
	Cadmium		0.11	1
	Calcium		65.0	200
	Chromium		2.0	10
	Cobalt		0.1	1
	Copper		0.33	1
	Iron		33.0	100
	Lead		0.5	2
	Magnesium		5.2	15
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		1.0	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.05	.2
	Vanadium		3.0	10
	Zinc		3.0	10



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**METALS**  
**-10-**  
**Instrument Detection Limits**

**SDG NO.** 10-1264

**Contract:** LANL01004

**Lab Code:** GEL

**MDL Effective Date:** 01-JUL-09

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		<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u> <u>ug/L</u>	<u>RDL</u> <u>ug/L</u>
MERCURY	<u>Analyte</u>			
LIQUID	Mercury		0.066	.2

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**METALS**  
**-10-**  
**Instrument Detection Limits**

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SDG NO. 10-1264

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

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ICP	Analyte	<u>Wavelength</u>	<u>MDL</u>	<u>RDL</u>
		(nm)	ug/L	ug/L
LIQUID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.0	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	50.0	200
	Chromium	267.716	1.0	5
	Cobalt	228.616	1.0	5
	Copper	324.752	3.0	10
	Iron	238.204	30.0	100
	Lead	220.353	3.3	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	50.0	150
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	100	300
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.02697	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	-0.48147	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.21356	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05571	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.18741	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.02739	0.00000	0.00000	0.00000	0.00000
Tin	189.927	-0.00058	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.85580	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.44491	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-29.9151	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.57616
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.60374	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	198.62
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	5.22870	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.35099	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	1.93161	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.39273	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.19810

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1264**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	48.4946
Antimony	206.836	-0.02515	0.00000	0.00000	0.00000	-20.5057
Arsenic	188.979	-0.23424	0.00000	0.00000	0.00000	2.41902
Barium	233.527	-0.03042	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.16240	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.10329	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01944	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01444	0.00000	0.00000	0.00000	-2.33100
Copper	324.752	-0.05293	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09554	0.00000	0.00000	0.00000	-2.48774
Magnesium	279.077	1.04597	0.00000	0.00000	0.00000	-10.4683
Manganese	257.61	-0.09877	0.00000	0.04089	0.00000	0.00000
Molybdenum	202.031	-0.07763	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80543	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.39429	1.18725
Selenium	196.026	-3.00009	0.00000	0.00000	0.00000	-3.17982
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	17.4444
Silver	328.068	-0.32385	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-5.85948	0.00000
Tin	189.927	-0.01337	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.12581	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.15211	0.00000	-0.02256	0.00000	-14.2921
Zinc	213.857	0.09548	0.00000	0.03423	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Nickel	Phosphorous	Potassium	Selenium	Silicon
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-0.84443	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.63547	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.33191	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.38465	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1264**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Silver	Strontium	Sulfur	Thallium	Tin
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-15.4932
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	-9.37529
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	3.10491
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Titanium	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	3.30431	0.00000	-2.81282	0.00000
Arsenic	188.979	-8.66313	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	-2.20293	0.00000
Beryllium	313.107	-2.27027	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	-0.19473	0.00000	0.00000
Chromium	267.716	0.00000	0.39645	-1.41250	0.00000
Cobalt	228.616	2.09497	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.55360	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.81635	-4.04400	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-7.67419	0.00000	2.18873	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.44145	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	1.10141	-1.94183	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000



**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1264

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS5

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09

METALS  
-12-  
Linear Ranges

SDG NO. 10-1264

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA3

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09
Zinc	20	15000	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1264

Contract: LANL01004

Lab Code: GEL

Instrument IDICPMS4

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09

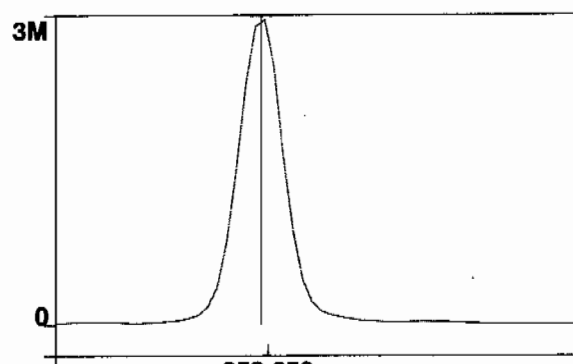
# Raw Data

Method: Hg\_ReAlign  
Result: 012910

Sample ID: Hg\_ReAlign

Hg 253.652

Rep: 1



Intensity: 3285474.2 cps

Conc:

1

=====  
Analysis Begun

Start Time: 1/26/2010 09:04:50

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012610.sif

Batch ID:

Results Data Set: 012610

Results Library: C:\pe\Optima3\Results\Results.mdb  
=====

## Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/25/2010 09:50:48

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 1/26/2010 09:04:59

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:  
=====

## Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5270.9	5270.9	98.7 %	09:06:51
1	Y RADIAL	5705.9	5705.9	99.11 %	09:06:51
1	Al 396.153Radial†	10.0	10.2	[0.00] ug/L	09:07:11

1	Ca 317.933Radial†	17.0	17.2	[0.00]	ug/L	09:07:11
1	Fe 238.204 Radial†	6.7	6.8	[0.00]	ug/L	09:07:11
1	K 766.490 Radial†	2388.4	2419.8	[0.00]	ug/L	09:06:51
1	Mg 279.077 IEC†	2.8	2.8	[0.00]	ug/L	09:07:11
1	Na 589.592 Radial†	-551.5	-558.7	[0.00]	ug/L	09:06:51
1	Sr 421.552†	1.2	1.3	[0.00]	ug/L	09:06:51
1	Sc 361.383	897998.2	897998.2	100.01	%	09:08:08
1	Y 371.029	821867.5	821867.5	99.848	%	09:08:08
1	Ag 328.068†	250.1	250.0	[0.00]	ug/L	09:08:08
1	As 188.979†	-30.3	-30.3	[0.00]	ug/L	09:08:28
1	B 249.677†	-230.6	-230.6	[0.00]	ug/L	09:08:28
1	Ba 233.527†	0.5	0.5	[0.00]	ug/L	09:08:28
1	Be 313.107†	-5154.8	-5154.0	[0.00]	ug/L	09:08:08
1	Cd 226.502†	-211.8	-211.8	[0.00]	ug/L	09:08:28
1	Co 228.616†	-60.5	-60.5	[0.00]	ug/L	09:08:28
1	Cr 267.716†	96.1	96.1	[0.00]	ug/L	09:08:28
1	Cu 324.752†	9140.4	9139.1	[0.00]	ug/L	09:08:08
1	Mn 257.610†	497.9	497.9	[0.00]	ug/L	09:08:28
1	Mo 202.031†	24.4	24.4	[0.00]	ug/L	09:08:28
1	Ni 231.604†	100.2	100.2	[0.00]	ug/L	09:08:28
1	P 214.914†	249.5	249.5	[0.00]	ug/L	09:08:28
1	Pb 220.353†	-59.3	-59.3	[0.00]	ug/L	09:08:28
1	S 181.975 Axial†	79.8	79.8	[0.00]	ug/L	09:08:28
1	Sb 206.836†	33.5	33.5	[0.00]	ug/L	09:08:28
1	Se 196.026†	-21.1	-21.1	[0.00]	ug/L	09:08:28
1	Si 251.611†	505.0	504.9	[0.00]	ug/L	09:08:28
1	Sn 189.927†	-0.8	-0.8	[0.00]	ug/L	09:08:28
1	Ti 334.940†	-870.8	-870.7	[0.00]	ug/L	09:08:08
1	Tl 190.801†	-42.5	-42.5	[0.00]	ug/L	09:08:28
1	U 409.014†	-1117.0	-1116.9	[0.00]	ug/L	09:08:08
1	V 292.402†	-1380.5	-1380.3	[0.00]	ug/L	09:08:08
1	Zn 213.857†	721.7	721.6	[0.00]	ug/L	09:08:28
1	SiO2†	507.3	507.2	[0.00]	ug/L	09:09:39
2	Sc Radial	5430.3	5430.3	102	%	09:07:17
2	Y RADIAL	5851.7	5851.7	101.6	%	09:07:17
2	Al 396.153Radial†	7.5	7.4	[0.00]	ug/L	09:07:37
2	Ca 317.933Radial†	21.2	20.8	[0.00]	ug/L	09:07:37
2	Fe 238.204 Radial†	7.9	7.8	[0.00]	ug/L	09:07:37
2	K 766.490 Radial†	2627.0	2583.3	[0.00]	ug/L	09:07:17
2	Mg 279.077 IEC†	-1.8	-1.7	[0.00]	ug/L	09:07:37
2	Na 589.592 Radial†	-568.8	-559.3	[0.00]	ug/L	09:07:17
2	Sr 421.552†	-1.4	-1.3	[0.00]	ug/L	09:07:17
2	Sc 361.383	895675.0	895675.0	99.755	%	09:08:34
2	Y 371.029	819609.1	819609.1	99.573	%	09:08:34
2	Ag 328.068†	327.6	328.4	[0.00]	ug/L	09:08:34
2	As 188.979†	-31.5	-31.6	[0.00]	ug/L	09:08:54
2	B 249.677†	-244.4	-245.0	[0.00]	ug/L	09:08:54
2	Ba 233.527†	-1.4	-1.4	[0.00]	ug/L	09:08:54
2	Be 313.107†	-5103.8	-5116.3	[0.00]	ug/L	09:08:34
2	Cd 226.502†	-193.7	-194.2	[0.00]	ug/L	09:08:54
2	Co 228.616†	-82.8	-83.0	[0.00]	ug/L	09:08:54
2	Cr 267.716†	84.9	85.1	[0.00]	ug/L	09:08:54
2	Cu 324.752†	9095.4	9117.7	[0.00]	ug/L	09:08:34
2	Mn 257.610†	494.4	495.6	[0.00]	ug/L	09:08:54
2	Mo 202.031†	24.8	24.8	[0.00]	ug/L	09:08:54
2	Ni 231.604†	86.1	86.3	[0.00]	ug/L	09:08:54
2	P 214.914†	231.3	231.9	[0.00]	ug/L	09:08:54
2	Pb 220.353†	-55.9	-56.1	[0.00]	ug/L	09:08:54
2	S 181.975 Axial†	73.8	74.0	[0.00]	ug/L	09:08:54
2	Sb 206.836†	25.7	25.7	[0.00]	ug/L	09:08:54
2	Se 196.026†	-15.9	-16.0	[0.00]	ug/L	09:08:54
2	Si 251.611†	498.6	499.8	[0.00]	ug/L	09:08:54
2	Sn 189.927†	-0.8	-0.8	[0.00]	ug/L	09:08:54
2	Ti 334.940†	-903.1	-905.3	[0.00]	ug/L	09:08:34
2	Tl 190.801†	-29.5	-29.6	[0.00]	ug/L	09:08:54
2	U 409.014†	-1068.1	-1070.7	[0.00]	ug/L	09:08:34
2	V 292.402†	-1404.0	-1407.5	[0.00]	ug/L	09:08:34
2	Zn 213.857†	724.5	726.2	[0.00]	ug/L	09:08:54
2	SiO2†	511.0	512.3	[0.00]	ug/L	09:09:59
3	Sc Radial	5319.1	5319.1	99.6	%	09:07:42
3	Y RADIAL	5714.0	5714.0	99.25	%	09:07:42

3	Al 396.153Radial†	9.9	9.9	[0.00]	ug/L	09:08:02
3	Ca 317.933Radial†	22.6	22.7	[0.00]	ug/L	09:08:02
3	Fe 238.204 Radial†	6.9	6.9	[0.00]	ug/L	09:08:02
3	K 766.490 Radial†	2497.5	2507.4	[0.00]	ug/L	09:07:42
3	Mg 279.077 IEC†	1.8	1.8	[0.00]	ug/L	09:08:02
3	Na 589.592 Radial†	-522.8	-524.9	[0.00]	ug/L	09:07:42
3	Sr 421.552†	21.3	21.3	[0.00]	ug/L	09:07:42
3	Sc 361.383	899945.9	899945.9	100.23	%	09:08:59
3	Y 371.029	827890.4	827890.4	100.58	%	09:08:59
3	Ag 328.068†	310.3	309.6	[0.00]	ug/L	09:08:59
3	As 188.979†	-28.8	-28.7	[0.00]	ug/L	09:09:19
3	B 249.677†	-246.2	-245.6	[0.00]	ug/L	09:09:19
3	Ba 233.527†	-8.4	-8.4	[0.00]	ug/L	09:09:19
3	Be 313.107†	-5042.6	-5031.0	[0.00]	ug/L	09:08:59
3	Cd 226.502†	-213.0	-212.5	[0.00]	ug/L	09:09:19
3	Co 228.616†	-66.4	-66.3	[0.00]	ug/L	09:09:19
3	Cr 267.716†	100.8	100.5	[0.00]	ug/L	09:09:19
3	Cu 324.752†	9148.3	9127.2	[0.00]	ug/L	09:08:59
3	Mn 257.610†	477.2	476.1	[0.00]	ug/L	09:09:19
3	Mo 202.031†	21.6	21.6	[0.00]	ug/L	09:09:19
3	Ni 231.604†	94.8	94.5	[0.00]	ug/L	09:09:19
3	P 214.914†	235.4	234.9	[0.00]	ug/L	09:09:19
3	Pb 220.353†	-66.0	-65.8	[0.00]	ug/L	09:09:19
3	S 181.975 Axial†	77.3	77.2	[0.00]	ug/L	09:09:19
3	Sb 206.836†	31.6	31.5	[0.00]	ug/L	09:09:19
3	Se 196.026†	-16.8	-16.8	[0.00]	ug/L	09:09:19
3	Si 251.611†	484.3	483.1	[0.00]	ug/L	09:09:19
3	Sn 189.927†	0.5	0.5	[0.00]	ug/L	09:09:19
3	Ti 334.940†	-945.8	-943.6	[0.00]	ug/L	09:08:59
3	Tl 190.801†	-38.7	-38.6	[0.00]	ug/L	09:09:19
3	U 409.014†	-1003.2	-1000.9	[0.00]	ug/L	09:08:59
3	V 292.402†	-1396.2	-1393.0	[0.00]	ug/L	09:08:59
3	Zn 213.857†	754.1	752.4	[0.00]	ug/L	09:09:19
3	SiO2†	522.0	520.8	[0.00]	ug/L	09:10:19

## Mean Data: S0

Analyte	Mean Corrected	Std.Dev.	RSD	Conc.	Units
Sc 361.383	897873.0	2138.24	0.24%	100.00	%
Sc Radial	5340.1	81.74	1.53%	100	%
Y 371.029	823122.4	4280.88	0.52%	100.00	%
Y RADIAL	5757.2	81.93	1.42%	100.0	%
Ag 328.068†	296.0	40.93	13.83%	[0.00]	ug/L
Al 396.153Radial†	9.1	1.55	16.93%	[0.00]	ug/L
As 188.979†	-30.2	1.45	4.79%	[0.00]	ug/L
B 249.677†	-240.4	8.50	3.54%	[0.00]	ug/L
Ba 233.527†	-3.1	4.71	152.10%	[0.00]	ug/L
Be 313.107†	-5100.4	63.05	1.24%	[0.00]	ug/L
Ca 317.933Radial†	20.2	2.80	13.85%	[0.00]	ug/L
Cd 226.502†	-206.2	10.37	5.03%	[0.00]	ug/L
Co 228.616†	-69.9	11.70	16.72%	[0.00]	ug/L
Cr 267.716†	93.9	7.92	8.44%	[0.00]	ug/L
Cu 324.752†	9128.0	10.74	0.12%	[0.00]	ug/L
Fe 238.204 Radial†	7.2	0.54	7.51%	[0.00]	ug/L
K 766.490 Radial†	2503.5	81.85	3.27%	[0.00]	ug/L
Mg 279.077 IEC†	1.0	2.39	245.73%	[0.00]	ug/L
Mn 257.610†	489.9	11.99	2.45%	[0.00]	ug/L
Mo 202.031†	23.6	1.76	7.45%	[0.00]	ug/L
Na 589.592 Radial†	-547.6	19.71	3.60%	[0.00]	ug/L
Ni 231.604†	93.7	7.00	7.47%	[0.00]	ug/L
P 214.914†	238.7	9.42	3.95%	[0.00]	ug/L
Pb 220.353†	-60.4	4.98	8.24%	[0.00]	ug/L
S 181.975 Axial†	77.0	2.90	3.77%	[0.00]	ug/L
Sb 206.836†	30.3	4.04	13.36%	[0.00]	ug/L
Se 196.026†	-18.0	2.78	15.50%	[0.00]	ug/L
Si 251.611†	496.0	11.39	2.30%	[0.00]	ug/L
Sn 189.927†	-0.3	0.72	209.81%	[0.00]	ug/L
Sr 421.552†	7.1	12.41	175.14%	[0.00]	ug/L
Ti 334.940†	-906.5	36.45	4.02%	[0.00]	ug/L
Tl 190.801†	-36.9	6.60	17.88%	[0.00]	ug/L



U 409.014†	-1062.8	58.40	5.49%	[0.00] ug/L
V 292.402†	-1393.6	13.60	0.98%	[0.00] ug/L
Zn 213.857†	733.4	16.62	2.27%	[0.00] ug/L
SiO2†	513.4	6.86	1.34%	[0.00] ug/L

Sequence No.: 2

Sample ID: S0.1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 2

Date Collected: 1/26/2010 09:12:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5478.5	5478.5	103 %	09:14:28
1	Y RADIAL	5929.0	5929.0	103.0 %	09:14:28
1	K 766.490 Radial†	8180.8	5470.6	[1000] ug/L	09:14:22
1	Sr 421.552†	15624.1	15222.2	[100] ug/L	09:14:28
1	Sc 361.383	945841.4	945841.4	105.34 %	09:14:54
1	Y 371.029	834392.6	834392.6	101.37 %	09:14:54
1	Ag 328.068†	24461.7	22925.1	[100] ug/L	09:14:59
1	As 188.979†	218.1	237.2	[100] ug/L	09:15:19
1	B 249.677†	4102.6	4135.0	[100] ug/L	09:14:59
1	Ba 233.527†	12755.3	12111.5	[100] ug/L	09:14:59
1	Be 313.107†	276501.8	267579.4	[100] ug/L	09:14:54
1	Cd 226.502†	8905.8	8660.3	[100] ug/L	09:14:59
1	Co 228.616†	4544.0	4383.5	[100] ug/L	09:15:19
1	Cr 267.716†	9400.6	8829.9	[100] ug/L	09:14:59
1	Cu 324.752†	44282.4	32908.6	[100] ug/L	09:14:59
1	Mn 257.610†	89928.8	84878.2	[100] ug/L	09:14:59
1	Mo 202.031†	1497.9	1398.3	[100] ug/L	09:15:19
1	Ni 231.604†	4055.6	3756.2	[100] ug/L	09:15:19
1	P 214.914†	1122.9	827.2	[500] ug/L	09:15:19
1	Pb 220.353†	744.8	767.4	[100] ug/L	09:15:19
1	S 181.975 Axial†	208.9	121.3	[200] ug/L	09:15:19
1	Sb 206.836†	322.1	275.5	[100] ug/L	09:15:19
1	Se 196.026†	148.1	158.5	[100] ug/L	09:15:19
1	Si 251.611†	17157.6	15791.5	[500] ug/L	09:14:59
1	Sn 189.927†	532.4	505.8	[100] ug/L	09:15:19
1	Ti 334.940†	64818.1	62437.4	[100] ug/L	09:14:59
1	Tl 190.801†	277.3	300.1	[100] ug/L	09:15:19
1	U 409.014†	2516.8	3452.0	[100] ug/L	09:14:59
1	V 292.402†	14563.8	15218.7	[100] ug/L	09:14:59
1	Zn 213.857†	11534.9	10216.5	[100] ug/L	09:14:59
1	SiO2†	17321.5	15929.7	[1069.5] ug/L	09:16:25
2	Sc Radial	5485.7	5485.7	103 %	09:14:38
2	Y RADIAL	5888.9	5888.9	102.3 %	09:14:38
2	K 766.490 Radial†	8131.4	5412.0	[1000] ug/L	09:14:33
2	Sr 421.552†	15502.5	15083.8	[100] ug/L	09:14:38
2	Sc 361.383	933561.7	933561.7	103.97 %	09:15:25
2	Y 371.029	824195.9	824195.9	100.13 %	09:15:25
2	Ag 328.068†	24140.4	22921.5	[100] ug/L	09:15:30
2	As 188.979†	218.9	240.8	[100] ug/L	09:15:50
2	B 249.677†	4075.6	4160.2	[100] ug/L	09:15:30
2	Ba 233.527†	12627.0	12147.4	[100] ug/L	09:15:30
2	Be 313.107†	273568.0	268210.4	[100] ug/L	09:15:25
2	Cd 226.502†	8810.8	8680.1	[100] ug/L	09:15:30
2	Co 228.616†	4533.4	4430.1	[100] ug/L	09:15:50
2	Cr 267.716†	9333.6	8882.9	[100] ug/L	09:15:30
2	Cu 324.752†	43795.1	32992.8	[100] ug/L	09:15:30
2	Mn 257.610†	89016.7	85123.8	[100] ug/L	09:15:30
2	Mo 202.031†	1490.2	1409.6	[100] ug/L	09:15:50
2	Ni 231.604†	4047.7	3799.3	[100] ug/L	09:15:50
2	P 214.914†	1108.9	827.7	[500] ug/L	09:15:50
2	Pb 220.353†	737.7	769.9	[100] ug/L	09:15:50
2	S 181.975 Axial†	212.2	127.1	[200] ug/L	09:15:50
2	Sb 206.836†	318.9	276.5	[100] ug/L	09:15:50
2	Se 196.026†	149.5	161.8	[100] ug/L	09:15:50
2	Si 251.611†	16977.9	15832.9	[500] ug/L	09:15:30
2	Sn 189.927†	530.1	510.1	[100] ug/L	09:15:50
2	Ti 334.940†	64288.7	62737.6	[100] ug/L	09:15:30
2	Tl 190.801†	272.5	299.0	[100] ug/L	09:15:50
2	U 409.014†	2576.4	3540.8	[100] ug/L	09:15:30

2	V 292.402†	14557.2	15394.3	[100]	ug/L	09:15:30
2	Zn 213.857†	11410.7	10241.1	[100]	ug/L	09:15:30
2	SiO2†	17135.5	15967.1	[1069.5]	ug/L	09:16:31
3	Sc Radial	5500.8	5500.8	103	%	09:14:48
3	Y RADIAL	5878.0	5878.0	102.1	%	09:14:48
3	K 766.490 Radial†	8274.4	5529.2	[1000]	ug/L	09:14:43
3	Sr 421.552†	15524.9	15064.1	[100]	ug/L	09:14:48
3	Sc 361.383	940133.8	940133.8	104.71	%	09:15:55
3	Y 371.029	830474.4	830474.4	100.89	%	09:15:55
3	Ag 328.068†	24348.1	22957.6	[100]	ug/L	09:16:00
3	As 188.979†	213.4	234.0	[100]	ug/L	09:16:20
3	B 249.677†	4131.3	4186.0	[100]	ug/L	09:16:00
3	Ba 233.527†	12754.6	12184.3	[100]	ug/L	09:16:00
3	Be 313.107†	276165.1	268851.4	[100]	ug/L	09:15:55
3	Cd 226.502†	8836.7	8645.7	[100]	ug/L	09:16:00
3	Co 228.616†	4541.1	4406.9	[100]	ug/L	09:16:20
3	Cr 267.716†	9334.6	8821.1	[100]	ug/L	09:16:00
3	Cu 324.752†	44165.7	33052.4	[100]	ug/L	09:16:00
3	Mn 257.610†	89482.1	84969.9	[100]	ug/L	09:16:00
3	Mo 202.031†	1498.1	1407.2	[100]	ug/L	09:16:20
3	Ni 231.604†	4050.9	3775.1	[100]	ug/L	09:16:20
3	P 214.914†	1118.0	829.0	[500]	ug/L	09:16:20
3	Pb 220.353†	764.8	790.8	[100]	ug/L	09:16:20
3	S 181.975 Axial†	203.2	117.1	[200]	ug/L	09:16:20
3	Sb 206.836†	326.8	281.9	[100]	ug/L	09:16:20
3	Se 196.026†	149.1	160.3	[100]	ug/L	09:16:20
3	Si 251.611†	17113.9	15848.6	[500]	ug/L	09:16:00
3	Sn 189.927†	530.1	506.6	[100]	ug/L	09:16:20
3	Ti 334.940†	64692.0	62690.5	[100]	ug/L	09:16:00
3	Tl 190.801†	274.6	299.2	[100]	ug/L	09:16:20
3	U 409.014†	2598.0	3544.1	[100]	ug/L	09:16:00
3	V 292.402†	14424.7	15169.9	[100]	ug/L	09:16:00
3	Zn 213.857†	11446.7	10198.8	[100]	ug/L	09:16:00
3	SiO2†	17261.3	15971.9	[1069.5]	ug/L	09:16:36

## Mean Data: S0.1

Analyte	Mean Corrected	Std.Dev.	RSD	Conc.	Calib
Sc 361.383	939845.6	6144.95	0.65%	104.67	%
Sc Radial	5488.3	11.39	0.21%	103	%
Y 371.029	829687.6	5143.69	0.62%	100.80	%
Y RADIAL	5898.6	26.84	0.45%	102.5	%
Ag 328.068†	22934.7	19.84	0.09%	[100]	ug/L
As 188.979†	237.3	3.37	1.42%	[100]	ug/L
B 249.677†	4160.4	25.53	0.61%	[100]	ug/L
Ba 233.527†	12147.8	36.43	0.30%	[100]	ug/L
Be 313.107†	268213.8	636.02	0.24%	[100]	ug/L
Cd 226.502†	8662.0	17.28	0.20%	[100]	ug/L
Co 228.616†	4406.8	23.31	0.53%	[100]	ug/L
Cr 267.716†	8844.6	33.42	0.38%	[100]	ug/L
Cu 324.752†	32984.6	72.25	0.22%	[100]	ug/L
K 766.490 Radial†	5470.6	58.57	1.07%	[1000]	ug/L
Mn 257.610†	84990.6	124.11	0.15%	[100]	ug/L
Mo 202.031†	1405.0	5.95	0.42%	[100]	ug/L
Ni 231.604†	3776.9	21.60	0.57%	[100]	ug/L
P 214.914†	828.0	0.92	0.11%	[500]	ug/L
Pb 220.353†	776.0	12.84	1.66%	[100]	ug/L
S 181.975 Axial†	121.9	5.02	4.12%	[200]	ug/L
Sb 206.836†	278.0	3.43	1.23%	[100]	ug/L
Se 196.026†	160.2	1.62	1.01%	[100]	ug/L
Si 251.611†	15824.3	29.53	0.19%	[500]	ug/L
Sn 189.927†	507.5	2.31	0.46%	[100]	ug/L
Sr 421.552†	15123.4	86.16	0.57%	[100]	ug/L
Ti 334.940†	62621.8	161.47	0.26%	[100]	ug/L
Tl 190.801†	299.4	0.61	0.20%	[100]	ug/L
U 409.014†	3512.3	52.21	1.49%	[100]	ug/L
V 292.402†	15261.0	118.01	0.77%	[100]	ug/L
Zn 213.857†	10218.8	21.26	0.21%	[100]	ug/L
SiO2†	15956.2	23.14	0.15%	[1069.5]	ug/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 1/26/2010 09:18:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5276.5	5276.5	98.8 %	09:20:39
1	Y RADIAL	5642.9	5642.9	98.02 %	09:20:39
1	Al 396.153Radial†	6434.8	6503.2	[5000] ug/L	09:20:39
1	Ca 317.933Radial†	3188.7	3206.9	[5000] ug/L	09:20:59
1	K 766.490 Radial†	30120.9	27980.2	[5000] ug/L	09:20:39
1	Mg 279.077 IEC†	149.5	150.4	[5000] ug/L	09:20:59
1	Sr 421.552†	78289.2	79225.0	[500] ug/L	09:20:39
1	Sc 361.383	937398.2	937398.2	104.40 %	09:21:56
1	Y 371.029	818980.5	818980.5	99.497 %	09:21:56
1	Ag 328.068†	121403.4	115988.5	[500] ug/L	09:22:02
1	As 188.979†	1198.4	1178.0	[500] ug/L	09:22:22
1	B 249.677†	22582.0	21870.2	[500] ug/L	09:22:02
1	Ba 233.527†	64045.6	61348.3	[500] ug/L	09:22:02
1	Be 313.107†	1425315.9	1370318.3	[500] ug/L	09:21:56
1	Cd 226.502†	45085.4	43390.5	[500] ug/L	09:22:02
1	Co 228.616†	23485.7	22565.3	[500] ug/L	09:22:02
1	Cr 267.716†	46577.6	44519.7	[500] ug/L	09:22:02
1	Cu 324.752†	188814.8	171725.5	[500] ug/L	09:22:02
1	Mn 257.610†	452812.6	433230.0	[500] ug/L	09:21:56
1	Mo 202.031†	7371.0	7036.6	[500] ug/L	09:22:22
1	Ni 231.604†	20252.8	19305.2	[500] ug/L	09:22:02
1	P 214.914†	4680.6	4244.5	[2500] ug/L	09:22:22
1	Pb 220.353†	3954.5	3848.1	[500] ug/L	09:22:22
1	S 181.975 Axial†	803.3	692.5	[1000] ug/L	09:22:22
1	Sb 206.836†	1520.2	1425.8	[500] ug/L	09:22:22
1	Se 196.026†	852.0	834.0	[500] ug/L	09:22:22
1	Si 251.611†	85957.7	81837.3	[2500] ug/L	09:22:02
1	Sn 189.927†	2702.3	2588.7	[500] ug/L	09:22:22
1	Ti 334.940†	329288.5	316310.7	[500] ug/L	09:22:02
1	Tl 190.801†	1543.5	1515.3	[500] ug/L	09:22:22
1	U 409.014†	19191.0	19444.7	[500] ug/L	09:22:02
1	V 292.402†	79506.6	77547.8	[500] ug/L	09:22:02
1	Zn 213.857†	55045.2	51990.8	[500] ug/L	09:22:02
1	SiO2†	85563.9	81442.7	[5347.5] ug/L	09:23:29
2	Sc Radial	5492.4	5492.4	103 %	09:21:04
2	Y RADIAL	5888.7	5888.7	102.3 %	09:21:04
2	Al 396.153Radial†	6663.2	6469.2	[5000] ug/L	09:21:04
2	Ca 317.933Radial†	3207.1	3097.9	[5000] ug/L	09:21:24
2	K 766.490 Radial†	30912.1	27551.1	[5000] ug/L	09:21:04
2	Mg 279.077 IEC†	148.2	143.1	[5000] ug/L	09:21:24
2	Sr 421.552†	80704.1	78458.2	[500] ug/L	09:21:04
2	Sc 361.383	935356.6	935356.6	104.17 %	09:22:27
2	Y 371.029	818485.6	818485.6	99.437 %	09:22:27
2	Ag 328.068†	120356.2	115237.0	[500] ug/L	09:22:33
2	As 188.979†	1195.6	1177.9	[500] ug/L	09:22:53
2	B 249.677†	22466.2	21806.3	[500] ug/L	09:22:33
2	Ba 233.527†	63727.0	61176.3	[500] ug/L	09:22:33
2	Be 313.107†	1411823.8	1360346.6	[500] ug/L	09:22:27
2	Cd 226.502†	45018.1	43420.2	[500] ug/L	09:22:33
2	Co 228.616†	23420.5	22551.9	[500] ug/L	09:22:33
2	Cr 267.716†	46416.9	44462.9	[500] ug/L	09:22:33
2	Cu 324.752†	186490.7	169889.2	[500] ug/L	09:22:33
2	Mn 257.610†	446497.8	428115.0	[500] ug/L	09:22:27
2	Mo 202.031†	7366.4	7047.6	[500] ug/L	09:22:53
2	Ni 231.604†	20222.2	19318.1	[500] ug/L	09:22:33
2	P 214.914†	4688.8	4262.2	[2500] ug/L	09:22:53
2	Pb 220.353†	3937.2	3839.8	[500] ug/L	09:22:53
2	S 181.975 Axial†	797.2	688.3	[1000] ug/L	09:22:53
2	Sb 206.836†	1521.4	1430.2	[500] ug/L	09:22:53

2	Se 196.026†	850.8	834.6	[500]	ug/L	09:22:53
2	Si 251.611†	85449.0	81528.7	[2500]	ug/L	09:22:33
2	Sn 189.927†	2715.2	2606.8	[500]	ug/L	09:22:53
2	Ti 334.940†	326947.0	314751.5	[500]	ug/L	09:22:33
2	Tl 190.801†	1530.6	1506.1	[500]	ug/L	09:22:53
2	U 409.014†	18817.8	19126.5	[500]	ug/L	09:22:33
2	V 292.402†	79133.9	77356.3	[500]	ug/L	09:22:33
2	Zn 213.857†	54711.1	51785.1	[500]	ug/L	09:22:33
2	SiO2†	85555.8	81613.8	[5347.5]	ug/L	09:23:34
3	Sc Radial	5619.8	5619.8	105	%	09:21:29
3	Y RADIAL	6029.1	6029.1	104.7	%	09:21:29
3	Al 396.153Radial†	6714.0	6370.7	[5000]	ug/L	09:21:29
3	Ca 317.933Radial†	3206.4	3026.6	[5000]	ug/L	09:21:49
3	K 766.490 Radial†	31280.5	27220.0	[5000]	ug/L	09:21:29
3	Mg 279.077 IEC†	150.8	142.3	[5000]	ug/L	09:21:49
3	Sr 421.552†	81800.0	77721.3	[500]	ug/L	09:21:29
3	Sc 361.383	935046.1	935046.1	104.14	%	09:22:58
3	Y 371.029	818427.1	818427.1	99.430	%	09:22:58
3	Ag 328.068†	119722.0	114666.3	[500]	ug/L	09:23:04
3	As 188.979†	1189.4	1172.3	[500]	ug/L	09:23:24
3	B 249.677†	22298.7	21652.6	[500]	ug/L	09:23:04
3	Ba 233.527†	63397.1	60879.8	[500]	ug/L	09:23:04
3	Be 313.107†	1419339.9	1368014.0	[500]	ug/L	09:22:58
3	Cd 226.502†	44767.0	43193.4	[500]	ug/L	09:23:04
3	Co 228.616†	23283.4	22427.7	[500]	ug/L	09:23:04
3	Cr 267.716†	46273.4	44339.9	[500]	ug/L	09:23:04
3	Cu 324.752†	186029.8	169506.1	[500]	ug/L	09:23:04
3	Mn 257.610†	449335.3	430981.9	[500]	ug/L	09:22:58
3	Mo 202.031†	7341.1	7025.7	[500]	ug/L	09:23:24
3	Ni 231.604†	20081.9	19189.8	[500]	ug/L	09:23:04
3	P 214.914†	4686.1	4261.1	[2500]	ug/L	09:23:24
3	Pb 220.353†	3942.7	3846.3	[500]	ug/L	09:23:24
3	S 181.975 Axial†	805.3	696.3	[1000]	ug/L	09:23:24
3	Sb 206.836†	1528.1	1437.1	[500]	ug/L	09:23:24
3	Se 196.026†	855.2	839.2	[500]	ug/L	09:23:24
3	Si 251.611†	84941.2	81068.4	[2500]	ug/L	09:23:04
3	Sn 189.927†	2725.6	2617.6	[500]	ug/L	09:23:24
3	Ti 334.940†	324928.9	312917.8	[500]	ug/L	09:23:04
3	Tl 190.801†	1534.4	1510.3	[500]	ug/L	09:23:24
3	U 409.014†	18829.3	19143.6	[500]	ug/L	09:23:04
3	V 292.402†	78624.8	76892.7	[500]	ug/L	09:23:04
3	Zn 213.857†	54448.2	51550.2	[500]	ug/L	09:23:04
3	SiO2†	85756.2	81833.5	[5347.5]	ug/L	09:23:39

## Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	935933.6	1277.77	0.14%	104.24 %
Sc Radial	5462.9	173.53	3.18%	102 %
Y 371.029	818631.1	304.00	0.04%	99.454 %
Y RADIAL	5853.6	195.45	3.34%	101.7 %
Ag 328.068†	115297.3	663.12	0.58%	[500] ug/L
Al 396.153Radial†	6447.7	68.80	1.07%	[5000] ug/L
As 188.979†	1176.1	3.27	0.28%	[500] ug/L
B 249.677†	21776.4	111.83	0.51%	[500] ug/L
Ba 233.527†	61134.8	236.97	0.39%	[500] ug/L
Be 313.107†	1366226.3	5220.68	0.38%	[500] ug/L
Ca 317.933Radial†	3110.5	90.81	2.92%	[5000] ug/L
Cd 226.502†	43334.7	123.26	0.28%	[500] ug/L
Co 228.616†	22515.0	75.86	0.34%	[500] ug/L
Cr 267.716†	44440.8	91.92	0.21%	[500] ug/L
Cu 324.752†	170373.6	1186.34	0.70%	[500] ug/L
K 766.490 Radial†	27583.8	381.15	1.38%	[5000] ug/L
Mg 279.077 IEC†	145.2	4.46	3.07%	[5000] ug/L
Mn 257.610†	430775.6	2563.76	0.60%	[500] ug/L
Mo 202.031†	7036.6	10.95	0.16%	[500] ug/L
Ni 231.604†	19271.1	70.63	0.37%	[500] ug/L
P 214.914†	4255.9	9.91	0.23%	[2500] ug/L
Pb 220.353†	3844.8	4.36	0.11%	[500] ug/L
S 181.975 Axial†	692.4	4.03	0.58%	[1000] ug/L

Sb 206.836†	1431.0	5.68	0.40%	[500]	ug/L
Se 196.026†	835.9	2.82	0.34%	[500]	ug/L
Si 251.611†	81478.1	386.97	0.47%	[2500]	ug/L
Sn 189.927†	2604.3	14.60	0.56%	[500]	ug/L
Sr 421.552†	78468.2	751.89	0.96%	[500]	ug/L
Ti 334.940†	314660.0	1698.32	0.54%	[500]	ug/L
Tl 190.801†	1510.6	4.61	0.31%	[500]	ug/L
U 409.014†	19238.3	178.95	0.93%	[500]	ug/L
V 292.402†	77265.6	336.87	0.44%	[500]	ug/L
Zn 213.857†	51775.4	220.48	0.43%	[500]	ug/L
SiO2†	81630.0	195.91	0.24%	[5347.5]	ug/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 1/26/2010 09:25:50

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	5490.0	5490.0	103 %		09:27:43
1	Y RADIAL	5899.6	5899.6	102.5 %		09:27:43
1	Al 396.153Radial†	13109.2	12742.0	[10000] ug/L		09:27:43
1	Ca 317.933Radial†	6424.5	6228.8	[10000] ug/L		09:27:43
1	Fe 238.204 Radial†	1109.0	1071.6	[10000] ug/L		09:28:03
1	K 766.490 Radial†	58355.3	54257.7	[10000] ug/L		09:27:43
1	Mg 279.077 IEC†	295.5	286.5	[10000] ug/L		09:28:03
1	Na 589.592 Radial†	33069.1	32713.4	[10000] ug/L		09:27:43
1	Sr 421.552†	159135.1	154780.8	[1000] ug/L		09:27:43
1	Sc 361.383	873351.5	873351.5	97.269 %		09:29:06
1	Y 371.029	776986.9	776986.9	94.395 %		09:29:06
1	Ag 328.068†	234042.0	240317.3	[1000] ug/L		09:29:06
1	As 188.979†	2386.7	2483.9	[1000] ug/L		09:29:27
1	B 249.677†	44137.1	45616.8	[1000] ug/L		09:29:06
1	Ba 233.527†	123470.6	126940.4	[1000] ug/L		09:29:06
1	Be 313.107†	2812668.3	2896741.5	[1000] ug/L		09:29:01
1	Cd 226.502†	86786.4	89429.3	[1000] ug/L		09:29:06
1	Co 228.616†	44636.4	45959.6	[1000] ug/L		09:29:27
1	Cr 267.716†	89926.1	92357.1	[1000] ug/L		09:29:06
1	Cu 324.752†	357126.6	358025.8	[1000] ug/L		09:29:06
1	Mn 257.610†	887295.3	911718.5	[1000] ug/L		09:29:01
1	Mo 202.031†	14486.9	14870.0	[1000] ug/L		09:29:27
1	Ni 231.604†	38732.2	39726.0	[1000] ug/L		09:29:06
1	P 214.914†	8973.9	8987.1	[5000] ug/L		09:29:27
1	Pb 220.353†	7795.6	8074.8	[1000] ug/L		09:29:27
1	S 181.975 Axial†	1508.1	1473.4	[2000] ug/L		09:29:27
1	Sb 206.836†	2977.1	3030.4	[1000] ug/L		09:29:27
1	Se 196.026†	1689.3	1754.7	[1000] ug/L		09:29:27
1	Si 251.611†	164645.9	168772.8	[5000] ug/L		09:29:06
1	Sn 189.927†	5369.6	5520.7	[1000] ug/L		09:29:27
1	Ti 334.940†	638137.0	656960.8	[1000] ug/L		09:29:06
1	Tl 190.801†	3057.7	3180.5	[1000] ug/L		09:29:27
1	U 409.014†	37941.9	40070.1	[1000] ug/L		09:29:06
1	V 292.402†	155491.1	161250.5	[1000] ug/L		09:29:06
1	Zn 213.857†	105137.4	107356.0	[1000] ug/L		09:29:06
1	SiO2†	167060.8	171238.1	[10695] ug/L		09:30:35
2	Sc Radial	5509.4	5509.4	103 %		09:28:08
2	Y RADIAL	5946.5	5946.5	103.3 %		09:28:08
2	Al 396.153Radial†	13348.4	12929.1	[10000] ug/L		09:28:08
2	Ca 317.933Radial†	6546.0	6324.6	[10000] ug/L		09:28:08
2	Fe 238.204 Radial†	1104.0	1062.9	[10000] ug/L		09:28:28
2	K 766.490 Radial†	59013.7	54696.9	[10000] ug/L		09:28:08
2	Mg 279.077 IEC†	294.3	284.3	[10000] ug/L		09:28:28
2	Na 589.592 Radial†	33358.1	32880.8	[10000] ug/L		09:28:08
2	Sr 421.552†	160976.9	156023.4	[1000] ug/L		09:28:08
2	Sc 361.383	884457.4	884457.4	98.506 %		09:29:38
2	Y 371.029	789932.9	789932.9	95.968 %		09:29:38
2	Ag 328.068†	240298.0	243646.9	[1000] ug/L		09:29:38
2	As 188.979†	2372.4	2438.6	[1000] ug/L		09:29:58
2	B 249.677†	45576.6	46508.3	[1000] ug/L		09:29:38
2	Ba 233.527†	126823.1	128749.8	[1000] ug/L		09:29:38
2	Be 313.107†	2760137.8	2807104.6	[1000] ug/L		09:29:32
2	Cd 226.502†	88950.2	90505.6	[1000] ug/L		09:29:38
2	Co 228.616†	44630.8	45377.7	[1000] ug/L		09:29:58
2	Cr 267.716†	92114.8	93418.1	[1000] ug/L		09:29:38
2	Cu 324.752†	367506.8	363953.3	[1000] ug/L		09:29:38
2	Mn 257.610†	867933.9	880609.1	[1000] ug/L		09:29:32
2	Mo 202.031†	14468.4	14664.2	[1000] ug/L		09:29:58
2	Ni 231.604†	39782.8	40292.6	[1000] ug/L		09:29:38

2	P 214.914†	8977.8	8875.2	[5000]	ug/L	09:29:58
2	Pb 220.353†	7799.7	7978.4	[1000]	ug/L	09:29:58
2	S 181.975 Axial†	1508.8	1454.7	[2000]	ug/L	09:29:58
2	Sb 206.836†	2977.4	2992.3	[1000]	ug/L	09:29:58
2	Se 196.026†	1701.5	1745.2	[1000]	ug/L	09:29:58
2	Si 251.611†	169491.2	171566.1	[5000]	ug/L	09:29:38
2	Sn 189.927†	5372.8	5454.6	[1000]	ug/L	09:29:58
2	Ti 334.940†	656564.4	667429.8	[1000]	ug/L	09:29:38
2	Tl 190.801†	3035.2	3118.1	[1000]	ug/L	09:29:58
2	U 409.014†	39157.8	40814.6	[1000]	ug/L	09:29:38
2	V 292.402†	159397.9	163209.2	[1000]	ug/L	09:29:38
2	Zn 213.857†	108054.6	108960.2	[1000]	ug/L	09:29:38
2	SiO2†	166820.6	168837.5	[10695]	ug/L	09:30:40
3	Sc Radial	5341.0	5341.0	100	%	09:28:34
3	Y RADIAL	5734.2	5734.2	99.60	%	09:28:34
3	Al 396.153Radial†	12914.3	12902.8	[10000]	ug/L	09:28:34
3	Ca 317.933Radial†	6329.4	6308.0	[10000]	ug/L	09:28:34
3	Fe 238.204 Radial†	1106.9	1099.6	[10000]	ug/L	09:28:54
3	K 766.490 Radial†	57457.1	54943.5	[10000]	ug/L	09:28:34
3	Mg 279.077 IEC†	295.8	294.8	[10000]	ug/L	09:28:54
3	Na 589.592 Radial†	32526.7	33068.6	[10000]	ug/L	09:28:34
3	Sr 421.552†	155987.1	155952.7	[1000]	ug/L	09:28:34
3	Sc 361.383	878114.9	878114.9	97.799	%	09:30:09
3	Y 371.029	782745.7	782745.7	95.095	%	09:30:09
3	Ag 328.068†	236972.7	242008.7	[1000]	ug/L	09:30:09
3	As 188.979†	2397.5	2481.6	[1000]	ug/L	09:30:30
3	B 249.677†	45069.1	46323.6	[1000]	ug/L	09:30:09
3	Ba 233.527†	125693.3	128524.6	[1000]	ug/L	09:30:09
3	Be 313.107†	2813407.2	2881811.0	[1000]	ug/L	09:30:04
3	Cd 226.502†	88658.7	90859.8	[1000]	ug/L	09:30:09
3	Co 228.616†	44912.7	45993.2	[1000]	ug/L	09:30:30
3	Cr 267.716†	91627.1	93594.8	[1000]	ug/L	09:30:09
3	Cu 324.752†	361045.0	360040.7	[1000]	ug/L	09:30:09
3	Mn 257.610†	887989.8	907480.2	[1000]	ug/L	09:30:04
3	Mo 202.031†	14571.4	14875.6	[1000]	ug/L	09:30:30
3	Ni 231.604†	39553.9	40350.2	[1000]	ug/L	09:30:09
3	P 214.914†	9055.4	9020.4	[5000]	ug/L	09:30:30
3	Pb 220.353†	7825.3	8061.8	[1000]	ug/L	09:30:30
3	S 181.975 Axial†	1530.2	1487.7	[2000]	ug/L	09:30:30
3	Sb 206.836†	3004.1	3041.4	[1000]	ug/L	09:30:30
3	Se 196.026†	1695.3	1751.4	[1000]	ug/L	09:30:30
3	Si 251.611†	167298.3	170566.7	[5000]	ug/L	09:30:09
3	Sn 189.927†	5400.2	5522.1	[1000]	ug/L	09:30:30
3	Ti 334.940†	648493.8	663991.8	[1000]	ug/L	09:30:09
3	Tl 190.801†	3057.3	3163.0	[1000]	ug/L	09:30:30
3	U 409.014†	38445.4	40373.3	[1000]	ug/L	09:30:09
3	V 292.402†	157949.2	162896.8	[1000]	ug/L	09:30:09
3	Zn 213.857†	107095.9	108772.3	[1000]	ug/L	09:30:09
3	SiO2†	168631.0	171911.9	[10695]	ug/L	09:30:46

## Mean Data: SCAL

Analyte	Mean Corrected			Calib	
	Intensity	Std.Dev.	RSD	Conc.	Units
Sc 361.383	878641.3	5571.64	0.63%	97.858	%
Sc Radial	5446.8	92.13	1.69%	102	%
Y 371.029	783221.8	6486.13	0.83%	95.153	%
Y RADIAL	5860.1	111.51	1.90%	101.8	%
Ag 328.068†	241991.0	1664.87	0.69%	[1000]	ug/L
Al 396.153Radial†	12858.0	101.30	0.79%	[10000]	ug/L
As 188.979†	2468.0	25.53	1.03%	[1000]	ug/L
B 249.677†	46149.6	470.55	1.02%	[1000]	ug/L
Ba 233.527†	128071.6	986.10	0.77%	[1000]	ug/L
Be 313.107†	2861885.7	48025.56	1.68%	[1000]	ug/L
Ca 317.933Radial†	6287.1	51.21	0.81%	[10000]	ug/L
Cd 226.502†	90264.9	745.01	0.83%	[1000]	ug/L
Co 228.616†	45776.9	346.04	0.76%	[1000]	ug/L
Cr 267.716†	93123.3	669.46	0.72%	[1000]	ug/L
Cu 324.752†	360673.3	3013.92	0.84%	[1000]	ug/L
Fe 238.204 Radial†	1078.0	19.17	1.78%	[10000]	ug/L
K 766.490 Radial†	54632.7	347.39	0.64%	[10000]	ug/L



Mg 279.077 IEC†	288.5	5.53	1.92%	[10000] ug/L
Mn 257.610†	899935.9	16871.16	1.87%	[1000] ug/L
Mo 202.031†	14803.3	120.46	0.81%	[1000] ug/L
Na 589.592 Radial†	32887.6	177.72	0.54%	[10000] ug/L
Ni 231.604†	40122.9	344.93	0.86%	[1000] ug/L
P 214.914†	8960.9	76.06	0.85%	[5000] ug/L
Pb 220.353†	8038.4	52.31	0.65%	[1000] ug/L
S 181.975 Axial†	1471.9	16.53	1.12%	[2000] ug/L
Sb 206.836†	3021.4	25.77	0.85%	[1000] ug/L
Se 196.026†	1750.5	4.83	0.28%	[1000] ug/L
Si 251.611†	170301.9	1415.37	0.83%	[5000] ug/L
Sn 189.927†	5499.1	38.55	0.70%	[1000] ug/L
Sr 421.552†	155585.6	697.91	0.45%	[1000] ug/L
Ti 334.940†	662794.2	5336.26	0.81%	[1000] ug/L
Tl 190.801†	3153.9	32.15	1.02%	[1000] ug/L
U 409.014†	40419.3	374.38	0.93%	[1000] ug/L
V 292.402†	162452.1	1052.35	0.65%	[1000] ug/L
Zn 213.857†	108362.8	877.02	0.81%	[1000] ug/L
SiO2†	170662.5	1615.97	0.95%	[10695] ug/L

Sequence No.: 5  
 Sample ID: S10  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 5  
 Date Collected: 1/26/2010 09:32:56  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	5254.7	5254.7	98.4 %		09:35:10
1	Y RADIAL	5600.1	5600.1	97.27 %		09:35:10
1	Al 396.153Radial†	65162.8	66212.0	[50000] ug/L		09:34:50
1	Ca 317.933Radial†	30729.5	31208.3	[50000] ug/L		09:34:50
1	Fe 238.204 Radial†	2112.0	2139.2	[20000] ug/L		09:35:10
1	Mg 279.077 IEC†	1384.0	1405.5	[50000] ug/L		09:35:10
1	Na 589.592 Radial†	66167.5	67789.8	[20000] ug/L		09:34:50
1	Sc 361.383	909079.1	909079.1	101.25 %		09:36:07
1	Y 371.029	791008.5	791008.5	96.099 %		09:36:07
2	Sc Radial	5290.9	5290.9	99.1 %		09:35:35
2	Y RADIAL	5632.8	5632.8	97.84 %		09:35:35
2	Al 396.153Radial†	65366.4	65964.2	[50000] ug/L		09:35:15
2	Ca 317.933Radial†	30818.9	31084.8	[50000] ug/L		09:35:15
2	Fe 238.204 Radial†	2127.1	2139.7	[20000] ug/L		09:35:35
2	Mg 279.077 IEC†	1391.3	1403.2	[50000] ug/L		09:35:35
2	Na 589.592 Radial†	66538.2	67703.8	[20000] ug/L		09:35:15
2	Sc 361.383	910680.4	910680.4	101.43 %		09:36:13
2	Y 371.029	792508.2	792508.2	96.281 %		09:36:13
3	Sc Radial	5325.4	5325.4	99.7 %		09:36:00
3	Y RADIAL	5675.3	5675.3	98.58 %		09:36:00
3	Al 396.153Radial†	65914.7	66087.3	[50000] ug/L		09:35:40
3	Ca 317.933Radial†	30927.0	30992.0	[50000] ug/L		09:35:40
3	Fe 238.204 Radial†	2130.6	2129.3	[20000] ug/L		09:36:00
3	Mg 279.077 IEC†	1387.2	1390.1	[50000] ug/L		09:36:00
3	Na 589.592 Radial†	66737.8	67469.4	[20000] ug/L		09:35:40
3	Sc 361.383	914147.0	914147.0	101.81 %		09:36:18
3	Y 371.029	795556.8	795556.8	96.651 %		09:36:18

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Sc 361.383	911302.2	2590.53	0.28%	101.50 %	
Sc Radial	5290.4	35.33	0.67%	99.1 %	
Y 371.029	793024.5	2317.69	0.29%	96.343 %	
Y RADIAL	5636.1	37.74	0.67%	97.90 %	
Al 396.153Radial†	66087.8	123.89	0.19%	[50000] ug/L	
Ca 317.933Radial†	31095.1	108.49	0.35%	[50000] ug/L	
Fe 238.204 Radial†	2136.1	5.88	0.28%	[20000] ug/L	
Mg 279.077 IEC†	1399.6	8.34	0.60%	[50000] ug/L	
Na 589.592 Radial†	67654.3	165.80	0.25%	[20000] ug/L	

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	239.6	0.00000	0.999813	
Al 396.153Radial	3	Lin Thru 0	0.0	1.320	0.00000	0.999984	
As 188.979	3	Lin Thru 0	0.0	2.444	0.00000	0.999818	
B 249.677	3	Lin Thru 0	0.0	45.60	0.00000	0.999712	
Ba 233.527	3	Lin Thru 0	0.0	126.9	0.00000	0.999827	
Be 313.107	3	Lin Thru 0	0.0	2835	0.00000	0.999823	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.6222	0.00000	0.999998	
Cd 226.502	3	Lin Thru 0	0.0	89.52	0.00000	0.999868	
Co 228.616	3	Lin Thru 0	0.0	45.62	0.00000	0.999974	
Cr 267.716	3	Lin Thru 0	0.0	92.24	0.00000	0.999825	
Cu 324.752	3	Lin Thru 0	0.0	356.5	0.00000	0.999730	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.1070	0.00000	0.999993	
K 766.490 Radial	3	Lin Thru 0	0.0	5.474	0.00000	0.999992	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0280	0.00000	0.999977
Mn 257.610	3	Lin Thru 0	0.0	891.9	0.00000	0.999844
Mo 202.031	3	Lin Thru 0	0.0	14.65	0.00000	0.999796
Na 589.592 Radia	2	Lin Thru 0	0.0	3.364	0.00000	0.999938
Ni 231.604	3	Lin Thru 0	0.0	39.79	0.00000	0.999864
P 214.914	3	Lin Thru 0	0.0	1.773	0.00000	0.999779
Pb 220.353	3	Lin Thru 0	0.0	7.967	0.00000	0.999845
S 181.975 Axial	3	Lin Thru 0	0.0	0.7263	0.00000	0.999610
Sb 206.836	3	Lin Thru 0	0.0	2.988	0.00000	0.999755
Se 196.026	3	Lin Thru 0	0.0	1.734	0.00000	0.999814
Si 251.611	3	Lin Thru 0	0.0	33.75	0.00000	0.999834
Sn 189.927	3	Lin Thru 0	0.0	5.438	0.00000	0.999756
Sr 421.552	3	Lin Thru 0	0.0	155.8	0.00000	0.999991
Ti 334.940	3	Lin Thru 0	0.0	655.9	0.00000	0.999785
Tl 190.801	3	Lin Thru 0	0.0	3.126	0.00000	0.999850
U 409.014	3	Lin Thru 0	0.0	39.99	0.00000	0.999753
V 292.402	3	Lin Thru 0	0.0	160.8	0.00000	0.999797
Zn 213.857	3	Lin Thru 0	0.0	107.4	0.00000	0.999831
SiO2	3	Lin Thru 0	0.0	15.81	0.00000	0.999835

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 1/26/2010 09:38:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5529.0	5529.0	104 %		09:40:22
1	Y RADIAL	5902.0	5902.0	102.5 %		09:40:22
1	Al 396.153Radial†	6743.5	6503.8	4901.7 ug/L	4901.7 ppb	09:40:22
1	Ca 317.933Radial†	3157.4	3029.2	4868.9 ug/L	4868.9 ppb	09:40:43
1	Fe 238.204 Radial†	560.7	534.4	5008.8 ug/L	5008.8 ppb	09:40:43
1	K 766.490 Radial†	16368.8	13305.9	2427.4 ug/L	2427.4 ppb	09:40:22
1	Mg 279.077 IEC†	154.1	147.9	5274.4 ug/L	5274.4 ppb	09:40:43
1	Na 589.592 Radial†	7735.7	8019.0	2383.8 ug/L	2383.8 ppb	09:40:22
1	Sr 421.552†	84235.4	81349.3	522.04 ug/L	522.04 ppb	09:40:22
1	Sc 361.383	934550.6	934550.6	104.08 %		09:41:40
1	Y 371.029	821438.6	821438.6	99.795 %		09:41:40
1	Ag 328.068†	62913.3	60148.2	254.16 ug/L	254.16 ppb	09:41:40
1	As 188.979†	1141.2	1126.6	465.10 ug/L	465.10 ppb	09:42:00
1	B 249.677†	23610.6	22924.3	500.52 ug/L	500.52 ppb	09:41:40
1	Ba 233.527†	65239.1	62681.8	495.31 ug/L	495.31 ppb	09:41:40
1	Be 313.107†	736308.9	712512.1	252.46 ug/L	252.46 ppb	09:41:40
1	Cd 226.502†	43866.6	42351.2	472.96 ug/L	472.96 ppb	09:42:00
1	Co 228.616†	23483.0	22631.3	496.27 ug/L	496.27 ppb	09:42:00
1	Cr 267.716†	45639.9	43754.8	474.94 ug/L	474.94 ppb	09:41:40
1	Cu 324.752†	192751.0	176058.3	493.89 ug/L	493.89 ppb	09:41:40
1	Mn 257.610†	460430.0	441870.0	495.69 ug/L	495.69 ppb	09:41:40
1	Mo 202.031†	7945.2	7609.8	519.80 ug/L	519.80 ppb	09:42:00
1	Ni 231.604†	20126.0	19242.5	483.29 ug/L	483.29 ppb	09:42:00
1	P 214.914†	4720.0	4296.0	2326.6 ug/L	2326.6 ppb	09:42:00
1	Pb 220.353†	3955.6	3860.7	486.27 ug/L	486.27 ppb	09:42:00
1	S 181.975 Axial†	1900.4	1748.9	2407.0 ug/L	2407.0 ppb	09:42:00
1	Sb 206.836†	1532.9	1442.5	501.66 ug/L	501.66 ppb	09:42:00
1	Se 196.026†	4419.4	4263.9	2477.8 ug/L	2477.8 ppb	09:42:00
1	Si 251.611†	164820.1	157855.6	4670.8 ug/L	4670.8 ppb	09:41:40
1	Sn 189.927†	2941.6	2826.5	520.58 ug/L	520.58 ppb	09:42:00
1	Ti 334.940†	334537.4	322314.6	491.28 ug/L	491.28 ppb	09:41:40
1	Tl 190.801†	1606.5	1580.4	508.86 ug/L	508.86 ppb	09:42:00
1	U 409.014†	18431.7	18771.1	467.74 ug/L	467.74 ppb	09:41:40
1	V 292.402†	80960.2	79176.4	499.30 ug/L	499.30 ppb	09:41:40
1	Zn 213.857†	56166.4	53228.7	491.57 ug/L	491.57 ppb	09:41:40
1	SiO2†	162523.5	155631.7	9828.7 ug/L	9828.7 ppb	09:42:58
2	Sc Radial	5518.3	5518.3	103 %		09:40:48
2	Y RADIAL	5888.3	5888.3	102.3 %		09:40:48
2	Al 396.153Radial†	6721.4	6495.2	4894.9 ug/L	4894.9 ppb	09:40:48
2	Ca 317.933Radial†	3187.0	3063.8	4924.5 ug/L	4924.5 ppb	09:41:08
2	Fe 238.204 Radial†	568.3	542.8	5087.8 ug/L	5087.8 ppb	09:41:08
2	K 766.490 Radial†	16372.7	13340.2	2433.7 ug/L	2433.7 ppb	09:40:48
2	Mg 279.077 IEC†	154.6	148.7	5303.2 ug/L	5303.2 ppb	09:41:08
2	Na 589.592 Radial†	7637.2	7938.1	2359.8 ug/L	2359.8 ppb	09:40:48
2	Sr 421.552†	83965.2	81245.5	521.37 ug/L	521.37 ppb	09:40:48
2	Sc 361.383	926496.6	926496.6	103.19 %		09:42:06
2	Y 371.029	813316.0	813316.0	98.809 %		09:42:06
2	Ag 328.068†	62560.8	60332.0	254.96 ug/L	254.96 ppb	09:42:06
2	As 188.979†	1131.2	1126.4	465.02 ug/L	465.02 ppb	09:42:26
2	B 249.677†	23461.0	22976.6	501.65 ug/L	501.65 ppb	09:42:06
2	Ba 233.527†	64625.9	62632.4	494.92 ug/L	494.92 ppb	09:42:06
2	Be 313.107†	730281.0	712819.8	252.57 ug/L	252.57 ppb	09:42:06
2	Cd 226.502†	43703.8	42559.7	475.28 ug/L	475.28 ppb	09:42:26
2	Co 228.616†	23369.3	22717.2	498.16 ug/L	498.16 ppb	09:42:26
2	Cr 267.716†	45276.8	43784.0	475.26 ug/L	475.26 ppb	09:42:06
2	Cu 324.752†	191554.9	176508.9	495.16 ug/L	495.16 ppb	09:42:06
2	Mn 257.610†	457122.5	442510.1	496.41 ug/L	496.41 ppb	09:42:06
2	Mo 202.031†	7939.2	7670.3	523.94 ug/L	523.94 ppb	09:42:26
2	Ni 231.604†	20069.7	19356.0	486.15 ug/L	486.15 ppb	09:42:26

2	P 214.914†	4683.8	4300.3	2328.7 ug/L	2328.7 ppb	09:42:26
2	Pb 220.353†	3964.0	3901.9	491.44 ug/L	491.44 ppb	09:42:26
2	S 181.975 Axial†	1883.2	1748.0	2405.8 ug/L	2405.8 ppb	09:42:26
2	Sb 206.836†	1522.8	1445.5	502.74 ug/L	502.74 ppb	09:42:26
2	Se 196.026†	4397.9	4279.9	2487.4 ug/L	2487.4 ppb	09:42:26
2	Si 251.611†	163797.9	158241.5	4682.2 ug/L	4682.2 ppb	09:42:06
2	Sn 189.927†	2913.0	2823.4	520.01 ug/L	520.01 ppb	09:42:26
2	Ti 334.940†	332133.9	322779.4	491.99 ug/L	491.99 ppb	09:42:06
2	Tl 190.801†	1609.9	1597.1	514.21 ug/L	514.21 ppb	09:42:26
2	U 409.014†	18330.2	18826.7	469.12 ug/L	469.12 ppb	09:42:06
2	V 292.402†	80367.4	79278.1	499.98 ug/L	499.98 ppb	09:42:06
2	Zn 213.857†	55760.3	53304.2	492.24 ug/L	492.24 ppb	09:42:06
2	SiO2†	165322.5	159701.6	10086 ug/L	10086 ppb	09:43:03
3	Sc Radial	5416.5	5416.5	101 %		09:41:13
3	Y RADIAL	5831.9	5831.9	101.3 %		09:41:13
3	Al 396.153Radial†	6631.6	6528.8	4920.6 ug/L	4920.6 ppb	09:41:13
3	Ca 317.933Radial†	3198.2	3132.8	5035.3 ug/L	5035.3 ppb	09:41:33
3	Fe 238.204 Radial†	566.6	551.4	5168.4 ug/L	5168.4 ppb	09:41:33
3	K 766.490 Radial†	16048.1	13318.1	2429.6 ug/L	2429.6 ppb	09:41:13
3	Mg 279.077 IEC†	157.1	153.9	5489.4 ug/L	5489.4 ppb	09:41:33
3	Na 589.592 Radial†	7465.8	7908.1	2350.9 ug/L	2350.9 ppb	09:41:13
3	Sr 421.552†	82380.8	81211.0	521.15 ug/L	521.15 ppb	09:41:13
3	Sc 361.383	930823.2	930823.2	103.67 %		09:42:32
3	Y 371.029	818504.2	818504.2	99.439 %		09:42:32
3	Ag 328.068†	62784.2	60265.7	254.71 ug/L	254.71 ppb	09:42:32
3	As 188.979†	1114.5	1105.2	456.38 ug/L	456.38 ppb	09:42:52
3	B 249.677†	23566.3	22972.5	501.55 ug/L	501.55 ppb	09:42:32
3	Ba 233.527†	64951.2	62655.1	495.10 ug/L	495.10 ppb	09:42:32
3	Be 313.107†	734417.2	713520.1	252.82 ug/L	252.82 ppb	09:42:32
3	Cd 226.502†	43659.8	42320.4	472.60 ug/L	472.60 ppb	09:42:52
3	Co 228.616†	23368.7	22611.4	495.83 ug/L	495.83 ppb	09:42:52
3	Cr 267.716†	45446.6	43743.9	474.83 ug/L	474.83 ppb	09:42:32
3	Cu 324.752†	192364.4	176426.9	494.93 ug/L	494.93 ppb	09:42:32
3	Mn 257.610†	459010.9	442272.5	496.15 ug/L	496.15 ppb	09:42:32
3	Mo 202.031†	7923.6	7619.5	520.47 ug/L	520.47 ppb	09:42:52
3	Ni 231.604†	20042.9	19239.7	483.22 ug/L	483.22 ppb	09:42:52
3	P 214.914†	4675.6	4271.3	2312.4 ug/L	2312.4 ppb	09:42:52
3	Pb 220.353†	3942.5	3863.3	486.58 ug/L	486.58 ppb	09:42:52
3	S 181.975 Axial†	1892.0	1748.0	2405.8 ug/L	2405.8 ppb	09:42:52
3	Sb 206.836†	1532.7	1448.2	503.56 ug/L	503.56 ppb	09:42:52
3	Se 196.026†	4406.4	4268.3	2480.9 ug/L	2480.9 ppb	09:42:52
3	Si 251.611†	164260.4	157949.8	4673.6 ug/L	4673.6 ppb	09:42:32
3	Sn 189.927†	2921.3	2818.2	519.08 ug/L	519.08 ppb	09:42:52
3	Ti 334.940†	333508.8	322609.5	491.73 ug/L	491.73 ppb	09:42:32
3	Tl 190.801†	1604.4	1584.5	510.18 ug/L	510.18 ppb	09:42:52
3	U 409.014†	18413.6	18824.7	469.06 ug/L	469.06 ppb	09:42:32
3	V 292.402†	80872.9	79403.7	500.70 ug/L	500.70 ppb	09:42:32
3	Zn 213.857†	55935.1	53221.7	491.49 ug/L	491.49 ppb	09:42:32
3	SiO2†	162740.7	156466.5	9881.5 ug/L	9881.5 ppb	09:43:08

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	930623.5	103.65 %	0.449			0.43%
Sc Radial	5488.0	103 %	1.2			1.13%
Y 371.029	817752.9	99.348 %	0.4997			0.50%
Y RADIAL	5874.1	102.0 %	0.64			0.63%
Ag 328.068†	60248.6	254.61 ug/L	0.406	254.61 ppb	0.406	0.16%
QC value within limits for Ag 328.068 Recovery = 101.84%						
Al 396.153Radial†	6509.3	4905.7 ug/L	13.31	4905.7 ppb	13.31	0.27%
QC value within limits for Al 396.153Radial Recovery = 98.11%						
As 188.979†	1119.4	462.17 ug/L	5.010	462.17 ppb	5.010	1.08%
QC value within limits for As 188.979 Recovery = 92.43%						
B 249.677†	22957.8	501.24 ug/L	0.625	501.24 ppb	0.625	0.12%
QC value within limits for B 249.677 Recovery = 100.25%						
Ba 233.527†	62656.4	495.11 ug/L	0.193	495.11 ppb	0.193	0.04%
QC value within limits for Ba 233.527 Recovery = 99.02%						
Be 313.107†	712950.6	252.62 ug/L	0.183	252.62 ppb	0.183	0.07%
QC value within limits for Be 313.107 Recovery = 101.05%						
Ca 317.933Radial†	3075.3	4942.9 ug/L	84.74	4942.9 ppb	84.74	1.71%

QC value within limits for Ca 317.933 Radial Recovery = 98.86%							
Cd	226.502†	42410.5	473.62 ug/L	1.456	473.62 ppb	1.456	0.31%
QC value within limits for Cd 226.502 Recovery = 94.72%							
Co	228.616†	22653.3	496.76 ug/L	1.237	496.76 ppb	1.237	0.25%
QC value within limits for Co 228.616 Recovery = 99.35%							
Cr	267.716†	43760.9	475.01 ug/L	0.224	475.01 ppb	0.224	0.05%
QC value within limits for Cr 267.716 Recovery = 95.00%							
Cu	324.752†	176331.4	494.66 ug/L	0.676	494.66 ppb	0.676	0.14%
QC value within limits for Cu 324.752 Recovery = 98.93%							
Fe	238.204 Radial†	542.9	5088.3 ug/L	79.81	5088.3 ppb	79.81	1.57%
QC value within limits for Fe 238.204 Radial Recovery = 101.77%							
K	766.490 Radial†	13321.4	2430.2 ug/L	3.17	2430.2 ppb	3.17	0.13%
QC value within limits for K 766.490 Radial Recovery = 97.21%							
Mg	279.077 IEC†	150.1	5355.7 ug/L	116.67	5355.7 ppb	116.67	2.18%
QC value within limits for Mg 279.077 IEC Recovery = 107.11%							
Mn	257.610†	442217.5	496.08 ug/L	0.366	496.08 ppb	0.366	0.07%
QC value within limits for Mn 257.610 Recovery = 99.22%							
Mo	202.031†	7633.2	521.40 ug/L	2.221	521.40 ppb	2.221	0.43%
QC value within limits for Mo 202.031 Recovery = 104.28%							
Na	589.592 Radial†	7955.1	2364.8 ug/L	17.05	2364.8 ppb	17.05	0.72%
QC value within limits for Na 589.592 Radial Recovery = 94.59%							
Ni	231.604†	19279.4	484.22 ug/L	1.667	484.22 ppb	1.667	0.34%
QC value within limits for Ni 231.604 Recovery = 96.84%							
P	214.914†	4289.2	2322.6 ug/L	8.91	2322.6 ppb	8.91	0.38%
QC value within limits for P 214.914 Recovery = 92.90%							
Pb	220.353†	3875.3	488.10 ug/L	2.899	488.10 ppb	2.899	0.59%
QC value within limits for Pb 220.353 Recovery = 97.62%							
S	181.975 Axial†	1748.3	2406.2 ug/L	0.67	2406.2 ppb	0.67	0.03%
QC value within limits for S 181.975 Axial Recovery = 96.25%							
Sb	206.836†	1445.4	502.65 ug/L	0.956	502.65 ppb	0.956	0.19%
QC value within limits for Sb 206.836 Recovery = 100.53%							
Se	196.026†	4270.7	2482.0 ug/L	4.87	2482.0 ppb	4.87	0.20%
QC value within limits for Se 196.026 Recovery = 99.28%							
Si	251.611†	158015.6	4675.6 ug/L	5.93	4675.6 ppb	5.93	0.13%
QC value within limits for Si 251.611 Recovery = 93.51%							
Sn	189.927†	2822.7	519.89 ug/L	0.754	519.89 ppb	0.754	0.15%
QC value within limits for Sn 189.927 Recovery = 103.98%							
Sr	421.552†	81268.6	521.52 ug/L	0.462	521.52 ppb	0.462	0.09%
QC value within limits for Sr 421.552 Recovery = 104.30%							
Ti	334.940†	322567.8	491.67 ug/L	0.361	491.67 ppb	0.361	0.07%
QC value within limits for Ti 334.940 Recovery = 98.33%							
Tl	190.801†	1587.3	511.08 ug/L	2.786	511.08 ppb	2.786	0.55%
QC value within limits for Tl 190.801 Recovery = 102.22%							
U	409.014†	18807.5	468.64 ug/L	0.780	468.64 ppb	0.780	0.17%
QC value within limits for U 409.014 Recovery = 93.73%							
V	292.402†	79286.1	499.99 ug/L	0.703	499.99 ppb	0.703	0.14%
QC value within limits for V 292.402 Recovery = 100.00%							
Zn	213.857†	53251.5	491.77 ug/L	0.416	491.77 ppb	0.416	0.08%
QC value within limits for Zn 213.857 Recovery = 98.35%							
SiO2†		157266.6	9932.1 ug/L	135.90	9932.1 ppb	135.90	1.37%
QC value within limits for SiO2 Recovery = 92.87%							
All analyte(s) passed QC.							

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 1/26/2010 09:45:19

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5489.0	5489.0	103 %		09:47:12
1	Y RADIAL	5901.6	5901.6	102.5 %		09:47:12
1	Al 396.153Radial†	6.3	-3.0	-2.3087 ug/L	-2.3087 ppb	09:47:32
1	Ca 317.933Radial†	15.2	-5.4	-8.7450 ug/L	-8.7450 ppb	09:47:32
1	Fe 238.204 Radial†	8.4	1.1	9.8996 ug/L	9.8996 ppb	09:47:32
1	K 766.490 Radial†	2308.3	-257.9	-47.084 ug/L	-47.084 ppb	09:47:12
1	Mg 279.077 IEC†	0.9	-0.1	-3.5151 ug/L	-3.5151 ppb	09:47:32
1	Na 589.592 Radial†	-741.9	-174.2	-51.776 ug/L	-51.776 ppb	09:47:12
1	Sr 421.552†	14.4	6.9	0.0445 ug/L	0.0445 ppb	09:47:12
1	Sc 361.383	946678.1	946678.1	105.44 %		09:48:29
1	Y 371.029	838473.7	838473.7	101.87 %		09:48:29
1	Ag 328.068†	341.1	27.5	0.1305 ug/L	0.1305 ppb	09:48:34
1	As 188.979†	-27.8	3.9	1.5843 ug/L	1.5843 ppb	09:48:54
1	B 249.677†	-44.3	198.4	4.3481 ug/L	4.3481 ppb	09:48:54
1	Ba 233.527†	16.4	18.6	0.1498 ug/L	0.1498 ppb	09:48:54
1	Be 313.107†	-5045.4	315.1	0.1113 ug/L	0.1113 ppb	09:48:34
1	Cd 226.502†	-205.0	11.7	0.1285 ug/L	0.1285 ppb	09:48:54
1	Co 228.616†	-56.6	16.3	0.3569 ug/L	0.3569 ppb	09:48:54
1	Cr 267.716†	71.1	-26.5	-0.2816 ug/L	-0.2816 ppb	09:48:54
1	Cu 324.752†	9103.6	-493.8	-1.3796 ug/L	-1.3796 ppb	09:48:34
1	Mn 257.610†	475.0	-39.3	-0.0430 ug/L	-0.0430 ppb	09:48:54
1	Mo 202.031†	28.1	3.0	0.2087 ug/L	0.2087 ppb	09:48:54
1	Ni 231.604†	104.6	5.6	0.1393 ug/L	0.1393 ppb	09:48:54
1	P 214.914†	245.0	-6.4	-3.3430 ug/L	-3.3430 ppb	09:48:54
1	Pb 220.353†	-45.4	17.4	2.1776 ug/L	2.1776 ppb	09:48:54
1	S 181.975 Axial†	56.0	-23.9	-32.868 ug/L	-32.868 ppb	09:48:54
1	Sb 206.836†	39.4	7.2	2.4048 ug/L	2.4048 ppb	09:48:54
1	Se 196.026†	-16.6	2.2	1.2931 ug/L	1.2931 ppb	09:48:54
1	Si 251.611†	508.0	-14.1	-0.4205 ug/L	-0.4205 ppb	09:48:54
1	Sn 189.927†	1.0	1.3	0.2385 ug/L	0.2385 ppb	09:48:54
1	Ti 334.940†	-915.7	38.1	0.0612 ug/L	0.0612 ppb	09:48:34
1	Tl 190.801†	-43.0	-3.8	-1.2350 ug/L	-1.2350 ppb	09:48:54
1	U 409.014†	-1500.9	-360.7	-9.0203 ug/L	-9.0203 ppb	09:48:34
1	V 292.402†	-1260.9	197.7	1.2136 ug/L	1.2136 ppb	09:48:34
1	Zn 213.857†	687.2	-81.6	-0.7600 ug/L	-0.7600 ppb	09:48:54
1	SiO2†	517.1	-22.9	-1.4569 ug/L	-1.4569 ppb	09:50:15
2	Sc Radial	5519.6	5519.6	103 %		09:47:37
2	Y RADIAL	5909.8	5909.8	102.7 %		09:47:37
2	Al 396.153Radial†	6.2	-3.1	-2.3683 ug/L	-2.3683 ppb	09:47:57
2	Ca 317.933Radial†	18.6	-2.3	-3.6376 ug/L	-3.6376 ppb	09:47:57
2	Fe 238.204 Radial†	7.6	0.2	1.4787 ug/L	1.4787 ppb	09:47:57
2	K 766.490 Radial†	2259.3	-317.7	-58.017 ug/L	-58.017 ppb	09:47:37
2	Mg 279.077 IEC†	2.1	1.1	37.955 ug/L	37.955 ppb	09:47:57
2	Na 589.592 Radial†	-766.4	-193.9	-57.629 ug/L	-57.629 ppb	09:47:37
2	Sr 421.552†	24.0	16.2	0.1037 ug/L	0.1037 ppb	09:47:37
2	Sc 361.383	935009.3	935009.3	104.14 %		09:48:59
2	Y 371.029	827735.8	827735.8	100.56 %		09:48:59
2	Ag 328.068†	404.2	92.1	0.3957 ug/L	0.3957 ppb	09:49:04
2	As 188.979†	-25.9	5.3	2.1562 ug/L	2.1562 ppb	09:49:24
2	B 249.677†	-80.7	162.9	3.5714 ug/L	3.5714 ppb	09:49:24
2	Ba 233.527†	-1.3	1.9	0.0159 ug/L	0.0159 ppb	09:49:24
2	Be 313.107†	-5043.7	257.0	0.0908 ug/L	0.0908 ppb	09:49:04
2	Cd 226.502†	-197.2	16.8	0.1855 ug/L	0.1855 ppb	09:49:24
2	Co 228.616†	-62.3	10.1	0.2230 ug/L	0.2230 ppb	09:49:24
2	Cr 267.716†	64.9	-31.6	-0.3379 ug/L	-0.3379 ppb	09:49:24
2	Cu 324.752†	9122.4	-367.9	-1.0261 ug/L	-1.0261 ppb	09:49:04
2	Mn 257.610†	489.6	-19.7	-0.0234 ug/L	-0.0234 ppb	09:49:24
2	Mo 202.031†	29.1	4.3	0.2934 ug/L	0.2934 ppb	09:49:24
2	Ni 231.604†	96.4	-1.1	-0.0270 ug/L	-0.0270 ppb	09:49:24

2	P 214.914†	228.8	-19.0	-10.523 ug/L	-10.523 ppb	09:49:24
2	Pb 220.353†	-60.1	2.7	0.3407 ug/L	0.3407 ppb	09:49:24
2	S 181.975 Axial†	54.0	-25.2	-34.634 ug/L	-34.634 ppb	09:49:24
2	Sb 206.836†	41.2	9.3	3.1237 ug/L	3.1237 ppb	09:49:24
2	Se 196.026†	-17.3	1.4	0.8071 ug/L	0.8071 ppb	09:49:24
2	Si 251.611†	501.1	-14.8	-0.4415 ug/L	-0.4415 ppb	09:49:24
2	Sn 189.927†	0.3	0.6	0.1080 ug/L	0.1080 ppb	09:49:24
2	Ti 334.940†	-895.9	46.2	0.0718 ug/L	0.0718 ppb	09:49:04
2	Tl 190.801†	-32.6	5.5	1.7733 ug/L	1.7733 ppb	09:49:24
2	U 409.014†	-1560.6	-435.7	-10.895 ug/L	-10.895 ppb	09:49:04
2	V 292.402†	-1376.7	71.5	0.4288 ug/L	0.4288 ppb	09:49:04
2	Zn 213.857†	688.6	-72.1	-0.6706 ug/L	-0.6706 ppb	09:49:24
2	SiO2†	525.5	-8.8	-0.5632 ug/L	-0.5632 ppb	09:50:35
3	Sc Radial	5485.5	5485.5	103 %		09:48:02
3	Y RADIAL	5902.8	5902.8	102.5 %		09:48:02
3	Al 396.153Radial†	-0.4	-9.6	-7.2610 ug/L	-7.2610 ppb	09:48:22
3	Ca 317.933Radial†	17.3	-3.4	-5.4770 ug/L	-5.4770 ppb	09:48:22
3	Fe 238.204 Radial†	8.1	0.7	6.6633 ug/L	6.6633 ppb	09:48:22
3	K 766.490 Radial†	2330.9	-234.4	-42.810 ug/L	-42.810 ppb	09:48:02
3	Mg 279.077 IEC†	4.2	3.1	109.43 ug/L	109.43 ppb	09:48:22
3	Na 589.592 Radial†	-712.5	-145.9	-43.385 ug/L	-43.385 ppb	09:48:02
3	Sr 421.552†	-2.2	-9.2	-0.0590 ug/L	-0.0590 ppb	09:48:02
3	Sc 361.383	930868.9	930868.9	103.67 %		09:49:30
3	Y 371.029	824178.7	824178.7	100.13 %		09:49:30
3	Ag 328.068†	419.5	108.6	0.4648 ug/L	0.4648 ppb	09:49:35
3	As 188.979†	-36.0	-4.5	-1.8576 ug/L	-1.8576 ppb	09:49:55
3	B 249.677†	-48.2	193.9	4.2512 ug/L	4.2512 ppb	09:49:55
3	Ba 233.527†	3.1	6.1	0.0493 ug/L	0.0493 ppb	09:49:55
3	Be 313.107†	-4988.4	288.8	0.1020 ug/L	0.1020 ppb	09:49:35
3	Cd 226.502†	-183.0	29.7	0.3293 ug/L	0.3293 ppb	09:49:55
3	Co 228.616†	-75.0	-2.4	-0.0518 ug/L	-0.0518 ppb	09:49:55
3	Cr 267.716†	96.6	-0.8	-0.0039 ug/L	-0.0039 ppb	09:49:55
3	Cu 324.752†	9043.4	-405.2	-1.1317 ug/L	-1.1317 ppb	09:49:35
3	Mn 257.610†	462.4	-43.8	-0.0529 ug/L	-0.0529 ppb	09:49:55
3	Mo 202.031†	26.2	1.7	0.1133 ug/L	0.1133 ppb	09:49:55
3	Ni 231.604†	108.1	10.6	0.2659 ug/L	0.2659 ppb	09:49:55
3	P 214.914†	229.2	-17.7	-9.7421 ug/L	-9.7421 ppb	09:49:55
3	Pb 220.353†	-60.6	1.9	0.2372 ug/L	0.2372 ppb	09:49:55
3	S 181.975 Axial†	54.6	-24.3	-33.504 ug/L	-33.504 ppb	09:49:55
3	Sb 206.836†	33.4	2.0	0.6687 ug/L	0.6687 ppb	09:49:55
3	Se 196.026†	-11.6	6.7	3.9014 ug/L	3.9014 ppb	09:49:55
3	Si 251.611†	506.9	-7.0	-0.2100 ug/L	-0.2100 ppb	09:49:55
3	Sn 189.927†	-0.6	-0.3	-0.0522 ug/L	-0.0522 ppb	09:49:55
3	Ti 334.940†	-913.3	25.6	0.0329 ug/L	0.0329 ppb	09:49:35
3	Tl 190.801†	-33.1	5.0	1.5860 ug/L	1.5860 ppb	09:49:55
3	U 409.014†	-1444.2	-330.2	-8.2563 ug/L	-8.2563 ppb	09:49:35
3	V 292.402†	-1345.2	96.1	0.5845 ug/L	0.5845 ppb	09:49:35
3	Zn 213.857†	690.3	-67.6	-0.6302 ug/L	-0.6302 ppb	09:49:55
3	SiO2†	517.2	-14.5	-0.9220 ug/L	-0.9220 ppb	09:50:55

## Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	937518.8	104.42 %		0.913				0.87%
Sc Radial	5498.1	103 %		0.4				0.34%
Y 371.029	830129.4	100.85 %		0.904				0.90%
Y RADIAL	5904.7	102.6 %		0.08				0.08%
Ag 328.068†	76.1	0.3303 ug/L		0.17648	0.3303 ppb		0.17648	53.43%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-5.2	-3.9793 ug/L		2.84213	-3.9793 ppb		2.84213	71.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	1.5	0.6276 ug/L		2.17119	0.6276 ppb		2.17119	345.95%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	185.1	4.0569 ug/L		0.42321	4.0569 ppb		0.42321	10.43%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	8.9	0.0717 ug/L		0.06971	0.0717 ppb		0.06971	97.25%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	287.0	0.1014 ug/L		0.01025	0.1014 ppb		0.01025	10.11%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-3.7	-5.9532 ug/L		2.58676	-5.9532 ppb		2.58676	43.45%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	19.4	0.2144 ug/L	0.10349	0.2144 ppb	0.10349	48.26%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	8.0	0.1760 ug/L	0.20839	0.1760 ppb	0.20839	118.38%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-19.6	-0.2078 ug/L	0.17878	-0.2078 ppb	0.17878	86.04%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-422.3	-1.1791 ug/L	0.18151	-1.1791 ppb	0.18151	15.39%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.6	6.0139 ug/L	4.24789	6.0139 ppb	4.24789	70.63%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-270.0	-49.304 ug/L	7.8429	-49.304 ppb	7.8429	15.91%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	47.957 ug/L	57.1337	47.957 ppb	57.1337	119.14%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-34.3	-0.0398 ug/L	0.01500	-0.0398 ppb	0.01500	37.70%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	3.0	0.2051 ug/L	0.09008	0.2051 ppb	0.09008	43.92%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-171.3	-50.930 ug/L	7.1595	-50.930 ppb	7.1595	14.06%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	5.0	0.1261 ug/L	0.14693	0.1261 ppb	0.14693	116.56%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-14.4	-7.8693 ug/L	3.93933	-7.8693 ppb	3.93933	50.06%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	7.3	0.9185 ug/L	1.09162	0.9185 ppb	1.09162	118.85%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-24.5	-33.669 ug/L	0.8943	-33.669 ppb	0.8943	2.66%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	6.1	2.0657 ug/L	1.26213	2.0657 ppb	1.26213	61.10%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	3.4	2.0005 ug/L	1.66404	2.0005 ppb	1.66404	83.18%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-12.0	-0.3573 ug/L	0.12803	-0.3573 ppb	0.12803	35.83%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	0.5	0.0981 ug/L	0.14558	0.0981 ppb	0.14558	148.39%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	4.6	0.0297 ug/L	0.08236	0.0297 ppb	0.08236	276.86%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	36.6	0.0553 ug/L	0.02010	0.0553 ppb	0.02010	36.33%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	2.2	0.7081 ug/L	1.68539	0.7081 ppb	1.68539	238.02%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-375.5	-9.3907 ug/L	1.35796	-9.3907 ppb	1.35796	14.46%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	121.8	0.7423 ug/L	0.41552	0.7423 ppb	0.41552	55.98%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-73.8	-0.6869 ug/L	0.06642	-0.6869 ppb	0.06642	9.67%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-15.4	-0.9807 ug/L	0.44976	-0.9807 ppb	0.44976	45.86%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/26/2010 09:53:06

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5473.2	5473.2	102 %		09:54:59
1	Y RADIAL	5918.4	5918.4	102.8 %		09:54:59
1	Al 396.153Radial†	289.1	272.9	206.21 ug/L	206.21 ppb	09:55:19
1	Ca 317.933Radial†	150.6	126.7	203.68 ug/L	203.68 ppb	09:55:19
1	Fe 238.204 Radial†	18.5	10.9	101.99 ug/L	101.99 ppb	09:55:19
1	K 766.490 Radial†	3154.0	573.8	104.65 ug/L	104.65 ppb	09:54:59
1	Mg 279.077 IEC†	12.4	11.1	395.23 ug/L	395.23 ppb	09:55:19
1	Na 589.592 Radial†	219.9	762.2	226.57 ug/L	226.57 ppb	09:54:59
1	Sr 421.552†	823.0	795.9	5.1061 ug/L	5.1061 ppb	09:54:59
1	Sc 361.383	920367.1	920367.1	102.51 %		09:56:16
1	Y 371.029	809322.7	809322.7	98.323 %		09:56:16
1	Ag 328.068†	1516.4	1183.4	4.9461 ug/L	4.9461 ppb	09:56:16
1	As 188.979†	37.7	67.0	27.456 ug/L	27.456 ppb	09:56:36
1	B 249.677†	2097.4	2286.6	50.116 ug/L	50.116 ppb	09:56:16
1	Ba 233.527†	662.9	649.8	5.1362 ug/L	5.1362 ppb	09:56:36
1	Be 313.107†	9361.0	14232.7	5.0326 ug/L	5.0326 ppb	09:56:16
1	Cd 226.502†	257.9	457.8	5.1174 ug/L	5.1174 ppb	09:56:36
1	Co 228.616†	167.9	233.8	5.1374 ug/L	5.1374 ppb	09:56:36
1	Cr 267.716†	588.3	479.9	5.1911 ug/L	5.1911 ppb	09:56:36
1	Cu 324.752†	12745.4	3305.9	9.2497 ug/L	9.2497 ppb	09:56:16
1	Mn 257.610†	9947.8	9214.8	10.325 ug/L	10.325 ppb	09:56:16
1	Mo 202.031†	185.8	157.7	10.773 ug/L	10.773 ppb	09:56:36
1	Ni 231.604†	337.5	235.6	5.9182 ug/L	5.9182 ppb	09:56:36
1	P 214.914†	507.8	256.6	142.92 ug/L	142.92 ppb	09:56:36
1	Pb 220.353†	35.8	95.3	12.019 ug/L	12.019 ppb	09:56:36
1	S 181.975 Axial†	138.9	58.5	80.539 ug/L	80.539 ppb	09:56:36
1	Sb 206.836†	51.7	20.2	7.1200 ug/L	7.1200 ppb	09:56:36
1	Se 196.026†	40.8	57.8	33.699 ug/L	33.699 ppb	09:56:36
1	Si 251.611†	3814.5	3225.3	95.433 ug/L	95.433 ppb	09:56:36
1	Sn 189.927†	51.0	50.1	9.2415 ug/L	9.2415 ppb	09:56:36
1	Ti 334.940†	2592.1	3435.3	5.2076 ug/L	5.2076 ppb	09:56:16
1	Tl 190.801†	28.8	65.0	20.859 ug/L	20.859 ppb	09:56:36
1	U 409.014†	1094.3	2130.4	53.249 ug/L	53.249 ppb	09:56:16
1	V 292.402†	-570.9	836.6	5.4422 ug/L	5.4422 ppb	09:56:16
1	Zn 213.857†	1791.7	1014.5	9.3899 ug/L	9.3899 ppb	09:56:36
1	SiO2†	3944.5	3334.7	210.61 ug/L	210.61 ppb	09:57:32
2	Sc Radial	5481.8	5481.8	103 %		09:55:24
2	Y RADIAL	5873.6	5873.6	102.0 %		09:55:24
2	Al 396.153Radial†	283.5	267.0	201.81 ug/L	201.81 ppb	09:55:44
2	Ca 317.933Radial†	152.7	128.5	206.58 ug/L	206.58 ppb	09:55:44
2	Fe 238.204 Radial†	19.1	11.4	106.77 ug/L	106.77 ppb	09:55:44
2	K 766.490 Radial†	3086.1	502.8	91.668 ug/L	91.668 ppb	09:55:24
2	Mg 279.077 IEC†	11.9	10.7	379.90 ug/L	379.90 ppb	09:55:44
2	Na 589.592 Radial†	257.6	798.6	237.40 ug/L	237.40 ppb	09:55:24
2	Sr 421.552†	835.0	806.3	5.1730 ug/L	5.1730 ppb	09:55:24
2	Sc 361.383	911945.6	911945.6	101.57 %		09:56:42
2	Y 371.029	802802.3	802802.3	97.531 %		09:56:42
2	Ag 328.068†	1577.4	1257.0	5.2526 ug/L	5.2526 ppb	09:56:42
2	As 188.979†	29.8	59.6	24.417 ug/L	24.417 ppb	09:57:02
2	B 249.677†	2098.2	2306.3	50.546 ug/L	50.546 ppb	09:56:42
2	Ba 233.527†	653.6	646.6	5.1113 ug/L	5.1113 ppb	09:57:02
2	Be 313.107†	9377.7	14333.4	5.0678 ug/L	5.0678 ppb	09:56:42
2	Cd 226.502†	243.2	445.6	4.9807 ug/L	4.9807 ppb	09:57:02
2	Co 228.616†	170.7	238.0	5.2280 ug/L	5.2280 ppb	09:57:02
2	Cr 267.716†	544.2	441.9	4.7777 ug/L	4.7777 ppb	09:57:02
2	Cu 324.752†	12645.8	3322.7	9.2960 ug/L	9.2960 ppb	09:56:42
2	Mn 257.610†	9880.5	9238.2	10.353 ug/L	10.353 ppb	09:56:42
2	Mo 202.031†	163.9	137.7	9.4112 ug/L	9.4112 ppb	09:57:02
2	Ni 231.604†	316.5	217.9	5.4734 ug/L	5.4734 ppb	09:57:02

2	P 214.914†	508.2	261.6	145.73 ug/L	145.73 ppb	09:57:02
2	Pb 220.353†	30.5	90.5	11.411 ug/L	11.411 ppb	09:57:02
2	S 181.975 Axial†	125.2	46.2	63.628 ug/L	63.628 ppb	09:57:02
2	Sb 206.836†	69.9	38.6	13.246 ug/L	13.246 ppb	09:57:02
2	Se 196.026†	39.3	56.6	33.061 ug/L	33.061 ppb	09:57:02
2	Si 251.611†	3801.0	3246.4	96.075 ug/L	96.075 ppb	09:57:02
2	Sn 189.927†	49.4	49.0	9.0492 ug/L	9.0492 ppb	09:57:02
2	Ti 334.940†	2475.0	3343.4	5.0684 ug/L	5.0684 ppb	09:56:42
2	Tl 190.801†	28.1	64.6	20.708 ug/L	20.708 ppb	09:57:02
2	U 409.014†	1159.9	2204.9	55.110 ug/L	55.110 ppb	09:56:42
2	V 292.402†	-595.1	807.7	5.2458 ug/L	5.2458 ppb	09:56:42
2	Zn 213.857†	1792.0	1030.9	9.5445 ug/L	9.5445 ppb	09:57:02
2	SiO2†	3920.4	3346.5	211.39 ug/L	211.39 ppb	09:57:38
3	Sc Radial	5498.1	5498.1	103 %		09:55:49
3	Y RADIAL	5877.6	5877.6	102.1 %		09:55:49
3	Al 396.153Radial†	280.2	263.0	198.71 ug/L	198.71 ppb	09:56:09
3	Ca 317.933Radial†	151.6	127.0	204.09 ug/L	204.09 ppb	09:56:09
3	Fe 238.204 Radial†	18.7	11.0	102.62 ug/L	102.62 ppb	09:56:09
3	K 766.490 Radial†	3152.5	558.4	101.84 ug/L	101.84 ppb	09:55:49
3	Mg 279.077 IEC†	11.7	10.4	372.00 ug/L	372.00 ppb	09:56:09
3	Na 589.592 Radial†	254.9	795.2	236.40 ug/L	236.40 ppb	09:55:49
3	Sr 421.552†	826.9	796.0	5.1070 ug/L	5.1070 ppb	09:55:49
3	Sc 361.383	909827.5	909827.5	101.33 %		09:57:07
3	Y 371.029	800430.8	800430.8	97.243 %		09:57:07
3	Ag 328.068†	1472.5	1157.1	4.8366 ug/L	4.8366 ppb	09:57:07
3	As 188.979†	40.3	69.9	28.659 ug/L	28.659 ppb	09:57:27
3	B 249.677†	2041.1	2254.7	49.415 ug/L	49.415 ppb	09:57:07
3	Ba 233.527†	675.3	669.5	5.2927 ug/L	5.2927 ppb	09:57:27
3	Be 313.107†	9250.8	14229.7	5.0313 ug/L	5.0313 ppb	09:57:07
3	Cd 226.502†	263.0	465.7	5.2062 ug/L	5.2062 ppb	09:57:27
3	Co 228.616†	170.0	237.7	5.2234 ug/L	5.2234 ppb	09:57:27
3	Cr 267.716†	576.6	475.1	5.1379 ug/L	5.1379 ppb	09:57:27
3	Cu 324.752†	12690.9	3396.1	9.5018 ug/L	9.5018 ppb	09:57:07
3	Mn 257.610†	9818.0	9199.2	10.309 ug/L	10.309 ppb	09:57:07
3	Mo 202.031†	182.1	156.1	10.666 ug/L	10.666 ppb	09:57:27
3	Ni 231.604†	317.5	219.7	5.5180 ug/L	5.5180 ppb	09:57:27
3	P 214.914†	492.3	247.1	137.52 ug/L	137.52 ppb	09:57:27
3	Pb 220.353†	26.9	86.9	10.971 ug/L	10.971 ppb	09:57:27
3	S 181.975 Axial†	122.8	44.2	60.772 ug/L	60.772 ppb	09:57:27
3	Sb 206.836†	63.7	32.6	11.302 ug/L	11.302 ppb	09:57:27
3	Se 196.026†	27.4	45.0	26.345 ug/L	26.345 ppb	09:57:27
3	Si 251.611†	3813.7	3267.6	96.688 ug/L	96.688 ppb	09:57:27
3	Sn 189.927†	56.4	56.0	10.337 ug/L	10.337 ppb	09:57:27
3	Ti 334.940†	2475.5	3349.5	5.0779 ug/L	5.0779 ppb	09:57:07
3	Tl 190.801†	13.2	49.9	16.024 ug/L	16.024 ppb	09:57:27
3	U 409.014†	1160.5	2208.1	55.190 ug/L	55.190 ppb	09:57:07
3	V 292.402†	-501.3	898.9	5.8312 ug/L	5.8312 ppb	09:57:07
3	Zn 213.857†	1782.7	1025.9	9.4975 ug/L	9.4975 ppb	09:57:27
3	SiO2†	3961.0	3395.6	214.46 ug/L	214.46 ppb	09:57:43

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	914046.8	101.80 %		0.621			0.61%
Sc Radial	5484.4	103 %		0.2			0.23%
Y 371.029	804185.2	97.699 %		0.5594			0.57%
Y RADIAL	5889.9	102.3 %		0.43			0.42%
Ag 328.068†	1199.1	5.0117 ug/L		0.21563	5.0117 ppb	0.21563	4.30%
QC value within limits for Ag 328.068 Recovery = 100.23%							
Al 396.153Radial†	267.6	202.24 ug/L		3.772	202.24 ppb	3.772	1.87%
QC value within limits for Al 396.153Radial Recovery = 101.12%							
As 188.979†	65.5	26.844 ug/L		2.1860	26.844 ppb	2.1860	8.14%
QC value within limits for As 188.979 Recovery = 89.48%							
B 249.677†	2282.5	50.026 ug/L		0.5708	50.026 ppb	0.5708	1.14%
QC value within limits for B 249.677 Recovery = 100.05%							
Ba 233.527†	655.3	5.1801 ug/L		0.09832	5.1801 ppb	0.09832	1.90%
QC value within limits for Ba 233.527 Recovery = 103.60%							
Be 313.107†	14265.3	5.0439 ug/L		0.02072	5.0439 ppb	0.02072	0.41%
QC value within limits for Be 313.107 Recovery = 100.88%							
Ca 317.933Radial†	127.4	204.78 ug/L		1.568	204.78 ppb	1.568	0.77%

QC value within limits for Ca 317.933 Radial Recovery = 102.39%							
Cd 226.502†	456.4	5.1014 ug/L	0.11355	5.1014 ppb	0.11355	2.23%	
QC value within limits for Cd 226.502 Recovery = 102.03%							
Co 228.616†	236.5	5.1963 ug/L	0.05108	5.1963 ppb	0.05108	0.98%	
QC value within limits for Co 228.616 Recovery = 103.93%							
Cr 267.716†	465.6	5.0356 ug/L	0.22489	5.0356 ppb	0.22489	4.47%	
QC value within limits for Cr 267.716 Recovery = 100.71%							
Cu 324.752†	3341.5	9.3491 ug/L	0.13419	9.3491 ppb	0.13419	1.44%	
QC value within limits for Cu 324.752 Recovery = 93.49%							
Fe 238.204 Radial†	11.1	103.79 ug/L	2.602	103.79 ppb	2.602	2.51%	
QC value within limits for Fe 238.204 Radial Recovery = 103.79%							
K 766.490 Radial†	545.0	99.385 ug/L	6.8289	99.385 ppb	6.8289	6.87%	
QC value less than the lower limit for K 766.490 Radial Recovery = 66.26%							
Mg 279.077 IEC†	10.7	382.38 ug/L	11.814	382.38 ppb	11.814	3.09%	
QC value within limits for Mg 279.077 IEC Recovery = 127.46%							
Mn 257.610†	9217.4	10.329 ug/L	0.0221	10.329 ppb	0.0221	0.21%	
QC value within limits for Mn 257.610 Recovery = 103.29%							
Mo 202.031†	150.5	10.283 ug/L	0.7570	10.283 ppb	0.7570	7.36%	
QC value within limits for Mo 202.031 Recovery = 102.83%							
Na 589.592 Radial†	785.3	233.46 ug/L	5.988	233.46 ppb	5.988	2.56%	
QC value within limits for Na 589.592 Radial Recovery = 77.82%							
Ni 231.604†	224.4	5.6365 ug/L	0.24496	5.6365 ppb	0.24496	4.35%	
QC value within limits for Ni 231.604 Recovery = 112.73%							
P 214.914†	255.1	142.06 ug/L	4.172	142.06 ppb	4.172	2.94%	
QC value within limits for P 214.914 Recovery = 94.71%							
Pb 220.353†	90.9	11.467 ug/L	0.5264	11.467 ppb	0.5264	4.59%	
QC value within limits for Pb 220.353 Recovery = 114.67%							
S 181.975 Axial†	49.6	68.313 ug/L	10.6838	68.313 ppb	10.6838	15.64%	
QC value less than the lower limit for S 181.975 Axial Recovery = 68.31%							
Sb 206.836†	30.5	10.556 ug/L	3.1304	10.556 ppb	3.1304	29.66%	
QC value within limits for Sb 206.836 Recovery = 105.56%							
Se 196.026†	53.1	31.035 ug/L	4.0738	31.035 ppb	4.0738	13.13%	
QC value within limits for Se 196.026 Recovery = 103.45%							
Si 251.611†	3246.5	96.065 ug/L	0.6276	96.065 ppb	0.6276	0.65%	
QC value within limits for Si 251.611 Recovery = 96.07%							
Sn 189.927†	51.7	9.5424 ug/L	0.69442	9.5424 ppb	0.69442	7.28%	
QC value within limits for Sn 189.927 Recovery = 95.42%							
Sr 421.552†	799.4	5.1287 ug/L	0.03840	5.1287 ppb	0.03840	0.75%	
QC value within limits for Sr 421.552 Recovery = 102.57%							
Ti 334.940†	3376.1	5.1180 ug/L	0.07775	5.1180 ppb	0.07775	1.52%	
QC value within limits for Ti 334.940 Recovery = 102.36%							
Tl 190.801†	59.8	19.197 ug/L	2.7491	19.197 ppb	2.7491	14.32%	
QC value within limits for Tl 190.801 Recovery = 95.99%							
U 409.014†	2181.1	54.516 ug/L	1.0986	54.516 ppb	1.0986	2.02%	
QC value within limits for U 409.014 Recovery = 109.03%							
V 292.402†	847.7	5.5064 ug/L	0.29793	5.5064 ppb	0.29793	5.41%	
QC value within limits for V 292.402 Recovery = 110.13%							
Zn 213.857†	1023.8	9.4773 ug/L	0.07926	9.4773 ppb	0.07926	0.84%	
QC value within limits for Zn 213.857 Recovery = 94.77%							
SiO2†	3358.9	212.15 ug/L	2.036	212.15 ppb	2.036	0.96%	
QC value within limits for SiO2 Recovery = 99.60%							
QC Failed. Continue with analysis.							

Sequence No.: 9

Sample ID: ICSA

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 13

Date Collected: 1/26/2010 09:59:54

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4967.3	4967.3	93.0 %		10:01:53
1	Y RADIAL	5327.2	5327.2	92.53 %		10:01:53
1	Al 396.153Radial†	627223.9	674282.7	510790 ug/L	510790 ppb	10:01:48
1	Ca 317.933Radial†	274135.2	294686.6	473650 ug/L	473650 ppb	10:01:48
1	Fe 238.204 Radial†	18771.2	20172.7	188520 ug/L	188520 ppb	10:01:53
1	K 766.490 Radial†	2344.2	16.6	-155.38 ug/L	-155.38 ppb	10:01:53
1	Mg 279.077 IEC†	12983.9	13957.2	497650 ug/L	497650 ppb	10:01:53
1	Na 589.592 Radial†	-558.7	-53.0	-15.743 ug/L	-15.743 ppb	10:01:53
1	Sr 421.552†	557.3	592.1	0.2629 ug/L	0.2629 ppb	10:01:53
1	Sc 361.383	803575.0	803575.0	89.498 %		10:02:20
1	Y 371.029	694490.8	694490.8	84.373 %		10:02:20
1	Ag 328.068†	-10512.1	-12041.7	4.4102 ug/L	4.4102 ppb	10:02:20
1	As 188.979†	-96.3	-77.4	12.285 ug/L	12.285 ppb	10:02:41
1	B 249.677†	714.2	1038.5	-7.8439 ug/L	-7.8439 ppb	10:02:20
1	Ba 233.527†	-521.1	-579.2	1.2082 ug/L	1.2082 ppb	10:02:41
1	Be 313.107†	-5374.5	-904.8	-0.3813 ug/L	-0.3813 ppb	10:02:20
1	Cd 226.502†	1427.5	1801.1	0.6534 ug/L	0.6534 ppb	10:02:41
1	Co 228.616†	-17.5	50.4	-1.6008 ug/L	-1.6008 ppb	10:02:41
1	Cr 267.716†	-71.2	-173.5	1.7967 ug/L	1.7967 ppb	10:02:41
1	Cu 324.752†	6271.0	-2121.2	4.0136 ug/L	4.0136 ppb	10:02:20
1	Mn 257.610†	-907.5	-1503.9	-3.4218 ug/L	-3.4218 ppb	10:02:20
1	Mo 202.031†	-192.0	-238.1	4.0180 ug/L	4.0180 ppb	10:02:41
1	Ni 231.604†	191.1	119.9	3.0119 ug/L	3.0119 ppb	10:02:41
1	P 214.914†	161.5	-58.3	-56.873 ug/L	-56.873 ppb	10:02:41
1	Pb 220.353†	-732.4	-758.0	4.8704 ug/L	4.8704 ppb	10:02:41
1	S 181.975 Axial†	94.0	28.1	-57.078 ug/L	-57.078 ppb	10:02:41
1	Sb 206.836†	45.4	20.5	-3.5060 ug/L	-3.5060 ppb	10:02:41
1	Se 196.026†	-990.2	-1088.4	28.011 ug/L	28.011 ppb	10:02:41
1	Si 251.611†	453.7	11.0	0.5251 ug/L	0.5251 ppb	10:02:41
1	Sn 189.927†	-354.3	-395.5	2.4151 ug/L	2.4151 ppb	10:02:41
1	Ti 334.940†	-16876.4	-17950.3	-4.5144 ug/L	-4.5144 ppb	10:02:20
1	Tl 190.801†	-80.6	-53.2	-17.274 ug/L	-17.274 ppb	10:02:41
1	U 409.014†	-6.0	1056.1	4.9202 ug/L	4.9202 ppb	10:02:20
1	V 292.402†	1204.3	2739.2	-0.9575 ug/L	-0.9575 ppb	10:02:41
1	Zn 213.857†	3199.5	2841.6	8.1691 ug/L	8.1691 ppb	10:02:41
1	SiO2†	470.8	12.7	1.2450 ug/L	1.2450 ppb	10:03:37
2	Sc Radial	4805.3	4805.3	90.0 %		10:02:04
2	Y RADIAL	5154.3	5154.3	89.53 %		10:02:04
2	Al 396.153Radial†	638034.9	709025.6	537110 ug/L	537110 ppb	10:01:59
2	Ca 317.933Radial†	277837.7	308735.0	496230 ug/L	496230 ppb	10:01:59
2	Fe 238.204 Radial†	18349.0	20383.7	190500 ug/L	190500 ppb	10:02:04
2	K 766.490 Radial†	2296.2	48.2	-157.16 ug/L	-157.16 ppb	10:02:04
2	Mg 279.077 IEC†	12666.3	14074.9	501840 ug/L	501840 ppb	10:02:04
2	Na 589.592 Radial†	-529.9	-41.2	-12.242 ug/L	-12.242 ppb	10:02:04
2	Sr 421.552†	538.8	591.7	0.0918 ug/L	0.0918 ppb	10:02:04
2	Sc 361.383	796203.6	796203.6	88.677 %		10:02:46
2	Y 371.029	688426.5	688426.5	83.636 %		10:02:46
2	Ag 328.068†	-10223.7	-11825.2	5.6422 ug/L	5.6422 ppb	10:02:46
2	As 188.979†	-101.8	-84.6	9.8181 ug/L	9.8181 ppb	10:03:06
2	B 249.677†	660.6	985.4	-9.3310 ug/L	-9.3310 ppb	10:02:46
2	Ba 233.527†	-511.6	-573.8	1.3095 ug/L	1.3095 ppb	10:03:06
2	Be 313.107†	-5211.7	-776.8	-0.3356 ug/L	-0.3356 ppb	10:02:46
2	Cd 226.502†	1442.8	1833.2	0.8085 ug/L	0.8085 ppb	10:03:06
2	Co 228.616†	7.5	78.4	-1.0172 ug/L	-1.0172 ppb	10:03:06
2	Cr 267.716†	-56.2	-157.3	2.0091 ug/L	2.0091 ppb	10:03:06
2	Cu 324.752†	6058.2	-2296.2	3.6260 ug/L	3.6260 ppb	10:02:46
2	Mn 257.610†	-1005.6	-1623.8	-3.5331 ug/L	-3.5331 ppb	10:02:46
2	Mo 202.031†	-205.9	-255.8	3.2318 ug/L	3.2318 ppb	10:03:06
2	Ni 231.604†	191.9	122.7	3.0836 ug/L	3.0836 ppb	10:03:06

2	P 214.914†	203.4	-9.4	-24.205 ug/L	-24.205 ppb	10:03:06
2	Pb 220.353†	-727.2	-759.7	10.511 ug/L	10.511 ppb	10:03:06
2	S 181.975 Axial†	80.5	13.8	-81.631 ug/L	-81.631 ppb	10:03:06
2	Sb 206.836†	56.4	33.3	0.0791 ug/L	0.0791 ppb	10:03:06
2	Se 196.026†	-989.5	-1097.9	30.741 ug/L	30.741 ppb	10:03:06
2	Si 251.611†	435.0	-5.4	0.0536 ug/L	0.0536 ppb	10:03:06
2	Sn 189.927†	-357.9	-403.2	4.4640 ug/L	4.4640 ppb	10:03:06
2	Ti 334.940†	-16585.3	-17796.6	-1.5952 ug/L	-1.5952 ppb	10:02:46
2	Tl 190.801†	-83.9	-57.7	-18.729 ug/L	-18.729 ppb	10:03:06
2	U 409.014†	60.2	1130.7	6.5597 ug/L	6.5597 ppb	10:02:46
2	V 292.402†	1142.5	2681.9	-1.5332 ug/L	-1.5332 ppb	10:03:06
2	Zn 213.857†	3183.8	2857.0	8.1215 ug/L	8.1215 ppb	10:03:06
2	SiO2†	464.0	9.8	1.0970 ug/L	1.0970 ppb	10:03:42
3	Sc Radial	4958.7	4958.7	92.9 %		10:02:14
3	Y RADIAL	5327.7	5327.7	92.54 %		10:02:14
3	Al 396.153Radial†	637938.3	686986.6	520410 ug/L	520410 ppb	10:02:09
3	Ca 317.933Radial†	277017.0	298299.4	479460 ug/L	479460 ppb	10:02:09
3	Fe 238.204 Radial†	18772.9	20209.4	188870 ug/L	188870 ppb	10:02:14
3	K 766.490 Radial†	2258.1	-71.7	-173.46 ug/L	-173.46 ppb	10:02:14
3	Mg 279.077 IEC†	12977.2	13974.1	498250 ug/L	498250 ppb	10:02:14
3	Na 589.592 Radial†	-535.3	-28.8	-8.5601 ug/L	-8.5601 ppb	10:02:14
3	Sr 421.552†	586.5	624.5	0.4280 ug/L	0.4280 ppb	10:02:14
3	Sc 361.383	803234.6	803234.6	89.460 %		10:03:11
3	Y 371.029	695709.6	695709.6	84.521 %		10:03:11
3	Ag 328.068†	-10403.9	-11925.7	4.9265 ug/L	4.9265 ppb	10:03:11
3	As 188.979†	-71.4	-49.7	23.727 ug/L	23.727 ppb	10:03:31
3	B 249.677†	677.8	998.1	-8.7842 ug/L	-8.7842 ppb	10:03:11
3	Ba 233.527†	-502.1	-558.2	1.3839 ug/L	1.3839 ppb	10:03:31
3	Be 313.107†	-5187.9	-698.7	-0.3089 ug/L	-0.3089 ppb	10:03:11
3	Cd 226.502†	1447.4	1824.1	0.8739 ug/L	0.8739 ppb	10:03:31
3	Co 228.616†	-35.3	30.5	-2.0439 ug/L	-2.0439 ppb	10:03:31
3	Cr 267.716†	-86.7	-190.8	1.6159 ug/L	1.6159 ppb	10:03:31
3	Cu 324.752†	6133.7	-2271.6	3.6103 ug/L	3.6103 ppb	10:03:11
3	Mn 257.610†	-1168.2	-1795.7	-3.7398 ug/L	-3.7398 ppb	10:03:11
3	Mo 202.031†	-212.4	-261.0	2.5516 ug/L	2.5516 ppb	10:03:31
3	Ni 231.604†	196.5	125.9	3.1641 ug/L	3.1641 ppb	10:03:31
3	P 214.914†	193.9	-22.0	-34.176 ug/L	-34.176 ppb	10:03:31
3	Pb 220.353†	-677.2	-696.6	14.705 ug/L	14.705 ppb	10:03:31
3	S 181.975 Axial†	71.8	3.2	-93.093 ug/L	-93.093 ppb	10:03:31
3	Sb 206.836†	70.0	48.0	5.4189 ug/L	5.4189 ppb	10:03:31
3	Se 196.026†	-975.4	-1072.4	39.009 ug/L	39.009 ppb	10:03:31
3	Si 251.611†	460.1	18.3	0.7628 ug/L	0.7628 ppb	10:03:31
3	Sn 189.927†	-361.2	-403.4	1.8639 ug/L	1.8639 ppb	10:03:31
3	Ti 334.940†	-16938.8	-18028.0	-3.9028 ug/L	-3.9028 ppb	10:03:11
3	Tl 190.801†	-91.5	-65.4	-21.184 ug/L	-21.184 ppb	10:03:31
3	U 409.014†	-43.6	1014.1	3.8316 ug/L	3.8316 ppb	10:03:11
3	V 292.402†	1180.8	2713.5	-1.1790 ug/L	-1.1790 ppb	10:03:31
3	Zn 213.857†	3190.5	2833.0	8.0557 ug/L	8.0557 ppb	10:03:31
3	SiO2†	454.6	-5.2	0.1536 ug/L	0.1536 ppb	10:03:47

## Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	801004.4	89.211 %		0.4634				0.52%
Sc Radial	4910.5	92.0 %		1.71				1.86%
Y 371.029	692875.6	84.177 %		0.4739				0.56%
Y RADIAL	5269.7	91.53 %		1.736				1.90%
Ag 328.068†	-11930.9	4.9930 ug/L		0.61869	4.9930 ppb		0.61869	12.39%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	690098.3	522770 ug/L		13316.8	522770 ppb		13316.8	2.55%
QC value within limits for Al 396.153Radial Recovery = 104.55%								
As 188.979†	-70.6	15.277 ug/L		7.4211	15.277 ppb		7.4211	48.58%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	1007.3	-8.6530 ug/L		0.75218	-8.6530 ppb		0.75218	8.69%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-570.4	1.3005 ug/L		0.08822	1.3005 ppb		0.08822	6.78%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-793.4	-0.3419 ug/L		0.03662	-0.3419 ppb		0.03662	10.71%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	300573.7	483110 ug/L		11725.4	483110 ppb		11725.4	2.43%

QC value within limits for Ca 317.933 Radial Recovery = 96.62%							
Cd 226.502†	1819.5	0.7786 ug/L	0.11328	0.7786 ppb	0.11328	14.55%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	53.1	-1.5540 ug/L	0.51493	-1.5540 ppb	0.51493	33.14%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-173.9	1.8072 ug/L	0.19685	1.8072 ppb	0.19685	10.89%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-2229.6	3.7500 ug/L	0.22845	3.7500 ppb	0.22845	6.09%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	20255.3	189300 ug/L	1053.7	189300 ppb	1053.7	0.56%	
QC value within limits for Fe 238.204 Radial Recovery = 94.65%							
K 766.490 Radial†	-2.3	-162.00 ug/L	9.967	-162.00 ppb	9.967	6.15%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	14002.1	499250 ug/L	2267.9	499250 ppb	2267.9	0.45%	
QC value within limits for Mg 279.077 IEC Recovery = 99.85%							
Mn 257.610†	-1641.2	-3.5649 ug/L	0.16136	-3.5649 ppb	0.16136	4.53%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-251.7	3.2671 ug/L	0.73385	3.2671 ppb	0.73385	22.46%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-41.0	-12.182 ug/L	3.5916	-12.182 ppb	3.5916	29.48%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	122.8	3.0865 ug/L	0.07614	3.0865 ppb	0.07614	2.47%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-29.9	-38.418 ug/L	16.7419	-38.418 ppb	16.7419	43.58%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-738.1	10.029 ug/L	4.9350	10.029 ppb	4.9350	49.21%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	15.0	-77.267 ug/L	18.3996	-77.267 ppb	18.3996	23.81%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	33.9	0.6640 ug/L	4.49112	0.6640 ppb	4.49112	676.41%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-1086.2	32.587 ug/L	5.7268	32.587 ppb	5.7268	17.57%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	8.0	0.4472 ug/L	0.36099	0.4472 ppb	0.36099	80.73%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-400.7	2.9143 ug/L	1.37005	2.9143 ppb	1.37005	47.01%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	602.8	0.2609 ug/L	0.16808	0.2609 ppb	0.16808	64.43%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-17924.9	-3.3375 ug/L	1.53955	-3.3375 ppb	1.53955	46.13%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-58.7	-19.062 ug/L	1.9761	-19.062 ppb	1.9761	10.37%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	1067.0	5.1038 ug/L	1.37328	5.1038 ppb	1.37328	26.91%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	2711.5	-1.2232 ug/L	0.29041	-1.2232 ppb	0.29041	23.74%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	2843.9	8.1154 ug/L	0.05696	8.1154 ppb	0.05696	0.70%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	5.8	0.8319 ug/L	0.59204	0.8319 ppb	0.59204	71.17%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							



Sequence No.: 10  
 Sample ID: ICSAB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 14  
 Date Collected: 1/26/2010 10:05:59  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4682.8	4682.8	87.7 %		10:07:56
1	Y RADIAL	5066.7	5066.7	88.01 %		10:07:56
1	Al 396.153Radial†	643486.0	733803.2	555860 ug/L	555860 ppb	10:07:51
1	Ca 317.933Radial†	276930.6	315783.1	507560 ug/L	507560 ppb	10:07:51
1	Fe 238.204 Radial†	18141.6	20681.0	193290 ug/L	193290 ppb	10:07:56
1	K 766.490 Radial†	30165.9	31896.8	5654.3 ug/L	5654.3 ppb	10:07:51
1	Mg 279.077 IEC†	12619.0	14389.4	513060 ug/L	513060 ppb	10:07:56
1	Na 589.592 Radial†	16222.4	19047.2	5662.2 ug/L	5662.2 ppb	10:07:56
1	Sr 421.552†	75006.7	85528.3	545.11 ug/L	545.11 ppb	10:07:51
1	Sc 361.383	810517.8	810517.8	90.271 %		10:08:24
1	Y 371.029	699266.8	699266.8	84.953 %		10:08:24
1	Ag 328.068†	45937.7	50592.7	268.41 ug/L	268.41 ppb	10:08:24
1	As 188.979†	978.8	1114.5	504.25 ug/L	504.25 ppb	10:08:44
1	B 249.677†	21280.1	23814.0	489.62 ug/L	489.62 ppb	10:08:24
1	Ba 233.527†	54181.3	60024.0	480.09 ug/L	480.09 ppb	10:08:24
1	Be 313.107†	592235.6	661165.4	234.31 ug/L	234.31 ppb	10:08:24
1	Cd 226.502†	36417.2	40548.3	433.34 ug/L	433.34 ppb	10:08:44
1	Co 228.616†	18038.6	20052.7	436.89 ug/L	436.89 ppb	10:08:44
1	Cr 267.716†	38282.5	42314.5	462.98 ug/L	462.98 ppb	10:08:24
1	Cu 324.752†	182336.3	192859.9	550.98 ug/L	550.98 ppb	10:08:24
1	Mn 257.610†	375636.6	415631.7	464.10 ug/L	464.10 ppb	10:08:24
1	Mo 202.031†	5964.1	6583.3	470.34 ug/L	470.34 ppb	10:08:44
1	Ni 231.604†	15304.6	16860.4	423.46 ug/L	423.46 ppb	10:08:44
1	P 214.914†	4113.6	4318.2	2314.3 ug/L	2314.3 ppb	10:08:44
1	Pb 220.353†	2482.9	2810.9	463.49 ug/L	463.49 ppb	10:08:44
1	S 181.975 Axial†	1773.8	1887.9	2495.2 ug/L	2495.2 ppb	10:08:44
1	Sb 206.836†	1459.1	1586.1	536.22 ug/L	536.22 ppb	10:08:44
1	Se 196.026†	2870.6	3198.0	2520.4 ug/L	2520.4 ppb	10:08:44
1	Si 251.611†	156650.3	173037.6	5121.5 ug/L	5121.5 ppb	10:08:24
1	Sn 189.927†	1936.3	2145.4	474.88 ug/L	474.88 ppb	10:08:44
1	Ti 334.940†	279825.4	310890.7	499.79 ug/L	499.79 ppb	10:08:24
1	Tl 190.801†	1229.1	1398.5	450.64 ug/L	450.64 ppb	10:08:44
1	U 409.014†	16791.8	19664.4	468.65 ug/L	468.65 ppb	10:08:24
1	V 292.402†	70344.0	79319.1	481.65 ug/L	481.65 ppb	10:08:24
1	Zn 213.857†	49752.3	54381.1	484.35 ug/L	484.35 ppb	10:08:24
1	SiO2†	153831.7	169897.8	10733 ug/L	10733 ppb	10:09:42
2	Sc Radial	4877.2	4877.2	91.3 %		10:08:07
2	Y RADIAL	5274.4	5274.4	91.61 %		10:08:07
2	Al 396.153Radial†	642479.4	703438.4	532850 ug/L	532850 ppb	10:08:01
2	Ca 317.933Radial†	276272.3	302469.0	486160 ug/L	486160 ppb	10:08:01
2	Fe 238.204 Radial†	18461.9	20206.6	188850 ug/L	188850 ppb	10:08:07
2	K 766.490 Radial†	30146.8	30504.1	5407.1 ug/L	5407.1 ppb	10:08:01
2	Mg 279.077 IEC†	12827.9	14044.2	500760 ug/L	500760 ppb	10:08:07
2	Na 589.592 Radial†	16453.0	18561.9	5517.9 ug/L	5517.9 ppb	10:08:07
2	Sr 421.552†	74798.4	81889.3	521.91 ug/L	521.91 ppb	10:08:01
2	Sc 361.383	803590.5	803590.5	89.499 %		10:08:50
2	Y 371.029	693102.3	693102.3	84.204 %		10:08:50
2	Ag 328.068†	45476.7	50516.3	266.96 ug/L	266.96 ppb	10:08:50
2	As 188.979†	979.5	1124.6	507.32 ug/L	507.32 ppb	10:09:10
2	B 249.677†	21099.5	23815.5	490.35 ug/L	490.35 ppb	10:08:50
2	Ba 233.527†	53880.1	60204.8	481.38 ug/L	481.38 ppb	10:08:50
2	Be 313.107†	588080.2	662178.1	234.67 ug/L	234.67 ppb	10:08:50
2	Cd 226.502†	36645.0	41150.6	440.53 ug/L	440.53 ppb	10:09:10
2	Co 228.616†	18184.9	20388.4	444.33 ug/L	444.33 ppb	10:09:10
2	Cr 267.716†	38093.5	42469.0	464.57 ug/L	464.57 ppb	10:08:50
2	Cu 324.752†	180019.1	192012.2	548.37 ug/L	548.37 ppb	10:08:50
2	Mn 257.610†	373055.8	416335.3	464.95 ug/L	464.95 ppb	10:08:50
2	Mo 202.031†	5960.9	6636.7	473.39 ug/L	473.39 ppb	10:09:10
2	Ni 231.604†	15394.4	17106.8	429.65 ug/L	429.65 ppb	10:09:10



2	P 214.914†	4120.7	4365.5	2339.4 ug/L	2339.4 ppb	10:09:10
2	Pb 220.353†	2492.7	2845.6	462.97 ug/L	462.97 ppb	10:09:10
2	S 181.975 Axial†	1783.3	1915.5	2537.4 ug/L	2537.4 ppb	10:09:10
2	Sb 206.836†	1483.3	1627.1	550.68 ug/L	550.68 ppb	10:09:10
2	Se 196.026†	2881.7	3237.8	2527.2 ug/L	2527.2 ppb	10:09:10
2	Si 251.611†	155320.8	173048.1	5121.8 ug/L	5121.8 ppb	10:08:50
2	Sn 189.927†	1965.3	2196.2	480.91 ug/L	480.91 ppb	10:09:10
2	Ti 334.940†	277575.0	311048.5	498.17 ug/L	498.17 ppb	10:08:50
2	Tl 190.801†	1228.2	1409.2	454.05 ug/L	454.05 ppb	10:09:10
2	U 409.014†	16374.9	19359.0	461.52 ug/L	461.52 ppb	10:08:50
2	V 292.402†	70038.4	79649.4	484.15 ug/L	484.15 ppb	10:08:50
2	Zn 213.857†	49406.5	54469.8	485.58 ug/L	485.58 ppb	10:08:50
2	SiO2†	155870.0	173644.3	10970 ug/L	10970 ppb	10:09:47
3	Sc Radial	4934.5	4934.5	92.4 %		10:08:17
3	Y RADIAL	5304.8	5304.8	92.14 %		10:08:17
3	Al 396.153Radial†	626718.7	678215.7	513750 ug/L	513750 ppb	10:08:12
3	Ca 317.933Radial†	271233.6	293504.4	471750 ug/L	471750 ppb	10:08:12
3	Fe 238.204 Radial†	18429.0	19936.5	186330 ug/L	186330 ppb	10:08:17
3	K 766.490 Radial†	29462.0	29379.9	5206.6 ug/L	5206.6 ppb	10:08:12
3	Mg 279.077 IEC†	12818.6	13871.1	494590 ug/L	494590 ppb	10:08:17
3	Na 589.592 Radial†	16552.0	18460.0	5487.6 ug/L	5487.6 ppb	10:08:17
3	Sr 421.552†	72805.7	78782.0	502.08 ug/L	502.08 ppb	10:08:12
3	Sc 361.383	812825.4	812825.4	90.528 %		10:09:16
3	Y 371.029	701381.0	701381.0	85.210 %		10:09:16
3	Ag 328.068†	45984.7	50500.2	266.27 ug/L	266.27 ppb	10:09:16
3	As 188.979†	977.1	1109.5	500.60 ug/L	500.60 ppb	10:09:36
3	B 249.677†	21323.8	23795.3	490.33 ug/L	490.33 ppb	10:09:16
3	Ba 233.527†	54466.0	60167.9	481.01 ug/L	481.01 ppb	10:09:16
3	Be 313.107†	594499.7	661803.9	234.54 ug/L	234.54 ppb	10:09:16
3	Cd 226.502†	36616.5	40654.0	435.24 ug/L	435.24 ppb	10:09:36
3	Co 228.616†	18168.8	20139.8	438.90 ug/L	438.90 ppb	10:09:36
3	Cr 267.716†	38418.7	42344.6	463.17 ug/L	463.17 ppb	10:09:16
3	Cu 324.752†	182676.4	192662.2	550.06 ug/L	550.06 ppb	10:09:16
3	Mn 257.610†	377256.0	416239.2	464.85 ug/L	464.85 ppb	10:09:16
3	Mo 202.031†	5991.3	6594.6	470.14 ug/L	470.14 ppb	10:09:36
3	Ni 231.604†	15451.9	16975.0	426.34 ug/L	426.34 ppb	10:09:36
3	P 214.914†	4132.9	4326.6	2314.3 ug/L	2314.3 ppb	10:09:36
3	Pb 220.353†	2486.2	2806.7	453.96 ug/L	453.96 ppb	10:09:36
3	S 181.975 Axial†	1793.0	1903.6	2524.6 ug/L	2524.6 ppb	10:09:36
3	Sb 206.836†	1466.3	1589.5	538.41 ug/L	538.41 ppb	10:09:36
3	Se 196.026†	2888.7	3208.9	2501.0 ug/L	2501.0 ppb	10:09:36
3	Si 251.611†	157227.3	173182.3	5125.8 ug/L	5125.8 ppb	10:09:16
3	Sn 189.927†	1962.6	2168.2	473.54 ug/L	473.54 ppb	10:09:36
3	Ti 334.940†	281058.1	311372.3	497.23 ug/L	497.23 ppb	10:09:16
3	Tl 190.801†	1227.1	1392.4	448.68 ug/L	448.68 ppb	10:09:36
3	U 409.014†	16728.4	19541.6	466.37 ug/L	466.37 ppb	10:09:16
3	V 292.402†	70744.1	79539.7	483.68 ug/L	483.68 ppb	10:09:16
3	Zn 213.857†	49881.9	54367.8	484.89 ug/L	484.89 ppb	10:09:16
3	SiO2†	155898.0	171696.5	10847 ug/L	10847 ppb	10:09:52

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	808977.9	90.099 %	0.5353			0.59%
Sc Radial	4831.5	90.5 %	2.47			2.73%
Y 371.029	697916.7	84.789 %	0.5226			0.62%
Y RADIAL	5215.3	90.59 %	2.252			2.49%
Ag 328.068†	50536.4	267.22 ug/L	1.094	267.22 ppb	1.094	0.41%
QC value within limits for Ag 328.068 Recovery = 106.89%						
Al 396.153Radial†	705152.4	534150 ug/L	21084.6	534150 ppb	21084.6	3.95%
QC value within limits for Al 396.153Radial Recovery = 106.83%						
As 188.979†	1116.2	504.06 ug/L	3.367	504.06 ppb	3.367	0.67%
QC value within limits for As 188.979 Recovery = 100.81%						
B 249.677†	23808.3	490.10 ug/L	0.417	490.10 ppb	0.417	0.09%
QC value within limits for B 249.677 Recovery = 98.02%						
Ba 233.527†	60132.2	480.83 ug/L	0.667	480.83 ppb	0.667	0.14%
QC value within limits for Ba 233.527 Recovery = 96.17%						
Be 313.107†	661715.8	234.50 ug/L	0.181	234.50 ppb	0.181	0.08%
QC value within limits for Be 313.107 Recovery = 93.80%						
Ca 317.933Radial†	303918.8	488490 ug/L	18017.7	488490 ppb	18017.7	3.69%

QC value within limits for Ca 317.933 Radial Recovery = 97.70%							
Cd	226.502†	40784.3	436.37 ug/L	3.725	436.37 ppb	3.725	0.85%
QC value within limits for Cd 226.502 Recovery = 87.27%							
Co	228.616†	20193.6	440.04 ug/L	3.845	440.04 ppb	3.845	0.87%
QC value within limits for Co 228.616 Recovery = 88.01%							
Cr	267.716†	42376.0	463.57 ug/L	0.870	463.57 ppb	0.870	0.19%
QC value within limits for Cr 267.716 Recovery = 92.71%							
Cu	324.752†	192511.4	549.80 ug/L	1.323	549.80 ppb	1.323	0.24%
QC value within limits for Cu 324.752 Recovery = 109.96%							
Fe	238.204 Radial†	20274.7	189490 ug/L	3522.1	189490 ppb	3522.1	1.86%
QC value within limits for Fe 238.204 Radial Recovery = 94.75%							
K	766.490 Radial†	30593.6	5422.7 ug/L	224.28	5422.7 ppb	224.28	4.14%
QC value within limits for K 766.490 Radial Recovery = 108.45%							
Mg	279.077 IEC†	14101.6	502800 ug/L	9407.2	502800 ppb	9407.2	1.87%
QC value within limits for Mg 279.077 IEC Recovery = 100.56%							
Mn	257.610†	416068.8	464.63 ug/L	0.466	464.63 ppb	0.466	0.10%
QC value within limits for Mn 257.610 Recovery = 92.93%							
Mo	202.031†	6604.9	471.29 ug/L	1.818	471.29 ppb	1.818	0.39%
QC value within limits for Mo 202.031 Recovery = 94.26%							
Na	589.592 Radial†	18689.7	5555.9 ug/L	93.27	5555.9 ppb	93.27	1.68%
QC value within limits for Na 589.592 Radial Recovery = 111.12%							
Ni	231.604†	16980.7	426.49 ug/L	3.097	426.49 ppb	3.097	0.73%
QC value within limits for Ni 231.604 Recovery = 85.30%							
P	214.914†	4336.8	2322.7 ug/L	14.46	2322.7 ppb	14.46	0.62%
QC value within limits for P 214.914 Recovery = 92.91%							
Pb	220.353†	2821.1	460.14 ug/L	5.357	460.14 ppb	5.357	1.16%
QC value within limits for Pb 220.353 Recovery = 92.03%							
S	181.975 Axial†	1902.3	2519.1 ug/L	21.66	2519.1 ppb	21.66	0.86%
QC value within limits for S 181.975 Axial Recovery = 100.76%							
Sb	206.836†	1600.9	541.77 ug/L	7.795	541.77 ppb	7.795	1.44%
QC value within limits for Sb 206.836 Recovery = 108.35%							
Se	196.026†	3214.9	2516.2 ug/L	13.60	2516.2 ppb	13.60	0.54%
QC value within limits for Se 196.026 Recovery = 100.65%							
Si	251.611†	173089.3	5123.1 ug/L	2.40	5123.1 ppb	2.40	0.05%
QC value within limits for Si 251.611 Recovery = 102.46%							
Sn	189.927†	2169.9	476.44 ug/L	3.927	476.44 ppb	3.927	0.82%
QC value within limits for Sn 189.927 Recovery = 95.29%							
Sr	421.552†	82066.5	523.03 ug/L	21.536	523.03 ppb	21.536	4.12%
QC value within limits for Sr 421.552 Recovery = 104.61%							
Ti	334.940†	311103.8	498.40 ug/L	1.294	498.40 ppb	1.294	0.26%
QC value within limits for Ti 334.940 Recovery = 99.68%							
Tl	190.801†	1400.0	451.12 ug/L	2.719	451.12 ppb	2.719	0.60%
QC value within limits for Tl 190.801 Recovery = 90.22%							
U	409.014†	19521.7	465.51 ug/L	3.645	465.51 ppb	3.645	0.78%
QC value within limits for U 409.014 Recovery = 93.10%							
V	292.402†	79502.7	483.16 ug/L	1.328	483.16 ppb	1.328	0.27%
QC value within limits for V 292.402 Recovery = 96.63%							
Zn	213.857†	54406.2	484.94 ug/L	0.612	484.94 ppb	0.612	0.13%
QC value within limits for Zn 213.857 Recovery = 96.99%							
SiO2†	171746.2	10850 ug/L	118.5	10850 ppb	118.5	1.09%	
QC value within limits for SiO2 Recovery = 101.45%							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: LR1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 1/26/2010 10:12:02

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4645.9	4645.9	87.0 %		10:14:00
1	Y RADIAL	5024.7	5024.7	87.28 %		10:14:00
1	Al 396.153Radial†	612943.2	704519.2	533700 ug/L	533700 ppb	10:13:55
1	Ca 317.933Radial†	263608.8	302976.6	486970 ug/L	486970 ppb	10:13:55
1	Fe 238.204 Radial†	40997.7	47116.4	440330 ug/L	440330 ppb	10:14:00
1	K 766.490 Radial†	3429.1	1438.0	-101.18 ug/L	-101.18 ppb	10:14:00
1	Mg 279.077 IEC†	12176.3	13994.7	498720 ug/L	498720 ppb	10:14:00
1	Na 589.592 Radial†	1507847.4	1733695.5	515380 ug/L	515380 ppb	10:13:55
1	Sr 421.552†	747.8	852.4	1.8345 ug/L	1.8345 ppb	10:14:00
1	Sc 361.383	772915.2	772915.2	86.083 %		10:14:28
1	Y 371.029	667874.5	667874.5	81.139 %		10:14:28
1	Ag 328.068†	-24214.7	-28425.5	5.9459 ug/L	5.9459 ppb	10:14:28
1	As 188.979†	-174.8	-172.9	32.271 ug/L	32.271 ppb	10:14:48
1	B 249.677†	1895.6	2442.5	-17.957 ug/L	-17.957 ppb	10:14:28
1	Ba 233.527†	-1435.9	-1665.0	0.3312 ug/L	0.3312 ppb	10:14:48
1	Be 313.107†	-12543.2	-9470.6	-3.4025 ug/L	-3.4025 ppb	10:14:28
1	Cd 226.502†	3612.6	4402.8	6.4501 ug/L	6.4501 ppb	10:14:48
1	Co 228.616†	165.5	262.3	-0.6478 ug/L	-0.6478 ppb	10:14:48
1	Cr 267.716†	92.7	13.7	3.1507 ug/L	3.1507 ppb	10:14:48
1	Cu 324.752†	3140.0	-5480.4	0.1227 ug/L	0.1227 ppb	10:14:28
1	Mn 257.610†	-25492.5	-30103.8	-10.672 ug/L	-10.672 ppb	10:14:28
1	Mo 202.031†	-455.7	-552.9	2.2395 ug/L	2.2395 ppb	10:14:48
1	Ni 231.604†	304.5	260.1	6.5328 ug/L	6.5328 ppb	10:14:48
1	P 214.914†	575.8	430.2	23.277 ug/L	23.277 ppb	10:14:48
1	Pb 220.353†	-490.6	-509.5	17.099 ug/L	17.099 ppb	10:14:48
1	S 181.975 Axial†	113.6	54.9	-24.396 ug/L	-24.396 ppb	10:14:48
1	Sb 206.836†	52.8	31.0	5.1806 ug/L	5.1806 ppb	10:14:48
1	Se 196.026†	-2319.5	-2676.6	-53.978 ug/L	-53.978 ppb	10:14:48
1	Si 251.611†	-336.8	-887.2	-25.823 ug/L	-25.823 ppb	10:14:48
1	Sn 189.927†	-386.1	-448.2	-1.0007 ug/L	-1.0007 ppb	10:14:48
1	Ti 334.940†	-16109.5	-17807.4	-8.8031 ug/L	-8.8031 ppb	10:14:28
1	Tl 190.801†	-115.1	-96.8	-31.432 ug/L	-31.432 ppb	10:14:48
1	U 409.014†	484755.7	564189.4	14057 ug/L	14057 ppb	10:14:28
1	V 292.402†	2453.6	4243.8	-1.6032 ug/L	-1.6032 ppb	10:14:28
1	Zn 213.857†	6099.6	6352.3	16.434 ug/L	16.434 ppb	10:14:48
1	SiO2†	-208.5	-755.6	-46.762 ug/L	-46.762 ppb	10:15:45
2	Sc Radial	4757.3	4757.3	89.1 %		10:14:10
2	Y RADIAL	5166.2	5166.2	89.74 %		10:14:10
2	Al 396.153Radial†	608754.8	683325.3	517640 ug/L	517640 ppb	10:14:05
2	Ca 317.933Radial†	262404.0	294531.4	473400 ug/L	473400 ppb	10:14:05
2	Fe 238.204 Radial†	41753.4	46861.5	437940 ug/L	437940 ppb	10:14:10
2	K 766.490 Radial†	3251.6	1146.4	-143.92 ug/L	-143.92 ppb	10:14:10
2	Mg 279.077 IEC†	12381.3	13897.2	495250 ug/L	495250 ppb	10:14:10
2	Na 589.592 Radial†	1498032.8	1682107.0	500040 ug/L	500040 ppb	10:14:05
2	Sr 421.552†	765.0	851.6	1.9307 ug/L	1.9307 ppb	10:14:10
2	Sc 361.383	772649.8	772649.8	86.053 %		10:14:54
2	Y 371.029	668937.3	668937.3	81.268 %		10:14:54
2	Ag 328.068†	-23940.6	-28116.7	6.6625 ug/L	6.6625 ppb	10:14:54
2	As 188.979†	-181.4	-180.6	28.539 ug/L	28.539 ppb	10:15:14
2	B 249.677†	1756.8	2281.9	-21.093 ug/L	-21.093 ppb	10:14:54
2	Ba 233.527†	-1423.6	-1651.3	0.3679 ug/L	0.3679 ppb	10:15:14
2	Be 313.107†	-12402.2	-9311.8	-3.3458 ug/L	-3.3458 ppb	10:14:54
2	Cd 226.502†	3621.5	4414.6	6.8246 ug/L	6.8246 ppb	10:15:14
2	Co 228.616†	171.7	269.4	-0.4550 ug/L	-0.4550 ppb	10:15:14
2	Cr 267.716†	104.2	27.1	3.2564 ug/L	3.2564 ppb	10:15:14
2	Cu 324.752†	2954.9	-5694.3	-0.5947 ug/L	-0.5947 ppb	10:14:54
2	Mn 257.610†	-25727.5	-30387.0	-11.083 ug/L	-11.083 ppb	10:14:54
2	Mo 202.031†	-446.0	-541.9	2.6479 ug/L	2.6479 ppb	10:15:14
2	Ni 231.604†	321.0	279.4	7.0176 ug/L	7.0176 ppb	10:15:14

2	P 214.914†	595.7	453.5	34.464 ug/L	34.464 ppb	10:15:14
2	Pb 220.353†	-497.5	-517.8	12.602 ug/L	12.602 ppb	10:15:14
2	S 181.975 Axial†	94.2	32.5	-52.286 ug/L	-52.286 ppb	10:15:14
2	Sb 206.836†	46.6	23.9	3.1939 ug/L	3.1939 ppb	10:15:14
2	Se 196.026†	-2317.2	-2674.8	-61.842 ug/L	-61.842 ppb	10:15:14
2	Si 251.611†	-346.3	-898.4	-26.165 ug/L	-26.165 ppb	10:15:14
2	Sn 189.927†	-382.4	-444.0	-2.3452 ug/L	-2.3452 ppb	10:15:14
2	Ti 334.940†	-15941.1	-17618.1	-10.044 ug/L	-10.044 ppb	10:14:54
2	Tl 190.801†	-105.9	-86.2	-28.039 ug/L	-28.039 ppb	10:15:14
2	U 409.014†	484051.8	563564.9	14042 ug/L	14042 ppb	10:14:54
2	V 292.402†	2511.9	4312.6	-0.9154 ug/L	-0.9154 ppb	10:14:54
2	Zn 213.857†	6095.9	6350.4	16.645 ug/L	16.645 ppb	10:15:14
2	SiO2†	-313.0	-877.2	-54.468 ug/L	-54.468 ppb	10:15:50
3	Sc Radial	4765.7	4765.7	89.2 %		10:14:21
3	Y RADIAL	5129.6	5129.6	89.10 %		10:14:21
3	Al 396.153Radial†	612444.6	686252.5	519860 ug/L	519860 ppb	10:14:16
3	Ca 317.933Radial†	263051.2	294736.1	473730 ug/L	473730 ppb	10:14:16
3	Fe 238.204 Radial†	41494.8	46489.0	434460 ug/L	434460 ppb	10:14:21
3	K 766.490 Radial†	3310.7	1206.2	-133.73 ug/L	-133.73 ppb	10:14:21
3	Mg 279.077 IEC†	12335.2	13820.9	492530 ug/L	492530 ppb	10:14:21
3	Na 589.592 Radial†	1505450.7	1687448.1	501630 ug/L	501630 ppb	10:14:16
3	Sr 421.552†	730.3	811.3	1.6691 ug/L	1.6691 ppb	10:14:21
3	Sc 361.383	773612.1	773612.1	86.161 %		10:15:19
3	Y 371.029	669300.1	669300.1	81.312 %		10:15:19
3	Ag 328.068†	-24009.9	-28162.5	5.3114 ug/L	5.3114 ppb	10:15:19
3	As 188.979†	-190.3	-190.7	23.617 ug/L	23.617 ppb	10:15:40
3	B 249.677†	1765.8	2289.9	-20.354 ug/L	-20.354 ppb	10:15:19
3	Ba 233.527†	-1493.6	-1730.4	-0.3626 ug/L	-0.3626 ppb	10:15:40
3	Be 313.107†	-12392.9	-9283.0	-3.3371 ug/L	-3.3371 ppb	10:15:19
3	Cd 226.502†	3643.5	4434.9	7.4175 ug/L	7.4175 ppb	10:15:40
3	Co 228.616†	184.0	283.5	-0.0993 ug/L	-0.0993 ppb	10:15:40
3	Cr 267.716†	92.9	13.9	3.0318 ug/L	3.0318 ppb	10:15:40
3	Cu 324.752†	3245.7	-5361.0	0.1381 ug/L	0.1381 ppb	10:15:19
3	Mn 257.610†	-25660.9	-30272.6	-11.187 ug/L	-11.187 ppb	10:15:19
3	Mo 202.031†	-464.9	-563.2	0.9239 ug/L	0.9239 ppb	10:15:40
3	Ni 231.604†	300.7	255.3	6.4121 ug/L	6.4121 ppb	10:15:40
3	P 214.914†	581.4	436.0	27.787 ug/L	27.787 ppb	10:15:40
3	Pb 220.353†	-459.5	-472.9	19.046 ug/L	19.046 ppb	10:15:40
3	S 181.975 Axial†	93.4	31.4	-54.211 ug/L	-54.211 ppb	10:15:40
3	Sb 206.836†	64.5	44.5	9.9375 ug/L	9.9375 ppb	10:15:40
3	Se 196.026†	-2314.0	-2667.7	-69.116 ug/L	-69.116 ppb	10:15:40
3	Si 251.611†	-397.8	-957.7	-27.902 ug/L	-27.902 ppb	10:15:40
3	Sn 189.927†	-381.1	-442.0	-1.9728 ug/L	-1.9728 ppb	10:15:40
3	Ti 334.940†	-16327.4	-18043.5	-10.440 ug/L	-10.440 ppb	10:15:19
3	Tl 190.801†	-112.0	-93.0	-30.230 ug/L	-30.230 ppb	10:15:40
3	U 409.014†	485762.5	564850.6	14075 ug/L	14075 ppb	10:15:19
3	V 292.402†	2455.5	4243.5	-0.8485 ug/L	-0.8485 ppb	10:15:19
3	Zn 213.857†	6174.3	6432.6	17.751 ug/L	17.751 ppb	10:15:40
3	SiO2†	-468.6	-1057.2	-65.818 ug/L	-65.818 ppb	10:15:55

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	773059.0	86.099 %	0.0554			0.06%
Sc Radial	4722.9	88.4 %	1.25			1.42%
Y 371.029	668703.9	81.240 %	0.0900			0.11%
Y RADIAL	5106.8	88.70 %	1.275			1.44%
Ag 328.068†	-28234.9	5.9733 ug/L	0.67597	5.9733 ppb	0.67597	11.32%
Al 396.153Radial†	691365.7	523730 ug/L	8700.2	523730 ppb	8700.2	1.66%
QC value within limits for Al 396.153Radial Recovery = 104.75%						
As 188.979†	-181.4	28.143 ug/L	4.3405	28.143 ppb	4.3405	15.42%
B 249.677†	2338.1	-19.801 ug/L	1.6392	-19.801 ppb	1.6392	8.28%
Ba 233.527†	-1682.2	0.1122 ug/L	0.41156	0.1122 ppb	0.41156	366.91%
Be 313.107†	-9355.1	-3.3618 ug/L	0.03549	-3.3618 ppb	0.03549	1.06%
Ca 317.933Radial†	297414.7	478030 ug/L	7743.7	478030 ppb	7743.7	1.62%
QC value within limits for Ca 317.933Radial Recovery = 95.61%						
Cd 226.502†	4417.5	6.8974 ug/L	0.48776	6.8974 ppb	0.48776	7.07%
Co 228.616†	271.7	-0.4007 ug/L	0.27821	-0.4007 ppb	0.27821	69.43%
Cr 267.716†	18.2	3.1463 ug/L	0.11239	3.1463 ppb	0.11239	3.57%
Cu 324.752†	-5511.9	-0.1113 ug/L	0.41869	-0.1113 ppb	0.41869	376.20%

Fe 238.204 Radial†	46822.3	437580 ug/L	2948.9	437580 ppb	2948.9	0.67%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 87.52%						
K 766.490 Radial†	1263.5	-126.28 ug/L	22.324	-126.28 ppb	22.324	17.68%
Mg 279.077 IEC†	13904.3	495500 ug/L	3103.9	495500 ppb	3103.9	0.63%
QC value within limits for Mg 279.077 IEC Recovery = 99.10%						
Mn 257.610†	-30254.5	-10.981 ug/L	0.2722	-10.981 ppb	0.2722	2.48%
Mo 202.031†	-552.7	1.9371 ug/L	0.90088	1.9371 ppb	0.90088	46.51%
Na 589.592 Radial†	1701083.5	505680 ug/L	8433.2	505680 ppb	8433.2	1.67%
QC value within limits for Na 589.592 Radial Recovery = 101.14%						
Ni 231.604†	264.9	6.6542 ug/L	0.32049	6.6542 ppb	0.32049	4.82%
P 214.914†	439.9	28.509 ug/L	5.6284	28.509 ppb	5.6284	19.74%
Pb 220.353†	-500.1	16.249 ug/L	3.3049	16.249 ppb	3.3049	20.34%
S 181.975 Axial†	39.6	-43.631 ug/L	16.6859	-43.631 ppb	16.6859	38.24%
Sb 206.836†	33.2	6.1040 ug/L	3.46534	6.1040 ppb	3.46534	56.77%
Se 196.026†	-2673.0	-61.645 ug/L	7.5706	-61.645 ppb	7.5706	12.28%
Si 251.611†	-914.4	-26.630 ug/L	1.1151	-26.630 ppb	1.1151	4.19%
Sn 189.927†	-444.7	-1.7729 ug/L	0.69417	-1.7729 ppb	0.69417	39.15%
Sr 421.552†	838.4	1.8114 ug/L	0.13233	1.8114 ppb	0.13233	7.31%
Ti 334.940†	-17823.0	-9.7626 ug/L	0.85426	-9.7626 ppb	0.85426	8.75%
Tl 190.801†	-92.0	-29.900 ug/L	1.7201	-29.900 ppb	1.7201	5.75%
U 409.014†	564201.6	14058 ug/L	16.3	14058 ppb	16.3	0.12%
QC value within limits for U 409.014 Recovery = 93.72%						
V 292.402†	4266.6	-1.1224 ug/L	0.41775	-1.1224 ppb	0.41775	37.22%
Zn 213.857†	6378.5	16.944 ug/L	0.7074	16.944 ppb	0.7074	4.17%
SiO2†	-896.7	-55.683 ug/L	9.5855	-55.683 ppb	9.5855	17.21%

QC Failed. Continue with analysis.

Sequence No.: 12

Sample ID: LR2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 16

Date Collected: 1/26/2010 10:18:05

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5207.0	5207.0	97.5 %		10:20:03
1	Y RADIAL	5586.5	5586.5	97.03 %		10:20:03
1	Al 396.153Radial†	592.5	598.5	29.601 ug/L	29.601 ppb	10:20:03
1	Ca 317.933Radial†	32.1	12.7	20.420 ug/L	20.420 ppb	10:20:23
1	Fe 238.204 Radial†	-19.6	-27.3	7.5818 ug/L	7.5818 ppb	10:20:23
1	K 766.490 Radial†	1648379.4	1687992.8	308350 ug/L	308350 ppb	10:19:58
1	Mg 279.077 IEC†	-7.3	-8.5	-211.18 ug/L	-211.18 ppb	10:20:23
1	Na 589.592 Radial†	-277.7	262.9	78.147 ug/L	78.147 ppb	10:20:03
1	Sr 421.552†	1549691.8	1589280.1	10200 ug/L	10200 ppb	10:19:58
1	Sc 361.383	874848.0	874848.0	97.436 %		10:21:40
1	Y 371.029	758195.9	758195.9	92.112 %		10:21:40
1	Ag 328.068†	-7176.3	-7661.2	6.4330 ug/L	6.4330 ppb	10:21:46
1	As 188.979†	20253.0	20816.2	8579.6 ug/L	8579.6 ppb	10:21:46
1	B 249.677†	211582.3	217391.3	4742.5 ug/L	4742.5 ppb	10:21:40
1	Ba 233.527†	1688325.3	1732763.2	13679 ug/L	13679 ppb	10:21:40
1	Be 313.107†	7745227.2	7954173.5	2828.1 ug/L	2828.1 ppb	10:21:34
1	Cd 226.502†	807433.6	828890.6	9264.6 ug/L	9264.6 ppb	10:21:40
1	Co 228.616†	389631.2	399955.8	8764.4 ug/L	8764.4 ppb	10:21:46
1	Cr 267.716†	2063525.6	2117741.4	22971 ug/L	22971 ppb	10:21:40
1	Cu 324.752†	6900835.9	7073330.3	19842 ug/L	19842 ppb	10:21:34
1	Mn 257.610†	8084783.9	8297076.6	9302.4 ug/L	9302.4 ppb	10:21:34
1	Mo 202.031†	124785.3	128045.9	8738.9 ug/L	8738.9 ppb	10:21:46
1	Ni 231.604†	337445.5	346233.0	8696.1 ug/L	8696.1 ppb	10:21:46
1	P 214.914†	27588.6	28075.9	11982 ug/L	11982 ppb	10:21:46
1	Pb 220.353†	170940.1	175499.4	22039 ug/L	22039 ppb	10:21:46
1	S 181.975 Axial†	32738.4	33523.0	46155 ug/L	46155 ppb	10:21:46
1	Sb 206.836†	27325.3	28014.2	9705.7 ug/L	9705.7 ppb	10:21:46
1	Se 196.026†	14817.7	15225.7	8808.2 ug/L	8808.2 ppb	10:21:46
1	Si 251.611†	1473739.1	1512030.3	44694 ug/L	44694 ppb	10:21:40
1	Sn 189.927†	50819.6	52157.4	9591.0 ug/L	9591.0 ppb	10:21:46
1	Ti 334.940†	6230699.3	6395590.9	9743.1 ug/L	9743.1 ppb	10:21:34
1	Tl 190.801†	26856.3	27600.0	8897.4 ug/L	8897.4 ppb	10:21:46
1	U 409.014†	77.9	1142.8	-22.771 ug/L	-22.771 ppb	10:21:46
1	V 292.402†	1490666.3	1531292.6	9627.6 ug/L	9627.6 ppb	10:21:40
1	Zn 213.857†	1401987.5	1438152.9	13313 ug/L	13313 ppb	10:21:40
1	SiO2†	1531352.3	1571142.4	99128 ug/L	99128 ppb	10:22:33
2	Sc Radial	5189.5	5189.5	97.2 %		10:20:33
2	Y RADIAL	5560.9	5560.9	96.59 %		10:20:33
2	Al 396.153Radial†	604.8	613.2	1.4686 ug/L	1.4686 ppb	10:20:33
2	Ca 317.933Radial†	27.9	8.5	13.669 ug/L	13.669 ppb	10:20:53
2	Fe 238.204 Radial†	-20.9	-28.7	19.431 ug/L	19.431 ppb	10:20:53
2	K 766.490 Radial†	1622973.2	1667544.4	304620 ug/L	304620 ppb	10:20:28
2	Mg 279.077 IEC†	-5.4	-6.5	-132.53 ug/L	-132.53 ppb	10:20:53
2	Na 589.592 Radial†	-304.9	233.9	69.534 ug/L	69.534 ppb	10:20:33
2	Sr 421.552†	1520045.7	1564127.9	10038 ug/L	10038 ppb	10:20:28
2	Sc 361.383	854709.8	854709.8	95.193 %		10:22:00
2	Y 371.029	740540.6	740540.6	89.967 %		10:22:00
2	Ag 328.068†	-7740.3	-8427.2	4.6708 ug/L	4.6708 ppb	10:22:05
2	As 188.979†	21891.8	23027.5	9483.2 ug/L	9483.2 ppb	10:22:05
2	B 249.677†	214363.9	225429.8	4916.5 ug/L	4916.5 ppb	10:22:00
2	Ba 233.527†	1710841.0	1797242.5	14188 ug/L	14188 ppb	10:22:00
2	Be 313.107†	7647408.3	8038706.8	2858.1 ug/L	2858.1 ppb	10:21:54
2	Cd 226.502†	818865.2	860424.4	9617.3 ug/L	9617.3 ppb	10:22:00
2	Co 228.616†	416796.7	437915.1	9598.0 ug/L	9598.0 ppb	10:22:05
2	Cr 267.716†	2091850.6	2197396.2	23835 ug/L	23835 ppb	10:22:00
2	Cu 324.752†	6819344.2	7154596.6	20070 ug/L	20070 ppb	10:21:54
2	Mn 257.610†	7988964.5	8391921.5	9408.8 ug/L	9408.8 ppb	10:21:54
2	Mo 202.031†	133205.7	139909.0	9548.5 ug/L	9548.5 ppb	10:22:05
2	Ni 231.604†	360437.4	378546.0	9507.7 ug/L	9507.7 ppb	10:22:05

2	P 214.914†	29899.2	31170.4	13690 ug/L	13690 ppb	10:22:05
2	Pb 220.353†	182634.9	191918.4	24102 ug/L	24102 ppb	10:22:05
2	S 181.975 Axial†	35539.6	37257.4	51297 ug/L	51297 ppb	10:22:05
2	Sb 206.836†	29527.6	30988.5	10733 ug/L	10733 ppb	10:22:05
2	Se 196.026†	16270.3	17109.9	9897.5 ug/L	9897.5 ppb	10:22:05
2	Si 251.611†	1493583.0	1568513.8	46357 ug/L	46357 ppb	10:22:00
2	Sn 189.927†	54371.0	57117.1	10503 ug/L	10503 ppb	10:22:05
2	Ti 334.940†	6156000.6	6467788.3	9852.9 ug/L	9852.9 ppb	10:21:54
2	Tl 190.801†	28735.4	30223.5	9733.7 ug/L	9733.7 ppb	10:22:05
2	U 409.014†	155.9	1226.7	-22.606 ug/L	-22.606 ppb	10:22:05
2	V 292.402†	1510862.6	1588555.5	9994.7 ug/L	9994.7 ppb	10:22:00
2	Zn 213.857†	1419289.7	1490231.1	13793 ug/L	13793 ppb	10:22:00
2	SiO2†	1541505.3	1618838.7	102120 ug/L	102120 ppb	10:22:40
3	Sc Radial	5368.9	5368.9	101 %		10:21:04
3	Y RADIAL	5740.0	5740.0	99.70 %		10:21:04
3	Al 396.153Radial†	601.9	589.5	-33.075 ug/L	-33.075 ppb	10:21:04
3	Ca 317.933Radial†	27.9	7.5	12.128 ug/L	12.128 ppb	10:21:24
3	Fe 238.204 Radial†	-23.8	-30.8	9.1186 ug/L	9.1186 ppb	10:21:24
3	K 766.490 Radial†	1640207.1	1628890.9	297560 ug/L	297560 ppb	10:20:59
3	Mg 279.077 IEC†	-5.2	-6.2	-116.63 ug/L	-116.63 ppb	10:21:24
3	Na 589.592 Radial†	-270.1	279.0	82.934 ug/L	82.934 ppb	10:21:04
3	Sr 421.552†	1540648.5	1532363.6	9834.2 ug/L	9834.2 ppb	10:20:59
3	Sc 361.383	846991.1	846991.1	94.333 %		10:22:20
3	Y 371.029	732830.7	732830.7	89.031 %		10:22:20
3	Ag 328.068†	-7897.1	-8667.6	4.1798 ug/L	4.1798 ppb	10:22:25
3	As 188.979†	22637.3	24027.3	9892.5 ug/L	9892.5 ppb	10:22:25
3	B 249.677†	215594.9	228786.9	4989.1 ug/L	4989.1 ppb	10:22:20
3	Ba 233.527†	1718251.9	1821476.9	14379 ug/L	14379 ppb	10:22:20
3	Be 313.107†	7668912.1	8134713.2	2892.3 ug/L	2892.3 ppb	10:22:13
3	Cd 226.502†	823505.8	873183.1	9760.1 ug/L	9760.1 ppb	10:22:20
3	Co 228.616†	427725.6	453490.7	9940.0 ug/L	9940.0 ppb	10:22:25
3	Cr 267.716†	2101234.2	2227369.4	24160 ug/L	24160 ppb	10:22:20
3	Cu 324.752†	6852725.1	7255266.3	20353 ug/L	20353 ppb	10:22:13
3	Mn 257.610†	8015481.1	8496511.6	9526.0 ug/L	9526.0 ppb	10:22:13
3	Mo 202.031†	136735.2	144925.8	9890.9 ug/L	9890.9 ppb	10:22:25
3	Ni 231.604†	369684.2	391798.9	9840.5 ug/L	9840.5 ppb	10:22:25
3	P 214.914†	30656.1	32259.0	14251 ug/L	14251 ppb	10:22:25
3	Pb 220.353†	187366.9	198683.1	24951 ug/L	24951 ppb	10:22:25
3	S 181.975 Axial†	36509.4	38625.7	53181 ug/L	53181 ppb	10:22:25
3	Sb 206.836†	30318.6	32109.7	11121 ug/L	11121 ppb	10:22:25
3	Se 196.026†	16784.5	17810.8	10303 ug/L	10303 ppb	10:22:25
3	Si 251.611†	1501806.8	1591530.1	47035 ug/L	47035 ppb	10:22:20
3	Sn 189.927†	55742.7	59091.7	10866 ug/L	10866 ppb	10:22:25
3	Ti 334.940†	6175380.2	6547265.3	9974.0 ug/L	9974.0 ppb	10:22:13
3	Tl 190.801†	29521.0	31331.3	10088 ug/L	10088 ppb	10:22:25
3	U 409.014†	146.7	1218.4	-23.537 ug/L	-23.537 ppb	10:22:25
3	V 292.402†	1516669.0	1609174.6	10128 ug/L	10128 ppb	10:22:20
3	Zn 213.857†	1427141.7	1512142.1	13995 ug/L	13995 ppb	10:22:20
3	SiO2†	1527675.5	1618935.4	102120 ug/L	102120 ppb	10:22:47

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	858849.6	95.654 %	1.6018			1.67%
Sc Radial	5255.2	98.4 %	1.85			1.88%
Y 371.029	743855.7	90.370 %	1.5798			1.75%
Y RADIAL	5629.2	97.78 %	1.683			1.72%
Ag 328.068†	-8252.0	5.0945 ug/L	1.18484	5.0945 ppb	1.18484	23.26%
Al 396.153Radial†	600.4	-0.6687 ug/L	31.39251	-0.6687 ppb	31.39251	>999.9%
As 188.979†	22623.7	9318.4 ug/L	671.81	9318.4 ppb	671.81	7.21%
QC value within limits for As 188.979 Recovery = 93.18%						
B 249.677†	223869.3	4882.7 ug/L	126.70	4882.7 ppb	126.70	2.59%
QC value within limits for B 249.677 Recovery = 97.65%						
Ba 233.527†	1783827.5	14082 ug/L	362.0	14082 ppb	362.0	2.57%
QC value within limits for Ba 233.527 Recovery = 93.88%						
Be 313.107†	8042531.1	2859.5 ug/L	32.13	2859.5 ppb	32.13	1.12%
QC value within limits for Be 313.107 Recovery = 95.32%						
Ca 317.933Radial†	9.6	15.406 ug/L	4.4101	15.406 ppb	4.4101	28.63%
Cd 226.502†	854166.0	9547.3 ug/L	255.06	9547.3 ppb	255.06	2.67%
QC value within limits for Cd 226.502 Recovery = 95.47%						

Co 228.616†	430453.9	9434.1 ug/L	604.71	9434.1 ppb	604.71	6.41%
QC value within limits for Co 228.616 Recovery = 94.34%						
Cr 267.716†	2180835.7	23656 ug/L	614.6	23656 ppb	614.6	2.60%
QC value within limits for Cr 267.716 Recovery = 94.62%						
Cu 324.752†	7161064.4	20089 ug/L	255.7	20089 ppb	255.7	1.27%
QC value within limits for Cu 324.752 Recovery = 100.44%						
Fe 238.204 Radial†	-28.9	12.044 ug/L	6.4436	12.044 ppb	6.4436	53.50%
K 766.490 Radial†	1661476.0	303510 ug/L	5483.9	303510 ppb	5483.9	1.81%
QC value within limits for K 766.490 Radial Recovery = 101.17%						
Mg 279.077 IEC†	-7.1	-153.44 ug/L	50.626	-153.44 ppb	50.626	32.99%
Mn 257.610†	8395169.9	9412.4 ug/L	111.84	9412.4 ppb	111.84	1.19%
QC value within limits for Mn 257.610 Recovery = 94.12%						
Mo 202.031†	137626.9	9392.7 ug/L	591.59	9392.7 ppb	591.59	6.30%
QC value within limits for Mo 202.031 Recovery = 93.93%						
Na 589.592 Radial†	258.6	76.872 ug/L	6.7903	76.872 ppb	6.7903	8.83%
Ni 231.604†	372192.6	9348.1 ug/L	588.67	9348.1 ppb	588.67	6.30%
QC value within limits for Ni 231.604 Recovery = 93.48%						
P 214.914†	30501.8	13308 ug/L	1182.1	13308 ppb	1182.1	8.88%
QC value less than the lower limit for P 214.914 Recovery = 88.72%						
Pb 220.353†	188700.3	23697 ug/L	1497.8	23697 ppb	1497.8	6.32%
QC value within limits for Pb 220.353 Recovery = 94.79%						
S 181.975 Axial†	36468.7	50211 ug/L	3636.5	50211 ppb	3636.5	7.24%
QC value within limits for S 181.975 Axial Recovery = 100.42%						
Sb 206.836†	30370.8	10520 ug/L	731.5	10520 ppb	731.5	6.95%
QC value within limits for Sb 206.836 Recovery = 105.20%						
Se 196.026†	16715.4	9669.5 ug/L	772.90	9669.5 ppb	772.90	7.99%
QC value within limits for Se 196.026 Recovery = 96.69%						
Si 251.611†	1557358.1	46029 ug/L	1204.8	46029 ppb	1204.8	2.62%
QC value within limits for Si 251.611 Recovery = 92.06%						
Sn 189.927†	56122.1	10320 ug/L	657.0	10320 ppb	657.0	6.37%
QC value within limits for Sn 189.927 Recovery = 103.20%						
Sr 421.552†	1561923.9	10024 ug/L	183.0	10024 ppb	183.0	1.83%
QC value within limits for Sr 421.552 Recovery = 100.24%						
Ti 334.940†	6470214.8	9856.7 ug/L	115.46	9856.7 ppb	115.46	1.17%
QC value within limits for Ti 334.940 Recovery = 98.57%						
Tl 190.801†	29718.3	9573.0 ug/L	611.29	9573.0 ppb	611.29	6.39%
QC value within limits for Tl 190.801 Recovery = 95.73%						
U 409.014†	1196.0	-22.971 ug/L	0.4970	-22.971 ppb	0.4970	2.16%
V 292.402†	1576340.9	9916.6 ug/L	258.96	9916.6 ppb	258.96	2.61%
QC value within limits for V 292.402 Recovery = 99.17%						
Zn 213.857†	1480175.4	13700 ug/L	349.9	13700 ppb	349.9	2.55%
QC value within limits for Zn 213.857 Recovery = 91.34%						
SiO2†	1602972.2	101120 ug/L	1727.9	101120 ppb	1727.9	1.71%
QC value within limits for SiO2 Recovery = 94.51%						
QC Failed. Continue with analysis.						



=====  
Analysis Begun

Start Time: 1/26/2010 10:38:56

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012610.sif

Batch ID:

Results Data Set: 012610

Results Library: C:\pe\Optima3\Results\Results.mdb  
=====

## Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/26/2010 09:10:21

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/26/2010 10:38:58

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:  
=====

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5709.5	5709.5	107 %		10:40:50
1	Y RADIAL	6139.2	6139.2	106.6 %		10:40:50
1	Al 396.153Radial†	6542.6	6110.2	4605.4 ug/L	4605.4 ppb	10:40:50

1	Ca 317.933Radial†	3195.2	2968.2	4770.8 ug/L	4770.8 ppb	10:41:10
1	Fe 238.204 Radial†	564.2	520.5	4879.5 ug/L	4879.5 ppb	10:41:10
1	K 766.490 Radial†	30504.7	26027.6	4748.8 ug/L	4748.8 ppb	10:40:50
1	Mg 279.077 IEC†	148.1	137.5	4905.2 ug/L	4905.2 ppb	10:41:10
1	Na 589.592 Radial†	33087.5	31494.4	9362.4 ug/L	9362.4 ppb	10:40:50
1	Sr 421.552†	79318.2	74179.5	476.03 ug/L	476.03 ppb	10:40:50
1	Sc 361.383	938569.5	938569.5	104.53 %		10:42:08
1	Y 371.029	823149.9	823149.9	100.00 %		10:42:08
1	Ag 328.068†	121397.9	115838.0	486.48 ug/L	486.48 ppb	10:42:13
1	As 188.979†	1221.4	1198.6	494.52 ug/L	494.52 ppb	10:42:33
1	B 249.677†	23250.5	22482.7	490.85 ug/L	490.85 ppb	10:42:13
1	Ba 233.527†	64251.2	61468.3	485.72 ug/L	485.72 ppb	10:42:13
1	Be 313.107†	1428011.9	1371193.7	484.80 ug/L	484.80 ppb	10:42:08
1	Cd 226.502†	45340.0	43580.3	486.71 ug/L	486.71 ppb	10:42:13
1	Co 228.616†	23578.3	22625.9	496.07 ug/L	496.07 ppb	10:42:13
1	Cr 267.716†	46813.4	44689.6	485.05 ug/L	485.05 ppb	10:42:13
1	Cu 324.752†	188322.0	171028.4	479.76 ug/L	479.76 ppb	10:42:13
1	Mn 257.610†	449448.4	429470.4	481.79 ug/L	481.79 ppb	10:42:08
1	Mo 202.031†	7360.0	7017.3	479.35 ug/L	479.35 ppb	10:42:33
1	Ni 231.604†	20329.8	19354.6	486.11 ug/L	486.11 ppb	10:42:13
1	P 214.914†	4663.6	4222.6	2287.7 ug/L	2287.7 ppb	10:42:33
1	Pb 220.353†	3960.9	3849.5	484.72 ug/L	484.72 ppb	10:42:33
1	S 181.975 Axial†	789.3	678.1	932.77 ug/L	932.77 ppb	10:42:33
1	Sb 206.836†	1539.2	1442.2	500.17 ug/L	500.17 ppb	10:42:33
1	Se 196.026†	847.4	828.6	495.79 ug/L	495.79 ppb	10:42:33
1	Si 251.611†	86090.8	81861.9	2419.7 ug/L	2419.7 ppb	10:42:13
1	Sn 189.927†	2747.7	2628.9	484.23 ug/L	484.23 ppb	10:42:33
1	Ti 334.940†	329323.4	315950.5	481.58 ug/L	481.58 ppb	10:42:13
1	Tl 190.801†	1504.0	1475.7	475.23 ug/L	475.23 ppb	10:42:33
1	U 409.014†	19231.5	19460.5	484.97 ug/L	484.97 ppb	10:42:13
1	V 292.402†	79895.1	77824.4	490.37 ug/L	490.37 ppb	10:42:13
1	Zn 213.857†	55169.2	52043.7	480.54 ug/L	480.54 ppb	10:42:13
1	SiO2†	85634.8	81408.2	5135.6 ug/L	5135.6 ppb	10:43:40
2	Sc Radial	5189.1	5189.1	97.2 %		10:41:15
2	Y RADIAL	5588.6	5588.6	97.07 %		10:41:15
2	Al 396.153Radial†	6568.7	6750.6	5090.4 ug/L	5090.4 ppb	10:41:15
2	Ca 317.933Radial†	3218.9	3292.3	5291.7 ug/L	5291.7 ppb	10:41:35
2	Fe 238.204 Radial†	568.5	577.9	5415.3 ug/L	5415.3 ppb	10:41:35
2	K 766.490 Radial†	30413.4	28794.7	5253.8 ug/L	5253.8 ppb	10:41:15
2	Mg 279.077 IEC†	152.9	156.4	5578.1 ug/L	5578.1 ppb	10:41:35
2	Na 589.592 Radial†	33068.7	34578.4	10279 ug/L	10279 ppb	10:41:15
2	Sr 421.552†	79365.7	81667.5	524.08 ug/L	524.08 ppb	10:41:15
2	Sc 361.383	933250.2	933250.2	103.94 %		10:42:39
2	Y 371.029	817518.6	817518.6	99.319 %		10:42:39
2	Ag 328.068†	119632.8	114801.8	482.31 ug/L	482.31 ppb	10:42:44
2	As 188.979†	1223.4	1207.2	498.11 ug/L	498.11 ppb	10:43:04
2	B 249.677†	22983.6	22352.7	487.93 ug/L	487.93 ppb	10:42:44
2	Ba 233.527†	63558.5	61152.2	483.24 ug/L	483.24 ppb	10:42:44
2	Be 313.107†	1419124.6	1370429.5	484.52 ug/L	484.52 ppb	10:42:39
2	Cd 226.502†	44945.0	43447.4	485.17 ug/L	485.17 ppb	10:42:44
2	Co 228.616†	23288.3	22475.5	492.78 ug/L	492.78 ppb	10:42:44
2	Cr 267.716†	46456.2	44601.2	484.10 ug/L	484.10 ppb	10:42:44
2	Cu 324.752†	184874.1	168738.0	473.37 ug/L	473.37 ppb	10:42:44
2	Mn 257.610†	447911.4	430442.3	482.91 ug/L	482.91 ppb	10:42:39
2	Mo 202.031†	7368.1	7065.2	482.67 ug/L	482.67 ppb	10:43:04
2	Ni 231.604†	20172.1	19313.8	485.09 ug/L	485.09 ppb	10:42:44
2	P 214.914†	4660.3	4244.9	2301.3 ug/L	2301.3 ppb	10:43:04
2	Pb 220.353†	3938.7	3849.8	484.82 ug/L	484.82 ppb	10:43:04
2	S 181.975 Axial†	792.2	685.2	942.39 ug/L	942.39 ppb	10:43:04
2	Sb 206.836†	1553.4	1464.2	507.62 ug/L	507.62 ppb	10:43:04
2	Se 196.026†	860.3	845.6	507.41 ug/L	507.41 ppb	10:43:04
2	Si 251.611†	85133.5	81410.4	2406.2 ug/L	2406.2 ppb	10:42:44
2	Sn 189.927†	2734.9	2631.6	484.81 ug/L	484.81 ppb	10:43:04
2	Ti 334.940†	324380.2	312990.3	477.09 ug/L	477.09 ppb	10:42:44
2	Tl 190.801†	1521.9	1501.1	483.36 ug/L	483.36 ppb	10:43:04
2	U 409.014†	18714.7	19068.1	475.10 ug/L	475.10 ppb	10:42:44
2	V 292.402†	78768.2	77175.9	486.31 ug/L	486.31 ppb	10:42:44
2	Zn 213.857†	54657.0	51851.7	478.72 ug/L	478.72 ppb	10:42:44
2	SiO2†	84965.4	81231.2	5124.3 ug/L	5124.3 ppb	10:43:45
3	Sc Radial	5417.9	5417.9	101 %		10:41:40
3	Y RADIAL	5821.4	5821.4	101.1 %		10:41:40

3	Al 396.153Radial†	6665.3	6560.4	4946.3 ug/L	4946.3 ppb	10:41:40
3	Ca 317.933Radial†	3192.6	3126.5	5025.2 ug/L	5025.2 ppb	10:42:01
3	Fe 238.204 Radial†	563.2	547.9	5135.6 ug/L	5135.6 ppb	10:42:01
3	K 766.490 Radial†	30739.0	27793.7	5071.2 ug/L	5071.2 ppb	10:41:40
3	Mg 279.077 IEC†	150.2	147.1	5245.0 ug/L	5245.0 ppb	10:42:01
3	Na 589.592 Radial†	33156.2	33227.3	9877.5 ug/L	9877.5 ppb	10:41:40
3	Sr 421.552†	79990.3	78833.7	505.89 ug/L	505.89 ppb	10:41:40
3	Sc 361.383	942206.6	942206.6	104.94 %		10:43:10
3	Y 371.029	824780.8	824780.8	100.20 %		10:43:10
3	Ag 328.068†	121460.3	115449.2	484.94 ug/L	484.94 ppb	10:43:15
3	As 188.979†	1234.2	1206.3	497.70 ug/L	497.70 ppb	10:43:35
3	B 249.677†	23336.6	22478.9	490.73 ug/L	490.73 ppb	10:43:15
3	Ba 233.527†	64474.0	61443.4	485.53 ug/L	485.53 ppb	10:43:15
3	Be 313.107†	1427946.0	1365857.4	482.91 ug/L	482.91 ppb	10:43:10
3	Cd 226.502†	45654.6	43712.6	488.16 ug/L	488.16 ppb	10:43:15
3	Co 228.616†	23646.2	22603.5	495.59 ug/L	495.59 ppb	10:43:15
3	Cr 267.716†	47071.4	44762.6	485.85 ug/L	485.85 ppb	10:43:15
3	Cu 324.752†	187900.9	169931.6	476.71 ug/L	476.71 ppb	10:43:15
3	Mn 257.610†	451278.4	429554.6	481.90 ug/L	481.90 ppb	10:43:10
3	Mo 202.031†	7425.7	7052.7	481.79 ug/L	481.79 ppb	10:43:35
3	Ni 231.604†	20541.6	19481.4	489.30 ug/L	489.30 ppb	10:43:15
3	P 214.914†	4698.8	4239.0	2297.5 ug/L	2297.5 ppb	10:43:35
3	Pb 220.353†	3975.4	3848.7	484.68 ug/L	484.68 ppb	10:43:35
3	S 181.975 Axial†	788.5	674.5	927.67 ug/L	927.67 ppb	10:43:35
3	Sb 206.836†	1559.8	1456.2	504.93 ug/L	504.93 ppb	10:43:35
3	Se 196.026†	852.2	830.1	497.51 ug/L	497.51 ppb	10:43:35
3	Si 251.611†	86396.5	81835.3	2418.8 ug/L	2418.8 ppb	10:43:15
3	Sn 189.927†	2768.0	2638.1	485.96 ug/L	485.96 ppb	10:43:35
3	Ti 334.940†	329592.1	314990.3	480.13 ug/L	480.13 ppb	10:43:15
3	Tl 190.801†	1537.5	1502.0	483.65 ug/L	483.65 ppb	10:43:35
3	U 409.014†	18985.1	19154.6	477.29 ug/L	477.29 ppb	10:43:15
3	V 292.402†	80086.5	77711.8	489.66 ug/L	489.66 ppb	10:43:15
3	Zn 213.857†	55335.0	51997.9	480.08 ug/L	480.08 ppb	10:43:15
3	SiO2†	85189.0	80667.2	5088.6 ug/L	5088.6 ppb	10:43:51

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	938008.8	104.47 %	0.502			0.48%
Sc Radial	5438.8	102 %	4.9			4.80%
Y 371.029	821816.4	99.841 %	0.4629			0.46%
Y RADIAL	5849.7	101.6 %	4.80			4.72%
Ag 328.068†	115363.0	484.57 ug/L	2.107	484.57 ppb	2.107	0.43%
QC value within limits for Ag 328.068 Recovery = 96.91%						
Al 396.153Radial†	6473.7	4880.7 ug/L	249.05	4880.7 ppb	249.05	5.10%
QC value within limits for Al 396.153Radial Recovery = 97.61%						
As 188.979†	1204.0	496.78 ug/L	1.963	496.78 ppb	1.963	0.40%
QC value within limits for As 188.979 Recovery = 99.36%						
B 249.677†	22438.1	489.84 ug/L	1.656	489.84 ppb	1.656	0.34%
QC value within limits for B 249.677 Recovery = 97.97%						
Ba 233.527†	61354.7	484.83 ug/L	1.383	484.83 ppb	1.383	0.29%
QC value within limits for Ba 233.527 Recovery = 96.97%						
Be 313.107†	1369160.2	484.08 ug/L	1.018	484.08 ppb	1.018	0.21%
QC value within limits for Be 313.107 Recovery = 96.82%						
Ca 317.933Radial†	3129.0	5029.2 ug/L	260.49	5029.2 ppb	260.49	5.18%
QC value within limits for Ca 317.933Radial Recovery = 100.58%						
Cd 226.502†	43580.1	486.68 ug/L	1.497	486.68 ppb	1.497	0.31%
QC value within limits for Cd 226.502 Recovery = 97.34%						
Co 228.616†	22568.3	494.81 ug/L	1.775	494.81 ppb	1.775	0.36%
QC value within limits for Co 228.616 Recovery = 98.96%						
Cr 267.716†	44684.5	485.00 ug/L	0.875	485.00 ppb	0.875	0.18%
QC value within limits for Cr 267.716 Recovery = 97.00%						
Cu 324.752†	169899.3	476.61 ug/L	3.197	476.61 ppb	3.197	0.67%
QC value within limits for Cu 324.752 Recovery = 95.32%						
Fe 238.204 Radial†	548.8	5143.4 ug/L	268.00	5143.4 ppb	268.00	5.21%
QC value within limits for Fe 238.204 Radial Recovery = 102.87%						
K 766.490 Radial†	27538.7	5024.6 ug/L	255.69	5024.6 ppb	255.69	5.09%
QC value within limits for K 766.490 Radial Recovery = 100.49%						
Mg 279.077 IEC†	147.0	5242.7 ug/L	336.44	5242.7 ppb	336.44	6.42%
QC value within limits for Mg 279.077 IEC Recovery = 104.85%						

Mn 257.610†	429822.4	482.20 ug/L	0.616	482.20 ppb	0.616	0.13%
QC value within limits for Mn 257.610 Recovery = 96.44%						
Mo 202.031†	7045.1	481.27 ug/L	1.720	481.27 ppb	1.720	0.36%
QC value within limits for Mo 202.031 Recovery = 96.25%						
Na 589.592 Radial†	33100.0	9839.7 ug/L	459.55	9839.7 ppb	459.55	4.67%
QC value within limits for Na 589.592 Radial Recovery = 98.40%						
Ni 231.604†	19383.3	486.83 ug/L	2.197	486.83 ppb	2.197	0.45%
QC value within limits for Ni 231.604 Recovery = 97.37%						
P 214.914†	4235.5	2295.5 ug/L	6.99	2295.5 ppb	6.99	0.30%
QC value within limits for P 214.914 Recovery = 91.82%						
Pb 220.353†	3849.3	484.74 ug/L	0.073	484.74 ppb	0.073	0.02%
QC value within limits for Pb 220.353 Recovery = 96.95%						
S 181.975 Axial†	679.2	934.28 ug/L	7.470	934.28 ppb	7.470	0.80%
QC value within limits for S 181.975 Axial Recovery = 93.43%						
Sb 206.836†	1454.2	504.24 ug/L	3.772	504.24 ppb	3.772	0.75%
QC value within limits for Sb 206.836 Recovery = 100.85%						
Se 196.026†	834.8	500.24 ug/L	6.269	500.24 ppb	6.269	1.25%
QC value within limits for Se 196.026 Recovery = 100.05%						
Si 251.611†	81702.6	2414.9 ug/L	7.52	2414.9 ppb	7.52	0.31%
QC value within limits for Si 251.611 Recovery = 96.60%						
Sn 189.927†	2632.9	485.00 ug/L	0.877	485.00 ppb	0.877	0.18%
QC value within limits for Sn 189.927 Recovery = 97.00%						
Sr 421.552†	78226.9	502.00 ug/L	24.262	502.00 ppb	24.262	4.83%
QC value within limits for Sr 421.552 Recovery = 100.40%						
Ti 334.940†	314643.7	479.60 ug/L	2.293	479.60 ppb	2.293	0.48%
QC value within limits for Ti 334.940 Recovery = 95.92%						
Tl 190.801†	1492.9	480.75 ug/L	4.781	480.75 ppb	4.781	0.99%
QC value within limits for Tl 190.801 Recovery = 96.15%						
U 409.014†	19227.7	479.12 ug/L	5.183	479.12 ppb	5.183	1.08%
QC value within limits for U 409.014 Recovery = 95.82%						
V 292.402†	77570.7	488.78 ug/L	2.171	488.78 ppb	2.171	0.44%
QC value within limits for V 292.402 Recovery = 97.76%						
Zn 213.857†	51964.4	479.78 ug/L	0.948	479.78 ppb	0.948	0.20%
QC value within limits for Zn 213.857 Recovery = 95.96%						
SiO2†	81102.2	5116.2 ug/L	24.50	5116.2 ppb	24.50	0.48%
QC value within limits for SiO2 Recovery = 95.67%						

All analyte(s) passed QC.

Sequence No.: 2  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/26/2010 10:46:01  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5500.4	5500.4	103 %		10:47:53
1	Y RADIAL	5938.0	5938.0	103.1 %		10:47:53
1	Al 396.153Radial†	3.1	-6.1	-4.6271 ug/L	-4.6271 ppb	10:48:13
1	Ca 317.933Radial†	21.4	0.5	0.8113 ug/L	0.8113 ppb	10:48:13
1	Fe 238.204 Radial†	6.9	-0.5	-4.6519 ug/L	-4.6519 ppb	10:48:13
1	K 766.490 Radial†	2596.4	17.3	3.1658 ug/L	3.1658 ppb	10:47:53
1	Mg 279.077 IEC†	0.7	-0.3	-11.957 ug/L	-11.957 ppb	10:48:13
1	Na 589.592 Radial†	-679.9	-112.4	-33.420 ug/L	-33.420 ppb	10:47:53
1	Sr 421.552†	59.1	50.3	0.3225 ug/L	0.3225 ppb	10:47:53
1	Sc 361.383	895964.4	895964.4	99.787 %		10:49:10
1	Y 371.029	821794.6	821794.6	99.839 %		10:49:10
1	Ag 328.068†	381.0	85.8	0.3573 ug/L	0.3573 ppb	10:49:10
1	As 188.979†	-13.5	16.7	6.8113 ug/L	6.8113 ppb	10:49:30
1	B 249.677†	284.9	525.9	11.535 ug/L	11.535 ppb	10:49:30
1	Ba 233.527†	16.3	19.5	0.1538 ug/L	0.1538 ppb	10:49:30
1	Be 313.107†	-4987.3	102.5	0.0359 ug/L	0.0359 ppb	10:49:10
1	Cd 226.502†	-195.3	10.5	0.1180 ug/L	0.1180 ppb	10:49:30
1	Co 228.616†	-72.6	-2.8	-0.0617 ug/L	-0.0617 ppb	10:49:30
1	Cr 267.716†	91.8	-2.0	-0.0212 ug/L	-0.0212 ppb	10:49:30
1	Cu 324.752†	9066.2	-42.5	-0.1193 ug/L	-0.1193 ppb	10:49:10
1	Mn 257.610†	508.7	20.0	0.0224 ug/L	0.0224 ppb	10:49:30
1	Mo 202.031†	21.6	-2.0	-0.1376 ug/L	-0.1376 ppb	10:49:30
1	Ni 231.604†	113.8	20.3	0.5114 ug/L	0.5114 ppb	10:49:30
1	P 214.914†	236.5	-1.7	-0.9137 ug/L	-0.9137 ppb	10:49:30
1	Pb 220.353†	-52.5	7.8	0.9777 ug/L	0.9777 ppb	10:49:30
1	S 181.975 Axial†	46.3	-30.6	-42.105 ug/L	-42.105 ppb	10:49:30
1	Sb 206.836†	41.6	11.5	3.8882 ug/L	3.8882 ppb	10:49:30
1	Se 196.026†	-22.6	-4.7	-2.7190 ug/L	-2.7190 ppb	10:49:30
1	Si 251.611†	502.2	7.3	0.2182 ug/L	0.2182 ppb	10:49:30
1	Sn 189.927†	16.2	16.6	3.0446 ug/L	3.0446 ppb	10:49:30
1	Ti 334.940†	-965.7	-61.2	-0.0922 ug/L	-0.0922 ppb	10:49:10
1	Tl 190.801†	-37.4	-0.5	-0.1739 ug/L	-0.1739 ppb	10:49:30
1	U 409.014†	-1065.4	-4.8	-0.1193 ug/L	-0.1193 ppb	10:49:10
1	V 292.402†	-1357.2	33.5	0.2066 ug/L	0.2066 ppb	10:49:10
1	Zn 213.857†	703.2	-28.7	-0.2699 ug/L	-0.2699 ppb	10:49:30
1	SiO2†	530.2	17.9	1.1374 ug/L	1.1374 ppb	10:50:41
2	Sc Radial	5462.9	5462.9	102 %		10:48:18
2	Y RADIAL	5846.7	5846.7	101.6 %		10:48:18
2	Al 396.153Radial†	8.7	-0.7	-0.5100 ug/L	-0.5100 ppb	10:48:38
2	Ca 317.933Radial†	24.7	3.9	6.2066 ug/L	6.2066 ppb	10:48:38
2	Fe 238.204 Radial†	8.5	1.2	11.151 ug/L	11.151 ppb	10:48:38
2	K 766.490 Radial†	2505.6	-54.2	-9.8962 ug/L	-9.8962 ppb	10:48:18
2	Mg 279.077 IEC†	3.2	2.2	78.437 ug/L	78.437 ppb	10:48:38
2	Na 589.592 Radial†	-690.4	-127.2	-37.826 ug/L	-37.826 ppb	10:48:18
2	Sr 421.552†	51.1	42.9	0.2753 ug/L	0.2753 ppb	10:48:18
2	Sc 361.383	893219.2	893219.2	99.482 %		10:49:35
2	Y 371.029	815151.4	815151.4	99.032 %		10:49:35
2	Ag 328.068†	358.6	64.5	0.2711 ug/L	0.2711 ppb	10:49:35
2	As 188.979†	-18.4	11.7	4.8007 ug/L	4.8007 ppb	10:49:55
2	B 249.677†	281.3	523.1	11.471 ug/L	11.471 ppb	10:49:55
2	Ba 233.527†	-0.5	2.6	0.0210 ug/L	0.0210 ppb	10:49:55
2	Be 313.107†	-5012.5	61.8	0.0213 ug/L	0.0213 ppb	10:49:35
2	Cd 226.502†	-197.3	7.8	0.0866 ug/L	0.0866 ppb	10:49:55
2	Co 228.616†	-70.7	-1.2	-0.0243 ug/L	-0.0243 ppb	10:49:55
2	Cr 267.716†	106.9	13.5	0.1457 ug/L	0.1457 ppb	10:49:55
2	Cu 324.752†	9006.6	-74.5	-0.2093 ug/L	-0.2093 ppb	10:49:35
2	Mn 257.610†	520.5	33.4	0.0353 ug/L	0.0353 ppb	10:49:55
2	Mo 202.031†	28.3	4.9	0.3340 ug/L	0.3340 ppb	10:49:55
2	Ni 231.604†	93.0	-0.2	-0.0047 ug/L	-0.0047 ppb	10:49:55

2	P 214.914†	234.0	-3.5	-1.9175 ug/L	-1.9175 ppb	10:49:55
2	Pb 220.353†	-29.7	30.5	3.8308 ug/L	3.8308 ppb	10:49:55
2	S 181.975 Axial†	51.1	-25.6	-35.242 ug/L	-35.242 ppb	10:49:55
2	Sb 206.836†	50.8	20.8	7.0038 ug/L	7.0038 ppb	10:49:55
2	Se 196.026†	-16.3	1.6	0.9508 ug/L	0.9508 ppb	10:49:55
2	Si 251.611†	544.5	51.4	1.5188 ug/L	1.5188 ppb	10:49:55
2	Sn 189.927†	11.9	12.3	2.2605 ug/L	2.2605 ppb	10:49:55
2	Ti 334.940†	-1051.8	-150.7	-0.2361 ug/L	-0.2361 ppb	10:49:35
2	Tl 190.801†	-33.3	3.4	1.0888 ug/L	1.0888 ppb	10:49:55
2	U 409.014†	-997.0	60.6	1.5146 ug/L	1.5146 ppb	10:49:35
2	V 292.402†	-1396.8	-10.5	-0.0577 ug/L	-0.0577 ppb	10:49:35
2	Zn 213.857†	677.8	-52.1	-0.4861 ug/L	-0.4861 ppb	10:49:55
2	SiO2†	521.7	11.0	0.6885 ug/L	0.6885 ppb	10:51:01
3	Sc Radial	5553.5	5553.5	104 %		10:48:43
3	Y RADIAL	6016.2	6016.2	104.5 %		10:48:43
3	Al 396.153Radial†	9.0	-0.5	-0.3490 ug/L	-0.3490 ppb	10:49:03
3	Ca 317.933Radial†	25.5	4.3	6.9058 ug/L	6.9058 ppb	10:49:03
3	Fe 238.204 Radial†	8.8	1.3	12.233 ug/L	12.233 ppb	10:49:03
3	K 766.490 Radial†	2493.3	-106.0	-19.357 ug/L	-19.357 ppb	10:48:43
3	Mg 279.077 IEC†	3.3	2.2	77.715 ug/L	77.715 ppb	10:49:03
3	Na 589.592 Radial†	-707.0	-132.2	-39.292 ug/L	-39.292 ppb	10:48:43
3	Sr 421.552†	15.2	7.5	0.0482 ug/L	0.0482 ppb	10:48:43
3	Sc 361.383	891232.6	891232.6	99.260 %		10:50:00
3	Y 371.029	812156.4	812156.4	98.668 %		10:50:00
3	Ag 328.068†	321.1	27.4	0.1190 ug/L	0.1190 ppb	10:50:00
3	As 188.979†	-15.0	15.1	6.1770 ug/L	6.1770 ppb	10:50:20
3	B 249.677†	245.5	487.8	10.695 ug/L	10.695 ppb	10:50:20
3	Ba 233.527†	-2.7	0.3	0.0029 ug/L	0.0029 ppb	10:50:20
3	Be 313.107†	-4989.4	73.9	0.0259 ug/L	0.0259 ppb	10:50:00
3	Cd 226.502†	-205.5	-0.9	-0.0113 ug/L	-0.0113 ppb	10:50:20
3	Co 228.616†	-67.9	1.5	0.0322 ug/L	0.0322 ppb	10:50:20
3	Cr 267.716†	83.3	-10.0	-0.1083 ug/L	-0.1083 ppb	10:50:20
3	Cu 324.752†	8878.2	-183.7	-0.5139 ug/L	-0.5139 ppb	10:50:00
3	Mn 257.610†	491.9	5.7	0.0044 ug/L	0.0044 ppb	10:50:20
3	Mo 202.031†	17.0	-6.5	-0.4400 ug/L	-0.4400 ppb	10:50:20
3	Ni 231.604†	112.0	19.1	0.4810 ug/L	0.4810 ppb	10:50:20
3	P 214.914†	241.0	4.0	2.3932 ug/L	2.3932 ppb	10:50:20
3	Pb 220.353†	-39.8	20.3	2.5479 ug/L	2.5479 ppb	10:50:20
3	S 181.975 Axial†	43.6	-33.0	-45.497 ug/L	-45.497 ppb	10:50:20
3	Sb 206.836†	40.5	10.6	3.5552 ug/L	3.5552 ppb	10:50:20
3	Se 196.026†	-22.4	-4.6	-2.6295 ug/L	-2.6295 ppb	10:50:20
3	Si 251.611†	509.2	17.0	0.5098 ug/L	0.5098 ppb	10:50:20
3	Sn 189.927†	9.7	10.1	1.8540 ug/L	1.8540 ppb	10:50:20
3	Ti 334.940†	-935.1	-35.6	-0.0591 ug/L	-0.0591 ppb	10:50:00
3	Tl 190.801†	-40.0	-3.4	-1.0927 ug/L	-1.0927 ppb	10:50:20
3	U 409.014†	-1104.3	-49.7	-1.2427 ug/L	-1.2427 ppb	10:50:00
3	V 292.402†	-1399.1	-15.9	-0.1079 ug/L	-0.1079 ppb	10:50:00
3	Zn 213.857†	676.8	-51.5	-0.4835 ug/L	-0.4835 ppb	10:50:20
3	SiO2†	549.0	39.6	2.5188 ug/L	2.5188 ppb	10:51:21

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	893472.1	99.510 %	0.2646			0.27%
Sc Radial	5505.6	103 %	0.9			0.83%
Y 371.029	816367.5	99.179 %	0.5993			0.60%
Y RADIAL	5933.6	103.1 %	1.47			1.43%
Ag 328.068†	59.2	0.2491 ug/L	0.12069	0.2491 ppb	0.12069	48.44%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-2.4	-1.8287 ug/L	2.42479	-1.8287 ppb	2.42479	132.60%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	14.5	5.9297 ug/L	1.02783	5.9297 ppb	1.02783	17.33%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	512.3	11.234 ug/L	0.4675	11.234 ppb	0.4675	4.16%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	7.5	0.0592 ug/L	0.08240	0.0592 ppb	0.08240	139.11%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	79.4	0.0277 ug/L	0.00749	0.0277 ppb	0.00749	27.01%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	2.9	4.6412 ug/L	3.33521	4.6412 ppb	3.33521	71.86%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	5.8	0.0644 ug/L	0.06743	0.0644 ppb	0.06743	104.69%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-0.8	-0.0179 ug/L	0.04728	-0.0179 ppb	0.04728	264.22%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	0.5	0.0054 ug/L	0.12908	0.0054 ppb	0.12908	>999.9%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-100.2	-0.2808 ug/L	0.20683	-0.2808 ppb	0.20683	73.65%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.7	6.2442 ug/L	9.45182	6.2442 ppb	9.45182	151.37%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-47.7	-8.6957 ug/L	11.30917	-8.6957 ppb	11.30917	130.06%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	1.3	48.065 ug/L	51.9821	48.065 ppb	51.9821	108.15%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	19.7	0.0207 ug/L	0.01552	0.0207 ppb	0.01552	74.90%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-1.2	-0.0812 ug/L	0.39010	-0.0812 ppb	0.39010	480.41%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-123.9	-36.846 ug/L	3.0563	-36.846 ppb	3.0563	8.29%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	13.1	0.3292 ug/L	0.28960	0.3292 ppb	0.28960	87.96%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-0.4	-0.1460 ug/L	2.25556	-0.1460 ppb	2.25556	>999.9%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	19.5	2.4521 ug/L	1.42899	2.4521 ppb	1.42899	58.28%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-29.7	-40.948 ug/L	5.2243	-40.948 ppb	5.2243	12.76%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	14.3	4.8158 ug/L	1.90220	4.8158 ppb	1.90220	39.50%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-2.6	-1.4659 ug/L	2.09340	-1.4659 ppb	2.09340	142.81%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	25.2	0.7490 ug/L	0.68248	0.7490 ppb	0.68248	91.12%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	13.0	2.3864 ug/L	0.60523	2.3864 ppb	0.60523	25.36%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	33.6	0.2154 ug/L	0.14664	0.2154 ppb	0.14664	68.09%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-82.5	-0.1291 ug/L	0.09412	-0.1291 ppb	0.09412	72.90%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-0.2	-0.0593 ug/L	1.09525	-0.0593 ppb	1.09525	>999.9%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	2.1	0.0509 ug/L	1.38652	0.0509 ppb	1.38652	>999.9%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	2.3	0.0136 ug/L	0.16895	0.0136 ppb	0.16895	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-44.1	-0.4132 ug/L	0.12412	-0.4132 ppb	0.12412	30.04%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	22.9	1.4482 ug/L	0.95397	1.4482 ppb	0.95397	65.87%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 3

Sample ID: LR1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 37

Date Collected: 1/26/2010 10:53:32

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5331.5	5331.5	99.8 %		10:55:25
1	Y RADIAL	5743.5	5743.5	99.76 %		10:55:25
1	Al 396.153Radial†	-9.1	-18.3	-12.713 ug/L	-12.713 ppb	10:55:45
1	Ca 317.933Radial†	32.2	12.0	19.322 ug/L	19.322 ppb	10:55:45
1	Fe 238.204 Radial†	40804.6	40863.0	381890 ug/L	381890 ppb	10:55:25
1	K 766.490 Radial†	1969.1	-531.2	-96.996 ug/L	-96.996 ppb	10:55:25
1	Mg 279.077 IEC†	9.8	8.8	-85.328 ug/L	-85.328 ppb	10:55:45
1	Na 589.592 Radial†	-673.5	-126.9	-37.733 ug/L	-37.733 ppb	10:55:25
1	Sr 421.552†	82.7	75.8	0.4860 ug/L	0.4860 ppb	10:55:25
1	Sc 361.383	906081.7	906081.7	100.91 %		10:56:43
1	Y 371.029	797742.4	797742.4	96.917 %		10:56:43
1	Ag 328.068†	-27617.7	-27663.5	8.4117 ug/L	8.4117 ppb	10:56:43
1	As 188.979†	-199.2	-167.2	21.092 ug/L	21.092 ppb	10:57:03
1	B 249.677†	2638.5	2855.1	0.5806 ug/L	0.5806 ppb	10:56:43
1	Ba 233.527†	-1739.3	-1720.5	-1.8216 ug/L	-1.8216 ppb	10:56:43
1	Be 313.107†	-4917.4	227.6	0.0803 ug/L	0.0803 ppb	10:56:43
1	Cd 226.502†	3491.0	3665.6	1.5105 ug/L	1.5105 ppb	10:56:43
1	Co 228.616†	191.4	259.6	0.1169 ug/L	0.1169 ppb	10:57:03
1	Cr 267.716†	-532.5	-621.6	0.7406 ug/L	0.7406 ppb	10:56:43
1	Cu 324.752†	1887.4	-7257.7	-0.1738 ug/L	-0.1738 ppb	10:56:43
1	Mn 257.610†	-36804.5	-36961.0	-3.7350 ug/L	-3.7350 ppb	10:56:43
1	Mo 202.031†	-327.2	-347.8	5.9079 ug/L	5.9079 ppb	10:56:43
1	Ni 231.604†	168.2	72.9	1.8299 ug/L	1.8299 ppb	10:57:03
1	P 214.914†	744.3	498.9	-22.245 ug/L	-22.245 ppb	10:57:03
1	Pb 220.353†	214.8	273.3	-2.2331 ug/L	-2.2331 ppb	10:57:03
1	S 181.975 Axial†	60.1	-17.5	-24.065 ug/L	-24.065 ppb	10:57:03
1	Sb 206.836†	26.9	-3.6	8.0432 ug/L	8.0432 ppb	10:57:03
1	Se 196.026†	-1933.3	-1897.8	168.11 ug/L	168.11 ppb	10:57:03
1	Si 251.611†	-597.2	-1087.7	-31.937 ug/L	-31.937 ppb	10:56:43
1	Sn 189.927†	-11.6	-11.1	4.3774 ug/L	4.3774 ppb	10:57:03
1	Ti 334.940†	-922.9	-8.0	-0.0546 ug/L	-0.0546 ppb	10:56:43
1	Tl 190.801†	-66.2	-28.8	-9.5234 ug/L	-9.5234 ppb	10:57:03
1	U 409.014†	922.4	1976.9	5.9120 ug/L	5.9120 ppb	10:56:43
1	V 292.402†	7477.9	8803.7	-1.1023 ug/L	-1.1023 ppb	10:56:43
1	Zn 213.857†	4800.3	4023.4	0.4469 ug/L	0.4469 ppb	10:57:03
1	SiO2†	-519.1	-1027.9	-64.360 ug/L	-64.360 ppb	10:58:00
2	Sc Radial	5369.1	5369.1	101 %		10:55:50
2	Y RADIAL	5831.7	5831.7	101.3 %		10:55:50
2	Al 396.153Radial†	-21.7	-30.8	-22.209 ug/L	-22.209 ppb	10:56:10
2	Ca 317.933Radial†	34.8	14.4	23.128 ug/L	23.128 ppb	10:56:10
2	Fe 238.204 Radial†	41219.6	40989.9	383070 ug/L	383070 ppb	10:55:50
2	K 766.490 Radial†	2093.1	-421.7	-76.985 ug/L	-76.985 ppb	10:55:50
2	Mg 279.077 IEC†	12.6	11.6	12.481 ug/L	12.481 ppb	10:56:10
2	Na 589.592 Radial†	-690.3	-138.9	-41.301 ug/L	-41.301 ppb	10:55:50
2	Sr 421.552†	96.4	88.8	0.5700 ug/L	0.5700 ppb	10:55:50
2	Sc 361.383	909885.9	909885.9	101.34 %		10:57:09
2	Y 371.029	802891.2	802891.2	97.542 %		10:57:09
2	Ag 328.068†	-27755.5	-27685.0	8.7029 ug/L	8.7029 ppb	10:57:09
2	As 188.979†	-205.1	-172.2	19.325 ug/L	19.325 ppb	10:57:29
2	B 249.677†	2539.3	2746.2	-2.0008 ug/L	-2.0008 ppb	10:57:09
2	Ba 233.527†	-1751.4	-1725.2	-1.8253 ug/L	-1.8253 ppb	10:57:09
2	Be 313.107†	-4938.7	227.0	0.0799 ug/L	0.0799 ppb	10:57:09
2	Cd 226.502†	3490.1	3650.2	1.2158 ug/L	1.2158 ppb	10:57:09
2	Co 228.616†	205.7	272.9	0.3935 ug/L	0.3935 ppb	10:57:29
2	Cr 267.716†	-537.4	-624.2	0.7348 ug/L	0.7348 ppb	10:57:09
2	Cu 324.752†	2027.4	-7127.4	0.2558 ug/L	0.2558 ppb	10:57:09
2	Mn 257.610†	-37179.1	-37178.1	-3.8654 ug/L	-3.8654 ppb	10:57:09
2	Mo 202.031†	-312.3	-331.8	7.0920 ug/L	7.0920 ppb	10:57:09
2	Ni 231.604†	160.3	64.5	1.6166 ug/L	1.6166 ppb	10:57:29



2	P 214.914†	734.1	485.7	-30.705 ug/L	-30.705 ppb	10:57:29
2	Pb 220.353†	216.9	274.5	-2.1980 ug/L	-2.1980 ppb	10:57:29
2	S 181.975 Axial†	61.8	-16.0	-21.981 ug/L	-21.981 ppb	10:57:29
2	Sb 206.836†	14.1	-16.4	3.7916 ug/L	3.7916 ppb	10:57:29
2	Se 196.026†	-1940.0	-1896.5	172.83 ug/L	172.83 ppb	10:57:29
2	Si 251.611†	-549.5	-1038.2	-30.483 ug/L	-30.483 ppb	10:57:09
2	Sn 189.927†	-20.1	-19.5	2.8635 ug/L	2.8635 ppb	10:57:29
2	Ti 334.940†	-977.1	-57.7	-0.1370 ug/L	-0.1370 ppb	10:57:09
2	Tl 190.801†	-59.7	-22.0	-7.3556 ug/L	-7.3556 ppb	10:57:29
2	U 409.014†	843.8	1895.5	3.7415 ug/L	3.7415 ppb	10:57:09
2	V 292.402†	7328.8	8625.6	-2.3692 ug/L	-2.3692 ppb	10:57:09
2	Zn 213.857†	4845.0	4047.7	0.5590 ug/L	0.5590 ppb	10:57:29
2	SiO2†	-491.2	-998.1	-62.509 ug/L	-62.509 ppb	10:58:05
3	Sc Radial	5378.0	5378.0	101 %		10:56:15
3	Y RADIAL	5823.7	5823.7	101.2 %		10:56:15
3	Al 396.153Radial†	-12.3	-21.3	-15.054 ug/L	-15.054 ppb	10:56:35
3	Ca 317.933Radial†	31.2	10.8	17.335 ug/L	17.335 ppb	10:56:35
3	Fe 238.204 Radial†	41130.3	40832.7	381600 ug/L	381600 ppb	10:56:15
3	K 766.490 Radial†	2070.9	-447.2	-81.642 ug/L	-81.642 ppb	10:56:15
3	Mg 279.077 IEC†	12.5	11.4	8.1771 ug/L	8.1771 ppb	10:56:35
3	Na 589.592 Radial†	-663.8	-111.5	-33.143 ug/L	-33.143 ppb	10:56:15
3	Sr 421.552†	96.5	88.7	0.5691 ug/L	0.5691 ppb	10:56:15
3	Sc 361.383	911945.8	911945.8	101.57 %		10:57:35
3	Y 371.029	804967.5	804967.5	97.794 %		10:57:35
3	Ag 328.068†	-27816.4	-27683.2	8.2368 ug/L	8.2368 ppb	10:57:35
3	As 188.979†	-199.6	-166.3	21.412 ug/L	21.412 ppb	10:57:55
3	B 249.677†	2530.0	2731.4	-2.0859 ug/L	-2.0859 ppb	10:57:35
3	Ba 233.527†	-1708.2	-1678.7	-1.5032 ug/L	-1.5032 ppb	10:57:35
3	Be 313.107†	-4842.0	333.2	0.1176 ug/L	0.1176 ppb	10:57:35
3	Cd 226.502†	3498.2	3650.4	1.3691 ug/L	1.3691 ppb	10:57:35
3	Co 228.616†	191.9	258.8	0.1064 ug/L	0.1064 ppb	10:57:55
3	Cr 267.716†	-545.2	-630.7	0.6372 ug/L	0.6372 ppb	10:57:35
3	Cu 324.752†	1747.4	-7407.6	-0.6071 ug/L	-0.6071 ppb	10:57:35
3	Mn 257.610†	-37430.5	-37342.7	-4.1949 ug/L	-4.1949 ppb	10:57:35
3	Mo 202.031†	-316.3	-335.0	6.7581 ug/L	6.7581 ppb	10:57:35
3	Ni 231.604†	164.5	68.3	1.7119 ug/L	1.7119 ppb	10:57:55
3	P 214.914†	755.8	505.4	-18.283 ug/L	-18.283 ppb	10:57:55
3	Pb 220.353†	225.2	282.1	-1.0968 ug/L	-1.0968 ppb	10:57:55
3	S 181.975 Axial†	74.2	-3.9	-5.4029 ug/L	-5.4029 ppb	10:57:55
3	Sb 206.836†	9.5	-20.9	2.2066 ug/L	2.2066 ppb	10:57:55
3	Se 196.026†	-1949.0	-1901.0	165.36 ug/L	165.36 ppb	10:57:55
3	Si 251.611†	-440.0	-929.2	-27.250 ug/L	-27.250 ppb	10:57:35
3	Sn 189.927†	-28.9	-28.1	1.2547 ug/L	1.2547 ppb	10:57:55
3	Ti 334.940†	-888.0	32.3	0.0007 ug/L	0.0007 ppb	10:57:35
3	Tl 190.801†	-53.9	-16.2	-5.5052 ug/L	-5.5052 ppb	10:57:55
3	U 409.014†	772.1	1823.0	2.0958 ug/L	2.0958 ppb	10:57:35
3	V 292.402†	7364.3	8644.2	-2.0464 ug/L	-2.0464 ppb	10:57:35
3	Zn 213.857†	4842.4	4034.3	0.5771 ug/L	0.5771 ppb	10:57:55
3	SiO2†	-508.0	-1013.6	-63.480 ug/L	-63.480 ppb	10:58:10

## Mean Data: LRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	909304.5	101.27 %	0.331			0.33%
Sc Radial	5359.5	100 %	0.5			0.46%
Y 371.029	801867.0	97.418 %	0.4519			0.46%
Y RADIAL	5799.6	100.7 %	0.85			0.84%
Ag 328.068†	-27677.2	8.4504 ug/L	0.23546	8.4504 ppb	0.23546	2.79%
Al 396.153Radial†	-23.5	-16.658 ug/L	4.9471	-16.658 ppb	4.9471	29.70%
As 188.979†	-168.6	20.610 ug/L	1.1240	20.610 ppb	1.1240	5.45%
B 249.677†	2777.5	-1.1687 ug/L	1.51555	-1.1687 ppb	1.51555	129.68%
Ba 233.527†	-1708.1	-1.7167 ug/L	0.18492	-1.7167 ppb	0.18492	10.77%
Be 313.107†	262.6	0.0926 ug/L	0.02169	0.0926 ppb	0.02169	23.43%
Ca 317.933Radial†	12.4	19.928 ug/L	2.9441	19.928 ppb	2.9441	14.77%
Cd 226.502†	3655.4	1.3652 ug/L	0.14738	1.3652 ppb	0.14738	10.80%
Co 228.616†	263.8	0.2056 ug/L	0.16283	0.2056 ppb	0.16283	79.20%
Cr 267.716†	-625.5	0.7042 ug/L	0.05809	0.7042 ppb	0.05809	8.25%
Cu 324.752†	-7264.2	-0.1750 ug/L	0.43142	-0.1750 ppb	0.43142	246.49%
Fe 238.204 Radial†	40895.2	382190 ug/L	779.5	382190 ppb	779.5	0.20%
K 766.490 Radial†	-466.7	-85.208 ug/L	10.4716	-85.208 ppb	10.4716	12.29%

Mg 279.077 IEC†	10.6	-21.557 ug/L	55.2696	-21.557 ppb	55.2696	256.39%
Mn 257.610†	-37160.6	-3.9318 ug/L	0.23701	-3.9318 ppb	0.23701	6.03%
Mo 202.031†	-338.2	6.5860 ug/L	0.61052	6.5860 ppb	0.61052	9.27%
Na 589.592 Radial†	-125.8	-37.392 ug/L	4.0899	-37.392 ppb	4.0899	10.94%
Ni 231.604†	68.6	1.7195 ug/L	0.10686	1.7195 ppb	0.10686	6.21%
P 214.914†	496.6	-23.744 ug/L	6.3449	-23.744 ppb	6.3449	26.72%
Pb 220.353†	276.6	-1.8426 ug/L	0.64619	-1.8426 ppb	0.64619	35.07%
S 181.975 Axial†	-12.5	-17.150 ug/L	10.2263	-17.150 ppb	10.2263	59.63%
Sb 206.836†	-13.6	4.6805 ug/L	3.01816	4.6805 ppb	3.01816	64.48%
Se 196.026†	-1898.4	168.77 ug/L	3.775	168.77 ppb	3.775	2.24%
Si 251.611†	-1018.4	-29.890 ug/L	2.3990	-29.890 ppb	2.3990	8.03%
Sn 189.927†	-19.6	2.8319 ug/L	1.56160	2.8319 ppb	1.56160	55.14%
Sr 421.552†	84.4	0.5417 ug/L	0.04822	0.5417 ppb	0.04822	8.90%
Ti 334.940†	-11.1	-0.0636 ug/L	0.06928	-0.0636 ppb	0.06928	108.89%
Tl 190.801†	-22.3	-7.4614 ug/L	2.01118	-7.4614 ppb	2.01118	26.95%
U 409.014†	1898.5	3.9165 ug/L	1.91408	3.9165 ppb	1.91408	48.87%
V 292.402†	8691.2	-1.8393 ug/L	0.65834	-1.8393 ppb	0.65834	35.79%
Zn 213.857†	4035.1	0.5276 ug/L	0.07052	0.5276 ppb	0.07052	13.36%
SiO2†	-1013.2	-63.449 ug/L	0.9259	-63.449 ppb	0.9259	1.46%

Sequence No.: 4

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 11:00:22

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5476.7	5476.7	103 %		11:02:14
1	Y RADIAL	5888.4	5888.4	102.3 %		11:02:14
1	Al 396.153Radial†	6760.7	6582.9	4964.1 ug/L	4964.1 ppb	11:02:14
1	Ca 317.933Radial†	3177.4	3078.0	4947.2 ug/L	4947.2 ppb	11:02:34
1	Fe 238.204 Radial†	573.6	552.1	5174.1 ug/L	5174.1 ppb	11:02:34
1	K 766.490 Radial†	31043.4	27765.6	5066.0 ug/L	5066.0 ppb	11:02:14
1	Mg 279.077 IEC†	147.9	143.2	5108.7 ug/L	5108.7 ppb	11:02:34
1	Na 589.592 Radial†	34505.2	34192.1	10164 ug/L	10164 ppb	11:02:14
1	Sr 421.552†	82340.4	80279.5	515.17 ug/L	515.17 ppb	11:02:14
1	Sc 361.383	957819.9	957819.9	106.68 %		11:03:32
1	Y 371.029	839308.1	839308.1	101.97 %		11:03:32
1	Ag 328.068†	120581.9	112739.0	473.59 ug/L	473.59 ppb	11:03:37
1	As 188.979†	1199.6	1154.7	476.54 ug/L	476.54 ppb	11:03:57
1	B 249.677†	22675.2	21496.5	469.22 ug/L	469.22 ppb	11:03:37
1	Ba 233.527†	63808.5	59818.1	472.69 ug/L	472.69 ppb	11:03:37
1	Be 313.107†	1403806.0	1321046.8	467.07 ug/L	467.07 ppb	11:03:32
1	Cd 226.502†	45177.7	42556.4	475.23 ug/L	475.23 ppb	11:03:37
1	Co 228.616†	23376.3	21983.2	481.98 ug/L	481.98 ppb	11:03:37
1	Cr 267.716†	46560.1	43552.1	472.72 ug/L	472.72 ppb	11:03:37
1	Cu 324.752†	186092.8	165317.8	463.77 ug/L	463.77 ppb	11:03:37
1	Mn 257.610†	443165.2	414939.1	465.52 ug/L	465.52 ppb	11:03:32
1	Mo 202.031†	7342.2	6859.1	468.58 ug/L	468.58 ppb	11:03:57
1	Ni 231.604†	20232.7	18872.7	474.01 ug/L	474.01 ppb	11:03:37
1	P 214.914†	4678.5	4147.0	2248.0 ug/L	2248.0 ppb	11:03:57
1	Pb 220.353†	3961.4	3773.9	475.26 ug/L	475.26 ppb	11:03:57
1	S 181.975 Axial†	790.3	663.8	913.03 ug/L	913.03 ppb	11:03:57
1	Sb 206.836†	1508.9	1384.2	480.36 ug/L	480.36 ppb	11:03:57
1	Se 196.026†	855.2	819.6	491.56 ug/L	491.56 ppb	11:03:57
1	Si 251.611†	85511.1	79663.2	2354.6 ug/L	2354.6 ppb	11:03:37
1	Sn 189.927†	2731.2	2560.6	471.70 ug/L	471.70 ppb	11:03:57
1	Ti 334.940†	325820.3	306334.8	466.94 ug/L	466.94 ppb	11:03:37
1	Tl 190.801†	1519.7	1461.5	470.59 ug/L	470.59 ppb	11:03:57
1	U 409.014†	18835.8	18719.7	466.45 ug/L	466.45 ppb	11:03:37
1	V 292.402†	79078.1	75522.4	475.85 ug/L	475.85 ppb	11:03:37
1	Zn 213.857†	54836.9	50671.4	467.83 ug/L	467.83 ppb	11:03:37
1	SiO2†	85565.8	79697.1	5027.7 ug/L	5027.7 ppb	11:05:04
2	Sc Radial	5415.3	5415.3	101 %		11:02:39
2	Y RADIAL	5842.0	5842.0	101.5 %		11:02:39
2	Al 396.153Radial†	6591.8	6491.1	4893.9 ug/L	4893.9 ppb	11:02:39
2	Ca 317.933Radial†	3197.3	3132.6	5035.1 ug/L	5035.1 ppb	11:03:00
2	Fe 238.204 Radial†	571.6	556.5	5215.2 ug/L	5215.2 ppb	11:03:00
2	K 766.490 Radial†	30525.9	27598.2	5035.4 ug/L	5035.4 ppb	11:02:39
2	Mg 279.077 IEC†	152.3	149.2	5320.5 ug/L	5320.5 ppb	11:03:00
2	Na 589.592 Radial†	33626.9	33707.3	10020 ug/L	10020 ppb	11:02:39
2	Sr 421.552†	80236.8	79114.7	507.70 ug/L	507.70 ppb	11:02:39
2	Sc 361.383	933724.6	933724.6	103.99 %		11:04:03
2	Y 371.029	818894.9	818894.9	99.486 %		11:04:03
2	Ag 328.068†	119276.4	114400.6	480.57 ug/L	480.57 ppb	11:04:08
2	As 188.979†	1202.3	1186.3	489.50 ug/L	489.50 ppb	11:04:28
2	B 249.677†	22468.7	21846.4	476.86 ug/L	476.86 ppb	11:04:08
2	Ba 233.527†	62960.8	60546.5	478.45 ug/L	478.45 ppb	11:04:08
2	Be 313.107†	1410307.8	1361257.6	481.28 ug/L	481.28 ppb	11:04:03
2	Cd 226.502†	44750.1	43238.0	482.85 ug/L	482.85 ppb	11:04:08
2	Co 228.616†	23168.0	22348.4	490.00 ug/L	490.00 ppb	11:04:08
2	Cr 267.716†	46204.1	44336.1	481.22 ug/L	481.22 ppb	11:04:08
2	Cu 324.752†	183948.1	167757.2	470.61 ug/L	470.61 ppb	11:04:08
2	Mn 257.610†	444815.3	427246.2	479.31 ug/L	479.31 ppb	11:04:03
2	Mo 202.031†	7346.0	7040.4	480.95 ug/L	480.95 ppb	11:04:28
2	Ni 231.604†	20066.7	19202.5	482.29 ug/L	482.29 ppb	11:04:08

2	P 214.914†	4665.4	4247.5	2303.4 ug/L	2303.4 ppb	11:04:28
2	Pb 220.353†	3945.1	3854.0	485.32 ug/L	485.32 ppb	11:04:28
2	S 181.975 Axial†	792.8	685.4	942.70 ug/L	942.70 ppb	11:04:28
2	Sb 206.836†	1524.2	1435.4	497.92 ug/L	497.92 ppb	11:04:28
2	Se 196.026†	844.0	829.5	497.45 ug/L	497.45 ppb	11:04:28
2	Si 251.611†	84548.5	80806.2	2388.4 ug/L	2388.4 ppb	11:04:08
2	Sn 189.927†	2723.0	2618.8	482.41 ug/L	482.41 ppb	11:04:28
2	Ti 334.940†	322456.7	310982.1	474.02 ug/L	474.02 ppb	11:04:08
2	Tl 190.801†	1528.5	1506.7	485.13 ug/L	485.13 ppb	11:04:28
2	U 409.014†	18737.9	19081.2	475.46 ug/L	475.46 ppb	11:04:08
2	V 292.402†	78496.2	76875.8	484.44 ug/L	484.44 ppb	11:04:08
2	Zn 213.857†	54362.4	51541.7	475.87 ug/L	475.87 ppb	11:04:08
2	SiO2†	86284.4	82457.9	5201.9 ug/L	5201.9 ppb	11:05:10
3	Sc Radial	5455.9	5455.9	102 %		11:03:05
3	Y RADIAL	5835.4	5835.4	101.4 %		11:03:05
3	Al 396.153Radial†	6538.8	6390.8	4817.9 ug/L	4817.9 ppb	11:03:05
3	Ca 317.933Radial†	3219.8	3131.2	5032.7 ug/L	5032.7 ppb	11:03:25
3	Fe 238.204 Radial†	574.0	554.7	5198.4 ug/L	5198.4 ppb	11:03:25
3	K 766.490 Radial†	30365.0	27216.7	4965.8 ug/L	4965.8 ppb	11:03:05
3	Mg 279.077 IEC†	151.1	146.9	5240.6 ug/L	5240.6 ppb	11:03:25
3	Na 589.592 Radial†	33220.2	33062.4	9828.5 ug/L	9828.5 ppb	11:03:05
3	Sr 421.552†	79310.9	77619.5	498.10 ug/L	498.10 ppb	11:03:05
3	Sc 361.383	940128.6	940128.6	104.71 %		11:04:34
3	Y 371.029	823950.0	823950.0	100.10 %		11:04:34
3	Ag 328.068†	119785.7	114105.7	479.33 ug/L	479.33 ppb	11:04:39
3	As 188.979†	1212.0	1187.7	490.08 ug/L	490.08 ppb	11:04:59
3	B 249.677†	22492.2	21721.6	474.13 ug/L	474.13 ppb	11:04:39
3	Ba 233.527†	63370.1	60525.0	478.28 ug/L	478.28 ppb	11:04:39
3	Be 313.107†	1421296.0	1362514.0	481.72 ug/L	481.72 ppb	11:04:34
3	Cd 226.502†	44943.5	43129.6	481.64 ug/L	481.64 ppb	11:04:39
3	Co 228.616†	23346.6	22367.2	490.42 ug/L	490.42 ppb	11:04:39
3	Cr 267.716†	46372.1	44193.9	479.68 ug/L	479.68 ppb	11:04:39
3	Cu 324.752†	185130.1	167681.1	470.40 ug/L	470.40 ppb	11:04:39
3	Mn 257.610†	448155.4	427522.5	479.62 ug/L	479.62 ppb	11:04:34
3	Mo 202.031†	7408.6	7052.0	481.75 ug/L	481.75 ppb	11:04:59
3	Ni 231.604†	20160.1	19160.3	481.23 ug/L	481.23 ppb	11:04:39
3	P 214.914†	4711.0	4260.5	2310.8 ug/L	2310.8 ppb	11:04:59
3	Pb 220.353†	3981.9	3863.4	486.48 ug/L	486.48 ppb	11:04:59
3	S 181.975 Axial†	791.9	679.3	934.35 ug/L	934.35 ppb	11:04:59
3	Sb 206.836†	1533.4	1434.3	497.59 ug/L	497.59 ppb	11:04:59
3	Se 196.026†	843.6	823.6	493.98 ug/L	493.98 ppb	11:04:59
3	Si 251.611†	84926.6	80613.5	2382.6 ug/L	2382.6 ppb	11:04:39
3	Sn 189.927†	2760.5	2636.8	485.73 ug/L	485.73 ppb	11:04:59
3	Ti 334.940†	324307.9	310637.9	473.50 ug/L	473.50 ppb	11:04:39
3	Tl 190.801†	1523.3	1491.8	480.34 ug/L	480.34 ppb	11:04:59
3	U 409.014†	18833.7	19050.0	474.69 ug/L	474.69 ppb	11:04:39
3	V 292.402†	78819.7	76670.6	483.18 ug/L	483.18 ppb	11:04:39
3	Zn 213.857†	54571.3	51385.1	474.42 ug/L	474.42 ppb	11:04:39
3	SiO2†	84966.6	80634.2	5086.6 ug/L	5086.6 ppb	11:05:15

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	943891.1	105.13 %	1.390			1.32%
Sc Radial	5449.3	102 %	0.6			0.57%
Y 371.029	827384.3	100.52 %	1.292			1.28%
Y RADIAL	5855.3	101.7 %	0.50			0.49%
Ag 328.068†	113748.4	477.83 ug/L	3.720	477.83 ppb	3.720	0.78%
QC value within limits for Ag 328.068 Recovery = 95.57%						
Al 396.153Radial†	6488.3	4891.9 ug/L	73.10	4891.9 ppb	73.10	1.49%
QC value within limits for Al 396.153Radial Recovery = 97.84%						
As 188.979†	1176.3	485.37 ug/L	7.656	485.37 ppb	7.656	1.58%
QC value within limits for As 188.979 Recovery = 97.07%						
B 249.677†	21688.2	473.40 ug/L	3.874	473.40 ppb	3.874	0.82%
QC value within limits for B 249.677 Recovery = 94.68%						
Ba 233.527†	60296.5	476.47 ug/L	3.278	476.47 ppb	3.278	0.69%
QC value within limits for Ba 233.527 Recovery = 95.29%						
Be 313.107†	1348272.8	476.69 ug/L	8.329	476.69 ppb	8.329	1.75%
QC value within limits for Be 313.107 Recovery = 95.34%						
Ca 317.933Radial†	3113.9	5005.0 ug/L	50.08	5005.0 ppb	50.08	1.00%

QC value within limits for Ca 317.933Radial Recovery = 100.10%							
Cd 226.502†	42974.7	479.90 ug/L	4.093	479.90 ppb	4.093	0.85%	
QC value within limits for Cd 226.502 Recovery = 95.98%							
Co 228.616†	22232.9	487.47 ug/L	4.754	487.47 ppb	4.754	0.98%	
QC value within limits for Co 228.616 Recovery = 97.49%							
Cr 267.716†	44027.4	477.87 ug/L	4.532	477.87 ppb	4.532	0.95%	
QC value within limits for Cr 267.716 Recovery = 95.57%							
Cu 324.752†	166918.7	468.26 ug/L	3.889	468.26 ppb	3.889	0.83%	
QC value within limits for Cu 324.752 Recovery = 93.65%							
Fe 238.204 Radial†	554.4	5195.9 ug/L	20.62	5195.9 ppb	20.62	0.40%	
QC value within limits for Fe 238.204 Radial Recovery = 103.92%							
K 766.490 Radial†	27526.8	5022.4 ug/L	51.35	5022.4 ppb	51.35	1.02%	
QC value within limits for K 766.490 Radial Recovery = 100.45%							
Mg 279.077 IEC†	146.4	5223.3 ug/L	106.95	5223.3 ppb	106.95	2.05%	
QC value within limits for Mg 279.077 IEC Recovery = 104.47%							
Mn 257.610†	423235.9	474.82 ug/L	8.055	474.82 ppb	8.055	1.70%	
QC value within limits for Mn 257.610 Recovery = 94.96%							
Mo 202.031†	6983.8	477.09 ug/L	7.386	477.09 ppb	7.386	1.55%	
QC value within limits for Mo 202.031 Recovery = 95.42%							
Na 589.592 Radial†	33653.9	10004 ug/L	168.5	10004 ppb	168.5	1.68%	
QC value within limits for Na 589.592 Radial Recovery = 100.04%							
Ni 231.604†	19078.5	479.18 ug/L	4.508	479.18 ppb	4.508	0.94%	
QC value within limits for Ni 231.604 Recovery = 95.84%							
P 214.914†	4218.4	2287.4 ug/L	34.31	2287.4 ppb	34.31	1.50%	
QC value within limits for P 214.914 Recovery = 91.50%							
Pb 220.353†	3830.4	482.36 ug/L	6.174	482.36 ppb	6.174	1.28%	
QC value within limits for Pb 220.353 Recovery = 96.47%							
S 181.975 Axial†	676.2	930.03 ug/L	15.300	930.03 ppb	15.300	1.65%	
QC value within limits for S 181.975 Axial Recovery = 93.00%							
Sb 206.836†	1418.0	491.96 ug/L	10.047	491.96 ppb	10.047	2.04%	
QC value within limits for Sb 206.836 Recovery = 98.39%							
Se 196.026†	824.2	494.33 ug/L	2.958	494.33 ppb	2.958	0.60%	
QC value within limits for Se 196.026 Recovery = 98.87%							
Si 251.611†	80361.0	2375.2 ug/L	18.04	2375.2 ppb	18.04	0.76%	
QC value within limits for Si 251.611 Recovery = 95.01%							
Sn 189.927†	2605.4	479.94 ug/L	7.332	479.94 ppb	7.332	1.53%	
QC value within limits for Sn 189.927 Recovery = 95.99%							
Sr 421.552†	79004.6	506.99 ug/L	8.558	506.99 ppb	8.558	1.69%	
QC value within limits for Sr 421.552 Recovery = 101.40%							
Ti 334.940†	309318.3	471.48 ug/L	3.943	471.48 ppb	3.943	0.84%	
QC value within limits for Ti 334.940 Recovery = 94.30%							
Tl 190.801†	1486.7	478.69 ug/L	7.408	478.69 ppb	7.408	1.55%	
QC value within limits for Tl 190.801 Recovery = 95.74%							
U 409.014†	18950.3	472.20 ug/L	4.996	472.20 ppb	4.996	1.06%	
QC value within limits for U 409.014 Recovery = 94.44%							
V 292.402†	76356.3	481.16 ug/L	4.641	481.16 ppb	4.641	0.96%	
QC value within limits for V 292.402 Recovery = 96.23%							
Zn 213.857†	51199.4	472.71 ug/L	4.285	472.71 ppb	4.285	0.91%	
QC value within limits for Zn 213.857 Recovery = 94.54%							
SiO2†	80929.7	5105.4 ug/L	88.65	5105.4 ppb	88.65	1.74%	
QC value within limits for SiO2 Recovery = 95.47%							
All analyte(s) passed QC.							

Sequence No.: 5

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 11:07:24

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5038.9	5038.9	94.4 %		11:09:17
1	Y RADIAL	5462.8	5462.8	94.89 %		11:09:17
1	Al 396.153Radial†	2.4	-6.6	-4.9616 ug/L	-4.9616 ppb	11:09:37
1	Ca 317.933Radial†	14.6	-4.8	-7.6397 ug/L	-7.6397 ppb	11:09:37
1	Fe 238.204 Radial†	7.7	1.0	8.8916 ug/L	8.8916 ppb	11:09:37
1	K 766.490 Radial†	2570.3	220.4	40.293 ug/L	40.293 ppb	11:09:17
1	Mg 279.077 IEC†	0.8	-0.2	-5.8119 ug/L	-5.8119 ppb	11:09:37
1	Na 589.592 Radial†	-739.0	-235.5	-70.014 ug/L	-70.014 ppb	11:09:17
1	Sr 421.552†	10.9	4.4	0.0286 ug/L	0.0286 ppb	11:09:17
1	Sc 361.383	887409.0	887409.0	98.835 %		11:10:34
1	Y 371.029	806255.2	806255.2	97.951 %		11:10:34
1	Ag 328.068†	309.2	16.8	0.0741 ug/L	0.0741 ppb	11:10:34
1	As 188.979†	-16.5	13.5	5.5051 ug/L	5.5051 ppb	11:10:54
1	B 249.677†	36.9	277.7	6.0889 ug/L	6.0889 ppb	11:10:54
1	Ba 233.527†	-6.4	-3.3	-0.0260 ug/L	-0.0260 ppb	11:10:54
1	Be 313.107†	-4929.7	112.6	0.0398 ug/L	0.0398 ppb	11:10:34
1	Cd 226.502†	-194.5	9.4	0.1036 ug/L	0.1036 ppb	11:10:54
1	Co 228.616†	-63.7	5.5	0.1196 ug/L	0.1196 ppb	11:10:54
1	Cr 267.716†	77.0	-16.0	-0.1729 ug/L	-0.1729 ppb	11:10:54
1	Cu 324.752†	8797.6	-226.6	-0.6346 ug/L	-0.6346 ppb	11:10:34
1	Mn 257.610†	491.2	7.1	0.0091 ug/L	0.0091 ppb	11:10:54
1	Mo 202.031†	22.5	-0.9	-0.0583 ug/L	-0.0583 ppb	11:10:54
1	Ni 231.604†	88.5	-4.2	-0.1052 ug/L	-0.1052 ppb	11:10:54
1	P 214.914†	240.7	4.8	2.8188 ug/L	2.8188 ppb	11:10:54
1	Pb 220.353†	-52.1	7.7	0.9623 ug/L	0.9623 ppb	11:10:54
1	S 181.975 Axial†	48.0	-28.4	-39.140 ug/L	-39.140 ppb	11:10:54
1	Sb 206.836†	39.8	10.0	3.3555 ug/L	3.3555 ppb	11:10:54
1	Se 196.026†	-20.2	-2.5	-1.3991 ug/L	-1.3991 ppb	11:10:54
1	Si 251.611†	484.5	-5.7	-0.1695 ug/L	-0.1695 ppb	11:10:54
1	Sn 189.927†	6.7	7.2	1.3144 ug/L	1.3144 ppb	11:10:54
1	Ti 334.940†	-889.4	6.6	0.0101 ug/L	0.0101 ppb	11:10:34
1	Tl 190.801†	-35.3	1.1	0.3618 ug/L	0.3618 ppb	11:10:54
1	U 409.014†	-1095.6	-45.6	-1.1418 ug/L	-1.1418 ppb	11:10:34
1	V 292.402†	-1371.2	6.2	0.0339 ug/L	0.0339 ppb	11:10:34
1	Zn 213.857†	682.8	-42.6	-0.3958 ug/L	-0.3958 ppb	11:10:54
1	SiO2†	513.9	6.5	0.4127 ug/L	0.4127 ppb	11:12:05
2	Sc Radial	5389.5	5389.5	101 %		11:09:42
2	Y RADIAL	5844.1	5844.1	101.5 %		11:09:42
2	Al 396.153Radial†	13.2	3.9	2.9300 ug/L	2.9300 ppb	11:10:02
2	Ca 317.933Radial†	16.8	-3.6	-5.7303 ug/L	-5.7303 ppb	11:10:02
2	Fe 238.204 Radial†	8.7	1.5	13.786 ug/L	13.786 ppb	11:10:02
2	K 766.490 Radial†	2309.9	-214.8	-39.213 ug/L	-39.213 ppb	11:09:42
2	Mg 279.077 IEC†	0.7	-0.3	-10.525 ug/L	-10.525 ppb	11:10:02
2	Na 589.592 Radial†	-736.7	-182.2	-54.177 ug/L	-54.177 ppb	11:09:42
2	Sr 421.552†	50.5	42.9	0.2756 ug/L	0.2756 ppb	11:09:42
2	Sc 361.383	887653.4	887653.4	98.862 %		11:10:59
2	Y 371.029	808770.7	808770.7	98.256 %		11:10:59
2	Ag 328.068†	321.6	29.3	0.1268 ug/L	0.1268 ppb	11:10:59
2	As 188.979†	-33.3	-3.5	-1.4396 ug/L	-1.4396 ppb	11:11:19
2	B 249.677†	31.0	271.8	5.9570 ug/L	5.9570 ppb	11:11:19
2	Ba 233.527†	9.1	12.4	0.0975 ug/L	0.0975 ppb	11:11:19
2	Be 313.107†	-4884.9	159.3	0.0561 ug/L	0.0561 ppb	11:10:59
2	Cd 226.502†	-202.6	1.3	0.0127 ug/L	0.0127 ppb	11:11:19
2	Co 228.616†	-59.4	9.8	0.2163 ug/L	0.2163 ppb	11:11:19
2	Cr 267.716†	88.8	-4.1	-0.0439 ug/L	-0.0439 ppb	11:11:19
2	Cu 324.752†	8903.6	-121.9	-0.3409 ug/L	-0.3409 ppb	11:10:59
2	Mn 257.610†	486.2	1.9	0.0040 ug/L	0.0040 ppb	11:11:19
2	Mo 202.031†	27.9	4.6	0.3171 ug/L	0.3171 ppb	11:11:19
2	Ni 231.604†	103.9	11.4	0.2872 ug/L	0.2872 ppb	11:11:19

2	P 214.914†	217.8	-18.4	-10.316 ug/L	-10.316 ppb	11:11:19
2	Pb 220.353†	-41.3	18.6	2.3398 ug/L	2.3398 ppb	11:11:19
2	S 181.975 Axial†	50.8	-25.6	-35.196 ug/L	-35.196 ppb	11:11:19
2	Sb 206.836†	38.2	8.3	2.8281 ug/L	2.8281 ppb	11:11:19
2	Se 196.026†	-27.0	-9.3	-5.3261 ug/L	-5.3261 ppb	11:11:19
2	Si 251.611†	485.1	-5.3	-0.1595 ug/L	-0.1595 ppb	11:11:19
2	Sn 189.927†	9.4	9.9	1.8146 ug/L	1.8146 ppb	11:11:19
2	Ti 334.940†	-923.0	-27.1	-0.0410 ug/L	-0.0410 ppb	11:10:59
2	Tl 190.801†	-40.8	-4.3	-1.3921 ug/L	-1.3921 ppb	11:11:19
2	U 409.014†	-1067.3	-16.7	-0.4192 ug/L	-0.4192 ppb	11:10:59
2	V 292.402†	-1397.0	-19.6	-0.1201 ug/L	-0.1201 ppb	11:10:59
2	Zn 213.857†	681.0	-44.5	-0.4175 ug/L	-0.4175 ppb	11:11:19
2	SiO2†	541.7	34.5	2.1718 ug/L	2.1718 ppb	11:12:25
3	Sc Radial	5456.3	5456.3	102 %		11:10:07
3	Y RADIAL	5908.8	5908.8	102.6 %		11:10:07
3	Al 396.153Radial†	2.8	-6.4	-4.8295 ug/L	-4.8295 ppb	11:10:27
3	Ca 317.933Radial†	19.1	-1.5	-2.4499 ug/L	-2.4499 ppb	11:10:27
3	Fe 238.204 Radial†	7.4	0.1	0.4792 ug/L	0.4792 ppb	11:10:27
3	K 766.490 Radial†	2457.2	-98.6	-17.999 ug/L	-17.999 ppb	11:10:07
3	Mg 279.077 IEC†	2.9	1.9	66.619 ug/L	66.619 ppb	11:10:27
3	Na 589.592 Radial†	-708.1	-145.4	-43.226 ug/L	-43.226 ppb	11:10:07
3	Sr 421.552†	35.3	27.5	0.1763 ug/L	0.1763 ppb	11:10:07
3	Sc 361.383	889459.6	889459.6	99.063 %		11:11:25
3	Y 371.029	810407.8	810407.8	98.455 %		11:11:25
3	Ag 328.068†	349.7	57.0	0.2372 ug/L	0.2372 ppb	11:11:25
3	As 188.979†	-25.6	4.3	1.7717 ug/L	1.7717 ppb	11:11:45
3	B 249.677†	23.5	264.2	5.7933 ug/L	5.7933 ppb	11:11:45
3	Ba 233.527†	16.9	20.1	0.1585 ug/L	0.1585 ppb	11:11:45
3	Be 313.107†	-4959.8	93.7	0.0331 ug/L	0.0331 ppb	11:11:25
3	Cd 226.502†	-209.5	-5.3	-0.0593 ug/L	-0.0593 ppb	11:11:45
3	Co 228.616†	-62.5	6.8	0.1493 ug/L	0.1493 ppb	11:11:45
3	Cr 267.716†	75.7	-17.5	-0.1896 ug/L	-0.1896 ppb	11:11:45
3	Cu 324.752†	8902.8	-141.0	-0.3956 ug/L	-0.3956 ppb	11:11:25
3	Mn 257.610†	481.0	-4.3	-0.0075 ug/L	-0.0075 ppb	11:11:45
3	Mo 202.031†	20.3	-3.2	-0.2153 ug/L	-0.2153 ppb	11:11:45
3	Ni 231.604†	91.3	-1.5	-0.0375 ug/L	-0.0375 ppb	11:11:45
3	P 214.914†	235.3	-1.2	-0.5519 ug/L	-0.5519 ppb	11:11:45
3	Pb 220.353†	-59.4	0.4	0.0514 ug/L	0.0514 ppb	11:11:45
3	S 181.975 Axial†	44.4	-32.1	-44.241 ug/L	-44.241 ppb	11:11:45
3	Sb 206.836†	41.8	12.0	4.0492 ug/L	4.0492 ppb	11:11:45
3	Se 196.026†	-14.3	3.6	2.0506 ug/L	2.0506 ppb	11:11:45
3	Si 251.611†	492.2	0.9	0.0307 ug/L	0.0307 ppb	11:11:45
3	Sn 189.927†	17.8	18.3	3.3739 ug/L	3.3739 ppb	11:11:45
3	Ti 334.940†	-884.0	14.2	0.0160 ug/L	0.0160 ppb	11:11:25
3	Tl 190.801†	-38.0	-1.5	-0.4719 ug/L	-0.4719 ppb	11:11:45
3	U 409.014†	-1051.2	1.7	0.0419 ug/L	0.0419 ppb	11:11:25
3	V 292.402†	-1406.5	-26.2	-0.1649 ug/L	-0.1649 ppb	11:11:25
3	Zn 213.857†	694.5	-32.3	-0.3004 ug/L	-0.3004 ppb	11:11:45
3	SiO2†	492.3	-16.5	-1.0349 ug/L	-1.0349 ppb	11:12:45

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Std.Dev.	RSD
Sc 361.383	888174.0	98.920 %		0.1247			0.13%
Sc Radial	5294.9	99.2 %		4.20			4.23%
Y 371.029	808477.9	98.221 %		0.2541			0.26%
Y RADIAL	5738.6	99.68 %		4.186			4.20%
Ag 328.068†	34.4	0.1460 ug/L		0.08325	0.1460 ppb	0.08325	57.00%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	-3.0	-2.2870 ug/L		4.51858	-2.2870 ppb	4.51858	197.57%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	4.8	1.9457 ug/L		3.47563	1.9457 ppb	3.47563	178.63%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	271.2	5.9464 ug/L		0.14807	5.9464 ppb	0.14807	2.49%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	9.7	0.0767 ug/L		0.09401	0.0767 ppb	0.09401	122.63%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	121.9	0.0430 ug/L		0.01183	0.0430 ppb	0.01183	27.53%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-3.3	-5.2733 ug/L		2.62490	-5.2733 ppb	2.62490	49.78%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated

Cd 226.502†	1.8	0.0190 ug/L	0.08166	0.0190 ppb	0.08166	429.73%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	7.4	0.1618 ug/L	0.04955	0.1618 ppb	0.04955	30.63%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-12.5	-0.1355 ug/L	0.07975	-0.1355 ppb	0.07975	58.87%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-163.2	-0.4570 ug/L	0.15621	-0.4570 ppb	0.15621	34.18%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.8	7.7189 ug/L	6.73040	7.7189 ppb	6.73040	87.19%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-31.0	-5.6398 ug/L	41.16864	-5.6398 ppb	41.16864	729.96%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.5	16.761 ug/L	43.2432	16.761 ppb	43.2432	258.00%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	1.6	0.0019 ug/L	0.00849	0.0019 ppb	0.00849	456.11%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	0.2	0.0145 ug/L	0.27358	0.0145 ppb	0.27358	>999.9%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-187.7	-55.806 ug/L	13.4680	-55.806 ppb	13.4680	24.13%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	1.9	0.0482 ug/L	0.20978	0.0482 ppb	0.20978	435.37%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-4.9	-2.6831 ug/L	6.82189	-2.6831 ppb	6.82189	254.26%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	8.9	1.1179 ug/L	1.15213	1.1179 ppb	1.15213	103.07%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-28.7	-39.526 ug/L	4.5352	-39.526 ppb	4.5352	11.47%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	10.1	3.4109 ug/L	0.61240	3.4109 ppb	0.61240	17.95%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-2.7	-1.5582 ug/L	3.69089	-1.5582 ppb	3.69089	236.87%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-3.4	-0.0994 ug/L	0.11281	-0.0994 ppb	0.11281	113.44%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	11.8	2.1676 ug/L	1.07419	2.1676 ppb	1.07419	49.56%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	25.0	0.1602 ug/L	0.12431	0.1602 ppb	0.12431	77.60%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-2.1	-0.0050 ug/L	0.03133	-0.0050 ppb	0.03133	628.81%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-1.6	-0.5008 ug/L	0.87732	-0.5008 ppb	0.87732	175.20%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-20.2	-0.5064 ug/L	0.59667	-0.5064 ppb	0.59667	117.83%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	-13.2	-0.0837 ug/L	0.10431	-0.0837 ppb	0.10431	124.62%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-39.8	-0.3712 ug/L	0.06231	-0.3712 ppb	0.06231	16.78%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	8.2	0.5165 ug/L	1.60587	0.5165 ppb	1.60587	310.90%
QC value within limits for SiO2 Recovery = Not calculated						

All analyte(s) passed QC.



Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 12:13:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5433.0	5433.0	102 %		12:15:26
1	Y RADIAL	5836.7	5836.7	101.4 %		12:15:26
1	Al 396.153Radial†	6608.6	6486.4	4890.1 ug/L	4890.1 ppb	12:15:26
1	Ca 317.933Radial†	3217.2	3141.9	5049.9 ug/L	5049.9 ppb	12:15:46
1	Fe 238.204 Radial†	578.3	561.3	5260.3 ug/L	5260.3 ppb	12:15:46
1	K 766.490 Radial†	30416.9	27392.9	4997.8 ug/L	4997.8 ppb	12:15:26
1	Mg 279.077 IEC†	151.4	147.9	5274.6 ug/L	5274.6 ppb	12:15:46
1	Na 589.592 Radial†	34421.6	34380.3	10220 ug/L	10220 ppb	12:15:26
1	Sr 421.552†	80987.0	79594.2	510.77 ug/L	510.77 ppb	12:15:26
1	Sc 361.383	923891.8	923891.8	102.90 %		12:16:44
1	Y 371.029	809345.7	809345.7	98.326 %		12:16:44
1	Ag 328.068†	121335.5	117622.4	494.07 ug/L	494.07 ppb	12:16:49
1	As 188.979†	1199.0	1195.4	493.36 ug/L	493.36 ppb	12:17:09
1	B 249.677†	22641.0	22243.8	485.53 ug/L	485.53 ppb	12:16:49
1	Ba 233.527†	64172.8	62368.7	492.84 ug/L	492.84 ppb	12:16:49
1	Be 313.107†	1415559.2	1380794.6	488.20 ug/L	488.20 ppb	12:16:44
1	Cd 226.502†	45558.5	44481.6	496.74 ug/L	496.74 ppb	12:16:49
1	Co 228.616†	23532.9	22940.1	502.96 ug/L	502.96 ppb	12:16:49
1	Cr 267.716†	47042.5	45623.8	495.20 ug/L	495.20 ppb	12:16:49
1	Cu 324.752†	187213.1	172812.8	484.79 ug/L	484.79 ppb	12:16:49
1	Mn 257.610†	447871.5	434768.6	487.75 ug/L	487.75 ppb	12:16:44
1	Mo 202.031†	7347.9	7117.4	486.22 ug/L	486.22 ppb	12:17:09
1	Ni 231.604†	20427.0	19758.1	496.25 ug/L	496.25 ppb	12:16:49
1	P 214.914†	4667.6	4297.5	2328.8 ug/L	2328.8 ppb	12:17:09
1	Pb 220.353†	3954.1	3903.2	491.49 ug/L	491.49 ppb	12:17:09
1	S 181.975 Axial†	794.7	695.4	956.46 ug/L	956.46 ppb	12:17:09
1	Sb 206.836†	1534.4	1460.9	506.67 ug/L	506.67 ppb	12:17:09
1	Se 196.026†	851.5	845.5	506.81 ug/L	506.81 ppb	12:17:09
1	Si 251.611†	86055.6	83136.1	2457.3 ug/L	2457.3 ppb	12:16:49
1	Sn 189.927†	2738.0	2661.2	490.21 ug/L	490.21 ppb	12:17:09
1	Ti 334.940†	328569.8	320223.1	488.10 ug/L	488.10 ppb	12:16:49
1	Tl 190.801†	1517.7	1511.9	486.85 ug/L	486.85 ppb	12:17:09
1	U 409.014†	18951.7	19480.8	485.41 ug/L	485.41 ppb	12:16:49
1	V 292.402†	79772.8	78919.8	497.22 ug/L	497.22 ppb	12:16:49
1	Zn 213.857†	55252.2	52962.7	489.00 ug/L	489.00 ppb	12:16:49
1	SiO2†	86703.2	83748.0	5283.4 ug/L	5283.4 ppb	12:18:17
2	Sc Radial	5434.3	5434.3	102 %		12:15:52
2	Y RADIAL	5854.6	5854.6	101.7 %		12:15:52
2	Al 396.153Radial†	6656.5	6532.0	4924.3 ug/L	4924.3 ppb	12:15:52
2	Ca 317.933Radial†	3208.0	3132.2	5034.3 ug/L	5034.3 ppb	12:16:12
2	Fe 238.204 Radial†	582.4	565.2	5296.7 ug/L	5296.7 ppb	12:16:12
2	K 766.490 Radial†	30709.3	27673.4	5049.0 ug/L	5049.0 ppb	12:15:52
2	Mg 279.077 IEC†	151.8	148.2	5285.6 ug/L	5285.6 ppb	12:16:12
2	Na 589.592 Radial†	34490.0	34439.7	10238 ug/L	10238 ppb	12:15:52
2	Sr 421.552†	81509.8	80089.5	513.95 ug/L	513.95 ppb	12:15:52
2	Sc 361.383	920562.4	920562.4	102.53 %		12:17:15
2	Y 371.029	807595.5	807595.5	98.114 %		12:17:15
2	Ag 328.068†	121078.0	117797.7	494.81 ug/L	494.81 ppb	12:17:20
2	As 188.979†	1211.1	1211.4	499.89 ug/L	499.89 ppb	12:17:40
2	B 249.677†	22650.3	22332.4	487.47 ug/L	487.47 ppb	12:17:20
2	Ba 233.527†	64060.2	62484.4	493.76 ug/L	493.76 ppb	12:17:20
2	Be 313.107†	1412967.1	1383241.8	489.06 ug/L	489.06 ppb	12:17:15
2	Cd 226.502†	45343.5	44432.1	496.19 ug/L	496.19 ppb	12:17:20
2	Co 228.616†	23476.9	22968.2	503.59 ug/L	503.59 ppb	12:17:20
2	Cr 267.716†	46867.3	45618.3	495.14 ug/L	495.14 ppb	12:17:20
2	Cu 324.752†	187165.8	173424.7	486.51 ug/L	486.51 ppb	12:17:20
2	Mn 257.610†	445993.0	434510.7	487.47 ug/L	487.47 ppb	12:17:15
2	Mo 202.031†	7434.2	7227.3	493.72 ug/L	493.72 ppb	12:17:40
2	Ni 231.604†	20378.3	19782.3	496.86 ug/L	496.86 ppb	12:17:20

2	P 214.914†	4714.9	4359.9	2363.7 ug/L	2363.7 ppb	12:17:40
2	Pb 220.353†	3979.0	3941.3	496.30 ug/L	496.30 ppb	12:17:40
2	S 181.975 Axial†	806.2	709.4	975.75 ug/L	975.75 ppb	12:17:40
2	Sb 206.836†	1546.4	1478.0	512.65 ug/L	512.65 ppb	12:17:40
2	Se 196.026†	863.0	859.7	515.15 ug/L	515.15 ppb	12:17:40
2	Si 251.611†	85994.5	83379.0	2464.4 ug/L	2464.4 ppb	12:17:20
2	Sn 189.927†	2764.7	2696.9	496.78 ug/L	496.78 ppb	12:17:40
2	Ti 334.940†	327821.2	320647.9	488.74 ug/L	488.74 ppb	12:17:20
2	Tl 190.801†	1537.6	1536.6	494.76 ug/L	494.76 ppb	12:17:40
2	U 409.014†	19037.6	19631.2	489.17 ug/L	489.17 ppb	12:17:20
2	V 292.402†	79683.0	79112.6	498.53 ug/L	498.53 ppb	12:17:20
2	Zn 213.857†	55143.1	53050.6	489.80 ug/L	489.80 ppb	12:17:20
2	SiO2†	85235.4	82621.2	5211.9 ug/L	5211.9 ppb	12:18:22
3	Sc Radial	5356.7	5356.7	100 %		12:16:17
3	Y RADIAL	5759.6	5759.6	100.0 %		12:16:17
3	Al 396.153Radial†	6629.4	6599.7	4975.9 ug/L	4975.9 ppb	12:16:17
3	Ca 317.933Radial†	3184.6	3154.5	5070.2 ug/L	5070.2 ppb	12:16:37
3	Fe 238.204 Radial†	575.3	566.4	5308.0 ug/L	5308.0 ppb	12:16:37
3	K 766.490 Radial†	30539.8	27941.5	5098.0 ug/L	5098.0 ppb	12:16:17
3	Mg 279.077 IEC†	153.4	151.9	5418.3 ug/L	5418.3 ppb	12:16:37
3	Na 589.592 Radial†	34248.3	34689.6	10312 ug/L	10312 ppb	12:16:17
3	Sr 421.552†	80762.1	80504.2	516.61 ug/L	516.61 ppb	12:16:17
3	Sc 361.383	930593.8	930593.8	103.64 %		12:17:46
3	Y 371.029	815416.9	815416.9	99.064 %		12:17:46
3	Ag 328.068†	121072.6	116519.5	489.46 ug/L	489.46 ppb	12:17:51
3	As 188.979†	1213.6	1201.1	495.64 ug/L	495.64 ppb	12:18:11
3	B 249.677†	22709.1	22151.1	483.50 ug/L	483.50 ppb	12:17:51
3	Ba 233.527†	63920.0	61675.6	487.37 ug/L	487.37 ppb	12:17:51
3	Be 313.107†	1426007.0	1380967.3	488.25 ug/L	488.25 ppb	12:17:46
3	Cd 226.502†	45398.5	44008.4	491.45 ug/L	491.45 ppb	12:17:51
3	Co 228.616†	23511.5	22754.8	498.90 ug/L	498.90 ppb	12:17:51
3	Cr 267.716†	46750.9	45013.2	488.57 ug/L	488.57 ppb	12:17:51
3	Cu 324.752†	187206.1	171495.7	481.10 ug/L	481.10 ppb	12:17:51
3	Mn 257.610†	450718.9	434381.2	487.32 ug/L	487.32 ppb	12:17:46
3	Mo 202.031†	7400.8	7116.9	486.19 ug/L	486.19 ppb	12:18:11
3	Ni 231.604†	20364.4	19554.6	491.14 ug/L	491.14 ppb	12:17:51
3	P 214.914†	4729.9	4324.8	2344.9 ug/L	2344.9 ppb	12:18:11
3	Pb 220.353†	3959.3	3880.4	488.66 ug/L	488.66 ppb	12:18:11
3	S 181.975 Axial†	799.0	693.9	954.42 ug/L	954.42 ppb	12:18:11
3	Sb 206.836†	1528.0	1444.0	501.03 ug/L	501.03 ppb	12:18:11
3	Se 196.026†	851.6	839.6	503.59 ug/L	503.59 ppb	12:18:11
3	Si 251.611†	85986.6	82467.3	2437.5 ug/L	2437.5 ppb	12:17:51
3	Sn 189.927†	2762.1	2665.3	490.98 ug/L	490.98 ppb	12:18:11
3	Ti 334.940†	327580.5	316968.9	483.13 ug/L	483.13 ppb	12:17:51
3	Tl 190.801†	1528.2	1511.4	486.68 ug/L	486.68 ppb	12:18:11
3	U 409.014†	19160.8	19549.9	487.15 ug/L	487.15 ppb	12:17:51
3	V 292.402†	79412.7	78014.1	491.60 ug/L	491.60 ppb	12:17:51
3	Zn 213.857†	55024.7	52356.5	483.38 ug/L	483.38 ppb	12:17:51
3	SiO2†	85738.5	82210.5	5186.1 ug/L	5186.1 ppb	12:18:27

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	925016.0	103.02 %	0.569			0.55%
Sc Radial	5408.0	101 %	0.8			0.82%
Y 371.029	810786.0	98.501 %	0.4987			0.51%
Y RADIAL	5817.0	101.0 %	0.88			0.87%
Ag 328.068†	117313.2	492.78 ug/L	2.902	492.78 ppb	2.902	0.59%
QC value within limits for Ag 328.068 Recovery = 98.56%						
Al 396.153Radial†	6539.4	4930.1 ug/L	43.20	4930.1 ppb	43.20	0.88%
QC value within limits for Al 396.153Radial Recovery = 98.60%						
As 188.979†	1202.6	496.30 ug/L	3.315	496.30 ppb	3.315	0.67%
QC value within limits for As 188.979 Recovery = 99.26%						
B 249.677†	22242.4	485.50 ug/L	1.983	485.50 ppb	1.983	0.41%
QC value within limits for B 249.677 Recovery = 97.10%						
Ba 233.527†	62176.2	491.32 ug/L	3.455	491.32 ppb	3.455	0.70%
QC value within limits for Ba 233.527 Recovery = 98.26%						
Be 313.107†	1381667.9	488.50 ug/L	0.486	488.50 ppb	0.486	0.10%
QC value within limits for Be 313.107 Recovery = 97.70%						
Ca 317.933Radial†	3142.8	5051.5 ug/L	17.96	5051.5 ppb	17.96	0.36%

QC value within limits for Ca 317.933 Radial Recovery = 101.03%							
Cd 226.502†	44307.4	494.79 ug/L	2.909	494.79 ppb	2.909	0.59%	
QC value within limits for Cd 226.502 Recovery = 98.96%							
Co 228.616†	22887.7	501.82 ug/L	2.542	501.82 ppb	2.542	0.51%	
QC value within limits for Co 228.616 Recovery = 100.36%							
Cr 267.716†	45418.4	492.97 ug/L	3.809	492.97 ppb	3.809	0.77%	
QC value within limits for Cr 267.716 Recovery = 98.59%							
Cu 324.752†	172577.7	484.13 ug/L	2.764	484.13 ppb	2.764	0.57%	
QC value within limits for Cu 324.752 Recovery = 96.83%							
Fe 238.204 Radial†	564.3	5288.3 ug/L	24.91	5288.3 ppb	24.91	0.47%	
QC value within limits for Fe 238.204 Radial Recovery = 105.77%							
K 766.490 Radial†	27669.3	5048.3 ug/L	50.09	5048.3 ppb	50.09	0.99%	
QC value within limits for K 766.490 Radial Recovery = 100.97%							
Mg 279.077 IEC†	149.3	5326.1 ug/L	80.00	5326.1 ppb	80.00	1.50%	
QC value within limits for Mg 279.077 IEC Recovery = 106.52%							
Mn 257.610†	434553.5	487.51 ug/L	0.221	487.51 ppb	0.221	0.05%	
QC value within limits for Mn 257.610 Recovery = 97.50%							
Mo 202.031†	7153.9	488.71 ug/L	4.341	488.71 ppb	4.341	0.89%	
QC value within limits for Mo 202.031 Recovery = 97.74%							
Na 589.592 Radial†	34503.2	10257 ug/L	48.8	10257 ppb	48.8	0.48%	
QC value within limits for Na 589.592 Radial Recovery = 102.57%							
Ni 231.604†	19698.4	494.75 ug/L	3.141	494.75 ppb	3.141	0.63%	
QC value within limits for Ni 231.604 Recovery = 98.95%							
P 214.914†	4327.4	2345.8 ug/L	17.49	2345.8 ppb	17.49	0.75%	
QC value within limits for P 214.914 Recovery = 93.83%							
Pb 220.353†	3908.3	492.15 ug/L	3.864	492.15 ppb	3.864	0.79%	
QC value within limits for Pb 220.353 Recovery = 98.43%							
S 181.975 Axial†	699.5	962.21 ug/L	11.770	962.21 ppb	11.770	1.22%	
QC value within limits for S 181.975 Axial Recovery = 96.22%							
Sb 206.836†	1461.0	506.78 ug/L	5.808	506.78 ppb	5.808	1.15%	
QC value within limits for Sb 206.836 Recovery = 101.36%							
Se 196.026†	848.2	508.52 ug/L	5.968	508.52 ppb	5.968	1.17%	
QC value within limits for Se 196.026 Recovery = 101.70%							
Si 251.611†	82994.1	2453.1 ug/L	13.95	2453.1 ppb	13.95	0.57%	
QC value within limits for Si 251.611 Recovery = 98.12%							
Sn 189.927†	2674.5	492.66 ug/L	3.593	492.66 ppb	3.593	0.73%	
QC value within limits for Sn 189.927 Recovery = 98.53%							
Sr 421.552†	80062.7	513.78 ug/L	2.924	513.78 ppb	2.924	0.57%	
QC value within limits for Sr 421.552 Recovery = 102.76%							
Ti 334.940†	319280.0	486.66 ug/L	3.071	486.66 ppb	3.071	0.63%	
QC value within limits for Ti 334.940 Recovery = 97.33%							
Tl 190.801†	1519.9	489.43 ug/L	4.614	489.43 ppb	4.614	0.94%	
QC value within limits for Tl 190.801 Recovery = 97.89%							
U 409.014†	19553.9	487.25 ug/L	1.880	487.25 ppb	1.880	0.39%	
QC value within limits for U 409.014 Recovery = 97.45%							
V 292.402†	78682.2	495.78 ug/L	3.684	495.78 ppb	3.684	0.74%	
QC value within limits for V 292.402 Recovery = 99.16%							
Zn 213.857†	52790.0	487.39 ug/L	3.498	487.39 ppb	3.498	0.72%	
QC value within limits for Zn 213.857 Recovery = 97.48%							
SiO2†	82859.9	5227.1 ug/L	50.38	5227.1 ppb	50.38	0.96%	
QC value within limits for SiO2 Recovery = 97.75%							
All analyte(s) passed QC.							

Sequence No.: 10

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/26/2010 12:20:38

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5415.3	5415.3	101 %		12:22:31
1	Y RADIAL	5847.2	5847.2	101.6 %		12:22:31
1	Al 396.153Radial†	275.7	262.8	198.56 ug/L	198.56 ppb	12:22:51
1	Ca 317.933Radial†	152.1	129.8	208.60 ug/L	208.60 ppb	12:22:51
1	Fe 238.204 Radial†	21.1	13.6	127.55 ug/L	127.55 ppb	12:22:51
1	K 766.490 Radial†	3280.7	731.6	133.47 ug/L	133.47 ppb	12:22:31
1	Mg 279.077 IEC†	10.5	9.3	332.93 ug/L	332.93 ppb	12:22:51
1	Na 589.592 Radial†	265.9	809.9	240.75 ug/L	240.75 ppb	12:22:31
1	Sr 421.552†	809.0	790.6	5.0724 ug/L	5.0724 ppb	12:22:31
1	Sc 361.383	890266.9	890266.9	99.153 %		12:23:48
1	Y 371.029	809464.4	809464.4	98.341 %		12:23:48
1	Ag 328.068†	1559.9	1277.2	5.3485 ug/L	5.3485 ppb	12:23:48
1	As 188.979†	41.2	71.8	29.413 ug/L	29.413 ppb	12:24:08
1	B 249.677†	2148.3	2407.1	52.753 ug/L	52.753 ppb	12:23:48
1	Ba 233.527†	649.8	658.4	5.2058 ug/L	5.2058 ppb	12:24:08
1	Be 313.107†	9305.3	14485.2	5.1216 ug/L	5.1216 ppb	12:23:48
1	Cd 226.502†	256.1	464.5	5.1889 ug/L	5.1889 ppb	12:24:08
1	Co 228.616†	158.6	229.9	5.0505 ug/L	5.0505 ppb	12:24:08
1	Cr 267.716†	550.8	461.6	4.9940 ug/L	4.9940 ppb	12:24:08
1	Cu 324.752†	12535.9	3514.9	9.8385 ug/L	9.8385 ppb	12:23:48
1	Mn 257.610†	9867.7	9462.2	10.608 ug/L	10.608 ppb	12:23:48
1	Mo 202.031†	171.6	149.5	10.213 ug/L	10.213 ppb	12:24:08
1	Ni 231.604†	323.2	232.3	5.8342 ug/L	5.8342 ppb	12:24:08
1	P 214.914†	507.0	272.6	151.83 ug/L	151.83 ppb	12:24:08
1	Pb 220.353†	22.8	83.4	10.522 ug/L	10.522 ppb	12:24:08
1	S 181.975 Axial†	132.5	56.7	78.011 ug/L	78.011 ppb	12:24:08
1	Sb 206.836†	71.7	42.0	14.451 ug/L	14.451 ppb	12:24:08
1	Se 196.026†	31.5	49.7	29.135 ug/L	29.135 ppb	12:24:08
1	Si 251.611†	3773.0	3309.3	97.928 ug/L	97.928 ppb	12:24:08
1	Sn 189.927†	60.6	61.4	11.327 ug/L	11.327 ppb	12:24:08
1	Ti 334.940†	2484.5	3412.3	5.1791 ug/L	5.1791 ppb	12:23:48
1	Tl 190.801†	12.6	49.6	15.931 ug/L	15.931 ppb	12:24:08
1	U 409.014†	989.5	2060.7	51.504 ug/L	51.504 ppb	12:23:48
1	V 292.402†	-508.3	881.0	5.7019 ug/L	5.7019 ppb	12:23:48
1	Zn 213.857†	1790.4	1072.3	9.9246 ug/L	9.9246 ppb	12:24:08
1	SiO2†	3998.3	3519.0	222.28 ug/L	222.28 ppb	12:25:04
2	Sc Radial	5401.3	5401.3	101 %		12:22:56
2	Y RADIAL	5831.5	5831.5	101.3 %		12:22:56
2	Al 396.153Radial†	278.3	266.0	201.00 ug/L	201.00 ppb	12:23:16
2	Ca 317.933Radial†	148.3	126.4	203.13 ug/L	203.13 ppb	12:23:16
2	Fe 238.204 Radial†	19.1	11.7	109.83 ug/L	109.83 ppb	12:23:16
2	K 766.490 Radial†	3282.7	742.0	135.37 ug/L	135.37 ppb	12:22:56
2	Mg 279.077 IEC†	9.1	8.0	284.70 ug/L	284.70 ppb	12:23:16
2	Na 589.592 Radial†	292.9	837.2	248.87 ug/L	248.87 ppb	12:22:56
2	Sr 421.552†	826.6	810.2	5.1978 ug/L	5.1978 ppb	12:22:56
2	Sc 361.383	885666.5	885666.5	98.641 %		12:24:13
2	Y 371.029	803756.0	803756.0	97.647 %		12:24:13
2	Ag 328.068†	1580.8	1306.6	5.4645 ug/L	5.4645 ppb	12:24:13
2	As 188.979†	40.0	70.7	28.970 ug/L	28.970 ppb	12:24:33
2	B 249.677†	2033.1	2301.6	50.442 ug/L	50.442 ppb	12:24:13
2	Ba 233.527†	658.7	670.9	5.3023 ug/L	5.3023 ppb	12:24:33
2	Be 313.107†	9253.9	14481.8	5.1206 ug/L	5.1206 ppb	12:24:13
2	Cd 226.502†	283.8	493.9	5.5192 ug/L	5.5192 ppb	12:24:33
2	Co 228.616†	157.8	229.9	5.0515 ug/L	5.0515 ppb	12:24:33
2	Cr 267.716†	564.2	478.0	5.1716 ug/L	5.1716 ppb	12:24:33
2	Cu 324.752†	12388.3	3431.0	9.6030 ug/L	9.6030 ppb	12:24:13
2	Mn 257.610†	9788.9	9434.0	10.576 ug/L	10.576 ppb	12:24:13
2	Mo 202.031†	169.2	148.0	10.108 ug/L	10.108 ppb	12:24:33
2	Ni 231.604†	318.9	229.6	5.7665 ug/L	5.7665 ppb	12:24:33

2	P 214.914†	501.6	269.7	150.28 ug/L	150.28 ppb	12:24:33
2	Pb 220.353†	31.8	92.7	11.687 ug/L	11.687 ppb	12:24:33
2	S 181.975 Axial†	122.6	47.2	65.016 ug/L	65.016 ppb	12:24:33
2	Sb 206.836†	63.3	33.9	11.739 ug/L	11.739 ppb	12:24:33
2	Se 196.026†	29.4	47.7	27.941 ug/L	27.941 ppb	12:24:33
2	Si 251.611†	3808.9	3365.4	99.592 ug/L	99.592 ppb	12:24:33
2	Sn 189.927†	62.9	64.1	11.821 ug/L	11.821 ppb	12:24:33
2	Ti 334.940†	2521.2	3462.5	5.2594 ug/L	5.2594 ppb	12:24:13
2	Tl 190.801†	19.2	56.4	18.088 ug/L	18.088 ppb	12:24:33
2	U 409.014†	924.5	2000.1	49.988 ug/L	49.988 ppb	12:24:13
2	V 292.402†	-584.1	801.4	5.2042 ug/L	5.2042 ppb	12:24:13
2	Zn 213.857†	1797.5	1088.9	10.082 ug/L	10.082 ppb	12:24:33
2	SiO2†	3926.2	3466.9	218.99 ug/L	218.99 ppb	12:25:09
3	Sc Radial	5516.4	5516.4	103 %		12:23:21
3	Y RADIAL	5969.8	5969.8	103.7 %		12:23:21
3	Al 396.153Radial†	278.3	260.2	196.61 ug/L	196.61 ppb	12:23:41
3	Ca 317.933Radial†	146.8	121.8	195.83 ug/L	195.83 ppb	12:23:41
3	Fe 238.204 Radial†	19.0	11.3	105.44 ug/L	105.44 ppb	12:23:41
3	K 766.490 Radial†	3193.2	587.7	107.17 ug/L	107.17 ppb	12:23:21
3	Mg 279.077 IEC†	11.0	9.7	346.79 ug/L	346.79 ppb	12:23:41
3	Na 589.592 Radial†	379.7	915.2	272.07 ug/L	272.07 ppb	12:23:21
3	Sr 421.552†	846.0	811.9	5.2091 ug/L	5.2091 ppb	12:23:21
3	Sc 361.383	894423.6	894423.6	99.616 %		12:24:38
3	Y 371.029	817232.0	817232.0	99.284 %		12:24:38
3	Ag 328.068†	1591.3	1301.4	5.4350 ug/L	5.4350 ppb	12:24:38
3	As 188.979†	40.7	71.0	29.095 ug/L	29.095 ppb	12:24:58
3	B 249.677†	2091.8	2340.3	51.293 ug/L	51.293 ppb	12:24:38
3	Ba 233.527†	648.2	653.8	5.1670 ug/L	5.1670 ppb	12:24:58
3	Be 313.107†	9369.1	14505.6	5.1288 ug/L	5.1288 ppb	12:24:38
3	Cd 226.502†	264.1	471.3	5.2680 ug/L	5.2680 ppb	12:24:58
3	Co 228.616†	164.8	235.3	5.1718 ug/L	5.1718 ppb	12:24:58
3	Cr 267.716†	577.3	485.5	5.2499 ug/L	5.2499 ppb	12:24:58
3	Cu 324.752†	12615.0	3535.7	9.8927 ug/L	9.8927 ppb	12:24:38
3	Mn 257.610†	9931.8	9480.2	10.625 ug/L	10.625 ppb	12:24:38
3	Mo 202.031†	179.1	156.2	10.668 ug/L	10.668 ppb	12:24:58
3	Ni 231.604†	332.8	240.4	6.0376 ug/L	6.0376 ppb	12:24:58
3	P 214.914†	510.8	274.1	152.67 ug/L	152.67 ppb	12:24:58
3	Pb 220.353†	9.4	69.8	8.8204 ug/L	8.8204 ppb	12:24:58
3	S 181.975 Axial†	122.6	46.1	63.375 ug/L	63.375 ppb	12:24:58
3	Sb 206.836†	66.4	36.4	12.598 ug/L	12.598 ppb	12:24:58
3	Se 196.026†	27.2	45.3	26.526 ug/L	26.526 ppb	12:24:58
3	Si 251.611†	3808.4	3327.1	98.451 ug/L	98.451 ppb	12:24:58
3	Sn 189.927†	66.3	66.9	12.324 ug/L	12.324 ppb	12:24:58
3	Ti 334.940†	2490.0	3406.1	5.1645 ug/L	5.1645 ppb	12:24:38
3	Tl 190.801†	30.3	67.3	21.597 ug/L	21.597 ppb	12:24:58
3	U 409.014†	1199.0	2266.5	56.650 ug/L	56.650 ppb	12:24:38
3	V 292.402†	-635.5	755.6	4.9418 ug/L	4.9418 ppb	12:24:38
3	Zn 213.857†	1788.4	1061.9	9.8287 ug/L	9.8287 ppb	12:24:58
3	SiO2†	3913.1	3414.8	215.68 ug/L	215.68 ppb	12:25:14

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	890119.0	99.136 %	0.4879			0.49%
Sc Radial	5444.3	102 %	1.2			1.15%
Y 371.029	810150.8	98.424 %	0.8218			0.83%
Y RADIAL	5882.8	102.2 %	1.32			1.29%
Ag 328.068†	1295.1	5.4160 ug/L	0.06030	5.4160 ppb	0.06030	1.11%
QC value within limits for Ag 328.068 Recovery = 108.32%						
Al 396.153Radial†	263.0	198.72 ug/L	2.195	198.72 ppb	2.195	1.10%
QC value within limits for Al 396.153Radial Recovery = 99.36%						
As 188.979†	71.2	29.159 ug/L	0.2285	29.159 ppb	0.2285	0.78%
QC value within limits for As 188.979 Recovery = 97.20%						
B 249.677†	2349.6	51.496 ug/L	1.1689	51.496 ppb	1.1689	2.27%
QC value within limits for B 249.677 Recovery = 102.99%						
Ba 233.527†	661.0	5.2250 ug/L	0.06968	5.2250 ppb	0.06968	1.33%
QC value within limits for Ba 233.527 Recovery = 104.50%						
Be 313.107†	14490.9	5.1237 ug/L	0.00447	5.1237 ppb	0.00447	0.09%
QC value within limits for Be 313.107 Recovery = 102.47%						
Ca 317.933Radial†	126.0	202.52 ug/L	6.404	202.52 ppb	6.404	3.16%

QC value within limits for Ca 317.933 Radial Recovery = 101.26%							
Cd 226.502†	476.5	5.3254 ug/L	0.17250	5.3254 ppb	0.17250	3.24%	
QC value within limits for Cd 226.502 Recovery = 106.51%							
Co 228.616†	231.7	5.0913 ug/L	0.06971	5.0913 ppb	0.06971	1.37%	
QC value within limits for Co 228.616 Recovery = 101.83%							
Cr 267.716†	475.1	5.1385 ug/L	0.13115	5.1385 ppb	0.13115	2.55%	
QC value within limits for Cr 267.716 Recovery = 102.77%							
Cu 324.752†	3493.9	9.7781 ug/L	0.15398	9.7781 ppb	0.15398	1.57%	
QC value within limits for Cu 324.752 Recovery = 97.78%							
Fe 238.204 Radial†	12.2	114.27 ug/L	11.708	114.27 ppb	11.708	10.25%	
QC value within limits for Fe 238.204 Radial Recovery = 114.27%							
K 766.490 Radial†	687.1	125.34 ug/L	15.761	125.34 ppb	15.761	12.57%	
QC value within limits for K 766.490 Radial Recovery = 83.56%							
Mg 279.077 IEC†	9.0	321.48 ug/L	32.589	321.48 ppb	32.589	10.14%	
QC value within limits for Mg 279.077 IEC Recovery = 107.16%							
Mn 257.610†	9458.8	10.603 ug/L	0.0248	10.603 ppb	0.0248	0.23%	
QC value within limits for Mn 257.610 Recovery = 106.03%							
Mo 202.031†	151.2	10.330 ug/L	0.2973	10.330 ppb	0.2973	2.88%	
QC value within limits for Mo 202.031 Recovery = 103.30%							
Na 589.592 Radial†	854.1	253.90 ug/L	16.254	253.90 ppb	16.254	6.40%	
QC value within limits for Na 589.592 Radial Recovery = 84.63%							
Ni 231.604†	234.1	5.8794 ug/L	0.14108	5.8794 ppb	0.14108	2.40%	
QC value within limits for Ni 231.604 Recovery = 117.59%							
P 214.914†	272.1	151.59 ug/L	1.213	151.59 ppb	1.213	0.80%	
QC value within limits for P 214.914 Recovery = 101.06%							
Pb 220.353†	82.0	10.343 ug/L	1.4418	10.343 ppb	1.4418	13.94%	
QC value within limits for Pb 220.353 Recovery = 103.43%							
S 181.975 Axial†	50.0	68.801 ug/L	8.0186	68.801 ppb	8.0186	11.65%	
QC value less than the lower limit for S 181.975 Axial Recovery = 68.80%							
Sb 206.836†	37.5	12.929 ug/L	1.3861	12.929 ppb	1.3861	10.72%	
QC value within limits for Sb 206.836 Recovery = 129.29%							
Se 196.026†	47.6	27.867 ug/L	1.3060	27.867 ppb	1.3060	4.69%	
QC value within limits for Se 196.026 Recovery = 92.89%							
Si 251.611†	3333.9	98.657 ug/L	0.8512	98.657 ppb	0.8512	0.86%	
QC value within limits for Si 251.611 Recovery = 98.66%							
Sn 189.927†	64.1	11.824 ug/L	0.4988	11.824 ppb	0.4988	4.22%	
QC value within limits for Sn 189.927 Recovery = 118.24%							
Sr 421.552†	804.2	5.1598 ug/L	0.07583	5.1598 ppb	0.07583	1.47%	
QC value within limits for Sr 421.552 Recovery = 103.20%							
Ti 334.940†	3427.0	5.2010 ug/L	0.05110	5.2010 ppb	0.05110	0.98%	
QC value within limits for Ti 334.940 Recovery = 104.02%							
Tl 190.801†	57.8	18.539 ug/L	2.8599	18.539 ppb	2.8599	15.43%	
QC value within limits for Tl 190.801 Recovery = 92.69%							
U 409.014†	2109.1	52.714 ug/L	3.4919	52.714 ppb	3.4919	6.62%	
QC value within limits for U 409.014 Recovery = 105.43%							
V 292.402†	812.7	5.2826 ug/L	0.38605	5.2826 ppb	0.38605	7.31%	
QC value within limits for V 292.402 Recovery = 105.65%							
Zn 213.857†	1074.3	9.9452 ug/L	0.12804	9.9452 ppb	0.12804	1.29%	
QC value within limits for Zn 213.857 Recovery = 99.45%							
SiO2†	3466.9	218.98 ug/L	3.303	218.98 ppb	3.303	1.51%	
QC value within limits for SiO2 Recovery = 102.81%							
QC Failed. Continue with analysis.							

Sequence No.: 11  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/26/2010 12:27:26  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5457.3	5457.3	102 %		12:29:18
1	Y RADIAL	5882.3	5882.3	102.2 %		12:29:18
1	Al 396.153Radial†	15.3	5.8	4.4091 ug/L	4.4091 ppb	12:29:38
1	Ca 317.933Radial†	18.3	-2.3	-3.6904 ug/L	-3.6904 ppb	12:29:38
1	Fe 238.204 Radial†	9.1	1.7	16.303 ug/L	16.303 ppb	12:29:38
1	K 766.490 Radial†	2332.0	-221.6	-40.456 ug/L	-40.456 ppb	12:29:18
1	Mg 279.077 IEC†	2.4	1.4	48.448 ug/L	48.448 ppb	12:29:38
1	Na 589.592 Radial†	-726.5	-163.3	-48.538 ug/L	-48.538 ppb	12:29:18
1	Sr 421.552†	35.9	28.1	0.1803 ug/L	0.1803 ppb	12:29:18
1	Sc 361.383	931138.2	931138.2	103.70 %		12:30:35
1	Y 371.029	823490.4	823490.4	100.04 %		12:30:35
1	Ag 328.068†	271.8	-33.9	-0.1249 ug/L	-0.1249 ppb	12:30:40
1	As 188.979†	-38.0	-6.4	-2.6215 ug/L	-2.6215 ppb	12:31:00
1	B 249.677†	-245.1	4.1	0.0872 ug/L	0.0872 ppb	12:31:00
1	Ba 233.527†	-2.2	1.0	0.0098 ug/L	0.0098 ppb	12:31:00
1	Be 313.107†	-5022.0	257.9	0.0909 ug/L	0.0909 ppb	12:30:40
1	Cd 226.502†	-206.2	7.3	0.0781 ug/L	0.0781 ppb	12:31:00
1	Co 228.616†	-74.8	-2.2	-0.0476 ug/L	-0.0476 ppb	12:31:00
1	Cr 267.716†	73.4	-23.1	-0.2455 ug/L	-0.2455 ppb	12:31:00
1	Cu 324.752†	8993.0	-456.3	-1.2733 ug/L	-1.2733 ppb	12:30:40
1	Mn 257.610†	492.9	-14.6	-0.0167 ug/L	-0.0167 ppb	12:31:00
1	Mo 202.031†	23.2	-1.2	-0.0805 ug/L	-0.0805 ppb	12:31:00
1	Ni 231.604†	110.0	12.4	0.3118 ug/L	0.3118 ppb	12:31:00
1	P 214.914†	248.2	0.5	0.5603 ug/L	0.5603 ppb	12:31:00
1	Pb 220.353†	-52.9	9.4	1.1792 ug/L	1.1792 ppb	12:31:00
1	S 181.975 Axial†	46.2	-32.5	-44.726 ug/L	-44.726 ppb	12:31:00
1	Sb 206.836†	29.4	-1.9	-0.6305 ug/L	-0.6305 ppb	12:31:00
1	Se 196.026†	-20.3	-1.6	-0.8854 ug/L	-0.8854 ppb	12:31:00
1	Si 251.611†	515.4	1.1	0.0322 ug/L	0.0322 ppb	12:31:00
1	Sn 189.927†	5.8	6.0	1.0998 ug/L	1.0998 ppb	12:31:00
1	Ti 334.940†	-976.2	-34.7	-0.0527 ug/L	-0.0527 ppb	12:30:40
1	Tl 190.801†	-33.7	4.4	1.3911 ug/L	1.3911 ppb	12:31:00
1	U 409.014†	-1543.5	-425.5	-10.642 ug/L	-10.642 ppb	12:30:40
1	V 292.402†	-1334.8	106.5	0.6395 ug/L	0.6395 ppb	12:30:40
1	Zn 213.857†	688.4	-69.6	-0.6499 ug/L	-0.6499 ppb	12:31:00
1	SiO2†	513.6	-18.1	-1.1455 ug/L	-1.1455 ppb	12:32:21
2	Sc Radial	5451.6	5451.6	102 %		12:29:43
2	Y RADIAL	5824.3	5824.3	101.2 %		12:29:43
2	Al 396.153Radial†	17.8	8.3	6.2802 ug/L	6.2802 ppb	12:30:03
2	Ca 317.933Radial†	22.3	1.6	2.6482 ug/L	2.6482 ppb	12:30:03
2	Fe 238.204 Radial†	11.0	3.6	33.550 ug/L	33.550 ppb	12:30:03
2	K 766.490 Radial†	2338.7	-212.7	-38.834 ug/L	-38.834 ppb	12:29:43
2	Mg 279.077 IEC†	3.3	2.3	81.282 ug/L	81.282 ppb	12:30:03
2	Na 589.592 Radial†	-698.5	-136.6	-40.614 ug/L	-40.614 ppb	12:29:43
2	Sr 421.552†	45.6	37.6	0.2412 ug/L	0.2412 ppb	12:29:43
2	Sc 361.383	943443.6	943443.6	105.08 %		12:31:05
2	Y 371.029	835412.7	835412.7	101.49 %		12:31:05
2	Ag 328.068†	279.4	-30.1	-0.1076 ug/L	-0.1076 ppb	12:31:10
2	As 188.979†	-25.7	5.8	2.3664 ug/L	2.3664 ppb	12:31:30
2	B 249.677†	-255.8	-3.0	-0.0720 ug/L	-0.0720 ppb	12:31:30
2	Ba 233.527†	-6.2	-2.8	-0.0202 ug/L	-0.0202 ppb	12:31:30
2	Be 313.107†	-5031.2	312.3	0.1101 ug/L	0.1101 ppb	12:31:10
2	Cd 226.502†	-195.4	20.2	0.2203 ug/L	0.2203 ppb	12:31:30
2	Co 228.616†	-62.3	10.6	0.2321 ug/L	0.2321 ppb	12:31:30
2	Cr 267.716†	80.7	-17.1	-0.1817 ug/L	-0.1817 ppb	12:31:30
2	Cu 324.752†	9012.5	-550.8	-1.5392 ug/L	-1.5392 ppb	12:31:10
2	Mn 257.610†	480.1	-32.9	-0.0369 ug/L	-0.0369 ppb	12:31:30
2	Mo 202.031†	18.7	-5.8	-0.3952 ug/L	-0.3952 ppb	12:31:30
2	Ni 231.604†	86.4	-11.4	-0.2872 ug/L	-0.2872 ppb	12:31:30

2	P 214.914†	239.8	-10.5	-5.6378 ug/L	-5.6378 ppb	12:31:30
2	Pb 220.353†	-49.6	13.2	1.6534 ug/L	1.6534 ppb	12:31:30
2	S 181.975 Axial†	47.2	-32.0	-44.114 ug/L	-44.114 ppb	12:31:30
2	Sb 206.836†	46.5	14.0	4.7134 ug/L	4.7134 ppb	12:31:30
2	Se 196.026†	-22.7	-3.6	-1.9927 ug/L	-1.9927 ppb	12:31:30
2	Si 251.611†	484.4	-35.0	-1.0308 ug/L	-1.0308 ppb	12:31:30
2	Sn 189.927†	10.4	10.3	1.8880 ug/L	1.8880 ppb	12:31:30
2	Ti 334.940†	-980.0	-26.2	-0.0428 ug/L	-0.0428 ppb	12:31:10
2	Tl 190.801†	-28.1	10.1	3.2419 ug/L	3.2419 ppb	12:31:30
2	U 409.014†	-1436.6	-304.4	-7.6138 ug/L	-7.6138 ppb	12:31:10
2	V 292.402†	-1425.7	36.8	0.2052 ug/L	0.2052 ppb	12:31:10
2	Zn 213.857†	704.8	-62.6	-0.5826 ug/L	-0.5826 ppb	12:31:30
2	SiO2†	494.6	-42.7	-2.6888 ug/L	-2.6888 ppb	12:32:41
3	Sc Radial	5389.5	5389.5	101 %		12:30:08
3	Y RADIAL	5799.9	5799.9	100.7 %		12:30:08
3	Al 396.153Radial†	5.8	-3.4	-2.6016 ug/L	-2.6016 ppb	12:30:28
3	Ca 317.933Radial†	23.9	3.4	5.4992 ug/L	5.4992 ppb	12:30:28
3	Fe 238.204 Radial†	8.2	1.0	9.3222 ug/L	9.3222 ppb	12:30:28
3	K 766.490 Radial†	2388.5	-136.9	-24.994 ug/L	-24.994 ppb	12:30:08
3	Mg 279.077 IEC†	2.7	1.7	59.817 ug/L	59.817 ppb	12:30:28
3	Na 589.592 Radial†	-671.1	-117.3	-34.861 ug/L	-34.861 ppb	12:30:08
3	Sr 421.552†	13.8	6.6	0.0423 ug/L	0.0423 ppb	12:30:08
3	Sc 361.383	924987.0	924987.0	103.02 %		12:31:35
3	Y 371.029	817391.7	817391.7	99.304 %		12:31:35
3	Ag 328.068†	271.8	-32.2	-0.1211 ug/L	-0.1211 ppb	12:31:40
3	As 188.979†	-35.5	-4.3	-1.7376 ug/L	-1.7376 ppb	12:32:00
3	B 249.677†	-248.5	-0.7	-0.0182 ug/L	-0.0182 ppb	12:32:00
3	Ba 233.527†	2.9	5.9	0.0476 ug/L	0.0476 ppb	12:32:00
3	Be 313.107†	-5118.1	132.4	0.0467 ug/L	0.0467 ppb	12:31:40
3	Cd 226.502†	-207.5	4.8	0.0501 ug/L	0.0501 ppb	12:32:00
3	Co 228.616†	-67.2	4.7	0.1021 ug/L	0.1021 ppb	12:32:00
3	Cr 267.716†	98.5	1.7	0.0238 ug/L	0.0238 ppb	12:32:00
3	Cu 324.752†	9022.3	-370.2	-1.0317 ug/L	-1.0317 ppb	12:31:40
3	Mn 257.610†	494.8	-9.6	-0.0122 ug/L	-0.0122 ppb	12:32:00
3	Mo 202.031†	24.1	-0.2	-0.0131 ug/L	-0.0131 ppb	12:32:00
3	Ni 231.604†	106.9	10.1	0.2540 ug/L	0.2540 ppb	12:32:00
3	P 214.914†	248.8	2.8	1.7694 ug/L	1.7694 ppb	12:32:00
3	Pb 220.353†	-46.8	15.0	1.8788 ug/L	1.8788 ppb	12:32:00
3	S 181.975 Axial†	50.3	-28.2	-38.792 ug/L	-38.792 ppb	12:32:00
3	Sb 206.836†	42.9	11.4	3.7902 ug/L	3.7902 ppb	12:32:00
3	Se 196.026†	-16.5	2.0	1.1690 ug/L	1.1690 ppb	12:32:00
3	Si 251.611†	466.6	-43.0	-1.2740 ug/L	-1.2740 ppb	12:32:00
3	Sn 189.927†	-4.5	-4.0	-0.7425 ug/L	-0.7425 ppb	12:32:00
3	Ti 334.940†	-923.7	9.9	0.0160 ug/L	0.0160 ppb	12:31:40
3	Tl 190.801†	-32.1	5.7	1.8355 ug/L	1.8355 ppb	12:32:00
3	U 409.014†	-1567.1	-458.3	-11.462 ug/L	-11.462 ppb	12:31:40
3	V 292.402†	-1390.6	43.8	0.2498 ug/L	0.2498 ppb	12:31:40
3	Zn 213.857†	694.7	-59.0	-0.5511 ug/L	-0.5511 ppb	12:32:00
3	SiO2†	507.6	-20.7	-1.3074 ug/L	-1.3074 ppb	12:33:01

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	933189.6	103.93 %	1.047			1.01%
Sc Radial	5432.8	102 %	0.7			0.69%
Y 371.029	825431.6	100.28 %	1.114			1.11%
Y RADIAL	5835.5	101.4 %	0.74			0.73%
Ag 328.068†	-32.1	-0.1178 ug/L	0.00909	-0.1178 ppb	0.00909	7.72%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	3.5	2.6959 ug/L	4.68221	2.6959 ppb	4.68221	173.68%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.6	-0.6642 ug/L	2.66156	-0.6642 ppb	2.66156	400.69%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	0.1	-0.0010 ug/L	0.08101	-0.0010 ppb	0.08101	>999.9%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	1.4	0.0124 ug/L	0.03399	0.0124 ppb	0.03399	273.99%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	234.2	0.0826 ug/L	0.03247	0.0826 ppb	0.03247	39.33%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.9	1.4857 ug/L	4.70382	1.4857 ppb	4.70382	316.61%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	10.7	0.1162 ug/L	0.09126	0.1162 ppb	0.09126	78.56%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	4.4	0.0956 ug/L	0.13997	0.0956 ppb	0.13997	146.48%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-12.9	-0.1345 ug/L	0.14069	-0.1345 ppb	0.14069	104.62%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-459.1	-1.2814 ug/L	0.25387	-1.2814 ppb	0.25387	19.81%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	2.1	19.725 ug/L	12.4713	19.725 ppb	12.4713	63.22%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-190.4	-34.761 ug/L	8.4973	-34.761 ppb	8.4973	24.44%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	1.8	63.182 ug/L	16.6737	63.182 ppb	16.6737	26.39%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-19.0	-0.0220 ug/L	0.01316	-0.0220 ppb	0.01316	59.90%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-2.4	-0.1629 ug/L	0.20395	-0.1629 ppb	0.20395	125.19%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-139.1	-41.338 ug/L	6.8668	-41.338 ppb	6.8668	16.61%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	3.7	0.0929 ug/L	0.33040	0.0929 ppb	0.33040	355.75%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-2.4	-1.1027 ug/L	3.97373	-1.1027 ppb	3.97373	360.36%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	12.5	1.5705 ug/L	0.35710	1.5705 ppb	0.35710	22.74%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-30.9	-42.544 ug/L	3.2636	-42.544 ppb	3.2636	7.67%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	7.8	2.6244 ug/L	2.85633	2.6244 ppb	2.85633	108.84%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-1.1	-0.5697 ug/L	1.60435	-0.5697 ppb	1.60435	281.61%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-25.6	-0.7575 ug/L	0.69467	-0.7575 ppb	0.69467	91.70%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	4.1	0.7484 ug/L	1.35003	0.7484 ppb	1.35003	180.38%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	24.1	0.1546 ug/L	0.10190	0.1546 ppb	0.10190	65.92%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-17.0	-0.0265 ug/L	0.03711	-0.0265 ppb	0.03711	140.09%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	6.7	2.1562 ug/L	0.96613	2.1562 ppb	0.96613	44.81%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-396.1	-9.9059 ug/L	2.02696	-9.9059 ppb	2.02696	20.46%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	62.3	0.3648 ug/L	0.23890	0.3648 ppb	0.23890	65.48%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-63.7	-0.5945 ug/L	0.05049	-0.5945 ppb	0.05049	8.49%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-27.2	-1.7139 ug/L	0.84815	-1.7139 ppb	0.84815	49.49%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 16

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 13:02:25

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5409.7	5409.7	101 %		13:04:17
1	Y RADIAL	5794.4	5794.4	100.6 %		13:04:17
1	Al 396.153Radial†	6559.7	6466.2	4875.0 ug/L	4875.0 ppb	13:04:17
1	Ca 317.933Radial†	3166.2	3105.2	4991.0 ug/L	4991.0 ppb	13:04:37
1	Fe 238.204 Radial†	566.6	552.2	5175.3 ug/L	5175.3 ppb	13:04:37
1	K 766.490 Radial†	30135.1	27243.7	4970.6 ug/L	4970.6 ppb	13:04:17
1	Mg 279.077 IEC†	149.5	146.6	5229.4 ug/L	5229.4 ppb	13:04:37
1	Na 589.592 Radial†	33774.4	33887.3	10074 ug/L	10074 ppb	13:04:17
1	Sr 421.552†	79900.3	78864.9	506.09 ug/L	506.09 ppb	13:04:17
1	Sc 361.383	929796.1	929796.1	103.56 %		13:05:35
1	Y 371.029	812299.4	812299.4	98.685 %		13:05:35
1	Ag 328.068†	121543.2	117074.2	491.73 ug/L	491.73 ppb	13:05:40
1	As 188.979†	1192.0	1181.3	487.58 ug/L	487.58 ppb	13:06:00
1	B 249.677†	22409.4	21880.4	477.58 ug/L	477.58 ppb	13:05:40
1	Ba 233.527†	64140.6	61941.6	489.47 ug/L	489.47 ppb	13:05:40
1	Be 313.107†	1399484.3	1356535.7	479.65 ug/L	479.65 ppb	13:05:35
1	Cd 226.502†	45506.7	44150.5	493.05 ug/L	493.05 ppb	13:05:40
1	Co 228.616†	23606.6	22866.1	501.32 ug/L	501.32 ppb	13:05:40
1	Cr 267.716†	46713.6	45015.8	488.60 ug/L	488.60 ppb	13:05:40
1	Cu 324.752†	188075.8	172490.5	483.88 ug/L	483.88 ppb	13:05:40
1	Mn 257.610†	446277.4	430465.3	482.92 ug/L	482.92 ppb	13:05:35
1	Mo 202.031†	7319.5	7044.6	481.24 ug/L	481.24 ppb	13:06:00
1	Ni 231.604†	20306.7	19515.8	490.16 ug/L	490.16 ppb	13:05:40
1	P 214.914†	4659.9	4261.2	2308.5 ug/L	2308.5 ppb	13:06:00
1	Pb 220.353†	4070.8	3991.4	502.56 ug/L	502.56 ppb	13:06:00
1	S 181.975 Axial†	786.9	682.9	939.35 ug/L	939.35 ppb	13:06:00
1	Sb 206.836†	1532.7	1449.8	502.73 ug/L	502.73 ppb	13:06:00
1	Se 196.026†	850.7	839.5	503.07 ug/L	503.07 ppb	13:06:00
1	Si 251.611†	86320.3	82860.7	2449.2 ug/L	2449.2 ppb	13:05:40
1	Sn 189.927†	2723.7	2630.5	484.56 ug/L	484.56 ppb	13:06:00
1	Ti 334.940†	332571.1	322059.4	490.90 ug/L	490.90 ppb	13:05:35
1	Tl 190.801†	1515.9	1500.7	483.31 ug/L	483.31 ppb	13:06:00
1	U 409.014†	19318.1	19717.6	491.36 ug/L	491.36 ppb	13:05:40
1	V 292.402†	79628.3	78287.9	493.24 ug/L	493.24 ppb	13:05:40
1	Zn 213.857†	55169.5	52541.9	485.12 ug/L	485.12 ppb	13:05:40
1	SiO2†	85215.1	81775.9	5158.8 ug/L	5158.8 ppb	13:07:08
2	Sc Radial	5338.6	5338.6	100.0 %		13:04:42
2	Y RADIAL	5707.1	5707.1	99.13 %		13:04:42
2	Al 396.153Radial†	6649.9	6642.6	5008.7 ug/L	5008.7 ppb	13:04:42
2	Ca 317.933Radial†	3176.3	3156.9	5074.1 ug/L	5074.1 ppb	13:05:02
2	Fe 238.204 Radial†	572.0	564.9	5294.7 ug/L	5294.7 ppb	13:05:02
2	K 766.490 Radial†	30673.2	28178.0	5141.2 ug/L	5141.2 ppb	13:04:42
2	Mg 279.077 IEC†	153.2	152.2	5429.4 ug/L	5429.4 ppb	13:05:02
2	Na 589.592 Radial†	34094.6	34651.5	10301 ug/L	10301 ppb	13:04:42
2	Sr 421.552†	81018.9	81033.7	520.01 ug/L	520.01 ppb	13:04:42
2	Sc 361.383	928173.3	928173.3	103.37 %		13:06:06
2	Y 371.029	810603.7	810603.7	98.479 %		13:06:06
2	Ag 328.068†	121045.4	116797.9	490.61 ug/L	490.61 ppb	13:06:11
2	As 188.979†	1175.9	1167.7	482.12 ug/L	482.12 ppb	13:06:31
2	B 249.677†	22436.5	21944.5	478.97 ug/L	478.97 ppb	13:06:11
2	Ba 233.527†	64049.7	61961.9	489.63 ug/L	489.63 ppb	13:06:11
2	Be 313.107†	1409254.8	1368350.1	483.83 ug/L	483.83 ppb	13:06:06
2	Cd 226.502†	45176.9	43908.3	490.33 ug/L	490.33 ppb	13:06:11
2	Co 228.616†	23490.7	22793.8	499.72 ug/L	499.72 ppb	13:06:11
2	Cr 267.716†	46649.5	45032.7	488.78 ug/L	488.78 ppb	13:06:11
2	Cu 324.752†	187321.5	172078.4	482.73 ug/L	482.73 ppb	13:06:11
2	Mn 257.610†	449781.3	434608.3	487.57 ug/L	487.57 ppb	13:06:06
2	Mo 202.031†	7302.6	7040.6	480.98 ug/L	480.98 ppb	13:06:31
2	Ni 231.604†	20274.7	19519.2	490.25 ug/L	490.25 ppb	13:06:11

2	P 214.914†	4659.2	4268.3	2312.6 ug/L	2312.6 ppb	13:06:31
2	Pb 220.353†	4023.2	3952.2	497.66 ug/L	497.66 ppb	13:06:31
2	S 181.975 Axial†	785.1	682.5	938.69 ug/L	938.69 ppb	13:06:31
2	Sb 206.836†	1516.4	1436.6	498.24 ug/L	498.24 ppb	13:06:31
2	Se 196.026†	839.4	830.0	497.99 ug/L	497.99 ppb	13:06:31
2	Si 251.611†	85943.2	82641.6	2442.7 ug/L	2442.7 ppb	13:06:11
2	Sn 189.927†	2700.6	2612.8	481.31 ug/L	481.31 ppb	13:06:31
2	Ti 334.940†	335526.9	325480.1	496.11 ug/L	496.11 ppb	13:06:06
2	Tl 190.801†	1512.3	1499.9	483.10 ug/L	483.10 ppb	13:06:31
2	U 409.014†	19412.0	19841.1	494.43 ug/L	494.43 ppb	13:06:11
2	V 292.402†	79182.2	77990.9	491.38 ug/L	491.38 ppb	13:06:11
2	Zn 213.857†	54851.4	52327.4	483.12 ug/L	483.12 ppb	13:06:11
2	SiO2†	86471.8	83135.5	5244.8 ug/L	5244.8 ppb	13:07:13
3	Sc Radial	5457.3	5457.3	102 %		13:05:07
3	Y RADIAL	5842.5	5842.5	101.5 %		13:05:07
3	Al 396.153Radial†	6605.0	6453.9	4865.6 ug/L	4865.6 ppb	13:05:07
3	Ca 317.933Radial†	3177.9	3089.4	4965.6 ug/L	4965.6 ppb	13:05:27
3	Fe 238.204 Radial†	571.9	552.4	5177.9 ug/L	5177.9 ppb	13:05:27
3	K 766.490 Radial†	30413.8	27257.0	4973.1 ug/L	4973.1 ppb	13:05:07
3	Mg 279.077 IEC†	152.0	147.8	5271.6 ug/L	5271.6 ppb	13:05:27
3	Na 589.592 Radial†	33913.5	33732.6	10028 ug/L	10028 ppb	13:05:07
3	Sr 421.552†	80702.5	78961.8	506.72 ug/L	506.72 ppb	13:05:07
3	Sc 361.383	927620.9	927620.9	103.31 %		13:06:37
3	Y 371.029	812561.6	812561.6	98.717 %		13:06:37
3	Ag 328.068†	121460.2	117269.1	492.55 ug/L	492.55 ppb	13:06:42
3	As 188.979†	1193.6	1185.5	489.31 ug/L	489.31 ppb	13:07:02
3	B 249.677†	22512.9	22031.4	480.90 ug/L	480.90 ppb	13:06:42
3	Ba 233.527†	63968.3	61920.0	489.30 ug/L	489.30 ppb	13:06:42
3	Be 313.107†	1400314.6	1360508.4	481.05 ug/L	481.05 ppb	13:06:37
3	Cd 226.502†	45183.7	43940.8	490.71 ug/L	490.71 ppb	13:06:42
3	Co 228.616†	23510.9	22826.9	500.47 ug/L	500.47 ppb	13:06:42
3	Cr 267.716†	46717.5	45125.4	489.79 ug/L	489.79 ppb	13:06:42
3	Cu 324.752†	187714.3	172566.5	484.09 ug/L	484.09 ppb	13:06:42
3	Mn 257.610†	443797.9	429075.9	481.36 ug/L	481.36 ppb	13:06:37
3	Mo 202.031†	7354.9	7095.4	484.71 ug/L	484.71 ppb	13:07:02
3	Ni 231.604†	20310.5	19565.4	491.41 ug/L	491.41 ppb	13:06:42
3	P 214.914†	4693.5	4304.3	2332.8 ug/L	2332.8 ppb	13:07:02
3	Pb 220.353†	4071.3	4001.1	503.78 ug/L	503.78 ppb	13:07:02
3	S 181.975 Axial†	794.1	691.6	951.34 ug/L	951.34 ppb	13:07:02
3	Sb 206.836†	1505.6	1427.1	495.24 ug/L	495.24 ppb	13:07:02
3	Se 196.026†	843.2	834.1	499.97 ug/L	499.97 ppb	13:07:02
3	Si 251.611†	85970.5	82717.6	2444.9 ug/L	2444.9 ppb	13:06:42
3	Sn 189.927†	2727.6	2640.5	486.39 ug/L	486.39 ppb	13:07:02
3	Ti 334.940†	331298.6	321580.8	490.16 ug/L	490.16 ppb	13:06:37
3	Tl 190.801†	1514.7	1503.0	484.02 ug/L	484.02 ppb	13:07:02
3	U 409.014†	19260.9	19706.1	491.07 ug/L	491.07 ppb	13:06:42
3	V 292.402†	79463.5	78308.7	493.42 ug/L	493.42 ppb	13:06:42
3	Zn 213.857†	55061.3	52562.2	485.30 ug/L	485.30 ppb	13:06:42
3	SiO2†	85667.4	82406.8	5198.6 ug/L	5198.6 ppb	13:07:18

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	928530.1	103.41 %	0.126			0.12%
Sc Radial	5401.9	101 %	1.1			1.11%
Y 371.029	811821.6	98.627 %	0.1291			0.13%
Y RADIAL	5781.3	100.4 %	1.19			1.19%
Ag 328.068†	117047.1	491.63 ug/L	0.975	491.63 ppb	0.975	0.20%
QC value within limits for Ag 328.068 Recovery = 98.33%						
Al 396.153Radial†	6520.9	4916.4 ug/L	80.03	4916.4 ppb	80.03	1.63%
QC value within limits for Al 396.153Radial Recovery = 98.33%						
As 188.979†	1178.2	486.34 ug/L	3.754	486.34 ppb	3.754	0.77%
QC value within limits for As 188.979 Recovery = 97.27%						
B 249.677†	21952.1	479.15 ug/L	1.664	479.15 ppb	1.664	0.35%
QC value within limits for B 249.677 Recovery = 95.83%						
Ba 233.527†	61941.2	489.46 ug/L	0.165	489.46 ppb	0.165	0.03%
QC value within limits for Ba 233.527 Recovery = 97.89%						
Be 313.107†	1361798.1	481.51 ug/L	2.127	481.51 ppb	2.127	0.44%
QC value within limits for Be 313.107 Recovery = 96.30%						
Ca 317.933Radial†	3117.2	5010.2 ug/L	56.78	5010.2 ppb	56.78	1.13%

QC value within limits for Ca 317.933 Radial Recovery = 100.20%							
Cd 226.502†	43999.9	491.37 ug/L	1.473	491.37 ppb	1.473	0.30%	
QC value within limits for Cd 226.502 Recovery = 98.27%							
Co 228.616†	22828.9	500.50 ug/L	0.800	500.50 ppb	0.800	0.16%	
QC value within limits for Co 228.616 Recovery = 100.10%							
Cr 267.716†	45058.0	489.05 ug/L	0.640	489.05 ppb	0.640	0.13%	
QC value within limits for Cr 267.716 Recovery = 97.81%							
Cu 324.752†	172378.5	483.57 ug/L	0.734	483.57 ppb	0.734	0.15%	
QC value within limits for Cu 324.752 Recovery = 96.71%							
Fe 238.204 Radial†	556.5	5215.9 ug/L	68.19	5215.9 ppb	68.19	1.31%	
QC value within limits for Fe 238.204 Radial Recovery = 104.32%							
K 766.490 Radial†	27559.6	5028.3 ug/L	97.77	5028.3 ppb	97.77	1.94%	
QC value within limits for K 766.490 Radial Recovery = 100.57%							
Mg 279.077 IEC†	148.9	5310.1 ug/L	105.44	5310.1 ppb	105.44	1.99%	
QC value within limits for Mg 279.077 IEC Recovery = 106.20%							
Mn 257.610†	431383.2	483.95 ug/L	3.230	483.95 ppb	3.230	0.67%	
QC value within limits for Mn 257.610 Recovery = 96.79%							
Mo 202.031†	7060.2	482.31 ug/L	2.082	482.31 ppb	2.082	0.43%	
QC value within limits for Mo 202.031 Recovery = 96.46%							
Na 589.592 Radial†	34090.5	10134 ug/L	146.2	10134 ppb	146.2	1.44%	
QC value within limits for Na 589.592 Radial Recovery = 101.34%							
Ni 231.604†	19533.5	490.60 ug/L	0.697	490.60 ppb	0.697	0.14%	
QC value within limits for Ni 231.604 Recovery = 98.12%							
P 214.914†	4277.9	2318.0 ug/L	12.98	2318.0 ppb	12.98	0.56%	
QC value within limits for P 214.914 Recovery = 92.72%							
Pb 220.353†	3981.6	501.34 ug/L	3.240	501.34 ppb	3.240	0.65%	
QC value within limits for Pb 220.353 Recovery = 100.27%							
S 181.975 Axial†	685.7	943.13 ug/L	7.121	943.13 ppb	7.121	0.76%	
QC value within limits for S 181.975 Axial Recovery = 94.31%							
Sb 206.836†	1437.8	498.74 ug/L	3.772	498.74 ppb	3.772	0.76%	
QC value within limits for Sb 206.836 Recovery = 99.75%							
Se 196.026†	834.5	500.34 ug/L	2.562	500.34 ppb	2.562	0.51%	
QC value within limits for Se 196.026 Recovery = 100.07%							
Si 251.611†	82739.9	2445.6 ug/L	3.30	2445.6 ppb	3.30	0.13%	
QC value within limits for Si 251.611 Recovery = 97.83%							
Sn 189.927†	2627.9	484.09 ug/L	2.572	484.09 ppb	2.572	0.53%	
QC value within limits for Sn 189.927 Recovery = 96.82%							
Sr 421.552†	79620.1	510.94 ug/L	7.862	510.94 ppb	7.862	1.54%	
QC value within limits for Sr 421.552 Recovery = 102.19%							
Ti 334.940†	323040.1	492.39 ug/L	3.241	492.39 ppb	3.241	0.66%	
QC value within limits for Ti 334.940 Recovery = 98.48%							
Tl 190.801†	1501.2	483.48 ug/L	0.481	483.48 ppb	0.481	0.10%	
QC value within limits for Tl 190.801 Recovery = 96.70%							
U 409.014†	19754.9	492.29 ug/L	1.864	492.29 ppb	1.864	0.38%	
QC value within limits for U 409.014 Recovery = 98.46%							
V 292.402†	78195.9	492.68 ug/L	1.131	492.68 ppb	1.131	0.23%	
QC value within limits for V 292.402 Recovery = 98.54%							
Zn 213.857†	52477.2	484.51 ug/L	1.215	484.51 ppb	1.215	0.25%	
QC value within limits for Zn 213.857 Recovery = 96.90%							
SiO2†	82439.4	5200.7 ug/L	43.04	5200.7 ppb	43.04	0.83%	
QC value within limits for SiO2 Recovery = 97.26%							
All analyte(s) passed QC.							

Sequence No.: 17

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 13:09:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5358.7	5358.7	100 %		13:11:22
1	Y RADIAL	5787.1	5787.1	100.5 %		13:11:22
1	Al 396.153Radial†	10.1	0.9	0.6540 ug/L	0.6540 ppb	13:11:42
1	Ca 317.933Radial†	20.7	0.4	0.6949 ug/L	0.6949 ppb	13:11:42
1	Fe 238.204 Radial†	8.6	1.4	13.425 ug/L	13.425 ppb	13:11:42
1	K 766.490 Radial†	2284.5	-226.9	-41.440 ug/L	-41.440 ppb	13:11:22
1	Mg 279.077 IEC†	3.5	2.6	91.174 ug/L	91.174 ppb	13:11:42
1	Na 589.592 Radial†	-697.0	-146.9	-43.679 ug/L	-43.679 ppb	13:11:22
1	Sr 421.552†	14.4	7.3	0.0469 ug/L	0.0469 ppb	13:11:22
1	Sc 361.383	906281.3	906281.3	100.94 %		13:12:38
1	Y 371.029	798201.9	798201.9	96.972 %		13:12:38
1	Ag 328.068†	273.1	-25.4	-0.1009 ug/L	-0.1009 ppb	13:12:38
1	As 188.979†	-30.4	0.0	0.0134 ug/L	0.0134 ppb	13:12:58
1	B 249.677†	-210.1	32.3	0.7064 ug/L	0.7064 ppb	13:12:58
1	Ba 233.527†	-13.2	-10.0	-0.0779 ug/L	-0.0779 ppb	13:12:58
1	Be 313.107†	-4998.3	148.5	0.0522 ug/L	0.0522 ppb	13:12:38
1	Cd 226.502†	-190.5	17.4	0.1928 ug/L	0.1928 ppb	13:12:58
1	Co 228.616†	-69.3	1.3	0.0293 ug/L	0.0293 ppb	13:12:58
1	Cr 267.716†	93.7	-1.1	-0.0109 ug/L	-0.0109 ppb	13:12:58
1	Cu 324.752†	8874.3	-336.1	-0.9420 ug/L	-0.9420 ppb	13:12:38
1	Mn 257.610†	486.9	-7.5	-0.0108 ug/L	-0.0108 ppb	13:12:58
1	Mo 202.031†	26.3	2.5	0.1688 ug/L	0.1688 ppb	13:12:58
1	Ni 231.604†	71.2	-23.1	-0.5806 ug/L	-0.5806 ppb	13:12:58
1	P 214.914†	245.9	4.9	2.9309 ug/L	2.9309 ppb	13:12:58
1	Pb 220.353†	40.3	100.3	12.593 ug/L	12.593 ppb	13:12:58
1	S 181.975 Axial†	40.7	-36.7	-50.525 ug/L	-50.525 ppb	13:12:58
1	Sb 206.836†	41.2	10.5	3.5460 ug/L	3.5460 ppb	13:12:58
1	Se 196.026†	-9.4	8.6	5.0282 ug/L	5.0282 ppb	13:12:58
1	Si 251.611†	469.9	-30.4	-0.9021 ug/L	-0.9021 ppb	13:12:58
1	Sn 189.927†	7.8	8.1	1.4834 ug/L	1.4834 ppb	13:12:58
1	Ti 334.940†	-960.1	-44.6	-0.0753 ug/L	-0.0753 ppb	13:12:38
1	Tl 190.801†	-35.8	1.5	0.4636 ug/L	0.4636 ppb	13:12:58
1	U 409.014†	-1080.6	-7.7	-0.1946 ug/L	-0.1946 ppb	13:12:38
1	V 292.402†	-1380.9	25.5	0.1604 ug/L	0.1604 ppb	13:12:38
1	Zn 213.857†	682.8	-56.9	-0.5264 ug/L	-0.5264 ppb	13:12:58
1	SiO2†	481.3	-36.6	-2.3197 ug/L	-2.3197 ppb	13:14:09
2	Sc Radial	5391.4	5391.4	101 %		13:11:47
2	Y RADIAL	5829.7	5829.7	101.3 %		13:11:47
2	Al 396.153Radial†	0.5	-8.7	-6.5539 ug/L	-6.5539 ppb	13:12:07
2	Ca 317.933Radial†	16.8	-3.6	-5.8156 ug/L	-5.8156 ppb	13:12:07
2	Fe 238.204 Radial†	7.0	-0.2	-2.2305 ug/L	-2.2305 ppb	13:12:07
2	K 766.490 Radial†	2343.4	-182.4	-33.308 ug/L	-33.308 ppb	13:11:47
2	Mg 279.077 IEC†	4.2	3.2	112.56 ug/L	112.56 ppb	13:12:07
2	Na 589.592 Radial†	-682.4	-128.3	-38.131 ug/L	-38.131 ppb	13:11:47
2	Sr 421.552†	19.8	12.6	0.0807 ug/L	0.0807 ppb	13:11:47
2	Sc 361.383	908925.0	908925.0	101.23 %		13:13:04
2	Y 371.029	801255.6	801255.6	97.343 %		13:13:04
2	Ag 328.068†	156.8	-141.1	-0.5896 ug/L	-0.5896 ppb	13:13:04
2	As 188.979†	-30.5	0.1	0.0293 ug/L	0.0293 ppb	13:13:24
2	B 249.677†	-207.2	35.8	0.7852 ug/L	0.7852 ppb	13:13:24
2	Ba 233.527†	-0.5	2.6	0.0209 ug/L	0.0209 ppb	13:13:24
2	Be 313.107†	-4946.8	213.8	0.0752 ug/L	0.0752 ppb	13:13:04
2	Cd 226.502†	-198.9	9.7	0.1090 ug/L	0.1090 ppb	13:13:24
2	Co 228.616†	-74.4	-3.5	-0.0772 ug/L	-0.0772 ppb	13:13:24
2	Cr 267.716†	84.5	-10.5	-0.1141 ug/L	-0.1141 ppb	13:13:24
2	Cu 324.752†	8876.5	-359.5	-1.0095 ug/L	-1.0095 ppb	13:13:04
2	Mn 257.610†	481.7	-14.0	-0.0205 ug/L	-0.0205 ppb	13:13:24
2	Mo 202.031†	22.9	-1.0	-0.0657 ug/L	-0.0657 ppb	13:13:24
2	Ni 231.604†	77.7	-16.9	-0.4246 ug/L	-0.4246 ppb	13:13:24

2	P 214.914†	244.6	2.9	1.8714 ug/L	1.8714 ppb	13:13:24
2	Pb 220.353†	42.2	102.1	12.817 ug/L	12.817 ppb	13:13:24
2	S 181.975 Axial†	43.5	-34.0	-46.836 ug/L	-46.836 ppb	13:13:24
2	Sb 206.836†	50.6	19.7	6.6260 ug/L	6.6260 ppb	13:13:24
2	Se 196.026†	-9.9	8.2	4.7131 ug/L	4.7131 ppb	13:13:24
2	Si 251.611†	486.9	-14.9	-0.4419 ug/L	-0.4419 ppb	13:13:24
2	Sn 189.927†	12.0	12.2	2.2497 ug/L	2.2497 ppb	13:13:24
2	Ti 334.940†	-974.5	-56.1	-0.0962 ug/L	-0.0962 ppb	13:13:04
2	Tl 190.801†	-34.9	2.4	0.7708 ug/L	0.7708 ppb	13:13:24
2	U 409.014†	-1007.1	68.0	1.7014 ug/L	1.7014 ppb	13:13:04
2	V 292.402†	-1362.6	47.6	0.3007 ug/L	0.3007 ppb	13:13:04
2	Zn 213.857†	691.3	-50.5	-0.4658 ug/L	-0.4658 ppb	13:13:24
2	SiO2†	480.0	-39.2	-2.4782 ug/L	-2.4782 ppb	13:14:29
3	Sc Radial	5363.8	5363.8	100 %		13:12:12
3	Y RADIAL	5794.6	5794.6	100.7 %		13:12:12
3	Al 396.153Radial†	17.3	8.1	6.1125 ug/L	6.1125 ppb	13:12:32
3	Ca 317.933Radial†	21.8	1.5	2.4110 ug/L	2.4110 ppb	13:12:32
3	Fe 238.204 Radial†	8.2	1.0	9.4466 ug/L	9.4466 ppb	13:12:32
3	K 766.490 Radial†	2265.0	-248.5	-45.374 ug/L	-45.374 ppb	13:12:12
3	Mg 279.077 IEC†	1.3	0.3	10.353 ug/L	10.353 ppb	13:12:32
3	Na 589.592 Radial†	-708.7	-157.9	-46.949 ug/L	-46.949 ppb	13:12:12
3	Sr 421.552†	21.9	14.8	0.0947 ug/L	0.0947 ppb	13:12:12
3	Sc 361.383	905694.6	905694.6	100.87 %		13:13:29
3	Y 371.029	798812.2	798812.2	97.047 %		13:13:29
3	Ag 328.068†	271.1	-27.2	-0.1113 ug/L	-0.1113 ppb	13:13:29
3	As 188.979†	-23.0	7.3	3.0049 ug/L	3.0049 ppb	13:13:49
3	B 249.677†	-212.8	29.4	0.6437 ug/L	0.6437 ppb	13:13:49
3	Ba 233.527†	-12.7	-9.5	-0.0743 ug/L	-0.0743 ppb	13:13:49
3	Be 313.107†	-4964.0	179.3	0.0633 ug/L	0.0633 ppb	13:13:29
3	Cd 226.502†	-192.2	15.7	0.1744 ug/L	0.1744 ppb	13:13:49
3	Co 228.616†	-68.2	2.3	0.0509 ug/L	0.0509 ppb	13:13:49
3	Cr 267.716†	102.2	7.3	0.0795 ug/L	0.0795 ppb	13:13:49
3	Cu 324.752†	8831.8	-372.5	-1.0448 ug/L	-1.0448 ppb	13:13:29
3	Mn 257.610†	497.9	3.8	0.0047 ug/L	0.0047 ppb	13:13:49
3	Mo 202.031†	25.3	1.5	0.1033 ug/L	0.1033 ppb	13:13:49
3	Ni 231.604†	97.9	3.3	0.0839 ug/L	0.0839 ppb	13:13:49
3	P 214.914†	246.6	5.8	3.4554 ug/L	3.4554 ppb	13:13:49
3	Pb 220.353†	53.0	112.9	14.175 ug/L	14.175 ppb	13:13:49
3	S 181.975 Axial†	46.2	-31.2	-42.970 ug/L	-42.970 ppb	13:13:49
3	Sb 206.836†	38.6	8.1	2.7015 ug/L	2.7015 ppb	13:13:49
3	Se 196.026†	-19.3	-1.2	-0.6689 ug/L	-0.6689 ppb	13:13:49
3	Si 251.611†	468.6	-31.4	-0.9303 ug/L	-0.9303 ppb	13:13:49
3	Sn 189.927†	0.7	1.0	0.1906 ug/L	0.1906 ppb	13:13:49
3	Ti 334.940†	-900.7	13.6	0.0198 ug/L	0.0198 ppb	13:13:29
3	Tl 190.801†	-36.9	0.3	0.1040 ug/L	0.1040 ppb	13:13:49
3	U 409.014†	-1036.3	35.5	0.8865 ug/L	0.8865 ppb	13:13:29
3	V 292.402†	-1403.9	1.8	0.0129 ug/L	0.0129 ppb	13:13:29
3	Zn 213.857†	664.8	-74.3	-0.6922 ug/L	-0.6922 ppb	13:13:49
3	SiO2†	467.8	-49.6	-3.1427 ug/L	-3.1427 ppb	13:14:49

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	906967.0	101.01 %		0.192			0.19%
Sc Radial	5371.3	101 %		0.3			0.33%
Y 371.029	799423.2	97.121 %		0.1963			0.20%
Y RADIAL	5803.8	100.8 %		0.39			0.39%
Ag 328.068†	-64.6	-0.2673 ug/L		0.27915	-0.2673 ppb	0.27915	104.44%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	0.1	0.0709 ug/L		6.35328	0.0709 ppb	6.35328	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	2.5	1.0159 ug/L		1.72258	1.0159 ppb	1.72258	169.56%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	32.5	0.7118 ug/L		0.07088	0.7118 ppb	0.07088	9.96%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-5.6	-0.0438 ug/L		0.05602	-0.0438 ppb	0.05602	127.96%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	180.6	0.0636 ug/L		0.01150	0.0636 ppb	0.01150	18.09%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-0.6	-0.9032 ug/L		4.33987	-0.9032 ppb	4.33987	480.48%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	14.3	0.1587 ug/L	0.04402	0.1587 ppb	0.04402	27.73%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	0.0	0.0010 ug/L	0.06855	0.0010 ppb	0.06855	>999.9%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-1.4	-0.0152 ug/L	0.09687	-0.0152 ppb	0.09687	638.17%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-356.0	-0.9988 ug/L	0.05225	-0.9988 ppb	0.05225	5.23%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.7	6.8803 ug/L	8.13701	6.8803 ppb	8.13701	118.27%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-219.3	-40.040 ug/L	6.1533	-40.040 ppb	6.1533	15.37%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.0	71.361 ug/L	53.9060	71.361 ppb	53.9060	75.54%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-5.9	-0.0089 ug/L	0.01274	-0.0089 ppb	0.01274	143.55%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	1.0	0.0688 ug/L	0.12099	0.0688 ppb	0.12099	175.79%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-144.4	-42.920 ug/L	4.4578	-42.920 ppb	4.4578	10.39%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-12.2	-0.3071 ug/L	0.34747	-0.3071 ppb	0.34747	113.14%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	4.5	2.7525 ug/L	0.80692	2.7525 ppb	0.80692	29.32%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	105.1	13.195 ug/L	0.8563	13.195 ppb	0.8563	6.49%	
QC value greater than the upper limit for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-34.0	-46.777 ug/L	3.7775	-46.777 ppb	3.7775	8.08%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	12.8	4.2912 ug/L	2.06567	4.2912 ppb	2.06567	48.14%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	5.2	3.0241 ug/L	3.20212	3.0241 ppb	3.20212	105.89%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-25.6	-0.7581 ug/L	0.27423	-0.7581 ppb	0.27423	36.17%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	7.1	1.3079 ug/L	1.04073	1.3079 ppb	1.04073	79.57%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	11.5	0.0741 ug/L	0.02457	0.0741 ppb	0.02457	33.17%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-29.0	-0.0506 ug/L	0.06185	-0.0506 ppb	0.06185	122.27%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.4	0.4461 ug/L	0.33376	0.4461 ppb	0.33376	74.81%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	31.9	0.7978 ug/L	0.95111	0.7978 ppb	0.95111	119.22%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	24.9	0.1580 ug/L	0.14389	0.1580 ppb	0.14389	91.06%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-60.6	-0.5615 ug/L	0.11718	-0.5615 ppb	0.11718	20.87%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-41.8	-2.6469 ug/L	0.43669	-2.6469 ppb	0.43669	16.50%	
QC value within limits for SiO2 Recovery = Not calculated							
QC Failed. Continue with analysis.							



Sequence No.: 3

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 13:39:53

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5327.2	5327.2	99.8 %		13:41:46
1	Y RADIAL	5721.6	5721.6	99.38 %		13:41:46
1	Al 396.153Radial†	6703.3	6710.3	5059.8 ug/L	5059.8 ppb	13:41:46
1	Ca 317.933Radial†	3218.7	3206.2	5153.3 ug/L	5153.3 ppb	13:42:06
1	Fe 238.204 Radial†	584.4	578.6	5422.8 ug/L	5422.8 ppb	13:42:06
1	K 766.490 Radial†	30737.0	28307.7	5164.5 ug/L	5164.5 ppb	13:41:46
1	Mg 279.077 IEC†	158.0	157.4	5613.4 ug/L	5613.4 ppb	13:42:06
1	Na 589.592 Radial†	36530.0	37165.7	11048 ug/L	11048 ppb	13:41:46
1	Sr 421.552†	83885.7	84080.9	539.57 ug/L	539.57 ppb	13:41:46
1	Sc 361.383	929779.9	929779.9	103.55 %		13:43:03
1	Y 371.029	812452.1	812452.1	98.704 %		13:43:03
1	Ag 328.068†	121501.0	117035.4	491.65 ug/L	491.65 ppb	13:43:08
1	As 188.979†	1195.9	1185.0	489.12 ug/L	489.12 ppb	13:43:28
1	B 249.677†	22494.0	21962.5	479.34 ug/L	479.34 ppb	13:43:08
1	Ba 233.527†	64225.9	62025.0	490.13 ug/L	490.13 ppb	13:43:08
1	Be 313.107†	1419405.0	1375796.3	486.43 ug/L	486.43 ppb	13:43:03
1	Cd 226.502†	45567.0	44209.4	493.69 ug/L	493.69 ppb	13:43:08
1	Co 228.616†	23673.7	22931.2	502.76 ug/L	502.76 ppb	13:43:08
1	Cr 267.716†	46862.1	45160.0	490.17 ug/L	490.17 ppb	13:43:08
1	Cu 324.752†	188101.7	172518.7	483.97 ug/L	483.97 ppb	13:43:08
1	Mn 257.610†	451524.7	435540.0	488.62 ug/L	488.62 ppb	13:43:03
1	Mo 202.031†	7373.2	7096.6	484.81 ug/L	484.81 ppb	13:43:28
1	Ni 231.604†	20400.5	19606.8	492.45 ug/L	492.45 ppb	13:43:08
1	P 214.914†	4709.4	4309.1	2335.4 ug/L	2335.4 ppb	13:43:28
1	Pb 220.353†	3986.6	3910.2	492.39 ug/L	492.39 ppb	13:43:28
1	S 181.975 Axial†	801.1	696.6	958.11 ug/L	958.11 ppb	13:43:28
1	Sb 206.836†	1536.2	1453.2	504.03 ug/L	504.03 ppb	13:43:28
1	Se 196.026†	862.0	850.4	510.19 ug/L	510.19 ppb	13:43:28
1	Si 251.611†	86295.8	82838.4	2448.5 ug/L	2448.5 ppb	13:43:08
1	Sn 189.927†	2743.2	2649.4	488.06 ug/L	488.06 ppb	13:43:28
1	Ti 334.940†	329670.6	319264.0	486.62 ug/L	486.62 ppb	13:43:08
1	Tl 190.801†	1528.8	1513.3	487.30 ug/L	487.30 ppb	13:43:28
1	U 409.014†	19377.3	19775.2	492.77 ug/L	492.77 ppb	13:43:08
1	V 292.402†	79796.0	78451.3	494.29 ug/L	494.29 ppb	13:43:08
1	Zn 213.857†	55352.7	52719.8	486.74 ug/L	486.74 ppb	13:43:08
1	SiO2†	85873.2	82412.9	5199.0 ug/L	5199.0 ppb	13:44:36
2	Sc Radial	5393.0	5393.0	101 %		13:42:11
2	Y RADIAL	5768.1	5768.1	100.2 %		13:42:11
2	Al 396.153Radial†	6540.8	6467.5	4876.0 ug/L	4876.0 ppb	13:42:11
2	Ca 317.933Radial†	3144.7	3093.6	4972.4 ug/L	4972.4 ppb	13:42:31
2	Fe 238.204 Radial†	574.7	561.9	5266.0 ug/L	5266.0 ppb	13:42:31
2	K 766.490 Radial†	30206.3	27406.6	5000.1 ug/L	5000.1 ppb	13:42:11
2	Mg 279.077 IEC†	148.5	146.1	5209.3 ug/L	5209.3 ppb	13:42:31
2	Na 589.592 Radial†	35798.8	35995.4	10700 ug/L	10700 ppb	13:42:11
2	Sr 421.552†	82097.4	81285.2	521.63 ug/L	521.63 ppb	13:42:11
2	Sc 361.383	934913.7	934913.7	104.13 %		13:43:34
2	Y 371.029	817652.1	817652.1	99.335 %		13:43:34
2	Ag 328.068†	120064.5	115011.7	483.13 ug/L	483.13 ppb	13:43:39
2	As 188.979†	1187.0	1170.1	482.93 ug/L	482.93 ppb	13:43:59
2	B 249.677†	22201.9	21562.7	470.62 ug/L	470.62 ppb	13:43:39
2	Ba 233.527†	63420.1	60910.5	481.32 ug/L	481.32 ppb	13:43:39
2	Be 313.107†	1426424.3	1375010.8	486.14 ug/L	486.14 ppb	13:43:34
2	Cd 226.502†	44943.8	43369.4	484.31 ug/L	484.31 ppb	13:43:39
2	Co 228.616†	23328.6	22474.2	492.76 ug/L	492.76 ppb	13:43:39
2	Cr 267.716†	46254.3	44327.8	481.13 ug/L	481.13 ppb	13:43:39
2	Cu 324.752†	185518.3	169040.2	474.21 ug/L	474.21 ppb	13:43:39
2	Mn 257.610†	453481.7	435025.2	488.04 ug/L	488.04 ppb	13:43:34
2	Mo 202.031†	7364.4	7049.1	481.55 ug/L	481.55 ppb	13:43:59
2	Ni 231.604†	20115.3	19224.6	482.85 ug/L	482.85 ppb	13:43:39



2	P 214.914†	4695.2	4270.4	2315.5 ug/L	2315.5 ppb	13:43:59
2	Pb 220.353†	3977.5	3880.3	488.61 ug/L	488.61 ppb	13:43:59
2	S 181.975 Axial†	788.4	680.1	935.51 ug/L	935.51 ppb	13:43:59
2	Sb 206.836†	1534.8	1443.7	500.69 ug/L	500.69 ppb	13:43:59
2	Se 196.026†	847.6	832.0	499.07 ug/L	499.07 ppb	13:43:59
2	Si 251.611†	85114.9	81246.7	2401.4 ug/L	2401.4 ppb	13:43:39
2	Sn 189.927†	2726.5	2618.9	482.42 ug/L	482.42 ppb	13:43:59
2	Ti 334.940†	325305.6	313323.8	477.58 ug/L	477.58 ppb	13:43:39
2	Tl 190.801†	1514.5	1491.4	480.28 ug/L	480.28 ppb	13:43:59
2	U 409.014†	19113.3	19418.8	483.90 ug/L	483.90 ppb	13:43:39
2	V 292.402†	78652.5	76929.9	484.79 ug/L	484.79 ppb	13:43:39
2	Zn 213.857†	54607.0	51710.1	477.43 ug/L	477.43 ppb	13:43:39
2	SiO2†	85386.5	81490.2	5140.7 ug/L	5140.7 ppb	13:44:41
3	Sc Radial	5448.6	5448.6	102 %		13:42:36
3	Y RADIAL	5817.8	5817.8	101.1 %		13:42:36
3	Al 396.153Radial†	6598.4	6457.9	4868.3 ug/L	4868.3 ppb	13:42:36
3	Ca 317.933Radial†	3244.9	3160.0	5079.1 ug/L	5079.1 ppb	13:42:56
3	Fe 238.204 Radial†	597.7	578.7	5423.0 ug/L	5423.0 ppb	13:42:56
3	K 766.490 Radial†	30404.8	27295.9	4979.9 ug/L	4979.9 ppb	13:42:36
3	Mg 279.077 IEC†	152.9	148.8	5308.8 ug/L	5308.8 ppb	13:42:56
3	Na 589.592 Radial†	35940.2	35772.2	10634 ug/L	10634 ppb	13:42:36
3	Sr 421.552†	82466.8	80817.8	518.63 ug/L	518.63 ppb	13:42:36
3	Sc 361.383	921952.0	921952.0	102.68 %		13:44:05
3	Y 371.029	807764.9	807764.9	98.134 %		13:44:05
3	Ag 328.068†	121154.1	117693.9	494.41 ug/L	494.41 ppb	13:44:10
3	As 188.979†	1202.7	1201.5	495.88 ug/L	495.88 ppb	13:44:30
3	B 249.677†	22587.9	22238.4	485.38 ug/L	485.38 ppb	13:44:10
3	Ba 233.527†	63793.3	62130.3	490.97 ug/L	490.97 ppb	13:44:10
3	Be 313.107†	1409215.0	1377510.5	487.04 ug/L	487.04 ppb	13:44:05
3	Cd 226.502†	45205.3	44230.9	493.93 ug/L	493.93 ppb	13:44:10
3	Co 228.616†	23547.8	23002.7	504.33 ug/L	504.33 ppb	13:44:10
3	Cr 267.716†	46620.2	45308.7	491.78 ug/L	491.78 ppb	13:44:10
3	Cu 324.752†	187862.7	173828.2	487.64 ug/L	487.64 ppb	13:44:10
3	Mn 257.610†	446717.2	434560.3	487.53 ug/L	487.53 ppb	13:44:05
3	Mo 202.031†	7385.1	7168.6	489.73 ug/L	489.73 ppb	13:44:30
3	Ni 231.604†	20291.4	19667.7	493.98 ug/L	493.98 ppb	13:44:10
3	P 214.914†	4711.6	4349.8	2357.6 ug/L	2357.6 ppb	13:44:30
3	Pb 220.353†	3985.1	3941.5	496.29 ug/L	496.29 ppb	13:44:30
3	S 181.975 Axial†	790.6	692.9	953.12 ug/L	953.12 ppb	13:44:30
3	Sb 206.836†	1536.4	1466.1	508.54 ug/L	508.54 ppb	13:44:30
3	Se 196.026†	859.3	854.8	512.76 ug/L	512.76 ppb	13:44:30
3	Si 251.611†	85918.4	83178.5	2458.5 ug/L	2458.5 ppb	13:44:10
3	Sn 189.927†	2756.9	2685.3	494.65 ug/L	494.65 ppb	13:44:30
3	Ti 334.940†	328431.2	320760.0	488.92 ug/L	488.92 ppb	13:44:10
3	Tl 190.801†	1536.5	1533.3	493.71 ug/L	493.71 ppb	13:44:30
3	U 409.014†	19295.0	19853.9	494.73 ug/L	494.73 ppb	13:44:10
3	V 292.402†	79483.5	78801.2	496.53 ug/L	496.53 ppb	13:44:10
3	Zn 213.857†	54995.2	52825.5	487.71 ug/L	487.71 ppb	13:44:10
3	SiO2†	86703.8	83925.9	5294.5 ug/L	5294.5 ppb	13:44:46

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	928881.8	103.45 %	0.727			0.70%
Sc Radial	5389.6	101 %	1.1			1.13%
Y 371.029	812623.0	98.724 %	0.6009			0.61%
Y RADIAL	5769.2	100.2 %	0.84			0.83%
Ag 328.068†	116580.3	489.73 ug/L	5.881	489.73 ppb	5.881	1.20%
QC value within limits for Ag 328.068 Recovery = 97.95%						
Al 396.153Radial†	6545.2	4934.7 ug/L	108.38	4934.7 ppb	108.38	2.20%
QC value within limits for Al 396.153Radial Recovery = 98.69%						
As 188.979†	1185.5	489.31 ug/L	6.475	489.31 ppb	6.475	1.32%
QC value within limits for As 188.979 Recovery = 97.86%						
B 249.677†	21921.2	478.45 ug/L	7.420	478.45 ppb	7.420	1.55%
QC value within limits for B 249.677 Recovery = 95.69%						
Ba 233.527†	61688.6	487.47 ug/L	5.344	487.47 ppb	5.344	1.10%
QC value within limits for Ba 233.527 Recovery = 97.49%						
Be 313.107†	1376105.9	486.54 ug/L	0.463	486.54 ppb	0.463	0.10%
QC value within limits for Be 313.107 Recovery = 97.31%						
Ca 317.933Radial†	3153.3	5068.3 ug/L	90.95	5068.3 ppb	90.95	1.79%

QC value within limits for Ca 317.933 Radial Recovery = 101.37%							
Cd	226.502†	43936.6	490.64 ug/L	5.484	490.64 ppb	5.484	1.12%
QC value within limits for Cd 226.502 Recovery = 98.13%							
Co	228.616†	22802.7	499.95 ug/L	6.280	499.95 ppb	6.280	1.26%
QC value within limits for Co 228.616 Recovery = 99.99%							
Cr	267.716†	44932.2	487.69 ug/L	5.739	487.69 ppb	5.739	1.18%
QC value within limits for Cr 267.716 Recovery = 97.54%							
Cu	324.752†	171795.7	481.94 ug/L	6.943	481.94 ppb	6.943	1.44%
QC value within limits for Cu 324.752 Recovery = 96.39%							
Fe	238.204 Radial†	573.1	5370.6 ug/L	90.59	5370.6 ppb	90.59	1.69%
QC value within limits for Fe 238.204 Radial Recovery = 107.41%							
K	766.490 Radial†	27670.1	5048.2 ug/L	101.27	5048.2 ppb	101.27	2.01%
QC value within limits for K 766.490 Radial Recovery = 100.96%							
Mg	279.077 IEC†	150.8	5377.1 ug/L	210.55	5377.1 ppb	210.55	3.92%
QC value within limits for Mg 279.077 IEC Recovery = 107.54%							
Mn	257.610†	435041.8	488.07 ug/L	0.543	488.07 ppb	0.543	0.11%
QC value within limits for Mn 257.610 Recovery = 97.61%							
Mo	202.031†	7104.8	485.36 ug/L	4.116	485.36 ppb	4.116	0.85%
QC value within limits for Mo 202.031 Recovery = 97.07%							
Na	589.592 Radial†	36311.1	10794 ug/L	222.5	10794 ppb	222.5	2.06%
QC value within limits for Na 589.592 Radial Recovery = 107.94%							
Ni	231.604†	19499.7	489.76 ug/L	6.032	489.76 ppb	6.032	1.23%
QC value within limits for Ni 231.604 Recovery = 97.95%							
P	214.914†	4309.8	2336.2 ug/L	21.06	2336.2 ppb	21.06	0.90%
QC value within limits for P 214.914 Recovery = 93.45%							
Pb	220.353†	3910.6	492.43 ug/L	3.837	492.43 ppb	3.837	0.78%
QC value within limits for Pb 220.353 Recovery = 98.49%							
S	181.975 Axial†	689.9	948.91 ug/L	11.874	948.91 ppb	11.874	1.25%
QC value within limits for S 181.975 Axial Recovery = 94.89%							
Sb	206.836†	1454.3	504.42 ug/L	3.940	504.42 ppb	3.940	0.78%
QC value within limits for Sb 206.836 Recovery = 100.88%							
Se	196.026†	845.7	507.34 ug/L	7.278	507.34 ppb	7.278	1.43%
QC value within limits for Se 196.026 Recovery = 101.47%							
Si	251.611†	82421.2	2436.2 ug/L	30.51	2436.2 ppb	30.51	1.25%
QC value within limits for Si 251.611 Recovery = 97.45%							
Sn	189.927†	2651.2	488.38 ug/L	6.121	488.38 ppb	6.121	1.25%
QC value within limits for Sn 189.927 Recovery = 97.68%							
Sr	421.552†	82061.3	526.61 ug/L	11.324	526.61 ppb	11.324	2.15%
QC value within limits for Sr 421.552 Recovery = 105.32%							
Ti	334.940†	317782.6	484.37 ug/L	5.993	484.37 ppb	5.993	1.24%
QC value within limits for Ti 334.940 Recovery = 96.87%							
Tl	190.801†	1512.7	487.10 ug/L	6.718	487.10 ppb	6.718	1.38%
QC value within limits for Tl 190.801 Recovery = 97.42%							
U	409.014†	19682.6	490.47 ug/L	5.774	490.47 ppb	5.774	1.18%
QC value within limits for U 409.014 Recovery = 98.09%							
V	292.402†	78060.8	491.87 ug/L	6.231	491.87 ppb	6.231	1.27%
QC value within limits for V 292.402 Recovery = 98.37%							
Zn	213.857†	52418.5	483.96 ug/L	5.679	483.96 ppb	5.679	1.17%
QC value within limits for Zn 213.857 Recovery = 96.79%							
SiO2†		82609.7	5211.4 ug/L	77.66	5211.4 ppb	77.66	1.49%
QC value within limits for SiO2 Recovery = 97.45%							
All analyte(s) passed QC.							

Sequence No.: 4

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/26/2010 13:46:57

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5502.8	5502.8	103 %		13:48:50
1	Y RADIAL	5974.5	5974.5	103.8 %		13:48:50
1	Al 396.153Radial†	13.3	3.7	2.8216 ug/L	2.8216 ppb	13:49:10
1	Ca 317.933Radial†	21.9	1.1	1.7031 ug/L	1.7031 ppb	13:49:10
1	Fe 238.204 Radial†	8.1	0.7	6.7191 ug/L	6.7191 ppb	13:49:10
1	K 766.490 Radial†	2275.4	-295.4	-53.955 ug/L	-53.955 ppb	13:48:50
1	Mg 279.077 IEC†	1.4	0.4	14.680 ug/L	14.680 ppb	13:49:10
1	Na 589.592 Radial†	-696.9	-128.6	-38.239 ug/L	-38.239 ppb	13:48:50
1	Sr 421.552†	40.5	32.2	0.2067 ug/L	0.2067 ppb	13:48:50
1	Sc 361.383	914086.5	914086.5	101.81 %		13:50:06
1	Y 371.029	804471.0	804471.0	97.734 %		13:50:06
1	Ag 328.068†	300.7	-0.7	-0.0001 ug/L	-0.0001 ppb	13:50:06
1	As 188.979†	-28.2	2.4	1.0017 ug/L	1.0017 ppb	13:50:26
1	B 249.677†	-230.5	14.0	0.3050 ug/L	0.3050 ppb	13:50:26
1	Ba 233.527†	-17.4	-14.0	-0.1090 ug/L	-0.1090 ppb	13:50:26
1	Be 313.107†	-5100.1	90.8	0.0320 ug/L	0.0320 ppb	13:50:06
1	Cd 226.502†	-204.9	4.9	0.0543 ug/L	0.0543 ppb	13:50:26
1	Co 228.616†	-65.1	6.0	0.1305 ug/L	0.1305 ppb	13:50:26
1	Cr 267.716†	88.2	-7.3	-0.0787 ug/L	-0.0787 ppb	13:50:26
1	Cu 324.752†	8875.1	-410.3	-1.1516 ug/L	-1.1516 ppb	13:50:06
1	Mn 257.610†	506.5	7.7	0.0086 ug/L	0.0086 ppb	13:50:26
1	Mo 202.031†	25.0	1.0	0.0668 ug/L	0.0668 ppb	13:50:26
1	Ni 231.604†	98.7	3.2	0.0812 ug/L	0.0812 ppb	13:50:26
1	P 214.914†	238.6	-4.3	-2.2005 ug/L	-2.2005 ppb	13:50:26
1	Pb 220.353†	-35.5	25.5	3.2068 ug/L	3.2068 ppb	13:50:26
1	S 181.975 Axial†	53.5	-24.4	-33.595 ug/L	-33.595 ppb	13:50:26
1	Sb 206.836†	35.8	4.9	1.6619 ug/L	1.6619 ppb	13:50:26
1	Se 196.026†	-20.0	-1.7	-0.9428 ug/L	-0.9428 ppb	13:50:26
1	Si 251.611†	481.8	-22.7	-0.6737 ug/L	-0.6737 ppb	13:50:26
1	Sn 189.927†	11.2	11.4	2.0944 ug/L	2.0944 ppb	13:50:26
1	Ti 334.940†	-930.9	-7.8	-0.0136 ug/L	-0.0136 ppb	13:50:06
1	Tl 190.801†	-40.6	-2.9	-0.9418 ug/L	-0.9418 ppb	13:50:26
1	U 409.014†	-1016.1	64.8	1.6197 ug/L	1.6197 ppb	13:50:06
1	V 292.402†	-1340.6	76.8	0.4807 ug/L	0.4807 ppb	13:50:06
1	Zn 213.857†	713.3	-32.8	-0.3052 ug/L	-0.3052 ppb	13:50:26
1	SiO2†	487.5	-34.6	-2.1894 ug/L	-2.1894 ppb	13:51:37
2	Sc Radial	5401.7	5401.7	101 %		13:49:15
2	Y RADIAL	5835.8	5835.8	101.4 %		13:49:15
2	Al 396.153Radial†	2.3	-6.9	-5.2210 ug/L	-5.2210 ppb	13:49:35
2	Ca 317.933Radial†	21.8	1.3	2.1032 ug/L	2.1032 ppb	13:49:35
2	Fe 238.204 Radial†	10.1	2.8	26.145 ug/L	26.145 ppb	13:49:35
2	K 766.490 Radial†	2271.0	-258.4	-47.189 ug/L	-47.189 ppb	13:49:15
2	Mg 279.077 IEC†	1.0	-0.0	-0.6395 ug/L	-0.6395 ppb	13:49:35
2	Na 589.592 Radial†	-723.5	-167.7	-49.840 ug/L	-49.840 ppb	13:49:15
2	Sr 421.552†	24.3	16.9	0.1086 ug/L	0.1086 ppb	13:49:15
2	Sc 361.383	909949.5	909949.5	101.35 %		13:50:32
2	Y 371.029	801794.3	801794.3	97.409 %		13:50:32
2	Ag 328.068†	341.5	40.9	0.1803 ug/L	0.1803 ppb	13:50:32
2	As 188.979†	-32.3	-1.6	-0.6638 ug/L	-0.6638 ppb	13:50:52
2	B 249.677†	-244.2	-0.5	-0.0156 ug/L	-0.0156 ppb	13:50:52
2	Ba 233.527†	4.0	7.1	0.0572 ug/L	0.0572 ppb	13:50:52
2	Be 313.107†	-5034.9	132.4	0.0468 ug/L	0.0468 ppb	13:50:32
2	Cd 226.502†	-212.3	-3.3	-0.0398 ug/L	-0.0398 ppb	13:50:52
2	Co 228.616†	-65.3	5.5	0.1200 ug/L	0.1200 ppb	13:50:52
2	Cr 267.716†	100.5	5.2	0.0571 ug/L	0.0571 ppb	13:50:52
2	Cu 324.752†	8920.7	-325.7	-0.9127 ug/L	-0.9127 ppb	13:50:32
2	Mn 257.610†	495.5	-1.0	0.0015 ug/L	0.0015 ppb	13:50:52
2	Mo 202.031†	24.6	0.7	0.0475 ug/L	0.0475 ppb	13:50:52
2	Ni 231.604†	103.7	8.6	0.2159 ug/L	0.2159 ppb	13:50:52

2	P 214.914†	245.5	3.5	2.1684 ug/L	2.1684 ppb	13:50:52
2	Pb 220.353†	-34.9	26.0	3.2600 ug/L	3.2600 ppb	13:50:52
2	S 181.975 Axial†	49.3	-28.3	-38.999 ug/L	-38.999 ppb	13:50:52
2	Sb 206.836†	37.0	6.2	2.1206 ug/L	2.1206 ppb	13:50:52
2	Se 196.026†	-8.3	9.8	5.7168 ug/L	5.7168 ppb	13:50:52
2	Si 251.611†	471.9	-30.3	-0.8997 ug/L	-0.8997 ppb	13:50:52
2	Sn 189.927†	9.1	9.3	1.7078 ug/L	1.7078 ppb	13:50:52
2	Ti 334.940†	-882.4	35.8	0.0547 ug/L	0.0547 ppb	13:50:32
2	Tl 190.801†	-42.5	-5.0	-1.6097 ug/L	-1.6097 ppb	13:50:52
2	U 409.014†	-1053.6	23.2	0.5782 ug/L	0.5782 ppb	13:50:32
2	V 292.402†	-1350.8	60.7	0.3753 ug/L	0.3753 ppb	13:50:32
2	Zn 213.857†	714.8	-28.1	-0.2647 ug/L	-0.2647 ppb	13:50:52
2	SiO2†	494.8	-25.2	-1.5953 ug/L	-1.5953 ppb	13:51:57
3	Sc Radial	5421.1	5421.1	102 %		13:49:40
3	Y RADIAL	5839.3	5839.3	101.4 %		13:49:40
3	Al 396.153Radial†	9.4	0.1	0.0666 ug/L	0.0666 ppb	13:50:00
3	Ca 317.933Radial†	19.9	-0.6	-1.0380 ug/L	-1.0380 ppb	13:50:00
3	Fe 238.204 Radial†	7.3	0.1	0.6454 ug/L	0.6454 ppb	13:50:00
3	K 766.490 Radial†	2330.8	-207.5	-37.899 ug/L	-37.899 ppb	13:49:40
3	Mg 279.077 IEC†	1.2	0.2	6.8873 ug/L	6.8873 ppb	13:50:00
3	Na 589.592 Radial†	-673.4	-115.7	-34.381 ug/L	-34.381 ppb	13:49:40
3	Sr 421.552†	31.5	24.0	0.1539 ug/L	0.1539 ppb	13:49:40
3	Sc 361.383	917057.8	917057.8	102.14 %		13:50:57
3	Y 371.029	807599.7	807599.7	98.114 %		13:50:57
3	Ag 328.068†	340.4	37.3	0.1574 ug/L	0.1574 ppb	13:50:57
3	As 188.979†	-26.5	4.2	1.7148 ug/L	1.7148 ppb	13:51:17
3	B 249.677†	-235.3	10.0	0.2189 ug/L	0.2189 ppb	13:51:17
3	Ba 233.527†	2.9	6.0	0.0484 ug/L	0.0484 ppb	13:51:17
3	Be 313.107†	-4960.4	243.8	0.0860 ug/L	0.0860 ppb	13:50:57
3	Cd 226.502†	-201.8	8.6	0.0959 ug/L	0.0959 ppb	13:51:17
3	Co 228.616†	-64.4	6.9	0.1532 ug/L	0.1532 ppb	13:51:17
3	Cr 267.716†	84.4	-11.3	-0.1226 ug/L	-0.1226 ppb	13:51:17
3	Cu 324.752†	8880.0	-433.7	-1.2172 ug/L	-1.2172 ppb	13:50:57
3	Mn 257.610†	485.8	-14.2	-0.0161 ug/L	-0.0161 ppb	13:51:17
3	Mo 202.031†	32.5	8.2	0.5593 ug/L	0.5593 ppb	13:51:17
3	Ni 231.604†	85.5	-10.0	-0.2514 ug/L	-0.2514 ppb	13:51:17
3	P 214.914†	242.9	-1.0	-0.2837 ug/L	-0.2837 ppb	13:51:17
3	Pb 220.353†	-4.5	56.0	7.0347 ug/L	7.0347 ppb	13:51:17
3	S 181.975 Axial†	48.9	-29.1	-40.108 ug/L	-40.108 ppb	13:51:17
3	Sb 206.836†	27.9	-2.9	-0.9294 ug/L	-0.9294 ppb	13:51:17
3	Se 196.026†	-22.8	-4.4	-2.5404 ug/L	-2.5404 ppb	13:51:17
3	Si 251.611†	458.6	-46.9	-1.3968 ug/L	-1.3968 ppb	13:51:17
3	Sn 189.927†	9.4	9.5	1.7489 ug/L	1.7489 ppb	13:51:17
3	Ti 334.940†	-921.7	4.2	0.0053 ug/L	0.0053 ppb	13:50:57
3	Tl 190.801†	-36.2	1.5	0.4733 ug/L	0.4733 ppb	13:51:17
3	U 409.014†	-1046.5	38.2	0.9557 ug/L	0.9557 ppb	13:50:57
3	V 292.402†	-1328.9	92.5	0.5848 ug/L	0.5848 ppb	13:50:57
3	Zn 213.857†	712.3	-36.0	-0.3324 ug/L	-0.3324 ppb	13:51:17
3	SiO2†	472.1	-51.1	-3.2499 ug/L	-3.2499 ppb	13:52:17

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913697.9	101.76 %	0.398			0.39%
Sc Radial	5441.9	102 %	1.0			0.99%
Y 371.029	804621.7	97.752 %	0.3530			0.36%
Y RADIAL	5883.2	102.2 %	1.37			1.34%
Ag 328.068†	25.8	0.1125 ug/L	0.09820	0.1125 ppb	0.09820	87.29%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-1.0	-0.7776 ug/L	4.08724	-0.7776 ppb	4.08724	525.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.7	0.6842 ug/L	1.22064	0.6842 ppb	1.22064	178.39%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	7.8	0.1694 ug/L	0.16592	0.1694 ppb	0.16592	97.93%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-0.3	-0.0011 ug/L	0.09353	-0.0011 ppb	0.09353	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	155.7	0.0550 ug/L	0.02790	0.0550 ppb	0.02790	50.78%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.6	0.9228 ug/L	1.70981	0.9228 ppb	1.70981	185.29%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	3.4	0.0368 ug/L	0.06951	0.0368 ppb	0.06951	188.94%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	6.1	0.1346 ug/L	0.01697	0.1346 ppb	0.01697	12.61%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-4.5	-0.0481 ug/L	0.09367	-0.0481 ppb	0.09367	194.89%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-389.9	-1.0938 ug/L	0.16027	-1.0938 ppb	0.16027	14.65%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	1.2	11.170 ug/L	13.3194	11.170 ppb	13.3194	119.25%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-253.8	-46.348 ug/L	8.0607	-46.348 ppb	8.0607	17.39%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.2	6.9760 ug/L	7.66032	6.9760 ppb	7.66032	109.81%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-2.5	-0.0020 ug/L	0.01276	-0.0020 ppb	0.01276	639.66%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	3.3	0.2245 ug/L	0.29006	0.2245 ppb	0.29006	129.19%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-137.3	-40.820 ug/L	8.0463	-40.820 ppb	8.0463	19.71%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	0.6	0.0152 ug/L	0.24054	0.0152 ppb	0.24054	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-0.6	-0.1053 ug/L	2.18991	-0.1053 ppb	2.18991	>999.9%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	35.9	4.5005 ug/L	2.19481	4.5005 ppb	2.19481	48.77%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-27.3	-37.567 ug/L	3.4845	-37.567 ppb	3.4845	9.28%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	2.7	0.9510 ug/L	1.64458	0.9510 ppb	1.64458	172.93%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	1.2	0.7445 ug/L	4.37955	0.7445 ppb	4.37955	588.24%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-33.3	-0.9900 ug/L	0.36996	-0.9900 ppb	0.36996	37.37%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	10.1	1.8504 ug/L	0.21237	1.8504 ppb	0.21237	11.48%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	24.4	0.1564 ug/L	0.04909	0.1564 ppb	0.04909	31.39%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	10.7	0.0155 ug/L	0.03526	0.0155 ppb	0.03526	227.88%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-2.2	-0.6927 ug/L	1.06361	-0.6927 ppb	1.06361	153.54%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	42.1	1.0512 ug/L	0.52729	1.0512 ppb	0.52729	50.16%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	76.6	0.4803 ug/L	0.10473	0.4803 ppb	0.10473	21.81%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-32.3	-0.3007 ug/L	0.03406	-0.3007 ppb	0.03406	11.33%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-37.0	-2.3449 ug/L	0.83818	-2.3449 ppb	0.83818	35.75%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 13

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/26/2010 14:50:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5288.7	5288.7	99.0 %		14:52:21
1	Y RADIAL	5671.7	5671.7	98.52 %		14:52:21
1	Al 396.153Radial†	6479.9	6533.7	4926.7 ug/L	4926.7 ppb	14:52:21
1	Ca 317.933Radial†	3112.5	3122.5	5018.7 ug/L	5018.7 ppb	14:52:41
1	Fe 238.204 Radial†	560.0	558.3	5231.9 ug/L	5231.9 ppb	14:52:41
1	K 766.490 Radial†	29735.5	27521.0	5021.3 ug/L	5021.3 ppb	14:52:21
1	Mg 279.077 IEC†	148.6	149.1	5316.9 ug/L	5316.9 ppb	14:52:41
1	Na 589.592 Radial†	32957.6	33825.6	10055 ug/L	10055 ppb	14:52:21
1	Sr 421.552†	78604.6	79361.4	509.28 ug/L	509.28 ppb	14:52:21
1	Sc 361.383	938731.1	938731.1	104.55 %		14:53:39
1	Y 371.029	822827.6	822827.6	99.964 %		14:53:39
1	Ag 328.068†	118903.4	113432.1	476.51 ug/L	476.51 ppb	14:53:44
1	As 188.979†	1159.0	1138.8	470.07 ug/L	470.07 ppb	14:54:04
1	B 249.677†	22100.0	21378.5	466.62 ug/L	466.62 ppb	14:53:44
1	Ba 233.527†	62665.6	59941.2	473.67 ug/L	473.67 ppb	14:53:44
1	Be 313.107†	1394002.7	1338429.5	473.22 ug/L	473.22 ppb	14:53:39
1	Cd 226.502†	44461.1	42732.1	477.19 ug/L	477.19 ppb	14:53:44
1	Co 228.616†	23009.4	22077.9	484.05 ug/L	484.05 ppb	14:53:44
1	Cr 267.716†	45795.3	43708.1	474.41 ug/L	474.41 ppb	14:53:44
1	Cu 324.752†	183775.2	166648.4	467.50 ug/L	467.50 ppb	14:53:44
1	Mn 257.610†	442114.3	422381.5	473.86 ug/L	473.86 ppb	14:53:39
1	Mo 202.031†	7231.3	6892.9	470.89 ug/L	470.89 ppb	14:54:04
1	Ni 231.604†	19875.1	18916.3	475.10 ug/L	475.10 ppb	14:53:44
1	P 214.914†	4567.9	4130.4	2237.8 ug/L	2237.8 ppb	14:54:04
1	Pb 220.353†	3883.1	3774.4	475.32 ug/L	475.32 ppb	14:54:04
1	S 181.975 Axial†	778.4	667.5	918.15 ug/L	918.15 ppb	14:54:04
1	Sb 206.836†	1505.6	1409.8	488.96 ug/L	488.96 ppb	14:54:04
1	Se 196.026†	826.6	808.6	485.40 ug/L	485.40 ppb	14:54:04
1	Si 251.611†	84433.6	80262.7	2372.4 ug/L	2372.4 ppb	14:53:44
1	Sn 189.927†	2674.0	2557.9	471.22 ug/L	471.22 ppb	14:54:04
1	Ti 334.940†	322609.8	309474.8	471.72 ug/L	471.72 ppb	14:53:44
1	Tl 190.801†	1490.2	1462.2	470.88 ug/L	470.88 ppb	14:54:04
1	U 409.014†	18632.1	18883.9	470.54 ug/L	470.54 ppb	14:53:44
1	V 292.402†	77910.2	75912.7	478.31 ug/L	478.31 ppb	14:53:44
1	Zn 213.857†	53777.1	50703.0	468.11 ug/L	468.11 ppb	14:53:44
1	SiO2†	84053.3	79881.5	5039.3 ug/L	5039.3 ppb	14:55:11
2	Sc Radial	5373.3	5373.3	101 %		14:52:46
2	Y RADIAL	5778.0	5778.0	100.4 %		14:52:46
2	Al 396.153Radial†	6395.3	6346.6	4784.5 ug/L	4784.5 ppb	14:52:46
2	Ca 317.933Radial†	3094.2	3054.8	4910.0 ug/L	4910.0 ppb	14:53:06
2	Fe 238.204 Radial†	547.2	536.7	5030.1 ug/L	5030.1 ppb	14:53:06
2	K 766.490 Radial†	29588.3	26901.8	4908.3 ug/L	4908.3 ppb	14:52:46
2	Mg 279.077 IEC†	144.7	142.8	5094.6 ug/L	5094.6 ppb	14:53:06
2	Na 589.592 Radial†	32768.3	33113.3	9843.6 ug/L	9843.6 ppb	14:52:46
2	Sr 421.552†	77962.5	77473.3	497.16 ug/L	497.16 ppb	14:52:46
2	Sc 361.383	919503.5	919503.5	102.41 %		14:54:10
2	Y 371.029	804779.4	804779.4	97.772 %		14:54:10
2	Ag 328.068†	117506.6	114446.4	480.69 ug/L	480.69 ppb	14:54:15
2	As 188.979†	1159.0	1162.0	479.52 ug/L	479.52 ppb	14:54:35
2	B 249.677†	21749.3	21478.1	468.82 ug/L	468.82 ppb	14:54:15
2	Ba 233.527†	61978.0	60523.2	478.26 ug/L	478.26 ppb	14:54:15
2	Be 313.107†	1365150.6	1338137.2	473.12 ug/L	473.12 ppb	14:54:10
2	Cd 226.502†	43888.6	43062.4	480.90 ug/L	480.90 ppb	14:54:15
2	Co 228.616†	22787.8	22321.7	489.41 ug/L	489.41 ppb	14:54:15
2	Cr 267.716†	45221.4	44063.7	478.26 ug/L	478.26 ppb	14:54:15
2	Cu 324.752†	181173.8	167783.9	470.68 ug/L	470.68 ppb	14:54:15
2	Mn 257.610†	433737.5	423044.4	474.59 ug/L	474.59 ppb	14:54:10
2	Mo 202.031†	7210.0	7016.8	479.33 ug/L	479.33 ppb	14:54:35
2	Ni 231.604†	19664.6	19108.3	479.93 ug/L	479.93 ppb	14:54:15

2	P 214.914†	4554.7	4208.8	2281.6 ug/L	2281.6 ppb	14:54:35
2	Pb 220.353†	3839.6	3809.7	479.75 ug/L	479.75 ppb	14:54:35
2	S 181.975 Axial†	771.9	676.8	930.88 ug/L	930.88 ppb	14:54:35
2	Sb 206.836†	1481.7	1416.6	491.54 ug/L	491.54 ppb	14:54:35
2	Se 196.026†	818.9	817.6	489.96 ug/L	489.96 ppb	14:54:35
2	Si 251.611†	83568.6	81106.8	2397.3 ug/L	2397.3 ppb	14:54:15
2	Sn 189.927†	2670.1	2607.7	480.34 ug/L	480.34 ppb	14:54:35
2	Ti 334.940†	318960.9	312364.2	476.12 ug/L	476.12 ppb	14:54:15
2	Tl 190.801†	1489.8	1491.6	480.31 ug/L	480.31 ppb	14:54:35
2	U 409.014†	18517.6	19144.8	477.08 ug/L	477.08 ppb	14:54:15
2	V 292.402†	76876.0	76461.1	481.87 ug/L	481.87 ppb	14:54:15
2	Zn 213.857†	53183.7	51199.2	472.71 ug/L	472.71 ppb	14:54:15
2	SiO2†	84095.9	81604.2	5148.0 ug/L	5148.0 ppb	14:55:16
3	Sc Radial	5352.8	5352.8	100 %		14:53:11
3	Y RADIAL	5721.4	5721.4	99.38 %		14:53:11
3	Al 396.153Radial†	6361.7	6337.4	4778.0 ug/L	4778.0 ppb	14:53:11
3	Ca 317.933Radial†	3089.2	3061.6	4920.9 ug/L	4920.9 ppb	14:53:31
3	Fe 238.204 Radial†	553.9	545.5	5112.1 ug/L	5112.1 ppb	14:53:31
3	K 766.490 Radial†	29479.9	26906.4	4909.2 ug/L	4909.2 ppb	14:53:11
3	Mg 279.077 IEC†	145.2	143.9	5132.6 ug/L	5132.6 ppb	14:53:31
3	Na 589.592 Radial†	32225.5	32696.5	9719.8 ug/L	9719.8 ppb	14:53:11
3	Sr 421.552†	77129.1	76938.8	493.73 ug/L	493.73 ppb	14:53:11
3	Sc 361.383	931169.9	931169.9	103.71 %		14:54:41
3	Y 371.029	815789.7	815789.7	99.109 %		14:54:41
3	Ag 328.068†	118925.2	114376.6	480.42 ug/L	480.42 ppb	14:54:46
3	As 188.979†	1154.5	1143.4	471.96 ug/L	471.96 ppb	14:55:06
3	B 249.677†	22063.4	21514.8	469.62 ug/L	469.62 ppb	14:54:46
3	Ba 233.527†	62378.3	60150.9	475.32 ug/L	475.32 ppb	14:54:46
3	Be 313.107†	1384417.8	1340014.1	473.78 ug/L	473.78 ppb	14:54:41
3	Cd 226.502†	44263.5	42886.9	478.93 ug/L	478.93 ppb	14:54:46
3	Co 228.616†	22957.0	22206.0	486.86 ug/L	486.86 ppb	14:54:46
3	Cr 267.716†	45642.1	43916.1	476.66 ug/L	476.66 ppb	14:54:46
3	Cu 324.752†	183677.5	167981.5	471.23 ug/L	471.23 ppb	14:54:46
3	Mn 257.610†	439156.5	422963.3	474.51 ug/L	474.51 ppb	14:54:41
3	Mo 202.031†	7181.4	6901.0	471.43 ug/L	471.43 ppb	14:55:06
3	Ni 231.604†	19847.0	19043.6	478.30 ug/L	478.30 ppb	14:54:46
3	P 214.914†	4544.2	4143.0	2244.3 ug/L	2244.3 ppb	14:55:06
3	Pb 220.353†	3832.5	3755.9	472.96 ug/L	472.96 ppb	14:55:06
3	S 181.975 Axial†	770.2	665.6	915.57 ug/L	915.57 ppb	14:55:06
3	Sb 206.836†	1460.1	1377.7	478.24 ug/L	478.24 ppb	14:55:06
3	Se 196.026†	810.9	799.8	479.96 ug/L	479.96 ppb	14:55:06
3	Si 251.611†	84294.5	80784.3	2387.8 ug/L	2387.8 ppb	14:54:46
3	Sn 189.927†	2663.3	2568.4	473.13 ug/L	473.13 ppb	14:55:06
3	Ti 334.940†	322161.8	311548.4	474.88 ug/L	474.88 ppb	14:54:46
3	Tl 190.801†	1487.8	1471.4	473.85 ug/L	473.85 ppb	14:55:06
3	U 409.014†	18887.6	19275.1	480.33 ug/L	480.33 ppb	14:54:46
3	V 292.402†	77843.4	76453.4	481.70 ug/L	481.70 ppb	14:54:46
3	Zn 213.857†	53666.2	51013.8	470.99 ug/L	470.99 ppb	14:54:46
3	SiO2†	83783.5	80274.1	5064.1 ug/L	5064.1 ppb	14:55:21

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	929801.5	103.56 %	1.079			1.04%
Sc Radial	5338.3	100.0 %	0.83			0.83%
Y 371.029	814465.6	98.948 %	1.1051			1.12%
Y RADIAL	5723.7	99.42 %	0.924			0.93%
Ag 328.068†	114085.0	479.21 ug/L	2.338	479.21 ppb	2.338	0.49%
QC value within limits for Ag 328.068 Recovery = 95.84%						
Al 396.153Radial†	6405.9	4829.7 ug/L	84.04	4829.7 ppb	84.04	1.74%
QC value within limits for Al 396.153Radial Recovery = 96.59%						
As 188.979†	1148.1	473.85 ug/L	5.004	473.85 ppb	5.004	1.06%
QC value within limits for As 188.979 Recovery = 94.77%						
B 249.677†	21457.2	468.35 ug/L	1.554	468.35 ppb	1.554	0.33%
QC value within limits for B 249.677 Recovery = 93.67%						
Ba 233.527†	60205.1	475.75 ug/L	2.324	475.75 ppb	2.324	0.49%
QC value within limits for Ba 233.527 Recovery = 95.15%						
Be 313.107†	1338860.3	473.38 ug/L	0.357	473.38 ppb	0.357	0.08%
QC value within limits for Be 313.107 Recovery = 94.68%						
Ca 317.933Radial†	3079.6	4949.9 ug/L	59.88	4949.9 ppb	59.88	1.21%



QC value within limits for Ca 317.933 Radial Recovery = 99.00%

Cd 226.502†	42893.8	479.01 ug/L	1.858	479.01 ppb	1.858	0.39%
QC value within limits for Cd 226.502 Recovery = 95.80%						
Co 228.616†	22201.9	486.77 ug/L	2.680	486.77 ppb	2.680	0.55%
QC value within limits for Co 228.616 Recovery = 97.35%						
Cr 267.716†	43896.0	476.44 ug/L	1.936	476.44 ppb	1.936	0.41%
QC value within limits for Cr 267.716 Recovery = 95.29%						
Cu 324.752†	167471.3	469.80 ug/L	2.011	469.80 ppb	2.011	0.43%
QC value within limits for Cu 324.752 Recovery = 93.96%						
Fe 238.204 Radial†	546.8	5124.7 ug/L	101.52	5124.7 ppb	101.52	1.98%
QC value within limits for Fe 238.204 Radial Recovery = 102.49%						
K 766.490 Radial†	27109.7	4946.3 ug/L	64.99	4946.3 ppb	64.99	1.31%
QC value within limits for K 766.490 Radial Recovery = 98.93%						
Mg 279.077 IEC†	145.3	5181.4 ug/L	118.93	5181.4 ppb	118.93	2.30%
QC value within limits for Mg 279.077 IEC Recovery = 103.63%						
Mn 257.610†	422796.4	474.32 ug/L	0.401	474.32 ppb	0.401	0.08%
QC value within limits for Mn 257.610 Recovery = 94.86%						
Mo 202.031†	6936.9	473.89 ug/L	4.723	473.89 ppb	4.723	1.00%
QC value within limits for Mo 202.031 Recovery = 94.78%						
Na 589.592 Radial†	33211.8	9872.9 ug/L	169.72	9872.9 ppb	169.72	1.72%
QC value within limits for Na 589.592 Radial Recovery = 98.73%						
Ni 231.604†	19022.8	477.78 ug/L	2.453	477.78 ppb	2.453	0.51%
QC value within limits for Ni 231.604 Recovery = 95.56%						
P 214.914†	4160.7	2254.6 ug/L	23.65	2254.6 ppb	23.65	1.05%
QC value within limits for P 214.914 Recovery = 90.18%						
Pb 220.353†	3780.0	476.01 ug/L	3.443	476.01 ppb	3.443	0.72%
QC value within limits for Pb 220.353 Recovery = 95.20%						
S 181.975 Axial†	670.0	921.53 ug/L	8.195	921.53 ppb	8.195	0.89%
QC value within limits for S 181.975 Axial Recovery = 92.15%						
Sb 206.836†	1401.4	486.24 ug/L	7.053	486.24 ppb	7.053	1.45%
QC value within limits for Sb 206.836 Recovery = 97.25%						
Se 196.026†	808.7	485.11 ug/L	5.007	485.11 ppb	5.007	1.03%
QC value within limits for Se 196.026 Recovery = 97.02%						
Si 251.611†	80717.9	2385.8 ug/L	12.57	2385.8 ppb	12.57	0.53%
QC value within limits for Si 251.611 Recovery = 95.43%						
Sn 189.927†	2578.0	474.90 ug/L	4.813	474.90 ppb	4.813	1.01%
QC value within limits for Sn 189.927 Recovery = 94.98%						
Sr 421.552†	77924.5	500.06 ug/L	8.168	500.06 ppb	8.168	1.63%
QC value within limits for Sr 421.552 Recovery = 100.01%						
Ti 334.940†	311129.2	474.24 ug/L	2.271	474.24 ppb	2.271	0.48%
QC value within limits for Ti 334.940 Recovery = 94.85%						
Tl 190.801†	1475.1	475.01 ug/L	4.822	475.01 ppb	4.822	1.02%
QC value within limits for Tl 190.801 Recovery = 95.00%						
U 409.014†	19101.3	475.98 ug/L	4.985	475.98 ppb	4.985	1.05%
QC value within limits for U 409.014 Recovery = 95.20%						
V 292.402†	76275.8	480.63 ug/L	2.011	480.63 ppb	2.011	0.42%
QC value within limits for V 292.402 Recovery = 96.13%						
Zn 213.857†	50972.0	470.60 ug/L	2.327	470.60 ppb	2.327	0.49%
QC value within limits for Zn 213.857 Recovery = 94.12%						
SiO2†	80586.6	5083.8 ug/L	56.97	5083.8 ppb	56.97	1.12%
QC value within limits for SiO2 Recovery = 95.07%						

All analyte(s) passed QC.



Sequence No.: 14

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/26/2010 14:57:31

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5466.8	5466.8	102 %		14:59:24
1	Y RADIAL	5869.4	5869.4	101.9 %		14:59:24
1	Al 396.153Radial†	279.6	264.0	199.52 ug/L	199.52 ppb	14:59:45
1	Ca 317.933Radial†	145.9	122.3	196.50 ug/L	196.50 ppb	14:59:45
1	Fe 238.204 Radial†	19.4	11.8	110.07 ug/L	110.07 ppb	14:59:45
1	K 766.490 Radial†	3024.8	451.2	82.242 ug/L	82.242 ppb	14:59:24
1	Mg 279.077 IEC†	9.8	8.6	305.27 ug/L	305.27 ppb	14:59:45
1	Na 589.592 Radial†	358.2	897.6	266.82 ug/L	266.82 ppb	14:59:24
1	Sr 421.552†	851.2	824.4	5.2892 ug/L	5.2892 ppb	14:59:24
1	Sc 361.383	915476.5	915476.5	101.96 %		15:00:41
1	Y 371.029	805899.9	805899.9	97.908 %		15:00:41
1	Ag 328.068†	1485.0	1160.4	4.8535 ug/L	4.8535 ppb	15:00:41
1	As 188.979†	41.2	70.6	28.912 ug/L	28.912 ppb	15:01:01
1	B 249.677†	2044.5	2245.6	49.216 ug/L	49.216 ppb	15:00:41
1	Ba 233.527†	622.7	613.8	4.8529 ug/L	4.8529 ppb	15:01:01
1	Be 313.107†	9187.6	14111.3	4.9896 ug/L	4.9896 ppb	15:00:41
1	Cd 226.502†	260.7	461.9	5.1615 ug/L	5.1615 ppb	15:01:01
1	Co 228.616†	160.3	227.1	4.9904 ug/L	4.9904 ppb	15:01:01
1	Cr 267.716†	553.0	448.5	4.8504 ug/L	4.8504 ppb	15:01:01
1	Cu 324.752†	12452.8	3085.4	8.6322 ug/L	8.6322 ppb	15:00:41
1	Mn 257.610†	9908.5	9228.1	10.345 ug/L	10.345 ppb	15:00:41
1	Mo 202.031†	171.7	144.8	9.8940 ug/L	9.8940 ppb	15:01:01
1	Ni 231.604†	310.0	210.4	5.2842 ug/L	5.2842 ppb	15:01:01
1	P 214.914†	511.1	262.5	146.38 ug/L	146.38 ppb	15:01:01
1	Pb 220.353†	27.3	87.1	10.993 ug/L	10.993 ppb	15:01:01
1	S 181.975 Axial†	123.6	44.2	60.815 ug/L	60.815 ppb	15:01:01
1	Sb 206.836†	65.7	34.2	11.819 ug/L	11.819 ppb	15:01:01
1	Se 196.026†	41.5	58.7	34.250 ug/L	34.250 ppb	15:01:01
1	Si 251.611†	3748.5	3180.5	94.116 ug/L	94.116 ppb	15:01:01
1	Sn 189.927†	64.3	63.4	11.684 ug/L	11.684 ppb	15:01:01
1	Ti 334.940†	2521.9	3379.9	5.1302 ug/L	5.1302 ppb	15:00:41
1	Tl 190.801†	26.4	62.8	20.140 ug/L	20.140 ppb	15:01:01
1	U 409.014†	1041.5	2084.3	52.094 ug/L	52.094 ppb	15:00:41
1	V 292.402†	-585.9	819.0	5.3151 ug/L	5.3151 ppb	15:00:41
1	Zn 213.857†	1787.6	1019.8	9.4427 ug/L	9.4427 ppb	15:01:01
1	SiO2†	3926.3	3337.3	210.80 ug/L	210.80 ppb	15:01:58
2	Sc Radial	5383.3	5383.3	101 %		14:59:50
2	Y RADIAL	5822.6	5822.6	101.1 %		14:59:50
2	Al 396.153Radial†	288.7	277.3	209.58 ug/L	209.58 ppb	15:00:10
2	Ca 317.933Radial†	148.7	127.2	204.53 ug/L	204.53 ppb	15:00:10
2	Fe 238.204 Radial†	19.8	12.5	117.05 ug/L	117.05 ppb	15:00:10
2	K 766.490 Radial†	3208.6	679.3	123.92 ug/L	123.92 ppb	14:59:50
2	Mg 279.077 IEC†	13.0	11.9	425.10 ug/L	425.10 ppb	15:00:10
2	Na 589.592 Radial†	306.6	851.8	253.22 ug/L	253.22 ppb	14:59:50
2	Sr 421.552†	825.0	811.3	5.2051 ug/L	5.2051 ppb	14:59:50
2	Sc 361.383	911011.3	911011.3	101.46 %		15:01:07
2	Y 371.029	802353.5	802353.5	97.477 %		15:01:07
2	Ag 328.068†	1591.5	1272.6	5.3246 ug/L	5.3246 ppb	15:01:07
2	As 188.979†	39.6	69.3	28.387 ug/L	28.387 ppb	15:01:27
2	B 249.677†	2050.3	2261.1	49.554 ug/L	49.554 ppb	15:01:07
2	Ba 233.527†	633.9	627.9	4.9641 ug/L	4.9641 ppb	15:01:27
2	Be 313.107†	9054.3	14024.2	4.9589 ug/L	4.9589 ppb	15:01:07
2	Cd 226.502†	247.1	449.7	5.0251 ug/L	5.0251 ppb	15:01:27
2	Co 228.616†	165.8	233.3	5.1244 ug/L	5.1244 ppb	15:01:27
2	Cr 267.716†	547.5	445.7	4.8207 ug/L	4.8207 ppb	15:01:27
2	Cu 324.752†	12456.7	3149.0	8.8115 ug/L	8.8115 ppb	15:01:07
2	Mn 257.610†	9825.3	9193.7	10.302 ug/L	10.302 ppb	15:01:07
2	Mo 202.031†	161.7	135.7	9.2749 ug/L	9.2749 ppb	15:01:27
2	Ni 231.604†	310.7	212.5	5.3371 ug/L	5.3371 ppb	15:01:27

2	P 214.914†	513.8	267.7	149.27 ug/L	149.27 ppb	15:01:27
2	Pb 220.353†	46.2	105.9	13.347 ug/L	13.347 ppb	15:01:27
2	S 181.975 Axial†	124.7	45.9	63.125 ug/L	63.125 ppb	15:01:27
2	Sb 206.836†	79.8	48.4	16.590 ug/L	16.590 ppb	15:01:27
2	Se 196.026†	33.4	50.8	29.751 ug/L	29.751 ppb	15:01:27
2	Si 251.611†	3729.1	3179.4	94.090 ug/L	94.090 ppb	15:01:27
2	Sn 189.927†	69.8	69.1	12.741 ug/L	12.741 ppb	15:01:27
2	Ti 334.940†	2514.0	3384.3	5.1285 ug/L	5.1285 ppb	15:01:07
2	Tl 190.801†	18.4	55.1	17.671 ug/L	17.671 ppb	15:01:27
2	U 409.014†	1005.9	2054.2	51.341 ug/L	51.341 ppb	15:01:07
2	V 292.402†	-571.8	830.1	5.3751 ug/L	5.3751 ppb	15:01:07
2	Zn 213.857†	1774.3	1015.3	9.3996 ug/L	9.3996 ppb	15:01:27
2	SiO2†	3943.3	3373.0	213.07 ug/L	213.07 ppb	15:02:03
3	Sc Radial	5232.6	5232.6	98.0 %		15:00:15
3	Y RADIAL	5665.9	5665.9	98.41 %		15:00:15
3	Al 396.153Radial†	306.3	303.4	229.34 ug/L	229.34 ppb	15:00:35
3	Ca 317.933Radial†	140.6	123.3	198.15 ug/L	198.15 ppb	15:00:35
3	Fe 238.204 Radial†	19.6	12.8	120.17 ug/L	120.17 ppb	15:00:35
3	K 766.490 Radial†	3108.0	668.4	121.92 ug/L	121.92 ppb	15:00:15
3	Mg 279.077 IEC†	10.5	9.7	346.78 ug/L	346.78 ppb	15:00:35
3	Na 589.592 Radial†	302.5	856.3	254.57 ug/L	254.57 ppb	15:00:15
3	Sr 421.552†	782.3	791.2	5.0765 ug/L	5.0765 ppb	15:00:15
3	Sc 361.383	914033.0	914033.0	101.80 %		15:01:32
3	Y 371.029	804583.4	804583.4	97.748 %		15:01:32
3	Ag 328.068†	1571.8	1248.0	5.2224 ug/L	5.2224 ppb	15:01:32
3	As 188.979†	30.3	59.9	24.571 ug/L	24.571 ppb	15:01:52
3	B 249.677†	2057.7	2261.8	49.568 ug/L	49.568 ppb	15:01:32
3	Ba 233.527†	627.9	619.9	4.9020 ug/L	4.9020 ppb	15:01:52
3	Be 313.107†	9158.6	14097.2	4.9847 ug/L	4.9847 ppb	15:01:32
3	Cd 226.502†	248.9	450.7	5.0356 ug/L	5.0356 ppb	15:01:52
3	Co 228.616†	157.5	224.7	4.9373 ug/L	4.9373 ppb	15:01:52
3	Cr 267.716†	561.9	458.1	4.9547 ug/L	4.9547 ppb	15:01:52
3	Cu 324.752†	12555.7	3205.7	8.9695 ug/L	8.9695 ppb	15:01:32
3	Mn 257.610†	9820.8	9157.3	10.265 ug/L	10.265 ppb	15:01:32
3	Mo 202.031†	177.8	151.0	10.320 ug/L	10.320 ppb	15:01:52
3	Ni 231.604†	324.2	224.7	5.6451 ug/L	5.6451 ppb	15:01:52
3	P 214.914†	499.3	251.7	140.22 ug/L	140.22 ppb	15:01:52
3	Pb 220.353†	43.5	103.1	13.005 ug/L	13.005 ppb	15:01:52
3	S 181.975 Axial†	121.1	42.0	57.727 ug/L	57.727 ppb	15:01:52
3	Sb 206.836†	73.5	42.0	14.422 ug/L	14.422 ppb	15:01:52
3	Se 196.026†	27.5	44.9	26.366 ug/L	26.366 ppb	15:01:52
3	Si 251.611†	3740.3	3178.2	94.042 ug/L	94.042 ppb	15:01:52
3	Sn 189.927†	58.2	57.5	10.604 ug/L	10.604 ppb	15:01:52
3	Ti 334.940†	2524.8	3386.7	5.1367 ug/L	5.1367 ppb	15:01:32
3	Tl 190.801†	24.3	60.7	19.490 ug/L	19.490 ppb	15:01:52
3	U 409.014†	1089.9	2133.4	53.322 ug/L	53.322 ppb	15:01:32
3	V 292.402†	-532.8	870.2	5.6411 ug/L	5.6411 ppb	15:01:32
3	Zn 213.857†	1774.4	1009.6	9.3445 ug/L	9.3445 ppb	15:01:52
3	SiO2†	3891.2	3309.0	209.00 ug/L	209.00 ppb	15:02:08

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913506.9	101.74 %	0.254			0.25%
Sc Radial	5360.9	100 %	2.2			2.21%
Y 371.029	804278.9	97.711 %	0.2178			0.22%
Y RADIAL	5786.0	100.5 %	1.85			1.84%
Ag 328.068†	1227.0	5.1335 ug/L	0.24779	5.1335 ppb	0.24779	4.83%
QC value within limits for Ag 328.068 Recovery = 102.67%						
Al 396.153Radial†	281.6	212.81 ug/L	15.172	212.81 ppb	15.172	7.13%
QC value within limits for Al 396.153Radial Recovery = 106.41%						
As 188.979†	66.6	27.290 ug/L	2.3691	27.290 ppb	2.3691	8.68%
QC value within limits for As 188.979 Recovery = 90.97%						
B 249.677†	2256.2	49.446 ug/L	0.1993	49.446 ppb	0.1993	0.40%
QC value within limits for B 249.677 Recovery = 98.89%						
Ba 233.527†	620.6	4.9063 ug/L	0.05575	4.9063 ppb	0.05575	1.14%
QC value within limits for Ba 233.527 Recovery = 98.13%						
Be 313.107†	14077.6	4.9777 ug/L	0.01650	4.9777 ppb	0.01650	0.33%
QC value within limits for Be 313.107 Recovery = 99.55%						
Ca 317.933Radial†	124.3	199.73 ug/L	4.239	199.73 ppb	4.239	2.12%

QC value within limits for Ca 317.933 Radial Recovery = 99.86%

Cd 226.502†	454.1	5.0741 ug/L	0.07589	5.0741 ppb	0.07589	1.50%
QC value within limits for Cd 226.502 Recovery = 101.48%						
Co 228.616†	228.4	5.0174 ug/L	0.09646	5.0174 ppb	0.09646	1.92%
QC value within limits for Co 228.616 Recovery = 100.35%						
Cr 267.716†	450.7	4.8753 ug/L	0.07035	4.8753 ppb	0.07035	1.44%
QC value within limits for Cr 267.716 Recovery = 97.51%						
Cu 324.752†	3146.7	8.8044 ug/L	0.16874	8.8044 ppb	0.16874	1.92%
QC value within limits for Cu 324.752 Recovery = 88.04%						
Fe 238.204 Radial†	12.4	115.76 ug/L	5.171	115.76 ppb	5.171	4.47%
QC value within limits for Fe 238.204 Radial Recovery = 115.76%						
K 766.490 Radial†	599.6	109.36 ug/L	23.507	109.36 ppb	23.507	21.50%
QC value within limits for K 766.490 Radial Recovery = 72.91%						
Mg 279.077 IEC†	10.1	359.05 ug/L	60.849	359.05 ppb	60.849	16.95%
QC value within limits for Mg 279.077 IEC Recovery = 119.68%						
Mn 257.610†	9193.0	10.304 ug/L	0.0401	10.304 ppb	0.0401	0.39%
QC value within limits for Mn 257.610 Recovery = 103.04%						
Mo 202.031†	143.9	9.8295 ug/L	0.52531	9.8295 ppb	0.52531	5.34%
QC value within limits for Mo 202.031 Recovery = 98.30%						
Na 589.592 Radial†	868.6	258.20 ug/L	7.492	258.20 ppb	7.492	2.90%
QC value within limits for Na 589.592 Radial Recovery = 86.07%						
Ni 231.604†	215.9	5.4222 ug/L	0.19487	5.4222 ppb	0.19487	3.59%
QC value within limits for Ni 231.604 Recovery = 108.44%						
P 214.914†	260.6	145.29 ug/L	4.624	145.29 ppb	4.624	3.18%
QC value within limits for P 214.914 Recovery = 96.86%						
Pb 220.353†	98.7	12.448 ug/L	1.2720	12.448 ppb	1.2720	10.22%
QC value within limits for Pb 220.353 Recovery = 124.48%						
S 181.975 Axial†	44.0	60.555 ug/L	2.7085	60.555 ppb	2.7085	4.47%
QC value less than the lower limit for S 181.975 Axial Recovery = 60.56%						
Sb 206.836†	41.5	14.277 ug/L	2.3890	14.277 ppb	2.3890	16.73%
QC value greater than the upper limit for Sb 206.836 Recovery = 142.77%						
Se 196.026†	51.5	30.122 ug/L	3.9551	30.122 ppb	3.9551	13.13%
QC value within limits for Se 196.026 Recovery = 100.41%						
Si 251.611†	3179.3	94.083 ug/L	0.0374	94.083 ppb	0.0374	0.04%
QC value within limits for Si 251.611 Recovery = 94.08%						
Sn 189.927†	63.3	11.676 ug/L	1.0682	11.676 ppb	1.0682	9.15%
QC value within limits for Sn 189.927 Recovery = 116.76%						
Sr 421.552†	809.0	5.1903 ug/L	0.10715	5.1903 ppb	0.10715	2.06%
QC value within limits for Sr 421.552 Recovery = 103.81%						
Ti 334.940†	3383.6	5.1318 ug/L	0.00434	5.1318 ppb	0.00434	0.08%
QC value within limits for Ti 334.940 Recovery = 102.64%						
Tl 190.801†	59.5	19.100 ug/L	1.2796	19.100 ppb	1.2796	6.70%
QC value within limits for Tl 190.801 Recovery = 95.50%						
U 409.014†	2090.6	52.253 ug/L	0.9997	52.253 ppb	0.9997	1.91%
QC value within limits for U 409.014 Recovery = 104.51%						
V 292.402†	839.7	5.4438 ug/L	0.17354	5.4438 ppb	0.17354	3.19%
QC value within limits for V 292.402 Recovery = 108.88%						
Zn 213.857†	1014.9	9.3956 ug/L	0.04926	9.3956 ppb	0.04926	0.52%
QC value within limits for Zn 213.857 Recovery = 93.96%						
SiO2†	3339.8	210.96 ug/L	2.043	210.96 ppb	2.043	0.97%
QC value within limits for SiO2 Recovery = 99.04%						

QC Failed. Continue with analysis.

Sequence No.: 15  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/26/2010 15:04:19  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5472.0	5472.0	102 %		15:06:11
1	Y RADIAL	5876.1	5876.1	102.1 %		15:06:11
1	Al 396.153Radial†	10.5	1.1	0.7686 ug/L	0.7686 ppb	15:06:31
1	Ca 317.933Radial†	23.2	2.4	3.8210 ug/L	3.8210 ppb	15:06:31
1	Fe 238.204 Radial†	6.6	-0.8	-7.0459 ug/L	-7.0459 ppb	15:06:31
1	K 766.490 Radial†	2348.4	-211.7	-38.664 ug/L	-38.664 ppb	15:06:11
1	Mg 279.077 IEC†	1.1	0.1	3.9059 ug/L	3.9059 ppb	15:06:31
1	Na 589.592 Radial†	-671.6	-107.8	-32.050 ug/L	-32.050 ppb	15:06:11
1	Sr 421.552†	4.7	-2.5	-0.0159 ug/L	-0.0159 ppb	15:06:11
1	Sc 361.383	924855.8	924855.8	103.01 %		15:07:28
1	Y 371.029	818551.5	818551.5	99.445 %		15:07:28
1	Ag 328.068†	199.0	-102.8	-0.4219 ug/L	-0.4219 ppb	15:07:33
1	As 188.979†	-37.2	-5.9	-2.4310 ug/L	-2.4310 ppb	15:07:53
1	B 249.677†	-255.5	-7.6	-0.1666 ug/L	-0.1666 ppb	15:07:53
1	Ba 233.527†	-1.7	1.4	0.0119 ug/L	0.0119 ppb	15:07:53
1	Be 313.107†	-5071.6	176.9	0.0623 ug/L	0.0623 ppb	15:07:33
1	Cd 226.502†	-196.0	15.9	0.1766 ug/L	0.1766 ppb	15:07:53
1	Co 228.616†	-62.6	9.1	0.2027 ug/L	0.2027 ppb	15:07:53
1	Cr 267.716†	86.9	-9.6	-0.1000 ug/L	-0.1000 ppb	15:07:53
1	Cu 324.752†	8959.2	-430.2	-1.2021 ug/L	-1.2021 ppb	15:07:33
1	Mn 257.610†	497.0	-7.4	-0.0091 ug/L	-0.0091 ppb	15:07:53
1	Mo 202.031†	37.3	12.6	0.8590 ug/L	0.8590 ppb	15:07:53
1	Ni 231.604†	89.7	-6.6	-0.1664 ug/L	-0.1664 ppb	15:07:53
1	P 214.914†	241.5	-4.3	-2.1660 ug/L	-2.1660 ppb	15:07:53
1	Pb 220.353†	-49.9	12.0	1.5064 ug/L	1.5064 ppb	15:07:53
1	S 181.975 Axial†	42.2	-36.0	-49.588 ug/L	-49.588 ppb	15:07:53
1	Sb 206.836†	47.8	16.2	5.4534 ug/L	5.4534 ppb	15:07:53
1	Se 196.026†	-23.4	-4.7	-2.7572 ug/L	-2.7572 ppb	15:07:53
1	Si 251.611†	486.3	-23.9	-0.7173 ug/L	-0.7173 ppb	15:07:53
1	Sn 189.927†	6.8	6.9	1.2694 ug/L	1.2694 ppb	15:07:53
1	Ti 334.940†	-962.5	-27.9	-0.0381 ug/L	-0.0381 ppb	15:07:33
1	Tl 190.801†	-36.6	1.3	0.4201 ug/L	0.4201 ppb	15:07:53
1	U 409.014†	-1483.1	-377.0	-9.4257 ug/L	-9.4257 ppb	15:07:33
1	V 292.402†	-1360.9	72.4	0.4454 ug/L	0.4454 ppb	15:07:33
1	Zn 213.857†	702.1	-51.8	-0.4787 ug/L	-0.4787 ppb	15:07:53
1	SiO2†	510.2	-18.1	-1.1669 ug/L	-1.1669 ppb	15:09:14
2	Sc Radial	5243.7	5243.7	98.2 %		15:06:36
2	Y RADIAL	5652.8	5652.8	98.19 %		15:06:36
2	Al 396.153Radial†	4.7	-4.3	-3.2647 ug/L	-3.2647 ppb	15:06:56
2	Ca 317.933Radial†	23.8	4.0	6.3563 ug/L	6.3563 ppb	15:06:56
2	Fe 238.204 Radial†	7.0	-0.1	-0.5032 ug/L	-0.5032 ppb	15:06:56
2	K 766.490 Radial†	2220.4	-242.3	-44.247 ug/L	-44.247 ppb	15:06:36
2	Mg 279.077 IEC†	0.6	-0.3	-12.125 ug/L	-12.125 ppb	15:06:56
2	Na 589.592 Radial†	-641.4	-105.6	-31.389 ug/L	-31.389 ppb	15:06:36
2	Sr 421.552†	-0.2	-7.3	-0.0472 ug/L	-0.0472 ppb	15:06:36
2	Sc 361.383	930124.5	930124.5	103.59 %		15:07:58
2	Y 371.029	821671.2	821671.2	99.824 %		15:07:58
2	Ag 328.068†	351.3	43.1	0.1892 ug/L	0.1892 ppb	15:08:03
2	As 188.979†	-25.2	5.9	2.3945 ug/L	2.3945 ppb	15:08:23
2	B 249.677†	-251.0	-1.9	-0.0411 ug/L	-0.0411 ppb	15:08:23
2	Ba 233.527†	-13.5	-9.9	-0.0768 ug/L	-0.0768 ppb	15:08:23
2	Be 313.107†	-5059.3	216.6	0.0764 ug/L	0.0764 ppb	15:08:03
2	Cd 226.502†	-197.6	15.4	0.1705 ug/L	0.1705 ppb	15:08:23
2	Co 228.616†	-73.0	-0.5	-0.0121 ug/L	-0.0121 ppb	15:08:23
2	Cr 267.716†	98.8	1.5	0.0202 ug/L	0.0202 ppb	15:08:23
2	Cu 324.752†	8852.9	-582.1	-1.6285 ug/L	-1.6285 ppb	15:08:03
2	Mn 257.610†	488.9	-17.9	-0.0196 ug/L	-0.0196 ppb	15:08:23
2	Mo 202.031†	20.2	-4.1	-0.2800 ug/L	-0.2800 ppb	15:08:23
2	Ni 231.604†	98.7	1.6	0.0399 ug/L	0.0399 ppb	15:08:23

2	P 214.914†	237.3	-9.6	-5.1042 ug/L	-5.1042 ppb	15:08:23
2	Pb 220.353†	-53.0	9.2	1.1559 ug/L	1.1559 ppb	15:08:23
2	S 181.975 Axial†	47.5	-31.1	-42.866 ug/L	-42.866 ppb	15:08:23
2	Sb 206.836†	35.6	4.1	1.3743 ug/L	1.3743 ppb	15:08:23
2	Se 196.026†	-18.4	0.2	0.1159 ug/L	0.1159 ppb	15:08:23
2	Si 251.611†	479.7	-32.9	-0.9699 ug/L	-0.9699 ppb	15:08:23
2	Sn 189.927†	2.7	2.9	0.5420 ug/L	0.5420 ppb	15:08:23
2	Ti 334.940†	-948.9	-9.5	-0.0091 ug/L	-0.0091 ppb	15:08:03
2	Tl 190.801†	-32.0	6.0	1.9202 ug/L	1.9202 ppb	15:08:23
2	U 409.014†	-1435.0	-322.4	-8.0617 ug/L	-8.0617 ppb	15:08:03
2	V 292.402†	-1325.5	114.0	0.6897 ug/L	0.6897 ppb	15:08:03
2	Zn 213.857†	699.5	-58.2	-0.5401 ug/L	-0.5401 ppb	15:08:23
2	SiO2†	522.0	-9.5	-0.5957 ug/L	-0.5957 ppb	15:09:34
3	Sc Radial	5356.1	5356.1	100 %		15:07:01
3	Y RADIAL	5779.0	5779.0	100.4 %		15:07:01
3	Al 396.153Radial†	-3.2	-12.3	-9.3374 ug/L	-9.3374 ppb	15:07:21
3	Ca 317.933Radial†	19.0	-1.3	-2.0191 ug/L	-2.0191 ppb	15:07:21
3	Fe 238.204 Radial†	6.9	-0.3	-2.5493 ug/L	-2.5493 ppb	15:07:21
3	K 766.490 Radial†	2304.6	-205.8	-37.572 ug/L	-37.572 ppb	15:07:01
3	Mg 279.077 IEC†	-0.2	-1.2	-41.291 ug/L	-41.291 ppb	15:07:21
3	Na 589.592 Radial†	-688.2	-138.5	-41.183 ug/L	-41.183 ppb	15:07:01
3	Sr 421.552†	18.1	11.0	0.0706 ug/L	0.0706 ppb	15:07:01
3	Sc 361.383	923472.4	923472.4	102.85 %		15:08:28
3	Y 371.029	818650.7	818650.7	99.457 %		15:08:28
3	Ag 328.068†	374.2	67.8	0.2917 ug/L	0.2917 ppb	15:08:33
3	As 188.979†	-32.4	-1.3	-0.5276 ug/L	-0.5276 ppb	15:08:53
3	B 249.677†	-257.9	-10.3	-0.2267 ug/L	-0.2267 ppb	15:08:53
3	Ba 233.527†	2.8	5.8	0.0465 ug/L	0.0465 ppb	15:08:53
3	Be 313.107†	-5044.2	196.1	0.0690 ug/L	0.0690 ppb	15:08:33
3	Cd 226.502†	-194.4	17.2	0.1902 ug/L	0.1902 ppb	15:08:53
3	Co 228.616†	-59.4	12.2	0.2680 ug/L	0.2680 ppb	15:08:53
3	Cr 267.716†	102.6	5.8	0.0673 ug/L	0.0673 ppb	15:08:53
3	Cu 324.752†	8998.4	-379.1	-1.0578 ug/L	-1.0578 ppb	15:08:33
3	Mn 257.610†	482.2	-21.0	-0.0221 ug/L	-0.0221 ppb	15:08:53
3	Mo 202.031†	25.1	0.8	0.0514 ug/L	0.0514 ppb	15:08:53
3	Ni 231.604†	103.1	6.5	0.1642 ug/L	0.1642 ppb	15:08:53
3	P 214.914†	247.3	1.7	1.1533 ug/L	1.1533 ppb	15:08:53
3	Pb 220.353†	-40.3	21.2	2.6653 ug/L	2.6653 ppb	15:08:53
3	S 181.975 Axial†	47.1	-31.1	-42.885 ug/L	-42.885 ppb	15:08:53
3	Sb 206.836†	33.8	2.6	0.8967 ug/L	0.8967 ppb	15:08:53
3	Se 196.026†	-17.4	1.0	0.5763 ug/L	0.5763 ppb	15:08:53
3	Si 251.611†	479.8	-29.5	-0.8732 ug/L	-0.8732 ppb	15:08:53
3	Sn 189.927†	2.3	2.6	0.4705 ug/L	0.4705 ppb	15:08:53
3	Ti 334.940†	-991.7	-57.7	-0.0804 ug/L	-0.0804 ppb	15:08:33
3	Tl 190.801†	-38.3	-0.4	-0.1232 ug/L	-0.1232 ppb	15:08:53
3	U 409.014†	-1515.4	-410.6	-10.267 ug/L	-10.267 ppb	15:08:33
3	V 292.402†	-1385.4	46.6	0.2706 ug/L	0.2706 ppb	15:08:33
3	Zn 213.857†	703.5	-49.4	-0.4599 ug/L	-0.4599 ppb	15:08:53
3	SiO2†	489.7	-37.3	-2.3610 ug/L	-2.3610 ppb	15:09:54

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	926150.9	103.15 %	0.391			0.38%
Sc Radial	5357.2	100 %	2.1			2.13%
Y 371.029	819624.5	99.575 %	0.2154			0.22%
Y RADIAL	5769.3	100.2 %	1.95			1.94%
Ag 328.068†	2.7	0.0197 ug/L	0.38582	0.0197 ppb	0.38582	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-5.2	-3.9445 ug/L	5.08721	-3.9445 ppb	5.08721	128.97%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-0.5	-0.1881 ug/L	2.43060	-0.1881 ppb	2.43060	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-6.6	-0.1448 ug/L	0.09473	-0.1448 ppb	0.09473	65.42%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-0.9	-0.0061 ug/L	0.06358	-0.0061 ppb	0.06358	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	196.5	0.0692 ug/L	0.00704	0.0692 ppb	0.00704	10.17%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.7	2.7194 ug/L	4.29499	2.7194 ppb	4.29499	157.94%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated									
Cd	226.502†	16.2	0.1791 ug/L	0.01011	0.1791 ppb	0.01011	5.64%		
QC value within limits for Cd 226.502 Recovery = Not calculated									
Co	228.616†	6.9	0.1529 ug/L	0.14651	0.1529 ppb	0.14651	95.85%		
QC value within limits for Co 228.616 Recovery = Not calculated									
Cr	267.716†	-0.8	-0.0041 ug/L	0.08628	-0.0041 ppb	0.08628	>999.9%		
QC value within limits for Cr 267.716 Recovery = Not calculated									
Cu	324.752†	-463.8	-1.2961 ug/L	0.29674	-1.2961 ppb	0.29674	22.89%		
QC value within limits for Cu 324.752 Recovery = Not calculated									
Fe	238.204 Radial†	-0.4	-3.3661 ug/L	3.34697	-3.3661 ppb	3.34697	99.43%		
QC value within limits for Fe 238.204 Radial Recovery = Not calculated									
K	766.490 Radial†	-219.9	-40.161 ug/L	3.5803	-40.161 ppb	3.5803	8.91%		
QC value within limits for K 766.490 Radial Recovery = Not calculated									
Mg	279.077 IEC†	-0.5	-16.503 ug/L	22.9145	-16.503 ppb	22.9145	138.85%		
QC value within limits for Mg 279.077 IEC Recovery = Not calculated									
Mn	257.610†	-15.4	-0.0169 ug/L	0.00690	-0.0169 ppb	0.00690	40.68%		
QC value within limits for Mn 257.610 Recovery = Not calculated									
Mo	202.031†	3.1	0.2101 ug/L	0.58583	0.2101 ppb	0.58583	278.78%		
QC value within limits for Mo 202.031 Recovery = Not calculated									
Na	589.592 Radial†	-117.3	-34.874 ug/L	5.4738	-34.874 ppb	5.4738	15.70%		
QC value within limits for Na 589.592 Radial Recovery = Not calculated									
Ni	231.604†	0.5	0.0126 ug/L	0.16701	0.0126 ppb	0.16701	>999.9%		
QC value within limits for Ni 231.604 Recovery = Not calculated									
P	214.914†	-4.1	-2.0390 ug/L	3.13071	-2.0390 ppb	3.13071	153.54%		
QC value within limits for P 214.914 Recovery = Not calculated									
Pb	220.353†	14.1	1.7759 ug/L	0.78995	1.7759 ppb	0.78995	44.48%		
QC value within limits for Pb 220.353 Recovery = Not calculated									
S	181.975 Axial†	-32.8	-45.113 ug/L	3.8758	-45.113 ppb	3.8758	8.59%		
QC value within limits for S 181.975 Axial Recovery = Not calculated									
Sb	206.836†	7.6	2.5748 ug/L	2.50433	2.5748 ppb	2.50433	97.26%		
QC value within limits for Sb 206.836 Recovery = Not calculated									
Se	196.026†	-1.2	-0.6883 ug/L	1.80640	-0.6883 ppb	1.80640	262.44%		
QC value within limits for Se 196.026 Recovery = Not calculated									
Si	251.611†	-28.7	-0.8535 ug/L	0.12748	-0.8535 ppb	0.12748	14.94%		
QC value within limits for Si 251.611 Recovery = Not calculated									
Sn	189.927†	4.1	0.7606 ug/L	0.44205	0.7606 ppb	0.44205	58.12%		
QC value within limits for Sn 189.927 Recovery = Not calculated									
Sr	421.552†	0.4	0.0025 ug/L	0.06100	0.0025 ppb	0.06100	>999.9%		
QC value within limits for Sr 421.552 Recovery = Not calculated									
Ti	334.940†	-31.7	-0.0425 ug/L	0.03586	-0.0425 ppb	0.03586	84.38%		
QC value within limits for Ti 334.940 Recovery = Not calculated									
Tl	190.801†	2.3	0.7391 ug/L	1.05839	0.7391 ppb	1.05839	143.21%		
QC value within limits for Tl 190.801 Recovery = Not calculated									
U	409.014†	-370.0	-9.2515 ug/L	1.11296	-9.2515 ppb	1.11296	12.03%		
QC value within limits for U 409.014 Recovery = Not calculated									
V	292.402†	77.7	0.4686 ug/L	0.21050	0.4686 ppb	0.21050	44.93%		
QC value within limits for V 292.402 Recovery = Not calculated									
Zn	213.857†	-53.1	-0.4929 ug/L	0.04197	-0.4929 ppb	0.04197	8.51%		
QC value within limits for Zn 213.857 Recovery = Not calculated									
SiO2†		-21.6	-1.3745 ug/L	0.90078	-1.3745 ppb	0.90078	65.53%		
QC value within limits for SiO2 Recovery = Not calculated									
All analyte(s) passed QC.									

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Analysis Begun

Start Time: 1/26/2010 15:38:39

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012610A.sif

Batch ID:

Results Data Set: 012610

Results Library: C:\pe\Optima3\Results\Results.mdb  
=====

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/26/2010 15:38:40

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:  
=====

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5349.6	5349.6	100 %		15:40:32
1	Y RADIAL	5716.3	5716.3	99.29 %		15:40:32
1	Al 396.153Radial†	6385.3	6364.8	4798.5 ug/L	4798.5 ppb	15:40:32
1	Ca 317.933Radial†	3093.2	3067.5	4930.3 ug/L	4930.3 ppb	15:40:52
1	Fe 238.204 Radial†	560.5	552.4	5176.7 ug/L	5176.7 ppb	15:40:52
1	K 766.490 Radial†	29390.2	26834.5	4895.9 ug/L	4895.9 ppb	15:40:32
1	Mg 279.077 IEC†	148.1	146.9	5239.6 ug/L	5239.6 ppb	15:40:52
1	Na 589.592 Radial†	33214.0	33702.7	10019 ug/L	10019 ppb	15:40:32
1	Sr 421.552†	78263.1	78117.0	501.29 ug/L	501.29 ppb	15:40:32
1	Sc 361.383	927647.7	927647.7	103.32 %		15:41:50
1	Y 371.029	811568.1	811568.1	98.596 %		15:41:50
1	Ag 328.068†	118279.7	114187.3	479.65 ug/L	479.65 ppb	15:41:55
1	As 188.979†	1157.1	1150.2	474.83 ug/L	474.83 ppb	15:42:15
1	B 249.677†	21715.1	21258.6	463.98 ug/L	463.98 ppb	15:41:55
1	Ba 233.527†	62364.5	60365.9	477.02 ug/L	477.02 ppb	15:41:55
1	Be 313.107†	1382970.1	1343681.4	475.10 ug/L	475.10 ppb	15:41:50
1	Cd 226.502†	44113.7	42904.0	479.12 ug/L	479.12 ppb	15:41:55
1	Co 228.616†	22948.4	22281.7	488.50 ug/L	488.50 ppb	15:41:55
1	Cr 267.716†	45484.6	43930.8	476.82 ug/L	476.82 ppb	15:41:55
1	Cu 324.752†	182306.2	167326.7	469.40 ug/L	469.40 ppb	15:41:55
1	Mn 257.610†	439125.2	424540.8	476.28 ug/L	476.28 ppb	15:41:50
1	Mo 202.031†	7214.7	6959.5	475.43 ug/L	475.43 ppb	15:42:15
1	Ni 231.604†	19779.1	19050.6	478.48 ug/L	478.48 ppb	15:41:55
1	P 214.914†	4604.6	4218.0	2286.9 ug/L	2286.9 ppb	15:42:15
1	Pb 220.353†	3865.5	3801.8	478.74 ug/L	478.74 ppb	15:42:15
1	S 181.975 Axial†	770.0	668.3	919.26 ug/L	919.26 ppb	15:42:15
1	Sb 206.836†	1490.1	1412.0	489.83 ug/L	489.83 ppb	15:42:15
1	Se 196.026†	822.5	814.1	488.41 ug/L	488.41 ppb	15:42:15
1	Si 251.611†	83951.9	80761.3	2387.1 ug/L	2387.1 ppb	15:41:55
1	Sn 189.927†	2676.9	2591.4	477.35 ug/L	477.35 ppb	15:42:15
1	Ti 334.940†	328377.9	318744.5	485.84 ug/L	485.84 ppb	15:41:50
1	Tl 190.801†	1492.7	1481.7	477.22 ug/L	477.22 ppb	15:42:15
1	U 409.014†	18724.2	19186.1	478.10 ug/L	478.10 ppb	15:41:55
1	V 292.402†	77396.8	76306.2	480.82 ug/L	480.82 ppb	15:41:55
1	Zn 213.857†	53494.7	51044.3	471.27 ug/L	471.27 ppb	15:41:55
1	SiO2†	84835.3	81599.0	5147.7 ug/L	5147.7 ppb	15:43:23
2	Sc Radial	5402.9	5402.9	101 %		15:40:57
2	Y RADIAL	5778.6	5778.6	100.4 %		15:40:57
2	Al 396.153Radial†	6422.6	6338.8	4778.9 ug/L	4778.9 ppb	15:40:57
2	Ca 317.933Radial†	3094.0	3037.8	4882.7 ug/L	4882.7 ppb	15:41:17
2	Fe 238.204 Radial†	554.8	541.2	5071.8 ug/L	5071.8 ppb	15:41:17
2	K 766.490 Radial†	29782.0	26932.3	4913.8 ug/L	4913.8 ppb	15:40:57
2	Mg 279.077 IEC†	147.0	144.3	5145.7 ug/L	5145.7 ppb	15:41:17
2	Na 589.592 Radial†	33364.3	33524.0	9965.8 ug/L	9965.8 ppb	15:40:57
2	Sr 421.552†	78809.9	77886.5	499.82 ug/L	499.82 ppb	15:40:57
2	Sc 361.383	930884.6	930884.6	103.68 %		15:42:21
2	Y 371.029	814937.8	814937.8	99.006 %		15:42:21



2	Ag 328.068†	117990.2	113509.9	476.78 ug/L	476.78 ppb	15:42:26
2	As 188.979†	1154.2	1143.4	472.05 ug/L	472.05 ppb	15:42:46
2	B 249.677†	21641.4	21114.4	460.85 ug/L	460.85 ppb	15:42:26
2	Ba 233.527†	62083.9	59885.4	473.22 ug/L	473.22 ppb	15:42:26
2	Be 313.107†	1385302.6	1341276.7	474.25 ug/L	474.25 ppb	15:42:21
2	Cd 226.502†	44031.1	42675.8	476.58 ug/L	476.58 ppb	15:42:26
2	Co 228.616†	22803.0	22064.2	483.73 ug/L	483.73 ppb	15:42:26
2	Cr 267.716†	45324.3	43623.0	473.48 ug/L	473.48 ppb	15:42:26
2	Cu 324.752†	181385.9	165825.5	465.19 ug/L	465.19 ppb	15:42:26
2	Mn 257.610†	439898.2	423808.4	475.45 ug/L	475.45 ppb	15:42:21
2	Mo 202.031†	7198.7	6919.8	472.71 ug/L	472.71 ppb	15:42:46
2	Ni 231.604†	19767.9	18973.2	476.53 ug/L	476.53 ppb	15:42:26
2	P 214.914†	4572.6	4171.7	2261.7 ug/L	2261.7 ppb	15:42:46
2	Pb 220.353†	3839.6	3763.8	473.97 ug/L	473.97 ppb	15:42:46
2	S 181.975 Axial†	777.7	673.1	925.83 ug/L	925.83 ppb	15:42:46
2	Sb 206.836†	1475.5	1392.9	483.33 ug/L	483.33 ppb	15:42:46
2	Se 196.026†	822.8	811.6	486.63 ug/L	486.63 ppb	15:42:46
2	Si 251.611†	83476.2	80019.9	2365.2 ug/L	2365.2 ppb	15:42:26
2	Sn 189.927†	2675.1	2580.5	475.35 ug/L	475.35 ppb	15:42:46
2	Ti 334.940†	329456.8	318679.9	485.75 ug/L	485.75 ppb	15:42:21
2	Tl 190.801†	1476.6	1461.1	470.67 ug/L	470.67 ppb	15:42:46
2	U 409.014†	18584.8	18988.6	473.18 ug/L	473.18 ppb	15:42:26
2	V 292.402†	77165.2	75822.3	477.78 ug/L	477.78 ppb	15:42:26
2	Zn 213.857†	53399.1	50772.0	468.76 ug/L	468.76 ppb	15:42:26
2	SiO2†	84786.0	81265.8	5126.8 ug/L	5126.8 ppb	15:43:28
3	Sc Radial	5417.9	5417.9	101 %		15:41:22
3	Y RADIAL	5815.8	5815.8	101.0 %		15:41:22
3	Al 396.153Radial†	6423.6	6322.2	4766.3 ug/L	4766.3 ppb	15:41:22
3	Ca 317.933Radial†	3102.0	3037.2	4881.7 ug/L	4881.7 ppb	15:41:42
3	Fe 238.204 Radial†	557.2	542.0	5080.0 ug/L	5080.0 ppb	15:41:42
3	K 766.490 Radial†	29721.5	26791.2	4888.1 ug/L	4888.1 ppb	15:41:22
3	Mg 279.077 IEC†	145.6	142.5	5083.1 ug/L	5083.1 ppb	15:41:42
3	Na 589.592 Radial†	33391.4	33459.6	9946.6 ug/L	9946.6 ppb	15:41:22
3	Sr 421.552†	78985.5	77844.4	499.55 ug/L	499.55 ppb	15:41:22
3	Sc 361.383	931013.9	931013.9	103.69 %		15:42:52
3	Y 371.029	814850.4	814850.4	98.995 %		15:42:52
3	Ag 328.068†	117952.5	113457.8	476.56 ug/L	476.56 ppb	15:42:57
3	As 188.979†	1178.2	1166.4	481.45 ug/L	481.45 ppb	15:43:18
3	B 249.677†	21627.3	21097.9	460.48 ug/L	460.48 ppb	15:42:57
3	Ba 233.527†	62112.9	59905.0	473.38 ug/L	473.38 ppb	15:42:57
3	Be 313.107†	1383031.9	1338901.2	473.41 ug/L	473.41 ppb	15:42:52
3	Cd 226.502†	43959.1	42600.5	475.74 ug/L	475.74 ppb	15:42:57
3	Co 228.616†	22903.6	22158.2	485.80 ug/L	485.80 ppb	15:42:57
3	Cr 267.716†	45349.5	43641.3	473.68 ug/L	473.68 ppb	15:42:57
3	Cu 324.752†	181782.0	166183.1	466.19 ug/L	466.19 ppb	15:42:57
3	Mn 257.610†	439073.0	422953.7	474.50 ug/L	474.50 ppb	15:42:52
3	Mo 202.031†	7226.1	6945.2	474.45 ug/L	474.45 ppb	15:43:18
3	Ni 231.604†	19710.3	18915.0	475.07 ug/L	475.07 ppb	15:42:57
3	P 214.914†	4573.8	4172.3	2261.8 ug/L	2261.8 ppb	15:43:18
3	Pb 220.353†	3870.6	3793.2	477.67 ug/L	477.67 ppb	15:43:18
3	S 181.975 Axial†	780.8	676.1	929.91 ug/L	929.91 ppb	15:43:18
3	Sb 206.836†	1476.8	1394.0	483.75 ug/L	483.75 ppb	15:43:18
3	Se 196.026†	833.8	822.1	492.68 ug/L	492.68 ppb	15:43:18
3	Si 251.611†	83722.9	80246.7	2371.9 ug/L	2371.9 ppb	15:42:57
3	Sn 189.927†	2676.2	2581.2	475.48 ug/L	475.48 ppb	15:43:18
3	Ti 334.940†	328877.3	318076.9	484.83 ug/L	484.83 ppb	15:42:52
3	Tl 190.801†	1491.3	1475.1	475.12 ug/L	475.12 ppb	15:43:18
3	U 409.014†	18724.4	19120.8	476.48 ug/L	476.48 ppb	15:42:57
3	V 292.402†	77216.9	75861.8	478.06 ug/L	478.06 ppb	15:42:57
3	Zn 213.857†	53234.5	50606.1	467.22 ug/L	467.22 ppb	15:42:57
3	SiO2†	83293.1	79814.7	5034.9 ug/L	5034.9 ppb	15:43:33

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	929848.7	103.56 %	0.212			0.21%
Sc Radial	5390.1	101 %	0.7			0.67%
Y 371.029	813785.4	98.866 %	0.2334			0.24%
Y RADIAL	5770.2	100.2 %	0.87			0.87%
Ag 328.068†	113718.3	477.66 ug/L	1.722	477.66 ppb	1.722	0.36%



QC value within limits for Ag 328.068 Recovery = 95.53%						
Al 396.153Radial†	6341.9	4781.2 ug/L	16.25	4781.2 ppb	16.25	0.34%
QC value within limits for Al 396.153Radial Recovery = 95.62%						
As 188.979†	1153.3	476.11 ug/L	4.828	476.11 ppb	4.828	1.01%
QC value within limits for As 188.979 Recovery = 95.22%						
B 249.677†	21156.9	461.77 ug/L	1.923	461.77 ppb	1.923	0.42%
QC value within limits for B 249.677 Recovery = 92.35%						
Ba 233.527†	60052.1	474.54 ug/L	2.149	474.54 ppb	2.149	0.45%
QC value within limits for Ba 233.527 Recovery = 94.91%						
Be 313.107†	1341286.4	474.26 ug/L	0.844	474.26 ppb	0.844	0.18%
QC value within limits for Be 313.107 Recovery = 94.85%						
Ca 317.933Radial†	3047.5	4898.2 ug/L	27.82	4898.2 ppb	27.82	0.57%
QC value within limits for Ca 317.933Radial Recovery = 97.96%						
Cd 226.502†	42726.8	477.14 ug/L	1.761	477.14 ppb	1.761	0.37%
QC value within limits for Cd 226.502 Recovery = 95.43%						
Co 228.616†	22168.1	486.01 ug/L	2.394	486.01 ppb	2.394	0.49%
QC value within limits for Co 228.616 Recovery = 97.20%						
Cr 267.716†	43731.7	474.66 ug/L	1.874	474.66 ppb	1.874	0.39%
QC value within limits for Cr 267.716 Recovery = 94.93%						
Cu 324.752†	166445.1	466.92 ug/L	2.201	466.92 ppb	2.201	0.47%
QC value within limits for Cu 324.752 Recovery = 93.38%						
Fe 238.204 Radial†	545.2	5109.5 ug/L	58.32	5109.5 ppb	58.32	1.14%
QC value within limits for Fe 238.204 Radial Recovery = 102.19%						
K 766.490 Radial†	26852.7	4899.3 ug/L	13.20	4899.3 ppb	13.20	0.27%
QC value within limits for K 766.490 Radial Recovery = 97.99%						
Mg 279.077 IEC†	144.6	5156.1 ug/L	78.78	5156.1 ppb	78.78	1.53%
QC value within limits for Mg 279.077 IEC Recovery = 103.12%						
Mn 257.610†	423767.6	475.41 ug/L	0.892	475.41 ppb	0.892	0.19%
QC value within limits for Mn 257.610 Recovery = 95.08%						
Mo 202.031†	6941.5	474.20 ug/L	1.379	474.20 ppb	1.379	0.29%
QC value within limits for Mo 202.031 Recovery = 94.84%						
Na 589.592 Radial†	33562.1	9977.1 ug/L	37.44	9977.1 ppb	37.44	0.38%
QC value within limits for Na 589.592 Radial Recovery = 99.77%						
Ni 231.604†	18979.6	476.69 ug/L	1.709	476.69 ppb	1.709	0.36%
QC value within limits for Ni 231.604 Recovery = 95.34%						
P 214.914†	4187.3	2270.2 ug/L	14.54	2270.2 ppb	14.54	0.64%
QC value within limits for P 214.914 Recovery = 90.81%						
Pb 220.353†	3786.3	476.79 ug/L	2.501	476.79 ppb	2.501	0.52%
QC value within limits for Pb 220.353 Recovery = 95.36%						
S 181.975 Axial†	672.5	925.00 ug/L	5.372	925.00 ppb	5.372	0.58%
QC value within limits for S 181.975 Axial Recovery = 92.50%						
Sb 206.836†	1399.6	485.64 ug/L	3.636	485.64 ppb	3.636	0.75%
QC value within limits for Sb 206.836 Recovery = 97.13%						
Se 196.026†	815.9	489.24 ug/L	3.112	489.24 ppb	3.112	0.64%
QC value within limits for Se 196.026 Recovery = 97.85%						
Si 251.611†	80342.7	2374.7 ug/L	11.24	2374.7 ppb	11.24	0.47%
QC value within limits for Si 251.611 Recovery = 94.99%						
Sn 189.927†	2584.4	476.06 ug/L	1.120	476.06 ppb	1.120	0.24%
QC value within limits for Sn 189.927 Recovery = 95.21%						
Sr 421.552†	77949.3	500.22 ug/L	0.942	500.22 ppb	0.942	0.19%
QC value within limits for Sr 421.552 Recovery = 100.04%						
Ti 334.940†	318500.5	485.48 ug/L	0.558	485.48 ppb	0.558	0.11%
QC value within limits for Ti 334.940 Recovery = 97.10%						
Tl 190.801†	1472.6	474.34 ug/L	3.345	474.34 ppb	3.345	0.71%
QC value within limits for Tl 190.801 Recovery = 94.87%						
U 409.014†	19098.5	475.92 ug/L	2.507	475.92 ppb	2.507	0.53%
QC value within limits for U 409.014 Recovery = 95.18%						
V 292.402†	75996.8	478.89 ug/L	1.683	478.89 ppb	1.683	0.35%
QC value within limits for V 292.402 Recovery = 95.78%						
Zn 213.857†	50807.5	469.08 ug/L	2.042	469.08 ppb	2.042	0.44%
QC value within limits for Zn 213.857 Recovery = 93.82%						
SiO2†	80893.2	5103.1 ug/L	60.00	5103.1 ppb	60.00	1.18%
QC value within limits for SiO2 Recovery = 95.43%						
All analyte(s) passed QC.						

Sequence No.: 2  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/26/2010 15:45:44  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5055.4	5055.4	94.7 %		15:47:37
1	Y RADIAL	5423.2	5423.2	94.20 %		15:47:37
1	Al 396.153Radial†	4.6	-4.3	-3.2555 ug/L	-3.2555 ppb	15:47:57
1	Ca 317.933Radial†	24.4	5.6	8.9546 ug/L	8.9546 ppb	15:47:57
1	Fe 238.204 Radial†	6.1	-0.7	-6.2166 ug/L	-6.2166 ppb	15:47:57
1	K 766.490 Radial†	2358.3	-12.4	-2.2489 ug/L	-2.2489 ppb	15:47:37
1	Mg 279.077 IEC†	3.6	2.9	102.27 ug/L	102.27 ppb	15:47:57
1	Na 589.592 Radial†	-681.0	-171.7	-51.051 ug/L	-51.051 ppb	15:47:37
1	Sr 421.552†	18.3	12.2	0.0783 ug/L	0.0783 ppb	15:47:37
1	Sc 361.383	935233.3	935233.3	104.16 %		15:48:53
1	Y 371.029	827186.0	827186.0	100.49 %		15:48:53
1	Ag 328.068†	257.7	-48.6	-0.1929 ug/L	-0.1929 ppb	15:48:58
1	As 188.979†	-27.4	3.9	1.5941 ug/L	1.5941 ppb	15:49:18
1	B 249.677†	-247.9	2.4	0.0542 ug/L	0.0542 ppb	15:49:18
1	Ba 233.527†	-13.1	-9.5	-0.0736 ug/L	-0.0736 ppb	15:49:18
1	Be 313.107†	-4977.5	321.8	0.1135 ug/L	0.1135 ppb	15:48:58
1	Cd 226.502†	-188.7	25.0	0.2783 ug/L	0.2783 ppb	15:49:18
1	Co 228.616†	-76.1	-3.1	-0.0677 ug/L	-0.0677 ppb	15:49:18
1	Cr 267.716†	69.8	-26.9	-0.2863 ug/L	-0.2863 ppb	15:49:18
1	Cu 324.752†	8962.5	-523.5	-1.4627 ug/L	-1.4627 ppb	15:48:58
1	Mn 257.610†	491.6	-17.9	-0.0249 ug/L	-0.0249 ppb	15:49:18
1	Mo 202.031†	25.2	0.6	0.0394 ug/L	0.0394 ppb	15:49:18
1	Ni 231.604†	99.9	2.3	0.0566 ug/L	0.0566 ppb	15:49:18
1	P 214.914†	239.6	-8.7	-4.6112 ug/L	-4.6112 ppb	15:49:18
1	Pb 220.353†	-50.9	11.5	1.4437 ug/L	1.4437 ppb	15:49:18
1	S 181.975 Axial†	44.3	-34.4	-47.405 ug/L	-47.405 ppb	15:49:18
1	Sb 206.836†	36.3	4.6	1.5463 ug/L	1.5463 ppb	15:49:18
1	Se 196.026†	-19.3	-0.6	-0.3685 ug/L	-0.3685 ppb	15:49:18
1	Si 251.611†	487.6	-27.8	-0.8251 ug/L	-0.8251 ppb	15:49:18
1	Sn 189.927†	0.5	0.9	0.1613 ug/L	0.1613 ppb	15:49:18
1	Ti 334.940†	-949.6	-5.1	-0.0099 ug/L	-0.0099 ppb	15:48:58
1	Tl 190.801†	-39.2	-0.8	-0.2431 ug/L	-0.2431 ppb	15:49:18
1	U 409.014†	-1570.1	-444.5	-11.114 ug/L	-11.114 ppb	15:48:58
1	V 292.402†	-1323.0	123.4	0.7499 ug/L	0.7499 ppb	15:48:58
1	Zn 213.857†	702.8	-58.7	-0.5441 ug/L	-0.5441 ppb	15:49:18
1	SiO2†	468.5	-63.7	-4.0273 ug/L	-4.0273 ppb	15:50:39
2	Sc Radial	5389.8	5389.8	101 %		15:48:02
2	Y RADIAL	5787.5	5787.5	100.5 %		15:48:02
2	Al 396.153Radial†	6.0	-3.2	-2.4025 ug/L	-2.4025 ppb	15:48:22
2	Ca 317.933Radial†	19.6	-0.8	-1.3266 ug/L	-1.3266 ppb	15:48:22
2	Fe 238.204 Radial†	6.9	-0.3	-2.6454 ug/L	-2.6454 ppb	15:48:22
2	K 766.490 Radial†	2319.8	-205.1	-37.440 ug/L	-37.440 ppb	15:48:02
2	Mg 279.077 IEC†	2.8	1.8	63.531 ug/L	63.531 ppb	15:48:22
2	Na 589.592 Radial†	-713.5	-159.3	-47.353 ug/L	-47.353 ppb	15:48:02
2	Sr 421.552†	39.8	32.3	0.2076 ug/L	0.2076 ppb	15:48:02
2	Sc 361.383	936244.1	936244.1	104.27 %		15:49:23
2	Y 371.029	827401.7	827401.7	100.52 %		15:49:23
2	Ag 328.068†	344.2	34.1	0.1505 ug/L	0.1505 ppb	15:49:29
2	As 188.979†	-25.4	5.8	2.3856 ug/L	2.3856 ppb	15:49:49
2	B 249.677†	-194.1	54.2	1.1896 ug/L	1.1896 ppb	15:49:49
2	Ba 233.527†	20.5	22.7	0.1800 ug/L	0.1800 ppb	15:49:49
2	Be 313.107†	-4919.0	383.0	0.1354 ug/L	0.1354 ppb	15:49:29
2	Cd 226.502†	-192.1	21.9	0.2431 ug/L	0.2431 ppb	15:49:49
2	Co 228.616†	-66.4	6.2	0.1354 ug/L	0.1354 ppb	15:49:49
2	Cr 267.716†	94.4	-3.4	-0.0331 ug/L	-0.0331 ppb	15:49:49
2	Cu 324.752†	8866.5	-624.9	-1.7480 ug/L	-1.7480 ppb	15:49:29
2	Mn 257.610†	578.6	65.0	0.0700 ug/L	0.0700 ppb	15:49:49
2	Mo 202.031†	16.3	-7.9	-0.5424 ug/L	-0.5424 ppb	15:49:49
2	Ni 231.604†	102.2	4.4	0.1095 ug/L	0.1095 ppb	15:49:49

2	P 214.914†	232.6	-15.7	-8.4993 ug/L	-8.4993 ppb	15:49:49
2	Pb 220.353†	-29.7	31.9	4.0019 ug/L	4.0019 ppb	15:49:49
2	S 181.975 Axial†	52.0	-27.1	-37.305 ug/L	-37.305 ppb	15:49:49
2	Sb 206.836†	47.1	14.9	4.9902 ug/L	4.9902 ppb	15:49:49
2	Se 196.026†	-19.8	-1.0	-0.6087 ug/L	-0.6087 ppb	15:49:49
2	Si 251.611†	540.1	22.1	0.6601 ug/L	0.6601 ppb	15:49:49
2	Sn 189.927†	-0.5	-0.1	-0.0266 ug/L	-0.0266 ppb	15:49:49
2	Ti 334.940†	-863.8	78.1	0.1179 ug/L	0.1179 ppb	15:49:29
2	Tl 190.801†	-48.3	-9.4	-3.0051 ug/L	-3.0051 ppb	15:49:49
2	U 409.014†	-1499.1	-374.9	-9.3729 ug/L	-9.3729 ppb	15:49:29
2	V 292.402†	-1395.8	54.9	0.3176 ug/L	0.3176 ppb	15:49:29
2	Zn 213.857†	744.1	-19.8	-0.1829 ug/L	-0.1829 ppb	15:49:49
2	SiO2†	479.4	-53.7	-3.3808 ug/L	-3.3808 ppb	15:50:59
3	Sc Radial	5423.9	5423.9	102 %		15:48:27
3	Y RADIAL	5862.1	5862.1	101.8 %		15:48:27
3	Al 396.153Radial†	11.7	2.4	1.8213 ug/L	1.8213 ppb	15:48:47
3	Ca 317.933Radial†	19.6	-0.9	-1.4384 ug/L	-1.4384 ppb	15:48:47
3	Fe 238.204 Radial†	5.0	-2.2	-21.020 ug/L	-21.020 ppb	15:48:47
3	K 766.490 Radial†	2257.0	-281.3	-51.379 ug/L	-51.379 ppb	15:48:27
3	Mg 279.077 IEC†	0.2	-0.8	-26.766 ug/L	-26.766 ppb	15:48:47
3	Na 589.592 Radial†	-681.1	-122.9	-36.544 ug/L	-36.544 ppb	15:48:27
3	Sr 421.552†	51.6	43.7	0.2803 ug/L	0.2803 ppb	15:48:27
3	Sc 361.383	942414.5	942414.5	104.96 %		15:49:54
3	Y 371.029	834912.8	834912.8	101.43 %		15:49:54
3	Ag 328.068†	375.4	61.6	0.2599 ug/L	0.2599 ppb	15:49:59
3	As 188.979†	-25.2	6.1	2.5071 ug/L	2.5071 ppb	15:50:19
3	B 249.677†	-269.4	-16.3	-0.3524 ug/L	-0.3524 ppb	15:50:19
3	Ba 233.527†	-1.6	1.6	0.0129 ug/L	0.0129 ppb	15:50:19
3	Be 313.107†	-4953.6	381.0	0.1344 ug/L	0.1344 ppb	15:49:59
3	Cd 226.502†	-196.1	19.4	0.2168 ug/L	0.2168 ppb	15:50:19
3	Co 228.616†	-86.0	-12.0	-0.2636 ug/L	-0.2636 ppb	15:50:19
3	Cr 267.716†	70.8	-26.5	-0.2829 ug/L	-0.2829 ppb	15:50:19
3	Cu 324.752†	8995.8	-557.4	-1.5593 ug/L	-1.5593 ppb	15:49:59
3	Mn 257.610†	504.2	-9.5	-0.0116 ug/L	-0.0116 ppb	15:50:19
3	Mo 202.031†	23.3	-1.4	-0.0987 ug/L	-0.0987 ppb	15:50:19
3	Ni 231.604†	106.0	7.3	0.1835 ug/L	0.1835 ppb	15:50:19
3	P 214.914†	238.2	-11.8	-6.3348 ug/L	-6.3348 ppb	15:50:19
3	Pb 220.353†	-42.8	19.6	2.4614 ug/L	2.4614 ppb	15:50:19
3	S 181.975 Axial†	44.9	-34.2	-47.150 ug/L	-47.150 ppb	15:50:19
3	Sb 206.836†	28.7	-2.9	-0.9716 ug/L	-0.9716 ppb	15:50:19
3	Se 196.026†	-19.7	-0.8	-0.5186 ug/L	-0.5186 ppb	15:50:19
3	Si 251.611†	462.7	-55.1	-1.6309 ug/L	-1.6309 ppb	15:50:19
3	Sn 189.927†	2.1	2.3	0.4302 ug/L	0.4302 ppb	15:50:19
3	Ti 334.940†	-933.8	16.8	0.0321 ug/L	0.0321 ppb	15:49:59
3	Tl 190.801†	-34.8	3.7	1.1815 ug/L	1.1815 ppb	15:50:19
3	U 409.014†	-1528.3	-393.2	-9.8291 ug/L	-9.8291 ppb	15:49:59
3	V 292.402†	-1393.9	65.5	0.3898 ug/L	0.3898 ppb	15:49:59
3	Zn 213.857†	708.3	-58.6	-0.5429 ug/L	-0.5429 ppb	15:50:19
3	SiO2†	486.4	-50.0	-3.1623 ug/L	-3.1623 ppb	15:51:19

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	937964.0	104.47 %	0.433			0.41%
Sc Radial	5289.7	99.1 %	3.81			3.85%
Y 371.029	829833.5	100.82 %	0.535			0.53%
Y RADIAL	5690.9	98.85 %	4.080			4.13%
Ag 328.068†	15.7	0.0725 ug/L	0.23628	0.0725 ppb	0.23628	325.84%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-1.7	-1.2789 ug/L	2.71851	-1.2789 ppb	2.71851	212.56%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	5.3	2.1623 ug/L	0.49578	2.1623 ppb	0.49578	22.93%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	13.5	0.2971 ug/L	0.79917	0.2971 ppb	0.79917	268.95%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.9	0.0398 ug/L	0.12889	0.0398 ppb	0.12889	324.14%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	361.9	0.1278 ug/L	0.01238	0.1278 ppb	0.01238	9.69%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.3	2.0632 ug/L	5.96837	2.0632 ppb	5.96837	289.28%

QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	22.1	0.2460 ug/L	0.03086	0.2460 ppb	0.03086	12.54%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-3.0	-0.0653 ug/L	0.19950	-0.0653 ppb	0.19950	305.49%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-18.9	-0.2008 ug/L	0.14521	-0.2008 ppb	0.14521	72.32%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-568.6	-1.5900 ug/L	0.14506	-1.5900 ppb	0.14506	9.12%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-1.1	-9.9606 ug/L	9.74262	-9.9606 ppb	9.74262	97.81%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-166.3	-30.356 ug/L	25.3196	-30.356 ppb	25.3196	83.41%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	46.346 ug/L	66.2135	46.346 ppb	66.2135	142.87%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	12.5	0.0112 ug/L	0.05141	0.0112 ppb	0.05141	459.55%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-2.9	-0.2006 ug/L	0.30399	-0.2006 ppb	0.30399	151.57%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-151.3	-44.982 ug/L	7.5386	-44.982 ppb	7.5386	16.76%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	4.6	0.1165 ug/L	0.06374	0.1165 ppb	0.06374	54.69%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-12.1	-6.4817 ug/L	1.94824	-6.4817 ppb	1.94824	30.06%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	21.0	2.6356 ug/L	1.28797	2.6356 ppb	1.28797	48.87%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-31.9	-43.953 ug/L	5.7590	-43.953 ppb	5.7590	13.10%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	5.5	1.8550 ug/L	2.99289	1.8550 ppb	2.99289	161.34%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-0.8	-0.4986 ug/L	0.12133	-0.4986 ppb	0.12133	24.33%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-20.3	-0.5986 ug/L	1.16219	-0.5986 ppb	1.16219	194.14%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.0	0.1883 ug/L	0.22960	0.1883 ppb	0.22960	121.93%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	29.4	0.1887 ug/L	0.10233	0.1887 ppb	0.10233	54.22%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	30.0	0.0467 ug/L	0.06516	0.0467 ppb	0.06516	139.58%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-2.2	-0.6889 ug/L	2.12861	-0.6889 ppb	2.12861	309.00%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-404.2	-10.105 ug/L	0.9026	-10.105 ppb	0.9026	8.93%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	81.3	0.4858 ug/L	0.23158	0.4858 ppb	0.23158	47.67%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-45.7	-0.4233 ug/L	0.20819	-0.4233 ppb	0.20819	49.19%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-55.8	-3.5235 ug/L	0.44978	-3.5235 ppb	0.44978	12.77%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 3  
 Sample ID: 1202017559|942466|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 38  
 Date Collected: 1/26/2010 15:53:30  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 1202017559|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5419.9	5419.9	101 %		15:55:23
1	Y RADIAL	5819.8	5819.8	101.1 %		15:55:23
1	Al 396.153Radial†	13.8	4.5	3.3762 ug/L	3.3762 ppb	15:55:43
1	Ca 317.933Radial†	18.1	-2.4	-3.8131 ug/L	-3.8131 ppb	15:55:43
1	Fe 238.204 Radial†	8.2	0.9	8.5370 ug/L	8.5370 ppb	15:55:43
1	K 766.490 Radial†	2258.7	-278.0	-50.773 ug/L	-50.773 ppb	15:55:23
1	Mg 279.077 IEC†	0.1	-0.9	-30.418 ug/L	-30.418 ppb	15:55:43
1	Na 589.592 Radial†	-711.9	-153.8	-45.719 ug/L	-45.719 ppb	15:55:23
1	Sr 421.552†	41.0	33.3	0.2139 ug/L	0.2139 ppb	15:55:23
1	Sc 361.383	914819.3	914819.3	101.89 %		15:56:39
1	Y 371.029	804951.1	804951.1	97.792 %		15:56:39
1	Ag 328.068†	280.0	-21.2	-0.0868 ug/L	-0.0868 ppb	15:56:39
1	As 188.979†	-32.5	-1.7	-0.6817 ug/L	-0.6817 ppb	15:56:59
1	B 249.677†	-315.1	-68.9	-1.5116 ug/L	-1.5116 ppb	15:56:59
1	Ba 233.527†	-18.6	-15.2	-0.1191 ug/L	-0.1191 ppb	15:56:59
1	Be 313.107†	-5023.5	170.0	0.0604 ug/L	0.0604 ppb	15:56:39
1	Cd 226.502†	-208.6	1.4	0.0157 ug/L	0.0157 ppb	15:56:59
1	Co 228.616†	-75.4	-4.0	-0.0888 ug/L	-0.0888 ppb	15:56:59
1	Cr 267.716†	81.7	-13.8	-0.1495 ug/L	-0.1495 ppb	15:56:59
1	Cu 324.752†	8865.7	-426.5	-1.1972 ug/L	-1.1972 ppb	15:56:39
1	Mn 257.610†	518.9	19.4	0.0238 ug/L	0.0238 ppb	15:56:59
1	Mo 202.031†	25.1	1.0	0.0701 ug/L	0.0701 ppb	15:56:59
1	Ni 231.604†	102.0	6.5	0.1623 ug/L	0.1623 ppb	15:56:59
1	P 214.914†	250.2	6.8	4.1073 ug/L	4.1073 ppb	15:56:59
1	Pb 220.353†	-48.3	13.0	1.6278 ug/L	1.6278 ppb	15:56:59
1	S 181.975 Axial†	42.8	-35.0	-48.162 ug/L	-48.162 ppb	15:56:59
1	Sb 206.836†	45.8	14.7	4.9638 ug/L	4.9638 ppb	15:56:59
1	Se 196.026†	-16.0	2.3	1.3322 ug/L	1.3322 ppb	15:56:59
1	Si 251.611†	549.3	43.2	1.2795 ug/L	1.2795 ppb	15:56:59
1	Sn 189.927†	9.6	9.8	1.8024 ug/L	1.8024 ppb	15:56:59
1	Ti 334.940†	-793.4	127.9	0.1960 ug/L	0.1960 ppb	15:56:39
1	Tl 190.801†	-32.6	4.9	1.5770 ug/L	1.5770 ppb	15:56:59
1	U 409.014†	-992.7	88.5	2.2134 ug/L	2.2134 ppb	15:56:39
1	V 292.402†	-1390.1	29.2	0.1850 ug/L	0.1850 ppb	15:56:39
1	Zn 213.857†	821.5	72.9	0.6786 ug/L	0.6786 ppb	15:56:59
1	SiO2†	560.7	36.9	2.3331 ug/L	2.3331 ppb	15:57:55
2	Sc Radial	5503.3	5503.3	103 %		15:55:48
2	Y RADIAL	5902.9	5902.9	102.5 %		15:55:48
2	Al 396.153Radial†	11.1	1.6	1.2540 ug/L	1.2540 ppb	15:56:08
2	Ca 317.933Radial†	19.7	-1.1	-1.8380 ug/L	-1.8380 ppb	15:56:08
2	Fe 238.204 Radial†	8.5	1.1	9.9744 ug/L	9.9744 ppb	15:56:08
2	K 766.490 Radial†	2168.2	-399.6	-72.987 ug/L	-72.987 ppb	15:55:48
2	Mg 279.077 IEC†	1.2	0.2	6.6405 ug/L	6.6405 ppb	15:56:08
2	Na 589.592 Radial†	-666.8	-99.4	-29.544 ug/L	-29.544 ppb	15:55:48
2	Sr 421.552†	31.4	23.4	0.1503 ug/L	0.1503 ppb	15:55:48
2	Sc 361.383	921862.2	921862.2	102.67 %		15:57:05
2	Y 371.029	810216.9	810216.9	98.432 %		15:57:05
2	Ag 328.068†	316.6	12.4	0.0548 ug/L	0.0548 ppb	15:57:05
2	As 188.979†	-37.1	-6.0	-2.4425 ug/L	-2.4425 ppb	15:57:25
2	B 249.677†	-313.9	-65.3	-1.4355 ug/L	-1.4355 ppb	15:57:25
2	Ba 233.527†	-15.8	-12.2	-0.0962 ug/L	-0.0962 ppb	15:57:25
2	Be 313.107†	-5011.3	219.5	0.0778 ug/L	0.0778 ppb	15:57:05
2	Cd 226.502†	-200.4	11.0	0.1213 ug/L	0.1213 ppb	15:57:25
2	Co 228.616†	-60.2	11.3	0.2476 ug/L	0.2476 ppb	15:57:25
2	Cr 267.716†	97.3	0.8	0.0088 ug/L	0.0088 ppb	15:57:25
2	Cu 324.752†	8867.2	-491.6	-1.3786 ug/L	-1.3786 ppb	15:57:05
2	Mn 257.610†	536.2	32.4	0.0371 ug/L	0.0371 ppb	15:57:25
2	Mo 202.031†	20.0	-4.1	-0.2799 ug/L	-0.2799 ppb	15:57:25
2	Ni 231.604†	84.3	-11.6	-0.2917 ug/L	-0.2917 ppb	15:57:25

2	P 214.914†	251.3	6.0	3.6659 ug/L	3.6659 ppb	15:57:25
2	Pb 220.353†	-50.7	11.1	1.3874 ug/L	1.3874 ppb	15:57:25
2	S 181.975 Axial†	46.8	-31.4	-43.236 ug/L	-43.236 ppb	15:57:25
2	Sb 206.836†	46.9	15.5	5.1689 ug/L	5.1689 ppb	15:57:25
2	Se 196.026†	-20.3	-1.8	-1.0105 ug/L	-1.0105 ppb	15:57:25
2	Si 251.611†	563.2	52.6	1.5620 ug/L	1.5620 ppb	15:57:25
2	Sn 189.927†	0.5	0.8	0.1531 ug/L	0.1531 ppb	15:57:25
2	Ti 334.940†	-829.1	99.1	0.1501 ug/L	0.1501 ppb	15:57:05
2	Tl 190.801†	-38.1	-0.2	-0.0633 ug/L	-0.0633 ppb	15:57:25
2	U 409.014†	-1078.5	12.4	0.3081 ug/L	0.3081 ppb	15:57:05
2	V 292.402†	-1425.2	5.5	0.0293 ug/L	0.0293 ppb	15:57:05
2	Zn 213.857†	822.5	67.7	0.6331 ug/L	0.6331 ppb	15:57:25
2	SiO2†	596.7	67.7	4.2910 ug/L	4.2910 ppb	15:58:00
3	Sc Radial	5503.0	5503.0	103 %		15:56:13
3	Y RADIAL	5914.8	5914.8	102.7 %		15:56:13
3	Al 396.153Radial†	-2.0	-11.1	-8.4032 ug/L	-8.4032 ppb	15:56:33
3	Ca 317.933Radial†	19.1	-1.7	-2.7542 ug/L	-2.7542 ppb	15:56:33
3	Fe 238.204 Radial†	8.6	1.2	11.526 ug/L	11.526 ppb	15:56:33
3	K 766.490 Radial†	2204.5	-364.3	-66.540 ug/L	-66.540 ppb	15:56:13
3	Mg 279.077 IEC†	4.4	3.3	118.71 ug/L	118.71 ppb	15:56:33
3	Na 589.592 Radial†	-682.8	-115.0	-34.175 ug/L	-34.175 ppb	15:56:13
3	Sr 421.552†	21.1	13.4	0.0857 ug/L	0.0857 ppb	15:56:13
3	Sc 361.383	878464.9	878464.9	97.838 %		15:57:30
3	Y 371.029	776152.0	776152.0	94.294 %		15:57:30
3	Ag 328.068†	299.2	9.8	0.0439 ug/L	0.0439 ppb	15:57:30
3	As 188.979†	-32.7	-3.3	-1.3375 ug/L	-1.3375 ppb	15:57:50
3	B 249.677†	-312.2	-78.7	-1.7282 ug/L	-1.7282 ppb	15:57:50
3	Ba 233.527†	-15.2	-12.5	-0.0985 ug/L	-0.0985 ppb	15:57:50
3	Be 313.107†	-5133.5	-146.5	-0.0515 ug/L	-0.0515 ppb	15:57:30
3	Cd 226.502†	-200.1	1.7	0.0177 ug/L	0.0177 ppb	15:57:50
3	Co 228.616†	-61.4	7.2	0.1581 ug/L	0.1581 ppb	15:57:50
3	Cr 267.716†	80.2	-12.0	-0.1300 ug/L	-0.1300 ppb	15:57:50
3	Cu 324.752†	8851.2	-81.2	-0.2271 ug/L	-0.2271 ppb	15:57:30
3	Mn 257.610†	501.8	23.0	0.0221 ug/L	0.0221 ppb	15:57:50
3	Mo 202.031†	22.4	-0.7	-0.0476 ug/L	-0.0476 ppb	15:57:50
3	Ni 231.604†	102.8	11.4	0.2853 ug/L	0.2853 ppb	15:57:50
3	P 214.914†	258.7	25.6	14.502 ug/L	14.502 ppb	15:57:50
3	Pb 220.353†	-46.0	13.3	1.6709 ug/L	1.6709 ppb	15:57:50
3	S 181.975 Axial†	41.7	-34.3	-47.255 ug/L	-47.255 ppb	15:57:50
3	Sb 206.836†	34.6	5.1	1.7231 ug/L	1.7231 ppb	15:57:50
3	Se 196.026†	-12.3	5.4	3.1454 ug/L	3.1454 ppb	15:57:50
3	Si 251.611†	557.1	73.5	2.1782 ug/L	2.1782 ppb	15:57:50
3	Sn 189.927†	4.8	5.3	0.9689 ug/L	0.9689 ppb	15:57:50
3	Ti 334.940†	-844.8	43.1	0.0559 ug/L	0.0559 ppb	15:57:30
3	Tl 190.801†	-42.4	-6.5	-2.0709 ug/L	-2.0709 ppb	15:57:50
3	U 409.014†	-1056.1	-16.6	-0.4155 ug/L	-0.4155 ppb	15:57:30
3	V 292.402†	-1397.6	-34.9	-0.2177 ug/L	-0.2177 ppb	15:57:30
3	Zn 213.857†	827.6	112.5	1.0453 ug/L	1.0453 ppb	15:57:50
3	SiO2†	607.2	107.2	6.7837 ug/L	6.7837 ppb	15:58:05

Mean Data: 1202017559|942466|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	905048.8	100.80 %	%	2.594			2.57%
Sc Radial	5475.4	103 %	%	0.9			0.88%
Y 371.029	797106.7	96.839 %	%	2.2278			2.30%
Y RADIAL	5879.2	102.1 %	%	0.90			0.88%
Ag 328.068†	0.3	0.0040 ug/L	ug/L	0.07879	0.0040 ppb	0.07879	>999.9%
Al 396.153Radial†	-1.7	-1.2577 ug/L	ug/L	6.27852	-1.2577 ppb	6.27852	499.22%
As 188.979†	-3.6	-1.4873 ug/L	ug/L	0.88989	-1.4873 ppb	0.88989	59.83%
B 249.677†	-71.0	-1.5584 ug/L	ug/L	0.15186	-1.5584 ppb	0.15186	9.74%
Ba 233.527†	-13.3	-0.1046 ug/L	ug/L	0.01264	-0.1046 ppb	0.01264	12.08%
Be 313.107†	81.0	0.0289 ug/L	ug/L	0.07017	0.0289 ppb	0.07017	242.91%
Ca 317.933Radial†	-1.7	-2.8017 ug/L	ug/L	0.98841	-2.8017 ppb	0.98841	35.28%
Cd 226.502†	4.7	0.0516 ug/L	ug/L	0.06041	0.0516 ppb	0.06041	117.09%
Co 228.616†	4.8	0.1057 ug/L	ug/L	0.17426	0.1057 ppb	0.17426	164.93%
Cr 267.716†	-8.3	-0.0902 ug/L	ug/L	0.08636	-0.0902 ppb	0.08636	95.71%
Cu 324.752†	-333.1	-0.9343 ug/L	ug/L	0.61917	-0.9343 ppb	0.61917	66.27%
Fe 238.204 Radial†	1.1	10.013 ug/L	ug/L	1.4950	10.013 ppb	1.4950	14.93%
K 766.490 Radial†	-347.3	-63.433 ug/L	ug/L	11.4283	-63.433 ppb	11.4283	18.02%

Mg 279.077 IEC†	0.9	31.646 ug/L	77.6465	31.646 ppb	77.6465	245.36%
Mn 257.610†	25.0	0.0277 ug/L	0.00818	0.0277 ppb	0.00818	29.57%
Mo 202.031†	-1.3	-0.0858 ug/L	0.17810	-0.0858 ppb	0.17810	207.60%
Na 589.592 Radial†	-122.7	-36.480 ug/L	8.3302	-36.480 ppb	8.3302	22.84%
Ni 231.604†	2.1	0.0520 ug/L	0.30391	0.0520 ppb	0.30391	584.56%
P 214.914†	12.8	7.4251 ug/L	6.13283	7.4251 ppb	6.13283	82.60%
Pb 220.353†	12.5	1.5620 ug/L	0.15274	1.5620 ppb	0.15274	9.78%
S 181.975 Axial†	-33.6	-46.217 ug/L	2.6219	-46.217 ppb	2.6219	5.67%
Sb 206.836†	11.8	3.9519 ug/L	1.93293	3.9519 ppb	1.93293	48.91%
Se 196.026†	1.9	1.1557 ug/L	2.08357	1.1557 ppb	2.08357	180.29%
Si 251.611†	56.4	1.6732 ug/L	0.45953	1.6732 ppb	0.45953	27.46%
Sn 189.927†	5.3	0.9748 ug/L	0.82467	0.9748 ppb	0.82467	84.60%
Sr 421.552†	23.4	0.1500 ug/L	0.06409	0.1500 ppb	0.06409	42.73%
Ti 334.940†	90.0	0.1340 ug/L	0.07142	0.1340 ppb	0.07142	53.29%
Tl 190.801†	-0.6	-0.1857 ug/L	1.82699	-0.1857 ppb	1.82699	983.63%
U 409.014†	28.1	0.7020 ug/L	1.35799	0.7020 ppb	1.35799	193.46%
V 292.402†	-0.0	-0.0011 ug/L	0.20306	-0.0011 ppb	0.20306	>999.9%
Zn 213.857†	84.4	0.7857 ug/L	0.22595	0.7857 ppb	0.22595	28.76%
SiO2†	70.6	4.4692 ug/L	2.23063	4.4692 ppb	2.23063	49.91%

Sequence No.: 4

Sample ID: 1202017560|942466|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 39

Date Collected: 1/26/2010 16:00:16

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202017560|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5389.1	5389.1	101 %		16:02:09
1	Y RADIAL	5807.6	5807.6	100.9 %		16:02:09
1	Al 396.153Radial†	6590.9	6521.8	4918.0 ug/L	4918.0 ppb	16:02:09
1	Ca 317.933Radial†	3159.4	3110.5	4999.4 ug/L	4999.4 ppb	16:02:29
1	Fe 238.204 Radial†	565.3	553.0	5182.0 ug/L	5182.0 ppb	16:02:29
1	K 766.490 Radial†	30205.8	27427.4	5006.2 ug/L	5006.2 ppb	16:02:09
1	Mg 279.077 IEC†	150.2	147.8	5272.0 ug/L	5272.0 ppb	16:02:29
1	Na 589.592 Radial†	16012.9	16414.9	4879.7 ug/L	4879.7 ppb	16:02:09
1	Sr 421.552†	78926.2	78201.0	501.83 ug/L	501.83 ppb	16:02:09
1	Sc 361.383	942617.3	942617.3	104.98 %		16:03:28
1	Y 371.029	825920.7	825920.7	100.34 %		16:03:28
1	Ag 328.068†	118964.3	113021.2	474.78 ug/L	474.78 ppb	16:03:28
1	As 188.979†	1178.2	1152.4	475.77 ug/L	475.77 ppb	16:03:48
1	B 249.677†	22147.5	21336.6	465.74 ug/L	465.74 ppb	16:03:28
1	Ba 233.527†	64134.4	61093.1	482.75 ug/L	482.75 ppb	16:03:28
1	Be 313.107†	1409573.4	1347764.1	476.54 ug/L	476.54 ppb	16:03:28
1	Cd 226.502†	43105.5	41265.5	460.81 ug/L	460.81 ppb	16:03:48
1	Co 228.616†	22557.9	21557.1	472.60 ug/L	472.60 ppb	16:03:48
1	Cr 267.716†	45759.2	43493.2	472.08 ug/L	472.08 ppb	16:03:28
1	Cu 324.752†	188374.5	170304.7	477.75 ug/L	477.75 ppb	16:03:28
1	Mn 257.610†	443850.2	422291.6	473.76 ug/L	473.76 ppb	16:03:28
1	Mo 202.031†	7157.5	6794.2	464.15 ug/L	464.15 ppb	16:03:48
1	Ni 231.604†	19805.6	18771.8	471.48 ug/L	471.48 ppb	16:03:48
1	P 214.914†	1249.8	951.7	443.53 ug/L	443.53 ppb	16:03:48
1	Pb 220.353†	3917.3	3791.8	477.47 ug/L	477.47 ppb	16:03:48
1	S 181.975 Axial†	3716.8	3463.4	4767.5 ug/L	4767.5 ppb	16:03:48
1	Sb 206.836†	1572.8	1467.8	508.56 ug/L	508.56 ppb	16:03:48
1	Se 196.026†	802.8	782.7	470.26 ug/L	470.26 ppb	16:03:48
1	Si 251.611†	164403.0	156103.2	4619.6 ug/L	4619.6 ppb	16:03:28
1	Sn 189.927†	2821.2	2687.6	495.06 ug/L	495.06 ppb	16:03:48
1	Ti 334.940†	332860.0	317966.3	484.67 ug/L	484.67 ppb	16:03:28
1	Tl 190.801†	1482.7	1449.2	466.87 ug/L	466.87 ppb	16:03:48
1	U 409.014†	19031.5	19190.9	478.23 ug/L	478.23 ppb	16:03:28
1	V 292.402†	78711.8	76369.0	481.06 ug/L	481.06 ppb	16:03:28
1	Zn 213.857†	53558.7	50283.0	464.21 ug/L	464.21 ppb	16:03:28
1	SiO2†	163320.1	155054.2	9793.7 ug/L	9793.7 ppb	16:04:48
2	Sc Radial	5416.4	5416.4	101 %		16:02:34
2	Y RADIAL	5805.9	5805.9	100.8 %		16:02:34
2	Al 396.153Radial†	6579.7	6477.9	4884.4 ug/L	4884.4 ppb	16:02:34
2	Ca 317.933Radial†	3158.3	3093.6	4972.3 ug/L	4972.3 ppb	16:02:54
2	Fe 238.204 Radial†	564.6	549.5	5149.4 ug/L	5149.4 ppb	16:02:54
2	K 766.490 Radial†	30068.8	27141.9	4954.1 ug/L	4954.1 ppb	16:02:34
2	Mg 279.077 IEC†	149.2	146.2	5213.5 ug/L	5213.5 ppb	16:02:54
2	Na 589.592 Radial†	15951.7	16274.7	4838.0 ug/L	4838.0 ppb	16:02:34
2	Sr 421.552†	78601.1	77487.0	497.25 ug/L	497.25 ppb	16:02:34
2	Sc 361.383	941670.4	941670.4	104.88 %		16:03:55
2	Y 371.029	825746.2	825746.2	100.32 %		16:03:55
2	Ag 328.068†	118872.8	113048.0	474.89 ug/L	474.89 ppb	16:03:55
2	As 188.979†	1187.2	1162.2	479.72 ug/L	479.72 ppb	16:04:15
2	B 249.677†	22081.8	21295.2	464.82 ug/L	464.82 ppb	16:03:55
2	Ba 233.527†	64240.4	61255.7	484.03 ug/L	484.03 ppb	16:03:55
2	Be 313.107†	1411603.9	1351050.2	477.70 ug/L	477.70 ppb	16:03:55
2	Cd 226.502†	43583.8	41762.8	466.37 ug/L	466.37 ppb	16:04:15
2	Co 228.616†	22828.3	21836.5	478.74 ug/L	478.74 ppb	16:04:15
2	Cr 267.716†	45795.5	43571.6	472.93 ug/L	472.93 ppb	16:03:55
2	Cu 324.752†	187857.1	169991.8	476.88 ug/L	476.88 ppb	16:03:55
2	Mn 257.610†	443553.6	422434.0	473.92 ug/L	473.92 ppb	16:03:55
2	Mo 202.031†	7242.0	6881.6	470.11 ug/L	470.11 ppb	16:04:15
2	Ni 231.604†	20025.4	19000.4	477.22 ug/L	477.22 ppb	16:04:15



2	P 214.914†	1260.6	963.2	450.22 ug/L	450.22 ppb	16:04:15
2	Pb 220.353†	3971.7	3847.4	484.47 ug/L	484.47 ppb	16:04:15
2	S 181.975 Axial†	3757.1	3505.4	4825.4 ug/L	4825.4 ppb	16:04:15
2	Sb 206.836†	1608.0	1503.0	520.52 ug/L	520.52 ppb	16:04:15
2	Se 196.026†	815.8	795.8	477.74 ug/L	477.74 ppb	16:04:15
2	Si 251.611†	164028.4	155903.4	4613.6 ug/L	4613.6 ppb	16:03:55
2	Sn 189.927†	2843.0	2711.1	499.37 ug/L	499.37 ppb	16:04:15
2	Ti 334.940†	332181.5	317638.2	484.17 ug/L	484.17 ppb	16:03:55
2	Tl 190.801†	1499.1	1466.2	472.29 ug/L	472.29 ppb	16:04:15
2	U 409.014†	18991.0	19170.6	477.72 ug/L	477.72 ppb	16:03:55
2	V 292.402†	78746.0	76477.0	481.82 ug/L	481.82 ppb	16:03:55
2	Zn 213.857†	53570.5	50345.5	464.76 ug/L	464.76 ppb	16:03:55
2	SiO2†	163789.7	155658.3	9831.7 ug/L	9831.7 ppb	16:04:53
3	Sc Radial	5490.2	5490.2	103 %		16:02:59
3	Y RADIAL	5904.0	5904.0	102.5 %		16:02:59
3	Al 396.153Radial†	6625.5	6435.1	4852.1 ug/L	4852.1 ppb	16:02:59
3	Ca 317.933Radial†	3163.5	3056.8	4913.2 ug/L	4913.2 ppb	16:03:19
3	Fe 238.204 Radial†	562.9	540.3	5064.0 ug/L	5064.0 ppb	16:03:19
3	K 766.490 Radial†	30432.2	27096.4	4945.8 ug/L	4945.8 ppb	16:02:59
3	Mg 279.077 IEC†	148.3	143.3	5110.3 ug/L	5110.3 ppb	16:03:19
3	Na 589.592 Radial†	16226.2	16330.1	4854.5 ug/L	4854.5 ppb	16:02:59
3	Sr 421.552†	79903.6	77711.3	498.69 ug/L	498.69 ppb	16:02:59
3	Sc 361.383	939002.4	939002.4	104.58 %		16:04:22
3	Y 371.029	822056.2	822056.2	99.870 %		16:04:22
3	Ag 328.068†	118529.4	113041.7	474.84 ug/L	474.84 ppb	16:04:22
3	As 188.979†	1182.6	1161.0	479.24 ug/L	479.24 ppb	16:04:43
3	B 249.677†	22204.7	21472.5	468.72 ug/L	468.72 ppb	16:04:22
3	Ba 233.527†	64160.9	61353.6	484.80 ug/L	484.80 ppb	16:04:22
3	Be 313.107†	1407177.8	1350642.3	477.56 ug/L	477.56 ppb	16:04:22
3	Cd 226.502†	43379.4	41685.5	465.52 ug/L	465.52 ppb	16:04:43
3	Co 228.616†	22758.5	21831.6	478.63 ug/L	478.63 ppb	16:04:43
3	Cr 267.716†	45699.7	43604.0	473.28 ug/L	473.28 ppb	16:04:22
3	Cu 324.752†	187447.8	170109.4	477.20 ug/L	477.20 ppb	16:04:22
3	Mn 257.610†	443078.4	423181.2	474.75 ug/L	474.75 ppb	16:04:22
3	Mo 202.031†	7208.6	6869.3	469.26 ug/L	469.26 ppb	16:04:43
3	Ni 231.604†	19928.9	18962.3	476.26 ug/L	476.26 ppb	16:04:43
3	P 214.914†	1265.2	971.0	454.63 ug/L	454.63 ppb	16:04:43
3	Pb 220.353†	3967.0	3853.6	485.25 ug/L	485.25 ppb	16:04:43
3	S 181.975 Axial†	3751.3	3510.0	4831.8 ug/L	4831.8 ppb	16:04:43
3	Sb 206.836†	1600.6	1500.3	519.58 ug/L	519.58 ppb	16:04:43
3	Se 196.026†	814.0	796.3	477.75 ug/L	477.75 ppb	16:04:43
3	Si 251.611†	163938.6	156261.9	4624.2 ug/L	4624.2 ppb	16:04:22
3	Sn 189.927†	2832.9	2709.2	499.01 ug/L	499.01 ppb	16:04:43
3	Ti 334.940†	331733.0	318109.3	484.88 ug/L	484.88 ppb	16:04:22
3	Tl 190.801†	1494.4	1465.8	472.18 ug/L	472.18 ppb	16:04:43
3	U 409.014†	19014.5	19244.5	479.58 ug/L	479.58 ppb	16:04:22
3	V 292.402†	78566.9	76519.1	482.08 ug/L	482.08 ppb	16:04:22
3	Zn 213.857†	53502.0	50425.1	465.52 ug/L	465.52 ppb	16:04:22
3	SiO2†	161637.3	154044.0	9729.7 ug/L	9729.7 ppb	16:04:59

Mean Data: 1202017560|942466|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	941096.7	104.81 %	0.209			0.20%
Sc Radial	5431.9	102 %	1.0			0.96%
Y 371.029	824574.4	100.18 %	0.265			0.26%
Y RADIAL	5839.2	101.4 %	0.97			0.96%
Ag 328.068†	113037.0	474.84 ug/L	0.052	474.84 ppb	0.052	0.01%
Al 396.153Radial†	6478.3	4884.8 ug/L	32.97	4884.8 ppb	32.97	0.67%
As 188.979†	1158.5	478.24 ug/L	2.153	478.24 ppb	2.153	0.45%
B 249.677†	21368.1	466.42 ug/L	2.040	466.42 ppb	2.040	0.44%
Ba 233.527†	61234.1	483.86 ug/L	1.036	483.86 ppb	1.036	0.21%
Be 313.107†	1349818.8	477.26 ug/L	0.632	477.26 ppb	0.632	0.13%
Ca 317.933Radial†	3086.9	4961.6 ug/L	44.11	4961.6 ppb	44.11	0.89%
Cd 226.502†	41571.3	464.23 ug/L	2.995	464.23 ppb	2.995	0.65%
Co 228.616†	21741.7	476.66 ug/L	3.514	476.66 ppb	3.514	0.74%
Cr 267.716†	43556.3	472.76 ug/L	0.617	472.76 ppb	0.617	0.13%
Cu 324.752†	170135.3	477.28 ug/L	0.445	477.28 ppb	0.445	0.09%
Fe 238.204 Radial†	547.6	5131.8 ug/L	60.95	5131.8 ppb	60.95	1.19%
K 766.490 Radial†	27221.9	4968.7 ug/L	32.76	4968.7 ppb	32.76	0.66%

Mg 279.077 IEC†	145.8	5198.6 ug/L	81.88	5198.6 ppb	81.88	1.58%
Mn 257.610†	422635.6	474.14 ug/L	0.533	474.14 ppb	0.533	0.11%
Mo 202.031†	6848.3	467.84 ug/L	3.225	467.84 ppb	3.225	0.69%
Na 589.592 Radial†	16339.9	4857.4 ug/L	20.99	4857.4 ppb	20.99	0.43%
Ni 231.604†	18911.5	474.99 ug/L	3.075	474.99 ppb	3.075	0.65%
P 214.914†	962.0	449.46 ug/L	5.592	449.46 ppb	5.592	1.24%
Pb 220.353†	3830.9	482.40 ug/L	4.281	482.40 ppb	4.281	0.89%
S 181.975 Axial†	3492.9	4808.2 ug/L	35.39	4808.2 ppb	35.39	0.74%
Sb 206.836†	1490.4	516.22 ug/L	6.649	516.22 ppb	6.649	1.29%
Se 196.026†	791.6	475.25 ug/L	4.320	475.25 ppb	4.320	0.91%
Si 251.611†	156089.5	4619.2 ug/L	5.33	4619.2 ppb	5.33	0.12%
Sn 189.927†	2702.6	497.82 ug/L	2.389	497.82 ppb	2.389	0.48%
Sr 421.552†	77799.8	499.26 ug/L	2.343	499.26 ppb	2.343	0.47%
Ti 334.940†	317904.6	484.57 ug/L	0.368	484.57 ppb	0.368	0.08%
Tl 190.801†	1460.4	470.45 ug/L	3.102	470.45 ppb	3.102	0.66%
U 409.014†	19202.0	478.51 ug/L	0.959	478.51 ppb	0.959	0.20%
V 292.402†	76455.1	481.65 ug/L	0.531	481.65 ppb	0.531	0.11%
Zn 213.857†	50351.2	464.83 ug/L	0.656	464.83 ppb	0.656	0.14%
Sio2†	154918.8	9785.0 ug/L	51.59	9785.0 ppb	51.59	0.53%

Sequence No.: 12  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 1/26/2010 16:55:39  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5404.1	5404.1	101 %		16:57:31
1	Y RADIAL	5813.1	5813.1	101.0 %		16:57:31
1	Al 396.153Radial†	6596.0	6508.7	4907.1 ug/L	4907.1 ppb	16:57:31
1	Ca 317.933Radial†	3156.1	3098.5	4980.2 ug/L	4980.2 ppb	16:57:51
1	Fe 238.204 Radial†	558.8	545.1	5108.5 ug/L	5108.5 ppb	16:57:51
1	K 766.490 Radial†	30060.1	27200.3	4962.8 ug/L	4962.8 ppb	16:57:31
1	Mg 279.077 IEC†	146.5	143.8	5127.5 ug/L	5127.5 ppb	16:57:51
1	Na 589.592 Radial†	32863.9	33022.0	9816.5 ug/L	9816.5 ppb	16:57:31
1	Sr 421.552†	79011.1	78067.5	500.98 ug/L	500.98 ppb	16:57:31
1	Sc 361.383	933459.5	933459.5	103.96 %		16:58:49
1	Y 371.029	816613.7	816613.7	99.209 %		16:58:49
1	Ag 328.068†	119809.4	114945.9	482.80 ug/L	482.80 ppb	16:58:54
1	As 188.979†	1192.2	1176.9	485.77 ug/L	485.77 ppb	16:59:14
1	B 249.677†	22006.1	21407.6	467.26 ug/L	467.26 ppb	16:58:54
1	Ba 233.527†	63064.8	60663.7	479.37 ug/L	479.37 ppb	16:58:54
1	Be 313.107†	1405050.3	1356585.8	479.67 ug/L	479.67 ppb	16:58:49
1	Cd 226.502†	44607.2	43112.8	481.46 ug/L	481.46 ppb	16:58:54
1	Co 228.616†	23169.0	22355.7	490.13 ug/L	490.13 ppb	16:58:54
1	Cr 267.716†	46082.0	44231.2	480.08 ug/L	480.08 ppb	16:58:54
1	Cu 324.752†	185253.1	169062.7	474.26 ug/L	474.26 ppb	16:58:54
1	Mn 257.610†	446312.1	428807.4	481.06 ug/L	481.06 ppb	16:58:49
1	Mo 202.031†	7383.8	7078.7	483.56 ug/L	483.56 ppb	16:59:14
1	Ni 231.604†	20043.5	19185.7	481.87 ug/L	481.87 ppb	16:58:54
1	P 214.914†	4669.2	4252.5	2305.6 ug/L	2305.6 ppb	16:59:14
1	Pb 220.353†	3941.6	3851.7	485.05 ug/L	485.05 ppb	16:59:14
1	S 181.975 Axial†	789.3	682.2	938.41 ug/L	938.41 ppb	16:59:14
1	Sb 206.836†	1536.7	1447.8	502.14 ug/L	502.14 ppb	16:59:14
1	Se 196.026†	834.8	821.0	492.18 ug/L	492.18 ppb	16:59:14
1	Si 251.611†	85090.0	81350.2	2404.4 ug/L	2404.4 ppb	16:58:54
1	Sn 189.927†	2752.0	2647.4	487.67 ug/L	487.67 ppb	16:59:14
1	Ti 334.940†	333773.7	321955.7	490.75 ug/L	490.75 ppb	16:58:49
1	Tl 190.801†	1513.2	1492.4	480.69 ug/L	480.69 ppb	16:59:14
1	U 409.014†	19016.4	19354.3	482.30 ug/L	482.30 ppb	16:58:54
1	V 292.402†	78414.0	76818.2	484.13 ug/L	484.13 ppb	16:58:54
1	Zn 213.857†	54192.3	51392.9	474.49 ug/L	474.49 ppb	16:58:54
1	SiO2†	85733.7	81951.9	5169.8 ug/L	5169.8 ppb	17:00:22
2	Sc Radial	5464.4	5464.4	102 %		16:57:57
2	Y RADIAL	5854.8	5854.8	101.7 %		16:57:57
2	Al 396.153Radial†	6607.0	6447.5	4861.0 ug/L	4861.0 ppb	16:57:57
2	Ca 317.933Radial†	3114.7	3023.6	4859.7 ug/L	4859.7 ppb	16:58:17
2	Fe 238.204 Radial†	551.7	532.0	4986.7 ug/L	4986.7 ppb	16:58:17
2	K 766.490 Radial†	30113.7	26924.8	4912.6 ug/L	4912.6 ppb	16:57:57
2	Mg 279.077 IEC†	149.8	145.4	5186.7 ug/L	5186.7 ppb	16:58:17
2	Na 589.592 Radial†	32632.4	32437.4	9642.7 ug/L	9642.7 ppb	16:57:57
2	Sr 421.552†	78996.9	77191.8	495.36 ug/L	495.36 ppb	16:57:57
2	Sc 361.383	937520.1	937520.1	104.42 %		16:59:20
2	Y 371.029	819542.3	819542.3	99.565 %		16:59:20
2	Ag 328.068†	119741.6	114381.8	480.40 ug/L	480.40 ppb	16:59:26
2	As 188.979†	1188.9	1168.8	482.47 ug/L	482.47 ppb	16:59:46
2	B 249.677†	22032.5	21341.2	465.83 ug/L	465.83 ppb	16:59:26
2	Ba 233.527†	62932.0	60273.7	476.29 ug/L	476.29 ppb	16:59:26
2	Be 313.107†	1415446.5	1360688.7	481.12 ug/L	481.12 ppb	16:59:20
2	Cd 226.502†	44490.8	42815.5	478.15 ug/L	478.15 ppb	16:59:26
2	Co 228.616†	23118.9	22211.2	486.95 ug/L	486.95 ppb	16:59:26
2	Cr 267.716†	45947.6	43910.6	476.60 ug/L	476.60 ppb	16:59:26
2	Cu 324.752†	185148.5	168190.6	471.81 ug/L	471.81 ppb	16:59:26
2	Mn 257.610†	449866.5	430352.1	482.78 ug/L	482.78 ppb	16:59:20
2	Mo 202.031†	7330.8	6997.2	477.99 ug/L	477.99 ppb	16:59:46
2	Ni 231.604†	19941.2	19004.2	477.31 ug/L	477.31 ppb	16:59:26

2	P 214.914†	4638.9	4203.9	2278.7 ug/L	2278.7 ppb	16:59:46
2	Pb 220.353†	3914.4	3809.2	479.71 ug/L	479.71 ppb	16:59:46
2	S 181.975 Axial†	777.8	667.9	918.64 ug/L	918.64 ppb	16:59:46
2	Sb 206.836†	1527.0	1432.1	496.67 ug/L	496.67 ppb	16:59:46
2	Se 196.026†	841.1	823.4	493.18 ug/L	493.18 ppb	16:59:46
2	Si 251.611†	84970.0	80880.7	2390.6 ug/L	2390.6 ppb	16:59:26
2	Sn 189.927†	2735.5	2620.2	482.64 ug/L	482.64 ppb	16:59:46
2	Ti 334.940†	336981.7	323637.5	493.30 ug/L	493.30 ppb	16:59:20
2	Tl 190.801†	1515.1	1487.9	479.32 ug/L	479.32 ppb	16:59:46
2	U 409.014†	18862.1	19127.3	476.65 ug/L	476.65 ppb	16:59:26
2	V 292.402†	78246.7	76331.3	481.03 ug/L	481.03 ppb	16:59:26
2	Zn 213.857†	54088.3	51067.5	471.51 ug/L	471.51 ppb	16:59:26
2	SiO2†	85093.4	80981.4	5108.6 ug/L	5108.6 ppb	17:00:27
3	Sc Radial	5318.4	5318.4	99.6 %		16:58:22
3	Y RADIAL	5730.9	5730.9	99.54 %		16:58:22
3	Al 396.153Radial†	6474.1	6491.4	4894.0 ug/L	4894.0 ppb	16:58:22
3	Ca 317.933Radial†	3156.9	3149.5	5062.2 ug/L	5062.2 ppb	16:58:42
3	Fe 238.204 Radial†	560.5	555.6	5207.1 ug/L	5207.1 ppb	16:58:42
3	K 766.490 Radial†	29759.8	27377.7	4995.2 ug/L	4995.2 ppb	16:58:22
3	Mg 279.077 IEC†	149.8	149.5	5331.4 ug/L	5331.4 ppb	16:58:42
3	Na 589.592 Radial†	31935.3	32613.1	9695.0 ug/L	9695.0 ppb	16:58:22
3	Sr 421.552†	77533.5	77842.6	499.53 ug/L	499.53 ppb	16:58:22
3	Sc 361.383	927787.5	927787.5	103.33 %		16:59:52
3	Y 371.029	812798.3	812798.3	98.746 %		16:59:52
3	Ag 328.068†	120774.2	116584.1	489.69 ug/L	489.69 ppb	16:59:57
3	As 188.979†	1188.1	1180.0	487.07 ug/L	487.07 ppb	17:00:17
3	B 249.677†	22301.4	21822.8	476.33 ug/L	476.33 ppb	16:59:57
3	Ba 233.527†	63594.5	61547.1	486.35 ug/L	486.35 ppb	16:59:57
3	Be 313.107†	1402066.6	1361960.4	481.57 ug/L	481.57 ppb	16:59:52
3	Cd 226.502†	44852.4	43612.4	487.04 ug/L	487.04 ppb	16:59:57
3	Co 228.616†	23282.3	22601.6	495.52 ug/L	495.52 ppb	16:59:57
3	Cr 267.716†	46420.8	44830.1	486.58 ug/L	486.58 ppb	16:59:57
3	Cu 324.752†	187305.0	172137.7	482.89 ug/L	482.89 ppb	16:59:57
3	Mn 257.610†	444250.0	429436.2	481.77 ug/L	481.77 ppb	16:59:52
3	Mo 202.031†	7320.5	7060.8	482.35 ug/L	482.35 ppb	17:00:17
3	Ni 231.604†	20169.0	19425.0	487.88 ug/L	487.88 ppb	16:59:57
3	P 214.914†	4632.8	4244.7	2299.4 ug/L	2299.4 ppb	17:00:17
3	Pb 220.353†	3913.1	3847.4	484.49 ug/L	484.49 ppb	17:00:17
3	S 181.975 Axial†	779.6	677.5	931.83 ug/L	931.83 ppb	17:00:17
3	Sb 206.836†	1534.3	1454.6	504.36 ug/L	504.36 ppb	17:00:17
3	Se 196.026†	837.8	828.7	496.98 ug/L	496.98 ppb	17:00:17
3	Si 251.611†	85819.4	82556.3	2440.2 ug/L	2440.2 ppb	16:59:57
3	Sn 189.927†	2722.3	2634.8	485.37 ug/L	485.37 ppb	17:00:17
3	Ti 334.940†	333068.8	323236.3	492.69 ug/L	492.69 ppb	16:59:52
3	Tl 190.801†	1503.4	1491.8	480.50 ug/L	480.50 ppb	17:00:17
3	U 409.014†	19251.8	19693.9	490.77 ug/L	490.77 ppb	16:59:57
3	V 292.402†	79080.8	77924.6	491.00 ug/L	491.00 ppb	16:59:57
3	Zn 213.857†	54509.8	52018.9	480.26 ug/L	480.26 ppb	16:59:57
3	SiO2†	85048.9	81793.2	5159.8 ug/L	5159.8 ppb	17:00:32

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	932922.4	103.90 %	0.544			0.52%
Sc Radial	5395.7	101 %	1.4			1.36%
Y 371.029	816318.1	99.173 %	0.4108			0.41%
Y RADIAL	5799.6	100.7 %	1.10			1.09%
Ag 328.068†	115303.9	484.30 ug/L	4.821	484.30 ppb	4.821	1.00%
QC value within limits for Ag 328.068 Recovery = 96.86%						
Al 396.153Radial†	6482.5	4887.4 ug/L	23.75	4887.4 ppb	23.75	0.49%
QC value within limits for Al 396.153Radial Recovery = 97.75%						
As 188.979†	1175.2	485.11 ug/L	2.372	485.11 ppb	2.372	0.49%
QC value within limits for As 188.979 Recovery = 97.02%						
B 249.677†	21523.8	469.80 ug/L	5.696	469.80 ppb	5.696	1.21%
QC value within limits for B 249.677 Recovery = 93.96%						
Ba 233.527†	60828.2	480.67 ug/L	5.157	480.67 ppb	5.157	1.07%
QC value within limits for Ba 233.527 Recovery = 96.13%						
Be 313.107†	1359745.0	480.78 ug/L	0.994	480.78 ppb	0.994	0.21%
QC value within limits for Be 313.107 Recovery = 96.16%						
Ca 317.933Radial†	3090.5	4967.4 ug/L	101.86	4967.4 ppb	101.86	2.05%

QC value within limits for Ca 317.933 Radial Recovery = 99.35%

Cd 226.502†	43180.2	482.21 ug/L	4.492	482.21 ppb	4.492	0.93%
QC value within limits for Cd 226.502 Recovery = 96.44%						
Co 228.616†	22389.5	490.87 ug/L	4.330	490.87 ppb	4.330	0.88%
QC value within limits for Co 228.616 Recovery = 98.17%						
Cr 267.716†	44324.0	481.09 ug/L	5.066	481.09 ppb	5.066	1.05%
QC value within limits for Cr 267.716 Recovery = 96.22%						
Cu 324.752†	169797.0	476.32 ug/L	5.818	476.32 ppb	5.818	1.22%
QC value within limits for Cu 324.752 Recovery = 95.26%						
Fe 238.204 Radial†	544.2	5100.8 ug/L	110.41	5100.8 ppb	110.41	2.16%
QC value within limits for Fe 238.204 Radial Recovery = 102.02%						
K 766.490 Radial†	27167.6	4956.9 ug/L	41.64	4956.9 ppb	41.64	0.84%
QC value within limits for K 766.490 Radial Recovery = 99.14%						
Mg 279.077 IEC†	146.2	5215.2 ug/L	104.90	5215.2 ppb	104.90	2.01%
QC value within limits for Mg 279.077 IEC Recovery = 104.30%						
Mn 257.610†	429531.9	481.87 ug/L	0.863	481.87 ppb	0.863	0.18%
QC value within limits for Mn 257.610 Recovery = 96.37%						
Mo 202.031†	7045.6	481.30 ug/L	2.933	481.30 ppb	2.933	0.61%
QC value within limits for Mo 202.031 Recovery = 96.26%						
Na 589.592 Radial†	32690.8	9718.1 ug/L	89.17	9718.1 ppb	89.17	0.92%
QC value within limits for Na 589.592 Radial Recovery = 97.18%						
Ni 231.604†	19205.0	482.36 ug/L	5.302	482.36 ppb	5.302	1.10%
QC value within limits for Ni 231.604 Recovery = 96.47%						
P 214.914†	4233.7	2294.6 ug/L	14.05	2294.6 ppb	14.05	0.61%
QC value within limits for P 214.914 Recovery = 91.78%						
Pb 220.353†	3836.1	483.08 ug/L	2.937	483.08 ppb	2.937	0.61%
QC value within limits for Pb 220.353 Recovery = 96.62%						
S 181.975 Axial†	675.9	929.62 ug/L	10.068	929.62 ppb	10.068	1.08%
QC value within limits for S 181.975 Axial Recovery = 92.96%						
Sb 206.836†	1444.8	501.06 ug/L	3.955	501.06 ppb	3.955	0.79%
QC value within limits for Sb 206.836 Recovery = 100.21%						
Se 196.026†	824.4	494.11 ug/L	2.530	494.11 ppb	2.530	0.51%
QC value within limits for Se 196.026 Recovery = 98.82%						
Si 251.611†	81595.7	2411.8 ug/L	25.59	2411.8 ppb	25.59	1.06%
QC value within limits for Si 251.611 Recovery = 96.47%						
Sn 189.927†	2634.1	485.22 ug/L	2.517	485.22 ppb	2.517	0.52%
QC value within limits for Sn 189.927 Recovery = 97.04%						
Sr 421.552†	77700.7	498.62 ug/L	2.918	498.62 ppb	2.918	0.59%
QC value within limits for Sr 421.552 Recovery = 99.72%						
Ti 334.940†	322943.2	492.25 ug/L	1.330	492.25 ppb	1.330	0.27%
QC value within limits for Ti 334.940 Recovery = 98.45%						
Tl 190.801†	1490.7	480.17 ug/L	0.741	480.17 ppb	0.741	0.15%
QC value within limits for Tl 190.801 Recovery = 96.03%						
U 409.014†	19391.8	483.24 ug/L	7.108	483.24 ppb	7.108	1.47%
QC value within limits for U 409.014 Recovery = 96.65%						
V 292.402†	77024.7	485.39 ug/L	5.100	485.39 ppb	5.100	1.05%
QC value within limits for V 292.402 Recovery = 97.08%						
Zn 213.857†	51493.1	475.42 ug/L	4.452	475.42 ppb	4.452	0.94%
QC value within limits for Zn 213.857 Recovery = 95.08%						
SiO2†	81575.5	5146.1 ug/L	32.84	5146.1 ppb	32.84	0.64%
QC value within limits for SiO2 Recovery = 96.23%						

All analyte(s) passed QC.

Sequence No.: 13  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/26/2010 17:02:43  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5295.7	5295.7	99.2 %		17:04:36
1	Y RADIAL	5703.6	5703.6	99.07 %		17:04:36
1	Al 396.153Radial†	8.7	-0.4	-0.3165 ug/L	-0.3165 ppb	17:04:56
1	Ca 317.933Radial†	26.1	6.1	9.7644 ug/L	9.7644 ppb	17:04:56
1	Fe 238.204 Radial†	8.0	1.0	8.9563 ug/L	8.9563 ppb	17:04:56
1	K 766.490 Radial†	2160.1	-325.3	-59.418 ug/L	-59.418 ppb	17:04:36
1	Mg 279.077 IEC†	1.9	1.0	34.293 ug/L	34.293 ppb	17:04:56
1	Na 589.592 Radial†	-707.3	-165.6	-49.235 ug/L	-49.235 ppb	17:04:36
1	Sr 421.552†	35.8	29.0	0.1861 ug/L	0.1861 ppb	17:04:36
1	Sc 361.383	903875.2	903875.2	100.67 %		17:05:52
1	Y 371.029	795336.9	795336.9	96.624 %		17:05:52
1	Ag 328.068†	342.0	43.7	0.1899 ug/L	0.1899 ppb	17:05:52
1	As 188.979†	-26.0	4.3	1.7762 ug/L	1.7762 ppb	17:06:12
1	B 249.677†	-263.2	-21.1	-0.4638 ug/L	-0.4638 ppb	17:06:12
1	Ba 233.527†	-7.5	-4.3	-0.0326 ug/L	-0.0326 ppb	17:06:12
1	Be 313.107†	-5006.7	127.0	0.0449 ug/L	0.0449 ppb	17:05:52
1	Cd 226.502†	-205.3	2.2	0.0232 ug/L	0.0232 ppb	17:06:12
1	Co 228.616†	-67.8	2.6	0.0562 ug/L	0.0562 ppb	17:06:12
1	Cr 267.716†	96.6	2.0	0.0242 ug/L	0.0242 ppb	17:06:12
1	Cu 324.752†	8877.4	-309.6	-0.8661 ug/L	-0.8661 ppb	17:05:52
1	Mn 257.610†	516.4	23.1	0.0254 ug/L	0.0254 ppb	17:06:12
1	Mo 202.031†	24.6	0.8	0.0577 ug/L	0.0577 ppb	17:06:12
1	Ni 231.604†	98.4	4.1	0.1023 ug/L	0.1023 ppb	17:06:12
1	P 214.914†	247.7	7.3	4.3184 ug/L	4.3184 ppb	17:06:12
1	Pb 220.353†	-56.1	4.7	0.5870 ug/L	0.5870 ppb	17:06:12
1	S 181.975 Axial†	49.0	-28.3	-38.996 ug/L	-38.996 ppb	17:06:12
1	Sb 206.836†	53.0	22.4	7.5215 ug/L	7.5215 ppb	17:06:12
1	Se 196.026†	-21.6	-3.5	-2.0027 ug/L	-2.0027 ppb	17:06:12
1	Si 251.611†	527.7	28.3	0.8364 ug/L	0.8364 ppb	17:06:12
1	Sn 189.927†	6.3	6.6	1.2065 ug/L	1.2065 ppb	17:06:12
1	Ti 334.940†	-891.8	20.7	0.0315 ug/L	0.0315 ppb	17:05:52
1	Tl 190.801†	-44.2	-7.0	-2.2451 ug/L	-2.2451 ppb	17:06:12
1	U 409.014†	-1201.2	-130.4	-3.2608 ug/L	-3.2608 ppb	17:05:52
1	V 292.402†	-1323.0	79.4	0.4875 ug/L	0.4875 ppb	17:05:52
1	Zn 213.857†	727.9	-10.3	-0.0966 ug/L	-0.0966 ppb	17:06:12
1	SiO2†	541.1	24.0	1.5192 ug/L	1.5192 ppb	17:07:23
2	Sc Radial	5415.0	5415.0	101 %		17:05:01
2	Y RADIAL	5882.2	5882.2	102.2 %		17:05:01
2	Al 396.153Radial†	4.3	-4.9	-3.6707 ug/L	-3.6707 ppb	17:05:21
2	Ca 317.933Radial†	24.9	4.3	6.8654 ug/L	6.8654 ppb	17:05:21
2	Fe 238.204 Radial†	7.9	0.6	5.4460 ug/L	5.4460 ppb	17:05:21
2	K 766.490 Radial†	2320.8	-214.8	-39.226 ug/L	-39.226 ppb	17:05:01
2	Mg 279.077 IEC†	0.6	-0.3	-12.259 ug/L	-12.259 ppb	17:05:21
2	Na 589.592 Radial†	-762.3	-204.1	-60.676 ug/L	-60.676 ppb	17:05:01
2	Sr 421.552†	10.1	2.9	0.0183 ug/L	0.0183 ppb	17:05:01
2	Sc 361.383	921318.5	921318.5	102.61 %		17:06:18
2	Y 371.029	809656.2	809656.2	98.364 %		17:06:18
2	Ag 328.068†	291.2	-12.2	-0.0431 ug/L	-0.0431 ppb	17:06:18
2	As 188.979†	-21.7	9.1	3.7078 ug/L	3.7078 ppb	17:06:38
2	B 249.677†	-236.3	10.2	0.2215 ug/L	0.2215 ppb	17:06:38
2	Ba 233.527†	-0.6	2.5	0.0216 ug/L	0.0216 ppb	17:06:38
2	Be 313.107†	-5015.9	212.1	0.0750 ug/L	0.0750 ppb	17:06:18
2	Cd 226.502†	-199.4	11.8	0.1309 ug/L	0.1309 ppb	17:06:38
2	Co 228.616†	-65.3	6.3	0.1372 ug/L	0.1372 ppb	17:06:38
2	Cr 267.716†	91.4	-4.8	-0.0495 ug/L	-0.0495 ppb	17:06:38
2	Cu 324.752†	9048.2	-310.1	-0.8671 ug/L	-0.8671 ppb	17:06:18
2	Mn 257.610†	517.6	14.6	0.0174 ug/L	0.0174 ppb	17:06:38
2	Mo 202.031†	18.6	-5.5	-0.3757 ug/L	-0.3757 ppb	17:06:38
2	Ni 231.604†	103.6	7.3	0.1831 ug/L	0.1831 ppb	17:06:38

2	P 214.914†	240.8	-4.1	-2.1204 ug/L	-2.1204 ppb	17:06:38
2	Pb 220.353†	-62.1	-0.1	-0.0146 ug/L	-0.0146 ppb	17:06:38
2	S 181.975 Axial†	45.0	-33.1	-45.630 ug/L	-45.630 ppb	17:06:38
2	Sb 206.836†	38.0	6.8	2.2872 ug/L	2.2872 ppb	17:06:38
2	Se 196.026†	-24.1	-5.6	-3.1979 ug/L	-3.1979 ppb	17:06:38
2	Si 251.611†	529.2	19.8	0.5906 ug/L	0.5906 ppb	17:06:38
2	Sn 189.927†	4.2	4.4	0.8191 ug/L	0.8191 ppb	17:06:38
2	Ti 334.940†	-882.6	46.4	0.0746 ug/L	0.0746 ppb	17:06:18
2	Tl 190.801†	-37.8	0.1	0.0208 ug/L	0.0208 ppb	17:06:38
2	U 409.014†	-1272.6	-177.3	-4.4350 ug/L	-4.4350 ppb	17:06:18
2	V 292.402†	-1324.4	102.9	0.6249 ug/L	0.6249 ppb	17:06:18
2	Zn 213.857†	723.6	-28.2	-0.2634 ug/L	-0.2634 ppb	17:06:38
2	SiO2†	549.0	21.6	1.3762 ug/L	1.3762 ppb	17:07:44
3	Sc Radial	5411.0	5411.0	101 %		17:05:26
3	Y RADIAL	5850.4	5850.4	101.6 %		17:05:26
3	Al 396.153Radial†	15.2	5.9	4.4738 ug/L	4.4738 ppb	17:05:46
3	Ca 317.933Radial†	20.3	-0.2	-0.2757 ug/L	-0.2757 ppb	17:05:46
3	Fe 238.204 Radial†	7.3	0.1	0.4720 ug/L	0.4720 ppb	17:05:46
3	K 766.490 Radial†	2343.5	-190.7	-34.833 ug/L	-34.833 ppb	17:05:26
3	Mg 279.077 IEC†	1.3	0.3	10.439 ug/L	10.439 ppb	17:05:46
3	Na 589.592 Radial†	-667.7	-111.3	-33.083 ug/L	-33.083 ppb	17:05:26
3	Sr 421.552†	1.4	-5.7	-0.0365 ug/L	-0.0365 ppb	17:05:26
3	Sc 361.383	915253.9	915253.9	101.94 %		17:06:43
3	Y 371.029	804714.4	804714.4	97.764 %		17:06:43
3	Ag 328.068†	313.2	11.3	0.0479 ug/L	0.0479 ppb	17:06:43
3	As 188.979†	-24.4	6.2	2.5504 ug/L	2.5504 ppb	17:07:03
3	B 249.677†	-265.6	-20.2	-0.4425 ug/L	-0.4425 ppb	17:07:03
3	Ba 233.527†	-16.0	-12.6	-0.0990 ug/L	-0.0990 ppb	17:07:03
3	Be 313.107†	-5010.8	184.8	0.0652 ug/L	0.0652 ppb	17:06:43
3	Cd 226.502†	-208.5	1.7	0.0186 ug/L	0.0186 ppb	17:07:03
3	Co 228.616†	-70.0	1.3	0.0287 ug/L	0.0287 ppb	17:07:03
3	Cr 267.716†	85.6	-9.9	-0.1075 ug/L	-0.1075 ppb	17:07:03
3	Cu 324.752†	8977.2	-321.3	-0.9012 ug/L	-0.9012 ppb	17:06:43
3	Mn 257.610†	513.8	14.1	0.0155 ug/L	0.0155 ppb	17:07:03
3	Mo 202.031†	22.7	-1.3	-0.0882 ug/L	-0.0882 ppb	17:07:03
3	Ni 231.604†	96.2	0.7	0.0179 ug/L	0.0179 ppb	17:07:03
3	P 214.914†	240.0	-3.3	-1.6913 ug/L	-1.6913 ppb	17:07:03
3	Pb 220.353†	-45.4	15.8	1.9863 ug/L	1.9863 ppb	17:07:03
3	S 181.975 Axial†	45.3	-32.5	-44.797 ug/L	-44.797 ppb	17:07:03
3	Sb 206.836†	42.2	11.1	3.7340 ug/L	3.7340 ppb	17:07:03
3	Se 196.026†	-24.5	-6.1	-3.5188 ug/L	-3.5188 ppb	17:07:03
3	Si 251.611†	518.0	12.2	0.3629 ug/L	0.3629 ppb	17:07:03
3	Sn 189.927†	7.1	7.3	1.3401 ug/L	1.3401 ppb	17:07:03
3	Ti 334.940†	-910.1	13.7	0.0201 ug/L	0.0201 ppb	17:06:43
3	Tl 190.801†	-43.6	-5.9	-1.8844 ug/L	-1.8844 ppb	17:07:03
3	U 409.014†	-1090.9	-7.4	-0.1841 ug/L	-0.1841 ppb	17:06:43
3	V 292.402†	-1395.0	25.0	0.1542 ug/L	0.1542 ppb	17:06:43
3	Zn 213.857†	725.8	-21.4	-0.1980 ug/L	-0.1980 ppb	17:07:03
3	SiO2†	552.2	28.3	1.7920 ug/L	1.7920 ppb	17:08:04

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913482.5	101.74 %	0.986			0.97%
Sc Radial	5373.9	101 %	1.3			1.26%
Y 371.029	803235.8	97.584 %	0.8836			0.91%
Y RADIAL	5812.1	101.0 %	1.66			1.64%
Ag 328.068†	14.3	0.0649 ug/L	0.11742	0.0649 ppb	0.11742	180.97%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	0.2	0.1622 ug/L	4.09327	0.1622 ppb	4.09327	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	6.5	2.6782 ug/L	0.97210	2.6782 ppb	0.97210	36.30%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-10.4	-0.2283 ug/L	0.38965	-0.2283 ppb	0.38965	170.70%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-4.8	-0.0367 ug/L	0.06043	-0.0367 ppb	0.06043	164.85%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	174.6	0.0617 ug/L	0.01538	0.0617 ppb	0.01538	24.92%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	3.4	5.4514 ug/L	5.16727	5.4514 ppb	5.16727	94.79%

QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	5.2	0.0576 ug/L	0.06354	0.0576 ppb	0.06354	110.35%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	3.4	0.0740 ug/L	0.05642	0.0740 ppb	0.05642	76.22%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-4.2	-0.0442 ug/L	0.06599	-0.0442 ppb	0.06599	149.20%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-313.6	-0.8781 ug/L	0.02000	-0.8781 ppb	0.02000	2.28%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.5	4.9581 ug/L	4.26317	4.9581 ppb	4.26317	85.98%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-243.6	-44.492 ug/L	13.1117	-44.492 ppb	13.1117	29.47%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.3	10.825 ug/L	23.2784	10.825 ppb	23.2784	215.05%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	17.3	0.0194 ug/L	0.00525	0.0194 ppb	0.00525	27.06%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-2.0	-0.1354 ug/L	0.22054	-0.1354 ppb	0.22054	162.86%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-160.3	-47.664 ug/L	13.8633	-47.664 ppb	13.8633	29.09%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	4.0	0.1011 ug/L	0.08260	0.1011 ppb	0.08260	81.71%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-0.0	0.1689 ug/L	3.59995	0.1689 ppb	3.59995	>999.9%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	6.8	0.8529 ug/L	1.02660	0.8529 ppb	1.02660	120.37%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-31.3	-43.141 ug/L	3.6142	-43.141 ppb	3.6142	8.38%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	13.4	4.5142 ug/L	2.70297	4.5142 ppb	2.70297	59.88%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-5.1	-2.9064 ug/L	0.79897	-2.9064 ppb	0.79897	27.49%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	20.1	0.5966 ug/L	0.23684	0.5966 ppb	0.23684	39.70%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	6.1	1.1219 ug/L	0.27063	1.1219 ppb	0.27063	24.12%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	8.7	0.0560 ug/L	0.11601	0.0560 ppb	0.11601	207.25%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	26.9	0.0421 ug/L	0.02876	0.0421 ppb	0.02876	68.38%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-4.3	-1.3695 ug/L	1.21751	-1.3695 ppb	1.21751	88.90%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-105.0	-2.6266 ug/L	2.19531	-2.6266 ppb	2.19531	83.58%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	69.1	0.4222 ug/L	0.24203	0.4222 ppb	0.24203	57.33%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-20.0	-0.1860 ug/L	0.08405	-0.1860 ppb	0.08405	45.19%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	24.6	1.5625 ug/L	0.21124	1.5625 ppb	0.21124	13.52%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						



Sequence No.: 16  
 Sample ID: 244880001|942466|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 49  
 Date Collected: 1/26/2010 17:24:06  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 244880001|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5563.6	5563.6	104 %		17:25:59
1	Y RADIAL	5984.9	5984.9	104.0 %		17:25:59
1	Al 396.153Radial†	18.8	8.9	6.7104 ug/L	6.7104 ppb	17:26:19
1	Ca 317.933Radial†	28.7	7.3	11.767 ug/L	11.767 ppb	17:26:19
1	Fe 238.204 Radial†	10.3	2.7	25.125 ug/L	25.125 ppb	17:26:19
1	K 766.490 Radial†	3165.8	535.1	97.727 ug/L	97.727 ppb	17:25:59
1	Mg 279.077 IEC†	3.1	2.0	71.674 ug/L	71.674 ppb	17:26:19
1	Na 589.592 Radial†	-315.4	244.9	72.807 ug/L	72.807 ppb	17:25:59
1	Sr 421.552†	34.0	25.6	0.1640 ug/L	0.1640 ppb	17:25:59
1	Sc 361.383	957038.4	957038.4	106.59 %		17:27:16
1	Y 371.029	844527.4	844527.4	102.60 %		17:27:16
1	Ag 328.068†	286.9	-26.8	-0.0920 ug/L	-0.0920 ppb	17:27:21
1	As 188.979†	-33.4	-1.2	-0.4708 ug/L	-0.4708 ppb	17:27:41
1	B 249.677†	349.3	568.1	12.454 ug/L	12.454 ppb	17:27:41
1	Ba 233.527†	3.9	6.8	0.0565 ug/L	0.0565 ppb	17:27:41
1	Be 313.107†	-5163.6	256.1	0.0911 ug/L	0.0911 ppb	17:27:21
1	Cd 226.502†	-210.9	8.3	0.0887 ug/L	0.0887 ppb	17:27:41
1	Co 228.616†	-68.4	5.7	0.1255 ug/L	0.1255 ppb	17:27:41
1	Cr 267.716†	79.1	-19.7	-0.2077 ug/L	-0.2077 ppb	17:27:41
1	Cu 324.752†	9145.7	-547.7	-1.5298 ug/L	-1.5298 ppb	17:27:21
1	Mn 257.610†	772.2	234.6	0.2626 ug/L	0.2626 ppb	17:27:41
1	Mo 202.031†	27.7	2.4	0.1651 ug/L	0.1651 ppb	17:27:41
1	Ni 231.604†	97.3	-2.4	-0.0605 ug/L	-0.0605 ppb	17:27:41
1	P 214.914†	266.9	11.6	6.8539 ug/L	6.8539 ppb	17:27:41
1	Pb 220.353†	-45.8	17.4	2.1826 ug/L	2.1826 ppb	17:27:41
1	S 181.975 Axial†	74.2	-7.4	-10.134 ug/L	-10.134 ppb	17:27:41
1	Sb 206.836†	27.9	-4.1	-1.3286 ug/L	-1.3286 ppb	17:27:41
1	Se 196.026†	-20.2	-1.0	-0.4812 ug/L	-0.4812 ppb	17:27:41
1	Si 251.611†	43826.3	40620.9	1203.6 ug/L	1203.6 ppb	17:27:21
1	Sn 189.927†	10.6	10.2	1.8864 ug/L	1.8864 ppb	17:27:41
1	Ti 334.940†	-743.9	208.6	0.3181 ug/L	0.3181 ppb	17:27:21
1	Tl 190.801†	-43.0	-3.5	-1.1030 ug/L	-1.1030 ppb	17:27:41
1	U 409.014†	-1548.5	-390.0	-9.7536 ug/L	-9.7536 ppb	17:27:21
1	V 292.402†	-1314.1	160.7	0.9806 ug/L	0.9806 ppb	17:27:21
1	Zn 213.857†	792.7	10.3	0.0959 ug/L	0.0959 ppb	17:27:41
1	SiO2†	43692.7	40478.1	2560.0 ug/L	2560.0 ppb	17:28:47
2	Sc Radial	5616.2	5616.2	105 %		17:26:24
2	Y RADIAL	6014.6	6014.6	104.5 %		17:26:24
2	Al 396.153Radial†	5.4	-4.0	-3.0061 ug/L	-3.0061 ppb	17:26:44
2	Ca 317.933Radial†	30.9	9.2	14.739 ug/L	14.739 ppb	17:26:44
2	Fe 238.204 Radial†	8.2	0.7	6.2997 ug/L	6.2997 ppb	17:26:44
2	K 766.490 Radial†	3293.6	628.2	114.72 ug/L	114.72 ppb	17:26:24
2	Mg 279.077 IEC†	0.2	-0.8	-29.009 ug/L	-29.009 ppb	17:26:44
2	Na 589.592 Radial†	-325.0	238.6	70.943 ug/L	70.943 ppb	17:26:24
2	Sr 421.552†	28.0	19.5	0.1253 ug/L	0.1253 ppb	17:26:24
2	Sc 361.383	957133.3	957133.3	106.60 %		17:27:46
2	Y 371.029	844088.4	844088.4	102.55 %		17:27:46
2	Ag 328.068†	353.5	35.6	0.1591 ug/L	0.1591 ppb	17:27:51
2	As 188.979†	-29.8	2.2	0.9197 ug/L	0.9197 ppb	17:28:11
2	B 249.677†	362.5	580.5	12.729 ug/L	12.729 ppb	17:28:11
2	Ba 233.527†	9.9	12.4	0.0989 ug/L	0.0989 ppb	17:28:11
2	Be 313.107†	-5265.4	161.1	0.0578 ug/L	0.0578 ppb	17:27:51
2	Cd 226.502†	-203.0	15.7	0.1731 ug/L	0.1731 ppb	17:28:11
2	Co 228.616†	-78.3	-3.5	-0.0772 ug/L	-0.0772 ppb	17:28:11
2	Cr 267.716†	94.3	-5.5	-0.0556 ug/L	-0.0556 ppb	17:28:11
2	Cu 324.752†	9254.4	-446.6	-1.2478 ug/L	-1.2478 ppb	17:27:51
2	Mn 257.610†	785.5	247.0	0.2787 ug/L	0.2787 ppb	17:28:11
2	Mo 202.031†	27.0	1.7	0.1185 ug/L	0.1185 ppb	17:28:11
2	Ni 231.604†	91.6	-7.8	-0.1948 ug/L	-0.1948 ppb	17:28:11

2	P 214.914†	259.8	5.0	3.0815 ug/L	3.0815 ppb	17:28:11
2	Pb 220.353†	-45.5	17.7	2.2277 ug/L	2.2277 ppb	17:28:11
2	S 181.975 Axial†	69.3	-11.9	-16.448 ug/L	-16.448 ppb	17:28:11
2	Sb 206.836†	34.7	2.3	0.7877 ug/L	0.7877 ppb	17:28:11
2	Se 196.026†	-13.5	5.3	3.0768 ug/L	3.0768 ppb	17:28:11
2	Si 251.611†	44092.4	40866.5	1210.9 ug/L	1210.9 ppb	17:27:51
2	Sn 189.927†	4.5	4.5	0.8371 ug/L	0.8371 ppb	17:28:11
2	Ti 334.940†	-656.1	291.0	0.4519 ug/L	0.4519 ppb	17:27:51
2	Tl 190.801†	-44.4	-4.7	-1.5052 ug/L	-1.5052 ppb	17:28:11
2	U 409.014†	-1501.2	-345.4	-8.6371 ug/L	-8.6371 ppb	17:27:51
2	V 292.402†	-1418.1	63.3	0.3768 ug/L	0.3768 ppb	17:27:51
2	Zn 213.857†	784.2	2.3	0.0235 ug/L	0.0235 ppb	17:28:11
2	SiO2†	43312.2	40117.1	2537.2 ug/L	2537.2 ppb	17:28:52
3	Sc Radial	5666.8	5666.8	106 %		17:26:50
3	Y RADIAL	6078.9	6078.9	105.6 %		17:26:50
3	Al 396.153Radial†	15.3	5.3	4.0049 ug/L	4.0049 ppb	17:27:10
3	Ca 317.933Radial†	30.3	8.3	13.299 ug/L	13.299 ppb	17:27:10
3	Fe 238.204 Radial†	9.4	1.7	15.983 ug/L	15.983 ppb	17:27:10
3	K 766.490 Radial†	3172.5	486.0	88.760 ug/L	88.760 ppb	17:26:50
3	Mg 279.077 IEC†	0.3	-0.7	-24.195 ug/L	-24.195 ppb	17:27:10
3	Na 589.592 Radial†	-337.7	229.4	68.198 ug/L	68.198 ppb	17:26:50
3	Sr 421.552†	36.7	27.5	0.1765 ug/L	0.1765 ppb	17:26:50
3	Sc 361.383	965522.2	965522.2	107.53 %		17:28:17
3	Y 371.029	852695.3	852695.3	103.59 %		17:28:17
3	Ag 328.068†	297.2	-19.6	-0.0674 ug/L	-0.0674 ppb	17:28:22
3	As 188.979†	-30.5	1.8	0.7444 ug/L	0.7444 ppb	17:28:42
3	B 249.677†	349.7	565.6	12.400 ug/L	12.400 ppb	17:28:42
3	Ba 233.527†	5.2	8.0	0.0649 ug/L	0.0649 ppb	17:28:42
3	Be 313.107†	-5080.8	375.7	0.1334 ug/L	0.1334 ppb	17:28:22
3	Cd 226.502†	-203.4	17.1	0.1872 ug/L	0.1872 ppb	17:28:42
3	Co 228.616†	-65.6	8.9	0.1952 ug/L	0.1952 ppb	17:28:42
3	Cr 267.716†	77.2	-22.2	-0.2357 ug/L	-0.2357 ppb	17:28:42
3	Cu 324.752†	9129.2	-638.4	-1.7857 ug/L	-1.7857 ppb	17:28:22
3	Mn 257.610†	779.5	235.0	0.2660 ug/L	0.2660 ppb	17:28:42
3	Mo 202.031†	27.4	1.9	0.1298 ug/L	0.1298 ppb	17:28:42
3	Ni 231.604†	93.8	-6.4	-0.1621 ug/L	-0.1621 ppb	17:28:42
3	P 214.914†	255.1	-1.5	-0.4821 ug/L	-0.4821 ppb	17:28:42
3	Pb 220.353†	-44.3	19.2	2.4141 ug/L	2.4141 ppb	17:28:42
3	S 181.975 Axial†	70.4	-11.5	-15.848 ug/L	-15.848 ppb	17:28:42
3	Sb 206.836†	25.2	-6.8	-2.2562 ug/L	-2.2562 ppb	17:28:42
3	Se 196.026†	-30.4	-10.3	-5.8752 ug/L	-5.8752 ppb	17:28:42
3	Si 251.611†	43928.2	40354.5	1195.7 ug/L	1195.7 ppb	17:28:22
3	Sn 189.927†	9.7	9.3	1.7168 ug/L	1.7168 ppb	17:28:42
3	Ti 334.940†	-700.8	254.9	0.3960 ug/L	0.3960 ppb	17:28:22
3	Tl 190.801†	-39.2	0.5	0.1568 ug/L	0.1568 ppb	17:28:42
3	U 409.014†	-1490.3	-323.0	-8.0782 ug/L	-8.0782 ppb	17:28:22
3	V 292.402†	-1376.7	113.3	0.6880 ug/L	0.6880 ppb	17:28:22
3	Zn 213.857†	778.4	-9.5	-0.0867 ug/L	-0.0867 ppb	17:28:42
3	SiO2†	43598.9	40030.7	2531.7 ug/L	2531.7 ppb	17:28:57

Mean Data: 244880001|942466|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	959898.0	106.91 %		0.542			0.51%
Sc Radial	5615.6	105 %		1.0			0.92%
Y 371.029	847103.7	102.91 %		0.589			0.57%
Y RADIAL	6026.2	104.7 %		0.84			0.80%
Ag 328.068†	-3.6	-0.0001 ug/L		0.13846	-0.0001 ppb	0.13846	>999.9%
Al 396.153Radial†	3.4	2.5697 ug/L		5.01474	2.5697 ppb	5.01474	195.15%
As 188.979†	1.0	0.3978 ug/L		0.75731	0.3978 ppb	0.75731	190.38%
B 249.677†	571.4	12.528 ug/L		0.1763	12.528 ppb	0.1763	1.41%
Ba 233.527†	9.1	0.0734 ug/L		0.02246	0.0734 ppb	0.02246	30.58%
Be 313.107†	264.3	0.0941 ug/L		0.03788	0.0941 ppb	0.03788	40.26%
Ca 317.933Radial†	8.3	13.268 ug/L		1.4863	13.268 ppb	1.4863	11.20%
Cd 226.502†	13.7	0.1497 ug/L		0.05327	0.1497 ppb	0.05327	35.60%
Co 228.616†	3.7	0.0811 ug/L		0.14151	0.0811 ppb	0.14151	174.40%
Cr 267.716†	-15.8	-0.1663 ug/L		0.09693	-0.1663 ppb	0.09693	58.28%
Cu 324.752†	-544.3	-1.5211 ug/L		0.26906	-1.5211 ppb	0.26906	17.69%
Fe 238.204 Radial†	1.7	15.803 ug/L		9.4141	15.803 ppb	9.4141	59.57%
K 766.490 Radial†	549.8	100.40 ug/L		13.187	100.40 ppb	13.187	13.13%

Mg 279.077 IEC†	0.2	6.1564 ug/L	56.79058	6.1564 ppb	56.79058	922.47%
Mn 257.610†	238.9	0.2691 ug/L	0.00848	0.2691 ppb	0.00848	3.15%
Mo 202.031†	2.0	0.1378 ug/L	0.02432	0.1378 ppb	0.02432	17.65%
Na 589.592 Radial†	237.7	70.649 ug/L	2.3184	70.649 ppb	2.3184	3.28%
Ni 231.604†	-5.5	-0.1391 ug/L	0.07002	-0.1391 ppb	0.07002	50.33%
P 214.914†	5.0	3.1511 ug/L	3.66849	3.1511 ppb	3.66849	116.42%
Pb 220.353†	18.1	2.2748 ug/L	0.12270	2.2748 ppb	0.12270	5.39%
S 181.975 Axial†	-10.3	-14.143 ug/L	3.4853	-14.143 ppb	3.4853	24.64%
Sb 206.836†	-2.9	-0.9324 ug/L	1.56013	-0.9324 ppb	1.56013	167.33%
Se 196.026†	-2.0	-1.0932 ug/L	4.50728	-1.0932 ppb	4.50728	412.31%
Si 251.611†	40614.0	1203.4 ug/L	7.59	1203.4 ppb	7.59	0.63%
Sn 189.927†	8.0	1.4801 ug/L	0.56326	1.4801 ppb	0.56326	38.06%
Sr 421.552†	24.2	0.1553 ug/L	0.02667	0.1553 ppb	0.02667	17.18%
Ti 334.940†	251.5	0.3887 ug/L	0.06720	0.3887 ppb	0.06720	17.29%
Tl 190.801†	-2.6	-0.8171 ug/L	0.86710	-0.8171 ppb	0.86710	106.12%
U 409.014†	-352.8	-8.8229 ug/L	0.85303	-8.8229 ppb	0.85303	9.67%
V 292.402†	112.4	0.6818 ug/L	0.30198	0.6818 ppb	0.30198	44.29%
Zn 213.857†	1.0	0.0109 ug/L	0.09195	0.0109 ppb	0.09195	844.07%
SiO2†	40208.7	2543.0 ug/L	15.01	2543.0 ppb	15.01	0.59%

Sequence No.: 23

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 1/26/2010 18:12:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5569.9	5569.9	104 %		18:14:27
1	Y RADIAL	5977.3	5977.3	103.8 %		18:14:27
1	Al 396.153Radial†	6615.6	6333.5	4774.3 ug/L	4774.3 ppb	18:14:27
1	Ca 317.933Radial†	3229.3	3075.8	4943.7 ug/L	4943.7 ppb	18:14:47
1	Fe 238.204 Radial†	581.1	549.9	5154.2 ug/L	5154.2 ppb	18:14:47
1	K 766.490 Radial†	30244.3	26492.8	4833.4 ug/L	4833.4 ppb	18:14:27
1	Mg 279.077 IEC†	153.1	145.8	5201.0 ug/L	5201.0 ppb	18:14:47
1	Na 589.592 Radial†	34927.7	34034.1	10117 ug/L	10117 ppb	18:14:27
1	Sr 421.552†	81821.1	78437.9	503.35 ug/L	503.35 ppb	18:14:27
1	Sc 361.383	936626.4	936626.4	104.32 %		18:15:44
1	Y 371.029	818866.9	818866.9	99.483 %		18:15:44
1	Ag 328.068†	120728.0	115436.8	484.87 ug/L	484.87 ppb	18:15:50
1	As 188.979†	1205.1	1185.4	489.17 ug/L	489.17 ppb	18:16:10
1	B 249.677†	22866.7	22161.0	483.76 ug/L	483.76 ppb	18:15:50
1	Ba 233.527†	63707.9	61075.1	482.62 ug/L	482.62 ppb	18:15:50
1	Be 313.107†	1419153.9	1365536.1	482.80 ug/L	482.80 ppb	18:15:44
1	Cd 226.502†	44928.9	43276.1	483.28 ug/L	483.28 ppb	18:15:50
1	Co 228.616†	23402.0	22503.6	493.40 ug/L	493.40 ppb	18:15:50
1	Cr 267.716†	46426.3	44411.4	482.04 ug/L	482.04 ppb	18:15:50
1	Cu 324.752†	188180.1	171266.1	480.45 ug/L	480.45 ppb	18:15:50
1	Mn 257.610†	449551.0	430460.8	482.92 ug/L	482.92 ppb	18:15:44
1	Mo 202.031†	7422.6	7091.9	484.47 ug/L	484.47 ppb	18:16:10
1	Ni 231.604†	20312.5	19378.4	486.71 ug/L	486.71 ppb	18:15:50
1	P 214.914†	4676.2	4244.0	2299.5 ug/L	2299.5 ppb	18:16:10
1	Pb 220.353†	3949.8	3846.8	484.40 ug/L	484.40 ppb	18:16:10
1	S 181.975 Axial†	798.4	688.4	946.84 ug/L	946.84 ppb	18:16:10
1	Sb 206.836†	1541.6	1447.6	502.14 ug/L	502.14 ppb	18:16:10
1	Se 196.026†	841.9	825.0	494.64 ug/L	494.64 ppb	18:16:10
1	Si 251.611†	85599.3	81561.7	2410.7 ug/L	2410.7 ppb	18:15:50
1	Sn 189.927†	2767.6	2653.4	488.76 ug/L	488.76 ppb	18:16:10
1	Ti 334.940†	327922.6	315261.2	480.53 ug/L	480.53 ppb	18:15:50
1	Tl 190.801†	1520.2	1494.2	481.16 ug/L	481.16 ppb	18:16:10
1	U 409.014†	19088.3	19361.4	482.47 ug/L	482.47 ppb	18:15:50
1	V 292.402†	79087.9	77209.2	486.58 ug/L	486.58 ppb	18:15:50
1	Zn 213.857†	54759.1	51760.1	477.87 ug/L	477.87 ppb	18:15:50
1	SiO2†	85110.1	81075.2	5114.4 ug/L	5114.4 ppb	18:17:17
2	Sc Radial	5552.4	5552.4	104 %		18:14:52
2	Y RADIAL	5966.5	5966.5	103.6 %		18:14:52
2	Al 396.153Radial†	6678.3	6413.7	4835.2 ug/L	4835.2 ppb	18:14:52
2	Ca 317.933Radial†	3214.5	3071.3	4936.5 ug/L	4936.5 ppb	18:15:12
2	Fe 238.204 Radial†	584.7	555.2	5203.2 ug/L	5203.2 ppb	18:15:12
2	K 766.490 Radial†	30676.1	26999.3	4926.0 ug/L	4926.0 ppb	18:14:52
2	Mg 279.077 IEC†	152.0	145.2	5179.3 ug/L	5179.3 ppb	18:15:12
2	Na 589.592 Radial†	35017.5	34225.8	10174 ug/L	10174 ppb	18:14:52
2	Sr 421.552†	82187.9	79037.4	507.20 ug/L	507.20 ppb	18:14:52
2	Sc 361.383	940530.3	940530.3	104.75 %		18:16:15
2	Y 371.029	824263.5	824263.5	100.14 %		18:16:15
2	Ag 328.068†	121450.6	115646.3	485.77 ug/L	485.77 ppb	18:16:21
2	As 188.979†	1192.7	1168.8	482.38 ug/L	482.38 ppb	18:16:41
2	B 249.677†	23132.6	22323.9	487.33 ug/L	487.33 ppb	18:16:21
2	Ba 233.527†	63953.3	61055.8	482.47 ug/L	482.47 ppb	18:16:21
2	Be 313.107†	1433413.1	1373501.9	485.61 ug/L	485.61 ppb	18:16:15
2	Cd 226.502†	45112.0	43272.1	483.23 ug/L	483.23 ppb	18:16:21
2	Co 228.616†	23504.1	22508.0	493.49 ug/L	493.49 ppb	18:16:21
2	Cr 267.716†	46703.3	44491.2	482.91 ug/L	482.91 ppb	18:16:21
2	Cu 324.752†	188868.6	171174.6	480.19 ug/L	480.19 ppb	18:16:21
2	Mn 257.610†	452511.0	431497.8	484.08 ug/L	484.08 ppb	18:16:15
2	Mo 202.031†	7411.1	7051.4	481.71 ug/L	481.71 ppb	18:16:41
2	Ni 231.604†	20348.8	19332.2	485.55 ug/L	485.55 ppb	18:16:21

2	P 214.914†	4681.7	4230.6	2291.9 ug/L	2291.9 ppb	18:16:41
2	Pb 220.353†	3958.2	3839.0	483.43 ug/L	483.43 ppb	18:16:41
2	S 181.975 Axial†	795.1	682.0	938.14 ug/L	938.14 ppb	18:16:41
2	Sb 206.836†	1531.7	1431.9	496.76 ug/L	496.76 ppb	18:16:41
2	Se 196.026†	838.5	818.4	491.01 ug/L	491.01 ppb	18:16:41
2	Si 251.611†	86009.9	81613.0	2412.3 ug/L	2412.3 ppb	18:16:21
2	Sn 189.927†	2744.2	2620.1	482.64 ug/L	482.64 ppb	18:16:41
2	Ti 334.940†	329683.4	315637.3	481.11 ug/L	481.11 ppb	18:16:21
2	Tl 190.801†	1532.9	1500.3	483.13 ug/L	483.13 ppb	18:16:41
2	U 409.014†	19217.0	19408.2	483.63 ug/L	483.63 ppb	18:16:21
2	V 292.402†	79766.1	77541.9	488.60 ug/L	488.60 ppb	18:16:21
2	Zn 213.857†	55055.7	51825.3	478.48 ug/L	478.48 ppb	18:16:21
2	SiO2†	86087.3	81669.4	5152.0 ug/L	5152.0 ppb	18:17:22
3	Sc Radial	5484.8	5484.8	103 %		18:15:17
3	Y RADIAL	5916.9	5916.9	102.8 %		18:15:17
3	Al 396.153Radial†	6642.3	6457.9	4868.5 ug/L	4868.5 ppb	18:15:17
3	Ca 317.933Radial†	3230.5	3125.1	5022.9 ug/L	5022.9 ppb	18:15:37
3	Fe 238.204 Radial†	587.6	565.0	5294.8 ug/L	5294.8 ppb	18:15:37
3	K 766.490 Radial†	30532.3	27223.3	4966.8 ug/L	4966.8 ppb	18:15:17
3	Mg 279.077 IEC†	152.7	147.7	5269.4 ug/L	5269.4 ppb	18:15:37
3	Na 589.592 Radial†	34866.3	34494.0	10254 ug/L	10254 ppb	18:15:17
3	Sr 421.552†	81761.9	79597.6	510.80 ug/L	510.80 ppb	18:15:17
3	Sc 361.383	930460.1	930460.1	103.63 %		18:16:46
3	Y 371.029	814593.4	814593.4	98.964 %		18:16:46
3	Ag 328.068†	120875.5	116346.1	488.73 ug/L	488.73 ppb	18:16:52
3	As 188.979†	1187.4	1176.0	485.36 ug/L	485.36 ppb	18:17:12
3	B 249.677†	23060.7	22493.4	491.02 ug/L	491.02 ppb	18:16:52
3	Ba 233.527†	63827.8	61595.5	486.74 ug/L	486.74 ppb	18:16:52
3	Be 313.107†	1417049.1	1372521.0	485.27 ug/L	485.27 ppb	18:16:46
3	Cd 226.502†	45037.3	43666.2	487.63 ug/L	487.63 ppb	18:16:52
3	Co 228.616†	23492.6	22739.8	498.57 ug/L	498.57 ppb	18:16:52
3	Cr 267.716†	46609.4	44883.0	487.16 ug/L	487.16 ppb	18:16:52
3	Cu 324.752†	187500.7	171805.9	481.97 ug/L	481.97 ppb	18:16:52
3	Mn 257.610†	447975.3	431796.3	484.42 ug/L	484.42 ppb	18:16:46
3	Mo 202.031†	7397.2	7114.6	486.02 ug/L	486.02 ppb	18:17:12
3	Ni 231.604†	20291.4	19487.1	489.44 ug/L	489.44 ppb	18:16:52
3	P 214.914†	4679.3	4276.7	2317.5 ug/L	2317.5 ppb	18:17:12
3	Pb 220.353†	3950.8	3872.9	487.68 ug/L	487.68 ppb	18:17:12
3	S 181.975 Axial†	790.6	685.9	943.46 ug/L	943.46 ppb	18:17:12
3	Sb 206.836†	1552.6	1468.0	509.03 ug/L	509.03 ppb	18:17:12
3	Se 196.026†	837.3	826.0	495.69 ug/L	495.69 ppb	18:17:12
3	Si 251.611†	85764.2	82264.6	2431.5 ug/L	2431.5 ppb	18:16:52
3	Sn 189.927†	2757.6	2661.4	490.25 ug/L	490.25 ppb	18:17:12
3	Ti 334.940†	328021.8	317440.2	483.86 ug/L	483.86 ppb	18:16:52
3	Tl 190.801†	1542.6	1525.4	491.17 ug/L	491.17 ppb	18:17:12
3	U 409.014†	19033.2	19429.5	484.15 ug/L	484.15 ppb	18:16:52
3	V 292.402†	79407.3	78019.8	491.62 ug/L	491.62 ppb	18:16:52
3	Zn 213.857†	54717.4	52067.7	480.70 ug/L	480.70 ppb	18:16:52
3	SiO2†	85324.6	81822.9	5161.6 ug/L	5161.6 ppb	18:17:27

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	935872.3	104.23 %		0.565			0.54%
Sc Radial	5535.7	104 %		0.8			0.81%
Y 371.029	819241.3	99.528 %		0.5887			0.59%
Y RADIAL	5953.6	103.4 %		0.56			0.54%
Ag 328.068†	115809.7	486.46 ug/L		2.019	486.46 ppb	2.019	0.42%
QC value within limits for Ag 328.068 Recovery = 97.29%							
Al 396.153Radial†	6401.7	4826.0 ug/L		47.75	4826.0 ppb	47.75	0.99%
QC value within limits for Al 396.153Radial Recovery = 96.52%							
As 188.979†	1176.7	485.64 ug/L		3.403	485.64 ppb	3.403	0.70%
QC value within limits for As 188.979 Recovery = 97.13%							
B 249.677†	22326.1	487.37 ug/L		3.627	487.37 ppb	3.627	0.74%
QC value within limits for B 249.677 Recovery = 97.47%							
Ba 233.527†	61242.1	483.94 ug/L		2.420	483.94 ppb	2.420	0.50%
QC value within limits for Ba 233.527 Recovery = 96.79%							
Be 313.107†	1370519.7	484.56 ug/L		1.534	484.56 ppb	1.534	0.32%
QC value within limits for Be 313.107 Recovery = 96.91%							
Ca 317.933Radial†	3090.7	4967.7 ug/L		47.95	4967.7 ppb	47.95	0.97%

QC value within limits for Ca 317.933 Radial Recovery = 99.35%							
Cd 226.502†	43404.8	484.71 ug/L	2.523	484.71 ppb	2.523	0.52%	
QC value within limits for Cd 226.502 Recovery = 96.94%							
Co 228.616†	22583.8	495.16 ug/L	2.961	495.16 ppb	2.961	0.60%	
QC value within limits for Co 228.616 Recovery = 99.03%							
Cr 267.716†	44595.2	484.04 ug/L	2.741	484.04 ppb	2.741	0.57%	
QC value within limits for Cr 267.716 Recovery = 96.81%							
Cu 324.752†	171415.5	480.87 ug/L	0.960	480.87 ppb	0.960	0.20%	
QC value within limits for Cu 324.752 Recovery = 96.17%							
Fe 238.204 Radial†	556.7	5217.4 ug/L	71.38	5217.4 ppb	71.38	1.37%	
QC value within limits for Fe 238.204 Radial Recovery = 104.35%							
K 766.490 Radial†	26905.1	4908.7 ug/L	68.33	4908.7 ppb	68.33	1.39%	
QC value within limits for K 766.490 Radial Recovery = 98.17%							
Mg 279.077 IEC†	146.3	5216.6 ug/L	47.03	5216.6 ppb	47.03	0.90%	
QC value within limits for Mg 279.077 IEC Recovery = 104.33%							
Mn 257.610†	431251.6	483.81 ug/L	0.791	483.81 ppb	0.791	0.16%	
QC value within limits for Mn 257.610 Recovery = 96.76%							
Mo 202.031†	7086.0	484.07 ug/L	2.187	484.07 ppb	2.187	0.45%	
QC value within limits for Mo 202.031 Recovery = 96.81%							
Na 589.592 Radial†	34251.3	10182 ug/L	68.7	10182 ppb	68.7	0.67%	
QC value within limits for Na 589.592 Radial Recovery = 101.82%							
Ni 231.604†	19399.2	487.23 ug/L	1.997	487.23 ppb	1.997	0.41%	
QC value within limits for Ni 231.604 Recovery = 97.45%							
P 214.914†	4250.4	2303.0 ug/L	13.16	2303.0 ppb	13.16	0.57%	
QC value within limits for P 214.914 Recovery = 92.12%							
Pb 220.353†	3852.9	485.17 ug/L	2.230	485.17 ppb	2.230	0.46%	
QC value within limits for Pb 220.353 Recovery = 97.03%							
S 181.975 Axial†	685.4	942.81 ug/L	4.387	942.81 ppb	4.387	0.47%	
QC value within limits for S 181.975 Axial Recovery = 94.28%							
Sb 206.836†	1449.2	502.64 ug/L	6.154	502.64 ppb	6.154	1.22%	
QC value within limits for Sb 206.836 Recovery = 100.53%							
Se 196.026†	823.1	493.78 ug/L	2.457	493.78 ppb	2.457	0.50%	
QC value within limits for Se 196.026 Recovery = 98.76%							
Si 251.611†	81813.1	2418.2 ug/L	11.59	2418.2 ppb	11.59	0.48%	
QC value within limits for Si 251.611 Recovery = 96.73%							
Sn 189.927†	2645.0	487.22 ug/L	4.033	487.22 ppb	4.033	0.83%	
QC value within limits for Sn 189.927 Recovery = 97.44%							
Sr 421.552†	79024.3	507.12 ug/L	3.722	507.12 ppb	3.722	0.73%	
QC value within limits for Sr 421.552 Recovery = 101.42%							
Ti 334.940†	316112.9	481.83 ug/L	1.777	481.83 ppb	1.777	0.37%	
QC value within limits for Ti 334.940 Recovery = 96.37%							
Tl 190.801†	1506.6	485.16 ug/L	5.303	485.16 ppb	5.303	1.09%	
QC value within limits for Tl 190.801 Recovery = 97.03%							
U 409.014†	19399.7	483.42 ug/L	0.859	483.42 ppb	0.859	0.18%	
QC value within limits for U 409.014 Recovery = 96.68%							
V 292.402†	77590.3	488.94 ug/L	2.537	488.94 ppb	2.537	0.52%	
QC value within limits for V 292.402 Recovery = 97.79%							
Zn 213.857†	51884.3	479.02 ug/L	1.491	479.02 ppb	1.491	0.31%	
QC value within limits for Zn 213.857 Recovery = 95.80%							
SiO2†	81522.5	5142.7 ug/L	24.97	5142.7 ppb	24.97	0.49%	
QC value within limits for SiO2 Recovery = 96.17%							
All analyte(s) passed QC.							

Sequence No.: 24

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 1/26/2010 18:19:37

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5441.5	5441.5	102 %		18:21:29
1	Y RADIAL	5854.4	5854.4	101.7 %		18:21:29
1	Al 396.153Radial†	-2.8	-11.9	-8.9932 ug/L	-8.9932 ppb	18:21:49
1	Ca 317.933Radial†	19.1	-1.5	-2.4436 ug/L	-2.4436 ppb	18:21:49
1	Fe 238.204 Radial†	5.6	-1.7	-15.847 ug/L	-15.847 ppb	18:21:49
1	K 766.490 Radial†	2272.4	-273.4	-49.926 ug/L	-49.926 ppb	18:21:29
1	Mg 279.077 IEC†	3.2	2.2	77.442 ug/L	77.442 ppb	18:21:49
1	Na 589.592 Radial†	-747.7	-186.1	-55.317 ug/L	-55.317 ppb	18:21:29
1	Sr 421.552†	22.7	15.2	0.0973 ug/L	0.0973 ppb	18:21:29
1	Sc 361.383	951804.2	951804.2	106.01 %		18:22:46
1	Y 371.029	841748.5	841748.5	102.26 %		18:22:46
1	Ag 328.068†	230.7	-78.4	-0.3222 ug/L	-0.3222 ppb	18:22:51
1	As 188.979†	-27.7	4.1	1.6523 ug/L	1.6523 ppb	18:23:11
1	B 249.677†	346.0	566.8	12.434 ug/L	12.434 ppb	18:23:11
1	Ba 233.527†	-4.0	-0.6	-0.0045 ug/L	-0.0045 ppb	18:23:11
1	Be 313.107†	-4974.6	407.7	0.1437 ug/L	0.1437 ppb	18:22:51
1	Cd 226.502†	-199.0	18.5	0.2063 ug/L	0.2063 ppb	18:23:11
1	Co 228.616†	-70.4	3.5	0.0779 ug/L	0.0779 ppb	18:23:11
1	Cr 267.716†	64.2	-33.4	-0.3578 ug/L	-0.3578 ppb	18:23:11
1	Cu 324.752†	8814.5	-813.0	-2.2759 ug/L	-2.2759 ppb	18:22:51
1	Mn 257.610†	497.5	-20.5	-0.0277 ug/L	-0.0277 ppb	18:23:11
1	Mo 202.031†	28.6	3.4	0.2303 ug/L	0.2303 ppb	18:23:11
1	Ni 231.604†	105.0	5.4	0.1347 ug/L	0.1347 ppb	18:23:11
1	P 214.914†	227.2	-24.4	-13.285 ug/L	-13.285 ppb	18:23:11
1	Pb 220.353†	-45.8	17.2	2.1599 ug/L	2.1599 ppb	18:23:11
1	S 181.975 Axial†	38.1	-41.1	-56.541 ug/L	-56.541 ppb	18:23:11
1	Sb 206.836†	39.2	6.8	2.2867 ug/L	2.2867 ppb	18:23:11
1	Se 196.026†	-16.1	2.7	1.5329 ug/L	1.5329 ppb	18:23:11
1	Si 251.611†	473.1	-49.7	-1.4750 ug/L	-1.4750 ppb	18:23:11
1	Sn 189.927†	6.3	6.2	1.1486 ug/L	1.1486 ppb	18:23:11
1	Ti 334.940†	-1010.6	-46.8	-0.0735 ug/L	-0.0735 ppb	18:22:51
1	Tl 190.801†	-39.3	-0.2	-0.0557 ug/L	-0.0557 ppb	18:23:11
1	U 409.014†	-1552.6	-401.8	-10.043 ug/L	-10.043 ppb	18:22:51
1	V 292.402†	-1398.8	74.0	0.4485 ug/L	0.4485 ppb	18:22:51
1	Zn 213.857†	678.3	-93.5	-0.8675 ug/L	-0.8675 ppb	18:23:11
1	SiO2†	481.0	-59.6	-3.7784 ug/L	-3.7784 ppb	18:24:32
2	Sc Radial	5535.8	5535.8	104 %		18:21:54
2	Y RADIAL	5952.0	5952.0	103.4 %		18:21:54
2	Al 396.153Radial†	5.0	-4.3	-3.2815 ug/L	-3.2815 ppb	18:22:14
2	Ca 317.933Radial†	21.2	0.2	0.3784 ug/L	0.3784 ppb	18:22:14
2	Fe 238.204 Radial†	6.4	-1.0	-9.1324 ug/L	-9.1324 ppb	18:22:14
2	K 766.490 Radial†	2249.9	-333.2	-60.846 ug/L	-60.846 ppb	18:21:54
2	Mg 279.077 IEC†	1.9	0.9	31.198 ug/L	31.198 ppb	18:22:14
2	Na 589.592 Radial†	-800.8	-224.8	-66.840 ug/L	-66.840 ppb	18:21:54
2	Sr 421.552†	36.3	27.9	0.1790 ug/L	0.1790 ppb	18:21:54
2	Sc 361.383	943560.9	943560.9	105.09 %		18:23:16
2	Y 371.029	834278.1	834278.1	101.36 %		18:23:16
2	Ag 328.068†	265.6	-43.3	-0.1742 ug/L	-0.1742 ppb	18:23:21
2	As 188.979†	-24.7	6.7	2.7286 ug/L	2.7286 ppb	18:23:41
2	B 249.677†	359.1	582.1	12.768 ug/L	12.768 ppb	18:23:41
2	Ba 233.527†	-10.0	-6.4	-0.0499 ug/L	-0.0499 ppb	18:23:41
2	Be 313.107†	-5059.7	285.7	0.1011 ug/L	0.1011 ppb	18:23:21
2	Cd 226.502†	-178.3	36.5	0.4066 ug/L	0.4066 ppb	18:23:41
2	Co 228.616†	-70.4	3.0	0.0662 ug/L	0.0662 ppb	18:23:41
2	Cr 267.716†	81.4	-16.5	-0.1745 ug/L	-0.1745 ppb	18:23:41
2	Cu 324.752†	8860.9	-696.2	-1.9486 ug/L	-1.9486 ppb	18:23:21
2	Mn 257.610†	493.4	-20.4	-0.0250 ug/L	-0.0250 ppb	18:23:41
2	Mo 202.031†	29.6	4.6	0.3101 ug/L	0.3101 ppb	18:23:41
2	Ni 231.604†	99.5	1.0	0.0261 ug/L	0.0261 ppb	18:23:41

2	P 214.914†	226.3	-23.4	-12.814 ug/L	-12.814 ppb	18:23:41
2	Pb 220.353†	-53.2	9.7	1.2229 ug/L	1.2229 ppb	18:23:41
2	S 181.975 Axial†	47.8	-31.5	-43.424 ug/L	-43.424 ppb	18:23:41
2	Sb 206.836†	36.6	4.6	1.5412 ug/L	1.5412 ppb	18:23:41
2	Se 196.026†	-20.9	-1.9	-1.1471 ug/L	-1.1471 ppb	18:23:41
2	Si 251.611†	491.7	-28.1	-0.8359 ug/L	-0.8359 ppb	18:23:41
2	Sn 189.927†	1.8	2.0	0.3698 ug/L	0.3698 ppb	18:23:41
2	Ti 334.940†	-846.7	100.8	0.1552 ug/L	0.1552 ppb	18:23:21
2	Tl 190.801†	-34.8	3.7	1.1972 ug/L	1.1972 ppb	18:23:41
2	U 409.014†	-1491.2	-356.1	-8.9034 ug/L	-8.9034 ppb	18:23:21
2	V 292.402†	-1372.0	88.0	0.5364 ug/L	0.5364 ppb	18:23:21
2	Zn 213.857†	678.3	-87.9	-0.8158 ug/L	-0.8158 ppb	18:23:41
2	SiO2†	460.8	-74.9	-4.7464 ug/L	-4.7464 ppb	18:24:52
3	Sc Radial	5334.3	5334.3	99.9 %		18:22:19
3	Y RADIAL	5763.8	5763.8	100.1 %		18:22:19
3	Al 396.153Radial†	11.8	2.7	1.9930 ug/L	1.9930 ppb	18:22:39
3	Ca 317.933Radial†	19.7	-0.6	-0.9033 ug/L	-0.9033 ppb	18:22:39
3	Fe 238.204 Radial†	5.2	-2.0	-18.237 ug/L	-18.237 ppb	18:22:39
3	K 766.490 Radial†	2341.9	-159.1	-29.029 ug/L	-29.029 ppb	18:22:19
3	Mg 279.077 IEC†	1.9	0.9	32.584 ug/L	32.584 ppb	18:22:39
3	Na 589.592 Radial†	-798.5	-251.7	-74.826 ug/L	-74.826 ppb	18:22:19
3	Sr 421.552†	17.3	10.3	0.0658 ug/L	0.0658 ppb	18:22:19
3	Sc 361.383	942574.3	942574.3	104.98 %		18:23:46
3	Y 371.029	833350.1	833350.1	101.24 %		18:23:46
3	Ag 328.068†	320.1	8.9	0.0424 ug/L	0.0424 ppb	18:23:51
3	As 188.979†	-35.7	-3.8	-1.5690 ug/L	-1.5690 ppb	18:24:11
3	B 249.677†	300.2	526.4	11.547 ug/L	11.547 ppb	18:24:11
3	Ba 233.527†	4.9	7.8	0.0628 ug/L	0.0628 ppb	18:24:11
3	Be 313.107†	-4884.3	447.8	0.1581 ug/L	0.1581 ppb	18:23:51
3	Cd 226.502†	-193.5	21.9	0.2441 ug/L	0.2441 ppb	18:24:11
3	Co 228.616†	-69.8	3.4	0.0759 ug/L	0.0759 ppb	18:24:11
3	Cr 267.716†	72.8	-24.6	-0.2622 ug/L	-0.2622 ppb	18:24:11
3	Cu 324.752†	8813.0	-732.9	-2.0521 ug/L	-2.0521 ppb	18:23:51
3	Mn 257.610†	490.7	-22.4	-0.0283 ug/L	-0.0283 ppb	18:24:11
3	Mo 202.031†	29.8	4.7	0.3217 ug/L	0.3217 ppb	18:24:11
3	Ni 231.604†	85.3	-12.4	-0.3118 ug/L	-0.3118 ppb	18:24:11
3	P 214.914†	242.8	-7.4	-3.7755 ug/L	-3.7755 ppb	18:24:11
3	Pb 220.353†	-57.3	5.8	0.7364 ug/L	0.7364 ppb	18:24:11
3	S 181.975 Axial†	45.7	-33.4	-46.022 ug/L	-46.022 ppb	18:24:11
3	Sb 206.836†	36.6	4.6	1.5476 ug/L	1.5476 ppb	18:24:11
3	Se 196.026†	-8.7	9.7	5.5321 ug/L	5.5321 ppb	18:24:11
3	Si 251.611†	493.8	-25.6	-0.7613 ug/L	-0.7613 ppb	18:24:11
3	Sn 189.927†	-3.1	-2.6	-0.4821 ug/L	-0.4821 ppb	18:24:11
3	Ti 334.940†	-901.3	48.0	0.0744 ug/L	0.0744 ppb	18:23:51
3	Tl 190.801†	-38.8	-0.0	-0.0146 ug/L	-0.0146 ppb	18:24:11
3	U 409.014†	-1483.6	-350.4	-8.7596 ug/L	-8.7596 ppb	18:23:51
3	V 292.402†	-1288.7	166.0	1.0234 ug/L	1.0234 ppb	18:23:51
3	Zn 213.857†	676.5	-89.0	-0.8223 ug/L	-0.8223 ppb	18:24:11
3	SiO2†	491.0	-45.7	-2.8960 ug/L	-2.8960 ppb	18:25:12

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	945979.8	105.36 %	0.564			0.54%
Sc Radial	5437.2	102 %	1.9			1.85%
Y 371.029	836458.9	101.62 %	0.559			0.55%
Y RADIAL	5856.8	101.7 %	1.64			1.61%
Ag 328.068†	-37.6	-0.1513 ug/L	0.18335	-0.1513 ppb	0.18335	121.18%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-4.5	-3.4273 ug/L	5.49454	-3.4273 ppb	5.49454	160.32%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.3	0.9373 ug/L	2.23623	0.9373 ppb	2.23623	238.58%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	558.5	12.250 ug/L	0.6306	12.250 ppb	0.6306	5.15%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.2	0.0028 ug/L	0.05670	0.0028 ppb	0.05670	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	380.4	0.1343 ug/L	0.02963	0.1343 ppb	0.02963	22.06%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-0.6	-0.9895 ug/L	1.41301	-0.9895 ppb	1.41301	142.80%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	25.6	0.2857 ug/L	0.10642	0.2857 ppb	0.10642	37.26%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	3.3	0.0733 ug/L	0.00625	0.0733 ppb	0.00625	8.52%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-24.8	-0.2649 ug/L	0.09165	-0.2649 ppb	0.09165	34.60%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-747.4	-2.0922 ug/L	0.16728	-2.0922 ppb	0.16728	8.00%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-1.5	-14.406 ug/L	4.7204	-14.406 ppb	4.7204	32.77%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-255.2	-46.600 ug/L	16.1672	-46.600 ppb	16.1672	34.69%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	47.075 ug/L	26.3079	47.075 ppb	26.3079	55.89%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-21.1	-0.0270 ug/L	0.00173	-0.0270 ppb	0.00173	6.41%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.2	0.2874 ug/L	0.04977	0.2874 ppb	0.04977	17.32%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-220.9	-65.661 ug/L	9.8077	-65.661 ppb	9.8077	14.94%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-2.0	-0.0503 ug/L	0.23286	-0.0503 ppb	0.23286	462.57%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-18.4	-9.9581 ug/L	5.35947	-9.9581 ppb	5.35947	53.82%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	10.9	1.3731 ug/L	0.72353	1.3731 ppb	0.72353	52.69%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-35.3	-48.662 ug/L	6.9456	-48.662 ppb	6.9456	14.27%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	5.3	1.7918 ug/L	0.42857	1.7918 ppb	0.42857	23.92%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	3.5	1.9726 ug/L	3.36125	1.9726 ppb	3.36125	170.39%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-34.4	-1.0241 ug/L	0.39226	-1.0241 ppb	0.39226	38.30%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.9	0.3455 ug/L	0.81560	0.3455 ppb	0.81560	236.10%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	17.8	0.1140 ug/L	0.05843	0.1140 ppb	0.05843	51.24%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	34.0	0.0520 ug/L	0.11596	0.0520 ppb	0.11596	222.80%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.2	0.3756 ug/L	0.71179	0.3756 ppb	0.71179	189.50%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-369.4	-9.2355 ug/L	0.70333	-9.2355 ppb	0.70333	7.62%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	109.3	0.6694 ug/L	0.30967	0.6694 ppb	0.30967	46.26%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-90.2	-0.8352 ug/L	0.02814	-0.8352 ppb	0.02814	3.37%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-60.1	-3.8070 ug/L	0.92554	-3.8070 ppb	0.92554	24.31%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 29

Sample ID: 1202017561|942466|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 60

Date Collected: 1/26/2010 18:55:00

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202017561|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5718.6	5718.6	107 %		18:56:53
1	Y RADIAL	6164.7	6164.7	107.1 %		18:56:53
1	Al 396.153Radial†	454.3	415.1	314.42 ug/L	314.42 ppb	18:56:53
1	Ca 317.933Radial†	91.9	65.6	105.47 ug/L	105.47 ppb	18:57:13
1	Fe 238.204 Radial†	30.2	21.0	196.65 ug/L	196.65 ppb	18:57:13
1	K 766.490 Radial†	4214.2	1431.7	261.40 ug/L	261.40 ppb	18:56:53
1	Mg 279.077 IEC†	2.9	1.7	61.544 ug/L	61.544 ppb	18:57:13
1	Na 589.592 Radial†	517.9	1031.3	306.58 ug/L	306.58 ppb	18:56:53
1	Sr 421.552†	159.3	141.6	0.9082 ug/L	0.9082 ppb	18:56:53
1	Sc 361.383	961823.3	961823.3	107.12 %		18:58:09
1	Y 371.029	849400.9	849400.9	103.19 %		18:58:09
1	Ag 328.068†	209.3	-100.7	-0.3449 ug/L	-0.3449 ppb	18:58:15
1	As 188.979†	-28.2	3.8	1.6801 ug/L	1.6801 ppb	18:58:35
1	B 249.677†	1580.8	1716.1	37.601 ug/L	37.601 ppb	18:58:15
1	Ba 233.527†	568.3	533.6	4.2148 ug/L	4.2148 ppb	18:58:35
1	Be 313.107†	-5223.1	224.6	0.0962 ug/L	0.0962 ppb	18:58:15
1	Cd 226.502†	-196.6	22.7	0.2317 ug/L	0.2317 ppb	18:58:35
1	Co 228.616†	-49.5	23.7	0.5027 ug/L	0.5027 ppb	18:58:35
1	Cr 267.716†	192.0	85.3	0.9342 ug/L	0.9342 ppb	18:58:35
1	Cu 324.752†	10427.4	606.1	1.7160 ug/L	1.7160 ppb	18:58:15
1	Mn 257.610†	4533.6	3742.3	4.2126 ug/L	4.2126 ppb	18:58:15
1	Mo 202.031†	25.0	-0.3	-0.0044 ug/L	-0.0044 ppb	18:58:35
1	Ni 231.604†	154.8	50.8	1.2763 ug/L	1.2763 ppb	18:58:35
1	P 214.914†	274.8	17.8	9.5984 ug/L	9.5984 ppb	18:58:35
1	Pb 220.353†	-44.4	19.0	2.4324 ug/L	2.4324 ppb	18:58:35
1	S 181.975 Axial†	101.6	17.9	24.518 ug/L	24.518 ppb	18:58:35
1	Sb 206.836†	22.1	-9.6	-3.2606 ug/L	-3.2606 ppb	18:58:35
1	Se 196.026†	-22.2	-2.7	-0.9155 ug/L	-0.9155 ppb	18:58:35
1	Si 251.611†	101120.0	93900.7	2782.3 ug/L	2782.3 ppb	18:58:15
1	Sn 189.927†	-6.2	-5.4	-0.9813 ug/L	-0.9813 ppb	18:58:35
1	Ti 334.940†	4291.8	4913.0	7.5039 ug/L	7.5039 ppb	18:58:15
1	Tl 190.801†	-37.5	1.9	0.6720 ug/L	0.6720 ppb	18:58:35
1	U 409.014†	-1548.6	-382.8	-9.5969 ug/L	-9.5969 ppb	18:58:15
1	V 292.402†	-1274.0	204.3	1.2161 ug/L	1.2161 ppb	18:58:15
1	Zn 213.857†	1081.6	276.3	2.5442 ug/L	2.5442 ppb	18:58:35
1	SiO2†	102124.9	94821.4	5996.9 ug/L	5996.9 ppb	18:59:41
2	Sc Radial	5731.2	5731.2	107 %		18:57:18
2	Y RADIAL	6181.0	6181.0	107.4 %		18:57:18
2	Al 396.153Radial†	435.6	396.7	300.54 ug/L	300.54 ppb	18:57:18
2	Ca 317.933Radial†	85.9	59.8	96.158 ug/L	96.158 ppb	18:57:38
2	Fe 238.204 Radial†	29.2	20.0	186.97 ug/L	186.97 ppb	18:57:38
2	K 766.490 Radial†	4198.2	1408.2	257.10 ug/L	257.10 ppb	18:57:18
2	Mg 279.077 IEC†	3.0	1.8	64.230 ug/L	64.230 ppb	18:57:38
2	Na 589.592 Radial†	552.8	1062.8	315.93 ug/L	315.93 ppb	18:57:18
2	Sr 421.552†	151.1	133.7	0.8574 ug/L	0.8574 ppb	18:57:18
2	Sc 361.383	974003.0	974003.0	108.48 %		18:58:40
2	Y 371.029	860875.4	860875.4	104.59 %		18:58:40
2	Ag 328.068†	388.1	61.7	0.3256 ug/L	0.3256 ppb	18:58:45
2	As 188.979†	-32.8	-0.0	0.1053 ug/L	0.1053 ppb	18:59:05
2	B 249.677†	1548.4	1667.8	36.543 ug/L	36.543 ppb	18:58:45
2	Ba 233.527†	585.4	542.8	4.2858 ug/L	4.2858 ppb	18:59:05
2	Be 313.107†	-5210.8	296.9	0.1216 ug/L	0.1216 ppb	18:58:45
2	Cd 226.502†	-194.7	26.7	0.2786 ug/L	0.2786 ppb	18:59:05
2	Co 228.616†	-50.4	23.5	0.4983 ug/L	0.4983 ppb	18:59:05
2	Cr 267.716†	173.2	65.7	0.7195 ug/L	0.7195 ppb	18:59:05
2	Cu 324.752†	10496.1	547.7	1.5500 ug/L	1.5500 ppb	18:58:45
2	Mn 257.610†	4537.0	3692.5	4.1558 ug/L	4.1558 ppb	18:58:45
2	Mo 202.031†	23.4	-2.1	-0.1260 ug/L	-0.1260 ppb	18:59:05
2	Ni 231.604†	148.5	43.2	1.0852 ug/L	1.0852 ppb	18:59:05

2	P 214.914†	266.4	6.9	3.4854 ug/L	3.4854 ppb	18:59:05
2	Pb 220.353†	-41.3	22.3	2.8479 ug/L	2.8479 ppb	18:59:05
2	S 181.975 Axial†	100.2	15.4	21.080 ug/L	21.080 ppb	18:59:05
2	Sb 206.836†	20.9	-11.0	-3.7144 ug/L	-3.7144 ppb	18:59:05
2	Se 196.026†	-16.9	2.4	2.0034 ug/L	2.0034 ppb	18:59:05
2	Si 251.611†	101003.8	92613.2	2744.1 ug/L	2744.1 ppb	18:58:45
2	Sn 189.927†	-1.2	-0.7	-0.1199 ug/L	-0.1199 ppb	18:59:05
2	Ti 334.940†	4299.5	4870.0	7.4357 ug/L	7.4357 ppb	18:58:45
2	Tl 190.801†	-36.2	3.5	1.2083 ug/L	1.2083 ppb	18:59:05
2	U 409.014†	-1447.9	-271.9	-6.8207 ug/L	-6.8207 ppb	18:58:45
2	V 292.402†	-1369.9	130.7	0.7639 ug/L	0.7639 ppb	18:58:45
2	Zn 213.857†	1065.5	248.8	2.2905 ug/L	2.2905 ppb	18:59:05
2	SiO2†	103777.3	95152.4	6017.9 ug/L	6017.9 ppb	18:59:46
3	Sc Radial	5717.9	5717.9	107 %		18:57:43
3	Y RADIAL	6165.6	6165.6	107.1 %		18:57:43
3	Al 396.153Radial†	467.5	427.5	323.82 ug/L	323.82 ppb	18:57:43
3	Ca 317.933Radial†	88.3	62.3	100.09 ug/L	100.09 ppb	18:58:03
3	Fe 238.204 Radial†	29.3	20.3	189.26 ug/L	189.26 ppb	18:58:03
3	K 766.490 Radial†	4209.2	1427.6	260.64 ug/L	260.64 ppb	18:57:43
3	Mg 279.077 IEC†	2.4	1.3	46.281 ug/L	46.281 ppb	18:58:03
3	Na 589.592 Radial†	523.8	1036.8	308.22 ug/L	308.22 ppb	18:57:43
3	Sr 421.552†	131.6	115.8	0.7427 ug/L	0.7427 ppb	18:57:43
3	Sc 361.383	979621.6	979621.6	109.10 %		18:59:10
3	Y 371.029	865645.2	865645.2	105.17 %		18:59:10
3	Ag 328.068†	371.8	44.8	0.2555 ug/L	0.2555 ppb	18:59:15
3	As 188.979†	-35.6	-2.5	-0.8992 ug/L	-0.8992 ppb	18:59:35
3	B 249.677†	1617.6	1723.1	37.757 ug/L	37.757 ppb	18:59:15
3	Ba 233.527†	579.8	534.5	4.2216 ug/L	4.2216 ppb	18:59:35
3	Be 313.107†	-5164.2	367.2	0.1462 ug/L	0.1462 ppb	18:59:15
3	Cd 226.502†	-207.5	16.0	0.1592 ug/L	0.1592 ppb	18:59:35
3	Co 228.616†	-68.8	6.9	0.1339 ug/L	0.1339 ppb	18:59:35
3	Cr 267.716†	182.3	73.1	0.7998 ug/L	0.7998 ppb	18:59:35
3	Cu 324.752†	10482.9	480.1	1.3597 ug/L	1.3597 ppb	18:59:15
3	Mn 257.610†	4494.0	3629.1	4.0857 ug/L	4.0857 ppb	18:59:15
3	Mo 202.031†	21.9	-3.5	-0.2239 ug/L	-0.2239 ppb	18:59:35
3	Ni 231.604†	160.1	53.1	1.3333 ug/L	1.3333 ppb	18:59:35
3	P 214.914†	259.0	-1.4	-1.1198 ug/L	-1.1198 ppb	18:59:35
3	Pb 220.353†	-50.4	14.2	1.8311 ug/L	1.8311 ppb	18:59:35
3	S 181.975 Axial†	100.9	15.5	21.324 ug/L	21.324 ppb	18:59:35
3	Sb 206.836†	32.4	-0.5	-0.2157 ug/L	-0.2157 ppb	18:59:35
3	Se 196.026†	-18.9	0.7	1.0290 ug/L	1.0290 ppb	18:59:35
3	Si 251.611†	101353.6	92399.8	2737.8 ug/L	2737.8 ppb	18:59:15
3	Sn 189.927†	-4.6	-3.9	-0.6939 ug/L	-0.6939 ppb	18:59:35
3	Ti 334.940†	4270.8	4821.0	7.3622 ug/L	7.3622 ppb	18:59:15
3	Tl 190.801†	-41.7	-1.3	-0.3350 ug/L	-0.3350 ppb	18:59:35
3	U 409.014†	-1384.2	-205.9	-5.1710 ug/L	-5.1710 ppb	18:59:15
3	V 292.402†	-1329.9	174.7	1.0383 ug/L	1.0383 ppb	18:59:15
3	Zn 213.857†	1095.3	270.5	2.4908 ug/L	2.4908 ppb	18:59:35
3	SiO2†	101613.8	92620.8	5857.8 ug/L	5857.8 ppb	18:59:51

Mean Data: 1202017561|942466|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Sc 361.383	971816.0	108.24 %		1.013			0.94%
Sc Radial	5722.6	107 %		0.1			0.13%
Y 371.029	858640.5	104.32 %		1.014			0.97%
Y RADIAL	6170.4	107.2 %		0.16			0.15%
Ag 328.068†	1.9	0.0787 ug/L		0.36856	0.0787 ppb	0.36856	468.29%
Al 396.153Radial†	413.1	312.92 ug/L		11.712	312.92 ppb	11.712	3.74%
As 188.979†	0.5	0.2954 ug/L		1.30009	0.2954 ppb	1.30009	440.12%
B 249.677†	1702.3	37.300 ug/L		0.6604	37.300 ppb	0.6604	1.77%
Ba 233.527†	537.0	4.2407 ug/L		0.03919	4.2407 ppb	0.03919	0.92%
Be 313.107†	296.3	0.1214 ug/L		0.02500	0.1214 ppb	0.02500	20.60%
Ca 317.933Radial†	62.6	100.57 ug/L		4.675	100.57 ppb	4.675	4.65%
Cd 226.502†	21.8	0.2232 ug/L		0.06014	0.2232 ppb	0.06014	26.95%
Co 228.616†	18.0	0.3783 ug/L		0.21166	0.3783 ppb	0.21166	55.95%
Cr 267.716†	74.7	0.8178 ug/L		0.10844	0.8178 ppb	0.10844	13.26%
Cu 324.752†	544.6	1.5419 ug/L		0.17828	1.5419 ppb	0.17828	11.56%
Fe 238.204 Radial†	20.4	190.96 ug/L		5.056	190.96 ppb	5.056	2.65%
K 766.490 Radial†	1422.5	259.71 ug/L		2.296	259.71 ppb	2.296	0.88%

Mg 279.077 IEC†	1.6	57.352 ug/L	9.6811	57.352 ppb	9.6811	16.88%
Mn 257.610†	3688.0	4.1514 ug/L	0.06360	4.1514 ppb	0.06360	1.53%
Mo 202.031†	-2.0	-0.1181 ug/L	0.10994	-0.1181 ppb	0.10994	93.11%
Na 589.592 Radial†	1043.6	310.24 ug/L	4.993	310.24 ppb	4.993	1.61%
Ni 231.604†	49.0	1.2316 ug/L	0.12994	1.2316 ppb	0.12994	10.55%
P 214.914†	7.8	3.9880 ug/L	5.37676	3.9880 ppb	5.37676	134.82%
Pb 220.353†	18.5	2.3705 ug/L	0.51121	2.3705 ppb	0.51121	21.57%
S 181.975 Axial†	16.2	22.307 ug/L	1.9183	22.307 ppb	1.9183	8.60%
Sb 206.836†	-7.1	-2.3969 ug/L	1.90252	-2.3969 ppb	1.90252	79.37%
Se 196.026†	0.1	0.7056 ug/L	1.48610	0.7056 ppb	1.48610	210.61%
Si 251.611†	92971.2	2754.7 ug/L	24.06	2754.7 ppb	24.06	0.87%
Sn 189.927†	-3.4	-0.5984 ug/L	0.43859	-0.5984 ppb	0.43859	73.30%
Sr 421.552†	130.4	0.8361 ug/L	0.08476	0.8361 ppb	0.08476	10.14%
Ti 334.940†	4868.0	7.4339 ug/L	0.07086	7.4339 ppb	0.07086	0.95%
Tl 190.801†	1.4	0.5151 ug/L	0.78351	0.5151 ppb	0.78351	152.11%
U 409.014†	-286.8	-7.1962 ug/L	2.23671	-7.1962 ppb	2.23671	31.08%
V 292.402†	169.9	1.0061 ug/L	0.22780	1.0061 ppb	0.22780	22.64%
Zn 213.857†	265.2	2.4418 ug/L	0.13370	2.4418 ppb	0.13370	5.48%
SiO2†	94198.2	5957.5 ug/L	87.03	5957.5 ppb	87.03	1.46%

Sequence No.: 30  
 Sample ID: 1202017562|942466|1  
 Analyst: HSC  
 Initial Sample Wt.:  
 Dilution:

Autosampler Location: 61  
 Date Collected: 1/26/2010 19:02:02  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 1202017562|942466|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5694.1	5694.1	107 %		19:03:55
1	Y RADIAL	6107.1	6107.1	106.1 %		19:03:55
1	Al 396.153Radial†	6901.6	6463.4	4877.7 ug/L	4877.7 ppb	19:03:55
1	Ca 317.933Radial†	3059.2	2848.8	4578.9 ug/L	4578.9 ppb	19:04:15
1	Fe 238.204 Radial†	564.4	522.2	4893.0 ug/L	4893.0 ppb	19:04:15
1	K 766.490 Radial†	31013.5	26581.9	4852.0 ug/L	4852.0 ppb	19:03:55
1	Mg 279.077 IEC†	143.7	133.8	4770.4 ug/L	4770.4 ppb	19:04:15
1	Na 589.592 Radial†	17323.6	16794.3	4992.5 ug/L	4992.5 ppb	19:03:55
1	Sr 421.552†	77800.5	72956.6	468.18 ug/L	468.18 ppb	19:03:55
1	Sc 361.383	977453.7	977453.7	108.86 %		19:05:14
1	Y 371.029	856007.4	856007.4	104.00 %		19:05:14
1	Ag 328.068†	113238.6	103723.1	435.64 ug/L	435.64 ppb	19:05:14
1	As 188.979†	1065.2	1008.7	416.44 ug/L	416.44 ppb	19:05:34
1	B 249.677†	22496.5	20905.4	456.45 ug/L	456.45 ppb	19:05:14
1	Ba 233.527†	61441.7	56442.4	445.91 ug/L	445.91 ppb	19:05:14
1	Be 313.107†	1295454.8	1195084.2	422.51 ug/L	422.51 ppb	19:05:14
1	Cd 226.502†	40218.6	37150.3	414.80 ug/L	414.80 ppb	19:05:34
1	Co 228.616†	21223.0	19565.1	428.92 ug/L	428.92 ppb	19:05:34
1	Cr 267.716†	39443.9	36138.6	392.27 ug/L	392.27 ppb	19:05:14
1	Cu 324.752†	166255.3	143591.4	402.85 ug/L	402.85 ppb	19:05:14
1	Mn 257.610†	387457.3	355422.1	398.78 ug/L	398.78 ppb	19:05:14
1	Mo 202.031†	6119.7	5597.9	382.48 ug/L	382.48 ppb	19:05:34
1	Ni 231.604†	17017.0	15537.8	390.23 ug/L	390.23 ppb	19:05:34
1	P 214.914†	1152.8	820.2	383.65 ug/L	383.65 ppb	19:05:34
1	Pb 220.353†	3691.5	3451.4	434.60 ug/L	434.60 ppb	19:05:34
1	S 181.975 Axial†	3256.1	2914.0	4011.2 ug/L	4011.2 ppb	19:05:34
1	Sb 206.836†	1311.0	1174.0	407.17 ug/L	407.17 ppb	19:05:34
1	Se 196.026†	669.8	633.2	382.87 ug/L	382.87 ppb	19:05:34
1	Si 251.611†	253597.4	232454.5	6882.9 ug/L	6882.9 ppb	19:05:14
1	Sn 189.927†	2420.8	2224.1	409.76 ug/L	409.76 ppb	19:05:34
1	Ti 334.940†	291698.5	268856.1	409.84 ug/L	409.84 ppb	19:05:14
1	Tl 190.801†	1279.3	1212.1	390.39 ug/L	390.39 ppb	19:05:34
1	U 409.014†	16086.2	15839.4	394.63 ug/L	394.63 ppb	19:05:14
1	V 292.402†	67748.5	63626.3	400.64 ug/L	400.64 ppb	19:05:14
1	Zn 213.857†	46626.1	42096.6	388.60 ug/L	388.60 ppb	19:05:14
1	SiO2†	250139.4	229260.6	14489 ug/L	14489 ppb	19:06:34
2	Sc Radial	5723.0	5723.0	107 %		19:04:20
2	Y RADIAL	6156.5	6156.5	106.9 %		19:04:20
2	Al 396.153Radial†	6903.4	6432.3	4854.0 ug/L	4854.0 ppb	19:04:20
2	Ca 317.933Radial†	3108.1	2879.9	4628.9 ug/L	4628.9 ppb	19:04:40
2	Fe 238.204 Radial†	573.4	527.9	4946.6 ug/L	4946.6 ppb	19:04:40
2	K 766.490 Radial†	30961.9	26386.8	4816.3 ug/L	4816.3 ppb	19:04:20
2	Mg 279.077 IEC†	146.7	135.9	4847.8 ug/L	4847.8 ppb	19:04:40
2	Na 589.592 Radial†	17396.1	16779.8	4988.2 ug/L	4988.2 ppb	19:04:20
2	Sr 421.552†	78114.7	72881.0	467.69 ug/L	467.69 ppb	19:04:20
2	Sc 361.383	974685.0	974685.0	108.55 %		19:05:41
2	Y 371.029	855306.6	855306.6	103.91 %		19:05:41
2	Ag 328.068†	113047.5	103842.6	436.16 ug/L	436.16 ppb	19:05:41
2	As 188.979†	1078.0	1023.3	422.40 ug/L	422.40 ppb	19:06:01
2	B 249.677†	22512.6	20978.8	458.04 ug/L	458.04 ppb	19:05:41
2	Ba 233.527†	60971.9	56169.9	443.76 ug/L	443.76 ppb	19:05:41
2	Be 313.107†	1293167.7	1196357.5	422.96 ug/L	422.96 ppb	19:05:41
2	Cd 226.502†	40399.4	37421.8	417.83 ug/L	417.83 ppb	19:06:01
2	Co 228.616†	21382.2	19767.1	433.36 ug/L	433.36 ppb	19:06:01
2	Cr 267.716†	39306.9	36115.3	392.01 ug/L	392.01 ppb	19:05:41
2	Cu 324.752†	165753.8	143563.2	402.77 ug/L	402.77 ppb	19:05:41
2	Mn 257.610†	385053.4	354218.6	397.43 ug/L	397.43 ppb	19:05:41
2	Mo 202.031†	6166.1	5656.6	386.49 ug/L	386.49 ppb	19:06:01
2	Ni 231.604†	17115.1	15672.7	393.62 ug/L	393.62 ppb	19:06:01

2	P 214.914†	1162.4	832.1	390.33 ug/L	390.33 ppb	19:06:01
2	Pb 220.353†	3705.1	3473.5	437.37 ug/L	437.37 ppb	19:06:01
2	S 181.975 Axial†	3263.8	2929.6	4032.7 ug/L	4032.7 ppb	19:06:01
2	Sb 206.836†	1319.5	1185.3	411.07 ug/L	411.07 ppb	19:06:01
2	Se 196.026†	681.7	646.0	390.41 ug/L	390.41 ppb	19:06:01
2	Si 251.611†	252051.6	231692.2	6860.3 ug/L	6860.3 ppb	19:05:41
2	Sn 189.927†	2429.0	2237.9	412.31 ug/L	412.31 ppb	19:06:01
2	Ti 334.940†	290173.7	268212.5	408.86 ug/L	408.86 ppb	19:05:41
2	Tl 190.801†	1287.8	1223.2	393.90 ug/L	393.90 ppb	19:06:01
2	U 409.014†	16069.7	15866.2	395.30 ug/L	395.30 ppb	19:05:41
2	V 292.402†	67506.4	63580.0	400.40 ug/L	400.40 ppb	19:05:41
2	Zn 213.857†	46398.3	42008.3	387.76 ug/L	387.76 ppb	19:05:41
2	SiO2†	251930.3	231563.0	14635 ug/L	14635 ppb	19:06:40
3	Sc Radial	5701.3	5701.3	107 %		19:04:45
3	Y RADIAL	6128.2	6128.2	106.4 %		19:04:45
3	Al 396.153Radial†	6950.3	6500.7	4905.6 ug/L	4905.6 ppb	19:04:45
3	Ca 317.933Radial†	3068.3	2853.6	4586.6 ug/L	4586.6 ppb	19:05:05
3	Fe 238.204 Radial†	569.7	526.5	4933.2 ug/L	4933.2 ppb	19:05:05
3	K 766.490 Radial†	31041.0	26570.6	4849.9 ug/L	4849.9 ppb	19:04:45
3	Mg 279.077 IEC†	146.4	136.2	4856.2 ug/L	4856.2 ppb	19:05:05
3	Na 589.592 Radial†	17451.5	16893.3	5021.9 ug/L	5021.9 ppb	19:04:45
3	Sr 421.552†	78143.2	73184.5	469.64 ug/L	469.64 ppb	19:04:45
3	Sc 361.383	967493.7	967493.7	107.75 %		19:06:09
3	Y 371.029	848994.6	848994.6	103.14 %		19:06:09
3	Ag 328.068†	112269.9	103894.9	436.37 ug/L	436.37 ppb	19:06:09
3	As 188.979†	1084.6	1036.7	427.91 ug/L	427.91 ppb	19:06:29
3	B 249.677†	22371.6	21002.1	458.55 ug/L	458.55 ppb	19:06:09
3	Ba 233.527†	60625.1	56265.6	444.52 ug/L	444.52 ppb	19:06:09
3	Be 313.107†	1284694.5	1197348.5	423.31 ug/L	423.31 ppb	19:06:09
3	Cd 226.502†	40454.2	37749.3	421.50 ug/L	421.50 ppb	19:06:29
3	Co 228.616†	21373.3	19905.3	436.39 ug/L	436.39 ppb	19:06:29
3	Cr 267.716†	39067.5	36162.3	392.52 ug/L	392.52 ppb	19:06:09
3	Cu 324.752†	164192.6	143249.3	401.89 ug/L	401.89 ppb	19:06:09
3	Mn 257.610†	383052.7	354998.5	398.30 ug/L	398.30 ppb	19:06:09
3	Mo 202.031†	6161.4	5694.4	389.07 ug/L	389.07 ppb	19:06:29
3	Ni 231.604†	17136.1	15809.3	397.05 ug/L	397.05 ppb	19:06:29
3	P 214.914†	1173.6	850.4	400.90 ug/L	400.90 ppb	19:06:29
3	Pb 220.353†	3718.5	3511.3	442.14 ug/L	442.14 ppb	19:06:29
3	S 181.975 Axial†	3264.6	2952.7	4064.4 ug/L	4064.4 ppb	19:06:29
3	Sb 206.836†	1323.8	1198.3	415.52 ug/L	415.52 ppb	19:06:29
3	Se 196.026†	671.4	641.1	387.55 ug/L	387.55 ppb	19:06:29
3	Si 251.611†	250519.1	231995.8	6869.2 ug/L	6869.2 ppb	19:06:09
3	Sn 189.927†	2429.5	2255.0	415.45 ug/L	415.45 ppb	19:06:29
3	Ti 334.940†	288206.0	268373.3	409.09 ug/L	409.09 ppb	19:06:09
3	Tl 190.801†	1287.2	1231.4	396.54 ug/L	396.54 ppb	19:06:29
3	U 409.014†	16048.3	15956.3	397.55 ug/L	397.55 ppb	19:06:09
3	V 292.402†	67081.7	63648.1	400.87 ug/L	400.87 ppb	19:06:09
3	Zn 213.857†	46156.7	42101.9	388.61 ug/L	388.61 ppb	19:06:09
3	SiO2†	250923.9	232354.1	14685 ug/L	14685 ppb	19:06:45

Mean Data: 1202017562|942466|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	973210.8	108.39 %	0.573			0.53%
Sc Radial	5706.1	107 %	0.3			0.26%
Y 371.029	853436.2	103.68 %	0.469			0.45%
Y RADIAL	6130.6	106.5 %	0.43			0.40%
Ag 328.068†	103820.2	436.06 ug/L	0.374	436.06 ppb	0.374	0.09%
Al 396.153Radial†	6465.5	4879.1 ug/L	25.87	4879.1 ppb	25.87	0.53%
As 188.979†	1022.9	422.25 ug/L	5.736	422.25 ppb	5.736	1.36%
B 249.677†	20962.1	457.68 ug/L	1.093	457.68 ppb	1.093	0.24%
Ba 233.527†	56292.7	444.73 ug/L	1.089	444.73 ppb	1.089	0.24%
Be 313.107†	1196263.4	422.92 ug/L	0.400	422.92 ppb	0.400	0.09%
Ca 317.933Radial†	2860.8	4598.1 ug/L	26.91	4598.1 ppb	26.91	0.59%
Cd 226.502†	37440.5	418.04 ug/L	3.351	418.04 ppb	3.351	0.80%
Co 228.616†	19745.8	432.89 ug/L	3.759	432.89 ppb	3.759	0.87%
Cr 267.716†	36138.7	392.27 ug/L	0.255	392.27 ppb	0.255	0.06%
Cu 324.752†	143468.0	402.50 ug/L	0.533	402.50 ppb	0.533	0.13%
Fe 238.204 Radial†	525.5	4924.3 ug/L	27.88	4924.3 ppb	27.88	0.57%
K 766.490 Radial†	26513.1	4839.4 ug/L	20.01	4839.4 ppb	20.01	0.41%

Mg 279.077 IEC†	135.3	4824.8 ug/L	47.30	4824.8 ppb	47.30	0.98%
Mn 257.610†	354879.7	398.17 ug/L	0.683	398.17 ppb	0.683	0.17%
Mo 202.031†	5649.6	386.01 ug/L	3.322	386.01 ppb	3.322	0.86%
Na 589.592 Radial†	16822.5	5000.8 ug/L	18.37	5000.8 ppb	18.37	0.37%
Ni 231.604†	15673.3	393.63 ug/L	3.409	393.63 ppb	3.409	0.87%
P 214.914†	834.2	391.62 ug/L	8.698	391.62 ppb	8.698	2.22%
Pb 220.353†	3478.7	438.04 ug/L	3.816	438.04 ppb	3.816	0.87%
S 181.975 Axial†	2932.1	4036.1 ug/L	26.79	4036.1 ppb	26.79	0.66%
Sb 206.836†	1185.8	411.26 ug/L	4.178	411.26 ppb	4.178	1.02%
Se 196.026†	640.1	386.94 ug/L	3.807	386.94 ppb	3.807	0.98%
Si 251.611†	232047.5	6870.8 ug/L	11.40	6870.8 ppb	11.40	0.17%
Sn 189.927†	2239.0	412.51 ug/L	2.852	412.51 ppb	2.852	0.69%
Sr 421.552†	73007.4	468.50 ug/L	1.014	468.50 ppb	1.014	0.22%
Ti 334.940†	268480.6	409.26 ug/L	0.512	409.26 ppb	0.512	0.13%
Tl 190.801†	1222.2	393.61 ug/L	3.087	393.61 ppb	3.087	0.78%
U 409.014†	15887.3	395.83 ug/L	1.530	395.83 ppb	1.530	0.39%
V 292.402†	63618.1	400.64 ug/L	0.233	400.64 ppb	0.233	0.06%
Zn 213.857†	42068.9	388.32 ug/L	0.491	388.32 ppb	0.491	0.13%
SiO2†	231059.2	14603 ug/L	101.6	14603 ppb	101.6	0.70%

Sequence No.: 31  
 Sample ID: 1202017563|942466|5  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 62  
 Date Collected: 1/26/2010 19:08:56  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: 1202017563|942466|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5447.8	5447.8	102 %		19:10:49
1	Y RADIAL	5859.0	5859.0	101.8 %		19:10:49
1	Al 396.153Radial†	131.5	119.8	90.717 ug/L	90.717 ppb	19:11:09
1	Ca 317.933Radial†	35.1	14.2	22.776 ug/L	22.776 ppb	19:11:09
1	Fe 238.204 Radial†	12.8	5.4	50.659 ug/L	50.659 ppb	19:11:09
1	K 766.490 Radial†	2701.7	144.7	26.424 ug/L	26.424 ppb	19:10:49
1	Mg 279.077 IEC†	0.6	-0.4	-13.959 ug/L	-13.959 ppb	19:11:09
1	Na 589.592 Radial†	-466.9	90.0	26.759 ug/L	26.759 ppb	19:10:49
1	Sr 421.552†	61.2	52.9	0.3395 ug/L	0.3395 ppb	19:10:49
1	Sc 361.383	915026.4	915026.4	101.91 %		19:12:06
1	Y 371.029	803873.1	803873.1	97.661 %		19:12:06
1	Ag 328.068†	315.4	13.4	0.0733 ug/L	0.0733 ppb	19:12:06
1	As 188.979†	-28.6	2.1	0.9005 ug/L	0.9005 ppb	19:12:26
1	B 249.677†	249.6	485.3	10.635 ug/L	10.635 ppb	19:12:26
1	Ba 233.527†	132.8	133.4	1.0541 ug/L	1.0541 ppb	19:12:26
1	Be 313.107†	-4982.8	211.1	0.0792 ug/L	0.0792 ppb	19:12:06
1	Cd 226.502†	-187.6	22.1	0.2419 ug/L	0.2419 ppb	19:12:26
1	Co 228.616†	-68.2	3.0	0.0623 ug/L	0.0623 ppb	19:12:26
1	Cr 267.716†	98.4	2.6	0.0295 ug/L	0.0295 ppb	19:12:26
1	Cu 324.752†	9193.9	-106.4	-0.2964 ug/L	-0.2964 ppb	19:12:06
1	Mn 257.610†	1347.7	832.5	0.9390 ug/L	0.9390 ppb	19:12:26
1	Mo 202.031†	29.5	5.3	0.3691 ug/L	0.3691 ppb	19:12:26
1	Ni 231.604†	99.1	3.5	0.0891 ug/L	0.0891 ppb	19:12:26
1	P 214.914†	238.8	-4.4	-2.4278 ug/L	-2.4278 ppb	19:12:26
1	Pb 220.353†	-54.8	6.7	0.8515 ug/L	0.8515 ppb	19:12:26
1	S 181.975 Axial†	57.1	-20.9	-28.837 ug/L	-28.837 ppb	19:12:26
1	Sb 206.836†	38.5	7.5	2.5296 ug/L	2.5296 ppb	19:12:26
1	Se 196.026†	-21.1	-2.8	-1.4188 ug/L	-1.4188 ppb	19:12:26
1	Si 251.611†	22354.5	21439.5	635.24 ug/L	635.24 ppb	19:12:06
1	Sn 189.927†	2.7	3.0	0.5502 ug/L	0.5502 ppb	19:12:26
1	Ti 334.940†	460.0	1357.9	2.0742 ug/L	2.0742 ppb	19:12:06
1	Tl 190.801†	-39.8	-2.2	-0.6789 ug/L	-0.6789 ppb	19:12:26
1	U 409.014†	-1044.9	37.5	0.9317 ug/L	0.9317 ppb	19:12:06
1	V 292.402†	-1341.2	77.6	0.4794 ug/L	0.4794 ppb	19:12:06
1	Zn 213.857†	833.6	84.6	0.7825 ug/L	0.7825 ppb	19:12:26
1	SiO2†	22404.3	21470.9	1357.9 ug/L	1357.9 ppb	19:13:22
2	Sc Radial	5470.9	5470.9	102 %		19:11:14
2	Y RADIAL	5882.2	5882.2	102.2 %		19:11:14
2	Al 396.153Radial†	127.0	114.9	86.975 ug/L	86.975 ppb	19:11:34
2	Ca 317.933Radial†	38.1	17.0	27.287 ug/L	27.287 ppb	19:11:34
2	Fe 238.204 Radial†	14.0	6.5	60.981 ug/L	60.981 ppb	19:11:34
2	K 766.490 Radial†	2704.2	136.0	24.841 ug/L	24.841 ppb	19:11:14
2	Mg 279.077 IEC†	2.0	0.9	33.382 ug/L	33.382 ppb	19:11:34
2	Na 589.592 Radial†	-579.6	-18.1	-5.3740 ug/L	-5.3740 ppb	19:11:14
2	Sr 421.552†	46.9	38.7	0.2482 ug/L	0.2482 ppb	19:11:14
2	Sc 361.383	918903.9	918903.9	102.34 %		19:12:31
2	Y 371.029	806986.5	806986.5	98.040 %		19:12:31
2	Ag 328.068†	256.4	-45.5	-0.1708 ug/L	-0.1708 ppb	19:12:31
2	As 188.979†	-27.4	3.4	1.4340 ug/L	1.4340 ppb	19:12:51
2	B 249.677†	216.1	451.6	9.8934 ug/L	9.8934 ppb	19:12:51
2	Ba 233.527†	134.9	134.9	1.0661 ug/L	1.0661 ppb	19:12:51
2	Be 313.107†	-4962.6	251.4	0.0935 ug/L	0.0935 ppb	19:12:31
2	Cd 226.502†	-195.2	15.4	0.1670 ug/L	0.1670 ppb	19:12:51
2	Co 228.616†	-71.4	0.2	0.0007 ug/L	0.0007 ppb	19:12:51
2	Cr 267.716†	103.8	7.5	0.0823 ug/L	0.0823 ppb	19:12:51
2	Cu 324.752†	9317.4	-23.9	-0.0654 ug/L	-0.0654 ppb	19:12:31
2	Mn 257.610†	1333.4	813.1	0.9162 ug/L	0.9162 ppb	19:12:51
2	Mo 202.031†	36.3	11.9	0.8148 ug/L	0.8148 ppb	19:12:51
2	Ni 231.604†	112.5	16.2	0.4078 ug/L	0.4078 ppb	19:12:51



2	P 214.914†	244.7	0.3	0.1731 ug/L	0.1731 ppb	19:12:51
2	Pb 220.353†	-45.7	15.8	1.9928 ug/L	1.9928 ppb	19:12:51
2	S 181.975 Axial†	60.6	-17.8	-24.550 ug/L	-24.550 ppb	19:12:51
2	Sb 206.836†	31.7	0.8	0.2765 ug/L	0.2765 ppb	19:12:51
2	Se 196.026†	-23.1	-4.7	-2.4799 ug/L	-2.4799 ppb	19:12:51
2	Si 251.611†	22374.7	21366.7	633.08 ug/L	633.08 ppb	19:12:31
2	Sn 189.927†	4.4	4.6	0.8533 ug/L	0.8533 ppb	19:12:51
2	Ti 334.940†	501.5	1396.6	2.1290 ug/L	2.1290 ppb	19:12:31
2	Tl 190.801†	-34.9	2.8	0.9008 ug/L	0.9008 ppb	19:12:51
2	U 409.014†	-969.0	116.0	2.8928 ug/L	2.8928 ppb	19:12:31
2	V 292.402†	-1348.2	76.2	0.4805 ug/L	0.4805 ppb	19:12:31
2	Zn 213.857†	821.8	69.6	0.6399 ug/L	0.6399 ppb	19:12:51
2	SiO2†	22443.1	21416.1	1354.4 ug/L	1354.4 ppb	19:13:27
3	Sc Radial	5381.4	5381.4	101 %		19:11:39
3	Y RADIAL	5785.2	5785.2	100.5 %		19:11:39
3	Al 396.153Radial†	143.0	132.8	100.54 ug/L	100.54 ppb	19:11:59
3	Ca 317.933Radial†	36.3	15.7	25.302 ug/L	25.302 ppb	19:11:59
3	Fe 238.204 Radial†	13.0	5.7	53.429 ug/L	53.429 ppb	19:11:59
3	K 766.490 Radial†	2734.3	209.8	38.313 ug/L	38.313 ppb	19:11:39
3	Mg 279.077 IEC†	5.2	4.2	148.23 ug/L	148.23 ppb	19:11:59
3	Na 589.592 Radial†	-554.2	-2.3	-0.6768 ug/L	-0.6768 ppb	19:11:39
3	Sr 421.552†	61.5	53.9	0.3458 ug/L	0.3458 ppb	19:11:39
3	Sc 361.383	918432.6	918432.6	102.29 %		19:12:57
3	Y 371.029	806074.3	806074.3	97.929 %		19:12:57
3	Ag 328.068†	348.1	44.3	0.1988 ug/L	0.1988 ppb	19:12:57
3	As 188.979†	-38.0	-7.0	-2.8228 ug/L	-2.8228 ppb	19:13:17
3	B 249.677†	218.0	453.5	9.9365 ug/L	9.9365 ppb	19:13:17
3	Ba 233.527†	129.5	129.7	1.0245 ug/L	1.0245 ppb	19:13:17
3	Be 313.107†	-4930.9	279.9	0.1034 ug/L	0.1034 ppb	19:12:57
3	Cd 226.502†	-188.3	22.1	0.2423 ug/L	0.2423 ppb	19:13:17
3	Co 228.616†	-64.7	6.7	0.1425 ug/L	0.1425 ppb	19:13:17
3	Cr 267.716†	84.3	-11.6	-0.1257 ug/L	-0.1257 ppb	19:13:17
3	Cu 324.752†	9205.2	-128.8	-0.3608 ug/L	-0.3608 ppb	19:12:57
3	Mn 257.610†	1323.1	803.6	0.9002 ug/L	0.9002 ppb	19:13:17
3	Mo 202.031†	31.9	7.5	0.5196 ug/L	0.5196 ppb	19:13:17
3	Ni 231.604†	111.6	15.4	0.3865 ug/L	0.3865 ppb	19:13:17
3	P 214.914†	245.1	0.8	0.5216 ug/L	0.5216 ppb	19:13:17
3	Pb 220.353†	-44.8	16.6	2.0968 ug/L	2.0968 ppb	19:13:17
3	S 181.975 Axial†	56.6	-21.7	-29.898 ug/L	-29.898 ppb	19:13:17
3	Sb 206.836†	38.0	6.9	2.3209 ug/L	2.3209 ppb	19:13:17
3	Se 196.026†	-22.2	-3.8	-1.9959 ug/L	-1.9959 ppb	19:13:17
3	Si 251.611†	22403.9	21406.4	634.26 ug/L	634.26 ppb	19:12:57
3	Sn 189.927†	-2.1	-1.7	-0.3084 ug/L	-0.3084 ppb	19:13:17
3	Ti 334.940†	466.6	1362.7	2.0673 ug/L	2.0673 ppb	19:12:57
3	Tl 190.801†	-40.3	-2.5	-0.7911 ug/L	-0.7911 ppb	19:13:17
3	U 409.014†	-925.8	157.7	3.9384 ug/L	3.9384 ppb	19:12:57
3	V 292.402†	-1409.4	15.7	0.1053 ug/L	0.1053 ppb	19:12:57
3	Zn 213.857†	819.3	67.6	0.6224 ug/L	0.6224 ppb	19:13:17
3	SiO2†	22266.0	21254.2	1344.2 ug/L	1344.2 ppb	19:13:32

Mean Data: 1202017563|942466|5

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Std.Dev.	RSD
Sc 361.383	917454.3	102.18 %		0.236			0.23%
Sc Radial	5433.4	102 %		0.9			0.86%
Y 371.029	805644.6	97.877 %		0.1945			0.20%
Y RADIAL	5842.1	101.5 %		0.88			0.87%
Ag 328.068†	4.1	0.0338 ug/L		0.18795	0.0338 ppb	0.18795	556.32%
Al 396.153Radial†	122.5	92.745 ug/L		7.0072	92.745 ppb	7.0072	7.56%
As 188.979†	-0.5	-0.1628 ug/L		2.31902	-0.1628 ppb	2.31902	>999.9%
B 249.677†	463.5	10.155 ug/L		0.4160	10.155 ppb	0.4160	4.10%
Ba 233.527†	132.7	1.0482 ug/L		0.02146	1.0482 ppb	0.02146	2.05%
Be 313.107†	247.5	0.0920 ug/L		0.01221	0.0920 ppb	0.01221	13.26%
Ca 317.933Radial†	15.6	25.122 ug/L		2.2609	25.122 ppb	2.2609	9.00%
Cd 226.502†	19.9	0.2171 ug/L		0.04338	0.2171 ppb	0.04338	19.99%
Co 228.616†	3.3	0.0685 ug/L		0.07112	0.0685 ppb	0.07112	103.85%
Cr 267.716†	-0.5	-0.0046 ug/L		0.10815	-0.0046 ppb	0.10815	>999.9%
Cu 324.752†	-86.4	-0.2409 ug/L		0.15534	-0.2409 ppb	0.15534	64.50%
Fe 238.204 Radial†	5.9	55.023 ug/L		5.3426	55.023 ppb	5.3426	9.71%
K 766.490 Radial†	163.5	29.859 ug/L		7.3639	29.859 ppb	7.3639	24.66%

Mg 279.077 IEC†	1.6	55.886 ug/L	83.4054	55.886 ppb	83.4054	149.24%
Mn 257.610†	816.4	0.9185 ug/L	0.01947	0.9185 ppb	0.01947	2.12%
Mo 202.031†	8.3	0.5678 ug/L	0.22673	0.5678 ppb	0.22673	39.93%
Na 589.592 Radial†	23.2	6.9028 ug/L	17.35570	6.9028 ppb	17.35570	251.43%
Ni 231.604†	11.7	0.2945 ug/L	0.17813	0.2945 ppb	0.17813	60.49%
P 214.914†	-1.1	-0.5777 ug/L	1.61171	-0.5777 ppb	1.61171	278.99%
Pb 220.353†	13.0	1.6470 ug/L	0.69092	1.6470 ppb	0.69092	41.95%
S 181.975 Axial†	-20.2	-27.762 ug/L	2.8316	-27.762 ppb	2.8316	10.20%
Sb 206.836†	5.1	1.7090 ug/L	1.24494	1.7090 ppb	1.24494	72.85%
Se 196.026†	-3.7	-1.9648 ug/L	0.53123	-1.9648 ppb	0.53123	27.04%
Si 251.611†	21404.2	634.20 ug/L	1.083	634.20 ppb	1.083	0.17%
Sn 189.927†	2.0	0.3650 ug/L	0.60259	0.3650 ppb	0.60259	165.07%
Sr 421.552†	48.5	0.3112 ug/L	0.05461	0.3112 ppb	0.05461	17.55%
Ti 334.940†	1372.4	2.0902 ug/L	0.03384	2.0902 ppb	0.03384	1.62%
Tl 190.801†	-0.7	-0.1897 ug/L	0.94609	-0.1897 ppb	0.94609	498.62%
U 409.014†	103.7	2.5876 ug/L	1.52638	2.5876 ppb	1.52638	58.99%
V 292.402†	56.5	0.3551 ug/L	0.21629	0.3551 ppb	0.21629	60.91%
Zn 213.857†	73.9	0.6816 ug/L	0.08782	0.6816 ppb	0.08782	12.88%
SiO2†	21380.4	1352.2 ug/L	7.13	1352.2 ppb	7.13	0.53%

Sequence No.: 33

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 1/26/2010 19:22:53

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5428.8	5428.8	102 %		19:24:45
1	Y RADIAL	5838.3	5838.3	101.4 %		19:24:45
1	Al 396.153Radial†	6771.3	6651.5	5015.1 ug/L	5015.1 ppb	19:24:45
1	Ca 317.933Radial†	3213.1	3140.3	5047.5 ug/L	5047.5 ppb	19:25:05
1	Fe 238.204 Radial†	571.2	554.7	5198.8 ug/L	5198.8 ppb	19:25:05
1	K 766.490 Radial†	30694.7	27689.5	5052.2 ug/L	5052.2 ppb	19:24:45
1	Mg 279.077 IEC†	151.0	147.6	5263.8 ug/L	5263.8 ppb	19:25:05
1	Na 589.592 Radial†	32853.5	32864.2	9769.6 ug/L	9769.6 ppb	19:24:45
1	Sr 421.552†	80682.6	79356.8	509.25 ug/L	509.25 ppb	19:24:45
1	Sc 361.383	932362.2	932362.2	103.84 %		19:26:02
1	Y 371.029	817818.1	817818.1	99.356 %		19:26:02
1	Ag 328.068†	122271.0	117452.0	493.33 ug/L	493.33 ppb	19:26:08
1	As 188.979†	1200.0	1185.8	489.42 ug/L	489.42 ppb	19:26:28
1	B 249.677†	22865.8	22260.4	485.91 ug/L	485.91 ppb	19:26:08
1	Ba 233.527†	64346.9	61969.8	489.70 ug/L	489.70 ppb	19:26:08
1	Be 313.107†	1423895.6	1376324.5	486.62 ug/L	486.62 ppb	19:26:02
1	Cd 226.502†	45499.2	44022.3	491.62 ug/L	491.62 ppb	19:26:08
1	Co 228.616†	23628.7	22824.6	500.43 ug/L	500.43 ppb	19:26:08
1	Cr 267.716†	47235.9	45394.6	492.71 ug/L	492.71 ppb	19:26:08
1	Cu 324.752†	189180.4	173054.4	485.46 ug/L	485.46 ppb	19:26:08
1	Mn 257.610†	448525.6	431444.3	484.02 ug/L	484.02 ppb	19:26:02
1	Mo 202.031†	7418.6	7120.6	486.43 ug/L	486.43 ppb	19:26:28
1	Ni 231.604†	20425.0	19575.8	491.67 ug/L	491.67 ppb	19:26:08
1	P 214.914†	4651.8	4241.0	2296.9 ug/L	2296.9 ppb	19:26:28
1	Pb 220.353†	3966.2	3879.9	488.60 ug/L	488.60 ppb	19:26:28
1	S 181.975 Axial†	792.1	685.8	943.27 ug/L	943.27 ppb	19:26:28
1	Sb 206.836†	1545.0	1457.6	505.55 ug/L	505.55 ppb	19:26:28
1	Se 196.026†	845.3	832.0	498.83 ug/L	498.83 ppb	19:26:28
1	Si 251.611†	86832.3	83124.3	2457.0 ug/L	2457.0 ppb	19:26:08
1	Sn 189.927†	2762.5	2660.7	490.11 ug/L	490.11 ppb	19:26:28
1	Ti 334.940†	331572.5	320213.8	488.09 ug/L	488.09 ppb	19:26:08
1	Tl 190.801†	1498.2	1479.7	476.56 ug/L	476.56 ppb	19:26:28
1	U 409.014†	19186.9	19540.0	486.91 ug/L	486.91 ppb	19:26:08
1	V 292.402†	80369.2	78789.8	496.43 ug/L	496.43 ppb	19:26:08
1	Zn 213.857†	55370.8	52589.1	485.55 ug/L	485.55 ppb	19:26:08
1	SiO2†	86637.3	82919.1	5230.9 ug/L	5230.9 ppb	19:27:35
2	Sc Radial	5266.7	5266.7	98.6 %		19:25:10
2	Y RADIAL	5668.8	5668.8	98.46 %		19:25:10
2	Al 396.153Radial†	6543.0	6625.0	4995.0 ug/L	4995.0 ppb	19:25:10
2	Ca 317.933Radial†	3193.2	3217.4	5171.3 ug/L	5171.3 ppb	19:25:30
2	Fe 238.204 Radial†	565.6	566.3	5307.8 ug/L	5307.8 ppb	19:25:30
2	K 766.490 Radial†	29779.6	27691.0	5052.4 ug/L	5052.4 ppb	19:25:10
2	Mg 279.077 IEC†	148.8	149.9	5346.5 ug/L	5346.5 ppb	19:25:30
2	Na 589.592 Radial†	31534.9	32521.8	9667.8 ug/L	9667.8 ppb	19:25:10
2	Sr 421.552†	77425.8	78497.3	503.73 ug/L	503.73 ppb	19:25:10
2	Sc 361.383	930628.1	930628.1	103.65 %		19:26:33
2	Y 371.029	815853.6	815853.6	99.117 %		19:26:33
2	Ag 328.068†	122700.9	118086.3	496.02 ug/L	496.02 ppb	19:26:39
2	As 188.979†	1187.5	1175.9	485.41 ug/L	485.41 ppb	19:26:59
2	B 249.677†	22981.9	22413.5	489.24 ug/L	489.24 ppb	19:26:39
2	Ba 233.527†	64753.6	62477.5	493.71 ug/L	493.71 ppb	19:26:39
2	Be 313.107†	1423009.1	1378024.4	487.23 ug/L	487.23 ppb	19:26:33
2	Cd 226.502†	45720.0	44317.0	494.90 ug/L	494.90 ppb	19:26:39
2	Co 228.616†	23730.3	22965.0	503.50 ug/L	503.50 ppb	19:26:39
2	Cr 267.716†	47294.6	45536.1	494.25 ug/L	494.25 ppb	19:26:39
2	Cu 324.752†	190054.8	174237.5	488.78 ug/L	488.78 ppb	19:26:39
2	Mn 257.610†	448212.9	431947.4	484.59 ug/L	484.59 ppb	19:26:33
2	Mo 202.031†	7426.9	7141.9	487.89 ug/L	487.89 ppb	19:26:59
2	Ni 231.604†	20560.4	19743.1	495.87 ug/L	495.87 ppb	19:26:39

2	P 214.914†	4686.1	4282.5	2319.5 ug/L	2319.5 ppb	19:26:59
2	Pb 220.353†	3968.9	3889.6	489.81 ug/L	489.81 ppb	19:26:59
2	S 181.975 Axial†	790.7	685.9	943.39 ug/L	943.39 ppb	19:26:59
2	Sb 206.836†	1563.3	1478.0	512.44 ug/L	512.44 ppb	19:26:59
2	Se 196.026†	833.3	821.9	493.39 ug/L	493.39 ppb	19:26:59
2	Si 251.611†	87174.0	83609.8	2471.3 ug/L	2471.3 ppb	19:26:39
2	Sn 189.927†	2768.2	2671.1	492.06 ug/L	492.06 ppb	19:26:59
2	Ti 334.940†	333473.9	322643.2	491.80 ug/L	491.80 ppb	19:26:39
2	Tl 190.801†	1512.2	1495.9	481.76 ug/L	481.76 ppb	19:26:59
2	U 409.014†	19443.9	19822.4	493.95 ug/L	493.95 ppb	19:26:39
2	V 292.402†	80616.6	79172.8	498.83 ug/L	498.83 ppb	19:26:39
2	Zn 213.857†	55655.0	52962.7	488.99 ug/L	488.99 ppb	19:26:39
2	SiO2†	85843.9	82309.0	5192.3 ug/L	5192.3 ppb	19:27:40
3	Sc Radial	6022.1	6022.1	113 %		19:25:35
3	Y RADIAL	6490.1	6490.1	112.7 %		19:25:35
3	Al 396.153Radial†	6495.3	5750.5	4332.6 ug/L	4332.6 ppb	19:25:35
3	Ca 317.933Radial†	3160.4	2782.3	4471.9 ug/L	4471.9 ppb	19:25:55
3	Fe 238.204 Radial†	561.7	491.0	4603.2 ug/L	4603.2 ppb	19:25:55
3	K 766.490 Radial†	29809.0	23929.5	4366.0 ug/L	4366.0 ppb	19:25:35
3	Mg 279.077 IEC†	149.2	131.3	4683.9 ug/L	4683.9 ppb	19:25:55
3	Na 589.592 Radial†	31334.7	28333.6	8422.8 ug/L	8422.8 ppb	19:25:35
3	Sr 421.552†	76882.8	68168.5	437.45 ug/L	437.45 ppb	19:25:35
3	Sc 361.383	931108.5	931108.5	103.70 %		19:27:04
3	Y 371.029	815501.5	815501.5	99.074 %		19:27:04
3	Ag 328.068†	122018.0	117366.6	492.78 ug/L	492.78 ppb	19:27:10
3	As 188.979†	1212.5	1199.4	494.82 ug/L	494.82 ppb	19:27:30
3	B 249.677†	22891.2	22314.5	487.20 ug/L	487.20 ppb	19:27:10
3	Ba 233.527†	64161.2	61874.1	488.92 ug/L	488.92 ppb	19:27:10
3	Be 313.107†	1420909.4	1375291.2	486.25 ug/L	486.25 ppb	19:27:04
3	Cd 226.502†	45352.7	43940.0	490.76 ug/L	490.76 ppb	19:27:10
3	Co 228.616†	23528.1	22758.2	498.99 ug/L	498.99 ppb	19:27:10
3	Cr 267.716†	46854.6	45088.2	489.37 ug/L	489.37 ppb	19:27:10
3	Cu 324.752†	188570.8	172711.9	484.47 ug/L	484.47 ppb	19:27:10
3	Mn 257.610†	448969.0	432453.4	485.12 ug/L	485.12 ppb	19:27:04
3	Mo 202.031†	7423.0	7134.4	487.32 ug/L	487.32 ppb	19:27:30
3	Ni 231.604†	20397.2	19575.4	491.66 ug/L	491.66 ppb	19:27:10
3	P 214.914†	4694.3	4288.0	2323.9 ug/L	2323.9 ppb	19:27:30
3	Pb 220.353†	3970.3	3889.0	489.65 ug/L	489.65 ppb	19:27:30
3	S 181.975 Axial†	793.2	687.9	946.30 ug/L	946.30 ppb	19:27:30
3	Sb 206.836†	1543.8	1458.5	505.91 ug/L	505.91 ppb	19:27:30
3	Se 196.026†	835.5	823.7	492.04 ug/L	492.04 ppb	19:27:30
3	Si 251.611†	86462.4	82880.2	2449.7 ug/L	2449.7 ppb	19:27:10
3	Sn 189.927†	2773.1	2674.5	492.56 ug/L	492.56 ppb	19:27:30
3	Ti 334.940†	330185.4	319306.1	486.68 ug/L	486.68 ppb	19:27:10
3	Tl 190.801†	1505.8	1489.0	479.53 ug/L	479.53 ppb	19:27:30
3	U 409.014†	19161.8	19540.7	487.00 ug/L	487.00 ppb	19:27:10
3	V 292.402†	79846.5	78390.0	494.03 ug/L	494.03 ppb	19:27:10
3	Zn 213.857†	55042.7	52344.6	483.33 ug/L	483.33 ppb	19:27:10
3	SiO2†	86429.8	82831.3	5225.4 ug/L	5225.4 ppb	19:27:45

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	931366.3	103.73 %	0.100			0.10%
Sc Radial	5572.5	104 %	7.4			7.14%
Y 371.029	816391.1	99.182 %	0.1517			0.15%
Y RADIAL	5999.0	104.2 %	7.53			7.23%
Ag 328.068†	117634.9	494.04 ug/L	1.731	494.04 ppb	1.731	0.35%
QC value within limits for Ag 328.068 Recovery = 98.81%						
Al 396.153Radial†	6342.4	4780.9 ug/L	388.39	4780.9 ppb	388.39	8.12%
QC value within limits for Al 396.153Radial Recovery = 95.62%						
As 188.979†	1187.1	489.88 ug/L	4.722	489.88 ppb	4.722	0.96%
QC value within limits for As 188.979 Recovery = 97.98%						
B 249.677†	22329.5	487.45 ug/L	1.679	487.45 ppb	1.679	0.34%
QC value within limits for B 249.677 Recovery = 97.49%						
Ba 233.527†	62107.1	490.77 ug/L	2.570	490.77 ppb	2.570	0.52%
QC value within limits for Ba 233.527 Recovery = 98.15%						
Be 313.107†	1376546.7	486.70 ug/L	0.493	486.70 ppb	0.493	0.10%
QC value within limits for Be 313.107 Recovery = 97.34%						
Ca 317.933Radial†	3046.7	4896.9 ug/L	373.23	4896.9 ppb	373.23	7.62%

QC value within limits for Ca 317.933 Radial Recovery = 97.94%							
Cd 226.502†	44093.1	492.43 ug/L	2.186	492.43 ppb	2.186	0.44%	
QC value within limits for Cd 226.502 Recovery = 98.49%							
Co 228.616†	22849.3	500.97 ug/L	2.305	500.97 ppb	2.305	0.46%	
QC value within limits for Co 228.616 Recovery = 100.19%							
Cr 267.716†	45339.6	492.11 ug/L	2.491	492.11 ppb	2.491	0.51%	
QC value within limits for Cr 267.716 Recovery = 98.42%							
Cu 324.752†	173334.6	486.24 ug/L	2.259	486.24 ppb	2.259	0.46%	
QC value within limits for Cu 324.752 Recovery = 97.25%							
Fe 238.204 Radial†	537.3	5036.6 ug/L	379.25	5036.6 ppb	379.25	7.53%	
QC value within limits for Fe 238.204 Radial Recovery = 100.73%							
K 766.490 Radial†	26436.7	4823.5 ug/L	396.24	4823.5 ppb	396.24	8.21%	
QC value within limits for K 766.490 Radial Recovery = 96.47%							
Mg 279.077 IEC†	142.9	5098.1 ug/L	361.03	5098.1 ppb	361.03	7.08%	
QC value within limits for Mg 279.077 IEC Recovery = 101.96%							
Mn 257.610†	431948.4	484.58 ug/L	0.548	484.58 ppb	0.548	0.11%	
QC value within limits for Mn 257.610 Recovery = 96.92%							
Mo 202.031†	7132.3	487.21 ug/L	0.739	487.21 ppb	0.739	0.15%	
QC value within limits for Mo 202.031 Recovery = 97.44%							
Na 589.592 Radial†	31239.9	9286.7 ug/L	749.93	9286.7 ppb	749.93	8.08%	
QC value within limits for Na 589.592 Radial Recovery = 92.87%							
Ni 231.604†	19631.4	493.07 ug/L	2.428	493.07 ppb	2.428	0.49%	
QC value within limits for Ni 231.604 Recovery = 98.61%							
P 214.914†	4270.5	2313.4 ug/L	14.50	2313.4 ppb	14.50	0.63%	
QC value within limits for P 214.914 Recovery = 92.54%							
Pb 220.353†	3886.1	489.35 ug/L	0.657	489.35 ppb	0.657	0.13%	
QC value within limits for Pb 220.353 Recovery = 97.87%							
S 181.975 Axial†	686.5	944.32 ug/L	1.714	944.32 ppb	1.714	0.18%	
QC value within limits for S 181.975 Axial Recovery = 94.43%							
Sb 206.836†	1464.7	507.97 ug/L	3.877	507.97 ppb	3.877	0.76%	
QC value within limits for Sb 206.836 Recovery = 101.59%							
Se 196.026†	825.8	494.75 ug/L	3.594	494.75 ppb	3.594	0.73%	
QC value within limits for Se 196.026 Recovery = 98.95%							
Si 251.611†	83204.8	2459.4 ug/L	11.00	2459.4 ppb	11.00	0.45%	
QC value within limits for Si 251.611 Recovery = 98.37%							
Sn 189.927†	2668.8	491.58 ug/L	1.291	491.58 ppb	1.291	0.26%	
QC value within limits for Sn 189.927 Recovery = 98.32%							
Sr 421.552†	75340.9	483.48 ug/L	39.956	483.48 ppb	39.956	8.26%	
QC value within limits for Sr 421.552 Recovery = 96.70%							
Ti 334.940†	320721.0	488.85 ug/L	2.646	488.85 ppb	2.646	0.54%	
QC value within limits for Ti 334.940 Recovery = 97.77%							
Tl 190.801†	1488.2	479.28 ug/L	2.607	479.28 ppb	2.607	0.54%	
QC value within limits for Tl 190.801 Recovery = 95.86%							
U 409.014†	19634.3	489.29 ug/L	4.041	489.29 ppb	4.041	0.83%	
QC value within limits for U 409.014 Recovery = 97.86%							
V 292.402†	78784.2	496.43 ug/L	2.396	496.43 ppb	2.396	0.48%	
QC value within limits for V 292.402 Recovery = 99.29%							
Zn 213.857†	52632.2	485.96 ug/L	2.850	485.96 ppb	2.850	0.59%	
QC value within limits for Zn 213.857 Recovery = 97.19%							
SiO2†	82686.5	5216.2 ug/L	20.88	5216.2 ppb	20.88	0.40%	
QC value within limits for SiO2 Recovery = 97.54%							
All analyte(s) passed QC.							

Sequence No.: 34

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 1/26/2010 19:29:56

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5428.5	5428.5	102 %		19:31:47
1	Y RADIAL	5877.7	5877.7	102.1 %		19:31:47
1	Al 396.153Radial†	10.8	1.5	1.1418 ug/L	1.1418 ppb	19:32:07
1	Ca 317.933Radial†	15.1	-5.4	-8.7282 ug/L	-8.7282 ppb	19:32:07
1	Fe 238.204 Radial†	5.9	-1.3	-12.322 ug/L	-12.322 ppb	19:32:07
1	K 766.490 Radial†	2384.3	-158.1	-28.843 ug/L	-28.843 ppb	19:31:47
1	Mg 279.077 IEC†	-1.5	-2.4	-86.408 ug/L	-86.408 ppb	19:32:07
1	Na 589.592 Radial†	-829.4	-268.2	-79.742 ug/L	-79.742 ppb	19:31:47
1	Sr 421.552†	38.6	30.8	0.1980 ug/L	0.1980 ppb	19:31:47
1	Sc 361.383	917685.8	917685.8	102.21 %		19:33:04
1	Y 371.029	806622.3	806622.3	97.995 %		19:33:04
1	Ag 328.068†	411.7	106.7	0.4441 ug/L	0.4441 ppb	19:33:04
1	As 188.979†	-21.3	9.4	3.8243 ug/L	3.8243 ppb	19:33:24
1	B 249.677†	-49.2	192.3	4.2201 ug/L	4.2201 ppb	19:33:24
1	Ba 233.527†	-3.3	-0.1	-0.0007 ug/L	-0.0007 ppb	19:33:24
1	Be 313.107†	-4993.5	214.7	0.0757 ug/L	0.0757 ppb	19:33:04
1	Cd 226.502†	-193.7	16.7	0.1875 ug/L	0.1875 ppb	19:33:24
1	Co 228.616†	-77.4	-5.7	-0.1249 ug/L	-0.1249 ppb	19:33:24
1	Cr 267.716†	95.0	-1.0	-0.0101 ug/L	-0.0101 ppb	19:33:24
1	Cu 324.752†	9042.5	-280.8	-0.7875 ug/L	-0.7875 ppb	19:33:04
1	Mn 257.610†	488.9	-11.5	-0.0106 ug/L	-0.0106 ppb	19:33:24
1	Mo 202.031†	29.4	5.2	0.3518 ug/L	0.3518 ppb	19:33:24
1	Ni 231.604†	101.8	5.9	0.1476 ug/L	0.1476 ppb	19:33:24
1	P 214.914†	241.2	-2.7	-1.3616 ug/L	-1.3616 ppb	19:33:24
1	Pb 220.353†	-36.5	24.7	3.1020 ug/L	3.1020 ppb	19:33:24
1	S 181.975 Axial†	44.3	-33.7	-46.385 ug/L	-46.385 ppb	19:33:24
1	Sb 206.836†	40.3	9.2	3.0770 ug/L	3.0770 ppb	19:33:24
1	Se 196.026†	-24.7	-6.2	-3.6440 ug/L	-3.6440 ppb	19:33:24
1	Si 251.611†	533.9	26.4	0.7774 ug/L	0.7774 ppb	19:33:24
1	Sn 189.927†	1.8	2.1	0.3788 ug/L	0.3788 ppb	19:33:24
1	Ti 334.940†	-928.8	-2.2	0.0032 ug/L	0.0032 ppb	19:33:04
1	Tl 190.801†	-46.1	-8.2	-2.6150 ug/L	-2.6150 ppb	19:33:24
1	U 409.014†	-1141.2	-53.7	-1.3426 ug/L	-1.3426 ppb	19:33:04
1	V 292.402†	-1367.7	55.4	0.3473 ug/L	0.3473 ppb	19:33:04
1	Zn 213.857†	687.7	-60.6	-0.5629 ug/L	-0.5629 ppb	19:33:24
1	SiO2†	541.0	16.0	0.9995 ug/L	0.9995 ppb	19:34:35
2	Sc Radial	5727.5	5727.5	107 %		19:32:12
2	Y RADIAL	6158.4	6158.4	107.0 %		19:32:12
2	Al 396.153Radial†	1.4	-7.8	-5.8944 ug/L	-5.8944 ppb	19:32:32
2	Ca 317.933Radial†	17.8	-3.6	-5.8334 ug/L	-5.8334 ppb	19:32:32
2	Fe 238.204 Radial†	8.5	0.8	7.3524 ug/L	7.3524 ppb	19:32:32
2	K 766.490 Radial†	2335.5	-326.0	-59.526 ug/L	-59.526 ppb	19:32:12
2	Mg 279.077 IEC†	1.5	0.4	13.732 ug/L	13.732 ppb	19:32:32
2	Na 589.592 Radial†	-753.0	-154.4	-45.905 ug/L	-45.905 ppb	19:32:12
2	Sr 421.552†	2.8	-4.5	-0.0289 ug/L	-0.0289 ppb	19:32:12
2	Sc 361.383	909084.1	909084.1	101.25 %		19:33:29
2	Y 371.029	798999.4	798999.4	97.069 %		19:33:29
2	Ag 328.068†	350.9	50.5	0.2162 ug/L	0.2162 ppb	19:33:29
2	As 188.979†	-25.7	4.8	1.9789 ug/L	1.9789 ppb	19:33:50
2	B 249.677†	-57.6	183.6	4.0244 ug/L	4.0244 ppb	19:33:50
2	Ba 233.527†	8.7	11.7	0.0928 ug/L	0.0928 ppb	19:33:50
2	Be 313.107†	-4921.2	239.9	0.0847 ug/L	0.0847 ppb	19:33:29
2	Cd 226.502†	-205.7	3.0	0.0324 ug/L	0.0324 ppb	19:33:50
2	Co 228.616†	-67.3	3.4	0.0743 ug/L	0.0743 ppb	19:33:50
2	Cr 267.716†	95.0	-0.1	0.0002 ug/L	0.0002 ppb	19:33:50
2	Cu 324.752†	8934.2	-303.9	-0.8506 ug/L	-0.8506 ppb	19:33:29
2	Mn 257.610†	463.6	-31.9	-0.0356 ug/L	-0.0356 ppb	19:33:50
2	Mo 202.031†	19.4	-4.4	-0.3025 ug/L	-0.3025 ppb	19:33:50
2	Ni 231.604†	102.1	7.2	0.1798 ug/L	0.1798 ppb	19:33:50

2	P 214.914†	231.7	-9.9	-5.4325 ug/L	-5.4325 ppb	19:33:50
2	Pb 220.353†	-40.2	20.7	2.5986 ug/L	2.5986 ppb	19:33:50
2	S 181.975 Axial†	41.0	-36.5	-50.288 ug/L	-50.288 ppb	19:33:50
2	Sb 206.836†	35.5	4.8	1.5909 ug/L	1.5909 ppb	19:33:50
2	Se 196.026†	-12.2	5.9	3.4478 ug/L	3.4478 ppb	19:33:50
2	Si 251.611†	536.1	33.6	0.9984 ug/L	0.9984 ppb	19:33:50
2	Sn 189.927†	-0.1	0.3	0.0456 ug/L	0.0456 ppb	19:33:50
2	Ti 334.940†	-887.2	30.2	0.0455 ug/L	0.0455 ppb	19:33:29
2	Tl 190.801†	-29.5	7.7	2.4773 ug/L	2.4773 ppb	19:33:50
2	U 409.014†	-1199.4	-121.7	-3.0447 ug/L	-3.0447 ppb	19:33:29
2	V 292.402†	-1393.3	17.4	0.0975 ug/L	0.0975 ppb	19:33:29
2	Zn 213.857†	702.1	-39.9	-0.3727 ug/L	-0.3727 ppb	19:33:50
2	SiO2†	550.2	30.0	1.9084 ug/L	1.9084 ppb	19:34:55
3	Sc Radial	5518.7	5518.7	103 %		19:32:37
3	Y RADIAL	5956.4	5956.4	103.5 %		19:32:37
3	Al 396.153Radial†	-16.0	-24.7	-18.663 ug/L	-18.663 ppb	19:32:58
3	Ca 317.933Radial†	16.1	-4.6	-7.4572 ug/L	-7.4572 ppb	19:32:58
3	Fe 238.204 Radial†	9.6	2.2	20.284 ug/L	20.284 ppb	19:32:58
3	K 766.490 Radial†	2476.0	-107.6	-19.630 ug/L	-19.630 ppb	19:32:37
3	Mg 279.077 IEC†	2.2	1.2	42.605 ug/L	42.605 ppb	19:32:58
3	Na 589.592 Radial†	-830.5	-256.0	-76.094 ug/L	-76.094 ppb	19:32:37
3	Sr 421.552†	13.2	5.7	0.0367 ug/L	0.0367 ppb	19:32:37
3	Sc 361.383	911535.1	911535.1	101.52 %		19:33:55
3	Y 371.029	801306.1	801306.1	97.350 %		19:33:55
3	Ag 328.068†	366.2	64.7	0.2759 ug/L	0.2759 ppb	19:33:55
3	As 188.979†	-29.4	1.2	0.5114 ug/L	0.5114 ppb	19:34:15
3	B 249.677†	-70.7	170.8	3.7429 ug/L	3.7429 ppb	19:34:15
3	Ba 233.527†	-10.2	-7.0	-0.0542 ug/L	-0.0542 ppb	19:34:15
3	Be 313.107†	-4939.8	234.7	0.0828 ug/L	0.0828 ppb	19:33:55
3	Cd 226.502†	-203.8	5.4	0.0588 ug/L	0.0588 ppb	19:34:15
3	Co 228.616†	-70.6	0.4	0.0083 ug/L	0.0083 ppb	19:34:15
3	Cr 267.716†	80.7	-14.4	-0.1563 ug/L	-0.1563 ppb	19:34:15
3	Cu 324.752†	8845.9	-414.7	-1.1629 ug/L	-1.1629 ppb	19:33:55
3	Mn 257.610†	497.0	-0.3	-0.0001 ug/L	-0.0001 ppb	19:34:15
3	Mo 202.031†	18.9	-5.0	-0.3416 ug/L	-0.3416 ppb	19:34:15
3	Ni 231.604†	106.6	11.4	0.2855 ug/L	0.2855 ppb	19:34:15
3	P 214.914†	255.9	13.3	7.7282 ug/L	7.7282 ppb	19:34:15
3	Pb 220.353†	-36.3	24.6	3.0867 ug/L	3.0867 ppb	19:34:15
3	S 181.975 Axial†	40.3	-37.3	-51.350 ug/L	-51.350 ppb	19:34:15
3	Sb 206.836†	46.3	15.4	5.1528 ug/L	5.1528 ppb	19:34:15
3	Se 196.026†	-14.3	3.9	2.3078 ug/L	2.3078 ppb	19:34:15
3	Si 251.611†	517.3	13.6	0.4070 ug/L	0.4070 ppb	19:34:15
3	Sn 189.927†	1.5	1.8	0.3306 ug/L	0.3306 ppb	19:34:15
3	Ti 334.940†	-920.0	0.3	-0.0044 ug/L	-0.0044 ppb	19:33:55
3	Tl 190.801†	-32.4	5.0	1.5910 ug/L	1.5910 ppb	19:34:15
3	U 409.014†	-1034.4	43.9	1.0959 ug/L	1.0959 ppb	19:33:55
3	V 292.402†	-1417.5	-2.7	-0.0216 ug/L	-0.0216 ppb	19:33:55
3	Zn 213.857†	675.4	-68.1	-0.6364 ug/L	-0.6364 ppb	19:34:15
3	SiO2†	523.1	1.9	0.1271 ug/L	0.1271 ppb	19:35:15

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	912768.3	101.66 %	0.494			0.49%
Sc Radial	5558.2	104 %	2.9			2.76%
Y 371.029	802309.2	97.471 %	0.4749			0.49%
Y RADIAL	5997.5	104.2 %	2.52			2.41%
Ag 328.068†	74.0	0.3121 ug/L	0.11816	0.3121 ppb	0.11816	37.86%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-10.3	-7.8052 ug/L	10.03973	-7.8052 ppb	10.03973	128.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	5.1	2.1049 ug/L	1.66004	2.1049 ppb	1.66004	78.87%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	182.2	3.9958 ug/L	0.23991	3.9958 ppb	0.23991	6.00%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	1.5	0.0126 ug/L	0.07442	0.0126 ppb	0.07442	588.46%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	229.8	0.0811 ug/L	0.00473	0.0811 ppb	0.00473	5.83%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-4.6	-7.3396 ug/L	1.45103	-7.3396 ppb	1.45103	19.77%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	8.4	0.0929 ug/L	0.08299	0.0929 ppb	0.08299	89.34%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-0.6	-0.0141 ug/L	0.10149	-0.0141 ppb	0.10149	719.21%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-5.2	-0.0554 ug/L	0.08752	-0.0554 ppb	0.08752	158.02%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-333.1	-0.9337 ug/L	0.20104	-0.9337 ppb	0.20104	21.53%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.5	5.1047 ug/L	16.41880	5.1047 ppb	16.41880	321.64%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-197.2	-36.000 ug/L	20.8884	-36.000 ppb	20.8884	58.02%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	-0.3	-10.024 ug/L	67.7075	-10.024 ppb	67.7075	675.49%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-14.6	-0.0154 ug/L	0.01826	-0.0154 ppb	0.01826	118.24%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-1.4	-0.0974 ug/L	0.38952	-0.0974 ppb	0.38952	399.81%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	-226.2	-67.247 ug/L	18.5721	-67.247 ppb	18.5721	27.62%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	8.1	0.2043 ug/L	0.07213	0.2043 ppb	0.07213	35.30%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	0.2	0.3114 ug/L	6.73795	0.3114 ppb	6.73795	>999.9%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	23.4	2.9291 ug/L	0.28632	2.9291 ppb	0.28632	9.77%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-35.8	-49.341 ug/L	2.6148	-49.341 ppb	2.6148	5.30%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	9.8	3.2736 ug/L	1.78907	3.2736 ppb	1.78907	54.65%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	1.2	0.7039 ug/L	3.80824	0.7039 ppb	3.80824	541.05%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	24.5	0.7276 ug/L	0.29884	0.7276 ppb	0.29884	41.07%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	1.4	0.2517 ug/L	0.18006	0.2517 ppb	0.18006	71.55%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	10.7	0.0686 ug/L	0.11676	0.0686 ppb	0.11676	170.26%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	9.5	0.0148 ug/L	0.02692	0.0148 ppb	0.02692	182.30%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.5	0.4845 ug/L	2.72054	0.4845 ppb	2.72054	561.56%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-43.9	-1.0971 ug/L	2.08114	-1.0971 ppb	2.08114	189.69%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	23.4	0.1411 ug/L	0.18830	0.1411 ppb	0.18830	133.49%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-56.2	-0.5240 ug/L	0.13608	-0.5240 ppb	0.13608	25.97%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	16.0	1.0117 ug/L	0.89071	1.0117 ppb	0.89071	88.04%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.



## Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Monday, January 25, 2010 10:15:21

Sample Description:

Method File: c:\elandata\Method\daily2.mth

Dataset File: c:\elandata\Dataset\090811\Sample.365

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	279.6	279.603	7.232	2.6
Mg	24.0	6551.7	6551.703	224.316	3.4
Co	58.9	19524.1	19524.133	162.594	0.8
Rh	102.9	43393.0	43393.008	419.775	1.0
In	114.9	59564.7	59564.726	455.300	0.8
Pb	208.0	24383.4	24383.392	43.598	0.2
[> Ba	137.9	49039.4	49039.405	331.258	0.7
[ Ba++	69.0	663.8	0.014	0.000	2.5
[> Ce	139.9	58114.6	58114.574	541.645	0.9
[ CeO	155.9	1381.1	0.024	0.000	1.8
Bkgd	220.0	2.7	2.700	0.908	33.6

### Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
9.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	8.3	526.7
Co	59	17	9.8	17606.2
In	115	17	11.3	44925.9

## ICPMS #4 TUNING REPORT

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	605	2060	0.712
Be	9.0	9.1	2032	2045	0.713
Mg	24.0	24.0	5651	2075	0.629
Mg	25.0	25.0	5961	2080	0.752
Mg	26.0	26.1	6122	2085	0.671
Co	58.9	58.9	14167	2140	0.679
Rh	102.9	102.8	24853	2230	0.691
In	114.9	114.9	27767	2255	0.695
Ce	139.9	139.8	33839	2310	0.669
Pb	206.0	206.0	49932	2500	0.664
Pb	207.0	207.0	50113	2380	0.688
Pb	208.0	208.0	50436	2570	0.658
U	238.1	238.1	57690	2510	0.703

## ICPMS#4 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, January 25, 2010 10:48:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\Blank.001

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		70562	
[ U	238		ug/L		7	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Simple Linear	
U	238	Simple Linear	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu	175					
[ U	238					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Monday, January 25, 2010 10:48:19

Page 1

## ICPMS#4 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, January 25, 2010 10:50:17

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\Standard 1.002

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		71229	71228.552
[	U 238	10.000	ug/L	0.948	60117	0.844

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175					
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 1

Report Date/Time: Monday, January 25, 2010 10:50:28

Page 1

## ICPMS#4 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, January 25, 2010 10:52:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\Standard 2.003

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		71370	71369.580
[	U 238	99.975	ug/L	2.548	587354	8.231

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175					
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Monday, January 25, 2010 10:52:37

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, January 25, 2010 10:54:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 1.004

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		70364	70363.907
[	U 238	52.666	ug/L	1.699	305082	4.336

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.7		
[	U 238	105.331				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Monday, January 25, 2010 10:54:47

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, January 25, 2010 10:56:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 2.005

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		67652	67651.830
[	U 238	0.019	ug/L	7.663	115	0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			95.9		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, January 25, 2010 10:59:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 3.006

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		70012	70012.214
[ U	238	0.228	ug/L	1.188	1323	0.019

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu	175			99.2		
[ U	238	114.119				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, January 25, 2010 11:01:11

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 4.007

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		66109	66108.971
[	U 238	0.003	ug/L	24.116	25	0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			93.7		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 4

Report Date/Time: Monday, January 25, 2010 11:01:23

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, January 25, 2010 11:03:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 5.008

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		64803	64802.658
[	U 238	20.513	ug/L	1.294	109445	1.689

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			91.8		
[	U 238	102.565				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:05:35

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.009

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		66608	66607.627
[ U 238	50.864	ug/L	0.662	278958	4.188

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			94.4		
[ U 238	101.727				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 11:05:47

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:07:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.010

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		66809	66808.564
[	U 238	0.017	ug/L	18.292	99	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			94.7		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:08:01

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:25:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.018

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		65297	65296.542
[	U 238	49.814	ug/L	2.164	267815	4.101

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			92.5		
[	U 238	99.628				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 11:25:41

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:27:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.019

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63567	63567.105
[	U 238	0.014	ug/L	10.045	79	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			90.1		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:27:56

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:40:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.025

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63507	63507.227
[	U 238	49.378	ug/L	0.462	258205	4.065

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			90.0		
[	U 238	98.757				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 11:41:10

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:43:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.026

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63466	63466.300
[	U 238	0.018	ug/L	6.189	98	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.9		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:43:25

Page 1



## ICPMS#4 - Summary Report

Sample ID: 1202017705

Sample Date/Time: Monday, January 25, 2010 11:55:33

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017705.027

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		58764	58763.904
[ U 238	0.007	ug/L	9.995	41	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			83.3		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017705

Report Date/Time: Monday, January 25, 2010 11:55:44

Page 1

## ICPMS#4 - Summary Report

Sample ID: 1202017706

Sample Date/Time: Monday, January 25, 2010 11:57:44

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017706.028

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		59049	59048.727
[	U 238	47.958	ug/L	0.687	233169	3.948

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			83.7		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017706

Report Date/Time: Monday, January 25, 2010 11:57:56

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:13:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.035

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		62728	62728.079
[	U	238	48.343 ug/L	0.986	249655	3.980

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175		88.9		
[	U	238	96.687			

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 12:13:25

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:15:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.036

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		62171	62171.281
[ U 238	0.016	ug/L	8.139	87	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			88.1		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:15:39

Page 1

## ICPMS#4 - Summary Report

Sample ID: 244880001

Sample Date/Time: Monday, January 25, 2010 12:24:18

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\244880001.040

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		58523	58522.931
[ U 238	0.003	ug/L	22.607	23	0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			82.9		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244880001

Report Date/Time: Monday, January 25, 2010 12:24:31

Page 1

## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:37:37

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.046

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		63250	63250.012
[	U 238	48.488	ug/L	0.840	252503	3.992

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.6		
[	U 238	96.976				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 12:37:49

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## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:39:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.047

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		62741	62741.102
[	U 238	0.016	ug/L	14.527	91	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			88.9		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:40:04

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## ICPMS#4 - Summary Report

Sample ID: 1202017707

Sample Date/Time: Monday, January 25, 2010 12:53:15

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017707.053

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		61403	61403.305
[	U 238	2.903	ug/L	1.645	14680	0.239

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			87.0		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017707

Report Date/Time: Monday, January 25, 2010 12:53:27

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## ICPMS#4 - Summary Report

Sample ID: 1202017708

Sample Date/Time: Monday, January 25, 2010 12:55:28

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942514|1|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017708.054

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		59852	59852.387
[	U	238	49.292 ug/L	1.323	242919	4.058

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175		84.8		
[	U	238				

### QC Out Of Limits

Measurement Type	Analyte	Mass Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017708

Report Date/Time: Monday, January 25, 2010 12:55:41

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## ICPMS#4 - Summary Report

Sample ID: 1202017709

Sample Date/Time: Monday, January 25, 2010 12:57:43

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942514|S|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\1202017709.055

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		57742	57742.392
[	U 238	0.619	ug/L	2.234	2947	0.051

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			81.8		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017709

Report Date/Time: Monday, January 25, 2010 12:57:55

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## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:59:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.056

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		57970	57969.997
[	U	238	48.429 ug/L	0.708	231150	3.987

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175		82.2		
[	U	238	96.858			

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 13:00:08

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## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 13:02:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.057

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		56905	56904.726
[	U 238	0.017	ug/L	4.984	85	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			80.6		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 13:02:22

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## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Sunday, January 24, 2010 12:32:20

### Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1744

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	2517.0	2517.022	73.747	2.9
Mg	24.0	37608.2	37608.248	590.113	1.6
Co	58.9	75402.3	75402.282	688.003	0.9
Rh	102.9	139404.7	139404.691	734.179	0.5
In	114.9	194564.7	194564.664	1769.852	0.9
Pb	208.0	211131.0	211131.027	1912.120	0.9
[> Ba	137.9	183368.7	183368.743	2127.934	1.2
[ Ba++	69.0	2810.4	0.015	0.000	0.7
[> Ce	139.9	223045.8	223045.814	1616.742	0.7
[ CeO	155.9	4848.4	0.022	0.000	2.2
Bkgd	220.0	15.8	15.800	2.168	13.7

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
8.75	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	19	8.8	4557.4
Co	59	19	10.0	76159.8
In	115	19	11.3	194713.0

## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	590	2050	0.622
Be	9.0	9.0	2062	2070	0.601
Mg	24.0	24.0	5691	2070	0.592
Mg	25.0	24.9	5931	2070	0.623
Mg	26.0	26.0	6160	2070	0.612
Co	58.9	58.9	14185	2105	0.595
Rh	102.9	102.9	24882	2165	0.603
In	114.9	114.9	27796	2185	0.590
Ce	139.9	139.9	33868	2200	0.613
Pb	206.0	206.0	49948	2270	0.636
Pb	207.0	207.0	50171	2235	0.668
Pb	208.0	208.0	50439	2260	0.696
U	238.1	238.0	57726	2260	0.743

## ICPMS#5 - Summary Report

Sample ID: Blank  
 Sample Date/Time: Sunday, January 24, 2010 14:44:50  
 Sample Type:  
 Sample Description:  
 Number of Replicates: 3  
 Batch ID:  
 Method File: c:\elandata\Method\6020 2.mth  
 Dataset File: C:\elandata\Dataset\100124\Blank.071

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7		ug/L		75	
Be	9		ug/L		14	
B	11		ug/L		332	
Na	23		ug/L		30032	
Mg	24		ug/L		7669	
Al	27		ug/L		8336	
P	31		ug/L		4692	
K	39		ug/L		464780	
Ca	43		ug/L		193	
> Sc	45		ug/L		923650	
Ti	47		ug/L		272	
V	51		ug/L		-1043	
Cr	52		ug/L		-810	
Cr	53		ug/L		68039	
Mn	55		ug/L		1178	
Fe	57		ug/L		4741	
Co	59		ug/L		158	
Ni	60		ug/L		147	
Cu	63		ug/L		2178	
Cu	65		ug/L		1058	
Zn	66		ug/L		1645	
Zn	67		ug/L		7432	
Zn	68		ug/L		1740	
> Ge	74		ug/L		348609	
As	75		ug/L		-293	
Se	77		ug/L		3933	
Se	82		ug/L		-2	
Kr	83		ug/L		85	
Sr	88		ug/L		229	
Y	89		ug/L		63	
Mo	98		ug/L		84	
Ag	107		ug/L		52	
Cd	111		ug/L		16	
Cd	114		ug/L		49	
> In	115		ug/L		234860	
Sn	120		ug/L		1271	
Sb	121		ug/L		492	
Sb	123		ug/L		391	
Ba	135		ug/L		46	
Ba	137		ug/L		71	
Ho	165		ug/L		20	
> Lu	175		ug/L		505775	
Tl	205		ug/L		574	
Pb	208		ug/L		1063	
Bi	209		ug/L		110	
Th	232		ug/L		816	
U	238		ug/L		621	

Sample ID: Blank  
 Report Date/Time: Sunday, January 24, 2010 14:47:34  
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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Simple Linear	
Be	9Simple Linear	
B	11Simple Linear	
Na	23Simple Linear	
Mg	24Simple Linear	
Al	27Simple Linear	
P	31Simple Linear	
K	39Simple Linear	
Ca	43Simple Linear	
Sc	45Simple Linear	
Ti	47Simple Linear	
V	51Simple Linear	
Cr	52Simple Linear	
Cr	53Simple Linear	
Mn	55Simple Linear	
Fe	57Simple Linear	
Co	59Simple Linear	
Ni	60Simple Linear	
Cu	63Simple Linear	
Cu	65Simple Linear	
Zn	66Simple Linear	
Zn	67Simple Linear	
Zn	68Simple Linear	
Ge	74Simple Linear	
As	75Simple Linear	
Se	77Simple Linear	
Se	82Simple Linear	
Kr	83Simple Linear	
Sr	88Simple Linear	
Y	89Simple Linear	
Mo	98Simple Linear	
Ag	107Simple Linear	
Cd	111Simple Linear	
Cd	114Simple Linear	
In	115Simple Linear	
Sn	120Simple Linear	
Sb	121Simple Linear	
Sb	123Simple Linear	
Ba	135Simple Linear	
Ba	137Simple Linear	
Ho	165Simple Linear	
Lu	175Linear Thru Zero	
Tl	205Simple Linear	
Pb	208Simple Linear	
Bi	209Simple Linear	
Th	232Simple Linear	
U	238Linear Thru Zero	0.9998



## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Sunday, January 24, 2010 14:50:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\Standard 1.072

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	3.008	11835	0.013
Be	9	10.000	ug/L	2.317	3784	0.004
B	11	20.000	ug/L	2.732	7498	0.008
Na	23	1000.000	ug/L	5.567	4353033	4.623
Mg	24	1000.000	ug/L	5.815	2933997	3.126
Al	27	1000.000	ug/L	3.212	4071620	4.342
P	31	1000.000	ug/L	2.312	225479	0.236
K	39	1000.000	ug/L	8.407	5285458	5.149
Ca	43	1000.000	ug/L	2.142	11890	0.013
> Sc	45		ug/L		935507	935507.422
Ti	47	10.000	ug/L	0.397	5481	0.006
V	51	10.000	ug/L	2.239	58660	0.064
Cr	52	10.000	ug/L	1.707	46673	0.051
Cr	53		ug/L		75415	0.007
Mn	55	10.000	ug/L	1.900	83546	0.088
Fe	57	1000.000	ug/L	2.105	172446	0.179
Co	59	10.000	ug/L	0.346	63836	0.068
Ni	60	10.000	ug/L	2.614	13904	0.015
Cu	63		ug/L		34888	0.035
Cu	65	10.000	ug/L	0.566	16918	0.017
Zn	66	10.000	ug/L	1.250	12342	0.030
Zn	67		ug/L		9108	0.004
Zn	68		ug/L		9047	0.021
> Ge	74		ug/L		353919	353918.972
As	75	10.000	ug/L	1.568	10421	0.030
Se	77		ug/L		4935	0.003
Se	82	10.000	ug/L	3.316	1024	0.003
Kr	83		ug/L		91	0.000
Sr	88	10.000	ug/L	1.454	122599	0.515
Y	89		ug/L		81	0.000
Mo	98	10.000	ug/L	0.343	29400	0.123
Ag	107	10.000	ug/L	0.984	53144	0.224
Cd	111	10.000	ug/L	1.897	13366	0.056
Cd	114		ug/L		32955	0.139
> In	115		ug/L		237432	237432.146
Sn	120	10.000	ug/L	1.393	60153	0.248
Sb	121	10.000	ug/L	9.608	46862	0.195
Sb	123		ug/L		36610	0.152
Ba	135		ug/L		14370	0.028
Ba	137	10.000	ug/L	1.823	25229	0.050
Ho	165		ug/L		20	-0.000
> Lu	175		ug/L		504295	504294.966
Tl	205	10.000	ug/L	1.794	237998	0.471
Pb	208	10.000	ug/L	0.979	364226	0.720
Bi	209		ug/L		135	0.000
Th	232	10.000	ug/L	1.667	493577	0.977
U	238	10.000	ug/L	0.659	537405	1.064

Sample ID: Standard 1

Report Date/Time: Sunday, January 24, 2010 14:53:38

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 1

Report Date/Time: Sunday, January 24, 2010 14:53:38

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## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Sunday, January 24, 2010 14:57:00

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\Standard 2.073

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	99.946	ug/L	4.854	113803	0.119
Be	9	99.926	ug/L	1.781	35756	0.037
B	11	199.970	ug/L	1.360	72242	0.075
Na	23	9999.612	ug/L	1.505	43939341	48.051
Mg	24	10007.913	ug/L	9.965	32410614	33.973
Al	27	10007.725	ug/L	6.250	44922045	47.097
P	31	9994.841	ug/L	3.094	2143402	2.243
K	39	10004.508	ug/L	4.621	51916199	53.950
Ca	43	9999.716	ug/L	3.105	119067	0.125
> Sc	45		ug/L		953518	953518.474
Ti	47	99.999	ug/L	1.282	53287	0.056
V	51	100.016	ug/L	1.954	618023	0.649
Cr	52	99.990	ug/L	1.665	478400	0.503
Cr	53		ug/L		132356	0.065
Mn	55	99.941	ug/L	0.986	793804	0.831
Fe	57	9988.789	ug/L	2.711	1540018	1.610
Co	59	99.957	ug/L	2.894	622186	0.652
Ni	60	99.968	ug/L	1.732	135984	0.142
Cu	63		ug/L		327250	0.341
Cu	65	99.980	ug/L	1.940	159368	0.166
Zn	66	99.986	ug/L	0.891	108650	0.297
Zn	67		ug/L		24434	0.047
Zn	68		ug/L		75827	0.206
> Ge	74		ug/L		359604	359603.674
As	75	99.963	ug/L	0.255	104687	0.292
Se	77		ug/L		12614	0.024
Se	82	100.003	ug/L	1.327	10452	0.029
Kr	83		ug/L		112	0.000
Sr	88	99.965	ug/L	0.701	1160379	4.977
Y	89		ug/L		165	0.000
Mo	98	100.022	ug/L	1.600	294353	1.262
Ag	107	99.986	ug/L	1.782	513882	2.204
Cd	111	100.016	ug/L	0.730	133203	0.571
Cd	114		ug/L		319829	1.372
> In	115		ug/L		233093	233093.051
Sn	120	99.988	ug/L	1.726	572186	2.449
Sb	121	100.031	ug/L	5.024	470480	2.016
Sb	123		ug/L		371842	1.593
Ba	135		ug/L		142216	0.288
Ba	137	100.006	ug/L	2.797	247803	0.502
Ho	165		ug/L		26	0.000
> Lu	175		ug/L		493449	493449.218
Tl	205	99.826	ug/L	1.671	1975095	4.002
Pb	208	99.898	ug/L	1.615	3223401	6.531
Bi	209		ug/L		394	0.001
Th	232	99.836	ug/L	2.850	4135575	8.380
U	238	99.825	ug/L	2.135	4461465	9.042

Sample ID: Standard 2

Report Date/Time: Sunday, January 24, 2010 14:59:42

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Sunday, January 24, 2010 14:59:42

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## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Sunday, January 24, 2010 15:03:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 1.074

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	49.683	ug/L	3.164	58042	0.059
Be	9	51.126	ug/L	1.302	18758	0.019
B	11	105.782	ug/L	2.344	39334	0.040
Na	23	5122.100	ug/L	12.004	23060363	23.589
Mg	24	4938.586	ug/L	1.713	16392869	16.765
Al	27	4419.208	ug/L	4.309	20341319	20.797
P	31	5119.191	ug/L	2.293	1127567	1.149
K	39	5427.686	ug/L	7.851	29123722	29.269
Ca	43	5032.081	ug/L	2.536	61512	0.063
> Sc	45		ug/L		977438	977437.715
Ti	47	50.525	ug/L	2.195	27735	0.028
V	51	49.725	ug/L	3.862	314298	0.323
Cr	52	51.799	ug/L	2.330	253574	0.260
Cr	53		ug/L		110395	0.039
Mn	55	52.864	ug/L	1.452	430931	0.440
Fe	57	5273.052	ug/L	2.525	835495	0.850
Co	59	50.530	ug/L	2.554	322422	0.330
Ni	60	52.491	ug/L	1.268	73261	0.075
Cu	63		ug/L		173740	0.175
Cu	65	51.594	ug/L	1.438	84830	0.086
Zn	66	52.079	ug/L	2.491	59270	0.155
Zn	67		ug/L		16988	0.024
Zn	68		ug/L		41468	0.107
> Ge	74		ug/L		371389	371389.341
As	75	47.686	ug/L	2.677	51403	0.139
Se	77		ug/L		9277	0.014
Se	82	48.922	ug/L	0.467	5280	0.014
Kr	83		ug/L		95	0.000
Sr	88	52.718	ug/L	1.592	626882	2.625
Y	89		ug/L		98	0.000
Mo	98	50.055	ug/L	1.576	150922	0.632
Ag	107	51.225	ug/L	1.861	269686	1.129
Cd	111	50.804	ug/L	1.423	69311	0.290
Cd	114		ug/L		166076	0.695
> In	115		ug/L		238765	238764.697
Sn	120	50.649	ug/L	0.964	297498	1.241
Sb	121	50.346	ug/L	6.700	242717	1.015
Sb	123		ug/L		192487	0.805
Ba	135		ug/L		73788	0.148
Ba	137	51.071	ug/L	0.526	128205	0.256
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		499671	499671.051
Tl	205	53.657	ug/L	1.100	1075424	2.151
Pb	208	53.556	ug/L	0.304	1750556	3.501
Bi	209		ug/L		424	0.001
Th	232	50.376	ug/L	0.062	2113737	4.229
U	238	52.279	ug/L	0.524	2366696	4.735

Sample ID: QC Std 1

Report Date/Time: Sunday, January 24, 2010 15:05:47

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	99.366				
Be	9	102.252				
B	11	105.782				
Na	23	102.442				
Mg	24	98.772				
Al	27	87.509				
P	31	102.384				
K	39	108.554				
Ca	43	100.642				
> Sc	45		105.8			
Ti	47	101.049				
V	51	99.451				
Cr	52	103.597				
Cr	53					
Mn	55	105.729				
Fe	57	105.461				
Co	59	101.060				
Ni	60	104.981				
Cu	63					
Cu	65	103.188				
Zn	66	104.157				
Zn	67					
Zn	68					
> Ge	74		106.5			
As	75	95.372				
Se	77					
Se	82	97.843				
Kr	83					
Sr	88	105.436				
Y	89					
Mo	98	100.110				
Ag	107	102.451				
Cd	111	101.608				
Cd	114					
> In	115		101.7			
Sn	120	101.299				
Sb	121	100.693				
Sb	123					
Ba	135					
Ba	137	102.143				
Ho	165					
> Lu	175		98.8			
Tl	205	107.314				
Pb	208	107.112				
Bi	209					
Th	232	100.752				
U	238	104.558				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message  
 QC Std 1 Al 27ICV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Sunday, January 24, 2010 15:09:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 2.075

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.001	ug/L	573.967	82	0.000
Be	9	-0.003	ug/L	439.932	14	-0.000
B	11	3.805	ug/L	23.149	1774	0.001
Na	23	-1.495	ug/L	76.476	25356	-0.007
Mg	24	-0.064	ug/L	942.433	8002	-0.000
Al	27	-0.417	ug/L	154.290	7002	-0.002
P	31	-0.108	ug/L	739.865	5006	-0.000
K	39	17.026	ug/L	35.893	589263	0.092
Ca	43	3.038	ug/L	77.152	245	0.000
> Sc	45		ug/L		990428	990428.008
Ti	47	-0.055	ug/L	90.177	261	-0.000
V	51	0.262	ug/L	171.559	582	0.002
Cr	52	0.407	ug/L	12.582	1160	0.002
Cr	53		ug/L		80375	0.008
Mn	55	-0.023	ug/L	14.746	1077	-0.000
Fe	57	4.478	ug/L	13.200	5799	0.001
Co	59	0.002	ug/L	83.803	181	0.000
Ni	60	0.014	ug/L	160.945	176	0.000
Cu	63		ug/L		2330	-0.000
Cu	65	0.021	ug/L	98.247	1168	0.000
Zn	66	-0.247	ug/L	7.999	1485	-0.001
Zn	67		ug/L		7958	0.000
Zn	68		ug/L		1627	-0.001
> Ge	74		ug/L		372843	372843.406
As	75	0.034	ug/L	410.674	-277	0.000
Se	77		ug/L		5326	0.003
Se	82	-0.079	ug/L	371.865	-11	-0.000
Kr	83		ug/L		110	0.000
Sr	88	0.000	ug/L	549.338	241	0.000
Y	89		ug/L		58	-0.000
Mo	98	0.041	ug/L	23.389	211	0.001
Ag	107	0.002	ug/L	3.817	64	0.000
Cd	111	0.007	ug/L	35.165	26	0.000
Cd	114		ug/L		44	-0.000
> In	115		ug/L		242879	242879.139
Sn	120	0.152	ug/L	16.906	2221	0.004
Sb	121	0.939	ug/L	23.263	5105	0.019
Sb	123		ug/L		4046	0.015
Ba	135		ug/L		40	-0.000
Ba	137	-0.000	ug/L	188.979	69	-0.000
Ho	165		ug/L		22	0.000
> Lu	175		ug/L		497307	497306.895
Tl	205	0.006	ug/L	66.310	686	0.000
Pb	208	0.003	ug/L	35.393	1152	0.000
Bi	209		ug/L		107	-0.000
Th	232	0.046	ug/L	15.703	2718	0.004
U	238	0.006	ug/L	27.366	862	0.001

Sample ID: QC Std 2

Report Date/Time: Sunday, January 24, 2010 15:11:56

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		107.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		107.0			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		103.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		98.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Sunday, January 24, 2010 15:11:56

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## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Sunday, January 24, 2010 15:15:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 3.076

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.909	ug/L	5.250	12807	0.013
Be	9	0.592	ug/L	2.846	232	0.000
B	11	16.845	ug/L	3.036	6561	0.006
Na	23	294.646	ug/L	12.988	1358230	1.357
Mg	24	15.767	ug/L	36.468	60470	0.054
Al	27	31.082	ug/L	8.867	151806	0.146
P	31	59.276	ug/L	2.565	17970	0.013
K	39	316.866	ug/L	6.433	2162233	1.709
Ca	43	225.134	ug/L	6.622	2948	0.003
> Sc	45		ug/L		977603	977603.080
Ti	47	9.440	ug/L	1.158	5418	0.005
V	51	11.659	ug/L	2.810	72888	0.076
Cr	52	11.406	ug/L	2.643	55188	0.057
Cr	53		ug/L		88320	0.017
Mn	55	5.999	ug/L	1.371	50025	0.050
Fe	57	126.300	ug/L	2.079	24918	0.020
Co	59	1.121	ug/L	1.386	7322	0.007
Ni	60	2.227	ug/L	1.764	3257	0.003
Cu	63		ug/L		6176	0.004
Cu	65	1.147	ug/L	2.090	2981	0.002
Zn	66	10.965	ug/L	1.126	13779	0.033
Zn	67		ug/L		9998	0.006
Zn	68		ug/L		9967	0.022
> Ge	74		ug/L		369146	369146.311
As	75	5.684	ug/L	6.882	5821	0.017
Se	77		ug/L		5771	0.004
Se	82	5.508	ug/L	5.202	588	0.002
Kr	83		ug/L		104	0.000
Sr	88	11.522	ug/L	2.918	140443	0.574
Y	89		ug/L		50	-0.000
Mo	98	0.546	ug/L	4.162	1772	0.007
Ag	107	1.057	ug/L	1.828	5752	0.023
Cd	111	1.091	ug/L	3.327	1541	0.006
Cd	114		ug/L		3619	0.015
> In	115		ug/L		244449	244448.718
Sn	120	5.403	ug/L	1.649	33680	0.132
Sb	121	3.279	ug/L	8.040	16676	0.066
Sb	123		ug/L		13141	0.052
Ba	135		ug/L		3268	0.006
Ba	137	2.235	ug/L	2.561	5705	0.011
Ho	165		ug/L		19	-0.000
> Lu	175		ug/L		502235	502234.533
Tl	205	1.243	ug/L	1.110	25602	0.050
Pb	208	2.418	ug/L	0.712	80441	0.158
Bi	209		ug/L		115	0.000
Th	232	1.334	ug/L	1.184	57036	0.112
U	238	0.276	ug/L	0.711	13174	0.025

Sample ID: QC Std 3

Report Date/Time: Sunday, January 24, 2010 15:18:02

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: QC Std 3

Report Date/Time: Sunday, January 24, 2010 15:18:02

Page 2

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	109.088				
Be	9	118.460				
B	11	112.297				
Na	23	117.858				
Mg	24	105.112				
Al	27	103.607				
P	31	118.552				
K	39	105.622				
Ca	43	112.567				
> Sc	45		105.8			
Ti	47	94.400				
V	51	116.589				
Cr	52	114.058				
Cr	53					
Mn	55	119.983				
Fe	57	126.300				
Co	59	112.140				
Ni	60	111.330				
Cu	63					
Cu	65	114.696				
Zn	66	109.646				
Zn	67					
Zn	68					
> Ge	74		105.9			
As	75	113.682				
Se	77					
Se	82	110.163				
Kr	83					
Sr	88	115.222				
Y	89					
Mo	98	109.152				
Ag	107	105.739				
Cd	111	109.135				
Cd	114					
> In	115		104.1			
Sn	120	108.068				
Sb	121	109.306				
Sb	123					
Ba	135					
Ba	137	111.726				
Ho	165					
> Lu	175		99.3			
Tl	205	124.317				
Pb	208	120.889				
Bi	209					
Th	232	133.376				
U	238	138.029				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Th	232	CRDL is out of limits
QC Std 3	U	238	CRDL is out of limits

### QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Sunday, January 24, 2010 15:21:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 4.077

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.136	ug/L	16.297	225	0.000
Be	9	0.051	ug/L	34.744	32	0.000
B	11	1.298	ug/L	21.984	784	0.000
Na	23	103517.766	ug/L	5.039	439860848	476.729
Mg	24	97004.475	ug/L	1.723	303870945	329.293
Al	27	94091.943	ug/L	5.515	408593736	442.803
P	31	98463.237	ug/L	2.502	20390353	22.096
K	39	100908.416	ug/L	6.063	502338973	544.154
Ca	43	93272.449	ug/L	1.543	1073166	1.163
> Sc	45		ug/L		922747	922746.814
Ti	47	1477.120	ug/L	1.399	757893	0.821
V	51	0.859	ug/L	55.785	4078	0.006
Cr	52	2.643	ug/L	2.160	11446	0.013
Cr	53		ug/L		71042	0.003
Mn	55	6.054	ug/L	2.041	47628	0.050
Fe	57	95137.944	ug/L	2.395	14151679	15.334
Co	59	0.301	ug/L	3.891	1969	0.002
Ni	60	2.904	ug/L	2.807	3964	0.004
Cu	63		ug/L		8015	0.006
Cu	65	2.387	ug/L	4.441	4713	0.004
Zn	66	2.977	ug/L	4.467	4627	0.009
Zn	67		ug/L		7794	0.002
Zn	68		ug/L		2194	0.001
> Ge	74		ug/L		340993	340993.007
As	75	0.457	ug/L	15.240	168	0.001
Se	77		ug/L		7508	0.011
Se	82	-0.698	ug/L	35.112	-72	-0.000
Kr	83		ug/L		227	0.000
Sr	88	1.262	ug/L	2.074	13880	0.063
Y	89		ug/L		431	0.002
Mo	98	1985.806	ug/L	1.499	5452670	25.064
Ag	107	0.064	ug/L	8.926	354	0.001
Cd	111	0.453	ug/L	16.226	579	0.003
Cd	114		ug/L		7485	0.034
> In	115		ug/L		217545	217545.288
Sn	120	0.101	ug/L	7.995	1715	0.002
Sb	121	0.200	ug/L	21.823	1331	0.004
Sb	123		ug/L		1057	0.003
Ba	135		ug/L		1131	0.002
Ba	137	0.884	ug/L	1.828	2005	0.004
Ho	165		ug/L		1050	0.002
> Lu	175		ug/L		437717	437716.845
Tl	205	0.009	ug/L	5.396	659	0.000
Pb	208	0.202	ug/L	1.909	6690	0.013
Bi	209		ug/L		1226	0.003
Th	232	0.046	ug/L	33.982	2410	0.004
U	238	0.000	ug/L	265.365	542	0.000

Sample ID: QC Std 4

Report Date/Time: Sunday, January 24, 2010 15:24:08

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: QC Std 4

Report Date/Time: Sunday, January 24, 2010 15:24:08

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## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23	103.518				
Mg	24	97.004				
Al	27	94.092				
P	31	98.463				
K	39	100.908				
Ca	43	93.272				
> Sc	45		99.9			
Ti	47	73.856				
V	51					
Cr	52	71.423				
Cr	53					
Mn	55	104.373				
Fe	57	95.138				
Co	59	120.322				
Ni	60	107.545				
Cu	63					
Cu	65	82.327				
Zn	66	82.686				
Zn	67					
Zn	68					
> Ge	74		97.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88	105.153				
Y	89					
Mo	98	99.290				
Ag	107					
Cd	111	113.360				
Cd	114					
> In	115		92.6			
Sn	120					
Sb	121	199.605				
Sb	123					
Ba	135					
Ba	137	131.946				
Ho	165					
> Lu	175		86.5			
Tl	205					
Pb	208	100.832				
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message  
 QC Std 4 Ti 47ICSA is out of limits

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Sunday, January 24, 2010 15:27:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 5.078

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	20.247	ug/L	4.582	21838	0.024
Be	9	18.971	ug/L	2.404	6424	0.007
B	11	19.681	ug/L	1.205	7009	0.007
Na	23	106395.057	ug/L	3.845	441418981	489.980
Mg	24	104279.605	ug/L	6.773	318961601	353.989
Al	27	89950.695	ug/L	4.613	381389948	423.314
P	31	99417.120	ug/L	1.314	20103701	22.310
K	39	100661.716	ug/L	2.444	489495592	542.824
Ca	43	95621.967	ug/L	0.532	1074221	1.192
> Sc	45		ug/L		900883	900883.124
Ti	47	1481.323	ug/L	0.975	742114	0.823
V	51	21.357	ug/L	1.104	123887	0.139
Cr	52	23.280	ug/L	0.804	104626	0.117
Cr	53		ug/L		78525	0.014
Mn	55	27.087	ug/L	0.358	204103	0.225
Fe	57	97575.842	ug/L	1.739	14172039	15.727
Co	59	20.241	ug/L	1.232	119158	0.132
Ni	60	22.146	ug/L	2.581	28572	0.032
Cu	63		ug/L		66110	0.071
Cu	65	21.427	ug/L	0.908	33078	0.036
Zn	66	21.701	ug/L	2.876	23277	0.065
Zn	67		ug/L		10663	0.010
Zn	68		ug/L		15204	0.040
> Ge	74		ug/L		336079	336079.356
As	75	20.368	ug/L	2.644	19709	0.059
Se	77		ug/L		8194	0.013
Se	82	19.209	ug/L	2.542	1874	0.006
Kr	83		ug/L		244	0.000
Sr	88	24.183	ug/L	0.902	257260	1.204
Y	89		ug/L		408	0.002
Mo	98	2034.706	ug/L	1.576	5482415	25.681
Ag	107	20.277	ug/L	0.563	95490	0.447
Cd	111	20.227	ug/L	1.024	24685	0.116
Cd	114		ug/L		65368	0.306
> In	115		ug/L		213494	213494.286
Sn	120	20.827	ug/L	0.306	110067	0.510
Sb	121	22.372	ug/L	2.021	96704	0.451
Sb	123		ug/L		75497	0.352
Ba	135		ug/L		26909	0.062
Ba	137	21.494	ug/L	0.470	47041	0.108
Ho	165		ug/L		1079	0.002
> Lu	175		ug/L		435293	435293.481
Tl	205	22.631	ug/L	2.369	395408	0.907
Pb	208	21.800	ug/L	0.362	621314	1.425
Bi	209		ug/L		1613	0.003
Th	232	24.396	ug/L	1.508	892080	2.048
U	238	24.732	ug/L	0.885	975622	2.240

Sample ID: QC Std 5

Report Date/Time: Sunday, January 24, 2010 15:30:15

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
Li	7	101.236				
Be	9	94.854				
B	11	98.407				
Na	23	106.395				
Mg	24	104.280				
Al	27	89.951				
P	31	99.417				
K	39	100.662				
Ca	43	95.622				
> Sc	45		97.5			
Ti	47	74.066				
V	51	106.787				
Cr	52	98.228				
Cr	53					
Mn	55	104.989				
Fe	57	97.576				
Co	59	99.955				
Ni	60	97.561				
Cu	63					
Cu	65	93.566				
Zn	66	91.954				
Zn	67					
Zn	68					
> Ge	74		96.4			
As	75	101.838				
Se	77					
Se	82	96.044				
Kr	83					
Sr	88	114.072				
Y	89					
Mo	98	101.735				
Ag	107	101.387				
Cd	111	99.153				
Cd	114					
> In	115		90.9			
Sn	120	104.133				
Sb	121	111.306				
Sb	123					
Ba	135					
Ba	137	103.988				
Ho	165					
> Lu	175		86.1			
Tl	205	113.157				
Pb	208	107.923				
Bi	209					
Th	232	121.979				
U	238	123.662				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Ti	47	ICSAB is out of limits
QC Std 5	Th	232	ICSAB is out of limits
QC Std 5	U	238	ICSAB is out of limits

## QC Action

Sample ID: QC Std 5  
 Report Date/Time: Sunday, January 24, 2010 15:30:15  
 Page 3

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Sunday, January 24, 2010 15:33:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 6.079

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	48.588	ug/L	7.478	56100	0.058
Be	9	49.650	ug/L	4.874	18013	0.019
B	11	97.157	ug/L	2.807	35759	0.037
Na	23	5277.724	ug/L	6.434	23527803	24.305
Mg	24	4800.171	ug/L	2.636	15763198	16.295
Al	27	4664.435	ug/L	1.612	21233384	21.951
P	31	5117.575	ug/L	1.272	1115232	1.148
K	39	5181.371	ug/L	1.874	27495687	27.941
Ca	43	4998.650	ug/L	1.762	60465	0.062
> Sc	45		ug/L		966799	966798.907
Ti	47	51.922	ug/L	2.508	28187	0.029
V	51	50.529	ug/L	1.414	316021	0.328
Cr	52	51.194	ug/L	0.195	247932	0.257
Cr	53		ug/L		111262	0.041
Mn	55	52.523	ug/L	2.476	423475	0.437
Fe	57	5286.483	ug/L	1.968	828547	0.852
Co	59	50.810	ug/L	1.937	320703	0.332
Ni	60	52.345	ug/L	2.205	72255	0.075
Cu	63		ug/L		171796	0.175
Cu	65	50.572	ug/L	2.492	82259	0.084
Zn	66	51.257	ug/L	0.674	57658	0.152
Zn	67		ug/L		16518	0.024
Zn	68		ug/L		40007	0.104
> Ge	74		ug/L		366843	366843.136
As	75	47.725	ug/L	1.231	50824	0.139
Se	77		ug/L		10114	0.016
Se	82	49.253	ug/L	2.644	5251	0.014
Kr	83		ug/L		90	-0.000
Sr	88	51.306	ug/L	1.316	610804	2.554
Y	89		ug/L		117	0.000
Mo	98	48.844	ug/L	2.027	147414	0.616
Ag	107	51.019	ug/L	1.035	268920	1.125
Cd	111	49.589	ug/L	2.004	67719	0.283
Cd	114		ug/L		163729	0.685
> In	115		ug/L		239018	239018.012
Sn	120	49.713	ug/L	2.736	292285	1.218
Sb	121	48.078	ug/L	7.133	232025	0.969
Sb	123		ug/L		182786	0.763
Ba	135		ug/L		71799	0.145
Ba	137	50.581	ug/L	0.833	125605	0.254
Ho	165		ug/L		46	0.000
> Lu	175		ug/L		494266	494266.017
Tl	205	53.341	ug/L	1.189	1057505	2.138
Pb	208	52.927	ug/L	0.572	1711293	3.460
Bi	209		ug/L		419	0.001
Th	232	51.345	ug/L	1.742	2131049	4.310
U	238	52.638	ug/L	0.993	2357079	4.768

Sample ID: QC Std 6

Report Date/Time: Sunday, January 24, 2010 15:36:22

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Li	7	97.175				
Be	9	99.300				
B	11	97.157				
Na	23	105.554				
Mg	24	96.003				
Al	27	92.365				
P	31	102.352				
K	39	103.627				
Ca	43	99.973				
> Sc	45		104.7			
Ti	47	103.843				
V	51	101.059				
Cr	52	102.388				
Cr	53					
Mn	55	105.047				
Fe	57	105.730				
Co	59	101.619				
Ni	60	104.691				
Cu	63					
Cu	65	101.143				
Zn	66	102.514				
Zn	67					
Zn	68					
> Ge	74		105.2			
As	75	95.450				
Se	77					
Se	82	98.507				
Kr	83					
Sr	88	102.612				
Y	89					
Mo	98	97.688				
Ag	107	102.038				
Cd	111	99.178				
Cd	114					
> In	115		101.8			
Sn	120	99.427				
Sb	121	96.156				
Sb	123					
Ba	135					
Ba	137	101.162				
Ho	165					
> Lu	175		97.7			
Tl	205	106.683				
Pb	208	105.854				
Bi	209					
Th	232	102.689				
U	238	105.275				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Sunday, January 24, 2010 15:39:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 7.080

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.015	ug/L	46.487	96	0.000
Be	9	0.014	ug/L	74.401	20	0.000
B	11	2.379	ug/L	22.238	1210	0.001
Na	23	0.838	ug/L	67.367	35043	0.004
Mg	24	0.408	ug/L	186.551	9337	0.001
Al	27	1.319	ug/L	41.725	14674	0.006
P	31	0.092	ug/L	1569.212	4912	0.000
K	39	13.383	ug/L	25.486	554220	0.072
Ca	43	3.083	ug/L	61.960	239	0.000
> Sc	45		ug/L		963219	963218.666
Ti	47	0.183	ug/L	14.920	381	0.000
V	51	0.407	ug/L	52.131	1460	0.003
Cr	52	0.301	ug/L	11.390	614	0.002
Cr	53		ug/L		83521	0.013
Mn	55	-0.026	ug/L	6.507	1024	-0.000
Fe	57	8.144	ug/L	14.349	6209	0.001
Co	59	0.000	ug/L	376.990	168	0.000
Ni	60	0.020	ug/L	39.261	181	0.000
Cu	63		ug/L		2265	-0.000
Cu	65	0.007	ug/L	114.438	1115	0.000
Zn	66	-0.403	ug/L	8.301	1295	-0.001
Zn	67		ug/L		7813	-0.000
Zn	68		ug/L		1499	-0.001
> Ge	74		ug/L		368119	368118.892
As	75	-0.022	ug/L	1058.670	-332	-0.000
Se	77		ug/L		6184	0.006
Se	82	0.016	ug/L	1093.427	-1	0.000
Kr	83		ug/L		90	-0.000
Sr	88	0.001	ug/L	318.896	243	0.000
Y	89		ug/L		44	-0.000
Mo	98	0.102	ug/L	16.626	398	0.001
Ag	107	0.003	ug/L	46.741	71	0.000
Cd	111	0.011	ug/L	50.857	32	0.000
Cd	114		ug/L		55	0.000
> In	115		ug/L		241294	241294.299
Sn	120	0.078	ug/L	41.749	1767	0.002
Sb	121	0.749	ug/L	24.779	4148	0.015
Sb	123		ug/L		3310	0.012
Ba	135		ug/L		52	0.000
Ba	137	0.004	ug/L	50.959	78	0.000
Ho	165		ug/L		23	0.000
> Lu	175		ug/L		492339	492339.206
Tl	205	0.015	ug/L	42.483	849	0.001
Pb	208	0.002	ug/L	54.008	1103	0.000
Bi	209		ug/L		105	-0.000
Th	232	0.044	ug/L	14.106	2609	0.004
U	238	0.005	ug/L	7.361	820	0.000

Sample ID: QC Std 7

Report Date/Time: Sunday, January 24, 2010 15:42:31

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		104.3			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		105.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		102.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		97.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Sunday, January 24, 2010 15:45:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 10.081

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	916.934	ug/L	5.917	960504	1.094
Be	9	954.984	ug/L	3.180	314355	0.358
B	11	0.838	ug/L	21.997	593	0.000
Na	23	50774.149	ug/L	1.728	205206070	233.829
Mg	24	48486.391	ug/L	3.218	144390144	164.593
Al	27	49412.765	ug/L	7.763	204028409	232.540
P	31	25413.554	ug/L	2.277	5007356	5.703
K	39	52787.059	ug/L	1.505	250174577	284.657
Ca	43	48533.021	ug/L	1.279	531044	0.605
> Sc	45		ug/L		877397	877396.698
Ti	47	39.831	ug/L	3.838	19684	0.022
V	51	929.542	ug/L	2.191	5292796	6.035
Cr	52	935.113	ug/L	1.612	4122830	4.700
Cr	53		ug/L		590499	0.599
Mn	55	924.083	ug/L	0.658	6744107	7.686
Fe	57	49855.031	ug/L	1.511	7053897	8.035
Co	59	890.927	ug/L	1.739	5101361	5.815
Ni	60	885.134	ug/L	1.900	1106703	1.261
Cu	63		ug/L		2675407	3.047
Cu	65	857.180	ug/L	1.132	1249581	1.423
Zn	66	2127.247	ug/L	9.039	2107460	6.327
Zn	67		ug/L		351145	1.034
Zn	68		ug/L		1444793	4.338
> Ge	74		ug/L		332685	332685.177
As	75	878.854	ug/L	0.291	853862	2.567
Se	77		ug/L		38405	0.104
Se	82	464.254	ug/L	0.193	44902	0.135
Kr	83		ug/L		153	0.000
Sr	88	976.205	ug/L	1.419	10132490	48.605
Y	89		ug/L		411	0.002
Mo	98	1049.270	ug/L	2.883	2760196	13.244
Ag	107	236.948	ug/L	1.934	1088937	5.224
Cd	111	912.882	ug/L	1.660	1087101	5.215
Cd	114		ug/L		2717907	13.041
> In	115		ug/L		208492	208491.585
Sn	120	967.476	ug/L	2.458	4940251	23.698
Sb	121	237.401	ug/L	7.143	996991	4.784
Sb	123		ug/L		795788	3.819
Ba	135		ug/L		1202103	2.692
Ba	137	864.453	ug/L	0.694	1938621	4.341
Ho	165		ug/L		347	0.001
> Lu	175		ug/L		446627	446627.417
Tl	205	468.454	ug/L	1.070	8387864	18.781
Pb	208	4847.450	ug/L	1.070	141533712	316.915
Bi	209		ug/L		4072	0.009
Th	232	2626.592	ug/L	0.637	98477423	220.480
U	238	5374.484	ug/L	2.063	217387867	486.799

Sample ID: QC Std 10

Report Date/Time: Sunday, January 24, 2010 15:48:36

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	91.693				
Be	9	95.498				
B	11					
Na	23	101.548				
Mg	24	96.973				
Al	27	98.826				
P	31	101.654				
K	39	105.574				
Ca	43	97.066				
> Sc	45		95.0			
Ti	47					
V	51	92.954				
Cr	52	93.511				
Cr	53					
Mn	55	92.408				
Fe	57	99.710				
Co	59	89.093				
Ni	60	88.513				
Cu	63					
Cu	65	85.718				
Zn	66	85.090				
Zn	67					
Zn	68					
> Ge	74		95.4			
As	75	87.885				
Se	77					
Se	82	92.851				
Kr	83					
Sr	88	97.620				
Y	89					
Mo	98	104.927				
Ag	107	94.779				
Cd	111	91.288				
Cd	114					
> In	115		88.8			
Sn	120	96.748				
Sb	121	94.960				
Sb	123					
Ba	135					
Ba	137	86.445				
Ho	165					
> Lu	175		88.3			
Tl	205	93.691				
Pb	208	96.949				
Bi	209					
Th	232	105.064				
U	238	107.490				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Co	59	LRS is out of limits (+/- 10%)
QC Std 10	Ni	60	LRS is out of limits (+/- 10%)
QC Std 10	Cu	65	LRS is out of limits (+/- 10%)
QC Std 10	Zn	66	LRS is out of limits (+/- 10%)
QC Std 10	As	75	LRS is out of limits (+/- 10%)
QC Std 10	Ba	137	LRS is out of limits (+/- 10%)

Sample ID: QC Std 10

Report Date/Time: Sunday, January 24, 2010 15:48:36

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## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Sunday, January 24, 2010 15:51:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 11.082

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	47.887	ug/L	7.761	52894	0.057
Be	9	48.176	ug/L	3.255	16717	0.018
B	11	97.837	ug/L	1.985	34433	0.037
Na	23	5562.174	ug/L	9.674	23703093	25.615
Mg	24	5642.483	ug/L	11.860	17708478	19.154
Al	27	4828.053	ug/L	4.480	21009669	22.721
P	31	5189.396	ug/L	1.657	1081201	1.165
K	39	5167.390	ug/L	6.246	26229439	27.865
Ca	43	5031.800	ug/L	0.328	58186	0.063
> Sc	45		ug/L		924404	924404.426
Ti	47	51.004	ug/L	2.182	26481	0.028
V	51	50.921	ug/L	1.568	304547	0.331
Cr	52	51.869	ug/L	0.875	240196	0.261
Cr	53		ug/L		103862	0.039
Mn	55	53.194	ug/L	1.524	410138	0.442
Fe	57	5311.644	ug/L	0.668	796124	0.856
Co	59	50.988	ug/L	1.419	307785	0.333
Ni	60	52.378	ug/L	1.071	69147	0.075
Cu	63		ug/L		166437	0.178
Cu	65	51.233	ug/L	1.822	79679	0.085
Zn	66	50.952	ug/L	1.307	55299	0.152
Zn	67		ug/L		16171	0.024
Zn	68		ug/L		39174	0.106
> Ge	74		ug/L		353884	353883.538
As	75	48.416	ug/L	1.456	49746	0.141
Se	77		ug/L		8717	0.013
Se	82	48.877	ug/L	0.864	5027	0.014
Kr	83		ug/L		91	0.000
Sr	88	51.607	ug/L	1.562	597519	2.569
Y	89		ug/L		73	0.000
Mo	98	49.479	ug/L	2.479	145246	0.625
Ag	107	50.472	ug/L	1.061	258724	1.113
Cd	111	49.913	ug/L	0.247	66300	0.285
Cd	114		ug/L		159925	0.688
> In	115		ug/L		232451	232451.201
Sn	120	52.490	ug/L	1.770	300118	1.286
Sb	121	51.543	ug/L	5.602	241942	1.039
Sb	123		ug/L		189536	0.814
Ba	135		ug/L		70902	0.145
Ba	137	50.180	ug/L	1.709	122950	0.252
Ho	165		ug/L		41	0.000
> Lu	175		ug/L		487745	487745.346
Tl	205	53.879	ug/L	2.507	1053862	2.160
Pb	208	53.249	ug/L	1.417	1698809	3.481
Bi	209		ug/L		433	0.001
Th	232	52.674	ug/L	1.837	2157078	4.422
U	238	54.083	ug/L	2.575	2389334	4.899

Sample ID: QC Std 11

Report Date/Time: Sunday, January 24, 2010 15:54:41

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Duplicate Rel. % Difference
Li	7	95.773				
Be	9	96.352				
B	11	97.837				
Na	23	111.243				
Mg	24	112.850				
Al	27	95.605				
P	31	103.788				
K	39	103.348				
Ca	43	100.636				
> Sc	45		100.1			
Ti	47	102.007				
V	51	101.842				
Cr	52	103.738				
Cr	53					
Mn	55	106.389				
Fe	57	106.233				
Co	59	101.976				
Ni	60	104.756				
Cu	63					
Cu	65	102.465				
Zn	66	101.904				
Zn	67					
Zn	68					
> Ge	74		101.5			
As	75	96.833				
Se	77					
Se	82	97.754				
Kr	83					
Sr	88	103.214				
Y	89					
Mo	98	98.959				
Ag	107	100.943				
Cd	111	99.826				
Cd	114					
> In	115		99.0			
Sn	120	104.980				
Sb	121	103.087				
Sb	123					
Ba	135					
Ba	137	100.361				
Ho	165					
> Lu	175		96.4			
Tl	205	107.758				
Pb	208	106.498				
Bi	209					
Th	232	105.349				
U	238	108.166				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	Na	23	CCV is out of limits (+/- 10%)
QC Std 11	Mg	24	CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Sunday, January 24, 2010 15:58:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 12.083

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.075	ug/L	31.488	162	0.000
Be	9	0.002	ug/L	413.389	15	0.000
B	11	2.337	ug/L	24.929	1175	0.001
Na	23	-0.333	ug/L	556.246	29365	-0.002
Mg	24	-0.166	ug/L	287.072	7335	-0.001
Al	27	-0.123	ug/L	186.184	8002	-0.001
P	31	0.118	ug/L	1104.990	4839	0.000
K	39	20.770	ug/L	10.308	582995	0.112
Ca	43	1.666	ug/L	84.023	218	0.000
> Sc	45		ug/L		947614	947613.851
Ti	47	-0.036	ug/L	75.768	260	-0.000
V	51	0.192	ug/L	229.555	108	0.001
Cr	52	0.275	ug/L	9.837	479	0.001
Cr	53		ug/L		77647	0.008
Mn	55	-0.018	ug/L	15.353	1068	-0.000
Fe	57	3.479	ug/L	4.734	5396	0.001
Co	59	0.016	ug/L	25.651	259	0.000
Ni	60	0.010	ug/L	114.280	164	0.000
Cu	63		ug/L		2282	0.000
Cu	65	0.027	ug/L	155.510	1128	0.000
Zn	66	-0.473	ug/L	9.416	1176	-0.001
Zn	67		ug/L		7696	0.000
Zn	68		ug/L		1440	-0.001
> Ge	74		ug/L		355071	355071.079
As	75	0.159	ug/L	171.147	-134	0.000
Se	77		ug/L		5422	0.004
Se	82	-0.042	ug/L	49.325	-7	-0.000
Kr	83		ug/L		87	0.000
Sr	88	0.003	ug/L	55.150	261	0.000
Y	89		ug/L		52	-0.000
Mo	98	0.131	ug/L	16.374	477	0.002
Ag	107	0.004	ug/L	61.190	75	0.000
Cd	111	0.014	ug/L	26.967	35	0.000
Cd	114		ug/L		66	0.000
> In	115		ug/L		237091	237090.804
Sn	120	0.850	ug/L	13.079	6212	0.021
Sb	121	1.497	ug/L	19.896	7633	0.030
Sb	123		ug/L		5882	0.023
Ba	135		ug/L		59	0.000
Ba	137	0.001	ug/L	175.186	74	0.000
Ho	165		ug/L		19	-0.000
> Lu	175		ug/L		500724	500724.334
Tl	205	0.030	ug/L	20.883	1173	0.001
Pb	208	0.013	ug/L	27.074	1475	0.001
Bi	209		ug/L		99	-0.000
Th	232	0.103	ug/L	10.858	5142	0.009
U	238	0.049	ug/L	15.790	2833	0.004

Sample ID: QC Std 12

Report Date/Time: Sunday, January 24, 2010 16:00:50

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		102.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.9			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		100.9			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 12

Report Date/Time: Sunday, January 24, 2010 16:00:50

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# ICPMS#5 - Summary Report

Sample ID: 1202017705

Sample Date/Time: Sunday, January 24, 2010 16:04:15

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017705.084

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.123	ug/L	11.793	207	0.000
Be	9	-0.000	ug/L	307.900	14	-0.000
B	11	0.959	ug/L	14.599	656	0.000
Na	23	1.517	ug/L	147.034	36048	0.007
Mg	24	-1.264	ug/L	52.473	3667	-0.004
Al	27	0.885	ug/L	55.809	12005	0.004
P	31	0.446	ug/L	104.318	4720	0.000
K	39	33.023	ug/L	24.225	620918	0.178
Ca	43	11.571	ug/L	28.089	322	0.000
> Sc	45		ug/L		911040	911040.017
Ti	47	0.203	ug/L	26.878	371	0.000
V	51	-1.894	ug/L	36.200	-12245	-0.012
Cr	52	0.218	ug/L	10.288	199	0.001
Cr	53		ug/L		183647	0.128
Mn	55	0.081	ug/L	7.178	1773	0.001
Fe	57	9.529	ug/L	1.843	6076	0.002
Co	59	0.006	ug/L	22.743	194	0.000
Ni	60	0.015	ug/L	61.543	164	0.000
Cu	63		ug/L		2437	0.000
Cu	65	0.096	ug/L	50.938	1187	0.000
Zn	66	0.499	ug/L	6.750	2157	0.001
Zn	67		ug/L		27905	0.059
Zn	68		ug/L		3037	0.004
> Ge	74		ug/L		347696	347696.338
As	75	-0.228	ug/L	76.104	-524	-0.001
Se	77		ug/L		15047	0.032
Se	82	0.073	ug/L	189.641	5	0.000
Kr	83		ug/L		81	-0.000
Sr	88	0.020	ug/L	11.082	441	0.001
Y	89		ug/L		49	-0.000
Mo	98	0.058	ug/L	4.274	241	0.001
Ag	107	0.000	ug/L	811.234	50	0.000
Cd	111	0.015	ug/L	60.394	34	0.000
Cd	114		ug/L		9	-0.000
> In	115		ug/L		221463	221462.777
Sn	120	1.813	ug/L	39.884	11028	0.044
Sb	121	0.796	ug/L	23.659	4015	0.016
Sb	123		ug/L		3159	0.013
Ba	135		ug/L		75	0.000
Ba	137	0.020	ug/L	9.753	112	0.000
Ho	165		ug/L		22	0.000
> Lu	175		ug/L		468060	468060.172
Tl	205	-0.003	ug/L	24.252	474	-0.000
Pb	208	0.005	ug/L	23.478	1129	0.000
Bi	209		ug/L		98	-0.000
Th	232	0.125	ug/L	14.429	5650	0.010
U	238	0.012	ug/L	11.928	1067	0.001

Sample ID: 1202017705

Report Date/Time: Sunday, January 24, 2010 16:06:59

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		98.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		94.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		92.5			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017706

Sample Date/Time: Sunday, January 24, 2010 16:10:24

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942514|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017706.065

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	47.068	ug/L	7.272	51535	0.056
Be	9	52.755	ug/L	1.805	18148	0.020
B	11	110.561	ug/L	0.122	38536	0.042
Na	23	2102.917	ug/L	6.957	8903267	9.685
Mg	24	2102.112	ug/L	6.360	6548573	7.136
Al	27	1874.623	ug/L	7.459	8095700	8.822
P	31	2140.055	ug/L	0.563	444776	0.480
K	39	2003.364	ug/L	10.370	10361759	10.803
Ca	43	1991.886	ug/L	0.457	22951	0.025
> Sc	45		ug/L		916434	916434.217
Ti	47	46.339	ug/L	2.141	23874	0.026
V	51	46.496	ug/L	1.364	275568	0.302
Cr	52	50.765	ug/L	1.304	233051	0.255
Cr	53		ug/L		219903	0.166
Mn	55	52.231	ug/L	1.828	399231	0.434
Fe	57	2176.940	ug/L	0.971	326259	0.351
Co	59	50.508	ug/L	0.325	302253	0.330
Ni	60	51.084	ug/L	0.429	66858	0.073
Cu	63		ug/L		162416	0.175
Cu	65	51.011	ug/L	1.852	78652	0.085
Zn	66	50.843	ug/L	0.937	54140	0.151
Zn	67		ug/L		39380	0.092
Zn	68		ug/L		38692	0.106
> Ge	74		ug/L		347169	347168.537
As	75	49.266	ug/L	0.767	49662	0.144
Se	77		ug/L		19221	0.044
Se	82	50.662	ug/L	1.743	5111	0.015
Kr	83		ug/L		96	0.000
Sr	88	52.558	ug/L	0.241	577159	2.617
Y	89		ug/L		73	0.000
Mo	98	50.555	ug/L	1.219	140757	0.638
Ag	107	52.497	ug/L	0.746	255233	1.157
Cd	111	49.979	ug/L	1.667	62963	0.286
Cd	114		ug/L		153142	0.694
> In	115		ug/L		220474	220473.831
Sn	120	52.036	ug/L	0.586	282212	1.275
Sb	121	56.081	ug/L	1.220	249635	1.130
Sb	123		ug/L		195422	0.885
Ba	135		ug/L		66367	0.141
Ba	137	49.266	ug/L	3.029	116227	0.247
Ho	165		ug/L		35	0.000
> Lu	175		ug/L		469724	469724.476
Tl	205	51.689	ug/L	2.227	973722	2.072
Pb	208	53.443	ug/L	1.899	1641867	3.494
Bi	209		ug/L		1305756	2.780
Th	232	51.118	ug/L	2.392	2015837	4.291
U	238	52.656	ug/L	3.651	2239982	4.769

Sample ID: 1202017706

Report Date/Time: Sunday, January 24, 2010 16:13:08

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		99.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		93.9			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		92.9			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 16:47:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.091

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	55.532	ug/L	5.107	59217	0.066
Be	9	55.569	ug/L	2.834	18619	0.021
B	11	106.623	ug/L	1.303	36213	0.040
Na	23	4768.437	ug/L	0.932	19632471	21.960
Mg	24	4909.861	ug/L	3.159	14889698	16.667
Al	27	4556.610	ug/L	1.703	19150035	21.444
P	31	5012.287	ug/L	0.895	1008620	1.125
K	39	5095.009	ug/L	10.527	24963190	27.475
Ca	43	4976.074	ug/L	0.832	55575	0.062
> Sc	45		ug/L		892740	892739.722
Ti	47	50.039	ug/L	2.957	25092	0.028
V	51	50.117	ug/L	1.110	289433	0.325
Cr	52	50.932	ug/L	0.790	227759	0.256
Cr	53		ug/L		110605	0.050
Mn	55	52.930	ug/L	1.153	394114	0.440
Fe	57	5370.968	ug/L	1.231	777333	0.866
Co	59	50.948	ug/L	1.440	296995	0.333
Ni	60	51.894	ug/L	1.129	66159	0.074
Cu	63		ug/L		158504	0.175
Cu	65	50.443	ug/L	0.749	75781	0.084
Zn	66	51.506	ug/L	2.262	53462	0.153
Zn	67		ug/L		16653	0.028
Zn	68		ug/L		37489	0.106
> Ge	74		ug/L		338600	338600.128
As	75	47.632	ug/L	1.837	46820	0.139
Se	77		ug/L		9624	0.017
Se	82	49.316	ug/L	1.422	4852	0.014
Kr	83		ug/L		99	0.000
Sr	88	51.925	ug/L	1.441	583529	2.585
Y	89		ug/L		114	0.000
Mo	98	49.341	ug/L	0.421	140597	0.623
Ag	107	49.986	ug/L	0.666	248708	1.102
Cd	111	49.987	ug/L	0.764	64451	0.286
Cd	114		ug/L		156232	0.692
> In	115		ug/L		225631	225630.804
Sn	120	50.895	ug/L	1.604	282519	1.247
Sb	121	47.815	ug/L	8.578	217946	0.964
Sb	123		ug/L		170819	0.755
Ba	135		ug/L		70201	0.143
Ba	137	49.118	ug/L	1.338	121321	0.247
Ho	165		ug/L		50	0.000
> Lu	175		ug/L		491708	491708.149
Tl	205	53.990	ug/L	1.485	1064651	2.164
Pb	208	52.930	ug/L	2.085	1702106	3.460
Bi	209		ug/L		416	0.001
Th	232	50.198	ug/L	1.673	2072219	4.214
U	238	51.827	ug/L	2.639	2308015	4.694

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 16:50:04

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	111.064				
Be	9	111.138				
B	11	106.623				
Na	23	95.369				
Mg	24	98.197				
Al	27	90.230				
P	31	100.246				
K	39	101.900				
Ca	43	99.521				
> Sc	45		96.7			
Ti	47	100.078				
V	51	100.235				
Cr	52	101.865				
Cr	53					
Mn	55	105.861				
Fe	57	107.419				
Co	59	101.896				
Ni	60	103.787				
Cu	63					
Cu	65	100.885				
Zn	66	103.012				
Zn	67					
Zn	68					
> Ge	74		97.1			
As	75	95.263				
Se	77					
Se	82	98.632				
Kr	83					
Sr	88	103.850				
Y	89					
Mo	98	98.682				
Ag	107	99.971				
Cd	111	99.973				
Cd	114					
> In	115		96.1			
Sn	120	101.789				
Sb	121	95.631				
Sb	123					
Ba	135					
Ba	137	98.235				
Ho	165					
> Lu	175		97.2			
Tl	205	107.980				
Pb	208	105.859				
Bi	209					
Th	232	100.396				
U	238	103.654				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	7CCV is out of limits (+/- 10%)
QC Std 8	Be	9	9CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 16:53:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.092

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.002	ug/L	540.321	75	0.000
Be	9	0.005	ug/L	256.726	15	0.000
B	11	2.428	ug/L	26.094	1157	0.001
Na	23	0.843	ug/L	76.113	33038	0.004
Mg	24	-0.713	ug/L	95.559	5334	-0.002
Al	27	-0.279	ug/L	167.968	7002	-0.001
P	31	0.091	ug/L	1440.603	4631	0.000
K	39	8.104	ug/L	18.995	496482	0.044
Ca	43	0.699	ug/L	361.534	198	0.000
> Sc	45		ug/L		907773	907772.729
Ti	47	-0.063	ug/L	21.433	235	-0.000
V	51	-0.111	ug/L	113.503	-1675	-0.001
Cr	52	0.488	ug/L	12.774	1430	0.002
Cr	53		ug/L		80317	0.015
Mn	55	-0.011	ug/L	64.462	1077	-0.000
Fe	57	3.366	ug/L	15.885	5152	0.001
Co	59	0.004	ug/L	58.337	180	0.000
Ni	60	0.006	ug/L	239.510	151	0.000
Cu	63		ug/L		2107	-0.000
Cu	65	-0.006	ug/L	108.449	1030	-0.000
Zn	66	-0.532	ug/L	5.862	1082	-0.002
Zn	67		ug/L		7698	0.001
Zn	68		ug/L		1383	-0.001
> Ge	74		ug/L		345092	345092.355
As	75	-0.055	ug/L	591.706	-347	-0.000
Se	77		ug/L		5803	0.006
Se	82	-0.120	ug/L	63.387	-14	-0.000
Kr	83		ug/L		86	0.000
Sr	88	0.001	ug/L	109.003	237	0.000
Y	89		ug/L		49	-0.000
Mo	98	0.030	ug/L	23.856	169	0.000
Ag	107	0.003	ug/L	90.897	67	0.000
Cd	111	0.001	ug/L	295.268	18	0.000
Cd	114		ug/L		68	0.000
> In	115		ug/L		230148	230147.883
Sn	120	0.051	ug/L	52.884	1534	0.001
Sb	121	0.784	ug/L	26.723	4124	0.016
Sb	123		ug/L		3271	0.013
Ba	135		ug/L		48	0.000
Ba	137	-0.001	ug/L	81.614	67	-0.000
Ho	165		ug/L		20	-0.000
> Lu	175		ug/L		497399	497398.840
Tl	205	0.048	ug/L	13.392	1526	0.002
Pb	208	0.005	ug/L	33.149	1216	0.000
Bi	209		ug/L		91	-0.000
Th	232	0.048	ug/L	18.822	2793	0.004
U	238	0.009	ug/L	24.448	1014	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 16:56:13

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 16:56:13

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## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45			98.3		
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
L Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74			99.0		
As	75					
Se	77					
Se	82					
L Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115			98.0		
Sn	120					
Sb	121					
L Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175			98.3		
Tl	205					
Pb	208					
Bi	209					
Th	232					
L U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 16:56:13

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## ICPMS#5 - Summary Report

Sample ID: 244880001

Sample Date/Time: Sunday, January 24, 2010 17:24:20

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\244880001.097

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.141	ug/L	16.240	233	0.000
Be	9	-0.001	ug/L	646.049	14	-0.000
B	11	20.689	ug/L	1.939	7623	0.008
Na	23	102.017	ug/L	2.744	469250	0.470
Mg	24	4.184	ug/L	16.495	21016	0.014
Al	27	4.604	ug/L	17.476	28696	0.022
P	31	1.162	ug/L	175.776	4989	0.000
K	39	183.037	ug/L	10.005	1392181	0.987
Ca	43	27.899	ug/L	7.781	521	0.000
> Sc	45		ug/L		934292	934292.449
Ti	47	0.383	ug/L	7.436	474	0.000
V	51	-2.118	ug/L	39.810	-13877	-0.014
Cr	52	1.268	ug/L	8.690	5137	0.006
Cr	53		ug/L		246399	0.190
Mn	55	0.510	ug/L	1.884	5153	0.004
Fe	57	17.199	ug/L	2.421	7386	0.003
Co	59	0.001	ug/L	118.251	166	0.000
Ni	60	0.060	ug/L	19.399	228	0.000
Cu	63		ug/L		3038	0.001
Cu	65	0.278	ug/L	8.367	1501	0.000
Zn	66	0.785	ug/L	6.955	2496	0.002
Zn	67		ug/L		32505	0.071
Zn	68		ug/L		3369	0.005
> Ge	74		ug/L		353875	353875.183
As	75	0.109	ug/L	793.458	-185	0.000
Se	77		ug/L		23799	0.056
Se	82	-0.045	ug/L	469.790	-7	-0.000
Kr	83		ug/L		88	0.000
Sr	88	0.093	ug/L	5.354	1270	0.005
Y	89		ug/L		171	0.000
Mo	98	0.006	ug/L	44.816	98	0.000
Ag	107	-0.001	ug/L	201.900	46	-0.000
Cd	111	0.003	ug/L	166.099	20	0.000
Cd	114		ug/L		28	-0.000
> In	115		ug/L		226348	226347.534
Sn	120	1.532	ug/L	0.828	9719	0.038
Sb	121	-0.042	ug/L	11.039	283	-0.001
Sb	123		ug/L		244	-0.001
Ba	135		ug/L		222	0.000
Ba	137	0.140	ug/L	2.230	416	0.001
Ho	165		ug/L		28	0.000
> Lu	175		ug/L		493730	493729.862
Tl	205	-0.008	ug/L	30.833	401	-0.000
Pb	208	0.018	ug/L	13.282	1603	0.001
Bi	209		ug/L		124	0.000
Th	232	-0.007	ug/L	4.953	526	-0.001
U	238	-0.009	ug/L	3.663	188	-0.001

Sample ID: 244880001

Report Date/Time: Sunday, January 24, 2010 17:27:05

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: 244880001

Report Date/Time: Sunday, January 24, 2010 17:27:05

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		101.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		96.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		97.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244880001

Report Date/Time: Sunday, January 24, 2010 17:27:05

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## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 17:42:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.100

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	50.730	ug/L	3.965	57307	0.061
Be	9	51.510	ug/L	1.385	18274	0.019
B	11	101.410	ug/L	3.102	36467	0.038
Na	23	5543.014	ug/L	6.075	24151056	25.527
Mg	24	5004.982	ug/L	6.526	16057937	16.990
Al	27	4784.768	ug/L	13.732	21255756	22.517
P	31	5078.160	ug/L	2.758	1081421	1.140
K	39	4912.889	ug/L	4.915	25505868	26.493
Ca	43	5015.841	ug/L	2.294	59290	0.063
> Sc	45		ug/L		945067	945066.701
Ti	47	50.579	ug/L	2.251	26843	0.028
V	51	49.899	ug/L	4.663	304919	0.324
Cr	52	50.846	ug/L	2.774	240630	0.256
Cr	53		ug/L		124077	0.058
Mn	55	52.826	ug/L	1.428	416396	0.439
Fe	57	5243.904	ug/L	1.853	803469	0.845
Co	59	50.274	ug/L	3.000	310141	0.328
Ni	60	51.155	ug/L	2.303	69027	0.073
Cu	63		ug/L		165564	0.173
Cu	65	50.491	ug/L	2.203	80285	0.084
Zn	66	51.626	ug/L	2.913	56367	0.154
Zn	67		ug/L		17796	0.029
Zn	68		ug/L		39358	0.106
> Ge	74		ug/L		356245	356244.841
As	75	47.675	ug/L	1.236	49296	0.139
Se	77		ug/L		11162	0.020
Se	82	50.108	ug/L	2.913	5186	0.015
Kr	83		ug/L		99	0.000
Sr	88	52.298	ug/L	1.262	605456	2.604
Y	89		ug/L		105	0.000
Mo	98	48.871	ug/L	2.586	143437	0.617
Ag	107	50.641	ug/L	2.272	259538	1.117
Cd	111	49.827	ug/L	2.132	66175	0.285
Cd	114		ug/L		160455	0.690
> In	115		ug/L		232450	232449.902
Sn	120	50.663	ug/L	3.156	289676	1.241
Sb	121	46.798	ug/L	8.514	219670	0.943
Sb	123		ug/L		172800	0.742
Ba	135		ug/L		70952	0.143
Ba	137	49.744	ug/L	0.865	123617	0.250
Ho	165		ug/L		45	0.000
> Lu	175		ug/L		494618	494617.558
Tl	205	53.496	ug/L	1.027	1061329	2.145
Pb	208	52.971	ug/L	1.772	1713891	3.463
Bi	209		ug/L		431	0.001
Th	232	50.935	ug/L	1.340	2115486	4.276
U	238	52.112	ug/L	0.410	2335239	4.720

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 17:45:31

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 17:45:31

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	101.461				
Be	9	103.020				
B	11	101.410				
Na	23	110.860				
Mg	24	100.100				
Al	27	94.748				
P	31	101.563				
K	39	98.258				
Ca	43	100.317				
> Sc	45		102.3			
Ti	47	101.157				
V	51	99.798				
Cr	52	101.691				
Cr	53					
Mn	55	105.653				
Fe	57	104.878				
Co	59	100.549				
Ni	60	102.309				
Cu	63					
Cu	65	100.983				
Zn	66	103.252				
Zn	67					
Zn	68					
> Ge	74		102.2			
As	75	95.350				
Se	77					
Se	82	100.215				
Kr	83					
Sr	88	104.597				
Y	89					
Mo	98	97.742				
Ag	107	101.282				
Cd	111	99.655				
Cd	114					
> In	115		99.0			
Sn	120	101.326				
Sb	121	93.595				
Sb	123					
Ba	135					
Ba	137	99.488				
Ho	165					
> Lu	175		97.8			
Tl	205	106.992				
Pb	208	105.942				
Bi	209					
Th	232	101.870				
U	238	104.224				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Na	23	CCV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 17:48:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.101

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	-0.006	ug/L	110.468	69	-0.000
Be	9	-0.001	ug/L	310.885	14	-0.000
B	11	2.441	ug/L	20.296	1209	0.001
Na	23	-0.473	ug/L	381.772	28697	-0.002
Mg	24	-0.053	ug/L	354.923	7669	-0.000
Al	27	1.163	ug/L	70.010	13673	0.005
P	31	0.299	ug/L	734.557	4858	0.000
K	39	6.921	ug/L	69.098	510298	0.037
Ca	43	-0.363	ug/L	525.266	193	-0.000
> Sc	45		ug/L		944263	944263.379
Ti	47	-0.079	ug/L	65.892	236	-0.000
V	51	0.293	ug/L	75.125	720	0.002
Cr	52	0.453	ug/L	6.131	1323	0.002
Cr	53		ug/L		89366	0.021
Mn	55	-0.008	ug/L	53.325	1145	-0.000
Fe	57	3.957	ug/L	13.440	5449	0.001
Co	59	0.001	ug/L	101.200	170	0.000
Ni	60	0.001	ug/L	290.617	152	0.000
Cu	63		ug/L		2134	-0.000
Cu	65	0.013	ug/L	259.143	1102	0.000
Zn	66	-0.540	ug/L	8.044	1113	-0.002
Zn	67		ug/L		8172	0.002
Zn	68		ug/L		1448	-0.001
> Ge	74		ug/L		358000	358000.404
As	75	0.136	ug/L	280.777	-161	0.000
Se	77		ug/L		6781	0.008
Se	82	-0.070	ug/L	239.232	-10	-0.000
Kr	83		ug/L		94	0.000
Sr	88	0.002	ug/L	68.394	256	0.000
Y	89		ug/L		48	-0.000
Mo	98	0.026	ug/L	16.696	163	0.000
Ag	107	0.004	ug/L	47.964	75	0.000
Cd	111	0.011	ug/L	69.179	31	0.000
Cd	114		ug/L		47	-0.000
> In	115		ug/L		236338	236337.766
Sn	120	0.021	ug/L	154.581	1403	0.001
Sb	121	0.776	ug/L	28.499	4198	0.016
Sb	123		ug/L		3252	0.012
Ba	135		ug/L		41	-0.000
Ba	137	-0.004	ug/L	66.812	61	-0.000
Ho	165		ug/L		18	-0.000
> Lu	175		ug/L		498701	498700.930
Tl	205	0.045	ug/L	21.704	1467	0.002
Pb	208	0.005	ug/L	37.735	1197	0.000
Bi	209		ug/L		98	-0.000
Th	232	0.049	ug/L	18.023	2857	0.004
U	238	0.008	ug/L	11.543	969	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 17:51:41

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		102.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		102.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		100.6			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		98.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 18:32:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.108

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	53.421	ug/L	4.511	59114	0.064
Be	9	53.051	ug/L	3.377	18443	0.020
B	11	104.954	ug/L	0.809	36995	0.040
Na	23	5248.080	ug/L	5.703	22437110	24.169
Mg	24	5012.975	ug/L	2.687	15768557	17.017
Al	27	4720.982	ug/L	2.776	20590203	22.217
P	31	5038.821	ug/L	2.241	1052161	1.131
K	39	5014.210	ug/L	9.969	25505868	27.039
Ca	43	5050.612	ug/L	2.191	58520	0.063
> Sc	45		ug/L		926473	926472.637
Ti	47	50.291	ug/L	1.632	26169	0.028
V	51	49.609	ug/L	3.262	297217	0.322
Cr	52	51.233	ug/L	2.475	237716	0.258
Cr	53		ug/L		107037	0.042
Mn	55	53.605	ug/L	1.841	414150	0.446
Fe	57	5296.932	ug/L	2.065	795529	0.854
Co	59	50.462	ug/L	1.890	305213	0.329
Ni	60	51.429	ug/L	1.738	68035	0.073
Cu	63		ug/L		163281	0.174
Cu	65	50.369	ug/L	1.319	78530	0.084
Zn	66	50.698	ug/L	1.280	54665	0.151
Zn	67		ug/L		15167	0.022
Zn	68		ug/L		38725	0.105
> Ge	74		ug/L		351530	351529.571
As	75	47.748	ug/L	1.228	48729	0.139
Se	77		ug/L		10064	0.017
Se	82	48.970	ug/L	1.028	5002	0.014
Kr	83		ug/L		107	0.000
Sr	88	52.743	ug/L	1.037	606533	2.626
Y	89		ug/L		121	0.000
Mo	98	48.968	ug/L	1.853	142771	0.618
Ag	107	50.198	ug/L	1.153	255580	1.107
Cd	111	49.701	ug/L	0.648	65578	0.284
Cd	114		ug/L		158385	0.686
> In	115		ug/L		230905	230905.107
Sn	120	50.724	ug/L	3.046	288062	1.242
Sb	121	47.054	ug/L	7.222	219550	0.948
Sb	123		ug/L		173907	0.751
Ba	135		ug/L		70774	0.143
Ba	137	49.320	ug/L	1.916	122371	0.248
Ho	165		ug/L		46	0.000
> Lu	175		ug/L		493911	493911.194
Tl	205	53.042	ug/L	1.356	1050763	2.126
Pb	208	52.765	ug/L	0.836	1704763	3.450
Bi	209		ug/L		480	0.001
Th	232	49.617	ug/L	1.022	2057793	4.165
U	238	51.025	ug/L	1.457	2283079	4.622

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 18:34:53

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Li	7	106.841				
Be	9	106.102				
B	11	104.954				
Na	23	104.962				
Mg	24	100.260				
Al	27	93.485				
P	31	100.776				
K	39	100.284				
Ca	43	101.012				
> Sc	45		100.3			
Ti	47	100.582				
V	51	99.219				
Cr	52	102.466				
Cr	53					
Mn	55	107.210				
Fe	57	105.939				
Co	59	100.924				
Ni	60	102.858				
Cu	63					
Cu	65	100.739				
Zn	66	101.396				
Zn	67					
Zn	68					
> Ge	74		100.8			
As	75	95.496				
Se	77					
Se	82	97.941				
Kr	83					
Sr	88	105.486				
Y	89					
Mo	98	97.936				
Ag	107	100.396				
Cd	111	99.403				
Cd	114					
> In	115		98.3			
Sn	120	101.448				
Sb	121	94.108				
Sb	123					
Ba	135					
Ba	137	98.641				
Ho	165					
> Lu	175		97.7			
Tl	205	106.085				
Pb	208	105.530				
Bi	209					
Th	232	99.235				
U	238	102.051				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

# ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 18:38:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.109

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	-0.016	ug/L	71.831	57	-0.000
Be	9	0.017	ug/L	56.126	20	0.000
B	11	2.697	ug/L	21.097	1254	0.001
Na	23	-0.467	ug/L	141.637	27694	-0.002
Mg	24	0.354	ug/L	138.545	8669	0.001
Al	27	0.337	ug/L	263.902	9670	0.002
P	31	2.812	ug/L	40.289	5207	0.001
K	39	13.816	ug/L	107.912	526646	0.075
Ca	43	-0.249	ug/L	398.675	188	-0.000
> Sc	45		ug/L		911858	911858.024
Ti	47	-0.073	ug/L	10.895	231	-0.000
V	51	-0.048	ug/L	505.108	-1318	-0.000
Cr	52	0.509	ug/L	8.484	1531	0.003
Cr	53		ug/L		79688	0.014
Mn	55	-0.023	ug/L	24.603	992	-0.000
Fe	57	4.126	ug/L	21.831	5287	0.001
Co	59	0.002	ug/L	155.390	167	0.000
Ni	60	0.006	ug/L	219.716	153	0.000
Cu	63		ug/L		2234	0.000
Cu	65	0.020	ug/L	182.406	1075	0.000
Zn	66	-0.598	ug/L	12.014	1018	-0.002
Zn	67		ug/L		7070	-0.001
Zn	68		ug/L		1293	-0.001
> Ge	74		ug/L		346185	346184.841
As	75	-0.082	ug/L	329.573	-375	-0.000
Se	77		ug/L		6147	0.006
Se	82	0.073	ug/L	170.750	5	0.000
Kr	83		ug/L		84	-0.000
Sr	88	0.001	ug/L	24.351	242	0.000
Y	89		ug/L		48	-0.000
Mo	98	0.037	ug/L	27.953	192	0.000
Ag	107	0.004	ug/L	67.091	71	0.000
Cd	111	0.004	ug/L	108.474	22	0.000
Cd	114		ug/L		54	0.000
> In	115		ug/L		233090	233090.088
Sn	120	0.015	ug/L	180.058	1346	0.000
Sb	121	0.793	ug/L	26.907	4209	0.016
Sb	123		ug/L		3294	0.012
Ba	135		ug/L		45	0.000
Ba	137	-0.002	ug/L	266.049	67	-0.000
Ho	165		ug/L		15	-0.000
> Lu	175		ug/L		501511	501510.937
Tl	205	0.060	ug/L	13.562	1769	0.002
Pb	208	0.004	ug/L	64.349	1174	0.000
Bi	209		ug/L		113	0.000
Th	232	0.046	ug/L	20.765	2735	0.004
U	238	0.008	ug/L	8.368	993	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 18:41:02

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 18:41:02

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		98.7			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Message Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017707  
 Sample Date/Time: Sunday, January 24, 2010 18:50:39  
 Sample Type:  
 Sample Description: LANL 6020 DUP  
 Number of Replicates: 3  
 Batch ID: 942514|1|baj  
 Method File: c:\elandata\Method\6020 2.mth  
 Dataset File: C:\elandata\Dataset\100124\1202017707.111

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	56.750	ug/L	5.807	69311	0.068
Be	9	0.901	ug/L	3.831	361	0.000
B	11	507.503	ug/L	3.498	195915	0.191
Na	23	35409.156	ug/L	1.733	166720194	163.069
Mg	24	7357.779	ug/L	14.167	25551225	24.977
Al	27	9601.135	ug/L	5.257	46174851	45.184
P	31	574.637	ug/L	2.885	136982	0.129
K	39	4633.990	ug/L	4.575	26048546	24.989
Ca	43	23782.599	ug/L	0.772	303269	0.297
> Sc	45		ug/L		1022114	1022114.008
Ti	47	72.407	ug/L	2.144	41436	0.040
V	51	13.295	ug/L	3.506	87050	0.086
Cr	52	9.972	ug/L	1.906	50333	0.050
Cr	53		ug/L		38806	-0.036
Mn	55	217.888	ug/L	1.856	1853274	1.812
Fe	57	7905.570	ug/L	2.372	1307355	1.274
Co	59	8.043	ug/L	0.879	53827	0.052
Ni	60	18.081	ug/L	3.134	26496	0.026
Cu	63		ug/L		705015	0.687
Cu	65	207.049	ug/L	2.132	352456	0.344
Zn	66	1339.930	ug/L	0.989	1414195	3.986
Zn	67		ug/L		231011	0.631
Zn	68		ug/L		1017296	2.865
> Ge	74		ug/L		354421	354420.617
As	75	3.682	ug/L	2.022	3513	0.011
Se	77		ug/L		2056	-0.005
Se	82	0.301	ug/L	6.485	29	0.000
Kr	83		ug/L		125	0.000
Sr	88	148.773	ug/L	0.719	1731975	7.407
Y	89		ug/L		93412	0.399
Mo	98	14.309	ug/L	0.335	42302	0.181
Ag	107	0.082	ug/L	4.347	475	0.002
Cd	111	0.228	ug/L	3.397	320	0.001
Cd	114		ug/L		544	0.002
> In	115		ug/L		233775	233775.085
Sn	120	0.313	ug/L	1.511	3054	0.008
Sb	121	0.486	ug/L	3.194	2781	0.010
Sb	123		ug/L		2212	0.008
Ba	135		ug/L		96186	0.189
Ba	137	65.646	ug/L	1.413	168121	0.330
Ho	165		ug/L		8297	0.016
> Lu	175		ug/L		509818	509817.539
Tl	205	0.094	ug/L	7.646	2510	0.004
Pb	208	7.676	ug/L	0.758	256915	0.502
Bi	209		ug/L		7007	0.014
Th	232	9.369	ug/L	0.980	401766	0.786
U	238	3.712	ug/L	2.016	172027	0.336

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		110.7			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 B 11 Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202017708

Sample Date/Time: Sunday, January 24, 2010 18:56:51

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017708.112

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	108.564	ug/L	6.549	135348	0.130
Be	9	45.895	ug/L	1.912	17995	0.017
B	11	603.325	ug/L	1.636	238028	0.228
Na	23	37605.337	ug/L	3.348	180899201	173.183
Mg	24	9425.259	ug/L	4.444	33439523	31.995
Al	27	15178.887	ug/L	4.604	74631444	71.433
P	31	2341.275	ug/L	1.762	554166	0.525
K	39	6457.532	ug/L	1.709	36902107	34.823
Ca	43	25696.923	ug/L	3.018	334901	0.320
> Sc	45		ug/L		1044538	1044537.542
Ti	47	128.272	ug/L	0.494	74786	0.071
V	51	57.494	ug/L	0.215	388688	0.373
Cr	52	53.341	ug/L	0.815	279137	0.268
Cr	53		ug/L		65557	-0.011
Mn	55	260.385	ug/L	0.293	2263351	2.166
Fe	57	10475.259	ug/L	1.438	1769054	1.688
Co	59	49.671	ug/L	0.673	338774	0.324
Ni	60	60.072	ug/L	1.330	89580	0.086
Cu	63		ug/L		862152	0.823
Cu	65	250.179	ug/L	1.459	434995	0.415
Zn	66	1410.817	ug/L	0.572	1490183	4.196
Zn	67		ug/L		245447	0.671
Zn	68		ug/L		1070003	3.012
> Ge	74		ug/L		354721	354720.546
As	75	77.390	ug/L	1.262	79875	0.226
Se	77		ug/L		3373	-0.002
Se	82	19.106	ug/L	2.456	1968	0.006
Kr	83		ug/L		139	0.000
Sr	88	197.372	ug/L	0.679	2281628	9.827
Y	89		ug/L		99280	0.427
Mo	98	65.207	ug/L	1.249	191153	0.823
Ag	107	46.881	ug/L	0.388	240016	1.034
Cd	111	9.692	ug/L	1.472	12871	0.055
Cd	114		ug/L		31024	0.133
> In	115		ug/L		232159	232158.608
Sn	120	3.927	ug/L	1.699	23586	0.096
Sb	121	47.799	ug/L	4.352	224120	0.963
Sb	123		ug/L		177531	0.763
Ba	135		ug/L		167078	0.330
Ba	137	114.019	ug/L	2.145	289788	0.573
Ho	165		ug/L		8991	0.018
> Lu	175		ug/L		506043	506043.474
Tl	205	91.923	ug/L	0.934	1865472	3.685
Pb	208	38.403	ug/L	1.196	1271557	2.511
Bi	209		ug/L		8249	0.016
Th	232	55.729	ug/L	0.728	2368061	4.678
U	238	52.367	ug/L	2.014	2400874	4.743

Sample ID: 1202017708

Report Date/Time: Sunday, January 24, 2010 18:59:36

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		113.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.1			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	B	11	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected



# ICPMS#5 - Summary Report

Sample ID: 1202017709

Sample Date/Time: Sunday, January 24, 2010 19:03:03

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942514/5/baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\1202017709.113

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	12.118	ug/L	4.382	14055	0.014
Be	9	0.232	ug/L	19.692	99	0.000
B	11	126.495	ug/L	3.414	46444	0.048
Na	23	7590.397	ug/L	3.358	33811479	34.956
Mg	24	1613.726	ug/L	7.399	5302629	5.478
Al	27	2115.996	ug/L	5.326	9633743	9.958
P	31	130.645	ug/L	2.842	33244	0.029
K	39	991.347	ug/L	1.237	5652896	5.346
Ca	43	5300.154	ug/L	1.010	64068	0.066
> Sc	45		ug/L		966467	966466.614
Ti	47	16.270	ug/L	1.586	9025	0.009
V	51	3.589	ug/L	10.491	21427	0.023
Cr	52	2.589	ug/L	2.247	11731	0.013
Cr	53		ug/L		60045	-0.012
Mn	55	53.757	ug/L	2.243	433306	0.447
Fe	57	1851.586	ug/L	1.816	293370	0.298
Co	59	1.751	ug/L	1.608	11210	0.011
Ni	60	4.109	ug/L	4.488	5812	0.006
Cu	63		ug/L		159459	0.163
Cu	65	48.093	ug/L	1.891	78268	0.080
Zn	66	311.205	ug/L	1.644	330103	0.926
Zn	67		ug/L		54298	0.132
Zn	68		ug/L		228969	0.640
> Ge	74		ug/L		354794	354794.257
As	75	0.989	ug/L	35.182	727	0.003
Se	77		ug/L		4177	0.000
Se	82	0.175	ug/L	76.030	16	0.000
Kr	83		ug/L		84	-0.000
Sr	88	34.222	ug/L	1.176	400630	1.704
Y	89		ug/L		19698	0.084
Mo	98	2.922	ug/L	1.218	8751	0.037
Ag	107	0.016	ug/L	14.702	134	0.000
Cd	111	0.046	ug/L	44.264	77	0.000
Cd	114		ug/L		126	0.000
> In	115		ug/L		235005	235004.583
Sn	120	-0.014	ug/L	161.382	1191	-0.000
Sb	121	0.487	ug/L	23.653	2797	0.010
Sb	123		ug/L		2216	0.008
Ba	135		ug/L		20418	0.040
Ba	137	13.980	ug/L	2.179	35551	0.070
Ho	165		ug/L		1713	0.003
> Lu	175		ug/L		505537	505536.549
Tl	205	0.007	ug/L	31.448	718	0.000
Pb	208	1.714	ug/L	2.580	57707	0.112
Bi	209		ug/L		1609	0.003
Th	232	2.066	ug/L	2.565	88475	0.173
U	238	0.766	ug/L	1.591	35668	0.069

Sample ID: 1202017709

Report Date/Time: Sunday, January 24, 2010 19:05:49

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		104.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		100.1			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017709

Report Date/Time: Sunday, January 24, 2010 19:05:49

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## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 24, 2010 19:09:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 8.114

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	53.758	ug/L	5.649	60845	0.064
Be	9	52.724	ug/L	4.609	18750	0.020
B	11	112.417	ug/L	3.786	40507	0.042
Na	23	5022.886	ug/L	4.609	21969670	23.132
Mg	24	5218.088	ug/L	4.794	16800145	17.713
Al	27	4581.754	ug/L	3.299	20450380	21.562
P	31	5080.099	ug/L	1.886	1085350	1.140
K	39	5176.286	ug/L	16.837	26953009	27.913
Ca	43	4956.876	ug/L	2.413	58765	0.062
> Sc	45		ug/L		947917	947917.296
Ti	47	49.789	ug/L	0.808	26515	0.028
V	51	50.853	ug/L	2.043	311800	0.330
Cr	52	51.340	ug/L	0.694	243766	0.258
Cr	53		ug/L		98942	0.031
Mn	55	52.207	ug/L	1.170	412780	0.434
Fe	57	5196.695	ug/L	2.110	798672	0.838
Co	59	49.338	ug/L	1.345	305343	0.322
Ni	60	50.254	ug/L	1.423	68023	0.072
Cu	63		ug/L		161214	0.168
Cu	65	49.116	ug/L	0.405	78384	0.082
Zn	66	50.989	ug/L	1.245	55451	0.152
Zn	67		ug/L		15533	0.022
Zn	68		ug/L		39470	0.106
> Ge	74		ug/L		354631	354630.514
As	75	46.827	ug/L	2.368	48191	0.137
Se	77		ug/L		8631	0.013
Se	82	48.319	ug/L	1.587	4979	0.014
Kr	83		ug/L		113	0.000
Sr	88	53.647	ug/L	1.495	614868	2.671
Y	89		ug/L		125	0.000
Mo	98	50.081	ug/L	1.684	145518	0.632
Ag	107	49.816	ug/L	1.035	252784	1.098
Cd	111	49.744	ug/L	1.874	65401	0.284
Cd	114		ug/L		158177	0.687
> In	115		ug/L		230092	230092.383
Sn	120	50.550	ug/L	0.527	286142	1.238
Sb	121	47.535	ug/L	8.061	221032	0.958
Sb	123		ug/L		175988	0.763
Ba	135		ug/L		72641	0.145
Ba	137	50.312	ug/L	3.114	126961	0.253
Ho	165		ug/L		39	0.000
> Lu	175		ug/L		502408	502407.597
Tl	205	54.249	ug/L	0.885	1093164	2.175
Pb	208	53.741	ug/L	1.473	1766125	3.513
Bi	209		ug/L		477	0.001
Th	232	50.155	ug/L	1.379	2115801	4.210
U	238	51.404	ug/L	1.618	2339540	4.656

Sample ID: QC Std 8

Report Date/Time: Sunday, January 24, 2010 19:11:56

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# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	107.516				
Be	9	105.449				
B	11	112.417				
Na	23	100.458				
Mg	24	104.362				
Al	27	90.728				
P	31	101.602				
K	39	103.526				
Ca	43	99.138				
> Sc	45		102.6			
Ti	47	99.578				
V	51	101.705				
Cr	52	102.679				
Cr	53					
Mn	55	104.413				
Fe	57	103.934				
Co	59	98.676				
Ni	60	100.508				
Cu	63					
Cu	65	98.233				
Zn	66	101.978				
Zn	67					
Zn	68					
> Ge	74		101.7			
As	75	93.654				
Se	77					
Se	82	96.637				
Kr	83					
Sr	88	107.294				
Y	89					
Mo	98	100.161				
Ag	107	99.632				
Cd	111	99.488				
Cd	114					
> In	115		98.0			
Sn	120	101.101				
Sb	121	95.070				
Sb	123					
Ba	135					
Ba	137	100.624				
Ho	165					
> Lu	175		99.3			
Tl	205	108.498				
Pb	208	107.482				
Bi	209					
Th	232	100.311				
U	238	102.807				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 QC Std 8 B 11CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 24, 2010 19:15:21

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100124\QC Std 9.115

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.008	ug/L	195.505	86	0.000
Be	9	0.005	ug/L	162.042	16	0.000
B	11	6.695	ug/L	15.508	2719	0.003
Na	23	1.241	ug/L	55.777	36046	0.006
Mg	24	-0.886	ug/L	69.620	5001	-0.003
Al	27	0.332	ug/L	174.450	10004	0.002
P	31	-0.145	ug/L	1335.733	4759	-0.000
K	39	8.445	ug/L	124.036	517605	0.046
Ca	43	3.456	ug/L	74.274	238	0.000
> Sc	45		ug/L		943374	943373.656
Ti	47	0.035	ug/L	101.251	296	0.000
V	51	0.478	ug/L	74.461	1849	0.003
Cr	52	0.440	ug/L	10.739	1257	0.002
Cr	53		ug/L		72841	0.004
Mn	55	-0.019	ug/L	6.096	1056	-0.000
Fe	57	-0.305	ug/L	235.607	4796	-0.000
Co	59	0.001	ug/L	296.955	167	0.000
Ni	60	-0.015	ug/L	80.829	130	-0.000
Cu	63		ug/L		2269	0.000
Cu	65	0.002	ug/L	2421.007	1082	0.000
Zn	66	-0.609	ug/L	5.172	1030	-0.002
Zn	67		ug/L		7250	-0.001
Zn	68		ug/L		1253	-0.001
> Ge	74		ug/L		354354	354354.170
As	75	0.312	ug/L	57.570	24	0.001
Se	77		ug/L		4870	0.002
Se	82	-0.250	ug/L	43.530	-28	-0.000
Kr	83		ug/L		97	0.000
Sr	88	0.002	ug/L	48.275	253	0.000
Y	89		ug/L		57	-0.000
Mo	98	0.040	ug/L	14.769	202	0.001
Ag	107	0.004	ug/L	17.970	73	0.000
Cd	111	0.002	ug/L	484.194	19	0.000
Cd	114		ug/L		42	-0.000
> In	115		ug/L		233453	233453.236
Sn	120	0.024	ug/L	122.323	1399	0.001
Sb	121	0.818	ug/L	25.985	4336	0.016
Sb	123		ug/L		3491	0.013
Ba	135		ug/L		41	-0.000
Ba	137	-0.000	ug/L	3680.186	71	-0.000
Ho	165		ug/L		14	-0.000
> Lu	175		ug/L		504817	504816.539
Tl	205	0.050	ug/L	24.267	1577	0.002
Pb	208	0.005	ug/L	43.279	1220	0.000
Bi	209		ug/L		121	0.000
Th	232	0.051	ug/L	18.607	2961	0.004
U	238	0.009	ug/L	14.441	1043	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 19:18:05

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9998

Sample ID: QC Std 9

Report Date/Time: Sunday, January 24, 2010 19:18:05

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		102.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		101.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Monday, January 25, 2010 10:06:01

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1750

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	3797.9	3797.905	55.830	1.5
Mg	24.0	41866.7	41866.664	413.504	1.0
Co	58.9	89574.0	89573.957	663.666	0.7
Rh	102.9	166042.0	166041.981	567.518	0.3
In	114.9	222043.5	222043.538	1016.649	0.5
Pb	208.0	242059.8	242059.850	2131.441	0.9
[> Ba	137.9	227089.5	227089.518	838.861	0.4
[ Ba++	69.0	4144.4	0.018	0.000	1.2
[> Ce	139.9	278563.8	278563.808	2005.002	0.7
[ CeO	155.9	6175.5	0.022	0.000	1.6
Bkgd	220.0	15.5	15.500	1.225	7.9

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
8.75	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	23	10.3	4722.4
Co	59	23	11.0	89272.7
In	115	23	12.3	230319.1

## ICPMS #5 Instrument Tuning Report

File Name: 100125.tun  
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	590	2050	0.661
Be	9.0	9.1	2059	2070	0.641
Mg	24.0	24.0	5689	2070	0.614
Mg	25.0	25.0	5941	2070	0.625
Mg	26.0	26.0	6164	2070	0.651
Co	58.9	58.9	14182	2105	0.614
Rh	102.9	102.9	24875	2165	0.614
In	114.9	114.9	27789	2185	0.615
Ce	139.9	139.9	33873	2200	0.633
Pb	206.0	206.0	49948	2270	0.673
Pb	207.0	207.0	50159	2235	0.664
Pb	208.0	208.0	50451	2260	0.722
U	238.1	238.1	57726	2275	0.736

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, January 25, 2010 11:15:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\Blank.035

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		ug/L		14	
Sc	45		ug/L		748784	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Monday, January 25, 2010 11:15:22

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## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, January 25, 2010 11:16:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\Standard 1.036

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	10.000	ug/L	2.980	4807	0.006
Sc	45		ug/L		738365	738364.708

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Duplicate Rel. % Difference
Be	9					
Sc	45					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 1

Report Date/Time: Monday, January 25, 2010 11:16:58

Page 1

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, January 25, 2010 11:18:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\Standard 2.037

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	99.936	ug/L	1.737	46143	0.061
Sc	45		ug/L		756172	756172.490

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Monday, January 25, 2010 11:18:35

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, January 25, 2010 11:20:03

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 1.038

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	49.931	ug/L	0.957	23658	0.030
Sc	45		ug/L		775711	775711.095

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Duplicate Rel. % Difference
Be	9	99.863				
Sc	45		103.6			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Monday, January 25, 2010 11:20:13

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, January 25, 2010 11:21:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 2.039

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.002	ug/L	517.822	15	0.000
Sc	45		ug/L		768990	768990.371

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
Sc	45		102.7				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Monday, January 25, 2010 11:21:55

Page 1



## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, January 25, 2010 11:23:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 3.040

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.568	ug/L	2.703	278	0.000
Sc	45		ug/L		761305	761304.629

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9	113.527				
Sc	45		101.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 3

Report Date/Time: Monday, January 25, 2010 11:23:33

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, January 25, 2010 11:25:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 4.041

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.054	ug/L	10.603	39	0.000
Sc	45		ug/L		749608	749608.008

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		100.1			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, January 25, 2010 11:26:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 5.042

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	17.411	ug/L	1.458	8006	0.011
Sc	45		ug/L		751828	751827.544

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9	87.055				
Sc	45		100.4			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 5

Report Date/Time: Monday, January 25, 2010 11:26:52

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:28:21

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.043

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	49.149	ug/L	2.485	23303	0.030
Sc	45		ug/L		776319	776318.799

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	98.298				
Sc	45		103.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:30:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.044

### Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.013		ug/L	22.989	21	0.000
Sc	45			ug/L		806730	806730.442	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[	Be	9						
Sc	45		107.7					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:30:14

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202017705

Sample Date/Time: Monday, January 25, 2010 11:31:43

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017705.045

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.002	ug/L	319.291	14	-0.000
Sc	45		ug/L		803023	803023.060

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		107.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017705

Report Date/Time: Monday, January 25, 2010 11:31:55

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202017706

Sample Date/Time: Monday, January 25, 2010 11:33:25

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017706.046

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	51.406	ug/L	0.498	24930	0.031
Sc	45		ug/L		793950	793950.214

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		106.0			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017706

Report Date/Time: Monday, January 25, 2010 11:33:37

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:41:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.051

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	47.168	ug/L	0.571	23413	0.029
Sc	45		ug/L		812626	812625.765

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	94.335				
Sc	45		108.5			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 11:42:08

Page 1



## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 11:43:38

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.052

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.012	ug/L	69.529	22	0.000
Sc	45		ug/L		825486	825485.590

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		110.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 11:43:50

Page 1

## ICPMS#5 - Summary Report

Sample ID: 244880001

Sample Date/Time: Monday, January 25, 2010 11:48:22

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\244880001.054

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.008	ug/L	7.024	19	0.000
Sc	45		ug/L		789999	789999.471

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		105.5			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244880001

Report Date/Time: Monday, January 25, 2010 11:48:35

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 11:58:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.060

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	45.275	ug/L	0.342	22403	0.028
Sc	45		ug/L		810051	810050.738

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	90.549				
Sc	45		108.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 11:58:50

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:00:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.061

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.007	ug/L	114.524	19	0.000
Sc	45		ug/L		816834	816834.148

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		109.1			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:00:32

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:07:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.065

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	47.068	ug/L	1.721	22837	0.029
Sc	45		ug/L		794356	794356.063

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	94.136				
Sc	45		106.1			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 12:07:24

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:08:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.066

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.014	ug/L	41.321	22	0.000
Sc	45		ug/L		795691	795690.900

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		106.3			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:09:06

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202017707

Sample Date/Time: Monday, January 25, 2010 12:12:20

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017707.068

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.928	ug/L	4.640	472	0.001
Sc	45		ug/L		806418	806418.048

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		107.7			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017707

Report Date/Time: Monday, January 25, 2010 12:12:33

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## ICPMS#5 - Summary Report

Sample ID: 1202017708

Sample Date/Time: Monday, January 25, 2010 12:14:05

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942514|1|ba|

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017708.069

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	44.653	ug/L	2.604	21931	0.027
Sc	45		ug/L		804098	804098.247

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
Be	9					
Sc	45		107.4			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017708

Report Date/Time: Monday, January 25, 2010 12:14:18

Page 1



## ICPMS#5 - Summary Report

Sample ID: 1202017709

Sample Date/Time: Monday, January 25, 2010 12:15:49

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942514|5|ba|

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\1202017709.070

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.201	ug/L	5.948	101	0.000
Sc	45		ug/L		717220	717219.618

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		95.8			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202017709

Report Date/Time: Monday, January 25, 2010 12:16:03

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, January 25, 2010 12:17:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 6.071

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	51.920	ug/L	1.731	22606	0.032
Sc	45		ug/L		712913	712913.330

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	103.840				
Sc	45		95.2			

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Monday, January 25, 2010 12:17:43

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, January 25, 2010 12:19:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\be only.mth

Dataset File: C:\elandata\Dataset\100125\QC Std 7.072

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.016	ug/L	52.966	20	0.000
Sc	45		ug/L		705695	705695.474

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Be	9					
Sc	45		94.2			

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, January 25, 2010 12:19:25

Page 1

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Wednesday, January 27, 2010 10:01:35

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1759

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	3087.9	3087.934	102.308	3.3
Mg	24.0	43506.8	43506.755	472.576	1.1
Co	58.9	90532.6	90532.583	922.047	1.0
Rh	102.9	164177.8	164177.826	711.277	0.4
In	114.9	219828.5	219828.487	1233.124	0.6
Pb	208.0	228297.1	228297.121	2676.890	1.2
[> Ba	137.9	216842.8	216842.850	2692.980	1.2
[ Ba++	69.0	5124.6	0.024	0.000	1.1
[> Ce	139.9	265739.6	265739.576	3528.800	1.3
[ CeO	155.9	6319.2	0.024	0.001	2.2
Bkgd	220.0	23.6	23.600	3.324	14.1

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
11.00	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	10.0	5387.0
Co	59	17	11.0	83338.7
In	115	17	12.5	220648.3

Sample ID: Sample

Report Date/Time: Wednesday, January 27, 2010 10:02:54

Page 1

## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	586	2050	0.653
Be	9.0	9.0	2034	2070	0.659
Mg	24.0	23.9	5683	2070	0.662
Mg	25.0	25.0	5947	2070	0.718
Mg	26.0	26.0	6147	2070	0.671
Co	58.9	59.0	14188	2105	0.637
Rh	102.9	102.9	24878	2165	0.625
In	114.9	114.9	27792	2185	0.632
Ce	139.9	139.9	33864	2200	0.638
Pb	206.0	206.0	49948	2270	0.691
Pb	207.0	207.0	50159	2235	0.674
Pb	208.0	208.0	50451	2260	0.722
U	238.1	238.1	57732	2275	0.725

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Thursday, January 28, 2010 07:25:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\Blank.301

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		184558	
	Sb	121		ug/L		831	
L	Sb	123		ug/L		708	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115					
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Thursday, January 28, 2010 07:26:15

Page 1

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Thursday, January 28, 2010 07:28:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\Standard 1.302

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		207201	207201.453
	Sb	121	10.000	ug/L	11.258	38837	0.184
[	Sb	123		ug/L		30647	0.145

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115					
	Sb	121					
[	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 1

Report Date/Time: Thursday, January 28, 2010 07:28:31

Page 1

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Thursday, January 28, 2010 07:30:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\Standard 2.303

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		192081	192081.340
	Sb	121	100.148	ug/L	11.308	414043	2.159
L	Sb	123		ug/L		325312	1.697

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115					
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Thursday, January 28, 2010 07:30:48

Page 1



## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Thursday, January 28, 2010 07:32:45

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 1.304

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		199138	199137.722
	Sb	121	50.936	ug/L	9.740	219014	1.098
[	Sb	123		ug/L		172181	0.863

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recov	Dilution	% Di	Duplicate	Rel. % Difference
[>	In	115					107.9					
	Sb	121		101.873								
[	Sb	123										

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Thursday, January 28, 2010 07:33:05

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Thursday, January 28, 2010 07:35:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 2.305

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		189644	189643.763
	Sb	121	0.370	ug/L	13.829	2360	0.008
L	Sb	123		ug/L		1903	0.006

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		102.8			
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Thursday, January 28, 2010 07:35:26

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Thursday, January 28, 2010 07:37:24

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 3.306

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		197837	197836.599
	Sb	121	2.844	ug/L	11.862	12967	0.061
L	Sb	123		ug/L		10231	0.048

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recov	Dilution	% Di	Duplicate	Rel. % Difference
[>	In	115					107.2					
	Sb	121		94.813								
L	Sb	123										

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 3

Report Date/Time: Thursday, January 28, 2010 07:37:43

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Thursday, January 28, 2010 07:39:42

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 4.307

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In 115		ug/L		174837	174837.022
	Sb 121	0.227	ug/L	14.543	1638	0.005
L	Sb 123		ug/L		1332	0.004

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
In	115Linear Thru Zero	
Sb	121Linear Thru Zero	0.9999
Sb	123Linear Thru Zero	

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In 115		94.7			
	Sb 121					
L	Sb 123					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 4

Report Date/Time: Thursday, January 28, 2010 07:40:02

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Thursday, January 28, 2010 07:42:00

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 5.308

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ >	In	115		ug/L		166014	166013.822
	Sb	121	24.003	ug/L	11.003	86293	0.518
	Sb	123		ug/L		67733	0.406

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[ >	In	115		90.0				
	Sb	121	120.017					
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Sb	121	ICSAB is out of limits

### QC Action

QC Action Line: Continue

Sample ID: QC Std 5

Report Date/Time: Thursday, January 28, 2010 07:42:20

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 07:44:19

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.309

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		193209	193208.961
	Sb	121	51.584	ug/L	8.712	215239	1.112
[	Sb	123		ug/L		169431	0.876

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[>	In	115		104.7				
	Sb	121	103.169					
[	Sb	123						

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Thursday, January 28, 2010 07:44:40

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 07:46:40

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.310

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		183682	183682.133
	Sb	121	0.191	ug/L	19.195	1579	0.004
L	Sb	123		ug/L		1290	0.003

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		99.5			
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 07:47:01

Page 1

## ICPMS#5 - Summary Report

Sample ID: 1202026084

Sample Date/Time: Thursday, January 28, 2010 07:49:02

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 945922[1]ba]

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026084.311

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		174055	174054.853
	Sb	121	0.258	ug/L	13.495	1747	0.006
	Sb	123		ug/L		1365	0.004

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115			94.3		
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 1202026085

Sample Date/Time: Thursday, January 28, 2010 07:51:23

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 945922|1|ba|

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026085.312

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		172887	172886.936
	Sb	121	55.133	ug/L	15.191	204628	1.189
	Sb	123		ug/L		164458	0.954

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[>	In	115		93.7				
	Sb	121						
	Sb	123						

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202026085

Report Date/Time: Thursday, January 28, 2010 07:51:43

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 08:07:52

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.319

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		184498	184498.204
	Sb	121	49.352	ug/L	13.812	195951	1.064
L	Sb	123		ug/L		156470	0.849

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	In	115		100.0				
	Sb	121	98.703					
L	Sb	123						

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Thursday, January 28, 2010 08:08:12

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 08:10:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.320

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		179429	179429.049
	Sb	121	0.148	ug/L	34.218	1370	0.003
L	Sb	123		ug/L		1043	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	In	115		97.2			
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 08:10:34

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 08:21:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.324

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		195714	195714.229
	Sb	121	50.411	ug/L	12.486	212341	1.087
L	Sb	123		ug/L		171093	0.876

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		106.0			
	Sb	121	100.822				
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Thursday, January 28, 2010 08:22:08

Page 1

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 08:24:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.325

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		210842	210842.027
	Sb	121	0.120	ug/L	28.992	1490	0.003
	Sb	123		ug/L		1139	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		114.2			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 08:24:29

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## ICPMS#5 - Summary Report

Sample ID: 244880001

Sample Date/Time: Thursday, January 28, 2010 08:26:29

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 945922|1|ba|

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\244880001.326

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		192984	192983.701
	Sb	121	0.028	ug/L	84.409	982	0.001
L	Sb	123		ug/L		874	0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dilution	Duplicate Rel. % Difference
[>	In	115			104.6		
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244880001

Report Date/Time: Thursday, January 28, 2010 08:26:51

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 08:43:03

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.333

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		195328	195328.229
	Sb	121	48.202	ug/L	12.842	202871	1.039
	Sb	123		ug/L		163587	0.837

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike %	Recov	Dilution %	Di	Duplicate	Rel. %	Difference
[>	In	115					105.8						
	Sb	121		96.404									
	Sb	123											

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Thursday, January 28, 2010 08:43:24

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## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 08:45:24

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.334

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		196974	196973.778
	Sb	121	0.126	ug/L	29.281	1417	0.003
L	Sb	123		ug/L		1162	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[>	In	115		106.7				
	Sb	121						
L	Sb	123						

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 08:45:45

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## ICPMS#5 - Summary Report

Sample ID: 1202026086

Sample Date/Time: Thursday, January 28, 2010 08:57:20

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 945922|1|ba|

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026086.339

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		177770	177769.544
	Sb	121	0.804	ug/L	18.160	3857	0.017
L	Sb	123		ug/L		3197	0.014

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	In	115		96.3			
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202026086

Report Date/Time: Thursday, January 28, 2010 08:57:43

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## ICPMS#5 - Summary Report

Sample ID: 1202026087

Sample Date/Time: Thursday, January 28, 2010 08:59:45

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 945922|1|baj

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026087.340

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		177148	177147.521
	Sb	121	158.013	ug/L	13.060	600719	3.407
L	Sb	123		ug/L		484497	2.746

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
[>	In	115		96.0			
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202026087

Report Date/Time: Thursday, January 28, 2010 09:00:09

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## ICPMS#5 - Summary Report

Sample ID: 1202026088

Sample Date/Time: Thursday, January 28, 2010 09:02:09

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 945922|5|ba|

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\1202026088.341

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		186524	186523.850
	Sb	121	0.041	ug/L	61.449	1001	0.001
	Sb	123		ug/L		826	0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		101.1			
	Sb	121					
	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202026088

Report Date/Time: Thursday, January 28, 2010 09:02:31

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, January 28, 2010 09:04:30

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 6.342

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		188955	188954.709
	Sb	121	49.425	ug/L	11.020	201433	1.066
	Sb	123		ug/L		159671	0.845

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		102.4			
	Sb	121	98.850				
	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Thursday, January 28, 2010 09:04:51

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## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, January 28, 2010 09:06:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: c:\elandata\Dataset\100127\QC Std 7.343

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		192987	192986.528
	Sb	121	0.115	ug/L	30.707	1343	0.002
L	Sb	123		ug/L		1087	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	0.9999
Sb	123	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	In	115		104.6			
	Sb	121					
L	Sb	123					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Thursday, January 28, 2010 09:07:12

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Method Name: WATER  
 Method Description: 7470A, 245.2, ILM04 ANALYST ETL  
 Element: Hg

Date: 01/20/2010  
 Technique: FI-MHS  
 Calibration Type:  
 Hg, Calc. Intercept : Linear  
 Wavelength: 253.7 nm  
 Sample Info Name: 012010W1.SIF

Results Data Set Name: 012010W1

Element: Hg Seq. No.: 1 AS Loc.: 1 Date: 01/20/2010  
 Sample ID: Calib Blank

Repl #	SampleConc µg/L	StdConc µg/L	Blncorr Signal	Peak Height	Time	Peak Stored
1			0.0018	0.0018	09:41:11	No
2			0.0019	0.0019	09:41:46	No
Mean:			0.0019			
SD :			0.0001			
%RSD:			5.5435			

Auto-zero performed.

Element: Hg Seq. No.: 2 AS Loc.: 2 Date: 01/20/2010  
 Sample ID: S0.2

Repl #	SampleConc µg/L	StdConc µg/L	Blncorr Signal	Peak Height	Time	Peak Stored
1			0.0020	0.0038	09:43:08	No
2			0.0019	0.0037	09:43:43	No
Mean:			0.0019			
SD :			0.0001			
%RSD:			4.6731			

[Hg] Standard number 1 applied. [0.200]  
 Correlation Coefficient: 1.00000 Slope: 0.00963  
 Intercept : 0.00000

Element: Hg Seq. No.: 3 AS Loc.: 3 Date: 01/20/2010  
 Sample ID: S0.5

Repl #	SampleConc µg/L	StdConc µg/L	Blncorr Signal	Peak Height	Time	Peak Stored
1			0.0050	0.0069	09:45:06	No
2			0.0049	0.0068	09:45:40	No
Mean:			0.0050			
SD :			0.0000			
%RSD:			0.8734			

[Hg] Standard number 2 applied. [0.500]  
 Correlation Coefficient: 0.99989 Slope: 0.00998  
 Intercept : -0.00003

Element: Hg Seq. No.: 4 AS Loc.: 4 Date: 01/20/2010  
 Sample ID: S2.0

Repl #	SampleConc µg/L	StdConc µg/L	Blncorr Signal	Peak Height	Time	Peak Stored
1			0.0195	0.0214	09:47:05	No
2			0.0193	0.0212	09:47:40	No
Mean:			0.0194			
SD :			0.0001			
%RSD:			0.5747			

[Hg] Standard number 3 applied. [2.000]

Correlation Coefficient: 0.99997  
Intercept : 0.00003

Slope: 0.00971

=====

Element: Hg Seq. No.: 5 AS Loc.: 5 Date: 01/20/2010  
Sample ID: S5.0

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0463	0.0481	09:49:05	No
2			0.0472	0.0490	09:49:40	No
Mean:			0.0467			
SD :			0.0006			
%RSD:			1.3718			

[Hg] Standard number 4 applied. [5.000]  
Correlation Coefficient: 0.99987 Slope: 0.00934  
Intercept : 0.00023

=====

Element: Hg Seq. No.: 6 AS Loc.: 6 Date: 01/20/2010  
Sample ID: S10

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0952	0.0971	09:51:06	No
2			0.0946	0.0965	09:51:40	No
Mean:			0.0949			
SD :			0.0004			
%RSD:			0.4649			

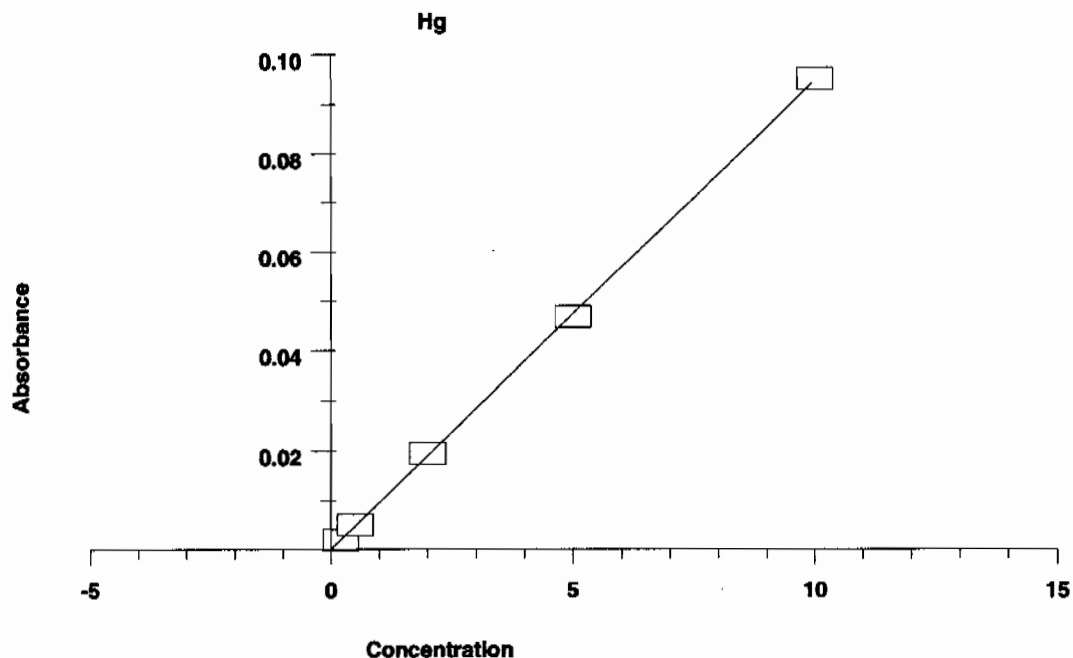
[Hg] Standard number 5 applied. [10.00]  
Correlation Coefficient: 0.99995 Slope: 0.00946  
Intercept : 0.00009

-----

Calibration data for Hg

Standard ID	Mean Signal (Pk Height)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.0019	---	----	----	----
S0.2	0.0019	0.200	0.194	0.0001	4.7
S0.5	0.0050	0.500	0.517	0.0000	0.9
S2.0	0.0194	2.000	2.044	0.0001	0.6
S5.0	0.0467	5.000	4.929	0.0006	1.4
S10	0.0949	10.000	10.03	0.0004	0.5
Correlation Coefficient: 0.99995		Slope:	0.00946	Intercept:	0.0001

-----



=====  
 Element: Hg Seq. No.: 7 AS Loc.: 9 Date: 01/20/2010  
 Sample ID: ICV

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	5.086	5.086	0.0482	0.0500	09:53:10	No
2	4.880	4.880	0.0462	0.0481	09:53:45	No
Mean:	4.983	4.983	0.0472			
SD :	0.1457	0.1457	0.0014			
%RSD:	2.9	2.9	2.9174			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 8 AS Loc.: 10 Date: 01/20/2010  
 Sample ID: ICB

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.024	0.024	0.0003	0.0022	09:55:07	No
2	0.016	0.016	0.0002	0.0021	09:55:42	No
Mean:	0.020	0.020	0.0003			
SD :	0.0055	0.0055	0.0001			
%RSD:	27.6	27.6	18.5133			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 9 AS Loc.: 11 Date: 01/20/2010  
 Sample ID: CRDL

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.262	0.262	0.0026	0.0044	09:57:05	No
2	0.261	0.261	0.0026	0.0044	09:57:40	No
Mean:	0.261	0.261	0.0026			
SD :	0.0005	0.0005	0.0000			
%RSD:	0.2	0.2	0.1780			



QC value within specified limits.

=====

Element: Hg Seq. No.: 10 AS Loc.: 7 Date: 01/20/2010  
Sample ID: CCV

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	4.845	4.845	0.0459	0.0478	09:59:05	No
2	4.970	4.970	0.0471	0.0489	09:59:40	No
Mean:	4.907	4.907	0.0465			
SD :	0.0881	0.0881	0.0008			
%RSD:	1.8	1.8	1.7908			

QC value within specified limits.

=====

Element: Hg Seq. No.: 11 AS Loc.: 8 Date: 01/20/2010  
Sample ID: CCB

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	0.027	0.027	0.0004	0.0022	10:01:08	No
2	0.040	0.040	0.0005	0.0023	10:01:43	No
Mean:	0.034	0.034	0.0004			
SD :	0.0086	0.0086	0.0001			
%RSD:	25.7	25.7	19.9234			

QC value within specified limits.

=====

Element: Hg Seq. No.: 12 AS Loc.: 12 Date: 01/20/2010  
Sample ID: 1202019104|i||943059|MB

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	-0.026	-0.026	-0.0002	0.0017	10:03:09	No
2	-0.027	-0.027	-0.0002	0.0017	10:03:45	No
Mean:	-0.026	-0.026	-0.0002			
SD :	0.0005	0.0005	0.0000			
%RSD:	2.0	2.0	3.1383			

=====

Element: Hg Seq. No.: 13 AS Loc.: 13 Date: 01/20/2010  
Sample ID: 1202019105|i||LCS

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	2.001	2.001	0.0190	0.0209	10:05:09	No
2	1.990	1.990	0.0189	0.0208	10:05:43	No
Mean:	1.995	1.995	0.0190			
SD :	0.0077	0.0077	0.0001			
%RSD:	0.4	0.4	0.3863			

=====

Element: Hg Seq. No.: 14 AS Loc.: 14 Date: 01/20/2010  
Sample ID: 244960001|i||

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlncCorr Signal	Peak Height	Time	Peak Stored
1	0.003	0.003	0.0001	0.0020	10:07:09	No
2	-0.008	-0.008	0.0000	0.0019	10:07:44	No
Mean:	-0.002	-0.002	0.0001			
SD :	0.0078	0.0078	0.0001			
%RSD:	332.1	332.1	104.5106			

=====

Element: Hg Seq. No.: 15 AS Loc.: 15 Date: 01/20/2010  
Sample ID: 1202019106|i||DUP

%RSD: 7.7 7.7 10.8541

=====  
 Element: Hg Seq. No.: 21 AS Loc.: 21 Date: 01/20/2010  
 Sample ID: 1202019182|i||943087|MB  
 =====

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.015	-0.015	-0.0001	0.0018	10:20:59	No
2	-0.034	-0.034	-0.0002	0.0016	10:21:34	No
Mean:	-0.024	-0.024	-0.0001			
SD :	0.0131	0.0131	0.0001			
%RSD:	53.8	53.8	89.6560			

=====  
 Element: Hg Seq. No.: 22 AS Loc.: 7 Date: 01/20/2010  
 Sample ID: CCV  
 =====

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	4.832	4.832	0.0458	0.0476	10:22:59	No
2	4.829	4.829	0.0458	0.0476	10:23:34	No
Mean:	4.830	4.830	0.0458			
SD :	0.0015	0.0015	0.0000			
%RSD:						

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 23 AS Loc.: 8 Date: 01/20/2010  
 Sample ID: CCB  
 =====

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.023	0.023	0.0003	0.0022	10:25:02	No
2	0.015	0.015	0.0002	0.0021	10:25:38	No
Mean:	0.019	0.019	0.0003			
SD :	0.0057	0.0057	0.0001			
%RSD:	29.7	29.7	19.7396			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 24 AS Loc.: 22 Date: 01/20/2010  
 Sample ID: 1202019183|i||LCS  
 =====

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	2.057	2.057	0.0195	0.0214	10:27:03	No
2	1.992	1.992	0.0189	0.0208	10:27:38	No
Mean:	2.024	2.024	0.0192			
SD :	0.0460	0.0460	0.0004			
%RSD:	2.3	2.3	2.2598			

=====  
 Element: Hg Seq. No.: 25 AS Loc.: 23 Date: 01/20/2010  
 Sample ID: 244849001|i|||  
 =====

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.032	-0.032	-0.0002	0.0016	10:29:02	No
2	-0.043	-0.043	-0.0003	0.0015	10:29:37	No
Mean:	-0.038	-0.038	-0.0003			
SD :	0.0077	0.0077	0.0001			
%RSD:	20.4	20.4	27.5068			

=====  
 Element: Hg Seq. No.: 26 AS Loc.: 24 Date: 01/20/2010  
 Sample ID: 244880001|i|||  
 =====

```

-----
Repl  SampleConc  StndConc  BlnkCorr  Peak      Time      Peak
#      µg/L       µg/L       Signal    Height              Stored
1      -0.025    -0.025    -0.0001   0.0017    10:31:01  No
2      -0.042    -0.042    -0.0003   0.0016    10:31:36  No
Mean:   -0.034    -0.034    -0.0002
SD :     0.0120    0.0120    0.0001
%RSD:    35.6      35.6      50.1287
-----

```

```

=====
Element: Hg      Seq. No.: 27      AS Loc.: 25      Date: 01/20/2010
Sample ID: 244904001|i|||
-----

```

```

Repl  SampleConc  StndConc  BlnkCorr  Peak      Time      Peak
#      µg/L       µg/L       Signal    Height              Stored
1      -0.034    -0.034    -0.0002   0.0016    10:33:00  No
2      -0.041    -0.041    -0.0003   0.0016    10:33:35  No
Mean:   -0.037    -0.037    -0.0003
SD :     0.0047    0.0047    0.0000
%RSD:    12.5      12.5      16.9462
-----

```

```

=====
Element: Hg      Seq. No.: 28      AS Loc.: 26      Date: 01/20/2010
Sample ID: 244904002|i|||
-----

```

```

Repl  SampleConc  StndConc  BlnkCorr  Peak      Time      Peak
#      µg/L       µg/L       Signal    Height              Stored
1      -0.031    -0.031    -0.0002   0.0017    10:35:00  No
2      -0.053    -0.053    -0.0004   0.0014    10:35:35  No
Mean:   -0.042    -0.042    -0.0003
SD :     0.0159    0.0159    0.0002
%RSD:    37.8      37.8      49.3153
-----

```

```

=====
Element: Hg      Seq. No.: 29      AS Loc.: 27      Date: 01/20/2010
Sample ID: 244904003|i|||
-----

```

```

Repl  SampleConc  StndConc  BlnkCorr  Peak      Time      Peak
#      µg/L       µg/L       Signal    Height              Stored
1      -0.061    -0.061    -0.0005   0.0014    10:37:01  No
2      -0.052    -0.052    -0.0004   0.0015    10:37:36  No
Mean:   -0.057    -0.057    -0.0004
SD :     0.0059    0.0059    0.0001
%RSD:    10.5      10.5      12.6630
-----

```

```

=====
Element: Hg      Seq. No.: 30      AS Loc.: 28      Date: 01/20/2010
Sample ID: 244904004|i|||
-----

```

```

Repl  SampleConc  StndConc  BlnkCorr  Peak      Time      Peak
#      µg/L       µg/L       Signal    Height              Stored
1      -0.064    -0.064    -0.0005   0.0013    10:39:01  No
2      -0.065    -0.065    -0.0005   0.0013    10:39:36  No
Mean:   -0.064    -0.064    -0.0005
SD :     0.0002    0.0002    0.0000
%RSD:     0.3      0.3      0.3727
-----

```

```

=====
Element: Hg      Seq. No.: 31      AS Loc.: 29      Date: 01/20/2010
Sample ID: 244922001|i|||
-----

```

```

Repl  SampleConc  StndConc  BlnkCorr  Peak      Time      Peak
#      µg/L       µg/L       Signal    Height              Stored
1      -0.038    -0.038    -0.0003   0.0016    10:41:02  No
2      -0.031    -0.031    -0.0002   0.0017    10:41:37  No
Mean:   -0.035    -0.035    -0.0002
SD :     0.0050    0.0050    0.0000
-----

```

%RSD: 14.6 14.6 20.3504

=====

Element: Hg Seq. No.: 32 AS Loc.: 30 Date: 01/20/2010  
 Sample ID: 1202019184|i|||DUP

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0018	10:43:04	No
2	-0.030	-0.030	-0.0002	0.0017	10:43:39	No
Mean:	-0.022	-0.022	-0.0001			
SD :	0.0110	0.0110	0.0001			
%RSD:	49.4	49.4	88.0200			

-----

=====

Element: Hg Seq. No.: 33 AS Loc.: 31 Date: 01/20/2010  
 Sample ID: 1202019185|i|||MS

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	1.975	1.975	0.0188	0.0206	10:45:06	No
2	1.935	1.935	0.0184	0.0203	10:45:41	No
Mean:	1.955	1.955	0.0186			
SD :	0.0284	0.0284	0.0003			
%RSD:	1.5	1.5	1.4428			

-----

=====

Element: Hg Seq. No.: 34 AS Loc.: 7 Date: 01/20/2010  
 Sample ID: CCV

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	4.807	4.807	0.0456	0.0474	10:47:08	No
2	4.763	4.763	0.0451	0.0470	10:47:44	No
Mean:	4.785	4.785	0.0453			
SD :	0.0314	0.0314	0.0003			
%RSD:	0.7	0.7	0.6546			

QC value within specified limits.

-----

=====

Element: Hg Seq. No.: 35 AS Loc.: 8 Date: 01/20/2010  
 Sample ID: CCB

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.003	-0.003	0.0001	0.0019	10:49:11	No
2	0.017	0.017	0.0003	0.0021	10:49:46	No
Mean:	0.007	0.007	0.0002			
SD :	0.0136	0.0136	0.0001			
%RSD:	192.5	192.5	80.7319			

QC value within specified limits.

-----

=====

Element: Hg Seq. No.: 36 AS Loc.: 32 Date: 01/20/2010  
 Sample ID: 1202019186|i|5||SDILT

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.044	-0.044	-0.0003	0.0015	10:51:10	No
2	-0.045	-0.045	-0.0003	0.0015	10:51:45	No
Mean:	-0.044	-0.044	-0.0003			
SD :	0.0009	0.0009	0.0000			
%RSD:	2.1	2.1	2.6704			

-----

=====

Element: Hg Seq. No.: 37 AS Loc.: 33 Date: 01/20/2010  
 Sample ID: 1202017112|i||942702|TB

-----

%RSD: 0.5 0.5 0.5060

=====  
Element: Hg Seq. No.: 43 AS Loc.: 39 Date: 01/20/2010  
Sample ID: 1202018240|i|5||SDILT

Repl #	SampleConc µg/L	StdndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.047	-0.047	-0.0004	0.0015	11:04:44	No
2	-0.061	-0.061	-0.0005	0.0014	11:05:19	No
Mean:	-0.054	-0.054	-0.0004			
SD :	0.0099	0.0099	0.0001			
%RSD:	18.4	18.4	22.4861			

=====  
Element: Hg Seq. No.: 44 AS Loc.: 40 Date: 01/20/2010  
Sample ID: 1202019163|i||943078|MB

Repl #	SampleConc µg/L	StdndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0018	11:06:43	No
2	-0.008	-0.008	0.0000	0.0019	11:07:18	No
Mean:	-0.011	-0.011	0.0000			
SD :	0.0044	0.0044	0.0000			
%RSD:	39.8	39.8	340.3022			

=====  
Element: Hg Seq. No.: 45 AS Loc.: 41 Date: 01/20/2010  
Sample ID: 1202019164|i||LCS

Repl #	SampleConc µg/L	StdndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	2.005	2.005	0.0191	0.0209	11:08:42	No
2	2.047	2.047	0.0195	0.0213	11:09:16	No
Mean:	2.026	2.026	0.0193			
SD :	0.0300	0.0300	0.0003			
%RSD:	1.5	1.5	1.4719			

=====  
Element: Hg Seq. No.: 46 AS Loc.: 7 Date: 01/20/2010  
Sample ID: CCV

Repl #	SampleConc µg/L	StdndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	4.940	4.940	0.0468	0.0487	11:10:41	No
2	4.865	4.865	0.0461	0.0480	11:11:17	No
Mean:	4.902	4.902	0.0465			
SD :	0.0535	0.0535	0.0005			
%RSD:	1.1	1.1	1.0888			

QC value within specified limits.

=====  
Element: Hg Seq. No.: 47 AS Loc.: 8 Date: 01/20/2010  
Sample ID: CCB

Repl #	SampleConc µg/L	StdndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.009	-0.009	0.0000	0.0019	11:12:45	No
2	-0.017	-0.017	-0.0001	0.0018	11:13:19	No
Mean:	-0.013	-0.013	0.0000			
SD :	0.0056	0.0056	0.0001			
%RSD:	43.0	43.0	176.2390			

QC value within specified limits.

=====  
Element: Hg Seq. No.: 48 AS Loc.: 42 Date: 01/20/2010  
Sample ID: 244937001|i|||

# Miscellaneous

# Prep LogBook

Analyst: FGA  
Batch: 942449  
Lab SOP: GL-MA-E-006 REV# 9

Verified by:

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix	Spike Amount	Spike Units
MB	1202017559		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
LCS	1202017560		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244829001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244829002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244829003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244829004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244844001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER	.25	mL
SAMPLE	244844002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER	.25	mL
SAMPLE	244844003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER	.25	mL
SAMPLE	244844004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER	.25	mL
SAMPLE	244849001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244880001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244893001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244895002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244904001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244904002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244904003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244904004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244912001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244919001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244922001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
DUP	1202017561	244922001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
MS	1202017562	244922001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SDILT	1202017563	244922001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL
SAMPLE	244925001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER	.25	mL

Comments:

Reagent/Solvent Lot ID	Amount	Description
1252838	2.5 mL	HYDROCHLORIC ACID
1252836	1 mL	Nitric Acid CONC.

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# Prep LogBook

Analyst: FGA

Batch: 942490

Lab SOP: GL-MA-E-006 REV# 9

Verified by:

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202017706	U11246651-A	.5	mL
LCS	1202017706	U11246654-B	.5	mL
MS	1202017708	U1090828-A	.5	mL
MS	1202017708	U1090828-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202017705		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
LCS	1202017706		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244829004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244844001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244844004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	GROUND WATER
SAMPLE	244849001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244880001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244893001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244895002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904002		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904003		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244904004		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244912001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244919001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244922001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SAMPLE	244925001		SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
DUP	1202017707	244925001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
MS	1202017708	244925001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER
SDILT	1202017709	244925001	SW846 3005A	19-JAN-2010 14:00	<2	50 mL	50 mL	1	WATER

## Comments

Reagent/Solvent Lot ID	Amount	Description
1252838	2.5 mL	HYDROCHLORIC ACID
1252836	1 mL	Nitric Acid CONC.

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GEL Laboratories LLC

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# Prep LogBook

Analyst: TXB3 Verified by: \_\_\_\_\_

Batch: 943086

Lab SOP: GL-MA-E-010 REV# 23

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202019182		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
LCS	1202019183		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	.2	mL
SAMPLE	244849001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
SAMPLE	244880001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1	.2	mL
SAMPLE	244904001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
SAMPLE	244904002		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
SAMPLE	244904003		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
SAMPLE	244904004		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
SAMPLE	244922001		SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
DUP	1202019184	244922001	SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
MS	1202019185	244922001	SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		
SDIL-T	1202019186	244922001	SW846 7470A Prep	19-JAN-2010 12:45	<2	20 mL	20 mL	1		

Comments: Digestion Start Date: 19-JAN-10 12:45  
Digestion End Date: 19-JAN-10 14:45

Reagent/Solvent Lot ID	Amount	Description
1176183	1 mL	Sulfuric Acid, Concentrated
1240182-1	.5 mL	NITRIC ACID
1234385-C	1.5 mL	5% Potassium Persulfate
1255535-C	3 mL	5% KMnO4 solution
1255532-C	1 mL	Hg reducing agent
WHG100119-06	500 uL	Mercury Working 2nd Source 5.0/ICV
WHG100119-01a	20 uL	Mercury Working 1st Source CAL 0.2/CRA
WHG100119-02	50 uL	Mercury Working 1st Source CAL 0.5
WHG100119-05	1 mL	Mercury Working 1st Source CAL 10.0
WHG100119-03	200 uL	Mercury Working 1st Source CAL 2.0
WHG100119-04	500 uL	Mercury Working 1st Source CAL 5.0/CCV

# Prep LogBook

Analyst: AXG2  
Batch: 945920  
Lab SOP: GL-MA-E-006 REV# 9

Verified by: \_\_\_\_\_

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix	Type	Sample Id	Lot. Id	Spike Amount	Spike Units
MB	1202026084		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER	LCS	1202026085	UI1246651-A	.25	mL
LCS	1202026085		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER	LCS	1202026085	UI1246654-B	.25	mL
SAMPLE	244829001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER	MS	1202026087	UI090930-A	.25	mL
SAMPLE	244829002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER	MS	1202026087	UI090930-B	.25	mL
SAMPLE	244829003		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244829004		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244844001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER					
SAMPLE	244844002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER					
SAMPLE	244844003		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER					
SAMPLE	244844004		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	GROUND WATER					
SAMPLE	244849001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244880001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244893001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244895002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244904001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244904002		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244904003		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244904004		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244912001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244919001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244922001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SAMPLE	244925001		SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
DUP	1202026086	244925001	SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
MS	1202026087	244925001	SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					
SDILT	1202026088	244925001	SW846 3005A	27-JAN-2010 13:20	<2	25 mL	25 mL	1	WATER					

## Comments

Reagent/Solvent Lot ID Amount Description  
1252838 1.25 mL HYDROCHLORIC ACID  
1234886 .5 mL Nitric Acid CONC.

Prep Data Logbook Version 1:1

GEL Laboratories LLC

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# Standard Logbook

**Serial ID:** UHG1167639-01      **Opened:** 13-AUG-09      **Amount :** 125 mL  
**Name:** MHGSTOCK1      **Received:** 13-AUG-09      **Catalog Number :** PLHG4-2Y  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 15-37HG  
**Employee:** Bryan Davis      **Solvent :** 10% HNO3  
**Supplier:** Spex  
**Description:** Mercury Source Standard #1 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

**Serial ID:** UHG1167641-02      **Opened:** 13-AUG-09      **Amount :** 100 mL  
**Name:** MHGSTOCK2      **Received:** 13-AUG-09      **Catalog Number :** AHG1KN-100  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 4905530  
**Employee:** Bryan Davis      **Solvent :** 3% HNO3  
**Supplier:** Ricca Chemical Company  
**Description:** Mercury Source Standard #2 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

**Serial ID:** UI090422-40      **Opened:** 04-MAY-09      **Amount :** 500 mL  
**Name:** TRACE ICP ICSEA SOLN A      **Received:** 22-APR-09      **Catalog Number :** 160005-01-03  
**Type:** Source Material      **Expires:** 04-MAY-10      **Lot Number :** 1013357  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** o2si  
**Description:** TRACE ICP ICSEA SOLN A mg/L +/- 0.5% IN 5% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

**Serial ID:** UI090610-03      **Opened:** 10-JUN-09      **Catalog Number :** 060074-06-01  
**Name:** ICPMS Tungsten - 10mg/L      **Received:** 10-JUN-09      **Lot Number :** 1016338  
**Type:** Source Material      **Expires:** 10-JUN-10      **Solvent :** 2% HNO3  
**Employee:** Paul Boyd  
**Supplier:** O2SI  
**Description:** ICPMS Tungsten standard SPIKE - 10mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

# Standard Logbook

**Serial ID:** UI090701-09      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #1      **Received:** 01-JUL-09      **Catalog Number :** 160044-09-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016477  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS CRDL Master Soln #1  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

**Serial ID:** UI090701-10      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #2      **Received:** 01-JUL-09      **Catalog Number :** 160044-08-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016476  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS CRDL Soln #2  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI090701-40      **Opened:** 01-JUL-09      **Amount :** 500 mL  
**Name:** TRACE ICP Stock PQL St      **Received:** 30-JUN-09      **Catalog Number :** 160543-01-03  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016475  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3+TrHF  
**Supplier:** 02si  
**Description:** TRACE ICP Stock PQL Standard  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
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# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

Serial ID: UI090828-42      Opened: 16-SEP-09      Amount: 500 mL  
 Name: TRACE ICP Na-1000SOUR      Received: 27-AUG-09      Catalog Number: 060011-02-03  
 Type: Source Material      Expires: 16-SEP-10      Lot Number: 1017098  
 Employee: Helen Camello      Solvent: 1%HNO3  
 Supplier: O2Si  
 Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI090828-A      Opened: 28-AUG-09      Catalog Number: 160067-02  
 Name: ICP-MS DOE Liquid SPIKE      Received: 27-AUG-09      Lot Number: 1017141  
 Type: Source Material      Expires: 28-AUG-10  
 Employee: Francena Armstrong      Verified: 21-NOV-08  
 Supplier: O2Si  
 Description: ICP-MS DOE liquid Spike Solution A  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	4 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Silicon	200 mg/L
Sodium	200 mg/L	Strontium	5 mg/L
Thallium	10 mg/L	Thorium	5 mg/L
Total Uranium	5 mg/L	Uranium	5 mg/L
Uranium-235	.0364 mg/L	Uranium-238	4.96 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

**Serial ID:** UI090828-B      **Opened:** 28-AUG-09      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1017141  
**Type:** Source Material      **Expires:** 28-AUG-10  
**Employee:** Francena Armstrong      **Verified:** 21-NOV-08  
**Supplier:** O2Si  
**Description:** ICP-MS DOE Liquid Spike Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI090925-40      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX38-500N  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909129  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1A 5%HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

**Serial ID:** UI090925-41      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX39-500B  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909130  
**Employee:** Helen Camello      **Solvent :** 5%HNO3,TR.HF  
**Supplier:** SPECTRO PURE

# Standard Logbook

Description: SECOND SOURCE STD #1B

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI090930-A      Opened: 30-SEP-09      Catalog Number : 160067-02

Name: ICP-MS DOE Liquid SPIKE      Received: 28-SEP-09      Lot Number : 1017141

Type: Source Material      Expires: 30-SEP-10

Employee: Francena Armstrong      Verified: 21-NOV-08

Supplier: O2Si

Description: ICP-MS DOE liquid Spike Solution A

Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	4 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Silicon	200 mg/L
Sodium	200 mg/L	Strontium	5 mg/L
Thallium	10 mg/L	Thorium	5 mg/L
Total Uranium	5 mg/L	Uranium	5 mg/L
Uranium-235	.0364 mg/L	Uranium-238	4.96 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Serial ID: UI090930-B      Opened: 30-SEP-09      Catalog Number : 160067-02

Name: ICP-MS DOE Liquid SPIKE      Received: 28-SEP-09      Lot Number : 1017141

Type: Source Material      Expires: 30-SEP-10

Employee: Francena Armstrong      Verified: 21-NOV-08

Supplier: O2Si

Description: ICP-MS DOE Liquid Spike Solution B

Comments: None

Analyte	Concentration	Analyte	Concentration
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# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI091015-42      **Opened:** 28-OCT-09      **Amount:** 500 mL  
**Name:** SI 1000mg/L      **Received:** 15-OCT-09      **Catalog Number:** 060014-02-03  
**Type:** Source Material      **Expires:** 28-OCT-10      **Lot Number:** 1017581  
**Employee:** Helen Camello      **Solvent:** 0.3%H2O(NH4)2SiF6  
**Supplier:** o2si  
**Description:** Silicon 1000mg/L+/-0.3%in H2O(NH4)2SiF6  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091102-40      **Opened:** 16-NOV-09      **Amount:** 500 mL  
**Name:** TRACE CALSTD#1A SOUF      **Received:** 02-NOV-09      **Catalog Number:** HP2270-1-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number:** 0930215  
**Employee:** Helen Camello      **Solvent:** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Std #1A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

**Serial ID:** UI091102-41      **Opened:** 16-NOV-09      **Amount:** 500 mL  
**Name:** TRACE CALSTD#1B SOUF      **Received:** 02-NOV-09      **Catalog Number:** HP2270-2-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number:** 0930216  
**Employee:** Helen Camello      **Solvent:** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Standard #1B  
**Comments:** None



# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L
Tin	200 mg/L	Titanium	200 mg/L

**Serial ID:** UI091102-42      **Opened:** 17-NOV-09      **Amount :** 200 mL  
**Name:** SILICON      **Received:** 02-NOV-09      **Catalog Number :** HP100050-4F  
**Type:** Source Material      **Expires:** 17-NOV-10      **Lot Number :** 0921924  
**Employee:** Helen Camello      **Solvent :** H2O/tr HF  
**Supplier:** ENVIRONMENTAL EXPRESS  
**Description:** SILICON 1000mg/L H2O/tr HF  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091212-11      **Opened:** 12-DEC-09      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 12-DEC-09      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1015303  
**Employee:** Paul Boyd      **Solvent :** 2% HNO3  
**Supplier:** O2SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI091212-60      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

**Serial ID:** UI091212-61      **Opened:** 12-DEC-09      **Amount :** 5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

**Serial ID:** UI091216-01      **Opened:** 16-DEC-09      **Lot Number :** 1018095  
**Name:** METALSPIKE-1      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix I  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

# Standard Logbook

**Serial ID:** UI091216-06      **Opened:** 16-DEC-09      **Lot Number :** 1018096  
**Name:** METALSPIKE-2      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix II  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

**Serial ID:** UI091217-06      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A      **Received:** 17-DEC-09      **Catalog Number :** 160055-01  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018209  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV SOLN A - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

**Serial ID:** UI091217-07      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B      **Received:** 17-DEC-09      **Catalog Number :** 160054-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018210  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln B - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

**Serial ID:** UI091217-08      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C      **Received:** 17-DEC-09      **Catalog Number :** 160054-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018211  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln C - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

**Serial ID:** UI091217-12      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 17-DEC-09      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018212  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

# Standard Logbook

**Serial ID:** UI091217-13      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 17-DEC-09      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1016926  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI100114-40      **Opened:** 14-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 14-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 14-JAN-11      **Lot Number :** 1018160  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

**Serial ID:** UI100114-41      **Opened:** 14-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 14-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 14-JAN-11      **Lot Number :** 1018160  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

**Serial ID:** UI100114-48      **Opened:** 22-JAN-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICSA      **Received:** 18-JAN-10      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 22-JAN-11      **Lot Number :** 1018466  
**Employee:** Helen Camello      **Solvent :** 3% HCl + 1% HNO3  
**Supplier:** o2si  
**Description:** Trace ICP Interferent Check Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

**Serial ID:** UI100126-11      **Opened:** 26-JAN-10      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 26-JAN-10      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 26-JAN-11      **Lot Number :** 1018321  
**Employee:** Elizabeth Janssen      **Solvent :** 2% HNO3  
**Supplier:** O2Si  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI1246651-A      **Opened:** 23-DEC-09      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 23-DEC-09      **Lot Number :** 1018097  
**Type:** Source Material      **Expires:** 23-DEC-10  
**Employee:** Bryan Davis  
**Supplier:** O2si  
**Description:** ICP-MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution A).  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	5 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Bismuth	5 mg/L	Boron	10 mg/L
Cadmium	5 mg/L	Calcium	200 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Cesium	5 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	5 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorous	200 mg/L	Potassium	200 mg/L
Selenium	5 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	5 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

**Serial ID:** UI1246654-B      **Opened:** 23-DEC-09      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 23-DEC-09      **Lot Number :** 1017644  
**Type:** Source Material      **Expires:** 23-DEC-10  
**Employee:** Bryan Davis  
**Supplier:** O2si  
**Description:** MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution B).  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	5 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UMS090303-01      **Opened:** 03-MAR-09      **Amount :** 250 mL  
**Name:** ICPMSCalSPIKEB      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 14-81JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

# Standard Logbook

Serial ID: UMS090303-02      Opened: 03-MAR-09      Catalog Number : ZGEL-102-250  
 Name: ICPMSCalSPIKEA      Received: 03-MAR-09      Lot Number : 14-83JB  
 Type: Source Material      Expires: 28-FEB-10  
 Employee: Paul Boyd  
 Supplier: SPEX  
 Description: ICPMS Calibration Standard Solution A  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS090303-03      Opened: 03-MAR-09      Amount : 250 ml  
 Name: ICPMSCalSPIKEC      Received: 03-MAR-09      Catalog Number : ZGEL-101-250  
 Type: Source Material      Expires: 28-FEB-10      Lot Number : 15-199JB  
 Employee: Paul Boyd  
 Supplier: SPEX  
 Description: ICPMS Calibration Standard Solution C  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: IHG100119-01      Opened: 19-JAN-10      Instrument Id : Mercury  
 Name: MHGINTER1      Received: 19-JAN-10      Pipet Id : Minou1  
 Type: Intermediate      Expires: 20-JAN-10      Solvent : 1mL HNO3 + Type1 H2O  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Intermediate 1st Source 200 ug/L  
 Comments: Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: IHG100119-02      Opened: 19-JAN-10      Pipet Id : Minou1  
 Name: MHGINTER2      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Intermediate      Expires: 20-JAN-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Intermediate 2nd Source 200 ug/L  
 Comments: None



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WHG100119-01a      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL0.2CRA      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 0.2/CRA  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	20 uL	20 mL	.2 ug/L

Serial ID: WHG100119-02      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL0.5      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 0.5  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	50 uL	20 mL	.5 ug/L

Serial ID: WHG100119-03      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL2.0      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 2.0  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	200 uL	20 mL	2 ug/L

Serial ID: WHG100119-04      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL5.0CCV      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 5.0/CCV  
 Comments: None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG100119-05      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL10.0      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 10.0  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100119-01	Mercury	200 ug/L	1 mL	20 mL	10 ug/L

Serial ID: WHG100119-06      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORK5.0ICV      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 2nd Source 5.0/ICV  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100119-02	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG100119-13      Opened: 19-JAN-10      Pipet Id : Hg1289245  
 Name: MHG1QLCSMSSPIKE      Received: 19-JAN-10      Solvent : 2% HNO3-1240182  
 Type: Working      Expires: 26-JAN-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury working intermediate standard for LCS/MS  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI100126-42      Opened: 26-JAN-10      Balance Id : 216  
 Name: TRACE ICP 0.1 PPM STD.      Received: 02-NOV-09      Pipet Id : 1099667  
 Type: Working      Expires: 27-JAN-10      Solvent : 3%HCL and 1%HNO3 -1259494  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: TRACE ICP 0.1 PPM CALIBRATION STD.  
 Comments: None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100126-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100126-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100126-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100126-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100126-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100126-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100126-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI100126-43      Opened: 26-JAN-10      Balance Id : 216  
 Name: TRACE ICP 0.5/CCV STD.      Received: 02-NOV-09      Pipet Id : 1099667  
 Type: Working      Expires: 27-JAN-10      Solvent : 3%HCL and 1%HNO3 -1259494  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: TRACE ICP 0.5/CCV CALIBRATION STD.  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Serial ID: WI100126-44      Opened: 26-JAN-10      Balance Id : 216  
 Name: TRACE ICP SCAL 1.0      Received: 02-NOV-09      Pipet Id : 1099667  
 Type: Working      Expires: 27-JAN-10      Solvent : 3%HCL and 1 %HNO3-1259494  
 Employee: Helen Camello  
 Supplier: o2si  
 Description: Trace ICP Calibration Standard 1.0ppm  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Serial ID: WI100126-45      Opened: 26-JAN-10      Balance Id : 216  
 Name: TRACE ICP S-10 STD      Received: 22-APR-09      Pipet Id : 1099667  
 Type: Working      Expires: 27-JAN-10      Solvent : 3%HCL and 1%HNO3 -1259494  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: TRACE ICP S-10 CALIBRATION STD.  
 Comments: None

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

# Standard Logbook

**Serial ID:** WI100126-46      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL AND 1%HNO3-1259494  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** Initial Calibration Verification ICP Trace Metals  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

# Standard Logbook

**Serial ID:** WI100126-47      **Opened:** 26-JAN-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 27-JAN-10      **Solvent :** 3%HCL &1%HNO3-1259494  
**Employee:** Helen Camello  
**Supplier:** 02si  
**Description:** PQL Working Standard  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

**Serial ID:** WMS100124-04      **Opened:** 24-JAN-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 24-JAN-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 25-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1256053  
**Supplier:** GEL

# Standard Logbook

**Description:** ICPMS Calibration Standard (100 ppb)

**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100124-04A      **Opened:** 24-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 24-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100124-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100124-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100124-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100124-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100124-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100124-05      Opened: 24-JAN-10      Balance Id : 40245216  
 Name: ICPMS ICV      Received: 24-JAN-10      Pipet Id : 3541598  
 Type: Working      Expires: 25-JAN-10      Solvent : 2%HNO3/1%HCl - 1256053  
 Employee: Elizabeth Janssen  
 Supplier: GEL  
 Description: ICPMS ICV  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100124-06      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 24-JAN-10      **Pipet id :** 3820544  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1256053  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100124-07      Opened: 24-JAN-10      Balance Id : 40245216  
 Name: ICPMS ICSA      Received: 24-JAN-10      Lot Number : 1010773  
 Type: Working      Expires: 25-JAN-10      Pipet Id : 3541598  
 Employee: Elizabeth Janssen      Solvent : 2%HNO3/1%HCl - 1256053  
 Supplier: GEL  
 Description: ICPMS ICSA  
 Comments: None

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100124-08      Opened: 24-JAN-10      Balance Id : 40245216  
 Name: ICPMS ICSAB      Received: 24-JAN-10      Pipet Id : 1758088  
 Type: Working      Expires: 25-JAN-10      Solvent : 2%HNO3/1%HCl - 1256053  
 Employee: Elizabeth Janssen  
 Supplier: GEL  
 Description: ICPMS ICSAB  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

**Serial ID:** WMS100124-70      **Opened:** 24-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS LINEAR RANGE ST      **Received:** 24-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 25-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1253206  
**Employee:** Elizabeth Janssen  
**Supplier:** 02SI  
**Description:** ICPMS LINEAR RANGE STANDARD  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

Serial ID: <u>WMS100125-04</u>	Opened: <u>25-JAN-10</u>	Amount: <u>50 mL</u>
Name: <u>ICPMS Cal Standard 100</u>	Received: <u>25-JAN-10</u>	Balance Id: <u>4025216</u>
Type: <u>Working</u>	Expires: <u>26-JAN-10</u>	Pipet Id: <u>3541598</u>
Employee: <u>Elizabeth Janssen</u>	Solvent: <u>2%HNO3/1%HCl-1259290</u>	
Supplier: <u>GEL</u>		
Description: <u>ICPMS Calibration Standard (100 ppb)</u>		
Comments: <u>None</u>		

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

**Serial ID:** WMS100125-04A      **Opened:** 25-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 25-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100125-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100125-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100125-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100125-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100125-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

# Standard Logbook

**Serial ID:** WMS100125-05      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 25-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L



# Standard Logbook

**Serial ID:** WMS100125-06      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 25-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

# Standard Logbook

**Serial ID:** WMS100125-07      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 25-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 26-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100125-08      **Opened:** 25-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 25-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 26-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

**Serial ID:** WMS100127-04      **Opened:** 27-JAN-10      **Amount:** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 27-JAN-10      **Balance Id:** 4025216  
**Type:** Working      **Expires:** 28-JAN-10      **Pipet Id:** 3541598  
**Employee:** Elizabeth Janssen      **Solvent:** 2%HNO3/1%HCl-1259290  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100127-04A      Opened: 27-JAN-10      Balance Id : 4025216  
 Name: ICPMS Cal Standard 10      Received: 27-JAN-10      Pipet Id : 3541598  
 Type: Working      Expires: 28-JAN-10      Solvent : 2%HNO3/1%HCl - 1259290  
 Employee: Elizabeth Janssen  
 Supplier: GEL  
 Description: ICPMS Calibration Standard (10 ppb)  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100127-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100127-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100127-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100127-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100127-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100127-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100127-05      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 27-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expres:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100127-06      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 27-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

**Serial ID:** WMS100127-07      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICESA      **Received:** 27-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 28-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Supplier:** GEL  
**Description:** ICPMS ICESA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100127-08      **Opened:** 27-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 27-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 28-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1259290  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** 1156689-A      **Opened:** 20-JUL-09      **Lot Number:** 41226920  
**Name:** B-KMnO4(VWR)-MER      **Received:** 20-JUL-09  
**Type:** Reagent/Solvent      **Expires:** 20-JUL-10  
**Employee:** Tara Griffin      **Verified:** 07-AUG-07  
**Supplier:** VWR  
**Description:** Potassium Permanganate  
**Comments:** None



# Standard Logbook

**Serial ID:** 1176183      **Opened:** 24-AUG-09      **Lot Number :** H20001  
**Name:** B-H2SO4-MER      **Received:** 24-AUG-09  
**Type:** Reagent/Solvent      **Expires:** 24-AUG-10  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt  
**Description:** Sulfuric Acid, Concentrated  
**Comments:** None

**Serial ID:** 1215906      **Opened:** 06-NOV-09      **Lot Number :** H44465  
**Name:** B-K2S2O8S-MER      **Received:** 06-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 06-NOV-10  
**Employee:** Tara Griffin  
**Supplier:** J.T BAKER  
**Description:** Potassium Persulfate Concentrate.  
**Comments:** None

**Serial ID:** 1228372-A      **Opened:** 12-NOV-09      **Lot Number :** 49215936  
**Name:** B-NH2OH.HCl-MER      **Received:** 12-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 12-NOV-10  
**Employee:** Tara Griffin  
**Supplier:** Fisher Scientific  
**Description:** Hydroxylamine Hydrochloride  
**Comments:** None

**Serial ID:** 1234385-C      **Opened:** 25-NOV-09      **Balance Id :** BAL-002  
**Name:** B-K2S2O8-MER      **Received:** 25-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 25-MAY-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% Potassium Persulfate  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
1215906	B-K2S2O8S-MER	N/A	50 g	1000 mL	N/A

**Serial ID:** 1234886      **Opened:** 27-NOV-09      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 27-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 27-NOV-10  
**Employee:** Bryan Davis  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

# Standard Logbook

Serial ID: 1238345      Opened: 04-DEC-09      Lot Number : H20053 L  
Name: I-HNO3      Received: 04-DEC-09  
Type: Reagent/Solvent      Expires: 04-DEC-10  
Employee: Francena Armstrong  
Supplier: BAKER  
Description: Nitric Acid CONC.  
Comments: None

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Serial ID: 1240182-1      Opened: 09-DEC-09      Instrument Id : MERCURY  
Name: B-HNO3-MER      Received: 09-DEC-09      Lot Number : H34040  
Type: Reagent/Solvent      Expires: 09-DEC-10  
Employee: Tara Griffin  
Supplier: Mallinckrodt Chemicals  
Description: NITRIC ACID  
Comments: None

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Serial ID: 1244970      Opened: 18-DEC-09      Lot Number : H41032  
Name: I-HCL      Received: 18-DEC-09      Preservative\_Id : 5 none  
Type: Reagent/Solvent      Expires: 18-DEC-10  
Employee: Francena Armstrong  
Supplier: J.T. BAKER  
Description: HYDROCHLORIC ACID  
Comments: None

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Serial ID: 1252836      Opened: 08-JAN-10      Lot Number : H20053 L  
Name: I-HNO3      Received: 08-JAN-10  
Type: Reagent/Solvent      Expires: 08-JAN-11  
Employee: Francena Armstrong  
Supplier: BAKER  
Description: Nitric Acid CONC.  
Comments: None

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Serial ID: 1252838      Opened: 08-JAN-10      Lot Number : H41032  
Name: I-HCL      Received: 08-JAN-10      Preservative\_Id : 5 none  
Type: Reagent/Solvent      Expires: 08-JAN-11  
Employee: Francena Armstrong  
Supplier: J.T. BAKER  
Description: HYDROCHLORIC ACID  
Comments: None

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# Standard Logbook

Serial ID: 125532-C      Opened: 15-JAN-10      Balance Id : BAL-002  
 Name: B-NaCl.NH2OH.HCl-MER      Received: 15-JAN-10  
 Type: Reagent/Solvent      Expires: 15-JUL-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Hg reducing agent  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

Serial ID: 125535-C      Opened: 15-JAN-10      Balance Id : BAL-002  
 Name: B-KMnO4-MER      Received: 15-JAN-10  
 Type: Reagent/Solvent      Expires: 15-JUL-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: 5% KMnO4 solution  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1256053      Opened: 18-JAN-10      Solvent : Type I Water  
 Name: B-2%HNO3/1%HCl-ICPMS      Received: 18-JAN-10  
 Type: Reagent/Solvent      Expires: 25-JAN-10  
 Employee: Paul Boyd  
 Supplier: GEL  
 Description: 2%HNO3/1%HCl Solution (Type I Water)  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1259290      Opened: 25-JAN-10      Solvent : Type I Water  
 Name: B-2%HNO3/1%HCl-ICPMS      Received: 25-JAN-10  
 Type: Reagent/Solvent      Expires: 01-FEB-10  
 Employee: Elizabeth Janssen  
 Supplier: GEL  
 Description: 2%HNO3/1%HCl Solution (Type I Water)  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1252836	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1252838	I-HCL	36.5-38.0	90 mL	9 l	N/A

## Standard Logbook

Serial ID: 1259494      Opened: 25-JAN-10      Amount : 20 L  
Name: B-ICP-RINSE SOLN      Received: 28-DEC-10      Lot Number : H04040+G34050  
Type: Reagent/Solvent      Expires: 31-JAN-10      Solvent : 3%HCL+1%HNO3  
Employee: Helen Camello  
Supplier: GEL  
Description: 3%HCL+1%HNO3 RINSE SOLN.  
Comments: None

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# Metals Analysis

# Case Narrative

**Metals Fractional Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1264-1**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202018099	Method Blank (MB) ICP
1202018100	Laboratory Control Sample (LCS)
1202018103	244881001(RE12-10-8096L) Serial Dilution (SD)
1202018101	244881001(RE12-10-8096D) Sample Duplicate (DUP)
1202018102	244881001(RE12-10-8096S) Matrix Spike (MS)
1202018104	244881001(RE12-10-8096SD) Matrix Spike Duplicate (MSD)
1202018068	Method Blank (MB) ICP-MS
1202037284	Method Blank (MB) ICP-MS
1202018069	Laboratory Control Sample (LCS)
1202037289	Laboratory Control Sample (LCS)
1202037286	244847001(RE12-10-7272L) Serial Dilution (SD)
1202018072	244881001(RE12-10-8096L) Serial Dilution (SD)
1202037285	244847001(RE12-10-7272D) Sample Duplicate (DUP)
1202018070	244881001(RE12-10-8096D) Sample Duplicate (DUP)
1202037287	244847001(RE12-10-7272S) Matrix Spike (MS)
1202018071	244881001(RE12-10-8096S) Matrix Spike (MS)

1202037288	244847001(RE12-10-7272SD) Matrix Spike Duplicate (MSD)
1202018073	244881001(RE12-10-8096SD) Matrix Spike Duplicate (MSD)
1202019779	Method Blank (MB) CVAA
1202019780	Laboratory Control Sample (LCS)
1202019783	244921001(RE15-10-7163L) Serial Dilution (SD)
1202019781	244921001(RE15-10-7163D) Sample Duplicate (DUP)
1202019782	244921001(RE15-10-7163S) Matrix Spike (MS)
1202019784	244921001(RE15-10-7163SD) Matrix Spike Duplicate (MSD)

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

#### **Method/Analysis Information**

<b>Analytical Batch:</b>	942648, 942638, 950661 and 943320
<b>Prep Batch :</b>	942644, 942632, 950660 and 943319
<b>Standard Operating Procedures:</b>	GL-MA-E-013 REV# 20, GL-MA-E-009 REV# 19, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23
<b>Analytical Method:</b>	SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A
<b>Prep Method :</b>	SW846 3050B and SW846 7471A Prep

#### **Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

#### **System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal



standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

#### **CRDL Requirements**

All CRDL standard(s) met the referenced advisory control limits with the exception of antimony, which recovered outside of the advisory limits of 70-130%.

#### **ICSA/ICSAB Statement**

All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

#### **Continuing Calibration Blank (CCB) Requirements**

All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

#### **Continuing Calibration Verification (CCV) Requirements**

All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The method blank analyzed with this SDG did not contain analytes of interest above the CRDL, with the exception of iron. The samples in this SDG iron at concentrations more than ten times the amount present in the method blank (MB), therefore the data was not adversely affected.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 244881001, 244847001 and 244921001.

**Matrix Spike (MS) Recovery Statement**

The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium, manganese and potassium, as indicated by the "N" qualifiers.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium, manganese and potassium, as indicated by the "N" qualifiers.

**MS/MSD Relative Percent Difference (RPD) Statement**

The relative percent difference (RPD) obtained from the designated matrix spike duplicate (MSD) is evaluated based on acceptance criteria of 20%. The RPD between qualifying elements results in the MS and MSD were within the acceptance limits of 20%.

**Duplicate Relative Percent Difference (RPD) Statement**

The relative percent difference (RPD) obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is 5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the contract required detection limit (RL), a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements.

**Serial Dilution % Difference Statement**

The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL/MDL for CVAA, 50X the IDL/MDL for ICP, and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

**Technical Information****Holding Time Specifications**

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

**Sample Dilutions**

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG were diluted the standard 2x for solids on the ICPMS.

**Preparation Information**

The samples in this SDG were prepared exactly according to the cited SOP.

**Miscellaneous Information****Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following DER was generated for this SDG: 787486. A copy is included in the Miscellaneous Data section of this package.

**Additional Comments**

Additional comments were not required for this SDG.

**Certification Statement**

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

**Review Validation:**

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

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

Reviewer: Kristen Larson Date: 2/11/10

# **Sample Data Summary**

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881001

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8096

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 93.9

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2280000	ug/Kg		7070	20800	20800	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-36-0	Antimony	1040	ug/Kg	U	343	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-38-2	Arsenic	0.680	mg/kg	J	0.212	1.06	1.06	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-39-3	Barium	23700	ug/Kg		104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-41-7	Beryllium	0.527	mg/kg		0.0212	0.106	0.106	2	MS	BAJ	02/08/10 08:10	100207-4	942638
7440-43-9	Cadmium	520	ug/Kg	U	104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-70-2	Calcium	761000	ug/Kg		8320	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-47-3	Chromium	5740	ug/Kg		156	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-48-4	Cobalt	893	ug/Kg		156	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-50-8	Copper	2490	ug/Kg		312	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-89-6	Iron	7990000	ug/Kg		8320	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-92-1	Lead	4750	ug/Kg		260	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-95-4	Magnesium	476000	ug/Kg	N	8840	31200	31200	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-96-5	Manganese	203000	ug/Kg	N	208	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648
7439-97-6	Mercury	11.3	ug/kg	U	3.84	11.3	11.3	1	AV	JXL1	01/28/10 09:59	012810S1-6	943320
7440-02-0	Nickel	1.97	mg/kg		0.106	0.424	0.424	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-09-7	Potassium	462000	ug/Kg	N	6660	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7782-49-2	Selenium	1.06	mg/kg	U	0.529	1.06	1.06	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-22-4	Silver	118	ug/Kg	J	104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-23-5	Sodium	51400	ug/Kg		7280	26000	26000	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-28-0	Thallium	0.212	mg/kg	U	0.0635	0.212	0.212	2	MS	BAJ	02/08/10 04:48	100207-3	942638
7440-61-1	Uranium	1.07	mg/kg		0.0141	0.0426	0.0426	2	MS	SKJ	02/09/10 21:55	100209-2	950661
7440-62-2	Vanadium	6110	ug/Kg		104	520	520	1	P	HSC	02/02/10 02:38	020110-1	942648
7440-66-6	Zinc	35900	ug/Kg		343	1040	1040	1	P	HSC	02/02/10 02:38	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.503	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.512	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.566	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.5	g	50	mL	02/09/10	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881002

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8094

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 94.4

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	6010000	ug/Kg		7000	20600	20600	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-36-0	Antimony	1030	ug/Kg	U	340	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-38-2	Arsenic	1.12	mg/kg		0.211	1.06	1.06	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-39-3	Barium	74300	ug/Kg		103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-41-7	Beryllium	0.490	mg/kg		0.0211	0.106	0.106	2	MS	BAJ	02/08/10 08:37	100207-4	942638
7440-43-9	Cadmium	514	ug/Kg	U	103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-70-2	Calcium	829000	ug/Kg		8230	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-47-3	Chromium	6970	ug/Kg		154	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-48-4	Cobalt	13400	ug/Kg		154	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-50-8	Copper	7830	ug/Kg		309	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-89-6	Iron	13700000	ug/Kg		8230	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-92-1	Lead	8710	ug/Kg		257	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-95-4	Magnesium	598000	ug/Kg	N	8750	30900	30900	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-96-5	Manganese	418000	ug/Kg	N	206	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648
7439-97-6	Mercury	12.3	ug/kg	U	4.17	12.3	12.3	1	AV	JXL1	01/28/10 10:01	012810S1-6	943320
7440-02-0	Nickel	5.07	mg/kg		0.106	0.422	0.422	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-09-7	Potassium	613000	ug/Kg	N	6590	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7782-49-2	Selenium	1.06	mg/kg	U	0.528	1.06	1.06	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-22-4	Silver	164	ug/Kg	J	103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-23-5	Sodium	248000	ug/Kg		7200	25700	25700	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-28-0	Thallium	0.105	mg/kg	J	0.0633	0.211	0.211	2	MS	BAJ	02/08/10 05:31	100207-3	942638
7440-61-1	Uranium	0.692	mg/kg		0.0138	0.0419	0.0419	2	MS	SKJ	02/09/10 21:57	100209-2	950661
7440-62-2	Vanadium	12500	ug/Kg		103	514	514	1	P	HSC	02/02/10 03:14	020110-1	942648
7440-66-6	Zinc	37900	ug/Kg		340	1030	1030	1	P	HSC	02/02/10 03:14	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt/vol.	Units	Final wt/vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.502	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.515	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.519	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.506	g	50	mL	02/09/10	AXG2

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881003

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8097

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 92

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2680000	ug/Kg		7050	20700	20700	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-36-0	Antimony	1040	ug/Kg	U	342	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-38-2	Arsenic	0.835	mg/kg	J	0.216	1.08	1.08	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-39-3	Barium	27700	ug/Kg		104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-41-7	Beryllium	0.70	mg/kg		0.0216	0.108	0.108	2	MS	BAJ	02/08/10 08:40	100207-4	942638
7440-43-9	Cadmium	519	ug/Kg	U	104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-70-2	Calcium	805000	ug/Kg		8300	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-47-3	Chromium	8200	ug/Kg		156	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-48-4	Cobalt	950	ug/Kg		156	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-50-8	Copper	3010	ug/Kg		311	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-89-6	Iron	8910000	ug/Kg		8300	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-92-1	Lead	4900	ug/Kg		259	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-95-4	Magnesium	486000	ug/Kg	N	8810	31100	31100	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-96-5	Manganese	312000	ug/Kg	N	207	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648
7439-97-6	Mercury	4.19	ug/kg	J	4.14	12.2	12.2	1	AV	JXL1	01/28/10 10:03	012810S1-6	943320
7440-02-0	Nickel	2.54	mg/kg		0.108	0.432	0.432	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-09-7	Potassium	467000	ug/Kg	N	6640	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7782-49-2	Selenium	1.08	mg/kg	U	0.54	1.08	1.08	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-22-4	Silver	121	ug/Kg	J	104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-23-5	Sodium	54000	ug/Kg		7260	25900	25900	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-28-0	Thallium	0.216	mg/kg	U	0.0648	0.216	0.216	2	MS	BAJ	02/08/10 05:38	100207-3	942638
7440-61-1	Uranium	1.03	mg/kg		0.0143	0.0434	0.0434	2	MS	SKJ	02/09/10 21:59	100209-2	950661
7440-62-2	Vanadium	6630	ug/Kg		104	519	519	1	P	HSC	02/02/10 03:21	020110-1	942648
7440-66-6	Zinc	41500	ug/Kg		342	1040	1040	1	P	HSC	02/02/10 03:21	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.503	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.524	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.536	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.501	g	50	mL	02/09/10	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 10-1264-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244881004

BASIS: Dry Weight

DATE COLLECTED 11-JAN-10

CLIENT ID: RE12-10-8095

LEVEL: Low

DATE RECEIVED 15-JAN-10

MATRIX: SOIL

%SOLIDS: 90

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	14200000	ug/Kg		7370	21700	21700	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-36-0	Antimony	369	ug/Kg	J	358	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-38-2	Arsenic	2.11	mg/kg		0.219	1.1	1.1	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-39-3	Barium	191000	ug/Kg		108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-41-7	Beryllium	1.06	mg/kg		0.0219	0.11	0.11	2	MS	BAJ	02/08/10 08:44	100207-4	942638
7440-43-9	Cadmium	542	ug/Kg	U	108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-70-2	Calcium	2440000	ug/Kg		8670	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-47-3	Chromium	13500	ug/Kg		163	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-48-4	Cobalt	14200	ug/Kg		163	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-50-8	Copper	11100	ug/Kg		325	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-89-6	Iron	18900000	ug/Kg		8670	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-92-1	Lead	13000	ug/Kg		271	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-95-4	Magnesium	2220000	ug/Kg	N	9220	32500	32500	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-96-5	Manganese	367000	ug/Kg	N	217	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648
7439-97-6	Mercury	18.9	ug/kg		4.33	12.7	12.7	1	AV	JXL1	01/28/10 10:05	012810S1-6	943320
7440-02-0	Nickel	9.28	mg/kg		0.11	0.439	0.439	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-09-7	Potassium	1830000	ug/Kg	N	6940	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7782-49-2	Selenium	1.1	mg/kg	U	0.548	1.1	1.1	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-22-4	Silver	542	ug/Kg	U	108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-23-5	Sodium	184000	ug/Kg		7590	27100	27100	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-28-0	Thallium	0.247	mg/kg		0.0658	0.219	0.219	2	MS	BAJ	02/08/10 05:44	100207-3	942638
7440-61-1	Uranium	1.14	mg/kg		0.0146	0.0443	0.0443	2	MS	SKJ	02/09/10 22:01	100209-2	950661
7440-62-2	Vanadium	27100	ug/Kg		108	542	542	1	P	HSC	02/02/10 03:28	020110-1	942648
7440-66-6	Zinc	34500	ug/Kg		358	1080	1080	1	P	HSC	02/02/10 03:28	020110-1	942648

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
942638	942632	SW846 3050B	0.509	g	50	mL	01/21/10	AXG2
942648	942644	SW846 3050B	0.515	g	50	mL	01/21/10	AXG2
943320	943319	SW846 7471A Prep	0.526	g	30	mL	01/27/10	TXB3
950661	950660	SW846 3050B	0.504	g	50	mL	02/09/10	AXG2



# **Quality Control Summary**

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICV01										
	Mercury	5.08	ug/L	5	ug/L	101.7	90.0 – 110.0	AV	28-JAN-10 09:37	012810S1-6
	Aluminum	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Antimony	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Cadmium	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Calcium	4980	ug/L	5000	ug/L	99.5	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Chromium	481	ug/L	500	ug/L	96.3	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Cobalt	495	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Copper	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Iron	4980	ug/L	5000	ug/L	99.5	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Lead	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Magnesium	5360	ug/L	5000	ug/L	107.2	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Manganese	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Potassium	2450	ug/L	2500	ug/L	98.1	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Silver	256	ug/L	250	ug/L	102.6	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Sodium	2350	ug/L	2500	ug/L	93.9	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Vanadium	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Zinc	500	ug/L	500	ug/L	100	90.0 – 110.0	P	01-FEB-10 07:22	020110-1
	Arsenic	48.5	ug/L	50	ug/L	97	90.0 – 110.0	MS	08-FEB-10 01:44	100207-3
	Nickel	51.8	ug/L	50	ug/L	103.7	90.0 – 110.0	MS	08-FEB-10 01:44	100207-3
	Selenium	49.3	ug/L	50	ug/L	98.7	90.0 – 110.0	MS	08-FEB-10 01:44	100207-3
	Thallium	53.2	ug/L	50	ug/L	106.3	90.0 – 110.0	MS	08-FEB-10 01:44	100207-3
	Beryllium	51.7	ug/L	50	ug/L	103.4	90.0 – 110.0	MS	08-FEB-10 06:19	100207-4
	Uranium	49.9	ug/L	50	ug/L	99.7	90.0 – 110.0	MS	09-FEB-10 20:58	100209-2
CCV01										
	Mercury	5.09	ug/L	5	ug/L	101.8	80.0 – 120.0	AV	28-JAN-10 09:43	012810S1-6
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Antimony	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Barium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	01-FEB-10 08:25	020110-1
	Cadmium	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	01-FEB-10 08:25	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Calcium	5020	ug/L	5000	ug/L	100.4	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Chromium	484	ug/L	500	ug/L	96.9	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Cobalt	483	ug/L	500	ug/L	96.7	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Copper	474	ug/L	500	ug/L	94.7	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Iron	5130	ug/L	5000	ug/L	102.5	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Lead	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Magnesium	5210	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Manganese	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Potassium	4880	ug/L	5000	ug/L	97.6	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Silver	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Sodium	9950	ug/L	10000	ug/L	99.5	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Vanadium	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Zinc	477	ug/L	500	ug/L	95.5	90.0 - 110.0	P	01-FEB-10 08:25	020110-1
	Arsenic	46.6	ug/L	50	ug/L	93.2	90.0 - 110.0	MS	08-FEB-10 02:14	100207-3
	Nickel	49.4	ug/L	50	ug/L	98.7	90.0 - 110.0	MS	08-FEB-10 02:14	100207-3
	Selenium	47.8	ug/L	50	ug/L	95.5	90.0 - 110.0	MS	08-FEB-10 02:14	100207-3
	Thallium	51.5	ug/L	50	ug/L	103.1	90.0 - 110.0	MS	08-FEB-10 02:14	100207-3
	Beryllium	48.9	ug/L	50	ug/L	97.8	90.0 - 110.0	MS	08-FEB-10 06:37	100207-4
	Uranium	54.3	ug/L	50	ug/L	108.5	90.0 - 110.0	MS	09-FEB-10 21:09	100209-2
CCV02	Mercury	5.19	ug/L	5	ug/L	103.7	80.0 - 120.0	AV	28-JAN-10 10:07	012810S1-6
	Aluminum	4970	ug/L	5000	ug/L	99.4	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Antimony	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Barium	484	ug/L	500	ug/L	96.7	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Cadmium	483	ug/L	500	ug/L	96.6	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Calcium	4990	ug/L	5000	ug/L	99.8	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Chromium	482	ug/L	500	ug/L	96.5	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Cobalt	481	ug/L	500	ug/L	96.3	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Copper	475	ug/L	500	ug/L	95	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Iron	4950	ug/L	5000	ug/L	99	90.0 - 110.0	P	01-FEB-10 08:53	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Lead	482	ug/L	500	ug/L	96.4	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Magnesium	5120	ug/L	5000	ug/L	102.3	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Manganese	485	ug/L	500	ug/L	96.9	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Potassium	4870	ug/L	5000	ug/L	97.4	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Silver	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Sodium	9510	ug/L	10000	ug/L	95.1	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Vanadium	488	ug/L	500	ug/L	97.6	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Zinc	477	ug/L	500	ug/L	95.4	90.0 - 110.0	P	01-FEB-10 08:53	020110-1
	Arsenic	48.3	ug/L	50	ug/L	96.7	90.0 - 110.0	MS	08-FEB-10 02:33	100207-3
	Nickel	51.3	ug/L	50	ug/L	102.6	90.0 - 110.0	MS	08-FEB-10 02:33	100207-3
	Selenium	49.8	ug/L	50	ug/L	99.6	90.0 - 110.0	MS	08-FEB-10 02:33	100207-3
	Thallium	53.7	ug/L	50	ug/L	107.3	90.0 - 110.0	MS	08-FEB-10 02:33	100207-3
	Beryllium	50.7	ug/L	50	ug/L	101.3	90.0 - 110.0	MS	08-FEB-10 06:48	100207-4
	Uranium	49.3	ug/L	50	ug/L	98.5	90.0 - 110.0	MS	09-FEB-10 21:30	100209-2
CCV03	Mercury	5.29	ug/L	5	ug/L	105.9	80.0 - 120.0	AV	28-JAN-10 10:31	012810S1-6
	Aluminum	5220	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Antimony	494	ug/L	500	ug/L	98.7	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Barium	487	ug/L	500	ug/L	97.5	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Cadmium	486	ug/L	500	ug/L	97.3	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Calcium	5190	ug/L	5000	ug/L	103.8	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Chromium	487	ug/L	500	ug/L	97.3	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Copper	480	ug/L	500	ug/L	96.1	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Iron	5080	ug/L	5000	ug/L	101.6	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Lead	483	ug/L	500	ug/L	96.6	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Magnesium	5240	ug/L	5000	ug/L	104.8	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Manganese	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Potassium	5110	ug/L	5000	ug/L	102.3	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Silver	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	01-FEB-10 10:18	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Sodium	9810	ug/L	10000	ug/L	98.1	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Vanadium	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Zinc	480	ug/L	500	ug/L	96	90.0 - 110.0	P	01-FEB-10 10:18	020110-1
	Arsenic	47.8	ug/L	50	ug/L	95.5	90.0 - 110.0	MS	08-FEB-10 03:28	100207-3
	Nickel	51.1	ug/L	50	ug/L	102.2	90.0 - 110.0	MS	08-FEB-10 03:28	100207-3
	Selenium	48.8	ug/L	50	ug/L	97.6	90.0 - 110.0	MS	08-FEB-10 03:28	100207-3
	Thallium	53.2	ug/L	50	ug/L	106.3	90.0 - 110.0	MS	08-FEB-10 03:28	100207-3
	Beryllium	49	ug/L	50	ug/L	97.9	90.0 - 110.0	MS	08-FEB-10 07:22	100207-4
	Uranium	48.7	ug/L	50	ug/L	97.5	90.0 - 110.0	MS	09-FEB-10 21:48	100209-2
CCV04	Aluminum	4970	ug/L	5000	ug/L	99.4	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Antimony	492	ug/L	500	ug/L	98.4	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Barium	486	ug/L	500	ug/L	97.1	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Cadmium	480	ug/L	500	ug/L	96.1	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Calcium	4920	ug/L	5000	ug/L	98.4	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Chromium	483	ug/L	500	ug/L	96.5	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Cobalt	476	ug/L	500	ug/L	95.2	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Copper	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Iron	4870	ug/L	5000	ug/L	97.5	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Lead	483	ug/L	500	ug/L	96.7	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Magnesium	4980	ug/L	5000	ug/L	99.5	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Manganese	484	ug/L	500	ug/L	96.9	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Potassium	4780	ug/L	5000	ug/L	95.6	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Silver	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Sodium	9600	ug/L	10000	ug/L	96	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Vanadium	491	ug/L	500	ug/L	98.2	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Zinc	476	ug/L	500	ug/L	95.2	90.0 - 110.0	P	01-FEB-10 11:44	020110-1
	Arsenic	48.2	ug/L	50	ug/L	96.3	90.0 - 110.0	MS	08-FEB-10 04:24	100207-3
	Nickel	52	ug/L	50	ug/L	104	90.0 - 110.0	MS	08-FEB-10 04:24	100207-3
	Selenium	50.5	ug/L	50	ug/L	101	90.0 - 110.0	MS	08-FEB-10 04:24	100207-3

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264--1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Thallium	54.1	ug/L	50	ug/L	108.2	90.0 - 110.0	MS	08-FEB-10 04:24	100207-3
	Beryllium	50.8	ug/L	50	ug/L	101.6	90.0 - 110.0	MS	08-FEB-10 07:55	100207-4
	Uranium	49.2	ug/L	50	ug/L	98.4	90.0 - 110.0	MS	09-FEB-10 22:04	100209-2
CCV05	Aluminum	4840	ug/L	5000	ug/L	96.8	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Antimony	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Barium	500	ug/L	500	ug/L	99.9	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Cadmium	496	ug/L	500	ug/L	99.2	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Calcium	4930	ug/L	5000	ug/L	98.5	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Chromium	498	ug/L	500	ug/L	99.6	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Copper	496	ug/L	500	ug/L	99.2	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Iron	5090	ug/L	5000	ug/L	101.7	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Lead	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Manganese	498	ug/L	500	ug/L	99.6	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Potassium	4810	ug/L	5000	ug/L	96.3	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Silver	497	ug/L	500	ug/L	99.4	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.7	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Vanadium	504	ug/L	500	ug/L	100.8	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Zinc	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 12:46	020110-1
	Arsenic	48.1	ug/L	50	ug/L	96.3	90.0 - 110.0	MS	08-FEB-10 05:19	100207-3
	Nickel	51.9	ug/L	50	ug/L	103.9	90.0 - 110.0	MS	08-FEB-10 05:19	100207-3
	Selenium	50.1	ug/L	50	ug/L	100.1	90.0 - 110.0	MS	08-FEB-10 05:19	100207-3
	Thallium	52.9	ug/L	50	ug/L	105.9	90.0 - 110.0	MS	08-FEB-10 05:19	100207-3
	Beryllium	49.8	ug/L	50	ug/L	99.6	90.0 - 110.0	MS	08-FEB-10 08:29	100207-4
CCV06	Aluminum	5060	ug/L	5000	ug/L	101.2	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Antimony	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Barium	486	ug/L	500	ug/L	97.3	90.0 - 110.0	P	01-FEB-10 14:11	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cadmium	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Calcium	5240	ug/L	5000	ug/L	104.7	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Chromium	484	ug/L	500	ug/L	96.8	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Cobalt	475	ug/L	500	ug/L	95.1	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Copper	478	ug/L	500	ug/L	95.7	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Iron	5370	ug/L	5000	ug/L	107.4	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Lead	483	ug/L	500	ug/L	96.5	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Magnesium	5450	ug/L	5000	ug/L	109.1	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Manganese	485	ug/L	500	ug/L	96.9	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Potassium	5120	ug/L	5000	ug/L	102.3	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Silver	483	ug/L	500	ug/L	96.5	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Sodium	10700	ug/L	10000	ug/L	107.1	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Vanadium	490	ug/L	500	ug/L	98	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Zinc	475	ug/L	500	ug/L	95.1	90.0 - 110.0	P	01-FEB-10 14:11	020110-1
	Arsenic	47.8	ug/L	50	ug/L	95.6	90.0 - 110.0	MS	08-FEB-10 05:50	100207-3
	Nickel	51.3	ug/L	50	ug/L	102.6	90.0 - 110.0	MS	08-FEB-10 05:50	100207-3
	Selenium	49.2	ug/L	50	ug/L	98.3	90.0 - 110.0	MS	08-FEB-10 05:50	100207-3
	Thallium	53.1	ug/L	50	ug/L	106.3	90.0 - 110.0	MS	08-FEB-10 05:50	100207-3
	Beryllium	48.9	ug/L	50	ug/L	97.8	90.0 - 110.0	MS	08-FEB-10 08:48	100207-4
CCV07	Aluminum	4860	ug/L	5000	ug/L	97.1	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Antimony	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Barium	488	ug/L	500	ug/L	97.6	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Cadmium	487	ug/L	500	ug/L	97.3	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Calcium	5030	ug/L	5000	ug/L	100.5	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Chromium	488	ug/L	500	ug/L	97.7	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Cobalt	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Copper	484	ug/L	500	ug/L	96.9	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Iron	5200	ug/L	5000	ug/L	104	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Lead	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	01-FEB-10 15:23	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Manganese	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Potassium	4890	ug/L	5000	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Silver	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Sodium	10300	ug/L	10000	ug/L	103.1	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Vanadium	493	ug/L	500	ug/L	98.5	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
	Zinc	476	ug/L	500	ug/L	95.3	90.0 - 110.0	P	01-FEB-10 15:23	020110-1
CCV08	Aluminum	4930	ug/L	5000	ug/L	98.5	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Antimony	528	ug/L	500	ug/L	105.6	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Barium	514	ug/L	500	ug/L	102.8	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Cadmium	518	ug/L	500	ug/L	103.6	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Calcium	5080	ug/L	5000	ug/L	101.5	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Chromium	513	ug/L	500	ug/L	102.6	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Cobalt	511	ug/L	500	ug/L	102.3	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Copper	515	ug/L	500	ug/L	102.9	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Iron	5260	ug/L	5000	ug/L	105.2	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Lead	520	ug/L	500	ug/L	104	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Magnesium	5280	ug/L	5000	ug/L	105.6	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Manganese	516	ug/L	500	ug/L	103.1	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Potassium	4870	ug/L	5000	ug/L	97.5	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Silver	510	ug/L	500	ug/L	101.9	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.7	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Vanadium	515	ug/L	500	ug/L	103.1	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
	Zinc	510	ug/L	500	ug/L	101.9	90.0 - 110.0	P	01-FEB-10 16:35	020110-1
CCV09	Aluminum	4780	ug/L	5000	ug/L	95.6	90.0 - 110.0	P	01-FEB-10 17:04	020110-1
	Antimony	502	ug/L	500	ug/L	100.4	90.0 - 110.0	P	01-FEB-10 17:04	020110-1
	Barium	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	01-FEB-10 17:04	020110-1
	Cadmium	495	ug/L	500	ug/L	99	90.0 - 110.0	P	01-FEB-10 17:04	020110-1



## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Calcium	4890	ug/L	5000	ug/L	97.7	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Chromium	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Cobalt	488	ug/L	500	ug/L	97.6	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Copper	492	ug/L	500	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Iron	4990	ug/L	5000	ug/L	99.8	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Lead	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Magnesium	5090	ug/L	5000	ug/L	101.9	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Manganese	493	ug/L	500	ug/L	98.7	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Potassium	4690	ug/L	5000	ug/L	93.8	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Silver	490	ug/L	500	ug/L	98	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Sodium	9840	ug/L	10000	ug/L	98.4	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Vanadium	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
	Zinc	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01-FEB-10 17:04	020110-1
CCV10	Aluminum	4940	ug/L	5000	ug/L	98.8	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Antimony	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Barium	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Cadmium	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Calcium	5010	ug/L	5000	ug/L	100.2	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Chromium	492	ug/L	500	ug/L	98.4	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Cobalt	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Copper	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Iron	5220	ug/L	5000	ug/L	104.5	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Lead	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Magnesium	5340	ug/L	5000	ug/L	106.7	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Manganese	491	ug/L	500	ug/L	98.1	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Potassium	4840	ug/L	5000	ug/L	96.9	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Silver	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Sodium	10200	ug/L	10000	ug/L	102.1	90.0 – 110.0	P	01-FEB-10 18:26	020110-1
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 18:26	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CCV11	Zinc	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	01-FEB-10 18:26	020110-1
	Aluminum	5020	ug/L	5000	ug/L	100.4	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Antimony	497	ug/L	500	ug/L	99.4	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Barium	476	ug/L	500	ug/L	95.2	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Cadmium	484	ug/L	500	ug/L	96.7	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Calcium	5170	ug/L	5000	ug/L	103.4	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Chromium	477	ug/L	500	ug/L	95.3	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Cobalt	481	ug/L	500	ug/L	96.2	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Copper	475	ug/L	500	ug/L	94.9	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Iron	5350	ug/L	5000	ug/L	107.1	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Lead	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Magnesium	5450	ug/L	5000	ug/L	109	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Manganese	479	ug/L	500	ug/L	95.9	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Potassium	5000	ug/L	5000	ug/L	100	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Silver	475	ug/L	500	ug/L	95	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Sodium	10400	ug/L	10000	ug/L	103.7	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Vanadium	478	ug/L	500	ug/L	95.6	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
	Zinc	476	ug/L	500	ug/L	95.3	90.0 - 110.0	P	01-FEB-10 19:41	020110-1
CCV12	Aluminum	4990	ug/L	5000	ug/L	99.9	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Antimony	513	ug/L	500	ug/L	102.7	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Barium	495	ug/L	500	ug/L	99	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Cadmium	499	ug/L	500	ug/L	99.9	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Calcium	5010	ug/L	5000	ug/L	100.3	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Chromium	497	ug/L	500	ug/L	99.5	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Cobalt	500	ug/L	500	ug/L	99.9	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Copper	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Iron	5210	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	01-FEB-10 20:50	020110-1
	Lead	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	01-FEB-10 20:50	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Magnesium	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Manganese	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Potassium	4840	ug/L	5000	ug/L	96.8	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Silver	497	ug/L	500	ug/L	99.3	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.7	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Vanadium	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
	Zinc	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	01-FEB-10 20:50	020110-1
CCV13										
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Antimony	504	ug/L	500	ug/L	100.7	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Barium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Cadmium	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Calcium	5040	ug/L	5000	ug/L	100.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Chromium	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Cobalt	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Copper	492	ug/L	500	ug/L	98.5	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Iron	5250	ug/L	5000	ug/L	104.9	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Lead	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Magnesium	5280	ug/L	5000	ug/L	105.5	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Manganese	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Potassium	4850	ug/L	5000	ug/L	97.1	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Silver	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Sodium	10300	ug/L	10000	ug/L	103	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Vanadium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
	Zinc	491	ug/L	500	ug/L	98.2	90.0 – 110.0	P	01-FEB-10 21:59	020110-1
CCV14										
	Aluminum	4930	ug/L	5000	ug/L	98.6	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Antimony	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Barium	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	01-FEB-10 23:02	020110-1
	Cadmium	491	ug/L	500	ug/L	98.1	90.0 – 110.0	P	01-FEB-10 23:02	020110-1

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
CCV15	Calcium	5080	ug/L	5000	ug/L	101.6	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Chromium	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Cobalt	487	ug/L	500	ug/L	97.3	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Copper	485	ug/L	500	ug/L	97	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Iron	5260	ug/L	5000	ug/L	105.3	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Lead	494	ug/L	500	ug/L	98.7	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Magnesium	5290	ug/L	5000	ug/L	105.9	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Manganese	488	ug/L	500	ug/L	97.7	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Potassium	4920	ug/L	5000	ug/L	98.4	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Silver	487	ug/L	500	ug/L	97.3	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Sodium	10500	ug/L	10000	ug/L	105.1	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Vanadium	490	ug/L	500	ug/L	98	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
	Zinc	483	ug/L	500	ug/L	96.7	90.0 - 110.0	P	01-FEB-10 23:02	020110-1
CCV15	Aluminum	4890	ug/L	5000	ug/L	97.9	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Antimony	512	ug/L	500	ug/L	102.3	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Barium	495	ug/L	500	ug/L	99	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Cadmium	499	ug/L	500	ug/L	99.8	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Calcium	4990	ug/L	5000	ug/L	99.8	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Chromium	495	ug/L	500	ug/L	98.9	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Cobalt	495	ug/L	500	ug/L	99.1	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Copper	492	ug/L	500	ug/L	98.4	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Iron	5070	ug/L	5000	ug/L	101.3	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Lead	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Manganese	497	ug/L	500	ug/L	99.4	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Potassium	4890	ug/L	5000	ug/L	97.9	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Silver	494	ug/L	500	ug/L	98.9	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Sodium	10200	ug/L	10000	ug/L	101.6	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Vanadium	497	ug/L	500	ug/L	99.4	90.0 - 110.0	P	02-FEB-10 00:05	020110-1

SW846

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
CCV16	Zinc	491	ug/L	500	ug/L	98.3	90.0 - 110.0	P	02-FEB-10 00:05	020110-1
	Aluminum	5190	ug/L	5000	ug/L	103.8	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Antimony	516	ug/L	500	ug/L	103.3	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Barium	499	ug/L	500	ug/L	99.9	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Cadmium	505	ug/L	500	ug/L	101	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Calcium	5330	ug/L	5000	ug/L	106.7	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Chromium	499	ug/L	500	ug/L	99.8	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Cobalt	500	ug/L	500	ug/L	100	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Copper	498	ug/L	500	ug/L	99.5	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Iron	5440	ug/L	5000	ug/L	108.9	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Lead	506	ug/L	500	ug/L	101.2	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Magnesium	5520	ug/L	5000	ug/L	110.5	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Manganese	503	ug/L	500	ug/L	100.6	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Potassium	5250	ug/L	5000	ug/L	105	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Silver	498	ug/L	500	ug/L	99.6	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Sodium	10800	ug/L	10000	ug/L	108.4	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Vanadium	501	ug/L	500	ug/L	100.1	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
	Zinc	497	ug/L	500	ug/L	99.4	90.0 - 110.0	P	02-FEB-10 01:14	020110-1
CCV17	Aluminum	5220	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Antimony	538	ug/L	500	ug/L	107.6	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Barium	520	ug/L	500	ug/L	104.1	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Cadmium	526	ug/L	500	ug/L	105.2	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Calcium	5280	ug/L	5000	ug/L	105.5	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Chromium	519	ug/L	500	ug/L	103.8	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Cobalt	520	ug/L	500	ug/L	103.9	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Copper	520	ug/L	500	ug/L	104	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Iron	5170	ug/L	5000	ug/L	103.5	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Lead	523	ug/L	500	ug/L	104.6	90.0 - 110.0	P	02-FEB-10 02:25	020110-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Magnesium	5460	ug/L	5000	ug/L	109.2	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Manganese	524	ug/L	500	ug/L	104.9	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Potassium	5200	ug/L	5000	ug/L	104	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Silver	519	ug/L	500	ug/L	103.8	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Sodium	10300	ug/L	10000	ug/L	102.6	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Vanadium	522	ug/L	500	ug/L	104.4	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
	Zinc	518	ug/L	500	ug/L	103.6	90.0 - 110.0	P	02-FEB-10 02:25	020110-1
CCV18	Aluminum	5190	ug/L	5000	ug/L	103.7	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Antimony	533	ug/L	500	ug/L	106.6	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Barium	515	ug/L	500	ug/L	103	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Cadmium	520	ug/L	500	ug/L	104	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Calcium	5250	ug/L	5000	ug/L	105	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Chromium	513	ug/L	500	ug/L	102.6	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Cobalt	516	ug/L	500	ug/L	103.1	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Copper	514	ug/L	500	ug/L	102.8	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Iron	5170	ug/L	5000	ug/L	103.5	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Lead	521	ug/L	500	ug/L	104.1	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Magnesium	5480	ug/L	5000	ug/L	109.5	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Manganese	519	ug/L	500	ug/L	103.7	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Potassium	5210	ug/L	5000	ug/L	104.3	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Silver	514	ug/L	500	ug/L	102.9	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Sodium	10300	ug/L	10000	ug/L	103.3	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Vanadium	517	ug/L	500	ug/L	103.4	90.0 - 110.0	P	02-FEB-10 03:35	020110-1
	Zinc	512	ug/L	500	ug/L	102.3	90.0 - 110.0	P	02-FEB-10 03:35	020110-1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Mercury	.233	ug/L	.2	ug/L	116.4	70.0 - 130.0	AV	28-JAN-10 09:41	012810S1-6
	Nickel	2.27	ug/L	2	ug/L	113.6	70.0 - 130.0	MS	08-FEB-10 01:56	100207-3
	Thallium	1.29	ug/L	1	ug/L	129.1	70.0 - 130.0	MS	08-FEB-10 01:56	100207-3
	Selenium	5.65	ug/L	5	ug/L	113	70.0 - 130.0	MS	08-FEB-10 01:56	100207-3
	Arsenic	5.5	ug/L	5	ug/L	110	70.0 - 130.0	MS	08-FEB-10 01:56	100207-3
	Beryllium	.501	ug/L	.5	ug/L	100.2	70.0 - 130.0	MS	08-FEB-10 06:26	100207-4
	Uranium	.207	ug/L	.2	ug/L	103.5	70.0 - 130.0	MS	09-FEB-10 21:03	100209-2
PQL01										
	Aluminum	210	ug/L	200	ug/L	104.8	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Iron	107	ug/L	100	ug/L	107.1	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Lead	12	ug/L	10	ug/L	119.7	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Magnesium	387	ug/L	300	ug/L	129.1	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Manganese	10.7	ug/L	10	ug/L	107.3	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Potassium	141	ug/L	150	ug/L	94.3	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Silver	4.98	ug/L	5	ug/L	99.7	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Sodium	299	ug/L	300	ug/L	99.7	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Antimony	13.4	ug/L	10	ug/L	134.2	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Barium	5.21	ug/L	5	ug/L	104.2	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Cadmium	5.04	ug/L	5	ug/L	100.7	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Chromium	5.34	ug/L	5	ug/L	106.8	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Cobalt	5.09	ug/L	5	ug/L	101.8	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Copper	10.4	ug/L	10	ug/L	104.3	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Vanadium	5.38	ug/L	5	ug/L	107.6	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Zinc	10.4	ug/L	10	ug/L	103.7	70.0 - 130.0	P	01-FEB-10 07:35	020110-1
	Calcium	212	ug/L	200	ug/L	106.1	70.0 - 130.0	P	01-FEB-10 07:35	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
<b>ICB01</b>										
	Mercury	-0.08	+/-2	J	0.068	0.2	SOL	AV	28-JAN-10 09:39	012810S1-6
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 07:28	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 07:28	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 07:28	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 07:28	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 07:28	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 01:50	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 01:50	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 01:50	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 01:50	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 06:23	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:00	100209-2
<b>CCB01</b>										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 09:45	012810S1-6
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 08:32	020110-1
	Antimony	4.88	+/-10	J	3.3	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 08:32	020110-1



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Lead	3.53	+/-10	J	2.5	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 08:32	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 08:32	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 08:32	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 08:32	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 02:20	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 02:20	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 02:20	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 02:20	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 06:41	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:11	100209-2
<b>CCB02</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 10:09	012810S1-6
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 09:00	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Lead	2.92	+/-10	J	2.5	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Magnesium	91.63	+/-300	J	85.0	300	SOL	P	01-FEB-10 09:00	020110-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 09:00	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 09:00	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 09:00	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 02:39	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 02:39	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 02:39	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 02:39	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 06:52	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:32	100209-2
<b>CCB03</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 10:33	012810S1-6
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 10:26	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Magnesium	126.34	+/-300	J	85.0	300	SOL	P	01-FEB-10 10:26	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 10:26	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 10:26	020110-1
	Vanadium	1.11	+/-5	J	1.0	5.0	SOL	P	01-FEB-10 10:26	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 10:26	020110-1

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**Metals**  
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**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 03:34	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 03:34	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 03:34	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 03:34	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 07:26	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 21:50	100209-2
<b>CCB04</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 11:51	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 11:51	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Sodium	78.72	+/-250	J	70.0	250	SOL	P	01-FEB-10 11:51	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 11:51	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 11:51	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 04:30	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 04:30	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 04:30	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 04:30	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 07:59	100207-4
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	09-FEB-10 22:06	100209-2

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**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB05	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 12:53	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Magnesium	90.46	+/-300	J	85.0	300	SOL	P	01-FEB-10 12:53	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 12:53	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 12:53	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 12:53	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 05:25	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 05:25	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 05:25	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 05:25	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 08:33	100207-4
CCB06	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 14:18	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 14:18	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 14:18	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 14:18	020110-1

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**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ng/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 14:18	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 14:18	020110-1
	Magnesium	156.35	+/-300	J	85.0	300	SOL	P	01-FEB-10 14:18	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 14:18	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 14:18	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 14:18	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 14:18	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 14:18	020110-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	08-FEB-10 05:56	100207-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	08-FEB-10 05:56	100207-3
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	08-FEB-10 05:56	100207-3
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	08-FEB-10 05:56	100207-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	08-FEB-10 08:52	100207-4
<b>CCB07</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 15:30	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 15:30	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 15:30	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 15:30	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 15:30	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 15:30	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 15:30	020110-1
	Copper	4.74	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 15:30	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 15:30	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 15:30	020110-1
	Magnesium	114.11	+/-300	J	85.0	300	SOL	P	01-FEB-10 15:30	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 15:30	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 15:30	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 15:30	020110-1
	Sodium	77.2	+/-250	J	70.0	250	SOL	P	01-FEB-10 15:30	020110-1
	Vanadium	1.1	+/-5	J	1.0	5.0	SOL	P	01-FEB-10 15:30	020110-1

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Metals  
-3a-  
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB08	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 15:30	020110-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 16:42	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Copper	4.35	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Lead	2.61	+/-10	J	2.5	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 16:42	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 16:42	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 16:42	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 16:42	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 16:42	020110-1
CCB09	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 17:11	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Copper	3.12	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 17:11	020110-1

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**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 17:11	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 17:11	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 17:11	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 17:11	020110-1
<b>CCB10</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 18:33	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Copper	5.22	+/-10	J	3.0	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 18:33	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 18:33	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 18:33	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 18:33	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 18:33	020110-1
<b>CCB11</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 19:48	020110-1
	Antimony	4.11	+/-10	J	3.3	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 19:48	020110-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ug/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Magnesium	103.92	+/-300	J	85.0	300	SOL	P	01-FEB-10 19:48	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 19:48	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 19:48	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 19:48	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 19:48	020110-1
<b>CCB12</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 20:57	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	01-FEB-10 20:57	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 20:57	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 20:57	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 20:57	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 20:57	020110-1
<b>CCB13</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 22:06	020110-1



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Magnesium	130.04	+/-300	J	85.0	300	SOL	P	01-FEB-10 22:06	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 22:06	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 22:06	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 22:06	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 22:06	020110-1
<b>CCB14</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	01-FEB-10 23:09	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Magnesium	92.11	+/-300	J	85.0	300	SOL	P	01-FEB-10 23:09	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	01-FEB-10 23:09	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ng/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	01-FEB-10 23:09	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	01-FEB-10 23:09	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	01-FEB-10 23:09	020110-1
<b>CCB15</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 00:12	020110-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 00:12	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 00:12	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 00:12	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 00:12	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 00:12	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 00:12	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02-FEB-10 00:12	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 00:12	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02-FEB-10 00:12	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	02-FEB-10 00:12	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02-FEB-10 00:12	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02-FEB-10 00:12	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 00:12	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	02-FEB-10 00:12	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 00:12	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 00:12	020110-1
<b>CCB16</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 01:21	020110-1
	Antimony	3.93	+/-10	J	3.3	10.0	SOL	P	02-FEB-10 01:21	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 01:21	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02-FEB-10 01:21	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 01:21	020110-1

SW846

Metals  
-3a-  
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ng/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
CCB17	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02-FEB-10 01:21	020110-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	02-FEB-10 01:21	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02-FEB-10 01:21	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02-FEB-10 01:21	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	02-FEB-10 01:21	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 01:21	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 01:21	020110-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 02:32	020110-1
	Antimony	3.97	+/-10	J	3.3	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 02:32	020110-1
CCB18	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Magnesium	200.23	+/-300	J	85.0	300	SOL	P	02-FEB-10 02:32	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Sodium	100.58	+/-250	J	70.0	250	SOL	P	02-FEB-10 02:32	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 02:32	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 02:32	020110-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	02-FEB-10 03:42	020110-1
	Antimony	4.15	+/-10	J	3.3	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1

Metals  
-3a-  
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ng/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Magnesium	95.57	+/-300	J	85.0	300	SOL	P	02-FEB-10 03:42	020110-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	02-FEB-10 03:42	020110-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Sodium	120.04	+/-250	J	70.0	250	SOL	P	02-FEB-10 03:42	020110-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	02-FEB-10 03:42	020110-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	02-FEB-10 03:42	020110-1

**METALS**  
**-3b-**  
**PREPARATION BLANK SUMMARY**

SDG NO. 10-1264-1  
 Contract: LANL01004  
 Matrix: SOIL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Acceptance Window</u>	<u>Conc Qual</u>	<u>M</u>	<u>MDL</u>	<u>RDL</u>
1202018068	Arsenic	0.193	mg/kg	+/-0.963	U	MS	0.193	0.963
	Beryllium	0.0193	mg/kg	+/-0.0963	U	MS	0.0193	0.0963
	Nickel	0.0963	mg/kg	+/-0.385	U	MS	0.0963	0.385
	Selenium	0.482	mg/kg	+/-0.963	U	MS	0.482	0.963
	Thallium	0.0578	mg/kg	+/-0.193	U	MS	0.0578	0.193
1202018099	Aluminum	6640	ug/Kg	+/-19500	U	P	6640	19500
	Antimony	339	ug/Kg	+/-977	J	P	322	977
	Barium	97.7	ug/Kg	+/-488	U	P	97.7	488
	Cadmium	97.7	ug/Kg	+/-488	U	P	97.7	488
	Calcium	7810	ug/Kg	+/-24400	U	P	7810	24400
	Chromium	146	ug/Kg	+/-488	U	P	146	488
	Cobalt	146	ug/Kg	+/-488	U	P	146	488
	Copper	293	ug/Kg	+/-977	U	P	293	977
	Iron	33400	ug/Kg	+/-24400		P	7810	24400
	Lead	244	ug/Kg	+/-977	U	P	244	977
	Magnesium	9610	ug/Kg	+/-29300	J	P	8300	29300
	Manganese	300	ug/Kg	+/-977	J	P	195	977
	Potassium	6250	ug/Kg	+/-24400	U	P	6250	24400
	Silver	-113	ug/Kg	+/-488	J	P	97.7	488
	Sodium	8430	ug/Kg	+/-24400	J	P	6840	24400
	Vanadium	97.7	ug/Kg	+/-488	U	P	97.7	488
	Zinc	322	ug/Kg	+/-977	U	P	322	977
1202019779	Mercury	3.72	ug/kg	+/-10.9	U	AV	3.72	10.9
1202037284	Uranium	0.0126	mg/kg	+/-0.0383	U	MS	0.0126	0.0383

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Aluminum	506000	ug/L	500000	ug/L	101	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Antimony	7.16	ug/L					01-FEB-10 07:42	020110-1
	Barium	-0.15	ug/L					01-FEB-10 07:42	020110-1
	Cadmium	-2.3	ug/L					01-FEB-10 07:42	020110-1
	Calcium	475000	ug/L	500000	ug/L	94.9	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Chromium	0.95	ug/L					01-FEB-10 07:42	020110-1
	Cobalt	-1.68	ug/L					01-FEB-10 07:42	020110-1
	Copper	2.21	ug/L					01-FEB-10 07:42	020110-1
	Iron	188000	ug/L	200000	ug/L	94.1	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Lead	-4.5	ug/L					01-FEB-10 07:42	020110-1
	Magnesium	492000	ug/L	500000	ug/L	98.4	80.0 – 120.0	01-FEB-10 07:42	020110-1
	Manganese	-1.75	ug/L					01-FEB-10 07:42	020110-1
	Potassium	-204.0	ug/L					01-FEB-10 07:42	020110-1
	Silver	1.06	ug/L					01-FEB-10 07:42	020110-1
	Sodium	-2.95	ug/L					01-FEB-10 07:42	020110-1
	Vanadium	-2.64	ug/L					01-FEB-10 07:42	020110-1
	Zinc	7.68	ug/L					01-FEB-10 07:42	020110-1
<b>ICSAB01</b>									
	Aluminum	508000	ug/L	500000	ug/L	102	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Antimony	523	ug/L	500	ug/L	105	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Barium	469	ug/L	500	ug/L	93.8	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Cadmium	460	ug/L	500	ug/L	91.9	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Calcium	475000	ug/L	500000	ug/L	94.9	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Chromium	465	ug/L	500	ug/L	93	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Cobalt	436	ug/L	500	ug/L	87.2	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Copper	539	ug/L	500	ug/L	108	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Iron	187000	ug/L	200000	ug/L	93.6	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Lead	448	ug/L	500	ug/L	89.5	80.0 – 120.0	01-FEB-10 07:48	020110-1
	Magnesium	492000	ug/L	500000	ug/L	98.4	80.0 – 120.0	01-FEB-10 07:48	020110-1

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

ICS:

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (% R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Manganese	469	ug/L	500	ug/L	93.7	80.0 - 120.0	01-FEB-10 07:48	020110-1
	Potassium	5160	ug/L	5000	ug/L	103	80.0 - 120.0	01-FEB-10 07:48	020110-1
	Silver	265	ug/L	250	ug/L	106	80.0 - 120.0	01-FEB-10 07:48	020110-1
	Sodium	5290	ug/L	5000	ug/L	106	80.0 - 120.0	01-FEB-10 07:48	020110-1
	Vanadium	494	ug/L	500	ug/L	98.7	80.0 - 120.0	01-FEB-10 07:48	020110-1
	Zinc	482	ug/L	500	ug/L	96.4	80.0 - 120.0	01-FEB-10 07:48	020110-1

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS4

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<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Uranium	-0.025	ug/L					09-FEB-10 21:05	100209-2
ICSAB01	Uranium	19.2	ug/L	20	ug/L	95.9	80.0 - 120.0	09-FEB-10 21:07	100209-2



**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Arsenic	0.304	ug/L					08-FEB-10 02:02	100207-3
	Nickel	3.36	ug/L					08-FEB-10 02:02	100207-3
	Selenium	-1.31	ug/L					08-FEB-10 02:02	100207-3
	Thallium	0.013	ug/L					08-FEB-10 02:02	100207-3
<b>ICSAB01</b>									
	Arsenic	20.5	ug/L	20	ug/L	103	80.0 - 120.0	08-FEB-10 02:08	100207-3
	Nickel	22.8	ug/L	23.31	ug/L	97.6	80.0 - 120.0	08-FEB-10 02:08	100207-3
	Selenium	18.6	ug/L	20	ug/L	93.1	80.0 - 120.0	08-FEB-10 02:08	100207-3
	Thallium	22.3	ug/L	20	ug/L	111	80.0 - 120.0	08-FEB-10 02:08	100207-3

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-1264-1

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01	Beryllium	0.096	ug/L					08-FEB-10 06:30	100207-4
ICSAB01	Beryllium	17.6	ug/L	20	ug/L	87.9	80.0 - 120.0	08-FEB-10 06:34	100207-4

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264-1 Client ID RE12-10-8096S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.9

Sample ID: 244881001 Spike ID: 1202018071

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75-125	7.93		0.68	J	8.44	85.9		MS
Beryllium	mg/kg	75-125	5.13		0.527		5.27	87.3		MS
Nickel	mg/kg	75-125	6.64		1.97		5.27	88.6		MS
Selenium	mg/kg	75-125	1.76		0.529	U	2.11	83.5		MS
Thallium	mg/kg	75-125	10.4		0.0635	U	10.5	98.1		MS

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-1264-1 Client ID RE12-10-8096SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.9

Sample ID: 244881001 Spike ID: 1202018073

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75-125	7.99		0.68	J	8.47	86.2		MS
Beryllium	mg/kg	75-125	5.2		0.527		5.29	88.2		MS
Nickel	mg/kg	75-125	6.81		1.97		5.29	91.5		MS
Selenium	mg/kg	75-125	1.83		0.529	U	2.12	86.3		MS
Thallium	mg/kg	75-125	10.3		0.0635	U	10.6	96.5		MS

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264-1 Client ID: RE12-10-8096S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.9

Sample ID: 244881001 Spike ID: 1202018102

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/Kg		4750000		2280000		515000	479	N/A	P
Antimony	ug/Kg	75-125	50900		343	U	51500	98.3		P
Barium	ug/Kg	75-125	77800		23700		51500	105		P
Cadmium	ug/Kg	75-125	50800		104	U	51500	98.7		P
Calcium	ug/Kg	75-125	1270000		761000		515000	98.9		P
Chromium	ug/Kg	75-125	57700		5740		51500	101		P
Cobalt	ug/Kg	75-125	50500		893		51500	96.3		P
Copper	ug/Kg	75-125	56200		2490		51500	104		P
Iron	ug/Kg		9150000		7990000		515000	225	N/A	P
Lead	ug/Kg	75-125	55400		4750		51500	98.4		P
Magnesium	ug/Kg	75-125	1220000		476000		515000	144	N	P
Manganese	ug/Kg	75-125	276000		203000		51500	141	N	P
Potassium	ug/Kg	75-125	1170000		462000		515000	138	N	P
Silver	ug/Kg	75-125	51700		118	J	51500	100		P
Sodium	ug/Kg	75-125	597000		51400		515000	106		P
Vanadium	ug/Kg	75-125	57300		6110		51500	99.5		P
Zinc	ug/Kg	75-125	90100		35900		51500	105		P

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-1264-1 Client ID RE12-10-8096SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.9

Sample ID: 244881001 Spike ID: 1202018104

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/Kg	75-125	58400		2490		52900	106		P
Iron	ug/Kg		9500000		7990000		529000	285	N/A	P
Lead	ug/Kg	75-125	57600		4750		52900	99.9		P
Magnesium	ug/Kg	75-125	1230000		476000		529000	141	N	P
Manganese	ug/Kg	75-125	285000		203000		52900	156	N	P
Potassium	ug/Kg	75-125	1180000		462000		529000	136	N	P
Silver	ug/Kg	75-125	53400		118	J	52900	101		P
Sodium	ug/Kg	75-125	575000		51400		529000	98.9		P
Vanadium	ug/Kg	75-125	59200		6110		52900	100		P
Zinc	ug/Kg	75-125	94600		35900		52900	111		P
Aluminum	ug/Kg		5410000		2280000		529000	592	N/A	P
Antimony	ug/Kg	75-125	51500		343	U	52900	96.9		P
Barium	ug/Kg	75-125	80900		23700		52900	108		P
Cadmium	ug/Kg	75-125	52600		104	U	52900	99.4		P
Calcium	ug/Kg	75-125	1270000		761000		529000	96		P
Chromium	ug/Kg	75-125	59300		5740		52900	101		P
Cobalt	ug/Kg	75-125	52500		893		52900	97.6		P

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264-1 Client ID RE15-10-7163S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.4

Sample ID: 244921001 Spike ID: 1202019782

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/kg		818		542		126	220	N/A	AV

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-1264-1 Client ID: RE15-10-7163SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 93.4

Sample ID: 244921001 Spike ID: 1202019784

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/kg		738		542		117	167	N/A	AV



## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1264-1 Client ID: RE12-10-7272S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 87

Sample ID: 244847001 Spike ID: 1202037287

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Uranium	mg/kg	75-125	7.02		1.84		5.47	94.7		MS

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-1264-1 Client ID RE12-10-7272SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 87

Sample ID: 244847001 Spike ID: 1202037288

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Uranium	mg/kg	75-125	7.23		1.84		5.52	97.7		MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-8096D

Sample ID: 244881001

Duplicate ID: 1202018070

Percent Solids for Dup: 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.06	0.68 J		0.706 J		3.67		MS
Beryllium	mg/kg	+/-1.06	0.527		0.473		10.7		MS
Nickel	mg/kg	+/-425	1.97		1.8		8.73		MS
Selenium	mg/kg		0.529 U		0.532 U				MS
Thallium	mg/kg		0.0635 U		0.0638 U				MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-8096SD

Sample ID: 1202018071

Duplicate ID: 1202018073

Percent Solids for Dup: 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-20	7.93		7.99		.684		MS
Beryllium	mg/kg	+/-20	5.13		5.2		1.3		MS
Nickel	mg/kg	+/-20	6.64		6.81		2.59		MS
Selenium	mg/kg	+/-20	1.76		1.83		3.75		MS
Thallium	mg/kg	+/-20	10.4		10.3		1.25		MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-8096D

Sample ID: 244881001

Duplicate ID: 1202018101

Percent Solids for Dup: 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20%	2280000		2450000		7.29		P
Antimony	ug/Kg		343 U		347 U				P
Barium	ug/Kg	+/-20%	23700		28200		17.2		P
Cadmium	ug/Kg		104 U		105 U				P
Calcium	ug/Kg	+/-20%	761000		788000		3.48		P
Chromium	ug/Kg	+/-20%	5740		5810		1.27		P
Cobalt	ug/Kg	+/-525	893		1250		33.3		P
Copper	ug/Kg	+/-1050	2490		2590		4.09		P
Iron	ug/Kg	+/-20%	7990000		8840000		10.1		P
Lead	ug/Kg	+/-1050	4750		5400		13		P
Magnesium	ug/Kg	+/-20%	476000		551000		14.4		P
Manganese	ug/Kg	+/-20%	203000		246000		19		P
Potassium	ug/Kg	+/-20%	462000		506000		9.11		P
Silver	ug/Kg	+/-525	118 J		193 J		48.2		P
Sodium	ug/Kg	+/-26300	51400		54600		6.06		P
Vanadium	ug/Kg	+/-20%	6110		6390		4.5		P
Zinc	ug/Kg	+/-20%	35900		40500		12.2		P

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-8096SD

Sample ID: 1202018102

Duplicate ID: 1202018104

Percent Solids for Dup: 93.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20	4750000		5410000		13.1		P
Antimony	ug/Kg	+/-20	50900		51500		1.27		P
Barium	ug/Kg	+/-20	77800		80900		3.88		P
Cadmium	ug/Kg	+/-20	50800		52600		3.47		P
Calcium	ug/Kg	+/-20	1270000		1270000		.109		P
Chromium	ug/Kg	+/-20	57700		59300		2.73		P
Cobalt	ug/Kg	+/-20	50500		52500		4		P
Copper	ug/Kg	+/-20	56200		58400		3.84		P
Iron	ug/Kg	+/-20	9150000		9500000		3.78		P
Lead	ug/Kg	+/-20	55400		57600		3.87		P
Magnesium	ug/Kg	+/-20	1220000		1230000		.506		P
Manganese	ug/Kg	+/-20	276000		285000		3.46		P
Potassium	ug/Kg	+/-20	1170000		1180000		.73		P
Silver	ug/Kg	+/-20	51700		53400		3.2		P
Sodium	ug/Kg	+/-20	597000		575000		3.78		P
Vanadium	ug/Kg	+/-20	57300		59200		3.22		P
Zinc	ug/Kg	+/-20	90100		94600		4.87		P

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE15-10-7163D

Sample ID: 244921001

Duplicate ID: 1202019781

Percent Solids for Dup: 93.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-20%	542		560		3.35		AV

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE15-10-7163SD

Sample ID: 1202019782

Duplicate ID: 1202019784

Percent Solids for Dup: 93.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-20	818		738		10.3		AV



## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-7272D

Sample ID: 244847001

Duplicate ID: 1202037285

Percent Solids for Dup: 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Uranium	mg/kg	+/-20%	1.84		2.05		10.7		MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1264-1

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-7272SD

Sample ID: 1202037287

Duplicate ID: 1202037288

Percent Solids for Dup: 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Uranium	mg/kg	+/-20	7.02		7.23		2.97		MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1264-1

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202018069								
	Arsenic	mg/kg	104	104		99.6	83-120	MS
	Beryllium	mg/kg	77.6	81		104	81.2-126.8	MS
	Nickel	mg/kg	134	147		110	83.3-121.4	MS
	Selenium	mg/kg	286	300		105	80.2-125.9	MS
	Thallium	mg/kg	121	135		111	78-123.2	MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1264-1

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202018100								
	Aluminum	ug/Kg	10500000	7920000		75.4	56-144	P
	Antimony	ug/Kg	173000	153000		88.4	71-130	P
	Barium	ug/Kg	198000	185000		93.2	80-120	P
	Cadmium	ug/Kg	60700	66000		109	81-120	P
	Calcium	ug/Kg	9870000	10300000		104	83-117	P
	Chromium	ug/Kg	236000	269000		114	80-120	P
	Cobalt	ug/Kg	91200	100000		110	81-120	P
	Copper	ug/Kg	174000	202000		116	81-118	P
	Iron	ug/Kg	18000000	17000000		94.4	51-149	P
	Lead	ug/Kg	86000	78000		90.7	79-121	P
	Magnesium	ug/Kg	4000000	3770000		94.3	79-122	P
	Manganese	ug/Kg	558000	548000		98.3	81-119	P
	Potassium	ug/Kg	4300000	3880000		90.1	74-127	P
	Silver	ug/Kg	30100	31400		104	66-134	P
	Sodium	ug/Kg	1020000	1170000		114	74-127	P
	Vanadium	ug/Kg	115000	120000		105	79-121	P
	Zinc	ug/Kg	594000	621000		104	80-121	P

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1264-1

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

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<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202019780	Mercury	ug/kg	5150	5830		113	71.6-128.3	AV

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## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1264-1

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202037289	Uranium	mg/kg	2.13	1.38		65	61.9-130.7	MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264-1

Client ID RE12-10-8096L

Contract: LANL01004

Matrix: SOLID

Level: Low

Sample ID: 244881001

Serial Dilution ID: 1202018072

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Arsenic	3.21	J	5	U	100			MS
Beryllium	2.49		2.62		5.02			MS
Nickel	9.29		9.9	J	6.57			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.3	U	1.5	U				MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264-1 Client ID: RE12-10-8096L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 244881001 Serial Dilution ID: 1202018103

Analyte	Initial Value ng/L	C	Serial Value ng/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	21900		20400		6.85		10	P
Antimony	3.3	U	18.3	J				P
Barium	228		218		4.39		10	P
Cadmium	1	U	5	U				P
Calcium	7310		7050		3.56		10	P
Chromium	55.1		55.5		.726			P
Cobalt	8.59		7.5	U	100			P
Copper	23.9		24.9	J	4.18			P
Iron	76800		76000		1.04		10	P
Lead	45.6		49.4	J	8.22			P
Magnesium	4580		5000		9.17		10	P
Manganese	1950		1910		2.31		10	P
Potassium	4440		4180		5.97		10	P
Silver	1.13	J	5	U	100			P
Sodium	494		875	J	77.1			P
Vanadium	58.7		57		2.9		10	P
Zinc	345		331		4.06		10	P



## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264-1 Client ID RE15-10-7163L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 244921001 Serial Dilution ID: 1202019783

<u>Analyte</u>	<u>Initial Value ng/L</u>	<u>C</u>	<u>Serial Value ng/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Mercury	8.59		8.1		5.7		10	AV

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1264-1 Client ID RE12-10-7272L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 244847001 Serial Dilution ID: 1202037286

Analyte	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Uranium	8.36		8.5		1.67		10	MS

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METALS  
-13-  
SAMPLE PREPARATION SUMMARY

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SDG No: 10-1264-1

Method Type: P

Contract: LANL01004

Lab Code: GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number 942644							
1202018099	MB for batch 942644	MB	S	21-JAN-10	.512g	50mL	
1202018100	LCS for batch 942644	LCS	S	21-JAN-10	.501g	50mL	
1202018102	RE12-10-8096S	MS	S	21-JAN-10	.517g	50mL	
1202018104	RE12-10-8096SD	MSD	S	21-JAN-10	.503g	50mL	
1202018101	RE12-10-8096D	DUP	S	21-JAN-10	.507g	50mL	
244881001	RE12-10-8096	SAMPLE	S	21-JAN-10	.512g	50mL	
244881002	RE12-10-8094	SAMPLE	S	21-JAN-10	.515g	50mL	
244881003	RE12-10-8097	SAMPLE	S	21-JAN-10	.524g	50mL	
244881004	RE12-10-8095	SAMPLE	S	21-JAN-10	.515g	50mL	

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SW846

**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

SDG No: 10-1264-1

Method Type: MS

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
<b>Batch Number 942632</b>							
1202018068	MB for batch 942632	MB	S	21-JAN-10	.519g	50mL	
1202018069	LCS for batch 942632	LCS	S	21-JAN-10	.518g	50mL	
1202018071	RE12-10-8096S	MS	S	21-JAN-10	.505g	50mL	
1202018073	RE12-10-8096SD	MSD	S	21-JAN-10	.503g	50mL	
1202018070	RE12-10-8096D	DUP	S	21-JAN-10	.501g	50mL	
244881001	RE12-10-8096	SAMPLE	S	21-JAN-10	.503g	50mL	
244881002	RE12-10-8094	SAMPLE	S	21-JAN-10	.502g	50mL	
244881003	RE12-10-8097	SAMPLE	S	21-JAN-10	.503g	50mL	
244881004	RE12-10-8095	SAMPLE	S	21-JAN-10	.509g	50mL	
<b>Batch Number 950660</b>							
1202037284	MB for batch 950660	MB	S	09-FEB-10	.522g	50mL	
1202037289	LCS for batch 950660	LCS	S	09-FEB-10	.52g	50mL	
1202037287	RE12-10-7272S	MS	S	09-FEB-10	.523g	50mL	
1202037288	RE12-10-7272SD	MSD	S	09-FEB-10	.518g	50mL	
1202037285	RE12-10-7272D	DUP	S	09-FEB-10	.5g	50mL	
244881001	RE12-10-8096	SAMPLE	S	09-FEB-10	.5g	50mL	
244881002	RE12-10-8094	SAMPLE	S	09-FEB-10	.506g	50mL	
244881003	RE12-10-8097	SAMPLE	S	09-FEB-10	.501g	50mL	
244881004	RE12-10-8095	SAMPLE	S	09-FEB-10	.504g	50mL	

SW846

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-1264-1

Method Type: AV

Contract: LANL01004

Lab Code: GEL

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<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number 943319							
1202019779	MB for batch 943319	MB	S	27-JAN-10	.549g	30mL	
1202019780	LCS for batch 943319	LCS	S	27-JAN-10	.204g	30mL	
1202019782	RE15-10-7163S	MS	S	27-JAN-10	.51g	30mL	
1202019784	RE15-10-7163SD	MSD	S	27-JAN-10	.548g	30mL	
1202019781	RE15-10-7163D	DUP	S	27-JAN-10	.526g	30mL	
244881001	RE12-10-8096	SAMPLE	S	27-JAN-10	.566g	30mL	
244881002	RE12-10-8094	SAMPLE	S	27-JAN-10	.519g	30mL	
244881003	RE12-10-8097	SAMPLE	S	27-JAN-10	.536g	30mL	
244881004	RE12-10-8095	SAMPLE	S	27-JAN-10	.526g	30mL	

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SW846

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 08-FEB-10

End Date: 08-FEB-10

Client Sdg: 10-1264-1

Method MS

Data File: 100207-3

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Ti	U	V	Zn
S0.0	1	01:25			X													X	X			X				
S10	1	01:31			X													X	X			X				
S100	1	01:38			X													X	X			X				
ICV01	1	01:44			X													X	X			X				
ICB01	1	01:50			X													X	X			X				
CRDL01	1	01:56			X													X	X			X				
ICSA01	1	02:02			X													X	X			X				
ICSAB01	1	02:08			X													X	X			X				
CCV01	1	02:14			X													X	X			X				
CCB01	1	02:20			X													X	X			X				
LR01	1	02:26			X													X	X			X				
CCV02	1	02:33			X													X	X			X				
CCB02	1	02:39			X													X	X			X				
1202018068	2	02:45			X													X	X			X				
1202018069	40	02:51			X													X	X			X				
1202018070	2	02:57																								
1202018071	2	03:03																								
1202018072	2	03:09																								
1202018073	2	03:16																								
1202018074	2	03:22																								
CCV03	1	03:28			X													X	X			X				
CCB03	1	03:34			X													X	X			X				
1202018075	2	03:40																								
1202018076	2	03:46																								
1202018077	2	03:53																								
1202018078	2	03:59																								
1202018079	2	04:05																								
1202018080	2	04:11																								
1202018081	2	04:17																								
CCV04	1	04:24			X													X	X			X				
CCB04	1	04:30			X													X	X			X				
1202018082	2	04:36																								
1202018083	2	04:42																								
244881001	2	04:48			X													X	X			X				
1202018070	2	04:54			X													X	X			X				
1202018071	2	05:01			X													X	X			X				
1202018073	2	05:07			X													X	X			X				
1202018072	10	05:13			X													X	X			X				
CCV05	1	05:19			X													X	X			X				
CCB05	1	05:25			X													X	X			X				

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time												X	X		X		
244881002	2	05:31			X									X	X		X		
244881003	2	05:38			X									X	X		X		
244881004	2	05:44			X									X	X		X		
CCV06	1	05:50			X									X	X		X		
CCB06	1	05:56			X									X	X		X		

Metals  
-14-  
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 08-FEB-10

End Date: 08-FEB-10

Client Sdg: 10-1264-1

Method MS

Data File: 100207-4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Ti	U	V	Zn
S0.0	1	06:08					X																			
S10	1	06:12					X																			
S100	1	06:15					X																			
ICV01	1	06:19					X																			
ICB01	1	06:23					X																			
CRDL01	1	06:26					X																			
ICSA01	1	06:30					X																			
ICSAB01	1	06:34					X																			
CCV01	1	06:37					X																			
CCB01	1	06:41					X																			
LR01	1	06:45					X																			
CCV02	1	06:48					X																			
CCB02	1	06:52					X																			
1202018068	2	06:56					X																			
1202018069	40	07:00					X																			
ZZZZZZ	2	07:03																								
ZZZZZZ	2	07:07																								
ZZZZZZ	2	07:11																								
ZZZZZZ	2	07:14																								
ZZZZZZ	2	07:18																								
CCV03	1	07:22					X																			
CCB03	1	07:26					X																			
ZZZZZZ	2	07:29																								
ZZZZZZ	2	07:33																								
ZZZZZZ	2	07:37																								
ZZZZZZ	2	07:41																								
ZZZZZZ	2	07:44																								
ZZZZZZ	2	07:48																								
ZZZZZZ	2	07:52																								
CCV04	1	07:55					X																			
CCB04	1	07:59					X																			
ZZZZZZ	2	08:03																								
ZZZZZZ	2	08:07																								
244881001	2	08:10					X																			
1202018070	2	08:14					X																			
1202018071	2	08:18					X																			
1202018073	2	08:22					X																			
1202018072	10	08:25					X																			
CCV05	1	08:29					X																			
CCB05	1	08:33					X																			



**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time
244881002	2	08:37
244881003	2	08:40
244881004	2	08:44
CCV06	1	08:48
CCB06	1	08:52

Metals  
-14-  
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA3

Start Date: 01-FEB-10

End Date: 02-FEB-10

Client Sdg: 10-1264-1

Method P

Data File: 020110-1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	06:49	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	06:56		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	07:02	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	07:09	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	07:16	X					X					X		X							X				
ICV01	1	07:22	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	07:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	07:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	07:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	07:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	07:54	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	08:01	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZ	1	08:08																								
ZZZZZ	1	08:15																								
CCV01	1	08:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	08:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	08:39	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR04	1	08:46	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	08:53	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	09:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZ	1	09:10																								
ZZZZZ	1	09:17																								
ZZZZZ	1	09:24																								
ZZZZZ	1	09:31																								
ZZZZZ	1	09:38																								
ZZZZZ	1	09:44																								
ZZZZZ	1	09:51																								
ZZZZZ	1	09:58																								
ZZZZZ	1	10:05																								
ZZZZZ	1	10:11																								
CCV03	1	10:18	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	10:26	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZ	1	10:41																								
ZZZZZ	1	10:48																								
ZZZZZ	1	10:55																								
ZZZZZ	1	11:02																								
ZZZZZ	1	11:09																								
ZZZZZ	5	11:16																								
ZZZZZ	1	11:23																								
ZZZZZ	1	11:30																								

**Metals**  
**-14-**  
**Analysis Run Log**

[illegible]

Metals  
-14-  
Analysis Run Log

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	100	16:28																								
CCV08	1	16:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB08	1	16:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV09	1	17:04	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB09	1	17:11	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	17:18																								
ZZZZZZ	1	17:24																								
ZZZZZZ	1	17:31																								
ZZZZZZ	50	17:38																								
ZZZZZZ	1	17:45																								
ZZZZZZ	1	17:52																								
ZZZZZZ	1	17:59																								
ZZZZZZ	1	18:05																								
ZZZZZZ	5	18:12																								
ZZZZZZ	50	18:19																								
CCV10	1	18:26	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB10	1	18:33	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	100	18:40																								
ZZZZZZ	100	18:47																								
ZZZZZZ	100	18:53																								
ZZZZZZ	100	19:00																								
ZZZZZZ	100	19:07																								
ZZZZZZ	100	19:14																								
ZZZZZZ	50	19:21																								
ZZZZZZ	50	19:28																								
ZZZZZZ	50	19:35																								
CCV11	1	19:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB11	1	19:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	100	19:55																								
ZZZZZZ	50	20:02																								
ZZZZZZ	50	20:09																								
ZZZZZZ	1	20:15																								
ZZZZZZ	1	20:22																								
ZZZZZZ	100	20:29																								
ZZZZZZ	1	20:36																								
ZZZZZZ	1	20:43																								
CCV12	1	20:50	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB12	1	20:57	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	21:04																								
ZZZZZZ	1	21:11																								

SW846

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
//////	1	01:56																								
//////	1	02:03																								
//////	1	02:11																								
//////	1	02:18																								
CCV17	1	02:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB17	1	02:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244881001	1	02:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018101	1	02:46	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018102	1	02:53	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018104	1	03:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202018103	5	03:07	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244881002	1	03:14	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244881003	1	03:21	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244881004	1	03:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV18	1	03:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB18	1	03:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: MER536

Start Date: 28-JAN-10

End Date: 28-JAN-10

Client Sdg: 10-1264-1

Method: AV

Data File: 012810S1-6

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:25															X									
S0.2	1	09:27															X									
S0.5	1	09:29															X									
S2.0	1	09:31															X									
S5.0	1	09:33															X									
S10	1	09:35															X									
ICV01	1	09:37															X									
ICB01	1	09:39															X									
CRDL01	1	09:41															X									
CCV01	1	09:43															X									
CCB01	1	09:45															X									
1202019779	1	09:47															X									
1202019780	10	09:49															X									
ZZZZZZ	1	09:51																								
ZZZZZZ	1	09:53																								
ZZZZZZ	1	09:55																								
ZZZZZZ	1	09:57																								
244881001	1	09:59															X									
244881002	1	10:01															X									
244881003	1	10:03															X									
244881004	1	10:05															X									
CCV02	1	10:07															X									
CCB02	1	10:09															X									
ZZZZZZ	1	10:11																								
ZZZZZZ	1	10:13																								
1202019781	1	10:15															X									
1202019782	1	10:17															X									
1202019784	1	10:19															X									
1202019783	5	10:21															X									
ZZZZZZ	1	10:23																								
ZZZZZZ	1	10:25																								
ZZZZZZ	1	10:27																								
ZZZZZZ	1	10:29																								
CCV03	1	10:31															X									
CCB03	1	10:33															X									

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS4

Start Date: 09-FEB-10

End Date: 09-FEB-10

Client Sdg: 10-1264-1

Method MS

Data File: 100209-2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Ti	U	V	Zn
S0.0	1	20:52																						X		
S10	1	20:54																						X		
S100	1	20:56																						X		
ICV01	1	20:58																						X		
ICB01	1	21:00																						X		
CRDL01	1	21:03																						X		
ICSA01	1	21:05																						X		
ICSAB01	1	21:07																						X		
CCV01	1	21:09																						X		
CCB01	1	21:11																						X		
1202037284	2	21:14																						X		
1202037289	40	21:16																						X		
ZZZZZZ	2	21:18																								
1202037285	2	21:21																						X		
1202037287	2	21:23																						X		
1202037288	2	21:25																						X		
1202037286	10	21:27																						X		
CCV02	1	21:30																						X		
CCB02	1	21:32																						X		
ZZZZZZ	2	21:34																								
ZZZZZZ	2	21:36																								
ZZZZZZ	2	21:39																								
ZZZZZZ	2	21:41																								
ZZZZZZ	2	21:43																								
ZZZZZZ	2	21:46																								
CCV03	1	21:48																						X		
CCB03	1	21:50																						X		
ZZZZZZ	2	21:52																								
244881001	2	21:55																						X		
244881002	2	21:57																						X		
244881003	2	21:59																						X		
244881004	2	22:01																						X		
CCV04	1	22:04																						X		
CCB04	1	22:06																						X		



# Standards

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**METALS**  
**-10-**  
**Instrument Detection Limits**

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SDG NO. 10-1264-1

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

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ICP/MS	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
SOLID	Aluminum		15.0	50
	Antimony		0.5	3
	Arsenic		1.0	5
	Barium		0.5	2
	Beryllium		0.1	.5
	Cadmium		0.1	1
	Calcium		33.0	100
	Chromium		1.0	3
	Cobalt		0.3	1
	Copper		0.33	1
	Iron		25.0	100
	Lead		0.5	2
	Magnesium		7.5	25
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		2.5	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.066	.2
	Vanadium		2.0	10
	Zinc		2.0	10

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METALS  
-10-  
Instrument Detection Limits

SDG NO. 10-1264-1

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 15-JUN-09

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		<u>Wavelength</u> (nm)	<u>MDL</u> ug/L	<u>RDL</u> ug/L
MERCURY	<u>Analyte</u>			
SOLID	Mercury		0.068	.2

**METALS**  
**-10-**  
**Instrument Detection Limits**

SDG NO. 10-1264-1

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP	Analyte	<u>Wavelength</u>	<u>MDL</u>	<u>RDL</u>
		(nm)	ug/L	ug/L
SOLID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.3	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	80.0	250
	Chromium	267.716	1.5	5
	Cobalt	228.616	1.5	5
	Copper	324.752	3.0	10
	Iron	238.204	80.0	250
	Lead	220.353	2.5	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	64.0	250
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	70.0	250
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1264-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.02697	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	-0.48147	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.21356	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05186	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.18741	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1264-1**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.85580	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.44491	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-29.9151	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.57616
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.60374	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	198.62
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	4.37985	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.36147	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	2.23785	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.36818	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.35273

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: **GEL**GEL Job No: **10-1264-1**Contract: **LANL01004**Instrument: **OPTIMA3**Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	48.4946
Antimony	206.836	-0.02515	0.00000	0.00000	0.00000	-20.5057
Arsenic	188.979	-0.23424	0.00000	0.00000	0.00000	2.41902
Barium	233.527	-0.03042	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.16240	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.10329	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01944	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01444	0.00000	0.00000	0.00000	-2.33100
Copper	324.752	-0.05293	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09554	0.00000	0.00000	0.00000	-2.48774
Magnesium	279.077	1.04597	0.00000	0.00000	0.00000	-10.4683
Manganese	257.61	-0.09877	0.00000	0.04089	0.00000	0.00000
Molybdenum	202.031	-0.07763	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80543	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.39429	1.18725
Selenium	196.026	-3.27508	0.00000	0.00000	0.00000	-3.07287
Silica	251.611	0.00000	0.00000	0.00000	0.00000	27.2377
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	12.3082
Silver	328.068	-0.32385	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-4.77918	0.00000
Tin	189.927	-0.01682	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.08168	0.00000	0.00000
Uranium	409.014	0.11400	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.14564	0.00000	-0.01931	0.00000	-14.1293
Zinc	213.857	0.09701	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264-1

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-FEB-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Nickel	Phosphorous	Potassium	Selenium	Silica
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-0.84443	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.63547	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.37026	0.00000	0.00000	0.00000	0.00000



**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264-1

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-FEB-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Silicon	Silver	Strontium	Sulfur	Thallium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1264-1

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-FEB-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Tin	Titanium	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-15.4932	3.30431	0.00000	-2.81282	0.00000
Arsenic	188.979	0.00000	-8.66313	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	-2.20293	0.00000
Beryllium	313.107	0.00000	-2.27027	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	-0.19473	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.39645	-1.41250	0.00000
Cobalt	228.616	0.00000	2.09497	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.55360	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-9.37529	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.81635	-4.04400	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	-8.29801	0.00000	1.88584	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.43915	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	1.05947	-1.91382	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1264-1

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS5

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1264-1

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA3

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09
Zinc	20	15000	ug/L	01-NOV-09

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1264-1

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS4

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09

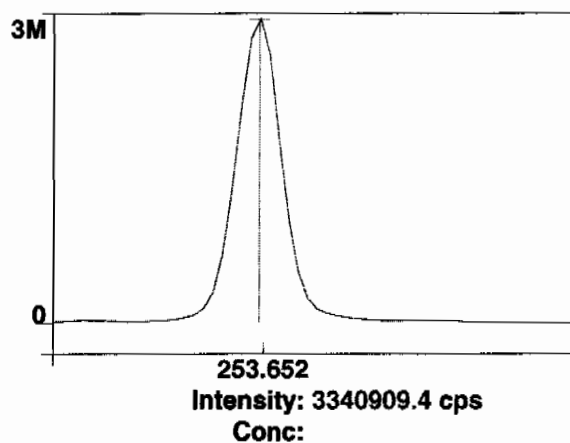
# Raw Data

Method: Hg\_ReAlign  
Result: 021010

Sample ID: Hg\_ReAlign

Hg 253.652

Rep: 1



1

-2.0	15.0	10950.7
-1.5	15.0	13356.1
-1.0	15.0	18207.6
-0.5	15.0	21698.6
0.0	15.0	22605.7
0.5	15.0	20975.3
1.0	15.0	17444.4
1.5	15.0	11061.7
2.0	15.0	6169.3
2.5	15.0	4491.1
3.0	15.0	2833.9
3.5	15.0	1906.5
4.0	15.0	1346.0
4.5	15.0	994.3
5.0	15.0	892.7
5.5	15.0	962.2
6.0	15.0	1130.4
6.5	15.0	1498.4
7.0	15.0	1651.0

2/1/2010 05:58:43 aligned for analyte Mn 257.610

X viewing position set to 0.0 mm having Peak intensity 22605.7 for Radial viewing

# Analysis Begun

Start Time: 2/1/2010 06:49:48

Plasma On Time: 2/1/2010 05:43:14

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\020110.sif

Batch ID:

Results Data Set: 020110

Results Library: C:\pe\Optima3\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 2/1/2010 06:49:48

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

# Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	4121.5	4121.5	0.000 %	06:52:01
1	Y RADIAL	4829.5	4829.5	0.000 %	06:51:41
1	Al 396.153Radial†	-161.7	-161.9	[0.00] ug/L	06:51:41
1	Ca 317.933Radial†	10.8	10.8	[0.00] ug/L	06:52:01
1	Fe 238.204 Radial†	12.2	12.2	[0.00] ug/L	06:52:01
1	K 766.490 Radial†	2566.6	2569.1	[0.00] ug/L	06:51:41
1	Mg 279.077 IEC†	-0.6	-0.6	[0.00] ug/L	06:52:01
1	Na 589.592 Radial†	-1699.0	-1700.7	[0.00] ug/L	06:51:41
1	Sr 421.552†	46.0	46.0	[0.00] ug/L	06:51:41
1	Sc 361.383	894016.3	894016.3	0.0000 %	06:52:58
1	Y 371.029	735292.5	735292.5	0.0000 %	06:52:58
1	Ag 328.068†	563.6	561.5	[0.00] ug/L	06:52:58
1	As 188.979†	-26.4	-26.3	[0.00] ug/L	06:53:18
1	B 249.677†	-761.3	-758.6	[0.00] ug/L	06:53:18
1	Ba 233.527†	-11.8	-11.8	[0.00] ug/L	06:53:18
1	Be 313.107†	-4449.3	-4433.4	[0.00] ug/L	06:52:58
1	Cd 226.502†	-195.6	-194.9	[0.00] ug/L	06:53:18
1	Co 228.616†	-73.1	-72.8	[0.00] ug/L	06:53:18
1	Cr 267.716†	65.4	65.2	[0.00] ug/L	06:52:58
1	Cu 324.752†	6876.8	6852.3	[0.00] ug/L	06:52:58
1	Mn 257.610†	533.5	531.6	[0.00] ug/L	06:53:18
1	Mo 202.031†	6.3	6.2	[0.00] ug/L	06:53:18
1	Ni 231.604†	83.0	82.7	[0.00] ug/L	06:53:18
1	P 214.914†	219.2	218.4	[0.00] ug/L	06:53:18



1	Pb 220.353†	-72.2	-71.9	[0.00]	ug/L	06:53:18
1	S 181.975 Axial†	43.8	43.7	[0.00]	ug/L	06:53:18
1	Sb 206.836†	39.1	39.0	[0.00]	ug/L	06:53:18
1	Se 196.026†	-28.3	-28.2	[0.00]	ug/L	06:53:18
1	Si 251.611†	537.0	535.1	[0.00]	ug/L	06:53:18
1	Sn 189.927†	8.3	8.3	[0.00]	ug/L	06:53:18
1	Ti 334.940†	-1827.5	-1821.0	[0.00]	ug/L	06:52:58
1	Tl 190.801†	-49.8	-49.6	[0.00]	ug/L	06:53:18
1	U 409.014†	-5120.4	-5102.1	[0.00]	ug/L	06:52:58
1	V 292.402†	-1768.4	-1762.1	[0.00]	ug/L	06:52:58
1	Zn 213.857†	703.9	701.4	[0.00]	ug/L	06:53:18
1	SiO2†	571.2	569.1	[0.00]	ug/L	06:54:14
2	Sc Radial	4130.1	4130.1	0.000	%	06:52:26
2	Y RADIAL	4825.8	4825.8	0.000	%	06:52:06
2	Al 396.153Radial†	-198.2	-198.0	[0.00]	ug/L	06:52:06
2	Ca 317.933Radial†	16.1	16.1	[0.00]	ug/L	06:52:26
2	Fe 238.204 Radial†	8.8	8.8	[0.00]	ug/L	06:52:26
2	K 766.490 Radial†	2672.8	2669.8	[0.00]	ug/L	06:52:06
2	Mg 279.077 IEC†	1.4	1.4	[0.00]	ug/L	06:52:26
2	Na 589.592 Radial†	-1651.2	-1649.4	[0.00]	ug/L	06:52:06
2	Sr 421.552†	27.0	26.9	[0.00]	ug/L	06:52:06
2	Sc 361.383	888912.0	888912.0	0.0000	%	06:53:23
2	Y 371.029	733255.9	733255.9	0.0000	%	06:53:23
2	Ag 328.068†	594.3	595.6	[0.00]	ug/L	06:53:23
2	As 188.979†	-22.4	-22.5	[0.00]	ug/L	06:53:43
2	B 249.677†	-763.7	-765.4	[0.00]	ug/L	06:53:43
2	Ba 233.527†	-12.6	-12.6	[0.00]	ug/L	06:53:43
2	Be 313.107†	-4389.8	-4399.3	[0.00]	ug/L	06:53:23
2	Cd 226.502†	-209.5	-210.0	[0.00]	ug/L	06:53:43
2	Co 228.616†	-103.3	-103.5	[0.00]	ug/L	06:53:43
2	Cr 267.716†	44.7	44.8	[0.00]	ug/L	06:53:23
2	Cu 324.752†	6954.3	6969.2	[0.00]	ug/L	06:53:23
2	Mn 257.610†	543.8	545.0	[0.00]	ug/L	06:53:43
2	Mo 202.031†	5.2	5.2	[0.00]	ug/L	06:53:43
2	Ni 231.604†	91.9	92.1	[0.00]	ug/L	06:53:43
2	P 214.914†	224.3	224.8	[0.00]	ug/L	06:53:43
2	Pb 220.353†	-76.8	-76.9	[0.00]	ug/L	06:53:43
2	S 181.975 Axial†	51.8	51.9	[0.00]	ug/L	06:53:43
2	Sb 206.836†	37.1	37.2	[0.00]	ug/L	06:53:43
2	Se 196.026†	-30.3	-30.3	[0.00]	ug/L	06:53:43
2	Si 251.611†	543.2	544.3	[0.00]	ug/L	06:53:43
2	Sn 189.927†	9.6	9.6	[0.00]	ug/L	06:53:43
2	Ti 334.940†	-1777.3	-1781.1	[0.00]	ug/L	06:53:23
2	Tl 190.801†	-39.8	-39.9	[0.00]	ug/L	06:53:43
2	U 409.014†	-5031.9	-5042.8	[0.00]	ug/L	06:53:23
2	V 292.402†	-1771.2	-1775.0	[0.00]	ug/L	06:53:23
2	Zn 213.857†	727.3	728.8	[0.00]	ug/L	06:53:43
2	SiO2†	574.5	575.8	[0.00]	ug/L	06:54:19
3	Sc Radial	4124.9	4124.9	0.000	%	06:52:51
3	Y RADIAL	4868.9	4868.9	0.000	%	06:52:31
3	Al 396.153Radial†	-210.4	-210.5	[0.00]	ug/L	06:52:31
3	Ca 317.933Radial†	13.1	13.1	[0.00]	ug/L	06:52:51
3	Fe 238.204 Radial†	9.4	9.4	[0.00]	ug/L	06:52:51
3	K 766.490 Radial†	2633.7	2634.1	[0.00]	ug/L	06:52:31
3	Mg 279.077 IEC†	-0.9	-0.9	[0.00]	ug/L	06:52:51
3	Na 589.592 Radial†	-1606.5	-1606.8	[0.00]	ug/L	06:52:31
3	Sr 421.552†	36.4	36.4	[0.00]	ug/L	06:52:31
3	Sc 361.383	889548.9	889548.9	0.0000	%	06:53:48
3	Y 371.029	734192.1	734192.1	0.0000	%	06:53:48
3	Ag 328.068†	715.4	716.4	[0.00]	ug/L	06:53:48
3	As 188.979†	-37.4	-37.4	[0.00]	ug/L	06:54:08
3	B 249.677†	-758.2	-759.3	[0.00]	ug/L	06:54:08
3	Ba 233.527†	-21.5	-21.5	[0.00]	ug/L	06:54:08
3	Be 313.107†	-4370.2	-4376.5	[0.00]	ug/L	06:53:48
3	Cd 226.502†	-207.2	-207.5	[0.00]	ug/L	06:54:08
3	Co 228.616†	-79.0	-79.1	[0.00]	ug/L	06:54:08
3	Cr 267.716†	75.3	75.5	[0.00]	ug/L	06:53:48
3	Cu 324.752†	6829.2	6839.0	[0.00]	ug/L	06:53:48
3	Mn 257.610†	518.0	518.8	[0.00]	ug/L	06:54:08
3	Mo 202.031†	4.2	4.2	[0.00]	ug/L	06:54:08
3	Ni 231.604†	80.5	80.7	[0.00]	ug/L	06:54:08

3	P 214.914†	226.3	226.6	[0.00]	ug/L	06:54:08
3	Pb 220.353†	-89.9	-90.1	[0.00]	ug/L	06:54:08
3	S 181.975 Axial†	51.0	51.1	[0.00]	ug/L	06:54:08
3	Sb 206.836†	39.0	39.1	[0.00]	ug/L	06:54:08
3	Se 196.026†	-19.3	-19.4	[0.00]	ug/L	06:54:08
3	Si 251.611†	527.0	527.8	[0.00]	ug/L	06:54:08
3	Sn 189.927†	10.4	10.4	[0.00]	ug/L	06:54:08
3	Ti 334.940†	-1808.4	-1811.0	[0.00]	ug/L	06:53:48
3	Tl 190.801†	-43.8	-43.9	[0.00]	ug/L	06:54:08
3	U 409.014†	-5187.0	-5194.4	[0.00]	ug/L	06:53:48
3	V 292.402†	-1717.0	-1719.4	[0.00]	ug/L	06:53:48
3	Zn 213.857†	696.1	697.1	[0.00]	ug/L	06:54:08
3	SiO2†	541.1	541.8	[0.00]	ug/L	06:54:24

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Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	890825.7	2781.41	0.31%	0.0000 %
Sc Radial	4125.5	4.36	0.11%	0.000 %
Y 371.029	734246.9	1019.38	0.14%	0.0000 %
Y RADIAL	4841.4	23.88	0.49%	0.000 %
Ag 328.068†	624.5	81.40	13.03%	[0.00] ug/L
Al 396.153Radial†	-190.1	25.23	13.27%	[0.00] ug/L
As 188.979†	-28.7	7.75	26.96%	[0.00] ug/L
B 249.677†	-761.1	3.71	0.49%	[0.00] ug/L
Ba 233.527†	-15.3	5.38	35.20%	[0.00] ug/L
Be 313.107†	-4403.1	28.67	0.65%	[0.00] ug/L
Ca 317.933Radial†	13.3	2.67	20.00%	[0.00] ug/L
Cd 226.502†	-204.1	8.07	3.95%	[0.00] ug/L
Co 228.616†	-85.1	16.21	19.04%	[0.00] ug/L
Cr 267.716†	61.8	15.58	25.20%	[0.00] ug/L
Cu 324.752†	6886.8	71.68	1.04%	[0.00] ug/L
Fe 238.204 Radial†	10.1	1.81	17.88%	[0.00] ug/L
K 766.490 Radial†	2624.3	51.05	1.95%	[0.00] ug/L
Mg 279.077 IEC†	-0.0	1.23	>999.9%	[0.00] ug/L
Mn 257.610†	531.8	13.10	2.46%	[0.00] ug/L
Mo 202.031†	5.2	0.99	19.05%	[0.00] ug/L
Na 589.592 Radial†	-1652.3	47.02	2.85%	[0.00] ug/L
Ni 231.604†	85.2	6.09	7.16%	[0.00] ug/L
P 214.914†	223.3	4.32	1.93%	[0.00] ug/L
Pb 220.353†	-79.6	9.38	11.78%	[0.00] ug/L
S 181.975 Axial†	48.9	4.54	9.28%	[0.00] ug/L
Sb 206.836†	38.4	1.09	2.84%	[0.00] ug/L
Se 196.026†	-26.0	5.82	22.40%	[0.00] ug/L
Si 251.611†	535.7	8.30	1.55%	[0.00] ug/L
Sn 189.927†	9.4	1.08	11.46%	[0.00] ug/L
Sr 421.552†	36.4	9.54	26.19%	[0.00] ug/L
Ti 334.940†	-1804.4	20.78	1.15%	[0.00] ug/L
Tl 190.801†	-44.5	4.91	11.03%	[0.00] ug/L
U 409.014†	-5113.1	76.43	1.49%	[0.00] ug/L
V 292.402†	-1752.2	29.09	1.66%	[0.00] ug/L
Zn 213.857†	709.1	17.20	2.43%	[0.00] ug/L
SiO2†	562.2	17.98	3.20%	[0.00] ug/L

Sequence No.: 2  
 Sample ID: S0.1  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 2  
 Date Collected: 2/1/2010 06:56:34  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	4182.2	4182.2	101 %	06:58:31
1	Y RADIAL	4693.6	4693.6	96.95 %	06:58:31
1	K 766.490 Radial†	7847.3	5116.7	[1000] ug/L	06:58:26
1	Sr 421.552†	14891.6	14653.5	[100] ug/L	06:58:31
1	Sc 361.383	883810.0	883810.0	99.212 %	06:58:58
1	Y 371.029	726199.0	726199.0	98.904 %	06:58:58
1	Ag 328.068†	22943.9	22501.5	[100] ug/L	06:58:58
1	As 188.979†	229.8	260.3	[100] ug/L	06:59:18
1	B 249.677†	3752.8	4543.7	[100] ug/L	06:58:58
1	Ba 233.527†	13593.2	13716.4	[100] ug/L	06:58:58
1	Be 313.107†	287034.7	293716.2	[100] ug/L	06:58:58
1	Cd 226.502†	9251.0	9528.5	[100] ug/L	06:59:18
1	Co 228.616†	5300.6	5427.8	[100] ug/L	06:59:18
1	Cr 267.716†	9640.2	9654.9	[100] ug/L	06:58:58
1	Cu 324.752†	41869.9	35315.4	[100] ug/L	06:58:58
1	Mn 257.610†	100487.5	100753.4	[100] ug/L	06:58:58
1	Mo 202.031†	1478.0	1484.6	[100] ug/L	06:59:18
1	Ni 231.604†	4541.8	4492.7	[100] ug/L	06:59:18
1	P 214.914†	1156.0	941.9	[500] ug/L	06:59:18
1	Pb 220.353†	864.7	951.2	[100] ug/L	06:59:18
1	S 181.975 Axial†	202.4	155.1	[200] ug/L	06:59:18
1	Sb 206.836†	352.7	317.1	[100] ug/L	06:59:18
1	Se 196.026†	151.2	178.3	[100] ug/L	06:59:18
1	Si 251.611†	16849.6	16447.6	[500] ug/L	06:58:58
1	Sn 189.927†	614.2	609.7	[100] ug/L	06:59:18
1	Ti 334.940†	64694.2	67012.2	[100] ug/L	06:58:58
1	Tl 190.801†	322.1	369.1	[100] ug/L	06:59:18
1	U 409.014†	-1801.9	3296.9	[100] ug/L	06:58:58
1	V 292.402†	12853.2	14707.4	[100] ug/L	06:58:58
1	Zn 213.857†	12331.5	11720.2	[100] ug/L	06:58:58
1	SiO2†	17098.5	16672.0	[1069.5] ug/L	07:00:14
2	Sc Radial	4160.3	4160.3	101 %	06:58:41
2	Y RADIAL	4684.5	4684.5	96.76 %	06:58:41
2	K 766.490 Radial†	7770.4	5081.1	[1000] ug/L	06:58:36
2	Sr 421.552†	14865.3	14704.5	[100] ug/L	06:58:41
2	Sc 361.383	884769.3	884769.3	99.320 %	06:59:24
2	Y 371.029	726094.9	726094.9	98.890 %	06:59:24
2	Ag 328.068†	22917.0	22449.4	[100] ug/L	06:59:24
2	As 188.979†	217.1	247.4	[100] ug/L	06:59:44
2	B 249.677†	3734.5	4521.1	[100] ug/L	06:59:24
2	Ba 233.527†	13604.3	13712.7	[100] ug/L	06:59:24
2	Be 313.107†	286532.5	292896.9	[100] ug/L	06:59:24
2	Cd 226.502†	9269.6	9537.2	[100] ug/L	06:59:44
2	Co 228.616†	5284.4	5405.7	[100] ug/L	06:59:44
2	Cr 267.716†	9584.1	9587.9	[100] ug/L	06:59:24
2	Cu 324.752†	41885.5	35285.4	[100] ug/L	06:59:24
2	Mn 257.610†	100587.2	100743.9	[100] ug/L	06:59:24
2	Mo 202.031†	1497.8	1502.9	[100] ug/L	06:59:44
2	Ni 231.604†	4538.7	4484.6	[100] ug/L	06:59:44
2	P 214.914†	1171.5	956.2	[500] ug/L	06:59:44
2	Pb 220.353†	850.6	936.1	[100] ug/L	06:59:44
2	S 181.975 Axial†	212.7	165.3	[200] ug/L	06:59:44
2	Sb 206.836†	350.9	314.8	[100] ug/L	06:59:44
2	Se 196.026†	148.1	175.0	[100] ug/L	06:59:44
2	Si 251.611†	16849.7	16429.3	[500] ug/L	06:59:24
2	Sn 189.927†	620.2	615.0	[100] ug/L	06:59:44
2	Ti 334.940†	64724.8	66972.2	[100] ug/L	06:59:24
2	Tl 190.801†	308.9	355.5	[100] ug/L	06:59:44
2	U 409.014†	-1729.1	3372.1	[100] ug/L	06:59:24

2	V 292.402†	12818.2	14658.1	[100]	ug/L	06:59:24
2	Zn 213.857†	12328.4	11703.7	[100]	ug/L	06:59:24
2	SiO2†	17022.0	16576.3	[1069.5]	ug/L	07:00:20
3	Sc Radial	4193.6	4193.6	102	%	06:58:51
3	Y RADIAL	4758.4	4758.4	98.29	%	06:58:51
3	K 766.490 Radial†	7759.2	5008.9	[1000]	ug/L	06:58:46
3	Sr 421.552†	14976.1	14696.5	[100]	ug/L	06:58:51
3	Sc 361.383	886938.7	886938.7	99.564	%	06:59:49
3	Y 371.029	727133.3	727133.3	99.031	%	06:59:49
3	Ag 328.068†	23120.3	22597.1	[100]	ug/L	06:59:49
3	As 188.979†	215.1	244.8	[100]	ug/L	07:00:09
3	B 249.677†	3788.5	4566.2	[100]	ug/L	06:59:49
3	Ba 233.527†	13610.3	13685.3	[100]	ug/L	06:59:49
3	Be 313.107†	286917.6	292578.1	[100]	ug/L	06:59:49
3	Cd 226.502†	9263.1	9507.9	[100]	ug/L	07:00:09
3	Co 228.616†	5276.3	5384.6	[100]	ug/L	07:00:09
3	Cr 267.716†	9649.4	9629.9	[100]	ug/L	06:59:49
3	Cu 324.752†	41983.0	35280.1	[100]	ug/L	06:59:49
3	Mn 257.610†	100693.3	100602.8	[100]	ug/L	06:59:49
3	Mo 202.031†	1488.5	1489.8	[100]	ug/L	07:00:09
3	Ni 231.604†	4511.6	4446.2	[100]	ug/L	07:00:09
3	P 214.914†	1158.9	940.7	[500]	ug/L	07:00:09
3	Pb 220.353†	859.3	942.7	[100]	ug/L	07:00:09
3	S 181.975 Axial†	212.5	164.6	[200]	ug/L	07:00:09
3	Sb 206.836†	349.1	312.2	[100]	ug/L	07:00:09
3	Se 196.026†	158.9	185.6	[100]	ug/L	07:00:09
3	Si 251.611†	16941.2	16479.7	[500]	ug/L	06:59:49
3	Sn 189.927†	614.8	608.1	[100]	ug/L	07:00:09
3	Ti 334.940†	64903.7	66992.5	[100]	ug/L	06:59:49
3	Tl 190.801†	315.7	361.6	[100]	ug/L	07:00:09
3	U 409.014†	-1622.8	3483.2	[100]	ug/L	06:59:49
3	V 292.402†	12779.0	14587.2	[100]	ug/L	06:59:49
3	Zn 213.857†	12364.6	11709.7	[100]	ug/L	06:59:49
3	SiO2†	16843.4	16355.0	[1069.5]	ug/L	07:00:25

## Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	885172.7	1602.91	0.18%	99.365	%
Sc Radial	4178.7	16.91	0.40%	101	%
Y 371.029	726475.7	571.83	0.08%	98.942	%
Y RADIAL	4712.2	40.31	0.86%	97.33	%
Ag 328.068†	22516.0	74.92	0.33%	[100]	ug/L
As 188.979†	250.8	8.33	3.32%	[100]	ug/L
B 249.677†	4543.7	22.53	0.50%	[100]	ug/L
Ba 233.527†	13704.8	17.01	0.12%	[100]	ug/L
Be 313.107†	293063.8	587.12	0.20%	[100]	ug/L
Cd 226.502†	9524.5	15.06	0.16%	[100]	ug/L
Co 228.616†	5406.1	21.62	0.40%	[100]	ug/L
Cr 267.716†	9624.2	33.83	0.35%	[100]	ug/L
Cu 324.752†	35293.7	19.04	0.05%	[100]	ug/L
K 766.490 Radial†	5068.9	54.92	1.08%	[1000]	ug/L
Mn 257.610†	100700.0	84.31	0.08%	[100]	ug/L
Mo 202.031†	1492.4	9.43	0.63%	[100]	ug/L
Ni 231.604†	4474.5	24.84	0.56%	[100]	ug/L
P 214.914†	946.3	8.64	0.91%	[500]	ug/L
Pb 220.353†	943.3	7.59	0.80%	[100]	ug/L
S 181.975 Axial†	161.7	5.67	3.51%	[200]	ug/L
Sb 206.836†	314.7	2.44	0.78%	[100]	ug/L
Se 196.026†	179.6	5.39	3.00%	[100]	ug/L
Si 251.611†	16452.2	25.50	0.16%	[500]	ug/L
Sn 189.927†	610.9	3.62	0.59%	[100]	ug/L
Sr 421.552†	14684.8	27.45	0.19%	[100]	ug/L
Ti 334.940†	66992.3	19.97	0.03%	[100]	ug/L
Tl 190.801†	362.1	6.84	1.89%	[100]	ug/L
U 409.014†	3384.1	93.70	2.77%	[100]	ug/L
V 292.402†	14650.9	60.41	0.41%	[100]	ug/L
Zn 213.857†	11711.2	8.40	0.07%	[100]	ug/L
SiO2†	16534.4	162.57	0.98%	[1069.5]	ug/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 2/1/2010 07:02:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	4334.7	4334.7	105 %		07:04:27
1	Y RADIAL	4822.7	4822.7	99.61 %		07:04:27
1	Al 396.153Radial†	5965.3	5867.5	[5000] ug/L		07:04:27
1	Ca 317.933Radial†	2801.5	2652.9	[5000] ug/L		07:04:47
1	K 766.490 Radial†	29150.9	25119.6	[5000] ug/L		07:04:27
1	Mg 279.077 IEC†	124.9	118.9	[5000] ug/L		07:04:47
1	Sr 421.552†	78200.0	74389.2	[500] ug/L		07:04:27
1	Sc 361.383	903192.1	903192.1	101.39 %		07:05:46
1	Y 371.029	730028.1	730028.1	99.425 %		07:05:46
1	Ag 328.068†	111244.4	109096.7	[500] ug/L		07:05:46
1	As 188.979†	1237.4	1249.2	[500] ug/L		07:06:06
1	B 249.677†	22220.3	22677.2	[500] ug/L		07:05:46
1	Ba 233.527†	66590.1	65693.7	[500] ug/L		07:05:46
1	Be 313.107†	1454957.1	1439439.1	[500] ug/L		07:05:46
1	Cd 226.502†	46400.2	45969.0	[500] ug/L		07:06:06
1	Co 228.616†	26245.0	25970.8	[500] ug/L		07:06:06
1	Cr 267.716†	47322.8	46613.0	[500] ug/L		07:05:46
1	Cu 324.752†	182170.6	172789.6	[500] ug/L		07:05:46
1	Mn 257.610†	488465.4	481245.6	[500] ug/L		07:05:46
1	Mo 202.031†	7379.0	7272.8	[500] ug/L		07:06:06
1	Ni 231.604†	21920.2	21534.9	[500] ug/L		07:06:06
1	P 214.914†	4931.9	4641.1	[2500] ug/L		07:06:06
1	Pb 220.353†	4507.7	4525.6	[500] ug/L		07:06:06
1	S 181.975 Axial†	842.6	782.2	[1000] ug/L		07:06:06
1	Sb 206.836†	1634.0	1573.2	[500] ug/L		07:06:06
1	Se 196.026†	846.0	860.3	[500] ug/L		07:06:06
1	Si 251.611†	81967.5	80309.5	[2500] ug/L		07:05:46
1	Sn 189.927†	3026.5	2975.6	[500] ug/L		07:06:06
1	Ti 334.940†	328761.3	326064.4	[500] ug/L		07:05:46
1	Tl 190.801†	1697.6	1718.8	[500] ug/L		07:06:06
1	U 409.014†	10709.7	15676.2	[500] ug/L		07:05:46
1	V 292.402†	71122.1	71900.5	[500] ug/L		07:05:46
1	Zn 213.857†	58250.7	56744.0	[500] ug/L		07:05:46
1	SiO2†	82584.0	80891.1	[5347.5] ug/L		07:07:06
2	Sc Radial	4220.7	4220.7	102 %		07:04:52
2	Y RADIAL	4732.6	4732.6	97.75 %		07:04:52
2	Al 396.153Radial†	5872.4	5930.1	[5000] ug/L		07:04:52
2	Ca 317.933Radial†	2775.3	2699.3	[5000] ug/L		07:05:12
2	K 766.490 Radial†	28794.4	25520.5	[5000] ug/L		07:04:52
2	Mg 279.077 IEC†	124.8	122.0	[5000] ug/L		07:05:12
2	Sr 421.552†	76618.8	74853.8	[500] ug/L		07:04:52
2	Sc 361.383	902688.9	902688.9	101.33 %		07:06:13
2	Y 371.029	728805.7	728805.7	99.259 %		07:06:13
2	Ag 328.068†	111133.5	109048.4	[500] ug/L		07:06:13
2	As 188.979†	1255.9	1268.2	[500] ug/L		07:06:34
2	B 249.677†	22306.7	22774.7	[500] ug/L		07:06:13
2	Ba 233.527†	66955.9	66091.3	[500] ug/L		07:06:13
2	Be 313.107†	1454911.9	1440194.5	[500] ug/L		07:06:13
2	Cd 226.502†	46440.6	46034.4	[500] ug/L		07:06:34
2	Co 228.616†	26295.3	26034.9	[500] ug/L		07:06:34
2	Cr 267.716†	47454.0	46768.5	[500] ug/L		07:06:13
2	Cu 324.752†	181595.7	172322.3	[500] ug/L		07:06:13
2	Mn 257.610†	490072.3	483100.0	[500] ug/L		07:06:13
2	Mo 202.031†	7390.5	7288.1	[500] ug/L		07:06:34
2	Ni 231.604†	21932.4	21559.0	[500] ug/L		07:06:34
2	P 214.914†	4941.0	4652.8	[2500] ug/L		07:06:34
2	Pb 220.353†	4530.3	4550.4	[500] ug/L		07:06:34
2	S 181.975 Axial†	850.8	790.7	[1000] ug/L		07:06:34
2	Sb 206.836†	1626.3	1566.5	[500] ug/L		07:06:34

2	Se 196.026†	874.4	888.9	[500]	ug/L	07:06:34
2	Si 251.611†	82091.5	80476.9	[2500]	ug/L	07:06:13
2	Sn 189.927†	3039.3	2989.9	[500]	ug/L	07:06:34
2	Ti 334.940†	329225.7	326703.4	[500]	ug/L	07:06:13
2	Tl 190.801†	1695.8	1718.0	[500]	ug/L	07:06:34
2	U 409.014†	10772.1	15743.6	[500]	ug/L	07:06:13
2	V 292.402†	71266.5	72082.1	[500]	ug/L	07:06:13
2	Zn 213.857†	58337.4	56861.7	[500]	ug/L	07:06:13
2	SiO2†	81654.0	80018.7	[5347.5]	ug/L	07:07:11
3	Sc Radial	4266.0	4266.0	103	%	07:05:17
3	Y RADIAL	4761.0	4761.0	98.34	%	07:05:17
3	Al 396.153Radial†	5925.6	5920.5	[5000]	ug/L	07:05:17
3	Ca 317.933Radial†	2795.5	2690.1	[5000]	ug/L	07:05:37
3	K 766.490 Radial†	28913.9	25337.1	[5000]	ug/L	07:05:17
3	Mg 279.077 IEC†	130.7	126.5	[5000]	ug/L	07:05:37
3	Sr 421.552†	76974.2	74402.0	[500]	ug/L	07:05:17
3	Sc 361.383	905981.2	905981.2	101.70	%	07:06:41
3	Y 371.029	730908.5	730908.5	99.545	%	07:06:41
3	Ag 328.068†	111474.6	108985.3	[500]	ug/L	07:06:41
3	As 188.979†	1240.8	1248.8	[500]	ug/L	07:07:01
3	B 249.677†	22398.2	22784.6	[500]	ug/L	07:06:41
3	Ba 233.527†	66877.2	65773.7	[500]	ug/L	07:06:41
3	Be 313.107†	1453470.2	1433559.2	[500]	ug/L	07:06:41
3	Cd 226.502†	46050.6	45484.3	[500]	ug/L	07:07:01
3	Co 228.616†	26071.6	25720.6	[500]	ug/L	07:07:01
3	Cr 267.716†	47318.8	46465.4	[500]	ug/L	07:06:41
3	Cu 324.752†	182660.7	172718.3	[500]	ug/L	07:06:41
3	Mn 257.610†	489731.4	481007.2	[500]	ug/L	07:06:41
3	Mo 202.031†	7335.3	7207.3	[500]	ug/L	07:07:01
3	Ni 231.604†	21786.5	21336.9	[500]	ug/L	07:07:01
3	P 214.914†	4898.2	4593.0	[2500]	ug/L	07:07:01
3	Pb 220.353†	4489.2	4493.8	[500]	ug/L	07:07:01
3	S 181.975 Axial†	846.8	783.8	[1000]	ug/L	07:07:01
3	Sb 206.836†	1617.1	1551.6	[500]	ug/L	07:07:01
3	Se 196.026†	855.9	867.5	[500]	ug/L	07:07:01
3	Si 251.611†	82277.3	80365.2	[2500]	ug/L	07:06:41
3	Sn 189.927†	2993.0	2933.5	[500]	ug/L	07:07:01
3	Ti 334.940†	329678.4	325967.8	[500]	ug/L	07:06:41
3	Tl 190.801†	1685.0	1701.2	[500]	ug/L	07:07:01
3	U 409.014†	10853.0	15784.5	[500]	ug/L	07:06:41
3	V 292.402†	71204.0	71765.1	[500]	ug/L	07:06:41
3	Zn 213.857†	58274.7	56590.8	[500]	ug/L	07:06:41
3	SiO2†	81651.5	79723.4	[5347.5]	ug/L	07:07:17

## Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	903954.1	1773.52	0.20%	101.47	%
Sc Radial	4273.8	57.40	1.34%	104	%
Y 371.029	729914.1	1056.04	0.14%	99.410	%
Y RADIAL	4772.1	46.06	0.97%	98.57	%
Ag 328.068†	109043.5	55.88	0.05%	[500]	ug/L
Al 396.153Radial†	5906.0	33.70	0.57%	[5000]	ug/L
As 188.979†	1255.4	11.04	0.88%	[500]	ug/L
B 249.677†	22745.5	59.37	0.26%	[500]	ug/L
Ba 233.527†	65852.9	210.30	0.32%	[500]	ug/L
Be 313.107†	1437730.9	3632.52	0.25%	[500]	ug/L
Ca 317.933Radial†	2680.8	24.57	0.92%	[5000]	ug/L
Cd 226.502†	45829.2	300.47	0.66%	[500]	ug/L
Co 228.616†	25908.8	166.04	0.64%	[500]	ug/L
Cr 267.716†	46615.7	151.58	0.33%	[500]	ug/L
Cu 324.752†	172610.0	251.72	0.15%	[500]	ug/L
K 766.490 Radial†	25325.7	200.70	0.79%	[5000]	ug/L
Mg 279.077 IEC†	122.5	3.80	3.10%	[5000]	ug/L
Mn 257.610†	481784.3	1145.66	0.24%	[500]	ug/L
Mo 202.031†	7256.1	42.91	0.59%	[500]	ug/L
Ni 231.604†	21476.9	121.87	0.57%	[500]	ug/L
P 214.914†	4629.0	31.72	0.69%	[2500]	ug/L
Pb 220.353†	4523.2	28.37	0.63%	[500]	ug/L
S 181.975 Axial†	785.6	4.55	0.58%	[1000]	ug/L

Sb 206.836†	1563.8	11.03	0.71%	[500]	ug/L
Se 196.026†	872.3	14.85	1.70%	[500]	ug/L
Si 251.611†	80383.9	85.26	0.11%	[2500]	ug/L
Sn 189.927†	2966.3	29.35	0.99%	[500]	ug/L
Sr 421.552†	74548.3	264.66	0.36%	[500]	ug/L
Ti 334.940†	326245.2	399.73	0.12%	[500]	ug/L
Tl 190.801†	1712.7	9.91	0.58%	[500]	ug/L
U 409.014†	15734.8	54.69	0.35%	[500]	ug/L
V 292.402†	71915.9	159.09	0.22%	[500]	ug/L
Zn 213.857†	56732.2	135.82	0.24%	[500]	ug/L
SiO2†	80211.0	607.15	0.76%	[5347.5]	ug/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 2/1/2010 07:09:28

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	4067.6	4067.6	98.6 %		07:11:41
1	Y RADIAL	4639.8	4639.8	95.84 %		07:11:21
1	Al 396.153Radial†	11936.1	12296.2	[10000] ug/L		07:11:21
1	Ca 317.933Radial†	5478.3	5543.0	[10000] ug/L		07:11:21
1	Fe 238.204 Radial†	871.5	873.8	[10000] ug/L		07:11:41
1	K 766.490 Radial†	54365.8	52516.0	[10000] ug/L		07:11:21
1	Mg 279.077 IEC†	246.5	250.0	[10000] ug/L		07:11:41
1	Na 589.592 Radial†	28997.9	31063.3	[10000] ug/L		07:11:21
1	Sr 421.552†	148685.2	150767.0	[1000] ug/L		07:11:21
1	Sc 361.383	860217.0	860217.0	96.564 %		07:12:44
1	Y 371.029	714425.1	714425.1	97.300 %		07:12:44
1	Ag 328.068†	224794.6	232168.9	[1000] ug/L		07:12:44
1	As 188.979†	2515.7	2634.0	[1000] ug/L		07:13:04
1	B 249.677†	46269.1	48676.5	[1000] ug/L		07:12:44
1	Ba 233.527†	133717.6	138490.9	[1000] ug/L		07:12:44
1	Be 313.107†	2895485.2	3002916.9	[1000] ug/L		07:12:39
1	Cd 226.502†	94970.6	98554.0	[1000] ug/L		07:12:44
1	Co 228.616†	53087.3	55061.5	[1000] ug/L		07:12:44
1	Cr 267.716†	95155.3	98479.3	[1000] ug/L		07:12:44
1	Cu 324.752†	358914.0	364798.2	[1000] ug/L		07:12:44
1	Mn 257.610†	968048.7	1001962.5	[1000] ug/L		07:12:39
1	Mo 202.031†	14676.7	15193.7	[1000] ug/L		07:13:04
1	Ni 231.604†	44072.6	45555.6	[1000] ug/L		07:12:44
1	P 214.914†	9619.9	9739.0	[5000] ug/L		07:13:04
1	Pb 220.353†	9017.8	9418.3	[1000] ug/L		07:13:04
1	S 181.975 Axial†	1649.5	1659.3	[2000] ug/L		07:13:04
1	Sb 206.836†	3252.6	3329.9	[1000] ug/L		07:13:04
1	Se 196.026†	1731.6	1819.1	[1000] ug/L		07:13:04
1	Si 251.611†	165205.0	170547.6	[5000] ug/L		07:12:44
1	Sn 189.927†	6060.2	6266.4	[1000] ug/L		07:13:04
1	Ti 334.940†	650722.5	675681.2	[1000] ug/L		07:12:44
1	Tl 190.801†	3412.2	3578.1	[1000] ug/L		07:13:04
1	U 409.014†	28530.3	34658.6	[1000] ug/L		07:12:44
1	V 292.402†	145607.4	152540.7	[1000] ug/L		07:12:44
1	Zn 213.857†	116074.8	119496.0	[1000] ug/L		07:12:44
1	SiO2†	164839.1	170142.3	[10695] ug/L		07:14:13
2	Sc Radial	4052.1	4052.1	98.2 %		07:12:06
2	Y RADIAL	4727.6	4727.6	97.65 %		07:11:46
2	Al 396.153Radial†	12099.0	12508.3	[10000] ug/L		07:11:46
2	Ca 317.933Radial†	5566.6	5654.2	[10000] ug/L		07:11:46
2	Fe 238.204 Radial†	863.1	868.6	[10000] ug/L		07:12:06
2	K 766.490 Radial†	54997.4	53369.9	[10000] ug/L		07:11:46
2	Mg 279.077 IEC†	246.6	251.1	[10000] ug/L		07:12:06
2	Na 589.592 Radial†	29278.5	31461.4	[10000] ug/L		07:11:46
2	Sr 421.552†	150433.1	153123.1	[1000] ug/L		07:11:46
2	Sc 361.383	859244.7	859244.7	96.455 %		07:13:16
2	Y 371.029	710644.9	710644.9	96.786 %		07:13:16
2	Ag 328.068†	223469.8	231058.8	[1000] ug/L		07:13:16
2	As 188.979†	2487.0	2607.1	[1000] ug/L		07:13:36
2	B 249.677†	46062.9	48517.0	[1000] ug/L		07:13:16
2	Ba 233.527†	133445.4	138365.4	[1000] ug/L		07:13:16
2	Be 313.107†	2879006.3	2989225.4	[1000] ug/L		07:13:10
2	Cd 226.502†	94725.3	98411.0	[1000] ug/L		07:13:16
2	Co 228.616†	52924.4	54954.8	[1000] ug/L		07:13:16
2	Cr 267.716†	94837.2	98261.1	[1000] ug/L		07:13:16
2	Cu 324.752†	356858.6	363087.9	[1000] ug/L		07:13:16
2	Mn 257.610†	965804.9	1000770.7	[1000] ug/L		07:13:10
2	Mo 202.031†	14545.0	15074.3	[1000] ug/L		07:13:36
2	Ni 231.604†	43935.5	45465.1	[1000] ug/L		07:13:16



2	P 214.914†	9528.1	9655.0	[5000]	ug/L	07:13:36
2	Pb 220.353†	8921.6	9329.1	[1000]	ug/L	07:13:36
2	S 181.975 Axial†	1626.5	1637.4	[2000]	ug/L	07:13:36
2	Sb 206.836†	3208.0	3287.5	[1000]	ug/L	07:13:36
2	Se 196.026†	1718.3	1807.4	[1000]	ug/L	07:13:36
2	Si 251.611†	164506.7	170017.3	[5000]	ug/L	07:13:16
2	Sn 189.927†	5980.2	6190.6	[1000]	ug/L	07:13:36
2	Ti 334.940†	648219.5	673848.8	[1000]	ug/L	07:13:16
2	Tl 190.801†	3375.1	3543.6	[1000]	ug/L	07:13:36
2	U 409.014†	28413.3	34570.7	[1000]	ug/L	07:13:16
2	V 292.402†	144896.1	151973.8	[1000]	ug/L	07:13:16
2	Zn 213.857†	115587.8	119127.1	[1000]	ug/L	07:13:16
2	SiO2†	162693.2	168110.6	[10695]	ug/L	07:14:18
3	Sc Radial	4042.0	4042.0	98.0	%	07:12:32
3	Y RADIAL	4680.3	4680.3	96.67	%	07:12:11
3	Al 396.153Radial†	12023.2	12461.8	[10000]	ug/L	07:12:11
3	Ca 317.933Radial†	5505.6	5606.0	[10000]	ug/L	07:12:11
3	Fe 238.204 Radial†	865.6	873.3	[10000]	ug/L	07:12:32
3	K 766.490 Radial†	54684.2	53190.1	[10000]	ug/L	07:12:11
3	Mg 279.077 IEC†	243.6	248.7	[10000]	ug/L	07:12:32
3	Na 589.592 Radial†	28977.7	31228.9	[10000]	ug/L	07:12:11
3	Sr 421.552†	149331.3	152381.3	[1000]	ug/L	07:12:11
3	Sc 361.383	850734.3	850734.3	95.500	%	07:13:47
3	Y 371.029	702601.7	702601.7	95.690	%	07:13:47
3	Ag 328.068†	220695.7	230471.6	[1000]	ug/L	07:13:47
3	As 188.979†	2496.1	2642.5	[1000]	ug/L	07:14:08
3	B 249.677†	45221.5	48113.7	[1000]	ug/L	07:13:47
3	Ba 233.527†	131216.4	137415.3	[1000]	ug/L	07:13:47
3	Be 313.107†	2889101.4	3029655.2	[1000]	ug/L	07:13:42
3	Cd 226.502†	92917.1	97500.0	[1000]	ug/L	07:13:47
3	Co 228.616†	52020.0	54556.6	[1000]	ug/L	07:13:47
3	Cr 267.716†	93296.3	97631.1	[1000]	ug/L	07:13:47
3	Cu 324.752†	351933.6	361631.9	[1000]	ug/L	07:13:47
3	Mn 257.610†	966766.5	1011794.2	[1000]	ug/L	07:13:42
3	Mo 202.031†	14594.5	15277.0	[1000]	ug/L	07:14:08
3	Ni 231.604†	43114.9	45061.5	[1000]	ug/L	07:13:47
3	P 214.914†	9552.8	9779.7	[5000]	ug/L	07:14:08
3	Pb 220.353†	8917.0	9416.8	[1000]	ug/L	07:14:08
3	S 181.975 Axial†	1636.8	1665.0	[2000]	ug/L	07:14:08
3	Sb 206.836†	3205.0	3317.6	[1000]	ug/L	07:14:08
3	Se 196.026†	1723.5	1830.6	[1000]	ug/L	07:14:08
3	Si 251.611†	161788.6	168877.2	[5000]	ug/L	07:13:47
3	Sn 189.927†	6033.8	6308.7	[1000]	ug/L	07:14:08
3	Ti 334.940†	638924.1	670838.2	[1000]	ug/L	07:13:47
3	Tl 190.801†	3394.8	3599.2	[1000]	ug/L	07:14:08
3	U 409.014†	27702.6	34121.2	[1000]	ug/L	07:13:47
3	V 292.402†	142912.7	151399.8	[1000]	ug/L	07:13:47
3	Zn 213.857†	113650.5	118297.3	[1000]	ug/L	07:13:47
3	SiO2†	163294.0	170427.1	[10695]	ug/L	07:14:24

## Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	856732.0	5216.86	0.61%	96.173	%
Sc Radial	4053.9	12.89	0.32%	98.3	%
Y 371.029	709223.9	6038.45	0.85%	96.592	%
Y RADIAL	4682.6	43.94	0.94%	96.72	%
Ag 328.068†	231233.1	861.95	0.37%	[1000]	ug/L
Al 396.153Radial†	12422.1	111.47	0.90%	[10000]	ug/L
As 188.979†	2627.9	18.48	0.70%	[1000]	ug/L
B 249.677†	48435.7	290.11	0.60%	[1000]	ug/L
Ba 233.527†	138090.6	588.13	0.43%	[1000]	ug/L
Be 313.107†	3007265.8	20562.73	0.68%	[1000]	ug/L
Ca 317.933Radial†	5601.1	55.76	1.00%	[10000]	ug/L
Cd 226.502†	98155.0	571.71	0.58%	[1000]	ug/L
Co 228.616†	54857.6	266.10	0.49%	[1000]	ug/L
Cr 267.716†	98123.8	440.42	0.45%	[1000]	ug/L
Cu 324.752†	363172.6	1584.87	0.44%	[1000]	ug/L
Fe 238.204 Radial†	871.9	2.86	0.33%	[10000]	ug/L
K 766.490 Radial†	53025.4	450.17	0.85%	[10000]	ug/L

Mg 279.077 IEC†	249.9	1.20	0.48%	[10000] ug/L
Mn 257.610†	1004842.5	6049.82	0.60%	[1000] ug/L
Mo 202.031†	15181.7	101.87	0.67%	[1000] ug/L
Na 589.592 Radial†	31251.2	199.99	0.64%	[10000] ug/L
Ni 231.604†	45360.8	263.07	0.58%	[1000] ug/L
P 214.914†	9724.6	63.58	0.65%	[5000] ug/L
Pb 220.353†	9388.1	51.06	0.54%	[1000] ug/L
S 181.975 Axial†	1653.9	14.56	0.88%	[2000] ug/L
Sb 206.836†	3311.7	21.84	0.66%	[1000] ug/L
Se 196.026†	1819.1	11.61	0.64%	[1000] ug/L
Si 251.611†	169814.1	853.55	0.50%	[5000] ug/L
Sn 189.927†	6255.2	59.83	0.96%	[1000] ug/L
Sr 421.552†	152090.5	1204.70	0.79%	[1000] ug/L
Ti 334.940†	673456.1	2445.27	0.36%	[1000] ug/L
Tl 190.801†	3573.6	28.08	0.79%	[1000] ug/L
U 409.014†	34450.2	288.25	0.84%	[1000] ug/L
V 292.402†	151971.4	570.46	0.38%	[1000] ug/L
Zn 213.857†	118973.4	613.94	0.52%	[1000] ug/L
SiO2†	169560.0	1263.23	0.75%	[10695] ug/L

Sequence No.: 5  
 Sample ID: S10  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 5  
 Date Collected: 2/1/2010 07:16:34  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Analysis Time
1	Sc Radial	4147.6	4147.6	101 %		07:18:48
1	Y RADIAL	4606.9	4606.9	95.16 %		07:18:48
1	Al 396.153Radial†	61537.3	61399.0	[50000] ug/L		07:18:28
1	Ca 317.933Radial†	27469.9	27309.9	[50000] ug/L		07:18:28
1	Fe 238.204 Radial†	1737.5	1718.1	[20000] ug/L		07:18:48
1	Mg 279.077 IEC†	1189.6	1183.3	[50000] ug/L		07:18:48
1	Na 589.592 Radial†	65560.3	66862.7	[20000] ug/L		07:18:28
1	Sc 361.383	869098.2	869098.2	97.561 %		07:19:45
1	Y 371.029	699611.1	699611.1	95.283 %		07:19:45
2	Sc Radial	4212.4	4212.4	102 %		07:19:13
2	Y RADIAL	4675.4	4675.4	96.57 %		07:19:13
2	Al 396.153Radial†	60504.4	59446.1	[50000] ug/L		07:18:53
2	Ca 317.933Radial†	27160.3	26586.5	[50000] ug/L		07:18:53
2	Fe 238.204 Radial†	1754.6	1708.3	[20000] ug/L		07:19:13
2	Mg 279.077 IEC†	1206.6	1181.8	[50000] ug/L		07:19:13
2	Na 589.592 Radial†	64106.4	64435.9	[20000] ug/L		07:18:53
2	Sc 361.383	873224.5	873224.5	98.024 %		07:19:51
2	Y 371.029	702255.1	702255.1	95.643 %		07:19:51
3	Sc Radial	4185.0	4185.0	101 %		07:19:38
3	Y RADIAL	4664.1	4664.1	96.34 %		07:19:38
3	Al 396.153Radial†	61364.1	60681.3	[50000] ug/L		07:19:18
3	Ca 317.933Radial†	27424.7	27021.3	[50000] ug/L		07:19:18
3	Fe 238.204 Radial†	1754.6	1719.5	[20000] ug/L		07:19:38
3	Mg 279.077 IEC†	1202.9	1185.9	[50000] ug/L		07:19:38
3	Na 589.592 Radial†	64476.1	65211.2	[20000] ug/L		07:19:18
3	Sc 361.383	875695.6	875695.6	98.302 %		07:19:56
3	Y 371.029	704060.8	704060.8	95.889 %		07:19:56

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib. Units
Sc 361.383	872672.8	3333.10	0.38%	97.962 %	
Sc Radial	4181.7	32.52	0.78%	101 %	
Y 371.029	701975.7	2237.95	0.32%	95.605 %	
Y RADIAL	4648.8	36.69	0.79%	96.02 %	
Al 396.153Radial†	60508.8	987.85	1.63%	[50000] ug/L	
Ca 317.933Radial†	26972.6	364.16	1.35%	[50000] ug/L	
Fe 238.204 Radial†	1715.3	6.14	0.36%	[20000] ug/L	
Mg 279.077 IEC†	1183.7	2.07	0.17%	[50000] ug/L	
Na 589.592 Radial†	65503.3	1239.50	1.89%	[20000] ug/L	

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	228.6	0.00000	0.999737	
Al 396.153Radial	3	Lin Thru 0	0.0	1.211	0.00000	0.999984	
As 188.979	3	Lin Thru 0	0.0	2.604	0.00000	0.999834	
B 249.677	3	Lin Thru 0	0.0	47.83	0.00000	0.999689	
Ba 233.527	3	Lin Thru 0	0.0	136.8	0.00000	0.999827	
Be 313.107	3	Lin Thru 0	0.0	2981	0.00000	0.999844	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.5402	0.00000	0.999973	
Cd 226.502	3	Lin Thru 0	0.0	96.84	0.00000	0.999642	
Co 228.616	3	Lin Thru 0	0.0	54.25	0.00000	0.999751	
Cr 267.716	3	Lin Thru 0	0.0	97.14	0.00000	0.999798	
Cu 324.752	3	Lin Thru 0	0.0	359.5	0.00000	0.999801	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.0861	0.00000	0.999978	
K 766.490 Radial	3	Lin Thru 0	0.0	5.254	0.00000	0.999833	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0237	0.00000	0.999938
Mn 257.610	3	Lin Thru 0	0.0	996.7	0.00000	0.999863
Mo 202.031	3	Lin Thru 0	0.0	15.05	0.00000	0.999843
Na 589.592 Radia	2	Lin Thru 0	0.0	3.245	0.00000	0.999829
Ni 231.604	3	Lin Thru 0	0.0	44.88	0.00000	0.999772
P 214.914	3	Lin Thru 0	0.0	1.926	0.00000	0.999812
Pb 220.353	3	Lin Thru 0	0.0	9.321	0.00000	0.999893
S 181.975 Axial	3	Lin Thru 0	0.0	0.8186	0.00000	0.999796
Sb 206.836	3	Lin Thru 0	0.0	3.274	0.00000	0.999743
Se 196.026	3	Lin Thru 0	0.0	1.804	0.00000	0.999864
Si 251.611	3	Lin Thru 0	0.0	33.60	0.00000	0.999768
Sn 189.927	3	Lin Thru 0	0.0	6.190	0.00000	0.999784
Sr 421.552	3	Lin Thru 0	0.0	151.5	0.00000	0.999965
Ti 334.940	3	Lin Thru 0	0.0	669.3	0.00000	0.999922
Tl 190.801	3	Lin Thru 0	0.0	3.545	0.00000	0.999859
U 409.014	3	Lin Thru 0	0.0	33.85	0.00000	0.999385
V 292.402	3	Lin Thru 0	0.0	150.3	0.00000	0.999765
Zn 213.857	3	Lin Thru 0	0.0	117.9	0.00000	0.999826
SiO2	3	Lin Thru 0	0.0	15.68	0.00000	0.999764

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 2/1/2010 07:22:08

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4239.2	4239.2	103 %		07:24:01
1	Y RADIAL	4763.8	4763.8	98.40 %		07:24:01
1	Al 396.153Radial†	6185.1	6209.3	5101.2 ug/L	5101.2 ppb	07:24:01
1	Ca 317.933Radial†	2785.4	2697.4	4993.2 ug/L	4993.2 ppb	07:24:21
1	Fe 238.204 Radial†	448.9	426.8	4974.5 ug/L	4974.5 ppb	07:24:21
1	K 766.490 Radial†	16026.5	12972.4	2465.8 ug/L	2465.8 ppb	07:24:01
1	Mg 279.077 IEC†	131.8	128.3	5407.8 ug/L	5407.8 ppb	07:24:21
1	Na 589.592 Radial†	6166.0	7652.8	2358.2 ug/L	2358.2 ppb	07:24:01
1	Sr 421.552†	80213.8	78026.0	515.14 ug/L	515.14 ppb	07:24:01
1	Sc 361.383	902268.8	902268.8	101.28 %		07:25:19
1	Y 371.029	731990.5	731990.5	99.693 %		07:25:19
1	Ag 328.068†	59208.3	57832.9	256.17 ug/L	256.17 ppb	07:25:19
1	As 188.979†	1206.5	1219.9	472.71 ug/L	472.71 ppb	07:25:39
1	B 249.677†	24094.3	24549.8	511.08 ug/L	511.08 ppb	07:25:19
1	Ba 233.527†	69728.6	68859.6	504.56 ug/L	504.56 ppb	07:25:19
1	Be 313.107†	769474.7	764118.8	257.50 ug/L	257.50 ppb	07:25:19
1	Cd 226.502†	48380.2	47970.7	495.24 ug/L	495.24 ppb	07:25:19
1	Co 228.616†	27146.1	26887.0	495.78 ug/L	495.78 ppb	07:25:39
1	Cr 267.716†	47403.1	46740.0	481.78 ug/L	481.78 ppb	07:25:19
1	Cu 324.752†	189523.1	180232.6	501.29 ug/L	501.29 ppb	07:25:19
1	Mn 257.610†	513126.6	506087.1	508.05 ug/L	508.05 ppb	07:25:19
1	Mo 202.031†	8074.9	7967.2	529.94 ug/L	529.94 ppb	07:25:39
1	Ni 231.604†	22387.8	22018.7	490.33 ug/L	490.33 ppb	07:25:39
1	P 214.914†	5061.5	4774.0	2381.4 ug/L	2381.4 ppb	07:25:39
1	Pb 220.353†	4611.0	4632.1	498.72 ug/L	498.72 ppb	07:25:39
1	S 181.975 Axial†	2080.4	2005.1	2448.5 ug/L	2448.5 ppb	07:25:39
1	Sb 206.836†	1666.6	1607.0	510.10 ug/L	510.10 ppb	07:25:39
1	Se 196.026†	4613.5	4581.0	2557.6 ug/L	2557.6 ppb	07:25:39
1	Si 251.611†	162651.0	160052.5	4757.6 ug/L	4757.6 ppb	07:25:19
1	Sn 189.927†	3328.5	3276.8	530.21 ug/L	530.21 ppb	07:25:39
1	Ti 334.940†	334931.1	332487.7	496.63 ug/L	496.63 ppb	07:25:19
1	Tl 190.801†	1833.4	1854.6	526.66 ug/L	526.66 ppb	07:25:39
1	U 409.014†	12028.1	16988.6	500.18 ug/L	500.18 ppb	07:25:19
1	V 292.402†	74502.9	75310.2	508.14 ug/L	508.14 ppb	07:25:19
1	Zn 213.857†	60914.4	59432.7	499.96 ug/L	499.96 ppb	07:25:19
1	SiO2†	161908.2	159292.6	10144 ug/L	10144 ppb	07:26:36
2	Sc Radial	4299.3	4299.3	104 %		07:24:26
2	Y RADIAL	4787.9	4787.9	98.90 %		07:24:26
2	Al 396.153Radial†	6242.7	6180.5	5077.3 ug/L	5077.3 ppb	07:24:26
2	Ca 317.933Radial†	2789.4	2663.3	4930.1 ug/L	4930.1 ppb	07:24:46
2	Fe 238.204 Radial†	451.9	423.5	4936.3 ug/L	4936.3 ppb	07:24:46
2	K 766.490 Radial†	16095.8	12820.8	2437.0 ug/L	2437.0 ppb	07:24:26
2	Mg 279.077 IEC†	129.5	124.3	5238.2 ug/L	5238.2 ppb	07:24:46
2	Na 589.592 Radial†	6209.9	7611.1	2345.4 ug/L	2345.4 ppb	07:24:26
2	Sr 421.552†	80767.7	77465.9	511.44 ug/L	511.44 ppb	07:24:26
2	Sc 361.383	900788.3	900788.3	101.12 %		07:25:45
2	Y 371.029	731838.1	731838.1	99.672 %		07:25:45
2	Ag 328.068†	59227.3	57947.7	256.65 ug/L	256.65 ppb	07:25:45
2	As 188.979†	1206.5	1221.9	473.47 ug/L	473.47 ppb	07:26:05
2	B 249.677†	23990.6	24486.4	509.76 ug/L	509.76 ppb	07:25:45
2	Ba 233.527†	69427.1	68674.6	503.20 ug/L	503.20 ppb	07:25:45
2	Be 313.107†	768547.9	764450.9	257.61 ug/L	257.61 ppb	07:25:45
2	Cd 226.502†	48226.2	47897.0	494.49 ug/L	494.49 ppb	07:25:45
2	Co 228.616†	27115.4	26900.6	496.04 ug/L	496.04 ppb	07:26:05
2	Cr 267.716†	47342.1	46756.6	481.94 ug/L	481.94 ppb	07:25:45
2	Cu 324.752†	189087.4	180109.3	500.94 ug/L	500.94 ppb	07:25:45
2	Mn 257.610†	511128.5	504943.7	506.90 ug/L	506.90 ppb	07:25:45
2	Mo 202.031†	8087.0	7992.3	531.60 ug/L	531.60 ppb	07:26:05
2	Ni 231.604†	22457.9	22124.4	492.69 ug/L	492.69 ppb	07:26:05

2	P 214.914†	5058.8	4779.6	2384.5 ug/L	2384.5 ppb	07:26:05
2	Pb 220.353†	4566.4	4595.5	494.79 ug/L	494.79 ppb	07:26:05
2	S 181.975 Axial†	2084.9	2012.9	2458.1 ug/L	2458.1 ppb	07:26:05
2	Sb 206.836†	1673.8	1616.9	513.19 ug/L	513.19 ppb	07:26:05
2	Se 196.026†	4611.2	4586.2	2560.3 ug/L	2560.3 ppb	07:26:05
2	Si 251.611†	161826.5	159501.0	4741.2 ug/L	4741.2 ppb	07:25:45
2	Sn 189.927†	3345.8	3299.3	533.84 ug/L	533.84 ppb	07:26:05
2	Ti 334.940†	333937.0	332048.1	495.98 ug/L	495.98 ppb	07:25:45
2	Tl 190.801†	1829.2	1853.4	526.32 ug/L	526.32 ppb	07:26:05
2	U 409.014†	11943.6	16924.6	498.29 ug/L	498.29 ppb	07:25:45
2	V 292.402†	74154.7	75086.7	506.68 ug/L	506.68 ppb	07:25:45
2	Zn 213.857†	60744.7	59363.7	499.36 ug/L	499.36 ppb	07:25:45
2	SiO2†	162391.6	160033.3	10191 ug/L	10191 ppb	07:26:42
3	Sc Radial	4224.1	4224.1	102 %		07:24:51
3	Y RADIAL	4714.9	4714.9	97.39 %		07:24:51
3	Al 396.153Radial†	6113.1	6160.5	5061.0 ug/L	5061.0 ppb	07:24:51
3	Ca 317.933Radial†	2783.1	2704.8	5007.0 ug/L	5007.0 ppb	07:25:11
3	Fe 238.204 Radial†	451.3	430.7	5019.6 ug/L	5019.6 ppb	07:25:11
3	K 766.490 Radial†	15911.0	12915.3	2455.0 ug/L	2455.0 ppb	07:24:51
3	Mg 279.077 IEC†	131.9	128.9	5430.3 ug/L	5430.3 ppb	07:25:11
3	Na 589.592 Radial†	6087.5	7597.6	2341.2 ug/L	2341.2 ppb	07:24:51
3	Sr 421.552†	79755.8	77857.4	514.03 ug/L	514.03 ppb	07:24:51
3	Sc 361.383	909939.7	909939.7	102.15 %		07:26:11
3	Y 371.029	738228.6	738228.6	100.54 %		07:26:11
3	Ag 328.068†	59777.0	57896.8	256.46 ug/L	256.46 ppb	07:26:11
3	As 188.979†	1203.7	1207.2	467.84 ug/L	467.84 ppb	07:26:31
3	B 249.677†	24396.6	24645.3	513.08 ug/L	513.08 ppb	07:26:11
3	Ba 233.527†	70317.2	68855.4	504.53 ug/L	504.53 ppb	07:26:11
3	Be 313.107†	777506.6	765577.5	257.99 ug/L	257.99 ppb	07:26:11
3	Cd 226.502†	48636.3	47818.8	493.67 ug/L	493.67 ppb	07:26:11
3	Co 228.616†	27184.9	26699.0	492.31 ug/L	492.31 ppb	07:26:31
3	Cr 267.716†	47673.7	46610.5	480.44 ug/L	480.44 ppb	07:26:11
3	Cu 324.752†	191928.8	181010.3	503.45 ug/L	503.45 ppb	07:26:11
3	Mn 257.610†	517249.9	505852.9	507.82 ug/L	507.82 ppb	07:26:11
3	Mo 202.031†	8124.4	7948.5	528.70 ug/L	528.70 ppb	07:26:31
3	Ni 231.604†	22446.7	21890.0	487.47 ug/L	487.47 ppb	07:26:31
3	P 214.914†	5055.2	4725.8	2355.9 ug/L	2355.9 ppb	07:26:31
3	Pb 220.353†	4605.4	4588.3	494.00 ug/L	494.00 ppb	07:26:31
3	S 181.975 Axial†	2080.5	1987.9	2427.5 ug/L	2427.5 ppb	07:26:31
3	Sb 206.836†	1680.9	1607.2	510.08 ug/L	510.08 ppb	07:26:31
3	Se 196.026†	4623.6	4552.5	2541.9 ug/L	2541.9 ppb	07:26:31
3	Si 251.611†	164136.3	160152.7	4760.6 ug/L	4760.6 ppb	07:26:11
3	Sn 189.927†	3339.2	3259.6	527.43 ug/L	527.43 ppb	07:26:31
3	Ti 334.940†	337909.7	332616.0	496.82 ug/L	496.82 ppb	07:26:11
3	Tl 190.801†	1835.9	1841.8	523.06 ug/L	523.06 ppb	07:26:31
3	U 409.014†	12198.0	17054.9	502.13 ug/L	502.13 ppb	07:26:11
3	V 292.402†	75087.0	75261.9	507.80 ug/L	507.80 ppb	07:26:11
3	Zn 213.857†	61481.6	59481.0	500.38 ug/L	500.38 ppb	07:26:11
3	SiO2†	163257.9	159266.3	10142 ug/L	10142 ppb	07:26:47

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	904332.3	101.52 %	0.551			0.54%
Sc Radial	4254.2	103 %	1.0			0.94%
Y 371.029	734019.1	99.969 %	0.4966			0.50%
Y RADIAL	4755.6	98.23 %	0.768			0.78%
Ag 328.068†	57892.5	256.43 ug/L	0.245	256.43 ppb	0.245	0.10%
QC value within limits for Ag 328.068 Recovery = 102.57%						
Al 396.153Radial†	6183.4	5079.8 ug/L	20.24	5079.8 ppb	20.24	0.40%
QC value within limits for Al 396.153Radial Recovery = 101.60%						
As 188.979†	1216.3	471.34 ug/L	3.052	471.34 ppb	3.052	0.65%
QC value within limits for As 188.979 Recovery = 94.27%						
B 249.677†	24560.5	511.30 ug/L	1.671	511.30 ppb	1.671	0.33%
QC value within limits for B 249.677 Recovery = 102.26%						
Ba 233.527†	68796.5	504.10 ug/L	0.775	504.10 ppb	0.775	0.15%
QC value within limits for Ba 233.527 Recovery = 100.82%						
Be 313.107†	764715.8	257.70 ug/L	0.257	257.70 ppb	0.257	0.10%
QC value within limits for Be 313.107 Recovery = 103.08%						
Ca 317.933Radial†	2688.5	4976.8 ug/L	41.02	4976.8 ppb	41.02	0.82%

QC value within limits for Ca 317.933 Radial Recovery = 99.54%							
Cd 226.502†	47895.5	494.47 ug/L	0.788	494.47 ppb	0.788	0.16%	
QC value within limits for Cd 226.502 Recovery = 98.89%							
Co 228.616†	26828.9	494.71 ug/L	2.080	494.71 ppb	2.080	0.42%	
QC value within limits for Co 228.616 Recovery = 98.94%							
Cr 267.716†	46702.4	481.39 ug/L	0.823	481.39 ppb	0.823	0.17%	
QC value within limits for Cr 267.716 Recovery = 96.28%							
Cu 324.752†	180450.7	501.89 ug/L	1.360	501.89 ppb	1.360	0.27%	
QC value within limits for Cu 324.752 Recovery = 100.38%							
Fe 238.204 Radial†	427.0	4976.8 ug/L	41.71	4976.8 ppb	41.71	0.84%	
QC value within limits for Fe 238.204 Radial Recovery = 99.54%							
K 766.490 Radial†	12902.8	2452.6 ug/L	14.56	2452.6 ppb	14.56	0.59%	
QC value within limits for K 766.490 Radial Recovery = 98.10%							
Mg 279.077 IEC†	127.2	5358.8 ug/L	105.02	5358.8 ppb	105.02	1.96%	
QC value within limits for Mg 279.077 IEC Recovery = 107.18%							
Mn 257.610†	505627.9	507.59 ug/L	0.605	507.59 ppb	0.605	0.12%	
QC value within limits for Mn 257.610 Recovery = 101.52%							
Mo 202.031†	7969.3	530.08 ug/L	1.458	530.08 ppb	1.458	0.28%	
QC value within limits for Mo 202.031 Recovery = 106.02%							
Na 589.592 Radial†	7620.5	2348.3 ug/L	8.87	2348.3 ppb	8.87	0.38%	
QC value within limits for Na 589.592 Radial Recovery = 93.93%							
Ni 231.604†	22011.0	490.16 ug/L	2.614	490.16 ppb	2.614	0.53%	
QC value within limits for Ni 231.604 Recovery = 98.03%							
P 214.914†	4759.8	2373.9 ug/L	15.71	2373.9 ppb	15.71	0.66%	
QC value within limits for P 214.914 Recovery = 94.96%							
Pb 220.353†	4605.3	495.84 ug/L	2.525	495.84 ppb	2.525	0.51%	
QC value within limits for Pb 220.353 Recovery = 99.17%							
S 181.975 Axial†	2002.0	2444.7 ug/L	15.62	2444.7 ppb	15.62	0.64%	
QC value within limits for S 181.975 Axial Recovery = 97.79%							
Sb 206.836†	1610.4	511.12 ug/L	1.792	511.12 ppb	1.792	0.35%	
QC value within limits for Sb 206.836 Recovery = 102.22%							
Se 196.026†	4573.2	2553.3 ug/L	9.92	2553.3 ppb	9.92	0.39%	
QC value within limits for Se 196.026 Recovery = 102.13%							
Si 251.611†	159902.1	4753.1 ug/L	10.46	4753.1 ppb	10.46	0.22%	
QC value within limits for Si 251.611 Recovery = 95.06%							
Sn 189.927†	3278.6	530.49 ug/L	3.212	530.49 ppb	3.212	0.61%	
QC value within limits for Sn 189.927 Recovery = 106.10%							
Sr 421.552†	77783.1	513.54 ug/L	1.897	513.54 ppb	1.897	0.37%	
QC value within limits for Sr 421.552 Recovery = 102.71%							
Ti 334.940†	332383.9	496.47 ug/L	0.441	496.47 ppb	0.441	0.09%	
QC value within limits for Ti 334.940 Recovery = 99.29%							
Tl 190.801†	1849.9	525.35 ug/L	1.987	525.35 ppb	1.987	0.38%	
QC value within limits for Tl 190.801 Recovery = 105.07%							
U 409.014†	16989.4	500.20 ug/L	1.921	500.20 ppb	1.921	0.38%	
QC value within limits for U 409.014 Recovery = 100.04%							
V 292.402†	75219.6	507.54 ug/L	0.766	507.54 ppb	0.766	0.15%	
QC value within limits for V 292.402 Recovery = 101.51%							
Zn 213.857†	59425.8	499.90 ug/L	0.511	499.90 ppb	0.511	0.10%	
QC value within limits for Zn 213.857 Recovery = 99.98%							
SiO2†	159530.7	10159 ug/L	27.7	10159 ppb	27.7	0.27%	
QC value within limits for SiO2 Recovery = 94.99%							
All analyte(s) passed QC.							

Sequence No.: 7  
 Sample ID: ICB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 10  
 Date Collected: 2/1/2010 07:28:58  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4117.5	4117.5	99.8 %		07:31:12
1	Y RADIAL	4870.1	4870.1	100.6 %		07:30:52
1	Al 396.153Radial†	-213.4	-23.8	-19.631 ug/L	-19.631 ppb	07:30:52
1	Ca 317.933Radial†	16.6	3.3	6.1595 ug/L	6.1595 ppb	07:31:12
1	Fe 238.204 Radial†	11.3	1.2	13.968 ug/L	13.968 ppb	07:31:12
1	K 766.490 Radial†	2774.1	155.2	29.547 ug/L	29.547 ppb	07:30:52
1	Mg 279.077 IEC†	0.9	0.9	38.047 ug/L	38.047 ppb	07:31:12
1	Na 589.592 Radial†	-1741.2	-92.3	-28.447 ug/L	-28.447 ppb	07:30:52
1	Sr 421.552†	31.0	-5.4	-0.0354 ug/L	-0.0354 ppb	07:30:52
1	Sc 361.383	886439.1	886439.1	99.508 %		07:32:09
1	Y 371.029	729838.0	729838.0	99.400 %		07:32:09
1	Ag 328.068†	574.7	-46.9	-0.2016 ug/L	-0.2016 ppb	07:32:09
1	As 188.979†	-25.0	3.6	1.3864 ug/L	1.3864 ppb	07:32:29
1	B 249.677†	-230.9	529.1	11.059 ug/L	11.059 ppb	07:32:09
1	Ba 233.527†	-26.3	-11.1	-0.0816 ug/L	-0.0816 ppb	07:32:29
1	Be 313.107†	-4351.9	29.7	0.0103 ug/L	0.0103 ppb	07:32:09
1	Cd 226.502†	-208.9	-5.8	-0.0613 ug/L	-0.0613 ppb	07:32:29
1	Co 228.616†	-79.9	4.8	0.0893 ug/L	0.0893 ppb	07:32:29
1	Cr 267.716†	59.8	-1.8	-0.0179 ug/L	-0.0179 ppb	07:32:09
1	Cu 324.752†	6981.5	129.2	0.3608 ug/L	0.3608 ppb	07:32:09
1	Mn 257.610†	721.2	192.9	0.1934 ug/L	0.1934 ppb	07:32:09
1	Mo 202.031†	10.2	5.0	0.3324 ug/L	0.3324 ppb	07:32:29
1	Ni 231.604†	80.2	-4.6	-0.1021 ug/L	-0.1021 ppb	07:32:29
1	P 214.914†	232.2	10.1	5.1500 ug/L	5.1500 ppb	07:32:29
1	Pb 220.353†	-78.7	0.5	0.0495 ug/L	0.0495 ppb	07:32:29
1	S 181.975 Axial†	49.5	0.8	1.0370 ug/L	1.0370 ppb	07:32:29
1	Sb 206.836†	50.7	12.6	3.8625 ug/L	3.8625 ppb	07:32:29
1	Se 196.026†	-26.3	-0.5	-0.2036 ug/L	-0.2036 ppb	07:32:29
1	Si 251.611†	523.0	-10.1	-0.3054 ug/L	-0.3054 ppb	07:32:29
1	Sn 189.927†	15.5	6.1	0.9886 ug/L	0.9886 ppb	07:32:29
1	Ti 334.940†	-1681.0	115.1	0.1701 ug/L	0.1701 ppb	07:32:09
1	Tl 190.801†	-40.4	3.9	1.0992 ug/L	1.0992 ppb	07:32:29
1	U 409.014†	-5123.7	-35.9	-1.0625 ug/L	-1.0625 ppb	07:32:09
1	V 292.402†	-1800.1	-56.9	-0.3770 ug/L	-0.3770 ppb	07:32:09
1	Zn 213.857†	725.5	20.0	0.1684 ug/L	0.1684 ppb	07:32:29
1	SiO2†	566.8	7.4	0.4603 ug/L	0.4603 ppb	07:33:25
2	Sc Radial	4143.7	4143.7	100 %		07:31:37
2	Y RADIAL	4910.4	4910.4	101.4 %		07:31:17
2	Al 396.153Radial†	-198.1	-7.1	-5.8996 ug/L	-5.8996 ppb	07:31:17
2	Ca 317.933Radial†	17.0	3.6	6.7108 ug/L	6.7108 ppb	07:31:37
2	Fe 238.204 Radial†	14.1	3.9	45.776 ug/L	45.776 ppb	07:31:37
2	K 766.490 Radial†	2619.6	-16.2	-3.0786 ug/L	-3.0786 ppb	07:31:17
2	Mg 279.077 IEC†	2.5	2.6	107.82 ug/L	107.82 ppb	07:31:37
2	Na 589.592 Radial†	-1695.5	-35.8	-11.028 ug/L	-11.028 ppb	07:31:17
2	Sr 421.552†	33.0	-3.6	-0.0236 ug/L	-0.0236 ppb	07:31:17
2	Sc 361.383	887663.3	887663.3	99.645 %		07:32:34
2	Y 371.029	732390.2	732390.2	99.747 %		07:32:34
2	Ag 328.068†	574.4	-48.1	-0.1967 ug/L	-0.1967 ppb	07:32:34
2	As 188.979†	-36.3	-7.7	-2.9322 ug/L	-2.9322 ppb	07:32:55
2	B 249.677†	-300.3	459.7	9.6040 ug/L	9.6040 ppb	07:32:34
2	Ba 233.527†	-19.8	-4.5	-0.0314 ug/L	-0.0314 ppb	07:32:55
2	Be 313.107†	-4354.4	33.2	0.0112 ug/L	0.0112 ppb	07:32:34
2	Cd 226.502†	-199.0	4.4	0.0415 ug/L	0.0415 ppb	07:32:55
2	Co 228.616†	-75.5	9.4	0.1733 ug/L	0.1733 ppb	07:32:55
2	Cr 267.716†	78.6	17.0	0.1753 ug/L	0.1753 ppb	07:32:34
2	Cu 324.752†	6956.9	94.8	0.2649 ug/L	0.2649 ppb	07:32:34
2	Mn 257.610†	744.0	214.8	0.2157 ug/L	0.2157 ppb	07:32:34
2	Mo 202.031†	7.6	2.4	0.1625 ug/L	0.1625 ppb	07:32:55
2	Ni 231.604†	86.1	1.2	0.0271 ug/L	0.0271 ppb	07:32:55



2	P 214.914†	225.3	2.8	1.3734 ug/L	1.3734 ppb	07:32:55
2	Pb 220.353†	-67.3	12.1	1.2904 ug/L	1.2904 ppb	07:32:55
2	S 181.975 Axial†	47.3	-1.4	-1.7527 ug/L	-1.7527 ppb	07:32:55
2	Sb 206.836†	48.8	10.6	3.2272 ug/L	3.2272 ppb	07:32:55
2	Se 196.026†	-35.0	-9.1	-4.9197 ug/L	-4.9197 ppb	07:32:55
2	Si 251.611†	539.8	6.0	0.1761 ug/L	0.1761 ppb	07:32:55
2	Sn 189.927†	6.2	-3.2	-0.5161 ug/L	-0.5161 ppb	07:32:55
2	Ti 334.940†	-1776.9	21.1	0.0226 ug/L	0.0226 ppb	07:32:34
2	Tl 190.801†	-35.7	8.7	2.4494 ug/L	2.4494 ppb	07:32:55
2	U 409.014†	-5014.4	80.8	2.3822 ug/L	2.3822 ppb	07:32:34
2	V 292.402†	-1716.1	30.0	0.2016 ug/L	0.2016 ppb	07:32:34
2	Zn 213.857†	710.8	4.3	0.0311 ug/L	0.0311 ppb	07:32:55
2	SiO2†	601.0	40.9	2.6068 ug/L	2.6068 ppb	07:33:30
3	Sc Radial	4120.5	4120.5	99.9 %		07:32:02
3	Y RADIAL	4885.5	4885.5	100.9 %		07:31:42
3	Al 396.153Radial†	-214.3	-24.4	-20.160 ug/L	-20.160 ppb	07:31:42
3	Ca 317.933Radial†	17.7	4.4	8.1803 ug/L	8.1803 ppb	07:32:02
3	Fe 238.204 Radial†	11.0	0.9	10.564 ug/L	10.564 ppb	07:32:02
3	K 766.490 Radial†	2707.5	86.6	16.478 ug/L	16.478 ppb	07:31:42
3	Mg 279.077 IEC†	-0.8	-0.8	-32.545 ug/L	-32.545 ppb	07:32:02
3	Na 589.592 Radial†	-1687.5	-37.3	-11.492 ug/L	-11.492 ppb	07:31:42
3	Sr 421.552†	2.7	-33.8	-0.2229 ug/L	-0.2229 ppb	07:31:42
3	Sc 361.383	885940.1	885940.1	99.452 %		07:33:00
3	Y 371.029	730246.2	730246.2	99.455 %		07:33:00
3	Ag 328.068†	505.4	-116.3	-0.5068 ug/L	-0.5068 ppb	07:33:00
3	As 188.979†	-28.3	0.3	0.1284 ug/L	0.1284 ppb	07:33:20
3	B 249.677†	-388.7	370.2	7.7387 ug/L	7.7387 ppb	07:33:00
3	Ba 233.527†	-15.6	-0.4	-0.0027 ug/L	-0.0027 ppb	07:33:20
3	Be 313.107†	-4401.1	-22.3	-0.0074 ug/L	-0.0074 ppb	07:33:00
3	Cd 226.502†	-207.1	-4.1	-0.0429 ug/L	-0.0429 ppb	07:33:20
3	Co 228.616†	-82.9	1.7	0.0315 ug/L	0.0315 ppb	07:33:20
3	Cr 267.716†	87.0	25.6	0.2633 ug/L	0.2633 ppb	07:33:00
3	Cu 324.752†	6927.3	78.7	0.2184 ug/L	0.2184 ppb	07:33:00
3	Mn 257.610†	737.7	209.9	0.2130 ug/L	0.2130 ppb	07:33:00
3	Mo 202.031†	2.8	-2.4	-0.1574 ug/L	-0.1574 ppb	07:33:20
3	Ni 231.604†	104.8	20.2	0.4500 ug/L	0.4500 ppb	07:33:20
3	P 214.914†	209.4	-12.7	-6.6317 ug/L	-6.6317 ppb	07:33:20
3	Pb 220.353†	-77.5	1.7	0.1743 ug/L	0.1743 ppb	07:33:20
3	S 181.975 Axial†	50.7	2.1	2.6172 ug/L	2.6172 ppb	07:33:20
3	Sb 206.836†	41.5	3.3	1.0223 ug/L	1.0223 ppb	07:33:20
3	Se 196.026†	-35.8	-10.1	-5.5503 ug/L	-5.5503 ppb	07:33:20
3	Si 251.611†	545.0	12.2	0.3663 ug/L	0.3663 ppb	07:33:20
3	Sn 189.927†	10.3	1.0	0.1584 ug/L	0.1584 ppb	07:33:20
3	Ti 334.940†	-1763.9	30.7	0.0487 ug/L	0.0487 ppb	07:33:00
3	Tl 190.801†	-25.2	19.1	5.4021 ug/L	5.4021 ppb	07:33:20
3	U 409.014†	-5022.2	63.2	1.8649 ug/L	1.8649 ppb	07:33:00
3	V 292.402†	-1738.4	4.2	0.0270 ug/L	0.0270 ppb	07:33:00
3	Zn 213.857†	718.2	13.1	0.1068 ug/L	0.1068 ppb	07:33:20
3	SiO2†	612.1	53.2	3.3996 ug/L	3.3996 ppb	07:33:35

## Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	886680.8	99.535 %	0.0995			0.10%
Sc Radial	4127.2	100 %	0.3			0.35%
Y 371.029	730824.8	99.534 %	0.1867			0.19%
Y RADIAL	4888.7	101.0 %	0.42			0.42%
Ag 328.068†	-70.4	-0.3017 ug/L	0.17767	-0.3017 ppb	0.17767	58.89%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-18.4	-15.230 ug/L	8.0849	-15.230 ppb	8.0849	53.08%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.2	-0.4724 ug/L	2.22111	-0.4724 ppb	2.22111	470.13%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	453.0	9.4673 ug/L	1.66442	9.4673 ppb	1.66442	17.58%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-5.4	-0.0386 ug/L	0.03994	-0.0386 ppb	0.03994	103.58%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	13.5	0.0047 ug/L	0.01049	0.0047 ppb	0.01049	222.37%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	3.8	7.0169 ug/L	1.04459	7.0169 ppb	1.04459	14.89%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	-1.8	-0.0209 ug/L	0.05482	-0.0209 ppb	0.05482	262.18%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	5.3	0.0980 ug/L	0.07128	0.0980 ppb	0.07128	72.71%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	13.6	0.1402 ug/L	0.14385	0.1402 ppb	0.14385	102.57%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	100.9	0.2813 ug/L	0.07261	0.2813 ppb	0.07261	25.81%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	2.0	23.436 ug/L	19.4214	23.436 ppb	19.4214	82.87%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	75.2	14.315 ug/L	16.4199	14.315 ppb	16.4199	114.70%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.9	37.775 ug/L	70.1845	37.775 ppb	70.1845	185.80%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	205.9	0.2074 ug/L	0.01216	0.2074 ppb	0.01216	5.86%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	1.7	0.1125 ug/L	0.24869	0.1125 ppb	0.24869	221.05%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-55.1	-16.989 ug/L	9.9256	-16.989 ppb	9.9256	58.42%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	5.6	0.1250 ug/L	0.28877	0.1250 ppb	0.28877	231.00%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	0.1	-0.0361 ug/L	6.01599	-0.0361 ppb	6.01599	>999.9%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	4.8	0.5047 ug/L	0.68328	0.5047 ppb	0.68328	135.37%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	0.5	0.6338 ug/L	2.21269	0.6338 ppb	2.21269	349.11%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	8.8	2.7040 ug/L	1.49064	2.7040 ppb	1.49064	55.13%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-6.6	-3.5579 ug/L	2.92196	-3.5579 ppb	2.92196	82.13%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	2.7	0.0790 ug/L	0.34623	0.0790 ppb	0.34623	438.12%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	1.3	0.2103 ug/L	0.75366	0.2103 ppb	0.75366	358.40%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-14.2	-0.0940 ug/L	0.11181	-0.0940 ppb	0.11181	118.97%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	55.6	0.0805 ug/L	0.07872	0.0805 ppb	0.07872	97.83%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	10.6	2.9836 ug/L	2.20065	2.9836 ppb	2.20065	73.76%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	36.0	1.0616 ug/L	1.85755	1.0616 ppb	1.85755	174.98%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	-7.6	-0.0495 ug/L	0.29681	-0.0495 ppb	0.29681	599.83%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	12.4	0.1021 ug/L	0.06876	0.1021 ppb	0.06876	67.35%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	33.8	2.1556 ug/L	1.52074	2.1556 ppb	1.52074	70.55%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 2/1/2010 07:35:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4328.1	4328.1	105 %		07:37:39
1	Y RADIAL	4882.4	4882.4	100.8 %		07:37:39
1	Al 396.153Radial†	70.4	257.2	211.95 ug/L	211.95 ppb	07:37:39
1	Ca 317.933Radial†	137.3	117.6	217.61 ug/L	217.61 ppb	07:37:59
1	Fe 238.204 Radial†	20.6	9.6	111.16 ug/L	111.16 ppb	07:37:59
1	K 766.490 Radial†	3472.1	685.2	130.22 ug/L	130.22 ppb	07:37:39
1	Mg 279.077 IEC†	8.0	7.7	325.22 ug/L	325.22 ppb	07:37:59
1	Na 589.592 Radial†	-712.9	972.7	299.75 ug/L	299.75 ppb	07:37:39
1	Sr 421.552†	790.5	717.1	4.7329 ug/L	4.7329 ppb	07:37:39
1	Sc 361.383	889809.8	889809.8	99.886 %		07:38:56
1	Y 371.029	732038.2	732038.2	99.699 %		07:38:56
1	Ag 328.068†	1832.3	1209.9	5.3045 ug/L	5.3045 ppb	07:38:56
1	As 188.979†	47.1	75.9	29.203 ug/L	29.203 ppb	07:39:16
1	B 249.677†	1940.6	2703.9	56.502 ug/L	56.502 ppb	07:38:56
1	Ba 233.527†	686.2	702.3	5.1488 ug/L	5.1488 ppb	07:39:16
1	Be 313.107†	10762.2	15177.5	5.1040 ug/L	5.1040 ppb	07:38:56
1	Cd 226.502†	288.6	493.0	5.0931 ug/L	5.0931 ppb	07:39:16
1	Co 228.616†	191.5	276.9	5.1127 ug/L	5.1127 ppb	07:39:16
1	Cr 267.716†	600.1	539.0	5.5373 ug/L	5.5373 ppb	07:38:56
1	Cu 324.752†	10663.6	3789.0	10.515 ug/L	10.515 ppb	07:38:56
1	Mn 257.610†	11284.4	10765.5	10.799 ug/L	10.799 ppb	07:38:56
1	Mo 202.031†	142.8	137.8	9.1679 ug/L	9.1679 ppb	07:39:16
1	Ni 231.604†	307.5	222.6	4.9578 ug/L	4.9578 ppb	07:39:16
1	P 214.914†	505.4	282.7	144.77 ug/L	144.77 ppb	07:39:16
1	Pb 220.353†	32.5	112.2	12.093 ug/L	12.093 ppb	07:39:16
1	S 181.975 Axial†	132.6	83.9	102.43 ug/L	102.43 ppb	07:39:16
1	Sb 206.836†	88.4	50.1	15.666 ug/L	15.666 ppb	07:39:16
1	Se 196.026†	25.0	51.0	28.656 ug/L	28.656 ppb	07:39:16
1	Si 251.611†	3951.5	3420.3	101.69 ug/L	101.69 ppb	07:38:56
1	Sn 189.927†	79.8	70.5	11.421 ug/L	11.421 ppb	07:39:16
1	Ti 334.940†	1649.3	3455.6	5.1401 ug/L	5.1401 ppb	07:38:56
1	Tl 190.801†	16.6	61.1	17.291 ug/L	17.291 ppb	07:39:16
1	U 409.014†	-3278.1	1831.3	54.068 ug/L	54.068 ppb	07:38:56
1	V 292.402†	-917.9	833.3	5.7590 ug/L	5.7590 ppb	07:38:56
1	Zn 213.857†	1937.4	1230.5	10.383 ug/L	10.383 ppb	07:39:16
1	SiO2†	3980.4	3422.7	218.01 ug/L	218.01 ppb	07:40:13
2	Sc Radial	4281.1	4281.1	104 %		07:38:04
2	Y RADIAL	4822.6	4822.6	99.61 %		07:38:04
2	Al 396.153Radial†	50.3	238.6	196.49 ug/L	196.49 ppb	07:38:04
2	Ca 317.933Radial†	130.9	112.8	208.78 ug/L	208.78 ppb	07:38:24
2	Fe 238.204 Radial†	20.6	9.7	113.37 ug/L	113.37 ppb	07:38:24
2	K 766.490 Radial†	3553.3	799.8	152.04 ug/L	152.04 ppb	07:38:04
2	Mg 279.077 IEC†	12.4	12.0	507.58 ug/L	507.58 ppb	07:38:24
2	Na 589.592 Radial†	-741.8	937.4	288.87 ug/L	288.87 ppb	07:38:04
2	Sr 421.552†	824.4	758.0	5.0030 ug/L	5.0030 ppb	07:38:04
2	Sc 361.383	881278.7	881278.7	98.928 %		07:39:22
2	Y 371.029	726823.0	726823.0	98.989 %		07:39:22
2	Ag 328.068†	1676.4	1070.0	4.6934 ug/L	4.6934 ppb	07:39:22
2	As 188.979†	54.4	83.7	32.195 ug/L	32.195 ppb	07:39:42
2	B 249.677†	1940.6	2722.7	56.895 ug/L	56.895 ppb	07:39:22
2	Ba 233.527†	699.1	722.0	5.2919 ug/L	5.2919 ppb	07:39:42
2	Be 313.107†	10551.9	15069.3	5.0678 ug/L	5.0678 ppb	07:39:22
2	Cd 226.502†	276.0	483.1	4.9901 ug/L	4.9901 ppb	07:39:42
2	Co 228.616†	185.9	273.1	5.0446 ug/L	5.0446 ppb	07:39:42
2	Cr 267.716†	567.2	511.5	5.2550 ug/L	5.2550 ppb	07:39:22
2	Cu 324.752†	10472.0	3698.6	10.265 ug/L	10.265 ppb	07:39:22
2	Mn 257.610†	11081.3	10669.6	10.696 ug/L	10.696 ppb	07:39:22
2	Mo 202.031†	152.1	148.5	9.8834 ug/L	9.8834 ppb	07:39:42
2	Ni 231.604†	325.4	243.8	5.4296 ug/L	5.4296 ppb	07:39:42

2	P 214.914†	524.7	307.1	157.46 ug/L	157.46 ppb	07:39:42
2	Pb 220.353†	38.8	118.8	12.804 ug/L	12.804 ppb	07:39:42
2	S 181.975 Axial†	127.7	80.2	97.937 ug/L	97.937 ppb	07:39:42
2	Sb 206.836†	72.0	34.4	10.889 ug/L	10.889 ppb	07:39:42
2	Se 196.026†	30.8	57.1	32.092 ug/L	32.092 ppb	07:39:42
2	Si 251.611†	3965.1	3472.3	103.24 ug/L	103.24 ppb	07:39:22
2	Sn 189.927†	81.1	72.6	11.760 ug/L	11.760 ppb	07:39:42
2	Ti 334.940†	1680.6	3503.1	5.1960 ug/L	5.1960 ppb	07:39:22
2	Tl 190.801†	34.6	79.4	22.473 ug/L	22.473 ppb	07:39:42
2	U 409.014†	-3312.8	1764.4	52.093 ug/L	52.093 ppb	07:39:22
2	V 292.402†	-969.2	772.5	5.3643 ug/L	5.3643 ppb	07:39:22
2	Zn 213.857†	1909.8	1221.4	10.303 ug/L	10.303 ppb	07:39:42
2	SiO2†	3915.6	3395.8	216.28 ug/L	216.28 ppb	07:40:18
3	Sc Radial	4295.7	4295.7	104 %		07:38:30
3	Y RADIAL	4792.8	4792.8	99.00 %		07:38:30
3	Al 396.153Radial†	80.3	267.3	220.18 ug/L	220.18 ppb	07:38:30
3	Ca 317.933Radial†	132.1	113.6	210.24 ug/L	210.24 ppb	07:38:50
3	Fe 238.204 Radial†	19.2	8.3	96.697 ug/L	96.697 ppb	07:38:50
3	K 766.490 Radial†	3509.9	746.5	141.88 ug/L	141.88 ppb	07:38:30
3	Mg 279.077 IEC†	8.1	7.8	328.68 ug/L	328.68 ppb	07:38:50
3	Na 589.592 Radial†	-676.6	1002.5	308.91 ug/L	308.91 ppb	07:38:30
3	Sr 421.552†	829.4	760.1	5.0169 ug/L	5.0169 ppb	07:38:30
3	Sc 361.383	886926.6	886926.6	99.562 %		07:39:47
3	Y 371.029	731155.1	731155.1	99.579 %		07:39:47
3	Ag 328.068†	1748.0	1131.2	4.9533 ug/L	4.9533 ppb	07:39:47
3	As 188.979†	52.6	81.6	31.368 ug/L	31.368 ppb	07:40:07
3	B 249.677†	2056.1	2826.2	59.061 ug/L	59.061 ppb	07:39:47
3	Ba 233.527†	688.8	707.1	5.1821 ug/L	5.1821 ppb	07:40:07
3	Be 313.107†	10601.5	15051.2	5.0616 ug/L	5.0616 ppb	07:39:47
3	Cd 226.502†	280.8	486.2	5.0241 ug/L	5.0241 ppb	07:40:07
3	Co 228.616†	190.8	276.7	5.1130 ug/L	5.1130 ppb	07:40:07
3	Cr 267.716†	569.0	509.7	5.2344 ug/L	5.2344 ppb	07:39:47
3	Cu 324.752†	10632.5	3792.4	10.524 ug/L	10.524 ppb	07:39:47
3	Mn 257.610†	11144.2	10661.4	10.693 ug/L	10.693 ppb	07:39:47
3	Mo 202.031†	156.7	152.2	10.123 ug/L	10.123 ppb	07:40:07
3	Ni 231.604†	316.4	232.6	5.1795 ug/L	5.1795 ppb	07:40:07
3	P 214.914†	521.0	300.0	153.76 ug/L	153.76 ppb	07:40:07
3	Pb 220.353†	22.4	102.1	11.016 ug/L	11.016 ppb	07:40:07
3	S 181.975 Axial†	122.8	74.5	90.964 ug/L	90.964 ppb	07:40:07
3	Sb 206.836†	81.7	43.7	13.715 ug/L	13.715 ppb	07:40:07
3	Se 196.026†	36.2	62.3	34.905 ug/L	34.905 ppb	07:40:07
3	Si 251.611†	3941.0	3422.6	101.75 ug/L	101.75 ppb	07:39:47
3	Sn 189.927†	75.2	66.1	10.704 ug/L	10.704 ppb	07:40:07
3	Ti 334.940†	1654.8	3466.5	5.1557 ug/L	5.1557 ppb	07:39:47
3	Tl 190.801†	26.6	71.2	20.153 ug/L	20.153 ppb	07:40:07
3	U 409.014†	-3306.8	1791.7	52.903 ug/L	52.903 ppb	07:39:47
3	V 292.402†	-1029.2	718.5	5.0090 ug/L	5.0090 ppb	07:39:47
3	Zn 213.857†	1936.9	1236.3	10.432 ug/L	10.432 ppb	07:40:07
3	SiO2†	3941.0	3396.1	216.29 ug/L	216.29 ppb	07:40:23

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	886005.0	99.459 %	0.4871			0.49%
Sc Radial	4301.7	104 %	0.6			0.56%
Y 371.029	730005.4	99.422 %	0.3801			0.38%
Y RADIAL	4832.6	99.82 %	0.943			0.94%
Ag 328.068†	1137.0	4.9837 ug/L	0.30668	4.9837 ppb	0.30668	6.15%
QC value within limits for Ag 328.068 Recovery = 99.67%						
Al 396.153Radial†	254.4	209.54 ug/L	12.027	209.54 ppb	12.027	5.74%
QC value within limits for Al 396.153Radial Recovery = 104.77%						
As 188.979†	80.4	30.922 ug/L	1.5446	30.922 ppb	1.5446	5.00%
QC value within limits for As 188.979 Recovery = 103.07%						
B 249.677†	2750.9	57.486 ug/L	1.3780	57.486 ppb	1.3780	2.40%
QC value within limits for B 249.677 Recovery = 114.97%						
Ba 233.527†	710.5	5.2076 ug/L	0.07485	5.2076 ppb	0.07485	1.44%
QC value within limits for Ba 233.527 Recovery = 104.15%						
Be 313.107†	15099.3	5.0778 ug/L	0.02287	5.0778 ppb	0.02287	0.45%
QC value within limits for Be 313.107 Recovery = 101.56%						
Ca 317.933Radial†	114.6	212.21 ug/L	4.737	212.21 ppb	4.737	2.23%

QC value within limits for Ca 317.933 Radial Recovery = 106.10%							
Cd 226.502†	487.4	5.0358 ug/L	0.05248	5.0358 ppb	0.05248	1.04%	
QC value within limits for Cd 226.502 Recovery = 100.72%							
Co 228.616†	275.6	5.0901 ug/L	0.03940	5.0901 ppb	0.03940	0.77%	
QC value within limits for Co 228.616 Recovery = 101.80%							
Cr 267.716†	520.1	5.3422 ug/L	0.16928	5.3422 ppb	0.16928	3.17%	
QC value within limits for Cr 267.716 Recovery = 106.84%							
Cu 324.752†	3760.0	10.434 ug/L	0.1472	10.434 ppb	0.1472	1.41%	
QC value within limits for Cu 324.752 Recovery = 104.34%							
Fe 238.204 Radial†	9.2	107.07 ug/L	9.054	107.07 ppb	9.054	8.46%	
QC value within limits for Fe 238.204 Radial Recovery = 107.07%							
K 766.490 Radial†	743.8	141.38 ug/L	10.920	141.38 ppb	10.920	7.72%	
QC value within limits for K 766.490 Radial Recovery = 94.25%							
Mg 279.077 IEC†	9.2	387.16 ug/L	104.299	387.16 ppb	104.299	26.94%	
QC value within limits for Mg 279.077 IEC Recovery = 129.05%							
Mn 257.610†	10698.8	10.729 ug/L	0.0605	10.729 ppb	0.0605	0.56%	
QC value within limits for Mn 257.610 Recovery = 107.29%							
Mo 202.031†	146.2	9.7247 ug/L	0.49686	9.7247 ppb	0.49686	5.11%	
QC value within limits for Mo 202.031 Recovery = 97.25%							
Na 589.592 Radial†	970.9	299.18 ug/L	10.032	299.18 ppb	10.032	3.35%	
QC value within limits for Na 589.592 Radial Recovery = 99.73%							
Ni 231.604†	233.0	5.1890 ug/L	0.23603	5.1890 ppb	0.23603	4.55%	
QC value within limits for Ni 231.604 Recovery = 103.78%							
P 214.914†	296.6	152.00 ug/L	6.525	152.00 ppb	6.525	4.29%	
QC value within limits for P 214.914 Recovery = 101.33%							
Pb 220.353†	111.0	11.971 ug/L	0.9005	11.971 ppb	0.9005	7.52%	
QC value within limits for Pb 220.353 Recovery = 119.71%							
S 181.975 Axial†	79.5	97.109 ug/L	5.7754	97.109 ppb	5.7754	5.95%	
QC value within limits for S 181.975 Axial Recovery = 97.11%							
Sb 206.836†	42.7	13.423 ug/L	2.4021	13.423 ppb	2.4021	17.90%	
QC value greater than the upper limit for Sb 206.836 Recovery = 134.23%							
Se 196.026†	56.8	31.884 ug/L	3.1296	31.884 ppb	3.1296	9.82%	
QC value within limits for Se 196.026 Recovery = 106.28%							
Si 251.611†	3438.4	102.23 ug/L	0.874	102.23 ppb	0.874	0.85%	
QC value within limits for Si 251.611 Recovery = 102.23%							
Sn 189.927†	69.7	11.295 ug/L	0.5388	11.295 ppb	0.5388	4.77%	
QC value within limits for Sn 189.927 Recovery = 112.95%							
Sr 421.552†	745.0	4.9176 ug/L	0.16014	4.9176 ppb	0.16014	3.26%	
QC value within limits for Sr 421.552 Recovery = 98.35%							
Ti 334.940†	3475.1	5.1639 ug/L	0.02888	5.1639 ppb	0.02888	0.56%	
QC value within limits for Ti 334.940 Recovery = 103.28%							
Tl 190.801†	70.6	19.972 ug/L	2.5955	19.972 ppb	2.5955	13.00%	
QC value within limits for Tl 190.801 Recovery = 99.86%							
U 409.014†	1795.8	53.021 ug/L	0.9928	53.021 ppb	0.9928	1.87%	
QC value within limits for U 409.014 Recovery = 106.04%							
V 292.402†	774.7	5.3774 ug/L	0.37518	5.3774 ppb	0.37518	6.98%	
QC value within limits for V 292.402 Recovery = 107.55%							
Zn 213.857†	1229.4	10.373 ug/L	0.0650	10.373 ppb	0.0650	0.63%	
QC value within limits for Zn 213.857 Recovery = 103.73%							
SiO2†	3404.9	216.86 ug/L	0.998	216.86 ppb	0.998	0.46%	
QC value within limits for SiO2 Recovery = 101.81%							
QC Failed. Continue with analysis.							

Sequence No.: 9  
 Sample ID: ICSA  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 13  
 Date Collected: 2/1/2010 07:42:34  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	3853.3	3853.3	93.4 %		07:44:32
1	Y RADIAL	4287.2	4287.2	88.55 %		07:44:32
1	Al 396.153Radial†	574220.9	614973.5	507770 ug/L	507770 ppb	07:44:27
1	Ca 317.933Radial†	240944.8	257951.5	477510 ug/L	477510 ppb	07:44:27
1	Fe 238.204 Radial†	15056.7	16110.2	187220 ug/L	187220 ppb	07:44:32
1	K 766.490 Radial†	2209.4	-258.8	-208.96 ug/L	-208.96 ppb	07:44:27
1	Mg 279.077 IEC†	10888.3	11657.5	491030 ug/L	491030 ppb	07:44:32
1	Na 589.592 Radial†	-1550.1	-7.3	-2.2447 ug/L	-2.2447 ppb	07:44:32
1	Sr 421.552†	570.8	574.6	0.2286 ug/L	0.2286 ppb	07:44:32
1	Sc 361.383	766844.6	766844.6	86.082 %		07:44:59
1	Y 371.029	617439.5	617439.5	84.092 %		07:44:59
1	Ag 328.068†	-9923.8	-12152.8	1.0062 ug/L	1.0062 ppb	07:44:59
1	As 188.979†	-97.1	-84.0	11.448 ug/L	11.448 ppb	07:45:20
1	B 249.677†	216.8	1012.9	-9.2281 ug/L	-9.2281 ppb	07:44:59
1	Ba 233.527†	-704.0	-802.5	-0.1361 ug/L	-0.1361 ppb	07:45:20
1	Be 313.107†	-4593.3	-932.9	-0.3641 ug/L	-0.3641 ppb	07:44:59
1	Cd 226.502†	1260.1	1668.0	-2.1064 ug/L	-2.1064 ppb	07:45:20
1	Co 228.616†	-19.1	63.0	-1.5484 ug/L	-1.5484 ppb	07:45:20
1	Cr 267.716†	-144.6	-229.8	1.2817 ug/L	1.2817 ppb	07:45:20
1	Cu 324.752†	3515.6	-2802.8	2.0955 ug/L	2.0955 ppb	07:44:59
1	Mn 257.610†	310.8	-170.7	-1.7654 ug/L	-1.7654 ppb	07:44:59
1	Mo 202.031†	-279.7	-330.1	-1.7232 ug/L	-1.7232 ppb	07:45:20
1	Ni 231.604†	199.9	147.0	3.2759 ug/L	3.2759 ppb	07:45:20
1	P 214.914†	201.1	10.3	-17.911 ug/L	-17.911 ppb	07:45:20
1	Pb 220.353†	-896.7	-962.1	-3.6673 ug/L	-3.6673 ppb	07:45:20
1	S 181.975 Axial†	83.0	47.6	-37.059 ug/L	-37.059 ppb	07:45:20
1	Sb 206.836†	95.0	71.9	11.578 ug/L	11.578 ppb	07:45:20
1	Se 196.026†	-1012.1	-1149.8	13.958 ug/L	13.958 ppb	07:45:20
1	Si 251.611†	482.0	24.2	0.9893 ug/L	0.9893 ppb	07:45:20
1	Sn 189.927†	-357.5	-424.7	7.1019 ug/L	7.1019 ppb	07:45:20
1	Ti 334.940†	-14522.7	-15066.3	1.3981 ug/L	1.3981 ppb	07:44:59
1	Tl 190.801†	-103.7	-76.0	-21.650 ug/L	-21.650 ppb	07:45:20
1	U 409.014†	-3444.3	1111.9	11.505 ug/L	11.505 ppb	07:44:59
1	V 292.402†	464.8	2292.1	-2.7532 ug/L	-2.7532 ppb	07:45:20
1	Zn 213.857†	3259.0	3076.7	7.9325 ug/L	7.9325 ppb	07:45:20
1	SiO2†	461.2	-26.5	-1.0897 ug/L	-1.0897 ppb	07:46:16
2	Sc Radial	3829.3	3829.3	92.8 %		07:44:43
2	Y RADIAL	4298.4	4298.4	88.78 %		07:44:43
2	Al 396.153Radial†	569564.3	613803.5	506810 ug/L	506810 ppb	07:44:37
2	Ca 317.933Radial†	237983.1	256375.0	474590 ug/L	474590 ppb	07:44:37
2	Fe 238.204 Radial†	15045.4	16198.9	188250 ug/L	188250 ppb	07:44:43
2	K 766.490 Radial†	2235.5	-215.9	-199.83 ug/L	-199.83 ppb	07:44:37
2	Mg 279.077 IEC†	10875.0	11716.1	493500 ug/L	493500 ppb	07:44:43
2	Na 589.592 Radial†	-1533.6	0.0	0.0066 ug/L	0.0066 ppb	07:44:43
2	Sr 421.552†	543.1	548.7	0.0789 ug/L	0.0789 ppb	07:44:43
2	Sc 361.383	772400.6	772400.6	86.706 %		07:45:25
2	Y 371.029	620923.4	620923.4	84.566 %		07:45:25
2	Ag 328.068†	-10137.6	-12316.4	0.6611 ug/L	0.6611 ppb	07:45:25
2	As 188.979†	-105.6	-93.1	8.2069 ug/L	8.2069 ppb	07:45:45
2	B 249.677†	284.6	1089.3	-7.7974 ug/L	-7.7974 ppb	07:45:25
2	Ba 233.527†	-716.5	-811.1	-0.1653 ug/L	-0.1653 ppb	07:45:45
2	Be 313.107†	-4698.3	-1015.6	-0.3924 ug/L	-0.3924 ppb	07:45:25
2	Cd 226.502†	1262.7	1660.4	-2.2890 ug/L	-2.2890 ppb	07:45:45
2	Co 228.616†	-36.1	43.5	-1.9241 ug/L	-1.9241 ppb	07:45:45
2	Cr 267.716†	-159.0	-245.2	1.1409 ug/L	1.1409 ppb	07:45:45
2	Cu 324.752†	3568.1	-2771.6	2.2327 ug/L	2.2327 ppb	07:45:25
2	Mn 257.610†	293.2	-193.6	-1.7874 ug/L	-1.7874 ppb	07:45:25
2	Mo 202.031†	-296.3	-347.0	-2.8000 ug/L	-2.8000 ppb	07:45:45
2	Ni 231.604†	243.6	195.8	4.3622 ug/L	4.3622 ppb	07:45:45

2	P 214.914†	204.0	12.0	-18.204 ug/L	-18.204 ppb	07:45:45
2	Pb 220.353†	-935.6	-999.4	-8.0375 ug/L	-8.0375 ppb	07:45:45
2	S 181.975 Axial†	83.3	47.2	-37.319 ug/L	-37.319 ppb	07:45:45
2	Sb 206.836†	61.9	33.0	-0.3271 ug/L	-0.3271 ppb	07:45:45
2	Se 196.026†	-1043.0	-1177.0	2.2233 ug/L	2.2233 ppb	07:45:45
2	Si 251.611†	449.8	-17.0	-0.2219 ug/L	-0.2219 ppb	07:45:45
2	Sn 189.927†	-383.5	-451.7	2.3091 ug/L	2.3091 ppb	07:45:45
2	Ti 334.940†	-14776.5	-15237.7	0.5458 ug/L	0.5458 ppb	07:45:25
2	Tl 190.801†	-80.2	-48.0	-13.776 ug/L	-13.776 ppb	07:45:45
2	U 409.014†	-3252.3	1362.2	18.782 ug/L	18.782 ppb	07:45:25
2	V 292.402†	569.9	2409.5	-2.0765 ug/L	-2.0765 ppb	07:45:45
2	Zn 213.857†	3261.6	3052.5	7.6201 ug/L	7.6201 ppb	07:45:45
2	SiO2†	444.8	-49.2	-2.5111 ug/L	-2.5111 ppb	07:46:21
3	Sc Radial	3848.6	3848.6	93.3 %		07:44:53
3	Y RADIAL	4331.3	4331.3	89.46 %		07:44:53
3	Al 396.153Radial†	568951.0	610073.0	503730 ug/L	503730 ppb	07:44:48
3	Ca 317.933Radial†	237689.6	254776.3	471630 ug/L	471630 ppb	07:44:48
3	Fe 238.204 Radial†	15172.1	16253.5	188880 ug/L	188880 ppb	07:44:53
3	K 766.490 Radial†	2226.6	-237.5	-202.94 ug/L	-202.94 ppb	07:44:48
3	Mg 279.077 IEC†	10881.6	11664.5	491320 ug/L	491320 ppb	07:44:53
3	Na 589.592 Radial†	-1561.4	-21.5	-6.6106 ug/L	-6.6106 ppb	07:44:53
3	Sr 421.552†	581.3	586.7	0.3520 ug/L	0.3520 ppb	07:44:53
3	Sc 361.383	768526.8	768526.8	86.271 %		07:45:50
3	Y 371.029	617575.3	617575.3	84.110 %		07:45:50
3	Ag 328.068†	-9966.4	-12176.9	1.5149 ug/L	1.5149 ppb	07:45:50
3	As 188.979†	-104.4	-92.2	8.6748 ug/L	8.6748 ppb	07:46:11
3	B 249.677†	228.6	1026.1	-9.2237 ug/L	-9.2237 ppb	07:45:50
3	Ba 233.527†	-713.0	-811.2	-0.1489 ug/L	-0.1489 ppb	07:46:11
3	Be 313.107†	-4719.1	-1067.1	-0.4093 ug/L	-0.4093 ppb	07:45:50
3	Cd 226.502†	1243.1	1645.0	-2.5143 ug/L	-2.5143 ppb	07:46:11
3	Co 228.616†	-19.3	62.8	-1.5772 ug/L	-1.5772 ppb	07:46:11
3	Cr 267.716†	-219.0	-315.7	0.4268 ug/L	0.4268 ppb	07:46:11
3	Cu 324.752†	3557.6	-2763.1	2.2909 ug/L	2.2909 ppb	07:45:50
3	Mn 257.610†	245.4	-247.3	-1.6897 ug/L	-1.6897 ppb	07:45:50
3	Mo 202.031†	-284.4	-334.8	-1.9794 ug/L	-1.9794 ppb	07:46:11
3	Ni 231.604†	210.1	158.3	3.5275 ug/L	3.5275 ppb	07:46:11
3	P 214.914†	219.8	31.5	-9.3604 ug/L	-9.3604 ppb	07:46:11
3	Pb 220.353†	-874.4	-933.9	-1.7833 ug/L	-1.7833 ppb	07:46:11
3	S 181.975 Axial†	62.7	23.8	-65.373 ug/L	-65.373 ppb	07:46:11
3	Sb 206.836†	91.1	67.2	10.230 ug/L	10.230 ppb	07:46:11
3	Se 196.026†	-1031.3	-1169.4	8.3357 ug/L	8.3357 ppb	07:46:11
3	Si 251.611†	411.1	-59.2	-1.4897 ug/L	-1.4897 ppb	07:46:11
3	Sn 189.927†	-379.8	-449.6	2.2137 ug/L	2.2137 ppb	07:46:11
3	Ti 334.940†	-14587.6	-15104.7	0.5261 ug/L	0.5261 ppb	07:45:50
3	Tl 190.801†	-91.7	-61.9	-17.677 ug/L	-17.677 ppb	07:46:11
3	U 409.014†	-3278.1	1313.4	17.269 ug/L	17.269 ppb	07:45:50
3	V 292.402†	452.1	2276.2	-3.0890 ug/L	-3.0890 ppb	07:46:11
3	Zn 213.857†	3237.8	3043.9	7.4908 ug/L	7.4908 ppb	07:46:11
3	SiO2†	439.5	-52.8	-2.7629 ug/L	-2.7629 ppb	07:46:26

## Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	769257.3	86.353 %	0.3198			0.37%
Sc Radial	3843.8	93.2 %	0.31			0.33%
Y 371.029	618646.1	84.256 %	0.2688			0.32%
Y RADIAL	4305.6	88.93 %	0.474			0.53%
Ag 328.068†	-12215.4	1.0607 ug/L	0.42949	1.0607 ppb	0.42949	40.49%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	612950.0	506100 ug/L	2113.2	506100 ppb	2113.2	0.42%
QC value within limits for Al 396.153Radial Recovery = 101.22%						
As 188.979†	-89.8	9.4433 ug/L	1.75201	9.4433 ppb	1.75201	18.55%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1042.8	-8.7497 ug/L	0.82473	-8.7497 ppb	0.82473	9.43%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-808.3	-0.1501 ug/L	0.01466	-0.1501 ppb	0.01466	9.76%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-1005.2	-0.3886 ug/L	0.02281	-0.3886 ppb	0.02281	5.87%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	256367.6	474570 ug/L	2939.0	474570 ppb	2939.0	0.62%

QC value within limits for Ca 317.933 Radial Recovery = 94.91%							
Cd	226.502†	1657.8	-2.3032 ug/L	0.20435	-2.3032 ppb	0.20435	8.87%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co	228.616†	56.4	-1.6833 ug/L	0.20909	-1.6833 ppb	0.20909	12.42%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	-263.6	0.9498 ug/L	0.45835	0.9498 ppb	0.45835	48.26%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	-2779.2	2.2064 ug/L	0.10037	2.2064 ppb	0.10037	4.55%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	16187.5	188120 ug/L	840.8	188120 ppb	840.8	0.45%
QC value within limits for Fe 238.204 Radial Recovery = 94.06%							
K	766.490 Radial†	-237.4	-203.91 ug/L	4.645	-203.91 ppb	4.645	2.28%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	11679.4	491950 ug/L	1347.8	491950 ppb	1347.8	0.27%
QC value within limits for Mg 279.077 IEC Recovery = 98.39%							
Mn	257.610†	-203.9	-1.7475 ug/L	0.05126	-1.7475 ppb	0.05126	2.93%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	-337.3	-2.1676 ug/L	0.56253	-2.1676 ppb	0.56253	25.95%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	-9.6	-2.9495 ug/L	3.36446	-2.9495 ppb	3.36446	114.07%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	167.1	3.7218 ug/L	0.56867	3.7218 ppb	0.56867	15.28%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	17.9	-15.158 ug/L	5.0232	-15.158 ppb	5.0232	33.14%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	-965.1	-4.4960 ug/L	3.20837	-4.4960 ppb	3.20837	71.36%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	39.5	-46.584 ug/L	16.2724	-46.584 ppb	16.2724	34.93%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	57.4	7.1604 ug/L	6.51934	7.1604 ppb	6.51934	91.05%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	-1165.4	8.1725 ug/L	5.86926	8.1725 ppb	5.86926	71.82%
QC value within limits for Se 196.026 Recovery = Not calculated							
Si	251.611†	-17.4	-0.2408 ug/L	1.23957	-0.2408 ppb	1.23957	514.83%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	-442.0	3.8749 ug/L	2.79510	3.8749 ppb	2.79510	72.13%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	570.0	0.2198 ug/L	0.13676	0.2198 ppb	0.13676	62.22%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	-15136.2	0.8233 ug/L	0.49784	0.8233 ppb	0.49784	60.47%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	-62.0	-17.701 ug/L	3.9375	-17.701 ppb	3.9375	22.24%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	1262.5	15.852 ug/L	3.8398	15.852 ppb	3.8398	24.22%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	2325.9	-2.6395 ug/L	0.51570	-2.6395 ppb	0.51570	19.54%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	3057.7	7.6811 ug/L	0.22708	7.6811 ppb	0.22708	2.96%
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†		-42.8	-2.1213 ug/L	0.90215	-2.1213 ppb	0.90215	42.53%
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							



Sequence No.: 10

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 14

Date Collected: 2/1/2010 07:48:38

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	3852.1	3852.1	93.4 %		07:50:50
1	Y RADIAL	4315.0	4315.0	89.13 %		07:50:50
1	Al 396.153Radial†	577511.4	618698.0	510830 ug/L	510830 ppb	07:50:30
1	Ca 317.933Radial†	240794.8	257875.0	477360 ug/L	477360 ppb	07:50:30
1	Fe 238.204 Radial†	15074.7	16134.7	187520 ug/L	187520 ppb	07:50:50
1	K 766.490 Radial†	28692.3	28104.8	5187.1 ug/L	5187.1 ppb	07:50:30
1	Mg 279.077 IEC†	10920.4	11695.7	492650 ug/L	492650 ppb	07:50:50
1	Na 589.592 Radial†	14692.6	17387.9	5358.1 ug/L	5358.1 ppb	07:50:30
1	Sr 421.552†	71766.2	76824.3	503.68 ug/L	503.68 ppb	07:50:30
1	Sc 361.383	785454.3	785454.3	88.171 %		07:51:48
1	Y 371.029	630650.7	630650.7	85.891 %		07:51:48
1	Ag 328.068†	42897.6	48027.9	265.96 ug/L	265.96 ppb	07:51:48
1	As 188.979†	1097.4	1273.3	535.96 ug/L	535.96 ppb	07:51:53
1	B 249.677†	21400.4	25032.4	491.68 ug/L	491.68 ppb	07:51:48
1	Ba 233.527†	56114.5	63657.8	472.10 ug/L	472.10 ppb	07:51:53
1	Be 313.107†	619847.6	707405.4	238.42 ug/L	238.42 ppb	07:51:48
1	Cd 226.502†	40976.7	46678.0	463.02 ug/L	463.02 ppb	07:51:53
1	Co 228.616†	21032.3	23939.0	438.67 ug/L	438.67 ppb	07:51:53
1	Cr 267.716†	39707.7	44972.8	467.13 ug/L	467.13 ppb	07:51:53
1	Cu 324.752†	173865.2	190303.0	538.95 ug/L	538.95 ppb	07:51:48
1	Mn 257.610†	413319.0	468235.4	468.17 ug/L	468.17 ppb	07:51:48
1	Mo 202.031†	6075.3	6885.1	477.82 ug/L	477.82 ppb	07:51:53
1	Ni 231.604†	17797.3	20099.7	447.61 ug/L	447.61 ppb	07:51:53
1	P 214.914†	4389.1	4754.6	2343.7 ug/L	2343.7 ppb	07:51:53
1	Pb 220.353†	2800.0	3255.3	450.32 ug/L	450.32 ppb	07:51:53
1	S 181.975 Axial†	1906.9	2113.8	2486.5 ug/L	2486.5 ppb	07:51:53
1	Sb 206.836†	1554.0	1724.0	533.42 ug/L	533.42 ppb	07:51:53
1	Se 196.026†	2926.5	3345.1	2508.1 ug/L	2508.1 ppb	07:51:53
1	Si 251.611†	150592.9	170259.7	5062.3 ug/L	5062.3 ppb	07:51:48
1	Sn 189.927†	2217.4	2505.4	480.44 ug/L	480.44 ppb	07:51:53
1	Ti 334.940†	277971.7	317067.0	497.13 ug/L	497.13 ppb	07:51:48
1	Tl 190.801†	1328.1	1550.8	440.80 ug/L	440.80 ppb	07:51:53
1	U 409.014†	11089.2	17689.9	500.12 ug/L	500.12 ppb	07:51:48
1	V 292.402†	65239.2	75743.4	492.91 ug/L	492.91 ppb	07:51:48
1	Zn 213.857†	53360.7	59810.2	485.69 ug/L	485.69 ppb	07:51:53
1	SiO2†	150246.1	169839.9	10818 ug/L	10818 ppb	07:52:20
2	Sc Radial	3887.5	3887.5	94.2 %		07:51:16
2	Y RADIAL	4354.8	4354.8	89.95 %		07:51:16
2	Al 396.153Radial†	575431.9	610850.1	504350 ug/L	504350 ppb	07:50:56
2	Ca 317.933Radial†	239671.2	254330.6	470800 ug/L	470800 ppb	07:50:56
2	Fe 238.204 Radial†	15137.3	16053.9	186580 ug/L	186580 ppb	07:51:16
2	K 766.490 Radial†	28590.2	27716.1	5115.4 ug/L	5115.4 ppb	07:50:56
2	Mg 279.077 IEC†	10966.8	11638.2	490220 ug/L	490220 ppb	07:51:16
2	Na 589.592 Radial†	14466.6	17004.6	5240.0 ug/L	5240.0 ppb	07:50:56
2	Sr 421.552†	71333.0	75663.5	496.06 ug/L	496.06 ppb	07:50:56
2	Sc 361.383	793999.8	793999.8	89.131 %		07:51:59
2	Y 371.029	637016.5	637016.5	86.758 %		07:51:59
2	Ag 328.068†	43228.1	47875.1	265.07 ug/L	265.07 ppb	07:51:59
2	As 188.979†	1019.4	1172.5	497.04 ug/L	497.04 ppb	07:52:04
2	B 249.677†	21641.6	25041.9	492.06 ug/L	492.06 ppb	07:51:59
2	Ba 233.527†	55497.8	62280.9	462.01 ug/L	462.01 ppb	07:52:04
2	Be 313.107†	626788.6	707626.7	238.49 ug/L	238.49 ppb	07:51:59
2	Cd 226.502†	40422.4	45555.9	451.52 ug/L	451.52 ppb	07:52:04
2	Co 228.616†	20783.6	23403.3	428.78 ug/L	428.78 ppb	07:52:04
2	Cr 267.716†	39413.4	44157.9	458.72 ug/L	458.72 ppb	07:52:04
2	Cu 324.752†	175916.8	190482.4	539.39 ug/L	539.39 ppb	07:51:59
2	Mn 257.610†	417773.0	468187.4	468.13 ug/L	468.13 ppb	07:51:59
2	Mo 202.031†	5986.0	6710.7	466.07 ug/L	466.07 ppb	07:52:04
2	Ni 231.604†	17633.1	19698.2	438.67 ug/L	438.67 ppb	07:52:04

2	P 214.914†	4344.5	4651.1	2288.9 ug/L	2288.9 ppb	07:52:04
2	Pb 220.353†	2813.3	3236.0	446.80 ug/L	446.80 ppb	07:52:04
2	S 181.975 Axial†	1933.5	2120.4	2495.8 ug/L	2495.8 ppb	07:52:04
2	Sb 206.836†	1488.5	1631.6	505.02 ug/L	505.02 ppb	07:52:04
2	Se 196.026†	2872.7	3249.0	2451.2 ug/L	2451.2 ppb	07:52:04
2	Si 251.611†	152190.5	170213.9	5061.1 ug/L	5061.1 ppb	07:51:59
2	Sn 189.927†	2211.9	2472.3	474.08 ug/L	474.08 ppb	07:52:04
2	Ti 334.940†	281151.6	317241.5	496.71 ug/L	496.71 ppb	07:51:59
2	Tl 190.801†	1267.0	1466.0	416.93 ug/L	416.93 ppb	07:52:04
2	U 409.014†	11511.7	18028.6	510.25 ug/L	510.25 ppb	07:51:59
2	V 292.402†	66065.8	75874.6	493.73 ug/L	493.73 ppb	07:51:59
2	Zn 213.857†	52632.9	58342.2	473.38 ug/L	473.38 ppb	07:52:04
2	SiO2†	150682.2	168495.2	10733 ug/L	10733 ppb	07:52:26
3	Sc Radial	3850.9	3850.9	93.3 %		07:51:41
3	Y RADIAL	4332.8	4332.8	89.49 %		07:51:41
3	Al 396.153Radial†	575439.7	616660.4	509140 ug/L	509140 ppb	07:51:21
3	Ca 317.933Radial†	239897.4	256989.5	475720 ug/L	475720 ppb	07:51:21
3	Fe 238.204 Radial†	15062.0	16125.8	187410 ug/L	187410 ppb	07:51:41
3	K 766.490 Radial†	28648.9	28067.3	5180.6 ug/L	5180.6 ppb	07:51:21
3	Mg 279.077 IEC†	10910.7	11688.7	492350 ug/L	492350 ppb	07:51:41
3	Na 589.592 Radial†	14390.7	17069.0	5259.8 ug/L	5259.8 ppb	07:51:21
3	Sr 421.552†	71306.1	76354.0	500.58 ug/L	500.58 ppb	07:51:21
3	Sc 361.383	776467.5	776467.5	87.163 %		07:52:10
3	Y 371.029	622200.4	622200.4	84.740 %		07:52:10
3	Ag 328.068†	42266.9	47867.5	265.26 ug/L	265.26 ppb	07:52:10
3	As 188.979†	1019.6	1198.5	507.20 ug/L	507.20 ppb	07:52:15
3	B 249.677†	21218.0	25104.1	493.19 ug/L	493.19 ppb	07:52:10
3	Ba 233.527†	55563.5	63762.1	472.86 ug/L	472.86 ppb	07:52:15
3	Be 313.107†	613165.9	707876.2	238.58 ug/L	238.58 ppb	07:52:10
3	Cd 226.502†	40603.4	46787.6	464.16 ug/L	464.16 ppb	07:52:15
3	Co 228.616†	20855.7	24012.4	440.02 ug/L	440.02 ppb	07:52:15
3	Cr 267.716†	39397.3	45138.0	468.83 ug/L	468.83 ppb	07:52:15
3	Cu 324.752†	171506.3	189879.0	537.76 ug/L	537.76 ppb	07:52:10
3	Mn 257.610†	409833.8	469662.4	469.60 ug/L	469.60 ppb	07:52:10
3	Mo 202.031†	5996.8	6874.7	477.10 ug/L	477.10 ppb	07:52:15
3	Ni 231.604†	17680.5	20199.4	449.82 ug/L	449.82 ppb	07:52:15
3	P 214.914†	4390.3	4813.6	2374.3 ug/L	2374.3 ppb	07:52:15
3	Pb 220.353†	2732.0	3214.0	445.51 ug/L	445.51 ppb	07:52:15
3	S 181.975 Axial†	1908.2	2140.3	2519.2 ug/L	2519.2 ppb	07:52:15
3	Sb 206.836†	1525.9	1712.2	530.06 ug/L	530.06 ppb	07:52:15
3	Se 196.026†	2898.8	3351.7	2511.2 ug/L	2511.2 ppb	07:52:15
3	Si 251.611†	148926.2	170324.4	5064.2 ug/L	5064.2 ppb	07:52:10
3	Sn 189.927†	2264.2	2588.2	493.57 ug/L	493.57 ppb	07:52:15
3	Ti 334.940†	275404.9	317770.9	497.98 ug/L	497.98 ppb	07:52:10
3	Tl 190.801†	1307.7	1544.8	439.12 ug/L	439.12 ppb	07:52:15
3	U 409.014†	10922.9	17644.7	498.80 ug/L	498.80 ppb	07:52:10
3	V 292.402†	64679.2	75957.3	494.33 ug/L	494.33 ppb	07:52:10
3	Zn 213.857†	52836.0	59908.6	486.52 ug/L	486.52 ppb	07:52:15
3	SiO2†	150701.6	172334.7	10977 ug/L	10977 ppb	07:52:31

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	785307.2	88.155 %	0.9842			1.12%
Sc Radial	3863.5	93.6 %	0.50			0.54%
Y 371.029	629955.9	85.796 %	1.0123			1.18%
Y RADIAL	4334.2	89.52 %	0.412			0.46%
Ag 328.068†	47923.5	265.43 ug/L	0.469	265.43 ppb	0.469	0.18%
QC value within limits for Ag 328.068 Recovery = 106.17%						
Al 396.153Radial†	615402.8	508100 ug/L	3362.1	508100 ppb	3362.1	0.66%
QC value within limits for Al 396.153Radial Recovery = 101.62%						
As 188.979†	1214.7	513.40 ug/L	20.187	513.40 ppb	20.187	3.93%
QC value within limits for As 188.979 Recovery = 102.68%						
B 249.677†	25059.5	492.31 ug/L	0.787	492.31 ppb	0.787	0.16%
QC value within limits for B 249.677 Recovery = 98.46%						
Ba 233.527†	63233.6	468.99 ug/L	6.058	468.99 ppb	6.058	1.29%
QC value within limits for Ba 233.527 Recovery = 93.80%						
Be 313.107†	707636.1	238.50 ug/L	0.080	238.50 ppb	0.080	0.03%
QC value within limits for Be 313.107 Recovery = 95.40%						
Ca 317.933Radial†	256398.4	474630 ug/L	3414.7	474630 ppb	3414.7	0.72%

QC value within limits for Ca 317.933Radial Recovery = 94.93%							
Cd 226.502†	46340.5	459.57 ug/L	6.989	459.57 ppb	6.989	1.52%	
QC value within limits for Cd 226.502 Recovery = 91.91%							
Co 228.616†	23784.9	435.83 ug/L	6.138	435.83 ppb	6.138	1.41%	
QC value within limits for Co 228.616 Recovery = 87.17%							
Cr 267.716†	44756.2	464.89 ug/L	5.414	464.89 ppb	5.414	1.16%	
QC value within limits for Cr 267.716 Recovery = 92.98%							
Cu 324.752†	190221.5	538.70 ug/L	0.842	538.70 ppb	0.842	0.16%	
QC value within limits for Cu 324.752 Recovery = 107.74%							
Fe 238.204 Radial†	16104.8	187170 ug/L	515.1	187170 ppb	515.1	0.28%	
QC value within limits for Fe 238.204 Radial Recovery = 93.58%							
K 766.490 Radial†	27962.8	5161.1 ug/L	39.66	5161.1 ppb	39.66	0.77%	
QC value within limits for K 766.490 Radial Recovery = 103.22%							
Mg 279.077 IEC†	11674.2	491740 ug/L	1321.4	491740 ppb	1321.4	0.27%	
QC value within limits for Mg 279.077 IEC Recovery = 98.35%							
Mn 257.610†	468695.1	468.63 ug/L	0.840	468.63 ppb	0.840	0.18%	
QC value within limits for Mn 257.610 Recovery = 93.73%							
Mo 202.031†	6823.5	473.66 ug/L	6.583	473.66 ppb	6.583	1.39%	
QC value within limits for Mo 202.031 Recovery = 94.73%							
Na 589.592 Radial†	17153.8	5286.0 ug/L	63.25	5286.0 ppb	63.25	1.20%	
QC value within limits for Na 589.592 Radial Recovery = 105.72%							
Ni 231.604†	19999.1	445.36 ug/L	5.907	445.36 ppb	5.907	1.33%	
QC value within limits for Ni 231.604 Recovery = 89.07%							
P 214.914†	4739.8	2335.6 ug/L	43.27	2335.6 ppb	43.27	1.85%	
QC value within limits for P 214.914 Recovery = 93.43%							
Pb 220.353†	3235.1	447.54 ug/L	2.489	447.54 ppb	2.489	0.56%	
QC value within limits for Pb 220.353 Recovery = 89.51%							
S 181.975 Axial†	2124.9	2500.5 ug/L	16.85	2500.5 ppb	16.85	0.67%	
QC value within limits for S 181.975 Axial Recovery = 100.02%							
Sb 206.836†	1689.3	522.83 ug/L	15.517	522.83 ppb	15.517	2.97%	
QC value within limits for Sb 206.836 Recovery = 104.57%							
Se 196.026†	3315.2	2490.2 ug/L	33.78	2490.2 ppb	33.78	1.36%	
QC value within limits for Se 196.026 Recovery = 99.61%							
Si 251.611†	170266.0	5062.5 ug/L	1.59	5062.5 ppb	1.59	0.03%	
QC value within limits for Si 251.611 Recovery = 101.25%							
Sn 189.927†	2521.9	482.70 ug/L	9.940	482.70 ppb	9.940	2.06%	
QC value within limits for Sn 189.927 Recovery = 96.54%							
Sr 421.552†	76280.6	500.11 ug/L	3.830	500.11 ppb	3.830	0.77%	
QC value within limits for Sr 421.552 Recovery = 100.02%							
Ti 334.940†	317359.8	497.27 ug/L	0.652	497.27 ppb	0.652	0.13%	
QC value within limits for Ti 334.940 Recovery = 99.45%							
Tl 190.801†	1520.5	432.28 ug/L	13.324	432.28 ppb	13.324	3.08%	
QC value within limits for Tl 190.801 Recovery = 86.46%							
U 409.014†	17787.7	503.06 ug/L	6.267	503.06 ppb	6.267	1.25%	
QC value within limits for U 409.014 Recovery = 100.61%							
V 292.402†	75858.4	493.65 ug/L	0.712	493.65 ppb	0.712	0.14%	
QC value within limits for V 292.402 Recovery = 98.73%							
Zn 213.857†	59353.7	481.86 ug/L	7.358	481.86 ppb	7.358	1.53%	
QC value within limits for Zn 213.857 Recovery = 96.37%							
SiO2†	170223.2	10843 ug/L	124.1	10843 ppb	124.1	1.14%	
QC value within limits for SiO2 Recovery = 101.38%							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: LR1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 2/1/2010 07:54:41

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	3669.3	3669.3	88.9 %		07:56:54
1	Y RADIAL	4126.6	4126.6	85.24 %		07:56:54
1	Al 396.153Radial†	562801.2	632958.2	522620 ug/L	522620 ppb	07:56:34
1	Ca 317.933Radial†	234941.9	264136.3	488950 ug/L	488950 ppb	07:56:34
1	Fe 238.204 Radial†	34688.1	38990.4	453110 ug/L	453110 ppb	07:56:54
1	K 766.490 Radial†	2316.9	-19.4	-372.90 ug/L	-372.90 ppb	07:56:34
1	Mg 279.077 IEC†	10640.0	11962.8	503620 ug/L	503620 ppb	07:56:54
1	Na 589.592 Radial†	1520658.2	1711357.2	527360 ug/L	527360 ppb	07:56:34
1	Sr 421.552†	786.5	847.9	1.9470 ug/L	1.9470 ppb	07:56:54
1	Sc 361.383	761936.5	761936.5	85.531 %		07:57:52
1	Y 371.029	613490.1	613490.1	83.554 %		07:57:52
1	Ag 328.068†	-24179.8	-28894.5	2.8488 ug/L	2.8488 ppb	07:57:52
1	As 188.979†	-222.3	-231.2	17.294 ug/L	17.294 ppb	07:58:12
1	B 249.677†	1047.0	1985.2	-32.092 ug/L	-32.092 ppb	07:57:52
1	Ba 233.527†	-1944.4	-2258.1	-2.6584 ug/L	-2.6584 ppb	07:58:12
1	Be 313.107†	-10117.8	-7426.3	-2.5308 ug/L	-2.5308 ppb	07:57:52
1	Cd 226.502†	3280.0	4039.0	-2.4824 ug/L	-2.4824 ppb	07:58:12
1	Co 228.616†	181.4	297.2	-1.1359 ug/L	-1.1359 ppb	07:58:12
1	Cr 267.716†	-120.0	-202.1	1.4499 ug/L	1.4499 ppb	07:58:12
1	Cu 324.752†	133.0	-6731.3	-2.1605 ug/L	-2.1605 ppb	07:57:52
1	Mn 257.610†	-25018.6	-29782.5	-5.7408 ug/L	-5.7408 ppb	07:57:52
1	Mo 202.031†	-543.5	-640.6	-1.5818 ug/L	-1.5818 ppb	07:58:12
1	Ni 231.604†	299.5	265.0	5.9025 ug/L	5.9025 ppb	07:58:12
1	P 214.914†	611.5	491.7	23.601 ug/L	23.601 ppb	07:58:12
1	Pb 220.353†	-726.2	-769.4	-5.0527 ug/L	-5.0527 ppb	07:58:12
1	S 181.975 Axial†	95.4	62.7	-21.394 ug/L	-21.394 ppb	07:58:12
1	Sb 206.836†	77.9	52.6	11.405 ug/L	11.405 ppb	07:58:12
1	Se 196.026†	-2442.2	-2829.4	-36.864 ug/L	-36.864 ppb	07:58:12
1	Si 251.611†	-582.0	-1216.2	-35.677 ug/L	-35.677 ppb	07:58:12
1	Sn 189.927†	-413.6	-493.0	2.2797 ug/L	2.2797 ppb	07:58:12
1	Ti 334.940†	-11424.3	-11552.5	1.2605 ug/L	1.2605 ppb	07:57:52
1	Tl 190.801†	-129.4	-106.8	-30.504 ug/L	-30.504 ppb	07:58:12
1	U 409.014†	383788.9	453823.7	13354 ug/L	13354 ppb	07:57:52
1	V 292.402†	2012.8	4105.5	-3.8711 ug/L	-3.8711 ppb	07:58:12
1	Zn 213.857†	5982.7	6285.6	9.3621 ug/L	9.3621 ppb	07:58:12
1	SiO2†	-608.4	-1273.6	-80.055 ug/L	-80.055 ppb	07:59:09
2	Sc Radial	3843.1	3843.1	93.2 %		07:57:20
2	Y RADIAL	4355.4	4355.4	89.96 %		07:57:20
2	Al 396.153Radial†	567574.6	609478.6	503240 ug/L	503240 ppb	07:57:00
2	Ca 317.933Radial†	236996.6	254401.3	470930 ug/L	470930 ppb	07:57:00
2	Fe 238.204 Radial†	34821.3	37370.4	434290 ug/L	434290 ppb	07:57:20
2	K 766.490 Radial†	2248.9	-210.1	-395.41 ug/L	-395.41 ppb	07:57:00
2	Mg 279.077 IEC†	10696.4	11482.6	483400 ug/L	483400 ppb	07:57:20
2	Na 589.592 Radial†	1532477.2	1646758.9	507450 ug/L	507450 ppb	07:57:00
2	Sr 421.552†	798.1	820.3	1.9000 ug/L	1.9000 ppb	07:57:20
2	Sc 361.383	761916.5	761916.5	85.529 %		07:58:18
2	Y 371.029	614167.4	614167.4	83.646 %		07:58:18
2	Ag 328.068†	-24042.0	-28734.3	-2.3205 ug/L	-2.3205 ppb	07:58:18
2	As 188.979†	-234.0	-244.9	7.6388 ug/L	7.6388 ppb	07:58:38
2	B 249.677†	926.6	1844.5	-31.980 ug/L	-31.980 ppb	07:58:18
2	Ba 233.527†	-1952.0	-2266.9	-3.2943 ug/L	-3.2943 ppb	07:58:38
2	Be 313.107†	-10052.3	-7350.0	-2.5055 ug/L	-2.5055 ppb	07:58:18
2	Cd 226.502†	3254.5	4009.2	-0.8396 ug/L	-0.8396 ppb	07:58:38
2	Co 228.616†	242.7	368.9	0.4512 ug/L	0.4512 ppb	07:58:38
2	Cr 267.716†	-94.2	-172.0	1.3846 ug/L	1.3846 ppb	07:58:38
2	Cu 324.752†	37.3	-6843.2	-3.4828 ug/L	-3.4828 ppb	07:58:18
2	Mn 257.610†	-25217.2	-30015.5	-7.0065 ug/L	-7.0065 ppb	07:58:18
2	Mo 202.031†	-575.2	-677.7	-5.7262 ug/L	-5.7262 ppb	07:58:38
2	Ni 231.604†	313.8	281.7	6.2727 ug/L	6.2727 ppb	07:58:38

2	P 214.914†	603.0	481.7	28.869 ug/L	28.869 ppb	07:58:38
2	Pb 220.353†	-645.4	-674.9	2.3912 ug/L	2.3912 ppb	07:58:38
2	S 181.975 Axial†	99.1	67.0	-12.445 ug/L	-12.445 ppb	07:58:38
2	Sb 206.836†	104.4	83.7	20.914 ug/L	20.914 ppb	07:58:38
2	Se 196.026†	-2453.2	-2842.3	-107.53 ug/L	-107.53 ppb	07:58:38
2	Si 251.611†	-584.0	-1218.6	-35.717 ug/L	-35.717 ppb	07:58:38
2	Sn 189.927†	-403.4	-481.0	1.1609 ug/L	1.1609 ppb	07:58:38
2	Ti 334.940†	-11493.4	-11633.6	0.3635 ug/L	0.3635 ppb	07:58:18
2	Tl 190.801†	-99.9	-72.3	-20.780 ug/L	-20.780 ppb	07:58:38
2	U 409.014†	384539.0	454712.5	13382 ug/L	13382 ppb	07:58:18
2	V 292.402†	2103.2	4211.2	-0.8011 ug/L	-0.8011 ppb	07:58:38
2	Zn 213.857†	5989.5	6293.8	11.256 ug/L	11.256 ppb	07:58:38
2	SiO2†	-596.2	-1259.4	-79.081 ug/L	-79.081 ppb	07:59:14
3	Sc Radial	3788.3	3788.3	91.8 %		07:57:45
3	Y RADIAL	4267.6	4267.6	88.15 %		07:57:45
3	Al 396.153Radial†	564386.2	614816.9	507650 ug/L	507650 ppb	07:57:25
3	Ca 317.933Radial†	236255.9	257273.7	476250 ug/L	476250 ppb	07:57:25
3	Fe 238.204 Radial†	34352.0	37399.8	434630 ug/L	434630 ppb	07:57:45
3	K 766.490 Radial†	2149.2	-283.8	-414.39 ug/L	-414.39 ppb	07:57:25
3	Mg 279.077 IEC†	10540.4	11478.7	483240 ug/L	483240 ppb	07:57:45
3	Na 589.592 Radial†	1534948.6	1673239.3	515610 ug/L	515610 ppb	07:57:25
3	Sr 421.552†	762.9	794.4	1.6887 ug/L	1.6887 ppb	07:57:45
3	Sc 361.383	754492.3	754492.3	84.696 %		07:58:44
3	Y 371.029	608099.8	608099.8	82.820 %		07:58:44
3	Ag 328.068†	-23979.5	-28937.0	-3.1769 ug/L	-3.1769 ppb	07:58:44
3	As 188.979†	-219.7	-230.6	13.209 ug/L	13.209 ppb	07:59:04
3	B 249.677†	1101.5	2061.7	-27.492 ug/L	-27.492 ppb	07:58:44
3	Ba 233.527†	-2025.0	-2375.6	-4.0766 ug/L	-4.0766 ppb	07:59:04
3	Be 313.107†	-10038.2	-7449.0	-2.5321 ug/L	-2.5321 ppb	07:58:44
3	Cd 226.502†	3237.9	4027.1	-0.6876 ug/L	-0.6876 ppb	07:59:04
3	Co 228.616†	195.8	316.3	-0.5267 ug/L	-0.5267 ppb	07:59:04
3	Cr 267.716†	-124.7	-209.1	1.0046 ug/L	1.0046 ppb	07:59:04
3	Cu 324.752†	-28.9	-6920.9	-3.6886 ug/L	-3.6886 ppb	07:58:44
3	Mn 257.610†	-24654.6	-29641.4	-6.5907 ug/L	-6.5907 ppb	07:58:44
3	Mo 202.031†	-556.4	-662.2	-4.6028 ug/L	-4.6028 ppb	07:59:04
3	Ni 231.604†	301.9	271.2	6.0403 ug/L	6.0403 ppb	07:59:04
3	P 214.914†	601.3	486.7	32.274 ug/L	32.274 ppb	07:59:04
3	Pb 220.353†	-646.5	-683.6	2.4689 ug/L	2.4689 ppb	07:59:04
3	S 181.975 Axial†	100.3	69.5	-10.180 ug/L	-10.180 ppb	07:59:04
3	Sb 206.836†	79.4	55.3	12.139 ug/L	12.139 ppb	07:59:04
3	Se 196.026†	-2452.0	-2869.0	-120.93 ug/L	-120.93 ppb	07:59:04
3	Si 251.611†	-540.2	-1173.6	-34.390 ug/L	-34.390 ppb	07:59:04
3	Sn 189.927†	-404.5	-487.1	1.0001 ug/L	1.0001 ppb	07:59:04
3	Ti 334.940†	-9728.9	-9682.5	3.9994 ug/L	3.9994 ppb	07:58:44
3	Tl 190.801†	-101.3	-75.1	-21.540 ug/L	-21.540 ppb	07:59:04
3	U 409.014†	381191.7	455184.4	13396 ug/L	13396 ppb	07:58:44
3	V 292.402†	2193.6	4342.1	0.0549 ug/L	0.0549 ppb	07:59:04
3	Zn 213.857†	5965.7	6334.5	11.570 ug/L	11.570 ppb	07:59:04
3	SiO2†	-718.6	-1410.7	-88.763 ug/L	-88.763 ppb	07:59:19

## Mean Data: LRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	759448.5	85.252 %		0.4818			0.57%
Sc Radial	3766.9	91.3 %		2.15			2.36%
Y 371.029	611919.1	83.340 %		0.4528			0.54%
Y RADIAL	4249.9	87.78 %		2.384			2.72%
Ag 328.068†	-28855.2	-0.8828 ug/L		3.25997	-0.8828 ppb	3.25997	369.26%
Al 396.153Radial†	619084.6	511170 ug/L		10162.3	511170 ppb	10162.3	1.99%
QC value within limits for Al 396.153Radial Recovery = 102.23%							
As 188.979†	-235.6	12.714 ug/L		4.8468	12.714 ppb	4.8468	38.12%
B 249.677†	1963.8	-30.521 ug/L		2.6240	-30.521 ppb	2.6240	8.60%
Ba 233.527†	-2300.2	-3.3431 ug/L		0.71038	-3.3431 ppb	0.71038	21.25%
Be 313.107†	-7408.5	-2.5228 ug/L		0.01499	-2.5228 ppb	0.01499	0.59%
Ca 317.933Radial†	258603.8	478710 ug/L		9259.2	478710 ppb	9259.2	1.93%
QC value within limits for Ca 317.933Radial Recovery = 95.74%							
Cd 226.502†	4025.1	-1.3366 ug/L		0.99525	-1.3366 ppb	0.99525	74.46%
Co 228.616†	327.4	-0.4038 ug/L		0.80064	-0.4038 ppb	0.80064	198.27%
Cr 267.716†	-194.4	1.2797 ug/L		0.24047	1.2797 ppb	0.24047	18.79%
Cu 324.752†	-6831.8	-3.1106 ug/L		0.82924	-3.1106 ppb	0.82924	26.66%

Fe 238.204 Radial†	37920.2	440680 ug/L	10772.1	440680 ppb	10772.1	2.44%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 88.14%						
K 766.490 Radial†	-171.1	-394.23 ug/L	20.771	-394.23 ppb	20.771	5.27%
Mg 279.077 IEC†	11641.4	490090 ug/L	11720.1	490090 ppb	11720.1	2.39%
QC value within limits for Mg 279.077 IEC Recovery = 98.02%						
Mn 257.610†	-29813.1	-6.4460 ug/L	0.64515	-6.4460 ppb	0.64515	10.01%
Mo 202.031†	-660.2	-3.9703 ug/L	2.14342	-3.9703 ppb	2.14342	53.99%
Na 589.592 Radial†	1677118.5	516810 ug/L	10006.7	516810 ppb	10006.7	1.94%
QC value within limits for Na 589.592 Radial Recovery = 103.36%						
Ni 231.604†	272.7	6.0718 ug/L	0.18709	6.0718 ppb	0.18709	3.08%
P 214.914†	486.7	28.248 ug/L	4.3698	28.248 ppb	4.3698	15.47%
Pb 220.353†	-709.3	-0.0642 ug/L	4.32033	-0.0642 ppb	4.32033	>999.9%
S 181.975 Axial†	66.4	-14.673 ug/L	5.9299	-14.673 ppb	5.9299	40.41%
Sb 206.836†	63.9	14.819 ug/L	5.2911	14.819 ppb	5.2911	35.70%
Se 196.026†	-2846.9	-88.444 ug/L	45.1696	-88.444 ppb	45.1696	51.07%
Si 251.611†	-1202.8	-35.261 ug/L	0.7548	-35.261 ppb	0.7548	2.14%
Sn 189.927†	-487.0	1.4802 ug/L	0.69698	1.4802 ppb	0.69698	47.09%
Sr 421.552†	820.9	1.8452 ug/L	0.13758	1.8452 ppb	0.13758	7.46%
Ti 334.940†	-10956.2	1.8745 ug/L	1.89410	1.8745 ppb	1.89410	101.05%
Tl 190.801†	-84.8	-24.275 ug/L	5.4083	-24.275 ppb	5.4083	22.28%
U 409.014†	454573.5	13377 ug/L	21.6	13377 ppb	21.6	0.16%
QC value less than the lower limit for U 409.014 Recovery = 89.18%						
V 292.402†	4219.6	-1.5391 ug/L	2.06443	-1.5391 ppb	2.06443	134.13%
Zn 213.857†	6304.6	10.729 ug/L	1.1945	10.729 ppb	1.1945	11.13%
SiO2†	-1314.6	-82.633 ug/L	5.3307	-82.633 ppb	5.3307	6.45%

QC Failed. Continue with analysis.

Sequence No.: 12

Sample ID: LR2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 16

Date Collected: 2/1/2010 08:01:29

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4014.3	4014.3	97.3 %		08:03:47
1	Y RADIAL	4558.5	4558.5	94.16 %		08:03:27
1	Al 396.153Radial†	359.8	559.8	9.5325 ug/L	9.5325 ppb	08:03:27
1	Ca 317.933Radial†	25.7	13.1	24.253 ug/L	24.253 ppb	08:03:47
1	Fe 238.204 Radial†	-12.5	-22.9	-0.5626 ug/L	-0.5626 ppb	08:03:47
1	K 766.490 Radial†	1531275.7	1571076.4	299030 ug/L	299030 ppb	08:03:22
1	Mg 279.077 IEC†	-2.9	-3.0	-26.818 ug/L	-26.818 ppb	08:03:47
1	Na 589.592 Radial†	-1240.5	377.4	116.30 ug/L	116.30 ppb	08:03:27
1	Sr 421.552†	1443823.4	1483789.0	9796.9 ug/L	9796.9 ppb	08:03:22
1	Sc 361.383	858361.3	858361.3	96.356 %		08:05:05
1	Y 371.029	689000.0	689000.0	93.838 %		08:05:05
1	Ag 328.068†	-7360.9	-8263.8	2.7759 ug/L	2.7759 ppb	08:05:10
1	As 188.979†	23449.1	24364.7	9418.8 ug/L	9418.8 ppb	08:05:10
1	B 249.677†	216026.3	224957.8	4678.2 ug/L	4678.2 ppb	08:05:05
1	Ba 233.527†	1793913.8	1861777.5	13629 ug/L	13629 ppb	08:05:05
1	Be 313.107†	7868597.7	8170602.5	2763.3 ug/L	2763.3 ppb	08:04:58
1	Cd 226.502†	868322.7	901368.0	9313.5 ug/L	9313.5 ppb	08:05:05
1	Co 228.616†	464772.3	482435.8	8891.0 ug/L	8891.0 ppb	08:05:10
1	Cr 267.716†	2149318.6	2230547.1	22976 ug/L	22976 ppb	08:05:05
1	Cu 324.752†	6736940.0	6984854.0	19428 ug/L	19428 ppb	08:04:58
1	Mn 257.610†	8732566.5	9062313.0	9092.6 ug/L	9092.6 ppb	08:04:58
1	Mo 202.031†	135350.6	140464.6	9335.2 ug/L	9335.2 ppb	08:05:10
1	Ni 231.604†	403588.7	418767.9	9325.8 ug/L	9325.8 ppb	08:05:05
1	P 214.914†	31667.6	32642.0	13182 ug/L	13182 ppb	08:05:10
1	Pb 220.353†	209670.3	217680.0	23367 ug/L	23367 ppb	08:05:10
1	S 181.975 Axial†	39512.3	40957.8	50034 ug/L	50034 ppb	08:05:10
1	Sb 206.836†	31743.4	32905.6	10399 ug/L	10399 ppb	08:05:10
1	Se 196.026†	16938.6	17605.3	9786.3 ug/L	9786.3 ppb	08:05:10
1	Si 251.611†	1491065.0	1546923.5	45931 ug/L	45931 ppb	08:05:05
1	Sn 189.927†	58917.1	61136.0	9876.5 ug/L	9876.5 ppb	08:05:10
1	Ti 334.940†	6226002.1	6463282.8	9648.9 ug/L	9648.9 ppb	08:04:58
1	Tl 190.801†	31425.4	32658.4	9280.1 ug/L	9280.1 ppb	08:05:10
1	U 409.014†	-3794.7	1174.9	-16.651 ug/L	-16.651 ppb	08:05:10
1	V 292.402†	1396671.4	1451247.7	9768.1 ug/L	9768.1 ppb	08:05:05
1	Zn 213.857†	1531870.8	1589099.3	13397 ug/L	13397 ppb	08:05:05
1	SiO2†	1503318.3	1559613.7	99201 ug/L	99201 ppb	08:05:56
2	Sc Radial	4030.3	4030.3	97.7 %		08:04:18
2	Y RADIAL	4570.0	4570.0	94.39 %		08:03:58
2	Al 396.153Radial†	367.1	565.9	9.2780 ug/L	9.2780 ppb	08:03:58
2	Ca 317.933Radial†	32.9	20.3	37.669 ug/L	37.669 ppb	08:04:18
2	Fe 238.204 Radial†	-13.1	-23.5	-2.9495 ug/L	-2.9495 ppb	08:04:18
2	K 766.490 Radial†	1498402.8	1531160.0	291440 ug/L	291440 ppb	08:03:53
2	Mg 279.077 IEC†	-3.2	-3.2	-36.182 ug/L	-36.182 ppb	08:04:18
2	Na 589.592 Radial†	-1279.0	343.0	105.71 ug/L	105.71 ppb	08:03:58
2	Sr 421.552†	1412164.6	1445473.3	9543.9 ug/L	9543.9 ppb	08:03:53
2	Sc 361.383	863833.4	863833.4	96.970 %		08:05:25
2	Y 371.029	692829.4	692829.4	94.359 %		08:05:25
2	Ag 328.068†	-7423.7	-8280.2	2.7172 ug/L	2.7172 ppb	08:05:30
2	As 188.979†	24149.3	24932.6	9636.8 ug/L	9636.8 ppb	08:05:30
2	B 249.677†	218470.9	226058.6	4700.8 ug/L	4700.8 ppb	08:05:25
2	Ba 233.527†	1805185.6	1861607.8	13628 ug/L	13628 ppb	08:05:25
2	Be 313.107†	7937989.5	8190432.3	2770.0 ug/L	2770.0 ppb	08:05:18
2	Cd 226.502†	874791.0	902329.8	9323.4 ug/L	9323.4 ppb	08:05:25
2	Co 228.616†	474843.5	489766.1	9026.3 ug/L	9026.3 ppb	08:05:30
2	Cr 267.716†	2163749.1	2231298.3	22984 ug/L	22984 ppb	08:05:25
2	Cu 324.752†	6789832.5	6995108.7	19456 ug/L	19456 ppb	08:05:18
2	Mn 257.610†	8809007.4	9083732.3	9114.1 ug/L	9114.1 ppb	08:05:18
2	Mo 202.031†	137798.9	142099.5	9443.8 ug/L	9443.8 ppb	08:05:30
2	Ni 231.604†	406601.8	419221.8	9335.8 ug/L	9335.8 ppb	08:05:25



2	P 214.914†	32565.7	33360.0	13551 ug/L	13551 ppb	08:05:30
2	Pb 220.353†	213846.0	220607.7	23681 ug/L	23681 ppb	08:05:30
2	S 181.975 Axial†	40714.3	41937.6	51231 ug/L	51231 ppb	08:05:30
2	Sb 206.836†	32599.4	33579.7	10609 ug/L	10609 ppb	08:05:30
2	Se 196.026†	17370.1	17938.8	9971.5 ug/L	9971.5 ppb	08:05:30
2	Si 251.611†	1508646.3	1555251.5	46177 ug/L	46177 ppb	08:05:25
2	Sn 189.927†	60229.7	62102.3	10033 ug/L	10033 ppb	08:05:30
2	Ti 334.940†	6277439.9	6475396.5	9667.0 ug/L	9667.0 ppb	08:05:18
2	Tl 190.801†	32204.9	33255.7	9448.3 ug/L	9448.3 ppb	08:05:30
2	U 409.014†	-3740.6	1255.6	-14.283 ug/L	-14.283 ppb	08:05:30
2	V 292.402†	1406197.7	1451889.6	9773.9 ug/L	9773.9 ppb	08:05:25
2	Zn 213.857†	1544094.1	1591633.6	13418 ug/L	13418 ppb	08:05:25
2	SiO2†	1492544.9	1538620.4	97860 ug/L	97860 ppb	08:06:02
3	Sc Radial	4001.5	4001.5	97.0 %		08:04:48
3	Y RADIAL	4684.0	4684.0	96.75 %		08:04:28
3	Al 396.153Radial†	399.4	601.9	49.546 ug/L	49.546 ppb	08:04:28
3	Ca 317.933Radial†	34.4	22.1	40.911 ug/L	40.911 ppb	08:04:48
3	Fe 238.204 Radial†	-10.7	-21.1	18.267 ug/L	18.267 ppb	08:04:48
3	K 766.490 Radial†	1529699.4	1574496.0	299690 ug/L	299690 ppb	08:04:23
3	Mg 279.077 IEC†	-1.8	-1.8	19.159 ug/L	19.159 ppb	08:04:48
3	Na 589.592 Radial†	-1259.8	353.4	108.89 ug/L	108.89 ppb	08:04:28
3	Sr 421.552†	1441542.8	1486194.4	9812.8 ug/L	9812.8 ppb	08:04:23
3	Sc 361.383	864270.2	864270.2	97.019 %		08:05:44
3	Y 371.029	692615.7	692615.7	94.330 %		08:05:44
3	Ag 328.068†	-7387.0	-8238.4	2.8643 ug/L	2.8643 ppb	08:05:50
3	As 188.979†	23394.6	24142.2	9334.2 ug/L	9334.2 ppb	08:05:50
3	B 249.677†	218984.7	226474.3	4710.1 ug/L	4710.1 ppb	08:05:44
3	Ba 233.527†	1809123.7	1864725.9	13651 ug/L	13651 ppb	08:05:44
3	Be 313.107†	7991190.5	8241130.1	2787.1 ug/L	2787.1 ppb	08:05:38
3	Cd 226.502†	875084.5	902176.4	9321.8 ug/L	9321.8 ppb	08:05:44
3	Co 228.616†	463863.5	478201.3	8812.5 ug/L	8812.5 ppb	08:05:50
3	Cr 267.716†	2162753.0	2229143.8	22962 ug/L	22962 ppb	08:05:44
3	Cu 324.752†	6834822.1	7037941.4	19575 ug/L	19575 ppb	08:05:38
3	Mn 257.610†	8872965.3	9145063.4	9175.6 ug/L	9175.6 ppb	08:05:38
3	Mo 202.031†	134685.5	138818.7	9225.8 ug/L	9225.8 ppb	08:05:50
3	Ni 231.604†	406771.1	419184.3	9335.1 ug/L	9335.1 ppb	08:05:44
3	P 214.914†	31727.3	32478.9	13067 ug/L	13067 ppb	08:05:50
3	Pb 220.353†	208980.6	215481.3	23130 ug/L	23130 ppb	08:05:50
3	S 181.975 Axial†	39298.1	40456.7	49422 ug/L	49422 ppb	08:05:50
3	Sb 206.836†	31676.7	32611.5	10305 ug/L	10305 ppb	08:05:50
3	Se 196.026†	16839.4	17382.7	9662.7 ug/L	9662.7 ppb	08:05:50
3	Si 251.611†	1511058.6	1556951.5	46231 ug/L	46231 ppb	08:05:44
3	Sn 189.927†	58716.9	60511.6	9775.6 ug/L	9775.6 ppb	08:05:50
3	Ti 334.940†	6318743.9	6514697.5	9725.8 ug/L	9725.8 ppb	08:05:38
3	Tl 190.801†	31320.3	32327.1	9188.0 ug/L	9188.0 ppb	08:05:50
3	U 409.014†	-3903.4	1089.8	-19.136 ug/L	-19.136 ppb	08:05:50
3	V 292.402†	1405162.5	1450089.6	9758.8 ug/L	9758.8 ppb	08:05:44
3	Zn 213.857†	1544325.1	1591066.8	13413 ug/L	13413 ppb	08:05:44
3	SiO2†	1501540.7	1547114.7	98407 ug/L	98407 ppb	08:06:08

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	862155.0	96.782 %		0.3696			0.38%
Sc Radial	4015.4	97.3 %		0.35			0.36%
Y 371.029	691481.7	94.176 %		0.2931			0.31%
Y RADIAL	4604.2	95.10 %		1.433			1.51%
Ag 328.068†	-8260.8	2.7858 ug/L		0.07406	2.7858 ppb	0.07406	2.66%
Al 396.153Radial†	575.9	22.786 ug/L		23.1757	22.786 ppb	23.1757	101.71%
As 188.979†	24479.8	9463.3 ug/L		156.10	9463.3 ppb	156.10	1.65%
QC value within limits for As 188.979 Recovery = 94.63%							
B 249.677†	225830.2	4696.3 ug/L		16.42	4696.3 ppb	16.42	0.35%
QC value within limits for B 249.677 Recovery = 93.93%							
Ba 233.527†	1862703.8	13636 ug/L		12.8	13636 ppb	12.8	0.09%
QC value within limits for Ba 233.527 Recovery = 90.91%							
Be 313.107†	8200721.7	2773.4 ug/L		12.29	2773.4 ppb	12.29	0.44%
QC value within limits for Be 313.107 Recovery = 92.45%							
Ca 317.933Radial†	18.5	34.278 ug/L		8.8317	34.278 ppb	8.8317	25.77%
Cd 226.502†	901958.1	9319.6 ug/L		5.34	9319.6 ppb	5.34	0.06%
QC value within limits for Cd 226.502 Recovery = 93.20%							



Co 228.616†	483467.7	8910.0 ug/L	108.15	8910.0 ppb	108.15	1.21%
QC value less than the lower limit for Co 228.616 Recovery = 89.10%						
Cr 267.716†	2230329.7	22974 ug/L	11.3	22974 ppb	11.3	0.05%
QC value within limits for Cr 267.716 Recovery = 91.90%						
Cu 324.752†	7005968.0	19486 ug/L	78.3	19486 ppb	78.3	0.40%
QC value within limits for Cu 324.752 Recovery = 97.43%						
Fe 238.204 Radial†	-22.5	4.9181 ug/L	11.62148	4.9181 ppb	11.62148	236.30%
K 766.490 Radial†	1558910.8	296720 ug/L	4586.3	296720 ppb	4586.3	1.55%
QC value within limits for K 766.490 Radial Recovery = 98.91%						
Mg 279.077 IEC†	-2.7	-14.614 ug/L	29.6204	-14.614 ppb	29.6204	202.69%
Mn 257.610†	9097036.2	9127.4 ug/L	43.09	9127.4 ppb	43.09	0.47%
QC value within limits for Mn 257.610 Recovery = 91.27%						
Mo 202.031†	140460.9	9334.9 ug/L	109.02	9334.9 ppb	109.02	1.17%
QC value within limits for Mo 202.031 Recovery = 93.35%						
Na 589.592 Radial†	357.9	110.30 ug/L	5.433	110.30 ppb	5.433	4.93%
Ni 231.604†	419058.0	2932.3 ug/L	5.60	9332.3 ppb	5.60	0.06%
QC value within limits for Ni 231.604 Recovery = 93.32%						
P 214.914†	32827.0	13267 ug/L	252.6	13267 ppb	252.6	1.90%
QC value less than the lower limit for P 214.914 Recovery = 88.45%						
Pb 220.353†	217923.0	23393 ug/L	276.2	23393 ppb	276.2	1.18%
QC value within limits for Pb 220.353 Recovery = 93.57%						
S 181.975 Axial†	41117.4	50229 ug/L	920.2	50229 ppb	920.2	1.83%
QC value within limits for S 181.975 Axial Recovery = 100.46%						
Sb 206.836†	33032.3	10438 ug/L	155.9	10438 ppb	155.9	1.49%
QC value within limits for Sb 206.836 Recovery = 104.38%						
Se 196.026†	17642.3	9806.8 ug/L	155.42	9806.8 ppb	155.42	1.58%
QC value within limits for Se 196.026 Recovery = 98.07%						
Si 251.611†	1553042.2	46113 ug/L	160.0	46113 ppb	160.0	0.35%
QC value within limits for Si 251.611 Recovery = 92.23%						
Sn 189.927†	61250.0	9894.9 ug/L	129.47	9894.9 ppb	129.47	1.31%
QC value within limits for Sn 189.927 Recovery = 98.95%						
Sr 421.552†	1471818.9	9717.9 ug/L	150.85	9717.9 ppb	150.85	1.55%
QC value within limits for Sr 421.552 Recovery = 97.18%						
Ti 334.940†	6484458.9	9680.6 ug/L	40.16	9680.6 ppb	40.16	0.41%
QC value within limits for Ti 334.940 Recovery = 96.81%						
Tl 190.801†	32747.1	9305.5 ug/L	131.96	9305.5 ppb	131.96	1.42%
QC value within limits for Tl 190.801 Recovery = 93.05%						
U 409.014†	1173.4	-16.690 ug/L	2.4264	-16.690 ppb	2.4264	14.54%
V 292.402†	1451075.6	9767.0 ug/L	7.63	9767.0 ppb	7.63	0.08%
QC value within limits for V 292.402 Recovery = 97.67%						
Zn 213.857†	1590599.9	13409 ug/L	11.2	13409 ppb	11.2	0.08%
QC value less than the lower limit for Zn 213.857 Recovery = 89.39%						
SiO2†	1548449.6	98490 ug/L	674.6	98490 ppb	674.6	0.68%
QC value within limits for SiO2 Recovery = 92.05%						
QC Failed. Continue with analysis.						

=====  
Analysis Begun

Start Time: 2/1/2010 08:25:10

Plasma On Time: 2/1/2010 05:43:14

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\020110.sif

Batch ID:

Results Data Set: 020110

Results Library: C:\pe\Optima3\Results\Results.mdb

=====  
Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/29/2010 17:34:26

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 2/1/2010 08:25:11

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

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Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4311.4	4311.4	105 %		08:27:04
1	Y RADIAL	4820.6	4820.6	99.57 %		08:27:04
1	Al 396.153Radial†	6020.1	5950.6	4889.7 ug/L	4889.7 ppb	08:27:04

1	Ca 317.933Radial†	2799.7	2665.6	4934.4 ug/L	4934.4 ppb	08:27:24
1	Fe 238.204 Radial†	459.4	429.4	5005.1 ug/L	5005.1 ppb	08:27:24
1	K 766.490 Radial†	29494.4	25598.4	4866.3 ug/L	4866.3 ppb	08:27:04
1	Mg 279.077 IEC†	125.3	120.0	5054.8 ug/L	5054.8 ppb	08:27:24
1	Na 589.592 Radial†	31969.1	32243.0	9935.7 ug/L	9935.7 ppb	08:27:04
1	Sr 421.552†	78221.0	74811.9	493.92 ug/L	493.92 ppb	08:27:04
1	Sc 361.383	894409.5	894409.5	100.40 %		08:28:21
1	Y 371.029	722744.5	722744.5	98.433 %		08:28:21
1	Ag 328.068†	111621.5	110549.8	486.76 ug/L	486.76 ppb	08:28:26
1	As 188.979†	1258.2	1281.9	496.49 ug/L	496.49 ppb	08:28:46
1	B 249.677†	23242.5	23910.5	497.72 ug/L	497.72 ppb	08:28:26
1	Ba 233.527†	67119.8	66866.2	489.96 ug/L	489.96 ppb	08:28:26
1	Be 313.107†	1444984.4	1443597.5	485.44 ug/L	485.44 ppb	08:28:21
1	Cd 226.502†	47588.4	47601.9	491.43 ug/L	491.43 ppb	08:28:26
1	Co 228.616†	26583.4	26562.1	489.71 ug/L	489.71 ppb	08:28:26
1	Cr 267.716†	47738.9	47485.8	489.44 ug/L	489.44 ppb	08:28:26
1	Cu 324.752†	180264.7	172655.5	480.22 ug/L	480.22 ppb	08:28:26
1	Mn 257.610†	491503.9	489002.7	490.92 ug/L	490.92 ppb	08:28:21
1	Mo 202.031†	7359.9	7325.2	487.28 ug/L	487.28 ppb	08:28:46
1	Ni 231.604†	22241.5	22067.2	491.42 ug/L	491.42 ppb	08:28:26
1	P 214.914†	4887.0	4644.2	2317.7 ug/L	2317.7 ppb	08:28:46
1	Pb 220.353†	4502.0	4563.6	491.22 ug/L	491.22 ppb	08:28:46
1	S 181.975 Axial†	843.7	791.5	965.95 ug/L	965.95 ppb	08:28:46
1	Sb 206.836†	1624.4	1579.5	500.21 ug/L	500.21 ppb	08:28:46
1	Se 196.026†	847.6	870.2	500.65 ug/L	500.65 ppb	08:28:46
1	Si 251.611†	82379.1	81513.3	2420.3 ug/L	2420.3 ppb	08:28:26
1	Sn 189.927†	3049.8	3028.1	490.03 ug/L	490.03 ppb	08:28:46
1	Ti 334.940†	322546.6	323058.6	482.56 ug/L	482.56 ppb	08:28:26
1	Tl 190.801†	1702.9	1740.5	494.32 ug/L	494.32 ppb	08:28:46
1	U 409.014†	11725.0	16791.1	494.33 ug/L	494.33 ppb	08:28:26
1	V 292.402†	71827.8	73292.1	494.10 ug/L	494.10 ppb	08:28:26
1	Zn 213.857†	58414.7	57471.5	483.34 ug/L	483.34 ppb	08:28:26
1	SiO2†	82162.7	81271.2	5169.4 ug/L	5169.4 ppb	08:29:54
2	Sc Radial	4297.4	4297.4	104 %		08:27:29
2	Y RADIAL	4813.8	4813.8	99.43 %		08:27:29
2	Al 396.153Radial†	5952.8	5904.8	4852.2 ug/L	4852.2 ppb	08:27:29
2	Ca 317.933Radial†	2805.5	2679.9	4960.8 ug/L	4960.8 ppb	08:27:49
2	Fe 238.204 Radial†	464.0	435.3	5073.2 ug/L	5073.2 ppb	08:27:49
2	K 766.490 Radial†	29262.2	25467.1	4841.3 ug/L	4841.3 ppb	08:27:29
2	Mg 279.077 IEC†	128.7	123.6	5207.5 ug/L	5207.5 ppb	08:27:49
2	Na 589.592 Radial†	31624.2	32011.2	9864.3 ug/L	9864.3 ppb	08:27:29
2	Sr 421.552†	77507.1	74369.7	491.00 ug/L	491.00 ppb	08:27:29
2	Sc 361.383	905273.7	905273.7	101.62 %		08:28:52
2	Y 371.029	732078.4	732078.4	99.705 %		08:28:52
2	Ag 328.068†	111297.5	108896.7	479.53 ug/L	479.53 ppb	08:28:57
2	As 188.979†	1259.8	1268.4	491.29 ug/L	491.29 ppb	08:29:17
2	B 249.677†	23112.4	23504.6	489.25 ug/L	489.25 ppb	08:28:57
2	Ba 233.527†	66881.3	65829.2	482.37 ug/L	482.37 ppb	08:28:57
2	Be 313.107†	1457415.2	1438558.2	483.73 ug/L	483.73 ppb	08:28:52
2	Cd 226.502†	47439.9	46886.9	484.03 ug/L	484.03 ppb	08:28:57
2	Co 228.616†	26445.0	26108.1	481.34 ug/L	481.34 ppb	08:28:57
2	Cr 267.716†	47742.9	46919.1	483.60 ug/L	483.60 ppb	08:28:57
2	Cu 324.752†	179270.7	169522.8	471.51 ug/L	471.51 ppb	08:28:57
2	Mn 257.610†	494480.5	486056.9	487.97 ug/L	487.97 ppb	08:28:52
2	Mo 202.031†	7345.3	7222.8	480.48 ug/L	480.48 ppb	08:29:17
2	Ni 231.604†	22119.6	21681.4	482.82 ug/L	482.82 ppb	08:28:57
2	P 214.914†	4872.0	4571.0	2281.4 ug/L	2281.4 ppb	08:29:17
2	Pb 220.353†	4484.9	4493.0	483.62 ug/L	483.62 ppb	08:29:17
2	S 181.975 Axial†	839.2	776.9	948.18 ug/L	948.18 ppb	08:29:17
2	Sb 206.836†	1628.5	1564.1	495.32 ug/L	495.32 ppb	08:29:17
2	Se 196.026†	845.6	858.0	494.11 ug/L	494.11 ppb	08:29:17
2	Si 251.611†	81947.2	80103.6	2378.5 ug/L	2378.5 ppb	08:28:57
2	Sn 189.927†	3062.9	3004.6	486.23 ug/L	486.23 ppb	08:29:17
2	Ti 334.940†	321443.9	318118.1	475.17 ug/L	475.17 ppb	08:28:57
2	Tl 190.801†	1703.0	1720.2	488.58 ug/L	488.58 ppb	08:29:17
2	U 409.014†	11693.2	16619.7	489.27 ug/L	489.27 ppb	08:28:57
2	V 292.402†	71663.7	72272.1	487.21 ug/L	487.21 ppb	08:28:57
2	Zn 213.857†	58248.6	56609.9	476.09 ug/L	476.09 ppb	08:28:57
2	SiO2†	82592.4	80712.0	5133.9 ug/L	5133.9 ppb	08:29:59
3	Sc Radial	4162.4	4162.4	101 %		08:27:54
3	Y RADIAL	4664.2	4664.2	96.34 %		08:27:54

3	Al 396.153Radial†	5862.7	6000.8	4931.5 ug/L	4931.5 ppb	08:27:54
3	Ca 317.933Radial†	2824.8	2786.5	5158.2 ug/L	5158.2 ppb	08:28:14
3	Fe 238.204 Radial†	469.0	454.7	5298.7 ug/L	5298.7 ppb	08:28:14
3	K 766.490 Radial†	28800.3	25920.8	4927.5 ug/L	4927.5 ppb	08:27:54
3	Mg 279.077 IEC†	128.8	127.7	5379.3 ug/L	5379.3 ppb	08:28:14
3	Na 589.592 Radial†	31214.0	32589.6	10043 ug/L	10043 ppb	08:27:54
3	Sr 421.552†	76193.3	75481.6	498.34 ug/L	498.34 ppb	08:27:54
3	Sc 361.383	907242.2	907242.2	101.84 %		08:29:23
3	Y 371.029	733735.8	733735.8	99.930 %		08:29:23
3	Ag 328.068†	110823.0	108193.2	476.51 ug/L	476.51 ppb	08:29:28
3	As 188.979†	1273.8	1279.5	495.57 ug/L	495.57 ppb	08:29:48
3	B 249.677†	23123.3	23465.9	488.41 ug/L	488.41 ppb	08:29:28
3	Ba 233.527†	66666.9	65475.8	479.79 ug/L	479.79 ppb	08:29:28
3	Be 313.107†	1457687.6	1435713.9	482.77 ug/L	482.77 ppb	08:29:23
3	Cd 226.502†	47232.4	46581.8	480.86 ug/L	480.86 ppb	08:29:28
3	Co 228.616†	26380.9	25988.7	479.14 ug/L	479.14 ppb	08:29:28
3	Cr 267.716†	47479.3	46558.3	479.89 ug/L	479.89 ppb	08:29:28
3	Cu 324.752†	178650.1	168530.6	468.76 ug/L	468.76 ppb	08:29:28
3	Mn 257.610†	495186.5	485694.4	487.62 ug/L	487.62 ppb	08:29:23
3	Mo 202.031†	7344.4	7206.3	479.40 ug/L	479.40 ppb	08:29:48
3	Ni 231.604†	22118.8	21633.4	481.76 ug/L	481.76 ppb	08:29:28
3	P 214.914†	4853.9	4542.8	2267.1 ug/L	2267.1 ppb	08:29:48
3	Pb 220.353†	4458.1	4457.1	479.76 ug/L	479.76 ppb	08:29:48
3	S 181.975 Axial†	837.7	773.6	944.12 ug/L	944.12 ppb	08:29:48
3	Sb 206.836†	1642.5	1574.4	498.39 ug/L	498.39 ppb	08:29:48
3	Se 196.026†	844.4	855.1	493.24 ug/L	493.24 ppb	08:29:48
3	Si 251.611†	81702.1	79687.9	2366.1 ug/L	2366.1 ppb	08:29:28
3	Sn 189.927†	3051.3	2986.6	483.36 ug/L	483.36 ppb	08:29:48
3	Ti 334.940†	320090.4	316102.7	472.18 ug/L	472.18 ppb	08:29:28
3	Tl 190.801†	1689.7	1703.6	483.86 ug/L	483.86 ppb	08:29:48
3	U 409.014†	11594.2	16497.5	485.64 ug/L	485.64 ppb	08:29:28
3	V 292.402†	71474.3	71933.2	484.91 ug/L	484.91 ppb	08:29:28
3	Zn 213.857†	58003.8	56245.1	472.98 ug/L	472.98 ppb	08:29:28
3	SiO2†	81695.2	79654.7	5066.5 ug/L	5066.5 ppb	08:30:04

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	902308.5	101.29 %	0.776			0.77%
Sc Radial	4257.1	103 %	2.0			1.93%
Y 371.029	729519.6	99.356 %	0.8070			0.81%
Y RADIAL	4766.2	98.45 %	1.827			1.86%
Ag 328.068†	109213.2	480.93 ug/L	5.266	480.93 ppb	5.266	1.10%
QC value within limits for Ag 328.068 Recovery = 96.19%						
Al 396.153Radial†	5952.1	4891.1 ug/L	39.70	4891.1 ppb	39.70	0.81%
QC value within limits for Al 396.153Radial Recovery = 97.82%						
As 188.979†	1276.6	494.45 ug/L	2.775	494.45 ppb	2.775	0.56%
QC value within limits for As 188.979 Recovery = 98.89%						
B 249.677†	23627.0	491.79 ug/L	5.151	491.79 ppb	5.151	1.05%
QC value within limits for B 249.677 Recovery = 98.36%						
Ba 233.527†	66057.1	484.04 ug/L	5.288	484.04 ppb	5.288	1.09%
QC value within limits for Ba 233.527 Recovery = 96.81%						
Be 313.107†	1439289.9	483.98 ug/L	1.352	483.98 ppb	1.352	0.28%
QC value within limits for Be 313.107 Recovery = 96.80%						
Ca 317.933Radial†	2710.7	5017.8 ug/L	122.26	5017.8 ppb	122.26	2.44%
QC value within limits for Ca 317.933Radial Recovery = 100.36%						
Cd 226.502†	47023.5	485.44 ug/L	5.424	485.44 ppb	5.424	1.12%
QC value within limits for Cd 226.502 Recovery = 97.09%						
Co 228.616†	26219.6	483.40 ug/L	5.577	483.40 ppb	5.577	1.15%
QC value within limits for Co 228.616 Recovery = 96.68%						
Cr 267.716†	46987.7	484.31 ug/L	4.815	484.31 ppb	4.815	0.99%
QC value within limits for Cr 267.716 Recovery = 96.86%						
Cu 324.752†	170236.3	473.50 ug/L	5.979	473.50 ppb	5.979	1.26%
QC value within limits for Cu 324.752 Recovery = 94.70%						
Fe 238.204 Radial†	439.8	5125.7 ug/L	153.65	5125.7 ppb	153.65	3.00%
QC value within limits for Fe 238.204 Radial Recovery = 102.51%						
K 766.490 Radial†	25662.1	4878.4 ug/L	44.36	4878.4 ppb	44.36	0.91%
QC value within limits for K 766.490 Radial Recovery = 97.57%						
Mg 279.077 IEC†	123.7	5213.9 ug/L	162.33	5213.9 ppb	162.33	3.11%
QC value within limits for Mg 279.077 IEC Recovery = 104.28%						

Mn 257.610†	486918.0	488.84 ug/L	1.815	488.84 ppb	1.815	0.37%
QC value within limits for Mn 257.610 Recovery = 97.77%						
Mo 202.031†	7251.5	482.38 ug/L	4.271	482.38 ppb	4.271	0.89%
QC value within limits for Mo 202.031 Recovery = 96.48%						
Na 589.592 Radial†	32281.3	9947.5 ug/L	89.70	9947.5 ppb	89.70	0.90%
QC value within limits for Na 589.592 Radial Recovery = 99.48%						
Ni 231.604†	21794.0	485.33 ug/L	5.297	485.33 ppb	5.297	1.09%
QC value within limits for Ni 231.604 Recovery = 97.07%						
P 214.914†	4586.0	2288.7 ug/L	26.12	2288.7 ppb	26.12	1.14%
QC value within limits for P 214.914 Recovery = 91.55%						
Pb 220.353†	4504.5	484.87 ug/L	5.830	484.87 ppb	5.830	1.20%
QC value within limits for Pb 220.353 Recovery = 96.97%						
S 181.975 Axial†	780.7	952.75 ug/L	11.609	952.75 ppb	11.609	1.22%
QC value within limits for S 181.975 Axial Recovery = 95.28%						
Sb 206.836†	1572.7	497.98 ug/L	2.473	497.98 ppb	2.473	0.50%
QC value within limits for Sb 206.836 Recovery = 99.60%						
Se 196.026†	861.1	496.00 ug/L	4.046	496.00 ppb	4.046	0.82%
QC value within limits for Se 196.026 Recovery = 99.20%						
Si 251.611†	80434.9	2388.3 ug/L	28.42	2388.3 ppb	28.42	1.19%
QC value within limits for Si 251.611 Recovery = 95.53%						
Sn 189.927†	3006.4	486.54 ug/L	3.345	486.54 ppb	3.345	0.69%
QC value within limits for Sn 189.927 Recovery = 97.31%						
Sr 421.552†	74887.7	494.42 ug/L	3.696	494.42 ppb	3.696	0.75%
QC value within limits for Sr 421.552 Recovery = 98.88%						
Ti 334.940†	319093.1	476.64 ug/L	5.344	476.64 ppb	5.344	1.12%
QC value within limits for Ti 334.940 Recovery = 95.33%						
Tl 190.801†	1721.4	488.92 ug/L	5.237	488.92 ppb	5.237	1.07%
QC value within limits for Tl 190.801 Recovery = 97.78%						
U 409.014†	16636.1	489.74 ug/L	4.362	489.74 ppb	4.362	0.89%
QC value within limits for U 409.014 Recovery = 97.95%						
V 292.402†	72499.1	488.74 ug/L	4.783	488.74 ppb	4.783	0.98%
QC value within limits for V 292.402 Recovery = 97.75%						
Zn 213.857†	56775.5	477.47 ug/L	5.315	477.47 ppb	5.315	1.11%
QC value within limits for Zn 213.857 Recovery = 95.49%						
SiO2†	80546.0	5123.2 ug/L	52.25	5123.2 ppb	52.25	1.02%
QC value within limits for SiO2 Recovery = 95.81%						

All analyte(s) passed QC.

Sequence No.: 2  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 2/1/2010 08:32:15  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4325.7	4325.7	105 %		08:34:08
1	Y RADIAL	4908.7	4908.7	101.4 %		08:34:08
1	Al 396.153Radial†	-199.8	-0.4	-0.3681 ug/L	-0.3681 ppb	08:34:08
1	Ca 317.933Radial†	22.4	8.0	14.848 ug/L	14.848 ppb	08:34:28
1	Fe 238.204 Radial†	11.7	1.1	12.247 ug/L	12.247 ppb	08:34:28
1	K 766.490 Radial†	2943.7	183.2	34.860 ug/L	34.860 ppb	08:34:08
1	Mg 279.077 IEC†	-0.1	-0.0	-1.6767 ug/L	-1.6767 ppb	08:34:28
1	Na 589.592 Radial†	-1702.0	29.0	8.9370 ug/L	8.9370 ppb	08:34:08
1	Sr 421.552†	6.3	-30.4	-0.2009 ug/L	-0.2009 ppb	08:34:08
1	Sc 361.383	910215.6	910215.6	102.18 %		08:35:24
1	Y 371.029	746917.6	746917.6	101.73 %		08:35:24
1	Ag 328.068†	597.5	-39.7	-0.1807 ug/L	-0.1807 ppb	08:35:29
1	As 188.979†	-8.7	20.3	7.7827 ug/L	7.7827 ppb	08:35:50
1	B 249.677†	386.4	1139.2	23.817 ug/L	23.817 ppb	08:35:29
1	Ba 233.527†	4.1	19.3	0.1427 ug/L	0.1427 ppb	08:35:50
1	Be 313.107†	-4268.1	225.9	0.0764 ug/L	0.0764 ppb	08:35:29
1	Cd 226.502†	-192.0	16.2	0.1693 ug/L	0.1693 ppb	08:35:50
1	Co 228.616†	-78.0	8.8	0.1614 ug/L	0.1614 ppb	08:35:50
1	Cr 267.716†	114.5	50.2	0.5122 ug/L	0.5122 ppb	08:35:29
1	Cu 324.752†	6879.6	-153.8	-0.4356 ug/L	-0.4356 ppb	08:35:29
1	Mn 257.610†	525.3	-17.7	-0.0165 ug/L	-0.0165 ppb	08:35:50
1	Mo 202.031†	5.6	0.2	0.0167 ug/L	0.0167 ppb	08:35:50
1	Ni 231.604†	107.8	20.3	0.4520 ug/L	0.4520 ppb	08:35:50
1	P 214.914†	222.1	-5.9	-2.9883 ug/L	-2.9883 ppb	08:35:50
1	Pb 220.353†	-42.6	37.9	4.0644 ug/L	4.0644 ppb	08:35:50
1	S 181.975 Axial†	46.9	-2.9	-3.5914 ug/L	-3.5914 ppb	08:35:50
1	Sb 206.836†	56.9	17.2	5.2829 ug/L	5.2829 ppb	08:35:50
1	Se 196.026†	-16.3	10.0	5.5720 ug/L	5.5720 ppb	08:35:50
1	Si 251.611†	588.5	40.2	1.1963 ug/L	1.1963 ppb	08:35:50
1	Sn 189.927†	18.1	8.3	1.3450 ug/L	1.3450 ppb	08:35:50
1	Ti 334.940†	-1652.0	187.6	0.2756 ug/L	0.2756 ppb	08:35:29
1	Tl 190.801†	-39.7	5.6	1.5906 ug/L	1.5906 ppb	08:35:50
1	U 409.014†	-4702.4	510.8	15.087 ug/L	15.087 ppb	08:35:24
1	V 292.402†	-1722.0	66.9	0.4718 ug/L	0.4718 ppb	08:35:29
1	Zn 213.857†	758.6	33.4	0.2796 ug/L	0.2796 ppb	08:35:50
1	SiO2†	589.8	14.9	0.9527 ug/L	0.9527 ppb	08:36:56
2	Sc Radial	4273.2	4273.2	104 %		08:34:33
2	Y RADIAL	4834.6	4834.6	99.86 %		08:34:33
2	Al 396.153Radial†	-194.0	2.8	2.2420 ug/L	2.2420 ppb	08:34:33
2	Ca 317.933Radial†	25.9	11.7	21.679 ug/L	21.679 ppb	08:34:53
2	Fe 238.204 Radial†	11.6	1.1	12.908 ug/L	12.908 ppb	08:34:53
2	K 766.490 Radial†	2925.2	199.8	38.022 ug/L	38.022 ppb	08:34:33
2	Mg 279.077 IEC†	0.4	0.4	18.314 ug/L	18.314 ppb	08:34:53
2	Na 589.592 Radial†	-1753.8	-40.9	-12.616 ug/L	-12.616 ppb	08:34:33
2	Sr 421.552†	66.1	27.4	0.1806 ug/L	0.1806 ppb	08:34:33
2	Sc 361.383	914171.7	914171.7	102.62 %		08:35:55
2	Y 371.029	751212.3	751212.3	102.31 %		08:35:55
2	Ag 328.068†	565.8	-73.2	-0.3256 ug/L	-0.3256 ppb	08:36:00
2	As 188.979†	-7.3	21.6	8.3144 ug/L	8.3144 ppb	08:36:20
2	B 249.677†	435.2	1185.2	24.778 ug/L	24.778 ppb	08:36:00
2	Ba 233.527†	16.5	31.3	0.2312 ug/L	0.2312 ppb	08:36:20
2	Be 313.107†	-4156.1	353.1	0.1192 ug/L	0.1192 ppb	08:36:00
2	Cd 226.502†	-197.8	11.4	0.1193 ug/L	0.1193 ppb	08:36:20
2	Co 228.616†	-74.8	12.2	0.2264 ug/L	0.2264 ppb	08:36:20
2	Cr 267.716†	80.1	16.2	0.1622 ug/L	0.1622 ppb	08:36:00
2	Cu 324.752†	6805.3	-255.4	-0.7180 ug/L	-0.7180 ppb	08:36:00
2	Mn 257.610†	522.1	-23.1	-0.0226 ug/L	-0.0226 ppb	08:36:20
2	Mo 202.031†	18.8	13.1	0.8726 ug/L	0.8726 ppb	08:36:20
2	Ni 231.604†	85.1	-2.3	-0.0506 ug/L	-0.0506 ppb	08:36:20

2	P 214.914†	219.7	-9.2	-4.6034 ug/L	-4.6034 ppb	08:36:20
2	Pb 220.353†	-61.8	19.5	2.0896 ug/L	2.0896 ppb	08:36:20
2	S 181.975 Axial†	46.5	-3.6	-4.4080 ug/L	-4.4080 ppb	08:36:20
2	Sb 206.836†	53.7	13.9	4.3034 ug/L	4.3034 ppb	08:36:20
2	Se 196.026†	-27.9	-1.2	-0.6150 ug/L	-0.6150 ppb	08:36:20
2	Si 251.611†	585.6	34.9	1.0271 ug/L	1.0271 ppb	08:36:20
2	Sn 189.927†	25.1	15.1	2.4357 ug/L	2.4357 ppb	08:36:20
2	Ti 334.940†	-1635.9	210.2	0.3088 ug/L	0.3088 ppb	08:36:00
2	Tl 190.801†	-43.7	1.9	0.5291 ug/L	0.5291 ppb	08:36:20
2	U 409.014†	-4717.3	516.3	15.248 ug/L	15.248 ppb	08:35:55
2	V 292.402†	-1681.2	113.9	0.7973 ug/L	0.7973 ppb	08:36:00
2	Zn 213.857†	767.7	39.0	0.3307 ug/L	0.3307 ppb	08:36:20
2	SiO2†	569.5	-7.3	-0.4889 ug/L	-0.4889 ppb	08:37:01
3	Sc Radial	4372.4	4372.4	106 %		08:34:58
3	Y RADIAL	4899.7	4899.7	101.2 %		08:34:58
3	Al 396.153Radial†	-181.1	19.3	15.901 ug/L	15.901 ppb	08:34:58
3	Ca 317.933Radial†	20.7	6.2	11.394 ug/L	11.394 ppb	08:35:18
3	Fe 238.204 Radial†	9.7	-1.0	-11.178 ug/L	-11.178 ppb	08:35:18
3	K 766.490 Radial†	2870.8	84.4	16.051 ug/L	16.051 ppb	08:34:58
3	Mg 279.077 IEC†	1.8	1.8	73.954 ug/L	73.954 ppb	08:35:18
3	Na 589.592 Radial†	-1690.9	56.9	17.519 ug/L	17.519 ppb	08:34:58
3	Sr 421.552†	82.7	41.6	0.2744 ug/L	0.2744 ppb	08:34:58
3	Sc 361.383	913189.9	913189.9	102.51 %		08:36:25
3	Y 371.029	749036.3	749036.3	102.01 %		08:36:25
3	Ag 328.068†	545.1	-92.7	-0.4204 ug/L	-0.4204 ppb	08:36:30
3	As 188.979†	-8.7	20.3	7.7798 ug/L	7.7798 ppb	08:36:50
3	B 249.677†	354.4	1106.8	23.144 ug/L	23.144 ppb	08:36:30
3	Ba 233.527†	6.6	21.7	0.1596 ug/L	0.1596 ppb	08:36:50
3	Be 313.107†	-4273.3	234.4	0.0796 ug/L	0.0796 ppb	08:36:30
3	Cd 226.502†	-205.5	3.6	0.0419 ug/L	0.0419 ppb	08:36:50
3	Co 228.616†	-92.3	-4.9	-0.0905 ug/L	-0.0905 ppb	08:36:50
3	Cr 267.716†	61.6	-1.7	-0.0236 ug/L	-0.0236 ppb	08:36:30
3	Cu 324.752†	6805.2	-248.3	-0.7002 ug/L	-0.7002 ppb	08:36:30
3	Mn 257.610†	522.8	-21.7	-0.0259 ug/L	-0.0259 ppb	08:36:50
3	Mo 202.031†	5.3	-0.0	-0.0036 ug/L	-0.0036 ppb	08:36:50
3	Ni 231.604†	98.1	10.5	0.2348 ug/L	0.2348 ppb	08:36:50
3	P 214.914†	226.3	-2.5	-1.1295 ug/L	-1.1295 ppb	08:36:50
3	Pb 220.353†	-39.4	41.2	4.4297 ug/L	4.4297 ppb	08:36:50
3	S 181.975 Axial†	45.8	-4.2	-5.1765 ug/L	-5.1765 ppb	08:36:50
3	Sb 206.836†	56.3	16.5	5.0469 ug/L	5.0469 ppb	08:36:50
3	Se 196.026†	-30.4	-3.7	-2.0656 ug/L	-2.0656 ppb	08:36:50
3	Si 251.611†	554.8	5.5	0.1645 ug/L	0.1645 ppb	08:36:50
3	Sn 189.927†	13.8	4.0	0.6551 ug/L	0.6551 ppb	08:36:50
3	Ti 334.940†	-1569.7	273.1	0.3965 ug/L	0.3965 ppb	08:36:30
3	Tl 190.801†	-35.4	9.9	2.8071 ug/L	2.8071 ppb	08:36:50
3	U 409.014†	-4683.3	544.5	16.085 ug/L	16.085 ppb	08:36:25
3	V 292.402†	-1713.3	80.9	0.5714 ug/L	0.5714 ppb	08:36:30
3	Zn 213.857†	770.9	42.9	0.3644 ug/L	0.3644 ppb	08:36:50
3	SiO2†	589.0	12.3	0.7848 ug/L	0.7848 ppb	08:37:06

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	912525.7	102.44 %	0.231			0.23%
Sc Radial	4323.8	105 %	1.2			1.15%
Y 371.029	749055.4	102.02 %	0.292			0.29%
Y RADIAL	4881.0	100.8 %	0.83			0.83%
Ag 328.068†	-68.5	-0.3089 ug/L	0.12076	-0.3089 ppb	0.12076	39.09%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	7.2	5.9250 ug/L	8.73750	5.9250 ppb	8.73750	147.47%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	20.7	7.9589 ug/L	0.30780	7.9589 ppb	0.30780	3.87%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1143.7	23.913 ug/L	0.8212	23.913 ppb	0.8212	3.43%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	24.1	0.1778 ug/L	0.04696	0.1778 ppb	0.04696	26.41%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	271.1	0.0917 ug/L	0.02382	0.0917 ppb	0.02382	25.97%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	8.6	15.974 ug/L	5.2338	15.974 ppb	5.2338	32.77%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	10.4	0.1101 ug/L	0.06417	0.1101 ppb	0.06417	58.26%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	5.4	0.0991 ug/L	0.16740	0.0991 ppb	0.16740	168.93%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	21.6	0.2169 ug/L	0.27206	0.2169 ppb	0.27206	125.43%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-219.2	-0.6179 ug/L	0.15820	-0.6179 ppb	0.15820	25.60%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.4	4.6591 ug/L	13.71912	4.6591 ppb	13.71912	294.46%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	155.8	29.644 ug/L	11.8780	29.644 ppb	11.8780	40.07%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.7	30.197 ug/L	39.1904	30.197 ppb	39.1904	129.78%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-20.8	-0.0217 ug/L	0.00481	-0.0217 ppb	0.00481	22.20%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.4	0.2952 ug/L	0.50009	0.2952 ppb	0.50009	169.38%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	15.0	4.6133 ug/L	15.52557	4.6133 ppb	15.52557	336.54%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	9.5	0.2121 ug/L	0.25207	0.2121 ppb	0.25207	118.85%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-5.9	-2.9071 ug/L	1.73840	-2.9071 ppb	1.73840	59.80%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	32.9	3.5279 ug/L	1.25894	3.5279 ppb	1.25894	35.69%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-3.6	-4.3919 ug/L	0.79269	-4.3919 ppb	0.79269	18.05%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	15.9	4.8777 ug/L	0.51120	4.8777 ppb	0.51120	10.48%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	1.7	0.9638 ug/L	4.05621	0.9638 ppb	4.05621	420.85%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	26.9	0.7960 ug/L	0.55339	0.7960 ppb	0.55339	69.52%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	9.1	1.4786 ug/L	0.89782	1.4786 ppb	0.89782	60.72%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	12.8	0.0847 ug/L	0.25175	0.0847 ppb	0.25175	297.27%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	223.6	0.3270 ug/L	0.06250	0.3270 ppb	0.06250	19.12%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	5.8	1.6423 ug/L	1.13989	1.6423 ppb	1.13989	69.41%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	523.9	15.473 ug/L	0.5360	15.473 ppb	0.5360	3.46%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	87.2	0.6135 ug/L	0.16679	0.6135 ppb	0.16679	27.19%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	38.4	0.3249 ug/L	0.04271	0.3249 ppb	0.04271	13.15%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	6.7	0.4162 ug/L	0.78830	0.4162 ppb	0.78830	189.41%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.



Sequence No.: 3  
 Sample ID: LR1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 36  
 Date Collected: 2/1/2010 08:39:16  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4227.1	4227.1	102 %		08:41:10
1	Y RADIAL	4756.3	4756.3	98.24 %		08:41:10
1	Al 396.153Radial†	-240.3	-44.4	-35.316 ug/L	-35.316 ppb	08:41:10
1	Ca 317.933Radial†	19.9	6.0	11.178 ug/L	11.178 ppb	08:41:30
1	Fe 238.204 Radial†	33783.1	32961.4	383050 ug/L	383050 ppb	08:41:10
1	K 766.490 Radial†	2510.9	-173.7	-33.029 ug/L	-33.029 ppb	08:41:10
1	Mg 279.077 IEC†	8.0	7.9	-69.314 ug/L	-69.314 ppb	08:41:30
1	Na 589.592 Radial†	-1602.6	88.2	27.166 ug/L	27.166 ppb	08:41:10
1	Sr 421.552†	82.9	44.4	0.2934 ug/L	0.2934 ppb	08:41:10
1	Sc 361.383	903404.7	903404.7	101.41 %		08:42:27
1	Y 371.029	737290.3	737290.3	100.41 %		08:42:27
1	Ag 328.068†	-27433.5	-27676.0	3.1145 ug/L	3.1145 ppb	08:42:27
1	As 188.979†	-239.2	-207.1	10.250 ug/L	10.250 ppb	08:42:47
1	B 249.677†	2087.2	2819.2	-3.2733 ug/L	-3.2733 ppb	08:42:27
1	Ba 233.527†	-2168.5	-2123.0	-3.7459 ug/L	-3.7459 ppb	08:42:47
1	Be 313.107†	-4182.5	278.8	0.0942 ug/L	0.0942 ppb	08:42:27
1	Cd 226.502†	3209.6	3369.0	-4.7600 ug/L	-4.7600 ppb	08:42:47
1	Co 228.616†	186.1	268.7	-0.6502 ug/L	-0.6502 ppb	08:42:47
1	Cr 267.716†	-635.9	-688.9	0.3936 ug/L	0.3936 ppb	08:42:47
1	Cu 324.752†	-1815.9	-8677.5	-3.9083 ug/L	-3.9083 ppb	08:42:27
1	Mn 257.610†	-40634.2	-40600.2	-2.9172 ug/L	-2.9172 ppb	08:42:27
1	Mo 202.031†	-426.8	-426.1	1.4184 ug/L	1.4184 ppb	08:42:47
1	Ni 231.604†	-168.8	81.3	1.8081 ug/L	1.8081 ppb	08:42:47
1	P 214.914†	758.2	524.4	-31.518 ug/L	-31.518 ppb	08:42:47
1	Pb 220.353†	215.0	291.6	-5.3760 ug/L	-5.3760 ppb	08:42:47
1	S 181.975 Axial†	64.4	14.7	17.918 ug/L	17.918 ppb	08:42:47
1	Sb 206.836†	16.7	-21.9	2.4327 ug/L	2.4327 ppb	08:42:47
1	Se 196.026†	-2240.8	-2183.6	56.244 ug/L	56.244 ppb	08:42:47
1	Si 251.611†	-790.5	-1315.3	-38.801 ug/L	-38.801 ppb	08:42:47
1	Sn 189.927†	-20.3	-29.4	1.6910 ug/L	1.6910 ppb	08:42:47
1	Ti 334.940†	-1627.8	199.2	0.2370 ug/L	0.2370 ppb	08:42:47
1	Tl 190.801†	-47.3	-2.2	-0.9374 ug/L	-0.9374 ppb	08:42:47
1	U 409.014†	-2241.6	2902.7	42.090 ug/L	42.090 ppb	08:42:27
1	V 292.402†	6314.5	7978.7	-2.9346 ug/L	-2.9346 ppb	08:42:47
1	Zn 213.857†	4745.3	3970.1	-3.4533 ug/L	-3.4533 ppb	08:42:47
1	SiO2†	-858.9	-1409.2	-89.090 ug/L	-89.090 ppb	08:43:43
2	Sc Radial	4249.9	4249.9	103 %		08:41:35
2	Y RADIAL	4777.7	4777.7	98.68 %		08:41:35
2	Al 396.153Radial†	-226.1	-29.3	-22.815 ug/L	-22.815 ppb	08:41:35
2	Ca 317.933Radial†	16.8	3.0	5.4873 ug/L	5.4873 ppb	08:41:55
2	Fe 238.204 Radial†	33671.4	32675.6	379730 ug/L	379730 ppb	08:41:35
2	K 766.490 Radial†	2683.2	-19.7	-3.6933 ug/L	-3.6933 ppb	08:41:35
2	Mg 279.077 IEC†	9.6	9.4	-3.0144 ug/L	-3.0144 ppb	08:41:55
2	Na 589.592 Radial†	-1690.6	11.2	3.4490 ug/L	3.4490 ppb	08:41:35
2	Sr 421.552†	113.4	73.6	0.4859 ug/L	0.4859 ppb	08:41:35
2	Sc 361.383	894155.4	894155.4	100.37 %		08:42:52
2	Y 371.029	730534.2	730534.2	99.494 %		08:42:52
2	Ag 328.068†	-27012.8	-27536.7	2.6524 ug/L	2.6524 ppb	08:42:52
2	As 188.979†	-220.4	-190.9	15.708 ug/L	15.708 ppb	08:43:12
2	B 249.677†	2222.6	2975.5	0.5313 ug/L	0.5313 ppb	08:42:52
2	Ba 233.527†	-2226.2	-2202.6	-4.4259 ug/L	-4.4259 ppb	08:43:12
2	Be 313.107†	-4140.1	278.3	0.0937 ug/L	0.0937 ppb	08:42:52
2	Cd 226.502†	3224.6	3416.7	-3.9239 ug/L	-3.9239 ppb	08:43:12
2	Co 228.616†	201.1	285.5	-0.2937 ug/L	-0.2937 ppb	08:43:12
2	Cr 267.716†	-652.5	-711.9	0.0933 ug/L	0.0933 ppb	08:43:12
2	Cu 324.752†	-1708.0	-8588.5	-3.8377 ug/L	-3.8377 ppb	08:42:52
2	Mn 257.610†	-39880.4	-40263.7	-2.9101 ug/L	-2.9101 ppb	08:42:52
2	Mo 202.031†	-435.2	-438.8	0.3165 ug/L	0.3165 ppb	08:43:12
2	Ni 231.604†	166.6	80.9	1.7986 ug/L	1.7986 ppb	08:43:12

2	P 214.914†	773.5	547.4	-16.940 ug/L	-16.940 ppb	08:43:12
2	Pb 220.353†	233.5	312.2	-2.8459 ug/L	-2.8459 ppb	08:43:12
2	S 181.975 Axial†	66.4	17.3	21.090 ug/L	21.090 ppb	08:43:12
2	Sb 206.836†	40.6	2.0	9.6406 ug/L	9.6406 ppb	08:43:12
2	Se 196.026†	-2219.9	-2185.6	44.151 ug/L	44.151 ppb	08:43:12
2	Si 251.611†	-751.0	-1283.9	-37.858 ug/L	-37.858 ppb	08:43:12
2	Sn 189.927†	-25.2	-34.5	0.8165 ug/L	0.8165 ppb	08:43:12
2	Ti 334.940†	-1708.4	102.4	0.0856 ug/L	0.0856 ppb	08:43:12
2	Tl 190.801†	-56.5	-11.8	-3.6558 ug/L	-3.6558 ppb	08:43:12
2	U 409.014†	-2149.9	2971.2	44.493 ug/L	44.493 ppb	08:42:52
2	V 292.402†	6455.6	8183.8	-1.0934 ug/L	-1.0934 ppb	08:43:12
2	Zn 213.857†	4750.8	4024.0	-2.6742 ug/L	-2.6742 ppb	08:43:12
2	SiO2†	-887.6	-1446.5	-91.448 ug/L	-91.448 ppb	08:43:48
3	Sc Radial	4394.7	4394.7	107 %		08:42:00
3	Y RADIAL	4934.2	4934.2	101.9 %		08:42:00
3	Al 396.153Radial†	-229.1	-24.9	-19.221 ug/L	-19.221 ppb	08:42:00
3	Ca 317.933Radial†	17.9	3.5	6.4657 ug/L	6.4657 ppb	08:42:20
3	Fe 238.204 Radial†	34179.4	32075.8	372760 ug/L	372760 ppb	08:42:00
3	K 766.490 Radial†	2560.9	-220.3	-41.900 ug/L	-41.900 ppb	08:42:00
3	Mg 279.077 IEC†	10.4	9.8	22.527 ug/L	22.527 ppb	08:42:20
3	Na 589.592 Radial†	-1609.3	141.6	43.625 ug/L	43.625 ppb	08:42:00
3	Sr 421.552†	130.0	85.6	0.5649 ug/L	0.5649 ppb	08:42:00
3	Sc 361.383	891183.3	891183.3	100.04 %		08:43:18
3	Y 371.029	728513.8	728513.8	99.219 %		08:43:18
3	Ag 328.068†	-27219.0	-27832.6	-0.8972 ug/L	-0.8972 ppb	08:43:18
3	As 188.979†	-238.2	-209.4	6.9682 ug/L	6.9682 ppb	08:43:38
3	B 249.677†	2078.8	2839.0	-1.1889 ug/L	-1.1889 ppb	08:43:18
3	Ba 233.527†	-2230.4	-2214.2	-4.7220 ug/L	-4.7220 ppb	08:43:38
3	Be 313.107†	-4142.4	262.3	0.0884 ug/L	0.0884 ppb	08:43:18
3	Cd 226.502†	3253.8	3456.6	-2.7912 ug/L	-2.7912 ppb	08:43:38
3	Co 228.616†	192.3	277.4	-0.3424 ug/L	-0.3424 ppb	08:43:38
3	Cr 267.716†	-613.4	-675.0	0.3389 ug/L	0.3389 ppb	08:43:38
3	Cu 324.752†	-1564.8	-8451.0	-3.8237 ug/L	-3.8237 ppb	08:43:18
3	Mn 257.610†	-39760.0	-40275.8	-3.6115 ug/L	-3.6115 ppb	08:43:18
3	Mo 202.031†	-422.5	-427.6	0.5195 ug/L	0.5195 ppb	08:43:38
3	Ni 231.604†	201.5	116.3	2.5874 ug/L	2.5874 ppb	08:43:38
3	P 214.914†	788.6	565.0	-2.2685 ug/L	-2.2685 ppb	08:43:38
3	Pb 220.353†	245.2	324.8	-0.8322 ug/L	-0.8322 ppb	08:43:38
3	S 181.975 Axial†	65.7	16.8	20.536 ug/L	20.536 ppb	08:43:38
3	Sb 206.836†	36.0	-2.5	8.1040 ug/L	8.1040 ppb	08:43:38
3	Se 196.026†	-2242.9	-2216.1	4.2305 ug/L	4.2305 ppb	08:43:38
3	Si 251.611†	-736.8	-1272.3	-37.521 ug/L	-37.521 ppb	08:43:38
3	Sn 189.927†	-27.4	-36.8	0.3220 ug/L	0.3220 ppb	08:43:38
3	Ti 334.940†	-1693.1	111.9	0.0987 ug/L	0.0987 ppb	08:43:38
3	Tl 190.801†	-51.2	-6.7	-2.2036 ug/L	-2.2036 ppb	08:43:38
3	U 409.014†	-2173.6	2940.4	44.377 ug/L	44.377 ppb	08:43:18
3	V 292.402†	6489.7	8239.3	0.2998 ug/L	0.2998 ppb	08:43:38
3	Zn 213.857†	4808.8	4097.8	-1.3776 ug/L	-1.3776 ppb	08:43:38
3	SiO2†	-816.7	-1378.6	-87.141 ug/L	-87.141 ppb	08:43:54

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	896247.8	100.61 %		0.715				0.71%
Sc Radial	4290.5	104 %		2.2				2.12%
Y 371.029	732112.8	99.709 %		0.6260				0.63%
Y RADIAL	4822.7	99.61 %		2.006				2.01%
Ag 328.068†	-27681.8	1.6233 ug/L		2.19496	1.6233 ppb		2.19496	135.22%
Al 396.153Radial†	-32.9	-25.784 ug/L		8.4486	-25.784 ppb		8.4486	32.77%
As 188.979†	-202.5	10.975 ug/L		4.4149	10.975 ppb		4.4149	40.23%
B 249.677†	2877.9	-1.3103 ug/L		1.90520	-1.3103 ppb		1.90520	145.40%
Ba 233.527†	-2179.9	-4.2979 ug/L		0.50051	-4.2979 ppb		0.50051	11.65%
Be 313.107†	273.1	0.0921 ug/L		0.00323	0.0921 ppb		0.00323	3.51%
Ca 317.933Radial†	4.2	7.7102 ug/L		3.04242	7.7102 ppb		3.04242	39.46%
Cd 226.502†	3414.1	-3.8250 ug/L		0.98813	-3.8250 ppb		0.98813	25.83%
Co 228.616†	277.2	-0.4287 ug/L		0.19328	-0.4287 ppb		0.19328	45.08%
Cr 267.716†	-691.9	0.2753 ug/L		0.15992	0.2753 ppb		0.15992	58.10%
Cu 324.752†	-8572.3	-3.8566 ug/L		0.04538	-3.8566 ppb		0.04538	1.18%
Fe 238.204 Radial†	32570.9	378510 ug/L		5252.1	378510 ppb		5252.1	1.39%
K 766.490 Radial†	-137.9	-26.207 ug/L		19.9958	-26.207 ppb		19.9958	76.30%

Mg 279.077 IEC†	9.0	-16.600 ug/L	47.4037	-16.600 ppb	47.4037	285.56%
Mn 257.610†	-40379.9	-3.1463 ug/L	0.40290	-3.1463 ppb	0.40290	12.81%
Mo 202.031†	-430.8	0.7515 ug/L	0.58645	0.7515 ppb	0.58645	78.04%
Na 589.592 Radial†	80.3	24.747 ug/L	20.1971	24.747 ppb	20.1971	81.62%
Ni 231.604†	92.8	2.0647 ug/L	0.45266	2.0647 ppb	0.45266	21.92%
P 214.914†	545.6	-16.909 ug/L	14.6249	-16.909 ppb	14.6249	86.49%
Pb 220.353†	309.5	-3.0180 ug/L	2.27674	-3.0180 ppb	2.27674	75.44%
S 181.975 Axial†	16.2	19.848 ug/L	1.6944	19.848 ppb	1.6944	8.54%
Sb 206.836†	-7.5	6.7258 ug/L	3.79647	6.7258 ppb	3.79647	56.45%
Se 196.026†	-2195.1	34.875 ug/L	27.2192	34.875 ppb	27.2192	78.05%
Si 251.611†	-1290.5	-38.060 ug/L	0.6636	-38.060 ppb	0.6636	1.74%
Sn 189.927†	-33.6	0.9432 ug/L	0.69326	0.9432 ppb	0.69326	73.50%
Sr 421.552†	67.9	0.4480 ug/L	0.13966	0.4480 ppb	0.13966	31.17%
Ti 334.940†	137.8	0.1404 ug/L	0.08390	0.1404 ppb	0.08390	59.74%
Tl 190.801†	-6.9	-2.2656 ug/L	1.36028	-2.2656 ppb	1.36028	60.04%
U 409.014†	2938.1	43.653 ug/L	1.3553	43.653 ppb	1.3553	3.10%
V 292.402†	8133.9	-1.2427 ug/L	1.62237	-1.2427 ppb	1.62237	130.55%
Zn 213.857†	4030.6	-2.5017 ug/L	1.04856	-2.5017 ppb	1.04856	41.91%
SiO2†	-1411.4	-89.227 ug/L	2.1567	-89.227 ppb	2.1567	2.42%

Sequence No.: 4  
 Sample ID: LR2  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 37  
 Date Collected: 2/1/2010 08:46:05  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4336.9	4336.9	105 %		08:47:58
1	Y RADIAL	4927.3	4927.3	101.8 %		08:47:58
1	Al 396.153Radial†	-218.0	-17.3	-14.112 ug/L	-14.112 ppb	08:47:58
1	Ca 317.933Radial†	22.9	8.4	15.574 ug/L	15.574 ppb	08:48:18
1	Fe 238.204 Radial†	-0.6	-10.7	9.0767 ug/L	9.0767 ppb	08:48:18
1	K 766.490 Radial†	2746.6	-11.6	-2.2080 ug/L	-2.2080 ppb	08:47:58
1	Mg 279.077 IEC†	0.0	0.1	2.2972 ug/L	2.2972 ppb	08:48:18
1	Na 589.592 Radial†	-1762.5	-24.4	-7.5051 ug/L	-7.5051 ppb	08:47:58
1	Sr 421.552†	61.2	21.8	0.1438 ug/L	0.1438 ppb	08:47:58
1	Sc 361.383	922327.1	922327.1	103.54 %		08:49:15
1	Y 371.029	755890.1	755890.1	102.95 %		08:49:15
1	Ag 328.068†	465.3	-175.1	-0.8183 ug/L	-0.8183 ppb	08:49:20
1	As 188.979†	-19.1	10.3	3.9344 ug/L	3.9344 ppb	08:49:40
1	B 249.677†	642.7	1381.9	16.190 ug/L	16.190 ppb	08:49:20
1	Ba 233.527†	-3.3	12.1	0.0870 ug/L	0.0870 ppb	08:49:40
1	Be 313.107†	-4239.2	308.7	0.1048 ug/L	0.1048 ppb	08:49:20
1	Cd 226.502†	-220.0	-8.4	-0.0684 ug/L	-0.0684 ppb	08:49:40
1	Co 228.616†	250132.8	241674.9	4455.0 ug/L	4455.0 ppb	08:49:15
1	Cr 267.716†	59.7	-4.2	-0.0521 ug/L	-0.0521 ppb	08:49:20
1	Cu 324.752†	6151.9	-945.0	-2.6463 ug/L	-2.6463 ppb	08:49:20
1	Mn 257.610†	486.4	-62.0	-0.0746 ug/L	-0.0746 ppb	08:49:40
1	Mo 202.031†	-36.5	-40.5	-2.7018 ug/L	-2.7018 ppb	08:49:40
1	Ni 231.604†	196.7	104.8	-0.3536 ug/L	-0.3536 ppb	08:49:40
1	P 214.914†	18762.9	17898.8	9294.0 ug/L	9294.0 ppb	08:49:20
1	Pb 220.353†	-38.6	42.3	4.5436 ug/L	4.5436 ppb	08:49:40
1	S 181.975 Axial†	47.8	-2.8	-3.3662 ug/L	-3.3662 ppb	08:49:40
1	Sb 206.836†	43.7	3.8	1.0929 ug/L	1.0929 ppb	08:49:40
1	Se 196.026†	-36.3	-9.1	-5.4550 ug/L	-5.4550 ppb	08:49:40
1	Si 251.611†	582.0	26.3	0.8174 ug/L	0.8174 ppb	08:49:40
1	Sn 189.927†	9.2	-0.5	-0.0831 ug/L	-0.0831 ppb	08:49:40
1	Ti 334.940†	-1500.4	355.2	0.5237 ug/L	0.5237 ppb	08:49:20
1	Tl 190.801†	36.0	79.2	2.8463 ug/L	2.8463 ppb	08:49:40
1	U 409.014†	-4577.7	691.8	20.449 ug/L	20.449 ppb	08:49:15
1	V 292.402†	-1632.3	175.6	1.1868 ug/L	1.1868 ppb	08:49:20
1	Zn 213.857†	1187238.4	1145980.1	9722.8 ug/L	9722.8 ppb	08:49:15
1	SiO2†	625.3	41.7	2.7316 ug/L	2.7316 ppb	08:50:47
2	Sc Radial	4404.3	4404.3	107 %		08:48:23
2	Y RADIAL	4933.1	4933.1	101.9 %		08:48:23
2	Al 396.153Radial†	-196.0	6.5	5.4996 ug/L	5.4996 ppb	08:48:23
2	Ca 317.933Radial†	22.6	7.8	14.519 ug/L	14.519 ppb	08:48:43
2	Fe 238.204 Radial†	1.4	-8.9	30.604 ug/L	30.604 ppb	08:48:43
2	K 766.490 Radial†	2834.1	30.4	5.7899 ug/L	5.7899 ppb	08:48:23
2	Mg 279.077 IEC†	2.1	2.0	86.052 ug/L	86.052 ppb	08:48:43
2	Na 589.592 Radial†	-1757.2	6.2	1.9217 ug/L	1.9217 ppb	08:48:23
2	Sr 421.552†	42.5	3.3	0.0219 ug/L	0.0219 ppb	08:48:23
2	Sc 361.383	924561.9	924561.9	103.79 %		08:49:46
2	Y 371.029	757976.3	757976.3	103.23 %		08:49:46
2	Ag 328.068†	482.1	-160.0	-0.7504 ug/L	-0.7504 ppb	08:49:51
2	As 188.979†	-30.4	-0.6	-0.2415 ug/L	-0.2415 ppb	08:50:11
2	B 249.677†	633.7	1371.7	15.956 ug/L	15.956 ppb	08:49:51
2	Ba 233.527†	-0.0	15.3	0.1098 ug/L	0.1098 ppb	08:50:11
2	Be 313.107†	-4242.4	315.5	0.1067 ug/L	0.1067 ppb	08:49:51
2	Cd 226.502†	-217.5	-5.4	-0.0391 ug/L	-0.0391 ppb	08:50:11
2	Co 228.616†	251082.0	242005.5	4461.1 ug/L	4461.1 ppb	08:49:46
2	Cr 267.716†	93.7	28.5	0.2824 ug/L	0.2824 ppb	08:49:51
2	Cu 324.752†	6137.6	-973.2	-2.7255 ug/L	-2.7255 ppb	08:49:51
2	Mn 257.610†	476.8	-72.4	-0.0863 ug/L	-0.0863 ppb	08:50:11
2	Mo 202.031†	-34.9	-38.8	-2.5879 ug/L	-2.5879 ppb	08:50:11
2	Ni 231.604†	209.0	116.2	-0.1034 ug/L	-0.1034 ppb	08:50:11

2	P 214.914†	18713.0	17806.9	9246.3 ug/L	9246.3 ppb	08:49:51
2	Pb 220.353†	-31.1	49.7	5.3351 ug/L	5.3351 ppb	08:50:11
2	S 181.975 Axial†	48.5	-2.2	-2.6508 ug/L	-2.6508 ppb	08:50:11
2	Sb 206.836†	64.6	23.9	7.2458 ug/L	7.2458 ppb	08:50:11
2	Se 196.026†	-26.3	0.6	0.0118 ug/L	0.0118 ppb	08:50:11
2	Si 251.611†	581.8	24.9	0.7723 ug/L	0.7723 ppb	08:50:11
2	Sn 189.927†	13.1	3.2	0.5210 ug/L	0.5210 ppb	08:50:11
2	Ti 334.940†	-1625.2	238.5	0.3406 ug/L	0.3406 ppb	08:49:51
2	Tl 190.801†	37.9	81.0	3.3044 ug/L	3.3044 ppb	08:50:11
2	U 409.014†	-4458.3	817.4	24.157 ug/L	24.157 ppb	08:49:46
2	V 292.402†	-1715.8	99.0	0.6846 ug/L	0.6846 ppb	08:49:51
2	Zn 213.857†	1191075.7	1146905.7	9730.6 ug/L	9730.6 ppb	08:49:46
2	SiO2†	583.5	-0.0	0.0691 ug/L	0.0691 ppb	08:50:52
3	Sc Radial	4406.0	4406.0	107 %		08:48:49
3	Y RADIAL	4964.6	4964.6	102.5 %		08:48:49
3	Al 396.153Radial†	-213.1	-9.4	-7.6227 ug/L	-7.6227 ppb	08:48:49
3	Ca 317.933Radial†	19.5	4.9	9.1366 ug/L	9.1366 ppb	08:49:09
3	Fe 238.204 Radial†	-0.1	-10.2	15.234 ug/L	15.234 ppb	08:49:09
3	K 766.490 Radial†	2659.0	-134.6	-25.628 ug/L	-25.628 ppb	08:48:49
3	Mg 279.077 IEC†	-0.6	-0.5	-20.657 ug/L	-20.657 ppb	08:49:09
3	Na 589.592 Radial†	-1714.4	47.0	14.473 ug/L	14.473 ppb	08:48:49
3	Sr 421.552†	50.0	10.4	0.0687 ug/L	0.0687 ppb	08:48:49
3	Sc 361.383	928239.4	928239.4	104.20 %		08:50:16
3	Y 371.029	759161.1	759161.1	103.39 %		08:50:16
3	Ag 328.068†	569.0	-78.4	-0.3997 ug/L	-0.3997 ppb	08:50:21
3	As 188.979†	-29.1	0.8	0.3086 ug/L	0.3086 ppb	08:50:41
3	B 249.677†	569.3	1307.5	14.608 ug/L	14.608 ppb	08:50:21
3	Ba 233.527†	2.4	17.6	0.1278 ug/L	0.1278 ppb	08:50:41
3	Be 313.107†	-4203.2	369.2	0.1249 ug/L	0.1249 ppb	08:50:21
3	Cd 226.502†	-225.2	-12.0	-0.1049 ug/L	-0.1049 ppb	08:50:41
3	Co 228.616†	252248.9	242166.9	4464.1 ug/L	4464.1 ppb	08:50:16
3	Cr 267.716†	100.7	34.8	0.3467 ug/L	0.3467 ppb	08:50:21
3	Cu 324.752†	6177.7	-958.2	-2.6870 ug/L	-2.6870 ppb	08:50:21
3	Mn 257.610†	493.0	-58.6	-0.0697 ug/L	-0.0697 ppb	08:50:41
3	Mo 202.031†	-46.7	-50.0	-3.3316 ug/L	-3.3316 ppb	08:50:41
3	Ni 231.604†	210.4	116.7	-0.0938 ug/L	-0.0938 ppb	08:50:41
3	P 214.914†	18921.3	17935.4	9313.0 ug/L	9313.0 ppb	08:50:21
3	Pb 220.353†	-24.3	56.4	6.0490 ug/L	6.0490 ppb	08:50:41
3	S 181.975 Axial†	48.8	-2.0	-2.4706 ug/L	-2.4706 ppb	08:50:41
3	Sb 206.836†	49.2	8.8	2.6422 ug/L	2.6422 ppb	08:50:41
3	Se 196.026†	-25.5	1.5	0.4342 ug/L	0.4342 ppb	08:50:41
3	Si 251.611†	579.7	20.6	0.6530 ug/L	0.6530 ppb	08:50:41
3	Sn 189.927†	15.1	5.0	0.8110 ug/L	0.8110 ppb	08:50:41
3	Ti 334.940†	-1575.3	292.6	0.4275 ug/L	0.4275 ppb	08:50:21
3	Tl 190.801†	40.4	83.2	3.9179 ug/L	3.9179 ppb	08:50:41
3	U 409.014†	-4327.1	960.4	28.381 ug/L	28.381 ppb	08:50:16
3	V 292.402†	-1634.9	183.1	1.2420 ug/L	1.2420 ppb	08:50:21
3	Zn 213.857†	1195364.4	1146474.9	9727.0 ug/L	9727.0 ppb	08:50:16
3	SiO2†	613.3	26.3	1.7687 ug/L	1.7687 ppb	08:50:57

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	925042.8	103.84 %	0.335			0.32%
Sc Radial	4382.4	106 %	1.0			0.90%
Y 371.029	757675.8	103.19 %	0.226			0.22%
Y RADIAL	4941.7	102.1 %	0.41			0.41%
Ag 328.068†	-137.8	-0.6561 ug/L	0.22467	-0.6561 ppb	0.22467	34.24%
Al 396.153Radial†	-6.7	-5.4119 ug/L	9.99118	-5.4119 ppb	9.99118	184.62%
As 188.979†	3.5	1.3338 ug/L	2.26886	1.3338 ppb	2.26886	170.10%
B 249.677†	1353.7	15.585 ug/L	0.8540	15.585 ppb	0.8540	5.48%
Ba 233.527†	15.0	0.1082 ug/L	0.02042	0.1082 ppb	0.02042	18.87%
Be 313.107†	331.1	0.1121 ug/L	0.01110	0.1121 ppb	0.01110	9.90%
Ca 317.933Radial†	7.1	13.077 ug/L	3.4526	13.077 ppb	3.4526	26.40%
Cd 226.502†	-8.6	-0.0708 ug/L	0.03299	-0.0708 ppb	0.03299	46.60%
Co 228.616†	241949.1	4460.0 ug/L	4.62	4460.0 ppb	4.62	0.10%
Cr 267.716†	19.7	0.1923 ug/L	0.21409	0.1923 ppb	0.21409	111.31%
Cu 324.752†	-958.8	-2.6863 ug/L	0.03962	-2.6863 ppb	0.03962	1.47%
Fe 238.204 Radial†	-9.9	18.305 ug/L	11.0874	18.305 ppb	11.0874	60.57%
K 766.490 Radial†	-38.6	-7.3487 ug/L	16.32763	-7.3487 ppb	16.32763	222.18%

Mg 279.077 IEC†	0.5	22.564 ug/L	56.1674	22.564 ppb	56.1674	248.92%
Mn 257.610†	-64.3	-0.0768 ug/L	0.00853	-0.0768 ppb	0.00853	11.10%
Mo 202.031†	-43.1	-2.8738 ug/L	0.40061	-2.8738 ppb	0.40061	13.94%
Na 589.592 Radial†	9.6	2.9631 ug/L	11.02580	2.9631 ppb	11.02580	372.10%
Ni 231.604†	112.6	-0.1836 ug/L	0.14730	-0.1836 ppb	0.14730	80.23%
P 214.914†	17880.4	9284.4 ug/L	34.38	9284.4 ppb	34.38	0.37%
Pb 220.353†	49.4	5.3093 ug/L	0.75302	5.3093 ppb	0.75302	14.18%
S 181.975 Axial†	-2.3	-2.8292 ug/L	0.47372	-2.8292 ppb	0.47372	16.74%
Sb 206.836†	12.2	3.6603 ug/L	3.20035	3.6603 ppb	3.20035	87.43%
Se 196.026†	-2.3	-1.6697 ug/L	3.28497	-1.6697 ppb	3.28497	196.75%
Si 251.611†	23.9	0.7475 ug/L	0.08495	0.7475 ppb	0.08495	11.36%
Sn 189.927†	2.6	0.4163 ug/L	0.45617	0.4163 ppb	0.45617	109.59%
Sr 421.552†	11.8	0.0781 ug/L	0.06149	0.0781 ppb	0.06149	78.70%
Ti 334.940†	295.4	0.4306 ug/L	0.09160	0.4306 ppb	0.09160	21.27%
Tl 190.801†	81.1	3.3562 ug/L	0.53771	3.3562 ppb	0.53771	16.02%
U 409.014†	823.2	24.329 ug/L	3.9688	24.329 ppb	3.9688	16.31%
V 292.402†	152.6	1.0378 ug/L	0.30710	1.0378 ppb	0.30710	29.59%
Zn 213.857†	1146453.6	9726.8 ug/L	3.93	9726.8 ppb	3.93	0.04%
SiO2†	22.7	1.5231 ug/L	1.34809	1.5231 ppb	1.34809	88.51%

Sequence No.: 5

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 08:53:08

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4224.9	4224.9	102 %		08:55:00
1	Y RADIAL	4781.9	4781.9	98.77 %		08:55:00
1	Al 396.153Radial†	5976.8	6026.2	4952.4 ug/L	4952.4 ppb	08:55:00
1	Ca 317.933Radial†	2810.6	2731.1	5055.7 ug/L	5055.7 ppb	08:55:20
1	Fe 238.204 Radial†	451.3	430.6	5018.1 ug/L	5018.1 ppb	08:55:20
1	K 766.490 Radial†	28935.5	25630.2	4872.4 ug/L	4872.4 ppb	08:55:00
1	Mg 279.077 IEC†	128.8	125.8	5300.5 ug/L	5300.5 ppb	08:55:20
1	Na 589.592 Radial†	29871.3	30820.5	9497.4 ug/L	9497.4 ppb	08:55:00
1	Sr 421.552†	76278.2	74446.6	491.51 ug/L	491.51 ppb	08:55:00
1	Sc 361.383	912358.4	912358.4	102.42 %		08:56:18
1	Y 371.029	738573.3	738573.3	100.59 %		08:56:18
1	Ag 328.068†	112005.0	108737.1	478.81 ug/L	478.81 ppb	08:56:23
1	As 188.979†	1255.5	1254.6	485.97 ug/L	485.97 ppb	08:56:43
1	B 249.677†	22789.5	23012.8	478.98 ug/L	478.98 ppb	08:56:23
1	Ba 233.527†	67390.9	65815.7	482.26 ug/L	482.26 ppb	08:56:23
1	Be 313.107†	1454339.2	1424418.3	478.99 ug/L	478.99 ppb	08:56:18
1	Cd 226.502†	47508.2	46591.0	480.98 ug/L	480.98 ppb	08:56:23
1	Co 228.616†	26485.2	25945.2	478.34 ug/L	478.34 ppb	08:56:23
1	Cr 267.716†	47920.9	46728.1	481.63 ug/L	481.63 ppb	08:56:23
1	Cu 324.752†	181020.5	169861.4	472.45 ug/L	472.45 ppb	08:56:23
1	Mn 257.610†	493696.2	481512.7	483.40 ug/L	483.40 ppb	08:56:18
1	Mo 202.031†	7430.3	7249.7	482.26 ug/L	482.26 ppb	08:56:43
1	Ni 231.604†	22188.5	21579.6	480.56 ug/L	480.56 ppb	08:56:23
1	P 214.914†	4918.9	4579.5	2285.7 ug/L	2285.7 ppb	08:56:43
1	Pb 220.353†	4522.3	4495.2	483.89 ug/L	483.89 ppb	08:56:43
1	S 181.975 Axial†	836.3	767.7	936.87 ug/L	936.87 ppb	08:56:43
1	Sb 206.836†	1634.4	1557.4	493.29 ug/L	493.29 ppb	08:56:43
1	Se 196.026†	869.7	875.2	503.44 ug/L	503.44 ppb	08:56:43
1	Si 251.611†	82440.4	79959.0	2374.1 ug/L	2374.1 ppb	08:56:23
1	Sn 189.927†	3084.7	3002.4	485.89 ug/L	485.89 ppb	08:56:43
1	Ti 334.940†	323919.4	318078.9	475.12 ug/L	475.12 ppb	08:56:23
1	Tl 190.801†	1724.4	1728.1	490.79 ug/L	490.79 ppb	08:56:43
1	U 409.014†	11811.6	16645.9	490.05 ug/L	490.05 ppb	08:56:23
1	V 292.402†	72118.5	72168.7	486.56 ug/L	486.56 ppb	08:56:23
1	Zn 213.857†	58644.3	56551.2	475.61 ug/L	475.61 ppb	08:56:23
1	SiO2†	83817.1	81276.7	5169.8 ug/L	5169.8 ppb	08:57:50
2	Sc Radial	4277.2	4277.2	104 %		08:55:25
2	Y RADIAL	4811.5	4811.5	99.38 %		08:55:25
2	Al 396.153Radial†	6076.3	6050.9	4972.7 ug/L	4972.7 ppb	08:55:25
2	Ca 317.933Radial†	2791.2	2678.8	4958.9 ug/L	4958.9 ppb	08:55:45
2	Fe 238.204 Radial†	448.7	422.6	4925.8 ug/L	4925.8 ppb	08:55:45
2	K 766.490 Radial†	29393.8	25726.8	4890.9 ug/L	4890.9 ppb	08:55:25
2	Mg 279.077 IEC†	122.3	118.0	4972.7 ug/L	4972.7 ppb	08:55:45
2	Na 589.592 Radial†	30373.8	30948.6	9536.9 ug/L	9536.9 ppb	08:55:25
2	Sr 421.552†	77363.9	74583.2	492.41 ug/L	492.41 ppb	08:55:25
2	Sc 361.383	915886.7	915886.7	102.81 %		08:56:49
2	Y 371.029	741304.0	741304.0	100.96 %		08:56:49
2	Ag 328.068†	113191.5	109469.8	481.98 ug/L	481.98 ppb	08:56:54
2	As 188.979†	1263.0	1257.2	486.96 ug/L	486.96 ppb	08:57:14
2	B 249.677†	23006.9	23138.5	481.61 ug/L	481.61 ppb	08:56:54
2	Ba 233.527†	67951.2	66107.2	484.40 ug/L	484.40 ppb	08:56:54
2	Be 313.107†	1461344.6	1425761.6	479.45 ug/L	479.45 ppb	08:56:49
2	Cd 226.502†	48040.9	46930.5	484.50 ug/L	484.50 ppb	08:56:54
2	Co 228.616†	26827.4	26178.5	482.64 ug/L	482.64 ppb	08:56:54
2	Cr 267.716†	48250.1	46868.0	483.06 ug/L	483.06 ppb	08:56:54
2	Cu 324.752†	182851.9	170961.8	475.50 ug/L	475.50 ppb	08:56:54
2	Mn 257.610†	497074.7	482941.7	484.84 ug/L	484.84 ppb	08:56:49
2	Mo 202.031†	7472.1	7262.4	483.10 ug/L	483.10 ppb	08:57:14
2	Ni 231.604†	22471.5	21771.5	484.83 ug/L	484.83 ppb	08:56:54

2	P 214.914†	4921.1	4563.2	2276.6 ug/L	2276.6 ppb	08:57:14
2	Pb 220.353†	4512.7	4468.8	481.07 ug/L	481.07 ppb	08:57:14
2	S 181.975 Axial†	854.6	782.3	954.78 ug/L	954.78 ppb	08:57:14
2	Sb 206.836†	1650.9	1567.3	496.27 ug/L	496.27 ppb	08:57:14
2	Se 196.026†	867.7	870.0	500.25 ug/L	500.25 ppb	08:57:14
2	Si 251.611†	83208.0	80395.5	2387.1 ug/L	2387.1 ppb	08:56:54
2	Sn 189.927†	3075.8	2982.2	482.61 ug/L	482.61 ppb	08:57:14
2	Ti 334.940†	327159.9	320012.4	478.02 ug/L	478.02 ppb	08:56:54
2	Tl 190.801†	1725.7	1723.0	489.34 ug/L	489.34 ppb	08:57:14
2	U 409.014†	12277.9	17055.1	502.14 ug/L	502.14 ppb	08:56:54
2	V 292.402†	72698.8	72461.8	488.55 ug/L	488.55 ppb	08:56:54
2	Zn 213.857†	59162.4	56834.5	477.99 ug/L	477.99 ppb	08:56:54
2	SiO2†	83723.9	80870.7	5143.9 ug/L	5143.9 ppb	08:57:56
3	Sc Radial	4327.0	4327.0	105 %		08:55:50
3	Y RADIAL	4869.0	4869.0	100.6 %		08:55:50
3	Al 396.153Radial†	6153.7	6057.2	4978.0 ug/L	4978.0 ppb	08:55:50
3	Ca 317.933Radial†	2820.5	2675.8	4953.2 ug/L	4953.2 ppb	08:56:11
3	Fe 238.204 Radial†	452.0	420.8	4904.9 ug/L	4904.9 ppb	08:56:11
3	K 766.490 Radial†	29526.9	25527.4	4852.9 ug/L	4852.9 ppb	08:55:50
3	Mg 279.077 IEC†	126.3	120.5	5077.1 ug/L	5077.1 ppb	08:56:11
3	Na 589.592 Radial†	30555.2	30784.4	9486.3 ug/L	9486.3 ppb	08:55:50
3	Sr 421.552†	78128.0	74452.9	491.55 ug/L	491.55 ppb	08:55:50
3	Sc 361.383	914913.9	914913.9	102.70 %		08:57:20
3	Y 371.029	739644.3	739644.3	100.74 %		08:57:20
3	Ag 328.068†	113195.8	109591.0	482.51 ug/L	482.51 ppb	08:57:25
3	As 188.979†	1266.8	1262.2	488.90 ug/L	488.90 ppb	08:57:45
3	B 249.677†	23012.2	23167.4	482.22 ug/L	482.22 ppb	08:57:25
3	Ba 233.527†	67891.7	66119.5	484.49 ug/L	484.49 ppb	08:57:25
3	Be 313.107†	1459466.8	1425444.5	479.34 ug/L	479.34 ppb	08:57:20
3	Cd 226.502†	47821.6	46766.7	482.81 ug/L	482.81 ppb	08:57:25
3	Co 228.616†	26818.6	26197.6	482.99 ug/L	482.99 ppb	08:57:25
3	Cr 267.716†	48127.1	46798.2	482.35 ug/L	482.35 ppb	08:57:25
3	Cu 324.752†	182986.7	171282.2	476.39 ug/L	476.39 ppb	08:57:25
3	Mn 257.610†	497023.3	483405.7	485.30 ug/L	485.30 ppb	08:57:20
3	Mo 202.031†	7442.8	7241.6	481.71 ug/L	481.71 ppb	08:57:45
3	Ni 231.604†	22408.8	21733.6	483.99 ug/L	483.99 ppb	08:57:25
3	P 214.914†	4915.1	4562.5	2276.1 ug/L	2276.1 ppb	08:57:45
3	Pb 220.353†	4513.8	4474.6	481.69 ug/L	481.69 ppb	08:57:45
3	S 181.975 Axial†	838.9	767.9	937.12 ug/L	937.12 ppb	08:57:45
3	Sb 206.836†	1636.9	1555.4	492.66 ug/L	492.66 ppb	08:57:45
3	Se 196.026†	860.7	864.0	496.89 ug/L	496.89 ppb	08:57:45
3	Si 251.611†	83211.6	80485.0	2389.8 ug/L	2389.8 ppb	08:57:25
3	Sn 189.927†	3095.2	3004.3	486.18 ug/L	486.18 ppb	08:57:45
3	Ti 334.940†	326890.1	320088.0	478.12 ug/L	478.12 ppb	08:57:25
3	Tl 190.801†	1718.5	1717.7	487.86 ug/L	487.86 ppb	08:57:45
3	U 409.014†	12131.2	16924.9	498.30 ug/L	498.30 ppb	08:57:25
3	V 292.402†	72680.5	72519.1	488.91 ug/L	488.91 ppb	08:57:25
3	Zn 213.857†	59046.4	56782.7	477.55 ug/L	477.55 ppb	08:57:25
3	SiO2†	83482.7	80722.5	5134.5 ug/L	5134.5 ppb	08:58:01

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	914386.3	102.64 %	0.205			0.20%
Sc Radial	4276.4	104 %	1.2			1.19%
Y 371.029	739840.5	100.76 %	0.187			0.19%
Y RADIAL	4820.8	99.57 %	0.915			0.92%
Ag 328.068†	109266.0	481.10 ug/L	2.003	481.10 ppb	2.003	0.42%
QC value within limits for Ag 328.068 Recovery = 96.22%						
Al 396.153Radial†	6044.8	4967.7 ug/L	13.51	4967.7 ppb	13.51	0.27%
QC value within limits for Al 396.153Radial Recovery = 99.35%						
As 188.979†	1258.0	487.28 ug/L	1.489	487.28 ppb	1.489	0.31%
QC value within limits for As 188.979 Recovery = 97.46%						
B 249.677†	23106.2	480.94 ug/L	1.722	480.94 ppb	1.722	0.36%
QC value within limits for B 249.677 Recovery = 96.19%						
Ba 233.527†	66014.1	483.72 ug/L	1.258	483.72 ppb	1.258	0.26%
QC value within limits for Ba 233.527 Recovery = 96.74%						
Be 313.107†	1425208.1	479.26 ug/L	0.239	479.26 ppb	0.239	0.05%
QC value within limits for Be 313.107 Recovery = 95.85%						
Ca 317.933Radial†	2695.2	4989.3 ug/L	57.62	4989.3 ppb	57.62	1.15%



QC value within limits for Ca 317.933Radial Recovery = 99.79%							
Cd 226.502†	46762.7	482.77 ug/L	1.761	482.77 ppb	1.761	0.36%	
QC value within limits for Cd 226.502 Recovery = 96.55%							
Co 228.616†	26107.1	481.32 ug/L	2.588	481.32 ppb	2.588	0.54%	
QC value within limits for Co 228.616 Recovery = 96.26%							
Cr 267.716†	46798.1	482.35 ug/L	0.718	482.35 ppb	0.718	0.15%	
QC value within limits for Cr 267.716 Recovery = 96.47%							
Cu 324.752†	170701.8	474.78 ug/L	2.067	474.78 ppb	2.067	0.44%	
QC value within limits for Cu 324.752 Recovery = 94.96%							
Fe 238.204 Radial†	424.7	4949.6 ug/L	60.23	4949.6 ppb	60.23	1.22%	
QC value within limits for Fe 238.204 Radial Recovery = 98.99%							
K 766.490 Radial†	25628.1	4872.1 ug/L	18.97	4872.1 ppb	18.97	0.39%	
QC value within limits for K 766.490 Radial Recovery = 97.44%							
Mg 279.077 IEC†	121.4	5116.8 ug/L	167.42	5116.8 ppb	167.42	3.27%	
QC value within limits for Mg 279.077 IEC Recovery = 102.34%							
Mn 257.610†	482620.0	484.51 ug/L	0.990	484.51 ppb	0.990	0.20%	
QC value within limits for Mn 257.610 Recovery = 96.90%							
Mo 202.031†	7251.3	482.36 ug/L	0.699	482.36 ppb	0.699	0.14%	
QC value within limits for Mo 202.031 Recovery = 96.47%							
Na 589.592 Radial†	30851.2	9506.8 ug/L	26.59	9506.8 ppb	26.59	0.28%	
QC value within limits for Na 589.592 Radial Recovery = 95.07%							
Ni 231.604†	21694.9	483.13 ug/L	2.263	483.13 ppb	2.263	0.47%	
QC value within limits for Ni 231.604 Recovery = 96.63%							
P 214.914†	4568.4	2279.5 ug/L	5.37	2279.5 ppb	5.37	0.24%	
QC value within limits for P 214.914 Recovery = 91.18%							
Pb 220.353†	4479.5	482.22 ug/L	1.480	482.22 ppb	1.480	0.31%	
QC value within limits for Pb 220.353 Recovery = 96.44%							
S 181.975 Axial†	772.6	942.92 ug/L	10.264	942.92 ppb	10.264	1.09%	
QC value within limits for S 181.975 Axial Recovery = 94.29%							
Sb 206.836†	1560.0	494.07 ug/L	1.927	494.07 ppb	1.927	0.39%	
QC value within limits for Sb 206.836 Recovery = 98.81%							
Se 196.026†	869.7	500.19 ug/L	3.275	500.19 ppb	3.275	0.65%	
QC value within limits for Se 196.026 Recovery = 100.04%							
Si 251.611†	80279.8	2383.7 ug/L	8.38	2383.7 ppb	8.38	0.35%	
QC value within limits for Si 251.611 Recovery = 95.35%							
Sn 189.927†	2996.3	484.89 ug/L	1.982	484.89 ppb	1.982	0.41%	
QC value within limits for Sn 189.927 Recovery = 96.98%							
Sr 421.552†	74494.2	491.82 ug/L	0.509	491.82 ppb	0.509	0.10%	
QC value within limits for Sr 421.552 Recovery = 98.36%							
Ti 334.940†	319393.1	477.09 ug/L	1.704	477.09 ppb	1.704	0.36%	
QC value within limits for Ti 334.940 Recovery = 95.42%							
Tl 190.801†	1722.9	489.33 ug/L	1.465	489.33 ppb	1.465	0.30%	
QC value within limits for Tl 190.801 Recovery = 97.87%							
U 409.014†	16875.3	496.83 ug/L	6.179	496.83 ppb	6.179	1.24%	
QC value within limits for U 409.014 Recovery = 99.37%							
V 292.402†	72383.2	488.01 ug/L	1.265	488.01 ppb	1.265	0.26%	
QC value within limits for V 292.402 Recovery = 97.60%							
Zn 213.857†	56722.8	477.05 ug/L	1.268	477.05 ppb	1.268	0.27%	
QC value within limits for Zn 213.857 Recovery = 95.41%							
SiO2†	80956.6	5149.4 ug/L	18.29	5149.4 ppb	18.29	0.36%	
QC value within limits for SiO2 Recovery = 96.30%							
All analyte(s) passed QC.							

Sequence No.: 6  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 2/1/2010 09:00:10  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4283.6	4283.6	104 %		09:02:03
1	Y RADIAL	4854.0	4854.0	100.3 %		09:02:03
1	Al 396.153Radial†	-201.6	-4.1	-3.3652 ug/L	-3.3652 ppb	09:02:03
1	Ca 317.933Radial†	19.7	5.7	10.487 ug/L	10.487 ppb	09:02:23
1	Fe 238.204 Radial†	12.4	1.8	21.197 ug/L	21.197 ppb	09:02:23
1	K 766.490 Radial†	2712.4	-12.0	-2.2944 ug/L	-2.2944 ppb	09:02:03
1	Mg 279.077 IEC†	0.1	0.2	6.9147 ug/L	6.9147 ppb	09:02:23
1	Na 589.592 Radial†	-1655.4	57.9	17.848 ug/L	17.848 ppb	09:02:03
1	Sr 421.552†	53.4	15.0	0.0990 ug/L	0.0990 ppb	09:02:03
1	Sc 361.383	900112.9	900112.9	101.04 %		09:03:20
1	Y 371.029	745334.2	745334.2	101.51 %		09:03:20
1	Ag 328.068†	566.8	-63.5	-0.2848 ug/L	-0.2848 ppb	09:03:20
1	As 188.979†	-23.8	5.1	1.9814 ug/L	1.9814 ppb	09:03:40
1	B 249.677†	-97.2	664.9	13.900 ug/L	13.900 ppb	09:03:20
1	Ba 233.527†	16.4	31.6	0.2311 ug/L	0.2311 ppb	09:03:40
1	Be 313.107†	-4223.4	223.2	0.0756 ug/L	0.0756 ppb	09:03:20
1	Cd 226.502†	-173.8	32.1	0.3328 ug/L	0.3328 ppb	09:03:40
1	Co 228.616†	-88.8	-2.7	-0.0507 ug/L	-0.0507 ppb	09:03:40
1	Cr 267.716†	67.8	5.3	0.0483 ug/L	0.0483 ppb	09:03:20
1	Cu 324.752†	6741.7	-214.7	-0.6051 ug/L	-0.6051 ppb	09:03:20
1	Mn 257.610†	496.9	-40.0	-0.0384 ug/L	-0.0384 ppb	09:03:40
1	Mo 202.031†	6.3	1.1	0.0716 ug/L	0.0716 ppb	09:03:40
1	Ni 231.604†	97.2	11.0	0.2449 ug/L	0.2449 ppb	09:03:40
1	P 214.914†	214.4	-11.1	-5.6347 ug/L	-5.6347 ppb	09:03:40
1	Pb 220.353†	-73.6	6.8	0.7236 ug/L	0.7236 ppb	09:03:40
1	S 181.975 Axial†	49.9	0.5	0.5621 ug/L	0.5621 ppb	09:03:40
1	Sb 206.836†	42.1	3.2	1.0039 ug/L	1.0039 ppb	09:03:40
1	Se 196.026†	-35.1	-8.7	-4.7777 ug/L	-4.7777 ppb	09:03:40
1	Si 251.611†	573.7	32.1	0.9537 ug/L	0.9537 ppb	09:03:40
1	Sn 189.927†	19.7	10.1	1.6273 ug/L	1.6273 ppb	09:03:40
1	Ti 334.940†	-1617.9	203.2	0.2972 ug/L	0.2972 ppb	09:03:20
1	Tl 190.801†	-37.7	7.2	2.0230 ug/L	2.0230 ppb	09:03:40
1	U 409.014†	-4609.4	551.2	16.280 ug/L	16.280 ppb	09:03:20
1	V 292.402†	-1783.2	-12.6	-0.0550 ug/L	-0.0550 ppb	09:03:20
1	Zn 213.857†	796.6	79.3	0.6698 ug/L	0.6698 ppb	09:03:40
1	SiO2†	610.4	41.9	2.6683 ug/L	2.6683 ppb	09:04:36
2	Sc Radial	4293.6	4293.6	104 %		09:02:28
2	Y RADIAL	4851.2	4851.2	100.2 %		09:02:28
2	Al 396.153Radial†	-209.1	-10.8	-8.9120 ug/L	-8.9120 ppb	09:02:28
2	Ca 317.933Radial†	18.5	4.4	8.1418 ug/L	8.1418 ppb	09:02:48
2	Fe 238.204 Radial†	10.5	-0.0	-0.1979 ug/L	-0.1979 ppb	09:02:48
2	K 766.490 Radial†	2837.0	101.6	19.336 ug/L	19.336 ppb	09:02:28
2	Mg 279.077 IEC†	5.2	5.0	212.08 ug/L	212.08 ppb	09:02:48
2	Na 589.592 Radial†	-1656.4	60.8	18.721 ug/L	18.721 ppb	09:02:28
2	Sr 421.552†	35.2	-2.6	-0.0171 ug/L	-0.0171 ppb	09:02:28
2	Sc 361.383	902460.7	902460.7	101.31 %		09:03:45
2	Y 371.029	745338.4	745338.4	101.51 %		09:03:45
2	Ag 328.068†	538.1	-93.4	-0.4176 ug/L	-0.4176 ppb	09:03:45
2	As 188.979†	-20.6	8.4	3.2465 ug/L	3.2465 ppb	09:04:05
2	B 249.677†	-125.6	637.1	13.320 ug/L	13.320 ppb	09:03:45
2	Ba 233.527†	15.5	30.6	0.2257 ug/L	0.2257 ppb	09:04:05
2	Be 313.107†	-4256.9	201.0	0.0680 ug/L	0.0680 ppb	09:03:45
2	Cd 226.502†	-196.2	10.4	0.1106 ug/L	0.1106 ppb	09:04:05
2	Co 228.616†	-77.0	9.1	0.1663 ug/L	0.1663 ppb	09:04:05
2	Cr 267.716†	65.3	2.7	0.0227 ug/L	0.0227 ppb	09:03:45
2	Cu 324.752†	6856.8	-118.4	-0.3381 ug/L	-0.3381 ppb	09:03:45
2	Mn 257.610†	520.6	-17.9	-0.0266 ug/L	-0.0266 ppb	09:04:05
2	Mo 202.031†	-0.6	-5.9	-0.3891 ug/L	-0.3891 ppb	09:04:05
2	Ni 231.604†	87.3	1.0	0.0227 ug/L	0.0227 ppb	09:04:05

2	P 214.914†	216.1	-10.0	-5.1057 ug/L	-5.1057 ppb	09:04:05
2	Pb 220.353†	-44.1	36.1	3.8706 ug/L	3.8706 ppb	09:04:05
2	S 181.975 Axial†	34.5	-14.8	-18.091 ug/L	-18.091 ppb	09:04:05
2	Sb 206.836†	51.7	12.7	3.8780 ug/L	3.8780 ppb	09:04:05
2	Se 196.026†	-25.0	1.3	0.7075 ug/L	0.7075 ppb	09:04:05
2	Si 251.611†	566.8	23.8	0.7133 ug/L	0.7133 ppb	09:04:05
2	Sn 189.927†	16.2	6.6	1.0618 ug/L	1.0618 ppb	09:04:05
2	Ti 334.940†	-1663.5	162.3	0.2194 ug/L	0.2194 ppb	09:03:45
2	Tl 190.801†	-42.5	2.5	0.7084 ug/L	0.7084 ppb	09:04:05
2	U 409.014†	-4639.6	533.3	15.754 ug/L	15.754 ppb	09:03:45
2	V 292.402†	-1625.7	147.4	1.0092 ug/L	1.0092 ppb	09:03:45
2	Zn 213.857†	786.5	67.2	0.5708 ug/L	0.5708 ppb	09:04:05
2	SiO2†	611.3	41.1	2.6344 ug/L	2.6344 ppb	09:04:41
3	Sc Radial	4352.6	4352.6	106 %		09:02:53
3	Y RADIAL	4899.3	4899.3	101.2 %		09:02:53
3	Al 396.153Radial†	-204.4	-3.6	-2.9635 ug/L	-2.9635 ppb	09:02:53
3	Ca 317.933Radial†	16.1	2.0	3.6101 ug/L	3.6101 ppb	09:03:13
3	Fe 238.204 Radial†	9.6	-1.0	-12.177 ug/L	-12.177 ppb	09:03:13
3	K 766.490 Radial†	2786.0	16.3	3.0975 ug/L	3.0975 ppb	09:02:53
3	Mg 279.077 IEC†	1.3	1.3	55.900 ug/L	55.900 ppb	09:03:13
3	Na 589.592 Radial†	-1635.9	101.7	31.346 ug/L	31.346 ppb	09:02:53
3	Sr 421.552†	41.0	2.4	0.0158 ug/L	0.0158 ppb	09:02:53
3	Sc 361.383	900590.7	900590.7	101.10 %		09:04:11
3	Y 371.029	744841.6	744841.6	101.44 %		09:04:11
3	Ag 328.068†	515.9	-114.2	-0.5142 ug/L	-0.5142 ppb	09:04:11
3	As 188.979†	-20.1	8.9	3.4200 ug/L	3.4200 ppb	09:04:31
3	B 249.677†	-115.2	647.1	13.531 ug/L	13.531 ppb	09:04:11
3	Ba 233.527†	-0.9	14.5	0.1073 ug/L	0.1073 ppb	09:04:31
3	Be 313.107†	-4210.7	238.0	0.0803 ug/L	0.0803 ppb	09:04:11
3	Cd 226.502†	-207.3	-0.9	-0.0048 ug/L	-0.0048 ppb	09:04:31
3	Co 228.616†	-75.3	10.7	0.1954 ug/L	0.1954 ppb	09:04:31
3	Cr 267.716†	78.0	15.3	0.1516 ug/L	0.1516 ppb	09:04:11
3	Cu 324.752†	6848.4	-112.7	-0.3238 ug/L	-0.3238 ppb	09:04:11
3	Mn 257.610†	485.3	-51.7	-0.0554 ug/L	-0.0554 ppb	09:04:31
3	Mo 202.031†	-0.4	-5.6	-0.3761 ug/L	-0.3761 ppb	09:04:31
3	Ni 231.604†	90.4	4.3	0.0950 ug/L	0.0950 ppb	09:04:31
3	P 214.914†	228.3	2.5	1.3948 ug/L	1.3948 ppb	09:04:31
3	Pb 220.353†	-41.1	38.9	4.1787 ug/L	4.1787 ppb	09:04:31
3	S 181.975 Axial†	44.3	-5.1	-6.1697 ug/L	-6.1697 ppb	09:04:31
3	Sb 206.836†	41.4	2.5	0.7677 ug/L	0.7677 ppb	09:04:31
3	Se 196.026†	-23.3	3.0	1.5989 ug/L	1.5989 ppb	09:04:31
3	Si 251.611†	575.5	33.6	1.0033 ug/L	1.0033 ppb	09:04:31
3	Sn 189.927†	15.1	5.5	0.8947 ug/L	0.8947 ppb	09:04:31
3	Ti 334.940†	-1692.1	130.7	0.1834 ug/L	0.1834 ppb	09:04:11
3	Tl 190.801†	-49.2	-4.2	-1.1754 ug/L	-1.1754 ppb	09:04:31
3	U 409.014†	-4568.6	594.0	17.547 ug/L	17.547 ppb	09:04:11
3	V 292.402†	-1628.1	141.7	0.9738 ug/L	0.9738 ppb	09:04:11
3	Zn 213.857†	798.2	80.4	0.6835 ug/L	0.6835 ppb	09:04:31
3	SiO2†	602.9	34.1	2.1850 ug/L	2.1850 ppb	09:04:46

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	901054.8	101.15 %	0.139			0.14%
Sc Radial	4310.0	104 %	0.9			0.87%
Y 371.029	745171.4	101.49 %	0.039			0.04%
Y RADIAL	4868.2	100.6 %	0.56			0.55%
Ag 328.068†	-90.4	-0.4056 ug/L	0.11516	-0.4056 ppb	0.11516	28.40%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-6.2	-5.0803 ug/L	3.32448	-5.0803 ppb	3.32448	65.44%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	7.5	2.8826 ug/L	0.78525	2.8826 ppb	0.78525	27.24%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	649.7	13.584 ug/L	0.2933	13.584 ppb	0.2933	2.16%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	25.5	0.1880 ug/L	0.06994	0.1880 ppb	0.06994	37.19%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	220.8	0.0746 ug/L	0.00621	0.0746 ppb	0.00621	8.32%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	4.0	7.4128 ug/L	3.49573	7.4128 ppb	3.49573	47.16%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated					
Cd 226.502†	13.9	0.1462 ug/L	0.17157	0.1462 ppb	0.17157 117.35%
QC value within limits for Cd 226.502 Recovery = Not calculated					
Co 228.616†	5.7	0.1037 ug/L	0.13451	0.1037 ppb	0.13451 129.75%
QC value within limits for Co 228.616 Recovery = Not calculated					
Cr 267.716†	7.8	0.0742 ug/L	0.06824	0.0742 ppb	0.06824 91.98%
QC value within limits for Cr 267.716 Recovery = Not calculated					
Cu 324.752†	-148.6	-0.4223 ug/L	0.15848	-0.4223 ppb	0.15848 37.53%
QC value within limits for Cu 324.752 Recovery = Not calculated					
Fe 238.204 Radial†	0.3	2.9406 ug/L	16.90715	2.9406 ppb	16.90715 574.96%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated					
K 766.490 Radial†	35.3	6.7129 ug/L	11.25916	6.7129 ppb	11.25916 167.72%
QC value within limits for K 766.490 Radial Recovery = Not calculated					
Mg 279.077 IEC†	2.2	91.632 ug/L	107.1487	91.632 ppb	107.1487 116.93%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated					
Mn 257.610†	-36.5	-0.0401 ug/L	0.01446	-0.0401 ppb	0.01446 36.04%
QC value within limits for Mn 257.610 Recovery = Not calculated					
Mo 202.031†	-3.5	-0.2312 ug/L	0.26232	-0.2312 ppb	0.26232 113.45%
QC value within limits for Mo 202.031 Recovery = Not calculated					
Na 589.592 Radial†	73.5	22.638 ug/L	7.5538	22.638 ppb	7.5538 33.37%
QC value within limits for Na 589.592 Radial Recovery = Not calculated					
Ni 231.604†	5.4	0.1209 ug/L	0.11338	0.1209 ppb	0.11338 93.81%
QC value within limits for Ni 231.604 Recovery = Not calculated					
P 214.914†	-6.2	-3.1152 ug/L	3.91473	-3.1152 ppb	3.91473 125.67%
QC value within limits for P 214.914 Recovery = Not calculated					
Pb 220.353†	27.3	2.9243 ug/L	1.91208	2.9243 ppb	1.91208 65.39%
QC value within limits for Pb 220.353 Recovery = Not calculated					
S 181.975 Axial†	-6.5	-7.8996 ug/L	9.44627	-7.8996 ppb	9.44627 119.58%
QC value within limits for S 181.975 Axial Recovery = Not calculated					
Sb 206.836†	6.1	1.8832 ug/L	1.73158	1.8832 ppb	1.73158 91.95%
QC value within limits for Sb 206.836 Recovery = Not calculated					
Se 196.026†	-1.5	-0.8238 ug/L	3.45309	-0.8238 ppb	3.45309 419.19%
QC value within limits for Se 196.026 Recovery = Not calculated					
Si 251.611†	29.8	0.8901 ug/L	0.15511	0.8901 ppb	0.15511 17.43%
QC value within limits for Si 251.611 Recovery = Not calculated					
Sn 189.927†	7.4	1.1946 ug/L	0.38392	1.1946 ppb	0.38392 32.14%
QC value within limits for Sn 189.927 Recovery = Not calculated					
Sr 421.552†	4.9	0.0326 ug/L	0.05984	0.0326 ppb	0.05984 183.64%
QC value within limits for Sr 421.552 Recovery = Not calculated					
Ti 334.940†	165.4	0.2333 ug/L	0.05818	0.2333 ppb	0.05818 24.94%
QC value within limits for Ti 334.940 Recovery = Not calculated					
Tl 190.801†	1.8	0.5186 ug/L	1.60764	0.5186 ppb	1.60764 309.98%
QC value within limits for Tl 190.801 Recovery = Not calculated					
U 409.014†	559.5	16.527 ug/L	0.9215	16.527 ppb	0.9215 5.58%
QC value within limits for U 409.014 Recovery = Not calculated					
V 292.402†	92.2	0.6427 ug/L	0.60451	0.6427 ppb	0.60451 94.06%
QC value within limits for V 292.402 Recovery = Not calculated					
Zn 213.857†	75.7	0.6414 ug/L	0.06148	0.6414 ppb	0.06148 9.59%
QC value within limits for Zn 213.857 Recovery = Not calculated					
SiO2†	39.0	2.4959 ug/L	0.26975	2.4959 ppb	0.26975 10.81%
QC value within limits for SiO2 Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 11  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 2/1/2010 10:18:57  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4128.4	4128.4	100 %		10:21:09
1	Y RADIAL	4866.2	4866.2	100.5 %		10:20:49
1	Al 396.153Radial†	6223.3	6409.0	5268.4 ug/L	5268.4 ppb	10:20:49
1	Ca 317.933Radial†	2838.8	2823.5	5226.7 ug/L	5226.7 ppb	10:21:09
1	Fe 238.204 Radial†	452.6	442.2	5153.4 ug/L	5153.4 ppb	10:21:09
1	K 766.490 Radial†	29770.3	27125.3	5156.8 ug/L	5156.8 ppb	10:20:49
1	Mg 279.077 IEC†	123.1	123.1	5186.7 ug/L	5186.7 ppb	10:21:09
1	Na 589.592 Radial†	30647.0	32277.9	9946.5 ug/L	9946.5 ppb	10:20:49
1	Sr 421.552†	78851.4	78760.0	519.98 ug/L	519.98 ppb	10:20:49
1	Sc 361.383	914389.7	914389.7	102.65 %		10:22:07
1	Y 371.029	739674.6	739674.6	100.74 %		10:22:07
1	Ag 328.068†	115329.9	111733.3	491.99 ug/L	491.99 ppb	10:22:12
1	As 188.979†	1246.5	1243.1	481.70 ug/L	481.70 ppb	10:22:32
1	B 249.677†	22974.1	23143.1	481.65 ug/L	481.65 ppb	10:22:12
1	Ba 233.527†	68991.3	67228.7	492.62 ug/L	492.62 ppb	10:22:12
1	Be 313.107†	1464884.5	1431537.3	481.41 ug/L	481.41 ppb	10:22:07
1	Cd 226.502†	48652.8	47603.1	491.43 ug/L	491.43 ppb	10:22:12
1	Co 228.616†	27322.9	26703.9	492.30 ug/L	492.30 ppb	10:22:12
1	Cr 267.716†	48918.2	47595.8	490.57 ug/L	490.57 ppb	10:22:12
1	Cu 324.752†	187065.2	175357.7	487.73 ug/L	487.73 ppb	10:22:12
1	Mn 257.610†	497911.7	484548.7	486.46 ug/L	486.46 ppb	10:22:07
1	Mo 202.031†	7474.8	7277.0	484.08 ug/L	484.08 ppb	10:22:32
1	Ni 231.604†	22757.4	22085.7	491.83 ug/L	491.83 ppb	10:22:12
1	P 214.914†	4909.2	4559.4	2272.2 ug/L	2272.2 ppb	10:22:32
1	Pb 220.353†	4516.3	4479.6	482.27 ug/L	482.27 ppb	10:22:32
1	S 181.975 Axial†	847.9	777.2	948.39 ug/L	948.39 ppb	10:22:32
1	Sb 206.836†	1636.0	1555.5	492.69 ug/L	492.69 ppb	10:22:32
1	Se 196.026†	870.8	874.3	503.43 ug/L	503.43 ppb	10:22:32
1	Si 251.611†	84794.5	82073.6	2437.0 ug/L	2437.0 ppb	10:22:12
1	Sn 189.927†	3079.2	2990.4	483.97 ug/L	483.97 ppb	10:22:32
1	Ti 334.940†	333404.6	326617.1	487.90 ug/L	487.90 ppb	10:22:12
1	Tl 190.801†	1706.3	1706.8	484.81 ug/L	484.81 ppb	10:22:32
1	U 409.014†	12445.3	17237.6	507.49 ug/L	507.49 ppb	10:22:12
1	V 292.402†	73960.9	73807.1	497.48 ug/L	497.48 ppb	10:22:12
1	Zn 213.857†	60071.7	57814.5	486.22 ug/L	486.22 ppb	10:22:12
1	SiO2†	83478.4	80764.9	5137.2 ug/L	5137.2 ppb	10:23:40
2	Sc Radial	4138.4	4138.4	100 %		10:21:35
2	Y RADIAL	4880.6	4880.6	100.8 %		10:21:15
2	Al 396.153Radial†	6171.7	6342.5	5213.1 ug/L	5213.1 ppb	10:21:15
2	Ca 317.933Radial†	2821.9	2799.8	5182.8 ug/L	5182.8 ppb	10:21:35
2	Fe 238.204 Radial†	440.8	429.3	5003.4 ug/L	5003.4 ppb	10:21:35
2	K 766.490 Radial†	29479.1	26762.7	5087.9 ug/L	5087.9 ppb	10:21:15
2	Mg 279.077 IEC†	127.4	127.0	5351.6 ug/L	5351.6 ppb	10:21:35
2	Na 589.592 Radial†	30182.9	31740.9	9781.0 ug/L	9781.0 ppb	10:21:15
2	Sr 421.552†	77983.1	77702.9	513.00 ug/L	513.00 ppb	10:21:15
2	Sc 361.383	901542.8	901542.8	101.20 %		10:22:38
2	Y 371.029	730447.2	730447.2	99.483 %		10:22:38
2	Ag 328.068†	112704.4	110740.1	487.59 ug/L	487.59 ppb	10:22:43
2	As 188.979†	1248.2	1262.1	488.91 ug/L	488.91 ppb	10:23:03
2	B 249.677†	22294.8	22790.8	474.32 ug/L	474.32 ppb	10:22:43
2	Ba 233.527†	67565.7	66777.9	489.31 ug/L	489.31 ppb	10:22:43
2	Be 313.107†	1437494.5	1424809.3	479.14 ug/L	479.14 ppb	10:22:38
2	Cd 226.502†	47639.4	47277.2	488.08 ug/L	488.08 ppb	10:22:43
2	Co 228.616†	26624.6	26393.2	486.60 ug/L	486.60 ppb	10:22:43
2	Cr 267.716†	48085.7	47452.3	489.09 ug/L	489.09 ppb	10:22:43
2	Cu 324.752†	181828.5	172780.2	480.56 ug/L	480.56 ppb	10:22:43
2	Mn 257.610†	489165.3	482818.6	484.71 ug/L	484.71 ppb	10:22:38
2	Mo 202.031†	7452.7	7358.9	489.52 ug/L	489.52 ppb	10:23:03
2	Ni 231.604†	22363.9	22012.8	490.21 ug/L	490.21 ppb	10:22:43

2	P 214.914†	4923.7	4641.9	2316.6 ug/L	2316.6 ppb	10:23:03
2	Pb 220.353†	4524.4	4550.2	489.87 ug/L	489.87 ppb	10:23:03
2	S 181.975 Axial†	843.9	785.0	958.01 ug/L	958.01 ppb	10:23:03
2	Sb 206.836†	1635.8	1577.9	499.75 ug/L	499.75 ppb	10:23:03
2	Se 196.026†	861.6	877.3	504.61 ug/L	504.61 ppb	10:23:03
2	Si 251.611†	82570.9	81053.6	2406.6 ug/L	2406.6 ppb	10:22:43
2	Sn 189.927†	3071.1	3025.1	489.58 ug/L	489.58 ppb	10:23:03
2	Ti 334.940†	325381.8	323318.2	482.95 ug/L	482.95 ppb	10:22:43
2	Tl 190.801†	1733.6	1757.5	499.09 ug/L	499.09 ppb	10:23:03
2	U 409.014†	11941.1	16912.2	497.90 ug/L	497.90 ppb	10:22:43
2	V 292.402†	72518.5	73408.6	494.92 ug/L	494.92 ppb	10:22:43
2	Zn 213.857†	58597.9	57192.2	480.97 ug/L	480.97 ppb	10:22:43
2	SiO2†	83813.7	82255.1	5232.0 ug/L	5232.0 ppb	10:23:45
3	Sc Radial	4142.2	4142.2	100 %		10:22:00
3	Y RADIAL	4826.6	4826.6	99.70 %		10:21:40
3	Al 396.153Radial†	6116.4	6281.9	5163.7 ug/L	5163.7 ppb	10:21:40
3	Ca 317.933Radial†	2812.2	2787.5	5160.0 ug/L	5160.0 ppb	10:22:00
3	Fe 238.204 Radial†	447.5	435.6	5076.0 ug/L	5076.0 ppb	10:22:00
3	K 766.490 Radial†	29566.0	26822.4	5099.3 ug/L	5099.3 ppb	10:21:40
3	Mg 279.077 IEC†	123.2	122.8	5174.2 ug/L	5174.2 ppb	10:22:00
3	Na 589.592 Radial†	29940.2	31471.7	9698.0 ug/L	9698.0 ppb	10:21:40
3	Sr 421.552†	77308.2	76959.9	508.10 ug/L	508.10 ppb	10:21:40
3	Sc 361.383	924214.7	924214.7	103.75 %		10:23:09
3	Y 371.029	748508.7	748508.7	101.94 %		10:23:09
3	Ag 328.068†	113420.2	108698.1	478.65 ug/L	478.65 ppb	10:23:14
3	As 188.979†	1250.8	1234.3	478.23 ug/L	478.23 ppb	10:23:34
3	B 249.677†	22576.2	22521.7	468.70 ug/L	468.70 ppb	10:23:14
3	Ba 233.527†	68022.3	65580.2	480.54 ug/L	480.54 ppb	10:23:14
3	Be 313.107†	1478262.4	1429260.4	480.61 ug/L	480.61 ppb	10:23:09
3	Cd 226.502†	47969.4	46440.5	479.42 ug/L	479.42 ppb	10:23:14
3	Co 228.616†	26884.5	25998.4	479.31 ug/L	479.31 ppb	10:23:14
3	Cr 267.716†	48411.0	46600.2	480.31 ug/L	480.31 ppb	10:23:14
3	Cu 324.752†	183582.5	170063.4	473.01 ug/L	473.01 ppb	10:23:14
3	Mn 257.610†	501010.8	482379.1	484.28 ug/L	484.28 ppb	10:23:09
3	Mo 202.031†	7433.3	7159.5	476.27 ug/L	476.27 ppb	10:23:34
3	Ni 231.604†	22455.4	21559.0	480.10 ug/L	480.10 ppb	10:23:14
3	P 214.914†	4901.8	4501.5	2245.0 ug/L	2245.0 ppb	10:23:34
3	Pb 220.353†	4506.0	4422.8	476.15 ug/L	476.15 ppb	10:23:34
3	S 181.975 Axial†	848.5	768.9	938.36 ug/L	938.36 ppb	10:23:34
3	Sb 206.836†	1639.2	1541.5	488.15 ug/L	488.15 ppb	10:23:34
3	Se 196.026†	852.3	847.4	488.25 ug/L	488.25 ppb	10:23:34
3	Si 251.611†	83347.9	79801.1	2369.5 ug/L	2369.5 ppb	10:23:14
3	Sn 189.927†	3058.7	2938.8	475.63 ug/L	475.63 ppb	10:23:34
3	Ti 334.940†	328008.0	317962.5	474.97 ug/L	474.97 ppb	10:23:14
3	Tl 190.801†	1721.9	1704.2	484.04 ug/L	484.04 ppb	10:23:34
3	U 409.014†	12046.7	16724.5	492.37 ug/L	492.37 ppb	10:23:14
3	V 292.402†	73057.1	72169.9	486.48 ug/L	486.48 ppb	10:23:14
3	Zn 213.857†	59053.8	56211.2	472.72 ug/L	472.72 ppb	10:23:14
3	SiO2†	82960.6	79401.2	5050.4 ug/L	5050.4 ppb	10:23:50

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	913382.4	102.53 %	1.276			1.24%
Sc Radial	4136.3	100 %	0.2			0.17%
Y 371.029	739543.5	100.72 %	1.230			1.22%
Y RADIAL	4857.8	100.3 %	0.58			0.57%
Ag 328.068†	110390.5	486.08 ug/L	6.795	486.08 ppb	6.795	1.40%
QC value within limits for Ag 328.068 Recovery = 97.22%						
Al 396.153Radial†	6344.5	5215.1 ug/L	52.34	5215.1 ppb	52.34	1.00%
QC value within limits for Al 396.153Radial Recovery = 104.30%						
As 188.979†	1246.5	482.95 ug/L	5.452	482.95 ppb	5.452	1.13%
QC value within limits for As 188.979 Recovery = 96.59%						
B 249.677†	22818.6	474.89 ug/L	6.490	474.89 ppb	6.490	1.37%
QC value within limits for B 249.677 Recovery = 94.98%						
Ba 233.527†	66528.9	487.49 ug/L	6.240	487.49 ppb	6.240	1.28%
QC value within limits for Ba 233.527 Recovery = 97.50%						
Be 313.107†	1428535.7	480.39 ug/L	1.151	480.39 ppb	1.151	0.24%
QC value within limits for Be 313.107 Recovery = 96.08%						
Ca 317.933Radial†	2803.6	5189.8 ug/L	33.89	5189.8 ppb	33.89	0.65%

QC value within limits for Ca 317.933 Radial Recovery = 103.80%							
Cd	226.502†	47106.9	486.31 ug/L	6.196	486.31 ppb	6.196	1.27%
QC value within limits for Cd 226.502 Recovery = 97.26%							
Co	228.616†	26365.2	486.07 ug/L	6.515	486.07 ppb	6.515	1.34%
QC value within limits for Co 228.616 Recovery = 97.21%							
Cr	267.716†	47216.1	486.66 ug/L	5.546	486.66 ppb	5.546	1.14%
QC value within limits for Cr 267.716 Recovery = 97.33%							
Cu	324.752†	172733.8	480.43 ug/L	7.361	480.43 ppb	7.361	1.53%
QC value within limits for Cu 324.752 Recovery = 96.09%							
Fe	238.204 Radial†	435.7	5077.6 ug/L	75.01	5077.6 ppb	75.01	1.48%
QC value within limits for Fe 238.204 Radial Recovery = 101.55%							
K	766.490 Radial†	26903.5	5114.7 ug/L	36.95	5114.7 ppb	36.95	0.72%
QC value within limits for K 766.490 Radial Recovery = 102.29%							
Mg	279.077 IEC†	124.3	5237.5 ug/L	98.99	5237.5 ppb	98.99	1.89%
QC value within limits for Mg 279.077 IEC Recovery = 104.75%							
Mn	257.610†	483248.8	485.15 ug/L	1.158	485.15 ppb	1.158	0.24%
QC value within limits for Mn 257.610 Recovery = 97.03%							
Mo	202.031†	7265.1	483.29 ug/L	6.658	483.29 ppb	6.658	1.38%
QC value within limits for Mo 202.031 Recovery = 96.66%							
Na	589.592 Radial†	31830.1	9808.5 ug/L	126.49	9808.5 ppb	126.49	1.29%
QC value within limits for Na 589.592 Radial Recovery = 98.09%							
Ni	231.604†	21885.8	487.38 ug/L	6.356	487.38 ppb	6.356	1.30%
QC value within limits for Ni 231.604 Recovery = 97.48%							
P	214.914†	4567.6	2277.9 ug/L	36.15	2277.9 ppb	36.15	1.59%
QC value within limits for P 214.914 Recovery = 91.12%							
Pb	220.353†	4484.2	482.76 ug/L	6.872	482.76 ppb	6.872	1.42%
QC value within limits for Pb 220.353 Recovery = 96.55%							
S	181.975 Axial†	777.0	948.25 ug/L	9.823	948.25 ppb	9.823	1.04%
QC value within limits for S 181.975 Axial Recovery = 94.83%							
Sb	206.836†	1558.3	493.53 ug/L	5.845	493.53 ppb	5.845	1.18%
QC value within limits for Sb 206.836 Recovery = 98.71%							
Se	196.026†	866.3	498.76 ug/L	9.119	498.76 ppb	9.119	1.83%
QC value within limits for Se 196.026 Recovery = 99.75%							
Si	251.611†	80976.1	2404.4 ug/L	33.83	2404.4 ppb	33.83	1.41%
QC value within limits for Si 251.611 Recovery = 96.18%							
Sn	189.927†	2984.8	483.06 ug/L	7.022	483.06 ppb	7.022	1.45%
QC value within limits for Sn 189.927 Recovery = 96.61%							
Sr	421.552†	77807.6	513.70 ug/L	5.973	513.70 ppb	5.973	1.16%
QC value within limits for Sr 421.552 Recovery = 102.74%							
Ti	334.940†	322632.6	481.94 ug/L	6.524	481.94 ppb	6.524	1.35%
QC value within limits for Ti 334.940 Recovery = 96.39%							
Tl	190.801†	1722.8	489.31 ug/L	8.474	489.31 ppb	8.474	1.73%
QC value within limits for Tl 190.801 Recovery = 97.86%							
U	409.014†	16958.1	499.26 ug/L	7.653	499.26 ppb	7.653	1.53%
QC value within limits for U 409.014 Recovery = 99.85%							
V	292.402†	73128.5	492.96 ug/L	5.757	492.96 ppb	5.757	1.17%
QC value within limits for V 292.402 Recovery = 98.59%							
Zn	213.857†	57072.7	479.97 ug/L	6.806	479.97 ppb	6.806	1.42%
QC value within limits for Zn 213.857 Recovery = 95.99%							
SiO2†		80807.1	5139.9 ug/L	90.85	5139.9 ppb	90.85	1.77%
QC value within limits for SiO2 Recovery = 96.12%							
All analyte(s) passed QC.							

Sequence No.: 12

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 10:26:00

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4383.8	4383.8	106 %		10:27:53
1	Y RADIAL	4933.8	4933.8	101.9 %		10:27:53
1	Al 396.153Radial†	-205.4	-3.2	-2.6713 ug/L	-2.6713 ppb	10:27:53
1	Ca 317.933Radial†	20.2	5.7	10.583 ug/L	10.583 ppb	10:28:13
1	Fe 238.204 Radial†	12.2	1.3	15.386 ug/L	15.386 ppb	10:28:13
1	K 766.490 Radial†	2805.9	16.2	3.0792 ug/L	3.0792 ppb	10:27:53
1	Mg 279.077 IEC†	3.6	3.5	145.91 ug/L	145.91 ppb	10:28:13
1	Na 589.592 Radial†	-1682.8	68.7	21.161 ug/L	21.161 ppb	10:27:53
1	Sr 421.552†	13.8	-23.4	-0.1547 ug/L	-0.1547 ppb	10:27:53
1	Sc 361.383	923905.1	923905.1	103.71 %		10:29:10
1	Y 371.029	757414.7	757414.7	103.16 %		10:29:10
1	Ag 328.068†	764.6	112.7	0.4837 ug/L	0.4837 ppb	10:29:15
1	As 188.979†	-30.2	-0.4	-0.1535 ug/L	-0.1535 ppb	10:29:35
1	B 249.677†	-476.6	301.6	6.3020 ug/L	6.3020 ppb	10:29:35
1	Ba 233.527†	6.3	21.4	0.1589 ug/L	0.1589 ppb	10:29:35
1	Be 313.107†	-4196.7	356.6	0.1205 ug/L	0.1205 ppb	10:29:15
1	Cd 226.502†	-192.2	18.8	0.1965 ug/L	0.1965 ppb	10:29:35
1	Co 228.616†	-79.6	8.4	0.1542 ug/L	0.1542 ppb	10:29:35
1	Cr 267.716†	73.2	8.8	0.0835 ug/L	0.0835 ppb	10:29:35
1	Cu 324.752†	6800.5	-329.9	-0.9290 ug/L	-0.9290 ppb	10:29:15
1	Mn 257.610†	479.3	-69.6	-0.0743 ug/L	-0.0743 ppb	10:29:35
1	Mo 202.031†	10.4	4.9	0.3238 ug/L	0.3238 ppb	10:29:35
1	Ni 231.604†	92.7	4.2	0.0942 ug/L	0.0942 ppb	10:29:35
1	P 214.914†	220.2	-10.9	-5.5078 ug/L	-5.5078 ppb	10:29:35
1	Pb 220.353†	-59.2	22.6	2.4217 ug/L	2.4217 ppb	10:29:35
1	S 181.975 Axial†	51.6	0.8	1.0139 ug/L	1.0139 ppb	10:29:35
1	Sb 206.836†	50.9	10.6	3.2470 ug/L	3.2470 ppb	10:29:35
1	Se 196.026†	-28.5	-1.5	-0.8032 ug/L	-0.8032 ppb	10:29:35
1	Si 251.611†	513.5	-40.6	-1.2131 ug/L	-1.2131 ppb	10:29:35
1	Sn 189.927†	4.3	-5.3	-0.8578 ug/L	-0.8578 ppb	10:29:35
1	Ti 334.940†	-1624.1	238.5	0.3360 ug/L	0.3360 ppb	10:29:15
1	Tl 190.801†	-49.3	-3.1	-0.8674 ug/L	-0.8674 ppb	10:29:35
1	U 409.014†	-4522.6	752.4	22.224 ug/L	22.224 ppb	10:29:10
1	V 292.402†	-1662.0	149.7	1.0432 ug/L	1.0432 ppb	10:29:15
1	Zn 213.857†	749.0	13.0	0.1098 ug/L	0.1098 ppb	10:29:35
1	SiO2†	502.7	-77.5	-4.9521 ug/L	-4.9521 ppb	10:30:41
2	Sc Radial	4356.4	4356.4	106 %		10:28:18
2	Y RADIAL	4918.9	4918.9	101.6 %		10:28:18
2	Al 396.153Radial†	-182.8	16.9	13.967 ug/L	13.967 ppb	10:28:18
2	Ca 317.933Radial†	21.1	6.6	12.266 ug/L	12.266 ppb	10:28:38
2	Fe 238.204 Radial†	12.0	1.3	14.982 ug/L	14.982 ppb	10:28:38
2	K 766.490 Radial†	2764.3	-6.5	-1.2568 ug/L	-1.2568 ppb	10:28:18
2	Mg 279.077 IEC†	3.0	2.9	121.82 ug/L	121.82 ppb	10:28:38
2	Na 589.592 Radial†	-1641.6	97.6	30.086 ug/L	30.086 ppb	10:28:18
2	Sr 421.552†	48.3	9.3	0.0611 ug/L	0.0611 ppb	10:28:18
2	Sc 361.383	925215.0	925215.0	103.86 %		10:29:40
2	Y 371.029	760268.3	760268.3	103.54 %		10:29:40
2	Ag 328.068†	665.4	16.1	0.0568 ug/L	0.0568 ppb	10:29:45
2	As 188.979†	-30.4	-0.5	-0.1860 ug/L	-0.1860 ppb	10:30:05
2	B 249.677†	-484.4	294.7	6.1587 ug/L	6.1587 ppb	10:30:05
2	Ba 233.527†	5.3	20.4	0.1523 ug/L	0.1523 ppb	10:30:05
2	Be 313.107†	-4170.7	387.3	0.1306 ug/L	0.1306 ppb	10:29:45
2	Cd 226.502†	-184.0	26.9	0.2821 ug/L	0.2821 ppb	10:30:05
2	Co 228.616†	-71.4	16.4	0.3028 ug/L	0.3028 ppb	10:30:05
2	Cr 267.716†	88.3	23.2	0.2292 ug/L	0.2292 ppb	10:30:05
2	Cu 324.752†	6743.7	-393.8	-1.1102 ug/L	-1.1102 ppb	10:29:45
2	Mn 257.610†	496.1	-54.1	-0.0578 ug/L	-0.0578 ppb	10:30:05
2	Mo 202.031†	13.5	7.7	0.5156 ug/L	0.5156 ppb	10:30:05
2	Ni 231.604†	103.7	14.7	0.3278 ug/L	0.3278 ppb	10:30:05



2	P 214.914†	225.2	-6.5	-3.1434 ug/L	-3.1434 ppb	10:30:05
2	Pb 220.353†	-75.5	7.0	0.7501 ug/L	0.7501 ppb	10:30:05
2	S 181.975 Axial†	42.8	-7.7	-9.4040 ug/L	-9.4040 ppb	10:30:05
2	Sb 206.836†	47.7	7.6	2.3180 ug/L	2.3180 ppb	10:30:05
2	Se 196.026†	-27.1	-0.1	-0.0074 ug/L	-0.0074 ppb	10:30:05
2	Si 251.611†	534.1	-21.5	-0.6453 ug/L	-0.6453 ppb	10:30:05
2	Sn 189.927†	9.1	-0.7	-0.1050 ug/L	-0.1050 ppb	10:30:05
2	Ti 334.940†	-1670.0	196.5	0.2726 ug/L	0.2726 ppb	10:29:45
2	Tl 190.801†	-40.3	5.7	1.5954 ug/L	1.5954 ppb	10:30:05
2	U 409.014†	-4307.3	965.9	28.529 ug/L	28.529 ppb	10:29:40
2	V 292.402†	-1634.9	178.0	1.2460 ug/L	1.2460 ppb	10:29:45
2	Zn 213.857†	751.3	14.3	0.1191 ug/L	0.1191 ppb	10:30:05
2	SiO2†	535.8	-46.4	-2.9721 ug/L	-2.9721 ppb	10:30:46
3	Sc Radial	4412.4	4412.4	107 %		10:28:43
3	Y RADIAL	4982.5	4982.5	102.9 %		10:28:43
3	Al 396.153Radial†	-200.2	2.9	2.3959 ug/L	2.3959 ppb	10:28:43
3	Ca 317.933Radial†	21.1	6.3	11.744 ug/L	11.744 ppb	10:29:03
3	Fe 238.204 Radial†	10.6	-0.2	-2.0901 ug/L	-2.0901 ppb	10:29:03
3	K 766.490 Radial†	2738.0	-64.3	-12.264 ug/L	-12.264 ppb	10:28:43
3	Mg 279.077 IEC†	2.8	2.6	111.31 ug/L	111.31 ppb	10:29:03
3	Na 589.592 Radial†	-1640.0	118.9	36.633 ug/L	36.633 ppb	10:28:43
3	Sr 421.552†	27.0	-11.2	-0.0741 ug/L	-0.0741 ppb	10:28:43
3	Sc 361.383	932362.3	932362.3	104.66 %		10:30:11
3	Y 371.029	765328.6	765328.6	104.23 %		10:30:11
3	Ag 328.068†	711.3	55.1	0.2240 ug/L	0.2240 ppb	10:30:16
3	As 188.979†	-29.2	0.9	0.3399 ug/L	0.3399 ppb	10:30:36
3	B 249.677†	-500.7	282.7	5.9098 ug/L	5.9098 ppb	10:30:36
3	Ba 233.527†	4.3	19.4	0.1439 ug/L	0.1439 ppb	10:30:36
3	Be 313.107†	-4171.2	417.6	0.1407 ug/L	0.1407 ppb	10:30:16
3	Cd 226.502†	-196.9	16.0	0.1701 ug/L	0.1701 ppb	10:30:36
3	Co 228.616†	-77.5	11.1	0.2026 ug/L	0.2026 ppb	10:30:36
3	Cr 267.716†	79.7	14.3	0.1389 ug/L	0.1389 ppb	10:30:36
3	Cu 324.752†	6694.8	-490.2	-1.3773 ug/L	-1.3773 ppb	10:30:16
3	Mn 257.610†	486.7	-66.8	-0.0718 ug/L	-0.0718 ppb	10:30:36
3	Mo 202.031†	-1.2	-6.3	-0.4209 ug/L	-0.4209 ppb	10:30:36
3	Ni 231.604†	104.3	14.5	0.3226 ug/L	0.3226 ppb	10:30:36
3	P 214.914†	225.1	-8.2	-3.9748 ug/L	-3.9748 ppb	10:30:36
3	Pb 220.353†	-57.2	25.0	2.6840 ug/L	2.6840 ppb	10:30:36
3	S 181.975 Axial†	44.4	-6.5	-7.9436 ug/L	-7.9436 ppb	10:30:36
3	Sb 206.836†	49.1	8.5	2.6269 ug/L	2.6269 ppb	10:30:36
3	Se 196.026†	-23.8	3.2	1.7566 ug/L	1.7566 ppb	10:30:36
3	Si 251.611†	533.0	-26.5	-0.7824 ug/L	-0.7824 ppb	10:30:36
3	Sn 189.927†	21.4	11.1	1.7884 ug/L	1.7884 ppb	10:30:36
3	Ti 334.940†	-1718.2	162.7	0.2248 ug/L	0.2248 ppb	10:30:16
3	Tl 190.801†	-33.5	12.4	3.5105 ug/L	3.5105 ppb	10:30:36
3	U 409.014†	-4480.3	832.4	24.589 ug/L	24.589 ppb	10:30:11
3	V 292.402†	-1677.2	149.7	1.0390 ug/L	1.0390 ppb	10:30:16
3	Zn 213.857†	747.6	5.2	0.0438 ug/L	0.0438 ppb	10:30:36
3	SiO2†	520.2	-65.2	-4.1492 ug/L	-4.1492 ppb	10:30:51

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	927160.8	104.08 %		0.511				0.49%
Sc Radial	4384.2	106 %		0.7				0.64%
Y 371.029	761003.9	103.64 %		0.546				0.53%
Y RADIAL	4945.1	102.1 %		0.69				0.67%
Ag 328.068†	61.3	0.2548 ug/L		0.21515	0.2548 ppb		0.21515	84.43%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	5.5	4.5640 ug/L		8.52851	4.5640 ppb		8.52851	186.87%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-0.0	0.0001 ug/L		0.29468	0.0001 ppb		0.29468	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	293.0	6.1235 ug/L		0.19850	6.1235 ppb		0.19850	3.24%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	20.4	0.1517 ug/L		0.00751	0.1517 ppb		0.00751	4.95%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	387.2	0.1306 ug/L		0.01010	0.1306 ppb		0.01010	7.74%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	6.2	11.531 ug/L		0.8619	11.531 ppb		0.8619	7.47%

QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd	226.502†	20.5	0.2162 ug/L	0.05854	0.2162 ppb	0.05854	27.08%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co	228.616†	12.0	0.2199 ug/L	0.07580	0.2199 ppb	0.07580	34.47%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	15.4	0.1505 ug/L	0.07355	0.1505 ppb	0.07355	48.87%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	-404.6	-1.1388 ug/L	0.22554	-1.1388 ppb	0.22554	19.80%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	0.8	9.4258 ug/L	9.97511	9.4258 ppb	9.97511	105.83%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	-18.2	-3.4804 ug/L	7.90954	-3.4804 ppb	7.90954	227.26%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	3.0	126.34 ug/L	17.739	126.34 ppb	17.739	14.04%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	-63.5	-0.0680 ug/L	0.00888	-0.0680 ppb	0.00888	13.06%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	2.1	0.1395 ug/L	0.49472	0.1395 ppb	0.49472	354.63%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	95.1	29.293 ug/L	7.7663	29.293 ppb	7.7663	26.51%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	11.1	0.2482 ug/L	0.13340	0.2482 ppb	0.13340	53.76%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	-8.5	-4.2087 ug/L	1.19944	-4.2087 ppb	1.19944	28.50%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	18.2	1.9519 ug/L	1.04907	1.9519 ppb	1.04907	53.75%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	-4.5	-5.4446 ug/L	5.64063	-5.4446 ppb	5.64063	103.60%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	8.9	2.7306 ug/L	0.47310	2.7306 ppb	0.47310	17.33%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	0.5	0.3153 ug/L	1.31008	0.3153 ppb	1.31008	415.46%
QC value within limits for Se 196.026 Recovery = Not calculated							
Si	251.611†	-29.5	-0.8803 ug/L	0.29625	-0.8803 ppb	0.29625	33.66%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	1.7	0.2752 ug/L	1.36343	0.2752 ppb	1.36343	495.48%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	-8.5	-0.0559 ug/L	0.10906	-0.0559 ppb	0.10906	195.08%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	199.2	0.2778 ug/L	0.05579	0.2778 ppb	0.05579	20.08%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	5.0	1.4129 ug/L	2.19465	1.4129 ppb	2.19465	155.33%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	850.3	25.114 ug/L	3.1854	25.114 ppb	3.1854	12.68%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	159.1	1.1094 ug/L	0.11830	1.1094 ppb	0.11830	10.66%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	10.8	0.0909 ug/L	0.04108	0.0909 ppb	0.04108	45.19%
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†		-63.1	-4.0245 ug/L	0.99589	-4.0245 ppb	0.99589	24.75%
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 11:44:55

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4546.4	4546.4	110 %		11:46:47
1	Y RADIAL	5092.8	5092.8	105.2 %		11:46:47
1	Al 396.153Radial†	6459.2	6051.3	4972.8 ug/L	4972.8 ppb	11:46:47
1	Ca 317.933Radial†	2947.8	2661.6	4927.0 ug/L	4927.0 ppb	11:47:07
1	Fe 238.204 Radial†	472.6	418.7	4880.0 ug/L	4880.0 ppb	11:47:07
1	K 766.490 Radial†	30609.2	25151.0	4781.2 ug/L	4781.2 ppb	11:46:47
1	Mg 279.077 IEC†	129.5	117.5	4952.4 ug/L	4952.4 ppb	11:47:07
1	Na 589.592 Radial†	32558.3	31196.2	9613.2 ug/L	9613.2 ppb	11:46:47
1	Sr 421.552†	82548.5	74869.5	494.30 ug/L	494.30 ppb	11:46:47
1	Sc 361.383	929704.5	929704.5	104.36 %		11:48:06
1	Y 371.029	754281.0	754281.0	102.73 %		11:48:06
1	Ag 328.068†	115491.3	110037.1	484.46 ug/L	484.46 ppb	11:48:06
1	As 188.979†	1264.5	1240.3	480.62 ug/L	480.62 ppb	11:48:26
1	B 249.677†	22645.1	22459.2	467.43 ug/L	467.43 ppb	11:48:06
1	Ba 233.527†	69095.0	66220.9	485.23 ug/L	485.23 ppb	11:48:06
1	Be 313.107†	1484965.8	1427270.0	479.99 ug/L	479.99 ppb	11:48:06
1	Cd 226.502†	48261.7	46447.6	479.52 ug/L	479.52 ppb	11:48:06
1	Co 228.616†	26955.4	25913.3	477.73 ug/L	477.73 ppb	11:48:26
1	Cr 267.716†	48922.1	46814.4	482.52 ug/L	482.52 ppb	11:48:06
1	Cu 324.752†	189151.7	174354.8	484.93 ug/L	484.93 ppb	11:48:06
1	Mn 257.610†	503466.3	481880.4	483.77 ug/L	483.77 ppb	11:48:06
1	Mo 202.031†	7659.2	7333.7	487.83 ug/L	487.83 ppb	11:48:26
1	Ni 231.604†	22519.0	21492.2	478.61 ug/L	478.61 ppb	11:48:26
1	P 214.914†	4995.4	4563.3	2274.8 ug/L	2274.8 ppb	11:48:26
1	Pb 220.353†	4611.9	4498.6	484.28 ug/L	484.28 ppb	11:48:26
1	S 181.975 Axial†	949.5	860.9	1050.8 ug/L	1050.8 ppb	11:48:26
1	Sb 206.836†	1663.0	1555.1	492.56 ug/L	492.56 ppb	11:48:26
1	Se 196.026†	873.8	863.3	496.41 ug/L	496.41 ppb	11:48:26
1	Si 251.611†	84750.8	80670.9	2395.2 ug/L	2395.2 ppb	11:48:06
1	Sn 189.927†	3113.3	2973.7	481.22 ug/L	481.22 ppb	11:48:26
1	Ti 334.940†	343069.0	330526.8	493.73 ug/L	493.73 ppb	11:48:06
1	Tl 190.801†	1744.7	1716.2	487.59 ug/L	487.59 ppb	11:48:26
1	U 409.014†	12343.3	16940.2	498.76 ug/L	498.76 ppb	11:48:06
1	V 292.402†	74111.3	72764.3	490.62 ug/L	490.62 ppb	11:48:06
1	Zn 213.857†	59642.0	56438.7	474.66 ug/L	474.66 ppb	11:48:06
1	SiO2†	84411.0	80318.9	5108.6 ug/L	5108.6 ppb	11:49:26
2	Sc Radial	4482.6	4482.6	109 %		11:47:12
2	Y RADIAL	5001.3	5001.3	103.3 %		11:47:12
2	Al 396.153Radial†	6390.0	6071.0	4989.0 ug/L	4989.0 ppb	11:47:12
2	Ca 317.933Radial†	2931.5	2684.6	4969.7 ug/L	4969.7 ppb	11:47:32
2	Fe 238.204 Radial†	469.8	422.2	4921.2 ug/L	4921.2 ppb	11:47:32
2	K 766.490 Radial†	30218.0	25186.2	4787.9 ug/L	4787.9 ppb	11:47:12
2	Mg 279.077 IEC†	132.7	122.2	5148.9 ug/L	5148.9 ppb	11:47:32
2	Na 589.592 Radial†	32028.6	31129.2	9592.5 ug/L	9592.5 ppb	11:47:12
2	Sr 421.552†	80999.5	74510.0	491.92 ug/L	491.92 ppb	11:47:12
2	Sc 361.383	923929.7	923929.7	103.72 %		11:48:33
2	Y 371.029	748895.9	748895.9	102.00 %		11:48:33
2	Ag 328.068†	114941.8	110199.0	485.18 ug/L	485.18 ppb	11:48:33
2	As 188.979†	1258.7	1242.3	481.39 ug/L	481.39 ppb	11:48:53
2	B 249.677†	22583.4	22535.3	469.02 ug/L	469.02 ppb	11:48:33
2	Ba 233.527†	68755.4	66307.2	485.86 ug/L	485.86 ppb	11:48:33
2	Be 313.107†	1475302.6	1426846.4	479.85 ug/L	479.85 ppb	11:48:33
2	Cd 226.502†	48129.4	46609.1	481.18 ug/L	481.18 ppb	11:48:33
2	Co 228.616†	26794.2	25919.3	477.84 ug/L	477.84 ppb	11:48:53
2	Cr 267.716†	48690.0	46883.6	483.23 ug/L	483.23 ppb	11:48:33
2	Cu 324.752†	187878.3	174259.9	484.67 ug/L	484.67 ppb	11:48:33
2	Mn 257.610†	501199.2	482709.7	484.60 ug/L	484.60 ppb	11:48:33
2	Mo 202.031†	7628.2	7349.7	488.90 ug/L	488.90 ppb	11:48:53
2	Ni 231.604†	22399.6	21511.9	479.05 ug/L	479.05 ppb	11:48:53

2	P 214.914†	4970.8	4569.4	2278.0 ug/L	2278.0 ppb	11:48:53
2	Pb 220.353†	4593.1	4508.1	485.30 ug/L	485.30 ppb	11:48:53
2	S 181.975 Axial†	903.5	822.3	1003.6 ug/L	1003.6 ppb	11:48:53
2	Sb 206.836†	1659.0	1561.2	494.45 ug/L	494.45 ppb	11:48:53
2	Se 196.026†	867.7	862.5	496.14 ug/L	496.14 ppb	11:48:53
2	Si 251.611†	84504.9	80941.4	2403.3 ug/L	2403.3 ppb	11:48:33
2	Sn 189.927†	3099.0	2978.5	482.01 ug/L	482.01 ppb	11:48:53
2	Ti 334.940†	341064.4	330648.6	493.90 ug/L	493.90 ppb	11:48:33
2	Tl 190.801†	1746.0	1727.9	490.88 ug/L	490.88 ppb	11:48:53
2	U 409.014†	12240.0	16914.6	497.99 ug/L	497.99 ppb	11:48:33
2	V 292.402†	73720.7	72831.5	491.07 ug/L	491.07 ppb	11:48:33
2	Zn 213.857†	59444.0	56605.1	476.07 ug/L	476.07 ppb	11:48:33
2	SiO2†	83979.5	80408.3	5114.3 ug/L	5114.3 ppb	11:49:31
3	Sc Radial	4556.0	4556.0	110 %		11:47:37
3	Y RADIAL	5094.6	5094.6	105.2 %		11:47:37
3	Al 396.153Radial†	6439.0	6020.7	4947.8 ug/L	4947.8 ppb	11:47:37
3	Ca 317.933Radial†	2912.7	2624.1	4857.6 ug/L	4857.6 ppb	11:47:57
3	Fe 238.204 Radial†	467.8	413.4	4818.7 ug/L	4818.7 ppb	11:47:57
3	K 766.490 Radial†	30619.2	25101.8	4771.9 ug/L	4771.9 ppb	11:47:37
3	Mg 279.077 IEC†	126.5	114.6	4829.3 ug/L	4829.3 ppb	11:47:57
3	Na 589.592 Radial†	32543.2	31120.6	9589.9 ug/L	9589.9 ppb	11:47:37
3	Sr 421.552†	82260.6	74451.7	491.54 ug/L	491.54 ppb	11:47:37
3	Sc 361.383	929436.6	929436.6	104.33 %		11:49:01
3	Y 371.029	752506.4	752506.4	102.49 %		11:49:01
3	Ag 328.068†	115762.1	110328.6	485.72 ug/L	485.72 ppb	11:49:01
3	As 188.979†	1251.3	1228.1	475.91 ug/L	475.91 ppb	11:49:21
3	B 249.677†	22843.7	22655.8	471.57 ug/L	471.57 ppb	11:49:01
3	Ba 233.527†	69102.1	66246.7	485.42 ug/L	485.42 ppb	11:49:01
3	Be 313.107†	1483984.2	1426739.1	479.81 ug/L	479.81 ppb	11:49:01
3	Cd 226.502†	48326.9	46523.4	480.30 ug/L	480.30 ppb	11:49:01
3	Co 228.616†	26612.5	25592.1	471.80 ug/L	471.80 ppb	11:49:21
3	Cr 267.716†	48879.7	46787.3	482.24 ug/L	482.24 ppb	11:49:01
3	Cu 324.752†	189463.8	174706.2	485.91 ug/L	485.91 ppb	11:49:01
3	Mn 257.610†	504659.2	483162.8	485.05 ug/L	485.05 ppb	11:49:01
3	Mo 202.031†	7576.5	7256.5	482.70 ug/L	482.70 ppb	11:49:21
3	Ni 231.604†	22285.8	21274.9	473.77 ug/L	473.77 ppb	11:49:21
3	P 214.914†	4927.5	4499.5	2241.5 ug/L	2241.5 ppb	11:49:21
3	Pb 220.353†	4570.0	4459.8	480.10 ug/L	480.10 ppb	11:49:21
3	S 181.975 Axial†	869.7	784.7	957.63 ug/L	957.63 ppb	11:49:21
3	Sb 206.836†	1653.3	1546.2	489.62 ug/L	489.62 ppb	11:49:21
3	Se 196.026†	856.0	846.4	486.85 ug/L	486.85 ppb	11:49:21
3	Si 251.611†	85063.9	80994.4	2404.9 ug/L	2404.9 ppb	11:49:01
3	Sn 189.927†	3069.8	2932.9	474.63 ug/L	474.63 ppb	11:49:21
3	Ti 334.940†	343569.1	331100.8	494.58 ug/L	494.58 ppb	11:49:01
3	Tl 190.801†	1720.7	1693.7	481.27 ug/L	481.27 ppb	11:49:21
3	U 409.014†	12356.3	16956.1	499.24 ug/L	499.24 ppb	11:49:01
3	V 292.402†	74231.6	72900.0	491.45 ug/L	491.45 ppb	11:49:01
3	Zn 213.857†	59908.0	56710.2	477.00 ug/L	477.00 ppb	11:49:01
3	SiO2†	83949.0	79899.4	5082.0 ug/L	5082.0 ppb	11:49:36

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	927690.3	104.14 %	0.366			0.35%
Sc Radial	4528.3	110 %	1.0			0.88%
Y 371.029	751894.4	102.40 %	0.374			0.36%
Y RADIAL	5062.9	104.6 %	1.10			1.05%
Ag 328.068†	110188.2	485.12 ug/L	0.632	485.12 ppb	0.632	0.13%
QC value within limits for Ag 328.068 Recovery = 97.02%						
Al 396.153Radial†	6047.7	4969.9 ug/L	20.79	4969.9 ppb	20.79	0.42%
QC value within limits for Al 396.153Radial Recovery = 99.40%						
As 188.979†	1236.9	479.31 ug/L	2.966	479.31 ppb	2.966	0.62%
QC value within limits for As 188.979 Recovery = 95.86%						
B 249.677†	22550.1	469.34 ug/L	2.087	469.34 ppb	2.087	0.44%
QC value within limits for B 249.677 Recovery = 93.87%						
Ba 233.527†	66258.3	485.50 ug/L	0.325	485.50 ppb	0.325	0.07%
QC value within limits for Ba 233.527 Recovery = 97.10%						
Be 313.107†	1426951.8	479.88 ug/L	0.093	479.88 ppb	0.093	0.02%
QC value within limits for Be 313.107 Recovery = 95.98%						
Ca 317.933Radial†	2656.8	4918.1 ug/L	56.54	4918.1 ppb	56.54	1.15%

QC value within limits for Ca 317.933 Radial Recovery = 98.36%							
Cd 226.502†	46526.7	480.33 ug/L	0.832	480.33 ppb	0.832	0.17%	
QC value within limits for Cd 226.502 Recovery = 96.07%							
Co 228.616†	25808.2	475.79 ug/L	3.459	475.79 ppb	3.459	0.73%	
QC value within limits for Co 228.616 Recovery = 95.16%							
Cr 267.716†	46828.5	482.66 ug/L	0.512	482.66 ppb	0.512	0.11%	
QC value within limits for Cr 267.716 Recovery = 96.53%							
Cu 324.752†	174440.3	485.17 ug/L	0.651	485.17 ppb	0.651	0.13%	
QC value within limits for Cu 324.752 Recovery = 97.03%							
Fe 238.204 Radial†	418.1	4873.3 ug/L	51.54	4873.3 ppb	51.54	1.06%	
QC value within limits for Fe 238.204 Radial Recovery = 97.47%							
K 766.490 Radial†	25146.3	4780.4 ug/L	8.05	4780.4 ppb	8.05	0.17%	
QC value within limits for K 766.490 Radial Recovery = 95.61%							
Mg 279.077 IEC†	118.1	4976.9 ug/L	161.16	4976.9 ppb	161.16	3.24%	
QC value within limits for Mg 279.077 IEC Recovery = 99.54%							
Mn 257.610†	482584.3	484.47 ug/L	0.652	484.47 ppb	0.652	0.13%	
QC value within limits for Mn 257.610 Recovery = 96.89%							
Mo 202.031†	7313.3	486.47 ug/L	3.316	486.47 ppb	3.316	0.68%	
QC value within limits for Mo 202.031 Recovery = 97.29%							
Na 589.592 Radial†	31148.7	9598.5 ug/L	12.75	9598.5 ppb	12.75	0.13%	
QC value within limits for Na 589.592 Radial Recovery = 95.99%							
Ni 231.604†	21426.3	477.14 ug/L	2.928	477.14 ppb	2.928	0.61%	
QC value within limits for Ni 231.604 Recovery = 95.43%							
P 214.914†	4544.1	2264.8 ug/L	20.22	2264.8 ppb	20.22	0.89%	
QC value within limits for P 214.914 Recovery = 90.59%							
Pb 220.353†	4488.9	483.23 ug/L	2.756	483.23 ppb	2.756	0.57%	
QC value within limits for Pb 220.353 Recovery = 96.65%							
S 181.975 Axial†	822.6	1004.0 ug/L	46.58	1004.0 ppb	46.58	4.64%	
QC value within limits for S 181.975 Axial Recovery = 100.40%							
Sb 206.836†	1554.1	492.21 ug/L	2.433	492.21 ppb	2.433	0.49%	
QC value within limits for Sb 206.836 Recovery = 98.44%							
Se 196.026†	857.4	493.13 ug/L	5.439	493.13 ppb	5.439	1.10%	
QC value within limits for Se 196.026 Recovery = 98.63%							
Si 251.611†	80868.9	2401.2 ug/L	5.18	2401.2 ppb	5.18	0.22%	
QC value within limits for Si 251.611 Recovery = 96.05%							
Sn 189.927†	2961.7	479.29 ug/L	4.056	479.29 ppb	4.056	0.85%	
QC value within limits for Sn 189.927 Recovery = 95.86%							
Sr 421.552†	74610.4	492.59 ug/L	1.494	492.59 ppb	1.494	0.30%	
QC value within limits for Sr 421.552 Recovery = 98.52%							
Ti 334.940†	330758.7	494.07 ug/L	0.454	494.07 ppb	0.454	0.09%	
QC value within limits for Ti 334.940 Recovery = 98.81%							
Tl 190.801†	1712.6	486.58 ug/L	4.881	486.58 ppb	4.881	1.00%	
QC value within limits for Tl 190.801 Recovery = 97.32%							
U 409.014†	16937.0	498.66 ug/L	0.626	498.66 ppb	0.626	0.13%	
QC value within limits for U 409.014 Recovery = 99.73%							
V 292.402†	72831.9	491.05 ug/L	0.419	491.05 ppb	0.419	0.09%	
QC value within limits for V 292.402 Recovery = 98.21%							
Zn 213.857†	56584.7	475.91 ug/L	1.177	475.91 ppb	1.177	0.25%	
QC value within limits for Zn 213.857 Recovery = 95.18%							
SiO2†	80208.9	5101.6 ug/L	17.24	5101.6 ppb	17.24	0.34%	
QC value within limits for SiO2 Recovery = 95.40%							

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 11:51:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4381.5	4381.5	106 %		11:53:39
1	Y RADIAL	4967.6	4967.6	102.6 %		11:53:39
1	Al 396.153Radial†	-166.0	33.8	27.854 ug/L	27.854 ppb	11:53:39
1	Ca 317.933Radial†	20.5	6.0	11.093 ug/L	11.093 ppb	11:53:59
1	Fe 238.204 Radial†	13.9	3.0	34.300 ug/L	34.300 ppb	11:53:59
1	K 766.490 Radial†	2689.6	-91.9	-17.520 ug/L	-17.520 ppb	11:53:39
1	Mg 279.077 IEC†	0.1	0.1	4.1367 ug/L	4.1367 ppb	11:53:59
1	Na 589.592 Radial†	-1506.1	234.2	72.159 ug/L	72.159 ppb	11:53:39
1	Sr 421.552†	26.7	-11.3	-0.0746 ug/L	-0.0746 ppb	11:53:39
1	Sc 361.383	906602.8	906602.8	101.77 %		11:54:56
1	Y 371.029	751757.2	751757.2	102.38 %		11:54:56
1	Ag 328.068†	545.6	-88.5	-0.3892 ug/L	-0.3892 ppb	11:54:56
1	As 188.979†	-27.1	2.1	0.8061 ug/L	0.8061 ppb	11:55:16
1	B 249.677†	-517.4	252.7	5.2781 ug/L	5.2781 ppb	11:55:16
1	Ba 233.527†	-7.5	8.0	0.0610 ug/L	0.0610 ppb	11:55:16
1	Be 313.107†	-4130.1	344.9	0.1166 ug/L	0.1166 ppb	11:54:56
1	Cd 226.502†	-180.5	26.7	0.2767 ug/L	0.2767 ppb	11:55:16
1	Co 228.616†	-88.8	-2.1	-0.0380 ug/L	-0.0380 ppb	11:55:16
1	Cr 267.716†	84.7	21.4	0.2140 ug/L	0.2140 ppb	11:55:16
1	Cu 324.752†	6783.1	-221.8	-0.6261 ug/L	-0.6261 ppb	11:54:56
1	Mn 257.610†	523.4	-17.5	-0.0143 ug/L	-0.0143 ppb	11:55:16
1	Mo 202.031†	14.8	9.3	0.6194 ug/L	0.6194 ppb	11:55:16
1	Ni 231.604†	123.6	36.3	0.8087 ug/L	0.8087 ppb	11:55:16
1	P 214.914†	224.4	-2.7	-1.3278 ug/L	-1.3278 ppb	11:55:16
1	Pb 220.353†	-61.6	19.1	2.0558 ug/L	2.0558 ppb	11:55:16
1	S 181.975 Axial†	55.9	6.0	7.3835 ug/L	7.3835 ppb	11:55:16
1	Sb 206.836†	45.9	6.6	2.0211 ug/L	2.0211 ppb	11:55:16
1	Se 196.026†	-23.7	2.6	1.5840 ug/L	1.5840 ppb	11:55:16
1	Si 251.611†	530.4	-14.5	-0.4403 ug/L	-0.4403 ppb	11:55:16
1	Sn 189.927†	1.7	-7.7	-1.2435 ug/L	-1.2435 ppb	11:55:16
1	Ti 334.940†	-1569.8	261.9	0.3836 ug/L	0.3836 ppb	11:54:56
1	Tl 190.801†	-29.8	15.2	4.2855 ug/L	4.2855 ppb	11:55:16
1	U 409.014†	-4516.4	675.2	19.942 ug/L	19.942 ppb	11:54:56
1	V 292.402†	-1664.4	116.7	0.8180 ug/L	0.8180 ppb	11:54:56
1	Zn 213.857†	762.3	39.9	0.3309 ug/L	0.3309 ppb	11:55:16
1	SiO2†	507.0	-64.1	-4.1050 ug/L	-4.1050 ppb	11:56:12
2	Sc Radial	4377.4	4377.4	106 %		11:54:04
2	Y RADIAL	4955.9	4955.9	102.4 %		11:54:04
2	Al 396.153Radial†	-167.9	31.9	26.310 ug/L	26.310 ppb	11:54:04
2	Ca 317.933Radial†	22.8	8.1	15.072 ug/L	15.072 ppb	11:54:24
2	Fe 238.204 Radial†	10.9	0.2	1.8592 ug/L	1.8592 ppb	11:54:24
2	K 766.490 Radial†	2798.2	12.9	2.4172 ug/L	2.4172 ppb	11:54:04
2	Mg 279.077 IEC†	-2.0	-1.8	-76.615 ug/L	-76.615 ppb	11:54:24
2	Na 589.592 Radial†	-1506.7	232.3	71.583 ug/L	71.583 ppb	11:54:04
2	Sr 421.552†	34.8	-3.7	-0.0243 ug/L	-0.0243 ppb	11:54:04
2	Sc 361.383	908404.8	908404.8	101.97 %		11:55:21
2	Y 371.029	752737.0	752737.0	102.52 %		11:55:21
2	Ag 328.068†	518.4	-116.2	-0.5197 ug/L	-0.5197 ppb	11:55:21
2	As 188.979†	-32.5	-3.1	-1.2059 ug/L	-1.2059 ppb	11:55:41
2	B 249.677†	-536.1	235.3	4.9191 ug/L	4.9191 ppb	11:55:41
2	Ba 233.527†	11.3	26.4	0.1955 ug/L	0.1955 ppb	11:55:41
2	Be 313.107†	-4202.9	281.5	0.0952 ug/L	0.0952 ppb	11:55:21
2	Cd 226.502†	-186.1	21.6	0.2274 ug/L	0.2274 ppb	11:55:41
2	Co 228.616†	-71.2	15.3	0.2824 ug/L	0.2824 ppb	11:55:41
2	Cr 267.716†	76.6	13.3	0.1307 ug/L	0.1307 ppb	11:55:41
2	Cu 324.752†	6671.7	-344.2	-0.9684 ug/L	-0.9684 ppb	11:55:21
2	Mn 257.610†	514.8	-26.9	-0.0237 ug/L	-0.0237 ppb	11:55:41
2	Mo 202.031†	7.0	1.7	0.1115 ug/L	0.1115 ppb	11:55:41
2	Ni 231.604†	102.8	15.7	0.3493 ug/L	0.3493 ppb	11:55:41

2	P 214.914†	229.9	2.2	1.3065 ug/L	1.3065 ppb	11:55:41
2	Pb 220.353†	-58.2	22.6	2.4316 ug/L	2.4316 ppb	11:55:41
2	S 181.975 Axial†	56.5	6.5	7.9756 ug/L	7.9756 ppb	11:55:41
2	Sb 206.836†	43.8	4.5	1.3630 ug/L	1.3630 ppb	11:55:41
2	Se 196.026†	-24.4	2.0	1.1126 ug/L	1.1126 ppb	11:55:41
2	Si 251.611†	550.0	3.6	0.1061 ug/L	0.1061 ppb	11:55:41
2	Sn 189.927†	4.7	-4.9	-0.7821 ug/L	-0.7821 ppb	11:55:41
2	Ti 334.940†	-1609.1	226.4	0.3378 ug/L	0.3378 ppb	11:55:21
2	Tl 190.801†	-43.5	1.9	0.5215 ug/L	0.5215 ppb	11:55:41
2	U 409.014†	-4522.6	678.0	20.027 ug/L	20.027 ppb	11:55:21
2	V 292.402†	-1616.6	166.9	1.1480 ug/L	1.1480 ppb	11:55:21
2	Zn 213.857†	757.2	33.4	0.2823 ug/L	0.2823 ppb	11:55:41
2	SiO2†	520.5	-51.8	-3.3089 ug/L	-3.3089 ppb	11:56:17
3	Sc Radial	4408.5	4408.5	107 %		11:54:29
3	Y RADIAL	4998.9	4998.9	103.3 %		11:54:29
3	Al 396.153Radial†	-197.3	5.5	4.5234 ug/L	4.5234 ppb	11:54:29
3	Ca 317.933Radial†	25.6	10.6	19.571 ug/L	19.571 ppb	11:54:49
3	Fe 238.204 Radial†	9.4	-1.3	-14.932 ug/L	-14.932 ppb	11:54:49
3	K 766.490 Radial†	2709.7	-88.6	-16.907 ug/L	-16.907 ppb	11:54:29
3	Mg 279.077 IBC†	2.9	2.8	116.58 ug/L	116.58 ppb	11:54:49
3	Na 589.592 Radial†	-1445.1	299.9	92.412 ug/L	92.412 ppb	11:54:29
3	Sr 421.552†	15.2	-22.2	-0.1468 ug/L	-0.1468 ppb	11:54:29
3	Sc 361.383	903494.4	903494.4	101.42 %		11:55:46
3	Y 371.029	748032.8	748032.8	101.88 %		11:55:46
3	Ag 328.068†	557.1	-75.2	-0.3436 ug/L	-0.3436 ppb	11:55:46
3	As 188.979†	-32.3	-3.1	-1.2021 ug/L	-1.2021 ppb	11:56:06
3	B 249.677†	-494.0	274.0	5.7309 ug/L	5.7309 ppb	11:56:06
3	Ba 233.527†	-2.2	13.2	0.0974 ug/L	0.0974 ppb	11:56:06
3	Be 313.107†	-4177.9	283.7	0.0958 ug/L	0.0958 ppb	11:55:46
3	Cd 226.502†	-199.1	7.8	0.0851 ug/L	0.0851 ppb	11:56:06
3	Co 228.616†	-73.9	12.3	0.2259 ug/L	0.2259 ppb	11:56:06
3	Cr 267.716†	73.6	10.8	0.1057 ug/L	0.1057 ppb	11:56:06
3	Cu 324.752†	6770.8	-210.9	-0.5961 ug/L	-0.5961 ppb	11:55:46
3	Mn 257.610†	523.0	-16.1	-0.0224 ug/L	-0.0224 ppb	11:56:06
3	Mo 202.031†	1.5	-3.7	-0.2468 ug/L	-0.2468 ppb	11:56:06
3	Ni 231.604†	91.0	4.6	0.1015 ug/L	0.1015 ppb	11:56:06
3	P 214.914†	224.4	-2.0	-0.8843 ug/L	-0.8843 ppb	11:56:06
3	Pb 220.353†	-69.2	11.4	1.2228 ug/L	1.2228 ppb	11:56:06
3	S 181.975 Axial†	57.0	7.3	8.9049 ug/L	8.9049 ppb	11:56:06
3	Sb 206.836†	40.8	1.8	0.5501 ug/L	0.5501 ppb	11:56:06
3	Se 196.026†	-33.0	-6.6	-3.7144 ug/L	-3.7144 ppb	11:56:06
3	Si 251.611†	512.7	-30.3	-0.8977 ug/L	-0.8977 ppb	11:56:06
3	Sn 189.927†	13.7	4.1	0.6661 ug/L	0.6661 ppb	11:56:06
3	Ti 334.940†	-1643.1	184.3	0.2616 ug/L	0.2616 ppb	11:55:46
3	Tl 190.801†	-41.1	4.0	1.1229 ug/L	1.1229 ppb	11:56:06
3	U 409.014†	-4652.2	526.1	15.543 ug/L	15.543 ppb	11:55:46
3	V 292.402†	-1658.2	117.2	0.8102 ug/L	0.8102 ppb	11:55:46
3	Zn 213.857†	779.5	59.5	0.5062 ug/L	0.5062 ppb	11:56:06
3	SiO2†	577.1	6.8	0.4376 ug/L	0.4376 ppb	11:56:22

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	906167.3	101.72 %	0.279			0.27%
Sc Radial	4389.1	106 %	0.4			0.39%
Y 371.029	750842.4	102.26 %	0.338			0.33%
Y RADIAL	4974.1	102.7 %	0.46			0.45%
Ag 328.068†	-93.3	-0.4175 ug/L	0.09142	-0.4175 ppb	0.09142	21.90%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	23.7	19.562 ug/L	13.0471	19.562 ppb	13.0471	66.69%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.4	-0.5340 ug/L	1.16051	-0.5340 ppb	1.16051	217.34%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	254.0	5.3094 ug/L	0.40680	5.3094 ppb	0.40680	7.66%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	15.8	0.1180 ug/L	0.06955	0.1180 ppb	0.06955	58.96%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	303.4	0.1025 ug/L	0.01218	0.1025 ppb	0.01218	11.88%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	8.2	15.245 ug/L	4.2414	15.245 ppb	4.2414	27.82%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	18.7	0.1964 ug/L	0.09946	0.1964 ppb	0.09946	50.64%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	8.5	0.1568 ug/L	0.17100	0.1568 ppb	0.17100	109.07%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	15.2	0.1501 ug/L	0.05670	0.1501 ppb	0.05670	37.77%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-259.0	-0.7302 ug/L	0.20687	-0.7302 ppb	0.20687	28.33%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.6	7.0759 ug/L	25.02714	7.0759 ppb	25.02714	353.69%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-55.9	-10.670 ug/L	11.3379	-10.670 ppb	11.3379	106.26%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.3	14.699 ug/L	97.0272	14.699 ppb	97.0272	660.08%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-20.2	-0.0201 ug/L	0.00506	-0.0201 ppb	0.00506	25.14%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	2.4	0.1613 ug/L	0.43524	0.1613 ppb	0.43524	269.77%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	255.5	78.718 ug/L	11.8630	78.718 ppb	11.8630	15.07%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	18.8	0.4198 ug/L	0.35883	0.4198 ppb	0.35883	85.47%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-0.8	-0.3019 ug/L	1.41042	-0.3019 ppb	1.41042	467.24%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	17.7	1.9034 ug/L	0.61863	1.9034 ppb	0.61863	32.50%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	6.6	8.0880 ug/L	0.76690	8.0880 ppb	0.76690	9.48%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	4.3	1.3114 ug/L	0.73688	1.3114 ppb	0.73688	56.19%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-0.7	-0.3393 ug/L	2.93244	-0.3393 ppb	2.93244	864.36%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-13.7	-0.4106 ug/L	0.50253	-0.4106 ppb	0.50253	122.38%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-2.8	-0.4532 ug/L	0.99638	-0.4532 ppb	0.99638	219.87%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-12.4	-0.0819 ug/L	0.06161	-0.0819 ppb	0.06161	75.21%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	224.2	0.3277 ug/L	0.06160	0.3277 ppb	0.06160	18.80%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	7.0	1.9766 ug/L	2.02201	1.9766 ppb	2.02201	102.30%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	626.5	18.504 ug/L	2.5646	18.504 ppb	2.5646	13.86%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	133.6	0.9254 ug/L	0.19282	0.9254 ppb	0.19282	20.84%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	44.3	0.3732 ug/L	0.11777	0.3732 ppb	0.11777	31.56%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-36.4	-2.3254 ug/L	2.42574	-2.3254 ppb	2.42574	104.31%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						



Sequence No.: 19  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 2/1/2010 12:46:11  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4351.0	4351.0	105 %		12:48:03
1	Y RADIAL	4848.6	4848.6	100.1 %		12:48:03
1	Al 396.153Radial†	6090.9	5965.3	4900.6 ug/L	4900.6 ppb	12:48:03
1	Ca 317.933Radial†	2862.6	2700.9	4999.7 ug/L	4999.7 ppb	12:48:23
1	Fe 238.204 Radial†	479.1	444.2	5176.5 ug/L	5176.5 ppb	12:48:23
1	K 766.490 Radial†	29675.8	25513.4	4849.9 ug/L	4849.9 ppb	12:48:03
1	Mg 279.077 IEC†	130.1	123.4	5198.2 ug/L	5198.2 ppb	12:48:23
1	Na 589.592 Radial†	33713.1	33618.1	10359 ug/L	10359 ppb	12:48:03
1	Sr 421.552†	81139.3	76897.6	507.69 ug/L	507.69 ppb	12:48:03
1	Sc 361.383	858739.4	858739.4	96.398 %		12:49:22
1	Y 371.029	697012.5	697012.5	94.929 %		12:49:22
1	Ag 328.068†	114055.9	117693.0	518.17 ug/L	518.17 ppb	12:49:22
1	As 188.979†	1224.7	1299.2	503.55 ug/L	503.55 ppb	12:49:42
1	B 249.677†	22229.3	23821.0	495.79 ug/L	495.79 ppb	12:49:22
1	Ba 233.527†	68537.5	71113.7	521.08 ug/L	521.08 ppb	12:49:22
1	Be 313.107†	1469089.3	1528384.2	514.00 ug/L	514.00 ppb	12:49:22
1	Cd 226.502†	48069.3	50069.5	516.91 ug/L	516.91 ppb	12:49:22
1	Co 228.616†	26129.6	27191.0	501.26 ug/L	501.26 ppb	12:49:42
1	Cr 267.716†	48802.8	50564.5	521.17 ug/L	521.17 ppb	12:49:22
1	Cu 324.752†	186335.1	186410.6	518.47 ug/L	518.47 ppb	12:49:22
1	Mn 257.610†	499649.6	517787.0	519.81 ug/L	519.81 ppb	12:49:22
1	Mo 202.031†	7424.1	7696.3	511.95 ug/L	511.95 ppb	12:49:42
1	Ni 231.604†	21859.7	22591.3	503.09 ug/L	503.09 ppb	12:49:42
1	P 214.914†	4797.4	4753.4	2366.9 ug/L	2366.9 ppb	12:49:42
1	Pb 220.353†	4473.3	4720.0	508.03 ug/L	508.03 ppb	12:49:42
1	S 181.975 Axial†	834.7	817.0	997.17 ug/L	997.17 ppb	12:49:42
1	Sb 206.836†	1605.3	1626.9	515.38 ug/L	515.38 ppb	12:49:42
1	Se 196.026†	841.3	898.7	517.12 ug/L	517.12 ppb	12:49:42
1	Si 251.611†	83806.0	86401.6	2565.5 ug/L	2565.5 ppb	12:49:22
1	Sn 189.927†	3023.5	3127.0	506.02 ug/L	506.02 ppb	12:49:42
1	Ti 334.940†	339834.3	354336.4	529.27 ug/L	529.27 ppb	12:49:22
1	Tl 190.801†	1696.1	1803.9	512.63 ug/L	512.63 ppb	12:49:42
1	U 409.014†	12200.8	17769.8	523.14 ug/L	523.14 ppb	12:49:22
1	V 292.402†	73581.3	78082.8	526.30 ug/L	526.30 ppb	12:49:22
1	Zn 213.857†	59207.3	60710.4	510.67 ug/L	510.67 ppb	12:49:22
1	SiO2†	84005.5	86582.0	5507.4 ug/L	5507.4 ppb	12:50:43
2	Sc Radial	4352.1	4352.1	105 %		12:48:28
2	Y RADIAL	4860.4	4860.4	100.4 %		12:48:28
2	Al 396.153Radial†	6056.1	5930.9	4873.5 ug/L	4873.5 ppb	12:48:28
2	Ca 317.933Radial†	2833.1	2672.3	4946.8 ug/L	4946.8 ppb	12:48:48
2	Fe 238.204 Radial†	470.8	436.2	5083.2 ug/L	5083.2 ppb	12:48:48
2	K 766.490 Radial†	29762.4	25588.4	4864.2 ug/L	4864.2 ppb	12:48:28
2	Mg 279.077 IEC†	128.1	121.4	5117.3 ug/L	5117.3 ppb	12:48:48
2	Na 589.592 Radial†	33933.9	33819.3	10421 ug/L	10421 ppb	12:48:28
2	Sr 421.552†	80977.7	76724.8	506.55 ug/L	506.55 ppb	12:48:28
2	Sc 361.383	910883.3	910883.3	102.25 %		12:49:50
2	Y 371.029	738493.9	738493.9	100.58 %		12:49:50
2	Ag 328.068†	113597.5	110471.5	486.43 ug/L	486.43 ppb	12:49:50
2	As 188.979†	1237.8	1239.3	480.28 ug/L	480.28 ppb	12:50:10
2	B 249.677†	22229.3	22500.9	468.28 ug/L	468.28 ppb	12:49:50
2	Ba 233.527†	68151.7	66666.3	488.50 ug/L	488.50 ppb	12:49:50
2	Be 313.107†	1458300.2	1430591.6	481.11 ug/L	481.11 ppb	12:49:50
2	Cd 226.502†	47791.1	46942.9	484.61 ug/L	484.61 ppb	12:49:50
2	Co 228.616†	26330.3	25835.6	476.29 ug/L	476.29 ppb	12:50:10
2	Cr 267.716†	48289.4	47164.3	486.12 ug/L	486.12 ppb	12:49:50
2	Cu 324.752†	185294.5	174327.5	484.87 ug/L	484.87 ppb	12:49:50
2	Mn 257.610†	496417.8	484955.0	486.87 ug/L	486.87 ppb	12:49:50
2	Mo 202.031†	7471.9	7302.1	485.75 ug/L	485.75 ppb	12:50:10
2	Ni 231.604†	22036.6	21466.2	478.03 ug/L	478.03 ppb	12:50:10

2	P 214.914†	4853.4	4523.3	2253.9 ug/L	2253.9 ppb	12:50:10
2	Pb 220.353†	4520.1	4500.2	484.41 ug/L	484.41 ppb	12:50:10
2	S 181.975 Axial†	841.8	774.3	945.03 ug/L	945.03 ppb	12:50:10
2	Sb 206.836†	1613.4	1539.4	487.79 ug/L	487.79 ppb	12:50:10
2	Se 196.026†	854.0	861.2	495.90 ug/L	495.90 ppb	12:50:10
2	Si 251.611†	83408.6	81036.2	2406.1 ug/L	2406.1 ppb	12:49:50
2	Sn 189.927†	3065.7	2988.7	483.67 ug/L	483.67 ppb	12:50:10
2	Ti 334.940†	337497.2	331869.9	495.72 ug/L	495.72 ppb	12:49:50
2	Tl 190.801†	1708.5	1715.4	487.38 ug/L	487.38 ppb	12:50:10
2	U 409.014†	12159.9	17005.2	500.65 ug/L	500.65 ppb	12:49:50
2	V 292.402†	72979.4	73124.6	492.96 ug/L	492.96 ppb	12:49:50
2	Zn 213.857†	58813.2	56809.0	477.79 ug/L	477.79 ppb	12:49:50
2	SiO2†	82816.9	80431.0	5115.8 ug/L	5115.8 ppb	12:50:48
3	Sc Radial	4405.4	4405.4	107 %		12:48:53
3	Y RADIAL	4944.4	4944.4	102.1 %		12:48:53
3	Al 396.153Radial†	5961.8	5773.2	4743.1 ug/L	4743.1 ppb	12:48:53
3	Ca 317.933Radial†	2802.9	2611.5	4834.2 ug/L	4834.2 ppb	12:49:13
3	Fe 238.204 Radial†	468.6	428.7	4996.4 ug/L	4996.4 ppb	12:49:13
3	K 766.490 Radial†	29351.6	24862.6	4726.2 ug/L	4726.2 ppb	12:48:53
3	Mg 279.077 IEC†	132.2	123.8	5217.7 ug/L	5217.7 ppb	12:49:13
3	Na 589.592 Radial†	32939.1	32498.8	10015 ug/L	10015 ppb	12:48:53
3	Sr 421.552†	79200.3	74132.2	489.43 ug/L	489.43 ppb	12:48:53
3	Sc 361.383	900833.1	900833.1	101.12 %		12:50:17
3	Y 371.029	730952.9	730952.9	99.551 %		12:50:17
3	Ag 328.068†	112468.3	110594.4	486.95 ug/L	486.95 ppb	12:50:17
3	As 188.979†	1212.9	1228.2	475.98 ug/L	475.98 ppb	12:50:37
3	B 249.677†	22133.5	22648.7	471.37 ug/L	471.37 ppb	12:50:17
3	Ba 233.527†	67475.3	66741.0	489.04 ug/L	489.04 ppb	12:50:17
3	Be 313.107†	1441166.4	1429559.4	480.76 ug/L	480.76 ppb	12:50:17
3	Cd 226.502†	47421.3	47098.6	486.23 ug/L	486.23 ppb	12:50:17
3	Co 228.616†	26242.1	26035.7	479.98 ug/L	479.98 ppb	12:50:37
3	Cr 267.716†	47864.9	47271.4	487.23 ug/L	487.23 ppb	12:50:17
3	Cu 324.752†	182988.4	174068.8	484.15 ug/L	484.15 ppb	12:50:17
3	Mn 257.610†	491613.6	485620.5	487.52 ug/L	487.52 ppb	12:50:17
3	Mo 202.031†	7442.2	7354.3	489.21 ug/L	489.21 ppb	12:50:37
3	Ni 231.604†	21992.9	21663.4	482.43 ug/L	482.43 ppb	12:50:37
3	P 214.914†	4839.7	4562.6	2274.5 ug/L	2274.5 ppb	12:50:37
3	Pb 220.353†	4515.7	4545.1	489.21 ug/L	489.21 ppb	12:50:37
3	S 181.975 Axial†	832.2	774.1	944.76 ug/L	944.76 ppb	12:50:37
3	Sb 206.836†	1628.9	1572.4	497.93 ug/L	497.93 ppb	12:50:37
3	Se 196.026†	849.8	866.3	498.48 ug/L	498.48 ppb	12:50:37
3	Si 251.611†	82500.3	81048.1	2406.5 ug/L	2406.5 ppb	12:50:17
3	Sn 189.927†	3035.4	2992.2	484.21 ug/L	484.21 ppb	12:50:37
3	Ti 334.940†	333897.9	331993.0	495.88 ug/L	495.88 ppb	12:50:17
3	Tl 190.801†	1703.3	1728.8	491.17 ug/L	491.17 ppb	12:50:37
3	U 409.014†	11838.2	16819.8	495.18 ug/L	495.18 ppb	12:50:17
3	V 292.402†	72159.0	73109.6	492.91 ug/L	492.91 ppb	12:50:17
3	Zn 213.857†	58269.9	56913.5	478.65 ug/L	478.65 ppb	12:50:17
3	SiO2†	82591.9	81112.1	5159.2 ug/L	5159.2 ppb	12:50:53

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	890151.9	99.924 %	3.1055			3.11%
Sc Radial	4369.5	106 %	0.8			0.71%
Y 371.029	722153.1	98.353 %	3.0094			3.06%
Y RADIAL	4884.5	100.9 %	1.08			1.07%
Ag 328.068†	112919.7	497.18 ug/L	18.177	497.18 ppb	18.177	3.66%
QC value within limits for Ag 328.068 Recovery = 99.44%						
Al 396.153Radial†	5889.8	4839.1 ug/L	84.23	4839.1 ppb	84.23	1.74%
QC value within limits for Al 396.153Radial Recovery = 96.78%						
As 188.979†	1255.6	486.61 ug/L	14.830	486.61 ppb	14.830	3.05%
QC value within limits for As 188.979 Recovery = 97.32%						
B 249.677†	22990.2	478.48 ug/L	15.071	478.48 ppb	15.071	3.15%
QC value within limits for B 249.677 Recovery = 95.70%						
Ba 233.527†	68173.7	499.54 ug/L	18.656	499.54 ppb	18.656	3.73%
QC value within limits for Ba 233.527 Recovery = 99.91%						
Be 313.107†	1462845.1	491.96 ug/L	19.088	491.96 ppb	19.088	3.88%
QC value within limits for Be 313.107 Recovery = 98.39%						
Ca 317.933Radial†	2661.5	4926.9 ug/L	84.53	4926.9 ppb	84.53	1.72%

QC value within limits for Ca 317.933 Radial Recovery = 98.54%							
Cd	226.502†	48037.0	495.92 ug/L	18.197	495.92 ppb	18.197	3.67%
QC value within limits for Cd 226.502 Recovery = 99.18%							
Co	228.616†	26354.1	485.84 ug/L	13.480	485.84 ppb	13.480	2.77%
QC value within limits for Co 228.616 Recovery = 97.17%							
Cr	267.716†	48333.4	498.17 ug/L	19.921	498.17 ppb	19.921	4.00%
QC value within limits for Cr 267.716 Recovery = 99.63%							
Cu	324.752†	178268.9	495.83 ug/L	19.611	495.83 ppb	19.611	3.96%
QC value within limits for Cu 324.752 Recovery = 99.17%							
Fe	238.204 Radial†	436.3	5085.4 ug/L	90.08	5085.4 ppb	90.08	1.77%
QC value within limits for Fe 238.204 Radial Recovery = 101.71%							
K	766.490 Radial†	25321.5	4813.4 ug/L	75.86	4813.4 ppb	75.86	1.58%
QC value within limits for K 766.490 Radial Recovery = 96.27%							
Mg	279.077 IEC†	122.9	5177.7 ug/L	53.22	5177.7 ppb	53.22	1.03%
QC value within limits for Mg 279.077 IEC Recovery = 103.55%							
Mn	257.610†	496120.8	498.07 ug/L	18.836	498.07 ppb	18.836	3.78%
QC value within limits for Mn 257.610 Recovery = 99.61%							
Mo	202.031†	7450.9	495.63 ug/L	14.234	495.63 ppb	14.234	2.87%
QC value within limits for Mo 202.031 Recovery = 99.13%							
Na	589.592 Radial†	33312.1	10265 ug/L	219.2	10265 ppb	219.2	2.14%
QC value within limits for Na 589.592 Radial Recovery = 102.65%							
Ni	231.604†	21907.0	487.85 ug/L	13.379	487.85 ppb	13.379	2.74%
QC value within limits for Ni 231.604 Recovery = 97.57%							
P	214.914†	4613.1	2298.4 ug/L	60.16	2298.4 ppb	60.16	2.62%
QC value within limits for P 214.914 Recovery = 91.94%							
Pb	220.353†	4588.5	493.88 ug/L	12.487	493.88 ppb	12.487	2.53%
QC value within limits for Pb 220.353 Recovery = 98.78%							
S	181.975 Axial†	788.5	962.32 ug/L	30.183	962.32 ppb	30.183	3.14%
QC value within limits for S 181.975 Axial Recovery = 96.23%							
Sb	206.836†	1579.6	500.37 ug/L	13.956	500.37 ppb	13.956	2.79%
QC value within limits for Sb 206.836 Recovery = 100.07%							
Se	196.026†	875.4	503.83 ug/L	11.579	503.83 ppb	11.579	2.30%
QC value within limits for Se 196.026 Recovery = 100.77%							
Si	251.611†	82828.6	2459.4 ug/L	91.93	2459.4 ppb	91.93	3.74%
QC value within limits for Si 251.611 Recovery = 98.38%							
Sn	189.927†	3036.0	491.30 ug/L	12.749	491.30 ppb	12.749	2.60%
QC value within limits for Sn 189.927 Recovery = 98.26%							
Sr	421.552†	75918.2	501.22 ug/L	10.228	501.22 ppb	10.228	2.04%
QC value within limits for Sr 421.552 Recovery = 100.24%							
Ti	334.940†	339399.8	506.96 ug/L	19.321	506.96 ppb	19.321	3.81%
QC value within limits for Ti 334.940 Recovery = 101.39%							
Tl	190.801†	1749.4	497.06 ug/L	13.613	497.06 ppb	13.613	2.74%
QC value within limits for Tl 190.801 Recovery = 99.41%							
U	409.014†	17198.2	506.32 ug/L	14.822	506.32 ppb	14.822	2.93%
QC value within limits for U 409.014 Recovery = 101.26%							
V	292.402†	74772.3	504.05 ug/L	19.262	504.05 ppb	19.262	3.82%
QC value within limits for V 292.402 Recovery = 100.81%							
Zn	213.857†	58144.3	489.04 ug/L	18.742	489.04 ppb	18.742	3.83%
QC value within limits for Zn 213.857 Recovery = 97.81%							
SiO2†		82708.4	5260.8 ug/L	214.64	5260.8 ppb	214.64	4.08%
QC value within limits for SiO2 Recovery = 98.38%							
All analyte(s) passed QC.							

Sequence No.: 20

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 12:53:02

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4167.1	4167.1	101 %		12:55:15
1	Y RADIAL	4891.2	4891.2	101.0 %		12:54:55
1	Al 396.153Radial†	-189.3	2.7	2.2497 ug/L	2.2497 ppb	12:54:55
1	Ca 317.933Radial†	17.2	3.7	6.8320 ug/L	6.8320 ppb	12:55:15
1	Fe 238.204 Radial†	10.3	0.1	1.2330 ug/L	1.2330 ppb	12:55:15
1	K 766.490 Radial†	2773.8	121.8	23.179 ug/L	23.179 ppb	12:54:55
1	Mg 279.077 IEC†	1.5	1.6	66.564 ug/L	66.564 ppb	12:55:15
1	Na 589.592 Radial†	-1616.3	52.1	16.064 ug/L	16.064 ppb	12:54:55
1	Sr 421.552†	28.3	-8.5	-0.0560 ug/L	-0.0560 ppb	12:54:55
1	Sc 361.383	921617.4	921617.4	103.46 %		12:56:12
1	Y 371.029	758801.7	758801.7	103.34 %		12:56:12
1	Ag 328.068†	641.6	-4.4	-0.0372 ug/L	-0.0372 ppb	12:56:17
1	As 188.979†	-23.7	5.8	2.2498 ug/L	2.2498 ppb	12:56:37
1	B 249.677†	-486.5	290.9	6.0815 ug/L	6.0815 ppb	12:56:37
1	Ba 233.527†	-5.4	10.1	0.0766 ug/L	0.0766 ppb	12:56:37
1	Be 313.107†	-4208.6	335.0	0.1132 ug/L	0.1132 ppb	12:56:17
1	Cd 226.502†	-211.5	-0.4	0.0016 ug/L	0.0016 ppb	12:56:37
1	Co 228.616†	-86.8	1.3	0.0225 ug/L	0.0225 ppb	12:56:37
1	Cr 267.716†	68.0	3.9	0.0305 ug/L	0.0305 ppb	12:56:17
1	Cu 324.752†	6775.4	-337.8	-0.9552 ug/L	-0.9552 ppb	12:56:17
1	Mn 257.610†	507.7	-41.0	-0.0438 ug/L	-0.0438 ppb	12:56:37
1	Mo 202.031†	5.0	-0.4	-0.0279 ug/L	-0.0279 ppb	12:56:37
1	Ni 231.604†	88.5	0.3	0.0077 ug/L	0.0077 ppb	12:56:37
1	P 214.914†	230.9	-0.0	0.1661 ug/L	0.1661 ppb	12:56:37
1	Pb 220.353†	-62.3	19.4	2.0790 ug/L	2.0790 ppb	12:56:37
1	S 181.975 Axial†	55.6	4.9	5.9832 ug/L	5.9832 ppb	12:56:37
1	Sb 206.836†	33.0	-6.5	-1.9791 ug/L	-1.9791 ppb	12:56:37
1	Se 196.026†	-18.6	7.9	4.4103 ug/L	4.4103 ppb	12:56:37
1	Si 251.611†	494.9	-57.3	-1.7066 ug/L	-1.7066 ppb	12:56:37
1	Sn 189.927†	10.8	1.0	0.1650 ug/L	0.1650 ppb	12:56:37
1	Ti 334.940†	-1636.3	222.7	0.3158 ug/L	0.3158 ppb	12:56:17
1	Tl 190.801†	-35.8	9.9	2.7855 ug/L	2.7855 ppb	12:56:37
1	U 409.014†	-4299.8	956.9	28.266 ug/L	28.266 ppb	12:56:12
1	V 292.402†	-1626.9	179.7	1.2496 ug/L	1.2496 ppb	12:56:17
1	Zn 213.857†	747.7	13.6	0.1165 ug/L	0.1165 ppb	12:56:37
1	SiO2†	506.3	-72.8	-4.6442 ug/L	-4.6442 ppb	12:57:43
2	Sc Radial	4194.4	4194.4	102 %		12:55:40
2	Y RADIAL	4849.9	4849.9	100.2 %		12:55:20
2	Al 396.153Radial†	-190.7	2.5	2.0879 ug/L	2.0879 ppb	12:55:20
2	Ca 317.933Radial†	19.3	5.6	10.403 ug/L	10.403 ppb	12:55:40
2	Fe 238.204 Radial†	10.7	0.4	4.8848 ug/L	4.8848 ppb	12:55:40
2	K 766.490 Radial†	2799.0	128.7	24.464 ug/L	24.464 ppb	12:55:20
2	Mg 279.077 IEC†	3.5	3.5	146.58 ug/L	146.58 ppb	12:55:40
2	Na 589.592 Radial†	-1486.8	189.9	58.518 ug/L	58.518 ppb	12:55:20
2	Sr 421.552†	30.9	-6.1	-0.0401 ug/L	-0.0401 ppb	12:55:20
2	Sc 361.383	920753.8	920753.8	103.36 %		12:56:42
2	Y 371.029	757096.3	757096.3	103.11 %		12:56:42
2	Ag 328.068†	527.7	-114.0	-0.5136 ug/L	-0.5136 ppb	12:56:47
2	As 188.979†	-22.3	7.2	2.7623 ug/L	2.7623 ppb	12:57:07
2	B 249.677†	-536.4	242.1	5.0611 ug/L	5.0611 ppb	12:57:07
2	Ba 233.527†	-8.9	6.7	0.0508 ug/L	0.0508 ppb	12:57:07
2	Be 313.107†	-4187.0	352.1	0.1188 ug/L	0.1188 ppb	12:56:47
2	Cd 226.502†	-189.0	21.3	0.2241 ug/L	0.2241 ppb	12:57:07
2	Co 228.616†	-89.9	-1.8	-0.0338 ug/L	-0.0338 ppb	12:57:07
2	Cr 267.716†	67.1	3.1	0.0234 ug/L	0.0234 ppb	12:56:47
2	Cu 324.752†	6611.1	-490.6	-1.3776 ug/L	-1.3776 ppb	12:56:47
2	Mn 257.610†	535.5	-13.7	-0.0193 ug/L	-0.0193 ppb	12:57:07
2	Mo 202.031†	10.5	4.9	0.3267 ug/L	0.3267 ppb	12:57:07
2	Ni 231.604†	99.4	11.0	0.2453 ug/L	0.2453 ppb	12:57:07

2	P 214.914†	233.4	2.5	1.6006 ug/L	1.6006 ppb	12:57:07
2	Pb 220.353†	-70.3	11.6	1.2465 ug/L	1.2465 ppb	12:57:07
2	S 181.975 Axial†	57.0	6.3	7.7022 ug/L	7.7022 ppb	12:57:07
2	Sb 206.836†	44.6	4.7	1.4571 ug/L	1.4571 ppb	12:57:07
2	Se 196.026†	-28.3	-1.4	-0.7534 ug/L	-0.7534 ppb	12:57:07
2	Si 251.611†	494.0	-57.8	-1.7238 ug/L	-1.7238 ppb	12:57:07
2	Sn 189.927†	17.0	7.1	1.1416 ug/L	1.1416 ppb	12:57:07
2	Ti 334.940†	-1665.1	193.4	0.2679 ug/L	0.2679 ppb	12:56:47
2	Tl 190.801†	-25.7	19.6	5.5297 ug/L	5.5297 ppb	12:57:07
2	U 409.014†	-4446.2	811.4	23.966 ug/L	23.966 ppb	12:56:42
2	V 292.402†	-1691.9	115.2	0.8190 ug/L	0.8190 ppb	12:56:47
2	Zn 213.857†	758.2	24.4	0.2071 ug/L	0.2071 ppb	12:57:07
2	SiO2†	519.1	-60.0	-3.8378 ug/L	-3.8378 ppb	12:57:48
3	Sc Radial	4175.4	4175.4	101 %		12:56:05
3	Y RADIAL	4960.3	4960.3	102.5 %		12:55:45
3	Al 396.153Radial†	-181.2	11.1	9.1237 ug/L	9.1237 ppb	12:55:45
3	Ca 317.933Radial†	23.6	10.0	18.553 ug/L	18.553 ppb	12:56:05
3	Fe 238.204 Radial†	10.5	0.3	3.4989 ug/L	3.4989 ppb	12:56:05
3	K 766.490 Radial†	2725.0	68.1	12.946 ug/L	12.946 ppb	12:55:45
3	Mg 279.077 IEC†	1.3	1.4	58.232 ug/L	58.232 ppb	12:56:05
3	Na 589.592 Radial†	-1589.6	81.7	25.172 ug/L	25.172 ppb	12:55:45
3	Sr 421.552†	3.2	-33.2	-0.2196 ug/L	-0.2196 ppb	12:55:45
3	Sc 361.383	912583.9	912583.9	102.44 %		12:57:12
3	Y 371.029	750268.6	750268.6	102.18 %		12:57:12
3	Ag 328.068†	540.1	-97.3	-0.4399 ug/L	-0.4399 ppb	12:57:18
3	As 188.979†	-35.9	-6.3	-2.4321 ug/L	-2.4321 ppb	12:57:38
3	B 249.677†	-541.4	232.6	4.8631 ug/L	4.8631 ppb	12:57:38
3	Ba 233.527†	-15.1	0.6	0.0050 ug/L	0.0050 ppb	12:57:38
3	Be 313.107†	-4106.6	394.4	0.1332 ug/L	0.1332 ppb	12:57:18
3	Cd 226.502†	-182.5	26.0	0.2718 ug/L	0.2718 ppb	12:57:38
3	Co 228.616†	-82.7	4.5	0.0835 ug/L	0.0835 ppb	12:57:38
3	Cr 267.716†	89.0	25.0	0.2500 ug/L	0.2500 ppb	12:57:18
3	Cu 324.752†	6709.3	-337.5	-0.9498 ug/L	-0.9498 ppb	12:57:18
3	Mn 257.610†	521.2	-23.0	-0.0251 ug/L	-0.0251 ppb	12:57:38
3	Mo 202.031†	20.0	14.3	0.9479 ug/L	0.9479 ppb	12:57:38
3	Ni 231.604†	90.0	2.7	0.0592 ug/L	0.0592 ppb	12:57:38
3	P 214.914†	234.0	5.1	2.8577 ug/L	2.8577 ppb	12:57:38
3	Pb 220.353†	-63.4	17.8	1.9113 ug/L	1.9113 ppb	12:57:38
3	S 181.975 Axial†	49.4	-0.6	-0.7571 ug/L	-0.7571 ppb	12:57:38
3	Sb 206.836†	36.6	-2.7	-0.7971 ug/L	-0.7971 ppb	12:57:38
3	Se 196.026†	-24.4	2.1	1.1812 ug/L	1.1812 ppb	12:57:38
3	Si 251.611†	494.4	-53.1	-1.5932 ug/L	-1.5932 ppb	12:57:38
3	Sn 189.927†	15.4	5.6	0.9131 ug/L	0.9131 ppb	12:57:38
3	Ti 334.940†	-1595.7	246.7	0.3572 ug/L	0.3572 ppb	12:57:18
3	Tl 190.801†	-46.4	-0.8	-0.2302 ug/L	-0.2302 ppb	12:57:38
3	U 409.014†	-4527.5	693.5	20.485 ug/L	20.485 ppb	12:57:12
3	V 292.402†	-1736.6	57.0	0.4316 ug/L	0.4316 ppb	12:57:18
3	Zn 213.857†	751.4	24.4	0.2073 ug/L	0.2073 ppb	12:57:38
3	SiO2†	525.7	-49.1	-3.1566 ug/L	-3.1566 ppb	12:57:53

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	918318.4	103.09 %		0.560				0.54%
Sc Radial	4178.9	101 %		0.3				0.34%
Y 371.029	755388.8	102.88 %		0.615				0.60%
Y RADIAL	4900.5	101.2 %		1.15				1.14%
Ag 328.068†	-71.9	-0.3302 ug/L		0.25647	-0.3302 ppb		0.25647	77.66%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	5.5	4.4871 ug/L		4.01622	4.4871 ppb		4.01622	89.51%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	2.2	0.8600 ug/L		2.86253	0.8600 ppb		2.86253	332.85%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	255.2	5.3352 ug/L		0.65384	5.3352 ppb		0.65384	12.26%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	5.8	0.0441 ug/L		0.03628	0.0441 ppb		0.03628	82.19%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	360.5	0.1217 ug/L		0.01032	0.1217 ppb		0.01032	8.48%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	6.4	11.929 ug/L		6.0076	11.929 ppb		6.0076	50.36%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	15.6	0.1658 ug/L	0.14421	0.1658 ppb	0.14421	86.96%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	1.3	0.0240 ug/L	0.05864	0.0240 ppb	0.05864	243.88%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	10.7	0.1013 ug/L	0.12886	0.1013 ppb	0.12886	127.19%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-388.6	-1.0942 ug/L	0.24542	-1.0942 ppb	0.24542	22.43%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.3	3.2056 ug/L	1.84350	3.2056 ppb	1.84350	57.51%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	106.2	20.196 ug/L	6.3121	20.196 ppb	6.3121	31.25%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.1	90.458 ug/L	48.7809	90.458 ppb	48.7809	53.93%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-25.9	-0.0294 ug/L	0.01280	-0.0294 ppb	0.01280	43.54%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	6.2	0.4156 ug/L	0.49396	0.4156 ppb	0.49396	118.87%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	107.9	33.251 ug/L	22.3503	33.251 ppb	22.3503	67.22%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	4.7	0.1041 ug/L	0.12497	0.1041 ppb	0.12497	120.10%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	2.5	1.5415 ug/L	1.34674	1.5415 ppb	1.34674	87.37%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	16.2	1.7456 ug/L	0.44025	1.7456 ppb	0.44025	25.22%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	3.5	4.3094 ug/L	4.47110	4.3094 ppb	4.47110	103.75%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	-1.5	-0.4397 ug/L	1.74572	-0.4397 ppb	1.74572	397.03%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	2.9	1.6127 ug/L	2.60876	1.6127 ppb	2.60876	161.76%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-56.1	-1.6745 ug/L	0.07097	-1.6745 ppb	0.07097	4.24%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	4.6	0.7399 ug/L	0.51083	0.7399 ppb	0.51083	69.04%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-15.9	-0.1052 ug/L	0.09940	-0.1052 ppb	0.09940	94.47%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	220.9	0.3136 ug/L	0.04473	0.3136 ppb	0.04473	14.26%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	9.5	2.6950 ug/L	2.88102	2.6950 ppb	2.88102	106.90%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	820.6	24.239 ug/L	3.8973	24.239 ppb	3.8973	16.08%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	117.3	0.8334 ug/L	0.40919	0.8334 ppb	0.40919	49.10%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	20.8	0.1770 ug/L	0.05234	0.1770 ppb	0.05234	29.57%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-60.7	-3.8795 ug/L	0.74470	-3.8795 ppb	0.74470	19.20%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 14:11:43

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4180.5	4180.5	101 %		14:13:56
1	Y RADIAL	4842.6	4842.6	100.0 %		14:13:36
1	Al 396.153Radial†	6113.5	6223.2	5115.2 ug/L	5115.2 ppb	14:13:36
1	Ca 317.933Radial†	2895.5	2844.1	5264.8 ug/L	5264.8 ppb	14:13:56
1	Fe 238.204 Radial†	477.0	460.6	5366.9 ug/L	5366.9 ppb	14:13:56
1	K 766.490 Radial†	30144.3	27123.3	5156.1 ug/L	5156.1 ppb	14:13:36
1	Mg 279.077 IEC†	128.7	127.1	5353.6 ug/L	5353.6 ppb	14:13:56
1	Na 589.592 Radial†	33805.4	35012.7	10789 ug/L	10789 ppb	14:13:36
1	Sr 421.552†	81251.8	80145.9	529.13 ug/L	529.13 ppb	14:13:36
1	Sc 361.383	927392.8	927392.8	104.10 %		14:14:55
1	Y 371.029	752959.8	752959.8	102.55 %		14:14:55
1	Ag 328.068†	113342.9	108249.3	476.77 ug/L	476.77 ppb	14:14:55
1	As 188.979†	1237.7	1217.7	471.97 ug/L	471.97 ppb	14:15:15
1	B 249.677†	22021.4	21914.2	455.98 ug/L	455.98 ppb	14:14:55
1	Ba 233.527†	68092.7	65423.1	479.40 ug/L	479.40 ppb	14:14:55
1	Be 313.107†	1451990.3	1399141.4	470.53 ug/L	470.53 ppb	14:14:55
1	Cd 226.502†	48017.2	46328.0	478.23 ug/L	478.23 ppb	14:14:55
1	Co 228.616†	26438.1	25480.8	469.75 ug/L	469.75 ppb	14:15:15
1	Cr 267.716†	48266.0	46301.1	477.23 ug/L	477.23 ppb	14:14:55
1	Cu 324.752†	183377.6	169260.2	470.79 ug/L	470.79 ppb	14:14:55
1	Mn 257.610†	495675.9	475599.7	477.50 ug/L	477.50 ppb	14:14:55
1	Mo 202.031†	7482.5	7182.2	477.80 ug/L	477.80 ppb	14:15:15
1	Ni 231.604†	22180.3	21220.6	472.56 ug/L	472.56 ppb	14:15:15
1	P 214.914†	4899.9	4483.5	2235.8 ug/L	2235.8 ppb	14:15:15
1	Pb 220.353†	4545.2	4445.7	478.57 ug/L	478.57 ppb	14:15:15
1	S 181.975 Axial†	823.0	741.7	905.09 ug/L	905.09 ppb	14:15:15
1	Sb 206.836†	1593.8	1492.5	473.11 ug/L	473.11 ppb	14:15:15
1	Se 196.026†	842.6	835.3	482.50 ug/L	482.50 ppb	14:15:15
1	Si 251.611†	83114.4	79301.5	2354.6 ug/L	2354.6 ppb	14:14:55
1	Sn 189.927†	3044.3	2914.8	471.78 ug/L	471.78 ppb	14:15:15
1	Ti 334.940†	335703.9	324271.5	484.40 ug/L	484.40 ppb	14:14:55
1	Tl 190.801†	1701.7	1679.1	477.04 ug/L	477.04 ppb	14:15:15
1	U 409.014†	12028.9	16667.7	490.67 ug/L	490.67 ppb	14:14:55
1	V 292.402†	72759.9	71643.2	482.95 ug/L	482.95 ppb	14:14:55
1	Zn 213.857†	58785.7	55758.7	468.90 ug/L	468.90 ppb	14:14:55
1	SiO2†	83716.3	79853.1	5079.2 ug/L	5079.2 ppb	14:16:15
2	Sc Radial	4157.4	4157.4	101 %		14:14:21
2	Y RADIAL	4790.4	4790.4	98.95 %		14:14:01
2	Al 396.153Radial†	5964.0	6108.3	5020.0 ug/L	5020.0 ppb	14:14:01
2	Ca 317.933Radial†	2876.3	2840.9	5258.8 ug/L	5258.8 ppb	14:14:21
2	Fe 238.204 Radial†	479.8	466.0	5429.5 ug/L	5429.5 ppb	14:14:21
2	K 766.490 Radial†	29654.6	26802.5	5095.1 ug/L	5095.1 ppb	14:14:01
2	Mg 279.077 IEC†	131.0	130.0	5478.5 ug/L	5478.5 ppb	14:14:21
2	Na 589.592 Radial†	33303.2	34699.7	10693 ug/L	10693 ppb	14:14:01
2	Sr 421.552†	79771.2	79122.2	522.38 ug/L	522.38 ppb	14:14:01
2	Sc 361.383	915553.4	915553.4	102.78 %		14:15:22
2	Y 371.029	741342.4	741342.4	100.97 %		14:15:22
2	Ag 328.068†	113693.9	109998.7	484.48 ug/L	484.48 ppb	14:15:22
2	As 188.979†	1235.6	1231.0	477.15 ug/L	477.15 ppb	14:15:42
2	B 249.677†	22230.7	22391.4	465.92 ug/L	465.92 ppb	14:15:22
2	Ba 233.527†	68673.9	66834.4	489.74 ug/L	489.74 ppb	14:15:22
2	Be 313.107†	1461365.9	1426299.7	479.67 ug/L	479.67 ppb	14:15:22
2	Cd 226.502†	48354.1	47252.2	487.77 ug/L	487.77 ppb	14:15:22
2	Co 228.616†	26551.2	25919.2	477.82 ug/L	477.82 ppb	14:15:42
2	Cr 267.716†	48670.1	47293.8	487.47 ug/L	487.47 ppb	14:15:22
2	Cu 324.752†	184835.4	172956.4	481.07 ug/L	481.07 ppb	14:15:22
2	Mn 257.610†	500254.1	486211.3	488.15 ug/L	488.15 ppb	14:15:22
2	Mo 202.031†	7501.2	7293.4	485.20 ug/L	485.20 ppb	14:15:42
2	Ni 231.604†	22250.4	21564.3	480.22 ug/L	480.22 ppb	14:15:42



2	P 214.914†	4902.2	4546.5	2266.5 ug/L	2266.5 ppb	14:15:42
2	Pb 220.353†	4539.8	4496.9	484.05 ug/L	484.05 ppb	14:15:42
2	S 181.975 Axial†	817.8	746.8	911.35 ug/L	911.35 ppb	14:15:42
2	Sb 206.836†	1608.9	1527.0	483.91 ug/L	483.91 ppb	14:15:42
2	Se 196.026†	852.7	855.6	493.98 ug/L	493.98 ppb	14:15:42
2	Si 251.611†	83707.2	80910.7	2402.4 ug/L	2402.4 ppb	14:15:22
2	Sn 189.927†	3051.4	2959.5	479.00 ug/L	479.00 ppb	14:15:42
2	Ti 334.940†	338447.8	331111.3	494.60 ug/L	494.60 ppb	14:15:22
2	Tl 190.801†	1711.6	1709.9	485.82 ug/L	485.82 ppb	14:15:42
2	U 409.014†	12041.8	16829.6	495.42 ug/L	495.42 ppb	14:15:22
2	V 292.402†	73291.9	73064.6	492.50 ug/L	492.50 ppb	14:15:22
2	Zn 213.857†	59178.3	56870.8	478.27 ug/L	478.27 ppb	14:15:22
2	SiO2†	83093.5	80287.0	5106.7 ug/L	5106.7 ppb	14:16:20
3	Sc Radial	4205.0	4205.0	102 %		14:14:46
3	Y RADIAL	4870.2	4870.2	100.6 %		14:14:26
3	Al 396.153Radial†	6060.3	6135.8	5042.7 ug/L	5042.7 ppb	14:14:26
3	Ca 317.933Radial†	2870.0	2802.5	5187.7 ug/L	5187.7 ppb	14:14:46
3	Fe 238.204 Radial†	475.2	456.1	5315.0 ug/L	5315.0 ppb	14:14:46
3	K 766.490 Radial†	29986.8	26795.7	5093.8 ug/L	5093.8 ppb	14:14:26
3	Mg 279.077 IEC†	133.7	131.2	5528.2 ug/L	5528.2 ppb	14:14:46
3	Na 589.592 Radial†	33560.2	34578.1	10655 ug/L	10655 ppb	14:14:26
3	Sr 421.552†	80769.2	79206.2	522.93 ug/L	522.93 ppb	14:14:26
3	Sc 361.383	917204.4	917204.4	102.96 %		14:15:50
3	Y 371.029	742712.8	742712.8	101.15 %		14:15:50
3	Ag 328.068†	114406.9	110492.0	486.60 ug/L	486.60 ppb	14:15:50
3	As 188.979†	1244.7	1237.6	479.70 ug/L	479.70 ppb	14:16:10
3	B 249.677†	22327.0	22446.0	467.08 ug/L	467.08 ppb	14:15:50
3	Ba 233.527†	68810.4	66846.7	489.83 ug/L	489.83 ppb	14:15:50
3	Be 313.107†	1465998.1	1428239.2	480.32 ug/L	480.32 ppb	14:15:50
3	Cd 226.502†	48584.4	47391.3	489.22 ug/L	489.22 ppb	14:15:50
3	Co 228.616†	26632.0	25951.2	478.42 ug/L	478.42 ppb	14:16:10
3	Cr 267.716†	48797.2	47332.0	487.86 ug/L	487.86 ppb	14:15:50
3	Cu 324.752†	186087.0	173848.3	483.55 ug/L	483.55 ppb	14:15:50
3	Mn 257.610†	501527.6	486572.0	488.50 ug/L	488.50 ppb	14:15:50
3	Mo 202.031†	7533.1	7311.2	486.37 ug/L	486.37 ppb	14:16:10
3	Ni 231.604†	22275.9	21550.1	479.90 ug/L	479.90 ppb	14:16:10
3	P 214.914†	4929.6	4564.6	2275.5 ug/L	2275.5 ppb	14:16:10
3	Pb 220.353†	4561.3	4509.8	485.45 ug/L	485.45 ppb	14:16:10
3	S 181.975 Axial†	823.0	750.5	915.85 ug/L	915.85 ppb	14:16:10
3	Sb 206.836†	1617.1	1532.2	485.54 ug/L	485.54 ppb	14:16:10
3	Se 196.026†	860.9	862.1	497.22 ug/L	497.22 ppb	14:16:10
3	Si 251.611†	84172.0	81215.5	2411.5 ug/L	2411.5 ppb	14:15:50
3	Sn 189.927†	3063.4	2965.8	480.00 ug/L	480.00 ppb	14:16:10
3	Ti 334.940†	340044.8	332069.6	496.02 ug/L	496.02 ppb	14:15:50
3	Tl 190.801†	1706.7	1702.0	483.62 ug/L	483.62 ppb	14:16:10
3	U 409.014†	12169.3	16932.4	498.47 ug/L	498.47 ppb	14:15:50
3	V 292.402†	73657.1	73290.9	494.04 ug/L	494.04 ppb	14:15:50
3	Zn 213.857†	59372.6	56955.9	479.00 ug/L	479.00 ppb	14:15:50
3	SiO2†	82711.1	79770.1	5073.7 ug/L	5073.7 ppb	14:16:26

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	920050.2	103.28 %	0.720			0.70%
Sc Radial	4181.0	101 %	0.6			0.57%
Y 371.029	745671.7	101.56 %	0.865			0.85%
Y RADIAL	4834.4	99.86 %	0.837			0.84%
Ag 328.068†	109580.0	482.61 ug/L	5.174	482.61 ppb	5.174	1.07%
QC value within limits for Ag 328.068 Recovery = 96.52%						
Al 396.153Radial†	6155.8	5059.3 ug/L	49.73	5059.3 ppb	49.73	0.98%
QC value within limits for Al 396.153Radial Recovery = 101.19%						
As 188.979†	1228.8	476.27 ug/L	3.938	476.27 ppb	3.938	0.83%
QC value within limits for As 188.979 Recovery = 95.25%						
B 249.677†	22250.5	463.00 ug/L	6.103	463.00 ppb	6.103	1.32%
QC value within limits for B 249.677 Recovery = 92.60%						
Ba 233.527†	66368.1	486.32 ug/L	5.995	486.32 ppb	5.995	1.23%
QC value within limits for Ba 233.527 Recovery = 97.26%						
Be 313.107†	1417893.5	476.84 ug/L	5.473	476.84 ppb	5.473	1.15%
QC value within limits for Be 313.107 Recovery = 95.37%						
Ca 317.933Radial†	2829.1	5237.1 ug/L	42.88	5237.1 ppb	42.88	0.82%



QC value within limits for Ca 317.933Radial Recovery = 104.74%							
Cd 226.502†	46990.5	485.07 ug/L	5.971	485.07 ppb	5.971	1.23%	
QC value within limits for Cd 226.502 Recovery = 97.01%							
Co 228.616†	25783.8	475.33 ug/L	4.843	475.33 ppb	4.843	1.02%	
QC value within limits for Co 228.616 Recovery = 95.07%							
Cr 267.716†	46975.6	484.19 ug/L	6.024	484.19 ppb	6.024	1.24%	
QC value within limits for Cr 267.716 Recovery = 96.84%							
Cu 324.752†	172021.6	478.47 ug/L	6.764	478.47 ppb	6.764	1.41%	
QC value within limits for Cu 324.752 Recovery = 95.69%							
Fe 238.204 Radial†	460.9	5370.5 ug/L	57.35	5370.5 ppb	57.35	1.07%	
QC value within limits for Fe 238.204 Radial Recovery = 107.41%							
K 766.490 Radial†	26907.2	5115.0 ug/L	35.60	5115.0 ppb	35.60	0.70%	
QC value within limits for K 766.490 Radial Recovery = 102.30%							
Mg 279.077 IEC†	129.4	5453.4 ug/L	89.96	5453.4 ppb	89.96	1.65%	
QC value within limits for Mg 279.077 IEC Recovery = 109.07%							
Mn 257.610†	482794.3	484.71 ug/L	6.251	484.71 ppb	6.251	1.29%	
QC value within limits for Mn 257.610 Recovery = 96.94%							
Mo 202.031†	7262.3	483.12 ug/L	4.646	483.12 ppb	4.646	0.96%	
QC value within limits for Mo 202.031 Recovery = 96.62%							
Na 589.592 Radial†	34763.5	10712 ug/L	69.1	10712 ppb	69.1	0.64%	
QC value within limits for Na 589.592 Radial Recovery = 107.12%							
Ni 231.604†	21445.0	477.56 ug/L	4.331	477.56 ppb	4.331	0.91%	
QC value within limits for Ni 231.604 Recovery = 95.51%							
P 214.914†	4531.5	2259.2 ug/L	20.81	2259.2 ppb	20.81	0.92%	
QC value within limits for P 214.914 Recovery = 90.37%							
Pb 220.353†	4484.1	482.69 ug/L	3.637	482.69 ppb	3.637	0.75%	
QC value within limits for Pb 220.353 Recovery = 96.54%							
S 181.975 Axial†	746.3	910.77 ug/L	5.405	910.77 ppb	5.405	0.59%	
QC value within limits for S 181.975 Axial Recovery = 91.08%							
Sb 206.836†	1517.2	480.86 ug/L	6.753	480.86 ppb	6.753	1.40%	
QC value within limits for Sb 206.836 Recovery = 96.17%							
Se 196.026†	851.0	491.23 ug/L	7.733	491.23 ppb	7.733	1.57%	
QC value within limits for Se 196.026 Recovery = 98.25%							
Si 251.611†	80475.9	2389.5 ug/L	30.55	2389.5 ppb	30.55	1.28%	
QC value within limits for Si 251.611 Recovery = 95.58%							
Sn 189.927†	2946.7	476.93 ug/L	4.487	476.93 ppb	4.487	0.94%	
QC value within limits for Sn 189.927 Recovery = 95.39%							
Sr 421.552†	79491.4	524.81 ug/L	3.752	524.81 ppb	3.752	0.72%	
QC value within limits for Sr 421.552 Recovery = 104.96%							
Ti 334.940†	329150.8	491.67 ug/L	6.339	491.67 ppb	6.339	1.29%	
QC value within limits for Ti 334.940 Recovery = 98.33%							
Tl 190.801†	1697.0	482.16 ug/L	4.566	482.16 ppb	4.566	0.95%	
QC value within limits for Tl 190.801 Recovery = 96.43%							
U 409.014†	16809.9	494.85 ug/L	3.931	494.85 ppb	3.931	0.79%	
QC value within limits for U 409.014 Recovery = 98.97%							
V 292.402†	72666.2	489.83 ug/L	6.008	489.83 ppb	6.008	1.23%	
QC value within limits for V 292.402 Recovery = 97.97%							
Zn 213.857†	56528.5	475.39 ug/L	5.631	475.39 ppb	5.631	1.18%	
QC value within limits for Zn 213.857 Recovery = 95.08%							
SiO2†	79970.1	5086.5 ug/L	17.67	5086.5 ppb	17.67	0.35%	
QC value within limits for SiO2 Recovery = 95.12%							
All analyte(s) passed QC.							

Sequence No.: 12

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 14:18:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4374.4	4374.4	106 %		14:20:28
1	Y RADIAL	4951.8	4951.8	102.3 %		14:20:28
1	Al 396.153Radial†	-217.3	-14.8	-12.220 ug/L	-12.220 ppb	14:20:28
1	Ca 317.933Radial†	27.7	12.8	23.717 ug/L	23.717 ppb	14:20:48
1	Fe 238.204 Radial†	15.1	4.1	47.803 ug/L	47.803 ppb	14:20:48
1	K 766.490 Radial†	2652.1	-123.2	-23.472 ug/L	-23.472 ppb	14:20:28
1	Mg 279.077 IEC†	2.5	2.4	102.00 ug/L	102.00 ppb	14:20:48
1	Na 589.592 Radial†	-1558.2	182.7	56.303 ug/L	56.303 ppb	14:20:28
1	Sr 421.552†	9.7	-27.3	-0.1802 ug/L	-0.1802 ppb	14:20:28
1	Sc 361.383	889564.5	889564.5	99.858 %		14:21:45
1	Y 371.029	735982.5	735982.5	100.24 %		14:21:45
1	Ag 328.068†	504.6	-119.2	-0.5156 ug/L	-0.5156 ppb	14:21:45
1	As 188.979†	-27.0	1.7	0.6717 ug/L	0.6717 ppb	14:22:05
1	B 249.677†	-522.5	237.9	4.9652 ug/L	4.9652 ppb	14:22:05
1	Ba 233.527†	-21.1	-5.9	-0.0393 ug/L	-0.0393 ppb	14:22:05
1	Be 313.107†	-4160.9	236.3	0.0800 ug/L	0.0800 ppb	14:21:45
1	Cd 226.502†	-184.9	19.0	0.1940 ug/L	0.1940 ppb	14:22:05
1	Co 228.616†	-73.9	11.1	0.2028 ug/L	0.2028 ppb	14:22:05
1	Cr 267.716†	90.5	28.8	0.2929 ug/L	0.2929 ppb	14:21:45
1	Cu 324.752†	6632.3	-245.1	-0.6879 ug/L	-0.6879 ppb	14:21:45
1	Mn 257.610†	467.6	-63.5	-0.0632 ug/L	-0.0632 ppb	14:22:05
1	Mo 202.031†	1.5	-3.7	-0.2437 ug/L	-0.2437 ppb	14:22:05
1	Ni 231.604†	85.7	0.7	0.0146 ug/L	0.0146 ppb	14:22:05
1	P 214.914†	226.3	3.4	1.8491 ug/L	1.8491 ppb	14:22:05
1	Pb 220.353†	-60.6	19.0	2.0274 ug/L	2.0274 ppb	14:22:05
1	S 181.975 Axial†	43.6	-5.2	-6.3544 ug/L	-6.3544 ppb	14:22:05
1	Sb 206.836†	46.3	8.0	2.4398 ug/L	2.4398 ppb	14:22:05
1	Se 196.026†	-25.2	0.7	0.5631 ug/L	0.5631 ppb	14:22:05
1	Si 251.611†	488.1	-47.0	-1.3945 ug/L	-1.3945 ppb	14:22:05
1	Sn 189.927†	13.5	4.1	0.6606 ug/L	0.6606 ppb	14:22:05
1	Ti 334.940†	-1575.4	226.7	0.3266 ug/L	0.3266 ppb	14:21:45
1	Tl 190.801†	-40.0	4.4	1.2552 ug/L	1.2552 ppb	14:22:05
1	U 409.014†	-4575.3	531.3	15.686 ug/L	15.686 ppb	14:21:45
1	V 292.402†	-1610.1	139.8	0.9513 ug/L	0.9513 ppb	14:21:45
1	Zn 213.857†	797.9	89.9	0.7590 ug/L	0.7590 ppb	14:22:05
1	SiO2†	499.9	-61.7	-3.9253 ug/L	-3.9253 ppb	14:23:01
2	Sc Radial	4460.3	4460.3	108 %		14:20:53
2	Y RADIAL	5022.1	5022.1	103.7 %		14:20:53
2	Al 396.153Radial†	-208.5	-2.7	-2.2426 ug/L	-2.2426 ppb	14:20:53
2	Ca 317.933Radial†	23.3	8.2	15.175 ug/L	15.175 ppb	14:21:13
2	Fe 238.204 Radial†	11.0	0.0	0.3843 ug/L	0.3843 ppb	14:21:13
2	K 766.490 Radial†	2557.5	-258.8	-49.291 ug/L	-49.291 ppb	14:20:53
2	Mg 279.077 IEC†	6.1	5.7	241.59 ug/L	241.59 ppb	14:21:13
2	Na 589.592 Radial†	-1547.8	220.6	67.987 ug/L	67.987 ppb	14:20:53
2	Sr 421.552†	18.2	-19.7	-0.1299 ug/L	-0.1299 ppb	14:20:53
2	Sc 361.383	902955.6	902955.6	101.36 %		14:22:10
2	Y 371.029	746559.0	746559.0	101.68 %		14:22:10
2	Ag 328.068†	570.3	-61.9	-0.2866 ug/L	-0.2866 ppb	14:22:10
2	As 188.979†	-32.9	-3.8	-1.4416 ug/L	-1.4416 ppb	14:22:31
2	B 249.677†	-581.9	187.0	3.9097 ug/L	3.9097 ppb	14:22:31
2	Ba 233.527†	-5.5	9.8	0.0730 ug/L	0.0730 ppb	14:22:31
2	Be 313.107†	-4229.1	230.8	0.0779 ug/L	0.0779 ppb	14:22:10
2	Cd 226.502†	-199.2	7.6	0.0824 ug/L	0.0824 ppb	14:22:31
2	Co 228.616†	-79.5	6.7	0.1229 ug/L	0.1229 ppb	14:22:31
2	Cr 267.716†	53.9	-8.6	-0.0970 ug/L	-0.0970 ppb	14:22:10
2	Cu 324.752†	6639.7	-336.3	-0.9474 ug/L	-0.9474 ppb	14:22:10
2	Mn 257.610†	507.5	-31.1	-0.0411 ug/L	-0.0411 ppb	14:22:31
2	Mo 202.031†	7.5	2.2	0.1473 ug/L	0.1473 ppb	14:22:31
2	Ni 231.604†	92.5	6.1	0.1353 ug/L	0.1353 ppb	14:22:31

2	P 214.914†	244.8	18.2	9.6283 ug/L	9.6283 ppb	14:22:31
2	Pb 220.353†	-44.7	35.6	3.8180 ug/L	3.8180 ppb	14:22:31
2	S 181.975 Axial†	51.7	2.1	2.5484 ug/L	2.5484 ppb	14:22:31
2	Sb 206.836†	43.0	4.0	1.1986 ug/L	1.1986 ppb	14:22:31
2	Se 196.026†	-22.9	3.4	1.8784 ug/L	1.8784 ppb	14:22:31
2	Si 251.611†	466.5	-75.5	-2.2494 ug/L	-2.2494 ppb	14:22:31
2	Sn 189.927†	0.2	-9.2	-1.4895 ug/L	-1.4895 ppb	14:22:31
2	Ti 334.940†	-1704.7	122.6	0.1559 ug/L	0.1559 ppb	14:22:10
2	Tl 190.801†	-44.8	0.2	0.0679 ug/L	0.0679 ppb	14:22:31
2	U 409.014†	-4432.8	739.8	21.853 ug/L	21.853 ppb	14:22:10
2	V 292.402†	-1701.6	73.5	0.5371 ug/L	0.5371 ppb	14:22:10
2	Zn 213.857†	782.0	62.4	0.5296 ug/L	0.5296 ppb	14:22:31
2	SiO2†	507.9	-61.2	-3.9042 ug/L	-3.9042 ppb	14:23:06
3	Sc Radial	4388.1	4388.1	106 %		14:21:18
3	Y RADIAL	4950.0	4950.0	102.2 %		14:21:18
3	Al 396.153Radial†	-202.0	0.2	0.2013 ug/L	0.2013 ppb	14:21:18
3	Ca 317.933Radial†	22.5	7.8	14.410 ug/L	14.410 ppb	14:21:38
3	Fe 238.204 Radial†	10.0	-0.7	-7.8747 ug/L	-7.8747 ppb	14:21:38
3	K 766.490 Radial†	2671.2	-112.9	-21.524 ug/L	-21.524 ppb	14:21:18
3	Mg 279.077 IEC†	3.1	3.0	125.45 ug/L	125.45 ppb	14:21:38
3	Na 589.592 Radial†	-1536.4	207.8	64.034 ug/L	64.034 ppb	14:21:18
3	Sr 421.552†	-1.2	-37.6	-0.2484 ug/L	-0.2484 ppb	14:21:18
3	Sc 361.383	898376.7	898376.7	100.85 %		14:22:36
3	Y 371.029	741180.2	741180.2	100.94 %		14:22:36
3	Ag 328.068†	493.8	-134.8	-0.6051 ug/L	-0.6051 ppb	14:22:36
3	As 188.979†	-35.3	-6.3	-2.4011 ug/L	-2.4011 ppb	14:22:56
3	B 249.677†	-599.1	167.0	3.4936 ug/L	3.4936 ppb	14:22:56
3	Ba 233.527†	-4.7	10.6	0.0802 ug/L	0.0802 ppb	14:22:56
3	Be 313.107†	-4248.9	189.8	0.0644 ug/L	0.0644 ppb	14:22:36
3	Cd 226.502†	-190.1	15.6	0.1665 ug/L	0.1665 ppb	14:22:56
3	Co 228.616†	-80.9	4.9	0.0896 ug/L	0.0896 ppb	14:22:56
3	Cr 267.716†	108.4	45.6	0.4626 ug/L	0.4626 ppb	14:22:36
3	Cu 324.752†	6795.3	-148.7	-0.4258 ug/L	-0.4258 ppb	14:22:36
3	Mn 257.610†	472.1	-63.7	-0.0698 ug/L	-0.0698 ppb	14:22:56
3	Mo 202.031†	3.0	-2.3	-0.1526 ug/L	-0.1526 ppb	14:22:56
3	Ni 231.604†	97.8	11.8	0.2636 ug/L	0.2636 ppb	14:22:56
3	P 214.914†	239.9	14.6	7.7032 ug/L	7.7032 ppb	14:22:56
3	Pb 220.353†	-66.8	13.4	1.4397 ug/L	1.4397 ppb	14:22:56
3	S 181.975 Axial†	47.3	-2.0	-2.4713 ug/L	-2.4713 ppb	14:22:56
3	Sb 206.836†	41.3	2.6	0.8085 ug/L	0.8085 ppb	14:22:56
3	Se 196.026†	-30.8	-4.6	-2.5690 ug/L	-2.5690 ppb	14:22:56
3	Si 251.611†	460.7	-78.9	-2.3470 ug/L	-2.3470 ppb	14:22:56
3	Sn 189.927†	20.4	10.8	1.7440 ug/L	1.7440 ppb	14:22:56
3	Ti 334.940†	-1620.1	197.9	0.2778 ug/L	0.2778 ppb	14:22:36
3	Tl 190.801†	-46.1	-1.3	-0.3567 ug/L	-0.3567 ppb	14:22:56
3	U 409.014†	-4423.5	726.8	21.468 ug/L	21.468 ppb	14:22:36
3	V 292.402†	-1577.9	187.5	1.2897 ug/L	1.2897 ppb	14:22:36
3	Zn 213.857†	790.2	74.4	0.6312 ug/L	0.6312 ppb	14:22:56
3	SiO2†	459.1	-107.0	-6.8168 ug/L	-6.8168 ppb	14:23:11

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	896965.6	100.69 %	0.764			0.76%
Sc Radial	4407.6	107 %	1.1			1.05%
Y 371.029	741240.6	100.95 %	0.720			0.71%
Y RADIAL	4974.6	102.8 %	0.85			0.83%
Ag 328.068†	-105.3	-0.4691 ug/L	0.16430	-0.4691 ppb	0.16430	35.03%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-5.8	-4.7537 ug/L	6.58030	-4.7537 ppb	6.58030	138.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-2.8	-1.0570 ug/L	1.57206	-1.0570 ppb	1.57206	148.73%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	197.3	4.1229 ug/L	0.75862	4.1229 ppb	0.75862	18.40%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.9	0.0379 ug/L	0.06702	0.0379 ppb	0.06702	176.65%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	219.0	0.0741 ug/L	0.00849	0.0741 ppb	0.00849	11.46%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	9.6	17.767 ug/L	5.1668	17.767 ppb	5.1668	29.08%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd	226.502†	14.1	0.1476 ug/L	0.05816	0.1476 ppb	0.05816	39.40%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co	228.616†	7.6	0.1384 ug/L	0.05817	0.1384 ppb	0.05817	42.03%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	21.9	0.2195 ug/L	0.28694	0.2195 ppb	0.28694	130.70%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	-243.4	-0.6870 ug/L	0.26081	-0.6870 ppb	0.26081	37.96%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	1.2	13.438 ug/L	30.0466	13.438 ppb	30.0466	223.60%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	-165.0	-31.429 ug/L	15.4992	-31.429 ppb	15.4992	49.31%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	3.7	156.35 ug/L	74.750	156.35 ppb	74.750	47.81%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	-52.8	-0.0580 ug/L	0.01505	-0.0580 ppb	0.01505	25.93%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	-1.3	-0.0830 ug/L	0.20458	-0.0830 ppb	0.20458	246.50%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	203.7	62.775 ug/L	5.9429	62.775 ppb	5.9429	9.47%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	6.2	0.1378 ug/L	0.12456	0.1378 ppb	0.12456	90.37%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	12.1	6.3935 ug/L	4.05156	6.3935 ppb	4.05156	63.37%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	22.7	2.4284 ug/L	1.23880	2.4284 ppb	1.23880	51.01%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	-1.7	-2.0924 ug/L	4.46347	-2.0924 ppb	4.46347	213.32%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	4.8	1.4823 ug/L	0.85183	1.4823 ppb	0.85183	57.47%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	-0.2	-0.0425 ug/L	2.28474	-0.0425 ppb	2.28474	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated							
Si	251.611†	-67.1	-1.9970 ug/L	0.52401	-1.9970 ppb	0.52401	26.24%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	1.9	0.3050 ug/L	1.64582	0.3050 ppb	1.64582	539.58%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	-28.2	-0.1862 ug/L	0.05950	-0.1862 ppb	0.05950	31.97%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	182.4	0.2534 ug/L	0.08792	0.2534 ppb	0.08792	34.69%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	1.1	0.3222 ug/L	0.83546	0.3222 ppb	0.83546	259.33%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	665.9	19.669 ug/L	3.4546	19.669 ppb	3.4546	17.56%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	133.6	0.9260 ug/L	0.37696	0.9260 ppb	0.37696	40.71%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	75.6	0.6399 ug/L	0.11494	0.6399 ppb	0.11494	17.96%
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†		-76.6	-4.8821 ug/L	1.67554	-4.8821 ppb	1.67554	34.32%
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 15:23:45

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4324.0	4324.0	105 %		15:25:37
1	Y RADIAL	4839.8	4839.8	99.97 %		15:25:37
1	Al 396.153Radial†	6002.2	5916.7	4861.8 ug/L	4861.8 ppb	15:25:37
1	Ca 317.933Radial†	2915.9	2768.7	5125.2 ug/L	5125.2 ppb	15:25:57
1	Fe 238.204 Radial†	489.6	457.0	5325.3 ug/L	5325.3 ppb	15:25:57
1	K 766.490 Radial†	29725.3	25736.2	4892.3 ug/L	4892.3 ppb	15:25:37
1	Mg 279.077 IEC†	132.2	126.1	5314.9 ug/L	5314.9 ppb	15:25:57
1	Na 589.592 Radial†	33325.3	33447.4	10307 ug/L	10307 ppb	15:25:37
1	Sr 421.552†	80087.6	76373.9	504.23 ug/L	504.23 ppb	15:25:37
1	Sc 361.383	908890.7	908890.7	102.03 %		15:26:55
1	Y 371.029	736593.9	736593.9	100.32 %		15:26:55
1	Ag 328.068†	112014.1	109163.2	480.76 ug/L	480.76 ppb	15:27:00
1	As 188.979†	1241.0	1245.1	482.56 ug/L	482.56 ppb	15:27:20
1	B 249.677†	21719.7	22049.1	458.78 ug/L	458.78 ppb	15:27:00
1	Ba 233.527†	67268.0	65946.3	483.23 ug/L	483.23 ppb	15:27:00
1	Be 313.107†	1446843.4	1422489.3	478.39 ug/L	478.39 ppb	15:26:55
1	Cd 226.502†	47360.1	46622.9	481.29 ug/L	481.29 ppb	15:27:00
1	Co 228.616†	26484.6	26043.3	480.11 ug/L	480.11 ppb	15:27:00
1	Cr 267.716†	47928.5	46914.0	483.54 ug/L	483.54 ppb	15:27:00
1	Cu 324.752†	183020.8	172496.3	479.78 ug/L	479.78 ppb	15:27:00
1	Mn 257.610†	496305.2	485908.9	487.84 ug/L	487.84 ppb	15:26:55
1	Mo 202.031†	7456.6	7303.2	485.84 ug/L	485.84 ppb	15:27:20
1	Ni 231.604†	22219.9	21693.1	483.09 ug/L	483.09 ppb	15:27:00
1	P 214.914†	4896.3	4575.8	2281.9 ug/L	2281.9 ppb	15:27:20
1	Pb 220.353†	4488.0	4478.5	482.05 ug/L	482.05 ppb	15:27:20
1	S 181.975 Axial†	815.7	750.6	915.98 ug/L	915.98 ppb	15:27:20
1	Sb 206.836†	1608.6	1538.2	487.33 ug/L	487.33 ppb	15:27:20
1	Se 196.026†	851.9	860.9	496.55 ug/L	496.55 ppb	15:27:20
1	Si 251.611†	82144.0	79975.6	2374.6 ug/L	2374.6 ppb	15:27:00
1	Sn 189.927†	3029.9	2960.3	479.10 ug/L	479.10 ppb	15:27:20
1	Ti 334.940†	336421.2	331538.9	495.23 ug/L	495.23 ppb	15:26:55
1	Tl 190.801†	1715.3	1725.7	490.27 ug/L	490.27 ppb	15:27:20
1	U 409.014†	12508.7	17373.1	511.49 ug/L	511.49 ppb	15:27:00
1	V 292.402†	72167.5	72485.3	488.70 ug/L	488.70 ppb	15:27:00
1	Zn 213.857†	57930.8	56070.3	471.47 ug/L	471.47 ppb	15:27:00
1	SiO2†	82102.5	79908.4	5082.5 ug/L	5082.5 ppb	15:28:28
2	Sc Radial	4399.7	4399.7	107 %		15:26:02
2	Y RADIAL	4930.9	4930.9	101.8 %		15:26:02
2	Al 396.153Radial†	6106.9	5916.3	4861.6 ug/L	4861.6 ppb	15:26:02
2	Ca 317.933Radial†	2882.4	2689.4	4978.5 ug/L	4978.5 ppb	15:26:22
2	Fe 238.204 Radial†	482.5	442.3	5154.9 ug/L	5154.9 ppb	15:26:22
2	K 766.490 Radial†	30275.2	25763.8	4897.6 ug/L	4897.6 ppb	15:26:02
2	Mg 279.077 IEC†	129.9	121.9	5134.6 ug/L	5134.6 ppb	15:26:22
2	Na 589.592 Radial†	34129.0	33653.9	10371 ug/L	10371 ppb	15:26:02
2	Sr 421.552†	81681.4	76553.5	505.42 ug/L	505.42 ppb	15:26:02
2	Sc 361.383	907620.9	907620.9	101.89 %		15:27:26
2	Y 371.029	734823.1	734823.1	100.08 %		15:27:26
2	Ag 328.068†	112963.6	110248.7	485.47 ug/L	485.47 ppb	15:27:31
2	As 188.979†	1233.6	1239.5	480.40 ug/L	480.40 ppb	15:27:51
2	B 249.677†	22093.8	22446.1	467.09 ug/L	467.09 ppb	15:27:31
2	Ba 233.527†	67833.3	66593.4	487.97 ug/L	487.97 ppb	15:27:31
2	Be 313.107†	1447770.4	1425383.0	479.36 ug/L	479.36 ppb	15:27:26
2	Cd 226.502†	47891.2	47209.1	487.36 ug/L	487.36 ppb	15:27:31
2	Co 228.616†	26809.7	26398.7	486.65 ug/L	486.65 ppb	15:27:31
2	Cr 267.716†	48424.5	47466.6	489.23 ug/L	489.23 ppb	15:27:31
2	Cu 324.752†	184496.9	174196.0	484.50 ug/L	484.50 ppb	15:27:31
2	Mn 257.610†	497568.7	487829.6	489.76 ug/L	489.76 ppb	15:27:26
2	Mo 202.031†	7401.7	7259.6	482.92 ug/L	482.92 ppb	15:27:51
2	Ni 231.604†	22343.9	21845.3	486.47 ug/L	486.47 ppb	15:27:31

2	P 214.914†	4882.0	4568.4	2277.3 ug/L	2277.3 ppb	15:27:51
2	Pb 220.353†	4472.6	4469.4	481.09 ug/L	481.09 ppb	15:27:51
2	S 181.975 Axial†	823.8	759.7	927.13 ug/L	927.13 ppb	15:27:51
2	Sb 206.836†	1618.9	1550.5	491.07 ug/L	491.07 ppb	15:27:51
2	Se 196.026†	855.1	865.3	498.41 ug/L	498.41 ppb	15:27:51
2	Si 251.611†	83074.2	81001.2	2405.1 ug/L	2405.1 ppb	15:27:31
2	Sn 189.927†	3041.8	2976.1	481.63 ug/L	481.63 ppb	15:27:51
2	Ti 334.940†	337341.1	332903.1	497.26 ug/L	497.26 ppb	15:27:26
2	Tl 190.801†	1713.3	1726.0	490.37 ug/L	490.37 ppb	15:27:51
2	U 409.014†	12687.8	17566.1	517.20 ug/L	517.20 ppb	15:27:31
2	V 292.402†	72601.6	73010.3	492.18 ug/L	492.18 ppb	15:27:31
2	Zn 213.857†	58558.5	56765.7	477.36 ug/L	477.36 ppb	15:27:31
2	SiO2†	82500.8	80411.9	5114.7 ug/L	5114.7 ppb	15:28:33
3	Sc Radial	4387.0	4387.0	106 %		15:26:27
3	Y RADIAL	4891.2	4891.2	101.0 %		15:26:27
3	Al 396.153Radial†	6067.4	5895.9	4844.6 ug/L	4844.6 ppb	15:26:27
3	Ca 317.933Radial†	2873.6	2689.0	4977.7 ug/L	4977.7 ppb	15:26:47
3	Fe 238.204 Radial†	478.3	439.7	5124.3 ug/L	5124.3 ppb	15:26:47
3	K 766.490 Radial†	30092.6	25674.5	4880.6 ug/L	4880.6 ppb	15:26:27
3	Mg 279.077 IEC†	133.8	125.9	5305.2 ug/L	5305.2 ppb	15:26:47
3	Na 589.592 Radial†	33666.9	33312.2	10265 ug/L	10265 ppb	15:26:27
3	Sr 421.552†	81394.9	76506.5	505.11 ug/L	505.11 ppb	15:26:27
3	Sc 361.383	908526.6	908526.6	101.99 %		15:27:57
3	Y 371.029	735248.8	735248.8	100.14 %		15:27:57
3	Ag 328.068†	113966.3	111121.4	489.29 ug/L	489.29 ppb	15:28:02
3	As 188.979†	1226.6	1231.5	477.30 ug/L	477.30 ppb	15:28:22
3	B 249.677†	22251.6	22579.1	469.86 ug/L	469.86 ppb	15:28:02
3	Ba 233.527†	68487.4	67168.4	492.18 ug/L	492.18 ppb	15:28:02
3	Be 313.107†	1447718.5	1423915.6	478.87 ug/L	478.87 ppb	15:27:57
3	Cd 226.502†	48304.3	47567.3	491.07 ug/L	491.07 ppb	15:28:02
3	Co 228.616†	27050.4	26608.6	490.53 ug/L	490.53 ppb	15:28:02
3	Cr 267.716†	48746.2	47734.7	492.00 ug/L	492.00 ppb	15:28:02
3	Cu 324.752†	186397.9	175879.5	489.18 ug/L	489.18 ppb	15:28:02
3	Mn 257.610†	497823.9	487593.1	489.51 ug/L	489.51 ppb	15:27:57
3	Mo 202.031†	7441.9	7291.7	485.05 ug/L	485.05 ppb	15:28:22
3	Ni 231.604†	22586.2	22061.0	491.28 ug/L	491.28 ppb	15:28:02
3	P 214.914†	4875.9	4557.6	2270.8 ug/L	2270.8 ppb	15:28:22
3	Pb 220.353†	4471.2	4463.7	480.48 ug/L	480.48 ppb	15:28:22
3	S 181.975 Axial†	826.9	761.9	929.87 ug/L	929.87 ppb	15:28:22
3	Sb 206.836†	1614.0	1544.1	489.18 ug/L	489.18 ppb	15:28:22
3	Se 196.026†	840.4	850.0	489.83 ug/L	489.83 ppb	15:28:22
3	Si 251.611†	83722.7	81555.8	2421.6 ug/L	2421.6 ppb	15:28:02
3	Sn 189.927†	3038.7	2970.1	480.66 ug/L	480.66 ppb	15:28:22
3	Ti 334.940†	337324.0	332556.3	496.72 ug/L	496.72 ppb	15:27:57
3	Tl 190.801†	1710.1	1721.2	488.99 ug/L	488.99 ppb	15:28:22
3	U 409.014†	12730.9	17595.9	518.08 ug/L	518.08 ppb	15:28:02
3	V 292.402†	73364.0	73686.8	496.72 ug/L	496.72 ppb	15:28:02
3	Zn 213.857†	58969.1	57111.1	480.26 ug/L	480.26 ppb	15:28:02
3	SiO2†	81425.1	79276.5	5042.2 ug/L	5042.2 ppb	15:28:38

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	908346.0	101.97 %	0.073			0.07%
Sc Radial	4370.3	106 %	1.0			0.93%
Y 371.029	735555.2	100.18 %	0.126			0.13%
Y RADIAL	4887.3	100.9 %	0.94			0.93%
Ag 328.068†	110177.8	485.17 ug/L	4.273	485.17 ppb	4.273	0.88%
QC value within limits for Ag 328.068 Recovery = 97.03%						
Al 396.153Radial†	5909.6	4856.0 ug/L	9.86	4856.0 ppb	9.86	0.20%
QC value within limits for Al 396.153Radial Recovery = 97.12%						
As 188.979†	1238.7	480.09 ug/L	2.643	480.09 ppb	2.643	0.55%
QC value within limits for As 188.979 Recovery = 96.02%						
B 249.677†	22358.1	465.24 ug/L	5.769	465.24 ppb	5.769	1.24%
QC value within limits for B 249.677 Recovery = 93.05%						
Ba 233.527†	66569.4	487.79 ug/L	4.474	487.79 ppb	4.474	0.92%
QC value within limits for Ba 233.527 Recovery = 97.56%						
Be 313.107†	1423929.3	478.87 ug/L	0.488	478.87 ppb	0.488	0.10%
QC value within limits for Be 313.107 Recovery = 95.77%						
Ca 317.933Radial†	2715.7	5027.1 ug/L	84.94	5027.1 ppb	84.94	1.69%

QC value within limits for Ca 317.933 Radial Recovery = 100.54%							
Cd 226.502†	47133.1	486.57 ug/L	4.937	486.57 ppb	4.937	1.01%	
QC value within limits for Cd 226.502 Recovery = 97.31%							
Co 228.616†	26350.2	485.77 ug/L	5.265	485.77 ppb	5.265	1.08%	
QC value within limits for Co 228.616 Recovery = 97.15%							
Cr 267.716†	47371.8	488.26 ug/L	4.310	488.26 ppb	4.310	0.88%	
QC value within limits for Cr 267.716 Recovery = 97.65%							
Cu 324.752†	174190.6	484.48 ug/L	4.698	484.48 ppb	4.698	0.97%	
QC value within limits for Cu 324.752 Recovery = 96.90%							
Fe 238.204 Radial†	446.3	5201.5 ug/L	108.31	5201.5 ppb	108.31	2.08%	
QC value within limits for Fe 238.204 Radial Recovery = 104.03%							
K 766.490 Radial†	25724.8	4890.2 ug/L	8.68	4890.2 ppb	8.68	0.18%	
QC value within limits for K 766.490 Radial Recovery = 97.80%							
Mg 279.077 IEC†	124.6	5251.6 ug/L	101.41	5251.6 ppb	101.41	1.93%	
QC value within limits for Mg 279.077 IEC Recovery = 105.03%							
Mn 257.610†	487110.5	489.04 ug/L	1.043	489.04 ppb	1.043	0.21%	
QC value within limits for Mn 257.610 Recovery = 97.81%							
Mo 202.031†	7284.8	484.60 ug/L	1.508	484.60 ppb	1.508	0.31%	
QC value within limits for Mo 202.031 Recovery = 96.92%							
Na 589.592 Radial†	33471.2	10314 ug/L	53.0	10314 ppb	53.0	0.51%	
QC value within limits for Na 589.592 Radial Recovery = 103.14%							
Ni 231.604†	21866.4	486.95 ug/L	4.116	486.95 ppb	4.116	0.85%	
QC value within limits for Ni 231.604 Recovery = 97.39%							
P 214.914†	4567.3	2276.7 ug/L	5.58	2276.7 ppb	5.58	0.25%	
QC value within limits for P 214.914 Recovery = 91.07%							
Pb 220.353†	4470.5	481.21 ug/L	0.794	481.21 ppb	0.794	0.16%	
QC value within limits for Pb 220.353 Recovery = 96.24%							
S 181.975 Axial†	757.4	924.33 ug/L	7.357	924.33 ppb	7.357	0.80%	
QC value within limits for S 181.975 Axial Recovery = 92.43%							
Sb 206.836†	1544.3	489.20 ug/L	1.870	489.20 ppb	1.870	0.38%	
QC value within limits for Sb 206.836 Recovery = 97.84%							
Se 196.026†	858.7	494.93 ug/L	4.513	494.93 ppb	4.513	0.91%	
QC value within limits for Se 196.026 Recovery = 98.99%							
Si 251.611†	80844.2	2400.4 ug/L	23.87	2400.4 ppb	23.87	0.99%	
QC value within limits for Si 251.611 Recovery = 96.02%							
Sn 189.927†	2968.8	480.46 ug/L	1.276	480.46 ppb	1.276	0.27%	
QC value within limits for Sn 189.927 Recovery = 96.09%							
Sr 421.552†	76478.0	504.92 ug/L	0.616	504.92 ppb	0.616	0.12%	
QC value within limits for Sr 421.552 Recovery = 100.98%							
Ti 334.940†	332332.8	496.40 ug/L	1.052	496.40 ppb	1.052	0.21%	
QC value within limits for Ti 334.940 Recovery = 99.28%							
Tl 190.801†	1724.3	489.88 ug/L	0.774	489.88 ppb	0.774	0.16%	
QC value within limits for Tl 190.801 Recovery = 97.98%							
U 409.014†	17511.7	515.59 ug/L	3.575	515.59 ppb	3.575	0.69%	
QC value within limits for U 409.014 Recovery = 103.12%							
V 292.402†	73060.8	492.53 ug/L	4.022	492.53 ppb	4.022	0.82%	
QC value within limits for V 292.402 Recovery = 98.51%							
Zn 213.857†	56649.0	476.36 ug/L	4.477	476.36 ppb	4.477	0.94%	
QC value within limits for Zn 213.857 Recovery = 95.27%							
SiO2†	79865.6	5079.8 ug/L	36.31	5079.8 ppb	36.31	0.71%	
QC value within limits for SiO2 Recovery = 94.99%							
All analyte(s) passed QC.							

Sequence No.: 9

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 15:30:49

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4410.8	4410.8	107 %		15:32:41
1	Y RADIAL	5034.9	5034.9	104.0 %		15:32:41
1	Al 396.153Radial†	-194.1	8.5	7.0662 ug/L	7.0662 ppb	15:32:41
1	Ca 317.933Radial†	21.7	6.9	12.799 ug/L	12.799 ppb	15:33:01
1	Fe 238.204 Radial†	10.1	-0.7	-7.8201 ug/L	-7.8201 ppb	15:33:01
1	K 766.490 Radial†	2679.2	-118.4	-22.570 ug/L	-22.570 ppb	15:32:41
1	Mg 279.077 IEC†	2.3	2.2	90.856 ug/L	90.856 ppb	15:33:01
1	Na 589.592 Radial†	-1495.7	253.3	78.056 ug/L	78.056 ppb	15:32:41
1	Sr 421.552†	-13.1	-48.7	-0.3215 ug/L	-0.3215 ppb	15:32:41
1	Sc 361.383	918284.0	918284.0	103.08 %		15:33:58
1	Y 371.029	756017.4	756017.4	102.97 %		15:33:58
1	Ag 328.068†	524.4	-115.8	-0.5260 ug/L	-0.5260 ppb	15:34:03
1	As 188.979†	-31.4	-1.7	-0.6498 ug/L	-0.6498 ppb	15:34:23
1	B 249.677†	-582.5	196.0	4.0998 ug/L	4.0998 ppb	15:34:23
1	Ba 233.527†	-6.0	9.5	0.0729 ug/L	0.0729 ppb	15:34:23
1	Be 313.107†	-4282.4	248.7	0.0846 ug/L	0.0846 ppb	15:34:03
1	Cd 226.502†	-197.3	12.7	0.1377 ug/L	0.1377 ppb	15:34:23
1	Co 228.616†	-87.5	0.2	0.0026 ug/L	0.0026 ppb	15:34:23
1	Cr 267.716†	201.0	133.2	1.3615 ug/L	1.3615 ppb	15:34:23
1	Cu 324.752†	8758.4	1609.7	4.4607 ug/L	4.4607 ppb	15:34:03
1	Mn 257.610†	510.2	-36.8	-0.0414 ug/L	-0.0414 ppb	15:34:23
1	Mo 202.031†	2.3	-3.0	-0.1990 ug/L	-0.1990 ppb	15:34:23
1	Ni 231.604†	69.6	-17.6	-0.3932 ug/L	-0.3932 ppb	15:34:23
1	P 214.914†	243.8	13.2	5.9885 ug/L	5.9885 ppb	15:34:23
1	Pb 220.353†	-60.8	20.6	2.2132 ug/L	2.2132 ppb	15:34:23
1	S 181.975 Axial†	51.0	0.6	0.6870 ug/L	0.6870 ppb	15:34:23
1	Sb 206.836†	51.9	12.0	3.6588 ug/L	3.6588 ppb	15:34:23
1	Se 196.026†	-29.3	-2.5	-1.3984 ug/L	-1.3984 ppb	15:34:23
1	Si 251.611†	501.3	-49.5	-1.4700 ug/L	-1.4700 ppb	15:34:23
1	Sn 189.927†	11.8	2.0	0.3255 ug/L	0.3255 ppb	15:34:23
1	Ti 334.940†	-1514.4	335.3	0.4820 ug/L	0.4820 ppb	15:34:03
1	Tl 190.801†	-32.4	13.1	3.6900 ug/L	3.6900 ppb	15:34:23
1	U 409.014†	-4258.6	981.8	28.999 ug/L	28.999 ppb	15:33:58
1	V 292.402†	-1546.1	252.3	1.7333 ug/L	1.7333 ppb	15:34:03
1	Zn 213.857†	807.8	74.6	0.6298 ug/L	0.6298 ppb	15:34:23
1	SiO2†	543.5	-35.0	-2.2234 ug/L	-2.2234 ppb	15:35:29
2	Sc Radial	4455.7	4455.7	108 %		15:33:06
2	Y RADIAL	5018.4	5018.4	103.7 %		15:33:06
2	Al 396.153Radial†	-167.7	34.9	28.768 ug/L	28.768 ppb	15:33:06
2	Ca 317.933Radial†	22.2	7.3	13.435 ug/L	13.435 ppb	15:33:26
2	Fe 238.204 Radial†	13.7	2.5	29.517 ug/L	29.517 ppb	15:33:26
2	K 766.490 Radial†	2807.6	-24.8	-4.7460 ug/L	-4.7460 ppb	15:33:06
2	Mg 279.077 IEC†	3.3	3.1	131.57 ug/L	131.57 ppb	15:33:26
2	Na 589.592 Radial†	-1525.4	239.9	73.935 ug/L	73.935 ppb	15:33:06
2	Sr 421.552†	-0.8	-37.2	-0.2458 ug/L	-0.2458 ppb	15:33:06
2	Sc 361.383	911731.9	911731.9	102.35 %		15:34:28
2	Y 371.029	749647.5	749647.5	102.10 %		15:34:28
2	Ag 328.068†	438.7	-195.8	-0.8714 ug/L	-0.8714 ppb	15:34:33
2	As 188.979†	-28.8	0.6	0.2431 ug/L	0.2431 ppb	15:34:53
2	B 249.677†	-576.6	197.7	4.1278 ug/L	4.1278 ppb	15:34:53
2	Ba 233.527†	-5.9	9.6	0.0718 ug/L	0.0718 ppb	15:34:53
2	Be 313.107†	-4302.2	199.5	0.0677 ug/L	0.0677 ppb	15:34:33
2	Cd 226.502†	-191.9	16.6	0.1748 ug/L	0.1748 ppb	15:34:53
2	Co 228.616†	-75.6	11.3	0.2074 ug/L	0.2074 ppb	15:34:53
2	Cr 267.716†	169.1	103.4	1.0532 ug/L	1.0532 ppb	15:34:53
2	Cu 324.752†	8822.4	1733.3	4.8048 ug/L	4.8048 ppb	15:34:33
2	Mn 257.610†	509.7	-33.8	-0.0364 ug/L	-0.0364 ppb	15:34:53
2	Mo 202.031†	8.8	3.4	0.2290 ug/L	0.2290 ppb	15:34:53
2	Ni 231.604†	89.0	1.8	0.0407 ug/L	0.0407 ppb	15:34:53



2	P 214.914†	243.5	14.6	6.6360 ug/L	6.6360 ppb	15:34:53
2	Pb 220.353†	-58.3	22.7	2.4329 ug/L	2.4329 ppb	15:34:53
2	S 181.975 Axial†	48.9	-1.1	-1.3323 ug/L	-1.3323 ppb	15:34:53
2	Sb 206.836†	43.5	4.1	1.2606 ug/L	1.2606 ppb	15:34:53
2	Se 196.026†	-25.8	0.8	0.5442 ug/L	0.5442 ppb	15:34:53
2	Si 251.611†	510.0	-37.4	-1.1171 ug/L	-1.1171 ppb	15:34:53
2	Sn 189.927†	14.2	4.5	0.7246 ug/L	0.7246 ppb	15:34:53
2	Ti 334.940†	-1604.3	236.9	0.3306 ug/L	0.3306 ppb	15:34:33
2	Tl 190.801†	-51.9	-6.2	-1.7501 ug/L	-1.7501 ppb	15:34:53
2	U 409.014†	-4125.1	1082.6	31.972 ug/L	31.972 ppb	15:34:28
2	V 292.402†	-1714.7	76.8	0.5727 ug/L	0.5727 ppb	15:34:33
2	Zn 213.857†	786.5	59.3	0.4938 ug/L	0.4938 ppb	15:34:53
2	SiO2†	515.6	-58.5	-3.7363 ug/L	-3.7363 ppb	15:35:34
3	Sc Radial	4358.9	4358.9	106 %		15:33:31
3	Y RADIAL	4912.7	4912.7	101.5 %		15:33:31
3	Al 396.153Radial†	-201.5	-0.6	-0.5317 ug/L	-0.5317 ppb	15:33:31
3	Ca 317.933Radial†	22.4	7.8	14.469 ug/L	14.469 ppb	15:33:51
3	Fe 238.204 Radial†	13.6	2.7	31.519 ug/L	31.519 ppb	15:33:51
3	K 766.490 Radial†	2717.8	-52.0	-9.9366 ug/L	-9.9366 ppb	15:33:31
3	Mg 279.077 IEC†	3.0	2.8	119.90 ug/L	119.90 ppb	15:33:51
3	Na 589.592 Radial†	-1472.7	258.4	79.620 ug/L	79.620 ppb	15:33:31
3	Sr 421.552†	12.0	-25.1	-0.1655 ug/L	-0.1655 ppb	15:33:31
3	Sc 361.383	915193.5	915193.5	102.74 %		15:34:59
3	Y 371.029	752575.1	752575.1	102.50 %		15:34:59
3	Ag 328.068†	492.2	-145.4	-0.6472 ug/L	-0.6472 ppb	15:35:04
3	As 188.979†	-36.6	-6.9	-2.6461 ug/L	-2.6461 ppb	15:35:24
3	B 249.677†	-560.1	215.9	4.5090 ug/L	4.5090 ppb	15:35:24
3	Ba 233.527†	-2.4	13.0	0.0977 ug/L	0.0977 ppb	15:35:24
3	Be 313.107†	-4289.8	227.5	0.0770 ug/L	0.0770 ppb	15:35:04
3	Cd 226.502†	-188.3	20.8	0.2179 ug/L	0.2179 ppb	15:35:24
3	Co 228.616†	-67.4	19.6	0.3593 ug/L	0.3593 ppb	15:35:24
3	Cr 267.716†	169.4	103.1	1.0510 ug/L	1.0510 ppb	15:35:24
3	Cu 324.752†	8909.6	1785.6	4.9512 ug/L	4.9512 ppb	15:35:04
3	Mn 257.610†	504.9	-40.3	-0.0423 ug/L	-0.0423 ppb	15:35:24
3	Mo 202.031†	6.7	1.3	0.0870 ug/L	0.0870 ppb	15:35:24
3	Ni 231.604†	108.8	20.7	0.4620 ug/L	0.4620 ppb	15:35:24
3	P 214.914†	223.6	-5.6	-3.9095 ug/L	-3.9095 ppb	15:35:24
3	Pb 220.353†	-66.2	15.2	1.6260 ug/L	1.6260 ppb	15:35:24
3	S 181.975 Axial†	51.2	1.0	1.1967 ug/L	1.1967 ppb	15:35:24
3	Sb 206.836†	46.8	7.2	2.1915 ug/L	2.1915 ppb	15:35:24
3	Se 196.026†	-34.8	-7.9	-4.2850 ug/L	-4.2850 ppb	15:35:24
3	Si 251.611†	512.9	-36.5	-1.0865 ug/L	-1.0865 ppb	15:35:24
3	Sn 189.927†	9.6	-0.0	-0.0036 ug/L	-0.0036 ppb	15:35:24
3	Ti 334.940†	-1654.8	193.6	0.2678 ug/L	0.2678 ppb	15:35:04
3	Tl 190.801†	-43.8	1.8	0.5140 ug/L	0.5140 ppb	15:35:24
3	U 409.014†	-4196.5	1028.3	30.369 ug/L	30.369 ppb	15:34:59
3	V 292.402†	-1656.2	140.0	0.9880 ug/L	0.9880 ppb	15:35:04
3	Zn 213.857†	805.4	74.9	0.6226 ug/L	0.6226 ppb	15:35:24
3	SiO2†	510.2	-65.6	-4.1880 ug/L	-4.1880 ppb	15:35:39

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	915069.8	102.72 %	0.368			0.36%
Sc Radial	4408.5	107 %	1.2			1.10%
Y 371.029	752746.7	102.52 %	0.434			0.42%
Y RADIAL	4988.7	103.0 %	1.37			1.33%
Ag 328.068†	-152.3	-0.6815 ug/L	0.17525	-0.6815 ppb	0.17525	25.71%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	14.3	11.768 ug/L	15.2053	11.768 ppb	15.2053	129.21%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-2.7	-1.0176 ug/L	1.47929	-1.0176 ppb	1.47929	145.37%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	203.2	4.2455 ug/L	0.22861	4.2455 ppb	0.22861	5.38%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	10.7	0.0808 ug/L	0.01464	0.0808 ppb	0.01464	18.12%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	225.2	0.0764 ug/L	0.00844	0.0764 ppb	0.00844	11.04%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	7.3	13.568 ug/L	0.8430	13.568 ppb	0.8430	6.21%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	16.7	0.1768 ug/L	0.04016	0.1768 ppb	0.04016	22.72%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	10.4	0.1898 ug/L	0.17900	0.1898 ppb	0.17900	94.33%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	113.2	1.1553 ug/L	0.17866	1.1553 ppb	0.17866	15.46%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	1709.5	4.7389 ug/L	0.25183	4.7389 ppb	0.25183	5.31%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.5	17.739 ug/L	22.1574	17.739 ppb	22.1574	124.91%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-65.1	-12.418 ug/L	9.1673	-12.418 ppb	9.1673	73.83%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.7	114.11 ug/L	20.967	114.11 ppb	20.967	18.37%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-37.0	-0.0400 ug/L	0.00320	-0.0400 ppb	0.00320	7.99%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	0.6	0.0390 ug/L	0.21798	0.0390 ppb	0.21798	558.70%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	250.5	77.204 ug/L	2.9368	77.204 ppb	2.9368	3.80%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	1.6	0.0365 ug/L	0.42760	0.0365 ppb	0.42760	>999.9%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	7.4	2.9050 ug/L	5.91042	2.9050 ppb	5.91042	203.46%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	19.5	2.0907 ug/L	0.41712	2.0907 ppb	0.41712	19.95%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	0.2	0.1838 ug/L	1.33748	0.1838 ppb	1.33748	727.64%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.7	2.3703 ug/L	1.20904	2.3703 ppb	1.20904	51.01%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-3.2	-1.7131 ug/L	2.42988	-1.7131 ppb	2.42988	141.84%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-41.1	-1.2245 ug/L	0.21315	-1.2245 ppb	0.21315	17.41%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	2.1	0.3488 ug/L	0.36466	0.3488 ppb	0.36466	104.53%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-37.0	-0.2443 ug/L	0.07800	-0.2443 ppb	0.07800	31.93%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	255.3	0.3601 ug/L	0.11015	0.3601 ppb	0.11015	30.59%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	2.9	0.8180 ug/L	2.73277	0.8180 ppb	2.73277	334.10%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	1030.9	30.447 ug/L	1.4882	30.447 ppb	1.4882	4.89%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	156.4	1.0980 ug/L	0.58806	1.0980 ppb	0.58806	53.56%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	69.6	0.5821 ug/L	0.07651	0.5821 ppb	0.07651	13.15%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-53.0	-3.3826 ug/L	1.02898	-3.3826 ppb	1.02898	30.42%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 18

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/1/2010 16:35:39

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4325.1	4325.1	105 %		16:37:32
1	Y RADIAL	4800.8	4800.8	99.16 %		16:37:32
1	Al 396.153Radial†	6153.3	6059.4	4978.6 ug/L	4978.6 ppb	16:37:32
1	Ca 317.933Radial†	2924.5	2776.2	5139.2 ug/L	5139.2 ppb	16:37:52
1	Fe 238.204 Radial†	492.5	459.7	5357.0 ug/L	5357.0 ppb	16:37:52
1	K 766.490 Radial†	29903.1	25898.8	4923.2 ug/L	4923.2 ppb	16:37:32
1	Mg 279.077 IEC†	136.3	130.0	5479.3 ug/L	5479.3 ppb	16:37:52
1	Na 589.592 Radial†	33546.7	33650.7	10370 ug/L	10370 ppb	16:37:32
1	Sr 421.552†	80234.6	76495.2	505.03 ug/L	505.03 ppb	16:37:32
1	Sc 361.383	893101.7	893101.7	100.26 %		16:38:51
1	Y 371.029	718786.3	718786.3	97.894 %		16:38:51
1	Ag 328.068†	112267.4	111356.8	490.42 ug/L	490.42 ppb	16:38:51
1	As 188.979†	1296.6	1322.1	512.11 ug/L	512.11 ppb	16:39:11
1	B 249.677†	22151.4	22856.1	475.58 ug/L	475.58 ppb	16:38:51
1	Ba 233.527†	67662.7	67505.5	494.65 ug/L	494.65 ppb	16:38:51
1	Be 313.107†	1453833.4	1454531.5	489.15 ug/L	489.15 ppb	16:38:51
1	Cd 226.502†	48166.1	48247.5	498.07 ug/L	498.07 ppb	16:38:51
1	Co 228.616†	27264.6	27280.3	502.96 ug/L	502.96 ppb	16:39:11
1	Cr 267.716†	48026.9	47842.7	493.12 ug/L	493.12 ppb	16:38:51
1	Cu 324.752†	185439.6	178080.2	495.33 ug/L	495.33 ppb	16:38:51
1	Mn 257.610†	495470.4	493676.0	495.63 ug/L	495.63 ppb	16:38:51
1	Mo 202.031†	7640.2	7615.5	506.59 ug/L	506.59 ppb	16:39:11
1	Ni 231.604†	22761.3	22618.1	503.68 ug/L	503.68 ppb	16:39:11
1	P 214.914†	5125.0	4888.7	2441.6 ug/L	2441.6 ppb	16:39:11
1	Pb 220.353†	4682.0	4749.7	511.22 ug/L	511.22 ppb	16:39:11
1	S 181.975 Axial†	865.7	814.6	994.23 ug/L	994.23 ppb	16:39:11
1	Sb 206.836†	1672.8	1630.1	516.35 ug/L	516.35 ppb	16:39:11
1	Se 196.026†	892.1	915.8	527.15 ug/L	527.15 ppb	16:39:11
1	Si 251.611†	83473.6	82725.1	2456.2 ug/L	2456.2 ppb	16:38:51
1	Sn 189.927†	3172.2	3154.7	510.51 ug/L	510.51 ppb	16:39:11
1	Ti 334.940†	332865.8	333821.9	498.63 ug/L	498.63 ppb	16:38:51
1	Tl 190.801†	1766.2	1806.1	512.93 ug/L	512.93 ppb	16:39:11
1	U 409.014†	11542.6	16626.3	489.41 ug/L	489.41 ppb	16:38:51
1	V 292.402†	72084.9	73653.4	496.71 ug/L	496.71 ppb	16:38:51
1	Zn 213.857†	59146.1	58286.3	490.12 ug/L	490.12 ppb	16:38:51
1	SiO2†	84765.5	83987.3	5342.0 ug/L	5342.0 ppb	16:40:11
2	Sc Radial	4359.5	4359.5	106 %		16:37:57
2	Y RADIAL	4820.1	4820.1	99.56 %		16:37:57
2	Al 396.153Radial†	6151.3	6011.2	4937.0 ug/L	4937.0 ppb	16:37:57
2	Ca 317.933Radial†	2930.0	2759.3	5107.9 ug/L	5107.9 ppb	16:38:17
2	Fe 238.204 Radial†	491.0	454.5	5298.1 ug/L	5298.1 ppb	16:38:17
2	K 766.490 Radial†	30014.6	25779.1	4900.4 ug/L	4900.4 ppb	16:37:57
2	Mg 279.077 IEC†	132.6	125.5	5290.5 ug/L	5290.5 ppb	16:38:17
2	Na 589.592 Radial†	33641.9	33488.2	10319 ug/L	10319 ppb	16:37:57
2	Sr 421.552†	80469.7	76113.5	502.51 ug/L	502.51 ppb	16:37:57
2	Sc 361.383	818456.7	818456.7	91.876 %		16:39:18
2	Y 371.029	659233.1	659233.1	89.784 %		16:39:18
2	Ag 328.068†	114773.0	124296.8	547.20 ug/L	547.20 ppb	16:39:18
2	As 188.979†	1250.1	1389.4	538.38 ug/L	538.38 ppb	16:39:38
2	B 249.677†	22635.6	25398.2	528.64 ug/L	528.64 ppb	16:39:18
2	Ba 233.527†	69349.4	75496.6	553.18 ug/L	553.18 ppb	16:39:18
2	Be 313.107†	1488831.5	1624879.0	546.44 ug/L	546.44 ppb	16:39:18
2	Cd 226.502†	49437.9	54013.3	557.64 ug/L	557.64 ppb	16:39:18
2	Co 228.616†	26771.5	29223.9	538.75 ug/L	538.75 ppb	16:39:38
2	Cr 267.716†	49347.4	53648.9	552.96 ug/L	552.96 ppb	16:39:18
2	Cu 324.752†	189595.0	199472.5	554.80 ug/L	554.80 ppb	16:39:18
2	Mn 257.610†	508803.2	553260.5	555.41 ug/L	555.41 ppb	16:39:18
2	Mo 202.031†	7510.6	8169.5	543.41 ug/L	543.41 ppb	16:39:38
2	Ni 231.604†	22303.9	24190.8	538.71 ug/L	538.71 ppb	16:39:38

2	P 214.914†	5051.0	5274.3	2630.4 ug/L	2630.4 ppb	16:39:38
2	Pb 220.353†	4587.4	5072.7	545.93 ug/L	545.93 ppb	16:39:38
2	S 181.975 Axial†	859.1	886.2	1081.6 ug/L	1081.6 ppb	16:39:38
2	Sb 206.836†	1654.2	1762.1	557.91 ug/L	557.91 ppb	16:39:38
2	Se 196.026†	862.1	964.3	553.93 ug/L	553.93 ppb	16:39:38
2	Si 251.611†	85425.2	92442.9	2745.0 ug/L	2745.0 ppb	16:39:18
2	Sn 189.927†	3089.9	3353.6	542.64 ug/L	542.64 ppb	16:39:38
2	Ti 334.940†	342020.0	374066.3	558.74 ug/L	558.74 ppb	16:39:18
2	Tl 190.801†	1726.1	1923.2	546.47 ug/L	546.47 ppb	16:39:38
2	U 409.014†	11952.0	18121.9	533.46 ug/L	533.46 ppb	16:39:18
2	V 292.402†	73825.7	82105.7	553.46 ug/L	553.46 ppb	16:39:18
2	Zn 213.857†	60659.0	65313.5	549.44 ug/L	549.44 ppb	16:39:18
2	SiO2†	82582.6	89322.4	5681.3 ug/L	5681.3 ppb	16:40:16
3	Sc Radial	4400.2	4400.2	107 %		16:38:22
3	Y RADIAL	4916.9	4916.9	101.6 %		16:38:22
3	Al 396.153Radial†	6105.4	5914.3	4859.3 ug/L	4859.3 ppb	16:38:22
3	Ca 317.933Radial†	2883.0	2689.7	4979.0 ug/L	4979.0 ppb	16:38:42
3	Fe 238.204 Radial†	479.9	439.9	5126.3 ug/L	5126.3 ppb	16:38:42
3	K 766.490 Radial†	29724.0	25243.8	4798.7 ug/L	4798.7 ppb	16:38:22
3	Mg 279.077 IEC†	128.2	120.3	5067.6 ug/L	5067.6 ppb	16:38:42
3	Na 589.592 Radial†	33241.1	32817.9	10113 ug/L	10113 ppb	16:38:22
3	Sr 421.552†	79835.7	74814.5	493.93 ug/L	493.93 ppb	16:38:22
3	Sc 361.383	889726.2	889726.2	99.877 %		16:39:46
3	Y 371.029	716638.6	716638.6	97.602 %		16:39:46
3	Ag 328.068†	112011.0	111524.9	491.08 ug/L	491.08 ppb	16:39:46
3	As 188.979†	1245.4	1275.7	494.27 ug/L	494.27 ppb	16:40:06
3	B 249.677†	22138.9	22927.4	477.14 ug/L	477.14 ppb	16:39:46
3	Ba 233.527†	67311.8	67410.3	493.94 ug/L	493.94 ppb	16:39:46
3	Be 313.107†	1443799.9	1449987.2	487.62 ug/L	487.62 ppb	16:39:46
3	Cd 226.502†	48009.5	48273.0	498.35 ug/L	498.35 ppb	16:39:46
3	Co 228.616†	26609.4	26727.4	492.74 ug/L	492.74 ppb	16:40:06
3	Cr 267.716†	47836.7	47834.0	493.03 ug/L	493.03 ppb	16:39:46
3	Cu 324.752†	184279.1	177620.0	494.03 ug/L	494.03 ppb	16:39:46
3	Mn 257.610†	493861.0	493939.5	495.89 ug/L	495.89 ppb	16:39:46
3	Mo 202.031†	7455.3	7459.3	496.19 ug/L	496.19 ppb	16:40:06
3	Ni 231.604†	22220.1	22162.4	493.53 ug/L	493.53 ppb	16:40:06
3	P 214.914†	5004.4	4787.3	2389.3 ug/L	2389.3 ppb	16:40:06
3	Pb 220.353†	4580.8	4666.1	502.22 ug/L	502.22 ppb	16:40:06
3	S 181.975 Axial†	841.3	793.4	968.36 ug/L	968.36 ppb	16:40:06
3	Sb 206.836†	1645.3	1609.0	509.46 ug/L	509.46 ppb	16:40:06
3	Se 196.026†	866.5	893.6	514.04 ug/L	514.04 ppb	16:40:06
3	Si 251.611†	83087.7	82654.7	2454.2 ug/L	2454.2 ppb	16:39:46
3	Sn 189.927†	3077.6	3072.0	497.12 ug/L	497.12 ppb	16:40:06
3	Ti 334.940†	331823.3	334037.7	498.97 ug/L	498.97 ppb	16:39:46
3	Tl 190.801†	1716.4	1763.0	500.81 ug/L	500.81 ppb	16:40:06
3	U 409.014†	11452.0	16579.3	488.05 ug/L	488.05 ppb	16:39:46
3	V 292.402†	71727.8	73568.6	496.02 ug/L	496.02 ppb	16:39:46
3	Zn 213.857†	58811.4	58175.0	489.26 ug/L	489.26 ppb	16:39:46
3	SiO2†	82716.4	82256.4	5231.9 ug/L	5231.9 ppb	16:40:21

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867094.9	97.336 %	4.7322			4.86%
Sc Radial	4361.6	106 %	0.9			0.86%
Y 371.029	698219.3	95.093 %	4.6007			4.84%
Y RADIAL	4846.0	100.1 %	1.28			1.28%
Ag 328.068†	115726.2	509.56 ug/L	32.595	509.56 ppb	32.595	6.40%
QC value within limits for Ag 328.068 Recovery = 101.91%						
Al 396.153Radial†	5995.0	4925.0 ug/L	60.55	4925.0 ppb	60.55	1.23%
QC value within limits for Al 396.153Radial Recovery = 98.50%						
As 188.979†	1329.0	514.92 ug/L	22.187	514.92 ppb	22.187	4.31%
QC value within limits for As 188.979 Recovery = 102.98%						
B 249.677†	23727.2	493.79 ug/L	30.194	493.79 ppb	30.194	6.11%
QC value within limits for B 249.677 Recovery = 98.76%						
Ba 233.527†	70137.5	513.92 ug/L	33.997	513.92 ppb	33.997	6.62%
QC value within limits for Ba 233.527 Recovery = 102.78%						
Be 313.107†	1509799.2	507.74 ug/L	33.525	507.74 ppb	33.525	6.60%
QC value within limits for Be 313.107 Recovery = 101.55%						
Ca 317.933Radial†	2741.8	5075.4 ug/L	84.91	5075.4 ppb	84.91	1.67%

QC value within limits for Ca 317.933Radial Recovery = 101.51%							
Cd	226.502†	50177.9	518.02 ug/L	34.315	518.02 ppb	34.315	6.62%
QC value within limits for Cd 226.502 Recovery = 103.60%							
Co	228.616†	27743.8	511.48 ug/L	24.158	511.48 ppb	24.158	4.72%
QC value within limits for Co 228.616 Recovery = 102.30%							
Cr	267.716†	49775.2	513.04 ug/L	34.572	513.04 ppb	34.572	6.74%
QC value within limits for Cr 267.716 Recovery = 102.61%							
Cu	324.752†	185057.5	514.72 ug/L	34.716	514.72 ppb	34.716	6.74%
QC value within limits for Cu 324.752 Recovery = 102.94%							
Fe	238.204 Radial†	451.4	5260.5 ug/L	119.88	5260.5 ppb	119.88	2.28%
QC value within limits for Fe 238.204 Radial Recovery = 105.21%							
K	766.490 Radial†	25640.5	4874.1 ug/L	66.29	4874.1 ppb	66.29	1.36%
QC value within limits for K 766.490 Radial Recovery = 97.48%							
Mg	279.077 IEC†	125.3	5279.1 ug/L	206.11	5279.1 ppb	206.11	3.90%
QC value within limits for Mg 279.077 IEC Recovery = 105.58%							
Mn	257.610†	513625.3	515.64 ug/L	34.443	515.64 ppb	34.443	6.68%
QC value within limits for Mn 257.610 Recovery = 103.13%							
Mo	202.031†	7748.1	515.40 ug/L	24.808	515.40 ppb	24.808	4.81%
QC value within limits for Mo 202.031 Recovery = 103.08%							
Na	589.592 Radial†	33318.9	10267 ug/L	136.0	10267 ppb	136.0	1.33%
QC value within limits for Na 589.592 Radial Recovery = 102.67%							
Ni	231.604†	22990.4	511.98 ug/L	23.700	511.98 ppb	23.700	4.63%
QC value within limits for Ni 231.604 Recovery = 102.40%							
P	214.914†	4983.4	2487.1 ug/L	126.82	2487.1 ppb	126.82	5.10%
QC value within limits for P 214.914 Recovery = 99.48%							
Pb	220.353†	4829.5	519.79 ug/L	23.079	519.79 ppb	23.079	4.44%
QC value within limits for Pb 220.353 Recovery = 103.96%							
S	181.975 Axial†	831.4	1014.7 ug/L	59.35	1014.7 ppb	59.35	5.85%
QC value within limits for S 181.975 Axial Recovery = 101.47%							
Sb	206.836†	1667.1	527.90 ug/L	26.209	527.90 ppb	26.209	4.96%
QC value within limits for Sb 206.836 Recovery = 105.58%							
Se	196.026†	924.5	531.71 ug/L	20.331	531.71 ppb	20.331	3.82%
QC value within limits for Se 196.026 Recovery = 106.34%							
Si	251.611†	85940.9	2551.8 ug/L	167.31	2551.8 ppb	167.31	6.56%
QC value within limits for Si 251.611 Recovery = 102.07%							
Sn	189.927†	3193.4	516.76 ug/L	23.395	516.76 ppb	23.395	4.53%
QC value within limits for Sn 189.927 Recovery = 103.35%							
Sr	421.552†	75807.7	500.49 ug/L	5.817	500.49 ppb	5.817	1.16%
QC value within limits for Sr 421.552 Recovery = 100.10%							
Ti	334.940†	347308.6	518.78 ug/L	34.604	518.78 ppb	34.604	6.67%
QC value within limits for Ti 334.940 Recovery = 103.76%							
Tl	190.801†	1830.8	520.07 ug/L	23.652	520.07 ppb	23.652	4.55%
QC value within limits for Tl 190.801 Recovery = 104.01%							
U	409.014†	17109.2	503.64 ug/L	25.836	503.64 ppb	25.836	5.13%
QC value within limits for U 409.014 Recovery = 100.73%							
V	292.402†	76442.6	515.40 ug/L	32.968	515.40 ppb	32.968	6.40%
QC value within limits for V 292.402 Recovery = 103.08%							
Zn	213.857†	60591.6	509.60 ug/L	34.499	509.60 ppb	34.499	6.77%
QC value within limits for Zn 213.857 Recovery = 101.92%							
SiO2†		85188.7	5418.4 ug/L	234.19	5418.4 ppb	234.19	4.32%
QC value within limits for SiO2 Recovery = 101.33%							
All analyte(s) passed QC.							

Sequence No.: 19

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 16:42:32

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4432.1	4432.1	107 %		16:44:24
1	Y RADIAL	4989.4	4989.4	103.1 %		16:44:24
1	Al 396.153Radial†	-149.0	51.4	42.401 ug/L	42.401 ppb	16:44:24
1	Ca 317.933Radial†	25.1	10.0	18.601 ug/L	18.601 ppb	16:44:45
1	Fe 238.204 Radial†	10.3	-0.6	-6.5727 ug/L	-6.5727 ppb	16:44:45
1	K 766.490 Radial†	2657.6	-150.6	-28.682 ug/L	-28.682 ppb	16:44:24
1	Mg 279.077 IEC†	1.0	1.0	42.055 ug/L	42.055 ppb	16:44:45
1	Na 589.592 Radial†	-1612.1	151.6	46.728 ug/L	46.728 ppb	16:44:24
1	Sr 421.552†	2.1	-34.5	-0.2279 ug/L	-0.2279 ppb	16:44:24
1	Sc 361.383	902754.0	902754.0	101.34 %		16:45:41
1	Y 371.029	738257.2	738257.2	100.55 %		16:45:41
1	Ag 328.068†	532.4	-99.2	-0.4556 ug/L	-0.4556 ppb	16:45:46
1	As 188.979†	-34.9	-5.7	-2.1785 ug/L	-2.1785 ppb	16:46:06
1	B 249.677†	-614.2	155.0	3.2413 ug/L	3.2413 ppb	16:46:06
1	Ba 233.527†	-3.9	11.5	0.0849 ug/L	0.0849 ppb	16:46:06
1	Be 313.107†	-4307.3	152.7	0.0514 ug/L	0.0514 ppb	16:45:46
1	Cd 226.502†	-192.3	14.4	0.1545 ug/L	0.1545 ppb	16:46:06
1	Co 228.616†	-83.9	2.3	0.0433 ug/L	0.0433 ppb	16:46:06
1	Cr 267.716†	78.5	15.6	0.1512 ug/L	0.1512 ppb	16:45:46
1	Cu 324.752†	8459.0	1460.4	4.0469 ug/L	4.0469 ppb	16:45:46
1	Mn 257.610†	501.6	-36.8	-0.0393 ug/L	-0.0393 ppb	16:46:06
1	Mo 202.031†	9.1	3.7	0.2466 ug/L	0.2466 ppb	16:46:06
1	Ni 231.604†	95.1	8.7	0.1941 ug/L	0.1941 ppb	16:46:06
1	P 214.914†	235.8	9.4	4.1195 ug/L	4.1195 ppb	16:46:06
1	Pb 220.353†	-51.2	29.2	3.1361 ug/L	3.1361 ppb	16:46:06
1	S 181.975 Axial†	44.9	-4.6	-5.6528 ug/L	-5.6528 ppb	16:46:06
1	Sb 206.836†	47.9	8.9	2.7204 ug/L	2.7204 ppb	16:46:06
1	Se 196.026†	-23.7	2.6	1.4336 ug/L	1.4336 ppb	16:46:06
1	Si 251.611†	499.6	-42.7	-1.2746 ug/L	-1.2746 ppb	16:46:06
1	Sn 189.927†	12.3	2.7	0.4400 ug/L	0.4400 ppb	16:46:06
1	Ti 334.940†	-1784.3	43.7	0.0527 ug/L	0.0527 ppb	16:45:46
1	Tl 190.801†	-43.1	1.9	0.5405 ug/L	0.5405 ppb	16:46:06
1	U 409.014†	-4274.7	894.9	26.435 ug/L	26.435 ppb	16:45:41
1	V 292.402†	-1696.2	78.4	0.5772 ug/L	0.5772 ppb	16:45:46
1	Zn 213.857†	787.0	67.5	0.5663 ug/L	0.5663 ppb	16:46:06
1	SiO2†	509.2	-59.7	-3.8162 ug/L	-3.8162 ppb	16:47:12
2	Sc Radial	4542.8	4542.8	110 %		16:44:50
2	Y RADIAL	5125.6	5125.6	105.9 %		16:44:50
2	Al 396.153Radial†	-157.2	47.3	39.034 ug/L	39.034 ppb	16:44:50
2	Ca 317.933Radial†	18.8	3.7	6.8848 ug/L	6.8848 ppb	16:45:10
2	Fe 238.204 Radial†	8.9	-2.0	-23.759 ug/L	-23.759 ppb	16:45:10
2	K 766.490 Radial†	2653.2	-214.8	-40.911 ug/L	-40.911 ppb	16:44:50
2	Mg 279.077 IEC†	4.1	3.7	158.04 ug/L	158.04 ppb	16:45:10
2	Na 589.592 Radial†	-1614.2	186.3	57.420 ug/L	57.420 ppb	16:44:50
2	Sr 421.552†	19.6	-18.6	-0.1232 ug/L	-0.1232 ppb	16:44:50
2	Sc 361.383	901197.1	901197.1	101.16 %		16:46:12
2	Y 371.029	736312.6	736312.6	100.28 %		16:46:12
2	Ag 328.068†	581.7	-49.5	-0.2414 ug/L	-0.2414 ppb	16:46:17
2	As 188.979†	-19.3	9.7	3.7220 ug/L	3.7220 ppb	16:46:37
2	B 249.677†	-650.3	118.3	2.4776 ug/L	2.4776 ppb	16:46:37
2	Ba 233.527†	-4.4	11.0	0.0825 ug/L	0.0825 ppb	16:46:37
2	Be 313.107†	-4306.6	146.0	0.0496 ug/L	0.0496 ppb	16:46:17
2	Cd 226.502†	-209.5	-2.9	-0.0226 ug/L	-0.0226 ppb	16:46:37
2	Co 228.616†	-104.3	-17.9	-0.3290 ug/L	-0.3290 ppb	16:46:37
2	Cr 267.716†	79.1	16.4	0.1588 ug/L	0.1588 ppb	16:46:17
2	Cu 324.752†	8727.0	1739.7	4.8223 ug/L	4.8223 ppb	16:46:17
2	Mn 257.610†	512.1	-25.6	-0.0345 ug/L	-0.0345 ppb	16:46:37
2	Mo 202.031†	14.6	9.2	0.6121 ug/L	0.6121 ppb	16:46:37
2	Ni 231.604†	84.0	-2.1	-0.0473 ug/L	-0.0473 ppb	16:46:37

2	P 214.914†	236.0	10.0	4.2626 ug/L	4.2626 ppb	16:46:37
2	Pb 220.353†	-64.3	16.1	1.7317 ug/L	1.7317 ppb	16:46:37
2	S 181.975 Axial†	54.7	5.2	6.3601 ug/L	6.3601 ppb	16:46:37
2	Sb 206.836†	44.1	5.2	1.6034 ug/L	1.6034 ppb	16:46:37
2	Se 196.026†	-44.3	-17.8	-9.9593 ug/L	-9.9593 ppb	16:46:37
2	Si 251.611†	501.0	-40.5	-1.2131 ug/L	-1.2131 ppb	16:46:37
2	Sn 189.927†	13.3	3.7	0.5947 ug/L	0.5947 ppb	16:46:37
2	Ti 334.940†	-1651.0	172.4	0.2334 ug/L	0.2334 ppb	16:46:17
2	Tl 190.801†	-41.9	3.0	0.8588 ug/L	0.8588 ppb	16:46:37
2	U 409.014†	-4223.7	938.0	27.709 ug/L	27.709 ppb	16:46:12
2	V 292.402†	-1568.2	202.0	1.4120 ug/L	1.4120 ppb	16:46:17
2	Zn 213.857†	802.9	84.6	0.7137 ug/L	0.7137 ppb	16:46:37
2	SiO2†	482.9	-84.9	-5.4300 ug/L	-5.4300 ppb	16:47:17
3	Sc Radial	4499.0	4499.0	109 %		16:45:15
3	Y RADIAL	5042.0	5042.0	104.1 %		16:45:15
3	Al 396.153Radial†	-148.6	53.8	44.428 ug/L	44.428 ppb	16:45:15
3	Ca 317.933Radial†	24.3	9.0	16.599 ug/L	16.599 ppb	16:45:35
3	Fe 238.204 Radial†	10.5	-0.5	-5.6373 ug/L	-5.6373 ppb	16:45:35
3	K 766.490 Radial†	2711.8	-137.6	-26.216 ug/L	-26.216 ppb	16:45:15
3	Mg 279.077 IEC†	-2.6	-2.3	-98.109 ug/L	-98.109 ppb	16:45:35
3	Na 589.592 Radial†	-1606.9	178.8	55.095 ug/L	55.095 ppb	16:45:15
3	Sr 421.552†	10.1	-27.2	-0.1795 ug/L	-0.1795 ppb	16:45:15
3	Sc 361.383	911824.6	911824.6	102.36 %		16:46:42
3	Y 371.029	744775.4	744775.4	101.43 %		16:46:42
3	Ag 328.068†	489.0	-146.7	-0.6655 ug/L	-0.6655 ppb	16:46:47
3	As 188.979†	-25.6	3.7	1.4362 ug/L	1.4362 ppb	16:47:07
3	B 249.677†	-669.5	107.0	2.2389 ug/L	2.2389 ppb	16:47:07
3	Ba 233.527†	-17.6	-1.9	-0.0130 ug/L	-0.0130 ppb	16:47:07
3	Be 313.107†	-4251.6	249.4	0.0844 ug/L	0.0844 ppb	16:46:47
3	Cd 226.502†	-208.4	0.6	0.0120 ug/L	0.0120 ppb	16:47:07
3	Co 228.616†	-94.6	-7.2	-0.1330 ug/L	-0.1330 ppb	16:47:07
3	Cr 267.716†	118.0	53.5	0.5397 ug/L	0.5397 ppb	16:46:47
3	Cu 324.752†	8594.6	1509.8	4.1832 ug/L	4.1832 ppb	16:46:47
3	Mn 257.610†	482.3	-60.5	-0.0573 ug/L	-0.0573 ppb	16:47:07
3	Mo 202.031†	14.2	8.6	0.5727 ug/L	0.5727 ppb	16:47:07
3	Ni 231.604†	89.2	1.9	0.0434 ug/L	0.0434 ppb	16:47:07
3	P 214.914†	228.7	0.2	-0.7338 ug/L	-0.7338 ppb	16:47:07
3	Pb 220.353†	-53.4	27.4	2.9541 ug/L	2.9541 ppb	16:47:07
3	S 181.975 Axial†	47.8	-2.2	-2.7119 ug/L	-2.7119 ppb	16:47:07
3	Sb 206.836†	42.6	3.2	0.9855 ug/L	0.9855 ppb	16:47:07
3	Se 196.026†	-37.2	-10.3	-5.7412 ug/L	-5.7412 ppb	16:47:07
3	Si 251.611†	487.9	-59.1	-1.7661 ug/L	-1.7661 ppb	16:47:07
3	Sn 189.927†	14.2	4.5	0.7278 ug/L	0.7278 ppb	16:47:07
3	Ti 334.940†	-1617.0	224.6	0.3330 ug/L	0.3330 ppb	16:46:47
3	Tl 190.801†	-49.7	-4.1	-1.1624 ug/L	-1.1624 ppb	16:47:07
3	U 409.014†	-4234.6	976.0	28.830 ug/L	28.830 ppb	16:46:42
3	V 292.402†	-1715.1	76.5	0.5708 ug/L	0.5708 ppb	16:46:47
3	Zn 213.857†	783.2	56.0	0.4701 ug/L	0.4701 ppb	16:47:07
3	SiO2†	459.3	-113.5	-7.2552 ug/L	-7.2552 ppb	16:47:22

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	905258.6	101.62 %	0.644			0.63%
Sc Radial	4491.3	109 %	1.4			1.24%
Y 371.029	739781.7	100.75 %	0.604			0.60%
Y RADIAL	5052.3	104.4 %	1.42			1.36%
Ag 328.068†	-98.5	-0.4542 ug/L	0.21205	-0.4542 ppb	0.21205	46.69%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	50.8	41.955 ug/L	2.7245	41.955 ppb	2.7245	6.49%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.6	0.9932 ug/L	2.97505	0.9932 ppb	2.97505	299.53%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	126.8	2.6526 ug/L	0.52361	2.6526 ppb	0.52361	19.74%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	6.9	0.0515 ug/L	0.05586	0.0515 ppb	0.05586	108.53%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	182.7	0.0618 ug/L	0.01962	0.0618 ppb	0.01962	31.75%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	7.6	14.028 ug/L	6.2668	14.028 ppb	6.2668	44.67%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	4.0	0.0480 ug/L	0.09388	0.0480 ppb	0.09388	195.66%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-7.6	-0.1396 ug/L	0.18620	-0.1396 ppb	0.18620	133.40%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	28.5	0.2832 ug/L	0.22216	0.2832 ppb	0.22216	78.44%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	1570.0	4.3508 ug/L	0.41396	4.3508 ppb	0.41396	9.51%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	-1.0	-11.990 ug/L	10.2031	-11.990 ppb	10.2031	85.10%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-167.6	-31.936 ug/L	7.8692	-31.936 ppb	7.8692	24.64%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.8	33.995 ug/L	128.2650	33.995 ppb	128.2650	377.30%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-41.0	-0.0437 ug/L	0.01201	-0.0437 ppb	0.01201	27.49%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	7.2	0.4771 ug/L	0.20057	0.4771 ppb	0.20057	42.04%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	172.3	53.081 ug/L	5.6229	53.081 ppb	5.6229	10.59%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	2.8	0.0634 ug/L	0.12198	0.0634 ppb	0.12198	192.43%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	6.5	2.5494 ug/L	2.84425	2.5494 ppb	2.84425	111.56%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	24.2	2.6073 ug/L	0.76373	2.6073 ppb	0.76373	29.29%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-0.5	-0.6682 ug/L	6.26176	-0.6682 ppb	6.26176	937.13%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	5.7	1.7698 ug/L	0.87935	1.7698 ppb	0.87935	49.69%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-8.5	-4.7556 ug/L	5.76009	-4.7556 ppb	5.76009	121.12%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-47.4	-1.4180 ug/L	0.30305	-1.4180 ppb	0.30305	21.37%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	3.6	0.5875 ug/L	0.14400	0.5875 ppb	0.14400	24.51%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-26.8	-0.1769 ug/L	0.05245	-0.1769 ppb	0.05245	29.65%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	146.9	0.2064 ug/L	0.14211	0.2064 ppb	0.14211	68.87%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	0.3	0.0790 ug/L	1.08676	0.0790 ppb	1.08676	>999.9%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	936.3	27.658 ug/L	1.1985	27.658 ppb	1.1985	4.33%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	119.0	0.8533 ug/L	0.48382	0.8533 ppb	0.48382	56.70%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	69.4	0.5833 ug/L	0.12270	0.5833 ppb	0.12270	21.03%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-86.1	-5.5004 ug/L	1.72060	-5.5004 ppb	1.72060	31.28%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						



## ===== Analysis Begun

Start Time: 2/1/2010 17:04:26

Plasma On Time: 2/1/2010 05:43:14

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\020110.sif

Batch ID:

Results Data Set: 020110

Results Library: C:\pe\Optima3\Results\Results.mdb
=====

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 2/1/2010 17:04:27

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:
=====

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4520.1	4520.1	110 %		17:06:19
1	Y RADIAL	5033.1	5033.1	104.0 %		17:06:19
1	Al 396.153Radial†	6233.7	5879.6	4830.7 ug/L	4830.7 ppb	17:06:19
1	Ca 317.933Radial†	2951.5	2680.5	4962.0 ug/L	4962.0 ppb	17:06:39
1	Fe 238.204 Radial†	483.6	431.3	5026.9 ug/L	5026.9 ppb	17:06:39
1	K 766.490 Radial†	30249.2	24984.2	4749.3 ug/L	4749.3 ppb	17:06:19
1	Mg 279.077 IEC†	135.2	123.4	5200.8 ug/L	5200.8 ppb	17:06:39
1	Na 589.592 Radial†	33570.0	32291.7	9950.7 ug/L	9950.7 ppb	17:06:19
1	Sr 421.552†	81361.1	74222.0	490.02 ug/L	490.02 ppb	17:06:19
1	Sc 361.383	903485.0	903485.0	101.42 %		17:07:38
1	Y 371.029	728529.9	728529.9	99.221 %		17:07:38
1	Ag 328.068†	113713.8	111496.0	490.92 ug/L	490.92 ppb	17:07:38
1	As 188.979†	1269.4	1280.4	496.05 ug/L	496.05 ppb	17:07:58
1	B 249.677†	22321.8	22770.1	473.88 ug/L	473.88 ppb	17:07:38
1	Ba 233.527†	68183.3	67243.3	492.72 ug/L	492.72 ppb	17:07:38
1	Be 313.107†	1466366.4	1450223.3	487.70 ug/L	487.70 ppb	17:07:38
1	Cd 226.502†	48470.4	47995.3	495.49 ug/L	495.49 ppb	17:07:38
1	Co 228.616†	26795.3	26505.0	488.64 ug/L	488.64 ppb	17:07:58
1	Cr 267.716†	48493.6	47752.3	492.18 ug/L	492.18 ppb	17:07:38
1	Cu 324.752†	186344.7	176846.8	491.87 ug/L	491.87 ppb	17:07:38
1	Mn 257.610†	499032.0	491508.0	493.43 ug/L	493.43 ppb	17:07:38
1	Mo 202.031†	7553.1	7442.1	495.04 ug/L	495.04 ppb	17:07:58
1	Ni 231.604†	22344.7	21946.4	488.73 ug/L	488.73 ppb	17:07:58
1	P 214.914†	5001.1	4707.7	2348.4 ug/L	2348.4 ppb	17:07:58
1	Pb 220.353†	4605.1	4620.2	497.30 ug/L	497.30 ppb	17:07:58
1	S 181.975 Axial†	842.7	782.0	954.44 ug/L	954.44 ppb	17:07:58
1	Sb 206.836†	1646.8	1585.3	502.11 ug/L	502.11 ppb	17:07:58
1	Se 196.026†	878.7	892.3	513.01 ug/L	513.01 ppb	17:07:58
1	Si 251.611†	83949.5	82237.5	2441.8 ug/L	2441.8 ppb	17:07:38
1	Sn 189.927†	3081.5	3028.9	490.15 ug/L	490.15 ppb	17:07:58
1	Ti 334.940†	336658.6	333745.8	498.52 ug/L	498.52 ppb	17:07:38
1	Tl 190.801†	1722.7	1743.1	495.19 ug/L	495.19 ppb	17:07:58
1	U 409.014†	11877.4	16824.1	495.29 ug/L	495.29 ppb	17:07:38
1	V 292.402†	72952.4	73682.4	496.79 ug/L	496.79 ppb	17:07:38
1	Zn 213.857†	59371.7	57830.6	486.38 ug/L	486.38 ppb	17:07:38
1	SiO2†	83626.9	81892.9	5208.8 ug/L	5208.8 ppb	17:08:58
2	Sc Radial	4636.7	4636.7	112 %		17:06:44
2	Y RADIAL	5174.0	5174.0	106.9 %		17:06:44
2	Al 396.153Radial†	6021.9	5548.1	4557.0 ug/L	4557.0 ppb	17:06:44
2	Ca 317.933Radial†	2876.0	2545.6	4712.3 ug/L	4712.3 ppb	17:07:04
2	Fe 238.204 Radial†	475.0	412.5	4808.2 ug/L	4808.2 ppb	17:07:04
2	K 766.490 Radial†	29342.0	23482.9	4463.8 ug/L	4463.8 ppb	17:06:44
2	Mg 279.077 IEC†	128.8	114.6	4831.3 ug/L	4831.3 ppb	17:07:04
2	Na 589.592 Radial†	32528.3	30594.5	9427.7 ug/L	9427.7 ppb	17:06:44
2	Sr 421.552†	79115.6	70357.1	464.51 ug/L	464.51 ppb	17:06:44
2	Sc 361.383	898415.2	898415.2	100.85 %		17:08:05
2	Y 371.029	724172.6	724172.6	98.628 %		17:08:05

2	Ag 328.068†	112673.3	111097.0	489.09 ug/L	489.09 ppb	17:08:05
2	As 188.979†	1254.2	1272.3	492.90 ug/L	492.90 ppb	17:08:25
2	B 249.677†	22156.0	22730.0	473.07 ug/L	473.07 ppb	17:08:05
2	Ba 233.527†	67815.1	67257.5	492.81 ug/L	492.81 ppb	17:08:05
2	Be 313.107†	1452052.1	1444188.7	485.67 ug/L	485.67 ppb	17:08:05
2	Cd 226.502†	47999.6	47798.2	493.48 ug/L	493.48 ppb	17:08:05
2	Co 228.616†	26647.2	26507.2	488.69 ug/L	488.69 ppb	17:08:25
2	Cr 267.716†	48023.2	47555.7	490.15 ug/L	490.15 ppb	17:08:05
2	Cu 324.752†	185062.4	176612.2	491.21 ug/L	491.21 ppb	17:08:05
2	Mn 257.610†	495982.9	491261.2	493.18 ug/L	493.18 ppb	17:08:05
2	Mo 202.031†	7493.7	7425.2	493.90 ug/L	493.90 ppb	17:08:25
2	Ni 231.604†	22236.3	21963.3	489.10 ug/L	489.10 ppb	17:08:25
2	P 214.914†	4975.7	4710.4	2350.0 ug/L	2350.0 ppb	17:08:25
2	Pb 220.353†	4565.1	4606.2	495.75 ug/L	495.75 ppb	17:08:25
2	S 181.975 Axial†	838.4	782.5	954.99 ug/L	954.99 ppb	17:08:25
2	Sb 206.836†	1635.7	1583.5	501.54 ug/L	501.54 ppb	17:08:25
2	Se 196.026†	860.7	879.4	505.12 ug/L	505.12 ppb	17:08:25
2	Si 251.611†	83364.3	82124.4	2438.4 ug/L	2438.4 ppb	17:08:05
2	Sn 189.927†	3077.1	3041.7	492.18 ug/L	492.18 ppb	17:08:25
2	Ti 334.940†	334135.1	333116.8	497.57 ug/L	497.57 ppb	17:08:05
2	Tl 190.801†	1708.7	1738.7	493.96 ug/L	493.96 ppb	17:08:25
2	U 409.014†	11898.6	16911.2	497.89 ug/L	497.89 ppb	17:08:05
2	V 292.402†	72210.2	73352.3	494.61 ug/L	494.61 ppb	17:08:05
2	Zn 213.857†	58819.2	57613.2	484.56 ug/L	484.56 ppb	17:08:05
2	SiO2†	83821.4	82551.1	5250.8 ug/L	5250.8 ppb	17:09:03
3	Sc Radial	4408.3	4408.3	107 %		17:07:09
3	Y RADIAL	4889.5	4889.5	101.0 %		17:07:09
3	Al 396.153Radial†	6245.3	6034.7	4958.9 ug/L	4958.9 ppb	17:07:09
3	Ca 317.933Radial†	2891.5	2692.7	4984.5 ug/L	4984.5 ppb	17:07:29
3	Fe 238.204 Radial†	481.9	440.9	5138.2 ug/L	5138.2 ppb	17:07:29
3	K 766.490 Radial†	30111.4	25555.1	4857.9 ug/L	4857.9 ppb	17:07:09
3	Mg 279.077 IEC†	133.1	124.7	5252.4 ug/L	5252.4 ppb	17:07:29
3	Na 589.592 Radial†	33358.0	32870.0	10129 ug/L	10129 ppb	17:07:09
3	Sr 421.552†	80956.8	75726.0	499.95 ug/L	499.95 ppb	17:07:09
3	Sc 361.383	906367.2	906367.2	101.74 %		17:08:33
3	Y 371.029	729807.2	729807.2	99.395 %		17:08:33
3	Ag 328.068†	113986.1	111407.0	490.55 ug/L	490.55 ppb	17:08:33
3	As 188.979†	1244.8	1252.2	485.27 ug/L	485.27 ppb	17:08:53
3	B 249.677†	22467.0	22842.9	475.39 ug/L	475.39 ppb	17:08:33
3	Ba 233.527†	68411.5	67253.8	492.80 ug/L	492.80 ppb	17:08:33
3	Be 313.107†	1466062.3	1445326.7	486.06 ug/L	486.06 ppb	17:08:33
3	Cd 226.502†	48645.2	48015.2	495.68 ug/L	495.68 ppb	17:08:33
3	Co 228.616†	26743.2	26369.8	486.14 ug/L	486.14 ppb	17:08:53
3	Cr 267.716†	48548.0	47653.7	491.17 ug/L	491.17 ppb	17:08:33
3	Cu 324.752†	187688.0	177582.9	493.93 ug/L	493.93 ppb	17:08:33
3	Mn 257.610†	500884.2	491763.8	493.70 ug/L	493.70 ppb	17:08:33
3	Mo 202.031†	7530.0	7395.7	491.97 ug/L	491.97 ppb	17:08:53
3	Ni 231.604†	22313.7	21845.9	486.49 ug/L	486.49 ppb	17:08:53
3	P 214.914†	5035.8	4726.2	2357.5 ug/L	2357.5 ppb	17:08:53
3	Pb 220.353†	4606.5	4607.1	495.90 ug/L	495.90 ppb	17:08:53
3	S 181.975 Axial†	842.8	779.4	951.24 ug/L	951.24 ppb	17:08:53
3	Sb 206.836†	1651.2	1584.5	501.75 ug/L	501.75 ppb	17:08:53
3	Se 196.026†	875.5	886.4	510.12 ug/L	510.12 ppb	17:08:53
3	Si 251.611†	84321.6	82340.0	2444.9 ug/L	2444.9 ppb	17:08:33
3	Sn 189.927†	3086.7	3024.3	489.42 ug/L	489.42 ppb	17:08:53
3	Ti 334.940†	337936.4	333946.2	498.82 ug/L	498.82 ppb	17:08:33
3	Tl 190.801†	1717.7	1732.7	492.29 ug/L	492.29 ppb	17:08:53
3	U 409.014†	11933.9	16842.4	495.82 ug/L	495.82 ppb	17:08:33
3	V 292.402†	72836.8	73340.1	494.46 ug/L	494.46 ppb	17:08:33
3	Zn 213.857†	59637.7	57906.0	487.02 ug/L	487.02 ppb	17:08:33
3	SiO2†	83024.9	81039.0	5154.4 ug/L	5154.4 ppb	17:09:09

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	902755.8	101.34 %	0.452			0.45%
Sc Radial	4521.7	110 %	2.8			2.52%
Y 371.029	727503.2	99.082 %	0.4024			0.41%
Y RADIAL	5032.2	103.9 %	2.94			2.83%
Ag 328.068†	111333.3	490.19 ug/L	0.966	490.19 ppb	0.966	0.20%

QC value within limits for Ag 328.068 Recovery = 98.04%							
Al 396.153Radial†	5820.8	4782.2 ug/L	205.28	4782.2 ppb	205.28	4.29%	
QC value within limits for Al 396.153Radial Recovery = 95.64%							
As 188.979†	1268.3	491.41 ug/L	5.544	491.41 ppb	5.544	1.13%	
QC value within limits for As 188.979 Recovery = 98.28%							
B 249.677†	22781.0	474.11 ug/L	1.175	474.11 ppb	1.175	0.25%	
QC value within limits for B 249.677 Recovery = 94.82%							
Ba 233.527†	67251.5	492.78 ug/L	0.049	492.78 ppb	0.049	0.01%	
QC value within limits for Ba 233.527 Recovery = 98.56%							
Be 313.107†	1446579.6	486.48 ug/L	1.076	486.48 ppb	1.076	0.22%	
QC value within limits for Be 313.107 Recovery = 97.30%							
Ca 317.933Radial†	2639.6	4886.3 ug/L	151.07	4886.3 ppb	151.07	3.09%	
QC value within limits for Ca 317.933Radial Recovery = 97.73%							
Cd 226.502†	47936.3	494.88 ug/L	1.221	494.88 ppb	1.221	0.25%	
QC value within limits for Cd 226.502 Recovery = 98.98%							
Co 228.616†	26460.7	487.82 ug/L	1.457	487.82 ppb	1.457	0.30%	
QC value within limits for Co 228.616 Recovery = 97.56%							
Cr 267.716†	47653.9	491.17 ug/L	1.016	491.17 ppb	1.016	0.21%	
QC value within limits for Cr 267.716 Recovery = 98.23%							
Cu 324.752†	177014.0	492.34 ug/L	1.417	492.34 ppb	1.417	0.29%	
QC value within limits for Cu 324.752 Recovery = 98.47%							
Fe 238.204 Radial†	428.2	4991.1 ug/L	167.87	4991.1 ppb	167.87	3.36%	
QC value within limits for Fe 238.204 Radial Recovery = 99.82%							
K 766.490 Radial†	24674.1	4690.4 ug/L	203.55	4690.4 ppb	203.55	4.34%	
QC value within limits for K 766.490 Radial Recovery = 93.81%							
Mg 279.077 IEC†	120.9	5094.8 ug/L	229.68	5094.8 ppb	229.68	4.51%	
QC value within limits for Mg 279.077 IEC Recovery = 101.90%							
Mn 257.610†	491511.0	493.44 ug/L	0.260	493.44 ppb	0.260	0.05%	
QC value within limits for Mn 257.610 Recovery = 98.69%							
Mo 202.031†	7421.0	493.64 ug/L	1.553	493.64 ppb	1.553	0.31%	
QC value within limits for Mo 202.031 Recovery = 98.73%							
Na 589.592 Radial†	31918.7	9835.8 ug/L	364.46	9835.8 ppb	364.46	3.71%	
QC value within limits for Na 589.592 Radial Recovery = 98.36%							
Ni 231.604†	21918.6	488.11 ug/L	1.413	488.11 ppb	1.413	0.29%	
QC value within limits for Ni 231.604 Recovery = 97.62%							
P 214.914†	4714.8	2352.0 ug/L	4.85	2352.0 ppb	4.85	0.21%	
QC value within limits for P 214.914 Recovery = 94.08%							
Pb 220.353†	4611.2	496.31 ug/L	0.853	496.31 ppb	0.853	0.17%	
QC value within limits for Pb 220.353 Recovery = 99.26%							
S 181.975 Axial†	781.3	953.56 ug/L	2.027	953.56 ppb	2.027	0.21%	
QC value within limits for S 181.975 Axial Recovery = 95.36%							
Sb 206.836†	1584.4	501.80 ug/L	0.287	501.80 ppb	0.287	0.06%	
QC value within limits for Sb 206.836 Recovery = 100.36%							
Se 196.026†	886.1	509.42 ug/L	3.993	509.42 ppb	3.993	0.78%	
QC value within limits for Se 196.026 Recovery = 101.88%							
Si 251.611†	82233.9	2441.7 ug/L	3.22	2441.7 ppb	3.22	0.13%	
QC value within limits for Si 251.611 Recovery = 97.67%							
Sn 189.927†	3031.6	490.58 ug/L	1.433	490.58 ppb	1.433	0.29%	
QC value within limits for Sn 189.927 Recovery = 98.12%							
Sr 421.552†	73435.0	484.83 ug/L	18.286	484.83 ppb	18.286	3.77%	
QC value within limits for Sr 421.552 Recovery = 96.97%							
Ti 334.940†	333602.9	498.30 ug/L	0.648	498.30 ppb	0.648	0.13%	
QC value within limits for Ti 334.940 Recovery = 99.66%							
Tl 190.801†	1738.2	493.81 ug/L	1.453	493.81 ppb	1.453	0.29%	
QC value within limits for Tl 190.801 Recovery = 98.76%							
U 409.014†	16859.2	496.33 ug/L	1.375	496.33 ppb	1.375	0.28%	
QC value within limits for U 409.014 Recovery = 99.27%							
V 292.402†	73458.3	495.29 ug/L	1.306	495.29 ppb	1.306	0.26%	
QC value within limits for V 292.402 Recovery = 99.06%							
Zn 213.857†	57783.3	485.99 ug/L	1.279	485.99 ppb	1.279	0.26%	
QC value within limits for Zn 213.857 Recovery = 97.20%							
SiO2†	81827.7	5204.7 ug/L	48.32	5204.7 ppb	48.32	0.93%	
QC value within limits for SiO2 Recovery = 97.33%							
All analyte(s) passed QC.							

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/1/2010 17:11:18

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4183.0	4183.0	101 %		17:13:31
1	Y RADIAL	4799.6	4799.6	99.14 %		17:13:11
1	Al 396.153Radial†	-170.2	22.2	18.332 ug/L	18.332 ppb	17:13:11
1	Ca 317.933Radial†	18.0	4.4	8.1497 ug/L	8.1497 ppb	17:13:31
1	Fe 238.204 Radial†	10.5	0.3	2.9009 ug/L	2.9009 ppb	17:13:31
1	K 766.490 Radial†	2563.1	-96.4	-18.376 ug/L	-18.376 ppb	17:13:11
1	Mg 279.077 IEC†	0.4	0.4	18.050 ug/L	18.050 ppb	17:13:31
1	Na 589.592 Radial†	-1543.1	130.4	40.172 ug/L	40.172 ppb	17:13:11
1	Sr 421.552†	27.2	-9.6	-0.0633 ug/L	-0.0633 ppb	17:13:11
1	Sc 361.383	883603.0	883603.0	99.189 %		17:14:28
1	Y 371.029	725805.8	725805.8	98.850 %		17:14:28
1	Ag 328.068†	500.6	-119.8	-0.5329 ug/L	-0.5329 ppb	17:14:28
1	As 188.979†	-26.0	2.5	0.9625 ug/L	0.9625 ppb	17:14:48
1	B 249.677†	-607.0	149.1	3.1181 ug/L	3.1181 ppb	17:14:48
1	Ba 233.527†	-10.6	4.6	0.0348 ug/L	0.0348 ppb	17:14:48
1	Be 313.107†	-4151.7	217.4	0.0733 ug/L	0.0733 ppb	17:14:28
1	Cd 226.502†	-199.3	3.1	0.0350 ug/L	0.0350 ppb	17:14:48
1	Co 228.616†	-100.6	-16.3	-0.3007 ug/L	-0.3007 ppb	17:14:48
1	Cr 267.716†	112.7	51.8	0.5278 ug/L	0.5278 ppb	17:14:28
1	Cu 324.752†	7982.8	1161.2	3.2218 ug/L	3.2218 ppb	17:14:28
1	Mn 257.610†	500.8	-26.9	-0.0275 ug/L	-0.0275 ppb	17:14:48
1	Mo 202.031†	7.3	2.2	0.1435 ug/L	0.1435 ppb	17:14:48
1	Ni 231.604†	85.4	1.0	0.0220 ug/L	0.0220 ppb	17:14:48
1	P 214.914†	229.7	8.3	3.6854 ug/L	3.6854 ppb	17:14:48
1	Pb 220.353†	-60.0	19.1	2.0537 ug/L	2.0537 ppb	17:14:48
1	S 181.975 Axial†	55.0	6.6	8.0561 ug/L	8.0561 ppb	17:14:48
1	Sb 206.836†	45.8	7.8	2.3908 ug/L	2.3908 ppb	17:14:48
1	Se 196.026†	-24.8	1.0	0.5570 ug/L	0.5570 ppb	17:14:48
1	Si 251.611†	478.8	-53.0	-1.5791 ug/L	-1.5791 ppb	17:14:48
1	Sn 189.927†	11.9	2.5	0.4105 ug/L	0.4105 ppb	17:14:48
1	Ti 334.940†	-1684.8	105.8	0.1511 ug/L	0.1511 ppb	17:14:28
1	Tl 190.801†	-43.5	0.6	0.1761 ug/L	0.1761 ppb	17:14:48
1	U 409.014†	-4578.5	497.2	14.686 ug/L	14.686 ppb	17:14:28
1	V 292.402†	-1653.0	85.7	0.5996 ug/L	0.5996 ppb	17:14:28
1	Zn 213.857†	781.9	79.2	0.6671 ug/L	0.6671 ppb	17:14:48
1	SiO2†	478.2	-80.1	-5.1118 ug/L	-5.1118 ppb	17:15:44
2	Sc Radial	4247.2	4247.2	103 %		17:13:56
2	Y RADIAL	4895.6	4895.6	101.1 %		17:13:36
2	Al 396.153Radial†	-126.6	67.1	55.375 ug/L	55.375 ppb	17:13:36
2	Ca 317.933Radial†	23.0	9.0	16.619 ug/L	16.619 ppb	17:13:56
2	Fe 238.204 Radial†	10.5	0.1	1.4227 ug/L	1.4227 ppb	17:13:56
2	K 766.490 Radial†	2675.6	-25.4	-4.8479 ug/L	-4.8479 ppb	17:13:36
2	Mg 279.077 IEC†	1.9	1.9	78.957 ug/L	78.957 ppb	17:13:56
2	Na 589.592 Radial†	-1563.9	133.2	41.050 ug/L	41.050 ppb	17:13:36
2	Sr 421.552†	32.1	-5.2	-0.0347 ug/L	-0.0347 ppb	17:13:56
2	Sc 361.383	903631.4	903631.4	101.44 %		17:14:54
2	Y 371.029	742223.6	742223.6	101.09 %		17:14:54
2	Ag 328.068†	481.1	-150.3	-0.6668 ug/L	-0.6668 ppb	17:14:54
2	As 188.979†	-28.6	0.6	0.2164 ug/L	0.2164 ppb	17:15:14
2	B 249.677†	-591.7	177.8	3.7167 ug/L	3.7167 ppb	17:15:14
2	Ba 233.527†	-2.6	12.7	0.0955 ug/L	0.0955 ppb	17:15:14
2	Be 313.107†	-4262.7	200.7	0.0681 ug/L	0.0681 ppb	17:14:54
2	Cd 226.502†	-192.6	14.2	0.1503 ug/L	0.1503 ppb	17:15:14
2	Co 228.616†	-76.8	9.5	0.1750 ug/L	0.1750 ppb	17:15:14
2	Cr 267.716†	163.0	98.9	1.0124 ug/L	1.0124 ppb	17:14:54
2	Cu 324.752†	8144.0	1141.8	3.1663 ug/L	3.1663 ppb	17:14:54
2	Mn 257.610†	513.9	-25.1	-0.0283 ug/L	-0.0283 ppb	17:15:14
2	Mo 202.031†	16.1	10.6	0.7058 ug/L	0.7058 ppb	17:15:14
2	Ni 231.604†	92.7	6.2	0.1390 ug/L	0.1390 ppb	17:15:14

2	P 214.914†	249.9	23.1	11.399 ug/L	11.399 ppb	17:15:14
2	Pb 220.353†	-67.0	13.6	1.4738 ug/L	1.4738 ppb	17:15:14
2	S 181.975 Axial†	49.2	-0.3	-0.4372 ug/L	-0.4372 ppb	17:15:14
2	Sb 206.836†	52.4	13.2	4.0600 ug/L	4.0600 ppb	17:15:14
2	Se 196.026†	-24.9	1.4	0.7753 ug/L	0.7753 ppb	17:15:14
2	Si 251.611†	479.1	-63.4	-1.8957 ug/L	-1.8957 ppb	17:15:14
2	Sn 189.927†	11.5	1.9	0.3121 ug/L	0.3121 ppb	17:15:14
2	Ti 334.940†	-1615.2	212.0	0.3047 ug/L	0.3047 ppb	17:14:54
2	Tl 190.801†	-33.6	11.4	3.2056 ug/L	3.2056 ppb	17:15:14
2	U 409.014†	-4595.6	582.6	17.207 ug/L	17.207 ppb	17:14:54
2	V 292.402†	-1610.1	164.9	1.1406 ug/L	1.1406 ppb	17:14:54
2	Zn 213.857†	794.0	73.6	0.6191 ug/L	0.6191 ppb	17:15:14
2	SiO2†	533.8	-36.0	-2.3144 ug/L	-2.3144 ppb	17:15:49
3	Sc Radial	4226.0	4226.0	102 %		17:14:21
3	Y RADIAL	5020.7	5020.7	103.7 %		17:14:01
3	Al 396.153Radial†	-175.5	18.8	15.485 ug/L	15.485 ppb	17:14:01
3	Ca 317.933Radial†	17.4	3.7	6.8398 ug/L	6.8398 ppb	17:14:21
3	Fe 238.204 Radial†	11.8	1.4	16.692 ug/L	16.692 ppb	17:14:21
3	K 766.490 Radial†	2718.2	29.3	5.5542 ug/L	5.5542 ppb	17:14:01
3	Mg 279.077 IEC†	-0.1	-0.0	-0.0921 ug/L	-0.0921 ppb	17:14:21
3	Na 589.592 Radial†	-1584.4	105.5	32.512 ug/L	32.512 ppb	17:14:01
3	Sr 421.552†	-26.1	-62.0	-0.4091 ug/L	-0.4091 ppb	17:14:01
3	Sc 361.383	896686.3	896686.3	100.66 %		17:15:19
3	Y 371.029	735449.3	735449.3	100.16 %		17:15:19
3	Ag 328.068†	463.6	-164.0	-0.7205 ug/L	-0.7205 ppb	17:15:19
3	As 188.979†	-26.1	2.8	1.0877 ug/L	1.0877 ppb	17:15:39
3	B 249.677†	-577.3	187.6	3.9208 ug/L	3.9208 ppb	17:15:39
3	Ba 233.527†	-19.9	-4.5	-0.0307 ug/L	-0.0307 ppb	17:15:39
3	Be 313.107†	-4232.4	198.3	0.0672 ug/L	0.0672 ppb	17:15:19
3	Cd 226.502†	-187.8	17.5	0.1823 ug/L	0.1823 ppb	17:15:39
3	Co 228.616†	-100.9	-15.1	-0.2796 ug/L	-0.2796 ppb	17:15:39
3	Cr 267.716†	99.1	36.6	0.3726 ug/L	0.3726 ppb	17:15:19
3	Cu 324.752†	8013.6	1074.4	2.9818 ug/L	2.9818 ppb	17:15:19
3	Mn 257.610†	505.0	-30.1	-0.0286 ug/L	-0.0286 ppb	17:15:39
3	Mo 202.031†	4.5	-0.7	-0.0476 ug/L	-0.0476 ppb	17:15:39
3	Ni 231.604†	112.2	26.3	0.5852 ug/L	0.5852 ppb	17:15:39
3	P 214.914†	243.2	18.4	8.9549 ug/L	8.9549 ppb	17:15:39
3	Pb 220.353†	-73.6	6.5	0.7019 ug/L	0.7019 ppb	17:15:39
3	S 181.975 Axial†	41.5	-7.6	-9.3197 ug/L	-9.3197 ppb	17:15:39
3	Sb 206.836†	47.5	8.8	2.6998 ug/L	2.6998 ppb	17:15:39
3	Se 196.026†	-25.9	0.3	0.2084 ug/L	0.2084 ppb	17:15:39
3	Si 251.611†	493.1	-45.8	-1.3640 ug/L	-1.3640 ppb	17:15:39
3	Sn 189.927†	14.4	4.9	0.7859 ug/L	0.7859 ppb	17:15:39
3	Ti 334.940†	-1616.0	199.0	0.2922 ug/L	0.2922 ppb	17:15:19
3	Tl 190.801†	-32.7	12.0	3.3868 ug/L	3.3868 ppb	17:15:39
3	U 409.014†	-4686.3	457.4	13.509 ug/L	13.509 ppb	17:15:19
3	V 292.402†	-1668.3	94.8	0.6527 ug/L	0.6527 ppb	17:15:19
3	Zn 213.857†	778.2	64.0	0.5333 ug/L	0.5333 ppb	17:15:39
3	SiO2†	455.4	-109.8	-7.0001 ug/L	-7.0001 ppb	17:15:54

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	894640.2	100.43 %	1.142			1.14%
Sc Radial	4218.7	102 %	0.8			0.78%
Y 371.029	734492.9	100.03 %	1.124			1.12%
Y RADIAL	4905.3	101.3 %	2.29			2.26%
Ag 328.068†	-144.7	-0.6400 ug/L	0.09659	-0.6400 ppb	0.09659	15.09%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	36.0	29.731 ug/L	22.2545	29.731 ppb	22.2545	74.85%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.0	0.7555 ug/L	0.47105	0.7555 ppb	0.47105	62.35%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	171.5	3.5852 ug/L	0.41718	3.5852 ppb	0.41718	11.64%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.3	0.0332 ug/L	0.06314	0.0332 ppb	0.06314	190.26%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	205.5	0.0695 ug/L	0.00331	0.0695 ppb	0.00331	4.75%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	5.7	10.536 ug/L	5.3082	10.536 ppb	5.3082	50.38%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	11.6	0.1225 ug/L	0.07747	0.1225 ppb	0.07747	63.22%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-7.3	-0.1351 ug/L	0.26878	-0.1351 ppb	0.26878	198.99%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	62.4	0.6376 ug/L	0.33371	0.6376 ppb	0.33371	52.34%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	1125.8	3.1233 ug/L	0.12568	3.1233 ppb	0.12568	4.02%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.6	7.0053 ug/L	8.42167	7.0053 ppb	8.42167	120.22%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-30.8	-5.8898 ug/L	11.99891	-5.8898 ppb	11.99891	203.72%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	0.8	32.305 ug/L	41.4074	32.305 ppb	41.4074	128.18%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-27.4	-0.0281 ug/L	0.00056	-0.0281 ppb	0.00056	2.01%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.0	0.2672 ug/L	0.39167	0.2672 ppb	0.39167	146.56%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	123.0	37.911 ug/L	4.6966	37.911 ppb	4.6966	12.39%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	11.2	0.2487 ug/L	0.29719	0.2487 ppb	0.29719	119.48%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	16.6	8.0131 ug/L	3.94216	8.0131 ppb	3.94216	49.20%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	13.1	1.4098 ug/L	0.67819	1.4098 ppb	0.67819	48.11%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-0.5	-0.5669 ug/L	8.68862	-0.5669 ppb	8.68862	>999.9%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	9.9	3.0502 ug/L	0.88806	3.0502 ppb	0.88806	29.11%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	0.9	0.5136 ug/L	0.28592	0.5136 ppb	0.28592	55.67%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-54.1	-1.6129 ug/L	0.26749	-1.6129 ppb	0.26749	16.58%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	3.1	0.5028 ug/L	0.25000	0.5028 ppb	0.25000	49.72%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-25.6	-0.1690 ug/L	0.20842	-0.1690 ppb	0.20842	123.30%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	172.3	0.2493 ug/L	0.08530	0.2493 ppb	0.08530	34.22%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	8.0	2.2562 ug/L	1.80367	2.2562 ppb	1.80367	79.94%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	512.4	15.134 ug/L	1.8895	15.134 ppb	1.8895	12.49%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	115.1	0.7976 ug/L	0.29818	0.7976 ppb	0.29818	37.38%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	72.3	0.6065 ug/L	0.06779	0.6065 ppb	0.06779	11.18%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-75.3	-4.8088 ug/L	2.35749	-4.8088 ppb	2.35749	49.03%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 13

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 18:26:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4150.3	4150.3	101 %		18:28:22
1	Y RADIAL	4614.6	4614.6	95.32 %		18:28:22
1	Al 396.153Radial†	6004.7	6159.0	5061.8 ug/L	5061.8 ppb	18:28:22
1	Ca 317.933Radial†	2811.1	2781.0	5148.0 ug/L	5148.0 ppb	18:28:42
1	Fe 238.204 Radial†	476.6	463.7	5403.2 ug/L	5403.2 ppb	18:28:42
1	K 766.490 Radial†	29078.2	26280.5	4995.8 ug/L	4995.8 ppb	18:28:22
1	Mg 279.077 IEC†	130.9	130.1	5482.6 ug/L	5482.6 ppb	18:28:42
1	Na 589.592 Radial†	32666.6	34124.0	10515 ug/L	10515 ppb	18:28:22
1	Sr 421.552†	77989.3	77487.6	511.58 ug/L	511.58 ppb	18:28:22
1	Sc 361.383	882596.8	882596.8	99.076 %		18:29:40
1	Y 371.029	709820.3	709820.3	96.673 %		18:29:40
1	Ag 328.068†	111164.0	111575.9	491.38 ug/L	491.38 ppb	18:29:45
1	As 188.979†	1237.3	1277.6	495.02 ug/L	495.02 ppb	18:30:05
1	B 249.677†	22126.4	23093.8	480.57 ug/L	480.57 ppb	18:29:45
1	Ba 233.527†	66137.8	66769.8	489.27 ug/L	489.27 ppb	18:29:45
1	Be 313.107†	1427946.8	1445663.4	486.16 ug/L	486.16 ppb	18:29:40
1	Cd 226.502†	47374.8	48020.6	495.72 ug/L	495.72 ppb	18:29:45
1	Co 228.616†	26530.5	26863.1	495.23 ug/L	495.23 ppb	18:29:45
1	Cr 267.716†	47240.7	47619.3	490.82 ug/L	490.82 ppb	18:29:45
1	Cu 324.752†	182328.3	177141.4	492.71 ug/L	492.71 ppb	18:29:45
1	Mn 257.610†	483051.8	487023.8	488.96 ug/L	488.96 ppb	18:29:40
1	Mo 202.031†	7245.5	7307.9	486.16 ug/L	486.16 ppb	18:30:05
1	Ni 231.604†	22075.2	22195.9	494.28 ug/L	494.28 ppb	18:29:45
1	P 214.914†	4881.0	4703.2	2345.6 ug/L	2345.6 ppb	18:30:05
1	Pb 220.353†	4408.1	4528.8	487.49 ug/L	487.49 ppb	18:30:05
1	S 181.975 Axial†	838.6	797.5	973.27 ug/L	973.27 ppb	18:30:05
1	Sb 206.836†	1631.4	1608.1	508.90 ug/L	508.90 ppb	18:30:05
1	Se 196.026†	853.0	887.0	511.27 ug/L	511.27 ppb	18:30:05
1	Si 251.611†	82548.6	82782.5	2458.1 ug/L	2458.1 ppb	18:29:45
1	Sn 189.927†	3002.0	3020.5	488.84 ug/L	488.84 ppb	18:30:05
1	Ti 334.940†	324136.6	328963.1	491.37 ug/L	491.37 ppb	18:29:40
1	Tl 190.801†	1672.4	1732.5	492.09 ug/L	492.09 ppb	18:30:05
1	U 409.014†	11624.5	16846.0	495.90 ug/L	495.90 ppb	18:29:45
1	V 292.402†	70944.3	73358.0	494.47 ug/L	494.47 ppb	18:29:45
1	Zn 213.857†	58560.3	58397.2	491.12 ug/L	491.12 ppb	18:29:45
1	SiO2†	82570.0	82777.6	5265.5 ug/L	5265.5 ppb	18:31:13
2	Sc Radial	4355.2	4355.2	106 %		18:28:47
2	Y RADIAL	4843.0	4843.0	100.0 %		18:28:47
2	Al 396.153Radial†	6015.9	5888.7	4838.6 ug/L	4838.6 ppb	18:28:47
2	Ca 317.933Radial†	2845.5	2682.0	4964.8 ug/L	4964.8 ppb	18:29:07
2	Fe 238.204 Radial†	475.1	439.9	5127.4 ug/L	5127.4 ppb	18:29:07
2	K 766.490 Radial†	29513.3	25332.1	4815.5 ug/L	4815.5 ppb	18:28:47
2	Mg 279.077 IEC†	131.5	124.6	5249.0 ug/L	5249.0 ppb	18:29:07
2	Na 589.592 Radial†	32995.2	32906.9	10140 ug/L	10140 ppb	18:28:47
2	Sr 421.552†	79036.3	74830.6	494.04 ug/L	494.04 ppb	18:28:47
2	Sc 361.383	880581.3	880581.3	98.850 %		18:30:11
2	Y 371.029	706591.9	706591.9	96.234 %		18:30:11
2	Ag 328.068†	111192.9	111862.0	492.55 ug/L	492.55 ppb	18:30:16
2	As 188.979†	1220.7	1263.7	489.63 ug/L	489.63 ppb	18:30:36
2	B 249.677†	22139.1	23157.8	481.95 ug/L	481.95 ppb	18:30:16
2	Ba 233.527†	66305.8	67092.5	491.62 ug/L	491.62 ppb	18:30:16
2	Be 313.107†	1427309.7	1448317.6	487.05 ug/L	487.05 ppb	18:30:11
2	Cd 226.502†	47338.4	48093.2	496.49 ug/L	496.49 ppb	18:30:16
2	Co 228.616†	26520.8	26914.4	496.18 ug/L	496.18 ppb	18:30:16
2	Cr 267.716†	47210.3	47697.7	491.62 ug/L	491.62 ppb	18:30:16
2	Cu 324.752†	182241.8	177475.1	493.63 ug/L	493.63 ppb	18:30:16
2	Mn 257.610†	484895.0	490004.3	491.93 ug/L	491.93 ppb	18:30:11
2	Mo 202.031†	7247.4	7326.5	487.37 ug/L	487.37 ppb	18:30:36
2	Ni 231.604†	22093.9	22265.8	495.84 ug/L	495.84 ppb	18:30:16

2	P 214.914†	4906.2	4740.0	2364.7 ug/L	2364.7 ppb	18:30:36
2	Pb 220.353†	4387.7	4518.4	486.34 ug/L	486.34 ppb	18:30:36
2	S 181.975 Axial†	826.3	787.0	960.54 ug/L	960.54 ppb	18:30:36
2	Sb 206.836†	1637.4	1618.1	511.94 ug/L	511.94 ppb	18:30:36
2	Se 196.026†	855.8	891.7	513.00 ug/L	513.00 ppb	18:30:36
2	Si 251.611†	82582.3	83007.3	2464.8 ug/L	2464.8 ppb	18:30:16
2	Sn 189.927†	2990.3	3015.7	488.03 ug/L	488.03 ppb	18:30:36
2	Ti 334.940†	325141.5	330728.5	494.01 ug/L	494.01 ppb	18:30:11
2	Tl 190.801†	1674.0	1737.9	493.67 ug/L	493.67 ppb	18:30:36
2	U 409.014†	11576.8	16824.5	495.29 ug/L	495.29 ppb	18:30:16
2	V 292.402†	70928.0	73505.3	495.50 ug/L	495.50 ppb	18:30:16
2	Zn 213.857†	58606.8	58579.5	492.68 ug/L	492.68 ppb	18:30:16
2	SiO2†	82303.2	82698.5	5260.4 ug/L	5260.4 ppb	18:31:18
3	Sc Radial	4404.9	4404.9	107 %		18:29:13
3	Y RADIAL	4911.7	4911.7	101.5 %		18:29:13
3	Al 396.153Radial†	6194.5	5991.7	4923.4 ug/L	4923.4 ppb	18:29:13
3	Ca 317.933Radial†	2850.2	2656.1	4916.8 ug/L	4916.8 ppb	18:29:33
3	Fe 238.204 Radial†	481.7	441.0	5140.0 ug/L	5140.0 ppb	18:29:33
3	K 766.490 Radial†	29302.2	24819.3	4718.0 ug/L	4718.0 ppb	18:29:13
3	Mg 279.077 IEC†	133.6	125.2	5275.5 ug/L	5275.5 ppb	18:29:33
3	Na 589.592 Radial†	32837.8	32407.3	9986.4 ug/L	9986.4 ppb	18:29:13
3	Sr 421.552†	78839.5	73802.6	487.25 ug/L	487.25 ppb	18:29:13
3	Sc 361.383	871892.5	871892.5	97.875 %		18:30:42
3	Y 371.029	699971.8	699971.8	95.332 %		18:30:42
3	Ag 328.068†	110686.6	112465.7	495.19 ug/L	495.19 ppb	18:30:48
3	As 188.979†	1226.4	1281.8	496.59 ug/L	496.59 ppb	18:31:08
3	B 249.677†	22064.5	23304.7	485.01 ug/L	485.01 ppb	18:30:48
3	Ba 233.527†	65745.8	67188.8	492.33 ug/L	492.33 ppb	18:30:48
3	Be 313.107†	1410812.7	1445851.7	486.22 ug/L	486.22 ppb	18:30:42
3	Cd 226.502†	47094.3	48321.1	498.85 ug/L	498.85 ppb	18:30:48
3	Co 228.616†	26396.9	27055.3	498.79 ug/L	498.79 ppb	18:30:48
3	Cr 267.716†	46986.2	47944.7	494.17 ug/L	494.17 ppb	18:30:48
3	Cu 324.752†	181575.4	178631.5	496.84 ug/L	496.84 ppb	18:30:48
3	Mn 257.610†	479136.2	489008.9	490.93 ug/L	490.93 ppb	18:30:42
3	Mo 202.031†	7243.5	7395.6	491.96 ug/L	491.96 ppb	18:31:08
3	Ni 231.604†	21991.7	22384.0	498.47 ug/L	498.47 ppb	18:30:48
3	P 214.914†	4897.7	4780.8	2385.3 ug/L	2385.3 ppb	18:31:08
3	Pb 220.353†	4405.0	4580.3	493.01 ug/L	493.01 ppb	18:31:08
3	S 181.975 Axial†	827.8	796.9	972.56 ug/L	972.56 ppb	18:31:08
3	Sb 206.836†	1627.2	1624.1	514.00 ug/L	514.00 ppb	18:31:08
3	Se 196.026†	855.1	899.6	517.41 ug/L	517.41 ppb	18:31:08
3	Si 251.611†	82194.9	83444.1	2477.7 ug/L	2477.7 ppb	18:30:48
3	Sn 189.927†	3000.8	3056.5	494.61 ug/L	494.61 ppb	18:31:08
3	Ti 334.940†	321124.0	329901.6	492.76 ug/L	492.76 ppb	18:30:42
3	Tl 190.801†	1678.4	1759.3	499.66 ug/L	499.66 ppb	18:31:08
3	U 409.014†	11677.3	17043.9	501.77 ug/L	501.77 ppb	18:30:48
3	V 292.402†	70541.4	73825.4	497.70 ug/L	497.70 ppb	18:30:48
3	Zn 213.857†	58320.7	58878.0	495.19 ug/L	495.19 ppb	18:30:48
3	SiO2†	82021.4	83240.3	5294.8 ug/L	5294.8 ppb	18:31:23

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	878356.9	98.600 %	0.6385			0.65%
Sc Radial	4303.5	104 %	3.3			3.14%
Y 371.029	705461.4	96.080 %	0.6838			0.71%
Y RADIAL	4789.8	98.93 %	3.213			3.25%
Ag 328.068†	111967.8	493.04 ug/L	1.956	493.04 ppb	1.956	0.40%
QC value within limits for Ag 328.068 Recovery = 98.61%						
Al 396.153Radial†	6013.1	4941.3 ug/L	112.68	4941.3 ppb	112.68	2.28%
QC value within limits for Al 396.153Radial Recovery = 98.83%						
As 188.979†	1274.4	493.75 ug/L	3.648	493.75 ppb	3.648	0.74%
QC value within limits for As 188.979 Recovery = 98.75%						
B 249.677†	23185.4	482.51 ug/L	2.274	482.51 ppb	2.274	0.47%
QC value within limits for B 249.677 Recovery = 96.50%						
Ba 233.527†	67017.0	491.07 ug/L	1.603	491.07 ppb	1.603	0.33%
QC value within limits for Ba 233.527 Recovery = 98.21%						
Be 313.107†	1446610.9	486.48 ug/L	0.500	486.48 ppb	0.500	0.10%
QC value within limits for Be 313.107 Recovery = 97.30%						
Ca 317.933Radial†	2706.4	5009.9 ug/L	122.00	5009.9 ppb	122.00	2.44%



QC value within limits for Ca 317.933 Radial Recovery = 100.20%

Cd 226.502†	48145.0	497.02 ug/L	1.632	497.02 ppb	1.632	0.33%
QC value within limits for Cd 226.502 Recovery = 99.40%						
Co 228.616†	26944.2	496.73 ug/L	1.842	496.73 ppb	1.842	0.37%
QC value within limits for Co 228.616 Recovery = 99.35%						
Cr 267.716†	47753.9	492.20 ug/L	1.747	492.20 ppb	1.747	0.35%
QC value within limits for Cr 267.716 Recovery = 98.44%						
Cu 324.752†	177749.3	494.39 ug/L	2.168	494.39 ppb	2.168	0.44%
QC value within limits for Cu 324.752 Recovery = 98.88%						
Fe 238.204 Radial†	448.2	5223.5 ug/L	155.68	5223.5 ppb	155.68	2.98%
QC value within limits for Fe 238.204 Radial Recovery = 104.47%						
K 766.490 Radial†	25477.3	4843.1 ug/L	140.96	4843.1 ppb	140.96	2.91%
QC value within limits for K 766.490 Radial Recovery = 96.86%						
Mg 279.077 IEC†	126.6	5335.7 ug/L	127.89	5335.7 ppb	127.89	2.40%
QC value within limits for Mg 279.077 IEC Recovery = 106.71%						
Mn 257.610†	488679.0	490.61 ug/L	1.513	490.61 ppb	1.513	0.31%
QC value within limits for Mn 257.610 Recovery = 98.12%						
Mo 202.031†	7343.3	488.50 ug/L	3.062	488.50 ppb	3.062	0.63%
QC value within limits for Mo 202.031 Recovery = 97.70%						
Na 589.592 Radial†	33146.0	10214 ug/L	272.1	10214 ppb	272.1	2.66%
QC value within limits for Na 589.592 Radial Recovery = 102.14%						
Ni 231.604†	22281.9	496.20 ug/L	2.118	496.20 ppb	2.118	0.43%
QC value within limits for Ni 231.604 Recovery = 99.24%						
P 214.914†	4741.3	2365.2 ug/L	19.84	2365.2 ppb	19.84	0.84%
QC value within limits for P 214.914 Recovery = 94.61%						
Pb 220.353†	4542.5	488.95 ug/L	3.568	488.95 ppb	3.568	0.73%
QC value within limits for Pb 220.353 Recovery = 97.79%						
S 181.975 Axial†	793.8	968.79 ug/L	7.153	968.79 ppb	7.153	0.74%
QC value within limits for S 181.975 Axial Recovery = 96.88%						
Sb 206.836†	1616.8	511.61 ug/L	2.566	511.61 ppb	2.566	0.50%
QC value within limits for Sb 206.836 Recovery = 102.32%						
Se 196.026†	892.8	513.89 ug/L	3.165	513.89 ppb	3.165	0.62%
QC value within limits for Se 196.026 Recovery = 102.78%						
Si 251.611†	83078.0	2466.9 ug/L	9.98	2466.9 ppb	9.98	0.40%
QC value within limits for Si 251.611 Recovery = 98.68%						
Sn 189.927†	3030.9	490.49 ug/L	3.592	490.49 ppb	3.592	0.73%
QC value within limits for Sn 189.927 Recovery = 98.10%						
Sr 421.552†	75373.6	497.63 ug/L	12.555	497.63 ppb	12.555	2.52%
QC value within limits for Sr 421.552 Recovery = 99.53%						
Ti 334.940†	329864.4	492.71 ug/L	1.317	492.71 ppb	1.317	0.27%
QC value within limits for Ti 334.940 Recovery = 98.54%						
Tl 190.801†	1743.2	495.14 ug/L	3.996	495.14 ppb	3.996	0.81%
QC value within limits for Tl 190.801 Recovery = 99.03%						
U 409.014†	16904.8	497.65 ug/L	3.576	497.65 ppb	3.576	0.72%
QC value within limits for U 409.014 Recovery = 99.53%						
V 292.402†	73562.9	495.89 ug/L	1.653	495.89 ppb	1.653	0.33%
QC value within limits for V 292.402 Recovery = 99.18%						
Zn 213.857†	58618.2	492.99 ug/L	2.055	492.99 ppb	2.055	0.42%
QC value within limits for Zn 213.857 Recovery = 98.60%						
SiO2†	82905.4	5273.5 ug/L	18.59	5273.5 ppb	18.59	0.35%
QC value within limits for SiO2 Recovery = 98.62%						

All analyte(s) passed QC.

Sequence No.: 14

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 18:33:33

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4292.7	4292.7	104 %		18:35:25
1	Y RADIAL	4776.5	4776.5	98.66 %		18:35:25
1	Al 396.153Radial†	-183.4	13.8	11.429 ug/L	11.429 ppb	18:35:25
1	Ca 317.933Radial†	17.2	3.2	5.8501 ug/L	5.8501 ppb	18:35:45
1	Fe 238.204 Radial†	11.5	1.0	11.057 ug/L	11.057 ppb	18:35:45
1	K 766.490 Radial†	2718.5	-11.8	-2.2478 ug/L	-2.2478 ppb	18:35:25
1	Mg 279.077 IEC†	1.4	1.4	59.650 ug/L	59.650 ppb	18:35:45
1	Na 589.592 Radial†	-1654.4	62.3	19.203 ug/L	19.203 ppb	18:35:25
1	Sr 421.552†	17.6	-19.5	-0.1287 ug/L	-0.1287 ppb	18:35:25
1	Sc 361.383	874465.8	874465.8	98.164 %		18:36:42
1	Y 371.029	711494.8	711494.8	96.901 %		18:36:42
1	Ag 328.068†	435.6	-180.7	-0.7963 ug/L	-0.7963 ppb	18:36:42
1	As 188.979†	-32.6	-4.5	-1.7298 ug/L	-1.7298 ppb	18:37:02
1	B 249.677†	-548.2	202.7	4.2359 ug/L	4.2359 ppb	18:37:02
1	Ba 233.527†	-0.0	15.3	0.1114 ug/L	0.1114 ppb	18:37:02
1	Be 313.107†	-3995.0	333.3	0.1120 ug/L	0.1120 ppb	18:36:42
1	Cd 226.502†	-195.6	4.8	0.0509 ug/L	0.0509 ppb	18:37:02
1	Co 228.616†	-87.5	-4.0	-0.0744 ug/L	-0.0744 ppb	18:37:02
1	Cr 267.716†	104.7	44.8	0.4570 ug/L	0.4570 ppb	18:36:42
1	Cu 324.752†	8599.4	1873.4	5.2061 ug/L	5.2061 ppb	18:36:42
1	Mn 257.610†	858.8	343.1	0.3429 ug/L	0.3429 ppb	18:37:02
1	Mo 202.031†	6.9	1.9	0.1240 ug/L	0.1240 ppb	18:37:02
1	Ni 231.604†	96.3	13.0	0.2889 ug/L	0.2889 ppb	18:37:02
1	P 214.914†	240.6	21.8	10.296 ug/L	10.296 ppb	18:37:02
1	Pb 220.353†	-59.3	19.3	2.0650 ug/L	2.0650 ppb	18:37:02
1	S 181.975 Axial†	48.4	0.4	0.4989 ug/L	0.4989 ppb	18:37:02
1	Sb 206.836†	46.6	9.1	2.7843 ug/L	2.7843 ppb	18:37:02
1	Se 196.026†	-23.2	2.4	1.3544 ug/L	1.3544 ppb	18:37:02
1	Si 251.611†	672.8	149.6	4.4520 ug/L	4.4520 ppb	18:37:02
1	Sn 189.927†	15.0	5.9	0.9528 ug/L	0.9528 ppb	18:37:02
1	Ti 334.940†	-1720.2	52.0	0.0693 ug/L	0.0693 ppb	18:36:42
1	Tl 190.801†	-39.9	3.8	1.0720 ug/L	1.0720 ppb	18:37:02
1	U 409.014†	-4702.8	322.4	9.5196 ug/L	9.5196 ppb	18:36:42
1	V 292.402†	-1767.6	-48.5	-0.3035 ug/L	-0.3035 ppb	18:36:42
1	Zn 213.857†	878.9	186.2	1.5700 ug/L	1.5700 ppb	18:37:02
1	SiO2†	497.1	-55.8	-3.5633 ug/L	-3.5633 ppb	18:37:58
2	Sc Radial	4357.0	4357.0	106 %		18:35:50
2	Y RADIAL	4871.9	4871.9	100.6 %		18:35:50
2	Al 396.153Radial†	-142.0	55.7	45.981 ug/L	45.981 ppb	18:35:50
2	Ca 317.933Radial†	13.1	-0.9	-1.6745 ug/L	-1.6745 ppb	18:36:10
2	Fe 238.204 Radial†	13.1	2.3	26.739 ug/L	26.739 ppb	18:36:10
2	K 766.490 Radial†	2877.2	100.0	19.021 ug/L	19.021 ppb	18:35:50
2	Mg 279.077 IEC†	0.4	0.5	19.635 ug/L	19.635 ppb	18:36:10
2	Na 589.592 Radial†	-1634.1	105.0	32.352 ug/L	32.352 ppb	18:35:50
2	Sr 421.552†	6.2	-30.6	-0.2019 ug/L	-0.2019 ppb	18:35:50
2	Sc 361.383	881627.9	881627.9	98.967 %		18:37:07
2	Y 371.029	716931.9	716931.9	97.642 %		18:37:07
2	Ag 328.068†	474.1	-145.5	-0.6406 ug/L	-0.6406 ppb	18:37:07
2	As 188.979†	-34.6	-6.2	-2.3743 ug/L	-2.3743 ppb	18:37:27
2	B 249.677†	-569.2	185.9	3.8821 ug/L	3.8821 ppb	18:37:27
2	Ba 233.527†	-6.0	9.2	0.0691 ug/L	0.0691 ppb	18:37:27
2	Be 313.107†	-4260.2	98.4	0.0332 ug/L	0.0332 ppb	18:37:07
2	Cd 226.502†	-211.4	-9.5	-0.0969 ug/L	-0.0969 ppb	18:37:27
2	Co 228.616†	-74.0	10.3	0.1898 ug/L	0.1898 ppb	18:37:27
2	Cr 267.716†	109.6	48.9	0.4976 ug/L	0.4976 ppb	18:37:07
2	Cu 324.752†	8653.1	1856.6	5.1558 ug/L	5.1558 ppb	18:37:07
2	Mn 257.610†	537.3	11.1	0.0130 ug/L	0.0130 ppb	18:37:27
2	Mo 202.031†	4.9	-0.3	-0.0151 ug/L	-0.0151 ppb	18:37:27
2	Ni 231.604†	93.3	9.1	0.2026 ug/L	0.2026 ppb	18:37:27

2	P 214.914†	228.5	7.6	2.9208 ug/L	2.9208 ppb	18:37:27
2	Pb 220.353†	-65.0	14.0	1.5031 ug/L	1.5031 ppb	18:37:27
2	S 181.975 Axial†	53.5	5.1	6.2637 ug/L	6.2637 ppb	18:37:27
2	Sb 206.836†	50.2	12.3	3.7834 ug/L	3.7834 ppb	18:37:27
2	Se 196.026†	-28.5	-2.9	-1.5005 ug/L	-1.5005 ppb	18:37:27
2	Si 251.611†	554.5	24.6	0.7310 ug/L	0.7310 ppb	18:37:27
2	Sn 189.927†	18.2	9.0	1.4555 ug/L	1.4555 ppb	18:37:27
2	Ti 334.940†	-1741.5	44.7	0.0572 ug/L	0.0572 ppb	18:37:07
2	Tl 190.801†	-51.5	-7.6	-2.1444 ug/L	-2.1444 ppb	18:37:27
2	U 409.014†	-4482.3	584.0	17.246 ug/L	17.246 ppb	18:37:07
2	V 292.402†	-1684.4	50.2	0.3628 ug/L	0.3628 ppb	18:37:07
2	Zn 213.857†	778.1	77.1	0.6432 ug/L	0.6432 ppb	18:37:27
2	SiO2†	513.0	-43.9	-2.7983 ug/L	-2.7983 ppb	18:38:03
3	Sc Radial	4413.2	4413.2	107 %		18:36:15
3	Y RADIAL	4961.4	4961.4	102.5 %		18:36:15
3	Al 396.153Radial†	-219.4	-15.0	-12.434 ug/L	-12.434 ppb	18:36:15
3	Ca 317.933Radial†	16.5	2.1	3.9470 ug/L	3.9470 ppb	18:36:35
3	Fe 238.204 Radial†	11.9	1.0	11.758 ug/L	11.758 ppb	18:36:35
3	K 766.490 Radial†	2741.7	-61.3	-11.685 ug/L	-11.685 ppb	18:36:15
3	Mg 279.077 IEC†	-0.0	0.0	0.9725 ug/L	0.9725 ppb	18:36:35
3	Na 589.592 Radial†	-1670.6	90.5	27.898 ug/L	27.898 ppb	18:36:15
3	Sr 421.552†	57.5	17.3	0.1141 ug/L	0.1141 ppb	18:36:15
3	Sc 361.383	866348.2	866348.2	97.252 %		18:37:33
3	Y 371.029	705420.3	705420.3	96.074 %		18:37:33
3	Ag 328.068†	432.1	-180.2	-0.7888 ug/L	-0.7888 ppb	18:37:33
3	As 188.979†	-23.0	5.1	1.9540 ug/L	1.9540 ppb	18:37:53
3	B 249.677†	-579.9	164.8	3.4445 ug/L	3.4445 ppb	18:37:53
3	Ba 233.527†	-24.3	-9.7	-0.0699 ug/L	-0.0699 ppb	18:37:53
3	Be 313.107†	-4105.3	181.8	0.0613 ug/L	0.0613 ppb	18:37:33
3	Cd 226.502†	-217.0	-19.0	-0.1957 ug/L	-0.1957 ppb	18:37:53
3	Co 228.616†	-85.3	-2.6	-0.0463 ug/L	-0.0463 ppb	18:37:53
3	Cr 267.716†	113.6	55.0	0.5638 ug/L	0.5638 ppb	18:37:33
3	Cu 324.752†	8555.2	1910.0	5.3097 ug/L	5.3097 ppb	18:37:33
3	Mn 257.610†	488.5	-29.5	-0.0285 ug/L	-0.0285 ppb	18:37:53
3	Mo 202.031†	16.5	11.7	0.7809 ug/L	0.7809 ppb	18:37:53
3	Ni 231.604†	99.9	17.6	0.3923 ug/L	0.3923 ppb	18:37:53
3	P 214.914†	226.3	9.5	3.8571 ug/L	3.8571 ppb	18:37:53
3	Pb 220.353†	-77.7	-0.3	-0.0335 ug/L	-0.0335 ppb	18:37:53
3	S 181.975 Axial†	51.8	4.4	5.3384 ug/L	5.3384 ppb	18:37:53
3	Sb 206.836†	42.8	5.6	1.7441 ug/L	1.7441 ppb	18:37:53
3	Se 196.026†	-25.6	-0.3	-0.1360 ug/L	-0.1360 ppb	18:37:53
3	Si 251.611†	504.1	-17.4	-0.5285 ug/L	-0.5285 ppb	18:37:53
3	Sn 189.927†	15.1	6.1	0.9809 ug/L	0.9809 ppb	18:37:53
3	Ti 334.940†	-1674.9	82.1	0.1201 ug/L	0.1201 ppb	18:37:33
3	Tl 190.801†	-29.4	14.3	4.0219 ug/L	4.0219 ppb	18:37:53
3	U 409.014†	-4759.1	219.5	6.4824 ug/L	6.4824 ppb	18:37:33
3	V 292.402†	-1667.8	37.3	0.2696 ug/L	0.2696 ppb	18:37:33
3	Zn 213.857†	785.4	98.5	0.8247 ug/L	0.8247 ppb	18:37:53
3	SiO2†	533.3	-13.8	-0.9035 ug/L	-0.9035 ppb	18:38:08

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	874147.3	98.128 %	0.8582			0.87%
Sc Radial	4354.3	106 %	1.5			1.38%
Y 371.029	711282.3	96.872 %	0.7843			0.81%
Y RADIAL	4869.9	100.6 %	1.91			1.90%
Ag 328.068†	-168.8	-0.7419 ug/L	0.08779	-0.7419 ppb	0.08779	11.83%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	18.2	14.992 ug/L	29.3702	14.992 ppb	29.3702	195.90%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.9	-0.7167 ug/L	2.33524	-0.7167 ppb	2.33524	325.84%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	184.5	3.8542 ug/L	0.39644	3.8542 ppb	0.39644	10.29%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	4.9	0.0368 ug/L	0.09483	0.0368 ppb	0.09483	257.37%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	204.5	0.0688 ug/L	0.03996	0.0688 ppb	0.03996	58.07%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.5	2.7075 ug/L	3.91245	2.7075 ppb	3.91245	144.50%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	-7.9	-0.0806 ug/L	0.12415	-0.0806 ppb	0.12415	154.08%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	1.2	0.0230 ug/L	0.14507	0.0230 ppb	0.14507	629.66%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	49.5	0.5061 ug/L	0.05393	0.5061 ppb	0.05393	10.66%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	1880.0	5.2239 ug/L	0.07846	5.2239 ppb	0.07846	1.50%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	1.4	16.518 ug/L	8.8585	16.518 ppb	8.8585	53.63%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	9.0	1.6961 ug/L	15.72808	1.6961 ppb	15.72808	927.32%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	0.6	26.752 ug/L	29.9793	26.752 ppb	29.9793	112.06%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	108.3	0.1092 ug/L	0.20348	0.1092 ppb	0.20348	186.42%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	4.4	0.2966 ug/L	0.42517	0.2966 ppb	0.42517	143.36%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	85.9	26.484 ug/L	6.6877	26.484 ppb	6.6877	25.25%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	13.2	0.2946 ug/L	0.09497	0.2946 ppb	0.09497	32.24%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	13.0	5.6914 ug/L	4.01539	5.6914 ppb	4.01539	70.55%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	11.0	1.1782 ug/L	1.08630	1.1782 ppb	1.08630	92.20%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	3.3	4.0336 ug/L	3.09597	4.0336 ppb	3.09597	76.75%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	9.0	2.7706 ug/L	1.01972	2.7706 ppb	1.01972	36.80%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-0.3	-0.0941 ug/L	1.42789	-0.0941 ppb	1.42789	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	52.2	1.5515 ug/L	2.58967	1.5515 ppb	2.58967	166.91%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	7.0	1.1298 ug/L	0.28249	1.1298 ppb	0.28249	25.00%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-10.9	-0.0722 ug/L	0.16542	-0.0722 ppb	0.16542	229.27%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	59.6	0.0822 ug/L	0.03337	0.0822 ppb	0.03337	40.59%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	3.5	0.9831 ug/L	3.08412	0.9831 ppb	3.08412	313.70%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	375.3	11.083 ug/L	5.5495	11.083 ppb	5.5495	50.07%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	13.0	0.1096 ug/L	0.36080	0.1096 ppb	0.36080	329.17%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	120.6	1.0126 ug/L	0.49112	1.0126 ppb	0.49112	48.50%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-37.8	-2.4217 ug/L	1.36932	-2.4217 ppb	1.36932	56.54%
QC value within limits for SiO2 Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 24

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 19:41:49

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4243.6	4243.6	103 %		19:44:01
1	Y RADIAL	4564.8	4564.8	94.29 %		19:43:41
1	Al 396.153Radial†	6010.4	6033.2	4957.4 ug/L	4957.4 ppb	19:43:41
1	Ca 317.933Radial†	2792.3	2701.3	5000.4 ug/L	5000.4 ppb	19:44:01
1	Fe 238.204 Radial†	467.2	444.1	5175.8 ug/L	5175.8 ppb	19:44:01
1	K 766.490 Radial†	29278.7	25839.6	4912.0 ug/L	4912.0 ppb	19:43:41
1	Mg 279.077 IEC†	128.0	124.5	5246.2 ug/L	5246.2 ppb	19:44:01
1	Na 589.592 Radial†	32593.9	33339.1	10274 ug/L	10274 ppb	19:43:41
1	Sr 421.552†	78098.2	75888.4	501.03 ug/L	501.03 ppb	19:43:41
1	Sc 361.383	855531.9	855531.9	96.038 %		19:45:00
1	Y 371.029	686414.1	686414.1	93.485 %		19:45:00
1	Ag 328.068†	106955.4	110743.2	487.67 ug/L	487.67 ppb	19:45:00
1	As 188.979†	1205.7	1284.1	497.49 ug/L	497.49 ppb	19:45:20
1	B 249.677†	21182.7	22817.7	474.83 ug/L	474.83 ppb	19:45:00
1	Ba 233.527†	64332.0	67001.3	490.95 ug/L	490.95 ppb	19:45:00
1	Be 313.107†	1391310.5	1453110.2	488.66 ug/L	488.66 ppb	19:45:00
1	Cd 226.502†	46201.7	48311.8	498.74 ug/L	498.74 ppb	19:45:00
1	Co 228.616†	25622.6	26764.8	493.44 ug/L	493.44 ppb	19:45:20
1	Cr 267.716†	45981.5	47816.6	492.85 ug/L	492.85 ppb	19:45:00
1	Cu 324.752†	175069.2	175404.7	487.89 ug/L	487.89 ppb	19:45:00
1	Mn 257.610†	473012.3	491994.0	493.93 ug/L	493.93 ppb	19:45:00
1	Mo 202.031†	7184.2	7475.3	497.27 ug/L	497.27 ppb	19:45:20
1	Ni 231.604†	21386.0	22183.1	494.00 ug/L	494.00 ppb	19:45:20
1	P 214.914†	4861.8	4839.1	2417.4 ug/L	2417.4 ppb	19:45:20
1	Pb 220.353†	4401.4	4662.6	501.86 ug/L	501.86 ppb	19:45:20
1	S 181.975 Axial†	834.4	820.0	1000.8 ug/L	1000.8 ppb	19:45:20
1	Sb 206.836†	1584.5	1611.5	510.32 ug/L	510.32 ppb	19:45:20
1	Se 196.026†	843.9	904.6	520.34 ug/L	520.34 ppb	19:45:20
1	Si 251.611†	79711.6	82464.3	2448.5 ug/L	2448.5 ppb	19:45:00
1	Sn 189.927†	2981.8	3095.4	500.91 ug/L	500.91 ppb	19:45:20
1	Ti 334.940†	315976.9	330816.5	494.15 ug/L	494.15 ppb	19:45:00
1	Tl 190.801†	1656.0	1768.8	502.40 ug/L	502.40 ppb	19:45:20
1	U 409.014†	10422.0	15965.1	469.90 ug/L	469.90 ppb	19:45:00
1	V 292.402†	68483.0	73060.4	492.62 ug/L	492.62 ppb	19:45:00
1	Zn 213.857†	56635.0	58262.3	490.00 ug/L	490.00 ppb	19:45:00
1	SiO2†	80357.4	83110.2	5286.4 ug/L	5286.4 ppb	19:46:21
2	Sc Radial	4115.2	4115.2	99.8 %		19:44:26
2	Y RADIAL	4735.0	4735.0	97.80 %		19:44:06
2	Al 396.153Radial†	5855.2	6059.9	4979.7 ug/L	4979.7 ppb	19:44:06
2	Ca 317.933Radial†	2833.5	2827.2	5233.6 ug/L	5233.6 ppb	19:44:26
2	Fe 238.204 Radial†	474.3	465.4	5423.0 ug/L	5423.0 ppb	19:44:26
2	K 766.490 Radial†	28763.1	26210.5	4982.5 ug/L	4982.5 ppb	19:44:06
2	Mg 279.077 IEC†	131.9	132.3	5574.9 ug/L	5574.9 ppb	19:44:26
2	Na 589.592 Radial†	31614.2	33345.3	10275 ug/L	10275 ppb	19:44:06
2	Sr 421.552†	76157.1	76310.5	503.81 ug/L	503.81 ppb	19:44:06
2	Sc 361.383	875588.0	875588.0	98.289 %		19:45:28
2	Y 371.029	701128.0	701128.0	95.489 %		19:45:28
2	Ag 328.068†	108578.2	109843.3	483.79 ug/L	483.79 ppb	19:45:28
2	As 188.979†	1231.4	1281.6	496.54 ug/L	496.54 ppb	19:45:48
2	B 249.677†	21638.8	22776.5	473.94 ug/L	473.94 ppb	19:45:28
2	Ba 233.527†	65037.5	66184.6	484.97 ug/L	484.97 ppb	19:45:28
2	Be 313.107†	1408658.4	1437576.1	483.44 ug/L	483.44 ppb	19:45:28
2	Cd 226.502†	46671.9	47688.3	492.27 ug/L	492.27 ppb	19:45:28
2	Co 228.616†	26005.6	26543.3	489.35 ug/L	489.35 ppb	19:45:48
2	Cr 267.716†	46408.5	47154.4	486.03 ug/L	486.03 ppb	19:45:28
2	Cu 324.752†	178101.7	174314.3	484.86 ug/L	484.86 ppb	19:45:28
2	Mn 257.610†	479030.5	486835.2	488.77 ug/L	488.77 ppb	19:45:28
2	Mo 202.031†	7278.4	7399.8	492.27 ug/L	492.27 ppb	19:45:48
2	Ni 231.604†	21694.6	21987.0	489.63 ug/L	489.63 ppb	19:45:48

2	P 214.914†	4940.7	4803.4	2399.2 ug/L	2399.2 ppb	19:45:48
2	Pb 220.353†	4464.7	4622.0	497.48 ug/L	497.48 ppb	19:45:48
2	S 181.975 Axial†	834.2	799.9	976.21 ug/L	976.21 ppb	19:45:48
2	Sb 206.836†	1606.4	1595.9	505.37 ug/L	505.37 ppb	19:45:48
2	Se 196.026†	848.7	889.4	512.72 ug/L	512.72 ppb	19:45:48
2	Si 251.611†	80994.6	81868.4	2430.8 ug/L	2430.8 ppb	19:45:28
2	Sn 189.927†	3019.4	3062.5	495.63 ug/L	495.63 ppb	19:45:48
2	Ti 334.940†	320286.0	327664.2	489.45 ug/L	489.45 ppb	19:45:28
2	Tl 190.801†	1667.9	1741.4	494.64 ug/L	494.64 ppb	19:45:48
2	U 409.014†	10776.7	16077.3	473.20 ug/L	473.20 ppb	19:45:28
2	V 292.402†	69265.6	72223.2	486.97 ug/L	486.97 ppb	19:45:28
2	Zn 213.857†	57449.0	57739.7	485.58 ug/L	485.58 ppb	19:45:28
2	SiO2†	81746.4	82606.8	5254.4 ug/L	5254.4 ppb	19:46:26
3	Sc Radial	4090.7	4090.7	99.2 %		19:44:51
3	Y RADIAL	4771.2	4771.2	98.55 %		19:44:31
3	Al 396.153Radial†	5988.1	6229.1	5120.9 ug/L	5120.9 ppb	19:44:31
3	Ca 317.933Radial†	2842.3	2853.1	5281.5 ug/L	5281.5 ppb	19:44:51
3	Fe 238.204 Radial†	474.7	468.6	5459.5 ug/L	5459.5 ppb	19:44:51
3	K 766.490 Radial†	29239.1	26863.3	5106.7 ug/L	5106.7 ppb	19:44:31
3	Mg 279.077 IEC†	130.0	131.2	5526.2 ug/L	5526.2 ppb	19:44:51
3	Na 589.592 Radial†	32340.4	34267.6	10560 ug/L	10560 ppb	19:44:31
3	Sr 421.552†	77892.7	78518.3	518.39 ug/L	518.39 ppb	19:44:31
3	Sc 361.383	925912.9	925912.9	103.94 %		19:45:55
3	Y 371.029	742121.6	742121.6	101.07 %		19:45:55
3	Ag 328.068†	107531.7	102832.3	453.02 ug/L	453.02 ppb	19:45:55
3	As 188.979†	1229.5	1211.7	469.48 ug/L	469.48 ppb	19:46:15
3	B 249.677†	21335.3	21287.9	442.90 ug/L	442.90 ppb	19:45:55
3	Ba 233.527†	64095.0	61681.4	451.99 ug/L	451.99 ppb	19:45:55
3	Be 313.107†	1389903.2	1341636.3	451.17 ug/L	451.17 ppb	19:45:55
3	Cd 226.502†	46086.4	44544.1	459.78 ug/L	459.78 ppb	19:45:55
3	Co 228.616†	25835.2	24941.3	459.82 ug/L	459.82 ppb	19:46:15
3	Cr 267.716†	45532.5	43745.2	450.90 ug/L	450.90 ppb	19:45:55
3	Cu 324.752†	175630.6	162088.3	450.87 ug/L	450.87 ppb	19:45:55
3	Mn 257.610†	471756.0	453347.2	455.17 ug/L	455.17 ppb	19:45:55
3	Mo 202.031†	7230.4	6951.2	462.46 ug/L	462.46 ppb	19:46:15
3	Ni 231.604†	21564.8	20662.4	460.13 ug/L	460.13 ppb	19:46:15
3	P 214.914†	4911.3	4501.9	2249.2 ug/L	2249.2 ppb	19:46:15
3	Pb 220.353†	4434.6	4346.2	467.86 ug/L	467.86 ppb	19:46:15
3	S 181.975 Axial†	833.8	753.3	919.33 ug/L	919.33 ppb	19:46:15
3	Sb 206.836†	1597.6	1498.6	474.56 ug/L	474.56 ppb	19:46:15
3	Se 196.026†	845.6	839.5	485.11 ug/L	485.11 ppb	19:46:15
3	Si 251.611†	79930.4	76365.7	2267.4 ug/L	2267.4 ppb	19:45:55
3	Sn 189.927†	2997.3	2874.3	465.24 ug/L	465.24 ppb	19:46:15
3	Ti 334.940†	315105.2	304968.8	455.57 ug/L	455.57 ppb	19:45:55
3	Tl 190.801†	1671.9	1653.0	469.45 ug/L	469.45 ppb	19:46:15
3	U 409.014†	10604.7	15316.0	450.78 ug/L	450.78 ppb	19:45:55
3	V 292.402†	68280.0	67444.7	454.75 ug/L	454.75 ppb	19:45:55
3	Zn 213.857†	56752.3	53892.5	453.17 ug/L	453.17 ppb	19:45:55
3	SiO2†	81370.1	77724.4	4943.9 ug/L	4943.9 ppb	19:46:31

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	885677.6	99.422 %	4.0703			4.09%
Sc Radial	4149.9	101 %	2.10			1.98%
Y 371.029	709887.9	96.682 %	3.9317			4.07%
Y RADIAL	4690.4	96.88 %	2.276			2.35%
Ag 328.068†	107806.3	474.83 ug/L	18.987	474.83 ppb	18.987	4.00%
QC value within limits for Ag 328.068 Recovery = 94.97%						
Al 396.153Radial†	6107.4	5019.3 ug/L	88.64	5019.3 ppb	88.64	1.77%
QC value within limits for Al 396.153Radial Recovery = 100.39%						
As 188.979†	1259.1	487.84 ug/L	15.906	487.84 ppb	15.906	3.26%
QC value within limits for As 188.979 Recovery = 97.57%						
B 249.677†	22294.0	463.89 ug/L	18.187	463.89 ppb	18.187	3.92%
QC value within limits for B 249.677 Recovery = 92.78%						
Ba 233.527†	64955.8	475.97 ug/L	20.981	475.97 ppb	20.981	4.41%
QC value within limits for Ba 233.527 Recovery = 95.19%						
Be 313.107†	1410774.2	474.42 ug/L	20.305	474.42 ppb	20.305	4.28%
QC value within limits for Be 313.107 Recovery = 94.88%						
Ca 317.933Radial†	2793.9	5171.8 ug/L	150.38	5171.8 ppb	150.38	2.91%

QC value within limits for Ca 317.933 Radial Recovery = 103.44%							
Cd	226.502†	46848.1	483.60 ug/L	20.879	483.60 ppb	20.879	4.32%
QC value within limits for Cd 226.502 Recovery = 96.72%							
Co	228.616†	26083.1	480.87 ug/L	18.344	480.87 ppb	18.344	3.81%
QC value within limits for Co 228.616 Recovery = 96.17%							
Cr	267.716†	46238.7	476.59 ug/L	22.512	476.59 ppb	22.512	4.72%
QC value within limits for Cr 267.716 Recovery = 95.32%							
Cu	324.752†	170602.4	474.54 ug/L	20.553	474.54 ppb	20.553	4.33%
QC value within limits for Cu 324.752 Recovery = 94.91%							
Fe	238.204 Radial†	459.4	5352.8 ug/L	154.32	5352.8 ppb	154.32	2.88%
QC value within limits for Fe 238.204 Radial Recovery = 107.06%							
K	766.490 Radial†	26304.5	5000.4 ug/L	98.57	5000.4 ppb	98.57	1.97%
QC value within limits for K 766.490 Radial Recovery = 100.01%							
Mg	279.077 IEC†	129.3	5449.1 ug/L	177.38	5449.1 ppb	177.38	3.26%
QC value within limits for Mg 279.077 IEC Recovery = 108.98%							
Mn	257.610†	477392.1	479.29 ug/L	21.046	479.29 ppb	21.046	4.39%
QC value within limits for Mn 257.610 Recovery = 95.86%							
Mo	202.031†	7275.4	484.00 ug/L	18.821	484.00 ppb	18.821	3.89%
QC value within limits for Mo 202.031 Recovery = 96.80%							
Na	589.592 Radial†	33650.7	10370 ug/L	164.6	10370 ppb	164.6	1.59%
QC value within limits for Na 589.592 Radial Recovery = 103.70%							
Ni	231.604†	21610.8	481.25 ug/L	18.421	481.25 ppb	18.421	3.83%
QC value within limits for Ni 231.604 Recovery = 96.25%							
P	214.914†	4714.8	2355.3 ug/L	92.33	2355.3 ppb	92.33	3.92%
QC value within limits for P 214.914 Recovery = 94.21%							
Pb	220.353†	4543.6	489.07 ug/L	18.497	489.07 ppb	18.497	3.78%
QC value within limits for Pb 220.353 Recovery = 97.81%							
S	181.975 Axial†	791.1	965.43 ug/L	41.774	965.43 ppb	41.774	4.33%
QC value within limits for S 181.975 Axial Recovery = 96.54%							
Sb	206.836†	1568.7	496.75 ug/L	19.375	496.75 ppb	19.375	3.90%
QC value within limits for Sb 206.836 Recovery = 99.35%							
Se	196.026†	877.9	506.06 ug/L	18.539	506.06 ppb	18.539	3.66%
QC value within limits for Se 196.026 Recovery = 101.21%							
Si	251.611†	80232.8	2382.3 ug/L	99.85	2382.3 ppb	99.85	4.19%
QC value within limits for Si 251.611 Recovery = 95.29%							
Sn	189.927†	3010.7	487.26 ug/L	19.251	487.26 ppb	19.251	3.95%
QC value within limits for Sn 189.927 Recovery = 97.45%							
Sr	421.552†	76905.7	507.74 ug/L	9.325	507.74 ppb	9.325	1.84%
QC value within limits for Sr 421.552 Recovery = 101.55%							
Ti	334.940†	321149.8	479.72 ug/L	21.049	479.72 ppb	21.049	4.39%
QC value within limits for Ti 334.940 Recovery = 95.94%							
Tl	190.801†	1721.1	488.83 ug/L	17.222	488.83 ppb	17.222	3.52%
QC value within limits for Tl 190.801 Recovery = 97.77%							
U	409.014†	15786.1	464.63 ug/L	12.102	464.63 ppb	12.102	2.60%
QC value within limits for U 409.014 Recovery = 92.93%							
V	292.402†	70909.4	478.11 ug/L	20.427	478.11 ppb	20.427	4.27%
QC value within limits for V 292.402 Recovery = 95.62%							
Zn	213.857†	56631.5	476.25 ug/L	20.112	476.25 ppb	20.112	4.22%
QC value within limits for Zn 213.857 Recovery = 95.25%							
SiO2†	81147.1	5161.5 ug/L	189.19	5161.5 ppb	189.19	3.67%	
QC value within limits for SiO2 Recovery = 96.52%							
All analyte(s) passed QC.							

Sequence No.: 25

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 19:48:42

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4228.0	4228.0	102 %		19:50:34
1	Y RADIAL	4774.0	4774.0	98.61 %		19:50:34
1	Al 396.153Radial†	-117.9	75.1	61.957 ug/L	61.957 ppb	19:50:34
1	Ca 317.933Radial†	11.0	-2.6	-4.7396 ug/L	-4.7396 ppb	19:50:54
1	Fe 238.204 Radial†	9.4	-1.0	-11.140 ug/L	-11.140 ppb	19:50:54
1	K 766.490 Radial†	2738.8	48.2	9.1604 ug/L	9.1604 ppb	19:50:34
1	Mg 279.077 IEC†	1.9	1.9	79.204 ug/L	79.204 ppb	19:50:54
1	Na 589.592 Radial†	-1633.7	58.2	17.931 ug/L	17.931 ppb	19:50:34
1	Sr 421.552†	48.6	10.9	0.0722 ug/L	0.0722 ppb	19:50:34
1	Sc 361.383	860168.5	860168.5	96.559 %		19:51:50
1	Y 371.029	700716.5	700716.5	95.433 %		19:51:50
1	Ag 328.068†	458.5	-149.7	-0.6733 ug/L	-0.6733 ppb	19:51:50
1	As 188.979†	-32.3	-4.7	-1.8149 ug/L	-1.8149 ppb	19:52:11
1	B 249.677†	-652.0	85.9	1.7972 ug/L	1.7972 ppb	19:52:11
1	Ba 233.527†	-23.8	-9.4	-0.0692 ug/L	-0.0692 ppb	19:52:11
1	Be 313.107†	-4085.6	171.8	0.0579 ug/L	0.0579 ppb	19:51:50
1	Cd 226.502†	-197.1	-0.1	0.0041 ug/L	0.0041 ppb	19:52:11
1	Co 228.616†	-85.8	-3.7	-0.0669 ug/L	-0.0669 ppb	19:52:11
1	Cr 267.716†	102.7	44.5	0.4507 ug/L	0.4507 ppb	19:51:50
1	Cu 324.752†	7347.1	722.1	1.9983 ug/L	1.9983 ppb	19:51:50
1	Mn 257.610†	500.8	-13.1	-0.0175 ug/L	-0.0175 ppb	19:52:11
1	Mo 202.031†	14.2	9.5	0.6275 ug/L	0.6275 ppb	19:52:11
1	Ni 231.604†	93.0	11.2	0.2488 ug/L	0.2488 ppb	19:52:11
1	P 214.914†	237.0	22.2	11.151 ug/L	11.151 ppb	19:52:11
1	Pb 220.353†	-63.3	14.0	1.5201 ug/L	1.5201 ppb	19:52:11
1	S 181.975 Axial†	53.5	6.5	7.9363 ug/L	7.9363 ppb	19:52:11
1	Sb 206.836†	52.2	15.6	4.7724 ug/L	4.7724 ppb	19:52:11
1	Se 196.026†	-21.5	3.7	2.0055 ug/L	2.0055 ppb	19:52:11
1	Si 251.611†	485.2	-33.2	-0.9960 ug/L	-0.9960 ppb	19:52:11
1	Sn 189.927†	8.9	-0.2	-0.0335 ug/L	-0.0335 ppb	19:52:11
1	Ti 334.940†	-1655.8	89.5	0.1190 ug/L	0.1190 ppb	19:51:50
1	Tl 190.801†	-44.4	-1.5	-0.4131 ug/L	-0.4131 ppb	19:52:11
1	U 409.014†	-4376.0	581.1	17.166 ug/L	17.166 ppb	19:51:50
1	V 292.402†	-1717.4	-26.4	-0.1311 ug/L	-0.1311 ppb	19:51:50
1	Zn 213.857†	815.2	135.1	1.1430 ug/L	1.1430 ppb	19:52:11
1	SiO2†	486.4	-58.5	-3.7478 ug/L	-3.7478 ppb	19:53:07
2	Sc Radial	4218.7	4218.7	102 %		19:50:59
2	Y RADIAL	4740.8	4740.8	97.92 %		19:50:59
2	Al 396.153Radial†	-199.5	-5.0	-4.1090 ug/L	-4.1090 ppb	19:50:59
2	Ca 317.933Radial†	16.2	2.6	4.7244 ug/L	4.7244 ppb	19:51:19
2	Fe 238.204 Radial†	9.3	-1.0	-11.608 ug/L	-11.608 ppb	19:51:19
2	K 766.490 Radial†	2894.4	206.1	39.215 ug/L	39.215 ppb	19:50:59
2	Mg 279.077 IEC†	3.8	3.8	159.97 ug/L	159.97 ppb	19:51:19
2	Na 589.592 Radial†	-1620.0	68.1	20.988 ug/L	20.988 ppb	19:50:59
2	Sr 421.552†	6.4	-30.2	-0.1992 ug/L	-0.1992 ppb	19:50:59
2	Sc 361.383	862047.5	862047.5	96.769 %		19:52:16
2	Y 371.029	699940.4	699940.4	95.328 %		19:52:16
2	Ag 328.068†	543.7	-62.6	-0.2883 ug/L	-0.2883 ppb	19:52:16
2	As 188.979†	-18.4	9.7	3.7256 ug/L	3.7256 ppb	19:52:36
2	B 249.677†	-639.9	99.9	2.0894 ug/L	2.0894 ppb	19:52:36
2	Ba 233.527†	-17.1	-2.4	-0.0181 ug/L	-0.0181 ppb	19:52:36
2	Be 313.107†	-4149.3	115.2	0.0384 ug/L	0.0384 ppb	19:52:16
2	Cd 226.502†	-201.4	-4.0	-0.0380 ug/L	-0.0380 ppb	19:52:36
2	Co 228.616†	-74.7	8.0	0.1482 ug/L	0.1482 ppb	19:52:36
2	Cr 267.716†	66.3	6.7	0.0634 ug/L	0.0634 ppb	19:52:16
2	Cu 324.752†	7438.7	800.2	2.2182 ug/L	2.2182 ppb	19:52:16
2	Mn 257.610†	489.7	-25.8	-0.0335 ug/L	-0.0335 ppb	19:52:36
2	Mo 202.031†	7.7	2.7	0.1799 ug/L	0.1799 ppb	19:52:36
2	Ni 231.604†	81.0	-1.5	-0.0334 ug/L	-0.0334 ppb	19:52:36



2	P 214.914†	245.1	30.0	15.152 ug/L	15.152 ppb	19:52:36
2	Pb 220.353†	-75.6	1.5	0.1586 ug/L	0.1586 ppb	19:52:36
2	S 181.975 Axial†	51.2	4.0	4.9050 ug/L	4.9050 ppb	19:52:36
2	Sb 206.836†	57.7	21.2	6.4687 ug/L	6.4687 ppb	19:52:36
2	Se 196.026†	-24.6	0.5	0.2403 ug/L	0.2403 ppb	19:52:36
2	Si 251.611†	499.7	-19.4	-0.5784 ug/L	-0.5784 ppb	19:52:36
2	Sn 189.927†	8.7	-0.4	-0.0654 ug/L	-0.0654 ppb	19:52:36
2	Ti 334.940†	-1815.7	-71.9	-0.1255 ug/L	-0.1255 ppb	19:52:16
2	Tl 190.801†	-43.9	-0.9	-0.2566 ug/L	-0.2566 ppb	19:52:36
2	U 409.014†	-4534.9	426.8	12.608 ug/L	12.608 ppb	19:52:16
2	V 292.402†	-1700.4	-4.9	-0.0014 ug/L	-0.0014 ppb	19:52:16
2	Zn 213.857†	820.9	139.2	1.1790 ug/L	1.1790 ppb	19:52:36
2	SiO2†	523.8	-21.0	-1.3421 ug/L	-1.3421 ppb	19:53:12
3	Sc Radial	4154.0	4154.0	101 %		19:51:24
3	Y RADIAL	4671.8	4671.8	96.50 %		19:51:24
3	Al 396.153Radial†	-190.7	0.7	0.5493 ug/L	0.5493 ppb	19:51:24
3	Ca 317.933Radial†	11.5	-1.9	-3.5288 ug/L	-3.5288 ppb	19:51:44
3	Fe 238.204 Radial†	11.9	1.7	19.526 ug/L	19.526 ppb	19:51:44
3	K 766.490 Radial†	2728.2	85.2	16.220 ug/L	16.220 ppb	19:51:24
3	Mg 279.077 IEC†	1.7	1.7	72.588 ug/L	72.588 ppb	19:51:44
3	Na 589.592 Radial†	-1663.1	0.6	0.1700 ug/L	0.1700 ppb	19:51:24
3	Sr 421.552†	51.2	14.4	0.0949 ug/L	0.0949 ppb	19:51:24
3	Sc 361.383	859433.0	859433.0	96.476 %		19:52:41
3	Y 371.029	698373.2	698373.2	95.114 %		19:52:41
3	Ag 328.068†	486.3	-120.4	-0.5340 ug/L	-0.5340 ppb	19:52:41
3	As 188.979†	-24.2	3.6	1.3995 ug/L	1.3995 ppb	19:53:01
3	B 249.677†	-643.4	94.2	1.9663 ug/L	1.9663 ppb	19:53:01
3	Ba 233.527†	-6.3	8.8	0.0650 ug/L	0.0650 ppb	19:53:01
3	Be 313.107†	-4077.9	176.2	0.0590 ug/L	0.0590 ppb	19:52:41
3	Cd 226.502†	-208.3	-11.8	-0.1208 ug/L	-0.1208 ppb	19:53:01
3	Co 228.616†	-95.4	-13.8	-0.2537 ug/L	-0.2537 ppb	19:53:01
3	Cr 267.716†	97.9	39.6	0.4016 ug/L	0.4016 ppb	19:52:41
3	Cu 324.752†	7274.3	653.2	1.8086 ug/L	1.8086 ppb	19:52:41
3	Mn 257.610†	589.1	78.8	0.0780 ug/L	0.0780 ppb	19:53:01
3	Mo 202.031†	8.7	3.8	0.2537 ug/L	0.2537 ppb	19:53:01
3	Ni 231.604†	95.0	13.3	0.2958 ug/L	0.2958 ppb	19:53:01
3	P 214.914†	248.1	33.9	17.212 ug/L	17.212 ppb	19:53:01
3	Pb 220.353†	-63.4	13.9	1.4906 ug/L	1.4906 ppb	19:53:01
3	S 181.975 Axial†	48.8	1.7	2.1024 ug/L	2.1024 ppb	19:53:01
3	Sb 206.836†	40.4	3.5	1.0801 ug/L	1.0801 ppb	19:53:01
3	Se 196.026†	-39.2	-14.7	-8.0705 ug/L	-8.0705 ppb	19:53:01
3	Si 251.611†	519.8	3.1	0.0890 ug/L	0.0890 ppb	19:53:01
3	Sn 189.927†	13.0	4.1	0.6574 ug/L	0.6574 ppb	19:53:01
3	Ti 334.940†	-1771.9	-32.3	-0.0622 ug/L	-0.0622 ppb	19:52:41
3	Tl 190.801†	-48.3	-5.6	-1.5777 ug/L	-1.5777 ppb	19:53:01
3	U 409.014†	-4382.3	570.7	16.855 ug/L	16.855 ppb	19:52:41
3	V 292.402†	-1681.8	9.0	0.0939 ug/L	0.0939 ppb	19:52:41
3	Zn 213.857†	839.5	161.1	1.3604 ug/L	1.3604 ppb	19:53:01
3	SiO2†	542.1	-0.3	-0.0281 ug/L	-0.0281 ppb	19:53:17

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	860549.7	96.601 %		0.1514			0.16%
Sc Radial	4200.2	102 %		1.0			0.96%
Y 371.029	699676.7	95.292 %		0.1626			0.17%
Y RADIAL	4728.9	97.68 %		1.076			1.10%
Ag 328.068†	-110.9	-0.4985 ug/L		0.19495	-0.4985 ppb	0.19495	39.11%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	23.6	19.466 ug/L		36.8721	19.466 ppb	36.8721	189.42%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	2.9	1.1034 ug/L		2.78210	1.1034 ppb	2.78210	252.14%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	93.3	1.9510 ug/L		0.14669	1.9510 ppb	0.14669	7.52%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-1.0	-0.0074 ug/L		0.06772	-0.0074 ppb	0.06772	910.44%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	154.4	0.0518 ug/L		0.01161	0.0518 ppb	0.01161	22.41%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-0.6	-1.1814 ug/L		5.15021	-1.1814 ppb	5.15021	435.96%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated					
Cd 226.502†	-5.3	-0.0516 ug/L	0.06354	-0.0516 ppb	0.06354 123.21%
QC value within limits for Cd 226.502 Recovery = Not calculated					
Co 228.616†	-3.2	-0.0575 ug/L	0.20112	-0.0575 ppb	0.20112 349.96%
QC value within limits for Co 228.616 Recovery = Not calculated					
Cr 267.716†	30.3	0.3052 ug/L	0.21087	0.3052 ppb	0.21087 69.09%
QC value within limits for Cr 267.716 Recovery = Not calculated					
Cu 324.752†	725.2	2.0084 ug/L	0.20497	2.0084 ppb	0.20497 10.21%
QC value within limits for Cu 324.752 Recovery = Not calculated					
Fe 238.204 Radial†	-0.1	-1.0738 ug/L	17.84151	-1.0738 ppb	17.84151 >999.9%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated					
K 766.490 Radial†	113.1	21.532 ug/L	15.7157	21.532 ppb	15.7157 72.99%
QC value within limits for K 766.490 Radial Recovery = Not calculated					
Mg 279.077 IEC†	2.5	103.92 ug/L	48.654	103.92 ppb	48.654 46.82%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated					
Mn 257.610†	13.3	0.0090 ug/L	0.06031	0.0090 ppb	0.06031 670.04%
QC value within limits for Mn 257.610 Recovery = Not calculated					
Mo 202.031†	5.3	0.3537 ug/L	0.23996	0.3537 ppb	0.23996 67.84%
QC value within limits for Mo 202.031 Recovery = Not calculated					
Na 589.592 Radial†	42.3	13.030 ug/L	11.2413	13.030 ppb	11.2413 86.27%
QC value within limits for Na 589.592 Radial Recovery = Not calculated					
Ni 231.604†	7.6	0.1704 ug/L	0.17809	0.1704 ppb	0.17809 104.51%
QC value within limits for Ni 231.604 Recovery = Not calculated					
P 214.914†	28.7	14.505 ug/L	3.0815	14.505 ppb	3.0815 21.24%
QC value within limits for P 214.914 Recovery = Not calculated					
Pb 220.353†	9.8	1.0564 ug/L	0.77771	1.0564 ppb	0.77771 73.62%
QC value within limits for Pb 220.353 Recovery = Not calculated					
S 181.975 Axial†	4.1	4.9812 ug/L	2.91768	4.9812 ppb	2.91768 58.57%
QC value within limits for S 181.975 Axial Recovery = Not calculated					
Sb 206.836†	13.4	4.1071 ug/L	2.75523	4.1071 ppb	2.75523 67.08%
QC value within limits for Sb 206.836 Recovery = Not calculated					
Se 196.026†	-3.5	-1.9416 ug/L	5.38069	-1.9416 ppb	5.38069 277.13%
QC value within limits for Se 196.026 Recovery = Not calculated					
Si 251.611†	-16.5	-0.4951 ug/L	0.54727	-0.4951 ppb	0.54727 110.53%
QC value within limits for Si 251.611 Recovery = Not calculated					
Sn 189.927†	1.2	0.1862 ug/L	0.40841	0.1862 ppb	0.40841 219.35%
QC value within limits for Sn 189.927 Recovery = Not calculated					
Sr 421.552†	-1.6	-0.0107 ug/L	0.16368	-0.0107 ppb	0.16368 >999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated					
Ti 334.940†	-4.9	-0.0229 ug/L	0.12685	-0.0229 ppb	0.12685 554.26%
QC value within limits for Ti 334.940 Recovery = Not calculated					
Tl 190.801†	-2.7	-0.7492 ug/L	0.72181	-0.7492 ppb	0.72181 96.35%
QC value within limits for Tl 190.801 Recovery = Not calculated					
U 409.014†	526.2	15.543 ug/L	2.5464	15.543 ppb	2.5464 16.38%
QC value within limits for U 409.014 Recovery = Not calculated					
V 292.402†	-7.5	-0.0128 ug/L	0.11293	-0.0128 ppb	0.11293 880.00%
QC value within limits for V 292.402 Recovery = Not calculated					
Zn 213.857†	145.1	1.2275 ug/L	0.11649	1.2275 ppb	0.11649 9.49%
QC value within limits for Zn 213.857 Recovery = Not calculated					
SiO2†	-26.6	-1.7060 ug/L	1.88636	-1.7060 ppb	1.88636 110.57%
QC value within limits for SiO2 Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 34

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 20:50:11

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4355.7	4355.7	106 %		20:52:03
1	Y RADIAL	4884.9	4884.9	100.9 %		20:52:03
1	Al 396.153Radial†	6118.7	5985.4	4917.9 ug/L	4917.9 ppb	20:52:03
1	Ca 317.933Radial†	2889.9	2723.8	5042.1 ug/L	5042.1 ppb	20:52:23
1	Fe 238.204 Radial†	486.8	451.0	5255.8 ug/L	5255.8 ppb	20:52:23
1	K 766.490 Radial†	29868.7	25665.7	4878.9 ug/L	4878.9 ppb	20:52:03
1	Mg 279.077 IEC†	129.3	122.6	5163.8 ug/L	5163.8 ppb	20:52:23
1	Na 589.592 Radial†	33632.7	33507.3	10325 ug/L	10325 ppb	20:52:03
1	Sr 421.552†	80774.9	76469.1	504.86 ug/L	504.86 ppb	20:52:03
1	Sc 361.383	866378.0	866378.0	97.256 %		20:53:21
1	Y 371.029	697064.2	697064.2	94.936 %		20:53:21
1	Ag 328.068†	111267.6	113782.9	501.01 ug/L	501.01 ppb	20:53:26
1	As 188.979†	1236.9	1300.6	503.87 ug/L	503.87 ppb	20:53:46
1	B 249.677†	21912.3	23291.7	484.71 ug/L	484.71 ppb	20:53:26
1	Ba 233.527†	66037.6	67916.4	497.66 ug/L	497.66 ppb	20:53:26
1	Be 313.107†	1422438.9	1466980.8	493.33 ug/L	493.33 ppb	20:53:21
1	Cd 226.502†	47237.0	48774.0	503.52 ug/L	503.52 ppb	20:53:26
1	Co 228.616†	26425.8	27256.6	502.49 ug/L	502.49 ppb	20:53:26
1	Cr 267.716†	47363.2	48637.9	501.31 ug/L	501.31 ppb	20:53:26
1	Cu 324.752†	180436.4	178641.1	496.87 ug/L	496.87 ppb	20:53:26
1	Mn 257.610†	482197.7	495272.7	497.23 ug/L	497.23 ppb	20:53:21
1	Mo 202.031†	7276.6	7476.7	497.36 ug/L	497.36 ppb	20:53:46
1	Ni 231.604†	22057.7	22595.0	503.17 ug/L	503.17 ppb	20:53:26
1	P 214.914†	4900.7	4815.7	2403.4 ug/L	2403.4 ppb	20:53:46
1	Pb 220.353†	4433.0	4637.8	499.18 ug/L	499.18 ppb	20:53:46
1	S 181.975 Axial†	834.7	809.3	987.77 ug/L	987.77 ppb	20:53:46
1	Sb 206.836†	1624.5	1631.9	516.58 ug/L	516.58 ppb	20:53:46
1	Se 196.026†	859.0	909.2	523.16 ug/L	523.16 ppb	20:53:46
1	Si 251.611†	82629.0	84424.9	2506.9 ug/L	2506.9 ppb	20:53:26
1	Sn 189.927†	3017.2	3092.9	500.51 ug/L	500.51 ppb	20:53:46
1	Ti 334.940†	323952.1	334897.8	500.24 ug/L	500.24 ppb	20:53:21
1	Tl 190.801†	1667.5	1759.0	499.64 ug/L	499.64 ppb	20:53:46
1	U 409.014†	11855.7	17303.4	509.40 ug/L	509.40 ppb	20:53:26
1	V 292.402†	71043.8	74800.7	504.25 ug/L	504.25 ppb	20:53:26
1	Zn 213.857†	58336.4	59273.5	498.50 ug/L	498.50 ppb	20:53:26
1	SiO2†	82667.3	84437.8	5371.0 ug/L	5371.0 ppb	20:54:54
2	Sc Radial	4407.3	4407.3	107 %		20:52:28
2	Y RADIAL	4886.8	4886.8	100.9 %		20:52:28
2	Al 396.153Radial†	6127.1	5925.5	4868.5 ug/L	4868.5 ppb	20:52:28
2	Ca 317.933Radial†	2890.3	2692.2	4983.6 ug/L	4983.6 ppb	20:52:48
2	Fe 238.204 Radial†	484.7	443.6	5170.2 ug/L	5170.2 ppb	20:52:48
2	K 766.490 Radial†	29880.3	25345.5	4818.0 ug/L	4818.0 ppb	20:52:28
2	Mg 279.077 IEC†	127.9	119.8	5047.6 ug/L	5047.6 ppb	20:52:48
2	Na 589.592 Radial†	33769.2	33262.3	10250 ug/L	10250 ppb	20:52:28
2	Sr 421.552†	80983.0	75768.6	500.23 ug/L	500.23 ppb	20:52:28
2	Sc 361.383	864579.7	864579.7	97.054 %		20:53:52
2	Y 371.029	694380.3	694380.3	94.570 %		20:53:52
2	Ag 328.068†	110509.1	113239.3	498.60 ug/L	498.60 ppb	20:53:57
2	As 188.979†	1229.0	1295.1	501.75 ug/L	501.75 ppb	20:54:17
2	B 249.677†	21727.0	23147.6	481.70 ug/L	481.70 ppb	20:53:57
2	Ba 233.527†	65971.7	67989.7	498.19 ug/L	498.19 ppb	20:53:57
2	Be 313.107†	1418130.4	1465583.6	492.86 ug/L	492.86 ppb	20:53:52
2	Cd 226.502†	47042.0	48674.2	502.50 ug/L	502.50 ppb	20:53:57
2	Co 228.616†	26469.7	27358.4	504.37 ug/L	504.37 ppb	20:53:57
2	Cr 267.716†	47156.3	48526.0	500.16 ug/L	500.16 ppb	20:53:57
2	Cu 324.752†	179073.1	177622.4	494.03 ug/L	494.03 ppb	20:53:57
2	Mn 257.610†	482450.2	496564.1	498.53 ug/L	498.53 ppb	20:53:52
2	Mo 202.031†	7232.4	7446.7	495.36 ug/L	495.36 ppb	20:54:17
2	Ni 231.604†	22004.6	22587.5	503.00 ug/L	503.00 ppb	20:53:57

2	P 214.914†	4852.5	4776.6	2383.7 ug/L	2383.7 ppb	20:54:17
2	Pb 220.353†	4364.9	4577.0	492.65 ug/L	492.65 ppb	20:54:17
2	S 181.975 Axial†	838.6	815.2	994.94 ug/L	994.94 ppb	20:54:17
2	Sb 206.836†	1617.1	1627.8	515.21 ug/L	515.21 ppb	20:54:17
2	Se 196.026†	848.5	900.2	517.86 ug/L	517.86 ppb	20:54:17
2	Si 251.611†	82187.2	84146.4	2498.6 ug/L	2498.6 ppb	20:53:57
2	Sn 189.927†	2986.4	3067.6	496.41 ug/L	496.41 ppb	20:54:17
2	Ti 334.940†	323639.2	335268.3	500.80 ug/L	500.80 ppb	20:53:52
2	Tl 190.801†	1654.6	1749.3	496.91 ug/L	496.91 ppb	20:54:17
2	U 409.014†	11750.8	17220.6	506.97 ug/L	506.97 ppb	20:53:57
2	V 292.402†	70656.9	74554.0	502.59 ug/L	502.59 ppb	20:53:57
2	Zn 213.857†	58082.9	59137.0	497.36 ug/L	497.36 ppb	20:53:57
2	SiO2†	83367.5	85336.1	5428.4 ug/L	5428.4 ppb	20:54:59
3	Sc Radial	4368.2	4368.2	106 %		20:52:53
3	Y RADIAL	4890.2	4890.2	101.0 %		20:52:53
3	Al 396.153Radial†	6487.4	6317.0	5192.1 ug/L	5192.1 ppb	20:52:53
3	Ca 317.933Radial†	2882.3	2708.8	5014.4 ug/L	5014.4 ppb	20:53:13
3	Fe 238.204 Radial†	484.2	447.2	5211.6 ug/L	5211.6 ppb	20:53:13
3	K 766.490 Radial†	29611.4	25341.9	4817.3 ug/L	4817.3 ppb	20:52:53
3	Mg 279.077 IEC†	134.5	127.1	5354.1 ug/L	5354.1 ppb	20:53:13
3	Na 589.592 Radial†	33379.2	33176.9	10224 ug/L	10224 ppb	20:52:53
3	Sr 421.552†	79935.5	75457.8	498.18 ug/L	498.18 ppb	20:52:53
3	Sc 361.383	876177.5	876177.5	98.356 %		20:54:23
3	Y 371.029	703860.3	703860.3	95.862 %		20:54:23
3	Ag 328.068†	110151.2	111368.3	490.41 ug/L	490.41 ppb	20:54:29
3	As 188.979†	1231.0	1280.4	496.08 ug/L	496.08 ppb	20:54:49
3	B 249.677†	21696.4	22820.2	474.89 ug/L	474.89 ppb	20:54:29
3	Ba 233.527†	65543.3	66654.4	488.42 ug/L	488.42 ppb	20:54:29
3	Be 313.107†	1425646.9	1453884.4	488.93 ug/L	488.93 ppb	20:54:23
3	Cd 226.502†	46683.9	47668.5	492.10 ug/L	492.10 ppb	20:54:29
3	Co 228.616†	26163.5	26686.1	491.97 ug/L	491.97 ppb	20:54:29
3	Cr 267.716†	46855.7	47577.2	490.38 ug/L	490.38 ppb	20:54:29
3	Cu 324.752†	179106.0	175213.6	487.34 ug/L	487.34 ppb	20:54:29
3	Mn 257.610†	483909.9	491468.3	493.40 ug/L	493.40 ppb	20:54:23
3	Mo 202.031†	7246.6	7362.5	489.77 ug/L	489.77 ppb	20:54:49
3	Ni 231.604†	21848.5	22128.6	492.78 ug/L	492.78 ppb	20:54:29
3	P 214.914†	4871.0	4729.2	2360.4 ug/L	2360.4 ppb	20:54:49
3	Pb 220.353†	4394.5	4547.6	489.55 ug/L	489.55 ppb	20:54:49
3	S 181.975 Axial†	837.6	802.8	979.69 ug/L	979.69 ppb	20:54:49
3	Sb 206.836†	1616.2	1604.8	507.99 ug/L	507.99 ppb	20:54:49
3	Se 196.026†	848.3	888.4	511.47 ug/L	511.47 ppb	20:54:49
3	Si 251.611†	81667.4	82497.0	2449.6 ug/L	2449.6 ppb	20:54:29
3	Sn 189.927†	3003.2	3044.0	492.60 ug/L	492.60 ppb	20:54:49
3	Ti 334.940†	325395.6	332640.0	496.86 ug/L	496.86 ppb	20:54:23
3	Tl 190.801†	1672.2	1744.6	495.59 ug/L	495.59 ppb	20:54:49
3	U 409.014†	11596.1	16903.1	497.61 ug/L	497.61 ppb	20:54:29
3	V 292.402†	70393.6	73322.7	494.31 ug/L	494.31 ppb	20:54:29
3	Zn 213.857†	57712.6	57968.3	487.51 ug/L	487.51 ppb	20:54:29
3	SiO2†	82648.9	83468.4	5309.4 ug/L	5309.4 ppb	20:55:04

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	869045.1	97.555 %	0.7007			0.72%
Sc Radial	4377.1	106 %	0.7			0.61%
Y 371.029	698434.9	95.123 %	0.6655			0.70%
Y RADIAL	4887.3	100.9 %	0.05			0.05%
Ag 328.068†	112796.8	496.67 ug/L	5.561	496.67 ppb	5.561	1.12%
QC value within limits for Ag 328.068 Recovery = 99.33%						
Al 396.153Radial†	6076.0	4992.9 ug/L	174.32	4992.9 ppb	174.32	3.49%
QC value within limits for Al 396.153Radial Recovery = 99.86%						
As 188.979†	1292.0	500.57 ug/L	4.026	500.57 ppb	4.026	0.80%
QC value within limits for As 188.979 Recovery = 100.11%						
B 249.677†	23086.5	480.43 ug/L	5.032	480.43 ppb	5.032	1.05%
QC value within limits for B 249.677 Recovery = 96.09%						
Ba 233.527†	67520.2	494.76 ug/L	5.498	494.76 ppb	5.498	1.11%
QC value within limits for Ba 233.527 Recovery = 98.95%						
Be 313.107†	1462149.6	491.70 ug/L	2.418	491.70 ppb	2.418	0.49%
QC value within limits for Be 313.107 Recovery = 98.34%						
Ca 317.933Radial†	2708.3	5013.4 ug/L	29.26	5013.4 ppb	29.26	0.58%

QC value within limits for Ca 317.933 Radial Recovery = 100.27%							
Cd 226.502†	48372.3	499.37 ug/L	6.319	499.37 ppb	6.319	1.27%	
QC value within limits for Cd 226.502 Recovery = 99.87%							
Co 228.616†	27100.4	499.61 ug/L	6.684	499.61 ppb	6.684	1.34%	
QC value within limits for Co 228.616 Recovery = 99.92%							
Cr 267.716†	48247.0	497.28 ug/L	6.004	497.28 ppb	6.004	1.21%	
QC value within limits for Cr 267.716 Recovery = 99.46%							
Cu 324.752†	177159.0	492.75 ug/L	4.893	492.75 ppb	4.893	0.99%	
QC value within limits for Cu 324.752 Recovery = 98.55%							
Fe 238.204 Radial†	447.3	5212.5 ug/L	42.77	5212.5 ppb	42.77	0.82%	
QC value within limits for Fe 238.204 Radial Recovery = 104.25%							
K 766.490 Radial†	25451.0	4838.0 ug/L	35.36	4838.0 ppb	35.36	0.73%	
QC value within limits for K 766.490 Radial Recovery = 96.76%							
Mg 279.077 IEC†	123.1	5188.5 ug/L	154.72	5188.5 ppb	154.72	2.98%	
QC value within limits for Mg 279.077 IEC Recovery = 103.77%							
Mn 257.610†	494435.0	496.39 ug/L	2.663	496.39 ppb	2.663	0.54%	
QC value within limits for Mn 257.610 Recovery = 99.28%							
Mo 202.031†	7428.6	494.17 ug/L	3.936	494.17 ppb	3.936	0.80%	
QC value within limits for Mo 202.031 Recovery = 98.83%							
Na 589.592 Radial†	33315.5	10266 ug/L	52.9	10266 ppb	52.9	0.51%	
QC value within limits for Na 589.592 Radial Recovery = 102.66%							
Ni 231.604†	22437.0	499.65 ug/L	5.948	499.65 ppb	5.948	1.19%	
QC value within limits for Ni 231.604 Recovery = 99.93%							
P 214.914†	4773.8	2382.5 ug/L	21.53	2382.5 ppb	21.53	0.90%	
QC value within limits for P 214.914 Recovery = 95.30%							
Pb 220.353†	4587.4	493.79 ug/L	4.915	493.79 ppb	4.915	1.00%	
QC value within limits for Pb 220.353 Recovery = 98.76%							
S 181.975 Axial†	809.1	987.47 ug/L	7.627	987.47 ppb	7.627	0.77%	
QC value within limits for S 181.975 Axial Recovery = 98.75%							
Sb 206.836†	1621.5	513.26 ug/L	4.617	513.26 ppb	4.617	0.90%	
QC value within limits for Sb 206.836 Recovery = 102.65%							
Se 196.026†	899.3	517.50 ug/L	5.854	517.50 ppb	5.854	1.13%	
QC value within limits for Se 196.026 Recovery = 103.50%							
Si 251.611†	83689.4	2485.0 ug/L	30.97	2485.0 ppb	30.97	1.25%	
QC value within limits for Si 251.611 Recovery = 99.40%							
Sn 189.927†	3068.2	496.51 ug/L	3.953	496.51 ppb	3.953	0.80%	
QC value within limits for Sn 189.927 Recovery = 99.30%							
Sr 421.552†	75898.5	501.09 ug/L	3.420	501.09 ppb	3.420	0.68%	
QC value within limits for Sr 421.552 Recovery = 100.22%							
Ti 334.940†	334268.7	499.30 ug/L	2.132	499.30 ppb	2.132	0.43%	
QC value within limits for Ti 334.940 Recovery = 99.86%							
Tl 190.801†	1751.0	497.38 ug/L	2.066	497.38 ppb	2.066	0.42%	
QC value within limits for Tl 190.801 Recovery = 99.48%							
U 409.014†	17142.4	504.66 ug/L	6.227	504.66 ppb	6.227	1.23%	
QC value within limits for U 409.014 Recovery = 100.93%							
V 292.402†	74225.8	500.38 ug/L	5.327	500.38 ppb	5.327	1.06%	
QC value within limits for V 292.402 Recovery = 100.08%							
Zn 213.857†	58792.9	494.46 ug/L	6.042	494.46 ppb	6.042	1.22%	
QC value within limits for Zn 213.857 Recovery = 98.89%							
SiO2†	84414.1	5369.6 ug/L	59.49	5369.6 ppb	59.49	1.11%	
QC value within limits for SiO2 Recovery = 100.41%							
All analyte(s) passed QC.							

Sequence No.: 35

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 20:57:14

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4397.5	4397.5	107 %		20:59:06
1	Y RADIAL	4916.4	4916.4	101.5 %		20:59:06
1	Al 396.153Radial†	-187.1	14.5	12.004 ug/L	12.004 ppb	20:59:06
1	Ca 317.933Radial†	13.1	-1.1	-1.9567 ug/L	-1.9567 ppb	20:59:26
1	Fe 238.204 Radial†	16.7	5.5	64.153 ug/L	64.153 ppb	20:59:26
1	K 766.490 Radial†	2813.2	14.9	2.8171 ug/L	2.8171 ppb	20:59:06
1	Mg 279.077 IEC†	2.1	2.0	84.967 ug/L	84.967 ppb	20:59:26
1	Na 589.592 Radial†	-1633.4	119.9	36.960 ug/L	36.960 ppb	20:59:06
1	Sr 421.552†	-2.8	-39.1	-0.2579 ug/L	-0.2579 ppb	20:59:06
1	Sc 361.383	915128.8	915128.8	102.73 %		21:00:23
1	Y 371.029	744248.7	744248.7	101.36 %		21:00:23
1	Ag 328.068†	487.7	-149.8	-0.6557 ug/L	-0.6557 ppb	21:00:28
1	As 188.979†	-29.1	0.4	0.1748 ug/L	0.1748 ppb	21:00:48
1	B 249.677†	-545.7	229.8	4.7952 ug/L	4.7952 ppb	21:00:48
1	Ba 233.527†	2.0	17.2	0.1294 ug/L	0.1294 ppb	21:00:48
1	Be 313.107†	-4124.0	388.6	0.1309 ug/L	0.1309 ppb	21:00:28
1	Cd 226.502†	-216.3	-6.5	-0.0677 ug/L	-0.0677 ppb	21:00:48
1	Co 228.616†	-88.8	-1.3	-0.0255 ug/L	-0.0255 ppb	21:00:48
1	Cr 267.716†	54.0	-9.3	-0.1049 ug/L	-0.1049 ppb	21:00:28
1	Cu 324.752†	7302.8	222.1	0.6045 ug/L	0.6045 ppb	21:00:28
1	Mn 257.610†	765.2	213.1	0.2166 ug/L	0.2166 ppb	21:00:48
1	Mo 202.031†	6.3	0.9	0.0676 ug/L	0.0676 ppb	21:00:48
1	Ni 231.604†	94.6	7.0	0.1552 ug/L	0.1552 ppb	21:00:48
1	P 214.914†	242.3	12.6	6.3947 ug/L	6.3947 ppb	21:00:48
1	Pb 220.353†	-65.8	15.6	1.6653 ug/L	1.6653 ppb	21:00:48
1	S 181.975 Axial†	56.7	6.3	7.7320 ug/L	7.7320 ppb	21:00:48
1	Sb 206.836†	40.8	1.3	0.4106 ug/L	0.4106 ppb	21:00:48
1	Se 196.026†	-35.8	-8.9	-4.7273 ug/L	-4.7273 ppb	21:00:48
1	Si 251.611†	633.8	81.3	2.4185 ug/L	2.4185 ppb	21:00:48
1	Sn 189.927†	14.1	4.3	0.7020 ug/L	0.7020 ppb	21:00:48
1	Ti 334.940†	-1685.1	164.0	0.2247 ug/L	0.2247 ppb	21:00:28
1	Tl 190.801†	-34.1	11.3	3.1758 ug/L	3.1758 ppb	21:00:48
1	U 409.014†	-4214.0	1011.0	29.858 ug/L	29.858 ppb	21:00:23
1	V 292.402†	-1683.5	113.4	0.8047 ug/L	0.8047 ppb	21:00:28
1	Zn 213.857†	910.8	177.5	1.4980 ug/L	1.4980 ppb	21:00:48
1	SiO2†	553.3	-23.7	-1.5102 ug/L	-1.5102 ppb	21:01:54
2	Sc Radial	4452.4	4452.4	108 %		20:59:31
2	Y RADIAL	4991.3	4991.3	103.1 %		20:59:31
2	Al 396.153Radial†	-215.8	-9.8	-8.1079 ug/L	-8.1079 ppb	20:59:31
2	Ca 317.933Radial†	19.0	4.3	7.8899 ug/L	7.8899 ppb	20:59:51
2	Fe 238.204 Radial†	13.8	2.6	30.677 ug/L	30.677 ppb	20:59:51
2	K 766.490 Radial†	2743.6	-82.2	-15.661 ug/L	-15.661 ppb	20:59:31
2	Mg 279.077 IEC†	1.7	1.7	70.306 ug/L	70.306 ppb	20:59:51
2	Na 589.592 Radial†	-1643.2	129.7	39.957 ug/L	39.957 ppb	20:59:31
2	Sr 421.552†	33.9	-5.0	-0.0332 ug/L	-0.0332 ppb	20:59:31
2	Sc 361.383	902848.4	902848.4	101.35 %		21:00:53
2	Y 371.029	732483.4	732483.4	99.760 %		21:00:53
2	Ag 328.068†	476.9	-154.0	-0.6827 ug/L	-0.6827 ppb	21:00:58
2	As 188.979†	-28.9	0.2	0.0955 ug/L	0.0955 ppb	21:01:18
2	B 249.677†	-581.6	187.3	3.9104 ug/L	3.9104 ppb	21:01:18
2	Ba 233.527†	-2.5	12.8	0.0959 ug/L	0.0959 ppb	21:01:18
2	Be 313.107†	-4139.2	319.0	0.1075 ug/L	0.1075 ppb	21:00:58
2	Cd 226.502†	-198.7	8.0	0.0850 ug/L	0.0850 ppb	21:01:18
2	Co 228.616†	-80.6	5.6	0.1021 ug/L	0.1021 ppb	21:01:18
2	Cr 267.716†	91.7	28.6	0.2857 ug/L	0.2857 ppb	21:00:58
2	Cu 324.752†	7154.6	172.5	0.4668 ug/L	0.4668 ppb	21:00:58
2	Mn 257.610†	523.0	-15.7	-0.0156 ug/L	-0.0156 ppb	21:01:18
2	Mo 202.031†	3.5	-1.8	-0.1169 ug/L	-0.1169 ppb	21:01:18
2	Ni 231.604†	86.0	-0.3	-0.0059 ug/L	-0.0059 ppb	21:01:18

2	P 214.914†	232.2	5.8	2.9245 ug/L	2.9245 ppb	21:01:18
2	Pb 220.353†	-76.6	4.1	0.4341 ug/L	0.4341 ppb	21:01:18
2	S 181.975 Axial†	56.0	6.4	7.7845 ug/L	7.7845 ppb	21:01:18
2	Sb 206.836†	56.4	17.3	5.2879 ug/L	5.2879 ppb	21:01:18
2	Se 196.026†	-31.5	-5.1	-2.7402 ug/L	-2.7402 ppb	21:01:18
2	Si 251.611†	529.8	-12.9	-0.3837 ug/L	-0.3837 ppb	21:01:18
2	Sn 189.927†	16.4	6.7	1.0902 ug/L	1.0902 ppb	21:01:18
2	Ti 334.940†	-1673.5	153.2	0.2125 ug/L	0.2125 ppb	21:00:58
2	Tl 190.801†	-43.3	1.7	0.4857 ug/L	0.4857 ppb	21:01:18
2	U 409.014†	-4284.0	886.1	26.171 ug/L	26.171 ppb	21:00:53
2	V 292.402†	-1683.0	91.6	0.6546 ug/L	0.6546 ppb	21:00:58
2	Zn 213.857†	818.7	98.7	0.8340 ug/L	0.8340 ppb	21:01:18
2	SiO2†	540.7	-28.7	-1.8290 ug/L	-1.8290 ppb	21:01:59
3	Sc Radial	4394.6	4394.6	107 %		20:59:56
3	Y RADIAL	4931.9	4931.9	101.9 %		20:59:56
3	Al 396.153Radial†	-194.1	7.9	6.5053 ug/L	6.5053 ppb	20:59:56
3	Ca 317.933Radial†	11.9	-2.1	-3.9560 ug/L	-3.9560 ppb	21:00:16
3	Fe 238.204 Radial†	12.6	1.7	20.072 ug/L	20.072 ppb	21:00:16
3	K 766.490 Radial†	2727.5	-63.8	-12.166 ug/L	-12.166 ppb	20:59:56
3	Mg 279.077 IEC†	1.7	1.6	67.767 ug/L	67.767 ppb	21:00:16
3	Na 589.592 Radial†	-1631.8	120.4	37.101 ug/L	37.101 ppb	20:59:56
3	Sr 421.552†	13.4	-23.8	-0.1573 ug/L	-0.1573 ppb	20:59:56
3	Sc 361.383	913585.5	913585.5	102.55 %		21:01:23
3	Y 371.029	741614.1	741614.1	101.00 %		21:01:23
3	Ag 328.068†	482.1	-154.5	-0.6937 ug/L	-0.6937 ppb	21:01:29
3	As 188.979†	-28.0	1.5	0.5746 ug/L	0.5746 ppb	21:01:49
3	B 249.677†	-605.4	170.8	3.5686 ug/L	3.5686 ppb	21:01:49
3	Ba 233.527†	-19.9	-4.1	-0.0277 ug/L	-0.0277 ppb	21:01:49
3	Be 313.107†	-4155.0	351.5	0.1184 ug/L	0.1184 ppb	21:01:29
3	Cd 226.502†	-209.4	-0.1	0.0037 ug/L	0.0037 ppb	21:01:49
3	Co 228.616†	-98.9	-11.3	-0.2077 ug/L	-0.2077 ppb	21:01:49
3	Cr 267.716†	84.0	20.1	0.1946 ug/L	0.1946 ppb	21:01:29
3	Cu 324.752†	7064.4	1.6	-0.0129 ug/L	-0.0129 ppb	21:01:29
3	Mn 257.610†	564.4	18.5	0.0178 ug/L	0.0178 ppb	21:01:49
3	Mo 202.031†	9.5	4.1	0.2707 ug/L	0.2707 ppb	21:01:49
3	Ni 231.604†	81.7	-5.5	-0.1219 ug/L	-0.1219 ppb	21:01:49
3	P 214.914†	240.1	10.8	5.5894 ug/L	5.5894 ppb	21:01:49
3	Pb 220.353†	-73.1	8.4	0.8964 ug/L	0.8964 ppb	21:01:49
3	S 181.975 Axial†	53.3	3.1	3.8215 ug/L	3.8215 ppb	21:01:49
3	Sb 206.836†	39.2	-0.2	-0.0733 ug/L	-0.0733 ppb	21:01:49
3	Se 196.026†	-37.8	-10.9	-5.9810 ug/L	-5.9810 ppb	21:01:49
3	Si 251.611†	540.3	-8.9	-0.2694 ug/L	-0.2694 ppb	21:01:49
3	Sn 189.927†	4.6	-4.9	-0.7989 ug/L	-0.7989 ppb	21:01:49
3	Ti 334.940†	-1709.4	137.5	0.1848 ug/L	0.1848 ppb	21:01:29
3	Tl 190.801†	-42.3	3.2	0.9170 ug/L	0.9170 ppb	21:01:49
3	U 409.014†	-4091.1	1123.9	33.195 ug/L	33.195 ppb	21:01:23
3	V 292.402†	-1699.6	94.9	0.6969 ug/L	0.6969 ppb	21:01:29
3	Zn 213.857†	818.8	89.3	0.7563 ug/L	0.7563 ppb	21:01:49
3	SiO2†	565.2	-11.1	-0.7145 ug/L	-0.7145 ppb	21:02:04

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	910520.9	102.21 %		0.751			0.73%
Sc Radial	4414.8	107 %		0.8			0.74%
Y 371.029	739448.7	100.71 %		0.841			0.83%
Y RADIAL	4946.5	102.2 %		0.82			0.80%
Ag 328.068†	-152.7	-0.6774 ug/L		0.01957	-0.6774 ppb	0.01957	2.89%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	4.2	3.4672 ug/L		10.39452	3.4672 ppb	10.39452	299.80%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	0.7	0.2816 ug/L		0.25679	0.2816 ppb	0.25679	91.18%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	196.0	4.0914 ug/L		0.63304	4.0914 ppb	0.63304	15.47%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	8.6	0.0659 ug/L		0.08273	0.0659 ppb	0.08273	125.64%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	353.0	0.1190 ug/L		0.01170	0.1190 ppb	0.01170	9.83%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	0.4	0.6591 ug/L		6.34140	0.6591 ppb	6.34140	962.19%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	0.5	0.0070 ug/L	0.07643	0.0070 ppb	0.07643	>999.9%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-2.3	-0.0437 ug/L	0.15568	-0.0437 ppb	0.15568	356.32%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	13.1	0.1251 ug/L	0.20436	0.1251 ppb	0.20436	163.34%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	132.0	0.3528 ug/L	0.32414	0.3528 ppb	0.32414	91.87%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	3.3	38.301 ug/L	23.0083	38.301 ppb	23.0083	60.07%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-43.7	-8.3367 ug/L	9.81624	-8.3367 ppb	9.81624	117.75%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	1.8	74.347 ug/L	9.2845	74.347 ppb	9.2845	12.49%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	71.9	0.0729 ug/L	0.12558	0.0729 ppb	0.12558	172.19%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	1.1	0.0738 ug/L	0.19389	0.0738 ppb	0.19389	262.70%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	123.3	38.006 ug/L	1.6914	38.006 ppb	1.6914	4.45%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	0.4	0.0091 ug/L	0.13917	0.0091 ppb	0.13917	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	9.8	4.9695 ug/L	1.81620	4.9695 ppb	1.81620	36.55%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	9.3	0.9986 ug/L	0.62193	0.9986 ppb	0.62193	62.28%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	5.3	6.4460 ug/L	2.27304	6.4460 ppb	2.27304	35.26%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	6.1	1.8751 ug/L	2.96549	1.8751 ppb	2.96549	158.15%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-8.3	-4.4829 ug/L	1.63422	-4.4829 ppb	1.63422	36.45%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	19.8	0.5885 ug/L	1.58588	0.5885 ppb	1.58588	269.49%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	2.0	0.3311 ug/L	0.99766	0.3311 ppb	0.99766	301.31%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-22.6	-0.1495 ug/L	0.11258	-0.1495 ppb	0.11258	75.33%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	151.6	0.2073 ug/L	0.02048	0.2073 ppb	0.02048	9.88%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	5.4	1.5262 ug/L	1.44480	1.5262 ppb	1.44480	94.67%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	1007.0	29.741 ug/L	3.5136	29.741 ppb	3.5136	11.81%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	100.0	0.7187 ug/L	0.07740	0.7187 ppb	0.07740	10.77%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	121.8	1.0294 ug/L	0.40764	1.0294 ppb	0.40764	39.60%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-21.2	-1.3512 ug/L	0.57399	-1.3512 ppb	0.57399	42.48%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						



Sequence No.: 44

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 21:59:43

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4381.1	4381.1	106 %		22:01:35
1	Y RADIAL	4883.4	4883.4	100.9 %		22:01:35
1	Al 396.153Radial†	6078.4	5913.8	4859.1 ug/L	4859.1 ppb	22:01:35
1	Ca 317.933Radial†	2877.1	2695.9	4990.5 ug/L	4990.5 ppb	22:01:55
1	Fe 238.204 Radial†	481.8	443.6	5169.8 ug/L	5169.8 ppb	22:01:55
1	K 766.490 Radial†	29862.0	25495.3	4846.5 ug/L	4846.5 ppb	22:01:35
1	Mg 279.077 IEC†	131.3	123.7	5211.0 ug/L	5211.0 ppb	22:01:55
1	Na 589.592 Radial†	33500.5	33198.1	10230 ug/L	10230 ppb	22:01:35
1	Sr 421.552†	80450.8	75720.1	499.91 ug/L	499.91 ppb	22:01:35
1	Sc 361.383	872561.1	872561.1	97.950 %		22:02:54
1	Y 371.029	700718.2	700718.2	95.434 %		22:02:54
1	Ag 328.068†	110155.3	111836.6	492.45 ug/L	492.45 ppb	22:02:54
1	As 188.979†	1205.7	1259.7	488.15 ug/L	488.15 ppb	22:03:14
1	B 249.677†	21688.3	22903.3	476.65 ug/L	476.65 ppb	22:02:54
1	Ba 233.527†	65824.5	67217.7	492.54 ug/L	492.54 ppb	22:02:54
1	Be 313.107†	1423617.2	1457819.7	490.25 ug/L	490.25 ppb	22:02:54
1	Cd 226.502†	46970.5	48157.8	497.15 ug/L	497.15 ppb	22:02:54
1	Co 228.616†	25712.3	26335.6	485.51 ug/L	485.51 ppb	22:03:14
1	Cr 267.716†	46906.4	47826.4	492.95 ug/L	492.95 ppb	22:02:54
1	Cu 324.752†	180114.1	176997.5	492.30 ug/L	492.30 ppb	22:02:54
1	Mn 257.610†	483729.7	493323.5	495.27 ug/L	495.27 ppb	22:02:54
1	Mo 202.031†	7226.9	7373.0	490.46 ug/L	490.46 ppb	22:03:14
1	Ni 231.604†	21469.1	21833.4	486.21 ug/L	486.21 ppb	22:03:14
1	P 214.914†	4844.2	4722.3	2355.8 ug/L	2355.8 ppb	22:03:14
1	Pb 220.353†	4395.6	4567.2	491.59 ug/L	491.59 ppb	22:03:14
1	S 181.975 Axial†	826.9	795.3	970.62 ug/L	970.62 ppb	22:03:14
1	Sb 206.836†	1591.0	1585.9	502.19 ug/L	502.19 ppb	22:03:14
1	Se 196.026†	839.9	883.4	508.55 ug/L	508.55 ppb	22:03:14
1	Si 251.611†	81777.8	82953.9	2463.2 ug/L	2463.2 ppb	22:02:54
1	Sn 189.927†	2980.3	3033.3	490.87 ug/L	490.87 ppb	22:03:14
1	Ti 334.940†	325023.3	333631.2	498.35 ug/L	498.35 ppb	22:02:54
1	Tl 190.801†	1658.0	1737.2	493.56 ug/L	493.56 ppb	22:03:14
1	U 409.014†	11331.0	16681.2	491.05 ug/L	491.05 ppb	22:02:54
1	V 292.402†	70348.8	73573.6	495.98 ug/L	495.98 ppb	22:02:54
1	Zn 213.857†	57951.5	58455.5	491.69 ug/L	491.69 ppb	22:02:54
1	SiO2†	80702.2	81829.3	5204.9 ug/L	5204.9 ppb	22:04:14
2	Sc Radial	4412.3	4412.3	107 %		22:02:00
2	Y RADIAL	4891.7	4891.7	101.0 %		22:02:00
2	Al 396.153Radial†	6150.2	5940.6	4880.8 ug/L	4880.8 ppb	22:02:00
2	Ca 317.933Radial†	2898.2	2696.4	4991.5 ug/L	4991.5 ppb	22:02:20
2	Fe 238.204 Radial†	487.8	446.0	5197.3 ug/L	5197.3 ppb	22:02:20
2	K 766.490 Radial†	29887.4	25320.4	4813.2 ug/L	4813.2 ppb	22:02:00
2	Mg 279.077 IEC†	131.0	122.5	5162.4 ug/L	5162.4 ppb	22:02:20
2	Na 589.592 Radial†	33927.3	33374.2	10284 ug/L	10284 ppb	22:02:00
2	Sr 421.552†	81242.5	75925.2	501.27 ug/L	501.27 ppb	22:02:00
2	Sc 361.383	860207.7	860207.7	96.563 %		22:03:21
2	Y 371.029	692008.4	692008.4	94.247 %		22:03:21
2	Ag 328.068†	108710.8	111955.7	492.99 ug/L	492.99 ppb	22:03:21
2	As 188.979†	1215.5	1287.5	498.83 ug/L	498.83 ppb	22:03:42
2	B 249.677†	21323.5	22843.6	475.37 ug/L	475.37 ppb	22:03:21
2	Ba 233.527†	64931.9	67258.4	492.84 ug/L	492.84 ppb	22:03:21
2	Be 313.107†	1403199.1	1457547.4	490.16 ug/L	490.16 ppb	22:03:21
2	Cd 226.502†	46205.4	48054.2	496.08 ug/L	496.08 ppb	22:03:21
2	Co 228.616†	25888.9	26895.5	495.85 ug/L	495.85 ppb	22:03:42
2	Cr 267.716†	46300.7	47886.9	493.58 ug/L	493.58 ppb	22:03:21
2	Cu 324.752†	177551.6	176984.5	492.27 ug/L	492.27 ppb	22:03:21
2	Mn 257.610†	475809.0	492213.0	494.16 ug/L	494.16 ppb	22:03:21
2	Mo 202.031†	7253.1	7506.0	499.31 ug/L	499.31 ppb	22:03:42
2	Ni 231.604†	21605.6	22289.5	496.37 ug/L	496.37 ppb	22:03:42

2	P 214.914†	4880.6	4831.1	2412.3 ug/L	2412.3 ppb	22:03:42
2	Pb 220.353†	4448.2	4686.1	504.37 ug/L	504.37 ppb	22:03:42
2	S 181.975 Axial†	826.9	807.5	985.52 ug/L	985.52 ppb	22:03:42
2	Sb 206.836†	1584.7	1602.7	507.64 ug/L	507.64 ppb	22:03:42
2	Se 196.026†	845.6	901.7	518.79 ug/L	518.79 ppb	22:03:42
2	Si 251.611†	80539.1	82870.1	2460.6 ug/L	2460.6 ppb	22:03:21
2	Sn 189.927†	2986.1	3082.9	498.89 ug/L	498.89 ppb	22:03:42
2	Ti 334.940†	319962.7	333155.8	497.65 ug/L	497.65 ppb	22:03:21
2	Tl 190.801†	1671.8	1775.8	504.38 ug/L	504.38 ppb	22:03:42
2	U 409.014†	10910.8	16412.3	483.10 ug/L	483.10 ppb	22:03:21
2	V 292.402†	69341.0	73561.3	496.00 ug/L	496.00 ppb	22:03:21
2	Zn 213.857†	56899.3	58215.4	489.58 ug/L	489.58 ppb	22:03:21
2	SiO2†	81269.7	83600.1	5317.5 ug/L	5317.5 ppb	22:04:20
3	Sc Radial	4305.5	4305.5	104 %		22:02:25
3	Y RADIAL	4785.7	4785.7	98.85 %		22:02:25
3	Al 396.153Radial†	6066.4	6002.9	4932.8 ug/L	4932.8 ppb	22:02:25
3	Ca 317.933Radial†	2908.2	2773.3	5133.8 ug/L	5133.8 ppb	22:02:45
3	Fe 238.204 Radial†	491.8	461.1	5373.4 ug/L	5373.4 ppb	22:02:45
3	K 766.490 Radial†	29658.7	25794.5	4903.3 ug/L	4903.3 ppb	22:02:25
3	Mg 279.077 IEC†	135.1	129.5	5456.1 ug/L	5456.1 ppb	22:02:45
3	Na 589.592 Radial†	33409.9	33665.4	10374 ug/L	10374 ppb	22:02:25
3	Sr 421.552†	80046.2	76663.4	506.14 ug/L	506.14 ppb	22:02:25
3	Sc 361.383	872231.1	872231.1	97.913 %		22:03:49
3	Y 371.029	700676.1	700676.1	95.428 %		22:03:49
3	Ag 328.068†	110240.1	111965.7	493.10 ug/L	493.10 ppb	22:03:49
3	As 188.979†	1203.2	1257.5	487.38 ug/L	487.38 ppb	22:04:09
3	B 249.677†	21745.6	22970.3	478.02 ug/L	478.02 ppb	22:03:49
3	Ba 233.527†	65910.3	67330.7	493.37 ug/L	493.37 ppb	22:03:49
3	Be 313.107†	1426556.8	1461371.9	491.44 ug/L	491.44 ppb	22:03:49
3	Cd 226.502†	47195.1	48405.4	499.68 ug/L	499.68 ppb	22:03:49
3	Co 228.616†	25700.4	26333.4	485.46 ug/L	485.46 ppb	22:04:09
3	Cr 267.716†	47059.3	48000.7	494.75 ug/L	494.75 ppb	22:03:49
3	Cu 324.752†	180096.4	177048.9	492.46 ug/L	492.46 ppb	22:03:49
3	Mn 257.610†	484816.1	494619.9	496.58 ug/L	496.58 ppb	22:03:49
3	Mo 202.031†	7221.3	7370.0	490.28 ug/L	490.28 ppb	22:04:09
3	Ni 231.604†	21501.3	21874.5	487.12 ug/L	487.12 ppb	22:04:09
3	P 214.914†	4841.2	4721.1	2355.0 ug/L	2355.0 ppb	22:04:09
3	Pb 220.353†	4403.0	4576.5	492.59 ug/L	492.59 ppb	22:04:09
3	S 181.975 Axial†	820.9	789.5	963.56 ug/L	963.56 ppb	22:04:09
3	Sb 206.836†	1587.5	1582.9	501.30 ug/L	501.30 ppb	22:04:09
3	Se 196.026†	842.0	885.9	510.59 ug/L	510.59 ppb	22:04:09
3	Si 251.611†	81953.1	83164.5	2469.4 ug/L	2469.4 ppb	22:03:49
3	Sn 189.927†	2984.2	3038.4	491.72 ug/L	491.72 ppb	22:04:09
3	Ti 334.940†	325042.7	333776.5	498.57 ug/L	498.57 ppb	22:03:49
3	Tl 190.801†	1656.2	1736.0	493.22 ug/L	493.22 ppb	22:04:09
3	U 409.014†	10867.3	16212.0	477.17 ug/L	477.17 ppb	22:03:49
3	V 292.402†	70409.6	73662.8	496.51 ug/L	496.51 ppb	22:03:49
3	Zn 213.857†	58002.9	58530.3	492.29 ug/L	492.29 ppb	22:03:49
3	SiO2†	81721.6	82901.6	5273.2 ug/L	5273.2 ppb	22:04:25

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	868333.3	97.475 %	0.7902			0.81%
Sc Radial	4366.3	106 %	1.3			1.26%
Y 371.029	697800.9	95.036 %	0.6832			0.72%
Y RADIAL	4853.6	100.3 %	1.22			1.22%
Ag 328.068†	111919.3	492.85 ug/L	0.344	492.85 ppb	0.344	0.07%
QC value within limits for Ag 328.068 Recovery = 98.57%						
Al 396.153Radial†	5952.4	4890.9 ug/L	37.82	4890.9 ppb	37.82	0.77%
QC value within limits for Al 396.153Radial Recovery = 97.82%						
As 188.979†	1268.3	491.45 ug/L	6.401	491.45 ppb	6.401	1.30%
QC value within limits for As 188.979 Recovery = 98.29%						
B 249.677†	22905.8	476.68 ug/L	1.325	476.68 ppb	1.325	0.28%
QC value within limits for B 249.677 Recovery = 95.34%						
Ba 233.527†	67268.9	492.91 ug/L	0.422	492.91 ppb	0.422	0.09%
QC value within limits for Ba 233.527 Recovery = 98.58%						
Be 313.107†	1458913.0	490.62 ug/L	0.717	490.62 ppb	0.717	0.15%
QC value within limits for Be 313.107 Recovery = 98.12%						
Ca 317.933Radial†	2721.9	5038.6 ug/L	82.46	5038.6 ppb	82.46	1.64%

QC value within limits for Ca 317.933 Radial Recovery = 100.77%							
Cd 226.502†	48205.8	497.64 ug/L	1.850	497.64 ppb	1.850	0.37%	
QC value within limits for Cd 226.502 Recovery = 99.53%							
Co 228.616†	26521.5	488.94 ug/L	5.984	488.94 ppb	5.984	1.22%	
QC value within limits for Co 228.616 Recovery = 97.79%							
Cr 267.716†	47904.6	493.76 ug/L	0.916	493.76 ppb	0.916	0.19%	
QC value within limits for Cr 267.716 Recovery = 98.75%							
Cu 324.752†	177010.3	492.35 ug/L	0.103	492.35 ppb	0.103	0.02%	
QC value within limits for Cu 324.752 Recovery = 98.47%							
Fe 238.204 Radial†	450.2	5246.8 ug/L	110.48	5246.8 ppb	110.48	2.11%	
QC value within limits for Fe 238.204 Radial Recovery = 104.94%							
K 766.490 Radial†	25536.7	4854.3 ug/L	45.59	4854.3 ppb	45.59	0.94%	
QC value within limits for K 766.490 Radial Recovery = 97.09%							
Mg 279.077 IEC†	125.2	5276.5 ug/L	157.45	5276.5 ppb	157.45	2.98%	
QC value within limits for Mg 279.077 IEC Recovery = 105.53%							
Mn 257.610†	493385.5	495.33 ug/L	1.212	495.33 ppb	1.212	0.24%	
QC value within limits for Mn 257.610 Recovery = 99.07%							
Mo 202.031†	7416.3	493.35 ug/L	5.160	493.35 ppb	5.160	1.05%	
QC value within limits for Mo 202.031 Recovery = 98.67%							
Na 589.592 Radial†	33412.6	10296 ug/L	72.7	10296 ppb	72.7	0.71%	
QC value within limits for Na 589.592 Radial Recovery = 102.96%							
Ni 231.604†	21999.1	489.90 ug/L	5.618	489.90 ppb	5.618	1.15%	
QC value within limits for Ni 231.604 Recovery = 97.98%							
P 214.914†	4758.2	2374.4 ug/L	32.87	2374.4 ppb	32.87	1.38%	
QC value within limits for P 214.914 Recovery = 94.97%							
Pb 220.353†	4610.0	496.18 ug/L	7.108	496.18 ppb	7.108	1.43%	
QC value within limits for Pb 220.353 Recovery = 99.24%							
S 181.975 Axial†	797.4	973.23 ug/L	11.212	973.23 ppb	11.212	1.15%	
QC value within limits for S 181.975 Axial Recovery = 97.32%							
Sb 206.836†	1590.5	503.71 ug/L	3.430	503.71 ppb	3.430	0.68%	
QC value within limits for Sb 206.836 Recovery = 100.74%							
Se 196.026†	890.3	512.64 ug/L	5.420	512.64 ppb	5.420	1.06%	
QC value within limits for Se 196.026 Recovery = 102.53%							
Si 251.611†	82996.2	2464.4 ug/L	4.56	2464.4 ppb	4.56	0.19%	
QC value within limits for Si 251.611 Recovery = 98.58%							
Sn 189.927†	3051.5	493.83 ug/L	4.405	493.83 ppb	4.405	0.89%	
QC value within limits for Sn 189.927 Recovery = 98.77%							
Sr 421.552†	76102.9	502.44 ug/L	3.275	502.44 ppb	3.275	0.65%	
QC value within limits for Sr 421.552 Recovery = 100.49%							
Ti 334.940†	333521.2	498.19 ug/L	0.483	498.19 ppb	0.483	0.10%	
QC value within limits for Ti 334.940 Recovery = 99.64%							
Tl 190.801†	1749.7	497.05 ug/L	6.349	497.05 ppb	6.349	1.28%	
QC value within limits for Tl 190.801 Recovery = 99.41%							
U 409.014†	16435.2	483.77 ug/L	6.968	483.77 ppb	6.968	1.44%	
QC value within limits for U 409.014 Recovery = 96.75%							
V 292.402†	73599.2	496.16 ug/L	0.304	496.16 ppb	0.304	0.06%	
QC value within limits for V 292.402 Recovery = 99.23%							
Zn 213.857†	58400.4	491.19 ug/L	1.424	491.19 ppb	1.424	0.29%	
QC value within limits for Zn 213.857 Recovery = 98.24%							
SiO2†	82777.0	5265.2 ug/L	56.77	5265.2 ppb	56.77	1.08%	
QC value within limits for SiO2 Recovery = 98.46%							
All analyte(s) passed QC.							

Sequence No.: 45

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 22:06:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4140.3	4140.3	100 %		22:08:46
1	Y RADIAL	4426.5	4426.5	91.43 %		22:08:26
1	Al 396.153Radial†	-229.6	-38.7	-31.980 ug/L	-31.980 ppb	22:08:26
1	Ca 317.933Radial†	16.0	2.6	4.7506 ug/L	4.7506 ppb	22:08:46
1	Fe 238.204 Radial†	12.9	2.7	31.636 ug/L	31.636 ppb	22:08:46
1	K 766.490 Radial†	2900.7	266.0	50.635 ug/L	50.635 ppb	22:08:26
1	Mg 279.077 IEC†	4.7	4.8	200.88 ug/L	200.88 ppb	22:08:46
1	Na 589.592 Radial†	-1637.7	20.4	6.2786 ug/L	6.2786 ppb	22:08:26
1	Sr 421.552†	29.3	-7.2	-0.0477 ug/L	-0.0477 ppb	22:08:26
1	Sc 361.383	841490.2	841490.2	94.462 %		22:09:43
1	Y 371.029	686446.8	686446.8	93.490 %		22:09:43
1	Ag 328.068†	331.4	-273.7	-1.1969 ug/L	-1.1969 ppb	22:09:43
1	As 188.979†	-30.6	-3.7	-1.3977 ug/L	-1.3977 ppb	22:10:03
1	B 249.677†	-596.6	129.5	2.7023 ug/L	2.7023 ppb	22:10:03
1	Ba 233.527†	-22.2	-8.2	-0.0611 ug/L	-0.0611 ppb	22:10:03
1	Be 313.107†	-4104.9	57.5	0.0195 ug/L	0.0195 ppb	22:09:43
1	Cd 226.502†	-208.8	-16.9	-0.1764 ug/L	-0.1764 ppb	22:10:03
1	Co 228.616†	-87.0	-7.0	-0.1279 ug/L	-0.1279 ppb	22:10:03
1	Cr 267.716†	61.1	2.8	0.0255 ug/L	0.0255 ppb	22:09:43
1	Cu 324.752†	6984.7	507.4	1.4086 ug/L	1.4086 ppb	22:09:43
1	Mn 257.610†	528.4	27.6	0.0226 ug/L	0.0226 ppb	22:10:03
1	Mo 202.031†	12.1	7.6	0.5055 ug/L	0.5055 ppb	22:10:03
1	Ni 231.604†	71.6	-9.3	-0.2076 ug/L	-0.2076 ppb	22:10:03
1	P 214.914†	229.8	20.1	10.104 ug/L	10.104 ppb	22:10:03
1	Pb 220.353†	-55.0	21.4	2.2876 ug/L	2.2876 ppb	22:10:03
1	S 181.975 Axial†	45.8	-0.4	-0.4500 ug/L	-0.4500 ppb	22:10:03
1	Sb 206.836†	45.5	9.8	2.9990 ug/L	2.9990 ppb	22:10:03
1	Se 196.026†	-36.8	-13.0	-7.0750 ug/L	-7.0750 ppb	22:10:03
1	Si 251.611†	523.3	18.3	0.5381 ug/L	0.5381 ppb	22:10:03
1	Sn 189.927†	11.3	2.5	0.4030 ug/L	0.4030 ppb	22:10:03
1	Ti 334.940†	-1658.0	49.2	0.0542 ug/L	0.0542 ppb	22:09:43
1	Tl 190.801†	-41.9	0.1	0.0443 ug/L	0.0443 ppb	22:10:03
1	U 409.014†	-4578.0	266.7	7.8743 ug/L	7.8743 ppb	22:09:43
1	V 292.402†	-1773.2	-124.9	-0.8098 ug/L	-0.8098 ppb	22:09:43
1	Zn 213.857†	799.9	137.6	1.1641 ug/L	1.1641 ppb	22:10:03
1	SiO2†	537.3	6.6	0.4052 ug/L	0.4052 ppb	22:10:59
2	Sc Radial	4252.7	4252.7	103 %		22:09:11
2	Y RADIAL	5166.5	5166.5	106.7 %		22:08:51
2	Al 396.153Radial†	-200.2	-4.1	-3.3756 ug/L	-3.3756 ppb	22:08:51
2	Ca 317.933Radial†	18.2	4.3	7.9928 ug/L	7.9928 ppb	22:09:11
2	Fe 238.204 Radial†	12.2	1.7	20.213 ug/L	20.213 ppb	22:09:11
2	K 766.490 Radial†	2832.8	123.8	23.552 ug/L	23.552 ppb	22:08:51
2	Mg 279.077 IEC†	3.2	3.1	132.61 ug/L	132.61 ppb	22:09:11
2	Na 589.592 Radial†	-1623.1	77.7	23.931 ug/L	23.931 ppb	22:08:51
2	Sr 421.552†	31.2	-6.2	-0.0409 ug/L	-0.0409 ppb	22:08:51
2	Sc 361.383	870233.1	870233.1	97.688 %		22:10:08
2	Y 371.029	711050.8	711050.8	96.841 %		22:10:08
2	Ag 328.068†	355.1	-261.0	-1.1466 ug/L	-1.1466 ppb	22:10:08
2	As 188.979†	-30.4	-2.4	-0.9191 ug/L	-0.9191 ppb	22:10:29
2	B 249.677†	-585.1	162.2	3.3877 ug/L	3.3877 ppb	22:10:29
2	Ba 233.527†	-10.2	4.9	0.0362 ug/L	0.0362 ppb	22:10:29
2	Be 313.107†	-4027.2	280.6	0.0945 ug/L	0.0945 ppb	22:10:08
2	Cd 226.502†	-207.8	-8.6	-0.0881 ug/L	-0.0881 ppb	22:10:29
2	Co 228.616†	-81.7	1.5	0.0267 ug/L	0.0267 ppb	22:10:29
2	Cr 267.716†	91.5	31.8	0.3227 ug/L	0.3227 ppb	22:10:08
2	Cu 324.752†	7045.6	325.4	0.8987 ug/L	0.8987 ppb	22:10:08
2	Mn 257.610†	559.4	40.9	0.0376 ug/L	0.0376 ppb	22:10:29
2	Mo 202.031†	6.0	0.9	0.0645 ug/L	0.0645 ppb	22:10:29
2	Ni 231.604†	98.0	15.2	0.3380 ug/L	0.3380 ppb	22:10:29

2	P 214.914†	234.7	17.0	8.6436 ug/L	8.6436 ppb	22:10:29
2	Pb 220.353†	-61.7	16.4	1.7588 ug/L	1.7588 ppb	22:10:29
2	S 181.975 Axial†	47.7	-0.0	-0.0393 ug/L	-0.0393 ppb	22:10:29
2	Sb 206.836†	49.8	12.5	3.8093 ug/L	3.8093 ppb	22:10:29
2	Se 196.026†	-19.4	6.1	3.4613 ug/L	3.4613 ppb	22:10:29
2	Si 251.611†	537.7	14.7	0.4366 ug/L	0.4366 ppb	22:10:29
2	Sn 189.927†	4.0	-5.3	-0.8570 ug/L	-0.8570 ppb	22:10:29
2	Ti 334.940†	-1653.7	111.5	0.1507 ug/L	0.1507 ppb	22:10:08
2	Tl 190.801†	-37.9	5.6	1.5927 ug/L	1.5927 ppb	22:10:29
2	U 409.014†	-4545.4	460.1	13.587 ug/L	13.587 ppb	22:10:08
2	V 292.402†	-1718.7	-7.2	-0.0214 ug/L	-0.0214 ppb	22:10:08
2	Zn 213.857†	800.5	110.4	0.9312 ug/L	0.9312 ppb	22:10:29
2	SiO2†	522.1	-27.8	-1.7765 ug/L	-1.7765 ppb	22:11:04
3	Sc Radial	4190.5	4190.5	102 %		22:09:36
3	Y RADIAL	4991.7	4991.7	103.1 %		22:09:16
3	Al 396.153Radial†	-201.3	-8.1	-6.6983 ug/L	-6.6983 ppb	22:09:16
3	Ca 317.933Radial†	19.3	5.6	10.407 ug/L	10.407 ppb	22:09:36
3	Fe 238.204 Radial†	11.7	1.4	15.817 ug/L	15.817 ppb	22:09:36
3	K 766.490 Radial†	2842.6	174.2	33.162 ug/L	33.162 ppb	22:09:16
3	Mg 279.077 IEC†	1.3	1.3	56.624 ug/L	56.624 ppb	22:09:36
3	Na 589.592 Radial†	-1693.1	-14.6	-4.5057 ug/L	-4.5057 ppb	22:09:16
3	Sr 421.552†	38.1	1.1	0.0071 ug/L	0.0071 ppb	22:09:16
3	Sc 361.383	869898.3	869898.3	97.651 %		22:10:34
3	Y 371.029	708760.6	708760.6	96.529 %		22:10:34
3	Ag 328.068†	469.5	-143.7	-0.6354 ug/L	-0.6354 ppb	22:10:34
3	As 188.979†	-33.3	-5.4	-2.0546 ug/L	-2.0546 ppb	22:10:54
3	B 249.677†	-585.5	161.5	3.3741 ug/L	3.3741 ppb	22:10:54
3	Ba 233.527†	-41.4	-27.1	-0.1978 ug/L	-0.1978 ppb	22:10:54
3	Be 313.107†	-4111.3	192.8	0.0649 ug/L	0.0649 ppb	22:10:34
3	Cd 226.502†	-208.8	-9.7	-0.0993 ug/L	-0.0993 ppb	22:10:54
3	Co 228.616†	-89.1	-6.1	-0.1133 ug/L	-0.1133 ppb	22:10:54
3	Cr 267.716†	76.3	16.3	0.1626 ug/L	0.1626 ppb	22:10:34
3	Cu 324.752†	7139.4	424.3	1.1739 ug/L	1.1739 ppb	22:10:34
3	Mn 257.610†	507.9	-11.6	-0.0124 ug/L	-0.0124 ppb	22:10:54
3	Mo 202.031†	7.8	2.8	0.1885 ug/L	0.1885 ppb	22:10:54
3	Ni 231.604†	79.0	-4.3	-0.0953 ug/L	-0.0953 ppb	22:10:54
3	P 214.914†	247.9	30.6	15.674 ug/L	15.674 ppb	22:10:54
3	Pb 220.353†	-70.0	8.0	0.8543 ug/L	0.8543 ppb	22:10:54
3	S 181.975 Axial†	54.0	6.4	7.8662 ug/L	7.8662 ppb	22:10:54
3	Sb 206.836†	44.1	6.7	2.0680 ug/L	2.0680 ppb	22:10:54
3	Se 196.026†	-25.9	-0.5	-0.2434 ug/L	-0.2434 ppb	22:10:54
3	Si 251.611†	521.8	-1.4	-0.0426 ug/L	-0.0426 ppb	22:10:54
3	Sn 189.927†	17.0	8.0	1.2864 ug/L	1.2864 ppb	22:10:54
3	Ti 334.940†	-1705.2	58.2	0.0779 ug/L	0.0779 ppb	22:10:34
3	Tl 190.801†	-41.6	1.8	0.5229 ug/L	0.5229 ppb	22:10:54
3	U 409.014†	-4562.7	440.6	13.013 ug/L	13.013 ppb	22:10:34
3	V 292.402†	-1750.7	-40.6	-0.2438 ug/L	-0.2438 ppb	22:10:34
3	Zn 213.857†	794.9	104.9	0.8873 ug/L	0.8873 ppb	22:10:54
3	SiO2†	567.8	19.2	1.2215 ug/L	1.2215 ppb	22:11:09

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	860540.5	96.600 %		1.8521				1.92%
Sc Radial	4194.5	102 %		1.4				1.34%
Y 371.029	702086.1	95.620 %		1.8512				1.94%
Y RADIAL	4861.6	100.4 %		7.99				7.96%
Ag 328.068†	-226.1	-0.9929 ug/L		0.31069	-0.9929 ppb		0.31069	31.29%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-17.0	-14.018 ug/L		15.6442	-14.018 ppb		15.6442	111.60%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-3.8	-1.4571 ug/L		0.57006	-1.4571 ppb		0.57006	39.12%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	151.0	3.1547 ug/L		0.39187	3.1547 ppb		0.39187	12.42%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-10.1	-0.0742 ug/L		0.11759	-0.0742 ppb		0.11759	158.42%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	177.0	0.0596 ug/L		0.03780	0.0596 ppb		0.03780	63.40%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	4.2	7.7169 ug/L		2.83835	7.7169 ppb		2.83835	36.78%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	-11.7	-0.1213 ug/L	0.04809	-0.1213 ppb	0.04809	39.65%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-3.9	-0.0715 ug/L	0.08538	-0.0715 ppb	0.08538	119.45%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	17.0	0.1703 ug/L	0.14875	0.1703 ppb	0.14875	87.36%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	419.1	1.1604 ug/L	0.25518	1.1604 ppb	0.25518	21.99%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	1.9	22.555 ug/L	8.1657	22.555 ppb	8.1657	36.20%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	188.0	35.783 ug/L	13.7304	35.783 ppb	13.7304	38.37%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	3.1	130.04 ug/L	72.161	130.04 ppb	72.161	55.49%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	18.9	0.0159 ug/L	0.02566	0.0159 ppb	0.02566	161.33%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	3.8	0.2528 ug/L	0.22740	0.2528 ppb	0.22740	89.94%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	27.8	8.5680 ug/L	14.35592	8.5680 ppb	14.35592	167.55%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	0.5	0.0117 ug/L	0.28811	0.0117 ppb	0.28811	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	22.6	11.474 ug/L	3.7102	11.474 ppb	3.7102	32.34%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	15.3	1.6336 ug/L	0.72479	1.6336 ppb	0.72479	44.37%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	2.0	2.4590 ug/L	4.68730	2.4590 ppb	4.68730	190.62%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	9.7	2.9588 ug/L	0.87131	2.9588 ppb	0.87131	29.45%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-2.5	-1.2857 ug/L	5.34496	-1.2857 ppb	5.34496	415.72%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	10.5	0.3107 ug/L	0.31019	0.3107 ppb	0.31019	99.83%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	1.7	0.2774 ug/L	1.07719	0.2774 ppb	1.07719	388.25%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-4.1	-0.0272 ug/L	0.02987	-0.0272 ppb	0.02987	109.81%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	72.9	0.0943 ug/L	0.05031	0.0943 ppb	0.05031	53.37%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	2.5	0.7200 ug/L	0.79278	0.7200 ppb	0.79278	110.12%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	389.1	11.492 ug/L	3.1458	11.492 ppb	3.1458	27.37%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	-57.6	-0.3584 ug/L	0.40649	-0.3584 ppb	0.40649	113.43%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	117.6	0.9942 ug/L	0.14875	0.9942 ppb	0.14875	14.96%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-0.7	-0.0499 ug/L	1.54995	-0.0499 ppb	1.54995	>999.9%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 53

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/1/2010 23:02:42

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4372.1	4372.1	106 %		23:04:35
1	Y RADIAL	4875.5	4875.5	100.7 %		23:04:35
1	Al 396.153Radial†	6060.6	5908.9	4855.5 ug/L	4855.5 ppb	23:04:35
1	Ca 317.933Radial†	2913.5	2735.8	5064.3 ug/L	5064.3 ppb	23:04:55
1	Fe 238.204 Radial†	489.3	451.6	5262.0 ug/L	5262.0 ppb	23:04:55
1	K 766.490 Radial†	29786.8	25482.3	4843.9 ug/L	4843.9 ppb	23:04:35
1	Mg 279.077 IEC†	134.2	126.6	5335.7 ug/L	5335.7 ppb	23:04:55
1	Na 589.592 Radial†	34043.6	33775.5	10408 ug/L	10408 ppb	23:04:35
1	Sr 421.552†	80729.4	76139.2	502.68 ug/L	502.68 ppb	23:04:35
1	Sc 361.383	891843.5	891843.5	100.11 %		23:05:54
1	Y 371.029	716823.9	716823.9	97.627 %		23:05:54
1	Ag 328.068†	108518.1	107769.7	474.63 ug/L	474.63 ppb	23:05:54
1	As 188.979†	1212.7	1240.1	480.51 ug/L	480.51 ppb	23:06:14
1	B 249.677†	21472.5	22209.1	462.14 ug/L	462.14 ppb	23:05:54
1	Ba 233.527†	64702.3	64643.7	473.69 ug/L	473.69 ppb	23:05:54
1	Be 313.107†	1393458.5	1396271.4	469.56 ug/L	469.56 ppb	23:05:54
1	Cd 226.502†	46284.1	46435.4	479.35 ug/L	479.35 ppb	23:05:54
1	Co 228.616†	25922.7	25978.3	478.94 ug/L	478.94 ppb	23:06:14
1	Cr 267.716†	46101.2	45986.7	474.00 ug/L	474.00 ppb	23:05:54
1	Cu 324.752†	176676.3	169587.8	471.71 ug/L	471.71 ppb	23:05:54
1	Mn 257.610†	475354.2	474280.0	476.16 ug/L	476.16 ppb	23:05:54
1	Mo 202.031†	7260.6	7247.1	482.10 ug/L	482.10 ppb	23:06:14
1	Ni 231.604†	21608.7	21498.9	478.76 ug/L	478.76 ppb	23:06:14
1	P 214.914†	4902.6	4673.7	2334.5 ug/L	2334.5 ppb	23:06:14
1	Pb 220.353†	4441.3	4515.9	486.07 ug/L	486.07 ppb	23:06:14
1	S 181.975 Axial†	830.9	781.0	953.21 ug/L	953.21 ppb	23:06:14
1	Sb 206.836†	1607.1	1566.8	496.10 ug/L	496.10 ppb	23:06:14
1	Se 196.026†	848.1	873.1	503.08 ug/L	503.08 ppb	23:06:14
1	Si 251.611†	80713.9	80086.0	2377.9 ug/L	2377.9 ppb	23:05:54
1	Sn 189.927†	3003.6	2990.8	484.02 ug/L	484.02 ppb	23:06:14
1	Ti 334.940†	319748.3	321187.8	479.77 ug/L	479.77 ppb	23:05:54
1	Tl 190.801†	1675.2	1717.8	487.89 ug/L	487.89 ppb	23:06:14
1	U 409.014†	10982.1	16082.7	473.40 ug/L	473.40 ppb	23:05:54
1	V 292.402†	69264.2	70937.4	478.30 ug/L	478.30 ppb	23:05:54
1	Zn 213.857†	56844.9	56070.9	471.52 ug/L	471.52 ppb	23:05:54
1	SiO2†	83135.5	82478.4	5246.5 ug/L	5246.5 ppb	23:07:14
2	Sc Radial	4283.0	4283.0	104 %		23:05:00
2	Y RADIAL	4756.2	4756.2	98.24 %		23:05:00
2	Al 396.153Radial†	6057.2	6024.6	4950.4 ug/L	4950.4 ppb	23:05:00
2	Ca 317.933Radial†	2872.8	2753.8	5097.7 ug/L	5097.7 ppb	23:05:20
2	Fe 238.204 Radial†	479.1	451.4	5260.2 ug/L	5260.2 ppb	23:05:20
2	K 766.490 Radial†	29662.2	25947.3	4932.4 ug/L	4932.4 ppb	23:05:00
2	Mg 279.077 IEC†	131.8	127.0	5352.3 ug/L	5352.3 ppb	23:05:20
2	Na 589.592 Radial†	33632.3	34048.0	10492 ug/L	10492 ppb	23:05:00
2	Sr 421.552†	80303.5	77314.6	510.44 ug/L	510.44 ppb	23:05:00
2	Sc 361.383	870239.0	870239.0	97.689 %		23:06:21
2	Y 371.029	698489.0	698489.0	95.130 %		23:06:21
2	Ag 328.068†	111308.5	113317.2	498.98 ug/L	498.98 ppb	23:06:21
2	As 188.979†	1201.5	1258.6	487.81 ug/L	487.81 ppb	23:06:41
2	B 249.677†	21944.7	23224.9	483.34 ug/L	483.34 ppb	23:06:21
2	Ba 233.527†	66312.8	67896.8	497.52 ug/L	497.52 ppb	23:06:21
2	Be 313.107†	1433496.0	1471810.4	494.96 ug/L	494.96 ppb	23:06:21
2	Cd 226.502†	47308.8	48632.0	502.04 ug/L	502.04 ppb	23:06:21
2	Co 228.616†	25973.1	26672.7	491.72 ug/L	491.72 ppb	23:06:41
2	Cr 267.716†	47168.1	48222.1	497.03 ug/L	497.03 ppb	23:06:21
2	Cu 324.752†	181850.9	179266.0	498.62 ug/L	498.62 ppb	23:06:21
2	Mn 257.610†	487502.5	498503.3	500.47 ug/L	500.47 ppb	23:06:21
2	Mo 202.031†	7284.1	7451.2	495.67 ug/L	495.67 ppb	23:06:41
2	Ni 231.604†	21618.5	22044.7	490.91 ug/L	490.91 ppb	23:06:41



2	P 214.914†	4890.0	4782.4	2385.7 ug/L	2385.7 ppb	23:06:41
2	Pb 220.353†	4425.5	4609.8	496.19 ug/L	496.19 ppb	23:06:41
2	S 181.975 Axial†	837.9	808.8	987.10 ug/L	987.10 ppb	23:06:41
2	Sb 206.836†	1601.2	1600.7	506.90 ug/L	506.90 ppb	23:06:41
2	Se 196.026†	846.3	892.2	513.74 ug/L	513.74 ppb	23:06:41
2	Si 251.611†	82868.6	84293.2	2503.0 ug/L	2503.0 ppb	23:06:21
2	Sn 189.927†	3008.2	3070.0	496.81 ug/L	496.81 ppb	23:06:41
2	Ti 334.940†	328468.9	338043.6	504.94 ug/L	504.94 ppb	23:06:21
2	Tl 190.801†	1678.2	1762.4	500.70 ug/L	500.70 ppb	23:06:41
2	U 409.014†	11350.4	16732.0	492.53 ug/L	492.53 ppb	23:06:21
2	V 292.402†	70956.3	74387.0	501.44 ug/L	501.44 ppb	23:06:21
2	Zn 213.857†	58177.4	58844.5	494.94 ug/L	494.94 ppb	23:06:21
2	SiO2†	81745.8	83117.4	5286.9 ug/L	5286.9 ppb	23:07:19
3	Sc Radial	4297.0	4297.0	104 %		23:05:25
3	Y RADIAL	4800.7	4800.7	99.16 %		23:05:25
3	Al 396.153Radial†	6114.0	6060.1	4979.9 ug/L	4979.9 ppb	23:05:25
3	Ca 317.933Radial†	2873.1	2745.1	5081.6 ug/L	5081.6 ppb	23:05:45
3	Fe 238.204 Radial†	481.6	452.3	5270.9 ug/L	5270.9 ppb	23:05:45
3	K 766.490 Radial†	30064.8	26240.7	4988.2 ug/L	4988.2 ppb	23:05:25
3	Mg 279.077 IEC†	128.4	123.3	5196.5 ug/L	5196.5 ppb	23:05:45
3	Na 589.592 Radial†	34159.0	34448.1	10615 ug/L	10615 ppb	23:05:25
3	Sr 421.552†	81233.0	77954.9	514.67 ug/L	514.67 ppb	23:05:25
3	Sc 361.383	872491.3	872491.3	97.942 %		23:06:49
3	Y 371.029	701227.7	701227.7	95.503 %		23:06:49
3	Ag 328.068†	108785.4	110446.9	486.39 ug/L	486.39 ppb	23:06:49
3	As 188.979†	1230.2	1284.8	497.78 ug/L	497.78 ppb	23:07:09
3	B 249.677†	21492.2	22705.0	472.47 ug/L	472.47 ppb	23:06:49
3	Ba 233.527†	65024.2	66405.9	486.59 ug/L	486.59 ppb	23:06:49
3	Be 313.107†	1400856.2	1434696.6	482.48 ug/L	482.48 ppb	23:06:49
3	Cd 226.502†	46346.1	47524.2	490.60 ug/L	490.60 ppb	23:06:49
3	Co 228.616†	25919.4	26549.2	489.46 ug/L	489.46 ppb	23:07:09
3	Cr 267.716†	46297.6	47208.7	486.59 ug/L	486.59 ppb	23:06:49
3	Cu 324.752†	177439.6	174281.4	484.76 ug/L	484.76 ppb	23:06:49
3	Mn 257.610†	477069.6	486562.8	488.49 ug/L	488.49 ppb	23:06:49
3	Mo 202.031†	7254.8	7402.0	492.40 ug/L	492.40 ppb	23:07:09
3	Ni 231.604†	21612.4	21981.4	489.50 ug/L	489.50 ppb	23:07:09
3	P 214.914†	4895.8	4775.4	2384.8 ug/L	2384.8 ppb	23:07:09
3	Pb 220.353†	4460.9	4634.3	498.81 ug/L	498.81 ppb	23:07:09
3	S 181.975 Axial†	831.1	799.7	976.01 ug/L	976.01 ppb	23:07:09
3	Sb 206.836†	1588.9	1583.8	501.65 ug/L	501.65 ppb	23:07:09
3	Se 196.026†	853.5	897.4	516.63 ug/L	516.63 ppb	23:07:09
3	Si 251.611†	81054.7	82222.3	2441.4 ug/L	2441.4 ppb	23:06:49
3	Sn 189.927†	2998.6	3052.2	493.94 ug/L	493.94 ppb	23:07:09
3	Ti 334.940†	320976.7	329526.0	492.24 ug/L	492.24 ppb	23:06:49
3	Tl 190.801†	1659.1	1738.4	493.81 ug/L	493.81 ppb	23:07:09
3	U 409.014†	10868.8	16210.2	477.14 ug/L	477.14 ppb	23:06:49
3	V 292.402†	69438.2	72649.5	489.82 ug/L	489.82 ppb	23:06:49
3	Zn 213.857†	56998.7	57487.3	483.45 ug/L	483.45 ppb	23:06:49
3	SiO2†	81944.7	83104.4	5286.1 ug/L	5286.1 ppb	23:07:25

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	878191.3	98.582 %	1.3332			1.35%
Sc Radial	4317.4	105 %	1.2			1.11%
Y 371.029	705513.5	96.087 %	1.3470			1.40%
Y RADIAL	4810.8	99.37 %	1.246			1.25%
Ag 328.068†	110511.3	486.67 ug/L	12.175	486.67 ppb	12.175	2.50%
QC value within limits for Ag 328.068 Recovery = 97.33%						
Al 396.153Radial†	5997.9	4928.6 ug/L	65.00	4928.6 ppb	65.00	1.32%
QC value within limits for Al 396.153Radial Recovery = 98.57%						
As 188.979†	1261.2	488.70 ug/L	8.669	488.70 ppb	8.669	1.77%
QC value within limits for As 188.979 Recovery = 97.74%						
B 249.677†	22713.0	472.65 ug/L	10.603	472.65 ppb	10.603	2.24%
QC value within limits for B 249.677 Recovery = 94.53%						
Ba 233.527†	66315.5	485.93 ug/L	11.928	485.93 ppb	11.928	2.45%
QC value within limits for Ba 233.527 Recovery = 97.19%						
Be 313.107†	1434259.5	482.33 ug/L	12.701	482.33 ppb	12.701	2.63%
QC value within limits for Be 313.107 Recovery = 96.47%						
Ca 317.933Radial†	2744.9	5081.2 ug/L	16.68	5081.2 ppb	16.68	0.33%



QC value within limits for Ca 317.933 Radial Recovery = 101.62%							
Cd 226.502†	47530.5	490.66 ug/L	11.347	490.66 ppb	11.347	2.31%	
QC value within limits for Cd 226.502 Recovery = 98.13%							
Co 228.616†	26400.0	486.71 ug/L	6.821	486.71 ppb	6.821	1.40%	
QC value within limits for Co 228.616 Recovery = 97.34%							
Cr 267.716†	47139.2	485.87 ug/L	11.535	485.87 ppb	11.535	2.37%	
QC value within limits for Cr 267.716 Recovery = 97.17%							
Cu 324.752†	174378.4	485.03 ug/L	13.456	485.03 ppb	13.456	2.77%	
QC value within limits for Cu 324.752 Recovery = 97.01%							
Fe 238.204 Radial†	451.7	5264.4 ug/L	5.70	5264.4 ppb	5.70	0.11%	
QC value within limits for Fe 238.204 Radial Recovery = 105.29%							
K 766.490 Radial†	25890.1	4921.5 ug/L	72.74	4921.5 ppb	72.74	1.48%	
QC value within limits for K 766.490 Radial Recovery = 98.43%							
Mg 279.077 IEC†	125.7	5294.8 ug/L	85.54	5294.8 ppb	85.54	1.62%	
QC value within limits for Mg 279.077 IEC Recovery = 105.90%							
Mn 257.610†	486448.7	488.38 ug/L	12.152	488.38 ppb	12.152	2.49%	
QC value within limits for Mn 257.610 Recovery = 97.68%							
Mo 202.031†	7366.8	490.06 ug/L	7.079	490.06 ppb	7.079	1.44%	
QC value within limits for Mo 202.031 Recovery = 98.01%							
Na 589.592 Radial†	34090.5	10505 ug/L	104.3	10505 ppb	104.3	0.99%	
QC value within limits for Na 589.592 Radial Recovery = 105.05%							
Ni 231.604†	21841.7	486.39 ug/L	6.648	486.39 ppb	6.648	1.37%	
QC value within limits for Ni 231.604 Recovery = 97.28%							
P 214.914†	4743.8	2368.3 ug/L	29.31	2368.3 ppb	29.31	1.24%	
QC value within limits for P 214.914 Recovery = 94.73%							
Pb 220.353†	4586.7	493.69 ug/L	6.730	493.69 ppb	6.730	1.36%	
QC value within limits for Pb 220.353 Recovery = 98.74%							
S 181.975 Axial†	796.5	972.11 ug/L	17.281	972.11 ppb	17.281	1.78%	
QC value within limits for S 181.975 Axial Recovery = 97.21%							
Sb 206.836†	1583.8	501.55 ug/L	5.400	501.55 ppb	5.400	1.08%	
QC value within limits for Sb 206.836 Recovery = 100.31%							
Se 196.026†	887.6	511.15 ug/L	7.138	511.15 ppb	7.138	1.40%	
QC value within limits for Se 196.026 Recovery = 102.23%							
Si 251.611†	82200.5	2440.7 ug/L	62.53	2440.7 ppb	62.53	2.56%	
QC value within limits for Si 251.611 Recovery = 97.63%							
Sn 189.927†	3037.6	491.59 ug/L	6.714	491.59 ppb	6.714	1.37%	
QC value within limits for Sn 189.927 Recovery = 98.32%							
Sr 421.552†	77136.2	509.26 ug/L	6.080	509.26 ppb	6.080	1.19%	
QC value within limits for Sr 421.552 Recovery = 101.85%							
Ti 334.940†	329585.8	492.32 ug/L	12.586	492.32 ppb	12.586	2.56%	
QC value within limits for Ti 334.940 Recovery = 98.46%							
Tl 190.801†	1739.5	494.13 ug/L	6.409	494.13 ppb	6.409	1.30%	
QC value within limits for Tl 190.801 Recovery = 98.83%							
U 409.014†	16341.6	481.03 ug/L	10.138	481.03 ppb	10.138	2.11%	
QC value within limits for U 409.014 Recovery = 96.21%							
V 292.402†	72658.0	489.86 ug/L	11.572	489.86 ppb	11.572	2.36%	
QC value within limits for V 292.402 Recovery = 97.97%							
Zn 213.857†	57467.6	483.30 ug/L	11.710	483.30 ppb	11.710	2.42%	
QC value within limits for Zn 213.857 Recovery = 96.66%							
SiO2†	82900.0	5273.2 ug/L	23.10	5273.2 ppb	23.10	0.44%	
QC value within limits for SiO2 Recovery = 98.61%							
All analyte(s) passed QC.							

Sequence No.: 54

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/1/2010 23:09:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4307.6	4307.6	104 %		23:11:26
1	Y RADIAL	4866.4	4866.4	100.5 %		23:11:26
1	Al 396.153Radial†	-183.2	14.6	12.046 ug/L	12.046 ppb	23:11:26
1	Ca 317.933Radial†	12.7	-1.2	-2.2063 ug/L	-2.2063 ppb	23:11:46
1	Fe 238.204 Radial†	12.2	1.6	18.509 ug/L	18.509 ppb	23:11:46
1	K 766.490 Radial†	2868.6	123.0	23.408 ug/L	23.408 ppb	23:11:26
1	Mg 279.077 IEC†	3.5	3.4	143.25 ug/L	143.25 ppb	23:11:46
1	Na 589.592 Radial†	-1638.8	82.8	25.505 ug/L	25.505 ppb	23:11:26
1	Sr 421.552†	-2.6	-38.9	-0.2571 ug/L	-0.2571 ppb	23:11:26
1	Sc 361.383	841322.7	841322.7	94.443 %		23:12:43
1	Y 371.029	685364.7	685364.7	93.343 %		23:12:43
1	Ag 328.068†	411.2	-189.1	-0.8269 ug/L	-0.8269 ppb	23:12:43
1	As 188.979†	-24.9	2.4	0.9078 ug/L	0.9078 ppb	23:13:03
1	B 249.677†	-558.5	169.7	3.5469 ug/L	3.5469 ppb	23:13:03
1	Ba 233.527†	-33.8	-20.5	-0.1496 ug/L	-0.1496 ppb	23:13:03
1	Be 313.107†	-4078.8	84.2	0.0286 ug/L	0.0286 ppb	23:12:43
1	Cd 226.502†	-195.8	-3.2	-0.0343 ug/L	-0.0343 ppb	23:13:03
1	Co 228.616†	-103.9	-24.9	-0.4578 ug/L	-0.4578 ppb	23:13:03
1	Cr 267.716†	36.5	-23.2	-0.2413 ug/L	-0.2413 ppb	23:12:43
1	Cu 324.752†	7001.3	526.4	1.4621 ug/L	1.4621 ppb	23:12:43
1	Mn 257.610†	553.6	54.4	0.0506 ug/L	0.0506 ppb	23:13:03
1	Mo 202.031†	17.3	13.1	0.8729 ug/L	0.8729 ppb	23:13:03
1	Ni 231.604†	83.5	3.2	0.0726 ug/L	0.0726 ppb	23:13:03
1	P 214.914†	229.5	19.7	9.9414 ug/L	9.9414 ppb	23:13:03
1	Pb 220.353†	-49.7	27.1	2.9050 ug/L	2.9050 ppb	23:13:03
1	S 181.975 Axial†	48.3	2.2	2.6930 ug/L	2.6930 ppb	23:13:03
1	Sb 206.836†	34.7	-1.6	-0.4525 ug/L	-0.4525 ppb	23:13:03
1	Se 196.026†	-26.9	-2.5	-1.3029 ug/L	-1.3029 ppb	23:13:03
1	Si 251.611†	596.9	96.3	2.8550 ug/L	2.8550 ppb	23:13:03
1	Sn 189.927†	20.4	12.2	1.9664 ug/L	1.9664 ppb	23:13:03
1	Ti 334.940†	-1620.4	88.7	0.1182 ug/L	0.1182 ppb	23:12:43
1	Tl 190.801†	-27.9	15.0	4.2232 ug/L	4.2232 ppb	23:13:03
1	U 409.014†	-4655.2	184.0	5.4322 ug/L	5.4322 ppb	23:12:43
1	V 292.402†	-1695.7	-43.3	-0.2652 ug/L	-0.2652 ppb	23:12:43
1	Zn 213.857†	787.2	124.4	1.0513 ug/L	1.0513 ppb	23:13:03
1	SiO2†	628.6	103.3	6.5634 ug/L	6.5634 ppb	23:13:59
2	Sc Radial	4337.7	4337.7	105 %		23:11:51
2	Y RADIAL	4836.1	4836.1	99.89 %		23:11:51
2	Al 396.153Radial†	-185.8	13.4	11.062 ug/L	11.062 ppb	23:11:51
2	Ca 317.933Radial†	16.7	2.5	4.7006 ug/L	4.7006 ppb	23:12:11
2	Fe 238.204 Radial†	8.6	-2.0	-22.915 ug/L	-22.915 ppb	23:12:11
2	K 766.490 Radial†	2830.7	67.9	12.917 ug/L	12.917 ppb	23:11:51
2	Mg 279.077 IEC†	4.3	4.2	176.01 ug/L	176.01 ppb	23:12:11
2	Na 589.592 Radial†	-1625.9	105.9	32.635 ug/L	32.635 ppb	23:11:51
2	Sr 421.552†	30.8	-7.2	-0.0473 ug/L	-0.0473 ppb	23:11:51
2	Sc 361.383	871113.9	871113.9	97.787 %		23:13:09
2	Y 371.029	710151.9	710151.9	96.718 %		23:13:09
2	Ag 328.068†	423.9	-191.0	-0.8608 ug/L	-0.8608 ppb	23:13:09
2	As 188.979†	-30.6	-2.6	-0.9835 ug/L	-0.9835 ppb	23:13:29
2	B 249.677†	-550.9	197.7	4.1378 ug/L	4.1378 ppb	23:13:29
2	Ba 233.527†	-9.7	5.4	0.0392 ug/L	0.0392 ppb	23:13:29
2	Be 313.107†	-4091.0	219.5	0.0745 ug/L	0.0745 ppb	23:13:09
2	Cd 226.502†	-187.6	12.2	0.1333 ug/L	0.1333 ppb	23:13:29
2	Co 228.616†	-91.6	-8.5	-0.1568 ug/L	-0.1568 ppb	23:13:29
2	Cr 267.716†	104.8	45.3	0.4574 ug/L	0.4574 ppb	23:13:09
2	Cu 324.752†	7039.1	311.5	0.8525 ug/L	0.8525 ppb	23:13:09
2	Mn 257.610†	576.2	57.4	0.0481 ug/L	0.0481 ppb	23:13:29
2	Mo 202.031†	6.5	1.5	0.0947 ug/L	0.0947 ppb	23:13:29
2	Ni 231.604†	103.6	20.7	0.4623 ug/L	0.4623 ppb	23:13:29

2	P 214.914†	234.2	16.2	8.2829 ug/L	8.2829 ppb	23:13:29
2	Pb 220.353†	-69.7	8.4	0.9028 ug/L	0.9028 ppb	23:13:29
2	S 181.975 Axial†	48.8	1.1	1.2849 ug/L	1.2849 ppb	23:13:29
2	Sb 206.836†	55.6	18.5	5.6674 ug/L	5.6674 ppb	23:13:29
2	Se 196.026†	-30.0	-4.8	-2.7117 ug/L	-2.7117 ppb	23:13:29
2	Si 251.611†	587.9	65.4	1.9469 ug/L	1.9469 ppb	23:13:29
2	Sn 189.927†	17.7	8.7	1.4022 ug/L	1.4022 ppb	23:13:29
2	Ti 334.940†	-1512.7	257.4	0.3606 ug/L	0.3606 ppb	23:13:09
2	Tl 190.801†	-48.3	-4.9	-1.3756 ug/L	-1.3756 ppb	23:13:29
2	U 409.014†	-4241.3	775.8	22.918 ug/L	22.918 ppb	23:13:09
2	V 292.402†	-1674.0	40.3	0.3195 ug/L	0.3195 ppb	23:13:09
2	Zn 213.857†	807.5	116.7	0.9879 ug/L	0.9879 ppb	23:13:29
2	SiO2†	822.8	279.2	17.800 ug/L	17.800 ppb	23:14:04
3	Sc Radial	4335.7	4335.7	105 %		23:12:16
3	Y RADIAL	4867.2	4867.2	100.5 %		23:12:16
3	Al 396.153Radial†	-222.6	-21.7	-17.948 ug/L	-17.948 ppb	23:12:16
3	Ca 317.933Radial†	14.9	0.9	1.6121 ug/L	1.6121 ppb	23:12:36
3	Fe 238.204 Radial†	14.3	3.5	40.845 ug/L	40.845 ppb	23:12:36
3	K 766.490 Radial†	3005.3	235.3	44.766 ug/L	44.766 ppb	23:12:16
3	Mg 279.077 IEC†	-1.1	-1.0	-42.953 ug/L	-42.953 ppb	23:12:36
3	Na 589.592 Radial†	-1611.1	119.3	36.764 ug/L	36.764 ppb	23:12:16
3	Sr 421.552†	38.2	-0.1	-0.0005 ug/L	-0.0005 ppb	23:12:16
3	Sc 361.383	848843.7	848843.7	95.287 %		23:13:34
3	Y 371.029	693311.6	693311.6	94.425 %		23:13:34
3	Ag 328.068†	428.0	-175.3	-0.7584 ug/L	-0.7584 ppb	23:13:34
3	As 188.979†	-36.4	-9.4	-3.6074 ug/L	-3.6074 ppb	23:13:54
3	B 249.677†	-552.2	181.6	3.7913 ug/L	3.7913 ppb	23:13:54
3	Ba 233.527†	-6.6	8.4	0.0628 ug/L	0.0628 ppb	23:13:54
3	Be 313.107†	-3998.3	207.0	0.0701 ug/L	0.0701 ppb	23:13:34
3	Cd 226.502†	-199.3	-5.0	-0.0548 ug/L	-0.0548 ppb	23:13:54
3	Co 228.616†	-93.2	-12.7	-0.2330 ug/L	-0.2330 ppb	23:13:54
3	Cr 267.716†	90.5	33.2	0.3402 ug/L	0.3402 ppb	23:13:34
3	Cu 324.752†	6987.1	445.9	1.2389 ug/L	1.2389 ppb	23:13:34
3	Mn 257.610†	545.9	41.2	0.0471 ug/L	0.0471 ppb	23:13:54
3	Mo 202.031†	16.0	11.6	0.7753 ug/L	0.7753 ppb	23:13:54
3	Ni 231.604†	73.9	-7.6	-0.1698 ug/L	-0.1698 ppb	23:13:54
3	P 214.914†	232.2	20.4	10.316 ug/L	10.316 ppb	23:13:54
3	Pb 220.353†	-62.8	13.7	1.4632 ug/L	1.4632 ppb	23:13:54
3	S 181.975 Axial†	46.9	0.3	0.4170 ug/L	0.4170 ppb	23:13:54
3	Sb 206.836†	41.1	4.7	1.4266 ug/L	1.4266 ppb	23:13:54
3	Se 196.026†	-31.8	-7.5	-3.9955 ug/L	-3.9955 ppb	23:13:54
3	Si 251.611†	585.0	78.2	2.3176 ug/L	2.3176 ppb	23:13:54
3	Sn 189.927†	0.5	-8.9	-1.4407 ug/L	-1.4407 ppb	23:13:54
3	Ti 334.940†	-1536.9	191.5	0.2871 ug/L	0.2871 ppb	23:13:34
3	Tl 190.801†	-54.7	-12.9	-3.6339 ug/L	-3.6339 ppb	23:13:54
3	U 409.014†	-4676.4	205.4	6.0604 ug/L	6.0604 ppb	23:13:34
3	V 292.402†	-1659.0	11.1	0.0894 ug/L	0.0894 ppb	23:13:34
3	Zn 213.857†	783.4	113.0	0.9546 ug/L	0.9546 ppb	23:13:54
3	SiO2†	586.4	53.1	3.3662 ug/L	3.3662 ppb	23:14:09

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	853760.1	95.839 %		1.7391			1.81%
Sc Radial	4327.0	105 %		0.4			0.39%
Y 371.029	696276.1	94.829 %		1.7238			1.82%
Y RADIAL	4856.5	100.3 %		0.37			0.37%
Ag 328.068†	-185.1	-0.8154 ug/L		0.05214	-0.8154 ppb	0.05214	6.39%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	2.1	1.7200 ug/L		17.04002	1.7200 ppb	17.04002	990.67%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	-3.2	-1.2277 ug/L		2.26751	-1.2277 ppb	2.26751	184.70%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	183.0	3.8253 ug/L		0.29692	3.8253 ppb	0.29692	7.76%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-2.2	-0.0158 ug/L		0.11640	-0.0158 ppb	0.11640	734.83%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	170.2	0.0577 ug/L		0.02535	0.0577 ppb	0.02535	43.91%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	0.7	1.3688 ug/L		3.45988	1.3688 ppb	3.45988	252.76%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	1.3	0.0147 ug/L	0.10320	0.0147 ppb	0.10320	701.32%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-15.4	-0.2825 ug/L	0.15648	-0.2825 ppb	0.15648	55.39%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	18.4	0.1854 ug/L	0.37421	0.1854 ppb	0.37421	201.81%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	427.9	1.1845 ug/L	0.30840	1.1845 ppb	0.30840	26.04%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.0	12.146 ug/L	32.3524	12.146 ppb	32.3524	266.36%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	142.1	27.030 ug/L	16.2306	27.030 ppb	16.2306	60.05%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.2	92.105 ug/L	118.1052	92.105 ppb	118.1052	128.23%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	51.0	0.0486 ug/L	0.00179	0.0486 ppb	0.00179	3.69%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	8.7	0.5810 ug/L	0.42391	0.5810 ppb	0.42391	72.97%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	102.7	31.634 ug/L	5.6957	31.634 ppb	5.6957	18.00%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	5.5	0.1217 ug/L	0.31888	0.1217 ppb	0.31888	262.02%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	18.8	9.5135 ug/L	1.08204	9.5135 ppb	1.08204	11.37%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	16.4	1.7570 ug/L	1.03292	1.7570 ppb	1.03292	58.79%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	1.2	1.4649 ug/L	1.14861	1.4649 ppb	1.14861	78.41%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.2	2.2138 ug/L	3.13500	2.2138 ppb	3.13500	141.61%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-4.9	-2.6700 ug/L	1.34675	-2.6700 ppb	1.34675	50.44%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	80.0	2.3732 ug/L	0.45662	2.3732 ppb	0.45662	19.24%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	4.0	0.6426 ug/L	1.82618	0.6426 ppb	1.82618	284.17%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-15.4	-0.1016 ug/L	0.13663	-0.1016 ppb	0.13663	134.47%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	179.2	0.2553 ug/L	0.12430	0.2553 ppb	0.12430	48.69%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-0.9	-0.2621 ug/L	4.04515	-0.2621 ppb	4.04515	>999.9%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	388.4	11.470 ug/L	9.9191	11.470 ppb	9.9191	86.48%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	2.7	0.0479 ug/L	0.29454	0.0479 ppb	0.29454	615.33%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	118.0	0.9979 ug/L	0.04912	0.9979 ppb	0.04912	4.92%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	145.2	9.2434 ug/L	7.58115	9.2434 ppb	7.58115	82.02%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 62

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/2/2010 00:05:23

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4386.0	4386.0	106 %		00:07:15
1	Y RADIAL	4884.6	4884.6	100.9 %		00:07:15
1	Al 396.153Radial†	6102.9	5930.5	4872.5 ug/L	4872.5 ppb	00:07:15
1	Ca 317.933Radial†	2843.0	2660.8	4925.6 ug/L	4925.6 ppb	00:07:35
1	Fe 238.204 Radial†	466.9	429.0	5000.8 ug/L	5000.8 ppb	00:07:35
1	K 766.490 Radial†	30180.1	25763.2	4897.5 ug/L	4897.5 ppb	00:07:15
1	Mg 279.077 IEC†	133.0	125.1	5272.2 ug/L	5272.2 ppb	00:07:35
1	Na 589.592 Radial†	33281.2	32956.8	10156 ug/L	10156 ppb	00:07:15
1	Sr 421.552†	80530.3	75710.8	499.85 ug/L	499.85 ppb	00:07:15
1	Sc 361.383	859975.9	859975.9	96.537 %		00:08:34
1	Y 371.029	691473.4	691473.4	94.175 %		00:08:34
1	Ag 328.068†	108820.3	112099.5	493.56 ug/L	493.56 ppb	00:08:34
1	As 188.979†	1214.5	1286.8	498.52 ug/L	498.52 ppb	00:08:54
1	B 249.677†	21361.2	22888.6	476.34 ug/L	476.34 ppb	00:08:34
1	Ba 233.527†	65096.0	67446.5	494.21 ug/L	494.21 ppb	00:08:34
1	Be 313.107†	1401295.2	1455966.7	489.63 ug/L	489.63 ppb	00:08:34
1	Cd 226.502†	46384.8	48252.9	498.15 ug/L	498.15 ppb	00:08:34
1	Co 228.616†	25857.7	26870.4	495.38 ug/L	495.38 ppb	00:08:54
1	Cr 267.716†	46352.6	47953.6	494.26 ug/L	494.26 ppb	00:08:34
1	Cu 324.752†	177205.0	176675.0	491.40 ug/L	491.40 ppb	00:08:34
1	Mn 257.610†	477731.0	494336.8	496.27 ug/L	496.27 ppb	00:08:34
1	Mo 202.031†	7246.6	7501.4	498.98 ug/L	498.98 ppb	00:08:54
1	Ni 231.604†	21485.4	22170.9	493.72 ug/L	493.72 ppb	00:08:54
1	P 214.914†	4883.2	4835.1	2414.7 ug/L	2414.7 ppb	00:08:54
1	Pb 220.353†	4405.5	4643.1	499.77 ug/L	499.77 ppb	00:08:54
1	S 181.975 Axial†	813.2	793.4	968.35 ug/L	968.35 ppb	00:08:54
1	Sb 206.836†	1595.8	1614.6	511.28 ug/L	511.28 ppb	00:08:54
1	Se 196.026†	853.1	909.7	522.56 ug/L	522.56 ppb	00:08:54
1	Si 251.611†	80900.1	83266.4	2472.4 ug/L	2472.4 ppb	00:08:34
1	Sn 189.927†	2991.4	3089.3	499.90 ug/L	499.90 ppb	00:08:54
1	Ti 334.940†	321487.1	334824.1	500.12 ug/L	500.12 ppb	00:08:34
1	Tl 190.801†	1658.3	1762.2	500.59 ug/L	500.59 ppb	00:08:54
1	U 409.014†	10884.0	16387.6	482.39 ug/L	482.39 ppb	00:08:34
1	V 292.402†	69384.2	73625.4	496.45 ug/L	496.45 ppb	00:08:34
1	Zn 213.857†	56995.5	58330.9	490.60 ug/L	490.60 ppb	00:08:34
1	SiO2†	82443.0	84838.2	5396.5 ug/L	5396.5 ppb	00:09:54
2	Sc Radial	4261.0	4261.0	103 %		00:07:40
2	Y RADIAL	4774.3	4774.3	98.61 %		00:07:40
2	Al 396.153Radial†	5999.6	5998.9	4929.1 ug/L	4929.1 ppb	00:07:40
2	Ca 317.933Radial†	2831.3	2727.9	5049.7 ug/L	5049.7 ppb	00:08:00
2	Fe 238.204 Radial†	463.6	438.8	5113.6 ug/L	5113.6 ppb	00:08:00
2	K 766.490 Radial†	29414.3	25854.4	4914.8 ug/L	4914.8 ppb	00:07:40
2	Mg 279.077 IEC†	129.8	125.7	5296.8 ug/L	5296.8 ppb	00:08:00
2	Na 589.592 Radial†	32602.8	33218.0	10236 ug/L	10236 ppb	00:07:40
2	Sr 421.552†	78525.5	75991.2	501.70 ug/L	501.70 ppb	00:07:40
2	Sc 361.383	859379.7	859379.7	96.470 %		00:09:01
2	Y 371.029	689121.8	689121.8	93.854 %		00:09:01
2	Ag 328.068†	108960.5	112323.0	494.57 ug/L	494.57 ppb	00:09:01
2	As 188.979†	1207.7	1280.7	496.20 ug/L	496.20 ppb	00:09:21
2	B 249.677†	21352.6	22895.0	476.46 ug/L	476.46 ppb	00:09:01
2	Ba 233.527†	65165.7	67565.5	495.08 ug/L	495.08 ppb	00:09:01
2	Be 313.107†	1398851.5	1454440.7	489.12 ug/L	489.12 ppb	00:09:01
2	Cd 226.502†	46512.1	48418.2	499.85 ug/L	499.85 ppb	00:09:01
2	Co 228.616†	25783.5	26812.1	494.30 ug/L	494.30 ppb	00:09:21
2	Cr 267.716†	46420.0	48056.7	495.32 ug/L	495.32 ppb	00:09:01
2	Cu 324.752†	177261.8	176861.3	491.92 ug/L	491.92 ppb	00:09:01
2	Mn 257.610†	479170.4	496172.2	498.12 ug/L	498.12 ppb	00:09:01
2	Mo 202.031†	7208.3	7466.8	496.70 ug/L	496.70 ppb	00:09:21
2	Ni 231.604†	21434.2	22133.4	492.89 ug/L	492.89 ppb	00:09:21

2	P 214.914†	4857.0	4811.4	2402.2 ug/L	2402.2 ppb	00:09:21
2	Pb 220.353†	4413.6	4654.7	501.01 ug/L	501.01 ppb	00:09:21
2	S 181.975 Axial†	824.7	806.0	983.68 ug/L	983.68 ppb	00:09:21
2	Sb 206.836†	1590.4	1610.2	509.82 ug/L	509.82 ppb	00:09:21
2	Se 196.026†	844.2	901.0	518.12 ug/L	518.12 ppb	00:09:21
2	Si 251.611†	81010.0	83438.5	2477.5 ug/L	2477.5 ppb	00:09:01
2	Sn 189.927†	2969.5	3068.7	496.61 ug/L	496.61 ppb	00:09:21
2	Ti 334.940†	321952.1	335537.2	501.20 ug/L	501.20 ppb	00:09:01
2	Tl 190.801†	1665.9	1771.3	503.18 ug/L	503.18 ppb	00:09:21
2	U 409.014†	10955.4	16469.3	484.79 ug/L	484.79 ppb	00:09:01
2	V 292.402†	69426.3	73718.9	497.02 ug/L	497.02 ppb	00:09:01
2	Zn 213.857†	57133.3	58514.8	492.15 ug/L	492.15 ppb	00:09:01
2	SiO2†	80844.6	83240.6	5294.7 ug/L	5294.7 ppb	00:09:59
3	Sc Radial	4325.9	4325.9	105 %		00:08:05
3	Y RADIAL	4802.3	4802.3	99.19 %		00:08:05
3	Al 396.153Radial†	6023.7	5934.7	4876.0 ug/L	4876.0 ppb	00:08:05
3	Ca 317.933Radial†	2838.9	2694.0	4987.0 ug/L	4987.0 ppb	00:08:25
3	Fe 238.204 Radial†	468.1	436.3	5085.5 ug/L	5085.5 ppb	00:08:25
3	K 766.490 Radial†	29618.1	25621.5	4870.6 ug/L	4870.6 ppb	00:08:05
3	Mg 279.077 IEC†	129.0	123.1	5186.8 ug/L	5186.8 ppb	00:08:25
3	Na 589.592 Radial†	32622.1	32762.8	10096 ug/L	10096 ppb	00:08:05
3	Sr 421.552†	79107.3	75405.5	497.84 ug/L	497.84 ppb	00:08:05
3	Sc 361.383	855748.0	855748.0	96.062 %		00:09:29
3	Y 371.029	687112.8	687112.8	93.581 %		00:09:29
3	Ag 328.068†	108506.6	112329.8	494.59 ug/L	494.59 ppb	00:09:29
3	As 188.979†	1202.0	1280.1	495.95 ug/L	495.95 ppb	00:09:49
3	B 249.677†	21342.6	22978.5	478.20 ug/L	478.20 ppb	00:09:29
3	Ba 233.527†	64939.2	67616.4	495.45 ug/L	495.45 ppb	00:09:29
3	Be 313.107†	1391647.8	1453095.6	488.67 ug/L	488.67 ppb	00:09:29
3	Cd 226.502†	46223.7	48322.5	498.87 ug/L	498.87 ppb	00:09:29
3	Co 228.616†	25785.0	26927.1	496.43 ug/L	496.43 ppb	00:09:49
3	Cr 267.716†	46146.6	47976.3	494.49 ug/L	494.49 ppb	00:09:29
3	Cu 324.752†	176500.9	176849.0	491.89 ug/L	491.89 ppb	00:09:29
3	Mn 257.610†	476260.9	495251.4	497.19 ug/L	497.19 ppb	00:09:29
3	Mo 202.031†	7214.4	7504.9	499.23 ug/L	499.23 ppb	00:09:49
3	Ni 231.604†	21490.3	22286.0	496.29 ug/L	496.29 ppb	00:09:49
3	P 214.914†	4846.5	4821.9	2407.7 ug/L	2407.7 ppb	00:09:49
3	Pb 220.353†	4391.6	4651.2	500.64 ug/L	500.64 ppb	00:09:49
3	S 181.975 Axial†	813.7	798.2	974.14 ug/L	974.14 ppb	00:09:49
3	Sb 206.836†	1596.7	1623.8	514.04 ug/L	514.04 ppb	00:09:49
3	Se 196.026†	857.2	918.3	527.62 ug/L	527.62 ppb	00:09:49
3	Si 251.611†	80518.0	83282.7	2472.9 ug/L	2472.9 ppb	00:09:29
3	Sn 189.927†	2960.1	3072.0	497.12 ug/L	497.12 ppb	00:09:49
3	Ti 334.940†	320257.5	335189.5	500.68 ug/L	500.68 ppb	00:09:29
3	Tl 190.801†	1657.4	1769.8	502.72 ug/L	502.72 ppb	00:09:49
3	U 409.014†	10992.5	16556.1	487.36 ug/L	487.36 ppb	00:09:29
3	V 292.402†	69083.7	73667.7	496.73 ug/L	496.73 ppb	00:09:29
3	Zn 213.857†	56835.0	58455.6	491.63 ug/L	491.63 ppb	00:09:29
3	SiO2†	81224.2	83991.4	5342.5 ug/L	5342.5 ppb	00:10:05

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	858367.9	96.356 %	0.2569			0.27%
Sc Radial	4324.3	105 %	1.5			1.45%
Y 371.029	689236.0	93.870 %	0.2972			0.32%
Y RADIAL	4820.4	99.57 %	1.184			1.19%
Ag 328.068†	112250.8	494.24 ug/L	0.590	494.24 ppb	0.590	0.12%
QC value within limits for Ag 328.068 Recovery = 98.85%						
Al 396.153Radial†	5954.7	4892.5 ug/L	31.71	4892.5 ppb	31.71	0.65%
QC value within limits for Al 396.153Radial Recovery = 97.85%						
As 188.979†	1282.5	496.89 ug/L	1.415	496.89 ppb	1.415	0.28%
QC value within limits for As 188.979 Recovery = 99.38%						
B 249.677†	22920.7	477.00 ug/L	1.043	477.00 ppb	1.043	0.22%
QC value within limits for B 249.677 Recovery = 95.40%						
Ba 233.527†	67542.8	494.91 ug/L	0.639	494.91 ppb	0.639	0.13%
QC value within limits for Ba 233.527 Recovery = 98.98%						
Be 313.107†	1454501.0	489.14 ug/L	0.481	489.14 ppb	0.481	0.10%
QC value within limits for Be 313.107 Recovery = 97.83%						
Ca 317.933Radial†	2694.2	4987.4 ug/L	62.04	4987.4 ppb	62.04	1.24%

QC value within limits for Ca 317.933 Radial Recovery = 99.75%

Cd 226.502†	48331.2	498.96 ug/L	0.851	498.96 ppb	0.851	0.17%
QC value within limits for Cd 226.502 Recovery = 99.79%						
Co 228.616†	26869.9	495.37 ug/L	1.064	495.37 ppb	1.064	0.21%
QC value within limits for Co 228.616 Recovery = 99.07%						
Cr 267.716†	47995.5	494.69 ug/L	0.559	494.69 ppb	0.559	0.11%
QC value within limits for Cr 267.716 Recovery = 98.94%						
Cu 324.752†	176795.1	491.74 ug/L	0.292	491.74 ppb	0.292	0.06%
QC value within limits for Cu 324.752 Recovery = 98.35%						
Fe 238.204 Radial†	434.7	5066.6 ug/L	58.70	5066.6 ppb	58.70	1.16%
QC value within limits for Fe 238.204 Radial Recovery = 101.33%						
K 766.490 Radial†	25746.4	4894.3 ug/L	22.30	4894.3 ppb	22.30	0.46%
QC value within limits for K 766.490 Radial Recovery = 97.89%						
Mg 279.077 IEC†	124.6	5251.9 ug/L	57.73	5251.9 ppb	57.73	1.10%
QC value within limits for Mg 279.077 IEC Recovery = 105.04%						
Mn 257.610†	495253.5	497.19 ug/L	0.926	497.19 ppb	0.926	0.19%
QC value within limits for Mn 257.610 Recovery = 99.44%						
Mo 202.031†	7491.0	498.30 ug/L	1.395	498.30 ppb	1.395	0.28%
QC value within limits for Mo 202.031 Recovery = 99.66%						
Na 589.592 Radial†	32979.2	10163 ug/L	70.4	10163 ppb	70.4	0.69%
QC value within limits for Na 589.592 Radial Recovery = 101.63%						
Ni 231.604†	22196.8	494.30 ug/L	1.772	494.30 ppb	1.772	0.36%
QC value within limits for Ni 231.604 Recovery = 98.86%						
P 214.914†	4822.8	2408.2 ug/L	6.27	2408.2 ppb	6.27	0.26%
QC value within limits for P 214.914 Recovery = 96.33%						
Pb 220.353†	4649.7	500.47 ug/L	0.635	500.47 ppb	0.635	0.13%
QC value within limits for Pb 220.353 Recovery = 100.09%						
S 181.975 Axial†	799.2	975.39 ug/L	7.737	975.39 ppb	7.737	0.79%
QC value within limits for S 181.975 Axial Recovery = 97.54%						
Sb 206.836†	1616.2	511.71 ug/L	2.142	511.71 ppb	2.142	0.42%
QC value within limits for Sb 206.836 Recovery = 102.34%						
Se 196.026†	909.7	522.77 ug/L	4.752	522.77 ppb	4.752	0.91%
QC value within limits for Se 196.026 Recovery = 104.55%						
Si 251.611†	83329.2	2474.2 ug/L	2.84	2474.2 ppb	2.84	0.11%
QC value within limits for Si 251.611 Recovery = 98.97%						
Sn 189.927†	3076.7	497.88 ug/L	1.773	497.88 ppb	1.773	0.36%
QC value within limits for Sn 189.927 Recovery = 99.58%						
Sr 421.552†	75702.5	499.80 ug/L	1.934	499.80 ppb	1.934	0.39%
QC value within limits for Sr 421.552 Recovery = 99.96%						
Ti 334.940†	335183.6	500.67 ug/L	0.539	500.67 ppb	0.539	0.11%
QC value within limits for Ti 334.940 Recovery = 100.13%						
Tl 190.801†	1767.8	502.16 ug/L	1.382	502.16 ppb	1.382	0.28%
QC value within limits for Tl 190.801 Recovery = 100.43%						
U 409.014†	16471.0	484.85 ug/L	2.485	484.85 ppb	2.485	0.51%
QC value within limits for U 409.014 Recovery = 96.97%						
V 292.402†	73670.7	496.73 ug/L	0.288	496.73 ppb	0.288	0.06%
QC value within limits for V 292.402 Recovery = 99.35%						
Zn 213.857†	58433.8	491.46 ug/L	0.791	491.46 ppb	0.791	0.16%
QC value within limits for Zn 213.857 Recovery = 98.29%						
SiO2†	84023.4	5344.6 ug/L	50.94	5344.6 ppb	50.94	0.95%
QC value within limits for SiO2 Recovery = 99.95%						

All analyte(s) passed QC.



Sequence No.: 63

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/2/2010 00:12:14

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4368.4	4368.4	106 %		00:14:06
1	Y RADIAL	4887.6	4887.6	101.0 %		00:14:06
1	Al 396.153Radial†	-200.8	0.5	0.4061 ug/L	0.4061 ppb	00:14:06
1	Ca 317.933Radial†	12.8	-1.2	-2.2434 ug/L	-2.2434 ppb	00:14:26
1	Fe 238.204 Radial†	14.0	3.1	35.857 ug/L	35.857 ppb	00:14:26
1	K 766.490 Radial†	2773.4	-5.2	-0.9989 ug/L	-0.9989 ppb	00:14:06
1	Mg 279.077 IEC†	0.6	0.6	24.614 ug/L	24.614 ppb	00:14:26
1	Na 589.592 Radial†	-1596.5	144.5	44.536 ug/L	44.536 ppb	00:14:06
1	Sr 421.552†	44.3	5.4	0.0358 ug/L	0.0358 ppb	00:14:06
1	Sc 361.383	864631.8	864631.8	97.060 %		00:15:23
1	Y 371.029	703725.6	703725.6	95.843 %		00:15:23
1	Ag 328.068†	528.9	-79.6	-0.3466 ug/L	-0.3466 ppb	00:15:23
1	As 188.979†	-28.2	-0.3	-0.1125 ug/L	-0.1125 ppb	00:15:43
1	B 249.677†	-613.5	129.0	2.6929 ug/L	2.6929 ppb	00:15:43
1	Ba 233.527†	-7.1	8.0	0.0602 ug/L	0.0602 ppb	00:15:43
1	Be 313.107†	-4096.1	182.9	0.0620 ug/L	0.0620 ppb	00:15:23
1	Cd 226.502†	-192.1	6.2	0.0626 ug/L	0.0626 ppb	00:15:43
1	Co 228.616†	-96.7	-14.5	-0.2685 ug/L	-0.2685 ppb	00:15:43
1	Cr 267.716†	116.0	57.6	0.5889 ug/L	0.5889 ppb	00:15:23
1	Cu 324.752†	7141.7	471.3	1.3051 ug/L	1.3051 ppb	00:15:23
1	Mn 257.610†	790.3	282.4	0.2859 ug/L	0.2859 ppb	00:15:23
1	Mo 202.031†	0.8	-4.4	-0.2916 ug/L	-0.2916 ppb	00:15:43
1	Ni 231.604†	87.6	5.1	0.1146 ug/L	0.1146 ppb	00:15:43
1	P 214.914†	234.6	18.4	9.2728 ug/L	9.2728 ppb	00:15:43
1	Pb 220.353†	-65.8	11.8	1.2658 ug/L	1.2658 ppb	00:15:43
1	S 181.975 Axial†	52.2	4.9	5.9929 ug/L	5.9929 ppb	00:15:43
1	Sb 206.836†	36.3	-1.0	-0.2978 ug/L	-0.2978 ppb	00:15:43
1	Se 196.026†	-30.1	-5.1	-2.6934 ug/L	-2.6934 ppb	00:15:43
1	Si 251.611†	562.6	43.9	1.3094 ug/L	1.3094 ppb	00:15:43
1	Sn 189.927†	14.7	5.7	0.9238 ug/L	0.9238 ppb	00:15:43
1	Ti 334.940†	-1570.3	186.5	0.2702 ug/L	0.2702 ppb	00:15:23
1	Tl 190.801†	-41.6	1.6	0.4525 ug/L	0.4525 ppb	00:15:43
1	U 409.014†	-4513.3	463.0	13.672 ug/L	13.672 ppb	00:15:23
1	V 292.402†	-1667.2	34.5	0.2464 ug/L	0.2464 ppb	00:15:23
1	Zn 213.857†	784.3	98.9	0.8333 ug/L	0.8333 ppb	00:15:43
1	SiO2†	570.2	25.2	1.6165 ug/L	1.6165 ppb	00:16:39
2	Sc Radial	4408.0	4408.0	107 %		00:14:31
2	Y RADIAL	4949.7	4949.7	102.2 %		00:14:31
2	Al 396.153Radial†	-199.6	3.3	2.6955 ug/L	2.6955 ppb	00:14:31
2	Ca 317.933Radial†	15.5	1.2	2.1593 ug/L	2.1593 ppb	00:14:51
2	Fe 238.204 Radial†	12.8	1.9	21.894 ug/L	21.894 ppb	00:14:51
2	K 766.490 Radial†	2909.0	98.3	18.686 ug/L	18.686 ppb	00:14:31
2	Mg 279.077 IEC†	1.7	1.6	68.854 ug/L	68.854 ppb	00:14:51
2	Na 589.592 Radial†	-1562.6	189.8	58.477 ug/L	58.477 ppb	00:14:31
2	Sr 421.552†	43.6	4.3	0.0285 ug/L	0.0285 ppb	00:14:31
2	Sc 361.383	858077.8	858077.8	96.324 %		00:15:49
2	Y 371.029	699300.8	699300.8	95.241 %		00:15:49
2	Ag 328.068†	377.2	-232.9	-1.0196 ug/L	-1.0196 ppb	00:15:49
2	As 188.979†	-28.2	-0.5	-0.1904 ug/L	-0.1904 ppb	00:16:09
2	B 249.677†	-595.8	142.6	2.9784 ug/L	2.9784 ppb	00:16:09
2	Ba 233.527†	-37.6	-23.7	-0.1723 ug/L	-0.1723 ppb	00:16:09
2	Be 313.107†	-4076.1	171.4	0.0577 ug/L	0.0577 ppb	00:15:49
2	Cd 226.502†	-193.5	3.3	0.0332 ug/L	0.0332 ppb	00:16:09
2	Co 228.616†	-103.7	-22.5	-0.4157 ug/L	-0.4157 ppb	00:16:09
2	Cr 267.716†	119.9	62.6	0.6413 ug/L	0.6413 ppb	00:15:49
2	Cu 324.752†	6919.5	296.7	0.8205 ug/L	0.8205 ppb	00:15:49
2	Mn 257.610†	647.2	140.1	0.1399 ug/L	0.1399 ppb	00:15:49
2	Mo 202.031†	7.5	2.6	0.1718 ug/L	0.1718 ppb	00:16:09
2	Ni 231.604†	58.6	-24.4	-0.5427 ug/L	-0.5427 ppb	00:16:09



2	P 214.914†	231.4	17.0	8.6731 ug/L	8.6731 ppb	00:16:09
2	Pb 220.353†	-67.5	9.6	1.0259 ug/L	1.0259 ppb	00:16:09
2	S 181.975 Axial†	48.7	1.6	2.0097 ug/L	2.0097 ppb	00:16:09
2	Sb 206.836†	56.2	19.9	6.1184 ug/L	6.1184 ppb	00:16:09
2	Se 196.026†	-25.3	-0.3	-0.1114 ug/L	-0.1114 ppb	00:16:09
2	Si 251.611†	554.2	39.6	1.1779 ug/L	1.1779 ppb	00:16:09
2	Sn 189.927†	22.6	14.1	2.2742 ug/L	2.2742 ppb	00:16:09
2	Ti 334.940†	-1671.4	69.1	0.0930 ug/L	0.0930 ppb	00:15:49
2	Tl 190.801†	-39.1	3.8	1.0872 ug/L	1.0872 ppb	00:16:09
2	U 409.014†	-4574.2	364.3	10.757 ug/L	10.757 ppb	00:15:49
2	V 292.402†	-1651.3	37.8	0.2725 ug/L	0.2725 ppb	00:15:49
2	Zn 213.857†	771.8	92.1	0.7818 ug/L	0.7818 ppb	00:16:09
2	SiO2†	586.4	46.6	2.9648 ug/L	2.9648 ppb	00:16:45
3	Sc Radial	4355.3	4355.3	106 %		00:14:57
3	Y RADIAL	4897.4	4897.4	101.2 %		00:14:57
3	Al 396.153Radial†	-207.5	-6.5	-5.3591 ug/L	-5.3591 ppb	00:14:57
3	Ca 317.933Radial†	19.5	5.1	9.5319 ug/L	9.5319 ppb	00:15:17
3	Fe 238.204 Radial†	13.5	2.6	30.594 ug/L	30.594 ppb	00:15:17
3	K 766.490 Radial†	2952.7	172.6	32.829 ug/L	32.829 ppb	00:14:57
3	Mg 279.077 IEC†	1.8	1.7	73.134 ug/L	73.134 ppb	00:15:17
3	Na 589.592 Radial†	-1578.8	156.8	48.318 ug/L	48.318 ppb	00:14:57
3	Sr 421.552†	23.5	-14.2	-0.0938 ug/L	-0.0938 ppb	00:14:57
3	Sc 361.383	848400.1	848400.1	95.237 %		00:16:14
3	Y 371.029	691540.6	691540.6	94.184 %		00:16:14
3	Ag 328.068†	429.1	-174.0	-0.7655 ug/L	-0.7655 ppb	00:16:14
3	As 188.979†	-30.9	-3.7	-1.4143 ug/L	-1.4143 ppb	00:16:34
3	B 249.677†	-592.5	138.9	2.9010 ug/L	2.9010 ppb	00:16:34
3	Ba 233.527†	2.4	17.8	0.1319 ug/L	0.1319 ppb	00:16:34
3	Be 313.107†	-4085.9	112.8	0.0383 ug/L	0.0383 ppb	00:16:14
3	Cd 226.502†	-192.6	1.9	0.0196 ug/L	0.0196 ppb	00:16:34
3	Co 228.616†	-95.5	-15.1	-0.2800 ug/L	-0.2800 ppb	00:16:34
3	Cr 267.716†	112.0	55.8	0.5678 ug/L	0.5678 ppb	00:16:14
3	Cu 324.752†	6849.8	305.5	0.8412 ug/L	0.8412 ppb	00:16:14
3	Mn 257.610†	529.5	24.2	0.0243 ug/L	0.0243 ppb	00:16:14
3	Mo 202.031†	6.4	1.5	0.0989 ug/L	0.0989 ppb	00:16:34
3	Ni 231.604†	71.3	-10.3	-0.2298 ug/L	-0.2298 ppb	00:16:34
3	P 214.914†	230.1	18.3	9.2895 ug/L	9.2895 ppb	00:16:34
3	Pb 220.353†	-60.8	15.8	1.6886 ug/L	1.6886 ppb	00:16:34
3	S 181.975 Axial†	52.5	6.3	7.6715 ug/L	7.6715 ppb	00:16:34
3	Sb 206.836†	41.5	5.1	1.5487 ug/L	1.5487 ppb	00:16:34
3	Se 196.026†	-35.8	-11.6	-6.3537 ug/L	-6.3537 ppb	00:16:34
3	Si 251.611†	545.1	36.7	1.0905 ug/L	1.0905 ppb	00:16:34
3	Sn 189.927†	0.6	-8.8	-1.4124 ug/L	-1.4124 ppb	00:16:34
3	Ti 334.940†	-1582.7	142.5	0.1999 ug/L	0.1999 ppb	00:16:14
3	Tl 190.801†	-43.7	-1.5	-0.4137 ug/L	-0.4137 ppb	00:16:34
3	U 409.014†	-4275.9	623.4	18.408 ug/L	18.408 ppb	00:16:14
3	V 292.402†	-1633.5	37.0	0.2790 ug/L	0.2790 ppb	00:16:14
3	Zn 213.857†	780.1	110.0	0.9309 ug/L	0.9309 ppb	00:16:34
3	SiO2†	645.8	115.8	7.3844 ug/L	7.3844 ppb	00:16:50

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	857036.6	96.207 %	0.9167			0.95%
Sc Radial	4377.3	106 %	0.7			0.63%
Y 371.029	698189.0	95.089 %	0.8401			0.88%
Y RADIAL	4911.5	101.4 %	0.69			0.68%
Ag 328.068†	-162.1	-0.7106 ug/L	0.33981	-0.7106 ppb	0.33981	47.82%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-0.9	-0.7525 ug/L	4.15040	-0.7525 ppb	4.15040	551.54%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.5	-0.5724 ug/L	0.73015	-0.5724 ppb	0.73015	127.55%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	136.8	2.8574 ug/L	0.14762	2.8574 ppb	0.14762	5.17%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.7	0.0066 ug/L	0.15900	0.0066 ppb	0.15900	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	155.7	0.0527 ug/L	0.01260	0.0527 ppb	0.01260	23.92%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.7	3.1493 ug/L	5.94971	3.1493 ppb	5.94971	188.92%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	3.8	0.0385 ug/L	0.02199	0.0385 ppb	0.02199	57.17%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-17.4	-0.3214 ug/L	0.08185	-0.3214 ppb	0.08185	25.47%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	58.7	0.5993 ug/L	0.03783	0.5993 ppb	0.03783	6.31%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	357.8	0.9889 ug/L	0.27401	0.9889 ppb	0.27401	27.71%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	2.5	29.448 ug/L	7.0513	29.448 ppb	7.0513	23.94%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	88.6	16.839 ug/L	16.9895	16.839 ppb	16.9895	100.90%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.3	55.534 ug/L	26.8630	55.534 ppb	26.8630	48.37%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	148.9	0.1500 ug/L	0.13111	0.1500 ppb	0.13111	87.39%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-0.1	-0.0070 ug/L	0.24921	-0.0070 ppb	0.24921	>999.9%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	163.7	50.444 ug/L	7.2096	50.444 ppb	7.2096	14.29%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-9.9	-0.2193 ug/L	0.32880	-0.2193 ppb	0.32880	149.93%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	17.9	9.0785 ug/L	0.35113	9.0785 ppb	0.35113	3.87%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	12.4	1.3267 ug/L	0.33553	1.3267 ppb	0.33553	25.29%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	4.3	5.2247 ug/L	2.90803	5.2247 ppb	2.90803	55.66%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	8.0	2.4564 ug/L	3.30304	2.4564 ppb	3.30304	134.47%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-5.7	-3.0529 ug/L	3.13664	-3.0529 ppb	3.13664	102.74%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	40.1	1.1926 ug/L	0.11017	1.1926 ppb	0.11017	9.24%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	3.7	0.5952 ug/L	1.86514	0.5952 ppb	1.86514	313.35%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-1.5	-0.0098 ug/L	0.07280	-0.0098 ppb	0.07280	741.13%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	132.7	0.1877 ug/L	0.08921	0.1877 ppb	0.08921	47.52%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.3	0.3753 ug/L	0.75341	0.3753 ppb	0.75341	200.74%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	483.6	14.279 ug/L	3.8619	14.279 ppb	3.8619	27.05%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	36.4	0.2660 ug/L	0.01724	0.2660 ppb	0.01724	6.48%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	100.4	0.8487 ug/L	0.07570	0.8487 ppb	0.07570	8.92%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	62.5	3.9886 ug/L	3.01715	3.9886 ppb	3.01715	75.64%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 64

Sample ID: 1202018099|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 87

Date Collected: 2/2/2010 00:18:59

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018099|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4518.9	4518.9	110 %		00:20:53
1	Y RADIAL	5076.7	5076.7	104.9 %		00:20:53
1	Al 396.153Radial†	-179.2	26.5	21.844 ug/L	21.844 ppb	00:20:53
1	Ca 317.933Radial†	32.2	16.1	29.729 ug/L	29.729 ppb	00:21:13
1	Fe 238.204 Radial†	43.0	29.1	338.24 ug/L	338.24 ppb	00:21:13
1	K 766.490 Radial†	2970.9	88.0	16.703 ug/L	16.703 ppb	00:20:53
1	Mg 279.077 IEC†	1.4	1.3	55.454 ug/L	55.454 ppb	00:21:13
1	Na 589.592 Radial†	-1470.8	309.5	95.379 ug/L	95.379 ppb	00:20:53
1	Sr 421.552†	35.7	-3.9	-0.0257 ug/L	-0.0257 ppb	00:20:53
1	Sc 361.383	850902.1	850902.1	95.518 %		00:22:10
1	Y 371.029	693025.2	693025.2	94.386 %		00:22:10
1	Ag 328.068†	305.5	-304.7	-1.2410 ug/L	-1.2410 ppb	00:22:10
1	As 188.979†	-29.0	-1.6	-0.5443 ug/L	-0.5443 ppb	00:22:30
1	B 249.677†	-606.3	126.4	2.5877 ug/L	2.5877 ppb	00:22:30
1	Ba 233.527†	5.6	21.1	0.1654 ug/L	0.1654 ppb	00:22:30
1	Be 313.107†	-4095.4	115.5	0.0411 ug/L	0.0411 ppb	00:22:10
1	Cd 226.502†	-186.6	8.7	0.0614 ug/L	0.0614 ppb	00:22:30
1	Co 228.616†	-83.8	-2.6	-0.0532 ug/L	-0.0532 ppb	00:22:30
1	Cr 267.716†	119.0	62.7	0.6438 ug/L	0.6438 ppb	00:22:10
1	Cu 324.752†	7186.9	637.3	1.7780 ug/L	1.7780 ppb	00:22:10
1	Mn 257.610†	3373.5	3000.0	3.0412 ug/L	3.0412 ppb	00:22:10
1	Mo 202.031†	17.7	13.3	0.9077 ug/L	0.9077 ppb	00:22:30
1	Ni 231.604†	195.4	119.4	2.6600 ug/L	2.6600 ppb	00:22:30
1	P 214.914†	243.2	31.4	20.169 ug/L	20.169 ppb	00:22:30
1	Pb 220.353†	-69.4	7.0	0.7199 ug/L	0.7199 ppb	00:22:30
1	S 181.975 Axial†	47.8	1.2	1.4498 ug/L	1.4498 ppb	00:22:30
1	Sb 206.836†	20.4	-17.0	2.2658 ug/L	2.2658 ppb	00:22:30
1	Se 196.026†	-34.8	-10.5	-4.6742 ug/L	-4.6742 ppb	00:22:30
1	Si 251.611†	1182.6	702.3	20.895 ug/L	20.895 ppb	00:22:30
1	Sn 189.927†	2850.3	2974.6	480.55 ug/L	480.55 ppb	00:22:30
1	Ti 334.940†	-1068.1	686.2	1.0145 ug/L	1.0145 ppb	00:22:10
1	Tl 190.801†	-39.1	3.5	1.0174 ug/L	1.0174 ppb	00:22:30
1	U 409.014†	-4154.1	764.1	22.531 ug/L	22.531 ppb	00:22:10
1	V 292.402†	-1631.2	44.5	0.3021 ug/L	0.3021 ppb	00:22:10
1	Zn 213.857†	949.9	285.3	2.3685 ug/L	2.3685 ppb	00:22:30
1	SiO2†	1269.9	767.2	48.901 ug/L	48.901 ppb	00:23:26
2	Sc Radial	4380.6	4380.6	106 %		00:21:18
2	Y RADIAL	4900.3	4900.3	101.2 %		00:21:18
2	Al 396.153Radial†	-169.6	30.4	25.003 ug/L	25.003 ppb	00:21:18
2	Ca 317.933Radial†	29.6	14.5	26.846 ug/L	26.846 ppb	00:21:38
2	Fe 238.204 Radial†	42.6	30.0	348.59 ug/L	348.59 ppb	00:21:38
2	K 766.490 Radial†	2939.1	143.6	27.290 ug/L	27.290 ppb	00:21:18
2	Mg 279.077 IEC†	2.1	2.1	86.620 ug/L	86.620 ppb	00:21:38
2	Na 589.592 Radial†	-1454.8	282.2	86.969 ug/L	86.969 ppb	00:21:18
2	Sr 421.552†	41.0	2.1	0.0139 ug/L	0.0139 ppb	00:21:18
2	Sc 361.383	847817.6	847817.6	95.172 %		00:22:35
2	Y 371.029	691221.3	691221.3	94.140 %		00:22:35
2	Ag 328.068†	342.0	-265.1	-1.0620 ug/L	-1.0620 ppb	00:22:35
2	As 188.979†	-26.0	1.4	0.6269 ug/L	0.6269 ppb	00:22:55
2	B 249.677†	-598.2	132.5	2.7144 ug/L	2.7144 ppb	00:22:55
2	Ba 233.527†	73.1	92.1	0.6852 ug/L	0.6852 ppb	00:22:55
2	Be 313.107†	-4087.0	108.8	0.0388 ug/L	0.0388 ppb	00:22:35
2	Cd 226.502†	-181.9	13.0	0.1038 ug/L	0.1038 ppb	00:22:55
2	Co 228.616†	-75.8	5.5	0.0973 ug/L	0.0973 ppb	00:22:55
2	Cr 267.716†	213.4	162.4	1.6714 ug/L	1.6714 ppb	00:22:35
2	Cu 324.752†	7189.0	666.8	1.8616 ug/L	1.8616 ppb	00:22:35
2	Mn 257.610†	3262.1	2895.8	2.9363 ug/L	2.9363 ppb	00:22:35
2	Mo 202.031†	22.7	18.6	1.2625 ug/L	1.2625 ppb	00:22:55
2	Ni 231.604†	213.6	139.3	3.1034 ug/L	3.1034 ppb	00:22:55

2	P 214.914†	230.6	19.0	13.780 ug/L	13.780 ppb	00:22:55
2	Pb 220.353†	-66.7	9.6	1.0022 ug/L	1.0022 ppb	00:22:55
2	S 181.975 Axial†	54.7	8.6	10.526 ug/L	10.526 ppb	00:22:55
2	Sb 206.836†	28.8	-8.1	5.0764 ug/L	5.0764 ppb	00:22:55
2	Se 196.026†	-34.7	-10.5	-4.6345 ug/L	-4.6345 ppb	00:22:55
2	Si 251.611†	1860.2	1418.8	42.216 ug/L	42.216 ppb	00:22:55
2	Sn 189.927†	2870.6	3006.8	485.75 ug/L	485.75 ppb	00:22:55
2	Ti 334.940†	-1055.1	695.8	1.0263 ug/L	1.0263 ppb	00:22:35
2	Tl 190.801†	-43.1	-0.8	-0.2138 ug/L	-0.2138 ppb	00:22:55
2	U 409.014†	-4195.5	704.7	20.774 ug/L	20.774 ppb	00:22:35
2	V 292.402†	-1584.1	87.7	0.5899 ug/L	0.5899 ppb	00:22:35
2	Zn 213.857†	1149.0	498.2	4.1707 ug/L	4.1707 ppb	00:22:55
2	SiO2†	1188.0	686.0	43.713 ug/L	43.713 ppb	00:23:31
3	Sc Radial	4331.1	4331.1	105 %		00:21:43
3	Y RADIAL	4864.5	4864.5	100.5 %		00:21:43
3	Al 396.153Radial†	-179.6	19.0	15.731 ug/L	15.731 ppb	00:21:43
3	Ca 317.933Radial†	34.5	19.5	36.069 ug/L	36.069 ppb	00:22:03
3	Fe 238.204 Radial†	41.3	29.3	340.11 ug/L	340.11 ppb	00:22:03
3	K 766.490 Radial†	2961.0	196.2	37.295 ug/L	37.295 ppb	00:21:43
3	Mg 279.077 IEC†	3.8	3.6	153.30 ug/L	153.30 ppb	00:22:03
3	Na 589.592 Radial†	-1473.8	248.4	76.554 ug/L	76.554 ppb	00:21:43
3	Sr 421.552†	56.7	17.6	0.1159 ug/L	0.1159 ppb	00:21:43
3	Sc 361.383	805350.9	805350.9	90.405 %		00:23:01
3	Y 371.029	657213.0	657213.0	89.508 %		00:23:01
3	Ag 328.068†	303.7	-288.5	-1.1615 ug/L	-1.1615 ppb	00:23:01
3	As 188.979†	-25.7	0.3	0.1895 ug/L	0.1895 ppb	00:23:21
3	B 249.677†	-597.1	100.6	2.0487 ug/L	2.0487 ppb	00:23:21
3	Ba 233.527†	19.1	36.4	0.2758 ug/L	0.2758 ppb	00:23:21
3	Be 313.107†	-4134.3	-170.1	-0.0551 ug/L	-0.0551 ppb	00:23:01
3	Cd 226.502†	-182.1	2.7	-0.0038 ug/L	-0.0038 ppb	00:23:21
3	Co 228.616†	-83.7	-7.4	-0.1441 ug/L	-0.1441 ppb	00:23:21
3	Cr 267.716†	152.7	107.1	1.1045 ug/L	1.1045 ppb	00:23:01
3	Cu 324.752†	7170.1	1044.2	2.9169 ug/L	2.9169 ppb	00:23:01
3	Mn 257.610†	3363.9	3189.2	3.2271 ug/L	3.2271 ppb	00:23:01
3	Mo 202.031†	3.5	-1.4	-0.0660 ug/L	-0.0660 ppb	00:23:21
3	Ni 231.604†	204.6	141.2	3.1459 ug/L	3.1459 ppb	00:23:21
3	P 214.914†	244.3	46.9	28.348 ug/L	28.348 ppb	00:23:21
3	Pb 220.353†	-73.9	-2.1	-0.2545 ug/L	-0.2545 ppb	00:23:21
3	S 181.975 Axial†	55.2	12.2	14.921 ug/L	14.921 ppb	00:23:21
3	Sb 206.836†	20.2	-16.1	3.0579 ug/L	3.0579 ppb	00:23:21
3	Se 196.026†	-38.0	-16.1	-7.7814 ug/L	-7.7814 ppb	00:23:21
3	Si 251.611†	1193.8	784.8	23.361 ug/L	23.361 ppb	00:23:21
3	Sn 189.927†	2885.2	3182.0	514.06 ug/L	514.06 ppb	00:23:21
3	Ti 334.940†	-1120.2	565.3	0.8322 ug/L	0.8322 ppb	00:23:01
3	Tl 190.801†	-46.3	-6.7	-1.8714 ug/L	-1.8714 ppb	00:23:21
3	U 409.014†	-4318.7	336.0	9.8845 ug/L	9.8845 ppb	00:23:01
3	V 292.402†	-1609.4	-28.0	-0.2165 ug/L	-0.2165 ppb	00:23:01
3	Zn 213.857†	959.7	352.4	2.9330 ug/L	2.9330 ppb	00:23:21
3	SiO2†	1251.3	821.8	52.409 ug/L	52.409 ppb	00:23:36

Mean Data: 1202018099|942648|1

Analyte	Mean Corrected	Conc.	Calib.	Std.Dev.	Sample	Std.Dev.	RSD
	Intensity	Units			Conc. Units		
Sc 361.383	834690.2	93.698 %		2.8575			3.05%
Sc Radial	4410.2	107 %		2.4			2.21%
Y 371.029	680486.5	92.678 %		2.7478			2.96%
Y RADIAL	4947.1	102.2 %		2.35			2.30%
Ag 328.068†	-286.1	-1.1548 ug/L		0.08968	-1.1548 ppb	0.08968	7.77%
Al 396.153Radial†	25.3	20.859 ug/L		4.7140	20.859 ppb	4.7140	22.60%
As 188.979†	0.0	0.0907 ug/L		0.59180	0.0907 ppb	0.59180	652.30%
B 249.677†	119.8	2.4503 ug/L		0.35346	2.4503 ppb	0.35346	14.43%
Ba 233.527†	49.9	0.3754 ug/L		0.27386	0.3754 ppb	0.27386	72.94%
Be 313.107†	18.0	0.0083 ug/L		0.05492	0.0083 ppb	0.05492	665.15%
Ca 317.933Radial†	16.7	30.881 ug/L		4.7183	30.881 ppb	4.7183	15.28%
Cd 226.502†	8.1	0.0538 ug/L		0.05416	0.0538 ppb	0.05416	100.66%
Co 228.616†	-1.5	-0.0333 ug/L		0.12192	-0.0333 ppb	0.12192	365.75%
Cr 267.716†	110.7	1.1399 ug/L		0.51472	1.1399 ppb	0.51472	45.16%
Cu 324.752†	782.8	2.1855 ug/L		0.63482	2.1855 ppb	0.63482	29.05%
Fe 238.204 Radial†	29.5	342.32 ug/L		5.516	342.32 ppb	5.516	1.61%
K 766.490 Radial†	142.6	27.096 ug/L		10.2975	27.096 ppb	10.2975	38.00%

Mg 279.077 IEC†	2.3	98.457 ug/L	49.9837	98.457 ppb	49.9837	50.77%
Mn 257.610†	3028.3	3.0682 ug/L	0.14727	3.0682 ppb	0.14727	4.80%
Mo 202.031†	10.1	0.7014 ug/L	0.68782	0.7014 ppb	0.68782	98.06%
Na 589.592 Radial†	280.1	86.301 ug/L	9.4300	86.301 ppb	9.4300	10.93%
Ni 231.604†	133.3	2.9698 ug/L	0.26910	2.9698 ppb	0.26910	9.06%
P 214.914†	32.4	20.766 ug/L	7.3023	20.766 ppb	7.3023	35.16%
Pb 220.353†	4.8	0.4892 ug/L	0.65935	0.4892 ppb	0.65935	134.78%
S 181.975 Axial†	7.3	8.9655 ug/L	6.86967	8.9655 ppb	6.86967	76.62%
Sb 206.836†	-13.8	3.4667 ug/L	1.44924	3.4667 ppb	1.44924	41.80%
Se 196.026†	-12.3	-5.6967 ug/L	1.80552	-5.6967 ppb	1.80552	31.69%
Si 251.611†	968.6	28.824 ug/L	11.6634	28.824 ppb	11.6634	40.46%
Sn 189.927†	3054.5	493.46 ug/L	18.035	493.46 ppb	18.035	3.65%
Sr 421.552†	5.3	0.0347 ug/L	0.07306	0.0347 ppb	0.07306	210.45%
Ti 334.940†	649.1	0.9577 ug/L	0.10883	0.9577 ppb	0.10883	11.36%
Tl 190.801†	-1.3	-0.3559 ug/L	1.44964	-0.3559 ppb	1.44964	407.30%
U 409.014†	601.6	17.730 ug/L	6.8508	17.730 ppb	6.8508	38.64%
V 292.402†	34.7	0.2252 ug/L	0.40871	0.2252 ppb	0.40871	181.52%
Zn 213.857†	378.6	3.1574 ug/L	0.92182	3.1574 ppb	0.92182	29.20%
SiO2†	758.3	48.341 ug/L	4.3749	48.341 ppb	4.3749	9.05%

Sequence No.: 65

Sample ID: 1202018100|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 88

Date Collected: 2/2/2010 00:25:48

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018100|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4473.6	4473.6	108 %		00:28:01
1	Y RADIAL	5426.9	5426.9	112.1 %		00:28:01
1	Al 396.153Radial†	104053.5	96146.8	79360 ug/L	79360 ppb	00:27:41
1	Ca 317.933Radial†	60400.5	55687.1	103080 ug/L	103080 ppb	00:27:41
1	Fe 238.204 Radial†	15911.9	14663.6	170440 ug/L	170440 ppb	00:27:41
1	K 766.490 Radial†	224669.3	204562.6	38896 ug/L	38896 ppb	00:27:41
1	Mg 279.077 IEC†	978.7	902.6	37861 ug/L	37861 ppb	00:28:01
1	Na 589.592 Radial†	39189.5	37792.3	11646 ug/L	11646 ppb	00:27:41
1	Sr 421.552†	406538.1	374867.3	2474.3 ug/L	2474.3 ppb	00:27:41
1	Sc 361.383	859234.6	859234.6	96.454 %		00:29:03
1	Y 371.029	748643.6	748643.6	101.96 %		00:29:03
1	Ag 328.068†	57035.0	58507.5	314.82 ug/L	314.82 ppb	00:29:03
1	As 188.979†	2485.9	2606.1	1084.6 ug/L	1084.6 ppb	00:29:08
1	B 249.677†	72546.8	75975.2	1557.9 ug/L	1557.9 ppb	00:29:03
1	Ba 233.527†	242696.3	251634.7	1847.1 ug/L	1847.1 ppb	00:29:03
1	Be 313.107†	2384529.0	2476603.1	842.76 ug/L	842.76 ppb	00:29:03
1	Cd 226.502†	63701.3	66247.5	667.43 ug/L	667.43 ppb	00:29:08
1	Co 228.616†	53660.1	55718.2	1014.7 ug/L	1014.7 ppb	00:29:08
1	Cr 267.716†	252051.0	261256.2	2694.6 ug/L	2694.6 ppb	00:29:03
1	Cu 324.752†	704413.1	723425.1	2021.2 ug/L	2021.2 ppb	00:29:03
1	Mn 257.610†	5258632.7	5451443.0	5484.9 ug/L	5484.9 ppb	00:29:03
1	Mo 202.031†	8024.7	8314.5	567.03 ug/L	567.03 ppb	00:29:08
1	Ni 231.604†	67351.0	69742.1	1553.4 ug/L	1553.4 ppb	00:29:03
1	P 214.914†	15197.8	15533.3	7557.3 ug/L	7557.3 ppb	00:29:08
1	Pb 220.353†	7004.8	7342.0	790.55 ug/L	790.55 ppb	00:29:08
1	S 181.975 Axial†	3392.1	3467.9	4221.6 ug/L	4221.6 ppb	00:29:08
1	Sb 206.836†	4869.8	5010.4	1546.7 ug/L	1546.7 ppb	00:29:08
1	Se 196.026†	4698.9	4897.7	3285.0 ug/L	3285.0 ppb	00:29:08
1	Si 251.611†	868187.6	899572.2	26770 ug/L	26770 ppb	00:29:03
1	Sn 189.927†	5889.4	6096.6	1003.4 ug/L	1003.4 ppb	00:29:08
1	Ti 334.940†	3362008.2	3487422.3	5220.6 ug/L	5220.6 ppb	00:29:03
1	Tl 190.801†	3970.6	4161.1	1236.5 ug/L	1236.5 ppb	00:29:08
1	U 409.014†	-8974.5	-4191.3	-149.25 ug/L	-149.25 ppb	00:29:03
1	V 292.402†	176438.6	184677.8	1205.6 ug/L	1205.6 ppb	00:29:03
1	Zn 213.857†	710177.4	735579.2	6211.7 ug/L	6211.7 ppb	00:29:03
1	SiO2†	872921.0	904453.1	57661 ug/L	57661 ppb	00:29:43
2	Sc Radial	4498.3	4498.3	109 %		00:28:26
2	Y RADIAL	5434.9	5434.9	112.3 %		00:28:26
2	Al 396.153Radial†	104933.0	96425.9	79591 ug/L	79591 ppb	00:28:06
2	Ca 317.933Radial†	60858.9	55801.3	103300 ug/L	103300 ppb	00:28:06
2	Fe 238.204 Radial†	16031.0	14692.2	170770 ug/L	170770 ppb	00:28:06
2	K 766.490 Radial†	226170.5	204800.5	38941 ug/L	38941 ppb	00:28:06
2	Mg 279.077 IEC†	981.0	899.7	37739 ug/L	37739 ppb	00:28:26
2	Na 589.592 Radial†	39796.8	38150.5	11756 ug/L	11756 ppb	00:28:06
2	Sr 421.552†	410756.9	376675.6	2486.3 ug/L	2486.3 ppb	00:28:06
2	Sc 361.383	859312.5	859312.5	96.462 %		00:29:17
2	Y 371.029	748196.5	748196.5	101.90 %		00:29:17
2	Ag 328.068†	57082.1	58550.9	315.12 ug/L	315.12 ppb	00:29:17
2	As 188.979†	2481.6	2601.3	1082.9 ug/L	1082.9 ppb	00:29:22
2	B 249.677†	72588.4	76011.5	1558.6 ug/L	1558.6 ppb	00:29:17
2	Ba 233.527†	243119.6	252050.7	1850.2 ug/L	1850.2 ppb	00:29:17
2	Be 313.107†	2387304.6	2479256.4	843.66 ug/L	843.66 ppb	00:29:17
2	Cd 226.502†	63376.6	65904.9	663.86 ug/L	663.86 ppb	00:29:22
2	Co 228.616†	53466.8	55512.7	1010.9 ug/L	1010.9 ppb	00:29:22
2	Cr 267.716†	252236.7	261425.1	2696.4 ug/L	2696.4 ppb	00:29:17
2	Cu 324.752†	704134.9	723070.6	2020.3 ug/L	2020.3 ppb	00:29:17
2	Mn 257.610†	5269912.9	5462642.6	5496.2 ug/L	5496.2 ppb	00:29:17
2	Mo 202.031†	7942.0	8228.0	561.31 ug/L	561.31 ppb	00:29:22
2	Ni 231.604†	67458.6	69847.3	1555.8 ug/L	1555.8 ppb	00:29:17

2	P 214.914†	15104.6	15435.2	7506.3 ug/L	7506.3 ppb	00:29:22
2	Pb 220.353†	6922.6	7256.1	781.34 ug/L	781.34 ppb	00:29:22
2	S 181.975 Axial†	3370.5	3445.3	4193.9 ug/L	4193.9 ppb	00:29:22
2	Sb 206.836†	4840.7	4979.8	1537.2 ug/L	1537.2 ppb	00:29:22
2	Se 196.026†	4666.9	4864.0	3267.4 ug/L	3267.4 ppb	00:29:22
2	Si 251.611†	868450.0	899762.6	26776 ug/L	26776 ppb	00:29:17
2	Sn 189.927†	5882.9	6089.3	1002.3 ug/L	1002.3 ppb	00:29:22
2	Ti 334.940†	3365129.4	3490341.9	5225.0 ug/L	5225.0 ppb	00:29:17
2	Tl 190.801†	3960.4	4150.1	1233.5 ug/L	1233.5 ppb	00:29:22
2	U 409.014†	-8986.2	-4202.6	-149.63 ug/L	-149.63 ppb	00:29:17
2	V 292.402†	176572.8	184800.4	1206.3 ug/L	1206.3 ppb	00:29:17
2	Zn 213.857†	711060.3	736427.6	6218.8 ug/L	6218.8 ppb	00:29:17
2	SiO2†	879353.1	911039.0	58082 ug/L	58082 ppb	00:29:49
3	Sc Radial	4522.2	4522.2	110 %		00:28:51
3	Y RADIAL	5470.3	5470.3	113.0 %		00:28:51
3	Al 396.153Radial†	104735.1	95737.6	79023 ug/L	79023 ppb	00:28:31
3	Ca 317.933Radial†	60791.1	55445.1	102640 ug/L	102640 ppb	00:28:31
3	Fe 238.204 Radial†	16024.6	14608.8	169800 ug/L	169800 ppb	00:28:31
3	K 766.490 Radial†	225764.3	203335.5	38662 ug/L	38662 ppb	00:28:31
3	Mg 279.077 IEC†	987.8	901.2	37803 ug/L	37803 ppb	00:28:51
3	Na 589.592 Radial†	39672.1	37844.2	11662 ug/L	11662 ppb	00:28:31
3	Sr 421.552†	410349.8	374316.6	2470.7 ug/L	2470.7 ppb	00:28:31
3	Sc 361.383	862106.0	862106.0	96.776 %		00:29:32
3	Y 371.029	749907.9	749907.9	102.13 %		00:29:32
3	Ag 328.068†	57095.3	58372.8	314.03 ug/L	314.03 ppb	00:29:32
3	As 188.979†	2417.5	2526.8	1054.1 ug/L	1054.1 ppb	00:29:37
3	B 249.677†	72848.8	76036.7	1559.4 ug/L	1559.4 ppb	00:29:32
3	Ba 233.527†	244220.9	252372.1	1852.5 ug/L	1852.5 ppb	00:29:32
3	Be 313.107†	2394038.9	2478195.6	843.32 ug/L	843.32 ppb	00:29:32
3	Cd 226.502†	62394.1	64676.8	651.28 ug/L	651.28 ppb	00:29:37
3	Co 228.616†	52531.0	54366.2	989.74 ug/L	989.74 ppb	00:29:37
3	Cr 267.716†	252974.6	261340.3	2695.5 ug/L	2695.5 ppb	00:29:32
3	Cu 324.752†	707256.7	723931.0	2022.6 ug/L	2022.6 ppb	00:29:32
3	Mn 257.610†	5290429.4	5466140.1	5499.6 ug/L	5499.6 ppb	00:29:32
3	Mo 202.031†	7869.6	8126.5	554.48 ug/L	554.48 ppb	00:29:37
3	Ni 231.604†	67701.1	69871.3	1556.3 ug/L	1556.3 ppb	00:29:32
3	P 214.914†	14820.2	15090.6	7327.3 ug/L	7327.3 ppb	00:29:37
3	Pb 220.353†	6865.4	7173.7	772.45 ug/L	772.45 ppb	00:29:37
3	S 181.975 Axial†	3288.1	3348.8	4076.1 ug/L	4076.1 ppb	00:29:37
3	Sb 206.836†	4783.7	4904.6	1513.7 ug/L	1513.7 ppb	00:29:37
3	Se 196.026†	4595.2	4774.3	3214.4 ug/L	3214.4 ppb	00:29:37
3	Si 251.611†	872681.5	901217.8	26819 ug/L	26819 ppb	00:29:32
3	Sn 189.927†	5744.6	5926.5	975.88 ug/L	975.88 ppb	00:29:37
3	Ti 334.940†	3378658.0	3493017.1	5228.9 ug/L	5228.9 ppb	00:29:32
3	Tl 190.801†	3846.8	4019.4	1196.8 ug/L	1196.8 ppb	00:29:37
3	U 409.014†	-8773.7	-3952.9	-142.14 ug/L	-142.14 ppb	00:29:32
3	V 292.402†	177156.5	184810.4	1206.4 ug/L	1206.4 ppb	00:29:32
3	Zn 213.857†	713774.9	736844.1	6222.5 ug/L	6222.5 ppb	00:29:32
3	SiO2†	871649.4	900124.8	57386 ug/L	57386 ppb	00:29:55

Mean Data: 1202018100|942648|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	860217.7	96.564 %	%	0.1836			0.19%
Sc Radial	4498.0	109 %	%	0.6			0.54%
Y 371.029	748916.0	102.00 %	%	0.121			0.12%
Y RADIAL	5444.0	112.4 %	%	0.48			0.42%
Ag 328.068†	58477.1	314.65 ug/L	ug/L	0.563	314.65 ppb	0.563	0.18%
Al 396.153Radial†	96103.4	79324 ug/L	ug/L	285.6	79324 ppb	285.6	0.36%
As 188.979†	2578.1	1073.9 ug/L	ug/L	17.14	1073.9 ppb	17.14	1.60%
B 249.677†	76007.8	1558.6 ug/L	ug/L	0.73	1558.6 ppb	0.73	0.05%
Ba 233.527†	252019.2	1849.9 ug/L	ug/L	2.69	1849.9 ppb	2.69	0.15%
Be 313.107†	2478018.4	843.25 ug/L	ug/L	0.454	843.25 ppb	0.454	0.05%
Ca 317.933Radial†	55644.5	103010 ug/L	ug/L	336.8	103010 ppb	336.8	0.33%
Cd 226.502†	65609.7	660.86 ug/L	ug/L	8.483	660.86 ppb	8.483	1.28%
Co 228.616†	55199.0	1005.1 ug/L	ug/L	13.44	1005.1 ppb	13.44	1.34%
Cr 267.716†	261340.5	2695.5 ug/L	ug/L	0.87	2695.5 ppb	0.87	0.03%
Cu 324.752†	723475.6	2021.4 ug/L	ug/L	1.17	2021.4 ppb	1.17	0.06%
Fe 238.204 Radial†	14654.9	170340 ug/L	ug/L	492.6	170340 ppb	492.6	0.29%
K 766.490 Radial†	204232.8	38833 ug/L	ug/L	149.5	38833 ppb	149.5	0.39%

Mg 279.077 IEC†	901.2	37801 ug/L	61.0	37801 ppb	61.0	0.16%
Mn 257.610†	5460075.3	5493.6 ug/L	7.69	5493.6 ppb	7.69	0.14%
Mo 202.031†	8223.0	560.94 ug/L	6.283	560.94 ppb	6.283	1.12%
Na 589.592 Radial†	37929.0	11688 ug/L	59.7	11688 ppb	59.7	0.51%
Ni 231.604†	69820.3	1555.2 ug/L	1.54	1555.2 ppb	1.54	0.10%
P 214.914†	15353.0	7463.6 ug/L	120.77	7463.6 ppb	120.77	1.62%
Pb 220.353†	7257.2	781.45 ug/L	9.053	781.45 ppb	9.053	1.16%
S 181.975 Axial†	3420.7	4163.9 ug/L	77.24	4163.9 ppb	77.24	1.86%
Sb 206.836†	4965.0	1532.6 ug/L	17.00	1532.6 ppb	17.00	1.11%
Se 196.026†	4845.3	3255.6 ug/L	36.74	3255.6 ppb	36.74	1.13%
Si 251.611†	900184.2	26788 ug/L	26.9	26788 ppb	26.9	0.10%
Sn 189.927†	6037.4	993.86 ug/L	15.585	993.86 ppb	15.585	1.57%
Sr 421.552†	375286.5	2477.1 ug/L	8.15	2477.1 ppb	8.15	0.33%
Ti 334.940†	3490260.4	5224.8 ug/L	4.15	5224.8 ppb	4.15	0.08%
Tl 190.801†	4110.2	1222.3 ug/L	22.12	1222.3 ppb	22.12	1.81%
U 409.014†	-4115.6	-147.01 ug/L	4.220	-147.01 ppb	4.220	2.87%
V 292.402†	184762.8	1206.1 ug/L	0.43	1206.1 ppb	0.43	0.04%
Zn 213.857†	736283.6	6217.7 ug/L	5.48	6217.7 ppb	5.48	0.09%
SiO2†	905205.6	57710 ug/L	350.4	57710 ppb	350.4	0.61%



Sequence No.: 72

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 2/2/2010 01:14:53

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4094.6	4094.6	99.2 %		01:17:04
1	Y RADIAL	4418.1	4418.1	91.26 %		01:16:44
1	Al 396.153Radial†	6068.6	6304.6	5181.3 ug/L	5181.3 ppb	01:16:44
1	Ca 317.933Radial†	2899.9	2908.5	5384.0 ug/L	5384.0 ppb	01:17:04
1	Fe 238.204 Radial†	479.6	473.1	5512.8 ug/L	5512.8 ppb	01:17:04
1	K 766.490 Radial†	29889.6	27491.1	5226.0 ug/L	5226.0 ppb	01:16:44
1	Mg 279.077 IEC†	131.4	132.4	5579.7 ug/L	5579.7 ppb	01:17:04
1	Na 589.592 Radial†	33169.4	35072.3	10808 ug/L	10808 ppb	01:16:44
1	Sr 421.552†	79840.3	80407.2	530.86 ug/L	530.86 ppb	01:16:44
1	Sc 361.383	856586.7	856586.7	96.156 %		01:18:03
1	Y 371.029	685706.3	685706.3	93.389 %		01:18:03
1	Ag 328.068†	109313.5	113058.4	497.92 ug/L	497.92 ppb	01:18:03
1	As 188.979†	1201.9	1278.6	495.55 ug/L	495.55 ppb	01:18:23
1	B 249.677†	21615.8	23240.9	483.61 ug/L	483.61 ppb	01:18:03
1	Ba 233.527†	65504.3	68137.9	499.28 ug/L	499.28 ppb	01:18:03
1	Be 313.107†	1406311.3	1466926.7	493.32 ug/L	493.32 ppb	01:18:03
1	Cd 226.502†	46885.8	48964.0	505.45 ug/L	505.45 ppb	01:18:03
1	Co 228.616†	25935.9	27057.7	498.82 ug/L	498.82 ppb	01:18:23
1	Cr 267.716†	46693.0	48497.5	499.87 ug/L	499.87 ppb	01:18:03
1	Cu 324.752†	178509.0	178757.4	497.22 ug/L	497.22 ppb	01:18:03
1	Mn 257.610†	482219.8	500963.0	502.95 ug/L	502.95 ppb	01:18:03
1	Mo 202.031†	7240.1	7524.2	500.55 ug/L	500.55 ppb	01:18:23
1	Ni 231.604†	21532.5	22308.1	496.78 ug/L	496.78 ppb	01:18:23
1	P 214.914†	4897.4	4869.9	2431.3 ug/L	2431.3 ppb	01:18:23
1	Pb 220.353†	4418.4	4674.6	503.18 ug/L	503.18 ppb	01:18:23
1	S 181.975 Axial†	825.0	809.1	987.38 ug/L	987.38 ppb	01:18:23
1	Sb 206.836†	1602.3	1627.9	515.39 ug/L	515.39 ppb	01:18:23
1	Se 196.026†	849.5	909.4	524.11 ug/L	524.11 ppb	01:18:23
1	Si 251.611†	81611.8	84338.2	2504.3 ug/L	2504.3 ppb	01:18:03
1	Sn 189.927†	2992.2	3102.4	502.10 ug/L	502.10 ppb	01:18:23
1	Ti 334.940†	324110.4	338869.9	506.20 ug/L	506.20 ppb	01:18:03
1	Tl 190.801†	1654.2	1764.8	501.37 ug/L	501.37 ppb	01:18:23
1	U 409.014†	11152.3	16711.1	491.88 ug/L	491.88 ppb	01:18:03
1	V 292.402†	69715.0	74253.8	500.59 ug/L	500.59 ppb	01:18:03
1	Zn 213.857†	57517.6	59107.6	497.11 ug/L	497.11 ppb	01:18:03
1	SiO2†	81423.6	84115.9	5350.4 ug/L	5350.4 ppb	01:19:24
2	Sc Radial	4116.5	4116.5	99.8 %		01:17:30
2	Y RADIAL	4797.8	4797.8	99.10 %		01:17:09
2	Al 396.153Radial†	6082.8	6286.3	5166.2 ug/L	5166.2 ppb	01:17:09
2	Ca 317.933Radial†	2874.8	2867.7	5308.6 ug/L	5308.6 ppb	01:17:30
2	Fe 238.204 Radial†	474.5	465.5	5424.0 ug/L	5424.0 ppb	01:17:30
2	K 766.490 Radial†	30136.1	27578.0	5242.6 ug/L	5242.6 ppb	01:17:09
2	Mg 279.077 IEC†	130.0	130.3	5490.6 ug/L	5490.6 ppb	01:17:30
2	Na 589.592 Radial†	33427.2	35152.9	10832 ug/L	10832 ppb	01:17:09
2	Sr 421.552†	80402.6	80542.8	531.75 ug/L	531.75 ppb	01:17:09
2	Sc 361.383	857587.4	857587.4	96.269 %		01:18:31
2	Y 371.029	686516.2	686516.2	93.499 %		01:18:31
2	Ag 328.068†	109593.8	113216.9	498.58 ug/L	498.58 ppb	01:18:31
2	As 188.979†	1202.4	1277.7	495.17 ug/L	495.17 ppb	01:18:51
2	B 249.677†	21689.5	23291.2	484.68 ug/L	484.68 ppb	01:18:31
2	Ba 233.527†	65582.8	68140.0	499.29 ug/L	499.29 ppb	01:18:31
2	Be 313.107†	1408873.5	1467881.6	493.64 ug/L	493.64 ppb	01:18:31
2	Cd 226.502†	46833.5	48852.7	504.31 ug/L	504.31 ppb	01:18:31
2	Co 228.616†	25937.3	27027.7	498.27 ug/L	498.27 ppb	01:18:51
2	Cr 267.716†	46461.9	48200.8	496.81 ug/L	496.81 ppb	01:18:31
2	Cu 324.752†	179154.4	179211.2	498.47 ug/L	498.47 ppb	01:18:31
2	Mn 257.610†	482670.0	500845.5	502.83 ug/L	502.83 ppb	01:18:31
2	Mo 202.031†	7245.4	7521.0	500.32 ug/L	500.32 ppb	01:18:51
2	Ni 231.604†	21542.1	22291.9	496.42 ug/L	496.42 ppb	01:18:51

2	P 214.914†	4889.6	4855.8	2423.9 ug/L	2423.9 ppb	01:18:51
2	Pb 220.353†	4442.2	4694.1	505.27 ug/L	505.27 ppb	01:18:51
2	S 181.975 Axial†	813.5	796.2	971.65 ug/L	971.65 ppb	01:18:51
2	Sb 206.836†	1599.2	1622.8	513.86 ug/L	513.86 ppb	01:18:51
2	Se 196.026†	848.3	907.1	522.55 ug/L	522.55 ppb	01:18:51
2	Si 251.611†	81738.6	84370.9	2505.2 ug/L	2505.2 ppb	01:18:31
2	Sn 189.927†	3009.7	3117.0	504.44 ug/L	504.44 ppb	01:18:51
2	Ti 334.940†	324724.4	339114.4	506.56 ug/L	506.56 ppb	01:18:31
2	Tl 190.801†	1661.3	1770.1	502.88 ug/L	502.88 ppb	01:18:51
2	U 409.014†	11266.8	16816.5	495.01 ug/L	495.01 ppb	01:18:31
2	V 292.402†	69700.4	74154.0	499.94 ug/L	499.94 ppb	01:18:31
2	Zn 213.857†	57485.3	59004.2	496.24 ug/L	496.24 ppb	01:18:31
2	SiO2†	80223.3	82770.3	5264.6 ug/L	5264.6 ppb	01:19:29
3	Sc Radial	4128.1	4128.1	100 %		01:17:55
3	Y RADIAL	4880.1	4880.1	100.8 %		01:17:35
3	Al 396.153Radial†	6175.9	6362.1	5228.7 ug/L	5228.7 ppb	01:17:35
3	Ca 317.933Radial†	2881.1	2866.0	5305.3 ug/L	5305.3 ppb	01:17:55
3	Fe 238.204 Radial†	473.6	463.2	5398.0 ug/L	5398.0 ppb	01:17:55
3	K 766.490 Radial†	30397.2	27753.7	5276.0 ug/L	5276.0 ppb	01:17:35
3	Mg 279.077 IEC†	130.6	130.5	5500.0 ug/L	5500.0 ppb	01:17:55
3	Na 589.592 Radial†	33697.1	35328.2	10886 ug/L	10886 ppb	01:17:35
3	Sr 421.552†	80908.7	80821.3	533.59 ug/L	533.59 ppb	01:17:35
3	Sc 361.383	853432.8	853432.8	95.802 %		01:18:58
3	Y 371.029	685047.9	685047.9	93.299 %		01:18:58
3	Ag 328.068†	108961.4	113111.0	498.12 ug/L	498.12 ppb	01:18:58
3	As 188.979†	1215.1	1297.1	502.60 ug/L	502.60 ppb	01:19:18
3	B 249.677†	21514.7	23218.4	483.15 ug/L	483.15 ppb	01:18:58
3	Ba 233.527†	65333.9	68211.8	499.82 ug/L	499.82 ppb	01:18:58
3	Be 313.107†	1405910.1	1471912.8	494.99 ug/L	494.99 ppb	01:18:58
3	Cd 226.502†	46754.2	49006.8	505.90 ug/L	505.90 ppb	01:18:58
3	Co 228.616†	26028.9	27254.5	502.46 ug/L	502.46 ppb	01:19:18
3	Cr 267.716†	46568.3	48546.8	500.38 ug/L	500.38 ppb	01:18:58
3	Cu 324.752†	177738.1	178638.8	496.88 ug/L	496.88 ppb	01:18:58
3	Mn 257.610†	479977.0	500475.2	502.45 ug/L	502.45 ppb	01:18:58
3	Mo 202.031†	7263.8	7576.8	504.03 ug/L	504.03 ppb	01:19:18
3	Ni 231.604†	21601.5	22462.8	500.22 ug/L	500.22 ppb	01:19:18
3	P 214.914†	4914.8	4906.9	2450.8 ug/L	2450.8 ppb	01:19:18
3	Pb 220.353†	4464.1	4739.3	510.15 ug/L	510.15 ppb	01:19:18
3	S 181.975 Axial†	827.0	814.4	993.84 ug/L	993.84 ppb	01:19:18
3	Sb 206.836†	1609.2	1641.2	519.61 ug/L	519.61 ppb	01:19:18
3	Se 196.026†	853.4	916.8	527.85 ug/L	527.85 ppb	01:19:18
3	Si 251.611†	81159.0	84179.2	2499.5 ug/L	2499.5 ppb	01:18:58
3	Sn 189.927†	3003.1	3125.3	505.78 ug/L	505.78 ppb	01:19:18
3	Ti 334.940†	322605.1	338544.4	505.71 ug/L	505.71 ppb	01:18:58
3	Tl 190.801†	1661.8	1779.0	505.37 ug/L	505.37 ppb	01:19:18
3	U 409.014†	11186.8	16790.0	494.22 ug/L	494.22 ppb	01:18:58
3	V 292.402†	69574.5	74375.1	501.47 ug/L	501.47 ppb	01:18:58
3	Zn 213.857†	57371.5	59176.1	497.68 ug/L	497.68 ppb	01:18:58
3	SiO2†	81622.4	84636.4	5383.5 ug/L	5383.5 ppb	01:19:34

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	855869.0	96.076 %	0.2434			0.25%
Sc Radial	4113.0	99.7 %	0.41			0.41%
Y 371.029	685756.8	93.396 %	0.1002			0.11%
Y RADIAL	4698.7	97.05 %	5.091			5.25%
Ag 328.068†	113128.8	498.21 ug/L	0.339	498.21 ppb	0.339	0.07%
QC value within limits for Ag 328.068 Recovery = 99.64%						
Al 396.153Radial†	6317.7	5192.1 ug/L	32.59	5192.1 ppb	32.59	0.63%
QC value within limits for Al 396.153Radial Recovery = 103.84%						
As 188.979†	1284.5	497.78 ug/L	4.184	497.78 ppb	4.184	0.84%
QC value within limits for As 188.979 Recovery = 99.56%						
B 249.677†	23250.2	483.81 ug/L	0.784	483.81 ppb	0.784	0.16%
QC value within limits for B 249.677 Recovery = 96.76%						
Ba 233.527†	68163.2	499.47 ug/L	0.308	499.47 ppb	0.308	0.06%
QC value within limits for Ba 233.527 Recovery = 99.89%						
Be 313.107†	1468907.0	493.99 ug/L	0.887	493.99 ppb	0.887	0.18%
QC value within limits for Be 313.107 Recovery = 98.80%						
Ca 317.933Radial†	2880.7	5332.7 ug/L	44.54	5332.7 ppb	44.54	0.84%

QC value within limits for Ca 317.933 Radial Recovery = 106.65%							
Cd 226.502†	48941.2	505.22 ug/L	0.822	505.22 ppb	0.822	0.16%	
QC value within limits for Cd 226.502 Recovery = 101.04%							
Co 228.616†	27113.3	499.85 ug/L	2.276	499.85 ppb	2.276	0.46%	
QC value within limits for Co 228.616 Recovery = 99.97%							
Cr 267.716†	48415.1	499.02 ug/L	1.928	499.02 ppb	1.928	0.39%	
QC value within limits for Cr 267.716 Recovery = 99.80%							
Cu 324.752†	178869.1	497.52 ug/L	0.839	497.52 ppb	0.839	0.17%	
QC value within limits for Cu 324.752 Recovery = 99.50%							
Fe 238.204 Radial†	467.3	5444.9 ug/L	60.20	5444.9 ppb	60.20	1.11%	
QC value within limits for Fe 238.204 Radial Recovery = 108.90%							
K 766.490 Radial†	27607.6	5248.2 ug/L	25.46	5248.2 ppb	25.46	0.49%	
QC value within limits for K 766.490 Radial Recovery = 104.96%							
Mg 279.077 IEC†	131.1	5523.4 ug/L	48.95	5523.4 ppb	48.95	0.89%	
QC value greater than the upper limit for Mg 279.077 IEC Recovery = 110.47%							
Mn 257.610†	500761.3	502.74 ug/L	0.259	502.74 ppb	0.259	0.05%	
QC value within limits for Mn 257.610 Recovery = 100.55%							
Mo 202.031†	7540.7	501.63 ug/L	2.081	501.63 ppb	2.081	0.41%	
QC value within limits for Mo 202.031 Recovery = 100.33%							
Na 589.592 Radial†	35184.5	10842 ug/L	40.3	10842 ppb	40.3	0.37%	
QC value within limits for Na 589.592 Radial Recovery = 108.42%							
Ni 231.604†	22354.3	497.81 ug/L	2.101	497.81 ppb	2.101	0.42%	
QC value within limits for Ni 231.604 Recovery = 99.56%							
P 214.914†	4877.5	2435.3 ug/L	13.89	2435.3 ppb	13.89	0.57%	
QC value within limits for P 214.914 Recovery = 97.41%							
Pb 220.353†	4702.6	506.20 ug/L	3.578	506.20 ppb	3.578	0.71%	
QC value within limits for Pb 220.353 Recovery = 101.24%							
S 181.975 Axial†	806.5	984.29 ug/L	11.411	984.29 ppb	11.411	1.16%	
QC value within limits for S 181.975 Axial Recovery = 98.43%							
Sb 206.836†	1630.6	516.29 ug/L	2.974	516.29 ppb	2.974	0.58%	
QC value within limits for Sb 206.836 Recovery = 103.26%							
Se 196.026†	911.1	524.84 ug/L	2.723	524.84 ppb	2.723	0.52%	
QC value within limits for Se 196.026 Recovery = 104.97%							
Si 251.611†	84296.1	2503.0 ug/L	3.08	2503.0 ppb	3.08	0.12%	
QC value within limits for Si 251.611 Recovery = 100.12%							
Sn 189.927†	3114.9	504.11 ug/L	1.861	504.11 ppb	1.861	0.37%	
QC value within limits for Sn 189.927 Recovery = 100.82%							
Sr 421.552†	80590.4	532.07 ug/L	1.394	532.07 ppb	1.394	0.26%	
QC value within limits for Sr 421.552 Recovery = 106.41%							
Ti 334.940†	338842.9	506.16 ug/L	0.429	506.16 ppb	0.429	0.08%	
QC value within limits for Ti 334.940 Recovery = 101.23%							
Tl 190.801†	1771.3	503.21 ug/L	2.018	503.21 ppb	2.018	0.40%	
QC value within limits for Tl 190.801 Recovery = 100.64%							
U 409.014†	16772.6	493.71 ug/L	1.629	493.71 ppb	1.629	0.33%	
QC value within limits for U 409.014 Recovery = 98.74%							
V 292.402†	74260.9	500.67 ug/L	0.765	500.67 ppb	0.765	0.15%	
QC value within limits for V 292.402 Recovery = 100.13%							
Zn 213.857†	59095.9	497.01 ug/L	0.725	497.01 ppb	0.725	0.15%	
QC value within limits for Zn 213.857 Recovery = 99.40%							
SiO2†	83840.9	5332.8 ug/L	61.36	5332.8 ppb	61.36	1.15%	
QC value within limits for SiO2 Recovery = 99.73%							
QC Failed. Continue with analysis.							

Sequence No.: 73

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 2/2/2010 01:21:44

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4227.8	4227.8	102 %		01:23:36
1	Y RADIAL	4785.7	4785.7	98.85 %		01:23:36
1	Al 396.153Radial†	-189.1	5.6	4.5941 ug/L	4.5941 ppb	01:23:36
1	Ca 317.933Radial†	13.9	0.2	0.4397 ug/L	0.4397 ppb	01:23:56
1	Fe 238.204 Radial†	13.6	3.1	36.577 ug/L	36.577 ppb	01:23:56
1	K 766.490 Radial†	2887.6	193.4	36.790 ug/L	36.790 ppb	01:23:36
1	Mg 279.077 IEC†	1.6	1.6	66.218 ug/L	66.218 ppb	01:23:56
1	Na 589.592 Radial†	-1535.2	154.2	47.520 ug/L	47.520 ppb	01:23:36
1	Sr 421.552†	9.8	-26.9	-0.1776 ug/L	-0.1776 ppb	01:23:36
1	Sc 361.383	789819.9	789819.9	88.662 %		01:24:53
1	Y 371.029	641802.1	641802.1	87.410 %		01:24:53
1	Ag 328.068†	361.9	-216.3	-0.9478 ug/L	-0.9478 ppb	01:24:53
1	As 188.979†	-41.3	-17.8	-6.8505 ug/L	-6.8505 ppb	01:25:13
1	B 249.677†	-537.6	154.8	3.2318 ug/L	3.2318 ppb	01:25:13
1	Ba 233.527†	-21.8	-9.3	-0.0686 ug/L	-0.0686 ppb	01:25:13
1	Be 313.107†	-4200.2	-334.3	-0.1128 ug/L	-0.1128 ppb	01:24:53
1	Cd 226.502†	-195.5	-16.4	-0.1708 ug/L	-0.1708 ppb	01:25:13
1	Co 228.616†	-97.9	-25.2	-0.4643 ug/L	-0.4643 ppb	01:25:13
1	Cr 267.716†	82.2	30.8	0.3122 ug/L	0.3122 ppb	01:24:53
1	Cu 324.752†	6887.3	881.2	2.4461 ug/L	2.4461 ppb	01:24:53
1	Mn 257.610†	596.8	141.3	0.1427 ug/L	0.1427 ppb	01:24:53
1	Mo 202.031†	11.2	7.4	0.4933 ug/L	0.4933 ppb	01:25:13
1	Ni 231.604†	81.8	7.1	0.1579 ug/L	0.1579 ppb	01:25:13
1	P 214.914†	225.3	30.9	15.528 ug/L	15.528 ppb	01:25:13
1	Pb 220.353†	-63.5	8.0	0.8590 ug/L	0.8590 ppb	01:25:13
1	S 181.975 Axial†	51.0	8.6	10.516 ug/L	10.516 ppb	01:25:13
1	Sb 206.836†	52.3	20.5	6.2879 ug/L	6.2879 ppb	01:25:13
1	Se 196.026†	-24.3	-1.4	-0.6604 ug/L	-0.6604 ppb	01:25:13
1	Si 251.611†	518.0	48.5	1.4376 ug/L	1.4376 ppb	01:25:13
1	Sn 189.927†	10.8	2.7	0.4434 ug/L	0.4434 ppb	01:25:13
1	Ti 334.940†	-1773.2	-195.6	-0.3031 ug/L	-0.3031 ppb	01:24:53
1	Tl 190.801†	-44.9	-6.2	-1.7489 ug/L	-1.7489 ppb	01:25:13
1	U 409.014†	-4161.0	419.9	12.400 ug/L	12.400 ppb	01:24:53
1	V 292.402†	-1654.1	-113.4	-0.7276 ug/L	-0.7276 ppb	01:24:53
1	Zn 213.857†	753.4	140.6	1.1851 ug/L	1.1851 ppb	01:25:13
1	SiO2†	524.4	29.2	1.8516 ug/L	1.8516 ppb	01:26:09
2	Sc Radial	4493.5	4493.5	109 %		01:24:01
2	Y RADIAL	5040.6	5040.6	104.1 %		01:24:01
2	Al 396.153Radial†	-199.8	6.7	5.5056 ug/L	5.5056 ppb	01:24:01
2	Ca 317.933Radial†	13.5	-0.9	-1.7524 ug/L	-1.7524 ppb	01:24:21
2	Fe 238.204 Radial†	12.7	1.5	17.418 ug/L	17.418 ppb	01:24:21
2	K 766.490 Radial†	2786.4	-66.1	-12.615 ug/L	-12.615 ppb	01:24:01
2	Mg 279.077 IEC†	3.6	3.4	141.54 ug/L	141.54 ppb	01:24:21
2	Na 589.592 Radial†	-1511.7	264.4	81.475 ug/L	81.475 ppb	01:24:01
2	Sr 421.552†	54.6	13.7	0.0903 ug/L	0.0903 ppb	01:24:01
2	Sc 361.383	829972.6	829972.6	93.169 %		01:25:18
2	Y 371.029	674157.2	674157.2	91.816 %		01:25:18
2	Ag 328.068†	378.2	-218.6	-0.9619 ug/L	-0.9619 ppb	01:25:18
2	As 188.979†	-30.0	-3.4	-1.3045 ug/L	-1.3045 ppb	01:25:38
2	B 249.677†	-548.4	172.5	3.6045 ug/L	3.6045 ppb	01:25:38
2	Ba 233.527†	-14.3	-0.0	-0.0008 ug/L	-0.0008 ppb	01:25:38
2	Be 313.107†	-4237.5	-145.2	-0.0487 ug/L	-0.0487 ppb	01:25:18
2	Cd 226.502†	-195.4	-5.6	-0.0581 ug/L	-0.0581 ppb	01:25:38
2	Co 228.616†	-87.7	-9.0	-0.1664 ug/L	-0.1664 ppb	01:25:38
2	Cr 267.716†	28.3	-31.4	-0.3283 ug/L	-0.3283 ppb	01:25:18
2	Cu 324.752†	6934.3	555.9	1.5406 ug/L	1.5406 ppb	01:25:18
2	Mn 257.610†	642.7	158.1	0.1545 ug/L	0.1545 ppb	01:25:18
2	Mo 202.031†	6.6	1.8	0.1217 ug/L	0.1217 ppb	01:25:38
2	Ni 231.604†	56.3	-24.8	-0.5517 ug/L	-0.5517 ppb	01:25:38

2	P 214.914†	248.6	43.5	22.278 ug/L	22.278 ppb	01:25:38
2	Pb 220.353†	-66.8	7.9	0.8482 ug/L	0.8482 ppb	01:25:38
2	S 181.975 Axial†	52.6	7.6	9.2698 ug/L	9.2698 ppb	01:25:38
2	Sb 206.836†	39.2	3.7	1.1151 ug/L	1.1151 ppb	01:25:38
2	Se 196.026†	-34.3	-10.9	-5.9631 ug/L	-5.9631 ppb	01:25:38
2	Si 251.611†	514.9	16.9	0.5006 ug/L	0.5006 ppb	01:25:38
2	Sn 189.927†	4.4	-4.7	-0.7545 ug/L	-0.7545 ppb	01:25:38
2	Ti 334.940†	-1674.4	7.2	-0.0060 ug/L	-0.0060 ppb	01:25:18
2	Tl 190.801†	-52.8	-12.2	-3.4412 ug/L	-3.4412 ppb	01:25:38
2	U 409.014†	-4398.6	392.0	11.578 ug/L	11.578 ppb	01:25:18
2	V 292.402†	-1698.0	-70.3	-0.4434 ug/L	-0.4434 ppb	01:25:18
2	Zn 213.857†	770.4	117.8	0.9993 ug/L	0.9993 ppb	01:25:38
2	SiO2†	575.5	55.4	3.5326 ug/L	3.5326 ppb	01:26:14
3	Sc Radial	4260.1	4260.1	103 %		01:24:26
3	Y RADIAL	4816.1	4816.1	99.48 %		01:24:26
3	Al 396.153Radial†	-210.6	-13.9	-11.486 ug/L	-11.486 ppb	01:24:26
3	Ca 317.933Radial†	16.0	2.1	3.9401 ug/L	3.9401 ppb	01:24:46
3	Fe 238.204 Radial†	11.7	1.2	14.390 ug/L	14.390 ppb	01:24:46
3	K 766.490 Radial†	2871.5	156.5	29.755 ug/L	29.755 ppb	01:24:26
3	Mg 279.077 IEC†	-0.6	-0.5	-20.405 ug/L	-20.405 ppb	01:24:46
3	Na 589.592 Radial†	-1470.4	228.3	70.358 ug/L	70.358 ppb	01:24:26
3	Sr 421.552†	47.0	9.0	0.0596 ug/L	0.0596 ppb	01:24:26
3	Sc 361.383	849267.4	849267.4	95.335 %		01:25:44
3	Y 371.029	690749.4	690749.4	94.076 %		01:25:44
3	Ag 328.068†	430.9	-172.5	-0.7591 ug/L	-0.7591 ppb	01:25:44
3	As 188.979†	-27.6	-0.2	-0.0603 ug/L	-0.0603 ppb	01:26:04
3	B 249.677†	-527.3	208.0	4.3472 ug/L	4.3472 ppb	01:26:04
3	Ba 233.527†	-11.2	3.5	0.0261 ug/L	0.0261 ppb	01:26:04
3	Be 313.107†	-4208.5	-11.4	-0.0036 ug/L	-0.0036 ppb	01:25:44
3	Cd 226.502†	-183.5	11.6	0.1202 ug/L	0.1202 ppb	01:26:04
3	Co 228.616†	-88.3	-7.5	-0.1367 ug/L	-0.1367 ppb	01:26:04
3	Cr 267.716†	73.1	14.8	0.1485 ug/L	0.1485 ppb	01:25:44
3	Cu 324.752†	6950.3	403.6	1.1169 ug/L	1.1169 ppb	01:25:44
3	Mn 257.610†	516.5	10.0	0.0123 ug/L	0.0123 ppb	01:25:44
3	Mo 202.031†	13.3	8.7	0.5810 ug/L	0.5810 ppb	01:26:04
3	Ni 231.604†	68.9	-12.9	-0.2878 ug/L	-0.2878 ppb	01:26:04
3	P 214.914†	244.4	33.1	16.988 ug/L	16.988 ppb	01:26:04
3	Pb 220.353†	-70.4	5.8	0.6221 ug/L	0.6221 ppb	01:26:04
3	S 181.975 Axial†	61.1	15.2	18.592 ug/L	18.592 ppb	01:26:04
3	Sb 206.836†	50.2	14.2	4.3865 ug/L	4.3865 ppb	01:26:04
3	Se 196.026†	-26.8	-2.1	-1.1258 ug/L	-1.1258 ppb	01:26:04
3	Si 251.611†	528.7	18.9	0.5551 ug/L	0.5551 ppb	01:26:04
3	Sn 189.927†	18.1	9.5	1.5417 ug/L	1.5417 ppb	01:26:04
3	Ti 334.940†	-1655.8	67.5	0.0980 ug/L	0.0980 ppb	01:25:44
3	Tl 190.801†	-35.2	7.5	2.1170 ug/L	2.1170 ppb	01:26:04
3	U 409.014†	-4504.3	388.4	11.471 ug/L	11.471 ppb	01:25:44
3	V 292.402†	-1661.5	9.4	0.0902 ug/L	0.0902 ppb	01:25:44
3	Zn 213.857†	779.9	108.9	0.9230 ug/L	0.9230 ppb	01:26:04
3	SiO2†	569.5	35.1	2.2210 ug/L	2.2210 ppb	01:26:19

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	823019.9	92.388 %	3.4044			3.68%
Sc Radial	4327.1	105 %	3.5			3.35%
Y 371.029	668902.9	91.101 %	3.3903			3.72%
Y RADIAL	4880.8	100.8 %	2.88			2.85%
Ag 328.068†	-202.5	-0.8896 ug/L	0.11323	-0.8896 ppb	0.11323	12.73%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-0.5	-0.4619 ug/L	9.55755	-0.4619 ppb	9.55755	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-7.1	-2.7384 ug/L	3.61508	-2.7384 ppb	3.61508	132.01%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	178.4	3.7278 ug/L	0.56786	3.7278 ppb	0.56786	15.23%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-1.9	-0.0144 ug/L	0.04880	-0.0144 ppb	0.04880	339.04%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-163.6	-0.0550 ug/L	0.05490	-0.0550 ppb	0.05490	99.75%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.5	0.8758 ug/L	2.87119	0.8758 ppb	2.87119	327.84%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	-3.5	-0.0362 ug/L	0.14669	-0.0362 ppb	0.14669	404.94%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-13.9	-0.2558 ug/L	0.18116	-0.2558 ppb	0.18116	70.82%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	4.8	0.0441 ug/L	0.33279	0.0441 ppb	0.33279	753.77%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	613.5	1.7012 ug/L	0.67899	1.7012 ppb	0.67899	39.91%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	2.0	22.795 ug/L	12.0309	22.795 ppb	12.0309	52.78%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	94.6	17.977 ug/L	26.7256	17.977 ppb	26.7256	148.67%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	1.5	62.452 ug/L	81.0401	62.452 ppb	81.0401	129.76%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	103.1	0.1032 ug/L	0.07893	0.1032 ppb	0.07893	76.49%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	6.0	0.3987 ug/L	0.24385	0.3987 ppb	0.24385	61.17%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	215.6	66.451 ug/L	17.3112	66.451 ppb	17.3112	26.05%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	-10.2	-0.2272 ug/L	0.35868	-0.2272 ppb	0.35868	157.87%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	35.9	18.265 ug/L	3.5516	18.265 ppb	3.5516	19.44%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	7.3	0.7764 ug/L	0.13377	0.7764 ppb	0.13377	17.23%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	10.5	12.793 ug/L	5.0610	12.793 ppb	5.0610	39.56%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	12.8	3.9298 ug/L	2.61642	3.9298 ppb	2.61642	66.58%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-4.8	-2.5831 ug/L	2.93638	-2.5831 ppb	2.93638	113.68%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	28.1	0.8311 ug/L	0.52596	0.8311 ppb	0.52596	63.29%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	2.5	0.4102 ug/L	1.14848	0.4102 ppb	1.14848	279.98%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-1.4	-0.0092 ug/L	0.14657	-0.0092 ppb	0.14657	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-40.3	-0.0704 ug/L	0.20816	-0.0704 ppb	0.20816	295.80%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-3.6	-1.0244 ug/L	2.84906	-1.0244 ppb	2.84906	278.12%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	400.1	11.816 ug/L	0.5081	11.816 ppb	0.5081	4.30%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	-58.1	-0.3603 ug/L	0.41519	-0.3603 ppb	0.41519	115.24%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	122.4	1.0358 ug/L	0.13482	1.0358 ppb	0.13482	13.02%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	39.9	2.5351 ug/L	0.88345	2.5351 ppb	0.88345	34.85%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 82

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 2/2/2010 02:25:21

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4271.1	4271.1	104 %		02:27:13
1	Y RADIAL	4761.0	4761.0	98.34 %		02:27:13
1	Al 396.153Radial†	6335.7	6309.8	5184.7 ug/L	5184.7 ppb	02:27:13
1	Ca 317.933Radial†	2956.8	2842.7	5262.2 ug/L	5262.2 ppb	02:27:33
1	Fe 238.204 Radial†	470.4	444.2	5178.0 ug/L	5178.0 ppb	02:27:33
1	K 766.490 Radial†	30844.9	27169.2	5165.0 ug/L	5165.0 ppb	02:27:13
1	Mg 279.077 IEC†	134.7	130.2	5485.8 ug/L	5485.8 ppb	02:27:33
1	Na 589.592 Radial†	32512.6	33056.7	10186 ug/L	10186 ppb	02:27:13
1	Sr 421.552†	80853.4	78061.0	515.37 ug/L	515.37 ppb	02:27:13
1	Sc 361.383	856265.8	856265.8	96.120 %		02:28:32
1	Y 371.029	684927.2	684927.2	93.283 %		02:28:32
1	Ag 328.068†	113878.7	117850.5	518.84 ug/L	518.84 ppb	02:28:32
1	As 188.979†	1249.1	1328.3	514.68 ug/L	514.68 ppb	02:28:52
1	B 249.677†	22565.4	24237.3	504.45 ug/L	504.45 ppb	02:28:32
1	Ba 233.527†	68183.2	70950.4	519.88 ug/L	519.88 ppb	02:28:32
1	Be 313.107†	1465181.5	1528721.1	514.11 ug/L	514.11 ppb	02:28:32
1	Cd 226.502†	48722.8	50893.4	525.42 ug/L	525.42 ppb	02:28:32
1	Co 228.616†	26904.4	28075.5	517.58 ug/L	517.58 ppb	02:28:52
1	Cr 267.716†	48408.2	50300.2	518.44 ug/L	518.44 ppb	02:28:32
1	Cu 324.752†	186292.5	186924.6	519.90 ug/L	519.90 ppb	02:28:32
1	Mn 257.610†	502160.2	521896.2	523.93 ug/L	523.93 ppb	02:28:32
1	Mo 202.031†	7502.8	7800.4	518.87 ug/L	518.87 ppb	02:28:52
1	Ni 231.604†	22298.5	23113.3	514.71 ug/L	514.71 ppb	02:28:52
1	P 214.914†	5042.8	5023.0	2506.8 ug/L	2506.8 ppb	02:28:52
1	Pb 220.353†	4576.4	4840.7	521.06 ug/L	521.06 ppb	02:28:52
1	S 181.975 Axial†	837.6	822.5	1003.8 ug/L	1003.8 ppb	02:28:52
1	Sb 206.836†	1654.5	1682.9	532.88 ug/L	532.88 ppb	02:28:52
1	Se 196.026†	872.9	934.1	536.78 ug/L	536.78 ppb	02:28:52
1	Si 251.611†	85013.8	87909.3	2610.3 ug/L	2610.3 ppb	02:28:32
1	Sn 189.927†	3114.2	3230.4	522.76 ug/L	522.76 ppb	02:28:52
1	Ti 334.940†	338303.4	353762.1	528.42 ug/L	528.42 ppb	02:28:32
1	Tl 190.801†	1728.6	1842.9	523.56 ug/L	523.56 ppb	02:28:52
1	U 409.014†	11968.3	17564.4	517.08 ug/L	517.08 ppb	02:28:32
1	V 292.402†	72654.1	77338.7	521.44 ug/L	521.44 ppb	02:28:32
1	Zn 213.857†	59850.4	61556.9	517.78 ug/L	517.78 ppb	02:28:32
1	SiO2†	84167.9	87002.8	5534.0 ug/L	5534.0 ppb	02:29:52
2	Sc Radial	4248.0	4248.0	103 %		02:27:38
2	Y RADIAL	4761.1	4761.1	98.34 %		02:27:38
2	Al 396.153Radial†	6389.7	6395.5	5255.5 ug/L	5255.5 ppb	02:27:38
2	Ca 317.933Radial†	2939.3	2841.2	5259.5 ug/L	5259.5 ppb	02:27:58
2	Fe 238.204 Radial†	464.6	441.1	5141.1 ug/L	5141.1 ppb	02:27:58
2	K 766.490 Radial†	31056.1	27536.0	5234.8 ug/L	5234.8 ppb	02:27:38
2	Mg 279.077 IEC†	131.5	127.8	5383.4 ug/L	5383.4 ppb	02:27:58
2	Na 589.592 Radial†	32820.2	33525.7	10331 ug/L	10331 ppb	02:27:38
2	Sr 421.552†	81184.9	78806.7	520.29 ug/L	520.29 ppb	02:27:38
2	Sc 361.383	852586.9	852586.9	95.707 %		02:29:00
2	Y 371.029	683312.4	683312.4	93.063 %		02:29:00
2	Ag 328.068†	113414.1	117876.2	518.95 ug/L	518.95 ppb	02:29:00
2	As 188.979†	1237.0	1321.2	511.95 ug/L	511.95 ppb	02:29:20
2	B 249.677†	22577.9	24351.6	506.84 ug/L	506.84 ppb	02:29:00
2	Ba 233.527†	67905.0	70965.8	519.99 ug/L	519.99 ppb	02:29:00
2	Be 313.107†	1460883.4	1530807.5	514.81 ug/L	514.81 ppb	02:29:00
2	Cd 226.502†	48558.8	50940.8	525.91 ug/L	525.91 ppb	02:29:00
2	Co 228.616†	26840.3	28129.2	518.58 ug/L	518.58 ppb	02:29:20
2	Cr 267.716†	48222.0	50322.9	518.68 ug/L	518.68 ppb	02:29:00
2	Cu 324.752†	185569.5	187005.5	520.13 ug/L	520.13 ppb	02:29:00
2	Mn 257.610†	500028.8	521923.5	523.95 ug/L	523.95 ppb	02:29:00
2	Mo 202.031†	7473.0	7802.9	519.04 ug/L	519.04 ppb	02:29:20
2	Ni 231.604†	22232.0	23144.0	515.39 ug/L	515.39 ppb	02:29:20



2	P 214.914†	5060.8	5064.6	2528.3 ug/L	2528.3 ppb	02:29:20
2	Pb 220.353†	4537.3	4820.4	518.90 ug/L	518.90 ppb	02:29:20
2	S 181.975 Axial†	842.8	831.7	1015.1 ug/L	1015.1 ppb	02:29:20
2	Sb 206.836†	1669.9	1706.4	540.01 ug/L	540.01 ppb	02:29:20
2	Se 196.026†	867.5	932.3	535.67 ug/L	535.67 ppb	02:29:20
2	Si 251.611†	84591.6	87849.9	2608.6 ug/L	2608.6 ppb	02:29:00
2	Sn 189.927†	3082.6	3211.4	519.69 ug/L	519.69 ppb	02:29:20
2	Ti 334.940†	336737.8	353644.9	528.26 ug/L	528.26 ppb	02:29:00
2	Tl 190.801†	1721.8	1843.5	523.72 ug/L	523.72 ppb	02:29:20
2	U 409.014†	11803.0	17445.5	513.57 ug/L	513.57 ppb	02:29:00
2	V 292.402†	72457.3	77459.2	522.24 ug/L	522.24 ppb	02:29:00
2	Zn 213.857†	59573.7	61536.5	517.60 ug/L	517.60 ppb	02:29:00
2	SiO2†	84177.2	87390.3	5558.7 ug/L	5558.7 ppb	02:29:58
3	Sc Radial	4237.2	4237.2	103 %		02:28:03
3	Y RADIAL	4699.2	4699.2	97.06 %		02:28:03
3	Al 396.153Radial†	6312.1	6335.9	5206.1 ug/L	5206.1 ppb	02:28:03
3	Ca 317.933Radial†	2959.0	2867.7	5308.5 ug/L	5308.5 ppb	02:28:23
3	Fe 238.204 Radial†	468.7	446.2	5201.0 ug/L	5201.0 ppb	02:28:23
3	K 766.490 Radial†	30813.0	27376.4	5204.4 ug/L	5204.4 ppb	02:28:03
3	Mg 279.077 IEC†	134.2	130.7	5507.9 ug/L	5507.9 ppb	02:28:23
3	Na 589.592 Radial†	32492.1	33287.9	10258 ug/L	10258 ppb	02:28:03
3	Sr 421.552†	80818.9	78652.0	519.27 ug/L	519.27 ppb	02:28:03
3	Sc 361.383	850946.6	850946.6	95.523 %		02:29:27
3	Y 371.029	680283.5	680283.5	92.651 %		02:29:27
3	Ag 328.068†	113256.3	117939.4	519.24 ug/L	519.24 ppb	02:29:27
3	As 188.979†	1258.6	1346.3	521.60 ug/L	521.60 ppb	02:29:47
3	B 249.677†	22424.9	24236.9	504.42 ug/L	504.42 ppb	02:29:27
3	Ba 233.527†	67976.3	71177.2	521.54 ug/L	521.54 ppb	02:29:27
3	Be 313.107†	1455978.5	1528615.2	514.07 ug/L	514.07 ppb	02:29:27
3	Cd 226.502†	48478.7	50954.8	526.05 ug/L	526.05 ppb	02:29:27
3	Co 228.616†	26995.8	28346.1	522.58 ug/L	522.58 ppb	02:29:47
3	Cr 267.716†	48218.1	50416.0	519.64 ug/L	519.64 ppb	02:29:27
3	Cu 324.752†	184905.3	186683.9	519.23 ug/L	519.23 ppb	02:29:27
3	Mn 257.610†	499970.0	522869.1	524.90 ug/L	524.90 ppb	02:29:27
3	Mo 202.031†	7510.6	7857.3	522.66 ug/L	522.66 ppb	02:29:47
3	Ni 231.604†	22361.3	23324.0	519.40 ug/L	519.40 ppb	02:29:47
3	P 214.914†	5084.4	5099.4	2546.6 ug/L	2546.6 ppb	02:29:47
3	Pb 220.353†	4615.1	4911.0	528.62 ug/L	528.62 ppb	02:29:47
3	S 181.975 Axial†	852.9	844.0	1030.0 ug/L	1030.0 ppb	02:29:47
3	Sb 206.836†	1669.7	1709.5	541.12 ug/L	541.12 ppb	02:29:47
3	Se 196.026†	874.8	941.8	541.12 ug/L	541.12 ppb	02:29:47
3	Si 251.611†	84484.7	87908.3	2610.2 ug/L	2610.2 ppb	02:29:27
3	Sn 189.927†	3103.7	3239.7	524.27 ug/L	524.27 ppb	02:29:47
3	Ti 334.940†	336540.8	354117.0	528.96 ug/L	528.96 ppb	02:29:27
3	Tl 190.801†	1726.8	1852.2	526.18 ug/L	526.18 ppb	02:29:47
3	U 409.014†	11785.0	17450.3	513.71 ug/L	513.71 ppb	02:29:27
3	V 292.402†	72310.2	77451.1	522.23 ug/L	522.23 ppb	02:29:27
3	Zn 213.857†	59545.9	61627.4	518.35 ug/L	518.35 ppb	02:29:27
3	SiO2†	84418.1	87812.0	5585.5 ug/L	5585.5 ppb	02:30:03

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	853266.5	95.784 %	0.3058			0.32%
Sc Radial	4252.1	103 %	0.4			0.41%
Y 371.029	682841.0	92.999 %	0.3211			0.35%
Y RADIAL	4740.4	97.91 %	0.737			0.75%
Ag 328.068†	117888.7	519.01 ug/L	0.208	519.01 ppb	0.208	0.04%
QC value within limits for Ag 328.068 Recovery = 103.80%						
Al 396.153Radial†	6347.0	5215.4 ug/L	36.29	5215.4 ppb	36.29	0.70%
QC value within limits for Al 396.153Radial Recovery = 104.31%						
As 188.979†	1331.9	516.08 ug/L	4.978	516.08 ppb	4.978	0.96%
QC value within limits for As 188.979 Recovery = 103.22%						
B 249.677†	24275.3	505.24 ug/L	1.390	505.24 ppb	1.390	0.28%
QC value within limits for B 249.677 Recovery = 101.05%						
Ba 233.527†	71031.2	520.47 ug/L	0.928	520.47 ppb	0.928	0.18%
QC value within limits for Ba 233.527 Recovery = 104.09%						
Be 313.107†	1529381.3	514.33 ug/L	0.414	514.33 ppb	0.414	0.08%
QC value within limits for Be 313.107 Recovery = 102.87%						
Ca 317.933Radial†	2850.5	5276.7 ug/L	27.56	5276.7 ppb	27.56	0.52%



QC value within limits for Ca 317.933Radial Recovery = 105.53%							
Cd 226.502†	50929.7	525.80 ug/L	0.333	525.80 ppb	0.333	0.06%	
QC value within limits for Cd 226.502 Recovery = 105.16%							
Co 228.616†	28183.6	519.58 ug/L	2.645	519.58 ppb	2.645	0.51%	
QC value within limits for Co 228.616 Recovery = 103.92%							
Cr 267.716†	50346.4	518.92 ug/L	0.633	518.92 ppb	0.633	0.12%	
QC value within limits for Cr 267.716 Recovery = 103.78%							
Cu 324.752†	186871.3	519.75 ug/L	0.464	519.75 ppb	0.464	0.09%	
QC value within limits for Cu 324.752 Recovery = 103.95%							
Fe 238.204 Radial†	443.8	5173.4 ug/L	30.20	5173.4 ppb	30.20	0.58%	
QC value within limits for Fe 238.204 Radial Recovery = 103.47%							
K 766.490 Radial†	27360.5	5201.4 ug/L	34.98	5201.4 ppb	34.98	0.67%	
QC value within limits for K 766.490 Radial Recovery = 104.03%							
Mg 279.077 IEC†	129.5	5459.1 ug/L	66.43	5459.1 ppb	66.43	1.22%	
QC value within limits for Mg 279.077 IEC Recovery = 109.18%							
Mn 257.610†	522229.6	524.26 ug/L	0.556	524.26 ppb	0.556	0.11%	
QC value within limits for Mn 257.610 Recovery = 104.85%							
Mo 202.031†	7820.2	520.19 ug/L	2.139	520.19 ppb	2.139	0.41%	
QC value within limits for Mo 202.031 Recovery = 104.04%							
Na 589.592 Radial†	33290.1	10258 ug/L	72.3	10258 ppb	72.3	0.70%	
QC value within limits for Na 589.592 Radial Recovery = 102.58%							
Ni 231.604†	23193.8	516.50 ug/L	2.535	516.50 ppb	2.535	0.49%	
QC value within limits for Ni 231.604 Recovery = 103.30%							
P 214.914†	5062.3	2527.3 ug/L	19.92	2527.3 ppb	19.92	0.79%	
QC value within limits for P 214.914 Recovery = 101.09%							
Pb 220.353†	4857.4	522.86 ug/L	5.101	522.86 ppb	5.101	0.98%	
QC value within limits for Pb 220.353 Recovery = 104.57%							
S 181.975 Axial†	832.7	1016.3 ug/L	13.17	1016.3 ppb	13.17	1.30%	
QC value within limits for S 181.975 Axial Recovery = 101.63%							
Sb 206.836†	1699.6	538.01 ug/L	4.471	538.01 ppb	4.471	0.83%	
QC value within limits for Sb 206.836 Recovery = 107.60%							
Se 196.026†	936.1	537.86 ug/L	2.880	537.86 ppb	2.880	0.54%	
QC value within limits for Se 196.026 Recovery = 107.57%							
Si 251.611†	87889.1	2609.7 ug/L	1.00	2609.7 ppb	1.00	0.04%	
QC value within limits for Si 251.611 Recovery = 104.39%							
Sn 189.927†	3227.2	522.24 ug/L	2.335	522.24 ppb	2.335	0.45%	
QC value within limits for Sn 189.927 Recovery = 104.45%							
Sr 421.552†	78506.6	518.31 ug/L	2.598	518.31 ppb	2.598	0.50%	
QC value within limits for Sr 421.552 Recovery = 103.66%							
Ti 334.940†	353841.3	528.55 ug/L	0.367	528.55 ppb	0.367	0.07%	
QC value within limits for Ti 334.940 Recovery = 105.71%							
Tl 190.801†	1846.2	524.49 ug/L	1.466	524.49 ppb	1.466	0.28%	
QC value within limits for Tl 190.801 Recovery = 104.90%							
U 409.014†	17486.8	514.79 ug/L	1.989	514.79 ppb	1.989	0.39%	
QC value within limits for U 409.014 Recovery = 102.96%							
V 292.402†	77416.3	521.97 ug/L	0.460	521.97 ppb	0.460	0.09%	
QC value within limits for V 292.402 Recovery = 104.39%							
Zn 213.857†	61573.6	517.91 ug/L	0.387	517.91 ppb	0.387	0.07%	
QC value within limits for Zn 213.857 Recovery = 103.58%							
SiO2†	87401.7	5559.4 ug/L	25.76	5559.4 ppb	25.76	0.46%	
QC value within limits for SiO2 Recovery = 103.96%							
All analyte(s) passed QC.							

Sequence No.: 83

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/2/2010 02:32:13

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4187.6	4187.6	102 %		02:34:05
1	Y RADIAL	4726.4	4726.4	97.62 %		02:34:05
1	Al 396.153Radial†	-199.3	-6.2	-5.1682 ug/L	-5.1682 ppb	02:34:05
1	Ca 317.933Radial†	28.5	14.7	27.220 ug/L	27.220 ppb	02:34:26
1	Fe 238.204 Radial†	12.0	1.7	19.573 ug/L	19.573 ppb	02:34:26
1	K 766.490 Radial†	2834.3	168.0	31.927 ug/L	31.927 ppb	02:34:05
1	Mg 279.077 IEC†	4.1	4.1	173.33 ug/L	173.33 ppb	02:34:26
1	Na 589.592 Radial†	-1407.8	265.4	81.771 ug/L	81.771 ppb	02:34:05
1	Sr 421.552†	46.2	9.1	0.0596 ug/L	0.0596 ppb	02:34:05
1	Sc 361.383	839914.0	839914.0	94.285 %		02:35:22
1	Y 371.029	683115.7	683115.7	93.036 %		02:35:22
1	Ag 328.068†	474.8	-121.0	-0.5317 ug/L	-0.5317 ppb	02:35:22
1	As 188.979†	-25.4	1.8	0.6966 ug/L	0.6966 ppb	02:35:42
1	B 249.677†	-584.3	141.4	2.9542 ug/L	2.9542 ppb	02:35:42
1	Ba 233.527†	-11.0	3.6	0.0280 ug/L	0.0280 ppb	02:35:42
1	Be 313.107†	-4096.4	58.4	0.0206 ug/L	0.0206 ppb	02:35:22
1	Cd 226.502†	-197.5	-5.3	-0.0548 ug/L	-0.0548 ppb	02:35:42
1	Co 228.616†	-90.5	-10.9	-0.1998 ug/L	-0.1998 ppb	02:35:42
1	Cr 267.716†	62.2	4.1	0.0386 ug/L	0.0386 ppb	02:35:22
1	Cu 324.752†	6980.1	516.3	1.4302 ug/L	1.4302 ppb	02:35:22
1	Mn 257.610†	614.5	119.9	0.1152 ug/L	0.1152 ppb	02:35:42
1	Mo 202.031†	14.0	9.7	0.6446 ug/L	0.6446 ppb	02:35:42
1	Ni 231.604†	72.9	-7.9	-0.1756 ug/L	-0.1756 ppb	02:35:42
1	P 214.914†	232.5	23.3	11.801 ug/L	11.801 ppb	02:35:42
1	Pb 220.353†	-72.4	2.9	0.3049 ug/L	0.3049 ppb	02:35:42
1	S 181.975 Axial†	55.9	10.4	12.669 ug/L	12.669 ppb	02:35:42
1	Sb 206.836†	48.2	12.7	3.9031 ug/L	3.9031 ppb	02:35:42
1	Se 196.026†	-33.2	-9.2	-5.0514 ug/L	-5.0514 ppb	02:35:42
1	Si 251.611†	500.8	-4.5	-0.1433 ug/L	-0.1433 ppb	02:35:42
1	Sn 189.927†	16.3	7.9	1.2788 ug/L	1.2788 ppb	02:35:42
1	Ti 334.940†	-1420.5	297.8	0.4289 ug/L	0.4289 ppb	02:35:22
1	Tl 190.801†	-43.7	-1.9	-0.5208 ug/L	-0.5208 ppb	02:35:42
1	U 409.014†	-4420.7	424.4	12.535 ug/L	12.535 ppb	02:35:22
1	V 292.402†	-1593.6	62.0	0.4456 ug/L	0.4456 ppb	02:35:22
1	Zn 213.857†	864.5	207.8	1.7605 ug/L	1.7605 ppb	02:35:42
1	SiO2†	510.3	-21.0	-1.3560 ug/L	-1.3560 ppb	02:36:38
2	Sc Radial	4404.7	4404.7	107 %		02:34:31
2	Y RADIAL	5002.3	5002.3	103.3 %		02:34:31
2	Al 396.153Radial†	-188.8	13.3	10.915 ug/L	10.915 ppb	02:34:31
2	Ca 317.933Radial†	24.8	9.9	18.375 ug/L	18.375 ppb	02:34:51
2	Fe 238.204 Radial†	11.6	0.7	8.5911 ug/L	8.5911 ppb	02:34:51
2	K 766.490 Radial†	2799.6	-2.2	-0.4671 ug/L	-0.4671 ppb	02:34:31
2	Mg 279.077 IEC†	4.4	4.1	173.82 ug/L	173.82 ppb	02:34:51
2	Na 589.592 Radial†	-1363.0	375.6	115.75 ug/L	115.75 ppb	02:34:31
2	Sr 421.552†	30.8	-7.6	-0.0504 ug/L	-0.0504 ppb	02:34:31
2	Sc 361.383	845026.0	845026.0	94.859 %		02:35:48
2	Y 371.029	686727.5	686727.5	93.528 %		02:35:48
2	Ag 328.068†	375.6	-228.5	-1.0053 ug/L	-1.0053 ppb	02:35:48
2	As 188.979†	-30.7	-3.6	-1.3872 ug/L	-1.3872 ppb	02:36:08
2	B 249.677†	-576.5	153.4	3.2059 ug/L	3.2059 ppb	02:36:08
2	Ba 233.527†	-14.2	0.4	0.0045 ug/L	0.0045 ppb	02:36:08
2	Be 313.107†	-4214.7	-40.1	-0.0128 ug/L	-0.0128 ppb	02:35:48
2	Cd 226.502†	-201.3	-8.1	-0.0824 ug/L	-0.0824 ppb	02:36:08
2	Co 228.616†	-89.5	-9.2	-0.1680 ug/L	-0.1680 ppb	02:36:08
2	Cr 267.716†	76.2	18.5	0.1860 ug/L	0.1860 ppb	02:35:48
2	Cu 324.752†	7130.4	630.0	1.7454 ug/L	1.7454 ppb	02:35:48
2	Mn 257.610†	708.2	214.8	0.2093 ug/L	0.2093 ppb	02:36:08
2	Mo 202.031†	20.0	15.9	1.0546 ug/L	1.0546 ppb	02:36:08
2	Ni 231.604†	56.2	-26.0	-0.5782 ug/L	-0.5782 ppb	02:36:08

2	P 214.914†	250.6	41.0	20.922 ug/L	20.922 ppb	02:36:08
2	Pb 220.353†	-67.3	8.6	0.9314 ug/L	0.9314 ppb	02:36:08
2	S 181.975 Axial†	48.0	1.7	2.1100 ug/L	2.1100 ppb	02:36:08
2	Sb 206.836†	53.3	17.7	5.4436 ug/L	5.4436 ppb	02:36:08
2	Se 196.026†	-27.8	-3.3	-1.8176 ug/L	-1.8176 ppb	02:36:08
2	Si 251.611†	526.0	18.8	0.5463 ug/L	0.5463 ppb	02:36:08
2	Sn 189.927†	11.8	3.0	0.4859 ug/L	0.4859 ppb	02:36:08
2	Ti 334.940†	-1518.6	203.5	0.2864 ug/L	0.2864 ppb	02:35:48
2	Tl 190.801†	-41.8	0.4	0.1260 ug/L	0.1260 ppb	02:36:08
2	U 409.014†	-4425.0	448.2	13.239 ug/L	13.239 ppb	02:35:48
2	V 292.402†	-1563.8	103.6	0.7313 ug/L	0.7313 ppb	02:35:48
2	Zn 213.857†	856.6	193.9	1.6454 ug/L	1.6454 ppb	02:36:08
2	SiO2†	523.8	-10.1	-0.6721 ug/L	-0.6721 ppb	02:36:44
3	Sc Radial	4197.4	4197.4	102 %		02:34:56
3	Y RADIAL	4759.6	4759.6	98.31 %		02:34:56
3	Al 396.153Radial†	-204.8	-11.2	-9.3101 ug/L	-9.3101 ppb	02:34:56
3	Ca 317.933Radial†	21.6	7.9	14.543 ug/L	14.543 ppb	02:35:16
3	Fe 238.204 Radial†	12.4	2.1	23.943 ug/L	23.943 ppb	02:35:16
3	K 766.490 Radial†	2859.1	185.8	35.317 ug/L	35.317 ppb	02:34:56
3	Mg 279.077 IEC†	6.1	6.0	253.53 ug/L	253.53 ppb	02:35:16
3	Na 589.592 Radial†	-1337.0	338.2	104.22 ug/L	104.22 ppb	02:34:56
3	Sr 421.552†	26.0	-10.9	-0.0719 ug/L	-0.0719 ppb	02:34:56
3	Sc 361.383	847073.8	847073.8	95.089 %		02:36:13
3	Y 371.029	687568.3	687568.3	93.643 %		02:36:13
3	Ag 328.068†	370.4	-235.0	-1.0357 ug/L	-1.0357 ppb	02:36:13
3	As 188.979†	-21.7	5.9	2.2795 ug/L	2.2795 ppb	02:36:33
3	B 249.677†	-557.2	175.1	3.6579 ug/L	3.6579 ppb	02:36:33
3	Ba 233.527†	-17.8	-3.4	-0.0251 ug/L	-0.0251 ppb	02:36:33
3	Be 313.107†	-4276.7	-94.5	-0.0313 ug/L	-0.0313 ppb	02:36:13
3	Cd 226.502†	-203.4	-9.8	-0.1001 ug/L	-0.1001 ppb	02:36:33
3	Co 228.616†	-97.5	-17.4	-0.3176 ug/L	-0.3176 ppb	02:36:33
3	Cr 267.716†	102.8	46.2	0.4694 ug/L	0.4694 ppb	02:36:13
3	Cu 324.752†	6945.7	417.6	1.1537 ug/L	1.1537 ppb	02:36:13
3	Mn 257.610†	643.5	145.0	0.1374 ug/L	0.1374 ppb	02:36:33
3	Mo 202.031†	25.3	21.4	1.4236 ug/L	1.4236 ppb	02:36:33
3	Ni 231.604†	84.0	3.2	0.0719 ug/L	0.0719 ppb	02:36:33
3	P 214.914†	262.1	52.4	26.928 ug/L	26.928 ppb	02:36:33
3	Pb 220.353†	-69.9	6.1	0.6531 ug/L	0.6531 ppb	02:36:33
3	S 181.975 Axial†	46.7	0.2	0.2294 ug/L	0.2294 ppb	02:36:33
3	Sb 206.836†	44.4	8.3	2.5520 ug/L	2.5520 ppb	02:36:33
3	Se 196.026†	-24.2	0.6	0.3964 ug/L	0.3964 ppb	02:36:33
3	Si 251.611†	488.6	-21.9	-0.6691 ug/L	-0.6691 ppb	02:36:33
3	Sn 189.927†	6.7	-2.4	-0.3890 ug/L	-0.3890 ppb	02:36:33
3	Ti 334.940†	-1605.0	116.5	0.1480 ug/L	0.1480 ppb	02:36:13
3	Tl 190.801†	-35.2	7.5	2.1123 ug/L	2.1123 ppb	02:36:33
3	U 409.014†	-4336.9	552.2	16.307 ug/L	16.307 ppb	02:36:13
3	V 292.402†	-1730.7	-67.9	-0.3995 ug/L	-0.3995 ppb	02:36:13
3	Zn 213.857†	855.8	190.8	1.6148 ug/L	1.6148 ppb	02:36:33
3	SiO2†	497.5	-39.0	-2.5278 ug/L	-2.5278 ppb	02:36:49

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	844004.6	94.744 %	0.4140			0.44%
Sc Radial	4263.2	103 %	3.0			2.88%
Y 371.029	685803.8	93.402 %	0.3222			0.34%
Y RADIAL	4829.4	99.75 %	3.111			3.12%
Ag 328.068†	-194.8	-0.8576 ug/L	0.28257	-0.8576 ppb	0.28257	32.95%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-1.4	-1.1878 ug/L	10.68385	-1.1878 ppb	10.68385	899.48%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.4	0.5296 ug/L	1.83902	0.5296 ppb	1.83902	347.23%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	156.6	3.2727 ug/L	0.35661	3.2727 ppb	0.35661	10.90%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.2	0.0025 ug/L	0.02663	0.0025 ppb	0.02663	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-25.4	-0.0078 ug/L	0.02631	-0.0078 ppb	0.02631	335.92%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	10.8	20.046 ug/L	6.5017	20.046 ppb	6.5017	32.43%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	-7.7	-0.0791 ug/L	0.02281	-0.0791 ppb	0.02281	28.83%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-12.5	-0.2285 ug/L	0.07878	-0.2285 ppb	0.07878	34.48%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	22.9	0.2313 ug/L	0.21893	0.2313 ppb	0.21893	94.65%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	521.3	1.4431 ug/L	0.29610	1.4431 ppb	0.29610	20.52%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	1.5	17.369 ug/L	7.9098	17.369 ppb	7.9098	45.54%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	117.2	22.259 ug/L	19.7544	22.259 ppb	19.7544	88.75%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	4.8	200.23 ug/L	46.163	200.23 ppb	46.163	23.06%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	159.9	0.1540 ug/L	0.04917	0.1540 ppb	0.04917	31.94%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	15.6	1.0409 ug/L	0.38969	1.0409 ppb	0.38969	37.44%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	326.4	100.58 ug/L	17.278	100.58 ppb	17.278	17.18%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-10.2	-0.2273 ug/L	0.32816	-0.2273 ppb	0.32816	144.38%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	38.9	19.884 ug/L	7.6170	19.884 ppb	7.6170	38.31%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	5.9	0.6298 ug/L	0.31390	0.6298 ppb	0.31390	49.84%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	4.1	5.0028 ug/L	6.70539	5.0028 ppb	6.70539	134.03%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	12.9	3.9662 ug/L	1.44684	3.9662 ppb	1.44684	36.48%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-4.0	-2.1575 ug/L	2.73978	-2.1575 ppb	2.73978	126.99%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-2.6	-0.0887 ug/L	0.60953	-0.0887 ppb	0.60953	687.05%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	2.8	0.4586 ug/L	0.83422	0.4586 ppb	0.83422	181.91%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-3.1	-0.0209 ug/L	0.07053	-0.0209 ppb	0.07053	337.30%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	205.9	0.2878 ug/L	0.14046	0.2878 ppb	0.14046	48.81%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	2.0	0.5725 ug/L	1.37215	0.5725 ppb	1.37215	239.67%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	474.9	14.027 ug/L	2.0054	14.027 ppb	2.0054	14.30%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	32.6	0.2591 ug/L	0.58800	0.2591 ppb	0.58800	226.92%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	197.5	1.6736 ug/L	0.07686	1.6736 ppb	0.07686	4.59%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	-23.4	-1.5186 ug/L	0.93844	-1.5186 ppb	0.93844	61.80%	
QC value within limits for SiO2 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 84

Sample ID: 244881001|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 103

Date Collected: 2/2/2010 02:38:59

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244881001|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4314.6	4314.6	105 %		02:40:52
1	Y RADIAL	5488.0	5488.0	113.4 %		02:40:52
1	Al 396.153Radial†	27474.9	26460.8	21848 ug/L	21848 ppb	02:40:52
1	Ca 317.933Radial†	4147.9	3952.7	7317.1 ug/L	7317.1 ppb	02:40:52
1	Fe 238.204 Radial†	6924.6	6611.0	76828 ug/L	76828 ppb	02:40:52
1	K 766.490 Radial†	27280.3	23460.4	4462.2 ug/L	4462.2 ppb	02:40:52
1	Mg 279.077 IEC†	115.9	110.8	4590.1 ug/L	4590.1 ppb	02:41:12
1	Na 589.592 Radial†	-72.8	1582.7	487.71 ug/L	487.71 ppb	02:40:52
1	Sr 421.552†	7871.8	7490.4	49.401 ug/L	49.401 ppb	02:40:52
1	Sc 361.383	865431.9	865431.9	97.149 %		02:42:10
1	Y 371.029	787191.7	787191.7	107.21 %		02:42:10
1	Ag 328.068†	-4796.3	-5561.5	0.8485 ug/L	0.8485 ppb	02:42:15
1	As 188.979†	-97.4	-71.5	16.080 ug/L	16.080 ppb	02:42:35
1	B 249.677†	300.4	1070.3	9.8569 ug/L	9.8569 ppb	02:42:15
1	Ba 233.527†	30010.4	30906.3	228.40 ug/L	228.40 ppb	02:42:15
1	Be 313.107†	-8356.2	-4198.3	5.2897 ug/L	5.2897 ppb	02:42:15
1	Cd 226.502†	543.1	763.2	-0.0583 ug/L	-0.0583 ppb	02:42:35
1	Co 228.616†	766.9	874.6	8.9222 ug/L	8.9222 ppb	02:42:35
1	Cr 267.716†	5143.9	5233.0	55.518 ug/L	55.518 ppb	02:42:35
1	Cu 324.752†	13666.4	7180.6	24.109 ug/L	24.109 ppb	02:42:15
1	Mn 257.610†	1883728.9	1938470.2	1952.3 ug/L	1952.3 ppb	02:42:10
1	Mo 202.031†	46.7	42.8	8.8987 ug/L	8.8987 ppb	02:42:35
1	Ni 231.604†	1581.2	1542.4	34.358 ug/L	34.358 ppb	02:42:35
1	P 214.914†	2222.8	2064.7	1011.6 ug/L	1011.6 ppb	02:42:35
1	Pb 220.353†	371.0	461.5	46.973 ug/L	46.973 ppb	02:42:35
1	S 181.975 Axial†	268.8	227.8	274.16 ug/L	274.16 ppb	02:42:35
1	Sb 206.836†	67.0	30.6	1.1457 ug/L	1.1457 ppb	02:42:35
1	Se 196.026†	-374.0	-359.0	56.463 ug/L	56.463 ppb	02:42:35
1	Si 251.611†	654114.5	672772.0	20026 ug/L	20026 ppb	02:42:10
1	Sn 189.927†	-21.2	-31.2	-2.6398 ug/L	-2.6398 ppb	02:42:35
1	Ti 334.940†	1916594.4	1974636.1	2951.1 ug/L	2951.1 ppb	02:42:10
1	Tl 190.801†	-156.3	-116.5	0.7105 ug/L	0.7105 ppb	02:42:35
1	U 409.014†	-9164.8	-4320.6	-136.50 ug/L	-136.50 ppb	02:42:10
1	V 292.402†	8930.9	10945.2	58.367 ug/L	58.367 ppb	02:42:15
1	Zn 213.857†	41230.5	41731.2	346.36 ug/L	346.36 ppb	02:42:15
1	SiO2†	654971.3	673627.5	42957 ug/L	42957 ppb	02:43:43
2	Sc Radial	4325.5	4325.5	105 %		02:41:17
2	Y RADIAL	5536.1	5536.1	114.3 %		02:41:17
2	Al 396.153Radial†	27752.5	26659.7	22012 ug/L	22012 ppb	02:41:17
2	Ca 317.933Radial†	4196.1	3988.8	7383.7 ug/L	7383.7 ppb	02:41:17
2	Fe 238.204 Radial†	7006.0	6672.0	77536 ug/L	77536 ppb	02:41:17
2	K 766.490 Radial†	27503.6	23607.8	4490.2 ug/L	4490.2 ppb	02:41:17
2	Mg 279.077 IEC†	116.7	111.3	4609.5 ug/L	4609.5 ppb	02:41:37
2	Na 589.592 Radial†	25.8	1676.8	516.72 ug/L	516.72 ppb	02:41:17
2	Sr 421.552†	7861.1	7461.3	49.209 ug/L	49.209 ppb	02:41:17
2	Sc 361.383	871359.0	871359.0	97.815 %		02:42:41
2	Y 371.029	791961.7	791961.7	107.86 %		02:42:41
2	Ag 328.068†	-4621.2	-5348.9	2.0027 ug/L	2.0027 ppb	02:42:46
2	As 188.979†	-91.9	-65.2	18.603 ug/L	18.603 ppb	02:43:06
2	B 249.677†	196.3	961.8	7.4739 ug/L	7.4739 ppb	02:42:46
2	Ba 233.527†	29968.4	30653.2	226.57 ug/L	226.57 ppb	02:42:46
2	Be 313.107†	-8100.1	-3878.1	5.3765 ug/L	5.3765 ppb	02:42:46
2	Cd 226.502†	510.5	726.0	-0.5153 ug/L	-0.5153 ppb	02:43:06
2	Co 228.616†	727.1	828.5	8.0813 ug/L	8.0813 ppb	02:43:06
2	Cr 267.716†	5119.8	5172.4	54.906 ug/L	54.906 ppb	02:43:06
2	Cu 324.752†	13585.3	7001.9	23.648 ug/L	23.648 ppb	02:42:46
2	Mn 257.610†	1894241.4	1936028.3	1950.0 ug/L	1950.0 ppb	02:42:41
2	Mo 202.031†	45.5	41.3	8.8492 ug/L	8.8492 ppb	02:43:06
2	Ni 231.604†	1551.8	1501.3	33.442 ug/L	33.442 ppb	02:43:06

2	P 214.914†	2210.6	2036.8	996.65 ug/L	996.65 ppb	02:43:06
2	Pb 220.353†	358.2	445.8	45.260 ug/L	45.260 ppb	02:43:06
2	S 181.975 Axial†	270.4	227.5	273.81 ug/L	273.81 ppb	02:43:06
2	Sb 206.836†	77.3	40.6	4.2491 ug/L	4.2491 ppb	02:43:06
2	Se 196.026†	-371.1	-353.4	61.901 ug/L	61.901 ppb	02:43:06
2	Si 251.611†	658019.8	672184.7	20008 ug/L	20008 ppb	02:42:41
2	Sn 189.927†	-16.0	-25.8	-1.7427 ug/L	-1.7427 ppb	02:43:06
2	Ti 334.940†	1923779.7	1968562.6	2942.0 ug/L	2942.0 ppb	02:42:41
2	Tl 190.801†	-161.9	-121.1	-0.6791 ug/L	-0.6791 ppb	02:43:06
2	U 409.014†	-9095.3	-4185.5	-132.59 ug/L	-132.59 ppb	02:42:41
2	V 292.402†	8943.2	10895.2	57.948 ug/L	57.948 ppb	02:42:46
2	Zn 213.857†	41065.3	41273.6	342.41 ug/L	342.41 ppb	02:42:46
2	SiO2†	657772.3	671905.1	42847 ug/L	42847 ppb	02:43:48
3	Sc Radial	4390.8	4390.8	106 %		02:41:42
3	Y RADIAL	5569.6	5569.6	115.0 %		02:41:42
3	Al 396.153Radial†	27892.1	26397.0	21795 ug/L	21795 ppb	02:41:42
3	Ca 317.933Radial†	4176.5	3910.8	7239.5 ug/L	7239.5 ppb	02:41:42
3	Fe 238.204 Radial†	6978.4	6546.7	76080 ug/L	76080 ppb	02:41:42
3	K 766.490 Radial†	27295.7	23022.3	4378.8 ug/L	4378.8 ppb	02:41:42
3	Mg 279.077 IEC†	116.6	109.6	4540.9 ug/L	4540.9 ppb	02:42:02
3	Na 589.592 Radial†	-109.5	1549.4	477.45 ug/L	477.45 ppb	02:41:42
3	Sr 421.552†	7886.8	7373.9	48.633 ug/L	48.633 ppb	02:41:42
3	Sc 361.383	870037.6	870037.6	97.666 %		02:43:12
3	Y 371.029	790154.4	790154.4	107.61 %		02:43:12
3	Ag 328.068†	-4834.8	-5574.8	0.5490 ug/L	0.5490 ppb	02:43:17
3	As 188.979†	-93.3	-66.8	17.635 ug/L	17.635 ppb	02:43:37
3	B 249.677†	256.6	1023.8	9.0053 ug/L	9.0053 ppb	02:43:17
3	Ba 233.527†	30266.6	31005.1	229.10 ug/L	229.10 ppb	02:43:17
3	Be 313.107†	-8111.4	-3902.1	5.3670 ug/L	5.3670 ppb	02:43:17
3	Cd 226.502†	544.1	761.2	-0.0002 ug/L	-0.0002 ppb	02:43:37
3	Co 228.616†	760.7	864.0	8.7594 ug/L	8.7594 ppb	02:43:37
3	Cr 267.716†	5119.9	5180.4	54.962 ug/L	54.962 ppb	02:43:37
3	Cu 324.752†	13732.0	7173.3	24.045 ug/L	24.045 ppb	02:43:17
3	Mn 257.610†	1888855.1	1933454.4	1947.2 ug/L	1947.2 ppb	02:43:12
3	Mo 202.031†	50.3	46.3	9.0712 ug/L	9.0712 ppb	02:43:37
3	Ni 231.604†	1543.0	1494.7	33.296 ug/L	33.296 ppb	02:43:37
3	P 214.914†	2223.9	2053.7	1006.5 ug/L	1006.5 ppb	02:43:37
3	Pb 220.353†	350.9	438.9	44.609 ug/L	44.609 ppb	02:43:37
3	S 181.975 Axial†	275.2	232.9	280.46 ug/L	280.46 ppb	02:43:37
3	Sb 206.836†	70.1	33.4	2.0245 ug/L	2.0245 ppb	02:43:37
3	Se 196.026†	-374.1	-357.1	55.052 ug/L	55.052 ppb	02:43:37
3	Si 251.611†	657349.8	672520.4	20018 ug/L	20018 ppb	02:43:12
3	Sn 189.927†	-18.7	-28.6	-2.2398 ug/L	-2.2398 ppb	02:43:37
3	Ti 334.940†	1920429.3	1968119.3	2941.3 ug/L	2941.3 ppb	02:43:12
3	Tl 190.801†	-178.4	-138.2	-5.5125 ug/L	-5.5125 ppb	02:43:37
3	U 409.014†	-8976.8	-4078.2	-129.26 ug/L	-129.26 ppb	02:43:12
3	V 292.402†	9178.1	11149.6	59.862 ug/L	59.862 ppb	02:43:17
3	Zn 213.857†	41330.5	41609.0	345.40 ug/L	345.40 ppb	02:43:17
3	SiO2†	652426.8	667453.2	42563 ug/L	42563 ppb	02:43:54

Mean Data: 244881001|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	868942.8	97.544 %	0.3493			0.36%
Sc Radial	4343.6	105 %	1.0			0.95%
Y 371.029	789769.3	107.56 %	0.328			0.30%
Y RADIAL	5531.3	114.2 %	0.85			0.74%
Ag 328.068†	-5495.1	1.1334 ug/L	0.76756	1.1334 ppb	0.76756	67.72%
Al 396.153Radial†	26505.9	21885 ug/L	113.1	21885 ppb	113.1	0.52%
As 188.979†	-67.8	17.439 ug/L	1.2727	17.439 ppb	1.2727	7.30%
B 249.677†	1018.6	8.7787 ug/L	1.20754	8.7787 ppb	1.20754	13.76%
Ba 233.527†	30854.9	228.02 ug/L	1.307	228.02 ppb	1.307	0.57%
Be 313.107†	-3992.8	5.3444 ug/L	0.04762	5.3444 ppb	0.04762	0.89%
Ca 317.933Radial†	3950.8	7313.4 ug/L	72.20	7313.4 ppb	72.20	0.99%
Cd 226.502†	750.1	-0.1912 ug/L	0.28216	-0.1912 ppb	0.28216	147.54%
Co 228.616†	855.7	8.5876 ug/L	0.44599	8.5876 ppb	0.44599	5.19%
Cr 267.716†	5195.3	55.129 ug/L	0.3386	55.129 ppb	0.3386	0.61%
Cu 324.752†	7118.6	23.934 ug/L	0.2501	23.934 ppb	0.2501	1.05%
Fe 238.204 Radial†	6609.9	76815 ug/L	728.3	76815 ppb	728.3	0.95%
K 766.490 Radial†	23363.5	4443.7 ug/L	57.94	4443.7 ppb	57.94	1.30%

Mg 279.077 IEC†	110.6	4580.2 ug/L	35.38	4580.2 ppb	35.38	0.77%
Mn 257.610†	1935984.3	1949.8 ug/L	2.55	1949.8 ppb	2.55	0.13%
Mo 202.031†	43.5	8.9397 ug/L	0.11652	8.9397 ppb	0.11652	1.30%
Na 589.592 Radial†	1603.0	493.96 ug/L	20.369	493.96 ppb	20.369	4.12%
Ni 231.604†	1512.8	33.699 ug/L	0.5756	33.699 ppb	0.5756	1.71%
P 214.914†	2051.7	1004.9 ug/L	7.59	1004.9 ppb	7.59	0.76%
Pb 220.353†	448.7	45.614 ug/L	1.2213	45.614 ppb	1.2213	2.68%
S 181.975 Axial†	229.4	276.14 ug/L	3.740	276.14 ppb	3.740	1.35%
Sb 206.836†	34.8	2.4731 ug/L	1.59962	2.4731 ppb	1.59962	64.68%
Se 196.026†	-356.5	57.805 ug/L	3.6167	57.805 ppb	3.6167	6.26%
Si 251.611†	672492.4	20017 ug/L	8.8	20017 ppb	8.8	0.04%
Sn 189.927†	-28.5	-2.2074 ug/L	0.44941	-2.2074 ppb	0.44941	20.36%
Sr 421.552†	7441.8	49.081 ug/L	0.3999	49.081 ppb	0.3999	0.81%
Ti 334.940†	1970439.3	2944.8 ug/L	5.44	2944.8 ppb	5.44	0.18%
Tl 190.801†	-125.2	-1.8270 ug/L	3.26647	-1.8270 ppb	3.26647	178.79%
U 409.014†	-4194.8	-132.78 ug/L	3.627	-132.78 ppb	3.627	2.73%
V 292.402†	10996.6	58.726 ug/L	1.0066	58.726 ppb	1.0066	1.71%
Zn 213.857†	41537.9	344.72 ug/L	2.057	344.72 ppb	2.057	0.60%
SiO2†	670995.3	42789 ug/L	203.2	42789 ppb	203.2	0.47%

Sequence No.: 85

Sample ID: 1202018101|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 104

Date Collected: 2/2/2010 02:46:06

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018101|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4374.2	4374.2	106 %		02:47:59
1	Y RADIAL	5654.1	5654.1	116.8 %		02:47:59
1	Al 396.153Radial†	29769.9	28267.6	23340 ug/L	23340 ppb	02:47:59
1	Ca 317.933Radial†	4309.8	4051.5	7499.8 ug/L	7499.8 ppb	02:47:59
1	Fe 238.204 Radial†	7727.7	7278.2	84582 ug/L	84582 ppb	02:47:59
1	K 766.490 Radial†	29729.0	25414.6	4833.9 ug/L	4833.9 ppb	02:47:59
1	Mg 279.077 IEC†	136.4	128.7	5335.4 ug/L	5335.4 ppb	02:48:19
1	Na 589.592 Radial†	70.8	1719.0	529.71 ug/L	529.71 ppb	02:47:59
1	Sr 421.552†	9009.7	8461.0	55.809 ug/L	55.809 ppb	02:47:59
1	Sc 361.383	863488.1	863488.1	96.931 %		02:49:17
1	Y 371.029	796053.6	796053.6	108.42 %		02:49:17
1	Ag 328.068†	-5126.3	-5913.1	1.8463 ug/L	1.8463 ppb	02:49:22
1	As 188.979†	-86.9	-61.0	24.925 ug/L	24.925 ppb	02:49:42
1	B 249.677†	283.9	1054.0	8.2451 ug/L	8.2451 ppb	02:49:22
1	Ba 233.527†	35324.5	36458.1	269.22 ug/L	269.22 ppb	02:49:22
1	Be 313.107†	-9695.8	-5599.7	5.5985 ug/L	5.5985 ppb	02:49:22
1	Cd 226.502†	605.5	828.7	-0.1843 ug/L	-0.1843 ppb	02:49:42
1	Co 228.616†	958.4	1073.9	11.788 ug/L	11.788 ppb	02:49:42
1	Cr 267.716†	5101.1	5200.8	55.348 ug/L	55.348 ppb	02:49:42
1	Cu 324.752†	13715.2	7262.6	24.755 ug/L	24.755 ppb	02:49:22
1	Mn 257.610†	2249561.3	2320249.5	2336.1 ug/L	2336.1 ppb	02:49:17
1	Mo 202.031†	62.7	59.5	10.608 ug/L	10.608 ppb	02:49:42
1	Ni 231.604†	1610.1	1575.9	35.104 ug/L	35.104 ppb	02:49:42
1	P 214.914†	1961.2	1800.1	868.27 ug/L	868.27 ppb	02:49:42
1	Pb 220.353†	417.9	510.8	51.844 ug/L	51.844 ppb	02:49:42
1	S 181.975 Axial†	303.6	264.4	318.56 ug/L	318.56 ppb	02:49:42
1	Sb 206.836†	56.6	19.9	-3.0274 ug/L	-3.0274 ppb	02:49:42
1	Se 196.026†	-401.2	-388.0	66.137 ug/L	66.137 ppb	02:49:42
1	Si 251.611†	675535.9	696387.3	20729 ug/L	20729 ppb	02:49:17
1	Sn 189.927†	-13.2	-23.1	-1.1664 ug/L	-1.1664 ppb	02:49:42
1	Ti 334.940†	2134903.5	2204297.9	3294.2 ug/L	3294.2 ppb	02:49:17
1	Tl 190.801†	-167.5	-128.3	2.0287 ug/L	2.0287 ppb	02:49:42
1	U 409.014†	-9588.7	-4779.2	-150.93 ug/L	-150.93 ppb	02:49:17
1	V 292.402†	9496.2	11549.0	60.896 ug/L	60.896 ppb	02:49:22
1	Zn 213.857†	45902.8	46647.0	387.31 ug/L	387.31 ppb	02:49:22
1	SiO2†	677275.7	698155.7	44521 ug/L	44521 ppb	02:50:51
2	Sc Radial	4404.2	4404.2	107 %		02:48:24
2	Y RADIAL	5670.5	5670.5	117.1 %		02:48:24
2	Al 396.153Radial†	30024.3	28314.8	23379 ug/L	23379 ppb	02:48:24
2	Ca 317.933Radial†	4349.6	4061.1	7517.7 ug/L	7517.7 ppb	02:48:24
2	Fe 238.204 Radial†	7779.6	7277.2	84570 ug/L	84570 ppb	02:48:24
2	K 766.490 Radial†	29974.3	25453.5	4841.3 ug/L	4841.3 ppb	02:48:24
2	Mg 279.077 IEC†	133.3	124.9	5175.0 ug/L	5175.0 ppb	02:48:44
2	Na 589.592 Radial†	51.3	1700.4	523.97 ug/L	523.97 ppb	02:48:24
2	Sr 421.552†	9041.9	8433.4	55.627 ug/L	55.627 ppb	02:48:24
2	Sc 361.383	873778.2	873778.2	98.086 %		02:49:48
2	Y 371.029	803354.6	803354.6	109.41 %		02:49:48
2	Ag 328.068†	-5133.2	-5857.9	2.0776 ug/L	2.0776 ppb	02:49:53
2	As 188.979†	-103.5	-76.8	18.871 ug/L	18.871 ppb	02:50:13
2	B 249.677†	251.2	1017.2	7.4785 ug/L	7.4785 ppb	02:49:53
2	Ba 233.527†	35065.6	35765.1	264.15 ug/L	264.15 ppb	02:49:53
2	Be 313.107†	-9524.7	-5307.5	5.7022 ug/L	5.7022 ppb	02:49:53
2	Cd 226.502†	584.3	799.8	-0.4817 ug/L	-0.4817 ppb	02:50:13
2	Co 228.616†	974.7	1078.8	11.872 ug/L	11.872 ppb	02:50:13
2	Cr 267.716†	5100.5	5138.2	54.702 ug/L	54.702 ppb	02:50:13
2	Cu 324.752†	13761.6	7143.2	24.421 ug/L	24.421 ppb	02:49:53
2	Mn 257.610†	2276672.1	2320558.6	2336.4 ug/L	2336.4 ppb	02:49:48
2	Mo 202.031†	66.3	62.4	10.799 ug/L	10.799 ppb	02:50:13
2	Ni 231.604†	1579.3	1525.0	33.968 ug/L	33.968 ppb	02:50:13



2	P 214.914†	1969.0	1784.1	860.10 ug/L	860.10 ppb	02:50:13
2	Pb 220.353†	413.0	500.7	50.771 ug/L	50.771 ppb	02:50:13
2	S 181.975 Axial†	318.8	276.2	332.98 ug/L	332.98 ppb	02:50:13
2	Sb 206.836†	83.7	46.9	5.2155 ug/L	5.2155 ppb	02:50:13
2	Se 196.026†	-392.0	-373.7	74.034 ug/L	74.034 ppb	02:50:13
2	Si 251.611†	684676.5	697498.9	20762 ug/L	20762 ppb	02:49:48
2	Sn 189.927†	-4.7	-14.2	0.2745 ug/L	0.2745 ppb	02:50:13
2	Ti 334.940†	2161973.3	2205958.1	3296.7 ug/L	3296.7 ppb	02:49:48
2	Tl 190.801†	-175.2	-134.2	0.3934 ug/L	0.3934 ppb	02:50:13
2	U 409.014†	-9595.1	-4669.2	-147.68 ug/L	-147.68 ppb	02:49:48
2	V 292.402†	9471.9	11408.9	59.969 ug/L	59.969 ppb	02:49:53
2	Zn 213.857†	45615.9	45796.8	380.10 ug/L	380.10 ppb	02:49:53
2	SiO2†	680410.3	693123.0	44200 ug/L	44200 ppb	02:50:56
3	Sc Radial	4439.9	4439.9	108 %		02:48:49
3	Y RADIAL	5718.5	5718.5	118.1 %		02:48:49
3	Al 396.153Radial†	30056.5	28118.2	23216 ug/L	23216 ppb	02:48:49
3	Ca 317.933Radial†	4362.2	4040.0	7478.6 ug/L	7478.6 ppb	02:48:49
3	Fe 238.204 Radial†	7726.4	7169.1	83314 ug/L	83314 ppb	02:48:49
3	K 766.490 Radial†	29898.7	25157.1	4785.0 ug/L	4785.0 ppb	02:48:49
3	Mg 279.077 IBC†	135.3	125.7	5211.0 ug/L	5211.0 ppb	02:49:10
3	Na 589.592 Radial†	-13.2	1640.0	505.37 ug/L	505.37 ppb	02:48:49
3	Sr 421.552†	9059.0	8381.0	55.281 ug/L	55.281 ppb	02:48:49
3	Sc 361.383	864112.6	864112.6	97.001 %		02:50:19
3	Y 371.029	794251.9	794251.9	108.17 %		02:50:19
3	Ag 328.068†	-5099.0	-5881.1	1.5787 ug/L	1.5787 ppb	02:50:24
3	As 188.979†	-94.8	-69.0	21.551 ug/L	21.551 ppb	02:50:44
3	B 249.677†	296.9	1067.1	8.7255 ug/L	8.7255 ppb	02:50:24
3	Ba 233.527†	35625.2	36741.9	271.26 ug/L	271.26 ppb	02:50:24
3	Be 313.107†	-9607.7	-5501.7	5.6363 ug/L	5.6363 ppb	02:50:24
3	Cd 226.502†	600.7	823.4	-0.1092 ug/L	-0.1092 ppb	02:50:44
3	Co 228.616†	972.6	1087.8	12.058 ug/L	12.058 ppb	02:50:44
3	Cr 267.716†	5150.8	5248.2	55.812 ug/L	55.812 ppb	02:50:44
3	Cu 324.752†	13796.9	7336.6	24.894 ug/L	24.894 ppb	02:50:24
3	Mn 257.610†	2253414.7	2322544.7	2338.3 ug/L	2338.3 ppb	02:50:19
3	Mo 202.031†	59.5	56.2	10.289 ug/L	10.289 ppb	02:50:44
3	Ni 231.604†	1599.1	1563.3	34.823 ug/L	34.823 ppb	02:50:44
3	P 214.914†	1959.0	1796.3	867.25 ug/L	867.25 ppb	02:50:44
3	Pb 220.353†	415.7	508.1	51.656 ug/L	51.656 ppb	02:50:44
3	S 181.975 Axial†	313.6	274.4	330.82 ug/L	330.82 ppb	02:50:44
3	Sb 206.836†	62.1	25.6	-1.3381 ug/L	-1.3381 ppb	02:50:44
3	Se 196.026†	-405.3	-391.9	59.767 ug/L	59.767 ppb	02:50:44
3	Si 251.611†	676443.2	696819.0	20741 ug/L	20741 ppb	02:50:19
3	Sn 189.927†	-10.5	-20.2	-0.7317 ug/L	-0.7317 ppb	02:50:44
3	Ti 334.940†	2137831.9	2205725.0	3296.3 ug/L	3296.3 ppb	02:50:19
3	Tl 190.801†	-174.8	-135.8	-0.0582 ug/L	-0.0582 ppb	02:50:44
3	U 409.014†	-9613.0	-4797.1	-151.32 ug/L	-151.32 ppb	02:50:19
3	V 292.402†	9583.5	11632.0	61.623 ug/L	61.623 ppb	02:50:24
3	Zn 213.857†	46254.6	46975.3	390.22 ug/L	390.22 ppb	02:50:24
3	SiO2†	680153.6	700617.6	44678 ug/L	44678 ppb	02:51:02

Mean Data: 1202018101|942648|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867126.3	97.340 %	0.6476			0.67%
Sc Radial	4406.1	107 %	0.8			0.75%
Y 371.029	797886.7	108.67 %	0.656			0.60%
Y RADIAL	5681.0	117.3 %	0.69			0.59%
Ag 328.068†	-5884.0	1.8342 ug/L	0.24971	1.8342 ppb	0.24971	13.61%
Al 396.153Radial†	28233.5	23312 ug/L	84.7	23312 ppb	84.7	0.36%
As 188.979†	-68.9	21.782 ug/L	3.0337	21.782 ppb	3.0337	13.93%
B 249.677†	1046.1	8.1497 ug/L	0.62894	8.1497 ppb	0.62894	7.72%
Ba 233.527†	36321.7	268.21 ug/L	3.658	268.21 ppb	3.658	1.36%
Be 313.107†	-5469.6	5.6457 ug/L	0.05247	5.6457 ppb	0.05247	0.93%
Ca 317.933Radial†	4050.8	7498.7 ug/L	19.56	7498.7 ppb	19.56	0.26%
Cd 226.502†	817.3	-0.2584 ug/L	0.19701	-0.2584 ppb	0.19701	76.24%
Co 228.616†	1080.2	11.906 ug/L	0.1383	11.906 ppb	0.1383	1.16%
Cr 267.716†	5195.7	55.288 ug/L	0.5579	55.288 ppb	0.5579	1.01%
Cu 324.752†	7247.5	24.690 ug/L	0.2433	24.690 ppb	0.2433	0.99%
Fe 238.204 Radial†	7241.5	84155 ug/L	728.7	84155 ppb	728.7	0.87%
K 766.490 Radial†	25341.8	4820.1 ug/L	30.65	4820.1 ppb	30.65	0.64%

Mg 279.077 IEC†	126.5	5240.5 ug/L	84.18	5240.5 ppb	84.18	1.61%
Mn 257.610†	2321117.6	2337.0 ug/L	1.18	2337.0 ppb	1.18	0.05%
Mo 202.031†	59.3	10.565 ug/L	0.2574	10.565 ppb	0.2574	2.44%
Na 589.592 Radial†	1686.5	519.69 ug/L	12.725	519.69 ppb	12.725	2.45%
Ni 231.604†	1554.8	34.632 ug/L	0.5915	34.632 ppb	0.5915	1.71%
P 214.914†	1793.5	865.21 ug/L	4.453	865.21 ppb	4.453	0.51%
Pb 220.353†	506.5	51.423 ug/L	0.5728	51.423 ppb	0.5728	1.11%
S 181.975 Axial†	271.6	327.46 ug/L	7.777	327.46 ppb	7.777	2.38%
Sb 206.836†	30.8	0.2833 ug/L	4.35412	0.2833 ppb	4.35412	>999.9%
Se 196.026†	-384.5	66.646 ug/L	7.1474	66.646 ppb	7.1474	10.72%
Si 251.611†	696901.7	20744 ug/L	16.7	20744 ppb	16.7	0.08%
Sn 189.927†	-19.2	-0.5412 ug/L	0.73907	-0.5412 ppb	0.73907	136.56%
Sr 421.552†	8425.2	55.572 ug/L	0.2682	55.572 ppb	0.2682	0.48%
Ti 334.940†	2205327.0	3295.7 ug/L	1.35	3295.7 ppb	1.35	0.04%
Tl 190.801†	-132.8	0.7880 ug/L	1.09796	0.7880 ppb	1.09796	139.34%
U 409.014†	-4748.5	-149.98 ug/L	1.997	-149.98 ppb	1.997	1.33%
V 292.402†	11530.0	60.829 ug/L	0.8293	60.829 ppb	0.8293	1.36%
Zn 213.857†	46473.0	385.88 ug/L	5.207	385.88 ppb	5.207	1.35%
SiO2†	697298.7	44466 ug/L	243.6	44466 ppb	243.6	0.55%

Sequence No.: 86

Sample ID: 1202018102|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 105

Date Collected: 2/2/2010 02:53:14

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018102|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4280.8	4280.8	104 %		02:55:27
1	Y RADIAL	5430.0	5430.0	112.2 %		02:55:27
1	Al 396.153Radial†	57625.8	55725.6	45988 ug/L	45988 ppb	02:55:07
1	Ca 317.933Radial†	6902.9	6639.1	12290 ug/L	12290 ppb	02:55:27
1	Fe 238.204 Radial†	7952.8	7654.2	88965 ug/L	88965 ppb	02:55:07
1	K 766.490 Radial†	64926.4	59946.9	11403 ug/L	11403 ppb	02:55:07
1	Mg 279.077 IEC†	293.7	283.1	11841 ug/L	11841 ppb	02:55:27
1	Na 589.592 Radial†	17942.8	18944.2	5837.7 ug/L	5837.7 ppb	02:55:07
1	Sr 421.552†	89711.7	86421.1	570.51 ug/L	570.51 ppb	02:55:07
1	Sc 361.383	863811.1	863811.1	96.967 %		02:56:26
1	Y 371.029	787987.5	787987.5	107.32 %		02:56:26
1	Ag 328.068†	105192.8	107858.1	502.51 ug/L	502.51 ppb	02:56:26
1	As 188.979†	1139.2	1203.6	515.64 ug/L	515.64 ppb	02:56:47
1	B 249.677†	22669.3	24139.3	488.85 ug/L	488.85 ppb	02:56:26
1	Ba 233.527†	99633.0	102764.2	755.07 ug/L	755.07 ppb	02:56:26
1	Be 313.107†	1430230.6	1479362.4	505.18 ug/L	505.18 ppb	02:56:26
1	Cd 226.502†	46983.2	48656.7	493.64 ug/L	493.64 ppb	02:56:26
1	Co 228.616†	26064.6	26964.9	488.86 ug/L	488.86 ppb	02:56:47
1	Cr 267.716†	52680.5	54266.2	561.04 ug/L	561.04 ppb	02:56:26
1	Cu 324.752†	196181.9	195430.4	548.08 ug/L	548.08 ppb	02:56:26
1	Mn 257.610†	2583096.4	2663347.9	2680.5 ug/L	2680.5 ppb	02:56:26
1	Mo 202.031†	6998.0	7211.6	486.33 ug/L	486.33 ppb	02:56:47
1	Ni 231.604†	22811.6	23439.8	522.00 ug/L	522.00 ppb	02:56:47
1	P 214.914†	3159.0	3034.5	1412.1 ug/L	1412.1 ppb	02:56:47
1	Pb 220.353†	4772.0	5000.8	538.97 ug/L	538.97 ppb	02:56:47
1	S 181.975 Axial†	4193.6	4275.9	5214.8 ug/L	5214.8 ppb	02:56:47
1	Sb 206.836†	1576.4	1587.3	492.60 ug/L	492.60 ppb	02:56:47
1	Se 196.026†	466.7	507.2	579.70 ug/L	579.70 ppb	02:56:47
1	Si 251.611†	832554.0	858055.4	25535 ug/L	25535 ppb	02:56:26
1	Sn 189.927†	3011.2	3096.0	503.52 ug/L	503.52 ppb	02:56:47
1	Ti 334.940†	2522543.6	2603237.4	3890.0 ug/L	3890.0 ppb	02:56:26
1	Tl 190.801†	1494.6	1585.8	489.19 ug/L	489.19 ppb	02:56:47
1	U 409.014†	6831.2	12157.9	347.74 ug/L	347.74 ppb	02:56:26
1	V 292.402†	80927.3	85210.4	557.29 ug/L	557.29 ppb	02:56:26
1	Zn 213.857†	102279.9	104769.4	876.20 ug/L	876.20 ppb	02:56:26
1	SiO2†	821731.5	846867.9	53991 ug/L	53991 ppb	02:57:48
2	Sc Radial	4244.8	4244.8	103 %		02:55:52
2	Y RADIAL	5390.6	5390.6	111.3 %		02:55:52
2	Al 396.153Radial†	58016.5	56576.2	46691 ug/L	46691 ppb	02:55:32
2	Ca 317.933Radial†	6927.4	6719.4	12438 ug/L	12438 ppb	02:55:52
2	Fe 238.204 Radial†	7990.5	7755.8	90146 ug/L	90146 ppb	02:55:32
2	K 766.490 Radial†	65054.7	60602.3	11527 ug/L	11527 ppb	02:55:32
2	Mg 279.077 IEC†	292.5	284.3	11892 ug/L	11892 ppb	02:55:52
2	Na 589.592 Radial†	17843.2	18994.0	5853.0 ug/L	5853.0 ppb	02:55:32
2	Sr 421.552†	90086.8	87518.7	577.76 ug/L	577.76 ppb	02:55:32
2	Sc 361.383	864215.5	864215.5	97.013 %		02:56:54
2	Y 371.029	789774.1	789774.1	107.56 %		02:56:54
2	Ag 328.068†	104976.2	107584.1	501.68 ug/L	501.68 ppb	02:56:54
2	As 188.979†	1155.2	1219.6	521.91 ug/L	521.91 ppb	02:57:14
2	B 249.677†	22556.0	24011.7	485.98 ug/L	485.98 ppb	02:56:54
2	Ba 233.527†	99745.7	102832.3	755.60 ug/L	755.60 ppb	02:56:54
2	Be 313.107†	1426596.9	1474926.6	503.65 ug/L	503.65 ppb	02:56:54
2	Cd 226.502†	47074.5	48728.1	494.26 ug/L	494.26 ppb	02:56:54
2	Co 228.616†	26184.9	27076.3	490.93 ug/L	490.93 ppb	02:57:14
2	Cr 267.716†	52691.8	54252.4	560.92 ug/L	560.92 ppb	02:56:54
2	Cu 324.752†	194464.1	193565.0	542.96 ug/L	542.96 ppb	02:56:54
2	Mn 257.610†	2578741.2	2657612.0	2674.9 ug/L	2674.9 ppb	02:56:54
2	Mo 202.031†	7015.3	7226.1	487.39 ug/L	487.39 ppb	02:57:14
2	Ni 231.604†	22922.8	23543.4	524.30 ug/L	524.30 ppb	02:57:14

2	P 214.914†	3174.9	3049.4	1420.1 ug/L	1420.1 ppb	02:57:14
2	Pb 220.353†	4765.6	4992.0	538.07 ug/L	538.07 ppb	02:57:14
2	S 181.975 Axial†	4191.5	4271.7	5209.6 ug/L	5209.6 ppb	02:57:14
2	Sb 206.836†	1578.6	1588.8	493.14 ug/L	493.14 ppb	02:57:14
2	Se 196.026†	476.6	517.3	589.22 ug/L	589.22 ppb	02:57:14
2	Si 251.611†	829187.9	854183.9	25420 ug/L	25420 ppb	02:56:54
2	Sn 189.927†	3019.3	3102.8	504.67 ug/L	504.67 ppb	02:57:14
2	Ti 334.940†	2513739.2	2592944.6	3874.6 ug/L	3874.6 ppb	02:56:54
2	Tl 190.801†	1498.8	1589.4	490.04 ug/L	490.04 ppb	02:57:14
2	U 409.014†	6853.7	12177.9	348.19 ug/L	348.19 ppb	02:56:54
2	V 292.402†	80825.2	85066.1	556.19 ug/L	556.19 ppb	02:56:54
2	Zn 213.857†	102008.4	104440.2	873.28 ug/L	873.28 ppb	02:56:54
2	SiO2†	824523.3	849349.1	54149 ug/L	54149 ppb	02:57:54
3	Sc Radial	4311.9	4311.9	105 %		02:56:18
3	Y RADIAL	5471.2	5471.2	113.0 %		02:56:18
3	Al 396.153Radial†	57439.5	55146.5	45510 ug/L	45510 ppb	02:55:58
3	Ca 317.933Radial†	6939.8	6626.4	12266 ug/L	12266 ppb	02:56:18
3	Fe 238.204 Radial†	7857.3	7507.5	87261 ug/L	87261 ppb	02:55:58
3	K 766.490 Radial†	64337.3	58931.6	11209 ug/L	11209 ppb	02:55:58
3	Mg 279.077 IEC†	293.8	281.1	11760 ug/L	11760 ppb	02:56:18
3	Na 589.592 Radial†	17625.9	18516.2	5705.8 ug/L	5705.8 ppb	02:55:58
3	Sr 421.552†	89238.6	85344.3	563.41 ug/L	563.41 ppb	02:55:58
3	Sc 361.383	866474.6	866474.6	97.266 %		02:57:21
3	Y 371.029	791580.4	791580.4	107.81 %		02:57:21
3	Ag 328.068†	105335.2	107670.9	501.13 ug/L	501.13 ppb	02:57:21
3	As 188.979†	1143.2	1204.1	515.35 ug/L	515.35 ppb	02:57:41
3	B 249.677†	22764.7	24165.6	489.67 ug/L	489.67 ppb	02:57:21
3	Ba 233.527†	99870.9	102692.9	754.50 ug/L	754.50 ppb	02:57:21
3	Be 313.107†	1432755.0	1477423.7	504.50 ug/L	504.50 ppb	02:57:21
3	Cd 226.502†	46958.6	48482.4	492.02 ug/L	492.02 ppb	02:57:21
3	Co 228.616†	26220.8	27042.9	490.35 ug/L	490.35 ppb	02:57:41
3	Cr 267.716†	52696.7	54115.8	559.45 ug/L	559.45 ppb	02:57:21
3	Cu 324.752†	195878.8	194496.9	545.40 ug/L	545.40 ppb	02:57:21
3	Mn 257.610†	2583102.5	2655165.2	2672.2 ug/L	2672.2 ppb	02:57:21
3	Mo 202.031†	7039.2	7231.8	487.54 ug/L	487.54 ppb	02:57:41
3	Ni 231.604†	22971.9	23532.3	524.06 ug/L	524.06 ppb	02:57:41
3	P 214.914†	3147.0	3012.2	1402.3 ug/L	1402.3 ppb	02:57:41
3	Pb 220.353†	4773.3	4987.1	537.57 ug/L	537.57 ppb	02:57:41
3	S 181.975 Axial†	4191.2	4260.1	5195.7 ug/L	5195.7 ppb	02:57:41
3	Sb 206.836†	1591.9	1598.2	495.96 ug/L	495.96 ppb	02:57:41
3	Se 196.026†	472.4	511.6	576.46 ug/L	576.46 ppb	02:57:41
3	Si 251.611†	831989.3	854835.5	25439 ug/L	25439 ppb	02:57:21
3	Sn 189.927†	3016.7	3092.0	502.85 ug/L	502.85 ppb	02:57:41
3	Ti 334.940†	2524024.3	2596762.9	3880.3 ug/L	3880.3 ppb	02:57:21
3	Tl 190.801†	1502.3	1589.0	489.96 ug/L	489.96 ppb	02:57:41
3	U 409.014†	6837.2	12142.5	347.48 ug/L	347.48 ppb	02:57:21
3	V 292.402†	81002.8	85031.5	556.38 ug/L	556.38 ppb	02:57:21
3	Zn 213.857†	102309.0	104475.2	873.86 ug/L	873.86 ppb	02:57:21
3	SiO2†	822776.2	845336.9	53894 ug/L	53894 ppb	02:58:00

Mean Data: 1202018102|942648|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	864833.7	97.082 %		0.1611			0.17%
Sc Radial	4279.2	104 %		0.8			0.78%
Y 371.029	789780.7	107.56 %		0.245			0.23%
Y RADIAL	5430.6	112.2 %		0.83			0.74%
Ag 328.068†	107704.4	501.77 ug/L		0.692	501.77 ppb	0.692	0.14%
Al 396.153Radial†	55816.1	46063 ug/L		593.8	46063 ppb	593.8	1.29%
As 188.979†	1209.1	517.63 ug/L		3.706	517.63 ppb	3.706	0.72%
B 249.677†	24105.5	488.17 ug/L		1.937	488.17 ppb	1.937	0.40%
Ba 233.527†	102763.2	755.06 ug/L		0.553	755.06 ppb	0.553	0.07%
Be 313.107†	1477237.6	504.44 ug/L		0.763	504.44 ppb	0.763	0.15%
Ca 317.933Radial†	6661.6	12332 ug/L		93.3	12332 ppb	93.3	0.76%
Cd 226.502†	48622.4	493.31 ug/L		1.157	493.31 ppb	1.157	0.23%
Co 228.616†	27028.0	490.05 ug/L		1.068	490.05 ppb	1.068	0.22%
Cr 267.716†	54211.5	560.47 ug/L		0.881	560.47 ppb	0.881	0.16%
Cu 324.752†	194497.4	545.48 ug/L		2.564	545.48 ppb	2.564	0.47%
Fe 238.204 Radial†	7639.2	88791 ug/L		1450.6	88791 ppb	1450.6	1.63%
K 766.490 Radial†	59826.9	11380 ug/L		160.2	11380 ppb	160.2	1.41%

Mg 279.077 IEC†	282.8	11831 ug/L	66.6	11831 ppb	66.6	0.56%
Mn 257.610†	2658708.4	2675.9 ug/L	4.27	2675.9 ppb	4.27	0.16%
Mo 202.031†	7223.2	487.08 ug/L	0.659	487.08 ppb	0.659	0.14%
Na 589.592 Radial†	18818.2	5798.8 ug/L	80.94	5798.8 ppb	80.94	1.40%
Ni 231.604†	23505.2	523.45 ug/L	1.267	523.45 ppb	1.267	0.24%
P 214.914†	3032.0	1411.5 ug/L	8.93	1411.5 ppb	8.93	0.63%
Pb 220.353†	4993.3	538.20 ug/L	0.714	538.20 ppb	0.714	0.13%
S 181.975 Axial†	4269.2	5206.7 ug/L	9.90	5206.7 ppb	9.90	0.19%
Sb 206.836†	1591.4	493.90 ug/L	1.805	493.90 ppb	1.805	0.37%
Se 196.026†	512.0	581.79 ug/L	6.632	581.79 ppb	6.632	1.14%
Si 251.611†	855691.6	25465 ug/L	61.7	25465 ppb	61.7	0.24%
Sn 189.927†	3097.0	503.68 ug/L	0.921	503.68 ppb	0.921	0.18%
Sr 421.552†	86428.0	570.56 ug/L	7.178	570.56 ppb	7.178	1.26%
Ti 334.940†	2597648.3	3881.6 ug/L	7.77	3881.6 ppb	7.77	0.20%
Tl 190.801†	1588.0	489.73 ug/L	0.472	489.73 ppb	0.472	0.10%
U 409.014†	12159.4	347.80 ug/L	0.361	347.80 ppb	0.361	0.10%
V 292.402†	85102.7	556.62 ug/L	0.589	556.62 ppb	0.589	0.11%
Zn 213.857†	104561.6	874.45 ug/L	1.544	874.45 ppb	1.544	0.18%
SiO2†	847184.6	54011 ug/L	129.1	54011 ppb	129.1	0.24%

Sequence No.: 87

Sample ID: 1202018104|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 106

Date Collected: 2/2/2010 03:00:11

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018104|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4495.8	4495.8	109 %		03:02:24
1	Y RADIAL	5822.1	5822.1	120.3 %		03:02:24
1	Al 396.153Radial†	65244.8	60061.6	49568 ug/L	49568 ppb	03:02:04
1	Ca 317.933Radial†	6872.8	6293.4	11650 ug/L	11650 ppb	03:02:24
1	Fe 238.204 Radial†	8181.4	7497.5	87145 ug/L	87145 ppb	03:02:04
1	K 766.490 Radial†	64606.0	56661.0	10778 ug/L	10778 ppb	03:02:04
1	Mg 279.077 IEC†	289.1	265.3	11094 ug/L	11094 ppb	03:02:24
1	Na 589.592 Radial†	16919.5	17178.4	5293.5 ug/L	5293.5 ppb	03:02:04
1	Sr 421.552†	88742.8	81397.9	537.35 ug/L	537.35 ppb	03:02:04
1	Sc 361.383	855297.1	855297.1	96.012 %		03:03:24
1	Y 371.029	800869.1	800869.1	109.07 %		03:03:24
1	Ag 328.068†	105761.6	109530.4	509.29 ug/L	509.29 ppb	03:03:24
1	As 188.979†	1157.3	1234.1	526.51 ug/L	526.51 ppb	03:03:44
1	B 249.677†	23082.2	24802.1	502.96 ug/L	502.96 ppb	03:03:24
1	Ba 233.527†	101075.5	105289.5	773.49 ug/L	773.49 ppb	03:03:24
1	Be 313.107†	1441715.4	1506006.7	514.01 ug/L	514.01 ppb	03:03:24
1	Cd 226.502†	47438.8	49613.5	503.72 ug/L	503.72 ppb	03:03:24
1	Co 228.616†	26668.1	27861.0	505.54 ug/L	505.54 ppb	03:03:44
1	Cr 267.716†	52691.7	54818.6	566.71 ug/L	566.71 ppb	03:03:24
1	Cu 324.752†	197483.2	198799.8	557.37 ug/L	557.37 ppb	03:03:24
1	Mn 257.610†	2603869.9	2711501.8	2728.7 ug/L	2728.7 ppb	03:03:24
1	Mo 202.031†	7087.5	7376.7	497.15 ug/L	497.15 ppb	03:03:44
1	Ni 231.604†	23400.5	24287.4	540.87 ug/L	540.87 ppb	03:03:44
1	P 214.914†	3083.4	2988.2	1388.7 ug/L	1388.7 ppb	03:03:44
1	Pb 220.353†	4841.1	5121.8	552.90 ug/L	552.90 ppb	03:03:44
1	S 181.975 Axial†	4311.1	4441.3	5416.2 ug/L	5416.2 ppb	03:03:44
1	Sb 206.836†	1587.0	1614.5	501.39 ug/L	501.39 ppb	03:03:44
1	Se 196.026†	472.8	518.4	580.16 ug/L	580.16 ppb	03:03:44
1	Si 251.611†	852428.7	887302.5	26405 ug/L	26405 ppb	03:03:24
1	Sn 189.927†	3058.6	3176.3	516.36 ug/L	516.36 ppb	03:03:44
1	Ti 334.940†	2467809.6	2572125.8	3843.5 ug/L	3843.5 ppb	03:03:24
1	Tl 190.801†	1534.0	1642.1	504.84 ug/L	504.84 ppb	03:03:44
1	U 409.014†	6244.6	11617.0	331.96 ug/L	331.96 ppb	03:03:24
1	V 292.402†	81358.0	86489.7	566.23 ug/L	566.23 ppb	03:03:24
1	Zn 213.857†	104502.7	108134.6	904.79 ug/L	904.79 ppb	03:03:24
1	SiO2†	843860.2	878351.5	55999 ug/L	55999 ppb	03:04:45
2	Sc Radial	4343.9	4343.9	105 %		03:02:50
2	Y RADIAL	5656.9	5656.9	116.8 %		03:02:50
2	Al 396.153Radial†	65930.6	62806.6	51835 ug/L	51835 ppb	03:02:30
2	Ca 317.933Radial†	6922.9	6561.5	12146 ug/L	12146 ppb	03:02:50
2	Fe 238.204 Radial†	8259.4	7834.1	91056 ug/L	91056 ppb	03:02:30
2	K 766.490 Radial†	65570.9	59650.6	11346 ug/L	11346 ppb	03:02:30
2	Mg 279.077 IEC†	297.7	282.8	11824 ug/L	11824 ppb	03:02:50
2	Na 589.592 Radial†	17061.7	17856.3	5502.4 ug/L	5502.4 ppb	03:02:30
2	Sr 421.552†	89810.6	85259.6	562.85 ug/L	562.85 ppb	03:02:30
2	Sc 361.383	869296.1	869296.1	97.583 %		03:03:51
2	Y 371.029	813317.6	813317.6	110.77 %		03:03:51
2	Ag 328.068†	106371.9	108381.9	505.50 ug/L	505.50 ppb	03:03:51
2	As 188.979†	1160.6	1218.1	521.01 ug/L	521.01 ppb	03:04:11
2	B 249.677†	23315.3	24653.9	499.25 ug/L	499.25 ppb	03:03:51
2	Ba 233.527†	101602.3	104134.0	765.15 ug/L	765.15 ppb	03:03:51
2	Be 313.107†	1454391.3	1494814.9	510.18 ug/L	510.18 ppb	03:03:51
2	Cd 226.502†	47725.9	49112.1	498.13 ug/L	498.13 ppb	03:03:51
2	Co 228.616†	26624.8	27369.3	496.47 ug/L	496.47 ppb	03:04:11
2	Cr 267.716†	53035.7	54287.4	561.30 ug/L	561.30 ppb	03:03:51
2	Cu 324.752†	199131.1	197176.1	553.05 ug/L	553.05 ppb	03:03:51
2	Mn 257.610†	2619456.3	2683799.9	2701.3 ug/L	2701.3 ppb	03:03:51
2	Mo 202.031†	7067.0	7236.8	488.17 ug/L	488.17 ppb	03:04:11
2	Ni 231.604†	23349.5	23842.6	530.97 ug/L	530.97 ppb	03:04:11

2	P 214.914†	3066.4	2919.1	1351.0 ug/L	1351.0 ppb	03:04:11
2	Pb 220.353†	4844.1	5043.7	544.62 ug/L	544.62 ppb	03:04:11
2	S 181.975 Axial†	4250.1	4306.5	5251.1 ug/L	5251.1 ppb	03:04:11
2	Sb 206.836†	1555.6	1555.7	483.21 ug/L	483.21 ppb	03:04:11
2	Se 196.026†	470.3	507.9	587.36 ug/L	587.36 ppb	03:04:11
2	Si 251.611†	859046.4	879786.4	26182 ug/L	26182 ppb	03:03:51
2	Sn 189.927†	3050.1	3116.2	506.80 ug/L	506.80 ppb	03:04:11
2	Ti 334.940†	2485608.2	2548972.9	3808.9 ug/L	3808.9 ppb	03:03:51
2	Tl 190.801†	1516.7	1598.7	492.21 ug/L	492.21 ppb	03:04:11
2	U 409.014†	6487.0	11760.8	335.77 ug/L	335.77 ppb	03:03:51
2	V 292.402†	81862.8	85642.5	559.95 ug/L	559.95 ppb	03:03:51
2	Zn 213.857†	105256.1	107153.8	896.16 ug/L	896.16 ppb	03:03:51
2	SiO2†	867932.1	888865.7	56669 ug/L	56669 ppb	03:04:51
3	Sc Radial	4314.1	4314.1	105 %		03:03:15
3	Y RADIAL	5616.7	5616.7	116.0 %		03:03:15
3	Al 396.153Radial†	65495.1	62821.3	51847 ug/L	51847 ppb	03:02:55
3	Ca 317.933Radial†	6882.4	6568.1	12158 ug/L	12158 ppb	03:03:15
3	Fe 238.204 Radial†	8193.3	7824.9	90949 ug/L	90949 ppb	03:02:55
3	K 766.490 Radial†	65057.9	59588.8	11335 ug/L	11335 ppb	03:02:55
3	Mg 279.077 IEC†	294.7	281.9	11789 ug/L	11789 ppb	03:03:15
3	Na 589.592 Radial†	16939.2	17850.8	5500.7 ug/L	5500.7 ppb	03:02:55
3	Sr 421.552†	89141.7	85207.3	562.50 ug/L	562.50 ppb	03:02:55
3	Sc 361.383	877447.5	877447.5	98.498 %		03:04:19
3	Y 371.029	820428.4	820428.4	111.74 %		03:04:19
3	Ag 328.068†	105542.8	106527.4	497.32 ug/L	497.32 ppb	03:04:19
3	As 188.979†	1151.9	1198.2	512.80 ug/L	512.80 ppb	03:04:39
3	B 249.677†	23020.9	24132.9	488.40 ug/L	488.40 ppb	03:04:19
3	Ba 233.527†	100840.2	102392.9	752.41 ug/L	752.41 ppb	03:04:19
3	Be 313.107†	1446420.6	1472876.8	502.67 ug/L	502.67 ppb	03:04:19
3	Cd 226.502†	47293.5	48218.7	488.91 ug/L	488.91 ppb	03:04:19
3	Co 228.616†	26344.3	26831.1	486.66 ug/L	486.66 ppb	03:04:39
3	Cr 267.716†	52746.7	53489.1	553.07 ug/L	553.07 ppb	03:04:19
3	Cu 324.752†	197780.1	193908.7	543.96 ug/L	543.96 ppb	03:04:19
3	Mn 257.610†	2598596.7	2637685.1	2655.0 ug/L	2655.0 ppb	03:04:19
3	Mo 202.031†	7044.6	7146.8	482.17 ug/L	482.17 ppb	03:04:39
3	Ni 231.604†	23119.2	23386.5	520.81 ug/L	520.81 ppb	03:04:39
3	P 214.914†	3043.3	2866.4	1325.5 ug/L	1325.5 ppb	03:04:39
3	Pb 220.353†	4804.1	4957.0	535.32 ug/L	535.32 ppb	03:04:39
3	S 181.975 Axial†	4273.5	4289.8	5230.7 ug/L	5230.7 ppb	03:04:39
3	Sb 206.836†	1545.4	1530.6	475.47 ug/L	475.47 ppb	03:04:39
3	Se 196.026†	456.2	489.2	576.60 ug/L	576.60 ppb	03:04:39
3	Si 251.611†	851597.8	864046.2	25713 ug/L	25713 ppb	03:04:19
3	Sn 189.927†	3031.9	3068.7	499.12 ug/L	499.12 ppb	03:04:39
3	Ti 334.940†	2467756.9	2507186.6	3746.5 ug/L	3746.5 ppb	03:04:19
3	Tl 190.801†	1520.5	1588.1	488.56 ug/L	488.56 ppb	03:04:39
3	U 409.014†	6351.8	11561.7	329.92 ug/L	329.92 ppb	03:04:19
3	V 292.402†	81409.1	84402.5	551.69 ug/L	551.69 ppb	03:04:19
3	Zn 213.857†	104202.4	105082.0	878.67 ug/L	878.67 ppb	03:04:19
3	SiO2†	844611.7	856927.1	54633 ug/L	54633 ppb	03:04:57

Mean Data: 1202018104|942648|1

	Mean Corrected	Calib.		Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Sc 361.383	867346.9	97.364 %	1.2576			1.29%
Sc Radial	4384.6	106 %	2.4			2.22%
Y 371.029	811538.4	110.53 %	1.348			1.22%
Y RADIAL	5698.5	117.7 %	2.25			1.91%
Ag 328.068†	108146.6	504.04 ug/L	6.116	504.04 ppb	6.116	1.21%
Al 396.153Radial†	61896.5	51083 ug/L	1312.4	51083 ppb	1312.4	2.57%
As 188.979†	1216.8	520.11 ug/L	6.898	520.11 ppb	6.898	1.33%
B 249.677†	24529.6	496.87 ug/L	7.564	496.87 ppb	7.564	1.52%
Ba 233.527†	103938.8	763.68 ug/L	10.619	763.68 ppb	10.619	1.39%
Be 313.107†	1491232.8	508.95 ug/L	5.766	508.95 ppb	5.766	1.13%
Ca 317.933Radial†	6474.3	11985 ug/L	290.1	11985 ppb	290.1	2.42%
Cd 226.502†	48981.4	496.92 ug/L	7.479	496.92 ppb	7.479	1.50%
Co 228.616†	27353.8	496.22 ug/L	9.441	496.22 ppb	9.441	1.90%
Cr 267.716†	54198.4	560.36 ug/L	6.865	560.36 ppb	6.865	1.23%
Cu 324.752†	196628.2	551.46 ug/L	6.841	551.46 ppb	6.841	1.24%
Fe 238.204 Radial†	7718.8	89717 ug/L	2227.7	89717 ppb	2227.7	2.48%
K 766.490 Radial†	58633.4	11153 ug/L	325.1	11153 ppb	325.1	2.91%

Mg 279.077 IEC†	276.7	11569 ug/L	411.9	11569 ppb	411.9	3.56%
Mn 257.610†	2677662.2	2695.0 ug/L	37.26	2695.0 ppb	37.26	1.38%
Mo 202.031†	7253.4	489.16 ug/L	7.539	489.16 ppb	7.539	1.54%
Na 589.592 Radial†	17628.5	5432.2 ug/L	120.12	5432.2 ppb	120.12	2.21%
Ni 231.604†	23838.8	530.88 ug/L	10.031	530.88 ppb	10.031	1.89%
P 214.914†	2924.6	1355.1 ug/L	31.80	1355.1 ppb	31.80	2.35%
Pb 220.353†	5040.8	544.28 ug/L	8.796	544.28 ppb	8.796	1.62%
S 181.975 Axial†	4345.8	5299.4 ug/L	101.73	5299.4 ppb	101.73	1.92%
Sb 206.836†	1566.9	486.69 ug/L	13.303	486.69 ppb	13.303	2.73%
Se 196.026†	505.2	581.37 ug/L	5.480	581.37 ppb	5.480	0.94%
Si 251.611†	877045.0	26100 ug/L	353.2	26100 ppb	353.2	1.35%
Sn 189.927†	3120.4	507.43 ug/L	8.636	507.43 ppb	8.636	1.70%
Sr 421.552†	83954.9	554.23 ug/L	14.620	554.23 ppb	14.620	2.64%
Ti 334.940†	2542761.8	3799.6 ug/L	49.17	3799.6 ppb	49.17	1.29%
Tl 190.801†	1609.7	495.21 ug/L	8.545	495.21 ppb	8.545	1.73%
U 409.014†	11646.5	332.55 ug/L	2.969	332.55 ppb	2.969	0.89%
V 292.402†	85511.6	559.29 ug/L	7.291	559.29 ppb	7.291	1.30%
Zn 213.857†	106790.2	893.21 ug/L	13.309	893.21 ppb	13.309	1.49%
SiO2†	874714.8	55767 ug/L	1037.9	55767 ppb	1037.9	1.86%



Sequence No.: 88

Sample ID: 1202018103|942648|5

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 107

Date Collected: 2/2/2010 03:07:08

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202018103|942648|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4326.4	4326.4	105 %		03:09:01
1	Y RADIAL	4989.4	4989.4	103.1 %		03:09:01
1	Al 396.153Radial†	4978.8	4937.8	4077.0 ug/L	4077.0 ppb	03:09:01
1	Ca 317.933Radial†	814.4	763.2	1412.9 ug/L	1412.9 ppb	03:09:21
1	Fe 238.204 Radial†	1373.2	1299.3	15100 ug/L	15100 ppb	03:09:21
1	K 766.490 Radial†	7407.3	4439.1	844.27 ug/L	844.27 ppb	03:09:01
1	Mg 279.077 IEC†	25.8	24.6	1022.9 ug/L	1022.9 ppb	03:09:21
1	Na 589.592 Radial†	-1105.8	597.8	184.22 ug/L	184.22 ppb	03:09:01
1	Sr 421.552†	1507.3	1400.9	9.2391 ug/L	9.2391 ppb	03:09:01
1	Sc 361.383	866949.7	866949.7	97.320 %		03:10:18
1	Y 371.029	715195.2	715195.2	97.405 %		03:10:18
1	Ag 328.068†	-504.5	-1142.9	-0.0700 ug/L	-0.0700 ppb	03:10:24
1	As 188.979†	-38.2	-10.5	4.3779 ug/L	4.3779 ppb	03:10:44
1	B 249.677†	-382.8	367.8	5.2292 ug/L	5.2292 ppb	03:10:24
1	Ba 233.527†	5724.3	5897.3	43.596 ug/L	43.596 ppb	03:10:24
1	Be 313.107†	-4905.5	-637.6	1.0681 ug/L	1.0681 ppb	03:10:24
1	Cd 226.502†	-59.3	143.2	-0.0770 ug/L	-0.0770 ppb	03:10:44
1	Co 228.616†	62.4	149.2	1.3672 ug/L	1.3672 ppb	03:10:44
1	Cr 267.716†	1092.7	1061.0	11.236 ug/L	11.236 ppb	03:10:24
1	Cu 324.752†	8136.2	1473.4	4.8968 ug/L	4.8968 ppb	03:10:24
1	Mn 257.610†	369171.7	378807.0	381.52 ug/L	381.52 ppb	03:10:18
1	Mo 202.031†	13.7	8.9	1.7773 ug/L	1.7773 ppb	03:10:44
1	Ni 231.604†	334.7	258.8	5.7647 ug/L	5.7647 ppb	03:10:44
1	P 214.914†	629.3	423.4	207.87 ug/L	207.87 ppb	03:10:44
1	Pb 220.353†	7.3	87.1	8.8014 ug/L	8.8014 ppb	03:10:44
1	S 181.975 Axial†	99.8	53.6	64.768 ug/L	64.768 ppb	03:10:44
1	Sb 206.836†	50.9	13.9	2.6934 ug/L	2.6934 ppb	03:10:44
1	Se 196.026†	-95.6	-72.3	10.141 ug/L	10.141 ppb	03:10:44
1	Si 251.611†	120971.6	123767.5	3684.0 ug/L	3684.0 ppb	03:10:24
1	Sn 189.927†	5.8	-3.5	-0.0978 ug/L	-0.0978 ppb	03:10:44
1	Ti 334.940†	366042.9	377928.2	564.79 ug/L	564.79 ppb	03:10:18
1	Tl 190.801†	-72.2	-29.7	-1.9170 ug/L	-1.9170 ppb	03:10:44
1	U 409.014†	-4933.3	44.0	-0.4472 ug/L	-0.4472 ppb	03:10:18
1	V 292.402†	480.3	2245.7	12.169 ug/L	12.169 ppb	03:10:24
1	Zn 213.857†	8423.1	7945.9	65.908 ug/L	65.908 ppb	03:10:24
1	SiO2†	125069.2	127951.4	8159.4 ug/L	8159.4 ppb	03:11:50
2	Sc Radial	4264.8	4264.8	103 %		03:09:27
2	Y RADIAL	4984.5	4984.5	103.0 %		03:09:27
2	Al 396.153Radial†	4961.7	4989.7	4119.8 ug/L	4119.8 ppb	03:09:27
2	Ca 317.933Radial†	814.2	774.3	1433.3 ug/L	1433.3 ppb	03:09:47
2	Fe 238.204 Radial†	1382.4	1327.1	15423 ug/L	15423 ppb	03:09:47
2	K 766.490 Radial†	7312.7	4449.5	846.26 ug/L	846.26 ppb	03:09:27
2	Mg 279.077 IEC†	25.4	24.6	1021.8 ug/L	1021.8 ppb	03:09:47
2	Na 589.592 Radial†	-1168.4	522.0	160.86 ug/L	160.86 ppb	03:09:27
2	Sr 421.552†	1516.3	1430.4	9.4334 ug/L	9.4334 ppb	03:09:27
2	Sc 361.383	864812.3	864812.3	97.080 %		03:10:49
2	Y 371.029	713669.4	713669.4	97.197 %		03:10:49
2	Ag 328.068†	-508.4	-1148.2	0.0042 ug/L	0.0042 ppb	03:10:54
2	As 188.979†	-42.1	-14.7	2.8646 ug/L	2.8646 ppb	03:11:14
2	B 249.677†	-365.9	384.2	5.5206 ug/L	5.5206 ppb	03:10:54
2	Ba 233.527†	5684.4	5870.7	43.409 ug/L	43.409 ppb	03:10:54
2	Be 313.107†	-4970.8	-717.3	1.0408 ug/L	1.0408 ppb	03:10:54
2	Cd 226.502†	-53.1	149.4	-0.0458 ug/L	-0.0458 ppb	03:11:14
2	Co 228.616†	60.1	147.0	1.3245 ug/L	1.3245 ppb	03:11:14
2	Cr 267.716†	1052.6	1022.5	10.843 ug/L	10.843 ppb	03:10:54
2	Cu 324.752†	8192.8	1552.4	5.1322 ug/L	5.1322 ppb	03:10:54
2	Mn 257.610†	368017.2	378555.3	381.30 ug/L	381.30 ppb	03:10:49
2	Mo 202.031†	29.9	25.6	2.9175 ug/L	2.9175 ppb	03:11:14
2	Ni 231.604†	354.7	280.2	6.2421 ug/L	6.2421 ppb	03:11:14

2	P 214.914†	619.0	414.3	202.87 ug/L	202.87 ppb	03:11:14
2	Pb 220.353†	9.5	89.4	9.0305 ug/L	9.0305 ppb	03:11:14
2	S 181.975 Axial†	96.0	50.0	60.311 ug/L	60.311 ppb	03:11:14
2	Sb 206.836†	57.9	21.2	4.9592 ug/L	4.9592 ppb	03:11:14
2	Se 196.026†	-92.1	-68.9	13.061 ug/L	13.061 ppb	03:11:14
2	Si 251.611†	120997.0	124100.8	3694.0 ug/L	3694.0 ppb	03:10:54
2	Sn 189.927†	6.0	-3.3	-0.0551 ug/L	-0.0551 ppb	03:11:14
2	Ti 334.940†	364982.9	377765.9	564.55 ug/L	564.55 ppb	03:10:49
2	Tl 190.801†	-57.8	-15.1	2.2013 ug/L	2.2013 ppb	03:11:14
2	U 409.014†	-4841.0	126.5	1.9540 ug/L	1.9540 ppb	03:10:49
2	V 292.402†	295.2	2056.3	10.883 ug/L	10.883 ppb	03:10:54
2	Zn 213.857†	8437.2	7981.9	66.179 ug/L	66.179 ppb	03:10:54
2	SiO2†	125302.2	128509.0	8194.9 ug/L	8194.9 ppb	03:11:55
3	Sc Radial	4384.6	4384.6	106 %		03:09:52
3	Y RADIAL	5055.9	5055.9	104.4 %		03:09:52
3	Al 396.153Radial†	5012.7	4906.6	4051.2 ug/L	4051.2 ppb	03:09:52
3	Ca 317.933Radial†	816.0	754.4	1396.6 ug/L	1396.6 ppb	03:10:12
3	Fe 238.204 Radial†	1380.0	1288.3	14972 ug/L	14972 ppb	03:10:12
3	K 766.490 Radial†	7335.8	4278.0	813.62 ug/L	813.62 ppb	03:09:52
3	Mg 279.077 IEC†	24.7	23.3	964.55 ug/L	964.55 ppb	03:10:12
3	Na 589.592 Radial†	-1138.6	580.9	179.02 ug/L	179.02 ppb	03:09:52
3	Sr 421.552†	1558.8	1430.2	9.4326 ug/L	9.4326 ppb	03:09:52
3	Sc 361.383	863329.2	863329.2	96.913 %		03:11:20
3	Y 371.029	714666.5	714666.5	97.333 %		03:11:20
3	Ag 328.068†	-542.9	-1184.7	-0.2995 ug/L	-0.2995 ppb	03:11:25
3	As 188.979†	-40.1	-12.6	3.5263 ug/L	3.5263 ppb	03:11:45
3	B 249.677†	-389.5	359.1	5.0698 ug/L	5.0698 ppb	03:11:25
3	Ba 233.527†	5742.7	5940.9	43.909 ug/L	43.909 ppb	03:11:25
3	Be 313.107†	-4979.9	-735.4	1.0298 ug/L	1.0298 ppb	03:11:25
3	Cd 226.502†	-45.5	157.1	0.0808 ug/L	0.0808 ppb	03:11:45
3	Co 228.616†	63.5	150.7	1.4023 ug/L	1.4023 ppb	03:11:45
3	Cr 267.716†	1085.8	1058.6	11.207 ug/L	11.207 ppb	03:11:25
3	Cu 324.752†	8104.6	1475.9	4.8959 ug/L	4.8959 ppb	03:11:25
3	Mn 257.610†	366008.6	377133.9	379.83 ug/L	379.83 ppb	03:11:20
3	Mo 202.031†	24.4	19.9	2.5046 ug/L	2.5046 ppb	03:11:45
3	Ni 231.604†	352.0	278.1	6.1941 ug/L	6.1941 ppb	03:11:45
3	P 214.914†	622.6	419.2	205.78 ug/L	205.78 ppb	03:11:45
3	Pb 220.353†	34.2	114.9	11.791 ug/L	11.791 ppb	03:11:45
3	S 181.975 Axial†	106.3	60.9	73.579 ug/L	73.579 ppb	03:11:45
3	Sb 206.836†	52.7	15.9	3.3382 ug/L	3.3382 ppb	03:11:45
3	Se 196.026†	-103.4	-80.7	5.0235 ug/L	5.0235 ppb	03:11:45
3	Si 251.611†	121138.8	124461.3	3704.7 ug/L	3704.7 ppb	03:11:25
3	Sn 189.927†	5.0	-4.2	-0.2224 ug/L	-0.2224 ppb	03:11:45
3	Ti 334.940†	362971.6	376336.4	562.41 ug/L	562.41 ppb	03:11:20
3	Tl 190.801†	-75.7	-33.7	-3.0663 ug/L	-3.0663 ppb	03:11:45
3	U 409.014†	-4852.8	105.7	1.3908 ug/L	1.3908 ppb	03:11:20
3	V 292.402†	333.7	2096.5	11.211 ug/L	11.211 ppb	03:11:25
3	Zn 213.857†	8456.2	8016.5	66.516 ug/L	66.516 ppb	03:11:25
3	SiO2†	123322.4	126687.9	8078.8 ug/L	8078.8 ppb	03:12:00

Mean Data: 1202018103|942648|5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	865030.4	97.104 %		0.2043			0.21%
Sc Radial	4325.3	105 %		1.5			1.38%
Y 371.029	714510.4	97.312 %		0.1055			0.11%
Y RADIAL	5009.9	103.5 %		0.82			0.80%
Ag 328.068†	-1158.6	-0.1218 ug/L		0.15836	-0.1218 ppb	0.15836	130.05%
Al 396.153Radial†	4944.7	4082.7 ug/L		34.66	4082.7 ppb	34.66	0.85%
As 188.979†	-12.6	3.5896 ug/L		0.75859	3.5896 ppb	0.75859	21.13%
B 249.677†	370.4	5.2732 ug/L		0.22858	5.2732 ppb	0.22858	4.33%
Ba 233.527†	5903.0	43.638 ug/L		0.2528	43.638 ppb	0.2528	0.58%
Be 313.107†	-696.8	1.0462 ug/L		0.01969	1.0462 ppb	0.01969	1.88%
Ca 317.933Radial†	764.0	1414.3 ug/L		18.41	1414.3 ppb	18.41	1.30%
Cd 226.502†	149.9	-0.0140 ug/L		0.08356	-0.0140 ppb	0.08356	595.34%
Co 228.616†	149.0	1.3647 ug/L		0.03896	1.3647 ppb	0.03896	2.86%
Cr 267.716†	1047.3	11.096 ug/L		0.2188	11.096 ppb	0.2188	1.97%
Cu 324.752†	1500.6	4.9750 ug/L		0.13619	4.9750 ppb	0.13619	2.74%
Fe 238.204 Radial†	1304.9	15165 ug/L		232.5	15165 ppb	232.5	1.53%
K 766.490 Radial†	4388.9	834.71 ug/L		18.297	834.71 ppb	18.297	2.19%

Mg 279.077 IEC†	24.2	1003.1 ug/L	33.36	1003.1 ppb	33.36	3.33%
Mn 257.610†	378165.4	380.88 ug/L	0.918	380.88 ppb	0.918	0.24%
Mo 202.031†	18.1	2.3998 ug/L	0.57726	2.3998 ppb	0.57726	24.05%
Na 589.592 Radial†	566.9	174.70 ug/L	12.262	174.70 ppb	12.262	7.02%
Ni 231.604†	272.4	6.0670 ug/L	0.26286	6.0670 ppb	0.26286	4.33%
P 214.914†	419.0	205.51 ug/L	2.512	205.51 ppb	2.512	1.22%
Pb 220.353†	97.2	9.8743 ug/L	1.66383	9.8743 ppb	1.66383	16.85%
S 181.975 Axial†	54.8	66.219 ug/L	6.7520	66.219 ppb	6.7520	10.20%
Sb 206.836†	17.0	3.6636 ug/L	1.16744	3.6636 ppb	1.16744	31.87%
Se 196.026†	-74.0	9.4085 ug/L	4.06842	9.4085 ppb	4.06842	43.24%
Si 251.611†	124109.9	3694.2 ug/L	10.32	3694.2 ppb	10.32	0.28%
Sn 189.927†	-3.7	-0.1251 ug/L	0.08691	-0.1251 ppb	0.08691	69.47%
Sr 421.552†	1420.5	9.3684 ug/L	0.11196	9.3684 ppb	0.11196	1.20%
Ti 334.940†	377343.5	563.92 ug/L	1.308	563.92 ppb	1.308	0.23%
Tl 190.801†	-26.2	-0.9273 ug/L	2.76973	-0.9273 ppb	2.76973	298.68%
U 409.014†	92.0	0.9659 ug/L	1.25574	0.9659 ppb	1.25574	130.01%
V 292.402†	2132.8	11.421 ug/L	0.6684	11.421 ppb	0.6684	5.85%
Zn 213.857†	7981.4	66.201 ug/L	0.3046	66.201 ppb	0.3046	0.46%
SiO2†	127716.1	8144.4 ug/L	59.50	8144.4 ppb	59.50	0.73%

Sequence No.: 89  
 Sample ID: 244881002|942648|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 108  
 Date Collected: 2/2/2010 03:14:12  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: 244881002|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4422.2	4422.2	107 %		03:16:05
1	Y RADIAL	6314.2	6314.2	130.4 %		03:16:05
1	Al 396.153Radial†	75647.2	70762.5	58427 ug/L	58427 ppb	03:16:05
1	Ca 317.933Radial†	4694.7	4366.4	8082.8 ug/L	8082.8 ppb	03:16:05
1	Fe 238.204 Radial†	12369.7	11529.8	133990 ug/L	133990 ppb	03:16:05
1	K 766.490 Radial†	36414.1	31346.9	5961.5 ug/L	5961.5 ppb	03:16:05
1	Mg 279.077 IEC†	151.8	141.6	5828.1 ug/L	5828.1 ppb	03:16:25
1	Na 589.592 Radial†	6659.3	7864.9	2423.6 ug/L	2423.6 ppb	03:16:05
1	Sr 421.552†	13212.2	12289.4	81.082 ug/L	81.082 ppb	03:16:05
1	Sc 361.383	882331.9	882331.9	99.047 %		03:17:24
1	Y 371.029	894085.6	894085.6	121.77 %		03:17:24
1	Ag 328.068†	-8906.9	-9617.2	2.0670 ug/L	2.0670 ppb	03:17:29
1	As 188.979†	-104.6	-76.8	32.416 ug/L	32.416 ppb	03:17:49
1	B 249.677†	1028.2	1799.2	15.463 ug/L	15.463 ppb	03:17:29
1	Ba 233.527†	96603.3	97548.6	717.39 ug/L	717.39 ppb	03:17:29
1	Be 313.107†	-8673.9	-4354.3	6.5457 ug/L	6.5457 ppb	03:17:29
1	Cd 226.502†	1037.2	1251.3	-0.9510 ug/L	-0.9510 ppb	03:17:49
1	Co 228.616†	7365.1	7521.2	129.65 ug/L	129.65 ppb	03:17:49
1	Cr 267.716†	6255.8	6254.2	67.326 ug/L	67.326 ppb	03:17:29
1	Cu 324.752†	31153.0	24566.1	75.608 ug/L	75.608 ppb	03:17:29
1	Mn 257.610†	4003728.9	4041739.5	4068.2 ug/L	4068.2 ppb	03:17:24
1	Mo 202.031†	87.8	83.4	16.040 ug/L	16.040 ppb	03:17:49
1	Ni 231.604†	2485.8	2424.5	53.941 ug/L	53.941 ppb	03:17:49
1	P 214.914†	3740.9	3553.7	1738.1 ug/L	1738.1 ppb	03:17:49
1	Pb 220.353†	692.8	779.1	83.393 ug/L	83.393 ppb	03:17:49
1	S 181.975 Axial†	206.1	159.2	183.56 ug/L	183.56 ppb	03:17:49
1	Sb 206.836†	81.0	43.4	3.8552 ug/L	3.8552 ppb	03:17:49
1	Se 196.026†	-644.4	-624.6	100.59 ug/L	100.59 ppb	03:17:49
1	Si 251.611†	686583.0	692656.8	20618 ug/L	20618 ppb	03:17:24
1	Sn 189.927†	-31.6	-41.3	-3.1917 ug/L	-3.1917 ppb	03:17:49
1	Ti 334.940†	2336045.5	2360338.1	3527.5 ug/L	3527.5 ppb	03:17:24
1	Tl 190.801†	-233.1	-190.9	-6.0836 ug/L	-6.0836 ppb	03:17:49
1	U 409.014†	-16393.6	-11438.3	-353.29 ug/L	-353.29 ppb	03:17:24
1	V 292.402†	19737.8	21679.9	120.50 ug/L	120.50 ppb	03:17:29
1	Zn 213.857†	44951.5	44675.1	365.60 ug/L	365.60 ppb	03:17:29
1	SiO2†	686908.2	692958.6	44189 ug/L	44189 ppb	03:18:59
2	Sc Radial	4461.3	4461.3	108 %		03:16:30
2	Y RADIAL	6355.1	6355.1	131.3 %		03:16:30
2	Al 396.153Radial†	76289.6	70737.2	58406 ug/L	58406 ppb	03:16:30
2	Ca 317.933Radial†	4709.9	4342.0	8037.7 ug/L	8037.7 ppb	03:16:30
2	Fe 238.204 Radial†	12424.6	11479.3	133410 ug/L	133410 ppb	03:16:30
2	K 766.490 Radial†	36653.8	31270.5	5947.0 ug/L	5947.0 ppb	03:16:30
2	Mg 279.077 IEC†	151.1	139.7	5749.3 ug/L	5749.3 ppb	03:16:50
2	Na 589.592 Radial†	6683.0	7832.3	2413.5 ug/L	2413.5 ppb	03:16:30
2	Sr 421.552†	13377.7	12334.3	81.379 ug/L	81.379 ppb	03:16:30
2	Sc 361.383	871429.2	871429.2	97.823 %		03:17:56
2	Y 371.029	884659.4	884659.4	120.49 %		03:17:56
2	Ag 328.068†	-8897.6	-9720.1	1.4389 ug/L	1.4389 ppb	03:18:01
2	As 188.979†	-89.4	-62.7	37.659 ug/L	37.659 ppb	03:18:21
2	B 249.677†	1080.7	1865.8	16.950 ug/L	16.950 ppb	03:18:01
2	Ba 233.527†	96408.5	98569.7	724.84 ug/L	724.84 ppb	03:18:01
2	Be 313.107†	-8861.4	-4655.6	6.4283 ug/L	6.4283 ppb	03:18:01
2	Cd 226.502†	1021.8	1248.6	-0.9180 ug/L	-0.9180 ppb	03:18:21
2	Co 228.616†	7300.4	7548.1	130.17 ug/L	130.17 ppb	03:18:21
2	Cr 267.716†	6227.5	6304.3	67.835 ug/L	67.835 ppb	03:18:01
2	Cu 324.752†	30978.2	24780.9	76.176 ug/L	76.176 ppb	03:18:01
2	Mn 257.610†	3945800.9	4033095.9	4059.5 ug/L	4059.5 ppb	03:17:56
2	Mo 202.031†	82.4	79.0	15.701 ug/L	15.701 ppb	03:18:21
2	Ni 231.604†	2477.7	2447.7	54.456 ug/L	54.456 ppb	03:18:21

2	P 214.914†	3718.5	3578.0	1751.1 ug/L	1751.1 ppb	03:18:21
2	Pb 220.353†	690.7	785.7	84.146 ug/L	84.146 ppb	03:18:21
2	S 181.975 Axial†	202.7	158.3	182.41 ug/L	182.41 ppb	03:18:21
2	Sb 206.836†	64.9	28.0	-0.8318 ug/L	-0.8318 ppb	03:18:21
2	Se 196.026†	-647.7	-636.1	92.263 ug/L	92.263 ppb	03:18:21
2	Si 251.611†	676453.0	690974.0	20567 ug/L	20567 ppb	03:17:56
2	Sn 189.927†	-26.0	-36.0	-2.3453 ug/L	-2.3453 ppb	03:18:21
2	Ti 334.940†	2302465.6	2355518.9	3520.3 ug/L	3520.3 ppb	03:17:56
2	Tl 190.801†	-221.6	-182.0	-3.6991 ug/L	-3.6991 ppb	03:18:21
2	U 409.014†	-16305.3	-11555.1	-356.68 ug/L	-356.68 ppb	03:17:56
2	V 292.402†	19807.5	22000.5	122.72 ug/L	122.72 ppb	03:18:01
2	Zn 213.857†	44756.5	45043.6	368.78 ug/L	368.78 ppb	03:18:01
2	SiO2†	679579.3	694143.3	44265 ug/L	44265 ppb	03:19:04
3	Sc Radial	4400.1	4400.1	107 %		03:16:55
3	Y RADIAL	6245.5	6245.5	129.0 %		03:16:55
3	Al 396.153Radial†	75110.9	70613.4	58304 ug/L	58304 ppb	03:16:55
3	Ca 317.933Radial†	4645.6	4342.3	8038.3 ug/L	8038.3 ppb	03:16:55
3	Fe 238.204 Radial†	12253.1	11478.3	133390 ug/L	133390 ppb	03:16:55
3	K 766.490 Radial†	36221.9	31337.0	5959.7 ug/L	5959.7 ppb	03:16:55
3	Mg 279.077 IEC†	151.8	142.4	5861.5 ug/L	5861.5 ppb	03:17:16
3	Na 589.592 Radial†	6565.9	7808.4	2406.2 ug/L	2406.2 ppb	03:16:55
3	Sr 421.552†	13105.3	12250.9	80.828 ug/L	80.828 ppb	03:16:55
3	Sc 361.383	877227.6	877227.6	98.474 %		03:18:28
3	Y 371.029	891273.1	891273.1	121.39 %		03:18:28
3	Ag 328.068†	-8987.7	-9751.6	1.2899 ug/L	1.2899 ppb	03:18:33
3	As 188.979†	-100.6	-73.4	33.582 ug/L	33.582 ppb	03:18:53
3	B 249.677†	1018.6	1795.5	15.483 ug/L	15.483 ppb	03:18:33
3	Ba 233.527†	97138.4	98659.4	725.49 ug/L	725.49 ppb	03:18:33
3	Be 313.107†	-8724.3	-4456.5	6.5048 ug/L	6.5048 ppb	03:18:33
3	Cd 226.502†	1033.9	1254.0	-0.8603 ug/L	-0.8603 ppb	03:18:53
3	Co 228.616†	7332.9	7531.7	129.86 ug/L	129.86 ppb	03:18:53
3	Cr 267.716†	6300.5	6336.3	68.161 ug/L	68.161 ppb	03:18:33
3	Cu 324.752†	31329.9	24928.7	76.583 ug/L	76.583 ppb	03:18:33
3	Mn 257.610†	3979622.3	4040779.6	4067.2 ug/L	4067.2 ppb	03:18:28
3	Mo 202.031†	71.3	67.2	14.917 ug/L	14.917 ppb	03:18:53
3	Ni 231.604†	2462.0	2415.0	53.727 ug/L	53.727 ppb	03:18:53
3	P 214.914†	3728.9	3563.4	1743.4 ug/L	1743.4 ppb	03:18:53
3	Pb 220.353†	717.4	808.1	86.535 ug/L	86.535 ppb	03:18:53
3	S 181.975 Axial†	196.3	150.5	172.93 ug/L	172.93 ppb	03:18:53
3	Sb 206.836†	55.0	17.5	-4.0912 ug/L	-4.0912 ppb	03:18:53
3	Se 196.026†	-632.0	-615.9	103.45 ug/L	103.45 ppb	03:18:53
3	Si 251.611†	682038.0	692074.7	20600 ug/L	20600 ppb	03:18:28
3	Sn 189.927†	-36.2	-46.2	-4.0002 ug/L	-4.0002 ppb	03:18:53
3	Ti 334.940†	2320594.1	2358370.6	3524.5 ug/L	3524.5 ppb	03:18:28
3	Tl 190.801†	-207.6	-166.4	0.8017 ug/L	0.8017 ppb	03:18:53
3	U 409.014†	-16184.8	-11322.6	-349.81 ug/L	-349.81 ppb	03:18:28
3	V 292.402†	19867.3	21927.5	122.23 ug/L	122.23 ppb	03:18:33
3	Zn 213.857†	45134.0	45124.6	369.47 ug/L	369.47 ppb	03:18:33
3	SiO2†	674737.1	684634.2	43659 ug/L	43659 ppb	03:19:10

Mean Data: 244881002|942648|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	876996.2	98.448 %	%	0.6124			0.62%
Sc Radial	4427.9	107 %	%	0.8			0.70%
Y 371.029	890006.0	121.21 %	%	0.659			0.54%
Y RADIAL	6304.9	130.2 %	%	1.14			0.88%
Ag 328.068†	-9696.3	1.5986 ug/L	ug/L	0.41243	1.5986 ppb	0.41243	25.80%
Al 396.153Radial†	70704.4	58379 ug/L	ug/L	65.9	58379 ppb	65.9	0.11%
As 188.979†	-71.0	34.553 ug/L	ug/L	2.7531	34.553 ppb	2.7531	7.97%
B 249.677†	1820.2	15.965 ug/L	ug/L	0.8527	15.965 ppb	0.8527	5.34%
Ba 233.527†	98259.2	722.57 ug/L	ug/L	4.502	722.57 ppb	4.502	0.62%
Be 313.107†	-4488.8	6.4929 ug/L	ug/L	0.05961	6.4929 ppb	0.05961	0.92%
Ca 317.933Radial†	4350.3	8052.9 ug/L	ug/L	25.88	8052.9 ppb	25.88	0.32%
Cd 226.502†	1251.3	-0.9098 ug/L	ug/L	0.04589	-0.9098 ppb	0.04589	5.04%
Co 228.616†	7533.7	129.89 ug/L	ug/L	0.263	129.89 ppb	0.263	0.20%
Cr 267.716†	6298.3	67.774 ug/L	ug/L	0.4208	67.774 ppb	0.4208	0.62%
Cu 324.752†	24758.6	76.122 ug/L	ug/L	0.4898	76.122 ppb	0.4898	0.64%
Fe 238.204 Radial†	11495.8	133600 ug/L	ug/L	342.1	133600 ppb	342.1	0.26%
K 766.490 Radial†	31318.1	5956.1 ug/L	ug/L	7.91	5956.1 ppb	7.91	0.13%

Mg 279.077 IEC†	141.3	5813.0 ug/L	57.64	5813.0 ppb	57.64	0.99%
Mn 257.610†	4038538.3	4065.0 ug/L	4.77	4065.0 ppb	4.77	0.12%
Mo 202.031†	76.5	15.553 ug/L	0.5760	15.553 ppb	0.5760	3.70%
Na 589.592 Radial†	7835.2	2414.4 ug/L	8.74	2414.4 ppb	8.74	0.36%
Ni 231.604†	2429.0	54.041 ug/L	0.3745	54.041 ppb	0.3745	0.69%
P 214.914†	3565.0	1744.2 ug/L	6.53	1744.2 ppb	6.53	0.37%
Pb 220.353†	791.0	84.691 ug/L	1.6406	84.691 ppb	1.6406	1.94%
S 181.975 Axial†	156.0	179.63 ug/L	5.834	179.63 ppb	5.834	3.25%
Sb 206.836†	29.6	-0.3559 ug/L	3.99448	-0.3559 ppb	3.99448	>999.9%
Se 196.026†	-625.5	98.767 ug/L	5.8117	98.767 ppb	5.8117	5.88%
Si 251.611†	691901.8	20595 ug/L	25.4	20595 ppb	25.4	0.12%
Sn 189.927†	-41.2	-3.1791 ug/L	0.82751	-3.1791 ppb	0.82751	26.03%
Sr 421.552†	12291.5	81.096 ug/L	0.2754	81.096 ppb	0.2754	0.34%
Ti 334.940†	2358075.9	3524.1 ug/L	3.62	3524.1 ppb	3.62	0.10%
Tl 190.801†	-179.8	-2.9937 ug/L	3.49646	-2.9937 ppb	3.49646	116.79%
U 409.014†	-11438.7	-353.26 ug/L	3.435	-353.26 ppb	3.435	0.97%
V 292.402†	21869.3	121.82 ug/L	1.163	121.82 ppb	1.163	0.96%
Zn 213.857†	44947.8	367.95 ug/L	2.064	367.95 ppb	2.064	0.56%
SiO2†	690578.7	44038 ug/L	330.4	44038 ppb	330.4	0.75%

Sequence No.: 90

Sample ID: 244881003|942648|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 109

Date Collected: 2/2/2010 03:21:21

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 244881003|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4439.9	4439.9	108 %		03:23:15
1	Y RADIAL	6180.4	6180.4	127.7 %		03:23:15
1	Al 396.153Radial†	33286.5	31119.3	25694 ug/L	25694 ppb	03:23:15
1	Ca 317.933Radial†	4485.2	4154.2	7690.1 ug/L	7690.1 ppb	03:23:15
1	Fe 238.204 Radial†	7907.9	7337.8	85274 ug/L	85274 ppb	03:23:15
1	K 766.490 Radial†	28070.6	23458.4	4461.2 ug/L	4461.2 ppb	03:23:15
1	Mg 279.077 IEC†	119.5	111.1	4590.5 ug/L	4590.5 ppb	03:23:35
1	Na 589.592 Radial†	37.2	1686.8	519.80 ug/L	519.80 ppb	03:23:15
1	Sr 421.552†	9489.8	8781.3	57.922 ug/L	57.922 ppb	03:23:15
1	Sc 361.383	848497.6	848497.6	95.248 %		03:24:32
1	Y 371.029	845883.0	845883.0	115.20 %		03:24:32
1	Ag 328.068†	-5430.7	-6326.1	0.3434 ug/L	0.3434 ppb	03:24:38
1	As 188.979†	-92.1	-68.0	18.562 ug/L	18.562 ppb	03:24:58
1	B 249.677†	321.3	1098.5	9.0718 ug/L	9.0718 ppb	03:24:38
1	Ba 233.527†	35195.8	36966.9	272.97 ug/L	272.97 ppb	03:24:38
1	Be 313.107†	-134.9	4261.4	7.9086 ug/L	7.9086 ppb	03:24:38
1	Cd 226.502†	609.0	843.5	-0.1053 ug/L	-0.1053 ppb	03:24:58
1	Co 228.616†	779.0	903.0	9.5489 ug/L	9.5489 ppb	03:24:58
1	Cr 267.716†	7344.1	7648.6	80.600 ug/L	80.600 ppb	03:24:38
1	Cu 324.752†	15241.6	9115.1	29.990 ug/L	29.990 ppb	03:24:38
1	Mn 257.610†	2891095.3	3034788.7	3053.2 ug/L	3053.2 ppb	03:24:32
1	Mo 202.031†	111.8	112.2	14.168 ug/L	14.168 ppb	03:24:58
1	Ni 231.604†	2528.1	2569.0	57.234 ug/L	57.234 ppb	03:24:58
1	P 214.914†	1891.5	1762.6	847.81 ug/L	847.81 ppb	03:24:58
1	Pb 220.353†	368.8	466.8	47.574 ug/L	47.574 ppb	03:24:58
1	S 181.975 Axial†	289.4	254.9	306.59 ug/L	306.59 ppb	03:24:58
1	Sb 206.836†	57.4	21.8	-0.9604 ug/L	-0.9604 ppb	03:24:58
1	Se 196.026†	-424.6	-419.8	50.943 ug/L	50.943 ppb	03:24:58
1	Si 251.611†	593448.4	622517.5	18530 ug/L	18530 ppb	03:24:32
1	Sn 189.927†	-21.0	-31.4	-2.4767 ug/L	-2.4767 ppb	03:24:58
1	Ti 334.940†	1817485.6	1909957.1	2854.5 ug/L	2854.5 ppb	03:24:32
1	Tl 190.801†	-165.6	-129.4	1.4928 ug/L	1.4928 ppb	03:24:58
1	U 409.014†	-12066.2	-7555.0	-233.06 ug/L	-233.06 ppb	03:24:32
1	V 292.402†	9877.7	12122.7	64.946 ug/L	64.946 ppb	03:24:38
1	Zn 213.857†	47732.7	49404.7	410.49 ug/L	410.49 ppb	03:24:38
1	SiO2†	593103.3	622128.7	39673 ug/L	39673 ppb	03:26:06
2	Sc Radial	4311.2	4311.2	105 %		03:23:40
2	Y RADIAL	6004.5	6004.5	124.0 %		03:23:40
2	Al 396.153Radial†	32673.5	31456.3	25973 ug/L	25973 ppb	03:23:40
2	Ca 317.933Radial†	4409.4	4206.1	7786.1 ug/L	7786.1 ppb	03:23:40
2	Fe 238.204 Radial†	7764.0	7419.5	86223 ug/L	86223 ppb	03:23:40
2	K 766.490 Radial†	27554.1	23743.0	4515.4 ug/L	4515.4 ppb	03:23:40
2	Mg 279.077 IEC†	119.7	114.6	4739.3 ug/L	4739.3 ppb	03:24:00
2	Na 589.592 Radial†	50.1	1700.2	523.92 ug/L	523.92 ppb	03:23:40
2	Sr 421.552†	9284.0	8847.7	58.360 ug/L	58.360 ppb	03:23:40
2	Sc 361.383	876001.3	876001.3	98.336 %		03:25:04
2	Y 371.029	871367.6	871367.6	118.68 %		03:25:04
2	Ag 328.068†	-5430.2	-6146.6	1.4205 ug/L	1.4205 ppb	03:25:09
2	As 188.979†	-83.2	-55.9	22.898 ug/L	22.898 ppb	03:25:29
2	B 249.677†	309.5	1075.8	8.4458 ug/L	8.4458 ppb	03:25:09
2	Ba 233.527†	35388.0	36002.1	265.94 ug/L	265.94 ppb	03:25:09
2	Be 313.107†	-148.2	4252.3	7.7665 ug/L	7.7665 ppb	03:25:09
2	Cd 226.502†	618.1	832.7	-0.3135 ug/L	-0.3135 ppb	03:25:29
2	Co 228.616†	768.5	866.7	8.9898 ug/L	8.9898 ppb	03:25:29
2	Cr 267.716†	7416.2	7479.9	78.874 ug/L	78.874 ppb	03:25:09
2	Cu 324.752†	15198.5	8568.8	28.514 ug/L	28.514 ppb	03:25:09
2	Mn 257.610†	2916308.1	2965128.4	2983.4 ug/L	2983.4 ppb	03:25:04
2	Mo 202.031†	110.2	106.8	13.887 ug/L	13.887 ppb	03:25:29
2	Ni 231.604†	2535.2	2492.9	55.539 ug/L	55.539 ppb	03:25:29

2	P 214.914†	1888.3	1697.0	813.35 ug/L	813.35 ppb	03:25:29
2	Pb 220.353†	378.2	464.2	47.262 ug/L	47.262 ppb	03:25:29
2	S 181.975 Axial†	283.0	238.9	286.98 ug/L	286.98 ppb	03:25:29
2	Sb 206.836†	74.4	37.3	3.9837 ug/L	3.9837 ppb	03:25:29
2	Se 196.026†	-417.8	-398.9	65.685 ug/L	65.685 ppb	03:25:29
2	Si 251.611†	598502.4	608095.0	18100 ug/L	18100 ppb	03:25:04
2	Sn 189.927†	-14.7	-24.4	-1.3053 ug/L	-1.3053 ppb	03:25:29
2	Ti 334.940†	1836083.3	1868959.3	2793.3 ug/L	2793.3 ppb	03:25:04
2	Tl 190.801†	-192.8	-151.6	-5.5884 ug/L	-5.5884 ppb	03:25:29
2	U 409.014†	-12023.2	-7113.6	-220.13 ug/L	-220.13 ppb	03:25:04
2	V 292.402†	10064.4	11986.9	63.993 ug/L	63.993 ppb	03:25:09
2	Zn 213.857†	47860.6	47961.4	398.17 ug/L	398.17 ppb	03:25:09
2	SiO2†	593041.0	602514.7	38422 ug/L	38422 ppb	03:26:11
3	Sc Radial	4404.3	4404.3	107 %		03:24:05
3	Y RADIAL	6149.5	6149.5	127.0 %		03:24:05
3	Al 396.153Radial†	33396.5	31472.6	25986 ug/L	25986 ppb	03:24:05
3	Ca 317.933Radial†	4519.8	4220.4	7812.5 ug/L	7812.5 ppb	03:24:05
3	Fe 238.204 Radial†	7929.3	7417.3	86197 ug/L	86197 ppb	03:24:05
3	K 766.490 Radial†	28189.0	23780.3	4522.5 ug/L	4522.5 ppb	03:24:05
3	Mg 279.077 IEC†	122.2	114.6	4737.3 ug/L	4737.3 ppb	03:24:25
3	Na 589.592 Radial†	34.4	1684.5	519.07 ug/L	519.07 ppb	03:24:05
3	Sr 421.552†	9514.4	8875.7	58.545 ug/L	58.545 ppb	03:24:05
3	Sc 361.383	868158.9	868158.9	97.456 %		03:25:35
3	Y 371.029	861713.4	861713.4	117.36 %		03:25:35
3	Ag 328.068†	-5308.4	-6071.5	1.7389 ug/L	1.7389 ppb	03:25:40
3	As 188.979†	-82.2	-55.6	22.973 ug/L	22.973 ppb	03:26:00
3	B 249.677†	238.4	1005.8	6.9855 ug/L	6.9855 ppb	03:25:40
3	Ba 233.527†	34438.6	35353.1	261.20 ug/L	261.20 ppb	03:25:40
3	Be 313.107†	-15.7	4386.9	7.7977 ug/L	7.7977 ppb	03:25:40
3	Cd 226.502†	608.3	828.3	-0.3570 ug/L	-0.3570 ppb	03:26:00
3	Co 228.616†	758.0	863.0	8.9315 ug/L	8.9315 ppb	03:26:00
3	Cr 267.716†	7246.6	7373.9	77.783 ug/L	77.783 ppb	03:25:40
3	Cu 324.752†	15111.8	8619.5	28.656 ug/L	28.656 ppb	03:25:40
3	Mn 257.610†	2888615.7	2963502.9	2981.7 ug/L	2981.7 ppb	03:25:35
3	Mo 202.031†	100.7	98.1	13.307 ug/L	13.307 ppb	03:26:00
3	Ni 231.604†	2491.0	2470.9	55.048 ug/L	55.048 ppb	03:26:00
3	P 214.914†	1873.6	1699.3	814.53 ug/L	814.53 ppb	03:26:00
3	Pb 220.353†	372.4	461.8	47.008 ug/L	47.008 ppb	03:26:00
3	S 181.975 Axial†	275.2	233.5	280.34 ug/L	280.34 ppb	03:26:00
3	Sb 206.836†	73.0	36.5	3.6959 ug/L	3.6959 ppb	03:26:00
3	Se 196.026†	-417.9	-402.8	63.433 ug/L	63.433 ppb	03:26:00
3	Si 251.611†	592842.1	607784.9	18091 ug/L	18091 ppb	03:25:35
3	Sn 189.927†	-30.5	-40.7	-3.9346 ug/L	-3.9346 ppb	03:26:00
3	Ti 334.940†	1815620.4	1864828.9	2787.1 ug/L	2787.1 ppb	03:25:35
3	Tl 190.801†	-186.8	-147.2	-4.4063 ug/L	-4.4063 ppb	03:26:00
3	U 409.014†	-12067.5	-7269.5	-224.73 ug/L	-224.73 ppb	03:25:35
3	V 292.402†	9789.8	11797.5	62.727 ug/L	62.727 ppb	03:25:40
3	Zn 213.857†	46783.2	47295.6	392.52 ug/L	392.52 ppb	03:25:40
3	SiO2†	593735.4	608675.0	38815 ug/L	38815 ppb	03:26:17

Mean Data: 244881003|942648|1

Analyte	Mean Corrected	Conc.	Calib.	Std.Dev.	Conc.	Sample	Std.Dev.	RSD
	Intensity	Units			Units			
Sc 361.383	864219.3	97.013 %		1.5905				1.64%
Sc Radial	4385.1	106 %		1.6				1.52%
Y 371.029	859654.6	117.08 %		1.752				1.50%
Y RADIAL	6111.5	126.2 %		1.94				1.54%
Ag 328.068†	-6181.4	1.1676 ug/L		0.73130	1.1676 ppb	0.73130		62.63%
Al 396.153Radial†	31349.4	25884 ug/L		164.7	25884 ppb	164.7		0.64%
As 188.979†	-59.8	21.478 ug/L		2.5257	21.478 ppb	2.5257		11.76%
B 249.677†	1060.0	8.1677 ug/L		1.07057	8.1677 ppb	1.07057		13.11%
Ba 233.527†	36107.4	266.70 ug/L		5.923	266.70 ppb	5.923		2.22%
Be 313.107†	4300.2	7.8243 ug/L		0.07471	7.8243 ppb	0.07471		0.95%
Ca 317.933Radial†	4193.6	7762.9 ug/L		64.45	7762.9 ppb	64.45		0.83%
Cd 226.502†	834.8	-0.2586 ug/L		0.13455	-0.2586 ppb	0.13455		52.03%
Co 228.616†	877.6	9.1567 ug/L		0.34088	9.1567 ppb	0.34088		3.72%
Cr 267.716†	7500.8	79.085 ug/L		1.4202	79.085 ppb	1.4202		1.80%
Cu 324.752†	8767.8	29.053 ug/L		0.8144	29.053 ppb	0.8144		2.80%
Fe 238.204 Radial†	7391.5	85898 ug/L		540.8	85898 ppb	540.8		0.63%
K 766.490 Radial†	23660.6	4499.7 ug/L		33.51	4499.7 ppb	33.51		0.74%



Mg 279.077 IEC†	113.4	4689.0 ug/L	85.32	4689.0 ppb	85.32	1.82%
Mn 257.610†	2987806.7	3006.1 ug/L	40.78	3006.1 ppb	40.78	1.36%
Mo 202.031†	105.7	13.787 ug/L	0.4391	13.787 ppb	0.4391	3.19%
Na 589.592 Radial†	1690.5	520.93 ug/L	2.611	520.93 ppb	2.611	0.50%
Ni 231.604†	2511.0	55.940 ug/L	1.1472	55.940 ppb	1.1472	2.05%
P 214.914†	1719.6	825.23 ug/L	19.562	825.23 ppb	19.562	2.37%
Pb 220.353†	464.3	47.281 ug/L	0.2831	47.281 ppb	0.2831	0.60%
S 181.975 Axial†	242.4	291.30 ug/L	13.649	291.30 ppb	13.649	4.69%
Sb 206.836†	31.9	2.2398 ug/L	2.77514	2.2398 ppb	2.77514	123.90%
Se 196.026†	-407.2	60.020 ug/L	7.9416	60.020 ppb	7.9416	13.23%
Si 251.611†	612799.1	18240 ug/L	250.6	18240 ppb	250.6	1.37%
Sn 189.927†	-32.2	-2.5722 ug/L	1.31724	-2.5722 ppb	1.31724	51.21%
Sr 421.552†	8834.9	58.276 ug/L	0.3197	58.276 ppb	0.3197	0.55%
Ti 334.940†	1881248.4	2811.6 ug/L	37.28	2811.6 ppb	37.28	1.33%
Tl 190.801†	-142.7	-2.8340 ug/L	3.79341	-2.8340 ppb	3.79341	133.86%
U 409.014†	-7312.7	-225.97 ug/L	6.557	-225.97 ppb	6.557	2.90%
V 292.402†	11969.0	63.889 ug/L	1.1134	63.889 ppb	1.1134	1.74%
Zn 213.857†	48220.6	400.39 ug/L	9.189	400.39 ppb	9.189	2.29%
Sio2†	611106.1	38970 ug/L	639.6	38970 ppb	639.6	1.64%

Sequence No.: 91  
 Sample ID: 244881004|942648|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 110  
 Date Collected: 2/2/2010 03:28:28  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 244881004|942648|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4330.5	4330.5	105 %		03:30:42
1	Y RADIAL	5604.6	5604.6	115.8 %		03:30:42
1	Al 396.153Radial†	169876.8	162026.4	133780 ug/L	133780 ppb	03:30:22
1	Ca 317.933Radial†	13040.9	12410.4	22973 ug/L	22973 ppb	03:30:22
1	Fe 238.204 Radial†	16089.2	15317.6	178010 ug/L	178010 ppb	03:30:22
1	K 766.490 Radial†	97782.2	90529.7	17222 ug/L	17222 ppb	03:30:22
1	Mg 279.077 IEC†	526.8	501.9	20964 ug/L	20964 ppb	03:30:42
1	Na 589.592 Radial†	4107.4	5565.3	1714.9 ug/L	1714.9 ppb	03:30:22
1	Sr 421.552†	42880.6	40814.6	269.31 ug/L	269.31 ppb	03:30:22
1	Sc 361.383	845159.1	845159.1	94.874 %		03:31:41
1	Y 371.029	784808.3	784808.3	106.89 %		03:31:41
1	Ag 328.068†	-11933.0	-13202.3	0.8625 ug/L	0.8625 ppb	03:31:41
1	As 188.979†	-125.6	-103.7	45.097 ug/L	45.097 ppb	03:32:01
1	B 249.677†	1389.9	2226.1	17.224 ug/L	17.224 ppb	03:31:41
1	Ba 233.527†	229249.6	241651.9	1772.3 ug/L	1772.3 ppb	03:31:41
1	Be 313.107†	-1797.5	2508.4	12.165 ug/L	12.165 ppb	03:31:41
1	Cd 226.502†	1463.4	1746.6	-0.3244 ug/L	-0.3244 ppb	03:32:01
1	Co 228.616†	7371.1	7854.5	132.55 ug/L	132.55 ppb	03:32:01
1	Cr 267.716†	11249.7	11795.7	125.36 ug/L	125.36 ppb	03:32:01
1	Cu 324.752†	38497.7	33691.0	103.23 ug/L	103.23 ppb	03:31:41
1	Mn 257.610†	3198281.0	3370562.3	3398.5 ug/L	3398.5 ppb	03:31:41
1	Mo 202.031†	-66.5	-75.3	9.0855 ug/L	9.0855 ppb	03:32:01
1	Ni 231.604†	4245.9	4390.1	97.736 ug/L	97.736 ppb	03:32:01
1	P 214.914†	2072.6	1961.3	889.51 ug/L	889.51 ppb	03:32:01
1	Pb 220.353†	887.8	1015.4	120.88 ug/L	120.88 ppb	03:32:01
1	S 181.975 Axial†	457.8	433.6	504.66 ug/L	504.66 ppb	03:32:01
1	Sb 206.836†	82.5	48.5	-0.3698 ug/L	-0.3698 ppb	03:32:01
1	Se 196.026†	-857.0	-877.4	110.81 ug/L	110.81 ppb	03:32:01
1	Si 251.611†	1157051.6	1219035.0	36286 ug/L	36286 ppb	03:31:41
1	Sn 189.927†	-121.2	-137.2	-15.673 ug/L	-15.673 ppb	03:32:01
1	Ti 334.940†	3165376.9	3338216.5	4989.3 ug/L	4989.3 ppb	03:31:41
1	Tl 190.801†	-239.0	-207.5	-2.1543 ug/L	-2.1543 ppb	03:32:01
1	U 409.014†	-10653.9	-6116.5	-201.24 ug/L	-201.24 ppb	03:31:41
1	V 292.402†	38488.1	42319.9	250.28 ug/L	250.28 ppb	03:31:41
1	Zn 213.857†	38313.5	39674.5	318.59 ug/L	318.59 ppb	03:31:41
1	SiO2†	1156704.6	1218642.7	77712 ug/L	77712 ppb	03:33:01
2	Sc Radial	4370.9	4370.9	106 %		03:31:07
2	Y RADIAL	5628.8	5628.8	116.3 %		03:31:07
2	Al 396.153Radial†	167958.6	158717.2	131050 ug/L	131050 ppb	03:30:47
2	Ca 317.933Radial†	12884.6	12147.7	22487 ug/L	22487 ppb	03:30:47
2	Fe 238.204 Radial†	15896.1	14993.4	174240 ug/L	174240 ppb	03:30:47
2	K 766.490 Radial†	96632.2	88581.6	16852 ug/L	16852 ppb	03:30:47
2	Mg 279.077 IEC†	518.0	488.9	20421 ug/L	20421 ppb	03:31:07
2	Na 589.592 Radial†	4072.6	5496.2	1693.6 ug/L	1693.6 ppb	03:30:47
2	Sr 421.552†	42407.7	39989.9	263.87 ug/L	263.87 ppb	03:30:47
2	Sc 361.383	854838.7	854838.7	95.960 %		03:32:08
2	Y 371.029	793027.5	793027.5	108.01 %		03:32:08
2	Ag 328.068†	-12098.9	-13232.8	-0.4904 ug/L	-0.4904 ppb	03:32:08
2	As 188.979†	-121.7	-98.1	46.246 ug/L	46.246 ppb	03:32:28
2	B 249.677†	1501.1	2325.4	19.917 ug/L	19.917 ppb	03:32:08
2	Ba 233.527†	230747.6	240476.9	1763.6 ug/L	1763.6 ppb	03:32:08
2	Be 313.107†	-1624.9	2709.7	12.200 ug/L	12.200 ppb	03:32:08
2	Cd 226.502†	1442.7	1707.6	-0.3393 ug/L	-0.3393 ppb	03:32:28
2	Co 228.616†	7358.0	7752.9	130.76 ug/L	130.76 ppb	03:32:28
2	Cr 267.716†	11265.8	11778.3	124.08 ug/L	124.08 ppb	03:32:28
2	Cu 324.752†	38760.1	33505.0	102.51 ug/L	102.51 ppb	03:32:08
2	Mn 257.610†	3220586.2	3355634.6	3383.2 ug/L	3383.2 ppb	03:32:08
2	Mo 202.031†	-66.3	-74.3	8.8548 ug/L	8.8548 ppb	03:32:28
2	Ni 231.604†	4215.8	4308.1	95.909 ug/L	95.909 ppb	03:32:28

2	P 214.914†	2062.1	1925.7	873.46 ug/L	873.46 ppb	03:32:28
2	Pb 220.353†	880.0	996.6	118.63 ug/L	118.63 ppb	03:32:28
2	S 181.975 Axial†	442.3	412.1	478.84 ug/L	478.84 ppb	03:32:28
2	Sb 206.836†	97.1	62.7	3.9899 ug/L	3.9899 ppb	03:32:28
2	Se 196.026†	-847.5	-857.2	109.35 ug/L	109.35 ppb	03:32:28
2	Si 251.611†	1165845.9	1214389.9	36148 ug/L	36148 ppb	03:32:08
2	Sn 189.927†	-125.0	-139.7	-16.224 ug/L	-16.224 ppb	03:32:28
2	Ti 334.940†	3192401.5	3328599.5	4974.9 ug/L	4974.9 ppb	03:32:08
2	Tl 190.801†	-246.4	-212.4	-3.7042 ug/L	-3.7042 ppb	03:32:28
2	U 409.014†	-10793.7	-6135.1	-201.35 ug/L	-201.35 ppb	03:32:08
2	V 292.402†	38695.2	42076.3	249.22 ug/L	249.22 ppb	03:32:08
2	Zn 213.857†	38540.7	39454.1	317.10 ug/L	317.10 ppb	03:32:08
2	SiO2†	1149570.4	1197402.7	76358 ug/L	76358 ppb	03:33:07
3	Sc Radial	4452.9	4452.9	108 %		03:31:32
3	Y RADIAL	5746.9	5746.9	118.7 %		03:31:32
3	Al 396.153Radial†	168277.6	156094.6	128880 ug/L	128880 ppb	03:31:12
3	Ca 317.933Radial†	12912.9	11950.1	22121 ug/L	22121 ppb	03:31:12
3	Fe 238.204 Radial†	15880.2	14702.4	170860 ug/L	170860 ppb	03:31:12
3	K 766.490 Radial†	96926.4	87175.3	16584 ug/L	16584 ppb	03:31:12
3	Mg 279.077 IEC†	520.9	482.6	20157 ug/L	20157 ppb	03:31:32
3	Na 589.592 Radial†	4095.5	5446.7	1678.4 ug/L	1678.4 ppb	03:31:12
3	Sr 421.552†	42485.0	39324.8	259.48 ug/L	259.48 ppb	03:31:12
3	Sc 361.383	854065.2	854065.2	95.873 %		03:32:35
3	Y 371.029	789767.9	789767.9	107.56 %		03:32:35
3	Ag 328.068†	-12003.6	-13144.8	-1.1929 ug/L	-1.1929 ppb	03:32:35
3	As 188.979†	-130.9	-107.8	41.607 ug/L	41.607 ppb	03:32:55
3	B 249.677†	1481.3	2306.2	20.064 ug/L	20.064 ppb	03:32:35
3	Ba 233.527†	230216.9	240141.2	1761.0 ug/L	1761.0 ppb	03:32:35
3	Be 313.107†	-1508.5	2829.7	12.215 ug/L	12.215 ppb	03:32:35
3	Cd 226.502†	1445.7	1712.0	0.0544 ug/L	0.0544 ppb	03:32:55
3	Co 228.616†	7339.0	7740.0	130.60 ug/L	130.60 ppb	03:32:55
3	Cr 267.716†	11225.7	11647.0	123.69 ug/L	123.69 ppb	03:32:55
3	Cu 324.752†	38769.0	33550.8	102.47 ug/L	102.47 ppb	03:32:35
3	Mn 257.610†	3215621.1	3353495.7	3380.7 ug/L	3380.7 ppb	03:32:35
3	Mo 202.031†	-56.9	-64.6	9.2364 ug/L	9.2364 ppb	03:32:55
3	Ni 231.604†	4202.8	4298.5	95.695 ug/L	95.695 ppb	03:32:55
3	P 214.914†	2082.8	1949.2	887.86 ug/L	887.86 ppb	03:32:55
3	Pb 220.353†	888.7	1006.6	119.55 ug/L	119.55 ppb	03:32:55
3	S 181.975 Axial†	445.8	416.1	484.11 ug/L	484.11 ppb	03:32:55
3	Sb 206.836†	104.9	71.0	6.6006 ug/L	6.6006 ppb	03:32:55
3	Se 196.026†	-847.5	-858.0	97.598 ug/L	97.598 ppb	03:32:55
3	Si 251.611†	1163510.6	1213054.5	36108 ug/L	36108 ppb	03:32:35
3	Sn 189.927†	-104.9	-118.9	-12.967 ug/L	-12.967 ppb	03:32:55
3	Ti 334.940†	3182296.9	3321073.3	4963.6 ug/L	4963.6 ppb	03:32:35
3	Tl 190.801†	-239.8	-205.7	-1.9216 ug/L	-1.9216 ppb	03:32:55
3	U 409.014†	-10933.4	-6290.9	-205.57 ug/L	-205.57 ppb	03:32:35
3	V 292.402†	38621.6	42036.2	249.45 ug/L	249.45 ppb	03:32:35
3	Zn 213.857†	38608.5	39561.2	318.34 ug/L	318.34 ppb	03:32:35
3	SiO2†	1152865.7	1201924.9	76646 ug/L	76646 ppb	03:33:13

Mean Data: 244881004|942648|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	851354.4	95.569 %		0.6038			0.63%
Sc Radial	4384.8	106 %		1.5			1.42%
Y 371.029	789201.2	107.48 %		0.564			0.52%
Y RADIAL	5660.1	116.9 %		1.57			1.35%
Ag 328.068†	-13193.3	-0.2736 ug/L		1.04470	-0.2736 ppb	1.04470	381.79%
Al 396.153Radial†	158946.1	131240 ug/L		2454.4	131240 ppb	2454.4	1.87%
As 188.979†	-103.2	44.316 ug/L		2.4160	44.316 ppb	2.4160	5.45%
B 249.677†	2285.9	19.069 ug/L		1.5991	19.069 ppb	1.5991	8.39%
Ba 233.527†	240756.7	1765.6 ug/L		5.91	1765.6 ppb	5.91	0.33%
Be 313.107†	2682.6	12.194 ug/L		0.0255	12.194 ppb	0.0255	0.21%
Ca 317.933Radial†	12169.4	22527 ug/L		427.4	22527 ppb	427.4	1.90%
Cd 226.502†	1722.1	-0.2031 ug/L		0.22309	-0.2031 ppb	0.22309	109.84%
Co 228.616†	7782.5	131.30 ug/L		1.086	131.30 ppb	1.086	0.83%
Cr 267.716†	11707.0	124.38 ug/L		0.874	124.38 ppb	0.874	0.70%
Cu 324.752†	33582.3	102.74 ug/L		0.429	102.74 ppb	0.429	0.42%
Fe 238.204 Radial†	15004.5	174370 ug/L		3576.2	174370 ppb	3576.2	2.05%
K 766.490 Radial†	88762.2	16886 ug/L		320.5	16886 ppb	320.5	1.90%

Mg 279.077 IEC†	491.2	20514 ug/L	411.0	20514 ppb	411.0	2.00%
Mn 257.610†	3359897.5	3387.5 ug/L	9.64	3387.5 ppb	9.64	0.28%
Mo 202.031†	-71.4	9.0589 ug/L	0.19221	9.0589 ppb	0.19221	2.12%
Na 589.592 Radial†	5502.7	1695.7 ug/L	18.36	1695.7 ppb	18.36	1.08%
Ni 231.604†	4332.2	96.447 ug/L	1.1218	96.447 ppb	1.1218	1.16%
P 214.914†	1945.4	883.61 ug/L	8.829	883.61 ppb	8.829	1.00%
Pb 220.353†	1006.2	119.68 ug/L	1.131	119.68 ppb	1.131	0.94%
S 181.975 Axial†	420.6	489.20 ug/L	13.640	489.20 ppb	13.640	2.79%
Sb 206.836†	60.7	3.4069 ug/L	3.52155	3.4069 ppb	3.52155	103.37%
Se 196.026†	-864.2	105.92 ug/L	7.244	105.92 ppb	7.244	6.84%
Si 251.611†	1215493.1	36180 ug/L	93.4	36180 ppb	93.4	0.26%
Sn 189.927†	-131.9	-14.955 ug/L	1.7434	-14.955 ppb	1.7434	11.66%
Sr 421.552†	40043.1	264.22 ug/L	4.924	264.22 ppb	4.924	1.86%
Ti 334.940†	3329296.4	4975.9 ug/L	12.86	4975.9 ppb	12.86	0.26%
Tl 190.801†	-208.5	-2.5933 ug/L	0.96902	-2.5933 ppb	0.96902	37.37%
U 409.014†	-6180.8	-202.72 ug/L	2.469	-202.72 ppb	2.469	1.22%
V 292.402†	42144.1	249.65 ug/L	0.561	249.65 ppb	0.561	0.22%
Zn 213.857†	39563.3	318.01 ug/L	0.798	318.01 ppb	0.798	0.25%
SiO2†	1205990.1	76905 ug/L	713.5	76905 ppb	713.5	0.93%

Sequence No.: 92  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 2/2/2010 03:35:25  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4222.7	4222.7	102 %		03:37:18
1	Y RADIAL	4792.4	4792.4	98.99 %		03:37:18
1	Al 396.153Radial†	6295.4	6340.5	5210.2 ug/L	5210.2 ppb	03:37:18
1	Ca 317.933Radial†	2944.0	2862.9	5299.7 ug/L	5299.7 ppb	03:37:38
1	Fe 238.204 Radial†	470.3	449.4	5237.8 ug/L	5237.8 ppb	03:37:38
1	K 766.490 Radial†	30948.0	27611.3	5249.1 ug/L	5249.1 ppb	03:37:18
1	Mg 279.077 IEC†	136.4	133.3	5616.4 ug/L	5616.4 ppb	03:37:38
1	Na 589.592 Radial†	32790.0	33687.4	10381 ug/L	10381 ppb	03:37:18
1	Sr 421.552†	80875.0	78976.9	521.42 ug/L	521.42 ppb	03:37:18
1	Sc 361.383	854942.3	854942.3	95.972 %		03:38:37
1	Y 371.029	685238.8	685238.8	93.325 %		03:38:37
1	Ag 328.068†	112657.5	116761.5	514.08 ug/L	514.08 ppb	03:38:37
1	As 188.979†	1249.0	1330.2	515.41 ug/L	515.41 ppb	03:38:57
1	B 249.677†	22284.1	23980.5	499.07 ug/L	499.07 ppb	03:38:37
1	Ba 233.527†	67435.7	70281.4	514.98 ug/L	514.98 ppb	03:38:37
1	Be 313.107†	1449772.6	1515025.1	509.50 ug/L	509.50 ppb	03:38:37
1	Cd 226.502†	48223.9	50452.1	520.86 ug/L	520.86 ppb	03:38:37
1	Co 228.616†	26795.3	28005.1	516.29 ug/L	516.29 ppb	03:38:57
1	Cr 267.716†	47835.2	49781.1	513.10 ug/L	513.10 ppb	03:38:37
1	Cu 324.752†	183818.0	184646.3	513.57 ug/L	513.57 ppb	03:38:37
1	Mn 257.610†	496565.4	516875.3	518.89 ug/L	518.89 ppb	03:38:37
1	Mo 202.031†	7454.3	7761.9	516.32 ug/L	516.32 ppb	03:38:57
1	Ni 231.604†	22226.4	23074.1	513.84 ug/L	513.84 ppb	03:38:57
1	P 214.914†	5061.9	5051.0	2522.5 ug/L	2522.5 ppb	03:38:57
1	Pb 220.353†	4583.8	4855.8	522.68 ug/L	522.68 ppb	03:38:57
1	S 181.975 Axial†	841.1	827.5	1009.9 ug/L	1009.9 ppb	03:38:57
1	Sb 206.836†	1656.1	1687.1	534.08 ug/L	534.08 ppb	03:38:57
1	Se 196.026†	885.3	948.4	544.88 ug/L	544.88 ppb	03:38:57
1	Si 251.611†	83943.8	86931.3	2581.2 ug/L	2581.2 ppb	03:38:37
1	Sn 189.927†	3089.0	3209.2	519.33 ug/L	519.33 ppb	03:38:57
1	Ti 334.940†	334843.1	350701.4	523.85 ug/L	523.85 ppb	03:38:37
1	Tl 190.801†	1706.0	1822.0	517.64 ug/L	517.64 ppb	03:38:57
1	U 409.014†	11826.9	17436.4	513.30 ug/L	513.30 ppb	03:38:37
1	V 292.402†	71888.4	76657.9	516.87 ug/L	516.87 ppb	03:38:37
1	Zn 213.857†	59029.8	60798.3	511.35 ug/L	511.35 ppb	03:38:37
1	SiO2†	84106.2	87074.0	5538.6 ug/L	5538.6 ppb	03:39:57
2	Sc Radial	4303.1	4303.1	104 %		03:37:43
2	Y RADIAL	4819.0	4819.0	99.54 %		03:37:43
2	Al 396.153Radial†	6378.8	6305.7	5181.6 ug/L	5181.6 ppb	03:37:43
2	Ca 317.933Radial†	2944.5	2809.7	5201.1 ug/L	5201.1 ppb	03:38:03
2	Fe 238.204 Radial†	471.4	441.8	5149.4 ug/L	5149.4 ppb	03:38:03
2	K 766.490 Radial†	31251.5	27337.4	5197.0 ug/L	5197.0 ppb	03:37:43
2	Mg 279.077 IEC†	134.0	128.6	5417.4 ug/L	5417.4 ppb	03:38:03
2	Na 589.592 Radial†	33224.1	33505.1	10325 ug/L	10325 ppb	03:37:43
2	Sr 421.552†	81919.8	78502.3	518.28 ug/L	518.28 ppb	03:37:43
2	Sc 361.383	860195.0	860195.0	96.562 %		03:39:04
2	Y 371.029	687540.6	687540.6	93.639 %		03:39:04
2	Ag 328.068†	113417.4	116831.5	514.36 ug/L	514.36 ppb	03:39:04
2	As 188.979†	1250.0	1323.3	512.73 ug/L	512.73 ppb	03:39:24
2	B 249.677†	22662.6	24230.6	504.32 ug/L	504.32 ppb	03:39:04
2	Ba 233.527†	67967.0	70402.6	515.86 ug/L	515.86 ppb	03:39:04
2	Be 313.107†	1459267.3	1515633.4	509.71 ug/L	509.71 ppb	03:39:04
2	Cd 226.502†	48503.6	50434.8	520.68 ug/L	520.68 ppb	03:39:04
2	Co 228.616†	26907.0	27950.3	515.27 ug/L	515.27 ppb	03:39:24
2	Cr 267.716†	48149.6	49802.3	513.31 ug/L	513.31 ppb	03:39:04
2	Cu 324.752†	185235.6	184944.8	514.39 ug/L	514.39 ppb	03:39:04
2	Mn 257.610†	500050.6	517325.2	519.34 ug/L	519.34 ppb	03:39:04
2	Mo 202.031†	7459.2	7719.6	513.50 ug/L	513.50 ppb	03:39:24
2	Ni 231.604†	22208.2	22913.8	510.27 ug/L	510.27 ppb	03:39:24

2	P 214.914†	5060.3	5017.2	2504.9 ug/L	2504.9 ppb	03:39:24
2	Pb 220.353†	4593.6	4836.8	520.63 ug/L	520.63 ppb	03:39:24
2	S 181.975 Axial†	855.1	836.6	1021.0 ug/L	1021.0 ppb	03:39:24
2	Sb 206.836†	1659.5	1680.2	531.85 ug/L	531.85 ppb	03:39:24
2	Se 196.026†	888.9	946.5	543.55 ug/L	543.55 ppb	03:39:24
2	Si 251.611†	84607.3	87084.4	2585.8 ug/L	2585.8 ppb	03:39:04
2	Sn 189.927†	3088.8	3189.4	516.12 ug/L	516.12 ppb	03:39:24
2	Ti 334.940†	336965.1	350768.4	523.95 ug/L	523.95 ppb	03:39:04
2	Tl 190.801†	1722.0	1827.8	519.27 ug/L	519.27 ppb	03:39:24
2	U 409.014†	11891.4	17427.9	513.06 ug/L	513.06 ppb	03:39:04
2	V 292.402†	72403.5	76733.9	517.34 ug/L	517.34 ppb	03:39:04
2	Zn 213.857†	59521.8	60932.3	512.52 ug/L	512.52 ppb	03:39:04
2	SiO2†	84491.4	86937.9	5530.0 ug/L	5530.0 ppb	03:40:02
3	Sc Radial	4241.1	4241.1	103 %		03:38:08
3	Y RADIAL	4760.4	4760.4	98.33 %		03:38:08
3	Al 396.153Radial†	6272.0	6291.1	5169.5 ug/L	5169.5 ppb	03:38:08
3	Ca 317.933Radial†	2931.4	2838.1	5253.8 ug/L	5253.8 ppb	03:38:28
3	Fe 238.204 Radial†	463.5	440.7	5137.3 ug/L	5137.3 ppb	03:38:28
3	K 766.490 Radial†	30787.9	27324.3	5194.5 ug/L	5194.5 ppb	03:38:08
3	Mg 279.077 IEC†	131.6	128.1	5397.0 ug/L	5397.0 ppb	03:38:28
3	Na 589.592 Radial†	32594.4	33358.2	10279 ug/L	10279 ppb	03:38:08
3	Sr 421.552†	80331.1	78105.0	515.66 ug/L	515.66 ppb	03:38:08
3	Sc 361.383	853369.3	853369.3	95.795 %		03:39:32
3	Y 371.029	682735.1	682735.1	92.984 %		03:39:32
3	Ag 328.068†	112575.3	116892.0	514.62 ug/L	514.62 ppb	03:39:32
3	As 188.979†	1247.5	1331.0	515.68 ug/L	515.68 ppb	03:39:52
3	B 249.677†	22319.2	24060.0	500.75 ug/L	500.75 ppb	03:39:32
3	Ba 233.527†	67245.3	70212.1	514.47 ug/L	514.47 ppb	03:39:32
3	Be 313.107†	1443038.5	1510779.9	508.07 ug/L	508.07 ppb	03:39:32
3	Cd 226.502†	47960.1	50269.3	518.98 ug/L	518.98 ppb	03:39:32
3	Co 228.616†	26688.6	27945.2	515.19 ug/L	515.19 ppb	03:39:52
3	Cr 267.716†	47698.5	49730.3	512.57 ug/L	512.57 ppb	03:39:32
3	Cu 324.752†	183377.6	184539.6	513.27 ug/L	513.27 ppb	03:39:32
3	Mn 257.610†	494687.2	515868.5	517.88 ug/L	517.88 ppb	03:39:32
3	Mo 202.031†	7439.5	7760.8	516.24 ug/L	516.24 ppb	03:39:52
3	Ni 231.604†	22108.4	22993.6	512.04 ug/L	512.04 ppb	03:39:52
3	P 214.914†	5019.8	5016.9	2504.9 ug/L	2504.9 ppb	03:39:52
3	Pb 220.353†	4537.8	4816.6	518.47 ug/L	518.47 ppb	03:39:52
3	S 181.975 Axial†	836.5	824.3	1006.0 ug/L	1006.0 ppb	03:39:52
3	Sb 206.836†	1652.1	1686.2	533.74 ug/L	533.74 ppb	03:39:52
3	Se 196.026†	880.8	945.5	542.92 ug/L	542.92 ppb	03:39:52
3	Si 251.611†	83659.8	86796.1	2577.2 ug/L	2577.2 ppb	03:39:32
3	Sn 189.927†	3058.3	3183.1	515.11 ug/L	515.11 ppb	03:39:52
3	Ti 334.940†	333704.7	350156.2	523.04 ug/L	523.04 ppb	03:39:32
3	Tl 190.801†	1708.7	1828.1	519.35 ug/L	519.35 ppb	03:39:52
3	U 409.014†	11883.0	17517.7	515.72 ug/L	515.72 ppb	03:39:32
3	V 292.402†	71657.3	76554.6	516.19 ug/L	516.19 ppb	03:39:32
3	Zn 213.857†	58861.9	60736.4	510.85 ug/L	510.85 ppb	03:39:32
3	SiO2†	83467.9	86569.2	5506.4 ug/L	5506.4 ppb	03:40:08

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	856168.9	96.110 %	0.4012			0.42%
Sc Radial	4255.6	103 %	1.0			0.99%
Y 371.029	685171.5	93.316 %	0.3273			0.35%
Y RADIAL	4790.6	98.95 %	0.606			0.61%
Ag 328.068†	116828.3	514.35 ug/L	0.267	514.35 ppb	0.267	0.05%
QC value within limits for Ag 328.068 Recovery = 102.87%						
Al 396.153Radial†	6312.5	5187.1 ug/L	20.94	5187.1 ppb	20.94	0.40%
QC value within limits for Al 396.153Radial Recovery = 103.74%						
As 188.979†	1328.2	514.60 ug/L	1.630	514.60 ppb	1.630	0.32%
QC value within limits for As 188.979 Recovery = 102.92%						
B 249.677†	24090.4	501.38 ug/L	2.680	501.38 ppb	2.680	0.53%
QC value within limits for B 249.677 Recovery = 100.28%						
Ba 233.527†	70298.7	515.10 ug/L	0.706	515.10 ppb	0.706	0.14%
QC value within limits for Ba 233.527 Recovery = 103.02%						
Be 313.107†	1513812.8	509.09 ug/L	0.888	509.09 ppb	0.888	0.17%
QC value within limits for Be 313.107 Recovery = 101.82%						
Ca 317.933Radial†	2836.9	5251.5 ug/L	49.33	5251.5 ppb	49.33	0.94%

QC value within limits for Ca 317.933Radial Recovery = 105.03%							
Cd 226.502†	50385.4	520.17 ug/L	1.038	520.17 ppb	1.038	0.20%	
QC value within limits for Cd 226.502 Recovery = 104.03%							
Co 228.616†	27966.8	515.58 ug/L	0.613	515.58 ppb	0.613	0.12%	
QC value within limits for Co 228.616 Recovery = 103.12%							
Cr 267.716†	49771.3	512.99 ug/L	0.383	512.99 ppb	0.383	0.07%	
QC value within limits for Cr 267.716 Recovery = 102.60%							
Cu 324.752†	184710.2	513.74 ug/L	0.584	513.74 ppb	0.584	0.11%	
QC value within limits for Cu 324.752 Recovery = 102.75%							
Fe 238.204 Radial†	444.0	5174.9 ug/L	54.88	5174.9 ppb	54.88	1.06%	
QC value within limits for Fe 238.204 Radial Recovery = 103.50%							
K 766.490 Radial†	27424.3	5213.5 ug/L	30.81	5213.5 ppb	30.81	0.59%	
QC value within limits for K 766.490 Radial Recovery = 104.27%							
Mg 279.077 IEC†	130.0	5476.9 ug/L	121.18	5476.9 ppb	121.18	2.21%	
QC value within limits for Mg 279.077 IEC Recovery = 109.54%							
Mn 257.610†	516689.6	518.70 ug/L	0.749	518.70 ppb	0.749	0.14%	
QC value within limits for Mn 257.610 Recovery = 103.74%							
Mo 202.031†	7747.4	515.35 ug/L	1.606	515.35 ppb	1.606	0.31%	
QC value within limits for Mo 202.031 Recovery = 103.07%							
Na 589.592 Radial†	33516.9	10328 ug/L	50.8	10328 ppb	50.8	0.49%	
QC value within limits for Na 589.592 Radial Recovery = 103.28%							
Ni 231.604†	22993.8	512.05 ug/L	1.785	512.05 ppb	1.785	0.35%	
QC value within limits for Ni 231.604 Recovery = 102.41%							
P 214.914†	5028.4	2510.8 ug/L	10.20	2510.8 ppb	10.20	0.41%	
QC value within limits for P 214.914 Recovery = 100.43%							
Pb 220.353†	4836.4	520.59 ug/L	2.102	520.59 ppb	2.102	0.40%	
QC value within limits for Pb 220.353 Recovery = 104.12%							
S 181.975 Axial†	829.5	1012.3 ug/L	7.78	1012.3 ppb	7.78	0.77%	
QC value within limits for S 181.975 Axial Recovery = 101.23%							
Sb 206.836†	1684.5	533.22 ug/L	1.203	533.22 ppb	1.203	0.23%	
QC value within limits for Sb 206.836 Recovery = 106.64%							
Se 196.026†	946.8	543.79 ug/L	1.003	543.79 ppb	1.003	0.18%	
QC value within limits for Se 196.026 Recovery = 108.76%							
Si 251.611†	86937.3	2581.4 ug/L	4.31	2581.4 ppb	4.31	0.17%	
QC value within limits for Si 251.611 Recovery = 103.26%							
Sn 189.927†	3193.9	516.86 ug/L	2.205	516.86 ppb	2.205	0.43%	
QC value within limits for Sn 189.927 Recovery = 103.37%							
Sr 421.552†	78528.1	518.45 ug/L	2.882	518.45 ppb	2.882	0.56%	
QC value within limits for Sr 421.552 Recovery = 103.69%							
Ti 334.940†	350542.0	523.61 ug/L	0.497	523.61 ppb	0.497	0.09%	
QC value within limits for Ti 334.940 Recovery = 104.72%							
Tl 190.801†	1826.0	518.75 ug/L	0.963	518.75 ppb	0.963	0.19%	
QC value within limits for Tl 190.801 Recovery = 103.75%							
U 409.014†	17460.6	514.03 ug/L	1.468	514.03 ppb	1.468	0.29%	
QC value within limits for U 409.014 Recovery = 102.81%							
V 292.402†	76648.8	516.80 ug/L	0.576	516.80 ppb	0.576	0.11%	
QC value within limits for V 292.402 Recovery = 103.36%							
Zn 213.857†	60822.3	511.57 ug/L	0.857	511.57 ppb	0.857	0.17%	
QC value within limits for Zn 213.857 Recovery = 102.31%							
SiO2†	86860.4	5525.0 ug/L	16.66	5525.0 ppb	16.66	0.30%	
QC value within limits for SiO2 Recovery = 103.32%							
All analyte(s) passed QC.							

Sequence No.: 93

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 2/2/2010 03:42:17

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4336.5	4336.5	105 %		03:44:10
1	Y RADIAL	4899.0	4899.0	101.2 %		03:44:10
1	Al 396.153Radial†	-211.1	-10.7	-8.8986 ug/L	-8.8986 ppb	03:44:10
1	Ca 317.933Radial†	29.1	14.3	26.495 ug/L	26.495 ppb	03:44:30
1	Fe 238.204 Radial†	9.0	-1.5	-17.670 ug/L	-17.670 ppb	03:44:30
1	K 766.490 Radial†	2873.0	108.9	20.677 ug/L	20.677 ppb	03:44:10
1	Mg 279.077 IEC†	4.4	4.3	179.64 ug/L	179.64 ppb	03:44:30
1	Na 589.592 Radial†	-1343.1	374.5	115.42 ug/L	115.42 ppb	03:44:10
1	Sr 421.552†	10.2	-26.7	-0.1767 ug/L	-0.1767 ppb	03:44:10
1	Sc 361.383	850463.7	850463.7	95.469 %		03:45:27
1	Y 371.029	690634.5	690634.5	94.060 %		03:45:27
1	Ag 328.068†	393.5	-212.4	-0.9520 ug/L	-0.9520 ppb	03:45:32
1	As 188.979†	-45.2	-18.6	-7.1467 ug/L	-7.1467 ppb	03:45:52
1	B 249.677†	-561.6	172.8	3.6176 ug/L	3.6176 ppb	03:45:52
1	Ba 233.527†	-18.7	-4.3	-0.0321 ug/L	-0.0321 ppb	03:45:52
1	Be 313.107†	-4141.7	64.8	0.0222 ug/L	0.0222 ppb	03:45:32
1	Cd 226.502†	-201.6	-7.0	-0.0666 ug/L	-0.0666 ppb	03:45:52
1	Co 228.616†	-104.5	-24.3	-0.4465 ug/L	-0.4465 ppb	03:45:52
1	Cr 267.716†	86.5	28.7	0.2873 ug/L	0.2873 ppb	03:45:32
1	Cu 324.752†	7003.8	449.4	1.2375 ug/L	1.2375 ppb	03:45:32
1	Mn 257.610†	665.2	164.9	0.1564 ug/L	0.1564 ppb	03:45:52
1	Mo 202.031†	18.0	13.6	0.9056 ug/L	0.9056 ppb	03:45:52
1	Ni 231.604†	91.1	10.3	0.2289 ug/L	0.2289 ppb	03:45:52
1	P 214.914†	257.3	46.3	23.803 ug/L	23.803 ppb	03:45:52
1	Pb 220.353†	-50.2	27.0	2.8986 ug/L	2.8986 ppb	03:45:52
1	S 181.975 Axial†	55.8	9.6	11.749 ug/L	11.749 ppb	03:45:52
1	Sb 206.836†	51.1	15.1	4.6606 ug/L	4.6606 ppb	03:45:52
1	Se 196.026†	-26.2	-1.5	-0.8695 ug/L	-0.8695 ppb	03:45:52
1	Si 251.611†	537.4	27.2	0.7975 ug/L	0.7975 ppb	03:45:52
1	Sn 189.927†	19.2	10.7	1.7289 ug/L	1.7289 ppb	03:45:52
1	Ti 334.940†	-1598.1	130.4	0.1746 ug/L	0.1746 ppb	03:45:32
1	Tl 190.801†	-36.0	6.7	1.8952 ug/L	1.8952 ppb	03:45:52
1	U 409.014†	-4212.3	700.9	20.706 ug/L	20.706 ppb	03:45:27
1	V 292.402†	-1673.9	-1.1	0.0508 ug/L	0.0508 ppb	03:45:32
1	Zn 213.857†	875.0	207.4	1.7582 ug/L	1.7582 ppb	03:45:52
1	SiO2†	506.1	-32.1	-2.0729 ug/L	-2.0729 ppb	03:46:58
2	Sc Radial	4402.3	4402.3	107 %		03:44:35
2	Y RADIAL	4970.4	4970.4	102.7 %		03:44:35
2	Al 396.153Radial†	-194.7	7.6	6.3010 ug/L	6.3010 ppb	03:44:35
2	Ca 317.933Radial†	28.7	13.5	25.033 ug/L	25.033 ppb	03:44:55
2	Fe 238.204 Radial†	11.6	0.7	8.3014 ug/L	8.3014 ppb	03:44:55
2	K 766.490 Radial†	2867.6	63.0	11.937 ug/L	11.937 ppb	03:44:35
2	Mg 279.077 IEC†	0.3	0.3	12.301 ug/L	12.301 ppb	03:44:55
2	Na 589.592 Radial†	-1337.4	399.0	122.95 ug/L	122.95 ppb	03:44:35
2	Sr 421.552†	38.7	-0.2	-0.0016 ug/L	-0.0016 ppb	03:44:35
2	Sc 361.383	854479.4	854479.4	95.920 %		03:45:57
2	Y 371.029	692552.1	692552.1	94.321 %		03:45:57
2	Ag 328.068†	386.5	-221.6	-0.9863 ug/L	-0.9863 ppb	03:46:02
2	As 188.979†	-30.5	-3.1	-1.1798 ug/L	-1.1798 ppb	03:46:22
2	B 249.677†	-541.2	196.9	4.1149 ug/L	4.1149 ppb	03:46:22
2	Ba 233.527†	-34.0	-20.1	-0.1461 ug/L	-0.1461 ppb	03:46:22
2	Be 313.107†	-4197.5	27.0	0.0099 ug/L	0.0099 ppb	03:46:02
2	Cd 226.502†	-197.9	-2.2	-0.0192 ug/L	-0.0192 ppb	03:46:22
2	Co 228.616†	-85.0	-3.5	-0.0650 ug/L	-0.0650 ppb	03:46:22
2	Cr 267.716†	120.0	63.2	0.6417 ug/L	0.6417 ppb	03:46:02
2	Cu 324.752†	6965.2	374.7	1.0285 ug/L	1.0285 ppb	03:46:02
2	Mn 257.610†	621.6	116.2	0.1169 ug/L	0.1169 ppb	03:46:22
2	Mo 202.031†	7.2	2.3	0.1546 ug/L	0.1546 ppb	03:46:22
2	Ni 231.604†	69.8	-12.4	-0.2770 ug/L	-0.2770 ppb	03:46:22



2	P 214.914†	248.8	36.1	18.524 ug/L	18.524 ppb	03:46:22
2	Pb 220.353†	-49.2	28.3	3.0362 ug/L	3.0362 ppb	03:46:22
2	S 181.975 Axial†	53.1	6.5	7.8853 ug/L	7.8853 ppb	03:46:22
2	Sb 206.836†	36.0	-0.8	-0.2407 ug/L	-0.2407 ppb	03:46:22
2	Se 196.026†	-27.0	-2.1	-1.1553 ug/L	-1.1553 ppb	03:46:22
2	Si 251.611†	504.7	-9.5	-0.2859 ug/L	-0.2859 ppb	03:46:22
2	Sn 189.927†	14.2	5.4	0.8746 ug/L	0.8746 ppb	03:46:22
2	Ti 334.940†	-1496.2	244.6	0.3564 ug/L	0.3564 ppb	03:46:02
2	Tl 190.801†	-59.4	-17.5	-4.9232 ug/L	-4.9232 ppb	03:46:22
2	U 409.014†	-4081.4	858.1	25.344 ug/L	25.344 ppb	03:45:57
2	V 292.402†	-1631.4	51.4	0.3910 ug/L	0.3910 ppb	03:46:02
2	Zn 213.857†	869.1	196.9	1.6702 ug/L	1.6702 ppb	03:46:22
2	SiO2†	509.3	-31.3	-2.0011 ug/L	-2.0011 ppb	03:47:03
3	Sc Radial	4389.9	4389.9	106 %		03:45:00
3	Y RADIAL	4918.4	4918.4	101.6 %		03:45:00
3	Al 396.153Radial†	-193.6	8.2	6.7482 ug/L	6.7482 ppb	03:45:00
3	Ca 317.933Radial†	25.7	10.8	20.029 ug/L	20.029 ppb	03:45:20
3	Fe 238.204 Radial†	12.6	1.7	19.884 ug/L	19.884 ppb	03:45:20
3	K 766.490 Radial†	2922.1	121.8	23.130 ug/L	23.130 ppb	03:45:00
3	Mg 279.077 IEC†	2.3	2.2	94.772 ug/L	94.772 ppb	03:45:20
3	Na 589.592 Radial†	-1337.7	395.1	121.75 ug/L	121.75 ppb	03:45:00
3	Sr 421.552†	44.5	5.4	0.0353 ug/L	0.0353 ppb	03:45:00
3	Sc 361.383	856009.4	856009.4	96.092 %		03:46:28
3	Y 371.029	693520.9	693520.9	94.453 %		03:46:28
3	Ag 328.068†	518.8	-84.6	-0.3863 ug/L	-0.3863 ppb	03:46:33
3	As 188.979†	-35.9	-8.7	-3.3165 ug/L	-3.3165 ppb	03:46:53
3	B 249.677†	-543.6	195.4	4.0826 ug/L	4.0826 ppb	03:46:53
3	Ba 233.527†	-15.9	-1.2	-0.0074 ug/L	-0.0074 ppb	03:46:53
3	Be 313.107†	-4221.8	9.5	0.0038 ug/L	0.0038 ppb	03:46:33
3	Cd 226.502†	-179.0	17.8	0.1876 ug/L	0.1876 ppb	03:46:53
3	Co 228.616†	-89.4	-7.8	-0.1455 ug/L	-0.1455 ppb	03:46:53
3	Cr 267.716†	163.1	108.0	1.1007 ug/L	1.1007 ppb	03:46:33
3	Cu 324.752†	7017.8	416.4	1.1427 ug/L	1.1427 ppb	03:46:33
3	Mn 257.610†	951.1	458.0	0.4576 ug/L	0.4576 ppb	03:46:53
3	Mo 202.031†	7.1	2.2	0.1491 ug/L	0.1491 ppb	03:46:53
3	Ni 231.604†	81.2	-0.6	-0.0143 ug/L	-0.0143 ppb	03:46:53
3	P 214.914†	250.8	37.8	19.362 ug/L	19.362 ppb	03:46:53
3	Pb 220.353†	-69.9	6.8	0.7344 ug/L	0.7344 ppb	03:46:53
3	S 181.975 Axial†	52.0	5.2	6.4121 ug/L	6.4121 ppb	03:46:53
3	Sb 206.836†	62.1	26.2	8.0269 ug/L	8.0269 ppb	03:46:53
3	Se 196.026†	-27.4	-2.5	-1.3266 ug/L	-1.3266 ppb	03:46:53
3	Si 251.611†	602.0	90.7	2.6982 ug/L	2.6982 ppb	03:46:53
3	Sn 189.927†	12.9	4.0	0.6532 ug/L	0.6532 ppb	03:46:53
3	Ti 334.940†	-1572.1	168.3	0.2330 ug/L	0.2330 ppb	03:46:33
3	Tl 190.801†	-39.2	3.7	1.0421 ug/L	1.0421 ppb	03:46:53
3	U 409.014†	-3943.8	1008.9	29.796 ug/L	29.796 ppb	03:46:28
3	V 292.402†	-1607.9	78.9	0.5824 ug/L	0.5824 ppb	03:46:33
3	Zn 213.857†	912.1	240.1	2.0336 ug/L	2.0336 ppb	03:46:53
3	SiO2†	577.9	39.2	2.4931 ug/L	2.4931 ppb	03:47:08

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	853650.9	95.827 %	0.3215			0.34%
Sc Radial	4376.2	106 %	0.8			0.80%
Y 371.029	692235.8	94.278 %	0.2001			0.21%
Y RADIAL	4929.3	101.8 %	0.76			0.75%
Ag 328.068†	-172.8	-0.7749 ug/L	0.33696	-0.7749 ppb	0.33696	43.49%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	1.7	1.3835 ug/L	8.90738	1.3835 ppb	8.90738	643.81%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-10.1	-3.8810 ug/L	3.02327	-3.8810 ppb	3.02327	77.90%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	188.4	3.9384 ug/L	0.27828	3.9384 ppb	0.27828	7.07%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-8.6	-0.0619 ug/L	0.07396	-0.0619 ppb	0.07396	119.58%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	33.8	0.0119 ug/L	0.00938	0.0119 ppb	0.00938	78.50%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	12.9	23.852 ug/L	3.3905	23.852 ppb	3.3905	14.21%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated

Cd 226.502†	2.8	0.0340 ug/L	0.13517	0.0340 ppb	0.13517	398.08%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-11.9	-0.2190 ug/L	0.20111	-0.2190 ppb	0.20111	91.83%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	66.6	0.6766 ug/L	0.40779	0.6766 ppb	0.40779	60.27%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	413.5	1.1362 ug/L	0.10461	1.1362 ppb	0.10461	9.21%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.3	3.5051 ug/L	19.23092	3.5051 ppb	19.23092	548.65%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	97.9	18.582 ug/L	5.8838	18.582 ppb	5.8838	31.66%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	2.3	95.569 ug/L	83.6703	95.569 ppb	83.6703	87.55%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	246.4	0.2436 ug/L	0.18632	0.2436 ppb	0.18632	76.47%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	6.1	0.4031 ug/L	0.43520	0.4031 ppb	0.43520	107.96%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	389.5	120.04 ug/L	4.049	120.04 ppb	4.049	3.37%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	-0.9	-0.0208 ug/L	0.25303	-0.0208 ppb	0.25303	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	40.0	20.563 ug/L	2.8371	20.563 ppb	2.8371	13.80%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	20.7	2.2231 ug/L	1.29107	2.2231 ppb	1.29107	58.08%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	7.1	8.6820 ug/L	2.75608	8.6820 ppb	2.75608	31.74%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	13.5	4.1489 ug/L	4.15746	4.1489 ppb	4.15746	100.21%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-2.0	-1.1171 ug/L	0.23091	-1.1171 ppb	0.23091	20.67%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	36.1	1.0699 ug/L	1.51058	1.0699 ppb	1.51058	141.18%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	6.7	1.0855 ug/L	0.56801	1.0855 ppb	0.56801	52.32%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-7.2	-0.0477 ug/L	0.11327	-0.0477 ppb	0.11327	237.50%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	181.1	0.2546 ug/L	0.09283	0.2546 ppb	0.09283	36.45%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-2.4	-0.6620 ug/L	3.71486	-0.6620 ppb	3.71486	561.19%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	856.0	25.282 ug/L	4.5452	25.282 ppb	4.5452	17.98%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	43.1	0.3414 ug/L	0.26925	0.3414 ppb	0.26925	78.87%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	214.8	1.8207 ug/L	0.18962	1.8207 ppb	0.18962	10.41%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	-8.1	-0.5270 ug/L	2.61569	-0.5270 ppb	2.61569	496.38%
QC value within limits for SiO2 Recovery = Not calculated						

All analyte(s) passed QC.

## Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Tuesday, February 09, 2010 11:04:58

### Sample Description:

Method File: c:\elandata\Method\daily2.mth

Dataset File: c:\elandata\Dataset\100125\Sample.313

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	1553.9	1553.885	29.075	1.9
Mg	24.0	17663.7	17663.716	284.270	1.6
Co	58.9	66421.1	66421.076	907.488	1.4
Rh	102.9	138078.3	138078.331	1252.315	0.9
In	114.9	180102.9	180102.873	1794.208	1.0
Pb	208.0	66476.9	66476.926	694.901	1.0
[> Ba	137.9	144033.9	144033.876	1349.029	0.9
[ Ba++	69.0	1901.0	0.013	0.000	1.8
[> Ce	139.9	169135.3	169135.282	2242.228	1.3
[ CeO	155.9	4914.7	0.029	0.000	1.3
Bkgd	220.0	1.6	1.600	0.742	46.4

### Current Optimization File Data

Current Value	Description
0.93	Nebulizer Gas Flow
4.50	Lens Voltage
1000.00	ICP RF Power
-2000.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	4.3	1371.4
Co	59	17	5.0	56445.6
In	115	17	5.5	148438.2

## ICPMS #4 TUNING REPORT

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	603	2060	0.697
Be	9.0	9.0	2029	2045	0.715
Mg	24.0	24.0	5664	2065	0.656
Mg	25.0	24.9	5927	2080	0.719
Mg	26.0	26.0	6142	2085	0.632
Co	58.9	58.9	14170	2140	0.663
Rh	102.9	102.9	24866	2230	0.674
In	114.9	114.9	27761	2255	0.675
Ce	139.9	139.9	33840	2310	0.646
Pb	206.0	206.0	49933	2500	0.588
Pb	207.0	207.0	50101	2375	0.613
Pb	208.0	208.0	50436	2570	0.575
U	238.1	238.0	57683	2510	0.636

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Report Date/Time: Tuesday, February 09, 2010 11:04:15

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## ICPMS#4 - Summary Report

Sample ID: Blank

Sample Date/Time: Tuesday, February 09, 2010 20:52:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\Blank.215

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		209350	
[ U 238		ug/L		516	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Simple Linear	
U	238Simple Linear	

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175					
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Tuesday, February 09, 2010 20:52:26

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## ICPMS#4 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Tuesday, February 09, 2010 20:54:25

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\Standard 1.216

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		214623	214622.728
[ U 238	10.000	ug/L	1.088	155198	0.721

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175					
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Tuesday, February 09, 2010 20:56:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\Standard 2.217

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		198727	198726.923
[	U	238	100.028 ug/L	2.051	1474056	7.417

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175				
[	U	238				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Tuesday, February 09, 2010 20:58:44

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 1.218

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		210065	210064.972
[ U 238	49.845	ug/L	0.635	776838	3.696

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175		100.3			
[ U 238	99.689				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Tuesday, February 09, 2010 20:58:55

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## ICPMS#4 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Tuesday, February 09, 2010 21:00:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 2.219

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		204420	204420.309
[	U 238	0.021	ug/L	5.620	824	0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			97.6		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Tuesday, February 09, 2010 21:01:09

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## ICPMS#4 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Tuesday, February 09, 2010 21:03:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 3.220

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		200242	200241.832
[	U	238	0.207 ug/L	33.331	3489	0.015

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu	175		95.6		
[	U	238	103.465			

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 3

Report Date/Time: Tuesday, February 09, 2010 21:03:19

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## ICPMS#4 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, February 09, 2010 21:05:19

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 4.221

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		186840	186840.126
[ U 238	-0.025	ug/L	4.434	119	-0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			89.2		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 4

Report Date/Time: Tuesday, February 09, 2010 21:05:31

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## ICPMS#4 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, February 09, 2010 21:07:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 5.222

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		186429	186428.749
[	U 238	19.181	ug/L	0.450	265593	1.422

### Calibration

Analyte	Mass Curve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			89.1		
[	U 238	95.905				

### QC Out Of Limits

Measurement Type	Analyte	Mass Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 5

Report Date/Time: Tuesday, February 09, 2010 21:07:42

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## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 21:09:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.223

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		188776	188775.602
[	U 238	54.266	ug/L	4.622	759067	4.024

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			90.2		
[	U 238	108.532				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Tuesday, February 09, 2010 21:09:55

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## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 21:11:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.224

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		185230	185230.049
[ U 238	0.024	ug/L	70.695	755	0.002

### Calibration

Analyte	Mass Curve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			88.5		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	Mass Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Tuesday, February 09, 2010 21:12:09

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## ICPMS#4 - Summary Report

Sample ID: 1202037284

Sample Date/Time: Tuesday, February 09, 2010 21:14:11

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037284.225

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		205324	205324.058
[ U 238	-0.023	ug/L	2.165	154	-0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			98.1		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#4 - Summary Report

Sample ID: 1202037289

Sample Date/Time: Tuesday, February 09, 2010 21:16:28

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 950661|40|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037289.226

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		209227	209227.166
[	U 238	0.360	ug/L	1.505	6095	0.027

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.9		
[	U 238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#4 - Summary Report

Sample ID: 1202037285

Sample Date/Time: Tuesday, February 09, 2010 21:21:03

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 950661[2]skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037285.228

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		209194	209193.966
[	U 238	8.949	ug/L	0.981	139315	0.664

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.9		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202037285

Report Date/Time: Tuesday, February 09, 2010 21:21:18

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## ICPMS#4 - Summary Report

Sample ID: 1202037287

Sample Date/Time: Tuesday, February 09, 2010 21:23:19

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037287.229

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		216666	216665.910
[	U 238	32.096	ug/L	1.037	516110	2.380

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			103.5		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202037287

Report Date/Time: Tuesday, February 09, 2010 21:23:33

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## ICPMS#4 - Summary Report

Sample ID: 1202037288

Sample Date/Time: Tuesday, February 09, 2010 21:25:35

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037288.230

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		216216	216215.504
[	U 238	32.748	ug/L	0.186	525526	2.428

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175		103.3			
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202037288

Report Date/Time: Tuesday, February 09, 2010 21:25:48

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## ICPMS#4 - Summary Report

Sample ID: 1202037286

Sample Date/Time: Tuesday, February 09, 2010 21:27:51

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 950661|10|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\1202037286.231

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		208548	208548.453
[ U 238	1.697	ug/L	1.344	26753	0.126

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175		99.6			
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202037286

Report Date/Time: Tuesday, February 09, 2010 21:28:05

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## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 21:30:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.232

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		209522	209522.328
[	U 238	49.264	ug/L	0.481	765789	3.653

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175		100.1			
[	U 238	98.528				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Tuesday, February 09, 2010 21:30:17

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## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 21:32:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.233

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		198052	198052.118
[ U 238	0.019	ug/L	14.595	769	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			94.6		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Tuesday, February 09, 2010 21:32:31

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## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 21:48:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.240

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		208050	208049.802
[ U 238	48.730	ug/L	0.377	752209	3.613

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			99.4		
[ U 238	97.460				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Tuesday, February 09, 2010 21:48:26

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## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 21:50:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.241

### Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu 175		ug/L		198195	198194.675
[ U 238	0.018	ug/L	9.536	755	0.001

### Calibration

Analyte	Mass Curve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[> Lu 175			94.7		
[ U 238					

### QC Out Of Limits

Measurement Type	Analyte	Mass Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Tuesday, February 09, 2010 21:50:40

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## ICPMS#4 - Summary Report

Sample ID: 244881001

Sample Date/Time: Tuesday, February 09, 2010 21:55:00

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244881001.243

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		204658	204657.935
[	U 238	5.002	ug/L	2.790	76412	0.371

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			97.8		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244881001

Report Date/Time: Tuesday, February 09, 2010 21:55:15

Page 1

## ICPMS#4 - Summary Report

Sample ID: 244881002

Sample Date/Time: Tuesday, February 09, 2010 21:57:18

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244881002.244

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		199622	199622.144
[	U 238	3.304	ug/L	1.036	49390	0.245

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			95.4		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244881002

Report Date/Time: Tuesday, February 09, 2010 21:57:32

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## ICPMS#4 - Summary Report

Sample ID: 244881003

Sample Date/Time: Tuesday, February 09, 2010 21:59:36

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244881003.245

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		209069	209068.533
[	U 238	4.750	ug/L	0.625	74141	0.352

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			99.9		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244881003

Report Date/Time: Tuesday, February 09, 2010 21:59:51

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## ICPMS#4 - Summary Report

Sample ID: 244881004

Sample Date/Time: Tuesday, February 09, 2010 22:01:55

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 950661|2|skj

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\244881004.246

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu 175		ug/L		197002	197001.776
[	U 238	5.138	ug/L	2.159	75524	0.381

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
>	Lu 175			94.1		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244881004

Report Date/Time: Tuesday, February 09, 2010 22:02:10

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## ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, February 09, 2010 22:04:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 6.247

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		204137	204136.604
[	U 238	49.191	ug/L	0.540	745012	3.647

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			97.5		
[	U 238	98.381				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Tuesday, February 09, 2010 22:04:22

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## ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, February 09, 2010 22:06:24

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only no lrs.mth

Dataset File: C:\elandata\Dataset\100209\QC Std 7.248

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu 175		ug/L		192470	192470.162
[	U 238	0.016	ug/L	9.267	700	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Lu 175			91.9		
[	U 238					

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Tuesday, February 09, 2010 22:06:37

Page 1

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Sunday, February 07, 2010 10:49:08

### Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default\Sample.416

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

### Summary

Analyte	Mass	Meas. Intens.	Mean	Net Intens.	Mean	Net Intens.	SD	Net Intens.	RSD
Be	9.0		5210.6		5210.550		72.223		1.4
Mg	24.0		60809.6		60809.556		527.059		0.9
Co	58.9		109400.5		109400.522		924.040		0.8
Rh	102.9		186396.6		186396.615		1564.265		0.8
In	114.9		258539.8		258539.829		2000.285		0.8
Pb	208.0		240198.7		240198.694		2632.240		1.1
[> Ba	137.9		228475.0		228474.993		1061.131		0.5
[ Ba++	69.0		5556.6		0.024		0.000		0.9
[> Ce	139.9		282158.2		282158.181		3673.070		1.3
[ CeO	155.9		8137.4		0.029		0.001		3.3
Bkgd	220.0		19.8		19.800		4.396		22.2

### Current Optimization File Data

Current Value	Description
0.90	Nebulizer Gas Flow
10.25	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	19	10.5	5965.9
Co	59	19	11.0	105652.6
In	115	19	12.0	259194.6

Sample ID: Sample

Report Date/Time: Sunday, February 07, 2010 10:50:28

Page 1

## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	595	2060	0.623
Be	9.0	9.0	2049	2080	0.602
Mg	24.0	24.0	5687	2090	0.564
Mg	25.0	25.0	5951	2085	0.601
Mg	26.0	26.0	6162	2085	0.603
Co	58.9	59.0	14192	2115	0.601
Rh	102.9	102.9	24880	2175	0.579
In	114.9	114.9	27794	2190	0.601
Ce	139.9	139.9	33866	2210	0.603
Pb	206.0	206.0	49948	2300	0.600
Pb	207.0	207.0	50159	2245	0.611
Pb	208.0	208.0	50463	2280	0.671
U	238.1	238.0	57727	2300	0.666



## ICPMS#5 - Summary Report

Sample ID: Blank  
 Sample Date/Time: Monday, February 08, 2010 01:25:52  
 Sample Type:  
 Sample Description:  
 Number of Replicates: 3  
 Batch ID:  
 Method File: c:\elandata\Method\6020 2.mth  
 Dataset File: C:\elandata\Dataset\100207\Blank.247

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7		ug/L		73	
Be	9		ug/L		18	
B	11		ug/L		377	
Na	23		ug/L		13006	
Mg	24		ug/L		3334	
Al	27		ug/L		6001	
P	31		ug/L		8837	
K	39		ug/L		455837	
Ca	43		ug/L		348	
> Sc	45		ug/L		1527458	
Ti	47		ug/L		352	
V	51		ug/L		7766	
Cr	52		ug/L		2599	
Cr	53		ug/L		111664	
Mn	55		ug/L		1249	
Fe	57		ug/L		5560	
Co	59		ug/L		116	
Ni	60		ug/L		163	
Cu	63		ug/L		314	
Cu	65		ug/L		186	
Zn	66		ug/L		465	
Zn	67		ug/L		13404	
Zn	68		ug/L		1428	
> Ge	74		ug/L		405769	
As	75		ug/L		-165	
Se	77		ug/L		5681	
Se	82		ug/L		22	
Kr	83		ug/L		104	
Sr	88		ug/L		281	
Y	89		ug/L		56	
Mo	98		ug/L		111	
Ag	107		ug/L		46	
Cd	111		ug/L		22	
Cd	114		ug/L		51	
> In	115		ug/L		277023	
Sn	120		ug/L		219	
Sb	121		ug/L		393	
Sb	123		ug/L		291	
Ba	135		ug/L		40	
Ba	137		ug/L		55	
Ho	165		ug/L		23	
> Lu	175		ug/L		500170	
Tl	205		ug/L		812	
Pb	208		ug/L		606	
Bi	209		ug/L		122	
Th	232		ug/L		740	
U	238		ug/L		413	

Sample ID: Blank  
 Report Date/Time: Monday, February 08, 2010 01:28:36  
 Page 1

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Simple Linear	
Be	9Linear Thru Zero	1.0000
B	11Simple Linear	
Na	23Simple Linear	
Mg	24Simple Linear	
Al	27Simple Linear	
P	31Simple Linear	
K	39Simple Linear	
Ca	43Simple Linear	
Sc	45Linear Thru Zero	
Ti	47Simple Linear	
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Simple Linear	
Fe	57Simple Linear	
Co	59Simple Linear	
Ni	60Simple Linear	
Cu	63Simple Linear	
Cu	65Simple Linear	
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Simple Linear	
Se	77Simple Linear	
Se	82Simple Linear	
Kr	83Simple Linear	
Sr	88Simple Linear	
Y	89Simple Linear	
Mo	98Simple Linear	
Ag	107Simple Linear	
Cd	111Simple Linear	
Cd	114Simple Linear	
In	115Simple Linear	
Sn	120Simple Linear	
Sb	121Simple Linear	
Sb	123Simple Linear	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Simple Linear	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Simple Linear	
Th	232Simple Linear	
U	238Simple Linear	

Sample ID: Blank

Report Date/Time: Monday, February 08, 2010 01:28:36

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, February 08, 2010 01:31:58

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\Standard 1.248

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	0.676	22059	0.014
Be	9	10.000	ug/L	1.000	4829	0.003
B	11	20.000	ug/L	2.937	9974	0.006
Na	23	1000.000	ug/L	1.580	3562557	2.311
Mg	24	1000.000	ug/L	4.370	2807468	1.826
Al	27	1000.000	ug/L	8.432	4203377	2.735
P	31	1000.000	ug/L	1.611	247377	0.155
K	39	1000.000	ug/L	3.122	5227445	3.104
Ca	43	1000.000	ug/L	2.306	13132	0.008
> Sc	45		ug/L		1535737	1535736.716
Ti	47	10.000	ug/L	2.835	6911	0.004
V	51	10.000	ug/L	5.250	80445	0.047
Cr	52	10.000	ug/L	0.912	59525	0.037
Cr	53		ug/L		119349	0.005
Mn	55	10.000	ug/L	2.639	97481	0.063
Fe	57	1000.000	ug/L	0.563	201437	0.128
Co	59	10.000	ug/L	0.165	75146	0.049
Ni	60	10.000	ug/L	2.322	16373	0.011
Cu	63		ug/L		39457	0.025
Cu	65	10.000	ug/L	1.805	19401	0.013
Zn	66	10.000	ug/L	0.968	12503	0.030
Zn	67		ug/L		15519	0.005
Zn	68		ug/L		10127	0.021
> Ge	74		ug/L		405790	405790.376
As	75	10.000	ug/L	1.634	11954	0.030
Se	77		ug/L		6812	0.003
Se	82	10.000	ug/L	2.458	1341	0.003
Kr	83		ug/L		85	-0.000
Sr	88	10.000	ug/L	0.755	156230	0.556
Y	89		ug/L		73	0.000
Mo	98	10.000	ug/L	1.378	36730	0.131
Ag	107	10.000	ug/L	1.531	67604	0.241
Cd	111	10.000	ug/L	2.471	16575	0.059
Cd	114		ug/L		40076	0.143
> In	115		ug/L		280578	280577.919
Sn	120	10.000	ug/L	2.807	71617	0.255
Sb	121	10.000	ug/L	0.444	56895	0.201
Sb	123		ug/L		44611	0.158
Ba	135		ug/L		17318	0.034
Ba	137	10.000	ug/L	1.743	30473	0.061
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		501359	501359.216
Tl	205	10.000	ug/L	1.884	235259	0.468
Pb	208	10.000	ug/L	1.495	384622	0.766
Bi	209		ug/L		174	0.000
Th	232	10.000	ug/L	1.894	469217	0.934
U	238	10.000	ug/L	0.908	476250	0.949

Sample ID: Standard 1

Report Date/Time: Monday, February 08, 2010 01:34:40

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, February 08, 2010 01:38:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\Standard 2.249

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	100.014	ug/L	1.633	216800	0.145
Be	9	99.999	ug/L	2.805	46748	0.031
B	11	200.032	ug/L	3.811	95127	0.063
Na	23	10001.506	ug/L	11.237	35038039	23.468
Mg	24	9999.009	ug/L	4.219	26989444	18.079
Al	27	9993.517	ug/L	4.507	38319724	25.669
P	31	9997.538	ug/L	3.118	2270499	1.515
K	39	10001.426	ug/L	1.887	47461692	31.498
Ca	43	9997.216	ug/L	1.136	121211	0.081
> Sc	45		ug/L		1492718	1492717.700
Ti	47	99.998	ug/L	1.088	63983	0.043
V	51	99.983	ug/L	2.474	701291	0.465
Cr	52	99.985	ug/L	2.155	547416	0.365
Cr	53		ug/L		166652	0.039
Mn	55	99.924	ug/L	2.071	870121	0.582
Fe	57	9984.853	ug/L	1.137	1656103	1.106
Co	59	99.940	ug/L	0.303	687683	0.461
Ni	60	99.967	ug/L	2.071	152618	0.102
Cu	63		ug/L		356891	0.239
Cu	65	99.949	ug/L	1.463	177751	0.119
Zn	66	99.976	ug/L	1.557	114488	0.290
Zn	67		ug/L		31564	0.047
Zn	68		ug/L		83987	0.210
> Ge	74		ug/L		393801	393801.412
As	75	99.987	ug/L	1.921	115951	0.295
Se	77		ug/L		14315	0.022
Se	82	99.936	ug/L	0.736	12050	0.031
Kr	83		ug/L		107	0.000
Sr	88	99.912	ug/L	1.387	1356704	5.105
Y	89		ug/L		174	0.000
Mo	98	100.026	ug/L	1.163	356251	1.340
Ag	107	99.954	ug/L	1.581	611785	2.302
Cd	111	99.996	ug/L	1.647	156178	0.588
Cd	114		ug/L		367696	1.384
> In	115		ug/L		265734	265733.785
Sn	120	99.964	ug/L	1.466	652814	2.456
Sb	121	99.983	ug/L	2.145	526507	1.980
Sb	123		ug/L		414540	1.559
Ba	135		ug/L		164556	0.343
Ba	137	99.983	ug/L	0.915	286072	0.596
Ho	165		ug/L		25	0.000
> Lu	175		ug/L		479562	479562.392
Tl	205	99.785	ug/L	1.239	1842466	3.841
Pb	208	99.862	ug/L	1.269	3222310	6.719
Bi	209		ug/L		387	0.001
Th	232	99.761	ug/L	1.640	3608832	7.525
U	238	99.749	ug/L	1.590	3630553	7.570

Sample ID: Standard 2

Report Date/Time: Monday, February 08, 2010 01:40:44

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, February 08, 2010 01:44:07

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 1.250

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	52.137	ug/L	1.991	113829	0.076
Be	9	51.548	ug/L	0.580	24274	0.016
B	11	106.600	ug/L	3.969	51226	0.034
Na	23	5059.871	ug/L	9.239	17855513	11.873
Mg	24	5082.175	ug/L	3.394	13813216	9.189
Al	27	5331.991	ug/L	7.251	20591381	13.696
P	31	4791.521	ug/L	0.121	1100233	0.726
K	39	4822.354	ug/L	4.330	23273785	15.187
Ca	43	4990.531	ug/L	2.266	61086	0.040
> Sc	45		ug/L		1502822	1502822.440
Ti	47	50.372	ug/L	1.216	32620	0.021
V	51	50.646	ug/L	3.387	361435	0.235
Cr	52	50.719	ug/L	1.324	280852	0.185
Cr	53		ug/L		135348	0.017
Mn	55	53.177	ug/L	0.372	466812	0.310
Fe	57	5400.185	ug/L	2.657	904293	0.598
Co	59	50.897	ug/L	0.776	352642	0.235
Ni	60	51.825	ug/L	1.065	79740	0.053
Cu	63		ug/L		184229	0.122
Cu	65	50.987	ug/L	1.070	91391	0.061
Zn	66	51.983	ug/L	1.454	60135	0.151
Zn	67		ug/L		22334	0.023
Zn	68		ug/L		44320	0.108
> Ge	74		ug/L		396345	396344.512
As	75	48.504	ug/L	0.883	56533	0.143
Se	77		ug/L		9872	0.011
Se	82	49.333	ug/L	1.182	5998	0.015
Kr	83		ug/L		107	0.000
Sr	88	53.680	ug/L	1.516	733282	2.743
Y	89		ug/L		88	0.000
Mo	98	49.584	ug/L	1.244	177681	0.664
Ag	107	51.845	ug/L	1.898	319154	1.194
Cd	111	50.919	ug/L	1.513	80003	0.299
Cd	114		ug/L		190991	0.714
> In	115		ug/L		267295	267294.859
Sn	120	52.371	ug/L	1.870	344097	1.287
Sb	121	52.825	ug/L	1.126	280006	1.046
Sb	123		ug/L		218334	0.816
Ba	135		ug/L		83781	0.169
Ba	137	50.142	ug/L	1.002	148264	0.299
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		495487	495487.307
Tl	205	53.162	ug/L	2.440	1014628	2.046
Pb	208	53.377	ug/L	0.275	1779945	3.591
Bi	209		ug/L		453	0.001
Th	232	51.712	ug/L	0.609	1933317	3.900
U	238	52.031	ug/L	1.700	1956942	3.949

Sample ID: QC Std 1

Report Date/Time: Monday, February 08, 2010 01:46:49

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	104.273				
	Be	9	103.096				
	B	11	106.600				
	Na	23	101.197				
	Mg	24	101.644				
	Al	27	105.584				
	P	31	95.830				
	K	39	96.447				
	Ca	43	99.811				
>	Sc	45		98.4			
	Ti	47	100.745				
	V	51	101.292				
	Cr	52	101.438				
	Cr	53					
	Mn	55	106.354				
	Fe	57	108.004				
	Co	59	101.795				
	Ni	60	103.649				
	Cu	63					
	Cu	65	101.973				
	Zn	66	103.966				
	Zn	67					
	Zn	68					
>	Ge	74		97.7			
	As	75	97.008				
	Se	77					
	Se	82	98.665				
	Kr	83					
	Sr	88	107.360				
	Y	89					
	Mo	98	99.168				
	Ag	107	103.690				
	Cd	111	101.838				
	Cd	114					
>	In	115		96.5			
	Sn	120	104.742				
	Sb	121	105.651				
	Sb	123					
	Ba	135					
	Ba	137	100.284				
	Ho	165					
>	Lu	175		99.1			
	Tl	205	106.325				
	Pb	208	106.754				
	Bi	209					
	Th	232	103.423				
	U	238	104.062				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, February 08, 2010 01:50:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 2.251

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.018	ug/L	40.894	110	0.000
Be	9	-0.008	ug/L	159.361	14	-0.000
B	11	4.453	ug/L	20.533	2483	0.001
Na	23	2.933	ug/L	32.912	23019	0.007
Mg	24	0.144	ug/L	382.152	3667	0.000
Al	27	-0.135	ug/L	327.884	5334	-0.000
P	31	-2.864	ug/L	67.650	8016	-0.000
K	39	-6.629	ug/L	85.859	415630	-0.021
Ca	43	-2.729	ug/L	96.009	308	-0.000
> Sc	45		ug/L		1499491	1499490.621
Ti	47	-0.017	ug/L	199.957	334	-0.000
V	51	0.050	ug/L	1055.717	7941	0.000
Cr	52	-0.096	ug/L	133.843	2027	-0.000
Cr	53		ug/L		104271	-0.004
Mn	55	-0.009	ug/L	87.678	1148	-0.000
Fe	57	-1.813	ug/L	72.378	5152	-0.000
Co	59	0.002	ug/L	61.631	131	0.000
Ni	60	0.005	ug/L	81.610	168	0.000
Cu	63		ug/L		333	0.000
Cu	65	0.007	ug/L	190.421	195	0.000
Zn	66	0.001	ug/L	1299.916	457	0.000
Zn	67		ug/L		12503	-0.002
Zn	68		ug/L		1347	-0.000
> Ge	74		ug/L		397418	397417.947
As	75	-0.383	ug/L	68.966	-608	-0.001
Se	77		ug/L		5531	-0.000
Se	82	0.043	ug/L	62.673	27	0.000
Kr	83		ug/L		93	-0.000
Sr	88	0.002	ug/L	126.954	296	0.000
Y	89		ug/L		50	-0.000
Mo	98	0.027	ug/L	19.057	206	0.000
Ag	107	0.003	ug/L	27.576	63	0.000
Cd	111	-0.000	ug/L	2442.395	21	-0.000
Cd	114		ug/L		56	0.000
> In	115		ug/L		271642	271641.532
Sn	120	0.017	ug/L	40.445	329	0.000
Sb	121	0.543	ug/L	17.284	3302	0.011
Sb	123		ug/L		2604	0.009
Ba	135		ug/L		46	0.000
Ba	137	0.000	ug/L	1254.203	57	0.000
Ho	165		ug/L		28	0.000
> Lu	175		ug/L		501405	501405.206
Tl	205	0.096	ug/L	20.347	2674	0.004
Pb	208	0.003	ug/L	31.988	719	0.000
Bi	209		ug/L		113	-0.000
Th	232	0.035	ug/L	42.360	2054	0.003
U	238	0.006	ug/L	33.855	629	0.000

Sample ID: QC Std 2

Report Date/Time: Monday, February 08, 2010 01:52:58

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: QC Std 2

Report Date/Time: Monday, February 08, 2010 01:52:58

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		98.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		97.9			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.1			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Monday, February 08, 2010 01:52:58

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## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, February 08, 2010 01:56:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 3.252

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	11.445	ug/L	2.504	24799	0.017
Be	9	0.569	ug/L	2.234	283	0.000
B	11	17.683	ug/L	2.964	8721	0.006
Na	23	295.767	ug/L	7.469	1045349	0.694
Mg	24	15.419	ug/L	8.316	44737	0.028
Al	27	35.726	ug/L	9.255	142376	0.092
P	31	51.705	ug/L	4.499	20273	0.008
K	39	328.237	ug/L	4.490	1982241	1.034
Ca	43	217.463	ug/L	4.121	2960	0.002
> Sc	45		ug/L		1488119	1488119.134
Ti	47	8.959	ug/L	2.108	6026	0.004
V	51	11.364	ug/L	4.004	86171	0.053
Cr	52	11.292	ug/L	0.783	63887	0.041
Cr	53		ug/L		115490	0.005
Mn	55	6.029	ug/L	2.210	53479	0.035
Fe	57	125.101	ug/L	1.341	26035	0.014
Co	59	1.167	ug/L	1.797	8117	0.005
Ni	60	2.271	ug/L	2.130	3611	0.002
Cu	63		ug/L		4479	0.003
Cu	65	1.156	ug/L	1.894	2228	0.001
Zn	66	11.303	ug/L	2.311	13331	0.033
Zn	67		ug/L		14856	0.005
Zn	68		ug/L		10200	0.022
> Ge	74		ug/L		393469	393469.173
As	75	5.501	ug/L	6.319	6219	0.016
Se	77		ug/L		6315	0.002
Se	82	5.652	ug/L	2.085	701	0.002
Kr	83		ug/L		93	-0.000
Sr	88	11.886	ug/L	1.490	167492	0.607
Y	89		ug/L		54	-0.000
Mo	98	0.530	ug/L	2.820	2067	0.007
Ag	107	1.059	ug/L	1.405	6764	0.024
Cd	111	1.101	ug/L	2.920	1803	0.006
Cd	114		ug/L		4266	0.015
> In	115		ug/L		275334	275334.471
Sn	120	5.576	ug/L	2.217	37941	0.137
Sb	121	3.399	ug/L	0.616	18927	0.067
Sb	123		ug/L		14953	0.053
Ba	135		ug/L		3723	0.007
Ba	137	2.141	ug/L	0.570	6420	0.013
Ho	165		ug/L		25	0.000
> Lu	175		ug/L		498293	498292.746
Tl	205	1.291	ug/L	0.697	25575	0.050
Pb	208	2.482	ug/L	1.175	83808	0.167
Bi	209		ug/L		132	0.000
Th	232	1.383	ug/L	1.127	52705	0.104
U	238	0.291	ug/L	0.924	11418	0.022

Sample ID: QC Std 3

Report Date/Time: Monday, February 08, 2010 01:59:04

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	114.454				
Be	9	113.803				
B	11	117.889				
Na	23	118.307				
Mg	24	102.793				
Al	27	119.086				
P	31	103.411				
K	39	109.412				
Ca	43	108.732				
> Sc	45		97.4			
Ti	47	89.594				
V	51	113.639				
Cr	52	112.923				
Cr	53					
Mn	55	120.572				
Fe	57	125.101				
Co	59	116.695				
Ni	60	113.540				
Cu	63					
Cu	65	115.580				
Zn	66	113.029				
Zn	67					
Zn	68					
> Ge	74		97.0			
As	75	110.012				
Se	77					
Se	82	113.048				
Kr	83					
Sr	88	118.863				
Y	89					
Mo	98	106.036				
Ag	107	105.939				
Cd	111	110.076				
Cd	114					
> In	115		99.4			
Sn	120	111.523				
Sb	121	113.306				
Sb	123					
Ba	135					
Ba	137	107.060				
Ho	165					
> Lu	175		99.6			
Tl	205	129.131				
Pb	208	124.099				
Bi	209					
Th	232	138.274				
U	238	145.529				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Th	232	CRDL is out of limits
QC Std 3	U	238	CRDL is out of limits

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, February 08, 2010 02:02:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 4.253

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.102	ug/L	2.988	267	0.000
Be	9	0.095	ug/L	16.356	57	0.000
B	11	1.588	ug/L	9.375	1027	0.001
Na	23	98123.646	ug/L	1.249	314829600	230.245
Mg	24	93493.608	ug/L	1.685	231203280	169.040
Al	27	90317.379	ug/L	4.809	317256192	231.988
P	31	87633.643	ug/L	1.492	18167671	13.284
K	39	98557.411	ug/L	4.272	424830572	310.396
Ca	43	92216.908	ug/L	2.438	1021233	0.747
> Sc	45		ug/L		1367354	1367354.365
Ti	47	1691.416	ug/L	2.285	985949	0.721
V	51	-0.273	ug/L	6.678	5216	-0.001
Cr	52	1.629	ug/L	3.624	10456	0.006
Cr	53		ug/L		77970	-0.016
Mn	55	6.021	ug/L	2.803	49064	0.035
Fe	57	93663.043	ug/L	2.319	14184214	10.374
Co	59	0.306	ug/L	5.587	2032	0.001
Ni	60	3.356	ug/L	3.866	4833	0.003
Cu	63		ug/L		8369	0.006
Cu	65	3.512	ug/L	2.040	5881	0.004
Zn	66	4.509	ug/L	1.006	5043	0.013
Zn	67		ug/L		11029	-0.002
Zn	68		ug/L		1876	0.002
> Ge	74		ug/L		355007	355007.057
As	75	0.304	ug/L	50.387	175	0.001
Se	77		ug/L		6425	0.004
Se	82	-1.313	ug/L	7.714	-123	-0.000
Kr	83		ug/L		283	0.001
Sr	88	3.211	ug/L	1.527	39859	0.164
Y	89		ug/L		459	0.002
Mo	98	1887.139	ug/L	2.004	6105958	25.288
Ag	107	0.120	ug/L	1.357	706	0.003
Cd	111	0.588	ug/L	32.323	853	0.003
Cd	114		ug/L		10100	0.042
> In	115		ug/L		241489	241488.908
Sn	120	0.286	ug/L	2.030	1887	0.007
Sb	121	0.171	ug/L	28.487	1161	0.003
Sb	123		ug/L		903	0.003
Ba	135		ug/L		1089	0.002
Ba	137	0.734	ug/L	1.324	1937	0.004
Ho	165		ug/L		9203	0.021
> Lu	175		ug/L		431699	431699.033
Tl	205	0.013	ug/L	30.726	912	0.000
Pb	208	0.237	ug/L	1.884	7400	0.016
Bi	209		ug/L		5084	0.012
Th	232	0.023	ug/L	41.104	1387	0.002
U	238	-0.004	ug/L	9.132	223	-0.000

Sample ID: QC Std 4

Report Date/Time: Monday, February 08, 2010 02:05:10

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: QC Std 4

Report Date/Time: Monday, February 08, 2010 02:05:10

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## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23	98.124				
Mg	24	93.494				
Al	27	90.317				
P	31	87.634				
K	39	98.557				
Ca	43	92.217				
> Sc	45		89.5			
Ti	47	84.571				
V	51					
Cr	52	49.371				
Cr	53					
Mn	55	103.812				
Fe	57	93.663				
Co	59	130.199				
Ni	60	101.405				
Cu	63					
Cu	65	105.152				
Zn	66	119.917				
Zn	67					
Zn	68					
> Ge	74		87.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88	108.478				
Y	89					
Mo	98	94.357				
Ag	107					
Cd	111	132.468				
Cd	114					
> In	115		87.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137	91.948				
Ho	165					
> Lu	175		86.3			
Tl	205					
Pb	208	125.286				
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, February 08, 2010 02:08:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 5.254

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	20.255	ug/L	0.781	38613	0.029
Be	9	18.689	ug/L	3.095	7685	0.006
B	11	19.157	ug/L	0.891	8295	0.006
Na	23	96094.852	ug/L	3.405	295515949	225.484
Mg	24	87443.210	ug/L	4.372	207233634	158.100
Al	27	92023.538	ug/L	0.207	309864570	236.370
P	31	88079.782	ug/L	0.489	17509903	13.352
K	39	97336.623	ug/L	2.739	402165193	306.551
Ca	43	92984.466	ug/L	1.905	987525	0.753
> Sc	45		ug/L		1310931	1310931.409
Ti	47	1686.870	ug/L	2.921	942821	0.719
V	51	20.824	ug/L	2.850	133545	0.097
Cr	52	22.027	ug/L	2.459	107638	0.080
Cr	53		ug/L		86812	-0.007
Mn	55	27.476	ug/L	2.508	210881	0.160
Fe	57	94947.349	ug/L	1.047	13790488	10.516
Co	59	20.505	ug/L	1.711	123984	0.095
Ni	60	22.752	ug/L	0.785	30614	0.023
Cu	63		ug/L		67130	0.051
Cu	65	21.758	ug/L	1.618	34109	0.026
Zn	66	22.825	ug/L	1.909	23053	0.066
Zn	67		ug/L		13676	0.007
Zn	68		ug/L		15330	0.041
> Ge	74		ug/L		342742	342741.938
As	75	20.542	ug/L	1.550	20624	0.061
Se	77		ug/L		7595	0.008
Se	82	18.612	ug/L	3.359	1968	0.006
Kr	83		ug/L		286	0.001
Sr	88	25.923	ug/L	0.484	311045	1.325
Y	89		ug/L		436	0.002
Mo	98	1921.587	ug/L	0.567	6042339	25.749
Ag	107	19.369	ug/L	1.615	104716	0.446
Cd	111	19.660	ug/L	1.295	27134	0.116
Cd	114		ug/L		73683	0.314
> In	115		ug/L		234659	234658.636
Sn	120	21.502	ug/L	1.418	124161	0.528
Sb	121	21.621	ug/L	1.330	100821	0.428
Sb	123		ug/L		79143	0.336
Ba	135		ug/L		30178	0.070
Ba	137	20.806	ug/L	2.095	53543	0.124
Ho	165		ug/L		9240	0.021
> Lu	175		ug/L		431099	431098.684
Tl	205	22.282	ug/L	2.438	370310	0.858
Pb	208	22.132	ug/L	0.730	642375	1.489
Bi	209		ug/L		5590	0.013
Th	232	24.442	ug/L	1.791	795214	1.844
U	238	25.304	ug/L	1.450	828117	1.920

Sample ID: QC Std 5

Report Date/Time: Monday, February 08, 2010 02:11:17

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: QC Std 5

Report Date/Time: Monday, February 08, 2010 02:11:17

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	101.273				
Be	9	93.444				
B	11	95.785				
Na	23	96.095				
Mg	24	87.443				
Al	27	92.024				
P	31	88.080				
K	39	97.337				
Ca	43	92.984				
> Sc	45		85.8			
Ti	47	84.343				
V	51	104.120				
Cr	52	94.535				
Cr	53					
Mn	55	106.495				
Fe	57	94.947				
Co	59	101.335				
Ni	60	97.605				
Cu	63					
Cu	65	93.221				
Zn	66	96.064				
Zn	67					
Zn	68					
> Ge	74		84.5			
As	75	102.709				
Se	77					
Se	82	93.059				
Kr	83					
Sr	88	112.905				
Y	89					
Mo	98	96.079				
Ag	107	96.844				
Cd	111	96.166				
Cd	114					
> In	115		84.7			
Sn	120	107.512				
Sb	121	108.106				
Sb	123					
Ba	135					
Ba	137	100.041				
Ho	165					
> Lu	175		86.2			
Tl	205	111.411				
Pb	208	109.623				
Bi	209					
Th	232	122.210				
U	238	126.521				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Th	232	ICSAB is out of limits
QC Std 5	U	238	ICSAB is out of limits

### QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, February 08, 2010 02:14:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 6.255

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	50.783	ug/L	1.672	102892	0.074
Be	9	49.602	ug/L	1.737	21678	0.016
B	11	95.309	ug/L	2.424	42539	0.030
Na	23	4790.529	ug/L	5.818	15687000	11.241
Mg	24	4755.932	ug/L	4.160	11993670	8.599
Al	27	4825.698	ug/L	3.514	17290681	12.395
P	31	4433.153	ug/L	2.917	945276	0.672
K	39	4355.884	ug/L	0.914	19550706	13.718
Ca	43	4692.765	ug/L	2.121	53333	0.038
> Sc	45		ug/L		1394824	1394824.119
Ti	47	47.923	ug/L	2.622	28817	0.020
V	51	48.039	ug/L	2.564	318544	0.223
Cr	52	48.474	ug/L	2.965	249227	0.177
Cr	53		ug/L		120873	0.014
Mn	55	50.972	ug/L	1.951	415311	0.297
Fe	57	5176.426	ug/L	2.103	804646	0.573
Co	59	49.016	ug/L	1.947	315170	0.226
Ni	60	49.349	ug/L	1.992	70472	0.050
Cu	63		ug/L		164308	0.118
Cu	65	48.877	ug/L	1.752	81310	0.058
Zn	66	48.800	ug/L	0.723	53087	0.141
Zn	67		ug/L		19703	0.020
Zn	68		ug/L		38847	0.101
> Ge	74		ug/L		372533	372532.948
As	75	46.588	ug/L	1.621	51025	0.137
Se	77		ug/L		8892	0.010
Se	82	47.762	ug/L	2.006	5458	0.015
Kr	83		ug/L		93	-0.000
Sr	88	49.985	ug/L	2.498	675672	2.554
Y	89		ug/L		109	0.000
Mo	98	46.069	ug/L	1.600	163377	0.617
Ag	107	48.278	ug/L	1.559	294121	1.112
Cd	111	48.185	ug/L	1.895	74923	0.283
Cd	114		ug/L		179789	0.680
> In	115		ug/L		264501	264501.253
Sn	120	49.557	ug/L	2.088	322228	1.218
Sb	121	49.313	ug/L	2.185	258692	0.977
Sb	123		ug/L		203802	0.770
Ba	135		ug/L		79039	0.156
Ba	137	45.926	ug/L	0.602	138552	0.274
Ho	165		ug/L		53	0.000
> Lu	175		ug/L		505529	505529.045
Tl	205	51.542	ug/L	2.412	1003512	1.984
Pb	208	51.642	ug/L	2.107	1756699	3.474
Bi	209		ug/L		462	0.001
Th	232	50.369	ug/L	1.169	1921166	3.799
U	238	51.400	ug/L	1.163	1972357	3.901

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 02:17:24

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	101.566				
Be	9	99.204				
B	11	95.309				
Na	23	95.811				
Mg	24	95.119				
Al	27	95.558				
P	31	88.663				
K	39	87.118				
Ca	43	93.855				
> Sc	45		91.3			
Ti	47	95.846				
V	51	96.079				
Cr	52	96.948				
Cr	53					
Mn	55	101.943				
Fe	57	103.529				
Co	59	98.031				
Ni	60	98.697				
Cu	63					
Cu	65	97.754				
Zn	66	97.600				
Zn	67					
Zn	68					
> Ge	74		91.8			
As	75	93.176				
Se	77					
Se	82	95.523				
Kr	83					
Sr	88	99.969				
Y	89					
Mo	98	92.137				
Ag	107	96.556				
Cd	111	96.369				
Cd	114					
> In	115		95.5			
Sn	120	99.114				
Sb	121	98.627				
Sb	123					
Ba	135					
Ba	137	91.853				
Ho	165					
> Lu	175		101.1			
Tl	205	103.083				
Pb	208	103.283				
Bi	209					
Th	232	100.737				
U	238	102.801				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	P	31	CCV is out of limits (+/- 10%)
QC Std 6	K	39	CCV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

Sample ID: QC Std 6  
Report Date/Time: Monday, February 08, 2010 02:17:24  
Page 3

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, February 08, 2010 02:20:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 7.256

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.014	ug/L	63.736	93	0.000
Be	9	0.012	ug/L	197.180	21	0.000
B	11	2.844	ug/L	20.237	1572	0.001
Na	23	2.920	ug/L	73.996	21017	0.007
Mg	24	0.812	ug/L	177.787	5001	0.001
Al	27	1.891	ug/L	40.533	12005	0.005
P	31	-2.731	ug/L	77.951	7345	-0.000
K	39	-0.427	ug/L	1946.585	406051	-0.001
Ca	43	0.473	ug/L	288.115	317	0.000
> Sc	45		ug/L		1366986	1366986.433
Ti	47	0.008	ug/L	559.917	319	0.000
V	51	-0.275	ug/L	144.443	5204	-0.001
Cr	52	-0.551	ug/L	6.193	-425	-0.002
Cr	53		ug/L		95223	-0.003
Mn	55	-0.009	ug/L	39.027	1045	-0.000
Fe	57	-1.807	ug/L	11.105	4702	-0.000
Co	59	0.002	ug/L	5.449	119	0.000
Ni	60	0.013	ug/L	36.258	164	0.000
Cu	63		ug/L		335	0.000
Cu	65	0.003	ug/L	154.872	172	0.000
Zn	66	0.011	ug/L	347.137	431	0.000
Zn	67		ug/L		11021	-0.003
Zn	68		ug/L		1168	-0.000
> Ge	74		ug/L		365474	365474.413
As	75	0.025	ug/L	183.235	-122	0.000
Se	77		ug/L		5075	-0.000
Se	82	-0.059	ug/L	401.417	13	-0.000
Kr	83		ug/L		87	-0.000
Sr	88	-0.000	ug/L	666.554	256	-0.000
Y	89		ug/L		57	0.000
Mo	98	0.060	ug/L	18.373	312	0.001
Ag	107	0.004	ug/L	17.753	67	0.000
Cd	111	-0.001	ug/L	489.508	19	-0.000
Cd	114		ug/L		54	0.000
> In	115		ug/L		257865	257864.926
Sn	120	0.014	ug/L	25.566	292	0.000
Sb	121	0.251	ug/L	25.895	1651	0.005
Sb	123		ug/L		1264	0.004
Ba	135		ug/L		37	-0.000
Ba	137	0.001	ug/L	316.093	56	0.000
Ho	165		ug/L		23	0.000
> Lu	175		ug/L		492537	492537.005
Tl	205	0.130	ug/L	28.929	3260	0.005
Pb	208	0.003	ug/L	21.918	688	0.000
Bi	209		ug/L		118	-0.000
Th	232	0.039	ug/L	35.370	2181	0.003
U	238	0.006	ug/L	32.200	648	0.000

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 02:23:33

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		89.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		90.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		93.1			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		98.5			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 02:23:33

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## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Monday, February 08, 2010 02:26:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 10.257

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	998.731	ug/L	1.289	1798612	1.450
Be	9	1022.266	ug/L	2.442	396989	0.320
B	11	1.072	ug/L	17.084	728	0.000
Na	23	54095.692	ug/L	6.199	157414800	126.934
Mg	24	48845.815	ug/L	4.343	109656413	88.315
Al	27	51559.113	ug/L	6.499	164366329	132.434
P	31	23582.621	ug/L	1.822	4441461	3.575
K	39	50549.420	ug/L	3.852	197789336	159.200
Ca	43	50180.329	ug/L	1.476	504454	0.406
> Sc	45		ug/L		1240716	1240715.865
Ti	47	46.264	ug/L	2.586	24746	0.020
V	51	906.860	ug/L	3.566	5235410	4.216
Cr	52	920.184	ug/L	2.563	4169366	3.360
Cr	53		ug/L		616798	0.424
Mn	55	943.845	ug/L	2.445	6820375	5.499
Fe	57	50866.653	ug/L	4.365	6990534	5.634
Co	59	868.546	ug/L	3.712	4964017	4.003
Ni	60	892.624	ug/L	2.286	1131339	0.912
Cu	63		ug/L		2570061	2.072
Cu	65	850.903	ug/L	3.389	1255997	1.013
Zn	66	2031.712	ug/L	2.571	1943502	5.885
Zn	67		ug/L		365792	1.075
Zn	68		ug/L		1475079	4.464
> Ge	74		ug/L		330288	330288.155
As	75	892.545	ug/L	2.356	868939	2.632
Se	77		ug/L		41874	0.113
Se	82	487.991	ug/L	1.332	49274	0.149
Kr	83		ug/L		169	0.000
Sr	88	962.735	ug/L	1.510	11507137	49.190
Y	89		ug/L		457	0.002
Mo	98	993.756	ug/L	2.138	3115156	13.316
Ag	107	223.951	ug/L	0.494	1206657	5.158
Cd	111	886.315	ug/L	0.710	1218621	5.209
Cd	114		ug/L		2994556	12.801
> In	115		ug/L		233933	233933.253
Sn	120	924.046	ug/L	2.252	5311274	22.704
Sb	121	239.262	ug/L	0.952	1108873	4.739
Sb	123		ug/L		881466	3.767
Ba	135		ug/L		1310371	2.933
Ba	137	917.612	ug/L	3.067	2445330	5.474
Ho	165		ug/L		364	0.001
> Lu	175		ug/L		446788	446787.557
Tl	205	451.872	ug/L	0.518	7771279	17.392
Pb	208	4682.850	ug/L	1.717	140748577	315.055
Bi	209		ug/L		4203	0.009
Th	232	2516.718	ug/L	0.756	84808464	189.826
U	238	5229.802	ug/L	1.830	177321844	396.916

Sample ID: QC Std 10

Report Date/Time: Monday, February 08, 2010 02:29:38

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7	99.873				
Be	9	102.227				
B	11					
Na	23	108.191				
Mg	24	97.692				
Al	27	103.118				
P	31	94.330				
K	39	101.099				
Ca	43	100.361				
> Sc	45		81.2			
Ti	47					
V	51	90.686				
Cr	52	92.018				
Cr	53					
Mn	55	94.385				
Fe	57	101.733				
Co	59	86.855				
Ni	60	89.262				
Cu	63					
Cu	65	85.090				
Zn	66	81.268				
Zn	67					
Zn	68					
> Ge	74		81.4			
As	75	89.254				
Se	77					
Se	82	97.598				
Kr	83					
Sr	88	96.274				
Y	89					
Mo	98	99.376				
Ag	107	89.581				
Cd	111	88.632				
Cd	114					
> In	115		84.4			
Sn	120	92.405				
Sb	121	95.705				
Sb	123					
Ba	135					
Ba	137	91.761				
Ho	165					
> Lu	175		89.3			
Tl	205	90.374				
Pb	208	93.657				
Bi	209					
Th	232	100.669				
U	238	104.596				

### QC Out Of Limits

Measurement Type	Analyte	Mass Out of Limits Message
QC Std 10	Co	59LRS is out of limits (+/- 10%)
QC Std 10	Ni	60LRS is out of limits (+/- 10%)
QC Std 10	Cu	65LRS is out of limits (+/- 10%)
QC Std 10	Zn	66LRS is out of limits (+/- 10%)
QC Std 10	As	75LRS is out of limits (+/- 10%)
QC Std 10	Ag	107LRS is out of limits (+/- 10%)
QC Std 10	Cd	111LRS is out of limits (+/- 10%)

Sample ID: QC Std 10

Report Date/Time: Monday, February 08, 2010 02:29:38

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## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Monday, February 08, 2010 02:33:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 11.258

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	53.842	ug/L	0.831	110374	0.078
Be	9	52.565	ug/L	0.726	23243	0.016
B	11	103.264	ug/L	2.973	46599	0.033
Na	23	5513.140	ug/L	6.666	18264112	12.936
Mg	24	5415.435	ug/L	2.969	13819114	9.791
Al	27	5289.873	ug/L	7.989	19172019	13.587
P	31	4711.582	ug/L	2.018	1015938	0.714
K	39	5018.937	ug/L	12.498	22741052	15.807
Ca	43	5027.634	ug/L	0.440	57787	0.041
> Sc	45		ug/L		1411151	1411151.270
Ti	47	49.263	ug/L	1.003	29962	0.021
V	51	50.567	ug/L	3.121	338843	0.235
Cr	52	50.762	ug/L	2.712	263911	0.185
Cr	53		ug/L		124001	0.015
Mn	55	53.022	ug/L	2.310	437050	0.309
Fe	57	5410.200	ug/L	1.021	850710	0.599
Co	59	51.185	ug/L	2.374	332966	0.236
Ni	60	51.293	ug/L	1.807	74104	0.052
Cu	63		ug/L		172985	0.122
Cu	65	50.348	ug/L	2.004	84733	0.060
Zn	66	51.142	ug/L	0.863	55853	0.148
Zn	67		ug/L		21294	0.024
Zn	68		ug/L		41546	0.108
> Ge	74		ug/L		374142	374142.068
As	75	48.330	ug/L	2.454	53176	0.143
Se	77		ug/L		8700	0.009
Se	82	49.809	ug/L	0.872	5716	0.015
Kr	83		ug/L		102	0.000
Sr	88	53.139	ug/L	1.986	708868	2.715
Y	89		ug/L		81	0.000
Mo	98	49.161	ug/L	1.318	172035	0.659
Ag	107	50.541	ug/L	2.517	303828	1.164
Cd	111	50.295	ug/L	1.129	77172	0.296
Cd	114		ug/L		185708	0.711
> In	115		ug/L		260989	260989.291
Sn	120	52.403	ug/L	0.905	336249	1.288
Sb	121	53.770	ug/L	0.128	278315	1.065
Sb	123		ug/L		221210	0.847
Ba	135		ug/L		81316	0.165
Ba	137	49.277	ug/L	1.812	145282	0.294
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		494098	494097.671
Tl	205	53.648	ug/L	0.589	1021009	2.065
Pb	208	53.963	ug/L	0.881	1794309	3.631
Bi	209		ug/L		445	0.001
Th	232	52.591	ug/L	1.420	1960453	3.967
U	238	53.973	ug/L	2.033	2024108	4.096

Sample ID: QC Std 11

Report Date/Time: Monday, February 08, 2010 02:35:43

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	107.684				
Be	9	105.130				
B	11	103.264				
Na	23	110.263				
Mg	24	108.309				
Al	27	104.750				
P	31	94.232				
K	39	100.379				
Ca	43	100.553				
> Sc	45		92.4			
Ti	47	98.526				
V	51	101.133				
Cr	52	101.524				
Cr	53					
Mn	55	106.045				
Fe	57	108.204				
Co	59	102.370				
Ni	60	102.587				
Cu	63					
Cu	65	100.695				
Zn	66	102.284				
Zn	67					
Zn	68					
> Ge	74		92.2			
As	75	96.661				
Se	77					
Se	82	99.617				
Kr	83					
Sr	88	106.277				
Y	89					
Mo	98	98.323				
Ag	107	101.082				
Cd	111	100.589				
Cd	114					
> In	115		94.2			
Sn	120	104.806				
Sb	121	107.540				
Sb	123					
Ba	135					
Ba	137	98.554				
Ho	165					
> Lu	175		98.8			
Tl	205	107.296				
Pb	208	107.925				
Bi	209					
Th	232	105.181				
U	238	107.946				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 QC Std 11 Na 23CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

# ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Monday, February 08, 2010 02:39:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 12.259

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.068	ug/L	3.006	214	0.000
Be	9	0.009	ug/L	109.968	21	0.000
B	11	2.839	ug/L	22.343	1670	0.001
Na	23	1.359	ug/L	44.712	17010	0.003
Mg	24	1.078	ug/L	71.128	6001	0.002
Al	27	1.147	ug/L	45.111	10004	0.003
P	31	-4.513	ug/L	84.778	7414	-0.001
K	39	-7.069	ug/L	45.049	401572	-0.022
Ca	43	-1.651	ug/L	217.327	312	-0.000
> Sc	45		ug/L		1453993	1453992.744
Ti	47	-0.045	ug/L	85.981	307	-0.000
V	51	-0.351	ug/L	100.980	5020	-0.002
Cr	52	-0.477	ug/L	12.019	-61	-0.002
Cr	53		ug/L		96015	-0.007
Mn	55	-0.012	ug/L	9.958	1091	-0.000
Fe	57	-4.329	ug/L	15.344	4595	-0.000
Co	59	0.014	ug/L	17.325	207	0.000
Ni	60	0.020	ug/L	25.752	185	0.000
Cu	63		ug/L		399	0.000
Cu	65	0.024	ug/L	60.671	218	0.000
Zn	66	0.040	ug/L	30.944	486	0.000
Zn	67		ug/L		12032	-0.002
Zn	68		ug/L		1316	-0.000
> Ge	74		ug/L		385122	385121.608
As	75	-0.154	ug/L	66.562	-332	-0.000
Se	77		ug/L		4832	-0.001
Se	82	0.077	ug/L	81.165	30	0.000
Kr	83		ug/L		81	-0.000
Sr	88	0.005	ug/L	44.229	350	0.000
Y	89		ug/L		53	-0.000
Mo	98	0.095	ug/L	8.973	454	0.001
Ag	107	0.005	ug/L	40.933	74	0.000
Cd	111	0.014	ug/L	32.543	43	0.000
Cd	114		ug/L		74	0.000
> In	115		ug/L		271512	271511.847
Sn	120	0.068	ug/L	10.162	665	0.002
Sb	121	1.160	ug/L	17.891	6608	0.023
Sb	123		ug/L		5020	0.017
Ba	135		ug/L		45	0.000
Ba	137	0.010	ug/L	23.081	87	0.000
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		512092	512092.125
Tl	205	0.157	ug/L	21.489	3921	0.006
Pb	208	0.041	ug/L	19.099	2019	0.003
Bi	209		ug/L		111	-0.000
Th	232	0.093	ug/L	17.613	4337	0.007
U	238	0.069	ug/L	12.247	3114	0.005

Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 02:41:52

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		95.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		94.9			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.0			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		102.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 02:41:52

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## ICPMS#5 - Summary Report

Sample ID: 1202018068

Sample Date/Time: Monday, February 08, 2010 02:45:18

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942638|2|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018068.260

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.030	ug/L	16.525	134	0.000
Be	9	0.006	ug/L	227.321	20	0.000
B	11	0.958	ug/L	13.002	803	0.000
Na	23	15.817	ug/L	26.155	66492	0.037
Mg	24	2.079	ug/L	27.397	8669	0.004
Al	27	4.627	ug/L	47.162	23020	0.012
P	31	15.271	ug/L	2.920	11812	0.002
K	39	-6.943	ug/L	14.135	403280	-0.022
Ca	43	8.313	ug/L	46.130	430	0.000
> Sc	45		ug/L		1458299	1458299.173
Ti	47	0.283	ug/L	75.831	513	0.000
V	51	-0.631	ug/L	46.751	3117	-0.003
Cr	52	0.233	ug/L	9.592	3721	0.001
Cr	53		ug/L		77518	-0.020
Mn	55	0.830	ug/L	1.962	8245	0.005
Fe	57	59.417	ug/L	4.872	14902	0.007
Co	59	0.017	ug/L	5.286	227	0.000
Ni	60	0.140	ug/L	12.221	365	0.000
Cu	63		ug/L		2768	0.002
Cu	65	0.670	ug/L	1.714	1340	0.001
Zn	66	1.036	ug/L	6.754	1570	0.003
Zn	67		ug/L		9619	-0.008
Zn	68		ug/L		1982	0.002
> Ge	74		ug/L		378767	378766.663
As	75	-0.134	ug/L	221.337	-304	-0.000
Se	77		ug/L		3684	-0.004
Se	82	-0.170	ug/L	84.961	1	-0.000
Kr	83		ug/L		92	-0.000
Sr	88	0.030	ug/L	8.588	695	0.002
Y	89		ug/L		100	0.000
Mo	98	0.077	ug/L	7.650	394	0.001
Ag	107	0.006	ug/L	10.159	81	0.000
Cd	111	0.008	ug/L	88.627	34	0.000
Cd	114		ug/L		66	0.000
> In	115		ug/L		273668	273668.427
Sn	120	1.573	ug/L	2.680	10791	0.039
Sb	121	0.514	ug/L	28.919	3166	0.010
Sb	123		ug/L		2464	0.008
Ba	135		ug/L		207	0.000
Ba	137	0.077	ug/L	9.299	298	0.000
Ho	165		ug/L		30	0.000
> Lu	175		ug/L		523007	523007.318
Tl	205	0.066	ug/L	8.480	2183	0.003
Pb	208	0.062	ug/L	14.545	2809	0.004
Bi	209		ug/L		323	0.000
Th	232	0.086	ug/L	19.404	4162	0.006
U	238	0.028	ug/L	16.743	1549	0.002

Sample ID: 1202018068

Report Date/Time: Monday, February 08, 2010 02:48:03

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		95.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		93.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		98.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		104.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018069

Sample Date/Time: Monday, February 08, 2010 02:51:29

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942638|40|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018069.261

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	2.625	ug/L	2.131	5540	0.004
Be	9	20.946	ug/L	2.576	9431	0.007
B	11	39.180	ug/L	2.188	18211	0.012
Na	23	285.440	ug/L	5.952	973077	0.670
Mg	24	1004.538	ug/L	5.152	2612833	1.816
Al	27	3056.203	ug/L	7.610	11281949	7.850
P	31	202.634	ug/L	1.902	52398	0.031
K	39	1077.797	ug/L	3.367	5303118	3.394
Ca	43	2699.974	ug/L	1.919	31718	0.022
> Sc	45		ug/L		1435809	1435808.841
Ti	47	102.869	ug/L	1.864	63283	0.044
V	51	32.671	ug/L	4.291	225251	0.152
Cr	52	65.559	ug/L	2.114	346035	0.239
Cr	53		ug/L		130700	0.018
Mn	55	139.822	ug/L	2.423	1170391	0.815
Fe	57	4432.962	ug/L	3.419	709952	0.491
Co	59	26.038	ug/L	2.049	172363	0.120
Ni	60	38.182	ug/L	2.308	56152	0.039
Cu	63		ug/L		159729	0.111
Cu	65	45.541	ug/L	1.564	77990	0.054
Zn	66	157.632	ug/L	4.163	172187	0.457
Zn	67		ug/L		37274	0.066
Zn	68		ug/L		124066	0.326
> Ge	74		ug/L		376389	376389.069
As	75	26.829	ug/L	3.137	29611	0.079
Se	77		ug/L		11135	0.016
Se	82	77.716	ug/L	4.507	8954	0.024
Kr	83		ug/L		94	-0.000
Sr	88	61.674	ug/L	2.501	845226	3.151
Y	89		ug/L		42920	0.160
Mo	98	13.417	ug/L	2.958	48315	0.180
Ag	107	6.522	ug/L	2.288	40328	0.150
Cd	111	16.345	ug/L	2.435	25780	0.096
Cd	114		ug/L		62716	0.234
> In	115		ug/L		268212	268212.469
Sn	120	7.810	ug/L	2.541	51668	0.192
Sb	121	14.877	ug/L	2.619	79390	0.295
Sb	123		ug/L		62632	0.233
Ba	135		ug/L		80398	0.155
Ba	137	45.470	ug/L	1.407	140330	0.271
Ho	165		ug/L		3550	0.007
> Lu	175		ug/L		517141	517140.990
Tl	205	34.857	ug/L	0.483	694651	1.342
Pb	208	24.940	ug/L	1.748	868306	1.678
Bi	209		ug/L		7480	0.014
Th	232	3.530	ug/L	0.256	138463	0.266
U	238	0.679	ug/L	3.353	27080	0.052

Sample ID: 1202018069

Report Date/Time: Monday, February 08, 2010 02:54:14

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		94.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		92.8			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		96.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		103.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 TI 47 Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 03:28:28

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.267

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	54.590	ug/L	0.906	104793	0.079
Be	9	53.473	ug/L	0.658	22143	0.017
B	11	101.005	ug/L	1.489	42709	0.032
Na	23	4974.995	ug/L	2.397	15441307	11.674
Mg	24	5077.789	ug/L	6.868	12135223	9.181
Al	27	4964.722	ug/L	0.459	16859098	12.752
P	31	4576.192	ug/L	0.893	924478	0.694
K	39	4848.694	ug/L	8.936	20594984	15.270
Ca	43	4869.499	ug/L	0.834	52425	0.039
> Sc	45		ug/L		1321592	1321592.240
Ti	47	47.817	ug/L	2.203	27249	0.020
V	51	49.111	ug/L	2.343	308422	0.228
Cr	52	50.299	ug/L	3.307	245034	0.184
Cr	53		ug/L		107803	0.008
Mn	55	52.752	ug/L	1.090	407292	0.307
Fe	57	5382.682	ug/L	0.689	792674	0.596
Co	59	50.899	ug/L	1.314	310152	0.235
Ni	60	51.107	ug/L	1.321	69166	0.052
Cu	63		ug/L		162030	0.122
Cu	65	49.936	ug/L	1.442	78731	0.059
Zn	66	51.082	ug/L	1.352	52189	0.148
Zn	67		ug/L		18003	0.018
Zn	68		ug/L		37713	0.104
> Ge	74		ug/L		349945	349944.853
As	75	47.757	ug/L	1.593	49146	0.141
Se	77		ug/L		7791	0.008
Se	82	48.785	ug/L	0.442	5237	0.015
Kr	83		ug/L		95	0.000
Sr	88	52.340	ug/L	1.442	667967	2.674
Y	89		ug/L		148	0.000
Mo	98	48.150	ug/L	2.457	161178	0.645
Ag	107	50.158	ug/L	0.386	288434	1.155
Cd	111	50.231	ug/L	0.960	73719	0.295
Cd	114		ug/L		174969	0.701
> In	115		ug/L		249645	249645.474
Sn	120	51.879	ug/L	1.108	318443	1.275
Sb	121	51.721	ug/L	1.401	256094	1.024
Sb	123		ug/L		201052	0.804
Ba	135		ug/L		77892	0.156
Ba	137	46.701	ug/L	3.560	138739	0.279
Ho	165		ug/L		62	0.000
> Lu	175		ug/L		497925	497924.726
Tl	205	53.149	ug/L	2.747	1019139	2.046
Pb	208	53.428	ug/L	1.401	1790184	3.595
Bi	209		ug/L		512	0.001
Th	232	52.080	ug/L	3.121	1956047	3.928
U	238	53.172	ug/L	2.471	2009306	4.036

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 03:31:11

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
Li	7	109.180				
Be	9	106.945				
B	11	101.005				
Na	23	99.500				
Mg	24	101.556				
Al	27	98.311				
P	31	91.524				
K	39	96.974				
Ca	43	97.390				
> Sc	45		86.5			
Ti	47	95.634				
V	51	98.222				
Cr	52	100.597				
Cr	53					
Mn	55	105.503				
Fe	57	107.654				
Co	59	101.798				
Ni	60	102.213				
Cu	63					
Cu	65	99.873				
Zn	66	102.165				
Zn	67					
Zn	68					
> Ge	74		86.2			
As	75	95.513				
Se	77					
Se	82	97.571				
Kr	83					
Sr	88	104.680				
Y	89					
Mo	98	96.300				
Ag	107	100.315				
Cd	111	100.461				
Cd	114					
> In	115		90.1			
Sn	120	103.758				
Sb	121	103.442				
Sb	123					
Ba	135					
Ba	137	93.402				
Ho	165					
> Lu	175		99.6			
Tl	205	106.299				
Pb	208	106.857				
Bi	209					
Th	232	104.159				
U	238	106.345				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 03:31:11

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## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 03:34:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.268

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.055	ug/L	4.826	167	0.000
Be	9	0.001	ug/L	1647.564	16	0.000
B	11	2.823	ug/L	20.987	1497	0.001
Na	23	1.906	ug/L	59.465	17010	0.004
Mg	24	0.484	ug/L	231.387	4001	0.001
Al	27	0.950	ug/L	127.301	8336	0.002
P	31	-1.419	ug/L	67.277	7298	-0.000
K	39	-13.495	ug/L	42.574	335233	-0.043
Ca	43	-0.541	ug/L	642.190	293	-0.000
> Sc	45		ug/L		1309993	1309993.263
Ti	47	-0.038	ug/L	102.350	280	-0.000
V	51	-0.545	ug/L	80.680	3348	-0.003
Cr	52	-0.202	ug/L	24.451	1263	-0.001
Cr	53		ug/L		81185	-0.011
Mn	55	0.013	ug/L	27.511	1173	0.000
Fe	57	-3.535	ug/L	6.771	4255	-0.000
Co	59	0.005	ug/L	29.210	130	0.000
Ni	60	0.000	ug/L	4151.152	140	0.000
Cu	63		ug/L		302	0.000
Cu	65	-0.007	ug/L	74.684	148	-0.000
Zn	66	0.031	ug/L	44.047	430	0.000
Zn	67		ug/L		9881	-0.005
Zn	68		ug/L		1045	-0.001
> Ge	74		ug/L		347647	347646.740
As	75	-0.178	ug/L	74.904	-324	-0.001
Se	77		ug/L		3991	-0.003
Se	82	-0.072	ug/L	71.571	11	-0.000
Kr	83		ug/L		78	-0.000
Sr	88	0.002	ug/L	44.220	275	0.000
Y	89		ug/L		69	0.000
Mo	98	0.028	ug/L	17.196	193	0.000
Ag	107	0.003	ug/L	61.802	56	0.000
Cd	111	0.013	ug/L	27.621	39	0.000
Cd	114		ug/L		50	0.000
> In	115		ug/L		249254	249254.273
Sn	120	0.015	ug/L	4.465	291	0.000
Sb	121	0.276	ug/L	25.463	1715	0.005
Sb	123		ug/L		1389	0.005
Ba	135		ug/L		47	0.000
Ba	137	0.003	ug/L	15.362	63	0.000
Ho	165		ug/L		18	-0.000
> Lu	175		ug/L		498437	498436.960
Tl	205	0.113	ug/L	18.115	2976	0.004
Pb	208	0.006	ug/L	41.124	789	0.000
Bi	209		ug/L		123	0.000
Th	232	0.034	ug/L	24.002	2009	0.003
U	238	0.008	ug/L	9.729	730	0.001

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 03:37:21

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
Sc	45		85.8			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
Ge	74		85.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
In	115		90.0			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
Lu	175		99.7			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 04:24:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.276

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	55.698	ug/L	1.068	103878	0.081
Be	9	54.904	ug/L	1.872	22090	0.017
B	11	101.806	ug/L	3.764	41821	0.032
Na	23	5116.117	ug/L	1.623	15425283	12.005
Mg	24	5021.923	ug/L	3.152	11660431	9.080
Al	27	4853.676	ug/L	1.148	16011128	12.467
P	31	4580.636	ug/L	2.294	899060	0.694
K	39	5337.949	ug/L	14.848	21987355	16.811
Ca	43	4932.825	ug/L	2.724	51599	0.040
> Sc	45		ug/L		1283934	1283934.111
Ti	47	48.132	ug/L	3.281	26647	0.021
V	51	49.085	ug/L	3.490	299561	0.228
Cr	52	50.056	ug/L	2.065	236875	0.183
Cr	53		ug/L		103739	0.008
Mn	55	53.907	ug/L	0.803	404299	0.314
Fe	57	5474.646	ug/L	1.523	783195	0.606
Co	59	51.557	ug/L	0.715	305195	0.238
Ni	60	51.980	ug/L	2.428	68341	0.053
Cu	63		ug/L		157832	0.123
Cu	65	50.528	ug/L	1.331	77379	0.060
Zn	66	50.939	ug/L	1.807	50868	0.148
Zn	67		ug/L		17369	0.018
Zn	68		ug/L		37471	0.106
> Ge	74		ug/L		342018	342017.792
As	75	48.148	ug/L	0.850	48430	0.142
Se	77		ug/L		7452	0.008
Se	82	50.520	ug/L	1.412	5300	0.015
Kr	83		ug/L		93	0.000
Sr	88	52.497	ug/L	2.540	659722	2.682
Y	89		ug/L		164	0.000
Mo	98	48.059	ug/L	2.721	158429	0.644
Ag	107	50.316	ug/L	2.802	284949	1.159
Cd	111	50.252	ug/L	2.323	72636	0.295
Cd	114		ug/L		172255	0.700
> In	115		ug/L		245907	245907.304
Sn	120	51.446	ug/L	2.281	310980	1.264
Sb	121	51.477	ug/L	3.483	250993	1.020
Sb	123		ug/L		199481	0.810
Ba	135		ug/L		77892	0.158
Ba	137	46.173	ug/L	1.252	135846	0.275
Ho	165		ug/L		54	0.000
> Lu	175		ug/L		492995	492995.208
Tl	205	54.099	ug/L	0.763	1027330	2.082
Pb	208	53.780	ug/L	0.982	1784355	3.618
Bi	209		ug/L		491	0.001
Th	232	53.126	ug/L	0.981	1976159	4.007
U	238	54.154	ug/L	0.093	2026620	4.110

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 04:26:44

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 04:26:44

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	111.396				
Be	9	109.807				
B	11	101.806				
Na	23	102.322				
Mg	24	100.438				
Al	27	96.112				
P	31	91.613				
K	39	106.759				
Ca	43	98.657				
> Sc	45		84.1			
Ti	47	96.264				
V	51	98.170				
Cr	52	100.112				
Cr	53					
Mn	55	107.813				
Fe	57	109.493				
Co	59	103.114				
Ni	60	103.961				
Cu	63					
Cu	65	101.056				
Zn	66	101.879				
Zn	67					
Zn	68					
> Ge	74		84.3			
As	75	96.296				
Se	77					
Se	82	101.041				
Kr	83					
Sr	88	104.993				
Y	89					
Mo	98	96.118				
Ag	107	100.633				
Cd	111	100.504				
Cd	114					
> In	115		88.8			
Sn	120	102.892				
Sb	121	102.953				
Sb	123					
Ba	135					
Ba	137	92.346				
Ho	165					
> Lu	175		98.6			
Tl	205	108.197				
Pb	208	107.561				
Bi	209					
Th	232	106.252				
U	238	108.308				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 QC Std 8 Li 7CCV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 04:30:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.277

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.039	ug/L	5.761	135	0.000
Be	9	0.004	ug/L	238.673	17	0.000
B	11	2.801	ug/L	18.491	1477	0.001
Na	23	2.055	ug/L	8.837	17344	0.005
Mg	24	0.354	ug/L	278.234	3667	0.001
Al	27	0.867	ug/L	35.931	8002	0.002
P	31	-2.389	ug/L	104.338	7054	-0.000
K	39	1.117	ug/L	1272.292	392737	0.004
Ca	43	-3.316	ug/L	10.449	261	-0.000
> Sc	45		ug/L		1300428	1300427.565
Ti	47	-0.030	ug/L	126.631	283	-0.000
V	51	-0.701	ug/L	22.575	2376	-0.003
Cr	52	-0.188	ug/L	31.657	1322	-0.001
Cr	53		ug/L		78842	-0.012
Mn	55	0.017	ug/L	15.316	1188	0.000
Fe	57	-4.796	ug/L	7.832	4043	-0.001
Co	59	0.003	ug/L	42.767	116	0.000
Ni	60	0.007	ug/L	163.040	148	0.000
Cu	63		ug/L		300	0.000
Cu	65	-0.003	ug/L	258.548	154	-0.000
Zn	66	0.007	ug/L	288.622	401	0.000
Zn	67		ug/L		9697	-0.005
Zn	68		ug/L		1020	-0.001
> Ge	74		ug/L		343880	343880.446
As	75	0.040	ug/L	483.800	-100	0.000
Se	77		ug/L		3745	-0.003
Se	82	0.031	ug/L	685.425	22	0.000
Kr	83		ug/L		75	-0.000
Sr	88	0.002	ug/L	131.101	270	0.000
Y	89		ug/L		66	0.000
Mo	98	0.022	ug/L	34.621	170	0.000
Ag	107	0.003	ug/L	31.879	60	0.000
Cd	111	0.002	ug/L	334.232	22	0.000
Cd	114		ug/L		48	0.000
> In	115		ug/L		245359	245359.357
Sn	120	0.012	ug/L	30.890	267	0.000
Sb	121	0.261	ug/L	27.271	1618	0.005
Sb	123		ug/L		1285	0.004
Ba	135		ug/L		39	-0.000
Ba	137	0.001	ug/L	567.042	57	0.000
Ho	165		ug/L		23	0.000
> Lu	175		ug/L		500969	500969.258
Tl	205	0.104	ug/L	31.029	2814	0.004
Pb	208	0.005	ug/L	19.906	764	0.000
Bi	209		ug/L		125	0.000
Th	232	0.031	ug/L	49.104	1898	0.002
U	238	0.008	ug/L	5.636	702	0.001

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 04:32:54

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dif	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		85.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		84.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.6			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		100.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 04:32:54

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## ICPMS#5 - Summary Report

Sample ID: 244881001

Sample Date/Time: Monday, February 08, 2010 04:48:45

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244881001.280

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	52.803	ug/L	1.480	100224	0.077
Be	9	2.664	ug/L	2.127	1105	0.001
B	11	6.498	ug/L	3.291	3017	0.002
Na	23	288.862	ug/L	5.681	897419	0.678
Mg	24	2980.415	ug/L	3.301	7042263	5.389
Al	27	18862.353	ug/L	13.855	63217819	48.450
P	31	421.905	ug/L	2.648	91120	0.064
K	39	3154.878	ug/L	1.656	13375843	9.936
Ca	43	3153.981	ug/L	1.893	33677	0.026
> Sc	45		ug/L		1306786	1306786.151
Ti	47	648.859	ug/L	1.133	361757	0.277
V	51	19.753	ug/L	2.700	126603	0.092
Cr	52	13.926	ug/L	1.663	68656	0.051
Cr	53		ug/L		55673	-0.031
Mn	55	683.605	ug/L	0.756	5205175	3.983
Fe	57	22960.197	ug/L	3.061	3326724	2.543
Co	59	4.073	ug/L	3.154	24620	0.019
Ni	60	9.291	ug/L	1.783	12545	0.009
Cu	63		ug/L		34444	0.026
Cu	65	11.089	ug/L	1.077	17409	0.013
Zn	66	107.361	ug/L	1.927	102707	0.311
Zn	67		ug/L		22181	0.034
Zn	68		ug/L		75060	0.225
> Ge	74		ug/L		329082	329081.713
As	75	3.213	ug/L	1.181	2984	0.009
Se	77		ug/L		2058	-0.008
Se	82	-0.122	ug/L	218.373	5	-0.000
Kr	83		ug/L		156	0.000
Sr	88	25.089	ug/L	1.638	318772	1.282
Y	89		ug/L		658158	2.649
Mo	98	2.169	ug/L	2.172	7320	0.029
Ag	107	0.173	ug/L	2.766	1035	0.004
Cd	111	0.716	ug/L	0.388	1065	0.004
Cd	114		ug/L		722	0.003
> In	115		ug/L		248543	248542.567
Sn	120	1.965	ug/L	2.351	12195	0.048
Sb	121	0.159	ug/L	3.059	1134	0.003
Sb	123		ug/L		859	0.002
Ba	135		ug/L		173873	0.323
Ba	137	94.559	ug/L	1.430	303817	0.564
Ho	165		ug/L		56316	0.105
> Lu	175		ug/L		538522	538522.229
Tl	205	0.193	ug/L	3.380	4869	0.007
Pb	208	20.850	ug/L	0.776	756046	1.403
Bi	209		ug/L		7053	0.013
Th	232	15.607	ug/L	2.091	634635	1.177
U	238	6.634	ug/L	0.653	271577	0.503

Sample ID: 244881001

Report Date/Time: Monday, February 08, 2010 04:51:31

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: 244881001

Report Date/Time: Monday, February 08, 2010 04:51:31

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		85.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		81.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		107.7			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 Ti 47 Sample is out of limits (over linear range)

### QC Action

QC Action Line: No QC out of limits detected

# ICPMS#5 - Summary Report

Sample ID: 1202018070

Sample Date/Time: Monday, February 08, 2010 04:54:57

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018070.281

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	31.841	ug/L	1.093	59539	0.046
Be	9	2.466	ug/L	3.409	1009	0.001
B	11	5.288	ug/L	3.408	2478	0.002
Na	23	230.713	ug/L	9.504	707895	0.541
Mg	24	2380.628	ug/L	0.613	5541211	4.304
Al	27	15886.272	ug/L	3.120	52519419	40.805
P	31	323.279	ug/L	1.940	70502	0.049
K	39	2661.553	ug/L	5.966	11166211	8.382
Ca	43	2682.892	ug/L	3.609	28253	0.022
> Sc	45		ug/L		1286717	1286716.786
Ti	47	530.935	ug/L	1.507	291565	0.226
V	51	18.005	ug/L	1.631	114250	0.084
Cr	52	10.060	ug/L	1.051	49452	0.037
Cr	53		ug/L		53641	-0.031
Mn	55	578.498	ug/L	0.546	4337791	3.370
Fe	57	20936.460	ug/L	0.964	2988508	2.319
Co	59	3.791	ug/L	1.208	22582	0.017
Ni	60	8.480	ug/L	0.603	11286	0.009
Cu	63		ug/L		30739	0.024
Cu	65	9.956	ug/L	0.915	15404	0.012
Zn	66	92.278	ug/L	1.923	87833	0.267
Zn	67		ug/L		19779	0.027
Zn	68		ug/L		63513	0.191
> Ge	74		ug/L		327213	327212.686
As	75	3.320	ug/L	4.111	3071	0.010
Se	77		ug/L		1995	-0.008
Se	82	0.048	ug/L	430.086	22	0.000
Kr	83		ug/L		138	0.000
Sr	88	22.352	ug/L	3.253	282890	1.142
Y	89		ug/L		581504	2.349
Mo	98	1.752	ug/L	3.780	5911	0.023
Ag	107	0.162	ug/L	8.263	962	0.004
Cd	111	0.678	ug/L	4.808	1005	0.004
Cd	114		ug/L		588	0.002
> In	115		ug/L		247613	247613.398
Sn	120	1.839	ug/L	3.712	11376	0.045
Sb	121	0.107	ug/L	8.736	876	0.002
Sb	123		ug/L		690	0.002
Ba	135		ug/L		152407	0.289
Ba	137	85.087	ug/L	1.757	267641	0.508
Ho	165		ug/L		49333	0.094
> Lu	175		ug/L		527246	527245.563
Tl	205	0.160	ug/L	4.974	4105	0.006
Pb	208	19.056	ug/L	2.250	676404	1.282
Bi	209		ug/L		6607	0.012
Th	232	14.892	ug/L	3.569	592734	1.123
U	238	6.330	ug/L	2.443	253681	0.480

Sample ID: 1202018070

Report Date/Time: Monday, February 08, 2010 04:57:41

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: 1202018070

Report Date/Time: Monday, February 08, 2010 04:57:41

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.2			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		105.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
Ti 47 Sample is out of limits (over linear range)

### QC Action

QC Action Line: No QC out of limits detected



# ICPMS#5 - Summary Report

Sample ID: 1202018071

Sample Date/Time: Monday, February 08, 2010 05:01:07

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942638[2]ba]

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018071.282

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	56.701	ug/L	0.834	105636	0.082
Be	9	26.836	ug/L	1.513	10792	0.008
B	11	52.865	ug/L	3.889	21840	0.017
Na	23	1242.348	ug/L	4.909	3749497	2.915
Mg	24	3394.482	ug/L	1.784	7873887	6.137
Al	27	19308.083	ug/L	6.524	63606852	49.594
P	31	1088.507	ug/L	0.648	219038	0.165
K	39	3711.597	ug/L	3.391	15373593	11.689
Ca	43	3720.762	ug/L	4.820	38946	0.030
> Sc	45		ug/L		1282502	1282502.204
Ti	47	597.039	ug/L	0.606	326740	0.255
V	51	43.006	ug/L	2.715	262930	0.200
Cr	52	34.955	ug/L	0.281	165868	0.128
Cr	53		ug/L		67151	-0.021
Mn	55	568.546	ug/L	1.361	4249196	3.312
Fe	57	21552.949	ug/L	1.782	3066237	2.387
Co	59	27.010	ug/L	0.732	159749	0.124
Ni	60	31.474	ug/L	2.062	41384	0.032
Cu	63		ug/L		100605	0.078
Cu	65	32.599	ug/L	1.818	49923	0.039
Zn	66	112.642	ug/L	1.537	106862	0.326
Zn	67		ug/L		22887	0.037
Zn	68		ug/L		77521	0.234
> Ge	74		ug/L		326359	326359.345
As	75	37.599	ug/L	1.724	36055	0.111
Se	77		ug/L		2643	-0.006
Se	82	8.346	ug/L	2.385	850	0.003
Kr	83		ug/L		148	0.000
Sr	88	47.464	ug/L	2.333	599634	2.425
Y	89		ug/L		652322	2.639
Mo	98	23.282	ug/L	3.648	77195	0.312
Ag	107	22.923	ug/L	2.464	130523	0.528
Cd	111	5.377	ug/L	2.610	7830	0.032
Cd	114		ug/L		16513	0.067
> In	115		ug/L		247234	247234.107
Sn	120	21.223	ug/L	3.452	129052	0.521
Sb	121	64.479	ug/L	3.499	315932	1.277
Sb	123		ug/L		250591	1.013
Ba	135		ug/L		197925	0.378
Ba	137	110.815	ug/L	0.258	345804	0.661
Ho	165		ug/L		55622	0.106
> Lu	175		ug/L		523003	523003.373
Tl	205	49.236	ug/L	1.042	991963	1.895
Pb	208	106.966	ug/L	1.010	3764392	7.197
Bi	209		ug/L		7835	0.015
Th	232	39.932	ug/L	1.351	1576016	3.012
U	238	33.422	ug/L	0.728	1327071	2.537

Sample ID: 1202018071

Report Date/Time: Monday, February 08, 2010 05:03:52

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.4			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		104.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message  
Ti 47Sample is out of limits (over linear range)

### QC Action

QC Action Line: No QC out of limits detected

# ICPMS#5 - Summary Report

Sample ID: 1202018073

Sample Date/Time: Monday, February 08, 2010 05:07:18

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 942638|2|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018073.283

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	69.544	ug/L	0.444	128947	0.101
Be	9	26.895	ug/L	1.450	10765	0.008
B	11	53.680	ug/L	2.085	22069	0.017
Na	23	1224.442	ug/L	8.009	3677392	2.873
Mg	24	3919.498	ug/L	4.922	9047598	7.087
Al	27	19460.253	ug/L	3.533	63801368	49.985
P	31	1091.357	ug/L	2.140	218548	0.165
K	39	4053.524	ug/L	2.928	16675157	12.766
Ca	43	3665.935	ug/L	1.451	38199	0.030
> Sc	45		ug/L		1276577	1276576.563
Ti	47	727.669	ug/L	1.194	396295	0.310
V	51	44.087	ug/L	1.890	268103	0.205
Cr	52	35.281	ug/L	1.738	166600	0.129
Cr	53		ug/L		66329	-0.021
Mn	55	716.688	ug/L	1.323	5330992	4.175
Fe	57	23957.610	ug/L	1.771	3391774	2.653
Co	59	27.358	ug/L	1.722	161045	0.126
Ni	60	32.171	ug/L	1.047	42098	0.033
Cu	63		ug/L		100846	0.079
Cu	65	32.637	ug/L	1.962	49742	0.039
Zn	66	128.594	ug/L	1.858	121353	0.373
Zn	67		ug/L		24643	0.043
Zn	68		ug/L		88049	0.268
> Ge	74		ug/L		324782	324782.324
As	75	37.707	ug/L	0.215	35985	0.111
Se	77		ug/L		2604	-0.006
Se	82	8.631	ug/L	6.483	874	0.003
Kr	83		ug/L		155	0.000
Sr	88	48.146	ug/L	1.579	604705	2.460
Y	89		ug/L		618168	2.516
Mo	98	23.327	ug/L	2.275	76895	0.313
Ag	107	22.899	ug/L	1.538	129621	0.527
Cd	111	5.342	ug/L	4.471	7733	0.031
Cd	114		ug/L		16454	0.067
> In	115		ug/L		245724	245724.146
Sn	120	23.180	ug/L	2.057	140120	0.570
Sb	121	63.986	ug/L	1.557	311725	1.267
Sb	123		ug/L		245059	0.996
Ba	135		ug/L		208089	0.393
Ba	137	114.737	ug/L	3.818	362001	0.684
Ho	165		ug/L		53619	0.101
> Lu	175		ug/L		529138	529138.376
Tl	205	48.434	ug/L	1.940	986958	1.864
Pb	208	106.512	ug/L	3.123	3790402	7.166
Bi	209		ug/L		8924	0.017
Th	232	39.439	ug/L	2.113	1574249	2.975
U	238	33.620	ug/L	2.153	1350141	2.552

Sample ID: 1202018073

Report Date/Time: Monday, February 08, 2010 05:10:03

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		83.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.0			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		105.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
Ti 47 Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

# ICPMS#5 - Summary Report

Sample ID: 1202018072

Sample Date/Time: Monday, February 08, 2010 05:13:29

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942638|10|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\1202018072.284

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.923	ug/L	0.954	19431	0.016
Be	9	0.578	ug/L	2.283	235	0.000
B	11	3.048	ug/L	16.458	1482	0.001
Na	23	54.025	ug/L	9.976	165290	0.127
Mg	24	605.394	ug/L	8.092	1339153	1.095
Al	27	3714.577	ug/L	1.865	11658825	9.541
P	31	87.113	ug/L	4.449	23195	0.013
K	39	665.520	ug/L	4.387	2923979	2.096
Ca	43	645.399	ug/L	3.101	6666	0.005
> Sc	45		ug/L		1221550	1221549.504
Ti	47	134.752	ug/L	0.498	70460	0.057
V	51	3.130	ug/L	3.739	23982	0.015
Cr	52	2.182	ug/L	2.381	11809	0.008
Cr	53		ug/L		60522	-0.024
Mn	55	154.593	ug/L	0.128	1101212	0.901
Fe	57	5344.584	ug/L	2.197	727457	0.592
Co	59	0.855	ug/L	2.858	4910	0.004
Ni	60	1.979	ug/L	2.422	2600	0.002
Cu	63		ug/L		7172	0.006
Cu	65	2.346	ug/L	1.736	3560	0.003
Zn	66	23.609	ug/L	0.463	22121	0.068
Zn	67		ug/L		10900	0.001
Zn	68		ug/L		16344	0.048
> Ge	74		ug/L		318134	318134.208
As	75	0.616	ug/L	12.247	449	0.002
Se	77		ug/L		2437	-0.006
Se	82	-0.032	ug/L	303.813	14	-0.000
Kr	83		ug/L		86	0.000
Sr	88	5.005	ug/L	2.383	61346	0.256
Y	89		ug/L		130447	0.546
Mo	98	0.440	ug/L	5.211	1504	0.006
Ag	107	0.032	ug/L	5.284	217	0.001
Cd	111	0.141	ug/L	5.765	216	0.001
Cd	114		ug/L		180	0.001
> In	115		ug/L		238919	238918.662
Sn	120	0.404	ug/L	2.823	2562	0.010
Sb	121	0.026	ug/L	48.157	461	0.001
Sb	123		ug/L		349	0.000
Ba	135		ug/L		33794	0.067
Ba	137	19.779	ug/L	2.538	59649	0.118
Ho	165		ug/L		11040	0.022
> Lu	175		ug/L		505090	505089.668
Tl	205	0.134	ug/L	12.120	3421	0.005
Pb	208	4.459	ug/L	0.869	152123	0.300
Bi	209		ug/L		1499	0.003
Th	232	3.389	ug/L	2.346	129828	0.256
U	238	1.393	ug/L	2.034	53801	0.106

Sample ID: 1202018072

Report Date/Time: Monday, February 08, 2010 05:16:15

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997



### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		80.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		78.4			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		86.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message  
Ti 47Sample is out of limits (over linear range)

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 05:19:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.285

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	57.397	ug/L	1.141	104543	0.083
Be	9	55.517	ug/L	1.051	21804	0.017
B	11	102.983	ug/L	2.285	41304	0.033
Na	23	5237.143	ug/L	1.328	15417271	12.289
Mg	24	5036.369	ug/L	4.684	11427458	9.106
Al	27	4910.530	ug/L	3.524	15822691	12.613
P	31	4531.320	ug/L	2.021	868579	0.687
K	39	5190.733	ug/L	8.136	20837136	16.348
Ca	43	4969.991	ug/L	1.070	50740	0.040
> Sc	45		ug/L		1253594	1253594.001
Ti	47	47.705	ug/L	0.492	25784	0.020
V	51	49.674	ug/L	1.623	295775	0.231
Cr	52	50.677	ug/L	1.390	234053	0.185
Cr	53		ug/L		100840	0.007
Mn	55	53.320	ug/L	1.961	390303	0.311
Fe	57	5466.658	ug/L	1.334	763495	0.605
Co	59	51.297	ug/L	0.858	296508	0.236
Ni	60	51.925	ug/L	1.511	66628	0.053
Cu	63		ug/L		152630	0.122
Cu	65	50.294	ug/L	2.035	75173	0.060
Zn	66	51.674	ug/L	1.918	49838	0.150
Zn	67		ug/L		17150	0.019
Zn	68		ug/L		36118	0.106
> Ge	74		ug/L		330532	330532.386
As	75	48.144	ug/L	1.634	46782	0.142
Se	77		ug/L		7199	0.008
Se	82	50.063	ug/L	2.227	5075	0.015
Kr	83		ug/L		82	-0.000
Sr	88	51.790	ug/L	1.628	635622	2.646
Y	89		ug/L		177	0.001
Mo	98	47.578	ug/L	1.903	153187	0.638
Ag	107	49.608	ug/L	0.734	274383	1.143
Cd	111	50.331	ug/L	2.798	71045	0.296
Cd	114		ug/L		170021	0.708
> In	115		ug/L		240131	240131.399
Sn	120	52.407	ug/L	2.075	309359	1.288
Sb	121	51.818	ug/L	3.331	246768	1.026
Sb	123		ug/L		196220	0.816
Ba	135		ug/L		76639	0.154
Ba	137	45.392	ug/L	1.699	134374	0.271
Ho	165		ug/L		57	0.000
> Lu	175		ug/L		496006	496006.481
Tl	205	52.940	ug/L	1.255	1011443	2.038
Pb	208	53.586	ug/L	1.483	1788662	3.605
Bi	209		ug/L		474	0.001
Th	232	52.093	ug/L	0.732	1949553	3.929
U	238	53.295	ug/L	1.907	2006444	4.045

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 05:22:22

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	114.795				
Be	9	111.035				
B	11	102.983				
Na	23	104.743				
Mg	24	100.727				
Al	27	97.238				
P	31	90.626				
K	39	103.815				
Ca	43	99.400				
> Sc	45		82.1			
Ti	47	95.410				
V	51	99.348				
Cr	52	101.354				
Cr	53					
Mn	55	106.639				
Fe	57	109.333				
Co	59	102.595				
Ni	60	103.850				
Cu	63					
Cu	65	100.589				
Zn	66	103.348				
Zn	67					
Zn	68					
> Ge	74		81.5			
As	75	96.287				
Se	77					
Se	82	100.126				
Kr	83					
Sr	88	103.580				
Y	89					
Mo	98	95.156				
Ag	107	99.215				
Cd	111	100.662				
Cd	114					
> In	115		86.7			
Sn	120	104.815				
Sb	121	103.635				
Sb	123					
Ba	135					
Ba	137	90.784				
Ho	165					
> Lu	175		99.2			
Tl	205	105.880				
Pb	208	107.172				
Bi	209					
Th	232	104.186				
U	238	106.590				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	7CCV is out of limits (+/- 10%)
QC Std 8	Be	9	9CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 05:25:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.286

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.034	ug/L	9.752	125	0.000
Be	9	0.008	ug/L	101.563	18	0.000
B	11	2.906	ug/L	16.835	1506	0.001
Na	23	3.878	ug/L	57.409	22686	0.009
Mg	24	-0.778	ug/L	0.747	1000	-0.001
Al	27	-0.018	ug/L	7414.992	5001	-0.000
P	31	-2.254	ug/L	14.151	7018	-0.000
K	39	-5.064	ug/L	146.039	364276	-0.016
Ca	43	-2.727	ug/L	67.910	265	-0.000
> Sc	45		ug/L		1289097	1289097.363
Ti	47	-0.038	ug/L	8.479	276	-0.000
V	51	-0.609	ug/L	36.330	2896	-0.003
Cr	52	-0.225	ug/L	22.675	1134	-0.001
Cr	53		ug/L		74577	-0.015
Mn	55	0.006	ug/L	53.810	1097	0.000
Fe	57	-6.088	ug/L	13.951	3823	-0.001
Co	59	0.000	ug/L	474.257	99	0.000
Ni	60	0.004	ug/L	322.817	142	0.000
Cu	63		ug/L		302	0.000
Cu	65	-0.003	ug/L	177.834	151	-0.000
Zn	66	0.002	ug/L	1554.117	391	0.000
Zn	67		ug/L		9424	-0.005
Zn	68		ug/L		1052	-0.000
> Ge	74		ug/L		339603	339603.153
As	75	-0.195	ug/L	115.579	-336	-0.001
Se	77		ug/L		3650	-0.003
Se	82	-0.009	ug/L	337.469	17	-0.000
Kr	83		ug/L		82	-0.000
Sr	88	0.001	ug/L	103.060	263	0.000
Y	89		ug/L		60	0.000
Mo	98	0.024	ug/L	38.697	178	0.000
Ag	107	0.003	ug/L	44.853	60	0.000
Cd	111	0.006	ug/L	55.808	28	0.000
Cd	114		ug/L		43	-0.000
> In	115		ug/L		246083	246082.657
Sn	120	0.015	ug/L	26.536	286	0.000
Sb	121	0.269	ug/L	22.101	1663	0.005
Sb	123		ug/L		1283	0.004
Ba	135		ug/L		43	0.000
Ba	137	0.000	ug/L	608.244	57	0.000
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		511252	511252.479
Tl	205	0.124	ug/L	26.249	3276	0.005
Pb	208	0.003	ug/L	40.829	725	0.000
Bi	209		ug/L		111	-0.000
Th	232	0.030	ug/L	46.935	1930	0.002
U	238	0.007	ug/L	24.908	681	0.001

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 05:28:31

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.4			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		83.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		88.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		102.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

# ICPMS#5 - Summary Report

Sample ID: 244881002

Sample Date/Time: Monday, February 08, 2010 05:31:58

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|ba|

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244881002.287

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	34.091	ug/L	1.063	64130	0.049
Be	9	2.599	ug/L	5.929	1068	0.001
B	11	5.416	ug/L	6.039	2543	0.002
Na	23	1495.638	ug/L	4.518	4553343	3.509
Mg	24	3245.701	ug/L	2.631	7599628	5.868
Al	27	39027.765	ug/L	0.826	129742416	100.246
P	31	722.727	ug/L	1.295	149270	0.110
K	39	3756.603	ug/L	3.936	15694443	11.831
Ca	43	3847.760	ug/L	1.807	40624	0.031
> Sc	45		ug/L		1294309	1294309.190
Ti	47	780.901	ug/L	1.408	431134	0.333
V	51	39.056	ug/L	2.265	241515	0.182
Cr	52	51.533	ug/L	0.917	245718	0.188
Cr	53		ug/L		75850	-0.014
Mn	55	1390.954	ug/L	1.617	10488316	8.104
Fe	57	48480.303	ug/L	2.030	6952870	5.369
Co	59	48.231	ug/L	1.043	287776	0.222
Ni	60	24.011	ug/L	1.867	31887	0.025
Cu	63		ug/L		102639	0.079
Cu	65	32.818	ug/L	0.903	50719	0.039
Zn	66	135.957	ug/L	0.189	125762	0.394
Zn	67		ug/L		27025	0.052
Zn	68		ug/L		94639	0.294
> Ge	74		ug/L		318400	318399.743
As	75	5.317	ug/L	2.690	4864	0.016
Se	77		ug/L		2027	-0.008
Se	82	-0.332	ug/L	107.755	-15	-0.000
Kr	83		ug/L		238	0.000
Sr	88	44.768	ug/L	2.457	555694	2.287
Y	89		ug/L		1136675	4.681
Mo	98	5.668	ug/L	1.540	18541	0.076
Ag	107	0.412	ug/L	1.988	2346	0.009
Cd	111	1.584	ug/L	12.284	2282	0.009
Cd	114		ug/L		753	0.003
> In	115		ug/L		242879	242878.610
Sn	120	2.912	ug/L	2.584	17563	0.072
Sb	121	0.271	ug/L	7.112	1648	0.005
Sb	123		ug/L		1345	0.004
Ba	135		ug/L		511526	0.952
Ba	137	273.068	ug/L	1.860	875244	1.629
Ho	165		ug/L		107710	0.200
> Lu	175		ug/L		537351	537350.948
Tl	205	0.498	ug/L	1.868	11172	0.019
Pb	208	140.166	ug/L	1.315	5067599	9.430
Bi	209		ug/L		13496	0.025
Th	232	29.064	ug/L	1.219	1178634	2.192
U	238	4.486	ug/L	2.119	183336	0.340

Sample ID: 244881002

Report Date/Time: Monday, February 08, 2010 05:34:44

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.7			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		78.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		87.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		107.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

### QC Action

QC Action Line: Continue

# ICPMS#5 - Summary Report

Sample ID: 244881003

Sample Date/Time: Monday, February 08, 2010 05:38:11

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244881003.288

## Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	36.791	ug/L	1.075	68640	0.053
Be	9	3.634	ug/L	6.318	1475	0.001
B	11	6.883	ug/L	2.581	3121	0.002
Na	23	279.993	ug/L	4.404	854153	0.657
Mg	24	2887.154	ug/L	4.367	6700177	5.220
Al	27	21701.216	ug/L	5.030	71582023	55.741
P	31	412.854	ug/L	2.407	87744	0.063
K	39	3200.196	ug/L	0.491	13321359	10.079
Ca	43	3386.269	ug/L	1.832	35494	0.027
> Sc	45		ug/L		1283718	1283717.628
Ti	47	581.104	ug/L	1.961	318243	0.248
V	51	21.957	ug/L	2.676	137513	0.102
Cr	52	13.871	ug/L	1.824	67190	0.051
Cr	53		ug/L		52965	-0.032
Mn	55	787.788	ug/L	2.226	5891103	4.590
Fe	57	25084.573	ug/L	2.094	3570437	2.778
Co	59	4.234	ug/L	1.527	25140	0.020
Ni	60	11.736	ug/L	2.240	15530	0.012
Cu	63		ug/L		38671	0.030
Cu	65	12.446	ug/L	2.187	19169	0.015
Zn	66	112.366	ug/L	1.871	104992	0.325
Zn	67		ug/L		22210	0.036
Zn	68		ug/L		76642	0.235
> Ge	74		ug/L		321460	321460.010
As	75	3.863	ug/L	5.055	3532	0.011
Se	77		ug/L		1928	-0.008
Se	82	0.000	ug/L	54311.135	17	0.000
Kr	83		ug/L		157	0.000
Sr	88	28.149	ug/L	2.928	356764	1.438
Y	89		ug/L		805592	3.249
Mo	98	2.650	ug/L	2.831	8901	0.036
Ag	107	0.202	ug/L	4.467	1192	0.005
Cd	111	0.870	ug/L	2.953	1288	0.005
Cd	114		ug/L		728	0.003
> In	115		ug/L		247940	247939.721
Sn	120	1.622	ug/L	1.456	10078	0.040
Sb	121	0.193	ug/L	3.149	1299	0.004
Sb	123		ug/L		1046	0.003
Ba	135		ug/L		189483	0.351
Ba	137	102.547	ug/L	1.676	330165	0.612
Ho	165		ug/L		70722	0.131
> Lu	175		ug/L		539694	539694.088
Tl	205	0.210	ug/L	2.100	5231	0.008
Pb	208	21.277	ug/L	1.747	773074	1.431
Bi	209		ug/L		7275	0.013
Th	232	18.523	ug/L	2.123	754646	1.397
U	238	6.445	ug/L	1.787	264409	0.489

Sample ID: 244881003

Report Date/Time: Monday, February 08, 2010 05:40:57

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: 244881003

Report Date/Time: Monday, February 08, 2010 05:40:57

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## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		84.0			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		79.2			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		107.9			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message  
 TI 47 Sample is out of limits (over linear range)

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244881004

Sample Date/Time: Monday, February 08, 2010 05:44:24

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638[2]ba]

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\244881004.289

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	93.423	ug/L	1.253	181361	0.136
Be	9	5.369	ug/L	1.990	2262	0.002
B	11	17.208	ug/L	3.479	7634	0.005
Na	23	1118.751	ug/L	8.232	3522498	2.625
Mg	24	11936.035	ug/L	8.548	28876818	21.581
Al	27	104025.357	ug/L	1.522	357132047	267.198
P	31	404.009	ug/L	0.544	89588	0.061
K	39	10957.325	ug/L	4.488	46493086	34.509
Ca	43	10631.916	ug/L	0.950	115382	0.086
> Sc	45		ug/L		1336496	1336495.566
Ti	47	1521.752	ug/L	1.347	867475	0.649
V	51	92.889	ug/L	2.037	584004	0.432
Cr	52	53.055	ug/L	1.315	261208	0.194
Cr	53		ug/L		76511	-0.016
Mn	55	1388.767	ug/L	1.178	10815308	8.091
Fe	57	75254.415	ug/L	1.749	11144319	8.335
Co	59	33.672	ug/L	2.244	207540	0.155
Ni	60	42.283	ug/L	0.483	57882	0.043
Cu	63		ug/L		126586	0.095
Cu	65	39.408	ug/L	1.286	62860	0.047
Zn	66	138.235	ug/L	0.776	130880	0.400
Zn	67		ug/L		30108	0.059
Zn	68		ug/L		103635	0.314
> Ge	74		ug/L		325909	325908.912
As	75	9.620	ug/L	1.138	9114	0.028
Se	77		ug/L		2071	-0.008
Se	82	-2.197	ug/L	7.117	-201	-0.001
Kr	83		ug/L		387	0.001
Sr	88	127.313	ug/L	0.495	1573270	6.505
Y	89		ug/L		800547	3.311
Mo	98	3.269	ug/L	2.230	10689	0.044
Ag	107	0.525	ug/L	1.612	2963	0.012
Cd	111	1.580	ug/L	3.511	2265	0.009
Cd	114		ug/L		810	0.003
> In	115		ug/L		241808	241808.251
Sn	120	0.961	ug/L	1.837	5903	0.024
Sb	121	0.143	ug/L	7.515	1027	0.003
Sb	123		ug/L		803	0.002
Ba	135		ug/L		1193923	2.398
Ba	137	641.406	ug/L	2.332	1905354	3.826
Ho	165		ug/L		69139	0.139
> Lu	175		ug/L		497968	497967.635
Tl	205	1.127	ug/L	3.370	22402	0.043
Pb	208	60.126	ug/L	1.150	2014924	4.045
Bi	209		ug/L		28347	0.057
Th	232	42.100	ug/L	1.659	1581948	3.175
U	238	7.888	ug/L	1.059	298526	0.599

Sample ID: 244881004

Report Date/Time: Monday, February 08, 2010 05:47:10

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

## QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		87.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		80.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		87.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		99.6			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)
	Fe	57	Sample is out of limits (over linear range)

Sample ID: 244881004

Report Date/Time: Monday, February 08, 2010 05:47:10

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## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, February 08, 2010 05:50:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 6.290

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	57.097	ug/L	1.371	109536	0.083
Be	9	55.711	ug/L	1.684	23060	0.017
B	11	105.348	ug/L	1.856	44505	0.033
Na	23	5332.479	ug/L	1.494	16538916	12.513
Mg	24	5269.213	ug/L	5.591	12580525	9.527
Al	27	5237.336	ug/L	5.370	17783051	13.453
P	31	4618.635	ug/L	1.745	932267	0.700
K	39	5284.321	ug/L	1.580	22377824	16.642
Ca	43	5013.576	ug/L	1.258	53945	0.041
> Sc	45		ug/L		1320833	1320833.387
Ti	47	48.463	ug/L	1.860	27594	0.021
V	51	49.385	ug/L	1.805	309918	0.230
Cr	52	50.673	ug/L	2.101	246583	0.185
Cr	53		ug/L		103128	0.005
Mn	55	52.913	ug/L	1.906	408232	0.308
Fe	57	5381.717	ug/L	1.029	792094	0.596
Co	59	50.050	ug/L	1.923	304720	0.231
Ni	60	51.278	ug/L	1.224	69338	0.052
Cu	63		ug/L		160211	0.121
Cu	65	49.382	ug/L	1.371	77787	0.059
Zn	66	51.413	ug/L	0.593	51981	0.149
Zn	67		ug/L		17645	0.018
Zn	68		ug/L		38119	0.107
> Ge	74		ug/L		346349	346348.539
As	75	47.781	ug/L	1.313	48668	0.141
Se	77		ug/L		7570	0.008
Se	82	49.167	ug/L	0.141	5224	0.015
Kr	83		ug/L		97	0.000
Sr	88	51.973	ug/L	2.452	652695	2.656
Y	89		ug/L		195	0.001
Mo	98	48.138	ug/L	1.306	158597	0.645
Ag	107	50.369	ug/L	2.505	285062	1.160
Cd	111	50.679	ug/L	0.708	73212	0.298
Cd	114		ug/L		173444	0.706
> In	115		ug/L		245737	245736.689
Sn	120	52.132	ug/L	2.270	314911	1.281
Sb	121	52.044	ug/L	1.385	253630	1.031
Sb	123		ug/L		199627	0.811
Ba	135		ug/L		77716	0.158
Ba	137	46.466	ug/L	1.404	136309	0.277
Ho	165		ug/L		49	0.000
> Lu	175		ug/L		491644	491643.805
Tl	205	53.131	ug/L	2.879	1005745	2.045
Pb	208	54.212	ug/L	3.164	1792889	3.647
Bi	209		ug/L		450	0.001
Th	232	52.782	ug/L	3.410	1956961	3.981
U	238	53.076	ug/L	2.266	1980131	4.028

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 05:53:18

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 05:53:18

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### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7	114.194				
Be	9	111.422				
B	11	105.348				
Na	23	106.650				
Mg	24	105.384				
Al	27	103.710				
P	31	92.373				
K	39	105.686				
Ca	43	100.272				
> Sc	45		86.5			
Ti	47	96.926				
V	51	98.769				
Cr	52	101.345				
Cr	53					
Mn	55	105.826				
Fe	57	107.634				
Co	59	100.101				
Ni	60	102.557				
Cu	63					
Cu	65	98.765				
Zn	66	102.826				
Zn	67					
Zn	68					
> Ge	74		85.4			
As	75	95.563				
Se	77					
Se	82	98.333				
Kr	83					
Sr	88	103.947				
Y	89					
Mo	98	96.276				
Ag	107	100.738				
Cd	111	101.359				
Cd	114					
> In	115		88.7			
Sn	120	104.263				
Sb	121	104.088				
Sb	123					
Ba	135					
Ba	137	92.932				
Ho	165					
> Lu	175		98.3			
Tl	205	106.263				
Pb	208	108.423				
Bi	209					
Th	232	105.564				
U	238	106.152				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	7CCV is out of limits (+/- 10%)
QC Std 6	Be	9	9CCV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, February 08, 2010 05:56:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 7.291

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.042	ug/L	20.907	148	0.000
Be	9	0.002	ug/L	309.904	17	0.000
B	11	2.869	ug/L	18.714	1581	0.001
Na	23	0.216	ug/L	291.097	12339	0.001
Mg	24	0.142	ug/L	595.445	3334	0.000
Al	27	0.835	ug/L	150.115	8336	0.002
P	31	-4.345	ug/L	6.763	7007	-0.001
K	39	-4.368	ug/L	139.549	388901	-0.014
Ca	43	-5.069	ug/L	35.364	255	-0.000
> Sc	45		ug/L		1366693	1366693.340
Ti	47	-0.030	ug/L	80.367	297	-0.000
V	51	-0.753	ug/L	27.881	2154	-0.004
Cr	52	-0.041	ug/L	127.688	2118	-0.000
Cr	53		ug/L		76729	-0.017
Mn	55	0.011	ug/L	70.337	1207	0.000
Fe	57	-5.134	ug/L	15.613	4197	-0.001
Co	59	0.002	ug/L	140.826	116	0.000
Ni	60	0.004	ug/L	168.169	151	0.000
Cu	63		ug/L		308	0.000
Cu	65	-0.011	ug/L	35.942	148	-0.000
Zn	66	0.004	ug/L	158.141	410	0.000
Zn	67		ug/L		9753	-0.006
Zn	68		ug/L		1078	-0.000
> Ge	74		ug/L		354297	354297.465
As	75	-0.065	ug/L	276.655	-213	-0.000
Se	77		ug/L		3794	-0.003
Se	82	-0.021	ug/L	339.317	17	-0.000
Kr	83		ug/L		79	-0.000
Sr	88	0.001	ug/L	67.828	273	0.000
Y	89		ug/L		61	0.000
Mo	98	0.021	ug/L	46.578	174	0.000
Ag	107	0.002	ug/L	106.281	55	0.000
Cd	111	0.003	ug/L	17.969	25	0.000
Cd	114		ug/L		55	0.000
> In	115		ug/L		253606	253606.491
Sn	120	0.011	ug/L	51.680	271	0.000
Sb	121	0.251	ug/L	25.329	1622	0.005
Sb	123		ug/L		1258	0.004
Ba	135		ug/L		55	0.000
Ba	137	0.005	ug/L	86.995	71	0.000
Ho	165		ug/L		22	-0.000
> Lu	175		ug/L		515959	515958.718
Tl	205	0.107	ug/L	24.539	2971	0.004
Pb	208	0.004	ug/L	30.719	772	0.000
Bi	209		ug/L		98	-0.000
Th	232	0.028	ug/L	41.507	1868	0.002
U	238	0.006	ug/L	18.566	667	0.000

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 05:59:27

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9997
U	238Linear Thru Zero	0.9997

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		89.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
L Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		87.3			
As	75					
Se	77					
Se	82					
L Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		91.5			
Sn	120					
Sb	121					
L Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		103.2			
Tl	205					
Pb	208					
Bi	209					
Th	232					
L U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, February 08, 2010 06:08:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\Blank.293

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7		ug/L		103	
	Be	9		ug/L		23	
[>	Sc	45		ug/L		1288373	
	Ni	60		ug/L		140	
[>	Ge	74		ug/L		337704	
	As	75		ug/L		-195	
	Se	77		ug/L		3776	
	Se	82		ug/L		15	
	Kr	83		ug/L		78	
[>	Lu	175		ug/L		502580	
	Tl	205		ug/L		896	

---

Sample ID: Blank

Report Date/Time: Monday, February 08, 2010 06:09:14

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

---

Sample ID: Blank

Report Date/Time: Monday, February 08, 2010 06:09:14

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### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175					
	Ti	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, February 08, 2010 06:12:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\Standard 1.294

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	0.938	20383	0.016
Be	9	10.000	ug/L	2.079	4309	0.003
> Sc	45		ug/L		1278987	1278987.310
Li	60	10.000	ug/L	3.433	13624	0.011
> Ge	74		ug/L		338297	338296.517
As	75	10.000	ug/L	8.725	9791	0.030
Se	77		ug/L		4688	0.003
Se	82	10.000	ug/L	5.772	1065	0.003
Kr	83		ug/L		83	0.000
> Lu	175		ug/L		494390	494390.391
Ti	205	10.000	ug/L	4.201	228807	0.461

Sample ID: Standard 1

Report Date/Time: Monday, February 08, 2010 06:12:52

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

---

Sample ID: Standard 1

Report Date/Time: Monday, February 08, 2010 06:12:52

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### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45					
[	Ni	60					
[>	Ge	74					
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[>	Lu	175					
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, February 08, 2010 06:15:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\Standard 2.295

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	99.996	ug/L	3.828	201368	0.158
	Be	9	99.989	ug/L	2.639	42257	0.033
>	Sc	45		ug/L		1274421	1274421.448
[	Ni	60	99.979	ug/L	3.605	131640	0.103
>	Ge	74		ug/L		340404	340403.587
	As	75	99.987	ug/L	1.241	99062	0.292
	Se	77		ug/L		11969	0.024
	Se	82	99.989	ug/L	1.952	10461	0.031
[	Kr	83		ug/L		111	0.000
>	Lu	175		ug/L		469183	469182.664
[	Ti	205	99.801	ug/L	0.757	1802664	3.840

Sample ID: Standard 2

Report Date/Time: Monday, February 08, 2010 06:16:30

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

Sample ID: Standard 2

Report Date/Time: Monday, February 08, 2010 06:16:30

Page 2

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175					
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, February 08, 2010 06:19:28

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 1.296

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	51.738	ug/L	2.257	105464	0.082
	Be	9	51.711	ug/L	1.497	22123	0.017
>	Sc	45		ug/L		1289024	1289023.730
[	Ni	60	51.931	ug/L	2.988	69247	0.054
[>	Ge	74		ug/L		339888	339887.920
	As	75	49.857	ug/L	3.178	49202	0.145
	Se	77		ug/L		8290	0.013
	Se	82	52.081	ug/L	1.717	5447	0.016
[	Kr	83		ug/L		95	0.000
[>	Lu	175		ug/L		480940	480940.133
[	Tl	205	53.054	ug/L	4.236	981931	2.042

Sample ID: QC Std 1

Report Date/Time: Monday, February 08, 2010 06:20:09

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	103.476				
	Be	9	103.422				
[>	Sc	45		100.1			
	Ni	60	103.861				
[>	Ge	74		100.6			
	As	75	99.715				
	Se	77					
	Se	82	104.161				
	Kr	83					
[>	Lu	175		95.7			
	Tl	205	106.108				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, February 08, 2010 06:23:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 2.297

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Li	7	0.002	ug/L	427.095	109	0.000
[ Be	9	-0.023	ug/L	22.218	14	-0.000
[ > Sc	45		ug/L		1318667	1318667.315
[ Ni	60	-0.000	ug/L	1711.909	143	-0.000
[ > Ge	74		ug/L		348481	348481.051
[ As	75	-0.056	ug/L	493.545	-259	-0.000
[ Se	77		ug/L		4197	0.001
[ Se	82	-0.102	ug/L	125.610	5	-0.000
[ Kr	83		ug/L		85	0.000
[ > Lu	175		ug/L		488560	488559.760
[ Ti	205	0.075	ug/L	8.216	2274	0.003

Sample ID: QC Std 2

Report Date/Time: Monday, February 08, 2010 06:23:52

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		102.4			
	Ni	60					
>	Ge	74		103.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		97.2			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, February 08, 2010 06:26:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 3.298

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	10.972	ug/L	1.563	22472	0.017
	Be	9	0.501	ug/L	8.382	238	0.000
[>	Sc	45		ug/L		1290317	1290316.627
[	Ni	60	2.198	ug/L	4.984	3067	0.002
[>	Ge	74		ug/L		340364	340364.451
	As	75	5.401	ug/L	5.580	5167	0.016
	Se	77		ug/L		4709	0.003
	Se	82	5.422	ug/L	3.997	582	0.002
[	Kr	83		ug/L		91	0.000
[>	Lu	175		ug/L		486503	486503.143
[	Tl	205	1.286	ug/L	2.123	24932	0.049

Sample ID: QC Std 3

Report Date/Time: Monday, February 08, 2010 06:27:31

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	109.719				
	Be	9	100.287				
>	Sc	45		100.2			
[	Ni	60	109.910				
>	Ge	74		100.8			
	As	75	108.024				
	Se	77					
	Se	82	108.440				
[	Kr	83					
>	Lu	175		96.8			
[	Tl	205	128.564				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, February 08, 2010 06:30:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Nanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 4.299

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.065	ug/L	9.276	233	0.000
	Be	9	0.096	ug/L	16.145	64	0.000
>	Sc	45		ug/L		1275682	1275681.886
	Ni	60	3.463	ug/L	3.607	4699	0.004
>	Ge	74		ug/L		329513	329513.125
	As	75	-0.050	ug/L	762.463	-240	-0.000
	Se	77		ug/L		6202	0.008
	Se	82	-1.549	ug/L	13.471	-142	-0.000
	Kr	83		ug/L		290	0.001
>	Lu	175		ug/L		418209	418209.105
	Tl	205	0.005	ug/L	29.861	831	0.000

Sample ID: QC Std 4

Report Date/Time: Monday, February 08, 2010 06:31:11

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
[>	Sc	45			99.0		
	Ni	60	104.634				
[>	Ge	74			97.6		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[>	Lu	175			83.2		
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, February 08, 2010 06:34:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Nani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 5.300

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	18.914	ug/L	2.749	38269	0.030
	Be	9	17.588	ug/L	2.511	7470	0.006
>	Sc	45		ug/L		1277179	1277178.901
[	Ni	60	21.527	ug/L	3.488	28522	0.022
>	Ge	74		ug/L		329535	329534.749
	As	75	19.705	ug/L	3.634	18748	0.057
	Se	77		ug/L		7377	0.011
	Se	82	17.814	ug/L	2.856	1816	0.005
[	Kr	83		ug/L		289	0.001
>	Lu	175		ug/L		422555	422554.515
[	Tl	205	21.452	ug/L	1.378	349537	0.825

Sample ID: QC Std 5

Report Date/Time: Monday, February 08, 2010 06:34:51

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate	Rel. % Difference
[	Li	7	94.571					
	Be	9	87.942					
[>	Sc	45		99.1				
	Ni	60	92.351					
[>	Ge	74		97.6				
	As	75	98.525					
	Se	77						
	Se	82	89.071					
	Kr	83						
[>	Lu	175		84.1				
	Tl	205	107.262					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, February 08, 2010 06:37:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 6.301

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Li	7	49.466	ug/L	2.582	101329	0.078
Be	9	48.899	ug/L	2.340	21017	0.016
[> Sc	45		ug/L		1295124	1295123.992
[ Ni	60	50.468	ug/L	2.914	67612	0.052
[> Ge	74		ug/L		343556	343555.744
As	75	47.678	ug/L	1.529	47571	0.139
Se	77		ug/L		8618	0.014
Se	82	50.446	ug/L	0.240	5334	0.015
[ Kr	83		ug/L		88	0.000
[> Lu	175		ug/L		475036	475035.721
[ Tl	205	52.731	ug/L	2.215	964527	2.029

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 06:38:32

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	98.931				
	Be	9	97.799				
>	Sc	45		100.5			
	Ni	60	100.935				
>	Ge	74		101.7			
	As	75	95.356				
	Se	77					
	Se	82	100.892				
	Kr	83					
>	Lu	175		94.5			
	Tl	205	105.462				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, February 08, 2010 06:41:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 7.302

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.002	ug/L	270.506	110	0.000
	Be	9	-0.019	ug/L	50.803	16	-0.000
[>	Sc	45		ug/L		1321534	1321533.981
[	Ni	60	0.007	ug/L	195.973	152	0.000
[>	Ge	74		ug/L		350128	350128.429
	As	75	0.036	ug/L	813.147	-167	0.000
	Se	77		ug/L		4893	0.003
	Se	82	0.010	ug/L	1540.662	17	0.000
[	Kr	83		ug/L		85	0.000
[>	Lu	175		ug/L		489198	489198.017
[	Tl	205	0.096	ug/L	5.045	2679	0.004

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 06:42:15

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate	Rel. % Difference
[	Li	7						
	Be	9						
[>	Sc	45		102.6				
	Ni	60						
[>	Ge	74		103.7				
	As	75						
	Se	77						
	Se	82						
	Kr	83						
[>	Lu	175		97.3				
	Tl	205						

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Monday, February 08, 2010 06:45:13

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Nani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 10.303

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	924.502	ug/L	1.709	1749243	1.461
	Be	9	965.161	ug/L	2.445	383176	0.320
>	Sc	45		ug/L		1197440	1197440.237
	Ni	60	874.970	ug/L	1.463	1081886	0.903
[>	Ge	74		ug/L		317174	317173.653
	As	75	891.628	ug/L	3.573	824070	2.600
	Se	77		ug/L		39655	0.114
	Se	82	478.812	ug/L	3.998	46586	0.147
	Kr	83		ug/L		187	0.000
[>	Lu	175		ug/L		434937	434937.171
	Tl	205	432.816	ug/L	1.915	7244049	16.655

Sample ID: QC Std 10

Report Date/Time: Monday, February 08, 2010 06:45:53

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7	92.450				
	Be	9	96.516				
>	Sc	45		92.9			
	Ni	60	87.497				
>	Ge	74		93.9			
	As	75	89.163				
	Se	77					
	Se	82	95.762				
	Kr	83					
>	Lu	175		86.5			
	Tl	205	86.563				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Ni	60	60LRS is out of limits (+/- 10%)
QC Std 10	As	75	75LRS is out of limits (+/- 10%)
QC Std 10	Tl	205	205LRS is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Monday, February 08, 2010 06:48:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 11.304

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	50.812	ug/L	2.339	104982	0.080
	Be	9	50.665	ug/L	2.844	21964	0.017
>	Sc	45		ug/L		1306346	1306345.653
[	Ni	60	51.421	ug/L	2.773	69499	0.053
[>	Ge	74		ug/L		343514	343513.900
	As	75	49.822	ug/L	1.627	49708	0.145
	Se	77		ug/L		8516	0.014
	Se	82	51.066	ug/L	2.461	5399	0.016
[	Kr	83		ug/L		98	0.000
[>	Lu	175		ug/L		477939	477939.207
[	Tl	205	53.433	ug/L	1.916	983426	2.056

Sample ID: QC Std 11

Report Date/Time: Monday, February 08, 2010 06:49:32

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	101.623				
	Be	9	101.331				
>	Sc	45		101.4			
	Ni	60	102.842				
>	Ge	74		101.7			
	As	75	99.645				
	Se	77					
	Se	82	102.133				
	Kr	83					
>	Lu	175		95.1			
	Tl	205	106.866				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Monday, February 08, 2010 06:52:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 12.305

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.034	ug/L	15.715	175	0.000
Be	9	-0.018	ug/L	77.744	16	-0.000
Sc	45		ug/L		1304663	1304662.903
Ni	60	0.008	ug/L	99.139	152	0.000
Ge	74		ug/L		341792	341792.490
As	75	0.105	ug/L	505.179	-85	0.000
Se	77		ug/L		4554	0.002
Se	82	0.109	ug/L	169.976	27	0.000
Kr	83		ug/L		80	0.000
Lu	175		ug/L		471536	471536.018
Tl	205	0.127	ug/L	10.115	3139	0.005

Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 06:53:15

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

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Sample ID: QC Std 12

Report Date/Time: Monday, February 08, 2010 08:53:15

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### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		101.3			
	Ni	60					
>	Ge	74		101.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		93.8			
	Tl	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018068

Sample Date/Time: Monday, February 08, 2010 06:56:16

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 942638|2|ba|

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018068.306

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.011	ug/L	7.196	132	0.000
	Be	9	-0.011	ug/L	111.086	19	-0.000
>	Sc	45		ug/L		1346286	1346286.066
[	Ni	60	0.129	ug/L	4.588	325	0.000
[>	Ge	74		ug/L		347915	347915.339
	As	75	0.091	ug/L	135.922	-108	0.000
	Se	77		ug/L		3641	-0.001
	Se	82	-0.062	ug/L	176.872	9	-0.000
[	Kr	83		ug/L		90	0.000
[>	Lu	175		ug/L		499678	499678.164
[	Tl	205	0.050	ug/L	0.932	1858	0.002

Sample ID: 1202018068

Report Date/Time: Monday, February 08, 2010 06:56:59

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
[>	Sc	45			104.5		
[	Ni	60					
[>	Ge	74			103.0		
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[>	Lu	175			99.4		
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018069

Sample Date/Time: Monday, February 08, 2010 07:00:00

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 942638|40|ba|

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018069.307

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	2.491	ug/L	2.243	5221	0.004
	Be	9	20.970	ug/L	2.830	9062	0.007
>	Sc	45		ug/L		1300273	1300273.495
	Ni	60	39.161	ug/L	2.718	52704	0.040
[>	Ge	74		ug/L		344854	344854.386
	As	75	27.275	ug/L	2.881	27231	0.080
	Se	77		ug/L		10661	0.020
	Se	82	77.924	ug/L	0.353	8262	0.024
	Kr	83		ug/L		97	0.000
[>	Lu	175		ug/L		484008	484008.382
	Tl	205	34.909	ug/L	0.662	651018	1.343

Sample ID: 1202018069

Report Date/Time: Monday, February 08, 2010 07:00:44

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
[>	Sc	45		100.9			
[	Ni	60					
[>	Ge	74		102.1			
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[>	Lu	175		96.3			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 07:22:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.313

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	48.890	ug/L	1.818	92149	0.077
	Be	9	48.952	ug/L	1.450	19358	0.016
>	Sc	45		ug/L		1191494	1191493.688
[	Ni	60	49.187	ug/L	1.022	60646	0.051
[>	Ge	74		ug/L		319503	319503.157
	As	75	46.837	ug/L	1.672	43443	0.137
	Se	77		ug/L		6851	0.010
	Se	82	48.430	ug/L	1.925	4762	0.015
[	Kr	83		ug/L		91	0.000
[>	Lu	175		ug/L		468041	468040.579
[	Ti	205	51.790	ug/L	1.209	933567	1.993

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 07:23:04

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 07:23:04

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### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
[	Li	7	97.780				
	Be	9	97.903				
>	Sc	45		92.5			
	Ni	60	98.374				
>	Ge	74		94.6			
	As	75	93.674				
	Se	77					
	Se	82	96.860				
	Kr	83					
>	Lu	175		93.1			
	Tl	205	103.579				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 07:26:04

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.314

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Li	7	0.014	ug/L	18.782	121	0.000
Be	9	-0.023	ug/L	59.225	12	-0.000
[> Sc	45		ug/L		1174342	1174341.883
[ Ni	60	0.004	ug/L	207.006	132	0.000
[> Ge	74		ug/L		314457	314457.383
As	75	0.275	ug/L	156.231	71	0.001
Se	77		ug/L		3246	-0.001
Se	82	-0.020	ug/L	653.248	12	-0.000
[ Kr	83		ug/L		84	0.000
[> Lu	175		ug/L		473291	473291.182
[ Tl	205	0.123	ug/L	1.396	3079	0.005

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 07:26:47

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45			91.1		
	Ni	60					
>	Ge	74			93.1		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175			94.2		
	Tl	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 07:55:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soli.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.322

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	50.444	ug/L	2.051	91506	0.080
	Be	9	50.804	ug/L	3.405	19338	0.017
>	Sc	45		ug/L		1146832	1146831.756
[	Ni	60	50.523	ug/L	1.333	59948	0.052
[>	Ge	74		ug/L		309826	309825.637
	As	75	47.972	ug/L	1.796	43152	0.140
	Se	77		ug/L		6705	0.010
	Se	82	49.026	ug/L	4.246	4672	0.015
[	Kr	83		ug/L		83	0.000
[>	Lu	175		ug/L		463250	463250.178
[	Tl	205	51.580	ug/L	1.020	920361	1.985

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 07:56:41

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	100.888				
	Be	9	101.608				
[>	Sc	45		89.0			
	Ni	60	101.046				
[>	Ge	74		91.7			
	As	75	95.944				
	Se	77					
	Se	82	98.052				
	Kr	83					
[>	Lu	175		92.2			
	Tl	205	103.160				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 07:59:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soli.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.323

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	0.003	ug/L	43.096	99	0.000
	Be	9	-0.000	ug/L	4975.673	21	-0.000
>	Sc	45		ug/L		1168930	1168930.110
	Ni	60	0.010	ug/L	85.558	139	0.000
>	Ge	74		ug/L		316502	316502.368
	As	75	0.064	ug/L	30.424	-124	0.000
	Se	77		ug/L		3148	-0.001
	Se	82	-0.020	ug/L	1116.512	13	-0.000
	Kr	83		ug/L		85	0.000
>	Lu	175		ug/L		469378	469377.679
	Ti	205	0.115	ug/L	5.060	2912	0.004

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 08:00:24

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		90.7			
	Ni	60					
>	Ge	74		93.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		93.4			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 244881001

Sample Date/Time: Monday, February 08, 2010 08:10:57

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lani soll.mth

Dataset File: C:\elandata\Dataset\100207\244881001.326

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Li	7	47.707	ug/L	1.268	89136	0.075
Be	9	2.488	ug/L	7.152	995	0.001
> Sc	45		ug/L		1181286	1181286.120
[ Ni	60	9.480	ug/L	2.288	11687	0.010
> Ge	74		ug/L		302269	302269.414
As	75	3.274	ug/L	5.281	2711	0.010
Se	77		ug/L		2013	-0.005
Se	82	-0.066	ug/L	204.925	7	-0.000
[ Kr	83		ug/L		152	0.000
> Lu	175		ug/L		490184	490183.851
[ Tl	205	0.196	ug/L	4.747	4564	0.008

Sample ID: 244881001

Report Date/Time: Monday, February 08, 2010 08:11:42

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
[>	Sc	45		91.7			
	Ni	60					
[>	Ge	74		89.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[>	Lu	175		97.5			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018070

Sample Date/Time: Monday, February 08, 2010 08:14:43

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018070.327

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	28.763	ug/L	5.156	53000	0.045
	Be	9	2.226	ug/L	1.842	881	0.001
[>	Sc	45		ug/L		1164813	1164813.380
[	Ni	60	8.271	ug/L	3.560	10070	0.009
[>	Ge	74		ug/L		301009	301009.487
	As	75	3.394	ug/L	7.717	2809	0.010
	Se	77		ug/L		1970	-0.005
	Se	82	-0.003	ug/L	5835.441	13	-0.000
[	Kr	83		ug/L		136	0.000
[>	Lu	175		ug/L		498195	498195.168
[	Tl	205	0.156	ug/L	2.981	3884	0.006

Sample ID: 1202018070

Report Date/Time: Monday, February 08, 2010 08:15:26

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45			90.4		
	Ni	60					
>	Ge	74			89.1		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175			99.1		
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018071

Sample Date/Time: Monday, February 08, 2010 08:18:27

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 942638|2|baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018071.328

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	51.287	ug/L	2.427	94467	0.081
	Be	9	24.327	ug/L	1.924	9413	0.008
[>	Sc	45		ug/L		1164576	1164575.991
[	Ni	60	31.110	ug/L	0.632	37535	0.032
[>	Ge	74		ug/L		300766	300765.523
	As	75	36.694	ug/L	0.972	32011	0.107
	Se	77		ug/L		2497	-0.003
	Se	82	8.418	ug/L	5.762	791	0.003
[	Kr	83		ug/L		151	0.000
[>	Lu	175		ug/L		498354	498354.242
[	Tl	205	47.797	ug/L	2.663	917443	1.839

Sample ID: 1202018071

Report Date/Time: Monday, February 08, 2010 08:19:10

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
[>	Sc	45		90.4			
[	Ni	60					
[>	Ge	74		89.1			
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[>	Lu	175		99.2			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018073

Sample Date/Time: Monday, February 08, 2010 08:22:11

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 942638|2|ba|

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018073.329

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	63.084	ug/L	1.745	115549	0.100
	Be	9	24.547	ug/L	2.136	9447	0.008
>	Sc	45		ug/L		1158592	1158591.656
[	Ni	60	32.576	ug/L	3.645	39070	0.034
>	Ge	74		ug/L		297205	297205.269
	As	75	37.856	ug/L	3.012	32629	0.110
	Se	77		ug/L		2416	-0.003
	Se	82	8.577	ug/L	1.307	796	0.003
[	Kr	83		ug/L		153	0.000
>	Lu	175		ug/L		507283	507283.005
[	Tl	205	47.945	ug/L	0.743	936768	1.845

Sample ID: 1202018073

Report Date/Time: Monday, February 08, 2010 08:22:55

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		89.9			
	Ni	60					
>	Ge	74		88.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		100.9			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202018072

Sample Date/Time: Monday, February 08, 2010 08:25:57

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 942638|10|ba|

Method File: c:\elandata\Method\Nanl soil.mth

Dataset File: C:\elandata\Dataset\100207\1202018072.330

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Li	7	9.935	ug/L	4.443	17507	0.016
[ Be	9	0.523	ug/L	0.490	213	0.000
[ > Sc	45		ug/L		1110594	1110593.904
[ Ni	60	1.978	ug/L	4.652	2387	0.002
[ > Ge	74		ug/L		294346	294345.899
[ As	75	0.868	ug/L	39.559	575	0.003
[ Se	77		ug/L		2339	-0.003
[ Se	82	0.065	ug/L	34.236	19	0.000
[ Kr	83		ug/L		85	0.000
[ > Lu	175		ug/L		485761	485760.983
[ Tl	205	0.113	ug/L	2.878	2983	0.004

Sample ID: 1202018072

Report Date/Time: Monday, February 08, 2010 08:26:41

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
[>	Sc	45		86.2			
	Ni	60					
[>	Ge	74		87.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[>	Lu	175		96.7			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, February 08, 2010 08:29:40

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 8.331

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	50.930	ug/L	2.399	91492	0.080
	Be	9	49.802	ug/L	1.594	18772	0.017
>	Sc	45		ug/L		1135707	1135706.518
[	Ni	60	49.833	ug/L	1.674	58564	0.051
>	Ge	74		ug/L		304400	304399.741
	As	75	45.914	ug/L	2.268	40580	0.134
	Se	77		ug/L		6310	0.010
	Se	82	47.854	ug/L	1.759	4484	0.015
[	Kr	83		ug/L		84	0.000
>	Lu	175		ug/L		480978	480977.869
[	Tl	205	51.240	ug/L	2.816	948798	1.972

Sample ID: QC Std 8

Report Date/Time: Monday, February 08, 2010 08:30:22

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7	101.860				
	Be	9	99.604				
[>	Sc	45		88.2			
[	Ni	60	99.665				
[>	Ge	74		90.1			
	As	75	91.828				
	Se	77					
	Se	82	95.707				
[	Kr	83					
[>	Lu	175		95.7			
[	Tl	205	102.479				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, February 08, 2010 08:33:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Vanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 9.332

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	-0.006	ug/L	75.909	81	-0.000
Be	9	-0.014	ug/L	79.678	16	-0.000
Sc	45		ug/L		1152951	1152950.905
Ni	60	-0.002	ug/L	810.594	123	-0.000
Ge	74		ug/L		304904	304904.202
As	75	0.163	ug/L	100.152	-31	0.000
Se	77		ug/L		2993	-0.001
Se	82	-0.030	ug/L	625.643	11	-0.000
Kr	83		ug/L		75	0.000
Lu	175		ug/L		493269	493269.037
Tl	205	0.123	ug/L	7.668	3212	0.005

Sample ID: QC Std 9

Report Date/Time: Monday, February 08, 2010 08:34:05

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % DI	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		89.5			
[	Ni	60					
>	Ge	74		90.3			
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
>	Lu	175		98.1			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244881002

Sample Date/Time: Monday, February 08, 2010 08:37:07

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638[2]baj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244881002.333

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	30.813	ug/L	1.624	57463	0.049
	Be	9	2.323	ug/L	2.898	929	0.001
>	Sc	45		ug/L		1178113	1178112.911
[	Ni	60	23.836	ug/L	1.597	29118	0.025
>	Ge	74		ug/L		295048	295047.801
	As	75	5.950	ug/L	3.622	4950	0.017
	Se	77		ug/L		1966	-0.005
	Se	82	-0.359	ug/L	142.378	-19	-0.000
[	Kr	83		ug/L		229	0.001
>	Lu	175		ug/L		532181	532180.540
[	Tl	205	0.488	ug/L	3.412	10939	0.019

Sample ID: 244881002

Report Date/Time: Monday, February 08, 2010 08:37:51

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		91.4			
	Ni	60					
>	Ge	74		87.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		105.9			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 244881003

Sample Date/Time: Monday, February 08, 2010 08:40:53

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638[2]ba]

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244881003.334

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Li	7	33.143	ug/L	2.433	61226	0.052
Be	9	3.240	ug/L	1.245	1275	0.001
> Sc	45		ug/L		1167359	1167358.622
[ Ni	60	11.577	ug/L	2.546	14080	0.012
> Ge	74		ug/L		292121	292121.308
As	75	4.057	ug/L	5.103	3289	0.012
Se	77		ug/L		1820	-0.005
Se	82	-0.077	ug/L	359.350	7	-0.000
[ Kr	83		ug/L		157	0.000
> Lu	175		ug/L		517097	517096.708
[ Tl	205	0.209	ug/L	3.270	5076	0.008

Sample ID: 244881003

Report Date/Time: Monday, February 08, 2010 08:41:38

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Li	7					
	Be	9					
>	Sc	45		90.6			
	Ni	60					
>	Ge	74		86.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
>	Lu	175		102.9			
	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 244881004

Sample Date/Time: Monday, February 08, 2010 08:44:40

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 942638[2]ba]

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\244881004.335

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	87.811	ug/L	1.106	162884	0.139
	Be	9	4.854	ug/L	3.088	1909	0.002
>	Sc	45		ug/L		1173176	1173175.509
[	Ni	60	42.939	ug/L	2.092	52151	0.044
[>	Ge	74		ug/L		289322	289321.922
	As	75	9.700	ug/L	4.212	8019	0.028
	Se	77		ug/L		2038	-0.004
	Se	82	-2.565	ug/L	4.714	-215	-0.001
[	Kr	83		ug/L		384	0.001
[>	Lu	175		ug/L		478557	478557.300
[	Tl	205	1.102	ug/L	2.270	21153	0.042

Sample ID: 244881004

Report Date/Time: Monday, February 08, 2010 08:45:25

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[ Li	7					
[ Be	9					
[ > Sc	45		91.1			
[ Ni	60					
[ > Ge	74		85.7			
[ As	75					
[ Se	77					
[ Se	82					
[ Kr	83					
[ > Lu	175		95.2			
[ Tl	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, February 08, 2010 08:48:24

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 6.336

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	51.183	ug/L	1.499	95933	0.081
	Be	9	48.893	ug/L	1.799	19235	0.016
[>	Sc	45		ug/L		1185312	1185312.336
[	Ni	60	48.745	ug/L	2.407	59767	0.050
[>	Ge	74		ug/L		311521	311520.770
	As	75	47.049	ug/L	1.922	42560	0.137
	Se	77		ug/L		6585	0.010
	Se	82	47.729	ug/L	2.022	4577	0.015
[	Kr	83		ug/L		89	0.000
[>	Lu	175		ug/L		485952	485952.364
[	Tl	205	50.966	ug/L	1.043	953830	1.961

Sample ID: QC Std 6

Report Date/Time: Monday, February 08, 2010 08:49:06

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
[	Li	7	102.365				
	Be	9	97.787				
[>	Sc	45		92.0			
	Ni	60	97.491				
[>	Ge	74		92.2			
	As	75	94.098				
	Se	77					
	Se	82	95.459				
	Kr	83					
[>	Lu	175		96.7			
	Tl	205	101.932				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Monday, February 08, 2010 08:52:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100207\QC Std 7.337

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Li	7	-0.004	ug/L	118.709	88	-0.000
	Be	9	-0.013	ug/L	55.546	17	-0.000
>	Sc	45		ug/L		1203287	1203286.801
	Ni	60	-0.009	ug/L	118.247	119	-0.000
[>	Ge	74		ug/L		317327	317327.395
	As	75	-0.054	ug/L	308.806	-232	-0.000
	Se	77		ug/L		3060	-0.002
	Se	82	0.056	ug/L	393.183	20	0.000
	Kr	83		ug/L		65	-0.000
[>	Lu	175		ug/L		496062	496061.512
	Tl	205	0.127	ug/L	5.560	3309	0.005

Sample ID: QC Std 7

Report Date/Time: Monday, February 08, 2010 08:52:49

Page 1

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Li	7					
[	Be	9					
>	Sc	45		93.4			
[	Ni	60					
>	Ge	74		94.0			
[	As	75					
[	Se	77					
[	Se	82					
[	Kr	83					
>	Lu	175		98.7			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

Method Name: SOIL  
 Method Description: 7471A, ILM04 ANALYST JXL1  
 Element: Hg

Date: 01/28/2010  
 Technique: FI-MHS  
 Calibration Type:  
 Hg, Calc. Intercept : Linear  
 Wavelength: 253.7 nm  
 Sample Info Name: 012810S1.SIF

Results Data Set Name: 012810S1

Element: Hg Seq. No.: 1 AS Loc.: 1 Date: 01/28/2010  
 Sample ID: Calib Blank

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0044	0.0044	09:24:47	No
2			0.0043	0.0043	09:25:22	No
Mean:			0.0044			
SD :			0.0001			
%RSD:			2.2347			

Auto-zero performed.

Element: Hg Seq. No.: 2 AS Loc.: 2 Date: 01/28/2010  
 Sample ID: S0.2

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0023	0.0067	09:26:44	No
2			0.0023	0.0066	09:27:19	No
Mean:			0.0023			
SD :			0.0001			
%RSD:			2.4484			

[Hg] Standard number 1 applied. [0.200]

Correlation Coefficient: 1.00000

Slope: 0.01152

Intercept : 0.00000

Element: Hg Seq. No.: 3 AS Loc.: 3 Date: 01/28/2010  
 Sample ID: S0.5

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0054	0.0098	09:28:43	No
2			0.0053	0.0097	09:29:18	No
Mean:			0.0054			
SD :			0.0001			
%RSD:			1.1557			

[Hg] Standard number 2 applied. [0.500]

Correlation Coefficient: 0.99940

Slope: 0.01067

Intercept : 0.00006

Element: Hg Seq. No.: 4 AS Loc.: 4 Date: 01/28/2010  
 Sample ID: S2.0

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0209	0.0253	09:30:42	No
2			0.0209	0.0253	09:31:16	No
Mean:			0.0209			
SD :			0.0000			
%RSD:			0.1942			

[Hg] Standard number 3 applied. [2.000]

Correlation Coefficient: 0.99995  
Intercept : 0.00012

Slope: 0.01041

=====

Element: Hg Seq. No.: 5 AS Loc.: 5 Date: 01/28/2010  
Sample ID: S5.0

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.0526	0.0570	09:32:41	No
2			0.0512	0.0556	09:33:16	No
Mean:			0.0519			
SD :			0.0010			
%RSD:			1.9476			

[Hg] Standard number 4 applied. [5.000]  
Correlation Coefficient: 0.99999 Slope: 0.01036  
Intercept : 0.00014

=====

Element: Hg Seq. No.: 6 AS Loc.: 6 Date: 01/28/2010  
Sample ID: S10

-----

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1			0.1004	0.1048	09:34:43	No
2			0.1017	0.1061	09:35:18	No
Mean:			0.1011			
SD :			0.0009			
%RSD:			0.9079			

[Hg] Standard number 5 applied. [10.00]  
Correlation Coefficient: 0.99991 Slope: 0.01012  
Intercept : 0.00042

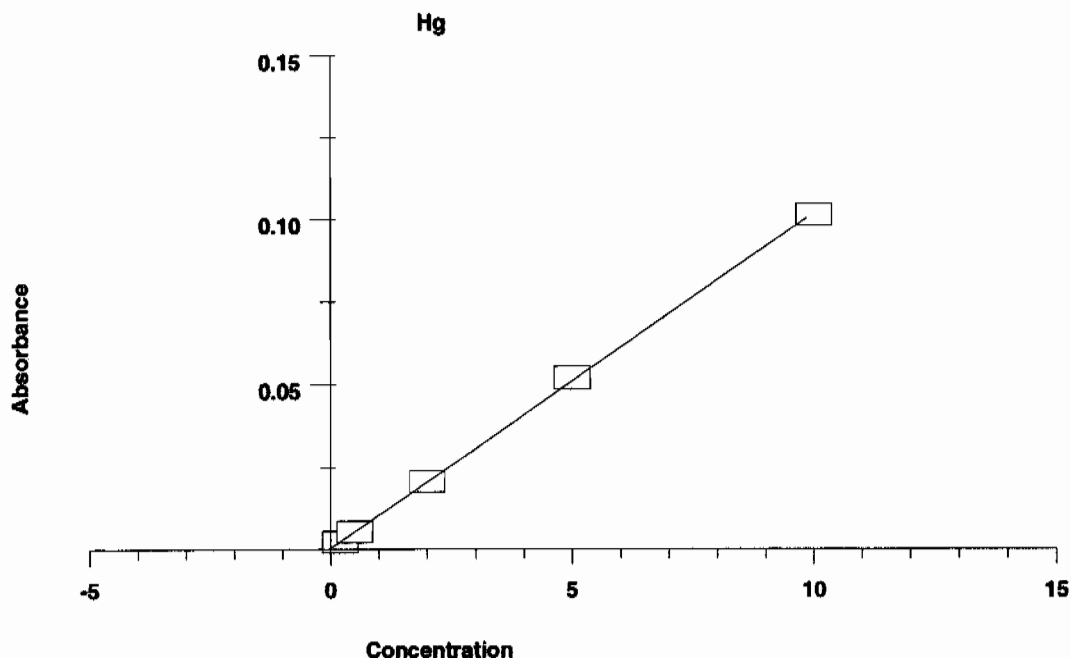
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#### Calibration data for Hg

Standard ID	Mean Signal (Pk Height)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.0044	---	---	---	---
S0.2	0.0023	0.200	0.186	0.0001	2.4
S0.5	0.0054	0.500	0.488	0.0001	1.2
S2.0	0.0209	2.000	2.026	0.0000	0.2
S5.0	0.0519	5.000	5.091	0.0010	1.9
S10	0.1011	10.000	9.950	0.0009	0.9

Correlation Coefficient: 0.99991 Slope: 0.01012 Intercept: 0.0004

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=====

Element: Hg    Seq. No.: 7    AS Loc.: 9    Date: 01/28/2010  
 Sample ID: ICV

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	5.084	5.084	0.0519	0.0562	09:36:46	No
2	5.084	5.084	0.0519	0.0562	09:37:21	No
Mean:	5.084	5.084	0.0519			
SD :	0.0001	0.0001	0.0000			
%RSD:						

QC value within specified limits.

=====

Element: Hg    Seq. No.: 8    AS Loc.: 10    Date: 01/28/2010  
 Sample ID: ICB

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.076	-0.076	-0.0004	0.0040	09:38:43	No
2	-0.084	-0.084	-0.0004	0.0039	09:39:18	No
Mean:	-0.080	-0.080	-0.0004			
SD :	0.0055	0.0055	0.0001			
%RSD:	6.8	6.8	14.1838			

QC value within specified limits.

=====

Element: Hg    Seq. No.: 9    AS Loc.: 11    Date: 01/28/2010  
 Sample ID: CRDL

Repl #	SampleConc µg/L	StndConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.237	0.237	0.0028	0.0072	09:40:41	No
2	0.228	0.228	0.0027	0.0071	09:41:16	No
Mean:	0.233	0.233	0.0028			
SD :	0.0062	0.0062	0.0001			
%RSD:	2.7	2.7	2.2622			

QC value within specified limits.

=====

Element: Hg Seq. No.: 10 AS Loc.: 7 Date: 01/28/2010

Sample ID: CCV

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	5.091	5.091	0.0519	0.0563	09:42:41	No
2	5.092	5.092	0.0519	0.0563	09:43:16	No
Mean:	5.092	5.092	0.0519			
SD :	0.0003	0.0003	0.0000			
%RSD:						

QC value within specified limits.

=====

Element: Hg Seq. No.: 11 AS Loc.: 8 Date: 01/28/2010

Sample ID: CCB

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.024	-0.024	0.0002	0.0045	09:44:45	No
2	-0.026	-0.026	0.0002	0.0045	09:45:20	No
Mean:	-0.025	-0.025	0.0002			
SD :	0.0014	0.0014	0.0000			
%RSD:	5.6	5.6	8.7615			

QC value within specified limits.

=====

Element: Hg Seq. No.: 12 AS Loc.: 12 Date: 01/28/2010

Sample ID: 1202019779|i||943320|MB

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Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	-0.041	-0.041	0.0000	0.0044	09:46:46	No
2	-0.036	-0.036	0.0001	0.0044	09:47:21	No
Mean:	-0.039	-0.039	0.0000			
SD :	0.0033	0.0033	0.0000			
%RSD:	8.5	8.5	110.3043			

=====

Element: Hg Seq. No.: 13 AS Loc.: 13 Date: 01/28/2010

Sample ID: 1202019780|i|10|LCS

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	4.011	4.011	0.0410	0.0454	09:48:46	No
2	3.919	3.919	0.0401	0.0444	09:49:20	No
Mean:	3.965	3.965	0.0405			
SD :	0.0650	0.0650	0.0007			
%RSD:	1.6	1.6	1.6231			

=====

Element: Hg Seq. No.: 14 AS Loc.: 14 Date: 01/28/2010

Sample ID: 244852001|i|||

-----

Repl #	SampleConc µg/L	StdConc µg/L	BlkCorr Signal	Peak Height	Time	Peak Stored
1	0.098	0.098	0.0014	0.0058	09:50:46	No
2	0.079	0.079	0.0012	0.0056	09:51:20	No
Mean:	0.088	0.088	0.0013			
SD :	0.0138	0.0138	0.0001			
%RSD:	15.6	15.6	10.6195			

=====

Element: Hg Seq. No.: 15 AS Loc.: 15 Date: 01/28/2010

Sample ID: 244852002|i|||



Repl #	SampleConc µg/L	StdndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.071	0.071	0.0011	0.0055	09:53:15	No
2	0.062	0.062	0.0010	0.0054	09:53:50	No
Mean:	0.066	0.066	0.0011			
SD :	0.0065	0.0065	0.0001			
%RSD:	9.9	9.9	6.0618			

=====  
 Element: Hg Seq. No.: 16 AS Loc.: 16 Date: 01/28/2010  
 Sample ID: 244852003|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.148	0.148	0.0019	0.0063	09:55:18	No
2	0.138	0.138	0.0018	0.0062	09:55:53	No
Mean:	0.143	0.143	0.0019			
SD :	0.0072	0.0072	0.0001			
%RSD:	5.0	5.0	3.8953			

=====  
 Element: Hg Seq. No.: 17 AS Loc.: 17 Date: 01/28/2010  
 Sample ID: 244852004|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.176	0.176	0.0022	0.0066	09:57:17	No
2	0.175	0.175	0.0022	0.0065	09:57:52	No
Mean:	0.175	0.175	0.0022			
SD :	0.0007	0.0007	0.0000			
%RSD:	0.4	0.4	0.3311			

=====  
 Element: Hg Seq. No.: 18 AS Loc.: 18 Date: 01/28/2010  
 Sample ID: 244881001|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.018	-0.018	0.0002	0.0046	09:59:12	No
2	-0.019	-0.019	0.0002	0.0046	09:59:47	No
Mean:	-0.019	-0.019	0.0002			
SD :	0.0007	0.0007	0.0000			
%RSD:	3.7	3.7	3.0792			

=====  
 Element: Hg Seq. No.: 19 AS Loc.: 19 Date: 01/28/2010  
 Sample ID: 244881002|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.068	0.068	0.0011	0.0055	10:01:08	No
2	0.061	0.061	0.0010	0.0054	10:01:43	No
Mean:	0.064	0.064	0.0011			
SD :	0.0048	0.0048	0.0000			
%RSD:	7.5	7.5	4.5742			

=====  
 Element: Hg Seq. No.: 20 AS Loc.: 20 Date: 01/28/2010  
 Sample ID: 244881003|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.070	0.070	0.0011	0.0055	10:03:05	No
2	0.067	0.067	0.0011	0.0055	10:03:40	No
Mean:	0.069	0.069	0.0011			
SD :	0.0019	0.0019	0.0000			

%RSD: 2.8 2.8 1.7632

=====  
 Element: Hg Seq. No.: 21 AS Loc.: 21 Date: 01/28/2010  
 Sample ID: 244881004|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	0.296	0.296	0.0034	0.0078	10:05:02	No
2	0.299	0.299	0.0034	0.0078	10:05:37	No
Mean:	0.297	0.297	0.0034			
SD :	0.0019	0.0019	0.0000			
%RSD:	0.6	0.6	0.5560			

=====  
 Element: Hg Seq. No.: 22 AS Loc.: 7 Date: 01/28/2010  
 Sample ID: CCV

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	5.204	5.204	0.0531	0.0574	10:07:03	No
2	5.167	5.167	0.0527	0.0571	10:07:38	No
Mean:	5.186	5.186	0.0529			
SD :	0.0265	0.0265	0.0003			
%RSD:	0.5	0.5	0.5064			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 23 AS Loc.: 8 Date: 01/28/2010  
 Sample ID: CCB

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	-0.054	-0.054	-0.0001	0.0042	10:09:06	No
2	-0.049	-0.049	-0.0001	0.0043	10:09:41	No
Mean:	-0.052	-0.052	-0.0001			
SD :	0.0033	0.0033	0.0000			
%RSD:	6.4	6.4	32.2812			

QC value within specified limits.

=====  
 Element: Hg Seq. No.: 24 AS Loc.: 22 Date: 01/28/2010  
 Sample ID: 244902001|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	0.565	0.565	0.0061	0.0105	10:11:06	No
2	0.555	0.555	0.0060	0.0104	10:11:41	No
Mean:	0.560	0.560	0.0061			
SD :	0.0072	0.0072	0.0001			
%RSD:	1.3	1.3	1.1914			

=====  
 Element: Hg Seq. No.: 25 AS Loc.: 23 Date: 01/28/2010  
 Sample ID: 244921001|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	8.588	8.588	0.0873	0.0917	10:13:04	No
2	8.590	8.590	0.0873	0.0917	10:13:39	No
Mean:	8.589	8.589	0.0873			
SD :	0.0019	0.0019	0.0000			
%RSD:						

=====  
 Element: Hg Seq. No.: 26 AS Loc.: 24 Date: 01/28/2010  
 Sample ID: 1202019781|i|||DUP

```

-----
Repl  SampleConc  StndConc  BlnkCorr  Peak      Time  Peak
#      µg/L      µg/L      Signal    Height    Stored
1      9.276     9.276     0.0943    0.0986    10:15:03  No
2      9.080     9.080     0.0923    0.0966    10:15:38  No
Mean:   9.178     9.178     0.0933
SD :    0.1388     0.1388     0.0014
%RSD:   1.5       1.5       1.5053

```

```

=====
Element: Hg      Seq. No.: 27      AS Loc.: 25      Date: 01/28/2010
Sample ID: 1202019782|i|||MS

```

```

-----
Repl  SampleConc  StndConc  BlnkCorr  Peak      Time  Peak
#      µg/L      µg/L      Signal    Height    Stored
1      13.09     13.09     0.1328    0.1372    10:17:02  No
Sample absorbance is greater than that of the highest standard.
2      12.90     12.90     0.1310    0.1353    10:17:36  No
Sample absorbance is greater than that of the highest standard.
Mean:   13.00     13.00     0.1319
SD :    0.1305     0.1305     0.0013
%RSD:   1.0       1.0       1.0006
Sample absorbance is greater than that of the highest standard.

```

```

=====
Element: Hg      Seq. No.: 28      AS Loc.: 26      Date: 01/28/2010
Sample ID: 1202019784|i|||MSD

```

```

-----
Repl  SampleConc  StndConc  BlnkCorr  Peak      Time  Peak
#      µg/L      µg/L      Signal    Height    Stored
1      12.58     12.58     0.1277    0.1321    10:19:01  No
Sample absorbance is greater than that of the highest standard.
2      12.61     12.61     0.1279    0.1323    10:19:36  No
Sample absorbance is greater than that of the highest standard.
Mean:   12.59     12.59     0.1278
SD :    0.0157     0.0157     0.0002
%RSD:   0.1       0.1       0.1241
Sample absorbance is greater than that of the highest standard.

```

```

=====
Element: Hg      Seq. No.: 29      AS Loc.: 27      Date: 01/28/2010
Sample ID: 1202019783|i|5||SDILT

```

```

-----
Repl  SampleConc  StndConc  BlnkCorr  Peak      Time  Peak
#      µg/L      µg/L      Signal    Height    Stored
1      1.615     1.615     0.0168    0.0211    10:21:01  No
2      1.622     1.622     0.0168    0.0212    10:21:36  No
Mean:   1.619     1.619     0.0168
SD :    0.0048     0.0048     0.0000
%RSD:   0.3       0.3       0.2885

```

```

=====
Element: Hg      Seq. No.: 30      AS Loc.: 28      Date: 01/28/2010
Sample ID: 244921002|i|||

```

```

-----
Repl  SampleConc  StndConc  BlnkCorr  Peak      Time  Peak
#      µg/L      µg/L      Signal    Height    Stored
1      23.31     23.31     0.2363    0.2406    10:23:02  No
Sample absorbance is greater than that of the highest standard.
2      23.24     23.24     0.2355    0.2399    10:23:37  No
Sample absorbance is greater than that of the highest standard.
Mean:   23.28     23.28     0.2359
SD :    0.0511     0.0511     0.0005
%RSD:   0.2       0.2       0.2191
Sample absorbance is greater than that of the highest standard.

```

Element: Hg Seq. No.: 31 AS Loc.: 29 Date: 01/28/2010  
 Sample ID: 244921003|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	1.736	1.736	0.0180	0.0223	10:25:03	No
2	1.735	1.735	0.0180	0.0223	10:25:37	No
Mean:	1.735	1.735	0.0180			
SD :	0.0008	0.0008	0.0000			
%RSD:						

Element: Hg Seq. No.: 32 AS Loc.: 30 Date: 01/28/2010  
 Sample ID: 244921004|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	8.787	8.787	0.0893	0.0937	10:27:03	No
2	8.570	8.570	0.0871	0.0915	10:27:38	No
Mean:	8.679	8.679	0.0882			
SD :	0.1533	0.1533	0.0016			
%RSD:	1.8	1.8	1.7577			

Element: Hg Seq. No.: 33 AS Loc.: 31 Date: 01/28/2010  
 Sample ID: 244921005|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	0.273	0.273	0.0032	0.0075	10:29:06	No
2	0.238	0.238	0.0028	0.0072	10:29:41	No
Mean:	0.256	0.256	0.0030			
SD :	0.0248	0.0248	0.0003			
%RSD:	9.7	9.7	8.3529			

Element: Hg Seq. No.: 34 AS Loc.: 7 Date: 01/28/2010  
 Sample ID: CCV

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	5.291	5.291	0.0539	0.0583	10:31:08	No
2	5.298	5.298	0.0540	0.0584	10:31:44	No
Mean:	5.295	5.295	0.0540			
SD :	0.0046	0.0046	0.0000			
%RSD:						

QC value within specified limits.

Element: Hg Seq. No.: 35 AS Loc.: 8 Date: 01/28/2010  
 Sample ID: CCB

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
1	-0.055	-0.055	-0.0001	0.0042	10:33:12	No
2	-0.061	-0.061	-0.0002	0.0042	10:33:47	No
Mean:	-0.058	-0.058	-0.0002			
SD :	0.0042	0.0042	0.0000			
%RSD:	7.2	7.2	25.7862			

QC value within specified limits.

Element: Hg Seq. No.: 36 AS Loc.: 32 Date: 01/28/2010  
 Sample ID: 244921006|i|||

Repl #	SampleConc µg/L	StdndConc µg/L	BlndCorr Signal	Peak Height	Time	Peak Stored
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# Miscellaneous

# Prep LogBook

Analyst: AXG2  
Batch: 942632  
Lab SOP: GL-MA-E-009 REV# 19

Verified by: \_\_\_\_\_

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202018068		SW846 3050B	21-JAN-2010 07:45	0.519 g	50 mL	96.33911	.518	g
LCS	1202018069		SW846 3050B	21-JAN-2010 07:45	0.518 g	50 mL	96.5251	.5	mL
SAMPLE	244842001		SW846 3050B	21-JAN-2010 07:45	0.513 g	50 mL	97.46589	.5	mL
SAMPLE	244842002		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	.5	mL
SAMPLE	244842003		SW846 3050B	21-JAN-2010 07:45	0.524 g	50 mL	95.41985	.5	mL
SAMPLE	244842004		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	.5	mL
SAMPLE	244842005		SW846 3050B	21-JAN-2010 07:45	0.514 g	50 mL	97.27626	.5	mL
SAMPLE	244842006		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	.5	mL
SAMPLE	244847001		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	.5	mL
SAMPLE	244847002		SW846 3050B	21-JAN-2010 07:45	0.514 g	50 mL	97.27626	.5	mL
SAMPLE	244847003		SW846 3050B	21-JAN-2010 07:45	0.522 g	50 mL	95.78544	.5	mL
SAMPLE	244847004		SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	.5	mL
SAMPLE	244852001		SW846 3050B	21-JAN-2010 07:45	0.502 g	50 mL	99.60159	.5	mL
SAMPLE	244852002		SW846 3050B	21-JAN-2010 07:45	0.508 g	50 mL	98.4252	.5	mL
SAMPLE	244852003		SW846 3050B	21-JAN-2010 07:45	0.518 g	50 mL	96.5251	.5	mL
SAMPLE	244852004		SW846 3050B	21-JAN-2010 07:45	0.523 g	50 mL	95.60229	.5	mL
SAMPLE	244881001		SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	.5	mL
DUP	1202018070	244881001	SW846 3050B	21-JAN-2010 07:45	0.501 g	50 mL	99.8004	.5	mL
MS	1202018071	244881001	SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	.5	mL
MSD	1202018073	244881001	SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	.5	mL
SDILT	1202018072	244881001	SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	.5	mL
SAMPLE	244881002		SW846 3050B	21-JAN-2010 07:45	0.502 g	50 mL	99.60159	.5	mL
SAMPLE	244881003		SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	.5	mL
SAMPLE	244881004		SW846 3050B	21-JAN-2010 07:45	0.509 g	50 mL	98.23183	.5	mL

Reagent/Solvent Lot ID Amount Description  
1203655-02 1.5 mL Hydrogen Peroxide 30%  
1234886 5 mL Nitric Acid CONC.

Comments: Sample 244881001 consist of brown soil with small rocks.

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# Prep LogBook

Analyst: AXG2 Verified by: \_\_\_\_\_

Batch: 942644

Lab SOP: GL-MA-E-009 REV# 19

Type Sample Id Lot. Id Spike Amount Spike Units

LCS 1202018100 U062540-I .501 g

MS 1202018102 U091216-01 .25 mL

MS 1202018102 U091216-06 .25 mL

MSD 1202018104 U091216-01 .25 mL

MSD 1202018104 U091216-06 .25 mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202018099		SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
LCS	1202018100		SW846 3050B	21-JAN-2010 07:45	0.501 g	50 mL	99.8004	SOIL
SAMPLE	244842001		SW846 3050B	21-JAN-2010 07:45	0.502 g	50 mL	99.60159	SOIL
SAMPLE	244842002		SW846 3050B	21-JAN-2010 07:45	0.519 g	50 mL	96.33911	SOIL
SAMPLE	244842003		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244842004		SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	SOIL
SAMPLE	244842005		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244842006		SW846 3050B	21-JAN-2010 07:45	0.516 g	50 mL	96.89922	SOIL
SAMPLE	244847001		SW846 3050B	21-JAN-2010 07:45	0.509 g	50 mL	98.23183	SOIL
SAMPLE	244847002		SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
SAMPLE	244847003		SW846 3050B	21-JAN-2010 07:45	0.517 g	50 mL	96.7118	SOIL
SAMPLE	244847004		SW846 3050B	21-JAN-2010 07:45	0.508 g	50 mL	98.4252	SOIL
SAMPLE	244852001		SW846 3050B	21-JAN-2010 07:45	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244852002		SW846 3050B	21-JAN-2010 07:45	0.519 g	50 mL	96.33911	SOIL
SAMPLE	244852003		SW846 3050B	21-JAN-2010 07:45	0.517 g	50 mL	96.7118	SOIL
SAMPLE	244852004		SW846 3050B	21-JAN-2010 07:45	0.505 g	50 mL	99.0099	SOIL
SAMPLE	244881001		SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
DUP	1202018101	244881001	SW846 3050B	21-JAN-2010 07:45	0.507 g	50 mL	98.61933	SOIL
MS	1202018102	244881001	SW846 3050B	21-JAN-2010 07:45	0.517 g	50 mL	96.7118	SOIL
MSD	1202018104	244881001	SW846 3050B	21-JAN-2010 07:45	0.503 g	50 mL	99.40358	SOIL
SDILT	1202018103	244881001	SW846 3050B	21-JAN-2010 07:45	0.512 g	50 mL	97.65625	SOIL
SAMPLE	244881002		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244881003		SW846 3050B	21-JAN-2010 07:45	0.524 g	50 mL	95.41985	SOIL
SAMPLE	244881004		SW846 3050B	21-JAN-2010 07:45	0.515 g	50 mL	97.08738	SOIL

Comments: Sample 244881001 consist of brown soil with small rocks.

Reagent/Solvent Lot ID	Amount	Description
1252838	10 mL	HYDROCHLORIC ACID
1234886	1.25 mL	Nitric Acid CONC.

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# Prep LogBook

Analyst: AXG2  
 Batch: 950660  
 Lab SOP: GL-MA-E-009 REV# 19

Verified by: \_\_\_\_\_

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202037284		SW846 3050B	09-FEB-2010 08:00	0.522 g	50 mL	95.78544	.52	g
LCS	1202037289		SW846 3050B	09-FEB-2010 08:00	0.52 g	50 mL	96.15385	.25	mL
SAMPLE	244847001		SW846 3050B	09-FEB-2010 08:00	0.52 g	50 mL	96.15385	.5	mL
DUP	1202037285	244847001	SW846 3050B	09-FEB-2010 08:00	0.5 g	50 mL	100	.5	mL
SDILT	1202037286	244847001	SW846 3050B	09-FEB-2010 08:00	0.52 g	50 mL	96.15385	.25	mL
MS	1202037287	244847001	SW846 3050B	09-FEB-2010 08:00	0.523 g	50 mL	95.60229	.5	mL
MSD	1202037288	244847001	SW846 3050B	09-FEB-2010 08:00	0.518 g	50 mL	96.5251	.5	mL
SAMPLE	244847002		SW846 3050B	09-FEB-2010 08:00	0.508 g	50 mL	98.4252		
SAMPLE	244847003		SW846 3050B	09-FEB-2010 08:00	0.514 g	50 mL	97.27626		
SAMPLE	244847004		SW846 3050B	09-FEB-2010 08:00	0.51 g	50 mL	98.03922		
SAMPLE	244852001		SW846 3050B	09-FEB-2010 08:00	0.504 g	50 mL	99.20635		
SAMPLE	244852002		SW846 3050B	09-FEB-2010 08:00	0.504 g	50 mL	99.20635		
SAMPLE	244852003		SW846 3050B	09-FEB-2010 08:00	0.522 g	50 mL	95.78544		
SAMPLE	244852004		SW846 3050B	09-FEB-2010 08:00	0.506 g	50 mL	98.81423		
SAMPLE	244881001		SW846 3050B	09-FEB-2010 08:00	0.5 g	50 mL	100		
SAMPLE	244881002		SW846 3050B	09-FEB-2010 08:00	0.506 g	50 mL	98.81423		
SAMPLE	244881003		SW846 3050B	09-FEB-2010 08:00	0.501 g	50 mL	99.8004		
SAMPLE	244881004		SW846 3050B	09-FEB-2010 08:00	0.504 g	50 mL	99.20635		

Comments Sample 244847001 consist of moist, gray, rocky soil.

Reagent/Solvent Lot ID	Amount	Description
1203655-02	1.5 mL	Hydrogen Peroxide 30%
1264396	5 mL	Nitric Acid CONC.



# Prep LogBook

Analyst: TXB3  
 Batch: 943319  
 Lab SOP: GL-MA-E-010 REV# 23

Verified by: \_\_\_\_\_

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202019780	UI031809A	.204	g
MS	1202019782	WHG100127-14	.3	mL
MSD	1202019784	WHG100127-14	.3	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202019779		SW846 7471A Prep	27-JAN-2010 13:25	0.549 g	30 mL	54.64481	SOIL
LCS	1202019780		SW846 7471A Prep	27-JAN-2010 13:25	0.204 g	30 mL	147.05882	SOIL
SAMPLE	244852001		SW846 7471A Prep	27-JAN-2010 13:25	0.502 g	30 mL	59.76096	SOIL
SAMPLE	244852002		SW846 7471A Prep	27-JAN-2010 13:25	0.516 g	30 mL	58.13953	SOIL
SAMPLE	244852003		SW846 7471A Prep	27-JAN-2010 13:25	0.516 g	30 mL	58.13953	SOIL
SAMPLE	244852004		SW846 7471A Prep	27-JAN-2010 13:25	0.541 g	30 mL	55.45287	SOIL
SAMPLE	244881001		SW846 7471A Prep	27-JAN-2010 13:25	0.566 g	30 mL	53.00353	SOIL
SAMPLE	244881002		SW846 7471A Prep	27-JAN-2010 13:25	0.519 g	30 mL	57.80347	SOIL
SAMPLE	244881003		SW846 7471A Prep	27-JAN-2010 13:25	0.536 g	30 mL	55.97015	SOIL
SAMPLE	244881004		SW846 7471A Prep	27-JAN-2010 13:25	0.526 g	30 mL	57.03422	SOIL
SAMPLE	244902001		SW846 7471A Prep	27-JAN-2010 13:25	0.52 g	30 mL	57.69231	SOIL
SAMPLE	244921001		SW846 7471A Prep	27-JAN-2010 13:25	0.509 g	30 mL	58.9391	SOIL
DUP	1202019781	244921001	SW846 7471A Prep	27-JAN-2010 13:25	0.526 g	30 mL	57.03422	SOIL
MS	1202019782	244921001	SW846 7471A Prep	27-JAN-2010 13:25	0.51 g	30 mL	58.82353	SOIL
MSD	1202019784	244921001	SW846 7471A Prep	27-JAN-2010 13:25	0.548 g	30 mL	54.74453	SOIL
SDILT	1202019783	244921001	SW846 7471A Prep	27-JAN-2010 13:25	0.509 g	30 mL	58.9391	SOIL
SAMPLE	244921002		SW846 7471A Prep	27-JAN-2010 13:25	0.573 g	30 mL	52.35602	SOIL
SAMPLE	244921003		SW846 7471A Prep	27-JAN-2010 13:25	0.55 g	30 mL	54.54545	SOIL
SAMPLE	244921004		SW846 7471A Prep	27-JAN-2010 13:25	0.505 g	30 mL	59.40594	SOIL
SAMPLE	244921005		SW846 7471A Prep	27-JAN-2010 13:25	0.529 g	30 mL	56.71078	SOIL
SAMPLE	244921006		SW846 7471A Prep	27-JAN-2010 13:25	0.508 g	30 mL	59.05512	SOIL
SAMPLE	244921007		SW846 7471A Prep	27-JAN-2010 13:25	0.535 g	30 mL	54.05405	SOIL
SAMPLE	244921008		SW846 7471A Prep	27-JAN-2010 13:25	0.501 g	30 mL	59.88024	SOIL
SAMPLE	244921009		SW846 7471A Prep	27-JAN-2010 13:25	0.513 g	30 mL	58.47953	SOIL
SAMPLE	244921010		SW846 7471A Prep	27-JAN-2010 13:25	0.527 g	30 mL	56.926	SOIL

Reagent/Solvent Lot ID	Amount	Description
1236355-A	1.125 mL	Hydrochloric Acid Conc.
1257474-1	.375 mL	NITRIC ACID
1255535-C	7.5 mL	5% KMnO4 solution
1255532-C	2 mL	Hg reducing agent

Comments Sample 244921001 is a rocky light brown soil.  
 Digestion Start Date: 27-JAN-10 13:25  
 Digestion End Date: 27-JAN-10 13:55

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Prep LogBook

WHG100127-07	30 uL	Mercury Working Standard 1st Source CAL S 0.2/CRA
WHG100127-08	75 uL	Mercury Working Standard 1st Source CAL S 0.5
WHG100127-11	1.5 mL	Mercury Working 1st Source CAL S 10.0
WHG100127-09	300 uL	Mercury Working 1st Source CAL S 2.0
WHG100127-10	750 uL	Mercury Working 1st Source CAL S 5.0/CCV
WHG100127-12	750 uL	Mercury Working 2nd Source S 5.0/ICV

### DATA EXCEPTION REPORT

<b>Mo. Day Yr.</b> 05-FEB-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> ICP	<b>Test / Method:</b> SW846 3050B/6010B	<b>Matrix Type:</b> Solid	<b>Client Code:</b> LANL
<b>Batch ID:</b> 942648	<b>Sample Numbers:</b> See Below		

Potentially affected work order(s)(SDG): 244842(10-1257),244847(10-1262),244852(10-1263),244881(10-1264-1)

**Application Issues:**

Failed Recovery for MS/PS

Method Blank contamination

Failed Recovery for MSD/PSD

<b>Specification and Requirements Exception Description:</b>	<b>DER Disposition:</b>
<p>1. Failed Recovery for MS/PS:</p> <p>QC 1202018102MS</p> <p>2. Failed Recovery for MSD/PSD:</p> <p>QC 1202018104MSD</p> <p>3. Method Blank Contamination:</p> <p>QC 1202018099MB</p>	<p>1./2. The matrix spike and matrix spike duplicate recovery failed outside of the control limits for magnesium, manganese and potassium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.</p> <p>3. The method blank failed high for iron but all samples were 10x greater than PQL/RDL therefore data was not adversely affected.</p>

**Originator's Name:**

Helen Camello 10-FEB-10

**Data Validator/Group Leader:**

Christopher Louviere 10-FEB-10

# Standard Logbook

**Serial ID:** UHG1167639-01      **Opened:** 13-AUG-09      **Amount :** 125 mL  
**Name:** MHGSTOCK1      **Received:** 13-AUG-09      **Catalog Number :** PLHG4-2Y  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 15-37HG  
**Employee:** Bryan Davis      **Solvent :** 10% HNO3  
**Supplier:** Spex  
**Description:** Mercury Source Standard #1 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

**Serial ID:** UHG1167641-02      **Opened:** 13-AUG-09      **Amount :** 100 mL  
**Name:** MHGSTOCK2      **Received:** 13-AUG-09      **Catalog Number :** AHG1KN-100  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 4905530  
**Employee:** Bryan Davis      **Solvent :** 3% HNO3  
**Supplier:** Ricca Chemical Company  
**Description:** Mercury Source Standard #2 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

**Serial ID:** UI031809A      **Opened:** 18-MAR-09      **Catalog Number :** 540  
**Name:** METALSOILSRM      **Received:** 18-MAR-09      **Lot Number :** D061-540  
**Type:** Source Material      **Expires:** 10-OCT-10  
**Employee:** Jamie Johnson  
**Supplier:** ERA  
**Description:** Metals LCS Soil SRM  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	10600 mg/kg	Antimony	126 mg/kg
Arsenic	225 mg/kg	Barium	565 mg/kg
Beryllium	162 mg/kg	Boron	107 mg/kg
Cadmium	69.1 mg/kg	Calcium	10000 mg/kg
Chromium	124 mg/kg	Cobalt	115 mg/kg
Copper	66.7 mg/kg	Iron	17600 mg/kg
Lead	223 mg/kg	Magnesium	4260 mg/kg
Manganese	368 mg/kg	Mercury	5.15 mg/kg
Molybdenum	107 mg/kg	Nickel	172 mg/kg
Potassium	4090 mg/kg	Selenium	147 mg/kg
Silver	35.2 mg/kg	Sodium	538 mg/kg
Strontium	117 mg/kg	Thallium	173 mg/kg
Tin	164 mg/kg	Titanium	381 mg/kg
Vanadium	93.9 mg/kg	Zinc	349 mg/kg

# Standard Logbook

**Serial ID:** UI062540-I      **Opened:** 12-JUN-09      **Amount:** 80 g  
**Name:** ICP SOIL SRM      **Received:** 12-JUN-09      **Lot Number:** D062-540  
**Type:** Source Material      **Expires:** 31-JAN-12  
**Employee:** Bryan Davis  
**Supplier:** ERA  
**Description:** Metals Soil LCS SRM ICP/Hg  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	173 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.7 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Magnesium	4000 mg/kg
Manganese	558 mg/kg	Mercury	8.46 mg/kg
Molybdenum	48.6 mg/kg	Nickel	134 mg/kg
Phosphorous	736 mg/kg	Potassium	4300 mg/kg
Selenium	286 mg/kg	Silica	2591 mg/kg
Silicon	1211 mg/kg	Silver	30.1 mg/kg
Sodium	1020 mg/kg	Strontium	227 mg/kg
Sulfur	385 mg/kg	Thallium	121 mg/kg
Tin	104 mg/kg	Titanium	462 mg/kg
Vanadium	115 mg/kg	Zinc	594 mg/kg

**Serial ID:** UI062540-MS      **Opened:** 12-JUN-09      **Lot Number:** D062-540  
**Name:** ICPMS SOIL SRM      **Received:** 12-JUN-09  
**Type:** Source Material      **Expires:** 31-JAN-12  
**Employee:** Bryan Davis  
**Supplier:** ERA  
**Description:** Metals Soil LCS SRM ICPMS  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	67.4 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.6 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Lithium	10.6 mg/kg
Magnesium	4000 mg/kg	Manganese	558 mg/kg
Mercury	8.46 mg/kg	Molybdenum	48.6 mg/kg
Nickel	134 mg/kg	Phosphorous	755 mg/kg
Potassium	4300 mg/kg	Selenium	286 mg/kg
Silver	30.1 mg/kg	Sodium	1020 mg/kg

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Strontium	227 mg/kg	Thallium	121 mg/kg
Thorium	9.84 mg/kg	Tin	104 mg/kg
Titanium	462 mg/kg	Uranium	2.13 mg/kg
Uranium-235	.0153 mg/kg	Uranium-238	2.11 mg/kg
Vanadium	92.4 mg/kg	Zinc	594 mg/kg
Zirconium	10.6 mg/kg		

Serial ID: UI090422-40      Opened: 04-MAY-09      Amount : 500 mL  
 Name: TRACE ICP ICSA SOLN A      Received: 22-APR-09      Catalog Number : 160005-01-03  
 Type: Source Material      Expires: 04-MAY-10      Lot Number : 1013357  
 Employee: Helen Camello      Solvent : 5%HNO3  
 Supplier: o2si  
 Description: TRACE ICP ICSA SOLN A mg/L +/- 0.5% IN 5% HNO3  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI090610-03      Opened: 10-JUN-09      Catalog Number : 060074-06-01  
 Name: ICPMS Tungsten - 10mg/L      Received: 10-JUN-09      Lot Number : 1016338  
 Type: Source Material      Expires: 10-JUN-10      Solvent : 2% HNO3  
 Employee: Paul Boyd  
 Supplier: O2SI  
 Description: ICPMS Tungsten standard SPIKE - 10mg/L  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI090701-09      Opened: 01-JUL-09      Amount : 250 mL  
 Name: ICP-MS CRDL Master #1      Received: 01-JUL-09      Catalog Number : 160044-09-02  
 Type: Source Material      Expires: 01-JUL-10      Lot Number : 1016477  
 Employee: Paul Boyd      Solvent : +/- 0.5% IN 2% HNO3  
 Supplier: O2SI  
 Description: ICPMS CRDL Master Soln #1  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

**Serial ID:** UI090701-10      **Opened:** 01-JUL-09      **Amount :** 250 mL  
**Name:** ICP-MS CRDL Master #2      **Received:** 01-JUL-09      **Catalog Number :** 160044-08-02  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016476  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% IN 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS CRDL Soln #2  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI090701-40      **Opened:** 01-JUL-09      **Amount :** 500 mL  
**Name:** TRACE ICP Stock PQL St      **Received:** 30-JUN-09      **Catalog Number :** 160543-01-03  
**Type:** Source Material      **Expires:** 01-JUL-10      **Lot Number :** 1016475  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3+TrHF  
**Supplier:** 02si  
**Description:** TRACE ICP Stock PQL Standard  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

**Serial ID:** UI090828-42      **Opened:** 16-SEP-09      **Amount:** 500 mL  
**Name:** TRACE ICP Na-1000SOUR      **Received:** 27-AUG-09      **Catalog Number:** 060011-02-03  
**Type:** Source Material      **Expires:** 16-SEP-10      **Lot Number:** 1017098  
**Employee:** Helen Camello      **Solvent:** 1%HNO3  
**Supplier:** Q2SI  
**Description:** Sodium 1000 +/- 3 ug/mL in 1% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

**Serial ID:** UI090925-40      **Opened:** 23-OCT-09      **Amount:** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number:** SGELMX38-500N  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number:** 4909129  
**Employee:** Helen Camello      **Solvent:** 5%HNO3  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1A 5%HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

**Serial ID:** UI090925-41      **Opened:** 23-OCT-09      **Amount:** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number:** SGELMX39-500B  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number:** 4909130  
**Employee:** Helen Camello      **Solvent:** 5%HNO3, TR.HF  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L



# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

**Serial ID:** UI091015-42      **Opened:** 28-OCT-09      **Amount :** 500 mL  
**Name:** SI 1000mg/L      **Received:** 15-OCT-09      **Catalog Number :** 060014-02-03  
**Type:** Source Material      **Expires:** 28-OCT-10      **Lot Number :** 1017581  
**Employee:** Helen Camello      **Solvent :** 0.3%H2O(NH4)2SiF6  
**Supplier:** o2si  
**Description:** Silicon 1000mg/L +/-0.3%in H2O(NH4)2SiF6  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI091015-A      **Opened:** 15-OCT-09      **Catalog Number :** 160067-03  
**Name:** ICP-MS DOE SOIL SPIKE      **Received:** 15-OCT-09      **Lot Number :** 1017142  
**Type:** Source Material      **Expires:** 15-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** 02si  
**Description:** ICP-MS Spike for soil products.  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	20 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	10 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

# Standard Logbook

**Serial ID:** UI091015-B      **Opened:** 15-OCT-09      **Catalog Number :** 160067-03  
**Name:** ICP-MS DOE SOIL SPIKE      **Received:** 15-OCT-09      **Lot Number :** 1017142  
**Type:** Source Material      **Expires:** 15-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** 02si  
**Description:** ICP-MS Spike for Soil Products  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silicon	200 mg/L	Silver	5 mg/L
Tin	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI091102-40      **Opened:** 16-NOV-09      **Amount :** 500 mL  
**Name:** TRACE CALSTD#1A SOUF      **Received:** 02-NOV-09      **Catalog Number :** HP2270-1-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number :** 0930215  
**Employee:** Helen Camello      **Solvent :** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Std #1A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

**Serial ID:** UI091102-41      **Opened:** 16-NOV-09      **Amount :** 500 mL  
**Name:** TRACE CALSTD#1B SOUF      **Received:** 02-NOV-09      **Catalog Number :** HP2270-2-500  
**Type:** Source Material      **Expires:** 31-OCT-10      **Lot Number :** 0930216  
**Employee:** Helen Camello      **Solvent :** HNO3  
**Supplier:** Environmental Express  
**Description:** Trace Calibration Standard #1B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI091102-42      Opened: 17-NOV-09      Amount : 200 mL  
 Name: SILICON      Received: 02-NOV-09      Catalog Number : HP100050-4F  
 Type: Source Material      Expires: 17-NOV-10      Lot Number : 0921924  
 Employee: Helen Camello      Solvent : H2O/tr HF  
 Supplier: ENVIRONMENTAL EXPRESS  
 Description: SILICON 1000mg/L H2O/tr HF  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091212-60      Opened: 12-DEC-09      Amount : .5 mL  
 Name: ICPMS High Range Standard      Received: 12-DEC-09      Catalog Number : 160212-02-01  
 Type: Source Material      Expires: 12-DEC-10      Lot Number : 1018064  
 Employee: Paul Boyd      Solvent : 2%HNO3 + Tr HF  
 Supplier: O2SI  
 Description: Linear Range Standard A  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Serial ID: UI091212-61      Opened: 12-DEC-09      Amount : .5 mL  
 Name: ICPMS High Range Standard      Received: 12-DEC-09      Catalog Number : 160212-02-01  
 Type: Source Material      Expires: 12-DEC-10      Lot Number : 1018064  
 Employee: Paul Boyd      Solvent : 2%HNO3 + Tr HF  
 Supplier: O2SI  
 Description: Linear Range Standard B  
 Comments: None

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

**Serial ID:** UI091216-01      **Opened:** 16-DEC-09      **Lot Number :** 1018095  
**Name:** METALSPIKE-1      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** QS2I  
**Description:** Metals Spike Mix I  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

**Serial ID:** UI091216-06      **Opened:** 16-DEC-09      **Lot Number :** 1018096  
**Name:** METALSPIKE-2      **Received:** 16-DEC-09  
**Type:** Source Material      **Expires:** 16-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** QS2I  
**Description:** Metals Spike Mix II  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

# Standard Logbook

**Serial ID:** UI091217-06      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A      **Received:** 17-DEC-09      **Catalog Number :** 160055-01  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018209  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV SOLN A - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

**Serial ID:** UI091217-07      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B      **Received:** 17-DEC-09      **Catalog Number :** 160054-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018210  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln B - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

**Serial ID:** UI091217-08      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C      **Received:** 17-DEC-09      **Catalog Number :** 160054-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018211  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln C - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Zirconium	20 mg/L		

**Serial ID:** UI091217-12      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 17-DEC-09      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018212  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

**Serial ID:** UI091217-13      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 17-DEC-09      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1016926  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master C  
**Comments:** None

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

**Serial ID:** UI100114-48      **Opened:** 22-JAN-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICSA      **Received:** 18-JAN-10      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 22-JAN-11      **Lot Number :** 1018466  
**Employee:** Helen Camello      **Solvent :** 3% HCl + 1% HNO3  
**Supplier:** o2si  
**Description:** Trace ICP Interferent Check Standard A  
**Comments:** None

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

**Serial ID:** UI100126-11      **Opened:** 26-JAN-10      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 26-JAN-10      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 26-JAN-11      **Lot Number :** 1018321  
**Employee:** Elizabeth Janssen      **Solvent :** 2% HNO3  
**Supplier:** 02SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI100128-40      **Opened:** 28-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 28-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 28-JAN-11      **Lot Number :** 1018409  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

# Standard Logbook

**Serial ID:** UI100128-41      **Opened:** 28-JAN-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 28-JAN-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 28-JAN-11      **Lot Number :** 1018409  
**Employee:** Helen Camello      **Solvent :** +/-0.5%ln2%HNO3  
**Supplier:** O2SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

**Serial ID:** UI1207771-01      **Opened:** 26-OCT-09      **Lot Number :** 1013481  
**Name:** AUPDPTSPIKE      **Received:** 26-OCT-09  
**Type:** Source Material      **Expires:** 26-OCT-10  
**Employee:** Francena Armstrong  
**Supplier:** o2si  
**Description:** AU,PD,PT,CS,CE SPIKE  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Cerium	10 ug/mL	Cesium	10 ug/mL
Gold	10 ug/mL	Palladium	10 ug/mL
Platinum	10 ug/mL		

**Serial ID:** UMS090303-01      **Opened:** 03-MAR-09      **Amount :** 250 mL  
**Name:** ICPMSCalSPIKEB      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 14-81JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L



# Standard Logbook

**Serial ID:** UMS090303-02      **Opened:** 03-MAR-09      **Catalog Number :** ZGEL-102-250  
**Name:** ICPMSCaSPIKEA      **Received:** 03-MAR-09      **Lot Number :** 14-83JB  
**Type:** Source Material      **Expires:** 28-FEB-10  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

**Serial ID:** UMS090303-03      **Opened:** 03-MAR-09      **Amount :** 250 ml  
**Name:** ICPMSCaSPIKEC      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-101-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 15-199JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

**Serial ID:** IHG100127-01      **Opened:** 27-JAN-10      **Instrument Id :** Mercury  
**Name:** MHGINTER1      **Received:** 27-JAN-10      **Pipet Id :** Minou1  
**Type:** Intermediate      **Expires:** 28-JAN-10      **Solvent :** 1mL HNO3 + Type1 H2O  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 1st Source 200 ug/L  
**Comments:** Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** IHG100127-02      **Opened:** 27-JAN-10      **Pipet Id :** Minou1  
**Name:** MHGINTER2      **Received:** 27-JAN-10      **Solvent :** 2% HNO3-1257474  
**Type:** Intermediate      **Expires:** 28-JAN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 2nd Source 200 ug/L  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WHG100127-07      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCALS0.2CRA      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working Standard 1st Source CAL S 0.2/CRA  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

Serial ID: WHG100127-08      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCALS0.5      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working Standard 1st Source CAL S 0.5  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

Serial ID: WHG100127-09      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCALS2.0      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL S 2.0  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

Serial ID: WHG100127-10      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCALS5.0CCV      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL S 5.0/CCV  
 Comments: None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100127-11      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKCALS10.0      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL S 10.0  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

Serial ID: WHG100127-12      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGWORKS5.0ICV      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury Working 2nd Source S 5.0/ICV  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100127-14      Opened: 27-JAN-10      Pipet Id : Hg1289245  
 Name: MHGSOILMSSPIKE      Received: 27-JAN-10      Solvent : 2% HNO3-1257474  
 Type: Working      Expires: 03-FEB-10  
 Employee: Tara Griffin      Verified: 20-JUL-07  
 Supplier: GEL  
 Description: Mercury soil working intermediate standard for MS  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI100201-42      Opened: 01-FEB-10      Balance Id : 216  
 Name: TRACE ICP 0.1 PPM STD.      Received: 02-NOV-09      Pipet Id : 3581809  
 Type: Working      Expires: 02-FEB-10      Solvent : 3%HCL and 1%HNO3 -1263028  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: TRACE ICP 0.1 PPM CALIBRATION STD.  
 Comments: None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
WI100201-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100201-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100201-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100201-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100201-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100201-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100201-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI100201-43      Opened: 01-FEB-10      Balance Id : 216  
 Name: TRACE ICP 0.5/CCV STD.      Received: 02-NOV-09      Pipet Id : 3581809  
 Type: Working      Expires: 02-FEB-10      Solvent : 3%HCL and 1%HNO3 -1263028  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: TRACE ICP 0.5/CCV CALIBRATION STD.  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Serial ID: W100201-44      Opened: 01-FEB-10      Balance Id : 216  
 Name: TRACE ICP SCAL 1.0      Received: 02-NOV-09      Pipet Id : 3581809  
 Type: Working      Expires: 02-FEB-10      Solvent : 3%HCL and 1 %HNO3-1263028  
 Employee: Helen Camello  
 Supplier: o2si  
 Description: Trace ICP Calibration Standard 1.0ppm  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Serial ID: WI100201-45      Opened: 01-FEB-10      Balance Id : 216  
 Name: TRACE ICP S-10 STD      Received: 22-APR-09      Pipet Id : 3581809  
 Type: Working      Expires: 02-FEB-10      Solvent : 3%HCL and 1%HNO3 -1263028  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: TRACE ICP S-10 CALIBRATION STD.  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

# Standard Logbook

**Serial ID:** WI100201-46      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL AND 1%HNO3-1263028  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** Initial Calibration Verification ICP Trace Metals  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

# Standard Logbook

**Serial ID:** WI100201-47      **Opened:** 01-FEB-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 02-FEB-10      **Solvent :** 3%HCL & 1%HNO3-1263028  
**Employee:** Helen Camello  
**Supplier:** 02si  
**Description:** PQL Working Standard  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

**Serial ID:** WMS100207-04      **Opened:** 07-FEB-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 07-FEB-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 08-FEB-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1262930  
**Supplier:** GEL



# Standard Logbook

**Description:** ICPMS Calibration Standard (100 ppb)

**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100207-04A

**Opened:** 07-FEB-10

**Balance Id :** 4025216

**Name:** ICPMS Cal Standard 10

**Received:** 07-FEB-10

**Pipet Id :** 3541598

**Type:** Working

**Expires:** 08-FEB-10

**Solvent :** 2%HNO3/1%HCl - 1262930

**Employee:** Elizabeth Janssen

**Supplier:** GEL

**Description:** ICPMS Calibration Standard (10 ppb)

**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
WMS100207-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100207-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100207-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100207-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100207-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100207-05      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 07-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100207-06      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 07-FEB-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100207-07      Opened: 07-FEB-10      Balance Id : 40245216  
 Name: ICPMS ICSA      Received: 07-FEB-10      Lot Number : 1010773  
 Type: Working      Expires: 08-FEB-10      Pipet Id : 3541598  
 Employee: Elizabeth Janssen      Solvent : 2%HNO3/1%HCl - 1262930  
 Supplier: GEL  
 Description: ICPMS ICSA  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100207-08      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 07-FEB-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100207-70      **Opened:** 07-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS LINEAR RANGE ST      **Received:** 07-FEB-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 08-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1262930  
**Employee:** Elizabeth Janssen  
**Supplier:** 02SI  
**Description:** ICPMS LINEAR RANGE STANDARD  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L

# Standard Logbook

<b>Parent Material</b>	<b>Analyte</b>	<b>Parent Conc.</b>	<b>Aliquot</b>	<b>Final Vol.</b>	<b>Final Conc.</b>
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

**Serial ID:** WMS100209-04      **Opened:** 09-FEB-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 09-FEB-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 10-FEB-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl-1266278  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

**Serial ID:** WMS100209-04A      **Opened:** 09-FEB-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 09-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100209-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100209-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100209-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100209-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100209-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l



# Standard Logbook

**Serial ID:** WMS100209-05      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 09-FEB-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

# Standard Logbook

**Serial ID:** WMS100209-06      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 09-FEB-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Alliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

# Standard Logbook

**Serial ID:** WMS100209-07      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 09-FEB-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 10-FEB-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100209-08      **Opened:** 09-FEB-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 09-FEB-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 10-FEB-10      **Solvent :** 2%HNO3/1%HCl - 1266278  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100126-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100126-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100126-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100126-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: 1156689-A      Opened: 20-JUL-09      Lot Number : 41226920  
 Name: B-KMnO4(VWR)-MER      Received: 20-JUL-09  
 Type: Reagent/Solvent      Expires: 20-JUL-10  
 Employee: Tara Griffin      Verified: 07-AUG-07  
 Supplier: VWR  
 Description: Potassium Permanganate  
 Comments: None

Serial ID: 1203655-02      Opened: 15-OCT-09      Lot Number : ZU74081198 mL  
 Name: B-H2O2      Received: 15-OCT-09  
 Type: Reagent/Solvent      Expires: 15-OCT-10  
 Employee: Francena Armstrong  
 Supplier: EM SCIENCE  
 Description: Hydrogen Peroxide 30%  
 Comments: None

Serial ID: 1228372-A      Opened: 12-NOV-09      Lot Number : 49215936  
 Name: B-NH2OH.HCl-MER      Received: 12-NOV-09  
 Type: Reagent/Solvent      Expires: 12-NOV-10  
 Employee: Tara Griffin  
 Supplier: Fisher Scientific  
 Description: Hydroxylamine Hydrochloride  
 Comments: None

# Standard Logbook

Serial ID: 1234886      Opened: 27-NOV-09      Lot Number : H20053 L  
 Name: I-HNO3      Received: 27-NOV-09  
 Type: Reagent/Solvent      Expires: 27-NOV-10  
 Employee: Bryan Davis  
 Supplier: BAKER  
 Description: Nitric Acid CONC.  
 Comments: None

Serial ID: 1236355-A      Opened: 01-DEC-09      Lot Number : 200930201  
 Name: B-HCl-MER      Received: 01-DEC-09  
 Type: Reagent/Solvent      Expires: 01-DEC-10  
 Employee: Tara Griffin  
 Supplier: Aristar  
 Description: Hydrochloric Acid Conc.  
 Comments: None

Serial ID: 1252836      Opened: 08-JAN-10      Lot Number : H20053 L  
 Name: I-HNO3      Received: 08-JAN-10  
 Type: Reagent/Solvent      Expires: 08-JAN-11  
 Employee: Francena Armstrong  
 Supplier: BAKER  
 Description: Nitric Acid CONC.  
 Comments: None

Serial ID: 1252838      Opened: 08-JAN-10      Lot Number : H41032  
 Name: I-HCL      Received: 08-JAN-10      Preservative\_Id : 5 none  
 Type: Reagent/Solvent      Expires: 08-JAN-11  
 Employee: Francena Armstrong  
 Supplier: J.T. BAKER  
 Description: HYDROCHLORIC ACID  
 Comments: None

Serial ID: 125532-C      Opened: 15-JAN-10      Balance Id : BAL-002  
 Name: B-NaCl.NH2OH.HCl-MER      Received: 15-JAN-10  
 Type: Reagent/Solvent      Expires: 15-JUL-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Hg reducing agent  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

# Standard Logbook

Serial ID: 1255535-C      Opened: 15-JAN-10      Balance Id : BAL-002  
 Name: B-KMnO4-MER      Received: 15-JAN-10  
 Type: Reagent/Solvent      Expires: 15-JUL-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: 5% KMnO4 solution  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1257474-1      Opened: 20-JAN-10      Instrument Id : MERCURY  
 Name: B-HNO3-MER      Received: 20-JAN-10      Lot Number : H20053  
 Type: Reagent/Solvent      Expires: 20-JAN-11  
 Employee: Tara Griffin  
 Supplier: Mallinckrodt Chemicals  
 Description: NITRIC ACID  
 Comments: None

Serial ID: 1262930      Opened: 01-FEB-10      Solvent : Type I Water  
 Name: B-2%HNO3/1%HCl-ICPMS      Received: 01-FEB-10  
 Type: Reagent/Solvent      Expires: 08-FEB-10  
 Employee: Elizabeth Janssen  
 Supplier: GEL  
 Description: 2%HNO3/1%HCl Solution (Type I Water)  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1252836	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1252838	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1263028      Opened: 01-FEB-10      Amount : 20 L  
 Name: B-ICP-RINSE SOLN      Received: 15-JAN-10      Lot Number : H04040+G34050  
 Type: Reagent/Solvent      Expires: 07-FEB-10      Solvent : 3%HCL+1%HNO3  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: 3%HCL+1%HNO3 RINSE SOLN.  
 Comments: None

Serial ID: 1264396      Opened: 03-FEB-10      Lot Number : H51025 L  
 Name: I-HNO3      Received: 02-FEB-10  
 Type: Reagent/Solvent      Expires: 03-FEB-11  
 Employee: Bryan Davis  
 Supplier: BAKER

# Standard Logbook

Description: Nitric Acid CONC.

Comments: None

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Serial ID: 1266278      Opened: 08-FEB-10      Solvent :      Type I Water

Name: B-2%HNO3/1%HCl-ICPMS      Received: 08-FEB-10

Type: Reagent/Solvent      Expires: 15-FEB-10

Employee: Paul Boyd

Supplier: GEL

Description: 2%HNO3/1%HCl Solution (Type I Water)

Comments: None

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Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
1252836	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1252838	I-HCL	36.5-38.0	90 mL	9 l	N/A

---

# **General Chemistry Analysis**



# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1264**

**Method/Analysis Information**

**Product:** Cyanide, Total  
**Analytical Batch:** 942459      **Method:** SW9012A Cyanide and Total  
**Prep Batch :** 942458      **Method:** SSW846 9010B Prep

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

<b>Sample ID</b>	<b>Client ID</b>
244880001	RE12-10-8098
1202017535	Method Blank (MB)
1202017536	244849001(RE12-10-7286) Sample Duplicate (DUP)
1202017537	244844001(CALA-10-9157) Sample Duplicate (DUP)
1202017538	244849001(RE12-10-7286) Matrix Spike (MS)
1202017539	244844001(CALA-10-9157) Matrix Spike (MS)
1202017540	244849001(RE12-10-7286) Matrix Spike Duplicate (MSD)
1202017541	244844001(CALA-10-9157) Matrix Spike Duplicate (MSD)
1202017542	Laboratory Control Sample (LCS)

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-GC-E-095 REV# 12.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information****Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

The following samples were selected for QC analysis: 244844001 (CALA-10-9157) and 244849001 (RE12-10-7286).

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries for this sample set were within the required acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPDs between the spike and spike duplicate met the acceptance limits.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Preservation/Integrity**

All the samples from this sample group met the preservation and integrity requirements of the method.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information****Data Exception (DER) Documentation**

A DER was not required for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Certification Statement**

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

**Review Validation:**

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

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

Reviewer:  Date: 08Feb10

# **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: 10-1264 GEL Work Order: 244880

**The Qualifiers in this report are defined as follows:**

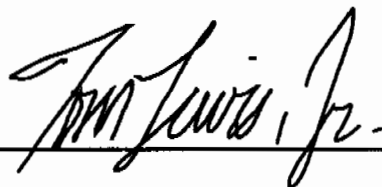
- \* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- \*\* Indicates the analyte is a surrogate compound.

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

A handwritten signature in black ink, reading "Tom Lewis, Jr.", is written over a horizontal line.

# GEL LABORATORIES LLC

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

## Certificate of Analysis

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

Report Date: February 4, 2010

Client SDG: 10-1264

Client Sample ID: RE12-10-8098  
Sample ID: 244880001  
Matrix: W  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "As Received"</i>											
Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	01/22/10	1030	942459	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/21/10	1600	942458

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	



# **Quality Control Summary**

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: February 4, 2010

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

Contact: Ms. Joylene Valdez

Workorder: 244880

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis											
Batch	942459										
QC1202017536	244849001	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A		AXC2	01/22/10	10:23
QC1202017537	244844001	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A			01/22/10	10:19
QC1202017542	LCS										
Cyanide, Total	50.0				47.5	ug/L	95	(90%-110%)		01/22/10	10:05
QC1202017535	MB										
Cyanide, Total			U		5.00	ug/L				01/22/10	10:04
QC1202017538	244849001	MS									
Cyanide, Total	100	U	ND		107	ug/L	107	(60%-127%)		01/22/10	10:24
QC1202017539	244844001	MS									
Cyanide, Total	100	U	ND		103	ug/L	103	(60%-127%)		01/22/10	10:20
QC1202017540	244849001	MSD									
Cyanide, Total	100	U	ND		99.8	ug/L	6.96	99.8	(0%-20%)	01/22/10	10:29
QC1202017541	244844001	MSD									
Cyanide, Total	100	U	ND		99.1	ug/L	3.86	99.1	(0%-20%)	01/22/10	10:21

### Notes:

RER is calculated at the 95% confidence level (2-sigma).

The Qualifiers in this report are defined as follows:

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

E Organics--Concentration of the target analyte exceeds the instrument calibration range

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M 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.

## GEL LABORATORIES LLC

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### QC Summary

Workorder: 244880

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	QC Samples were not spiked with this compound										
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# **Instrument QC Data Summary**

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 04-FEB-2010 16:38

GEL Laboratories LLC

Contract: LANL01004

SDG #: 10-1264

Flow Injection Analysis

Method: SW846 9012A

Concentration Units:ug/L

Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	22-JAN-2010 09:58:58	OM_1-22-2010_09-50-18	147	150	98	(90%-110%)	Yes
CCV	22-JAN-2010 10:13:15	OM_1-22-2010_09-50-18	95.4	100	95	(90%-110%)	Yes
CCV	22-JAN-2010 10:25:40	OM_1-22-2010_09-50-18	96.3	100	96	(90%-110%)	Yes
CCV	22-JAN-2010 10:38:05	OM_1-22-2010_09-50-18	96.3	100	96	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	22-JAN-2010 10:00:48	OM_1-22-2010_09-50-18	-0.809	5	Yes
CCB	22-JAN-2010 10:15:05	OM_1-22-2010_09-50-18	-0.874	5	Yes
CCB	22-JAN-2010 10:27:31	OM_1-22-2010_09-50-18	-1.14	5	Yes
CCB	22-JAN-2010 10:39:55	OM_1-22-2010_09-50-18	-0.776	5	Yes

# **Cyanide, Total**

# Prep LogBook

Analyst: AXS5 Verified by: \_\_\_\_\_

Batch: 942458

Lab SOP: GL-GC-E-067 REV# 13

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix	Spike Amount	Spike Units
MB	1202017535		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.0125	mL
LCS	1202017542		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244722001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244722002		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244722003		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244722004		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244807011		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WASTE WATER	.025	mL
SAMPLE	244807014		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WASTE WATER	.025	mL
SAMPLE	244829001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244829002		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244829003		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244829004		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244844001		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
DUP	1202017537	244844001	EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER	.025	mL
MS	1202017539	244844001	EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER	.025	mL
MSD	1202017541	244844001	EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER	.025	mL
SAMPLE	244844003		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	GROUND WATER	.025	mL
SAMPLE	244849001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
DUP	1202017536	244849001	SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
MS	1202017538	244849001	SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
MSD	1202017540	244849001	SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244880001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244904001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244904002		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244904003		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244904004		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244922001		SW846 9010B Prep	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL
SAMPLE	244925001		EPA 335.4	21-JAN-2010 16:00	>12	25 mL	25 mL	1	WATER	.025	mL

Prep Data Logbook Version 1:1

GEL Laboratories LLC

Page#

## Prep LogBook

Reagent/Solvent Lot ID	Amount	Description	Comments
091211-C	25 mL	0.25N Sodium Hydroxide Solution	
WCN100121-07	.0375 mL	150 ppb CN Distilled ICV Standard	
1176724-C	1.25 mL	0.8N H3NO3S	
1238146-C	2.5 mL	50% H2SO4 CN Prep	
1176778-C	1 mL	51% MgCl2 Soln	
1238142-C	1.25 mL	Bismuth Nitrate Solution	



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/22/2010 9:51:49	OM_1-22-2010_09-50-18
150 ppb		1	axc2	1/22/2010 9:52:41	OM_1-22-2010_09-50-18
100 ppb		1	axc2	1/22/2010 9:53:33	OM_1-22-2010_09-50-18
50 ppb		1	axc2	1/22/2010 9:54:27	OM_1-22-2010_09-50-18
10 ppb		1	axc2	1/22/2010 9:55:19	OM_1-22-2010_09-50-18
CRDL 5.0 ppb		1	axc2	1/22/2010 9:56:14	OM_1-22-2010_09-50-18
ICAL-00		1	axc2	1/22/2010 9:57:07	OM_1-22-2010_09-50-18
ICV		1	axc2	1/22/2010 9:58:58	OM_1-22-2010_09-50-18
ICB		1	axc2	1/22/2010 10:00:48	OM_1-22-2010_09-50-18
CRDL		1	axc2	1/22/2010 10:02:38	OM_1-22-2010_09-50-18
1202017535	942459	1	axc2	1/22/2010 10:04:27	OM_1-22-2010_09-50-18
1202017542	942459	1	axc2	1/22/2010 10:05:21	OM_1-22-2010_09-50-18
244722001	942459	1	axc2	1/22/2010 10:06:14	OM_1-22-2010_09-50-18
244722002	942459	1	axc2	1/22/2010 10:07:07	OM_1-22-2010_09-50-18
244722003	942459	1	axc2	1/22/2010 10:08:00	OM_1-22-2010_09-50-18
244722004	942459	1	axc2	1/22/2010 10:08:53	OM_1-22-2010_09-50-18
244807011	942459	1	axc2	1/22/2010 10:09:46	OM_1-22-2010_09-50-18
244807014	942459	1	axc2	1/22/2010 10:10:38	OM_1-22-2010_09-50-18
244829001	942459	1	axc2	1/22/2010 10:11:31	OM_1-22-2010_09-50-18
244829002	942459	1	axc2	1/22/2010 10:12:23	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:13:15	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:15:05	OM_1-22-2010_09-50-18
244829003	942459	1	axc2	1/22/2010 10:16:54	OM_1-22-2010_09-50-18
244829004	942459	1	axc2	1/22/2010 10:17:46	OM_1-22-2010_09-50-18
244844001	942459	1	axc2	1/22/2010 10:18:38	OM_1-22-2010_09-50-18
1202017537	942459	1	axc2	1/22/2010 10:19:29	OM_1-22-2010_09-50-18
1202017539	942459	1	axc2	1/22/2010 10:20:21	OM_1-22-2010_09-50-18
1202017541	942459	1	axc2	1/22/2010 10:21:15	OM_1-22-2010_09-50-18
244844003	942459	1	axc2	1/22/2010 10:22:09	OM_1-22-2010_09-50-18
244849001	942459	1	axc2	1/22/2010 10:23:02	OM_1-22-2010_09-50-18
1202017536	942459	1	axc2	1/22/2010 10:23:55	OM_1-22-2010_09-50-18
1202017538	942459	1	axc2	1/22/2010 10:24:48	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:25:40	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:27:31	OM_1-22-2010_09-50-18
1202017540	942459	1	axc2	1/22/2010 10:29:21	OM_1-22-2010_09-50-18
244880001	942459	1	axc2	1/22/2010 10:30:13	OM_1-22-2010_09-50-18
244904001	942459	1	axc2	1/22/2010 10:31:06	OM_1-22-2010_09-50-18
244904002	942459	1	axc2	1/22/2010 10:31:58	OM_1-22-2010_09-50-18
244904003	942459	1	axc2	1/22/2010 10:32:51	OM_1-22-2010_09-50-18
244904004	942459	1	axc2	1/22/2010 10:33:43	OM_1-22-2010_09-50-18
244922001	942459	1	axc2	1/22/2010 10:34:36	OM_1-22-2010_09-50-18
244925001	942459	1	axc2	1/22/2010 10:35:27	OM_1-22-2010_09-50-18
1202020316	943575	1	axc2	1/22/2010 10:36:20	OM_1-22-2010_09-50-18
1202020318	943575	250	axc2	1/22/2010 10:37:12	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:38:05	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:39:55	OM_1-22-2010_09-50-18
244953006	943575	1	axc2	1/22/2010 10:41:45	OM_1-22-2010_09-50-18
1202020317	943575	1	axc2	1/22/2010 10:42:39	OM_1-22-2010_09-50-18
244855001	942468	1	axc2	1/22/2010 10:43:33	OM_1-22-2010_09-50-18
1202017567	942468	1	axc2	1/22/2010 10:44:28	OM_1-22-2010_09-50-18
1202017570	942468	1	axc2	1/22/2010 10:45:22	OM_1-22-2010_09-50-18
1202017573	942468	1	axc2	1/22/2010 10:46:16	OM_1-22-2010_09-50-18
244855003	942468	1	axc2	1/22/2010 10:47:11	OM_1-22-2010_09-50-18
244874001	942468	1	axc2	1/22/2010 10:48:05	OM_1-22-2010_09-50-18
244879003	942468	1	axc2	1/22/2010 10:48:58	OM_1-22-2010_09-50-18
1202017568	942468	1	axc2	1/22/2010 10:49:52	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 10:50:44	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 10:52:35	OM_1-22-2010_09-50-18

1202017571	942468	1	axc2	1/22/2010 10:54:24	OM_1-22-2010_09-50-18
1202017574	942468	1	axc2	1/22/2010 10:55:19	OM_1-22-2010_09-50-18
244896001	942468	1	axc2	1/22/2010 10:56:12	OM_1-22-2010_09-50-18
1202017569	942468	1	axc2	1/22/2010 10:57:04	OM_1-22-2010_09-50-18
1202017572	942468	1	axc2	1/22/2010 10:57:57	OM_1-22-2010_09-50-18
1202017575	942468	1	axc2	1/22/2010 10:58:50	OM_1-22-2010_09-50-18
244901001	942468	1	axc2	1/22/2010 10:59:43	OM_1-22-2010_09-50-18
244901002*	942468	1	axc2	1/22/2010 11:00:37	OM_1-22-2010_09-50-18
244903001	942468	1	axc2	1/22/2010 11:01:32	OM_1-22-2010_09-50-18
244937001	942468	1	axc2	1/22/2010 11:02:26	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 11:03:19	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 11:05:10	OM_1-22-2010_09-50-18
1202018979	942468	1	axc2	1/22/2010 11:06:59	OM_1-22-2010_09-50-18
1202018980	942468	1	axc2	1/22/2010 11:07:54	OM_1-22-2010_09-50-18
1202018981	942468	1	axc2	1/22/2010 11:08:48	OM_1-22-2010_09-50-18
244937002	942468	1	axc2	1/22/2010 11:09:42	OM_1-22-2010_09-50-18
244960001	942468	1	axc2	1/22/2010 11:10:36	OM_1-22-2010_09-50-18
244960003	942468	1	axc2	1/22/2010 11:11:30	OM_1-22-2010_09-50-18
244901002	942468	1	axc2	1/22/2010 11:12:24	OM_1-22-2010_09-50-18
CCV		1	axc2	1/22/2010 11:13:17	OM_1-22-2010_09-50-18
CCB		1	axc2	1/22/2010 11:15:07	OM_1-22-2010_09-50-18

Original Run Filename: OM\_1-22-2010\_09-50-18.OMN created 1/22/2010 09:50:18  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-22-2010\_09-50-18.OMN last modified 1/22/2010 11:16:11  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE		Detection Time	ADF	MDF	Description
			Conc. (ug/L)	Area (Vs)				
WCN100122-01	1	S1	200	7.56	1/22/2010@09:51:49			200 ppb
WCN100122-02	1	S2	150	5.80	1/22/2010@09:52:41			150 ppb
WCN100122-03	1	S3	100	3.66	1/22/2010@09:53:33			100 ppb
WCN100122-04	1	S4	50.0	2.02	1/22/2010@09:54:27			50 ppb
WCN100122-05	1	S5	10.0	0.470	1/22/2010@09:55:19			10 ppb
WCN100122-06	1	S6	5.00	0.297	1/22/2010@09:56:14			CRDL 5.0 ppb
WCN100122-08	1	S7	0.00	0.0439	1/22/2010@09:57:07			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99958 > 0.99500					
Message			Pass					
Action			Continue					
WCN100122-07	1	S8	147	5.59	1/22/2010@09:58:58			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			-1.9 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-1.9 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100122-08	1	S7	-0.809	0.0467	1/22/2010@10:00:48			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.809 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.809 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100122-06	1	S6	5.72	0.292	1/22/2010@10:02:38			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.72 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.72 > 2.50					
Message			Pass					
Action			None					
1202017535 942459 MB	1	1	-1.57	0.0180	1/22/2010@10:04:27			
1202017542 LCS	1	2	47.5	1.86	1/22/2010@10:05:21			
244722001	1	3	-1.14	0.0343	1/22/2010@10:06:14			
244722002	1	4	-1.81	0.00896	1/22/2010@10:07:07			
244722003	1	5	-1.36	0.0260	1/22/2010@10:08:00			
244722004	1	6	3.41	0.205	1/22/2010@10:08:53			
244807011	1	7	-0.652	0.0526	1/22/2010@10:09:46			
244807014	1	8	1.04	0.116	1/22/2010@10:10:38			
244829001	1	9	-2.05	0.00	1/22/2010@10:11:31			
244829002	1	10	-1.42	0.0236	1/22/2010@10:12:23			
WCN100122-03	1	S3	95.4	3.65	1/22/2010@10:13:15			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-4.6 < 10.0					
Message			CCV Passed					

Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-4.6 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100122-08	1	S7	-0.874	0.0442	1/22/2010@10:15:05			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.874 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.874 > -5.00					
Message			CCB Passed					
Action			Continue					
244829003	1	11	-1.38	0.0253	1/22/2010@10:16:54			
244829004	1	12	-1.37	0.0255	1/22/2010@10:17:46			
244844001	1	13	-2.56	-0.0189	1/22/2010@10:18:38			
1202017537 DUP	1	14	-2.35	-0.0111	1/22/2010@10:19:29			
1202017539 MS	1	15	103	3.94	1/22/2010@10:20:21			
1202017541 MSD	1	16	99.1	3.79	1/22/2010@10:21:15			
244844003	1	17	-0.977	0.0404	1/22/2010@10:22:09			
244849001	1	18	-1.40	0.0246	1/22/2010@10:23:02			
1202017536 DUP	1	19	-1.50	0.0208	1/22/2010@10:23:55			
1202017538 MS	1	20	107	4.08	1/22/2010@10:24:48			
WCN100122-03	1	S3	96.3	3.69	1/22/2010@10:25:40			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-3.7 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-3.7 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100122-08	1	S7	-1.14	0.0343	1/22/2010@10:27:31			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-1.14 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.14 > -5.00					
Message			CCB Passed					
Action			Continue					
1202017540 MSD	1	21	99.8	3.82	1/22/2010@10:29:21			
244880001	1	22	-1.41	0.0241	1/22/2010@10:30:13			
244904001	1	23	-1.73	0.0122	1/22/2010@10:31:06			
244904002	1	24	-2.06	-3.75e-4	1/22/2010@10:31:58			
244904003	1	25	-1.93	0.00454	1/22/2010@10:32:51			
244904004	1	26	-1.44	0.0231	1/22/2010@10:33:43			
244922001	1	27	-1.74	0.0117	1/22/2010@10:34:36			
244925001	1	28	2.78	0.181	1/22/2010@10:35:27			
1202020316 943575 MB	1	29	-1.73	0.0122	1/22/2010@10:36:20			
1202020318 LCS	1	30	145	5.53	1/22/2010@10:37:12		250.00	
WCN100122-03	1	S3	96.3	3.69	1/22/2010@10:38:05			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-3.7 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-3.7 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100122-08	1	S7	-0.776	0.0479	1/22/2010@10:39:55			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								

Result:			-0.776 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.776 > -5.00					
Message			CCB Passed					
Action			Continue					
244953006	1	31	-2.08	-9.47e-4	1/22/2010@10:41:45			
1202020317  DUP	1	32	-1.83	0.00854	1/22/2010@10:42:39			
244855001 942468	1	91	-0.500	0.0582	1/22/2010@10:43:33			
1202017567  DUP	1	92	-0.685	0.0513	1/22/2010@10:44:28			
1202017570  MS	1	93	96.6	3.70	1/22/2010@10:45:22			
1202017573  MSD	1	94	98.9	3.78	1/22/2010@10:46:16			
244855003	1	95	-0.122	0.0724	1/22/2010@10:47:11			
244874001	1	96	5.49	0.283	1/22/2010@10:48:05			
244879003	1	97	0.538	0.0971	1/22/2010@10:48:58			
1202017568  DUP	1	98	0.476	0.0948	1/22/2010@10:49:52			
WCN100122-03	1	S3	96.6	3.70	1/22/2010@10:50:44			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-3.4 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-3.4 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100122-08	1	S7	-0.824	0.0461	1/22/2010@10:52:35			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.824 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.824 > -5.00					
Message			CCB Passed					
Action			Continue					
1202017571  MS	1	99	100	3.84	1/22/2010@10:54:24			
1202017574  MSD	1	100	106	4.04	1/22/2010@10:55:19			
244896001	1	101	-1.17	0.0331	1/22/2010@10:56:12			
1202017569  DUP	1	102	-1.10	0.0357	1/22/2010@10:57:04			
1202017572  MS	1	103	93.4	3.58	1/22/2010@10:57:57			
1202017575  MSD	1	104	96.3	3.69	1/22/2010@10:58:50			
244901001	1	105	2.39	0.167	1/22/2010@10:59:43			
244901002	1	106	-11.8	-0.364	1/22/2010@11:00:37			
244903001	1	107	-2.54	-0.0181	1/22/2010@11:01:32			
244937001	1	108	-1.23	0.0307	1/22/2010@11:02:26			
WCN100122-03	1	S3	95.9	3.67	1/22/2010@11:03:19			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-4.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-4.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100122-08	1	S7	-0.987	0.0400	1/22/2010@11:05:10			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.987 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.987 > -5.00					
Message			CCB Passed					
Action			Continue					
1202018979  DUP	1	109	-1.03	0.0385	1/22/2010@11:06:59			

1202018980	MS	1	110	96.3	3.69	1/22/2010@11:07:54			
1202018981	MSD	1	111	99.4	3.80	1/22/2010@11:08:48			
244937002		1	112	-0.764	0.0483	1/22/2010@11:09:42			
244960001		1	113	17.1	0.719	1/22/2010@11:10:36			
244960003		1	114	-0.769	0.0482	1/22/2010@11:11:30			
244901002		1	106	0.799	0.107	1/22/2010@11:12:24			
WCN100122-03		1	S3	95.2	3.65	1/22/2010@11:13:17			CCV
Known Conc:				100					
DQM Test: > + Percent Relative Difference									
Result:				-4.8 < 10.0					
Message				CCV Passed					
Action				Continue					
DQM Test: < - Percent Relative Difference									
Result:				-4.8 < 10.0					
Message				CCV Passed					
Action				Continue					
WCN100122-08		1	S7	-0.784	0.0476	1/22/2010@11:15:07			CCB
Known Conc:				0.00					
DQM Test: > + Concentration Limit									
Result:				-0.784 < 5.00					
Message				CCB Passed					
Action				Continue					
DQM Test: < - Concentration Limit									
Result:				-0.784 > -5.00					
Message				CCB Passed					
Action				Continue					

Analyte Properties Table for OM\_1-22-2010\_09-50-18.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

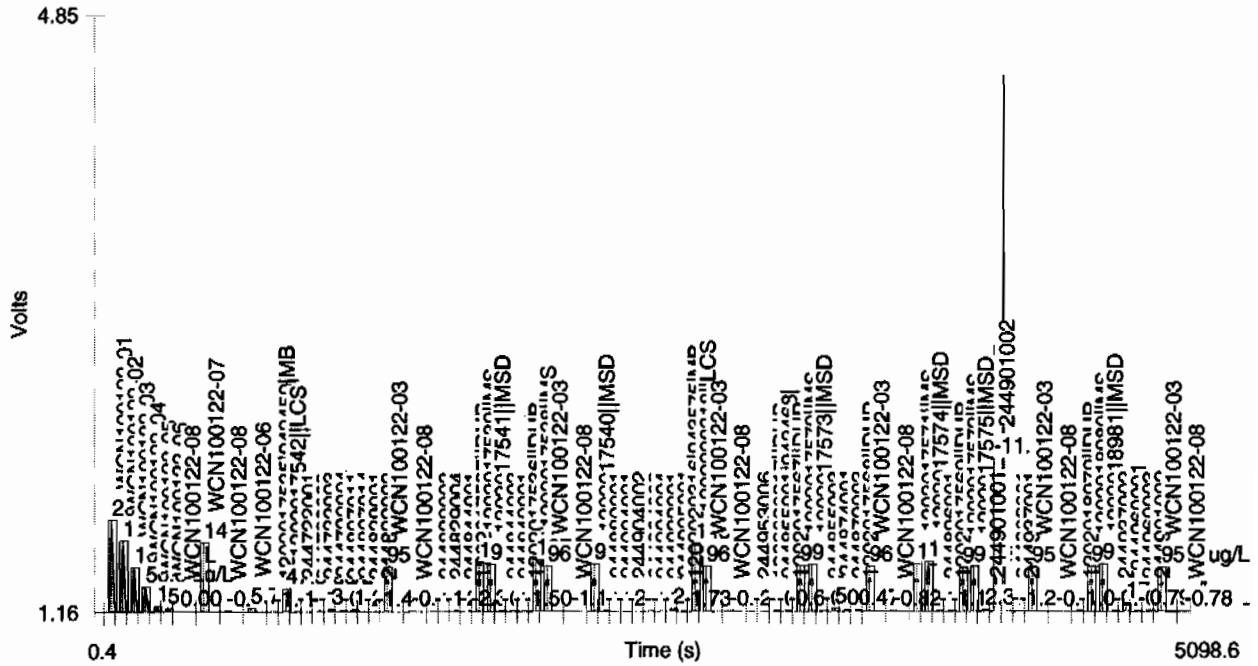
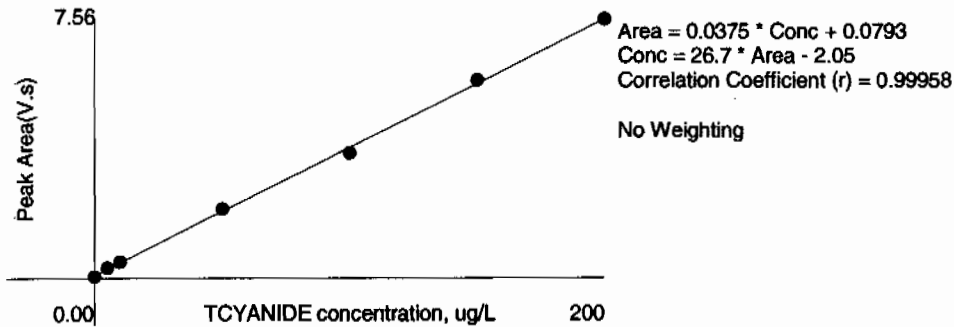


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.56	0.563	0.1	1/22/2010	09:52:52
2	150	1	5.80	0.432	-1.8	1/22/2010	09:53:44
3	100	1	3.66	0.272	4.3	1/22/2010	09:54:36
4	50.0	1	2.02	0.150	-3.2	1/22/2010	09:55:29
5	10.0	1	0.470	0.0337	-3.6	1/22/2010	09:56:22
6	5.00	1	0.297	0.0217	-11.4	1/22/2010	09:57:16
7	0.00	1	0.0439	0.00389		1/22/2010	09:58:10

Figure 1: TCYANIDE



# **General Chemistry**

## **Analysis**



# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1264-1**

**Method/Analysis Information**

**Product:** Cyanide, Total  
**Analytical Batch:** 942457      **Method:** SW846 9012A  
**Prep Batch :** 942455      **Method:** SW846 9010B Prep

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202017527	Method Blank (MB)
1202017528	244847001(RE12-10-7272) Sample Duplicate (DUP)
1202017529	244847002(RE12-10-7273) Sample Duplicate (DUP)
1202017530	244847001(RE12-10-7272) Matrix Spike (MS)
1202017531	244847002(RE12-10-7273) Matrix Spike (MS)
1202017532	244847001(RE12-10-7272) Matrix Spike Duplicate (MSD)
1202017533	244847002(RE12-10-7273) Matrix Spike Duplicate (MSD)
1202017534	Laboratory Control Sample (LCS)

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

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

The following samples were selected for QC analysis: 244847001 (RE12-10-7272) and 244847002 (RE12-10-7273).

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits.

**Matrix Spike Duplicate (MSD) Recovery Statement**

The MSD recoveries for this sample set were within the required acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPDs between the spike and spike duplicate met the acceptance limits.

**Duplicate Relative Percent Difference (RPD) Statement**

The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202017528 (RE12-10-7272).

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Preservation/Integrity**

All the samples from this sample group met the preservation and integrity requirements of the method.

**Sample Dilutions**

The following sample in this sample group was diluted due to high concentration: 1202017534 (LCS).

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

### **Miscellaneous Information**

#### **Data Exception (DER) Documentation**

A DER was not required for this SDG.

#### **Additional Comments**

Additional comments were not required for this SDG.

#### **Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Certification Statement**

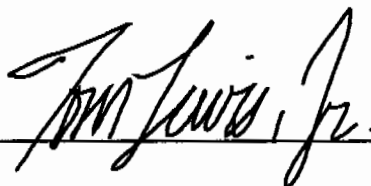
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

**Review Validation:**

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

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

Reviewer:



Date:

08Feb10

# **Sample Data Summary**

## **GEL LABORATORIES LLC**

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - [www.gel.com](http://www.gel.com)

### **Certificate of Analysis Report for**

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1264-1 GEL Work Order: 244881

**The Qualifiers in this report are defined as follows:**

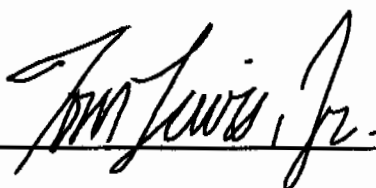
- \* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- \*\* Indicates the analyte is a surrogate compound.

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

A handwritten signature in black ink, appearing to read "Tom Lewis, Jr.", is written over a horizontal line.

# GEL LABORATORIES LLC

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

## Certificate of Analysis

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

Report Date: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8096  
Sample ID: 244881001  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 6.13%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	72.4	266	ug/kg	1	AXC2	01/18/10	1607	942457	1

### **The following Prep Methods were performed**

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### **The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	SW846 9012A	



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## Certificate of Analysis

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

Report Date: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8094  
Sample ID: 244881002  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 5.64%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	69.3	255	ug/kg	1	AXC2	01/18/10	1608	942457	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8097  
Sample ID: 244881003  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 7.99%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	68.4	252	ug/kg	1	AXC2	01/18/10	1609	942457	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: February 1, 2010

Client SDG: 10-1264-1

Client Sample ID: RE12-10-8095  
Sample ID: 244881004  
Matrix: R  
Collect Date: 11-JAN-10 12:00  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 10.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	73.0	268	ug/kg	1	AXC2	01/18/10	1610	942457	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1418	942455

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

# **Quality Control Summary**

# GEL LABORATORIES LLC

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## QC Summary

Report Date: February 1, 2010

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

Contact: Ms. Joylene Valdez

Workorder: 244881

Parmname	NOM	Sample	Qual	QC	Units	RPD %	REC %	Range	Anlst	Date	Time
<b>Flow Injection Analysis</b>											
Batch	942457										
QC1202017528	244847001	DUP									
Cyanide, Total		U	ND	J	82.6	ug/kg	200	(+/-265)	AXC2	01/18/10	15:32
QC1202017529	244847002	DUP									
Cyanide, Total		U	ND	U	ND	ug/kg	N/A			01/18/10	15:55
QC1202017534	LCS										
Cyanide, Total	67900				71500	ug/kg	105	(46%-145%)		01/18/10	15:25
QC1202017527	MB										
Cyanide, Total				U	250	ug/kg				01/18/10	15:24
QC1202017530	244847001	MS									
Cyanide, Total	5610	U	ND		5150	ug/kg	91.8	(50%-130%)		01/18/10	15:53
QC1202017531	244847002	MS									
Cyanide, Total	5650	U	ND		4930	ug/kg	87.1	(50%-130%)		01/18/10	15:56
QC1202017532	244847001	MSD									
Cyanide, Total	5300	U	ND		4690	ug/kg	9.26	88.6	(0%-30%)	01/18/10	15:54
QC1202017533	244847002	MSD									
Cyanide, Total	5770	U	ND		4780	ug/kg	2.96	82.9	(0%-30%)	01/18/10	15:57

### Notes:

RER is calculated at the 95% confidence level (2-sigma).

The Qualifiers in this report are defined as follows:

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

E Organics--Concentration of the target analyte exceeds the instrument calibration range

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based

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**Workorder: 244881**

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[illegible]

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# **Instrument QC Data Summary**

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 01-FEB-2010 14:48

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-1264-1**

Flow Injection Analysis

Method: SW846 9012A

Concentration Units:ug/L

Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	18-JAN-2010 12:46:12	OM_1-18-2010_12-35-44	156	150	104	(90%-110%)	Yes
CCV	18-JAN-2010 15:20:51	OM_1-18-2010_15-20-05	105	100	105	(90%-110%)	Yes
CCV	18-JAN-2010 15:33:18	OM_1-18-2010_15-20-05	107	100	107	(90%-110%)	Yes
CCV	18-JAN-2010 15:48:49	OM_1-18-2010_15-47-18	102	100	102	(90%-110%)	Yes
CCV	18-JAN-2010 16:01:14	OM_1-18-2010_15-47-18	102	100	102	(90%-110%)	Yes
CCV	18-JAN-2010 16:13:39	OM_1-18-2010_15-47-18	103	100	103	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	18-JAN-2010 12:48:02	OM_1-18-2010_12-35-44	-3.54	5	Yes
CCB	18-JAN-2010 15:22:41	OM_1-18-2010_15-20-05	-3.73	5	Yes
CCB	18-JAN-2010 15:35:09	OM_1-18-2010_15-20-05	-3.64	5	Yes
CCB	18-JAN-2010 15:50:40	OM_1-18-2010_15-47-18	-3.5	5	Yes
CCB	18-JAN-2010 16:03:05	OM_1-18-2010_15-47-18	-3.61	5	Yes
CCB	18-JAN-2010 16:15:30	OM_1-18-2010_15-47-18	2.41	5	Yes



# **Cyanide, Total**

# Prep LogBook

Analyst: AXS5  
 Batch: 942455  
 Lab SOP: GL-GC-E-067 REV# 13

Verified by: \_\_\_\_\_

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202017527		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.5 g	25 mL	50	.25	g
LCS	1202017534		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.25 g	25 mL	100	.025	mL
SAMPLE	244721009		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963	.025	mL
SAMPLE	244721010		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692	.025	mL
SAMPLE	244721011		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455	.025	mL
SAMPLE	244721012		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.57 g	25 mL	43.85965	.025	mL
SAMPLE	244721013		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455	.025	mL
SAMPLE	244810001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.567 g	25 mL	44.09171	.025	mL
SAMPLE	244847001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.57 g	25 mL	43.85965		MISC SOLID
DUP	1202017528	244847001	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963		SOIL
MS	1202017530	244847001	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961		SOIL
MSD	1202017532	244847001	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963		SOIL
SAMPLE	244847002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963		SOIL
DUP	1202017529	244847002	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455		SOIL
MS	1202017531	244847002	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961		SOIL
MSD	1202017533	244847002	SW846 9010B Prep	18-JAN-2010 14:18	>12	0.5 g	25 mL	50		SOIL
SAMPLE	244847003		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.55 g	25 mL	45.45455		SOIL
SAMPLE	244847004		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.53 g	25 mL	47.16981		SOIL
SAMPLE	244852001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.53 g	25 mL	47.16981		SOIL
SAMPLE	244852002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961		SOIL
SAMPLE	244852003		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961		SOIL
SAMPLE	244852004		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.56 g	25 mL	44.64286		SOIL
SAMPLE	244881001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.5 g	25 mL	50		SOIL
SAMPLE	244881002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692		SOIL
SAMPLE	244881003		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.54 g	25 mL	46.2963		SOIL
SAMPLE	244881004		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692		SOIL
SAMPLE	244921001		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.51 g	25 mL	49.01961		SOIL
SAMPLE	244921002		SW846 9010B Prep	18-JAN-2010 14:18	>12	0.52 g	25 mL	48.07692		SOIL

## Prep LogBook

Reagent/Solvent Lot ID	Amount	Description	Comments
091211-C	25 mL	0.25N Sodium Hydroxide Solution	
WCN100118-07	.0375 mL	150 ppb CN Distilled ICV Standard	
1176724-C	1.25 mL	0.8N H3NO3S	
1238146-C	2.5 mL	50% H2SO4 CN Prep	
1176778-C	1 mL	51% MgCl2 Soln	
1238142-C	1.25 mL	Bismuth Nitrate Solution	

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/18/2010 12:39:03	OM_1-18-2010_12-35-44
150 ppb		1	axc2	1/18/2010 12:39:55	OM_1-18-2010_12-35-44
100 ppb		1	axc2	1/18/2010 12:40:48	OM_1-18-2010_12-35-44
50 ppb		1	axc2	1/18/2010 12:41:40	OM_1-18-2010_12-35-44
10 ppb		1	axc2	1/18/2010 12:42:34	OM_1-18-2010_12-35-44
CRDL 5.0 ppb		1	axc2	1/18/2010 12:43:27	OM_1-18-2010_12-35-44
ICAL-00		1	axc2	1/18/2010 12:44:21	OM_1-18-2010_12-35-44
ICV		1	axc2	1/18/2010 12:46:12	OM_1-18-2010_12-35-44
ICB		1	axc2	1/18/2010 12:48:02	OM_1-18-2010_12-35-44
CRDL		1	axc2	1/18/2010 12:49:52	OM_1-18-2010_12-35-44
1202013064	940627	1	axc2	1/18/2010 12:51:41	OM_1-18-2010_12-35-44
1202013071	940627	1	axc2	1/18/2010 12:52:35	OM_1-18-2010_12-35-44
244226001	940627	1	axc2	1/18/2010 12:53:28	OM_1-18-2010_12-35-44
1202013065	940627	1	axc2	1/18/2010 12:54:21	OM_1-18-2010_12-35-44
1202013067	940627	1	axc2	1/18/2010 12:55:14	OM_1-18-2010_12-35-44
1202013069	940627	1	axc2	1/18/2010 12:56:07	OM_1-18-2010_12-35-44
244226002	940627	1	axc2	1/18/2010 12:57:00	OM_1-18-2010_12-35-44
244236001	940627	1	axc2	1/18/2010 12:57:52	OM_1-18-2010_12-35-44
1202013066	940627	1	axc2	1/18/2010 12:58:45	OM_1-18-2010_12-35-44
1202013068	940627	1	axc2	1/18/2010 12:59:37	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:00:29	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:02:19	OM_1-18-2010_12-35-44
1202013070	940627	1	axc2	1/18/2010 13:04:08	OM_1-18-2010_12-35-44
244236004	940627	1	axc2	1/18/2010 13:05:00	OM_1-18-2010_12-35-44
244240002	940627	1	axc2	1/18/2010 13:05:51	OM_1-18-2010_12-35-44
244243001	940627	1	axc2	1/18/2010 13:06:43	OM_1-18-2010_12-35-44
244243002	940627	1	axc2	1/18/2010 13:07:35	OM_1-18-2010_12-35-44
244243003	940627	1	axc2	1/18/2010 13:08:28	OM_1-18-2010_12-35-44
244243004	940627	1	axc2	1/18/2010 13:09:22	OM_1-18-2010_12-35-44
244516001	940627	1	axc2	1/18/2010 13:10:16	OM_1-18-2010_12-35-44
244516002	940627	1	axc2	1/18/2010 13:11:09	OM_1-18-2010_12-35-44
244523001	940627	1	axc2	1/18/2010 13:12:02	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:12:54	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:14:44	OM_1-18-2010_12-35-44
244525001	940627	1	axc2	1/18/2010 13:16:33	OM_1-18-2010_12-35-44
244525003	940627	1	axc2	1/18/2010 13:17:26	OM_1-18-2010_12-35-44
244532001	940627	1	axc2	1/18/2010 13:18:19	OM_1-18-2010_12-35-44
244537001	940627	1	axc2	1/18/2010 13:19:11	OM_1-18-2010_12-35-44
244574001	940627	1	axc2	1/18/2010 13:20:04	OM_1-18-2010_12-35-44
244580001	940627	1	axc2	1/18/2010 13:20:56	OM_1-18-2010_12-35-44
244583001	940627	1	axc2	1/18/2010 13:21:49	OM_1-18-2010_12-35-44
244609005	940627	1	axc2	1/18/2010 13:22:40	OM_1-18-2010_12-35-44
1202016420	941969	1	axc2	1/18/2010 13:23:32	OM_1-18-2010_12-35-44
1202016427	941969	25	axc2	1/18/2010 13:24:24	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:25:17	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:27:07	OM_1-18-2010_12-35-44
244622003	941969	1	axc2	1/18/2010 13:28:58	OM_1-18-2010_12-35-44
1202016421	941969	1	axc2	1/18/2010 13:29:52	OM_1-18-2010_12-35-44
1202016423	941969	1	axc2	1/18/2010 13:30:45	OM_1-18-2010_12-35-44
1202016425	941969	1	axc2	1/18/2010 13:31:38	OM_1-18-2010_12-35-44
244622004	941969	1	axc2	1/18/2010 13:32:31	OM_1-18-2010_12-35-44
244622005	941969	1	axc2	1/18/2010 13:33:24	OM_1-18-2010_12-35-44
244622006	941969	1	axc2	1/18/2010 13:34:17	OM_1-18-2010_12-35-44
244622007	941969	1	axc2	1/18/2010 13:35:10	OM_1-18-2010_12-35-44
244622008	941969	1	axc2	1/18/2010 13:36:04	OM_1-18-2010_12-35-44
244768001	941969	1	axc2	1/18/2010 13:36:56	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010 13:37:49	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010 13:39:38	OM_1-18-2010_12-35-44

244768002	941969	1	axc2	1/18/2010	13:41:27	OM_1-18-2010_12-35-44
244768003	941969	1	axc2	1/18/2010	13:42:19	OM_1-18-2010_12-35-44
244768004	941969	1	axc2	1/18/2010	13:43:12	OM_1-18-2010_12-35-44
244768005	941969	1	axc2	1/18/2010	13:44:03	OM_1-18-2010_12-35-44
244768006	941969	1	axc2	1/18/2010	13:44:55	OM_1-18-2010_12-35-44
244768007	941969	1	axc2	1/18/2010	13:45:50	OM_1-18-2010_12-35-44
244768008	941969	1	axc2	1/18/2010	13:46:44	OM_1-18-2010_12-35-44
244768009	941969	1	axc2	1/18/2010	13:47:37	OM_1-18-2010_12-35-44
244768010	941969	1	axc2	1/18/2010	13:48:31	OM_1-18-2010_12-35-44
244773001	941969	1	axc2	1/18/2010	13:49:24	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	13:50:17	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	13:52:07	OM_1-18-2010_12-35-44
1202016422	941969	1	axc2	1/18/2010	13:53:57	OM_1-18-2010_12-35-44
1202016424	941969	1	axc2	1/18/2010	13:54:50	OM_1-18-2010_12-35-44
1202016426	941969	1	axc2	1/18/2010	13:55:43	OM_1-18-2010_12-35-44
244773002	941969	1	axc2	1/18/2010	13:56:36	OM_1-18-2010_12-35-44
244773003	941969	1	axc2	1/18/2010	13:57:28	OM_1-18-2010_12-35-44
244773004	941969	1	axc2	1/18/2010	13:58:21	OM_1-18-2010_12-35-44
244609005	940627	5	axc2	1/18/2010	13:59:14	OM_1-18-2010_12-35-44
1202017519	942453	1	axc2	1/18/2010	14:00:07	OM_1-18-2010_12-35-44
1202017520	942453	1	axc2	1/18/2010	14:01:01	OM_1-18-2010_12-35-44
1202017521	942453	1	axc2	1/18/2010	14:01:56	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:02:47	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:04:37	OM_1-18-2010_12-35-44
244810001	942453	1	axc2	1/18/2010	14:06:27	OM_1-18-2010_12-35-44
1202012091*	940249	1	axc2	1/18/2010	14:07:21	OM_1-18-2010_12-35-44
1202012098*	940249	25	axc2	1/18/2010	14:08:12	OM_1-18-2010_12-35-44
244228002	940249	1	axc2	1/18/2010	14:09:04	OM_1-18-2010_12-35-44
1202012096	940249	1	axc2	1/18/2010	14:09:56	OM_1-18-2010_12-35-44
1202012094	940249	1	axc2	1/18/2010	14:10:51	OM_1-18-2010_12-35-44
1202012092	940249	1	axc2	1/18/2010	14:11:45	OM_1-18-2010_12-35-44
244228003	940249	1	axc2	1/18/2010	14:12:39	OM_1-18-2010_12-35-44
1202012093	940249	1	axc2	1/18/2010	14:13:33	OM_1-18-2010_12-35-44
1202012095	940249	1	axc2	1/18/2010	14:14:26	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:15:18	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:17:09	OM_1-18-2010_12-35-44
1202012091	940249	1	axc2	1/18/2010	14:18:58	OM_1-18-2010_12-35-44
1202012098	940249	25	axc2	1/18/2010	14:19:51	OM_1-18-2010_12-35-44
1202012097	940249	1	axc2	1/18/2010	14:20:44	OM_1-18-2010_12-35-44
244228004	940249	1	axc2	1/18/2010	14:21:37	OM_1-18-2010_12-35-44
244228005	940249	1	axc2	1/18/2010	14:22:30	OM_1-18-2010_12-35-44
244228006	940249	1	axc2	1/18/2010	14:23:23	OM_1-18-2010_12-35-44
244242001	940249	1	axc2	1/18/2010	14:24:17	OM_1-18-2010_12-35-44
244242002	940249	1	axc2	1/18/2010	14:25:09	OM_1-18-2010_12-35-44
244242003	940249	1	axc2	1/18/2010	14:26:02	OM_1-18-2010_12-35-44
244242004	940249	1	axc2	1/18/2010	14:26:54	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:27:47	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:29:37	OM_1-18-2010_12-35-44
244242005	940249	1	axc2	1/18/2010	14:31:26	OM_1-18-2010_12-35-44
244242006	940249	1	axc2	1/18/2010	14:32:18	OM_1-18-2010_12-35-44
244242007	940249	1	axc2	1/18/2010	14:33:12	OM_1-18-2010_12-35-44
244242008	940249	1	axc2	1/18/2010	14:34:06	OM_1-18-2010_12-35-44
244242009	940249	1	axc2	1/18/2010	14:35:01	OM_1-18-2010_12-35-44
244242010	940249	1	axc2	1/18/2010	14:35:55	OM_1-18-2010_12-35-44
244242011	940249	1	axc2	1/18/2010	14:36:48	OM_1-18-2010_12-35-44
244242012	940249	1	axc2	1/18/2010	14:37:42	OM_1-18-2010_12-35-44
244242013	940249	1	axc2	1/18/2010	14:38:36	OM_1-18-2010_12-35-44
244242014	940249	1	axc2	1/18/2010	14:39:29	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:40:21	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:42:12	OM_1-18-2010_12-35-44

1202012065	940244	1	axc2	1/18/2010	14:44:01	OM_1-18-2010_12-35-44
1202012072	940244	25	axc2	1/18/2010	14:44:54	OM_1-18-2010_12-35-44
244139009	940244	1	axc2	1/18/2010	14:45:47	OM_1-18-2010_12-35-44
1202012066	940244	1	axc2	1/18/2010	14:46:40	OM_1-18-2010_12-35-44
1202012068	940244	1	axc2	1/18/2010	14:47:32	OM_1-18-2010_12-35-44
1202012070	940244	1	axc2	1/18/2010	14:48:25	OM_1-18-2010_12-35-44
244139010	940244	1	axc2	1/18/2010	14:49:18	OM_1-18-2010_12-35-44
1202012067	940244	1	axc2	1/18/2010	14:50:12	OM_1-18-2010_12-35-44
1202012069	940244	1	axc2	1/18/2010	14:51:07	OM_1-18-2010_12-35-44
1202012071	940244	1	axc2	1/18/2010	14:52:01	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	14:52:53	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	14:54:43	OM_1-18-2010_12-35-44
244139011	940244	1	axc2	1/18/2010	14:56:34	OM_1-18-2010_12-35-44
244139012	940244	1	axc2	1/18/2010	14:57:28	OM_1-18-2010_12-35-44
244227001	940244	1	axc2	1/18/2010	14:58:22	OM_1-18-2010_12-35-44
244227002	940244	1	axc2	1/18/2010	14:59:16	OM_1-18-2010_12-35-44
244227003	940244	1	axc2	1/18/2010	15:00:09	OM_1-18-2010_12-35-44
244227004	940244	1	axc2	1/18/2010	15:01:03	OM_1-18-2010_12-35-44
244227005	940244	1	axc2	1/18/2010	15:01:56	OM_1-18-2010_12-35-44
244227006	940244	1	axc2	1/18/2010	15:02:50	OM_1-18-2010_12-35-44
244227007	940244	1	axc2	1/18/2010	15:03:43	OM_1-18-2010_12-35-44
244227008	940244	1	axc2	1/18/2010	15:04:35	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	15:05:28	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	15:07:18	OM_1-18-2010_12-35-44
244227009	940244	1	axc2	1/18/2010	15:09:08	OM_1-18-2010_12-35-44
244227010	940244	1	axc2	1/18/2010	15:10:00	OM_1-18-2010_12-35-44
244227011	940244	1	axc2	1/18/2010	15:10:55	OM_1-18-2010_12-35-44
244227012	940244	1	axc2	1/18/2010	15:11:50	OM_1-18-2010_12-35-44
244227013	940244	1	axc2	1/18/2010	15:12:44	OM_1-18-2010_12-35-44
244227014	940244	1	axc2	1/18/2010	15:13:38	OM_1-18-2010_12-35-44
244227015	940244	1	axc2	1/18/2010	15:14:33	OM_1-18-2010_12-35-44
244228001	940244	1	axc2	1/18/2010	15:15:27	OM_1-18-2010_12-35-44
CCV		1	axc2	1/18/2010	15:16:19	OM_1-18-2010_12-35-44
CCB		1	axc2	1/18/2010	15:18:10	OM_1-18-2010_12-35-44

Author: axc2

Date : 1/19/2010

Original Run Filename: OM\_1-18-2010\_12-35-44.OMN created 1/18/2010 12:35:44  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-18-2010\_12-35-44.OMN last modified 1/18/2010 15:19:15  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE		Detection Time	ADF	MDF	Description
			Conc. (ug/L)	Area (Vs)				
WCN100118-01	1	S1	200	6.39	1/18/2010@12:39:03			200 ppb
WCN100118-02	1	S2	150	4.99	1/18/2010@12:39:55			150 ppb
WCN100118-03	1	S3	100	3.39	1/18/2010@12:40:48			100 ppb
WCN100118-04	1	S4	50.0	1.78	1/18/2010@12:41:40			50 ppb
WCN100118-05	1	S5	10.0	0.425	1/18/2010@12:42:34			10 ppb
WCN100118-06	1	S6	5.00	0.276	1/18/2010@12:43:27			CRDL 5.0 ppb
WCN100118-08	1	S7	0.00	0.0116	1/18/2010@12:44:21			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99944 > 0.99500					
Message			Pass					
Action			Continue					
WCN100118-07	1	S8	156	5.09	1/18/2010@12:46:12			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			3.7 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			3.7 < 10.0					
Message			ICV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.54	-0.00105	1/18/2010@12:48:02			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.54 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.54 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100118-06	1	S6	4.85	0.267	1/18/2010@12:49:52			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			4.85 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			4.85 > 2.50					
Message			Pass					
Action			None					
1202013064 940627 MB	1	1	-2.14	0.0438	1/18/2010@12:51:41			
1202013071 LCS	1	2	53.9	1.84	1/18/2010@12:52:35			
244226001	1	3	-2.70	0.0257	1/18/2010@12:53:28			
1202013065 DUP	1	4	-2.50	0.0320	1/18/2010@12:54:21			
1202013067 MS	1	5	99.5	3.30	1/18/2010@12:55:14			
1202013069 MSD	1	6	108	3.56	1/18/2010@12:56:07			
244226002	1	7	-2.72	0.0251	1/18/2010@12:57:00			
244236001	1	8	-2.86	0.0207	1/18/2010@12:57:52			
1202013066 DUP	1	9	-2.28	0.0393	1/18/2010@12:58:45			
1202013068 MS	1	10	105	3.46	1/18/2010@12:59:37			
WCN100118-03	1	S3	109	3.59	1/18/2010@13:00:29			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			8.8 < 10.0					
Message			CCV Passed					
Action			Continue					

DQM Test: < - Percent Relative Difference						
Result:		8.8 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100118-08	1	S7	-2.87	0.0203	1/18/2010@13:02:19	CCB
Known Conc:		0.00				
DQM Test: > + Concentration Limit						
Result:		-2.87 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-2.87 > -5.00				
Message		CCB Passed				
Action		Continue				
1202013070 MSD	1	11	105	3.49	1/18/2010@13:04:08	
244236004	1	12	-2.08	0.0457	1/18/2010@13:05:00	
244240002	1	13	-3.50	-8.65e-6	1/18/2010@13:05:51	
244243001	1	14	-3.66	-0.00508	1/18/2010@13:06:43	
244243002	1	15	-2.84	0.0212	1/18/2010@13:07:35	
244243003	1	16	-2.79	0.0230	1/18/2010@13:08:28	
244243004	1	17	-2.27	0.0396	1/18/2010@13:09:22	
244516001	1	18	-2.40	0.0353	1/18/2010@13:10:16	
244516002	1	19	-2.08	0.0457	1/18/2010@13:11:09	
244523001	1	20	-3.86	-0.0114	1/18/2010@13:12:02	
WCN100118-03	1	S3	109	3.60	1/18/2010@13:12:54	CCV
Known Conc:		100				
DQM Test: > + Percent Relative Difference						
Result:		9.0 < 10.0				
Message		CCV Passed				
Action		Continue				
DQM Test: < - Percent Relative Difference						
Result:		9.0 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100118-08	1	S7	-4.31	-0.0257	1/18/2010@13:14:44	CCB
Known Conc:		0.00				
DQM Test: > + Concentration Limit						
Result:		-4.31 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-4.31 > -5.00				
Message		CCB Passed				
Action		Continue				
244525001	1	21	-2.34	0.0371	1/18/2010@13:16:33	
244525003	1	22	-2.43	0.0342	1/18/2010@13:17:26	
244532001	1	23	7.91	0.365	1/18/2010@13:18:19	
244537001	1	24	-1.03	0.0790	1/18/2010@13:19:11	
244574001	1	25	-0.528	0.0952	1/18/2010@13:20:04	
244580001	1	26	-1.41	0.0669	1/18/2010@13:20:56	
244583001	1	27	10.8	0.459	1/18/2010@13:21:49	
244609005	1	28	328	10.6	1/18/2010@13:22:40	
1202016420 941969 MB	1	29	-1.71	0.0574	1/18/2010@13:23:32	
1202016427 LCS	1	30	27.2	0.982	1/18/2010@13:24:24	25.00
WCN100118-03	1	S3	109	3.59	1/18/2010@13:25:17	CCV
Known Conc:		100				
DQM Test: > + Percent Relative Difference						
Result:		8.6 < 10.0				
Message		CCV Passed				
Action		Continue				
DQM Test: < - Percent Relative Difference						
Result:		8.6 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100118-08	1	S7	-1.95	0.0499	1/18/2010@13:27:07	CCB
Known Conc:		0.00				
DQM Test: > + Concentration Limit						
Result:		-1.95 < 5.00				



			Message	CCB Passed				
			Action	Continue				
DQM Test: < - Concentration Limit								
			Result:	-1.95 > -5.00				
			Message	CCB Passed				
			Action	Continue				
244622003	1	31		-1.57	0.0620	1/18/2010@13:28:58		
1202016421  DUP	1	32		-2.30	0.0384	1/18/2010@13:29:52		
1202016423  MS	1	33		102	3.36	1/18/2010@13:30:45		
1202016425  MSD	1	34		105	3.46	1/18/2010@13:31:38		
244622004	1	35		-2.58	0.0297	1/18/2010@13:32:31		
244622005	1	36		-2.62	0.0283	1/18/2010@13:33:24		
244622006	1	37		-2.32	0.0379	1/18/2010@13:34:17		
244622007	1	38		-2.27	0.0394	1/18/2010@13:35:10		
244622008	1	39		-1.49	0.0644	1/18/2010@13:36:04		
244768001	1	40		5.61	0.292	1/18/2010@13:36:56		
WCN100118-03	1	S3		108	3.58	1/18/2010@13:37:49		CCV
			Known Conc:	100				
DQM Test: > + Percent Relative Difference								
			Result:	8.5 < 10.0				
			Message	CCV Passed				
			Action	Continue				
DQM Test: < - Percent Relative Difference								
			Result:	8.5 < 10.0				
			Message	CCV Passed				
			Action	Continue				
WCN100118-08	1	S7		-3.50	-1.72e-6	1/18/2010@13:39:38		CCB
			Known Conc:	0.00				
DQM Test: > + Concentration Limit								
			Result:	-3.50 < 5.00				
			Message	CCB Passed				
			Action	Continue				
DQM Test: < - Concentration Limit								
			Result:	-3.50 > -5.00				
			Message	CCB Passed				
			Action	Continue				
244768002	1	41		-2.73	0.0249	1/18/2010@13:41:27		
244768003	1	42		-2.84	0.0214	1/18/2010@13:42:19		
244768004	1	43		-2.54	0.0309	1/18/2010@13:43:12		
244768005	1	44		-1.22	0.0731	1/18/2010@13:44:03		
244768006	1	45		-2.45	0.0337	1/18/2010@13:44:55		
244768007	1	46		-2.55	0.0307	1/18/2010@13:45:50		
244768008	1	47		-2.10	0.0449	1/18/2010@13:46:44		
244768009	1	48		-1.29	0.0708	1/18/2010@13:47:37		
244768010	1	49		-1.30	0.0706	1/18/2010@13:48:31		
244773001	1	50		-2.37	0.0364	1/18/2010@13:49:24		
WCN100118-03	1	S3		108	3.56	1/18/2010@13:50:17		CCV
			Known Conc:	100				
DQM Test: > + Percent Relative Difference								
			Result:	7.8 < 10.0				
			Message	CCV Passed				
			Action	Continue				
DQM Test: < - Percent Relative Difference								
			Result:	7.8 < 10.0				
			Message	CCV Passed				
			Action	Continue				
WCN100118-08	1	S7		-3.12	0.0122	1/18/2010@13:52:07		CCB
			Known Conc:	0.00				
DQM Test: > + Concentration Limit								
			Result:	-3.12 < 5.00				
			Message	CCB Passed				
			Action	Continue				
DQM Test: < - Concentration Limit								
			Result:	-3.12 > -5.00				
			Message	CCB Passed				
			Action	Continue				
1202016422  DUP	1	51		-2.60	0.0290	1/18/2010@13:53:57		
1202016424  MS	1	52		93.1	3.09	1/18/2010@13:54:50		

1202016426  MSD	1	53	95.7	3.18	1/18/2010@13:55:43			
244773002	1	54	-2.43	0.0343	1/18/2010@13:56:36			
244773003	1	55	-1.87	0.0522	1/18/2010@13:57:28			
244773004	1	56	-2.08	0.0457	1/18/2010@13:58:21			
244609005 940627	1	28	60.8	2.06	1/18/2010@13:59:14		5.00	
1202017519 942453 MB	1	112	-2.32	0.0378	1/18/2010@14:00:07			
1202017520  LCS	1	113	-2.48	0.0329	1/18/2010@14:01:01			
1202017521  LCSD	1	114	-3.68	-0.00553	1/18/2010@14:01:56			
WCN100118-03	1	S3	107	3.55	1/18/2010@14:02:47			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			7.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			7.5 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.63	-0.00401	1/18/2010@14:04:37			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.63 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.63 > -5.00					
Message			CCB Passed					
Action			Continue					
244810001	1	115	162	5.31	1/18/2010@14:06:27			
1202012091 940249 MB	1	57	615	19.8	1/18/2010@14:07:21			
1202012098  LCS	1	58	-1.60	0.0610	1/18/2010@14:08:12		25.00	
244228002	1	59	0.0437	0.114	1/18/2010@14:09:04			
1202012096  MSD	1	60	90.3	3.00	1/18/2010@14:09:56			
1202012094  MS	1	61	83.7	2.79	1/18/2010@14:10:51			
1202012092  DUP	1	62	-0.800	0.0865	1/18/2010@14:11:45			
244228003	1	63	-2.62	0.0284	1/18/2010@14:12:39			
1202012093  DUP	1	64	-2.57	0.0299	1/18/2010@14:13:33			
1202012095  MS	1	65	96.3	3.19	1/18/2010@14:14:26			
WCN100118-03	1	S3	108	3.57	1/18/2010@14:15:18			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			8.2 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			8.2 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.71	-0.00665	1/18/2010@14:17:09			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.71 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.71 > -5.00					
Message			CCB Passed					
Action			Continue					
1202012091  MB	1	57	-3.73	-0.00710	1/18/2010@14:18:58			
1202012098  LCS	1	58	27.7	0.999	1/18/2010@14:19:51		25.00	
1202012097  MSD	1	66	99.3	3.29	1/18/2010@14:20:44			
244228004	1	67	-1.50	0.0642	1/18/2010@14:21:37			
244228005	1	68	-1.84	0.0532	1/18/2010@14:22:30			
244228006	1	69	-0.258	0.104	1/18/2010@14:23:23			
244242001	1	70	-2.38	0.0359	1/18/2010@14:24:17			
244242002	1	71	0.545	0.130	1/18/2010@14:25:09			
244242003	1	72	-2.36	0.0365	1/18/2010@14:26:02			
244242004	1	73	-2.40	0.0354	1/18/2010@14:26:54			

WCN100118-03	1	S3	107	3.54	1/18/2010@14:27:47		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			7.0 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			7.0 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100118-08	1	S7	-3.74	-0.00766	1/18/2010@14:29:37		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-3.74 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-3.74 > -5.00				
Message			CCB Passed				
Action			Continue				
244242005	1	74	-2.53	0.0310	1/18/2010@14:31:26		
244242006	1	75	-2.02	0.0476	1/18/2010@14:32:18		
244242007	1	76	-1.48	0.0646	1/18/2010@14:33:12		
244242008	1	77	-0.969	0.0811	1/18/2010@14:34:06		
244242009	1	78	1.92	0.173	1/18/2010@14:35:01		
244242010	1	79	-0.972	0.0810	1/18/2010@14:35:55		
244242011	1	80	2.46	0.191	1/18/2010@14:36:48		
244242012	1	81	-2.33	0.0374	1/18/2010@14:37:42		
244242013	1	82	-1.94	0.0501	1/18/2010@14:38:36		
244242014	1	83	-4.40	-0.0288	1/18/2010@14:39:29		
WCN100118-03	1	S3	105	3.48	1/18/2010@14:40:21		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			5.1 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			5.1 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100118-08	1	S7	-3.70	-0.00617	1/18/2010@14:42:12		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-3.70 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-3.70 > -5.00				
Message			CCB Passed				
Action			Continue				
1202012065 940244 MB	1	84	-1.88	0.0518	1/18/2010@14:44:01		
1202012072 LCS	1	85	28.4	1.02	1/18/2010@14:44:54	25.00	
244139009	1	86	-2.18	0.0422	1/18/2010@14:45:47		
1202012066 DUP	1	87	-1.68	0.0582	1/18/2010@14:46:40		
1202012068 MS	1	88	109	3.61	1/18/2010@14:47:32		
1202012070 MSD	1	89	92.7	3.08	1/18/2010@14:48:25		
244139010	1	90	-1.82	0.0540	1/18/2010@14:49:18		
1202012067 DUP	1	91	-2.24	0.0405	1/18/2010@14:50:12		
1202012069 MS	1	92	103	3.41	1/18/2010@14:51:07		
1202012071 MSD	1	93	111	3.67	1/18/2010@14:52:01		
WCN100118-03	1	S3	107	3.55	1/18/2010@14:52:53		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			7.4 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			7.4 < 10.0				

		Message	CCV Passed					
		Action	Continue					
WCN100118-08	1	S7	-3.08	0.0137	1/18/2010@14:54:43			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-3.08 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-3.08 > -5.00					
		Message	CCB Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
244139011	1	94	-1.12	0.0764	1/18/2010@14:56:34			
244139012	1	95	-4.10	-0.0191	1/18/2010@14:57:28			
244227001	1	96	-2.47	0.0332	1/18/2010@14:58:22			
244227002	1	97	-2.52	0.0315	1/18/2010@14:59:16			
244227003	1	98	-3.51	-3.03e-4	1/18/2010@15:00:09			
244227004	1	99	-1.79	0.0547	1/18/2010@15:01:03			
244227005	1	100	-1.73	0.0568	1/18/2010@15:01:56			
244227006	1	101	-2.49	0.0323	1/18/2010@15:02:50			
244227007	1	102	9.40	0.413	1/18/2010@15:03:43			
244227008	1	103	-0.858	0.0847	1/18/2010@15:04:35			
WCN100118-03	1	S3	106	3.50	1/18/2010@15:05:28			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	5.8 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	5.8 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100118-08	1	S7	-2.72	0.0249	1/18/2010@15:07:18			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-2.72 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-2.72 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244227009	1	104	-0.336	0.101	1/18/2010@15:09:08			
244227010	1	105	-2.18	0.0424	1/18/2010@15:10:00			
244227011	1	106	-1.74	0.0564	1/18/2010@15:10:55			
244227012	1	107	-2.46	0.0332	1/18/2010@15:11:50			
244227013	1	108	-1.71	0.0574	1/18/2010@15:12:44			
244227014	1	109	-2.04	0.0468	1/18/2010@15:13:38			
244227015	1	110	-0.817	0.0860	1/18/2010@15:14:33			
244228001	1	111	-3.51	-3.21e-4	1/18/2010@15:15:27			
WCN100118-03	1	S3	105	3.48	1/18/2010@15:16:19			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	5.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	5.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100118-08	1	S7	-3.64	-0.00439	1/18/2010@15:18:10			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-3.64 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								

Result:	-3.64 > -5.00				
Message	CCB Passed				
Action	Continue				

Analyte Properties Table for OM\_1-18-2010\_12-35-44.OMN

Property	Channel 1 TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

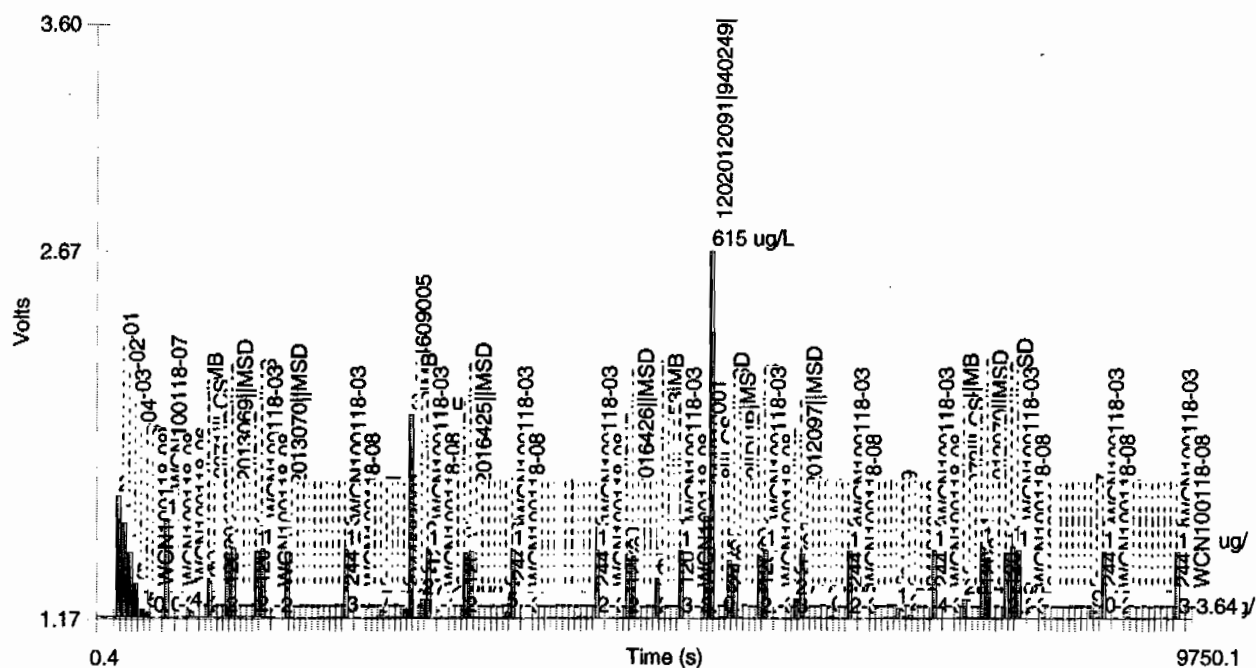
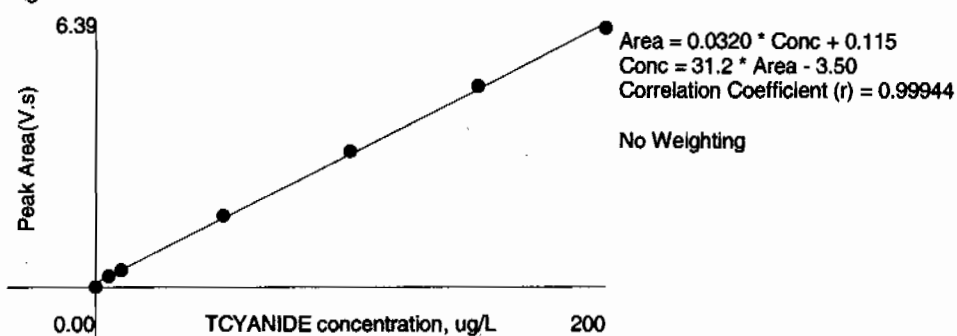


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.39	0.494	1.8	1/18/2010	12:40:06
2	150	1	4.99	0.384	-1.7	1/18/2010	12:40:58
3	100	1	3.39	0.261	-2.5	1/18/2010	12:41:50
4	50.0	1	1.78	0.137	-3.8	1/18/2010	12:42:43
5	10.0	1	0.425	0.0315	2.3	1/18/2010	12:43:37
6	5.00	1	0.276	0.0199	-0.6	1/18/2010	12:44:30
7	0.00	1	0.0116	3.98e-4		1/18/2010	12:45:24

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	axc2	1/18/2010 15:20:51	OM_1-18-2010_15-20-05
CCB		1	axc2	1/18/2010 15:22:41	OM_1-18-2010_15-20-05
1202017527	942457	1	axc2	1/18/2010 15:24:30	OM_1-18-2010_15-20-05
1202017534	942457	25	axc2	1/18/2010 15:25:24	OM_1-18-2010_15-20-05
244721009	942457	1	axc2	1/18/2010 15:26:17	OM_1-18-2010_15-20-05
244721010	942457	1	axc2	1/18/2010 15:27:10	OM_1-18-2010_15-20-05
244721011	942457	1	axc2	1/18/2010 15:28:03	OM_1-18-2010_15-20-05
244721012	942457	1	axc2	1/18/2010 15:28:56	OM_1-18-2010_15-20-05
244721013*	942457	1	axc2	1/18/2010 15:29:48	OM_1-18-2010_15-20-05
244810001	942457	1	axc2	1/18/2010 15:30:41	OM_1-18-2010_15-20-05
244847001	942457	1	axc2	1/18/2010 15:31:33	OM_1-18-2010_15-20-05
1202017528	942457	1	axc2	1/18/2010 15:32:26	OM_1-18-2010_15-20-05
CCV		1	axc2	1/18/2010 15:33:18	OM_1-18-2010_15-20-05
CCB		1	axc2	1/18/2010 15:35:09	OM_1-18-2010_15-20-05

Original Run Filename: OM\_1-18-2010\_15-20-05.OMN created 1/18/2010 15:20:05  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-18-2010\_15-20-05.OMN last modified 1/18/2010 15:37:53  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE	Area				
			Conc. (ug/L)	(Vs)				
WCN100118-03	1	S3	105	3.46	1/18/2010@15:20:51			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			4.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			4.5 < 10.0					
Message			CCV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100118-08	1	S7	-3.73	-0.00723	1/18/2010@15:22:41			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.73 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.73 > -5.00					
Message			CCB Passed					
Action			Continue					
1202017527 942457 MB	1	1	-3.72	-0.00685	1/18/2010@15:24:30			
1202017534  LCS	1	2	28.6	1.03	1/18/2010@15:25:24		25.00	
244721009	1	3	0.955	0.143	1/18/2010@15:26:17			
244721010	1	4	-1.79	0.0548	1/18/2010@15:27:10			
244721011	1	5	-1.45	0.0658	1/18/2010@15:28:03			
244721012	1	6	-2.08	0.0456	1/18/2010@15:28:56			
244721013	1	7	11.8	0.490	1/18/2010@15:29:48			
244810001	1	8	148	4.86	1/18/2010@15:30:41			
244847001	1	9	-1.68	0.0584	1/18/2010@15:31:33			
1202017528  DUP	1	10	1.56	0.162	1/18/2010@15:32:26			
WCN100118-03	1	S3	107	3.53	1/18/2010@15:33:18			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			6.7 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			6.7 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.64	-0.00431	1/18/2010@15:35:09			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.64 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.64 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_1-18-2010\_15-20-05.OMN

Property	Channel 1
Concentration Units	TCYANIDE ug/L



Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

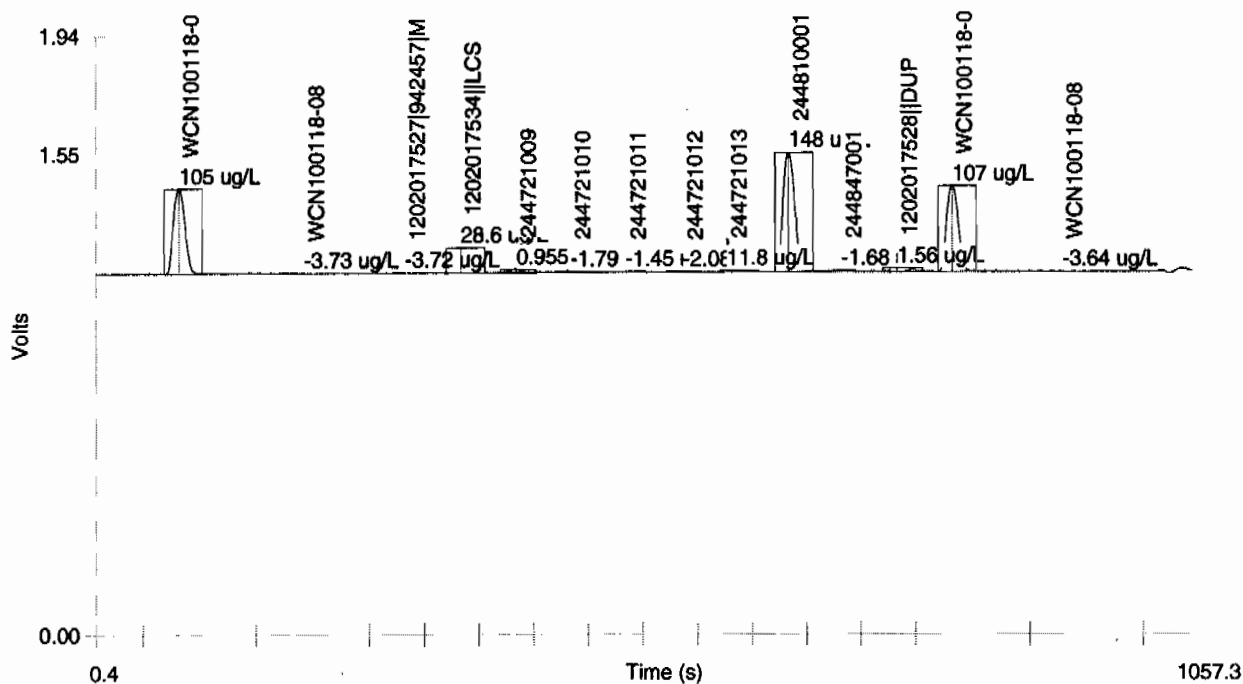
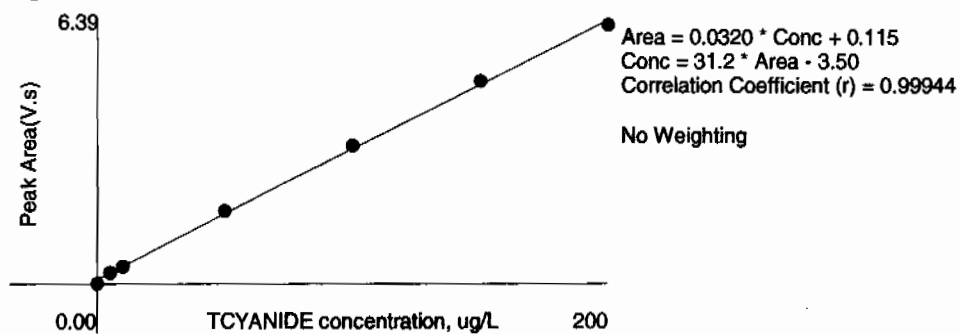


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.39	0.494	1.8	1/18/2010	12:40:06
2	150	1	4.99	0.384	-1.7	1/18/2010	12:40:58
3	100	1	3.39	0.261	-2.5	1/18/2010	12:41:50
4	50.0	1	1.78	0.137	-3.8	1/18/2010	12:42:43
5	10.0	1	0.425	0.0315	2.3	1/18/2010	12:43:37
6	5.00	1	0.276	0.0199	-0.6	1/18/2010	12:44:30
7	0.00	1	0.0116	3.98e-4		1/18/2010	12:45:24

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	axc2	1/18/2010 15:48:49	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 15:50:40	OM_1-18-2010_15-47-18
244721013	942457	1	axc2	1/18/2010 15:52:28	OM_1-18-2010_15-47-18
1202017530	942457	1	axc2	1/18/2010 15:53:21	OM_1-18-2010_15-47-18
1202017532	942457	1	axc2	1/18/2010 15:54:13	OM_1-18-2010_15-47-18
244847002	942457	1	axc2	1/18/2010 15:55:04	OM_1-18-2010_15-47-18
1202017529	942457	1	axc2	1/18/2010 15:55:56	OM_1-18-2010_15-47-18
1202017531	942457	1	axc2	1/18/2010 15:56:48	OM_1-18-2010_15-47-18
1202017533	942457	1	axc2	1/18/2010 15:57:41	OM_1-18-2010_15-47-18
244847003	942457	1	axc2	1/18/2010 15:58:35	OM_1-18-2010_15-47-18
244847004	942457	1	axc2	1/18/2010 15:59:29	OM_1-18-2010_15-47-18
244852001	942457	1	axc2	1/18/2010 16:00:22	OM_1-18-2010_15-47-18
CCV		1	axc2	1/18/2010 16:01:14	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 16:03:05	OM_1-18-2010_15-47-18
244852002	942457	1	axc2	1/18/2010 16:04:54	OM_1-18-2010_15-47-18
244852003	942457	1	axc2	1/18/2010 16:05:47	OM_1-18-2010_15-47-18
244852004	942457	1	axc2	1/18/2010 16:06:40	OM_1-18-2010_15-47-18
244881001	942457	1	axc2	1/18/2010 16:07:33	OM_1-18-2010_15-47-18
244881002	942457	1	axc2	1/18/2010 16:08:25	OM_1-18-2010_15-47-18
244881003	942457	1	axc2	1/18/2010 16:09:18	OM_1-18-2010_15-47-18
244881004	942457	1	axc2	1/18/2010 16:10:11	OM_1-18-2010_15-47-18
244921001	942457	1	axc2	1/18/2010 16:11:03	OM_1-18-2010_15-47-18
244921002	942457	1	axc2	1/18/2010 16:11:55	OM_1-18-2010_15-47-18
1202015123	941495	1	axc2	1/18/2010 16:12:47	OM_1-18-2010_15-47-18
CCV		1	axc2	1/18/2010 16:13:39	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 16:15:30	OM_1-18-2010_15-47-18
1202015125	941495	1	axc2	1/18/2010 16:17:17	OM_1-18-2010_15-47-18
244447003	941495	1	axc2	1/18/2010 16:18:11	OM_1-18-2010_15-47-18
1202015124	941495	1	axc2	1/18/2010 16:19:06	OM_1-18-2010_15-47-18
244580001	941495	1	axc2	1/18/2010 16:19:59	OM_1-18-2010_15-47-18
CCV		1	axc2	1/18/2010 16:20:52	OM_1-18-2010_15-47-18
CCB		1	axc2	1/18/2010 16:22:42	OM_1-18-2010_15-47-18

Original Run Filename: OM\_1-18-2010\_15-47-18.OMN created 1/18/2010 15:47:18  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-18-2010\_15-47-18.OMN last modified 1/18/2010 16:23:46  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-102 EPA 420.4, 9066  
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE	Area				
			Conc. (ug/L)	(Vs)				
WCN100118-03	1	S3	102	3.38	1/18/2010@15:48:49			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			2.0 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			2.0 < 10.0					
Message			CCV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100118-08	1	S7	-3.50	-4.33e-5	1/18/2010@15:50:40			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.50 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.50 > -5.00					
Message			CCB Passed					
Action			Continue					
244721013	1	7	-0.687	0.0901	1/18/2010@15:52:28			
1202017530 MS	1	11	91.8	3.05	1/18/2010@15:53:21			
1202017532 MSD	1	12	88.6	2.95	1/18/2010@15:54:13			
244847002	1	13	-0.466	0.0972	1/18/2010@15:55:04			
1202017529 DUP	1	14	-0.415	0.0988	1/18/2010@15:55:56			
1202017531 MS	1	15	87.1	2.90	1/18/2010@15:56:48			
1202017533 MSD	1	16	82.9	2.77	1/18/2010@15:57:41			
244847003	1	17	-0.641	0.0916	1/18/2010@15:58:35			
244847004	1	18	-1.31	0.0702	1/18/2010@15:59:29			
244852001	1	19	-1.17	0.0745	1/18/2010@16:00:22			
WCN100118-03	1	S3	102	3.39	1/18/2010@16:01:14			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			2.5 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			2.5 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	-3.61	-0.00342	1/18/2010@16:03:05			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.61 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.61 > -5.00					
Message			CCB Passed					
Action			Continue					
244852002	1	20	1.27	0.153	1/18/2010@16:04:54			
244852003	1	21	-0.425	0.0985	1/18/2010@16:05:47			
244852004	1	22	1.35	0.155	1/18/2010@16:06:40			
244881001	1	23	-0.769	0.0875	1/18/2010@16:07:33			
244881002	1	24	-1.07	0.0778	1/18/2010@16:08:25			
244881003	1	25	-0.237	0.105	1/18/2010@16:09:18			

244881004	1	26	-0.741	0.0884	1/18/2010@16:10:11			
244921001	1	27	-0.433	0.0982	1/18/2010@16:11:03			
244921002	1	28	3.85	0.235	1/18/2010@16:11:55			
1202015123 941495 MB	1	29	-2.04	0.0469	1/18/2010@16:12:47			
WCN100118-03	1	S3	103	3.41	1/18/2010@16:13:39			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			3.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			3.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	2.41	0.189	1/18/2010@16:15:30			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			2.41 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			2.41 > -5.00					
Message			CCB Passed					
Action			Continue					
1202015125 LCS	1	30	-0.207	0.105	1/18/2010@16:17:17			
244447003	1	31	-2.15	0.0434	1/18/2010@16:18:11			
1202015124 DUP	1	32	-0.178	0.106	1/18/2010@16:19:06			
244580001	1	33	-2.04	0.0470	1/18/2010@16:19:59			
WCN100118-03	1	S3	95.9	3.18	1/18/2010@16:20:52			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-4.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-4.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100118-08	1	S7	0.552	0.130	1/18/2010@16:22:42			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.552 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.552 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_1-18-2010\_15-47-18.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

## Channel 1: Current View

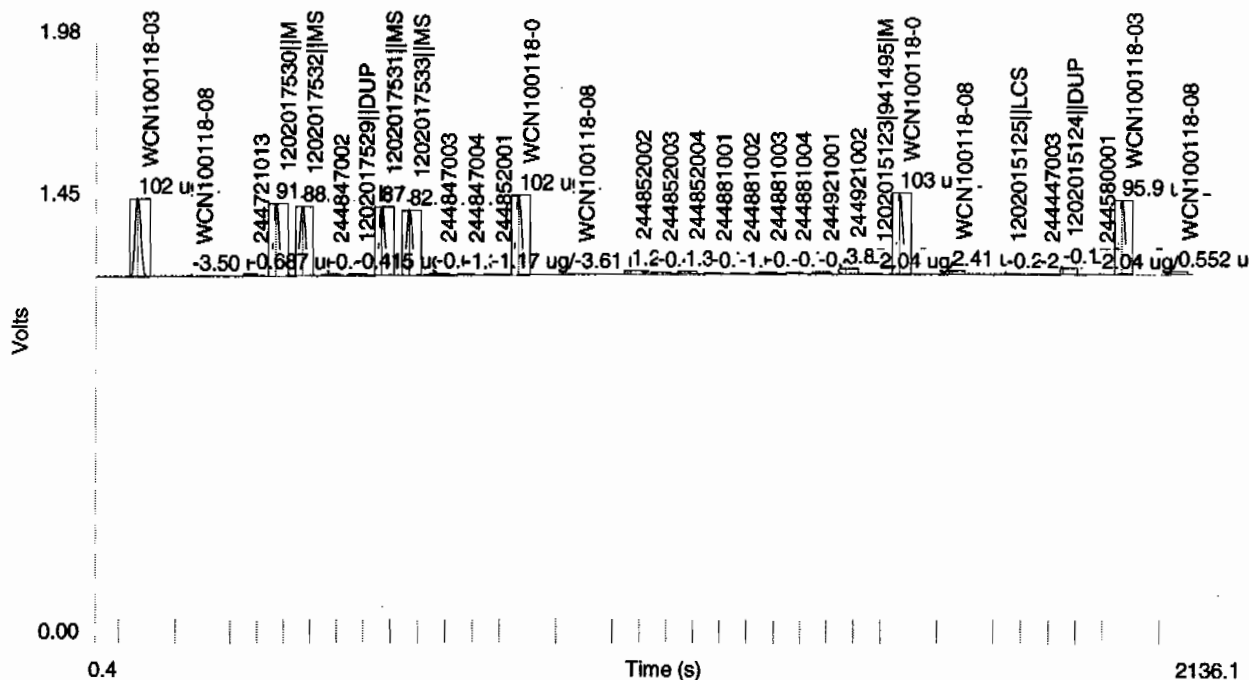
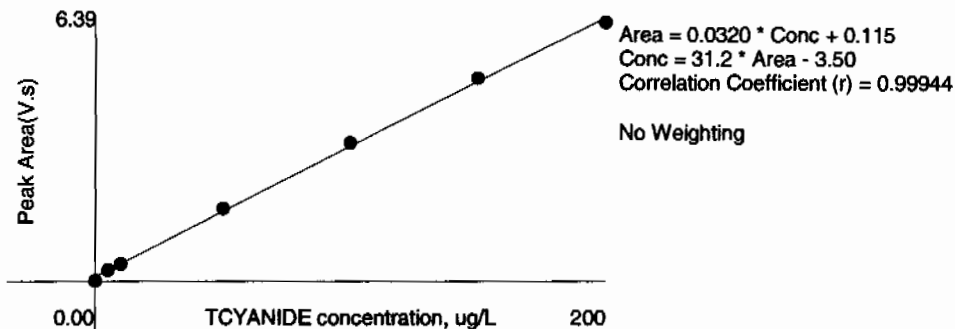


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.39	0.494	1.8	1/18/2010	12:40:06
2	150	1	4.99	0.384	-1.7	1/18/2010	12:40:58
3	100	1	3.39	0.261	-2.5	1/18/2010	12:41:50
4	50.0	1	1.78	0.137	-3.8	1/18/2010	12:42:43
5	10.0	1	0.425	0.0315	2.3	1/18/2010	12:43:37
6	5.00	1	0.276	0.0199	-0.6	1/18/2010	12:44:30
7	0.00	1	0.0116	3.98e-4		1/18/2010	12:45:24

Figure 1: TCYANIDE



# RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1264-1**

**Method/Analysis Information**

**Procedure:** Dry Weight-Percent Moisture  
**Analytical Method:** Dry Soil Prep  
**Analytical Batch Number:** 942703

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202018243	244852001(RE12-10-7856) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-020 REV# 9.

**Calibration Information:**

**Calibration Information**

All initial and continuing calibration requirements have been met.

**Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

**Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

**Quality Control (QC) Information:**

**Designated QC**

The following sample was used for QC: 244852001 (RE12-10-7856). The QC was from LANL work order 244852.

**QC Information**



All of the QC samples met the required acceptance limits.

**CSU**

Not Applicable. The blank result is less than 1.65 times the CSU.

**Technical Information:**

**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

**Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

**Miscellaneous Information:**

**Data Exception (DER) Documentation**

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

**Additional Comments**

Additional comments were not required for this sample set.

**Blank Decision Level**

Not Applicable. The blank result is less than the decision level.

**Qualifier information**

Manual qualifiers were not required.

**Method/Analysis Information**

<b>Product:</b>	<b>AM241</b>
<b>Analytical Method:</b>	<b>DOE EML HASL-300, Am-05-RC Modified</b>
<b>Prep Method:</b>	<b>Dry Soil Prep</b>
<b>Analytical Batch Number:</b>	<b>942753</b>
<b>Prep Batch Number:</b>	<b>942703</b>

Sample ID	Client ID
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202018341	Method Blank (MB)
1202018342	244902001(RE46-10-10099) Sample Duplicate (DUP)
1202018343	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 1202018341 (MB) was changed to 1.0 per client request.

##### **Designated QC**

The following sample was used for QC: 244902001 (RE46-10-10099). The QC was from LANL work order 244902.

##### **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 244881004 (RE12-10-8095) was recounted due to a peak shift.

### **Miscellaneous Information:**

#### **Data Exception (DER) Documentation**

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

#### **Manual Integration**

No manual integrations were performed on data in this batch.

#### **Additional Comments**

The MDCs are calculated using a blank population. Sample 244881001 (RE12-10-8096) did not meet the client's yield requirement. However, there are 400 tracer counts, GEL's standard tracer yield requirements are met, and the client's detection limits are met.

#### **Blank Decision Level**

The blank result is less than the decision level.

#### **Qualifier information**

Manual qualifiers were not required.

#### **Method/Analysis Information**

<b>Product:</b>	<b>ISOPU</b>
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	942754
Prep Batch Number:	942703

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202018344	Method Blank (MB)
1202018345	244902001(RE46-10-10099) Sample Duplicate (DUP)
1202018346	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 1202018344 (MB) was changed to 1.0 per client request.

**Designated QC**

The following sample was used for QC: 244902001 (RE46-10-10099). The QC was from LANL work order 244902.

**QC Information**

All of the QC samples met the required acceptance limits.

**CSU**

The blank result is less than 1.65 times the CSU.

**Technical Information:**

**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

**Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

**Miscellaneous Information:**

**Data Exception (DER) Documentation**

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

**Manual Integration**

No manual integrations were performed on data in this batch.

**Additional Comments**

The MDCs are calculated using a blank population.

**Blank Decision Level**

The blank result is less than the decision level.

**Qualifier information**

Manual qualifiers were not required.

**Method/Analysis Information**

**Product:** ISOU  
**Analytical Method:** DOE EML HASL-300, U-02-RC Modified  
**Prep Method:** Dry Soil Prep  
**Analytical Batch Number:** 942756  
**Prep Batch Number:** 942703

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202018347	Method Blank (MB)
1202018348	244902001(RE46-10-10099) Sample Duplicate (DUP)
1202018349	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 1202018347 (MB) was changed to 1.0 per client request.

**Designated QC**

The following sample was used for QC: 244902001 (RE46-10-10099). The QC was from LANL work order 244902.

**QC Information**

All of the QC samples met the required acceptance limits.

**CSU**

The blank result is less than 1.65 times the CSU.

**Technical Information:****Holding Time**

All sample procedures for this sample set were performed within the required holding time.

**Sample Re-prep/Re-analysis**

None of the samples in this sample set required reprep or reanalysis.

**Miscellaneous Information:****Data Exception (DER) Documentation**

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

**Manual Integration**

No manual integrations were performed on data in this batch.

**Additional Comments**

The MDCs are calculated using a blank population.

**Blank Decision Level**

The blank result is less than the decision level.

**Qualifier information**

Manual qualifiers were not required.

**Method/Analysis Information**

**Product:** GAMMA SPEC  
**Analytical Method:** DOE HASL 300, 4.5.2.3/Ga-01-R  
**Prep Method:** Dry Soil Prep  
**Analytical Batch Number:** 942718  
**Prep Batch Number:** 942703

<b>Sample ID</b>	<b>Client ID</b>
244881001	RE12-10-8096
244881002	RE12-10-8094
244881003	RE12-10-8097
244881004	RE12-10-8095
1202018262	Method Blank (MB)
1202018263	244852003(RE12-10-7855) Sample Duplicate (DUP)
1202018264	Laboratory Control Sample (LCS)

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

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 18.

#### **Calibration Information:**

##### **Calibration Information**

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in January 2009, February 2009, March 2009, April 2009, June 2009, August 2009, October 2009, November 2009 and January 2010.

##### **Standards Information**

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

##### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

#### **Quality Control (QC) Information:**

##### **Blank Information**

The blank volume is representative of the sample volume in this batch.

##### **Designated QC**

The following sample was used for QC: 244852003 (RE12-10-7855). The QC was from LANL work order 244852.

**QC Information**

All of the QC samples met the required acceptance limits.

**CSU**

The Method Blank, 1202018262 (MB), results for Co-60, Ra-223, Sr-85 and Th-231 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:****Data Exception (DER) Documentation**

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

**Additional Comments**

Additional comments were not required for this sample set.

**Blank Decision Level**

The Method Blank, 1202018262 (MB), results for Co-60, Ra-223, Sr-85, Th-231 and Th-234 are greater than the decision level, but less than the MDC.

**Qualifier information**



Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	244881001	RE12-10-8096
			244881002	RE12-10-8094
			244881003	RE12-10-8097
			244881004	RE12-10-8095
			1202018263	RE12-10-7855(244852003DUP)
		Cadmium-109	244881001	RE12-10-8096
			244881002	RE12-10-8094
			244881003	RE12-10-8097
			244881004	RE12-10-8095
			1202018263	RE12-10-7855(244852003DUP)
		Radium-224	244881001	RE12-10-8096
			244881002	RE12-10-8094
			244881003	RE12-10-8097
			244881004	RE12-10-8095
			1202018263	RE12-10-7855(244852003DUP)
UI	Data rejected due to low abundance.	Cesium-134	244881001	RE12-10-8096
			244881002	RE12-10-8094
			244881003	RE12-10-8097
			244881004	RE12-10-8095
		Strontium-85	244881001	RE12-10-8096
			244881004	RE12-10-8095
			1202018263	RE12-10-7855(244852003DUP)

#### **Certification Statement**

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

**Review Validation:**

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

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

**Reviewer/Date:** \_\_\_\_\_

 1/29/10

# 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: 10-1264-1 GEL Work Order: 244881

**The Qualifiers in this report are defined as follows:**

- \* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- \*\* Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

 1/29/10

# GEL LABORATORIES LLC

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

## Certificate of Analysis

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8096  
Sample ID: 244881001  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 6.13%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00321	0.0427	+/-0.00285	0.050	pCi/g		KXM4	01/26/10	1417	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00524	0.0216	+/-0.00371	0.050	pCi/g		KXM4	01/23/10	1208	942754	3
Plutonium-239/240	U	0.0144	0.0247	+/-0.0044	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.15	0.116	+/-0.105	0.100	pCi/g		KXM4	01/26/10	2026	942756	4
Uranium-235/236		0.0832	0.0719	+/-0.0205	0.100	pCi/g						
Uranium-238		1.43	0.0672	+/-0.125	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0196	0.257	+/-0.0771	0.200	pCi/g		MXR1	01/26/10	1324	942718	5
Bismuth-211	UI	3.06	0.241	+/-0.178		pCi/g						
Bismuth-214		0.881	0.0788	+/-0.0653	0.200	pCi/g						
Cadmium-109	UI	2.79	1.02	+/-0.401		pCi/g						
Cerium-139	U	0.00467	0.038	+/-0.0104	0.050	pCi/g						
Cesium-134	UI	0.0808	0.0597	+/-0.0248	0.100	pCi/g						
Cesium-137		0.244	0.0459	+/-0.0241	0.100	pCi/g						
Cobalt-60	U	-0.0111	0.0435	+/-0.0137	0.100	pCi/g						
Europium-152	U	0.032	0.118	+/-0.0391	0.200	pCi/g						
Lanthanum-140	U	-0.0107	0.0816	+/-0.0297		pCi/g						
Lead-212		1.30	0.0632	+/-0.0604	0.100	pCi/g						
Lead-214		1.06	0.0788	+/-0.0677	0.100	pCi/g						
Mercury-203	U	0.0228	0.0513	+/-0.0163	0.100	pCi/g						
Potassium-40		31.1	0.367	+/-1.34	1.00	pCi/g						
Radium-223	U	-0.00783	0.753	+/-0.255		pCi/g						
Radium-224	UI	2.99	0.719	+/-0.393		pCi/g						
Radium-226		0.881	0.0788	+/-0.0653		pCi/g						
Radium-228		1.27	0.152	+/-0.132	0.500	pCi/g						
Ruthenium-106	U	-0.418	0.336	+/-0.116	0.800	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 29, 2010

Client Sample ID:  
Sample ID:

RE12-10-8096  
244881001

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Sodium-22	U	-0.0129	0.0493	+/-0.0153	0.080	pCi/g					
Strontium-85	UI	0.0843	0.0523	+/-0.0151		pCi/g					
Thallium-208		0.351	0.041	+/-0.0281	0.080	pCi/g					
Thorium-227	U	0.178	0.490	+/-0.138		pCi/g					
Thorium-231	U	-0.00783	0.753	+/-0.255		pCi/g					
Thorium-234		2.03	2.01	+/-0.913	2.00	pCi/g					
Tin-113	U	-0.00774	0.0477	+/-0.0138	0.100	pCi/g					
Uranium-235	U	0.125	0.288	+/-0.0832	0.500	pCi/g					
Yttrium-88	U	0.00897	0.0382	+/-0.011	0.100	pCi/g					

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	47.1 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	92.7	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

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

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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 29, 2010

Client Sample ID: RE12-10-8096 Project: LANL01004  
Sample ID: 244881001 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  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8094  
Sample ID: 244881002  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 5.64%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.000758	0.0219	+/-0.00129	0.050	pCi/g		KXM4	01/26/10	1417	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0204	+/-0.00124	0.050	pCi/g		KXM4	01/23/10	1208	942754	3
Plutonium-239/240	U	0.00123	0.0233	+/-0.00214	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.637	0.101	+/-0.0637	0.100	pCi/g		KXM4	01/26/10	2026	942756	4
Uranium-235/236	U	0.0241	0.0626	+/-0.0115	0.100	pCi/g						
Uranium-238		0.683	0.0585	+/-0.0671	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0153	0.196	+/-0.0574	0.200	pCi/g		MXR1	01/26/10	1320	942718	5
Bismuth-211	UI	2.79	0.278	+/-0.249		pCi/g						
Bismuth-214		0.879	0.0949	+/-0.0775	0.200	pCi/g						
Cadmium-109	UI	3.50	0.877	+/-0.454		pCi/g						
Cerium-139	U	-0.017	0.0391	+/-0.0116	0.050	pCi/g						
Cesium-134	UI	0.137	0.0755	+/-0.0356	0.100	pCi/g						
Cesium-137	U	-0.00896	0.0512	+/-0.0158	0.100	pCi/g						
Cobalt-60	U	0.0122	0.0543	+/-0.0159	0.100	pCi/g						
Europium-152	U	-0.121	0.111	+/-0.0372	0.200	pCi/g						
Lanthanum-140	U	-0.0621	0.102	+/-0.0354		pCi/g						
Lead-212		1.32	0.0777	+/-0.0902	0.100	pCi/g						
Lead-214		0.969	0.097	+/-0.0902	0.100	pCi/g						
Mercury-203	U	0.0139	0.0547	+/-0.0159	0.100	pCi/g						
Potassium-40		32.8	0.425	+/-1.67	1.00	pCi/g						
Radium-223	U	-0.307	0.863	+/-0.309		pCi/g						
Radium-224	UI	3.71	0.885	+/-0.488		pCi/g						
Radium-226		0.879	0.0949	+/-0.0775		pCi/g						
Radium-228		1.36	0.168	+/-0.136	0.500	pCi/g						
Ruthenium-106	U	-0.0421	0.454	+/-0.137	0.800	pCi/g						
Sodium-22	U	0.0104	0.0642	+/-0.0191	0.080	pCi/g						



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

Report Date: January 29, 2010

Client Sample ID:  
Sample ID:

RE12-10-8094  
244881002

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Strontium-85	U	0.0336	0.0506	+/-0.0153		pCi/g					
Thallium-208		0.443	0.048	+/-0.0397	0.080	pCi/g					
Thorium-227	U	0.0326	0.535	+/-0.157		pCi/g					
Thorium-231	U	-0.307	0.863	+/-0.309		pCi/g					
Thorium-234	U	0.523	1.78	+/-0.507	2.00	pCi/g					
Tin-113	U	0.011	0.0649	+/-0.0182	0.100	pCi/g					
Uranium-235	U	0.0389	0.288	+/-0.0817	0.500	pCi/g					
Yttrium-88	U	0.0107	0.0393	+/-0.0107	0.100	pCi/g					

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	101	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: January 29, 2010

Client Sample ID:  
Sample ID:

RE12-10-8094  
244881002

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: January 29, 2010

Client Sample ID: RE12-10-8097  
Sample ID: 244881003  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 7.99%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00786	0.0235	+/-0.00514	0.050	pCi/g		KXM4	01/26/10	1417	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00429	0.0236	+/-0.00249	0.050	pCi/g		KXM4	01/23/10	1208	942754	3
Plutonium-239/240	U	0.020	0.027	+/-0.00615	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.34	0.120	+/-0.120	0.100	pCi/g		KXM4	01/26/10	2026	942756	4
Uranium-235/236		0.0769	0.0748	+/-0.020	0.100	pCi/g						
Uranium-238		1.57	0.0699	+/-0.136	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0787	0.193	+/-0.0598	0.200	pCi/g		MXR1	01/26/10	1321	942718	5
Bismuth-211	UI	4.86	0.296	+/-0.336		pCi/g						
Bismuth-214		1.20	0.110	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	3.63	1.08	+/-0.466		pCi/g						
Cerium-139	U	-0.0202	0.0476	+/-0.0147	0.050	pCi/g						
Cesium-134	UI	0.102	0.0867	+/-0.028	0.100	pCi/g						
Cesium-137		0.331	0.0563	+/-0.0439	0.100	pCi/g						
Cobalt-60	U	-0.00931	0.0555	+/-0.0178	0.100	pCi/g						
Europium-152	U	-0.0703	0.153	+/-0.0486	0.200	pCi/g						
Lanthanum-140	U	-0.0348	0.0967	+/-0.0381		pCi/g						
Lead-212		2.02	0.0873	+/-0.122	0.100	pCi/g						
Lead-214		1.69	0.103	+/-0.125	0.100	pCi/g						
Mercury-203	U	0.0438	0.0667	+/-0.0205	0.100	pCi/g						
Potassium-40		34.2	0.531	+/-1.72	1.00	pCi/g						
Radium-223	U	-0.0688	1.04	+/-0.346		pCi/g						
Radium-224	UI	4.89	0.993	+/-0.568		pCi/g						
Radium-226		1.20	0.110	+/-0.102		pCi/g						
Radium-228		1.89	0.202	+/-0.190	0.500	pCi/g						
Ruthenium-106	U	0.217	0.522	+/-0.152	0.800	pCi/g						
Sodium-22	U	-0.0207	0.0642	+/-0.0209	0.080	pCi/g						

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: January 29, 2010

Client Sample ID: RE12-10-8097  
Sample ID: 244881003

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Strontium-85	U	0.0513	0.0588	+/-0.018		pCi/g					
Thallium-208		0.605	0.0539	+/-0.0518	0.080	pCi/g					
Thorium-227	U	-0.0346	0.587	+/-0.169		pCi/g					
Thorium-231	U	-0.0688	1.04	+/-0.346		pCi/g					
Thorium-234		2.09	1.68	+/-0.941	2.00	pCi/g					
Tin-113	U	0.00847	0.0724	+/-0.0211	0.100	pCi/g					
Uranium-235	U	0.156	0.350	+/-0.102	0.500	pCi/g					
Yttrium-88	U	-0.0114	0.0281	+/-0.0102	0.100	pCi/g					

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	81.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	81.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.8	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: January 29, 2010

Client Sample ID: RE12-10-8097  
Sample ID: 244881003

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.

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

Report Date: January 29, 2010

Client Sample ID: RE12-10-8095  
Sample ID: 244881004  
Matrix: R  
Collect Date: 11-JAN-10  
Receive Date: 15-JAN-10  
Collector: Client  
Moisture: 10.5%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>												
<i>"As Received"</i>												
<b>Rad Alpha Spec Analysis</b>												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00435	0.0215	+/-0.00253	0.050	pCi/g		KXM4	01/27/10	2101	942753	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00135	0.0224	+/-0.00449	0.050	pCi/g		KXM4	01/23/10	1209	942754	4
Plutonium-239/240	U	8.07E-11	0.0256	+/-0.00192	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.06	0.114	+/-0.098	0.100	pCi/g		KXM4	01/26/10	2026	942756	5
Uranium-235/236		0.0726	0.0707	+/-0.0189	0.100	pCi/g						
Uranium-238		1.22	0.066	+/-0.109	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.185	0.357	+/-0.111	0.200	pCi/g		MXR1	01/26/10	1321	942718	6
Bismuth-211	UI	3.84	0.402	+/-0.280		pCi/g						
Bismuth-214		1.12	0.128	+/-0.098	0.200	pCi/g						
Cadmium-109	UI	3.04	1.41	+/-0.550		pCi/g						
Cerium-139	U	0.0133	0.0554	+/-0.0162	0.050	pCi/g						
Cesium-134	UI	0.116	0.0939	+/-0.0427	0.100	pCi/g						
Cesium-137	U	-0.00754	0.0675	+/-0.0209	0.100	pCi/g						
Cobalt-60	U	0.0321	0.0796	+/-0.0225	0.100	pCi/g						
Europium-152	U	-0.0898	0.171	+/-0.0651	0.200	pCi/g						
Lanthanum-140	U	-0.098	0.122	+/-0.0451		pCi/g						
Lead-212		1.69	0.0907	+/-0.0847	0.100	pCi/g						
Lead-214		1.34	0.131	+/-0.104	0.100	pCi/g						
Mercury-203	U	0.0562	0.0772	+/-0.0237	0.100	pCi/g						
Potassium-40		21.2	0.531	+/-1.22	1.00	pCi/g						
Radium-223	U	-0.302	1.19	+/-0.412		pCi/g						
Radium-224	UI	4.15	1.03	+/-0.597		pCi/g						
Radium-226		1.12	0.128	+/-0.098		pCi/g						
Radium-228		1.68	0.227	+/-0.170	0.500	pCi/g						
Ruthenium-106	U	-0.0353	0.571	+/-0.175	0.800	pCi/g						
Sodium-22	U	0.00731	0.0761	+/-0.0229	0.080	pCi/g						

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: January 29, 2010

Client Sample ID:  
Sample ID:

RE12-10-8095  
244881004

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Strontium-85	UI	0.0818	0.0715	+/-0.0208		pCi/g						
Thallium-208		0.533	0.0627	+/-0.0493	0.080	pCi/g						
Thorium-227	U	0.241	0.710	+/-0.210		pCi/g						
Thorium-231	U	-0.302	1.19	+/-0.412		pCi/g						
Thorium-234		3.88	2.72	+/-1.33	2.00	pCi/g						
Tin-113	U	0.00914	0.0851	+/-0.0248	0.100	pCi/g						
Uranium-235	U	-0.0125	0.401	+/-0.120	0.500	pCi/g						
Yttrium-88	U	-0.00675	0.0529	+/-0.0168	0.100	pCi/g						

### The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	93.9	(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 General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria

# 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 29, 2010

Client Sample ID: RE12-10-8095 Project: LANL01004  
Sample ID: 244881004 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

E Organics--Concentration of the target analyte exceeds the instrument calibration range  
F Estimated Value  
H Analytical holding time was exceeded  
J Value is estimated  
M M if above MDC and less than LLD  
M Matrix Related Failure  
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).  
Quantitation is based on nearest internal standard response factor  
N/A RPD or %Recovery limits do not apply.  
ND Analyte concentration is not detected above the detection limit  
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%  
R Sample results are rejected  
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.  
UI Gamma Spectroscopy--Uncertain identification  
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier  
Y QC Samples were not spiked with this compound  
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.  
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.  
d 5-day BOD--The 2:1 depletion requirement was not met for this sample  
h Preparation or preservation holding time was exceeded  
The above sample is reported on a dry weight basis.



# QUALITY CONTROL DATA

# GEL LABORATORIES LLC

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## QC Summary

Report Date: January 29, 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: 244881

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	942753										
QC1202018342	244902001	DUP									
Americium-241	U	0.000803	U	0.00437	pCi/g	0.400		(0-1) KXM4		01/26/10	14:17
	TPU:	+/-0.00212		+/-0.00234							
	Yield:	84.9		85.2							
QC1202018343	LCS										
Americium-241	33.2			29.8	pCi/g		89.8 (75%-125%)				
	TPU:			+/-2.09							
	Yield:			98.6							
QC1202018341	MB										
Americium-241	U	-0.00228	U	-0.00228	pCi/g						
	TPU:	+/-0.00543		+/-0.00543							
	Yield:	62.8		62.8							
Batch	942754										
QC1202018345	244902001	DUP									
Plutonium-238	U	-0.00893	U	0.00115	pCi/g	0.619		(0-1) KXM4		01/23/10	12:08
	TPU:	+/-0.00557		+/-0.00258							
	Yield:	77.9		95.1							
Plutonium-239/240	U	-0.00298	U	0.00692	pCi/g	0.849		(0-1)			
	TPU:	+/-0.00298		+/-0.00284							
	Yield:	77.9		95.1							
QC1202018346	LCS										
Plutonium-238				6.71	pCi/g		(75%-125%)				
	TPU:			+/-0.498							
	Yield:			98.0							
Plutonium-239/240	41.8			38.7	pCi/g		92.6 (75%-125%)				
	TPU:			+/-2.40							
	Yield:			98.0							
QC1202018344	MB										
Plutonium-238	U	-0.00432	U	-0.00432	pCi/g						
	TPU:	+/-0.00288		+/-0.00288							
	Yield:	97.2		97.2							
Plutonium-239/240	U	3.44E-10	U	3.44E-10	pCi/g						
	TPU:	+/-0.00353		+/-0.00353							
	Yield:	97.2		97.2							
Batch	942756										
QC1202018348	244902001	DUP									
Uranium-233/234		0.593		0.631	pCi/g	0.148		(0-1) KXM4		01/26/10	20:27
	TPU:	+/-0.0645		+/-0.0649							
	Yield:	89.4		98.6							
Uranium-235/236	U	0.0297	U	0.0472	pCi/g	0.292		(0-1)			
	TPU:	+/-0.0142		+/-0.0158							
	Yield:	89.4		98.6							
Uranium-238		0.501		0.576	pCi/g	0.319		(0-1)			
	TPU:	+/-0.0578		+/-0.0606							

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## QC Summary

Workorder: 244881

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	942756										
QC1202018349	LCS	Yield:	89.4	98.6							
Uranium-233/234				6.12	pCi/g		(75%-125%)			01/26/10	20:27
		TPU:		+/-0.581							
		Yield:		101							
Uranium-235/236			U	0.286	pCi/g		(75%-125%)				
		TPU:		+/-0.0824							
		Yield:		101							
Uranium-238	5.75			5.66	pCi/g		98.4 (75%-125%)				
		TPU:		+/-0.546							
		Yield:		101							
QC1202018347	MB										
Uranium-233/234			U	0.0052	pCi/g					01/26/10	20:27
		TPU:		+/-0.00402							
		Yield:		98.3							
Uranium-235/236			U	0.00673	pCi/g						
		TPU:		+/-0.00504							
		Yield:		98.3							
Uranium-238			U	0.00544	pCi/g						
		TPU:		+/-0.00407							
		Yield:		98.3							
Rad Gamma Spec											
Batch	942718										
QC1202018263	244852003	DUP									
Americium-241		U	-0.00952	U	0.0593	pCi/g	0.327	(0-1)	MXR1	01/26/10	14:10
		TPU:	+/-0.0325		+/-0.0726						
Bismuth-211		UI	4.28	UI	3.85	pCi/g	0.362	(0-1)			
		TPU:	+/-0.328		+/-0.261						
Bismuth-214			1.32		1.11	pCi/g	0.506	(0-1)			
		TPU:	+/-0.111		+/-0.0941						
Cadmium-109		UI	4.12	UI	4.57	pCi/g	0.213	(0-1)			
		TPU:	+/-0.460		+/-0.594						
Cerium-139		U	-0.0129	U	-0.0214	pCi/g	0.152	(0-1)			
		TPU:	+/-0.0145		+/-0.0136						
Cesium-134		U	0.0778	U	0.0861	pCi/g	0.0775	(0-1)			
		TPU:	+/-0.0297		+/-0.0241						
Cesium-137		U	-0.0221	U	-0.0164	pCi/g	0.0662	(0-1)			
		TPU:	+/-0.0245		+/-0.0186						
Cobalt-60		U	-0.0545	U	-0.0254	pCi/g	0.333	(0-1)			
		TPU:	+/-0.0244		+/-0.0193						
Europium-152		U	-0.0536	U	-0.119	pCi/g	0.319	(0-1)			
		TPU:	+/-0.0511		+/-0.0521						
Lanthanum-140		U	-0.113	U	-0.114	pCi/g	0.00565	(0-1)			
		TPU:	+/-0.0526		+/-0.0449						
Lead-212			1.55		1.63	pCi/g	0.212	(0-1)			
		TPU:	+/-0.0975		+/-0.0795						
Lead-214			1.49		1.34	pCi/g	0.342	(0-1)			
		TPU:	+/-0.121		+/-0.0972						
Mercury-203		U	-0.0251	U	-0.00476	pCi/g	0.251	(0-1)			
		TPU:	+/-0.0201		+/-0.0204						

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## QC Summary

Workorder: 244881

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	942718										
Potassium-40		20.1		18.7	pCi/g	0.329		(0-1)			
	TPU:	+/-1.30		+/-0.964							
Radium-223	U	-0.104	U	-0.302	pCi/g	0.139		(0-1)			
	TPU:	+/-0.357		+/-0.358							
Radium-224	UI	4.73	UI	4.53	pCi/g	0.080		(0-1)			
	TPU:	+/-0.676		+/-0.544							
Radium-226		1.32		1.11	pCi/g	0.506		(0-1)			
	TPU:	+/-0.111		+/-0.0941							
Radium-228		1.76		1.71	pCi/g	0.0655		(0-1)			
	TPU:	+/-0.199		+/-0.167							
Ruthenium-106	U	-0.232	U	-0.156	pCi/g	0.106		(0-1)			
	TPU:	+/-0.197		+/-0.157							
Sodium-22	U	-0.023	U	-0.00972	pCi/g	0.143		(0-1)			
	TPU:	+/-0.0267		+/-0.0196							
Strontium-85	U	0.0258	UI	0.0791	pCi/g	0.705		(0-1)			
	TPU:	+/-0.0198		+/-0.018							
Thallium-208		0.518		0.502	pCi/g	0.0767		(0-1)			
	TPU:	+/-0.0573		+/-0.0464							
Thorium-227	U	-0.095	U	-0.0626	pCi/g	0.0443		(0-1)			
	TPU:	+/-0.195		+/-0.171							
Thorium-231	U	-0.104	U	-0.302	pCi/g	0.139		(0-1)			
	TPU:	+/-0.357		+/-0.358							
Thorium-234		2.17	U	1.02	pCi/g	0.433		(0-1)			
	TPU:	+/-0.587		+/-0.744							
Tin-113	U	0.0201	U	-0.0154	pCi/g	0.391		(0-1)			
	TPU:	+/-0.0237		+/-0.0218							
Uranium-235	U	0.0706	U	0.152	pCi/g	0.178		(0-1)			
	TPU:	+/-0.107		+/-0.122							
Yttrium-88	U	-0.0199	U	-0.0174	pCi/g	0.0342		(0-1)			
	TPU:	+/-0.0175		+/-0.0194							
QC1202018264	LCS										
Americium-241	16.3			15.0	pCi/g		92.3 (75%-125%)			01/26/10	14:19
	TPU:			+/-0.662							
Bismuth-211				2.55	pCi/g						
	TPU:			+/-0.354							
Bismuth-214				0.967	pCi/g						
	TPU:			+/-0.117							
Cadmium-109				36.8	pCi/g						
	TPU:			+/-2.19							
Cerium-139			U	0.0388	pCi/g						
	TPU:			+/-0.0246							
Cesium-134			U	0.0258	pCi/g						
	TPU:			+/-0.0504							
Cesium-137	5.70			5.96	pCi/g		105 (75%-125%)				
	TPU:			+/-0.226							
Cobalt-60	6.60			6.75	pCi/g		102 (75%-125%)				
	TPU:			+/-0.293							
Europium-152			U	-0.167	pCi/g						
	TPU:			+/-0.114							
Lanthanum-140			U	0.013	pCi/g						
	TPU:			+/-0.0427							

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## QC Summary

Workorder: 244881

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	942718								
Lead-212			1.54	pCi/g					
	TPU:		+/-0.100						
Lead-214			0.887	pCi/g					
	TPU:		+/-0.125						
Mercury-203		U	-0.0108	pCi/g					
	TPU:		+/-0.0325						
Potassium-40		U	1.21	pCi/g					
	TPU:		+/-0.324						
Radium-223		U	-1.55	pCi/g					
	TPU:		+/-0.653						
Radium-224			2.87	pCi/g					
	TPU:		+/-0.795						
Radium-226			0.967	pCi/g					
	TPU:		+/-0.117						
Radium-228			1.33	pCi/g					
	TPU:		+/-0.324						
Ruthenium-106		U	-0.527	pCi/g					
	TPU:		+/-0.299						
Sodium-22		U	-0.0154	pCi/g					
	TPU:		+/-0.0247						
Strontium-85		U	0.0809	pCi/g					
	TPU:		+/-0.0384						
Thallium-208			0.458	pCi/g					
	TPU:		+/-0.053						
Thorium-227		U	0.0102	pCi/g					
	TPU:		+/-0.338						
Thorium-231		U	-1.55	pCi/g					
	TPU:		+/-0.653						
Thorium-234		U	-0.381	pCi/g					
	TPU:		+/-1.08						
Tin-113		U	-0.0387	pCi/g					
	TPU:		+/-0.0409						
Uranium-235		U	-0.0496	pCi/g					
	TPU:		+/-0.173						
Yttrium-88		U	-0.00326	pCi/g					
	TPU:		+/-0.0247						
QC1202018262 MB									
Americium-241		U	-0.00946	pCi/g					01/26/1014:07
	TPU:		+/-0.00765						
Bismuth-211		U	-0.0412	pCi/g					
	TPU:		+/-0.0428						
Bismuth-214		U	-0.0266	pCi/g					
	TPU:		+/-0.0154						
Cadmium-109		U	-0.145	pCi/g					
	TPU:		+/-0.0821						
Cerium-139		U	-0.00168	pCi/g					
	TPU:		+/-0.00434						
Cesium-134		U	0.0101	pCi/g					
	TPU:		+/-0.00774						
Cesium-137		U	0.00455	pCi/g					
	TPU:		+/-0.0115						

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## QC Summary

Workorder: 244881

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	942718								
Cobalt-60		U	0.0191	pCi/g					
	TPU:		+/-0.00976						
Europium-152		U	0.003	pCi/g					
	TPU:		+/-0.0163						
Lanthanum-140		U	0.00823	pCi/g					
	TPU:		+/-0.0132						
Lead-212		U	-0.0159	pCi/g					
	TPU:		+/-0.0118						
Lead-214		U	-0.00689	pCi/g					
	TPU:		+/-0.0145						
Mercury-203		U	0.00937	pCi/g					
	TPU:		+/-0.00628						
Potassium-40		U	0.0281	pCi/g					
	TPU:		+/-0.0942						
Radium-223		U	0.260	pCi/g					
	TPU:		+/-0.120						
Radium-224		U	-0.291	pCi/g					
	TPU:		+/-0.125						
Radium-226		U	-0.0266	pCi/g					
	TPU:		+/-0.0154						
Radium-228		U	0.00734	pCi/g					
	TPU:		+/-0.0317						
Ruthenium-106		U	-0.0325	pCi/g					
	TPU:		+/-0.0635						
Sodium-22		U	0.0117	pCi/g					
	TPU:		+/-0.00869						
Strontium-85		U	0.0245	pCi/g					
	TPU:		+/-0.00749						
Thallium-208		U	-0.00236	pCi/g					
	TPU:		+/-0.00878						
Thorium-227		U	-0.0657	pCi/g					
	TPU:		+/-0.0612						
Thorium-231		U	0.260	pCi/g					
	TPU:		+/-0.120						
Thorium-234		U	0.148	pCi/g					
	TPU:		+/-0.115						
Tin-113		U	0.00259	pCi/g					
	TPU:		+/-0.00786						
Uranium-235		U	0.026	pCi/g					
	TPU:		+/-0.0313						
Yttrium-88		U	0.00729	pCi/g					
	TPU:		+/-0.00931						

### 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

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 244881

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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	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range									
E	Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria									
E	Organics--Concentration of the target analyte exceeds the instrument calibration range									
F	Estimated Value									
H	Analytical holding time was exceeded									
J	Value is estimated									
M	M if above MDC and less than LLD									
M	Matrix Related Failure									
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor									
N/A	RPD or %Recovery limits do not apply.									
ND	Analyte concentration is not detected above the detection limit									
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%									
R	Sample results are rejected									
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.									
UI	Gamma Spectroscopy--Uncertain identification									
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y	QC Samples were not spiked with this compound									
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.									
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
d	5-day BOD--The 2:1 depletion requirement was not met for this sample									
h	Preparation or preservation holding time was exceeded									

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

\*\* Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

**RAW DATA**



# Radiochemistry Batch Checklist, Rev10

Batch# 942753 Product: Am Date: 1/27/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		Case narrative
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hlt notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: J. L. M. - 1/27/10

Secondary Review Performed By: [Signature] 1/28/10

# Am/Cm Que Sheet

18-JAN-10

Batch #: 942753 Analyst: KXM4 First Client Due Date: 06-FEB-10 Internal Due Date: 27-JAN-10 Comments:  
 Tracer(s): Am241/Cm244 Tracer Code: Y45-96-7-25 Expiration Date: 5-11-10 Vol: 0.1ml  
 LCS Isotope(s): Am241/Cm244 LCS Code(s): SM0244-B / NA Expiration Date: 4-30-22 / NA Vol(s): 0.1g / NA  
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): NA / NA  
 Prep Date: 1-20-10 Initials: KM Pipet ID: 297405B Balance ID: 5040292 Witness: MDA / 1/20/10

Sample ID	Client Description	Type	Hazard	Min	Code	CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot	Am/Cm	Det #
244852001-1	RE12-10-7856	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	1	1	1.259	71		
244852002-1	RE12-10-7857	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	2	2	1.252	72		
244852003-1	RE12-10-7855	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	3	3	1.258	73		
244852004-1	RE12-10-7854	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	4	4	1.252	74		
244881001-1	RE12-10-8096	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	5	5	1.257	75		
244881002-1	RE12-10-8094	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	6	6	1.251	76		
244881003-1	RE12-10-8097	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	7	7	1.251	77		
244881004-1	RE12-10-8095	SAMPLE	.05	pCi/g			SOIL	LANL010	11-JAN-10	8	8	1.252	78		
244902001-1	RE46-10-10099	SAMPLE	.05	pCi/g			SOIL	LANL010	14-JAN-10	9	9	1.252	79		
244905001-1	RE16-10-1374	SAMPLE	.05	pCi/g			SOIL	LANL010	08-JAN-10	10	10	1.252	80		
244905002-1	RE16-10-1376	SAMPLE	.05	pCi/g			SOIL	LANL010	08-JAN-10	11	11	1.255	81		
244905003-1	RE16-10-1378	SAMPLE	.05	pCi/g			SOIL	LANL010	08-JAN-10	12	12	1.258	82		
244905004-1	RE16-10-1380	SAMPLE	.05	pCi/g			SOIL	LANL010	08-JAN-10	13	13	1.251	83		
244905005-1	RE16-10-1382	SAMPLE	.05	pCi/g			SOIL	LANL010	08-JAN-10	14	14	1.254	84		
244905006-1	RE16-10-1396	SAMPLE	.05	pCi/g			SOIL	LANL010	08-JAN-10	15	15	1.252	85		
1202018341-1	MB for batch 942753	MB						QC ACCOUNT		16	16	1.259	86		
1202018342-1	RE46-10-18099(244902001DUP)	DUP						QC ACCOUNT	14-JAN-10	17	17	1.259	87		
1202018343-1	LCS for batch 942753	LCS						QC ACCOUNT		18	18	0.102	88		

Choose SOP Used GL-RAD-A-011  
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION  
 Circle One

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: J. L. A. S. - 1/27/10

Page 1 of 1

# Blank Correction Report

**Batch ID 942753**

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018342	DUP	Americium-241	1.26 g	0.00437	0.00234	0.021	-.00180952	pCi/g	NO
1202018343	LCS	Americium-241	0.102 g	29.8	2.09	0.226	-.02235294	pCi/g	NO
1202018341	MB	Americium-241	1.00 g	-0.00228	0.00543	0.0352	-.00228	pCi/g	NO
244852001	RE12-10-7856	Americium-241	1.26 g	0.00181	0.00533	0.0205	-.00180952	pCi/g	NO
244852002	RE12-10-7857	Americium-241	1.25 g	-0.00745	0.00675	0.0239	-.001824	pCi/g	NO
244852003	RE12-10-7855	Americium-241	1.26 g	0.000627	0.00122	0.0208	-.00180952	pCi/g	NO
244852004	RE12-10-7854	Americium-241	1.25 g	0.00916	0.00492	0.0233	-.001824	pCi/g	NO
244881001	RE12-10-8096	Americium-241	1.26 g	0.00321	0.00285	0.0427	-.00180952	pCi/g	NO
244881002	RE12-10-8094	Americium-241	1.25 g	0.000758	0.00129	0.0219	-.001824	pCi/g	NO
244881003	RE12-10-8097	Americium-241	1.25 g	0.00786	0.00514	0.0235	-.001824	pCi/g	NO
244881004	RE12-10-8095	Americium-241	1.25 g	-0.00435	0.00253	0.0215	-.001824	pCi/g	NO
244902001	RE16-10-10099	Americium-241	1.25 g	0.000803	0.00212	0.0223	-.001824	pCi/g	NO
244905001	RE16-10-1374	Americium-241	1.25 g	0.0179	0.00514	0.021	-.001824	pCi/g	NO
244905002	RE16-10-1376	Americium-241	1.26 g	0.00699	0.00391	0.0214	-.00180952	pCi/g	NO
244905003	RE16-10-1378	Americium-241	1.26 g	0.0129	0.00439	0.0208	-.00180952	pCi/g	NO
244905004	RE16-10-1380	Americium-241	1.25 g	-0.00182	0.00206	0.0202	-.001824	pCi/g	NO
244905005	RE16-10-1382	Americium-241	1.25 g	0.00909	0.00449	0.0232	-.001824	pCi/g	NO
244905006	RE16-10-1396	Americium-241	1.25 g	0.0073	0.00362	0.0221	-.001824	pCi/g	NO

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881001_AM SAMPLE QTY: 1.257 G	
DETECTOR NUMBER :80010 AVERAGE %EFFICIENCY :30.2754 % YIELD : 47.102		COUNT DATE:26-JAN-2010 14:17:42 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 : 2.91658 dpm RESULTS : 1.37378 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B075.CNF;1098 BKG DATE : 25-JAN-2010 EFF FILE : W075.CNF;288 CAL DATE : 12-JAN-2010

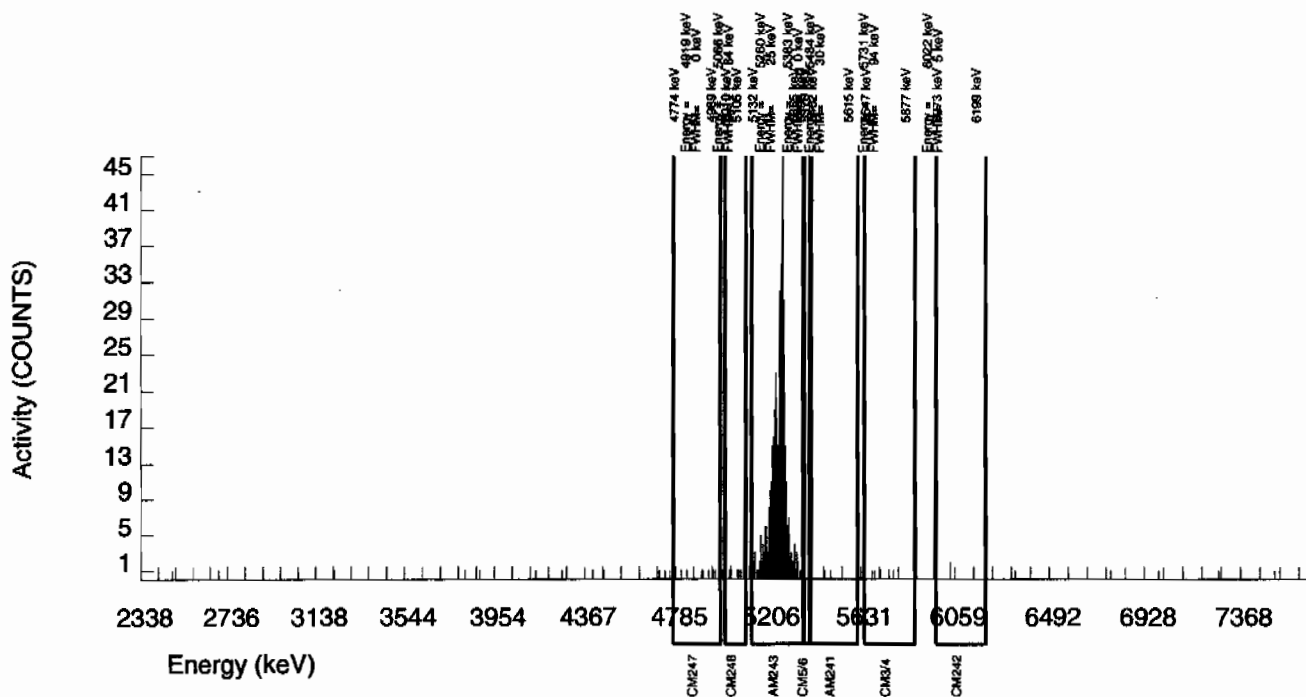
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	6.000	6.000	0.000	5.2338	100.0000	1.51E-02	6.25E-03	3.06E-02	6.80E-02	6.17E-03
CM-5/6	5386.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	2.93E-03	1.35E-01	2.77E-01	2.92E-03
AM-241	5479.150	2.000	1.278	0.000	3.0704	99.94000	3.21E-03	2.85E-03	1.80E-02	4.27E-02	2.84E-03
CM-242	6102.000	3.000	3.000	0.000	4.3186	100.0000	8.07E-03	4.69E-03	2.52E-02	5.73E-02	4.66E-03
AM243	5270.000	415.000	415.000	0.000	0.0000	99.78000	1.05E+00	8.90E-02	0.00E+00	6.83E-03	5.13E-02
CM-247	4946.000	8.000	4.000	4.000	15.3366	79.30000	1.27E-02	1.10E-02	1.13E-01	2.35E-01	1.10E-02
CM-248	5078.600	6.000	5.000	1.000	22.1555	91.00000	1.38E-02	7.37E-03	1.42E-01	2.92E-01	7.31E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881002_AM SAMPLE QTY: 1.251 G	
DETECTOR NUMBER :78779 AVERAGE %EFFICIENCY :30.8747 % YIELD : 90.373		COUNT DATE:26-JAN-2010 14:17:42 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 : 2.91658 dpm RESULTS : 2.63579 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B076.CNF;1101 BKG DATE : 25-JAN-2010 EFF FILE : W076.CNF;293 CAL DATE : 11-JAN-2010

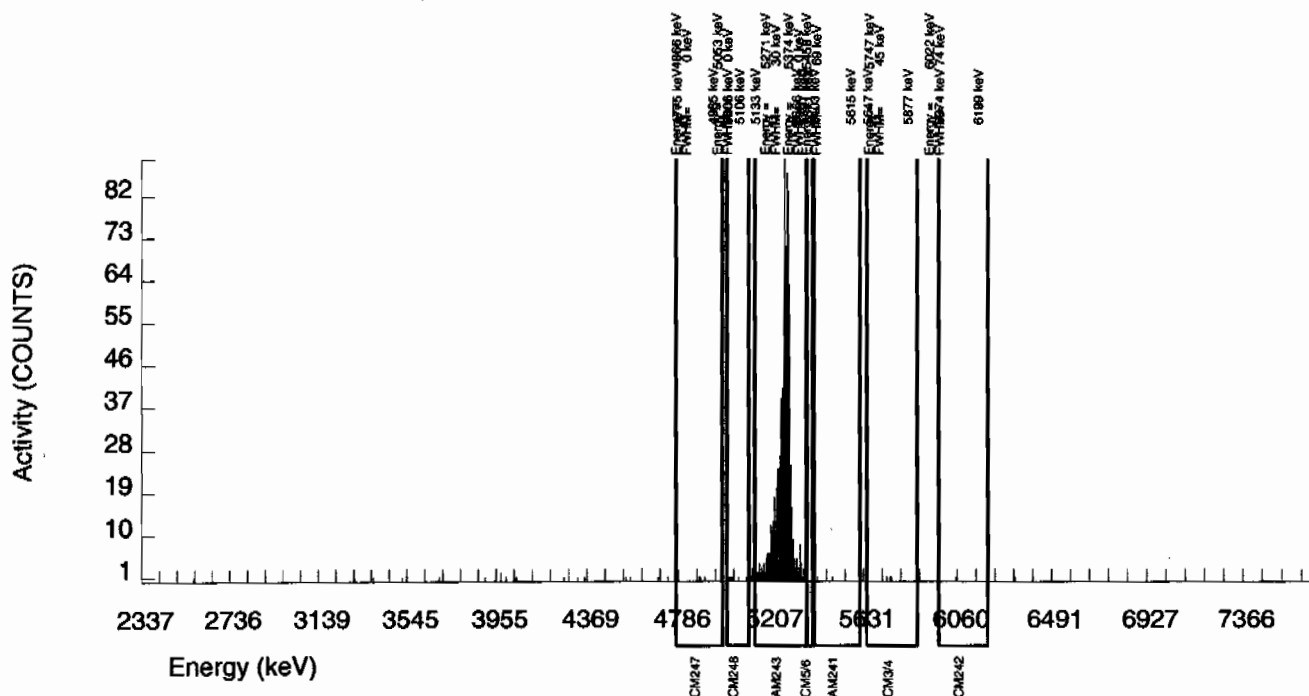
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	4.000	3.000	1.000	5.2338	100.0000	3.88E-03	2.90E-03	1.57E-02	3.49E-02	2.89E-03
CM-5/6	5386.000	3.000	3.000	0.000	19.8463	86.09000	4.50E-03	2.61E-03	6.92E-02	1.42E-01	2.60E-03
AM-241	5479.150	2.000	0.587	0.000	3.0704	99.94000	7.58E-04	1.29E-03	9.22E-03	2.19E-02	1.29E-03
CM-242	6102.000	2.000	1.000	1.000	4.3186	100.0000	1.38E-03	2.39E-03	1.30E-02	2.94E-02	2.39E-03
AM243	5270.000	814.000	812.000	2.000	1.4142	99.78000	1.05E+00	7.35E-02	4.26E-03	1.20E-02	3.69E-02
CM-247	4946.000	4.000	0.000	4.000	15.3366	79.30000	0.00E+00	4.60E-03	5.81E-02	1.21E-01	4.60E-03
CM-248	5078.600	8.000	6.000	2.000	22.1555	91.00000	8.51E-03	4.51E-03	7.31E-02	1.50E-01	4.48E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881003_AM SAMPLE QTY: 1.251 G	
DETECTOR NUMBER :67576 AVERAGE %EFFICIENCY :31.9454 % YIELD : 81.535		COUNT DATE:26-JAN-2010 14:17:43 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 : 2.91658 dpm RESULTS : 2.37804 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B077.CNF;1010 BKG DATE : 25-JAN-2010 EFF FILE : W077.CNF;261 CAL DATE : 11-JAN-2010

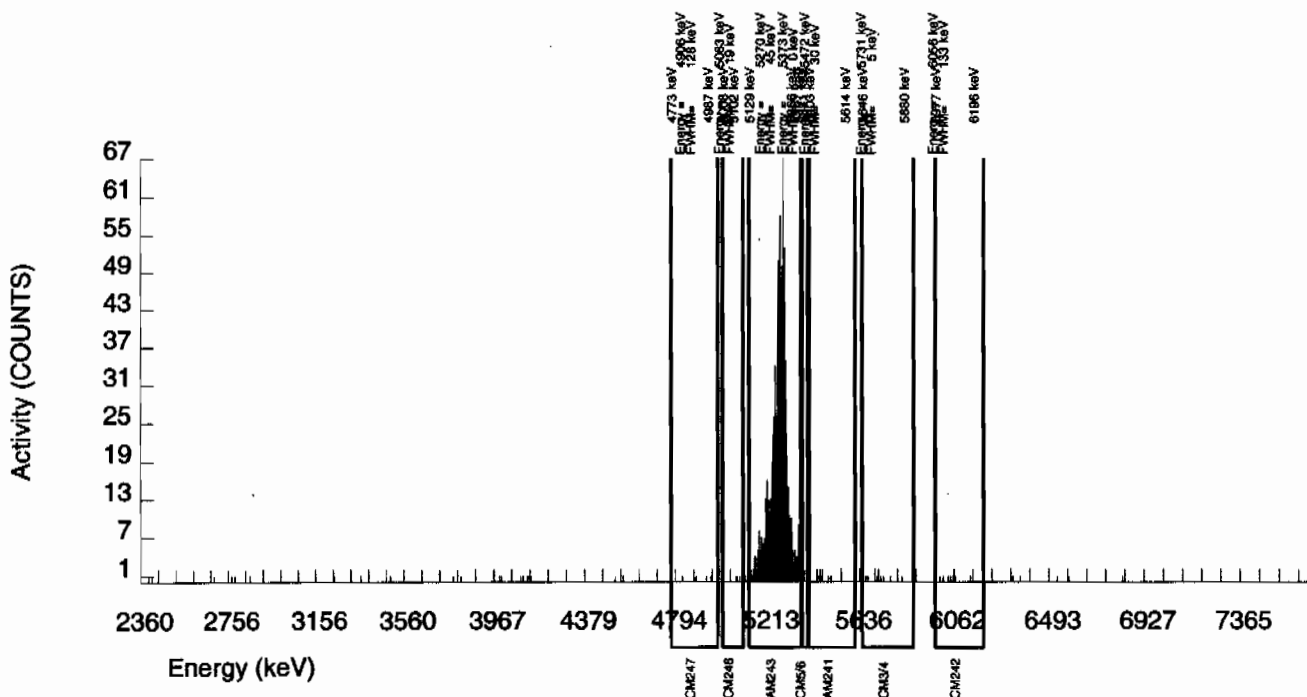
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	9.000	7.000	2.000	5.2338	100.0000	9.69E-03	4.63E-03	1.68E-02	3.74E-02	4.59E-03
CM-5/6	5386.000	8.000	7.000	1.000	19.8463	86.09000	1.12E-02	4.87E-03	7.41E-02	1.53E-01	4.82E-03
AM-241	5479.150	11.000	5.681	4.000	3.0704	99.94000	7.86E-03	5.14E-03	9.88E-03	2.35E-02	5.12E-03
CM-242	6102.000	7.000	7.000	0.000	4.3186	100.0000	1.04E-02	3.97E-03	1.39E-02	3.15E-02	3.91E-03
AM243	5270.000	758.000	758.000	0.000	0.0000	99.78000	1.05E+00	7.47E-02	0.00E+00	3.75E-03	3.81E-02
CM-247	4946.000	4.000	3.000	1.000	15.3366	79.30000	5.23E-03	3.91E-03	6.22E-02	1.29E-01	3.90E-03
CM-248	5078.600	3.000	2.000	1.000	22.1555	91.00000	3.04E-03	3.04E-03	7.83E-02	1.61E-01	3.04E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881004_AM SAMPLE QTY: 1.252 G	
DETECTOR NUMBER :78199 AVERAGE %EFFICIENCY :31.4743 % YIELD : 90.616		COUNT DATE:27-JAN-2010 21:01:04 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 : 2.91658 dpm RESULTS : 2.64289 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B087.CNF;1024 BKG DATE : 25-JAN-2010 EFF FILE : W087.CNF;274 CAL DATE : 11-JAN-2010

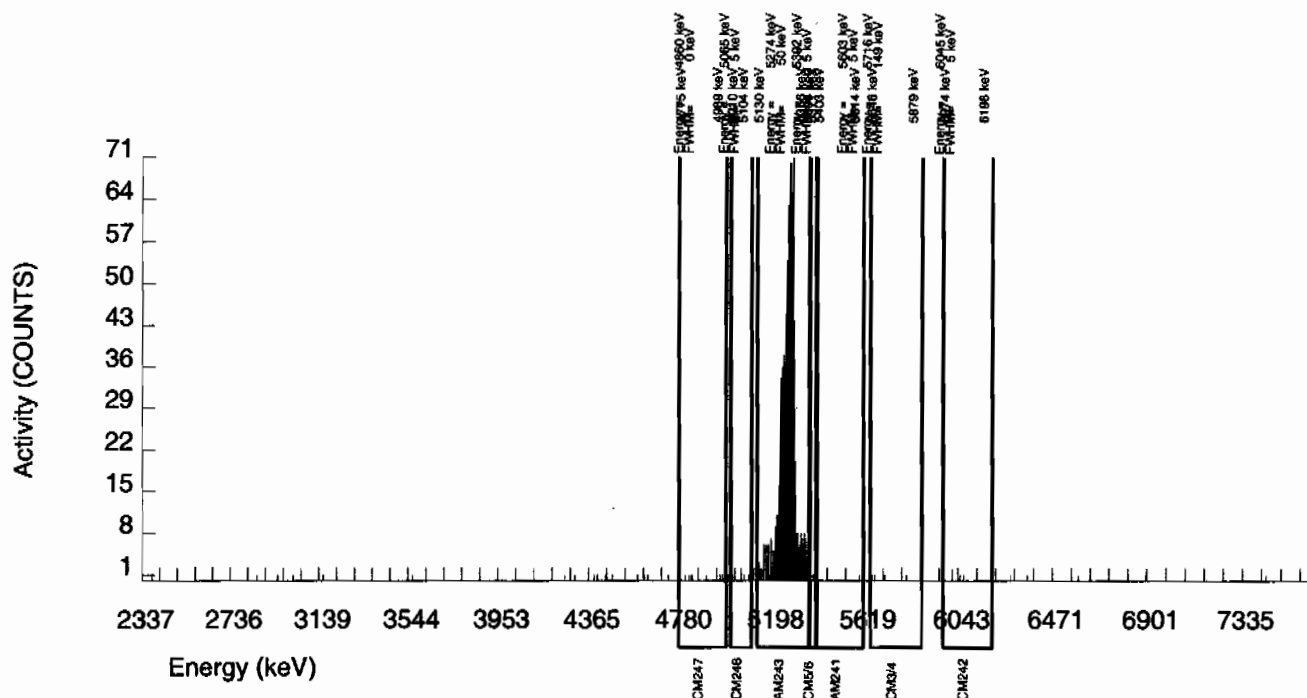
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	5.000	3.000	2.000	5.2338	100.0000	3.79E-03	3.35E-03	1.54E-02	3.41E-02	3.34E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.47E-03	1.47E-03	6.77E-02	1.39E-01	1.47E-03
AM-241	5479.150	1.000	-3.444	3.000	3.0704	99.94000	-4.35E-03	2.53E-03	9.02E-03	2.15E-02	2.52E-03
CM-242	6102.000	4.000	4.000	0.000	4.3186	100.0000	5.43E-03	2.73E-03	1.27E-02	2.88E-02	2.71E-03
AM243	5270.000	833.000	830.000	3.000	1.7321	99.78000	1.05E+00	7.31E-02	5.09E-03	1.36E-02	3.66E-02
CM-247	4946.000	11.000	5.000	6.000	15.3366	79.30000	7.95E-03	6.58E-03	5.68E-02	1.18E-01	6.56E-03
CM-248	5078.600	5.000	2.000	3.000	22.1555	91.00000	2.77E-03	3.92E-03	7.15E-02	1.47E-01	3.92E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 14-JAN-2010 00:00:00		SAMPLE ID : S0244902001_AM SAMPLE QTY: 1.252 G	
DETECTOR NUMBER :79466 AVERAGE %EFFICIENCY :32.2835 % YIELD : 84.939		COUNT DATE:26-JAN-2010 14:17:43 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 : 2.91658 dpm RESULTS : 2.47731 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B079.CNF;1012 BKG DATE : 25-JAN-2010 EFF FILE : W079.CNF;266 CAL DATE : 11-JAN-2010

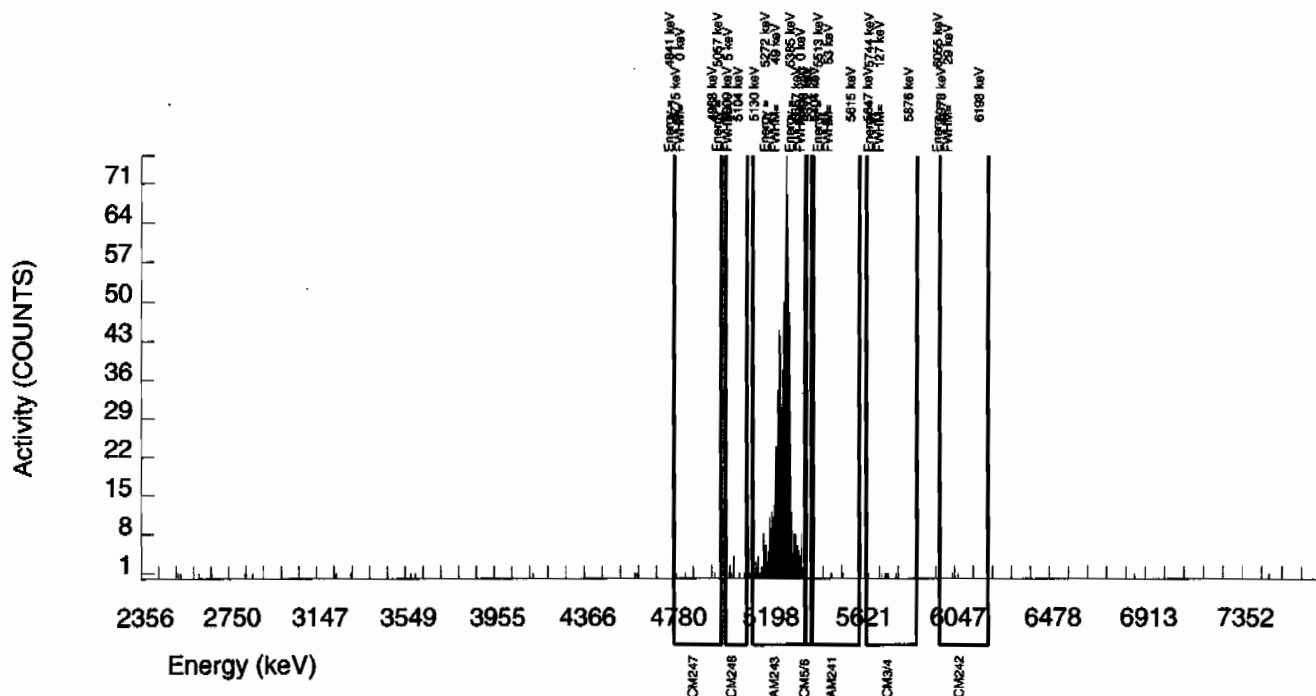
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	8.000	7.000	1.000	5.2338	100.0000	9.20E-03	3.98E-03	1.60E-02	3.55E-02	3.94E-03
CM-5/6	5386.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.53E-03	7.04E-02	1.45E-01	1.52E-03
AM-241	5479.150	3.000	0.611	1.000	3.0704	99.94000	8.03E-04	2.12E-03	9.38E-03	2.23E-02	2.12E-03
CM-242	6102.000	2.000	2.000	0.000	4.3186	100.0000	2.77E-03	1.97E-03	1.32E-02	2.99E-02	1.96E-03
AM243	5270.000	800.000	798.000	2.000	1.4142	99.78000	1.05E+00	7.38E-02	4.33E-03	1.22E-02	3.72E-02
CM-247	4946.000	4.000	3.000	1.000	15.3366	79.30000	4.96E-03	3.71E-03	5.90E-02	1.23E-01	3.70E-03
CM-248	5078.600	8.000	8.000	0.000	22.1555	91.00000	1.15E-02	4.14E-03	7.43E-02	1.53E-01	4.08E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity





GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 20-JAN-2010 00:00:00		SAMPLE ID : S1202018341_AM SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :67599 AVERAGE %EFFICIENCY :34.6778 % YIELD : 62.824		COUNT DATE:26-JAN-2010 14:17:46 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 : 2.91657 dpm RESULTS : 1.83229 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B097.CNF;669 BKG DATE : 25-JAN-2010 EFF FILE : W097.CNF;191 CAL DATE : 11-JAN-2010

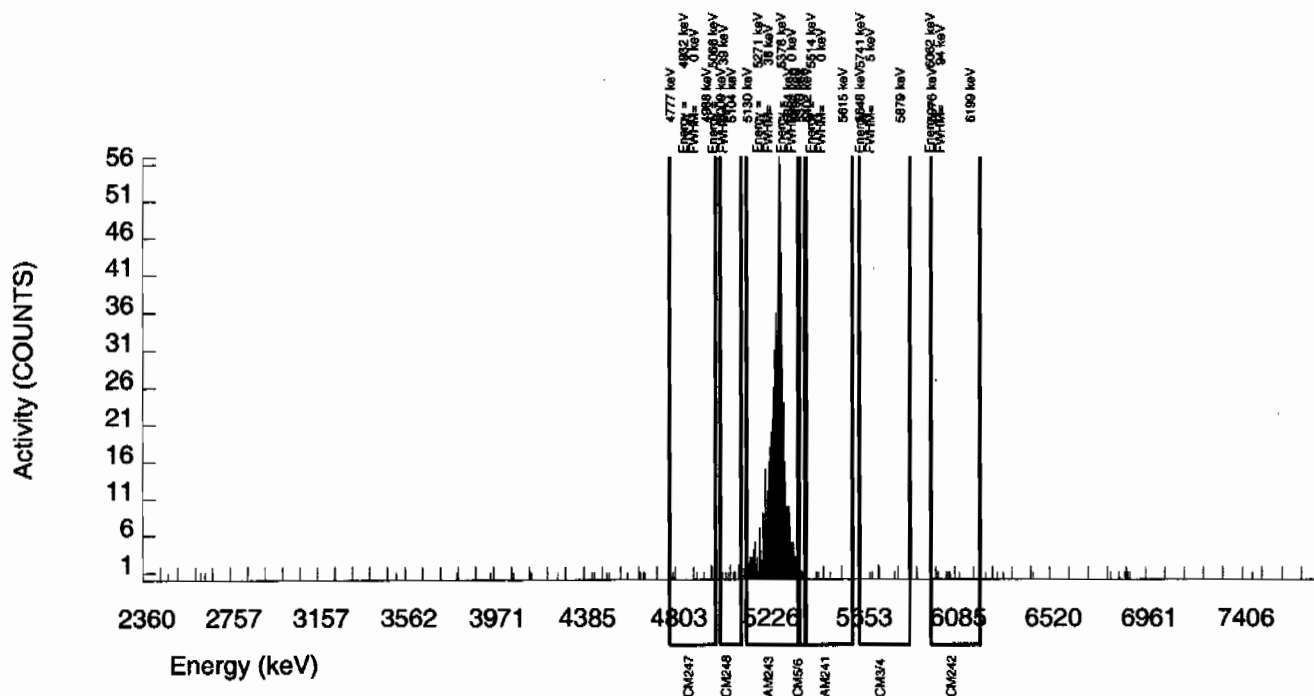
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	5.000	1.000	4.000	5.2338	100.0000	2.07E-03	6.21E-03	2.52E-02	5.60E-02	6.21E-03
CM-5/6	5386.000	8.000	8.000	0.000	19.8463	86.09000	1.92E-02	6.90E-03	1.11E-01	2.28E-01	6.79E-03
AM-241	5479.150	4.000	-1.103	4.000	3.0704	99.94000	-2.28E-03	5.43E-03	1.48E-02	3.52E-02	5.43E-03
CM-242	6102.000	5.000	3.000	2.000	4.3186	100.0000	6.39E-03	5.65E-03	2.08E-02	4.71E-02	5.63E-03
AM243	5270.000	635.000	634.000	1.000	1.0000	99.78000	1.31E+00	9.83E-02	4.82E-03	1.53E-02	5.23E-02
CM-247	4946.000	8.000	4.000	4.000	15.3366	79.30000	1.04E-02	9.06E-03	9.30E-02	1.93E-01	9.03E-03
CM-248	5078.600	9.000	9.000	0.000	22.1555	91.00000	2.04E-02	6.94E-03	1.17E-01	2.40E-01	6.82E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 14-JAN-2010 00:00:00		SAMPLE ID : S1202018342_AM SAMPLE QTY: 1.259 G	
DETECTOR NUMBER :70317 AVERAGE %EFFICIENCY :33.9756 % YIELD : 85.159		COUNT DATE:26-JAN-2010 14:17:46 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 : 2.91658 dpm RESULTS : 2.48372 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B099.CNF;672 BKG DATE : 25-JAN-2010 EFF FILE : W099.CNF;191 CAL DATE : 11-JAN-2010

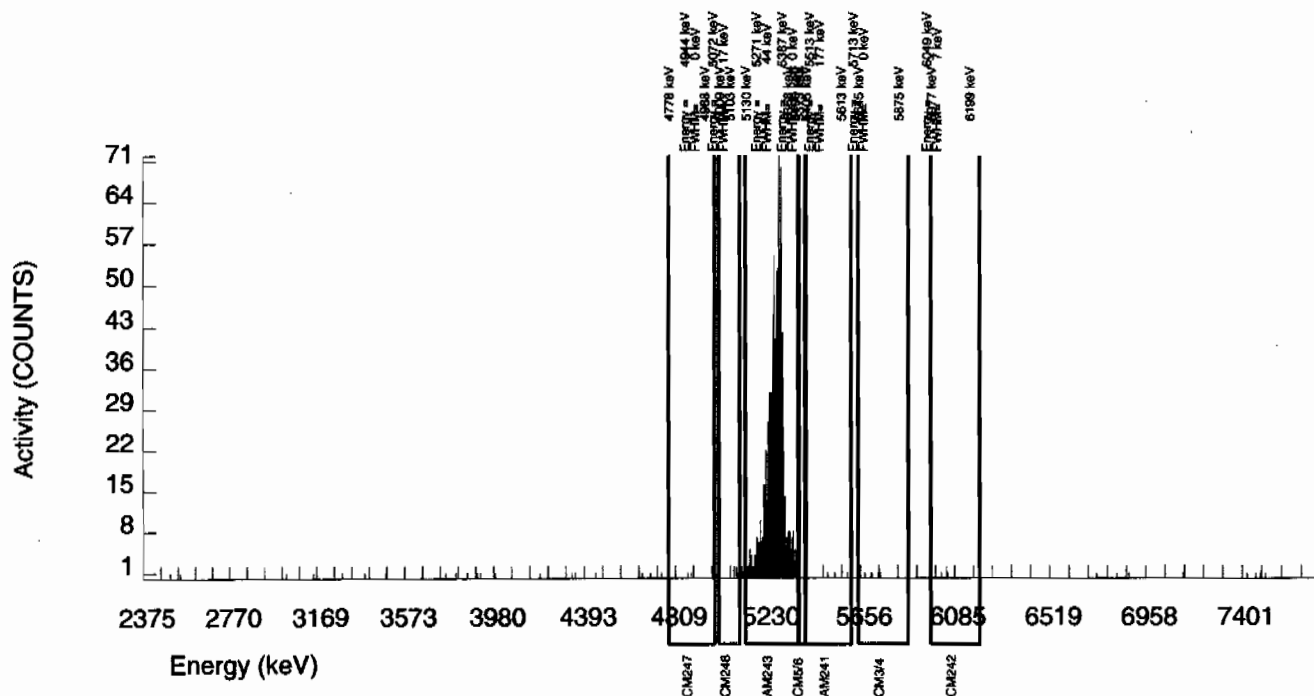
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	7.000	6.000	1.000	5.2338	100.0000	7.43E-03	3.53E-03	1.51E-02	3.35E-02	3.50E-03
CM-5/6	5386.000	2.000	2.000	0.000	19.8463	86.09000	2.87E-03	2.04E-03	6.63E-02	1.37E-01	2.03E-03
AM-241	5479.150	5.000	3.535	0.000	3.0704	99.94000	4.37E-03	2.34E-03	8.84E-03	2.10E-02	2.33E-03
CM-242	6102.000	4.000	4.000	0.000	4.3186	100.0000	5.23E-03	2.63E-03	1.24E-02	2.82E-02	2.61E-03
AM243	5270.000	846.000	842.000	4.000	2.0000	99.78000	1.04E+00	7.25E-02	5.77E-03	1.49E-02	3.61E-02
CM-247	4946.000	5.000	4.000	1.000	15.3366	79.30000	6.24E-03	3.84E-03	5.56E-02	1.15E-01	3.82E-03
CM-248	5078.600	9.000	8.000	1.000	22.1555	91.00000	1.09E-02	4.35E-03	7.00E-02	1.44E-01	4.30E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942753 SAMPLE DATE : 20-JAN-2010 00:00:00		SAMPLE ID : S1202018343_AM SAMPLE QTY: 0.102 G	
DETECTOR NUMBER :79456 AVERAGE %EFFICIENCY :33.7658 % YIELD : 98.612		COUNT DATE:26-JAN-2010 14:17:46 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 : 2.91657 dpm RESULTS : 2.87610 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B100.CNF;673 BKG DATE : 25-JAN-2010 EFF FILE : W100.CNF;199 CAL DATE : 11-JAN-2010

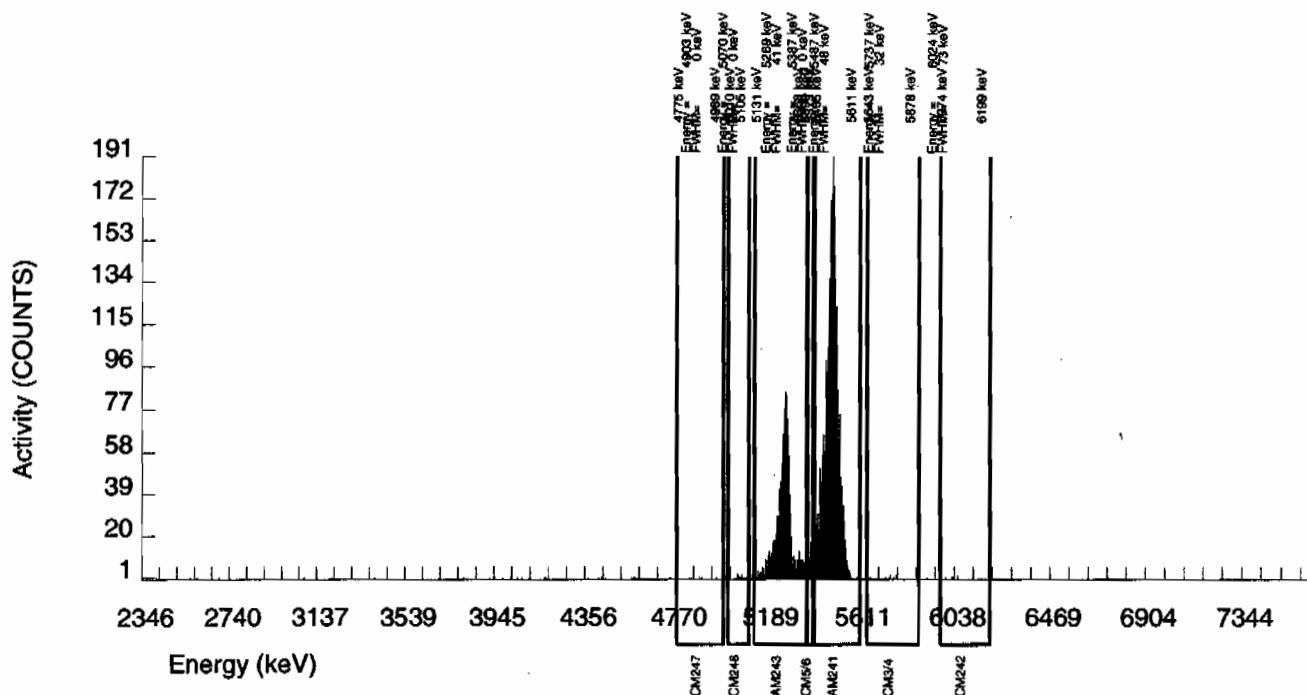
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	9.000	9.000	0.000	5.2338	100.0000	1.19E-01	4.06E-02	1.61E-01	3.59E-01	3.98E-02
CM-5/6	5386.000	71.000	71.000	0.000	19.8463	86.09000	1.09E+00	1.49E-01	7.11E-01	1.46E+00	1.30E-01
AM-241	5479.150	2246.000	2244.314	0.000	3.0704	99.94000	2.98E+01	2.09E+00	9.48E-02	2.26E-01	6.29E-01
CM-242	6102.000	7.000	7.000	0.000	4.3186	100.0000	9.56E-02	3.67E-02	1.33E-01	3.02E-01	3.61E-02
AM243	5270.000	970.000	969.000	1.000	1.0000	99.78000	1.29E+01	9.55E-01	3.09E-02	9.79E-02	4.14E-01
CM-247	4946.000	6.000	4.000	2.000	15.3366	79.30000	6.69E-02	4.75E-02	5.97E-01	1.24E+00	4.73E-02
CM-248	5078.600	16.000	16.000	0.000	22.1555	91.00000	2.33E-01	6.03E-02	7.51E-01	1.54E+00	5.83E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



# Radiochemistry Batch Checklist, Rev10

Batch# 942754 Product: PJ Date: 1/25/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Sept M-6 1/25/10

Secondary Review Performed By:

Denise Green 1/26/10

# Plutonium Que Sheet

18-JAN-10

Batch #: 942754 Analyst: KXM4 First Client Due Date: 06-FEB-10 Internal Due Date: 27-JAN-10

Tracer Isotope(s): Pu-242/Pu-238 Tracer Code: 13744 Expiration Date: 12-8-10 Vol: 0.1 ml  
 LCS Isotope(s): Pu-239/Pu-238 LCS Code: 5041 0744-5 Expiration Date: 4-30-20 Vol: 0.1 g  
 Spike Isotope(s): Pu-239/Pu-238 Spike Code: NA Expiration Date: NA Vol: NA

Prep Date: 1-10-10 Initials: KMA Pipet ID: 297058 Balance ID: 50410772 Witness: MDA 1/20/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Ally	Aliquot	Pu Det #
244851001-1	RE12-10-7856	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	1	1	1.759	70	
244852002-1	RE12-10-7857	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	2	2	1.752	71	
244853003-1	RE12-10-7855	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	3	3	1.758	72	
244852004-1	RE12-10-7854	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	4	4	1.757	73	
244881001-1	RE12-10-8096	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	5	5	1.757	74	
244881002-1	RE12-10-8094	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	6	6	1.751	75	
244881003-1	RE12-10-8097	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	7	7	1.751	76	
244881004-1	RE12-10-8095	SAMPLE		.05 pCi/g	SOIL	LANL010	11-JAN-10	8	8	1.752	77	
244902001-1	RE46-10-10099	SAMPLE		.05 pCi/g	SOIL	LANL010	14-JAN-10	9	9	1.252	78	
244905001-1	RE16-10-1374	SAMPLE		.05 pCi/g	SOIL	LANL010	08-JAN-10	10	10	1.252	79	
244905002-1	RE16-10-1376	SAMPLE		.05 pCi/g	SOIL	LANL010	08-JAN-10	11	11	1.255	80	
244905003-1	RE16-10-1378	SAMPLE		.05 pCi/g	SOIL	LANL010	08-JAN-10	12	12	1.250	81	
244905004-1	RE16-10-1380	SAMPLE		.05 pCi/g	SOIL	LANL010	08-JAN-10	13	13	1.251	82	
244905005-1	RE16-10-1382	SAMPLE		.05 pCi/g	SOIL	LANL010	08-JAN-10	14	14	1.254	83	
244905006-1	RE16-10-1396	SAMPLE		.05 pCi/g	SOIL	LANL010	08-JAN-10	15	15	1.252	84	
1202018344-1	MB for batch 942754	MB				QC ACCOUNT		16	16	1.254	40	
1202018345-1	RE46-10-10099(244902001DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	14-JAN-10	17	17	1.254	41	
1202018346-1	LCS for batch 942754	LCS		.05 pCi/g	SOIL	QC ACCOUNT		18	18	0.102	42	

Choose SOP Used: GL-RAD-A-011, GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

Solid Sample Dissolution by LEACH or DIGESTION Circle One

Data Reviewed By:

Sub L - 125/10  
 105 1/20/10

# Blank Correction Report

**Batch ID 942754**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018345	DUP	Plutonium-238	1.26 g	0.00115	0.00258	0.019	-.00342857	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00692	0.00284	0.0218	.000000000	pCi/g	NO
1202018346	LCS	Plutonium-238	0.102 g	6.71	0.498	0.223	-.04235294	pCi/g	NO
		Plutonium-239/240	0.102 g	38.7	2.40	0.255	.000000003	pCi/g	NO
1202018344	MB	Plutonium-238	1.00 g	-0.00432	0.00288	0.0238	-.00432	pCi/g	NO
		Plutonium-239/240	1.00 g	3.44E-10	0.00353	0.0272	.000000000	pCi/g	YES
244852001	RE12-10-7856	Plutonium-238	1.26 g	0.00123	0.00442	0.0203	-.00342857	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00613	0.00408	0.0232	.000000000	pCi/g	NO
244852002	RE12-10-7857	Plutonium-238	1.25 g	-0.0052	0.00636	0.0215	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0104	0.00453	0.0245	.000000000	pCi/g	NO
244852003	RE12-10-7855	Plutonium-238	1.26 g	0.0193	0.00689	0.0199	-.00342857	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00121	0.00209	0.0228	.000000000	pCi/g	NO
244852004	RE12-10-7854	Plutonium-238	1.25 g	-0.00116	0.00164	0.0192	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0186	0.00474	0.0219	.000000000	pCi/g	NO
244881001	RE12-10-8096	Plutonium-238	1.26 g	0.00524	0.00371	0.0216	-.00342857	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0144	0.0044	0.0247	.000000000	pCi/g	NO
244881002	RE12-10-8094	Plutonium-238	1.25 g	0.00	0.00124	0.0204	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00123	0.00214	0.0233	.000000000	pCi/g	NO
244881003	RE12-10-8097	Plutonium-238	1.25 g	0.00429	0.00249	0.0236	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.020	0.00615	0.027	.000000000	pCi/g	NO
244881004	RE12-10-8095	Plutonium-238	1.25 g	-0.00135	0.00449	0.0224	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	8.07E-11	0.00192	0.0256	.000000000	pCi/g	YES
244902001	RE46-10-10099	Plutonium-238	1.25 g	-0.00893	0.00557	0.0246	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	-0.00298	0.00298	0.0281	.000000000	pCi/g	YES
244905001	RE16-10-1374	Plutonium-238	1.25 g	0.00593	0.00267	0.0196	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0332	0.00691	0.0224	.000000000	pCi/g	NO
244905002	RE16-10-1376	Plutonium-238	1.26 g	0.00142	0.00318	0.0234	-.00342857	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0114	0.00406	0.0268	.000000000	pCi/g	NO
244905003	RE16-10-1378	Plutonium-238	1.26 g	-0.00249	0.00249	0.0205	-.00342857	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0597	0.00914	0.0235	.000000000	pCi/g	NO
244905004	RE16-10-1380	Plutonium-238	1.25 g	7.52E-11	0.00178	0.0208	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00504	0.00357	0.0238	.000000000	pCi/g	NO
244905005	RE16-10-1382	Plutonium-238	1.25 g	-0.00442	0.00469	0.0182	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0508	0.00806	0.0209	.000000000	pCi/g	NO
244905006	RE16-10-1396	Plutonium-238	1.25 g	-0.00121	0.0021	0.020	-.003456	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0218	0.00604	0.0229	.000000000	pCi/g	NO

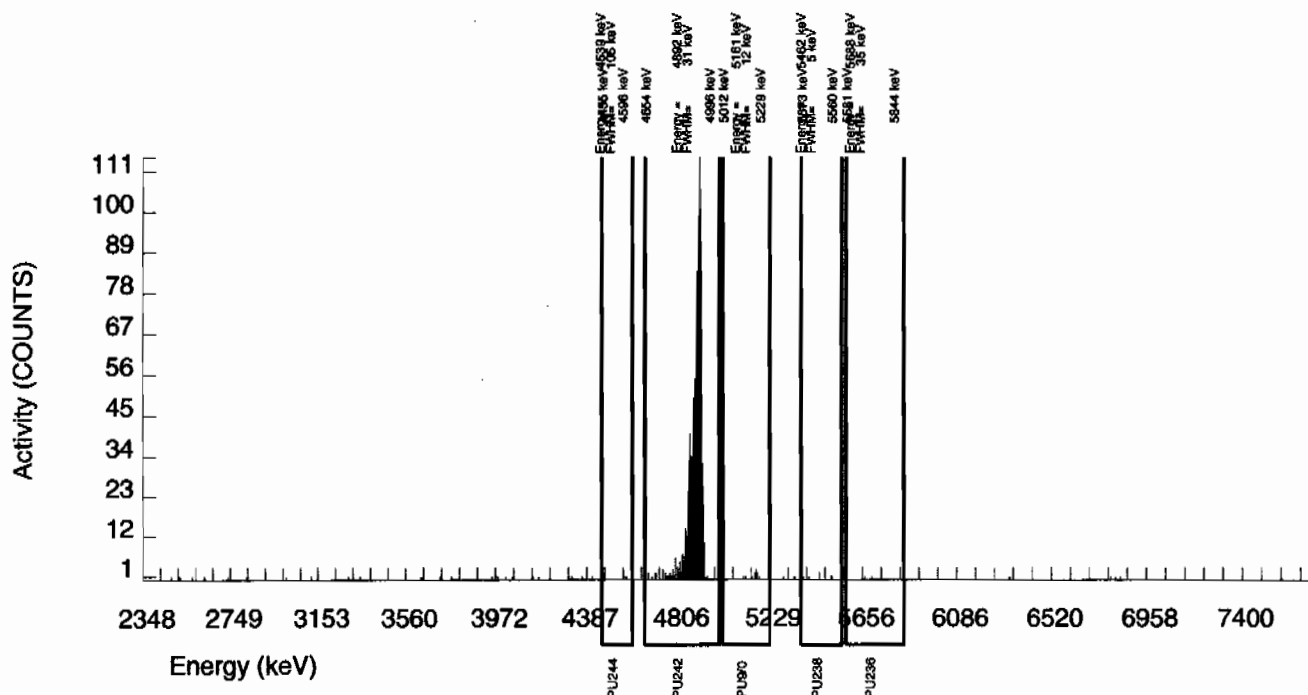
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942754 SAMPLE DATE : 11-JAN-2010 00:00:00			SAMPLE ID : S0244881001_PU SAMPLE QTY: 1.257 G		
DETECTOR NUMBER :78266 AVERAGE %EFFICIENCY :31.6797 % YIELD : 86.527			COUNT DATE:23-JAN-2010 12:08:59 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 : 2.92932 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B074.CNF;1115 BKG DATE : 17-JAN-2010 EFF FILE : W074.CNF;330 CAL DATE : 11-JAN-2010		

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	11.000	11.000	0.000	3.4797	99.90000	1.44E-02	4.40E-03	1.06E-02	2.47E-02	4.34E-03
PU-236	5749.000	2.000	0.000	2.000	2.1286	100.00000	-3.14E-10	2.64E-03	6.47E-03	1.65E-02	2.64E-03
PU-238	5499.000	6.000	4.000	2.000	2.9680	99.90000	5.24E-03	3.71E-03	9.04E-03	2.16E-02	3.70E-03
PU242	4890.000	932.000	928.000	4.000	2.0000	100.00000	1.21E+00	7.43E-02	6.08E-03	1.57E-02	4.00E-02
PU-244	4589.000	3.000	0.000	3.000	5.2050	99.90000	-6.24E-10	3.21E-03	1.58E-02	3.52E-02	3.21E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

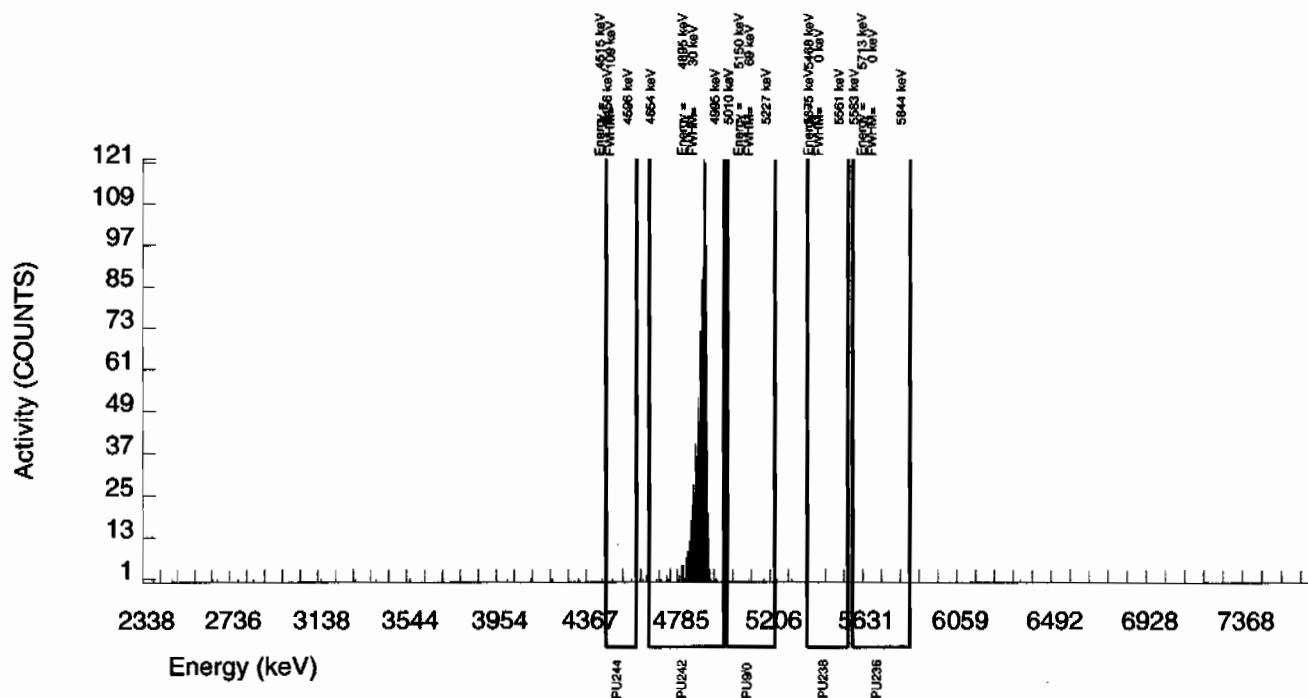
BATCH NUMBER: 942754 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881002_PU SAMPLE QTY: 1.251 G	
DETECTOR NUMBER :80010 AVERAGE %EFFICIENCY :30.2754 % YIELD : 96.492		COUNT DATE:23-JAN-2010 12:08:59 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	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 : 3.26667 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B075.CNF;1096 BKG DATE : 17-JAN-2010 EFF FILE : W075.CNF;288 CAL DATE : 12-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	1.000	1.000	3.4797	99.90000	1.23E-03	2.14E-03	9.99E-03	2.33E-02	2.14E-03
PU-236	5749.000	0.000	-1.000	1.000	2.1286	100.0000	-1.24E-03	1.76E-03	6.10E-03	1.55E-02	1.76E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.24E-03	8.52E-03	2.04E-02	1.23E-03
PU242	4890.000	994.000	989.000	5.000	2.2361	100.0000	1.22E+00	7.33E-02	6.41E-03	1.62E-02	3.90E-02
PU-244	4589.000	3.000	-1.000	4.000	5.2050	99.90000	-1.23E-03	3.26E-03	1.49E-02	3.32E-02	3.26E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)





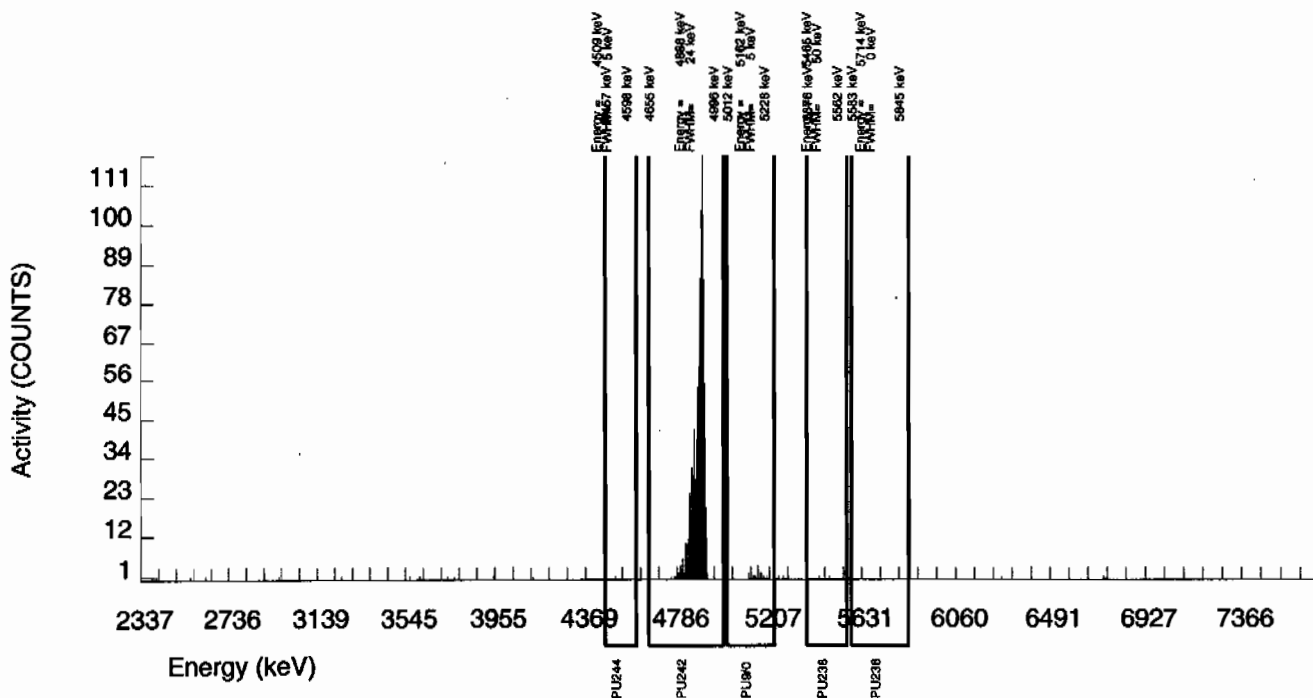
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942754 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881003_PU SAMPLE QTY: 1.251 G	
DETECTOR NUMBER :78779 AVERAGE %EFFICIENCY :30.8747 % YIELD : 81.704		COUNT DATE:23-JAN-2010 12:08:59 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 : 2.76602 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B076.CNF;1099 BKG DATE : 17-JAN-2010 EFF FILE : W076.CNF;293 CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	16.000	14.000	2.000	3.4797	99.90000	2.00E-02	6.15E-03	1.16E-02	2.70E-02	6.06E-03
PU-236	5749.000	0.000	-1.000	1.000	2.1286	100.0000	-1.44E-03	2.04E-03	7.07E-03	1.80E-02	2.04E-03
PU-238	5499.000	3.000	3.000	0.000	2.9680	99.90000	4.29E-03	2.49E-03	9.87E-03	2.36E-02	2.48E-03
PU242	4890.000	857.000	854.000	3.000	1.7321	100.0000	1.22E+00	7.65E-02	5.75E-03	1.54E-02	4.19E-02
PU-244	4589.000	1.000	1.000	0.000	5.2050	99.90000	1.43E-03	1.43E-03	1.73E-02	3.85E-02	1.43E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

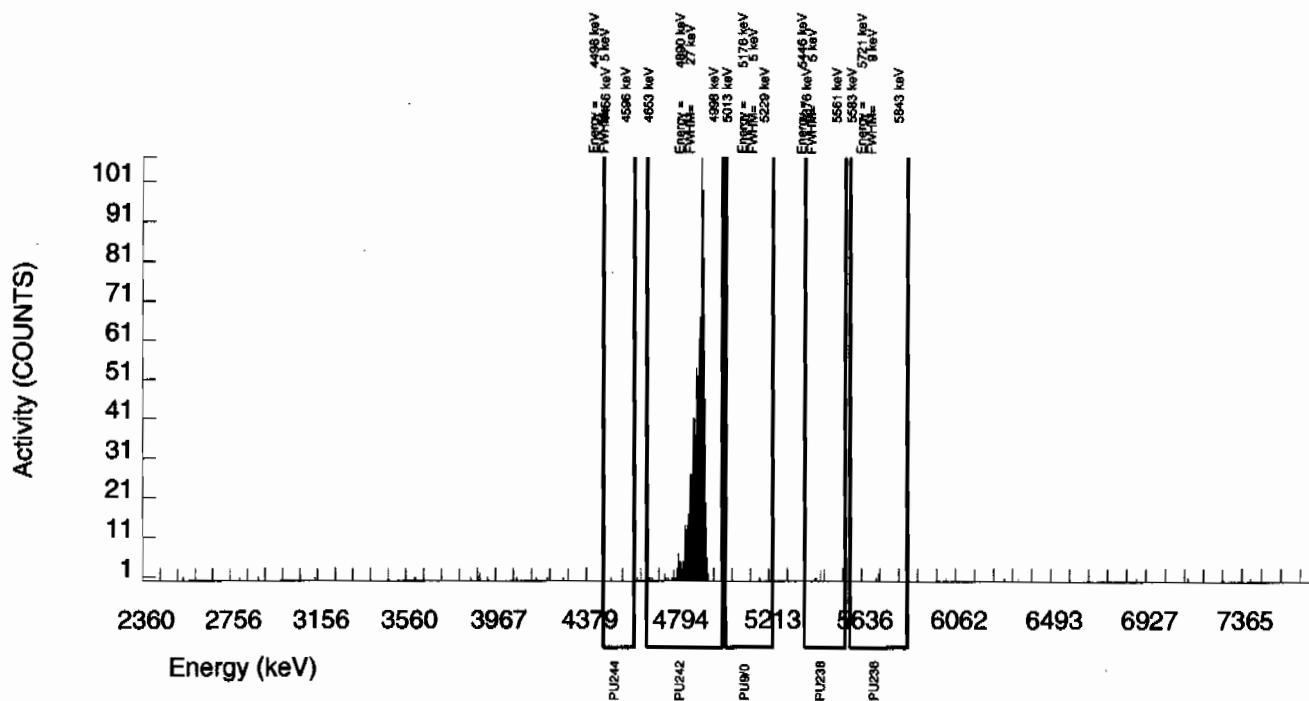
BATCH NUMBER: 942754 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881004_PU SAMPLE QTY: 1.252 G	
DETECTOR NUMBER :67576 AVERAGE %EFFICIENCY :31.9454 % YIELD : 83.311		COUNT DATE:23-JAN-2010 12:09:01 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	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 : 2.82044 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B077.CNF;1008 BKG DATE : 17-JAN-2010 EFF FILE : W077.CNF;261 CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	1.000	0.000	1.000	3.4797	99.90000	8.07E-11	1.92E-03	1.10E-02	2.56E-02	1.91E-03
PU-236	5749.000	5.000	-1.000	6.000	2.1286	100.0000	-1.36E-03	4.52E-03	6.69E-03	1.71E-02	4.52E-03
PU-238	5499.000	5.000	-1.000	6.000	2.9680	99.90000	-1.35E-03	4.49E-03	9.34E-03	2.24E-02	4.49E-03
PU242	4890.000	903.000	901.000	2.000	1.4142	100.0000	1.22E+00	7.51E-02	4.45E-03	1.26E-02	4.07E-02
PU-244	4589.000	1.000	1.000	0.000	5.2050	99.90000	1.35E-03	1.36E-03	1.64E-02	3.64E-02	1.35E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



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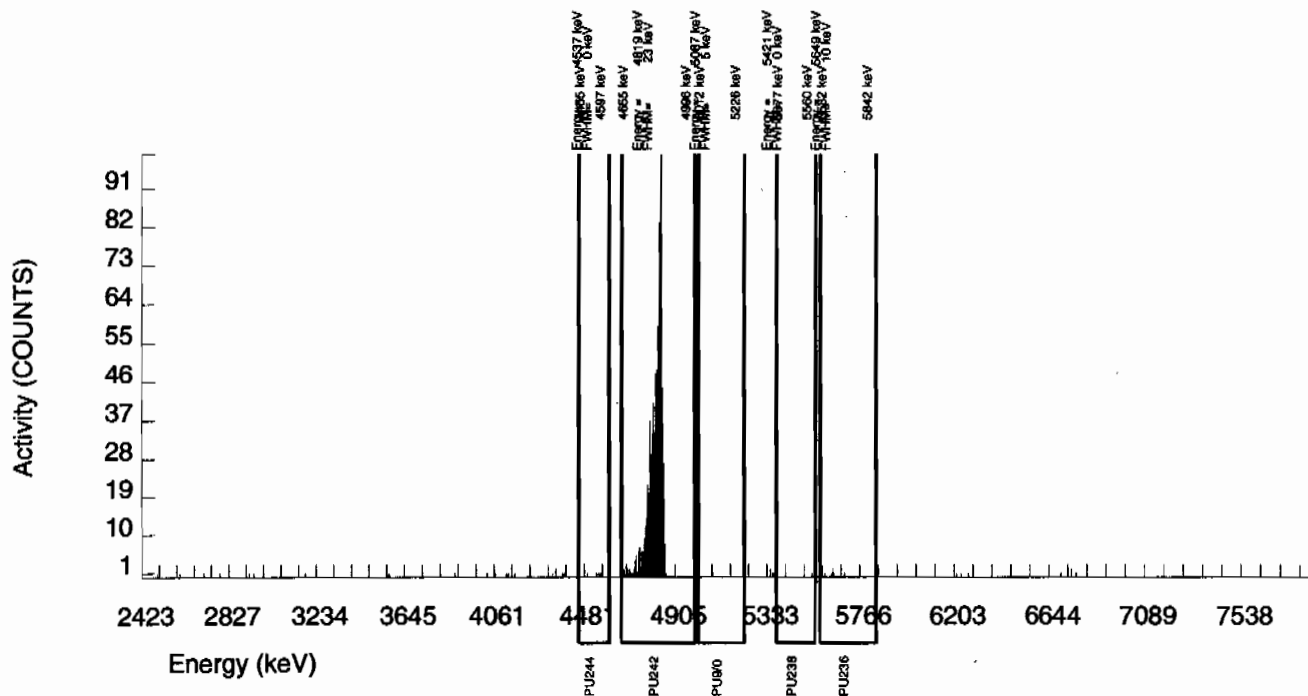
BATCH NUMBER: 942754 SAMPLE DATE : 14-JAN-2010 00:00:00		SAMPLE ID : S0244902001_PU SAMPLE QTY: 1.252 G	
DETECTOR NUMBER :67577 AVERAGE %EFFICIENCY :31.0633 % YIELD : 77.879		COUNT DATE:23-JAN-2010 12:09:01 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	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 : 2.63655 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B078.CNF;1008 BKG DATE : 17-JAN-2010 EFF FILE : W078.CNF;251 CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	1.000	-2.000	3.000	3.4797	99.90000	-2.98E-03	2.98E-03	1.21E-02	2.81E-02	2.98E-03
PU-236	5749.000	6.000	-1.000	7.000	2.1286	100.0000	-1.50E-03	5.40E-03	7.36E-03	1.88E-02	5.40E-03
PU-238	5499.000	4.000	-6.000	10.000	2.9680	99.90000	-8.93E-03	5.57E-03	1.03E-02	2.46E-02	5.57E-03
PU242	4890.000	822.000	819.000	3.000	1.7321	100.0000	1.22E+00	7.74E-02	5.99E-03	1.60E-02	4.27E-02
PU-244	4589.000	6.000	6.000	0.000	5.2050	99.90000	8.93E-03	3.68E-03	1.80E-02	4.01E-02	3.65E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



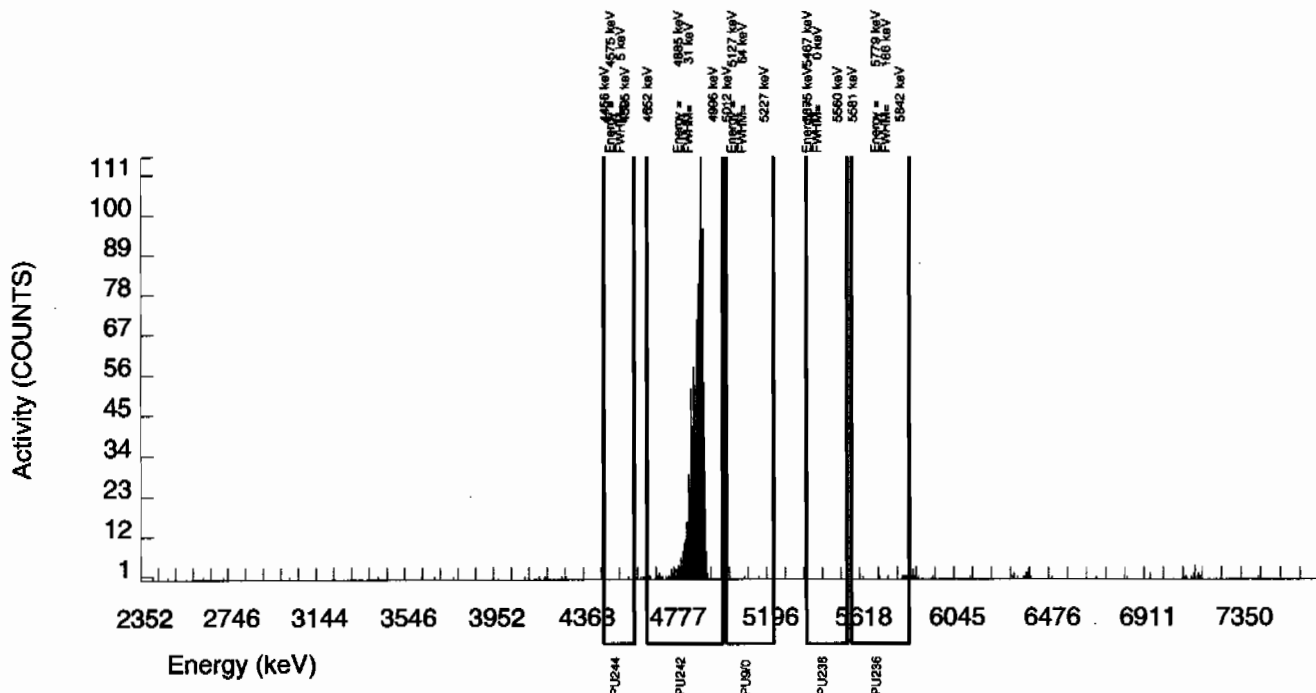
GEL Laboratories LLC  
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BATCH NUMBER: 942754 SAMPLE DATE : 20-JAN-2010 00:00:00		SAMPLE ID : S1202018344_PU SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :78773 AVERAGE %EFFICIENCY :32.1969 % YIELD : 97.156		COUNT DATE:23-JAN-2010 12:08:56 ELAPSED LIVE TIME(SEC): 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 : 3.28914 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B040.CNF;1108 BKG DATE : 17-JAN-2010 EFF FILE : W040.CNF;315 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3.000	0.000	3.000	3.4797	99.90000	3.44E-10	3.53E-03	1.17E-02	2.72E-02	3.53E-03
PU-236	5749.000	8.000	1.000	7.000	2.1286	100.0000	1.44E-03	5.59E-03	7.13E-03	1.82E-02	5.59E-03
PU-238	5499.000	0.000	-3.000	3.000	2.9680	99.90000	-4.32E-03	2.88E-03	9.95E-03	2.38E-02	2.88E-03
PU242	4890.000	1060.000	1059.000	1.000	1.0000	100.0000	1.52E+00	9.00E-02	3.35E-03	1.06E-02	4.69E-02
PU-244	4589.000	1.000	1.000	0.000	5.2050	99.90000	1.44E-03	1.44E-03	1.75E-02	3.88E-02	1.44E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



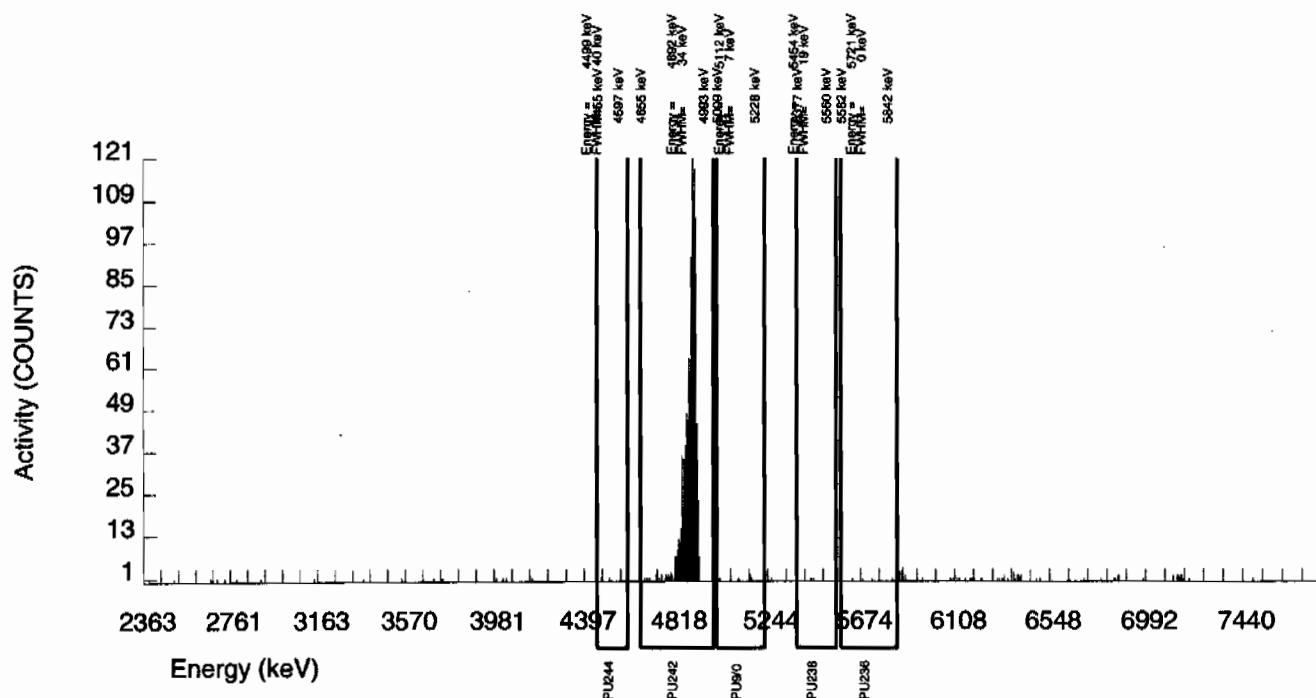
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942754 SAMPLE DATE : 14-JAN-2010 00:00:00		SAMPLE ID : S1202018345_PU SAMPLE QTY: 1.259 G	
DETECTOR NUMBER :78205 AVERAGE %EFFICIENCY :32.6825 % YIELD : 95.079		COUNT DATE:23-JAN-2010 12:08:56 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 : 3.21885 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B041.CNF;1101 BKG DATE : 17-JAN-2010 EFF FILE : W041.CNF;319 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	6.000	0.000	3.4797	99.90000	6.92E-03	2.84E-03	9.33E-03	2.18E-02	2.82E-03
PU-236	5749.000	6.000	-2.000	8.000	2.1286	100.0000	-2.32E-03	4.34E-03	5.70E-03	1.45E-02	4.34E-03
PU-238	5499.000	3.000	1.000	2.000	2.9680	99.90000	1.15E-03	2.58E-03	7.96E-03	1.90E-02	2.58E-03
PU242	4890.000	1054.000	1052.000	2.000	1.4142	100.0000	1.21E+00	7.16E-02	3.79E-03	1.07E-02	3.74E-02
PU-244	4589.000	2.000	2.000	0.000	5.2050	99.90000	2.31E-03	1.63E-03	1.40E-02	3.10E-02	1.63E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



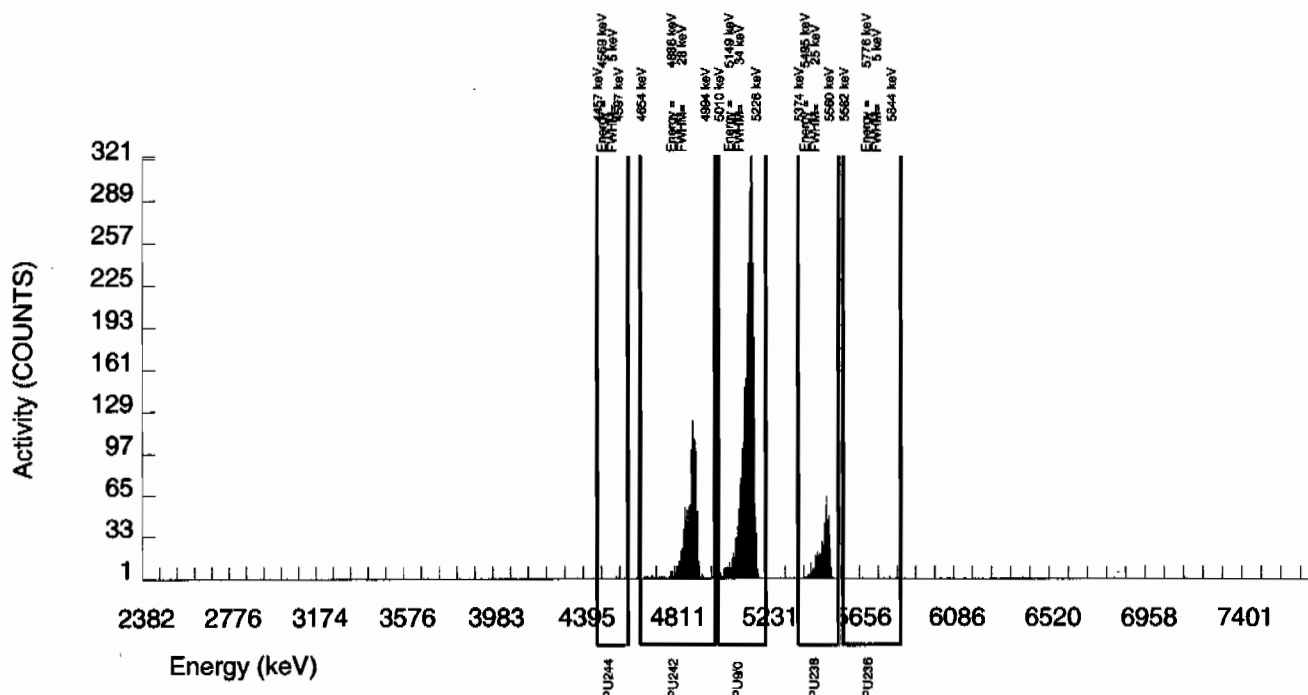
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942754 SAMPLE DATE : 20-JAN-2010 00:00:00		SAMPLE ID : S1202018346_PU SAMPLE QTY: 0.102 G	
DETECTOR NUMBER :78793 AVERAGE %EFFICIENCY :33.4897 % YIELD : 97.992		COUNT DATE:23-JAN-2010 12:08:56 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 : 3.31744 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B042.CNF;1100 BKG DATE : 17-JAN-2010 EFF FILE : W042.CNF;292 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2875.000	2871.000	4.000	3.4797	99.90000	3.87E+01	2.39E+00	1.09E-01	2.55E-01	7.23E-01
PU-236	5749.000	5.000	-5.000	10.000	2.1286	100.0000	-6.75E-02	5.23E-02	6.66E-02	1.70E-01	5.23E-02
PU-238	5499.000	499.000	498.000	1.000	2.9680	99.90000	6.71E+00	4.98E-01	9.30E-02	2.23E-01	3.01E-01
PU242	4890.000	1115.000	1111.000	4.000	2.0000	100.0000	1.50E+01	9.91E-01	6.26E-02	1.62E-01	4.50E-01
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	6.74E-02	3.04E-02	1.63E-01	3.63E-01	3.01E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)  
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



# Radiochemistry Batch Checklist, Rev10

Batch# 942756

Product: U

Date: 1/28/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	X		
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.	X		
Instrument source check is within limits.	X		
Instrument big check is within limits.	X		
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%.	X		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	X		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	X		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	X		
Sample was correctly preserved if required.	X		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	X		
No blank spaces on data forms.			
All line outs Initialed and dated.	X		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	X		
Raw Data and/ or spectrum are included and properly labeled.	X		
QC data entered into QC database and batch is in REVW	X		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	X		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMIP, results above MDC have been verified by historical results, recount or re-analysis.)	X		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: 1/28/10

Secondary Review Performed By: 1/28/10

# Uranium Que Sheet

18-JAN-10

Batch #: 942756 Analyst: KXM4 First Client Due Date: 06-FEB-10 Internal Due Date: 27-JAN-10

Tracer Isotope: U-235 Tracer Code: 1283-G-H Expiration Date: 12-9-10 Vol: 0.1n1  
 LCS Isotope: U-238 LCS Code: 5840244-A Expiration Date: 10-31-20 Vol: 0.1g  
 Spike Isotope: U-238 Spike Code: NA Expiration Date: NA Vol: NA  
 Prep Date: 1-10-10 Initials: YK Pipet ID: 147458 Balance ID: 5040272

Witness: MDA 12010

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot	U Det #
24483901-1	RE12-10-7856	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	1	1	0.503	124
24483902-1	RE12-10-7857	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	2	2	0.513	125
24483903-1	RE12-10-7855	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	3	3	0.510	126
24483904-1	RE12-10-7854	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	4	4	0.515	127
24481001-1	RE12-10-8096	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	5	5	0.507	128
24481002-1	RE12-10-8094	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	6	6	0.517	129
24481003-1	RE12-10-8097	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	7	7	0.516	130
24481004-1	RE12-10-8095	SAMPLE		.1 pCVg	SOIL	LANLA10	11-JAN-10	8	8	0.508	131
24492801-1	RE46-10-10899	SAMPLE		.1 pCVg	SOIL	LANLA10	14-JAN-10	9	9	0.505	132
24495901-1	RE16-10-1574	SAMPLE		.1 pCVg	SOIL	LANLA10	08-JAN-10	10	10	0.504	133
24495902-1	RE16-10-1376	SAMPLE		.1 pCVg	SOIL	LANLA10	08-JAN-10	11	11	0.510	134
24495903-1	RE16-10-1378	SAMPLE		.1 pCVg	SOIL	LANLA10	08-JAN-10	12	12	0.523	137
24495904-1	RE16-10-1390	SAMPLE		.1 pCVg	SOIL	LANLA10	08-JAN-10	13	13	0.507	138
24495905-1	RE16-10-1392	SAMPLE		.1 pCVg	SOIL	LANLA10	08-JAN-10	14	14	0.502	139
24495906-1	RE16-10-1396	SAMPLE		.1 pCVg	SOIL	LANLA10	08-JAN-10	15	15	0.507	140
130201347-1	MB for batch 942756	MB				QC ACCOUNT		16	16	0.523	141
130201348-1	RE46-10-10899(24495904)DUP	DUP		.1 pCVg	SOIL	QC ACCOUNT	14-JAN-10	17	17	0.507	142
130201349-1	LCS for batch 942756	LCS		.1 pCVg	SOIL	QC ACCOUNT		18	18	0.104	143

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION  
 Circle One

Data Reviewed By: MDA 12/23/10



# Blank Correction Report

**Batch ID 942756**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018348	DUP	Uranium-233/234	0.507 g	0.631	0.0649	0.108	.010256410	pCi/g	NO
		Uranium-235/236	0.507 g	0.0472	0.0158	0.0668	.013274162	pCi/g	YES
		Uranium-238	0.507 g	0.576	0.0606	0.0624	.010729783	pCi/g	NO
1202018349	LCS	Uranium-233/234	0.104 g	6.12	0.581	0.551	.05	pCi/g	NO
		Uranium-235/236	0.104 g	0.286	0.0824	0.342	.064711538	pCi/g	YES
		Uranium-238	0.104 g	5.66	0.546	0.320	.052307692	pCi/g	NO
1202018347	MB	Uranium-233/234	1.00 g	0.0052	0.00402	0.0562	.0052	pCi/g	YES
		Uranium-235/236	1.00 g	0.00673	0.00504	0.0349	.00673	pCi/g	YES
		Uranium-238	1.00 g	0.00544	0.00407	0.0326	.00544	pCi/g	YES
244852001	RE12-10-7856	Uranium-233/234	0.503 g	1.03	0.0969	0.120	.010337972	pCi/g	NO
		Uranium-235/236	0.503 g	0.0764	0.0198	0.0743	.013379722	pCi/g	NO
		Uranium-238	0.503 g	1.25	0.112	0.0694	.010815109	pCi/g	NO
244852002	RE12-10-7857	Uranium-233/234	0.513 g	0.608	0.0638	0.110	.010136452	pCi/g	NO
		Uranium-235/236	0.513 g	0.0352	0.0127	0.0685	.013118908	pCi/g	YES
		Uranium-238	0.513 g	0.747	0.0738	0.064	.010604288	pCi/g	NO
244852003	RE12-10-7855	Uranium-233/234	0.510 g	1.10	0.0998	0.111	.010196078	pCi/g	NO
		Uranium-235/236	0.510 g	0.0662	0.0177	0.0687	.013196078	pCi/g	NO
		Uranium-238	0.510 g	1.20	0.107	0.0642	.010666867	pCi/g	NO
244852004	RE12-10-7854	Uranium-233/234	0.515 g	1.66	0.145	0.127	.010097087	pCi/g	NO
		Uranium-235/236	0.515 g	0.0911	0.0224	0.0787	.013067961	pCi/g	NO
		Uranium-238	0.515 g	1.89	0.161	0.0736	.010563107	pCi/g	NO
244881001	RE12-10-8096	Uranium-233/234	0.507 g	1.15	0.105	0.116	.010256410	pCi/g	NO
		Uranium-235/236	0.507 g	0.0832	0.0205	0.0719	.013274162	pCi/g	NO
		Uranium-238	0.507 g	1.43	0.125	0.0672	.010729783	pCi/g	NO
244881002	RE12-10-8094	Uranium-233/234	0.517 g	0.637	0.0637	0.101	.010058027	pCi/g	NO
		Uranium-235/236	0.517 g	0.0241	0.0115	0.0626	.013017408	pCi/g	YES
		Uranium-238	0.517 g	0.683	0.0671	0.0585	.010522244	pCi/g	NO
244881003	RE12-10-8097	Uranium-233/234	0.516 g	1.34	0.120	0.120	.010077519	pCi/g	NO
		Uranium-235/236	0.516 g	0.0769	0.020	0.0748	.013042636	pCi/g	NO
		Uranium-238	0.516 g	1.57	0.136	0.0699	.010542636	pCi/g	NO
244881004	RE12-10-8095	Uranium-233/234	0.508 g	1.06	0.098	0.114	.010236220	pCi/g	NO
		Uranium-235/236	0.508 g	0.0726	0.0189	0.0707	.013248031	pCi/g	NO
		Uranium-238	0.508 g	1.22	0.109	0.066	.010708661	pCi/g	NO
244902001	RE46-10-10099	Uranium-233/234	0.505 g	0.593	0.0645	0.124	.010297030	pCi/g	NO
		Uranium-235/236	0.505 g	0.0297	0.0142	0.0771	.013326733	pCi/g	YES
		Uranium-238	0.505 g	0.501	0.0578	0.072	.010772277	pCi/g	NO
244905001	RE16-10-1374	Uranium-233/234	0.504 g	0.998	0.0993	0.144	.010317460	pCi/g	NO
		Uranium-235/236	0.504 g	0.0576	0.022	0.0897	.013353175	pCi/g	YES
		Uranium-238	0.504 g	1.19	0.114	0.0838	.010793651	pCi/g	NO
244905002	RE16-10-1376	Uranium-233/234	0.510 g	1.10	0.103	0.124	.010196078	pCi/g	NO
		Uranium-235/236	0.510 g	0.0692	0.0216	0.077	.013196078	pCi/g	NO

# Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
244905002	RE16-10-1376	Uranium-238	0.510 g	1.04	0.0997	0.0719	.010666667	pCi/g	NO
244905003	RE16-10-1378	Uranium-233/234	0.523 g	1.08	0.101	0.124	.009942839	pCi/g	NO
		Uranium-235/236	0.523 g	0.0642	0.0184	0.0768	.012868069	pCi/g	YES
		Uranium-238	0.523 g	1.33	0.119	0.0718	.010401530	pCi/g	NO
244905004	RE16-10-1380	Uranium-233/234	0.507 g	0.951	0.0914	0.120	.010256410	pCi/g	NO
		Uranium-235/236	0.507 g	0.0384	0.0138	0.0747	.013274162	pCi/g	YES
		Uranium-238	0.507 g	1.15	0.106	0.0698	.010729783	pCi/g	NO
244905005	RE16-10-1382	Uranium-233/234	0.507 g	1.14	0.109	0.129	.010256410	pCi/g	NO
		Uranium-235/236	0.507 g	0.0619	0.0184	0.0603	.013274162	pCi/g	YES
		Uranium-238	0.507 g	1.30	0.120	0.075	.010729783	pCi/g	NO
244905006	RE16-10-1396	Uranium-233/234	0.507 g	0.941	0.0912	0.125	.010256410	pCi/g	NO
		Uranium-235/236	0.507 g	0.0799	0.0208	0.0777	.013274162	pCi/g	NO
		Uranium-238	0.507 g	1.08	0.102	0.0726	.010729783	pCi/g	NO

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942756 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881001_UU SAMPLE QTY: 0.507 G	
DETECTOR NUMBER :75549 AVERAGE %EFFICIENCY :25.6524 % YIELD : 92.650		COUNT DATE:26-JAN-2010 20:26:27 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 : 4.50829 dpm RESULTS : 4.17691 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B128.CNF;455 BKG DATE : 24-JAN-2010 EFF FILE : W128.CNF;133 CAL DATE : 18-JAN-2010

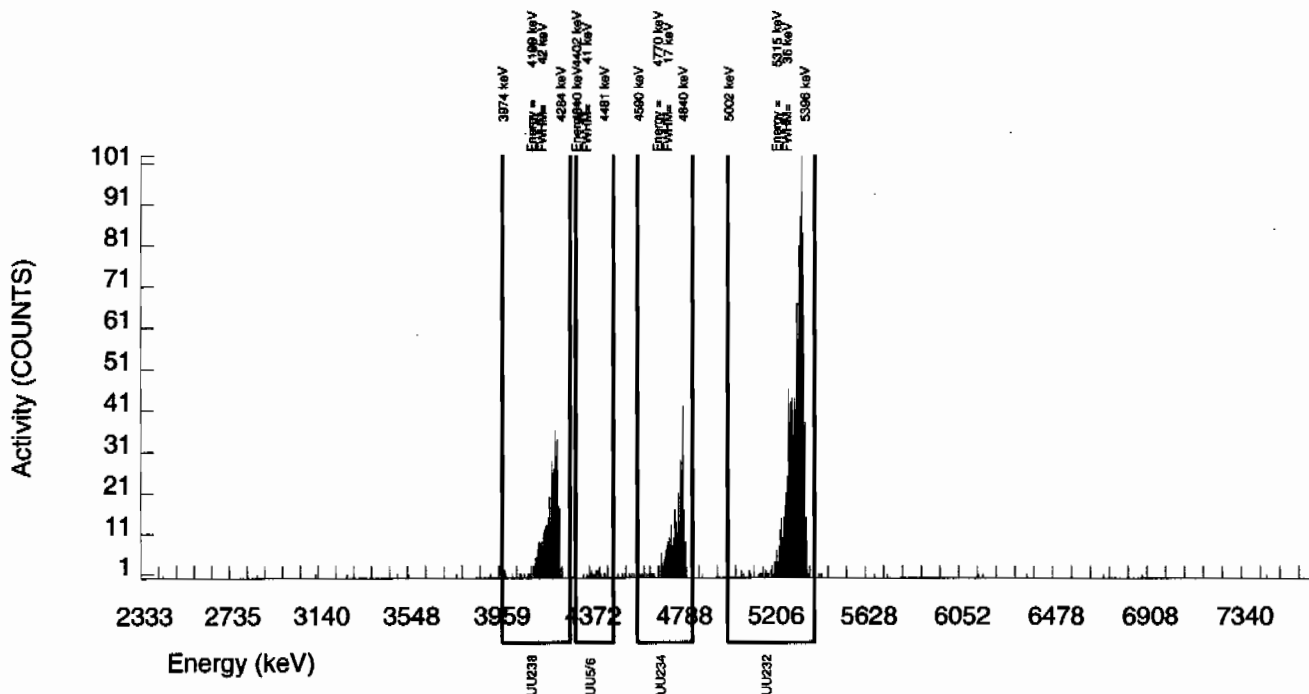
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	309.000	307.917	0.000	6.0782	100.0000	1.15E+00	1.05E-01	5.29E-02	1.16E-01	6.56E-02
U232	5302.100	1072.000	1071.000	1.000	1.0000	100.0000	4.01E+00	3.08E-01	8.70E-03	2.75E-02	1.23E-01
U-235	4391.000	18.000	18.000	0.000	2.7628	80.90000	8.32E-02	2.05E-02	2.97E-02	7.19E-02	1.96E-02
U-238	4184.730	382.000	382.000	0.000	3.2810	100.0000	1.43E+00	1.25E-01	2.85E-02	6.72E-02	7.31E-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: 942756 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881002_UU SAMPLE QTY: 0.517 G	
DETECTOR NUMBER :76227 AVERAGE %EFFICIENCY :26.4183 % YIELD : 101.388		COUNT DATE:26-JAN-2010 20:26:29 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 : 4.50829 dpm RESULTS : 4.57085 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B129.CNF;444 BKG DATE : 24-JAN-2010 EFF FILE : W129.CNF;128 CAL DATE : 18-JAN-2010

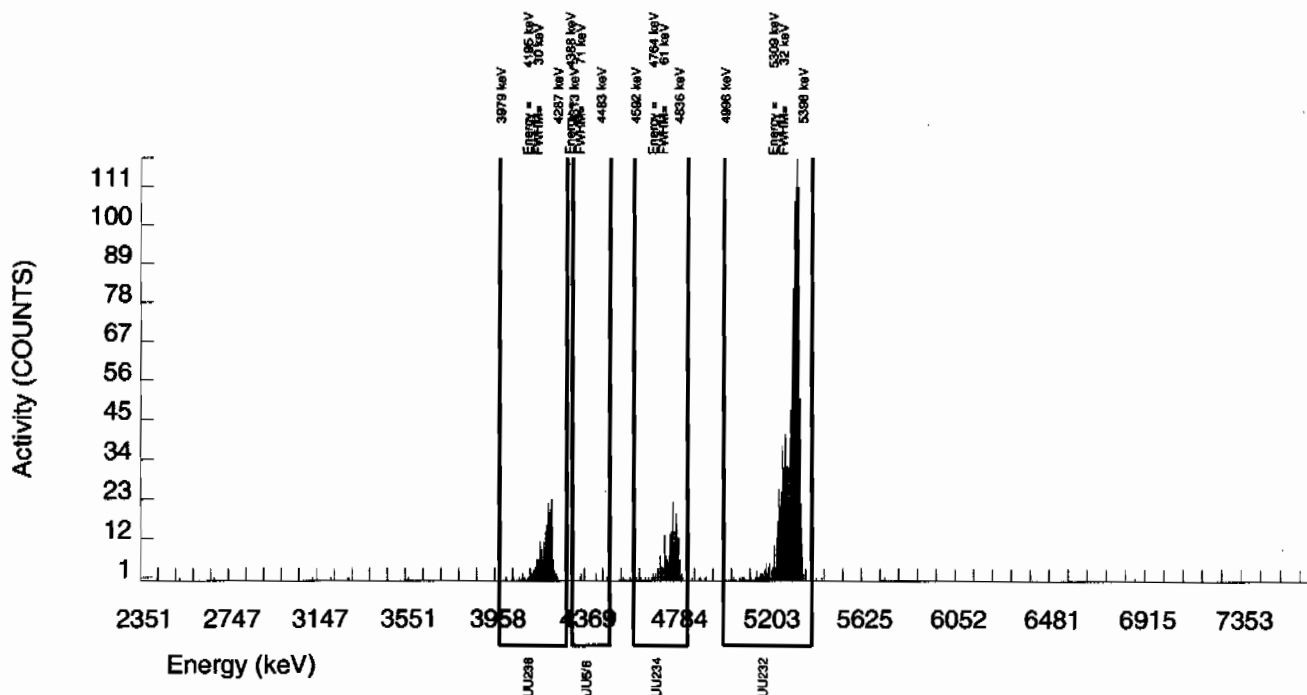
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	197.000	195.779	0.000	6.0782	100.0000	6.37E-01	6.37E-02	4.60E-02	1.01E-01	4.55E-02
U232	5302.100	1210.000	1207.000	3.000	1.7321	100.0000	3.93E+00	2.97E-01	1.31E-02	3.50E-02	1.13E-01
U-235	4391.000	7.000	6.000	1.000	2.7628	80.90000	2.41E-02	1.15E-02	2.58E-02	6.26E-02	1.14E-02
U-238	4184.730	210.000	210.000	0.000	3.2810	100.0000	6.83E-01	6.71E-02	2.48E-02	5.85E-02	4.71E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942756 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881003_UU SAMPLE QTY: 0.516 G	
DETECTOR NUMBER :76228 AVERAGE %EFFICIENCY :24.7378 % YIELD : 90.782		COUNT DATE:26-JAN-2010 20:26:32 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 : 4.50829 dpm RESULTS : 4.09273 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B130.CNF;444 BKG DATE : 24-JAN-2010 EFF FILE : W130.CNF;130 CAL DATE : 18-JAN-2010

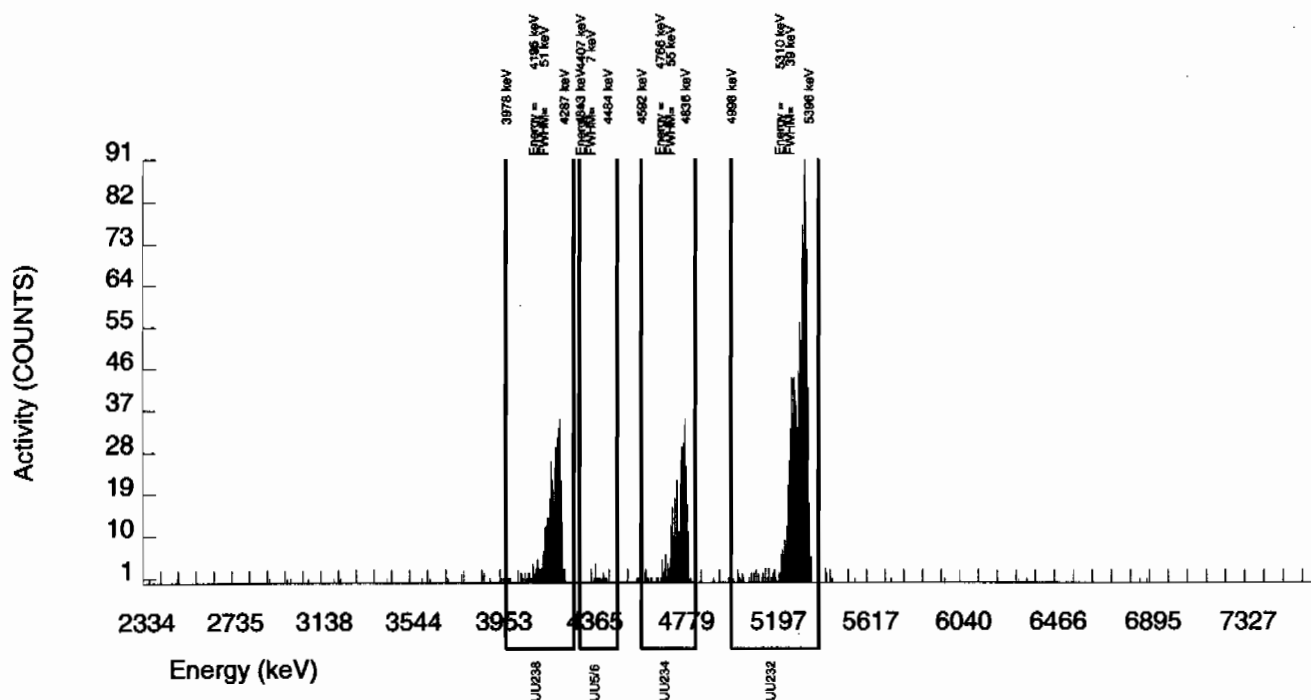
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	348.000	345.976	1.000	6.0782	100.0000	1.34E+00	1.20E-01	5.50E-02	1.20E-01	7.25E-02
U232	5302.100	1013.000	1012.000	1.000	1.0000	100.0000	3.94E+00	3.06E-01	9.04E-03	2.86E-02	1.24E-01
U-235	4391.000	16.000	16.000	0.000	2.7628	80.90000	7.69E-02	2.00E-02	3.09E-02	7.48E-02	1.92E-02
U-238	4184.730	403.000	403.000	0.000	3.2810	100.0000	1.57E+00	1.36E-01	2.97E-02	6.99E-02	7.80E-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: 942756 SAMPLE DATE : 11-JAN-2010 00:00:00		SAMPLE ID : S0244881004_UU SAMPLE QTY: 0.508 G	
DETECTOR NUMBER :80008 AVERAGE %EFFICIENCY :25.6996 % YIELD : 93.947		COUNT DATE:26-JAN-2010 20:26:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50829 dpm RESULTS : 4.23542 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B131.CNF;442 BKG DATE : 24-JAN-2010 EFF FILE : W131.CNF;132 CAL DATE : 18-JAN-2010

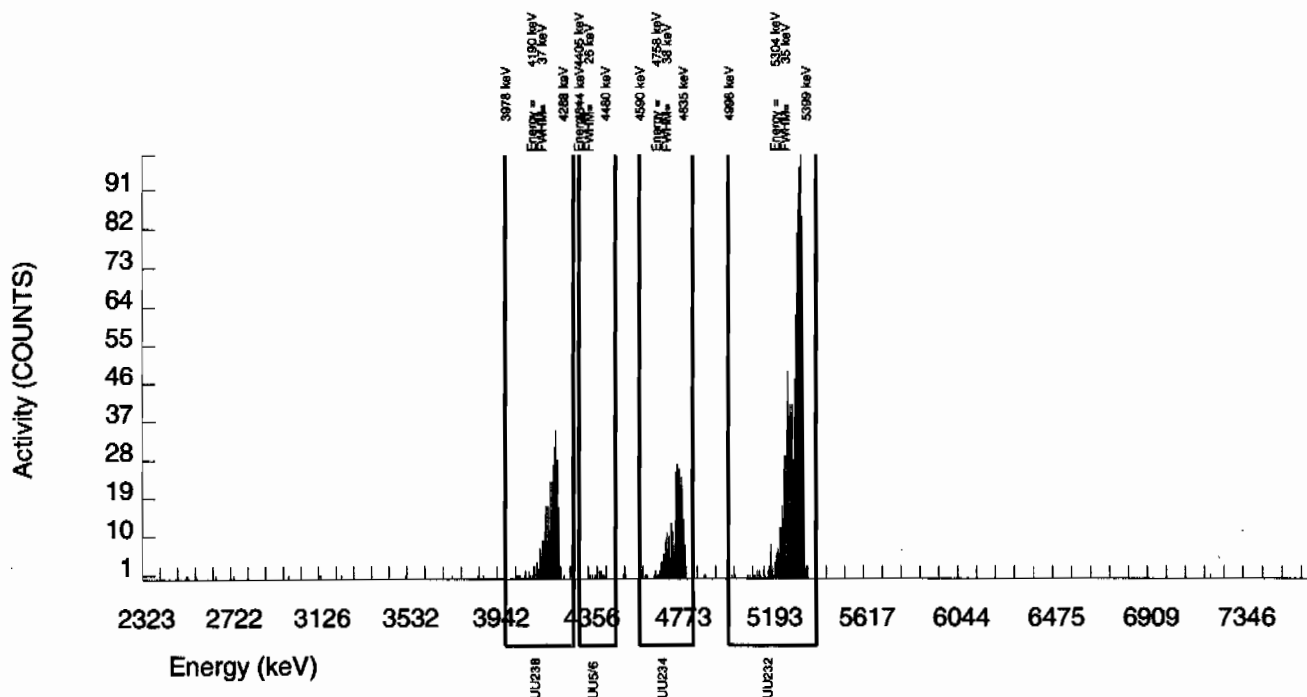
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	293.000	289.900	2.000	6.0782	100.0000	1.06E+00	9.80E-02	5.19E-02	1.14E-01	6.30E-02
U232	5302.100	1089.000	1088.000	1.000	1.0000	100.0000	4.00E+00	3.07E-01	8.54E-03	2.70E-02	1.21E-01
U-235	4391.000	16.000	16.000	0.000	2.7628	80.90000	7.26E-02	1.89E-02	2.92E-02	7.07E-02	1.82E-02
U-238	4184.730	331.000	331.000	0.000	3.2810	100.0000	1.22E+00	1.09E-01	2.80E-02	6.60E-02	6.68E-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: 942756 SAMPLE DATE : 14-JAN-2010 00:00:00		SAMPLE ID : S0244902001_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :67579 AVERAGE %EFFICIENCY :24.9091 % YIELD : 89.356		COUNT DATE:26-JAN-2010 20:26:37 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50791 dpm RESULTS : 4.02811 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B132.CNF;436 BKG DATE : 24-JAN-2010 EFF FILE : W132.CNF;130 CAL DATE : 18-JAN-2010

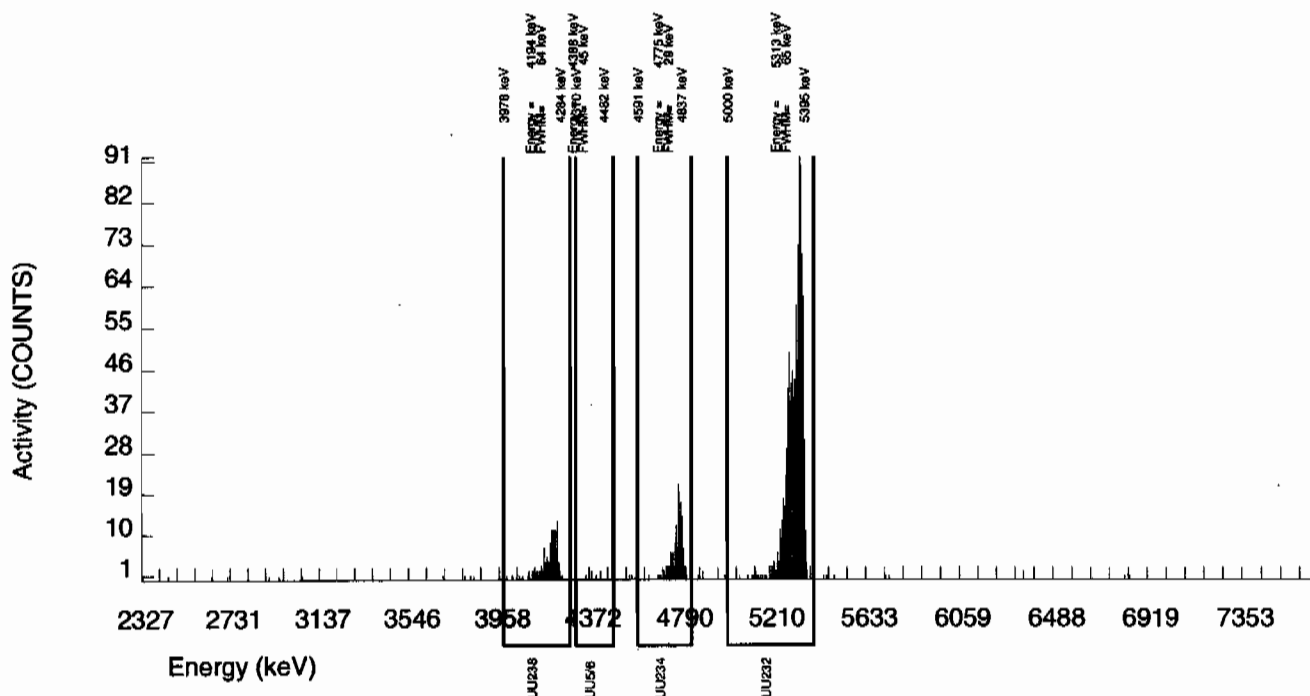
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	149.000	147.985	0.000	6.0782	100.0000	5.93E-01	6.45E-02	5.67E-02	1.24E-01	4.88E-02
U232	5302.100	1003.000	1003.000	0.000	0.0000	100.0000	4.02E+00	3.13E-01	0.00E+00	1.09E-02	1.27E-01
U-235	4391.000	7.000	6.000	1.000	2.7628	80.90000	2.97E-02	1.42E-02	3.18E-02	7.71E-02	1.40E-02
U-238	4184.730	127.000	125.000	2.000	3.2810	100.0000	5.01E-01	5.78E-02	3.06E-02	7.20E-02	4.55E-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: 942756 SAMPLE DATE : 20-JAN-2010 00:00:00		SAMPLE ID : S1202018347_UU SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :76232 AVERAGE %EFFICIENCY :25.2508 % YIELD : 98.341		COUNT DATE:26-JAN-2010 20:27:00 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 : 4.50717 dpm RESULTS : 4.43241 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B141.CNF;394 BKG DATE : 25-JAN-2010 EFF FILE : W141.CNF;105 CAL DATE : 18-JAN-2010

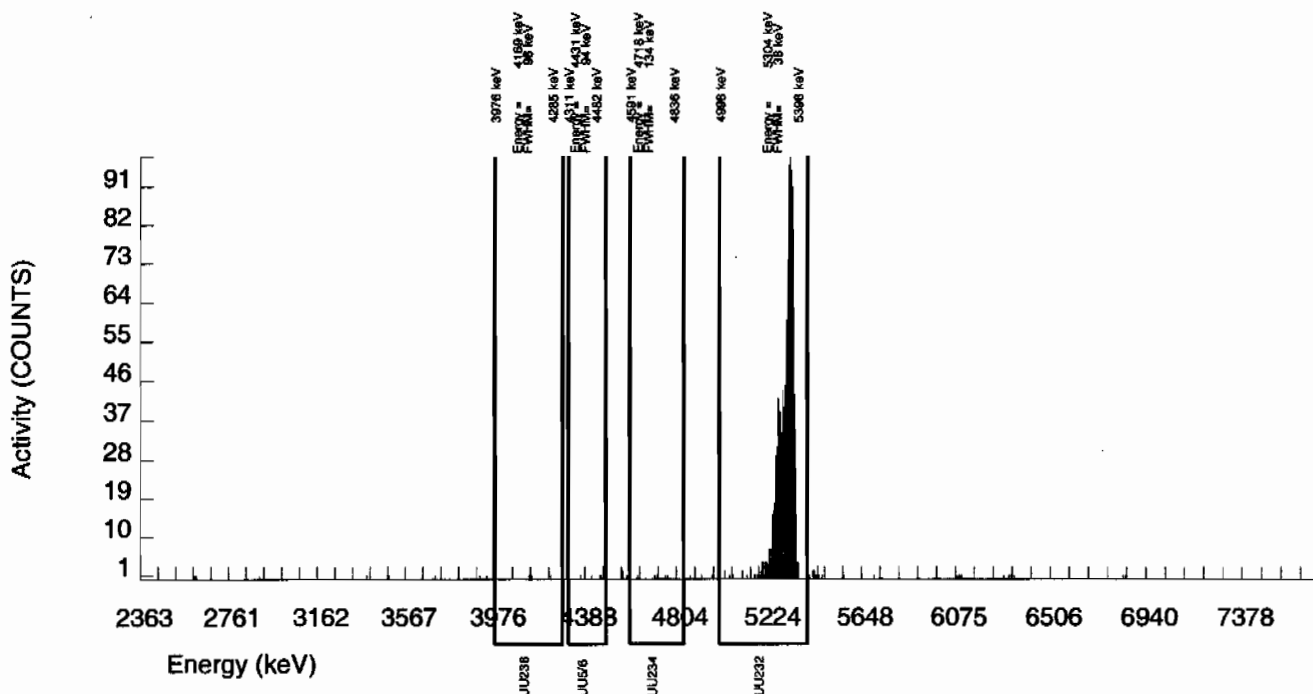
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	5.000	2.868	1.000	6.0782	100.0000	5.20E-03	4.02E-03	2.57E-02	5.62E-02	4.00E-03
U232	5302.100	1123.000	1119.000	4.000	2.0000	100.0000	2.03E+00	1.58E-01	8.44E-03	2.18E-02	6.09E-02
U-235	4391.000	4.000	3.000	1.000	2.7628	80.90000	6.73E-03	5.04E-03	1.44E-02	3.49E-02	5.01E-03
U-238	4184.730	4.000	3.000	1.000	3.2810	100.0000	5.44E-03	4.07E-03	1.38E-02	3.26E-02	4.06E-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: 942756 SAMPLE DATE : 14-JAN-2010 00:00:00		SAMPLE ID : S1202018348_UU SAMPLE QTY: 0.507 G	
DETECTOR NUMBER :64261 AVERAGE %EFFICIENCY :25.9552 % YIELD : 98.580		COUNT DATE:26-JAN-2010 20:27:03 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 : 4.50791 dpm RESULTS : 4.44388 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B142.CNF;388 BKG DATE : 25-JAN-2010 EFF FILE : W142.CNF;109 CAL DATE : 18-JAN-2010

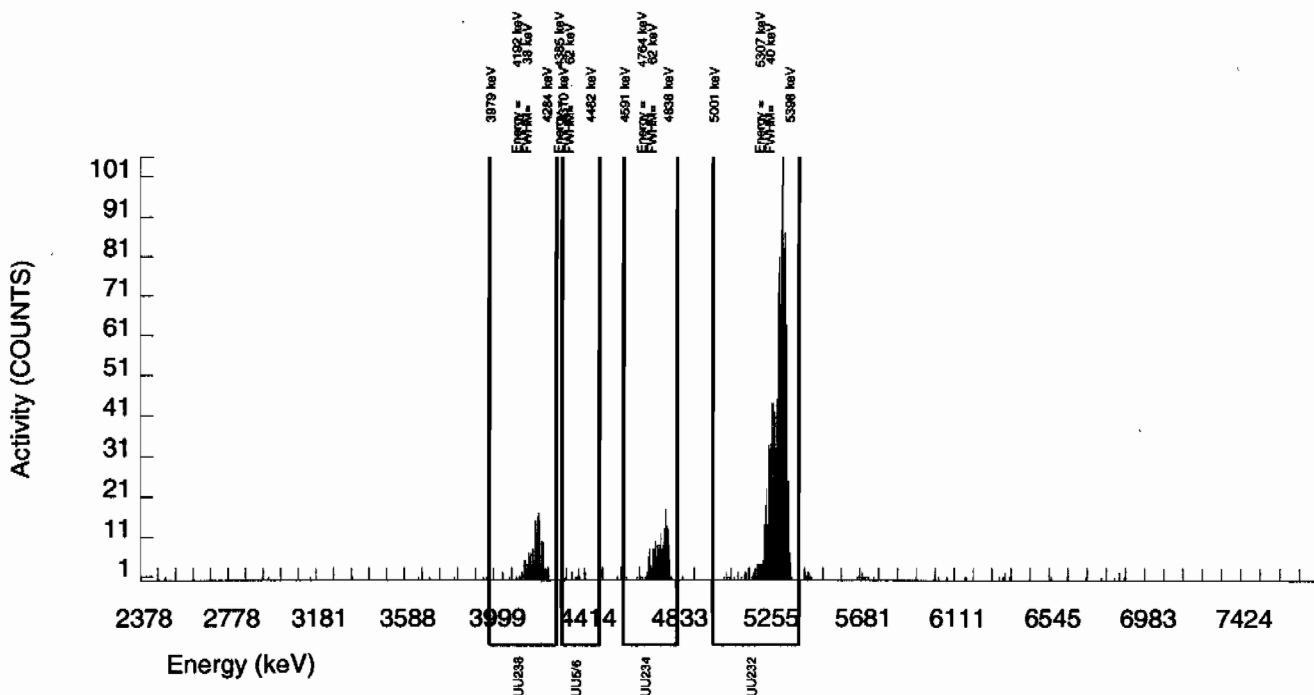
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	185.000	181.834	2.000	6.0782	100.0000	6.31E-01	6.49E-02	4.91E-02	1.08E-01	4.73E-02
U232	5302.100	1165.000	1153.000	12.000	3.4641	100.0000	4.01E+00	3.06E-01	2.80E-02	6.54E-02	1.19E-01
U-235	4391.000	12.000	11.000	1.000	2.7628	80.90000	4.72E-02	1.58E-02	2.76E-02	6.68E-02	1.55E-02
U-238	4184.730	167.000	166.000	1.000	3.2810	100.0000	5.76E-01	6.06E-02	2.65E-02	6.24E-02	4.50E-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: 942756 SAMPLE DATE : 20-JAN-2010 00:00:00		SAMPLE ID : S1202018349_UU SAMPLE QTY: 0.104 G	
DETECTOR NUMBER :65882 AVERAGE %EFFICIENCY :24.2167 % YIELD : 100.525		COUNT DATE:26-JAN-2010 20:27:06 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 : 4.50717 dpm RESULTS : 4.53083 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B143.CNF;390 BKG DATE : 24-JAN-2010 EFF FILE : W143.CNF;112 CAL DATE : 18-JAN-2010

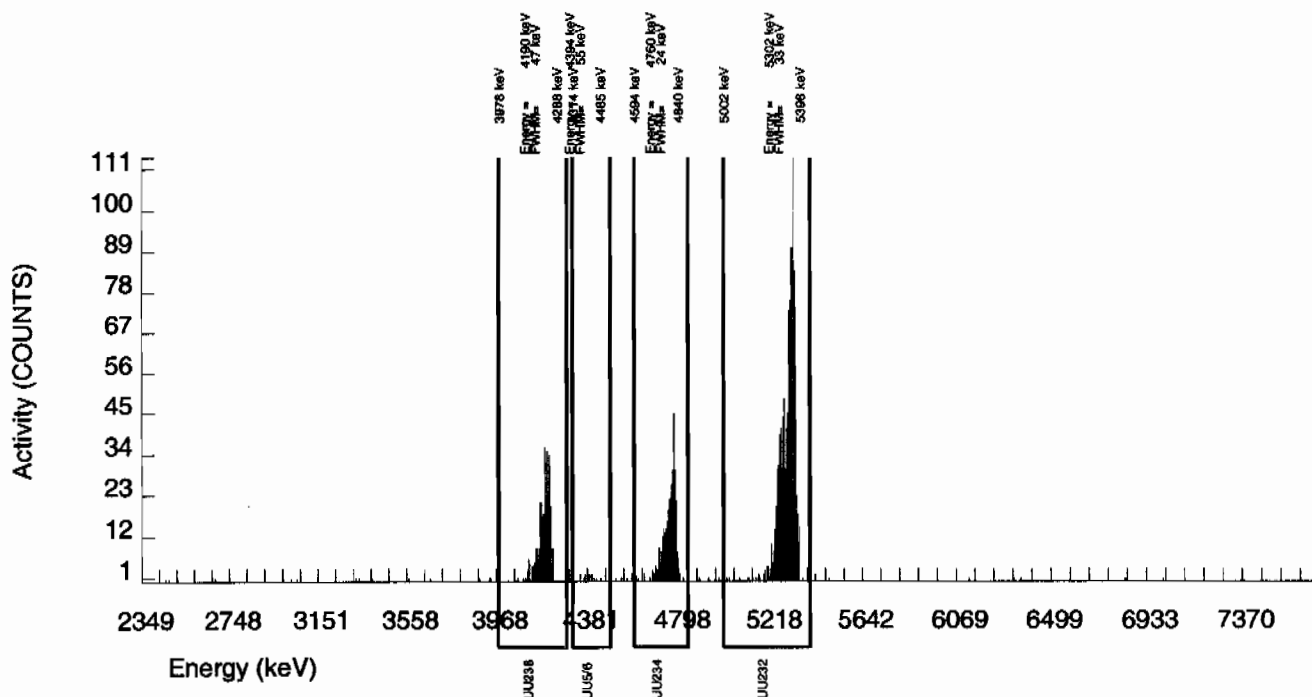
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	346.000	343.890	1.000	6.0782	100.0000	6.12E+00	5.81E-01	2.52E-01	5.51E-01	3.31E-01
U232	5302.100	1097.000	1097.000	0.000	0.0000	100.0000	1.95E+01	1.63E+00	0.00E+00	4.82E-02	5.89E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	2.86E-01	8.24E-02	1.41E-01	3.42E-01	7.93E-02
U-238	4184.730	321.000	318.000	3.000	3.2810	100.0000	5.66E+00	5.46E-01	1.36E-01	3.20E-01	3.20E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



# Radiochemistry Batch Checklist, Rev10

Batch# 942718

Product: Gamma Solid

Date: 01/28/10

LANL

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)			N/A
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			N/A
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.	✓		
Aux data is correct.	✓		
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Allquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADcheckdistrev10, revised 1/13/2010

Primary Review Performed By:

*[Signature]* 1/28/10

Secondary Review Performed By:

*[Signature]* 1/29/10

2/6

## Gamma Spec Que Sheet

1.6 - 1/26/10

01/19/2010

Batch #: 942718

Analyst: MXR1

First Client Due Date: 02/06/2010

Internal Due Date: 01/27/2010

Gamma Spike Isotope: Mixed Gamma

Spike Code: N/A

Expiration Date: N/A

Vol: N/A

Nominal Concentration: N/A

Gamma LCS Isotope: Mixed Gamma

LCS Code: 1032-A

Expiration Date: 12/2/10

Vol: 1.0mL

Nominal Concentration: Cs137-5.703

Initials: MS

Prep Date: 1/19/10

Library: SOLID

Witness: N/A

Am241-16.30

Wet/Dry

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/2/F)	Detector	Sealing Date/Time (if Applicable)
244852001-1	RE12-10-7856	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00	CAM	134.03	12	1/14/10
244852002-1	RE12-10-7857	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		137.49	2	
244852003-1	RE12-10-7855	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		130.76	17	
244852004-1	RE12-10-7854	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		137.82	10	
244881001-1	RE12-10-8096	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		158.67	18	1/26/10
244881002-1	RE12-10-8094	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		151.22	16	
244881003-1	RE12-10-8097	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		141.41	20	
244881004-1	RE12-10-8095	SAMPLE		LANL010	SOIL	11-JAN-10 12:00:00		128.09	23	
244902001-1	RE46-10-10099	SAMPLE		LANL010	SOIL	14-JAN-10 12:00:00		181.11	19	
24495001-1	RE16-10-1374	SAMPLE		LANL010	SOIL	08-JAN-10 12:00:00		138.06	4	
24495002-1	RE16-10-1376	SAMPLE		LANL010	SOIL	08-JAN-10 12:00:00		137.59	6	
24495003-1	RE16-10-1378	SAMPLE		LANL010	SOIL	08-JAN-10 12:00:00		137.05	7	
24495004-1	RE16-10-1380	SAMPLE		LANL010	SOIL	08-JAN-10 12:00:00		148.11	11	
24495005-1	RE16-10-1382	SAMPLE		LANL010	SOIL	08-JAN-10 12:00:00		140.37	15	
24495006-1	RE16-10-1396	SAMPLE		LANL010	SOIL	08-JAN-10 12:00:00		147.85	22	
1202013262-1	MB	MB		QC ACCOUNT	SOIL	1/14/10		181.11	25	
1202013263-1	DUP RE12-10-7855(244852003)	DUP		QC ACCOUNT	SOIL	1/14/10		130.81	12	
1202013264-1	LCS	LCS		QC ACCOUNT	SOIL			151.73	14	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: S. Kelly 1/29/10

1/29/10 Page 1 of 1

delias v

# Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
942718	244852001	SAMPLE	26-JAN-10		Americium-241	0.06828	0.2461	0.200
					Thorium-234	1.094	2.02	2.00
942718	244852002	SAMPLE	26-JAN-10		Americium-241	0.02313	0.3148	0.200
					Thorium-234	0.2124	2.388	2.00
942718	244852003	SAMPLE	26-JAN-10		Cesium-134	0.07776	0.1109	0.100
					Sodium-22	-0.02298	0.08076	0.080
942718	244852004	SAMPLE	26-JAN-10		Americium-241	0.1439	0.3811	0.200
					Thorium-234	1.424	3.055	2.00
942718	244881001	SAMPLE	26-JAN-10		Americium-241	0.01962	0.2565	0.200
942718	244881002	SAMPLE	26-JAN-10					
942718	244881003	SAMPLE	26-JAN-10					
942718	244881004	SAMPLE	26-JAN-10		Americium-241	0.185	0.3568	0.200
					Cerium-139	0.01325	0.05544	0.050
942718	244902001	SAMPLE	26-JAN-10					
942718	244905001	SAMPLE	26-JAN-10		Americium-241	-0.00527	0.3213	0.200
					Thorium-234	0.2476	2.585	2.00
942718	244905002	SAMPLE	26-JAN-10		Americium-241	-0.2386	0.3249	0.200
					Cerium-139	0.01554	0.05921	0.050
					Thorium-234	0.1677	2.758	2.00
942718	244905003	SAMPLE	26-JAN-10					
942718	244905004	SAMPLE	26-JAN-10					
942718	244905005	SAMPLE	26-JAN-10		Americium-241	-0.3635	0.4629	0.200
					Cerium-139	-0.01075	0.05813	0.050
					Thorium-234	2.696	3.793	2.00
942718	244905006	SAMPLE	26-JAN-10					
942718	1202018262	MB	26-JAN-10					
942718	1202018263	DUP	26-JAN-10		Americium-241	0.05926	0.2384	0.200
					Thorium-234	1.018	2.07	2.00
942718	1202018264	LCS	26-JAN-10		Cerium-139	0.03881	0.08646	0.050
					Cesium-134	0.02579	0.1684	0.100
					Europium-152	-0.1668	0.3266	0.200
					Mercury-203	-0.01082	0.1132	0.100
					Potassium-40	1.207	1.211	1.00
					Ruthenium-106	-0.5267	0.9333	0.800
					Thorium-234	-0.3806	3.349	2.00
					Tin-113	-0.03868	0.1371	0.100
					Uranium-235	-0.04962	0.589	0.500

# GEL QUALS

Batch ID: 942718

Report run on: January 28, 2010 12:17 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244852001-1 26-JAN-2010 12:08	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.364			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.693			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1015		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.362			
244852002-1 26-JAN-2010 13:00	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.817			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.82			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1265		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.368			
244852003-1 26-JAN-2010 13:10	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.277			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.117			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.725			
244852004-1 26-JAN-2010 13:20	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.475			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.695			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1982		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.96			
244861002-1 26-JAN-2010 13:20	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.785			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.495			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1372		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.705			

# GEL QUALS

Batch ID: 942718

Report run on: January 28, 2010 12:17 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244881003-1 26-JAN-2010 13:21	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.861			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.628			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1016		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.893			
244881004-1 26-JAN-2010 13:21	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.943			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.038			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1155		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.149			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08181			
244881001-1 26-JAN-2010 13:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.06			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.788			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08078		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.989			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08433			
244902001-1 26-JAN-2010 13:25	Bismuth-211	UI	UI	UI	Data rejected due to interference.		1.709			
	<del>Bismuth-211</del>	UI	UI	UI	<del>Data rejected due to interference.</del>		<del>.5798</del>		<del>.2</del>	<del>2</del>
	Radium-224	UI	UI	UI	Data rejected due to interference.		1.816			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.05842			
244905001-1 26-JAN-2010 14:04	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.765			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.996			

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# GEL QUALS

Batch ID: 942718

Report run on: January 28, 2010 12:17 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244905001-1 26-JAN-2010 14:04	Radium-224	UI	UI	UI	Data rejected due to interference.		3.193			
244905002-1 26-JAN-2010 14:05	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.268			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.654			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.547			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.0808			
244905003-1 26-JAN-2010 14:05	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.863			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.404			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.801			
244905004-1 26-JAN-2010 14:06	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.561			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.06			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08883		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.311			
244905005-1 26-JAN-2010 14:06	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.296			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.392			
244905006-1 26-JAN-2010 14:07	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.108			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.262			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.185			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1048			
1202018283-1 DUP	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.85			



# GEL QUALS

Batch ID: 942718

Report run on: January 28, 2010 12:17 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
1202018263-1 DUP 26-JAN-2010 14:10	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.568			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.53			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07908			

# Gamma Review Report based on Result > MDA for Batch:942718

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244852001	11-JAN-10 12:00	26-JAN-10 12:06	15	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.565	0.1551	pCi/g	0.1909	N	911	3 1.388	IDENTIFIED	8.25 ☐
Americium-243	int	nr0.3757	0.03969	pCi/g	0.08603	N	74.63	1 1.223	IDENTIFIED	10 ☐
Annihilation Rad.		0.1442	0.03253	pCi/g	0.04399	N	510.8	1 2.036	IDENTIFIED	22.36 ☐
Barium-137m		0.1421	0.03427	pCi/g	0.05699	N	662.1	2 1.472	IDENTIFIED	23.91 ☐
Bismuth-211	int	3.364	0.2217	pCi/g	0.2997	Y	351.8	4 1.288	IDENTIFIED	5.792 ☐ ui
Bismuth-212	la nr	1.592	0.2406	pCi/g	0.6985	N	0	8 0	FAIL_ABUND	0 ☐
Bismuth-214	✓	1.003	0.08275	pCi/g	0.1095	0.200	609.3	4 1.416	IDENTIFIED	7.149 ☐
Cadmium-109	int	3.693	0.5283	pCi/g	1.134	Y	87.05	3 1.296	IDENTIFIED	13.79 ☐ ui
Cerium-143		503.8	90.21	pCi/g	0	N	0	8 0	SHORT_HLIF	0 ☐
Cesium-134	la	0.1015	0.02464	pCi/g	0.09323	0.100	0	8 0	NOT_IDENTI	0 ☐ UI Data rejected due to low abundance.
Cesium-137	✓	0.1502	0.03623	pCi/g	0.06025	0.100	662.1	2 1.472	IDENTIFIED	23.91 ☐
Gross Gamma		8.955	1.364	pCi/g	2.748	N	0			☐
Iodine-123	HE	1.76E+06	2.36E+06	pCi/g	0	N	0	8 0	SHORT_HLIF	0 ☐
Lead-212	✓	1.493	0.07374	pCi/g	0.0814	0.100	238.5	4 1.123	IDENTIFIED	3.436 ☐
Lead-214	✓	1.17	0.08295	pCi/g	0.1045	0.100	351.8	4 1.288	IDENTIFIED	5.792 ☐
Lutetium-177	HE	2.729	0.673	pCi/g	1.849	N	0	8 0	FAIL_ABUND	0 ☐
Neptunium-237	int nr	1.066	0.188	pCi/g	0.3327	N	87.05	3 1.296	IDENTIFIED	13.79 ☐
Polonium-212	nr	1.493	0.07374	pCi/g	0.0814	N	238.5	4 1.123	IDENTIFIED	3.436 ☐
Polonium-214	nr	1.17	0.08295	pCi/g	0.1045	N	351.8	4 1.288	IDENTIFIED	5.792 ☐
Polonium-216	nr	1.493	0.07374	pCi/g	0.0814	N	238.5	4 1.123	IDENTIFIED	3.436 ☐
Polonium-218	nr	1.17	0.08295	pCi/g	0.1045	N	351.8	4 1.288	IDENTIFIED	5.792 ☐
Potassium-40	✓	30.85	1.413	pCi/g	0.5052	1.00	1461	1 2.261	IDENTIFIED	2.874 ☐
Radium-224	int	4.382	0.6739	pCi/g	0.9263	Y	241.6	1 2.118	IDENTIFIED	15.13 ☐ ui
Radium-226	✓	1.003	0.08275	pCi/g	0.1095	Y	609.3	4 1.416	IDENTIFIED	7.149 ☐
Radium-228	✓	1.565	0.1551	pCi/g	0.1909	0.500	911	3 1.388	IDENTIFIED	8.25 ☐
Technetium-99m		1.65E+15	0	pCi/g	0	N	0	8 0	SHORT_HLIF	0 ☐
Thallium-208	✓	0.4958	0.04271	pCi/g	0.05443	0.080	582.9	1 1.613	IDENTIFIED	7.836 ☐
Thorium-228	nr	1.515	0.07485	pCi/g	0.08262	N	238.5	4 1.123	IDENTIFIED	3.436 ☐
Thorium-230	nr	1.003	0.08275	pCi/g	0.1095	N	609.3	4 1.416	IDENTIFIED	7.149 ☐
Thorium-232	nr	1.565	0.1551	pCi/g	0.1909	N	911	3 1.388	IDENTIFIED	8.25 ☐
Tin-126	int nr	0.363	0.05193	pCi/g	0.112	N	87.05	3 1.296	IDENTIFIED	13.79 ☐
Titanium-44	la nr	0.3099	0.02485	pCi/g	0.06958	N	0	8 0	FAIL_ABUND	0 ☐
Total Uranium		3.2095	2.67E-06	ug/g	3.0072	N	0			☐
Uranium-234	nr	1.003	0.08275	pCi/g	0.1095	N	609.3	4 1.416	IDENTIFIED	7.149 ☐
Zirconium-97		2.07E+06	8.55E+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
244852002	11-JAN-10 12:00	26-JAN-10 13:00	15	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.763	0.1758	pCi/g	0.2135	N	910.6	3	1.973 IDENTIFIED 7.781	☐	
Americium-243 int nr	0.286	0.03923	pCi/g	0.09632	N	74.58	1	0.9199 IDENTIFIED 13	☐	
Annihilation Rad.	0.1052	0.03385	pCi/g	0.05286	N	510.3	1	1.252 IDENTIFIED 31.8	☐	
Barium-137m HE	0.07369	0.02226	pCi/g	0.06324	N	661.4	2	1.071 IDENTIFIED 29.9	☐	
Bismuth-211 int	3.817	0.3359	pCi/g	0.3325	Y	351.6	4	1.262 IDENTIFIED 6.651	☐	ui
Bismuth-214 ✓	1.124	0.09588	pCi/g	0.1199	0.200	609	4	1.337 IDENTIFIED 6.693	☐	
Cadmium-109 int	3.82	0.4979	pCi/g	1.17	Y	87.07	3	1.352 IDENTIFIED 12.05	☐	UI
Cerium-143	788.5	126.7	pCi/g	0	N	0	4	0 SHORT_HLIF 0	☐	
Cesium-134 la	0.1265	0.02616	pCi/g	0.1002	0.100	0	4	0 NOT_IDENTI 0	☐	UI Data rejected due to low abundance.
Cesium-137 ✓	0.07789	0.02353	pCi/g	0.06685	0.100	661.4	2	1.071 IDENTIFIED 29.9	☐	
Gross Gamma	8.797	2.001	pCi/g	2.783	N	0			☐	
Lead-212 ✓	1.542	0.1134	pCi/g	0.09809	0.100	238.4	4	1.096 IDENTIFIED 3.805	☐	
Lead-214 ✓	1.328	0.1219	pCi/g	0.1159	0.100	351.6	4	1.262 IDENTIFIED 6.651	☐	
Lutetium-177 HE	3.385	0.7925	pCi/g	2.102	N	0	4	0 FAIL_ABUND 0	☐	
Neptunium-237 int nr	1.103	0.1833	pCi/g	0.352	N	87.07	3	1.352 IDENTIFIED 12.05	☐	
Polonium-212 nr	1.542	0.1134	pCi/g	0.09809	N	238.4	4	1.096 IDENTIFIED 3.805	☐	
Polonium-214 nr	1.328	0.1219	pCi/g	0.1159	N	351.6	4	1.262 IDENTIFIED 6.651	☐	
Polonium-216 nr	1.542	0.1134	pCi/g	0.09809	N	238.4	4	1.096 IDENTIFIED 3.805	☐	
Polonium-218 nr	1.328	0.1219	pCi/g	0.1159	N	351.6	4	1.262 IDENTIFIED 6.651	☐	
Potassium-40 ✓	31.66	1.774	pCi/g	0.4758	1.00	1460	1	2.194 IDENTIFIED 2.971	☐	
Radium-224 int	4.368	0.7066	pCi/g	1.117	Y	241.4	1	1.723 IDENTIFIED 15.06	☐	ui
Radium-226 ✓	1.124	0.09588	pCi/g	0.1199	Y	609	4	1.337 IDENTIFIED 6.693	☐	
Radium-228 ✓	1.763	0.1758	pCi/g	0.2135	0.500	910.6	3	1.973 IDENTIFIED 7.781	☐	
Thallium-208 ✓	0.5713	0.04768	pCi/g	0.05187	0.080	582.8	1	1.286 IDENTIFIED 6.675	☐	
Thorium-228 nr	1.565	0.1151	pCi/g	0.09957	N	238.4	4	1.096 IDENTIFIED 3.805	☐	
Thorium-230 nr	1.124	0.09588	pCi/g	0.1199	N	609	4	1.337 IDENTIFIED 6.693	☐	
Thorium-232 nr	1.763	0.1758	pCi/g	0.2135	N	910.6	3	1.973 IDENTIFIED 7.781	☐	
Tin-126 int nr	0.3755	0.04894	pCi/g	0.1157	N	87.07	3	1.352 IDENTIFIED 12.05	☐	
Uranium-234 nr	1.124	0.09588	pCi/g	0.1199	N	609	4	1.337 IDENTIFIED 6.693	☐	
Uranium-235 ✓	0.3926	0.1767	pCi/g	0.3576	0.500	143.6	1	1.45 IDENTIFIED 44.13	☐	
Zirconium-97	2.85E+06	1.08E+06	pCi/g	0	N	0	4	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
244852003	11-JAN-10 12:00	26-JAN-10 13:10	15	SAMPLE	LOAD	1	LANL	LANL01004	IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.758	0.1989	pCi/g	0.2734	N	910.7	3	1.443 IDENTIFIED 9.791	☐	
Americium-243 int nr	0.3856	0.03139	pCi/g	0.05712	N	74.86	1	0.9696 IDENTIFIED 6.514	☐	
Annihilation Rad.	0.1441	0.04646	pCi/g	0.05201	N	510.6	1	2.232 IDENTIFIED 31.92	☐	
Bismuth-210 HE	0.9714	0.4724	pCi/g	0.8431	N	46.86	3	0.9153 IDENTIFIED 48.33	☐	
Bismuth-211 int	4.277	0.3284	pCi/g	0.3519	Y	351.8	4	1.212 IDENTIFIED 6.102	☐	ui
Bismuth-212 HE	1.481	0.3482	pCi/g	0.9055	N	0	7	0 FAIL_ABUND 0	☐	
Bismuth-214 ✓	1.319	0.1114	pCi/g	0.1349	0.200	608.9	4	1.298 IDENTIFIED 6.749	☐	
Cadmium-109 int	4.117	0.4598	pCi/g	0.9794	Y	87.32	3	1.104 IDENTIFIED 10.05	☐	ui
Cerium-143	647.9	109.7	pCi/g	0	N	0	7	0 SHORT_HLIF 0	☐	

\*\*\* = Number of isotopes identified with a keyline at this energy.

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Lead-212 ✓	1.541	0.07799	pCi/g	0.08447	0.100	238.7	4	1.143	IDENTIFIED	3.349	☐
Lead-214 ✓	1.209	0.08646	pCi/g	0.1081	0.100	352.1	4	1.279	IDENTIFIED	5.572	☐
Lutetium-177 HE	2.549	0.7003	pCi/g	1.93	N	0	9	0	FAIL_ABUND	0	☐
Neptunium-237 int nr	1.067	0.1993	pCi/g	0.3655	N	87.15	3	1.333	IDENTIFIED	14.52	☐
Polonium-212 nr	1.541	0.07799	pCi/g	0.08447	N	238.7	4	1.143	IDENTIFIED	3.349	☐
Polonium-214 nr	1.209	0.08646	pCi/g	0.1081	N	352.1	4	1.279	IDENTIFIED	5.572	☐
Polonium-216 nr	1.541	0.07799	pCi/g	0.08447	N	238.7	4	1.143	IDENTIFIED	3.349	☐
Polonium-218 nr	1.209	0.08646	pCi/g	0.1081	N	352.1	4	1.279	IDENTIFIED	5.572	☐
Potassium-40 ✓	20.23	1.168	pCi/g	0.5259	1.00	1462	1	2.162	IDENTIFIED	3.849	☐
Radium-224 int	3.96	0.4423	pCi/g	0.9609	Y	241.6	1	1.621	IDENTIFIED	10.74	☐ ui
Radium-226 ✓	1.048	0.08253	pCi/g	0.09852	Y	609.8	4	1.316	IDENTIFIED	6.901	☐
Radium-228 ✓	1.239	0.1626	pCi/g	0.1871	0.500	911.9	3	1.727	IDENTIFIED	11.58	☐
Technetium-99m	5.21E+15	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐
Thallium-208 ✓	0.4699	0.04112	pCi/g	0.05453	0.080	583.6	1	1.419	IDENTIFIED	8.081	☐
Thorium-228 nr	1.565	0.07917	pCi/g	0.08574	N	238.7	4	1.143	IDENTIFIED	3.349	☐
Thorium-230 nr	1.047	0.08253	pCi/g	0.09852	N	609.8	4	1.316	IDENTIFIED	6.901	☐
Thorium-232 nr	1.239	0.1626	pCi/g	0.1871	N	911.9	3	1.727	IDENTIFIED	11.58	☐
Tin-126 int nr	0.3632	0.05659	pCi/g	0.1223	N	87.15	3	1.333	IDENTIFIED	14.52	☐
Titanium-44 la nr	0.3613	0.03479	pCi/g	0.07685	N	0	9	0	FAIL_ABUND	0	☐
Uranium-234 nr	1.047	0.08253	pCi/g	0.09852	N	609.8	4	1.316	IDENTIFIED	6.901	☐
Zirconium-97 HE	4.60E+05	8.41E+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
244881001	11-JAN-10 12:00	26-JAN-10 13:24	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 nr	1.267	0.132	pCi/g	0.1523	N	911.1	3	1.816	IDENTIFIED	8.035 ☐
Americium-243 int nr	0.2543	0.03047	pCi/g	0.07972	N	74.99	1	1.077	IDENTIFIED	11.23 ☐
Annihilation Rad.	0.09189	0.02355	pCi/g	0.03204	N	510.9	1	2.227	IDENTIFIED	25.42 ☐
Barium-137m	0.2312	0.02278	pCi/g	0.04337	N	661.5	2	1.562	IDENTIFIED	9.083 ☐
Bismuth-211 int	3.06	0.1775	pCi/g	0.2407	Y	352	4	1.473	IDENTIFIED	4.832 ☐ ui
Bismuth-212 HE	0.7273	0.179	pCi/g	0.446	N	0	12	0	FAIL_ABUND	0 ☐
Bismuth-214 ✓	0.8809	0.0653	pCi/g	0.07882	0.200	609.1	4	1.541	IDENTIFIED	5.916 ☐
Cadmium-109 int	2.789	0.4006	pCi/g	1.015	Y	87.6	3	1.188	IDENTIFIED	13.6 ☐ ui
Cerium-143	448.3	75.13	pCi/g	0	N	0	12	0	SHORT_HLIF	0 ☐
Cesium-134 la	0.08078	0.02481	pCi/g	0.0597	0.100	0	12	0	FAIL_ABUND	0 ☐ UI Data rejected due to low abundance.
Cesium-137 ✓	0.2444	0.02409	pCi/g	0.04585	0.100	661.5	2	1.562	IDENTIFIED	9.083 ☐
Gross Gamma	8.235	1.044	pCi/g	1.828	N	0	0	0		☐
Iodine-123 HE	3.16E+06	1.83E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0 ☐
Krypton-85 la nr	16.46	2.952	pCi/g	10.2	N	0	12	0	NOT_IDENTI	0 ☐
Lead-212 ✓	1.299	0.06039	pCi/g	0.06323	0.100	238.8	4	1.218	IDENTIFIED	2.973 ☐
Lead-214 ✓	1.064	0.0677	pCi/g	0.07882	0.100	352	4	1.473	IDENTIFIED	4.832 ☐
Lutetium-177 HE	2.039	0.5063	pCi/g	1.478	N	0	12	0	FAIL_ABUND	0 ☐
Neptunium-237 int nr	0.8052	0.1424	pCi/g	0.2995	N	87.6	3	1.188	IDENTIFIED	13.6 ☐
Niobium-95 HE	0.0566	0.01676	pCi/g	0.05534	N	0	12	0	NOT_IDENTI	0 ☐
Niobium-97	1.34E+05	36890	pCi/g	0	N	0	12	0	SHORT_HLIF	0 ☐
Polonium-212 nr	1.299	0.06039	pCi/g	0.06323	N	238.8	4	1.218	IDENTIFIED	2.973 ☐

Polonium-214	nr	1.064	0.0677	pCi/g	0.07882	N	352	4	1.473	IDENTIFIED	4.832	<input type="checkbox"/>
Polonium-216	nr	1.299	0.06039	pCi/g	0.06323	N	238.8	4	1.218	IDENTIFIED	2.973	<input type="checkbox"/>
Polonium-218	nr	1.064	0.0677	pCi/g	0.07882	N	352	4	1.473	IDENTIFIED	4.832	<input type="checkbox"/>
Potassium-40	✓	31.1	1.338	pCi/g	0.3668	1.00	1460	1	2.314	IDENTIFIED	2.023	<input type="checkbox"/>
Radium-224	int	2.989	0.3931	pCi/g	0.7185	Y	241.7	1	1.607	IDENTIFIED	12.85	<input type="checkbox"/> ui
Radium-226	✓	0.8809	0.0653	pCi/g	0.07882	Y	609.1	4	1.541	IDENTIFIED	5.916	<input type="checkbox"/>
Radium-228	✓	1.267	0.132	pCi/g	0.1523	0.500	911.1	3	1.816	IDENTIFIED	8.035	<input type="checkbox"/>
Sodium-24	HE	2.94E+05	2.29E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>
Strontium-85	la	0.08433	0.01512	pCi/g	0.05228	Y	0	12	0	NOT_IDENTI	0	<input type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.3509	0.02808	pCi/g	0.04097	0.080	583	1	1.645	IDENTIFIED	6.977	<input type="checkbox"/>
Thorium-228	nr	1.319	0.0613	pCi/g	0.06418	N	238.8	4	1.218	IDENTIFIED	2.973	<input type="checkbox"/>
Thorium-230	nr	0.8809	0.06529	pCi/g	0.07882	N	609.1	4	1.541	IDENTIFIED	5.916	<input type="checkbox"/>
Thorium-232	nr	1.267	0.132	pCi/g	0.1523	N	911.1	3	1.816	IDENTIFIED	8.035	<input type="checkbox"/>
Thorium-234	✓	2.025	0.9131	pCi/g	2.005	2.00	63.46	2	0.8172	IDENTIFIED	44.23	<input type="checkbox"/>
Tin-126	int nr	0.2742	0.03937	pCi/g	0.1004	N	87.6	3	1.188	IDENTIFIED	13.6	<input type="checkbox"/>
Titanium-44	la nr	0.2631	0.02216	pCi/g	0.06853	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		6.0809	2.72E-06	ug/g	2.9852	N	0					<input type="checkbox"/>
Uranium-234	nr	0.8809	0.06529	pCi/g	0.07882	N	609.1	4	1.541	IDENTIFIED	5.916	<input type="checkbox"/>
Uranium-238	HE	2.025	0.9131	pCi/g	2.005	N	63.46	2	0.8172	IDENTIFIED	44.23	<input type="checkbox"/>
Zirconium-97		2.28E+06	7.05E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244881002	11-JAN-10 12:00	26-JAN-10 13:20	15.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RCSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.361	0.1362	pCi/g	0.1678	N	911.5	3	1.107	IDENTIFIED 8.049 <input type="checkbox"/>
Americium-243	int nr	0.2859	0.02916	pCi/g	0.06748	N	74.92	1	1.013	IDENTIFIED 9.319 <input type="checkbox"/>
Annihilation Rad.		0.116	0.02526	pCi/g	0.03945	N	511.2	1	1.792	IDENTIFIED 21.26 <input type="checkbox"/>
Bismuth-211	int	2.785	0.2489	pCi/g	0.2781	Y	351.9	4	1.217	IDENTIFIED 7.081 <input type="checkbox"/> ui
Bismuth-212	HE	1.002	0.2525	pCi/g	0.5553	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	0.8785	0.07754	pCi/g	0.09493	0.200	609.6	4	1.355	IDENTIFIED 7.069 <input type="checkbox"/>
Cadmium-109	int	3.495	0.4537	pCi/g	0.8769	Y	87.22	3	1.342	IDENTIFIED 12.07 <input type="checkbox"/> ui
Cerium-143		275	64.17	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-134	la	0.1372	0.0356	pCi/g	0.07549	0.100	0	9	0	FAIL_ABUND 0 <input type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma		8.522	1.091	pCi/g	2.259	N	0			<input type="checkbox"/>
Iodine-133	HE	1583	2278	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Iodine-135	HE	1.18E+15	2.33E+15	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Lead-212	✓	1.316	0.09021	pCi/g	0.07773	0.100	238.6	4	0.9603	IDENTIFIED 3.453 <input type="checkbox"/>
Lead-214	✓	0.9687	0.09021	pCi/g	0.09695	0.100	351.9	4	1.217	IDENTIFIED 7.081 <input type="checkbox"/>
Lutetium-177	HE	2.389	0.5852	pCi/g	1.689	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	int nr	1.009	0.1673	pCi/g	0.2572	N	87.22	3	1.342	IDENTIFIED 12.07 <input type="checkbox"/>
Polonium-212	nr	1.316	0.09021	pCi/g	0.07773	N	238.6	4	0.9603	IDENTIFIED 3.453 <input type="checkbox"/>
Polonium-214	nr	0.9687	0.09021	pCi/g	0.09695	N	351.9	4	1.217	IDENTIFIED 7.081 <input type="checkbox"/>
Polonium-216	nr	1.316	0.09021	pCi/g	0.07773	N	238.6	4	0.9603	IDENTIFIED 3.453 <input type="checkbox"/>
Polonium-218	nr	0.9687	0.09021	pCi/g	0.09695	N	351.9	4	1.217	IDENTIFIED 7.081 <input type="checkbox"/>
Potassium-40	✓	32.76	1.671	pCi/g	0.4245	1.00	1461	1	2.124	IDENTIFIED 2.592 <input type="checkbox"/>
Radium-224	int	3.705	0.4875	pCi/g	0.8846	Y	241.5	1	1.529	IDENTIFIED 11.95 <input type="checkbox"/> ui

✓ Radium-226		0.8785	0.07754	pCi/g	0.09493	Y	609.6	4	1.355	IDENTIFIED	7.069	☐
✓ Radium-228		1.361	0.1362	pCi/g	0.1678	0.500	911.5	3	1.107	IDENTIFIED	8.049	☐
Thallium-200	HE	86.31	160.7	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐
✓ Thallium-208		0.4425	0.03972	pCi/g	0.04804	0.080	583.3	1	1.113	IDENTIFIED	7.487	☐
Thorium-228	nr	1.336	0.09158	pCi/g	0.07891	N	238.6	4	0.9603	IDENTIFIED	3.453	☐
Thorium-230	nr	0.8785	0.07754	pCi/g	0.09493	N	609.6	4	1.355	IDENTIFIED	7.069	☐
Thorium-232	nr	1.361	0.1362	pCi/g	0.1678	N	911.5	3	1.107	IDENTIFIED	8.049	☐
Tin-126	int nr	0.3436	0.0446	pCi/g	0.08659	N	87.22	3	1.342	IDENTIFIED	12.07	☐
Titanium-44	la nr	0.2999	0.02253	pCi/g	0.06077	N	0	9	0	FAIL_ABUND	0	☐
Uranium-234	nr	0.8785	0.07754	pCi/g	0.09493	N	609.6	4	1.355	IDENTIFIED	7.069	☐
Zirconium-97	HE	1.36E+06	7.22E+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
244881003	11-JAN-10 12:00	26-JAN-10 13:21	15.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	nr	1.885	0.1904	pCi/g	0.2019	N	911	3	1.429	IDENTIFIED	8.037	☐	
Americium-243	int nr	0.4012	0.03666	pCi/g	0.08029	N	74.96	1	1.158	IDENTIFIED	8.197	☐	
Annihilation Rad.		0.1922	0.033	pCi/g	0.04271	N	510.7	1	1.471	IDENTIFIED	16.52	☐	
Barium-137m		0.3132	0.04148	pCi/g	0.05326	N	661.9	2	1.529	IDENTIFIED	12.26	☐	
✓ Bismuth-211	int	4.861	0.3361	pCi/g	0.2859	Y	351.7	4	1.252	IDENTIFIED	4.99	☐	ui
Bismuth-212	HE	1.087	0.2633	pCi/g	0.6225	N	0	8	0	FAIL_ABUND	0	☐	
✓ Bismuth-214		1.204	0.1016	pCi/g	0.1095	0.200	609.2	4	1.345	IDENTIFIED	6.339	☐	
✓ Cadmium-109	int	3.626	0.4661	pCi/g	1.077	Y	87.3	3	1.12	IDENTIFIED	11.97	☐	ui
Cerium-143		742.6	117.5	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Cesium-134	la	0.1016	0.02802	pCi/g	0.08665	0.100	0	8	0	FAIL_ABUND	0	☐	UI Date rejected due to low abundance.
✓ Cesium-137		0.3311	0.04386	pCi/g	0.0563	0.100	661.9	2	1.529	IDENTIFIED	12.26	☐	
Gross Gamma		11.68	1.603	pCi/g	4.371	N	0					☐	
✓ Lead-212		2.023	0.1215	pCi/g	0.08729	0.100	238.5	4	1.111	IDENTIFIED	2.798	☐	
✓ Lead-214		1.691	0.125	pCi/g	0.1031	0.100	351.7	4	1.252	IDENTIFIED	4.99	☐	
Lutetium-177	HE	2.3	0.5882	pCi/g	1.911	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237	int nr	1.047	0.1725	pCi/g	0.3139	N	87.3	3	1.12	IDENTIFIED	11.97	☐	
Niobium-97	HE	10810	45930	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Polonium-212	nr	2.023	0.1215	pCi/g	0.08729	N	238.5	4	1.111	IDENTIFIED	2.798	☐	
Polonium-214	nr	1.691	0.125	pCi/g	0.1031	N	351.7	4	1.252	IDENTIFIED	4.99	☐	
Polonium-216	nr	2.023	0.1215	pCi/g	0.08729	N	238.5	4	1.111	IDENTIFIED	2.798	☐	
Polonium-218	nr	1.691	0.125	pCi/g	0.1031	N	351.7	4	1.252	IDENTIFIED	4.99	☐	
✓ Potassium-40		34.19	1.721	pCi/g	0.531	1.00	1460	1	1.885	IDENTIFIED	2.514	☐	
Radium-224	int	4.893	0.5681	pCi/g	0.9929	Y	241.5	1	1.556	IDENTIFIED	10.56	☐	ui
✓ Radium-226		1.204	0.1016	pCi/g	0.1095	Y	609.2	4	1.345	IDENTIFIED	6.339	☐	
✓ Radium-228		1.885	0.1904	pCi/g	0.2019	0.500	911	3	1.429	IDENTIFIED	8.037	☐	
Sodium-24	HE	3.06E+05	2.68E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
✓ Thallium-208		0.6045	0.05182	pCi/g	0.05391	0.080	583.2	1	1.376	IDENTIFIED	6.86	☐	
Thorium-228	nr	2.053	0.1234	pCi/g	0.0886	N	238.5	4	1.111	IDENTIFIED	2.798	☐	
Thorium-230	nr	1.204	0.1016	pCi/g	0.1095	N	609.2	4	1.345	IDENTIFIED	6.339	☐	
Thorium-232	nr	1.885	0.1904	pCi/g	0.2019	N	911	3	1.429	IDENTIFIED	8.037	☐	
✓ Thorium-234		2.089	0.9405	pCi/g	1.678	2.00	62.94	2	1.033	IDENTIFIED	44.17	☐	

Tin-126	int nr	0.3564	0.04582	pCi/g	0.1061	N	87.3	3	1.12	IDENTIFIED	11.97	☐
Titanium-44	la nr	0.3986	0.02719	pCi/g	0.07677	N	0	8	0	FAIL_ABUND	0	☐
Total Uranium		6.2878	2.80E-06	ug/g	2.4986	N	0					☐
Uranium-234	nr	1.204	0.1016	pCi/g	0.1095	N	609.2	4	1.345	IDENTIFIED	6.339	☐
Uranium-238	HE	2.089	0.9405	pCi/g	1.678	N	62.94	2	1.033	IDENTIFIED	44.17	☐
Zirconium-97		3.11E+06	9.36E+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 Quas	Zero?	queue
244881004	11-JAN-10 12:00	26-JAN-10 13:21	15.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 nr	1.677	0.1701	pCi/g	0.2274	N	910.4	3	1.947	IDENTIFIED	8.344		☐		
Americium-243 int nr	0.4744	0.04774	pCi/g	0.1065	N	74.63	1	1.385	IDENTIFIED	9.029		☐		
Annihilation Rad.	0.1462	0.03741	pCi/g	0.05242	N	510.3	1	1.93	IDENTIFIED	25.42		☐		
Bismuth-211 int	3.843	0.2802	pCi/g	0.4022	Y	351.6	4	1.215	IDENTIFIED	6.522		☐	ui	
Bismuth-212 nr	0.8854	0.2292	pCi/g	0.3649	N	726.9	1	1.803	IDENTIFIED	25.58		☐		
Bismuth-214 ✓	1.121	0.09802	pCi/g	0.1283	0.200	608.7	4	1.621	IDENTIFIED	7.896		☐		
Cadmium-109 int	3.038	0.5496	pCi/g	1.414	Y	87.06	3	1.096	IDENTIFIED	17.43		☐	ui	
Cerium-143	1063	151.2	pCi/g	0	N	0	8	0	SHORT_HLIF	0		☐		
Cesium-134 la	0.1155	0.04267	pCi/g	0.09385	0.100	0	8	0	FAIL_ABUND	0		☐	UI	Data rejected due to low abundance.
Gross Gamma	8.719	1.83	pCi/g	3.524	N	0						☐		
Iodine-123 HE	3.54E+06	3.17E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0		☐		
Krypton-85 HE	15.97	4.05	pCi/g	13.96	N	0	8	0	NOT_IDENTI	0		☐		
Lead-212 ✓	1.692	0.08471	pCi/g	0.0907	0.100	238.3	4	1.324	IDENTIFIED	3.487		☐		
Lead-214 ✓	1.337	0.1035	pCi/g	0.1313	0.100	351.6	4	1.215	IDENTIFIED	6.522		☐		
Neptunium-237 int nr	0.877	0.1826	pCi/g	0.4168	N	87.06	3	1.096	IDENTIFIED	17.43		☐		
Niobium-95m la nr	0.7049	0.06881	pCi/g	0.3004	N	0	8	0	NOT_IDENTI	0		☐		
Polonium-212 nr	1.692	0.08471	pCi/g	0.0907	N	238.3	4	1.324	IDENTIFIED	3.487		☐		
Polonium-214 nr	1.337	0.1035	pCi/g	0.1313	N	351.6	4	1.215	IDENTIFIED	6.522		☐		
Polonium-216 nr	1.692	0.08471	pCi/g	0.0907	N	238.3	4	1.324	IDENTIFIED	3.487		☐		
Polonium-218 nr	1.337	0.1035	pCi/g	0.1313	N	351.6	4	1.215	IDENTIFIED	6.522		☐		
Potassium-40 ✓	21.23	1.216	pCi/g	0.5311	1.00	1460	1	2.485	IDENTIFIED	4.338		☐		
Radium-224 int	4.149	0.597	pCi/g	1.032	Y	241.5	1	1.774	IDENTIFIED	14.11		☐	ui	
Radium-226 ✓	1.121	0.09802	pCi/g	0.1283	Y	608.7	4	1.621	IDENTIFIED	7.896		☐		
Radium-228 ✓	1.677	0.1701	pCi/g	0.2274	0.500	910.4	3	1.947	IDENTIFIED	8.344		☐		
Strontium-85 la	0.08181	0.02075	pCi/g	0.07151	Y	0	8	0	NOT_IDENTI	0		☐	UI	Data rejected due to low abundance.
Thallium-208 ✓	0.5333	0.04925	pCi/g	0.0627	0.080	582.5	1	1.477	IDENTIFIED	8.644		☐		
Thorium-228 nr	1.717	0.08599	pCi/g	0.09207	N	238.3	4	1.324	IDENTIFIED	3.487		☐		
Thorium-230 nr	1.121	0.09802	pCi/g	0.1283	N	608.7	4	1.621	IDENTIFIED	7.896		☐		
Thorium-232 nr	1.677	0.1701	pCi/g	0.2274	N	910.4	3	1.947	IDENTIFIED	8.344		☐		
Thorium-234 ✓	3.88	1.333	pCi/g	2.722	2.00	63.08	2	0.9035	IDENTIFIED	33.17		☐		
Tin-126 int nr	0.2987	0.05403	pCi/g	0.1398	N	87.06	3	1.096	IDENTIFIED	17.43		☐		
Titanium-44 la nr	0.3975	0.03095	pCi/g	0.09486	N	0	8	0	FAIL_ABUND	0		☐		
Total Uranium	11.537	3.97E-06	ug/g	4.052	N	0						☐		
Uranium-234 nr	1.121	0.09802	pCi/g	0.1283	N	608.7	4	1.621	IDENTIFIED	7.896		☐		
Uranium-238 HE	3.88	1.333	pCi/g	2.722	N	63.08	2	0.9035	IDENTIFIED	33.17		☐		
Zirconium-97	5.97E+06	1.15E+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
244902001	14-JAN-10 12:00	26-JAN-10 13:25	12.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	0.7314	0.09308	pCi/g	0.1356	N	911.9	3	1.991 IDENTIFIED	11.4	☐
Americium-243 int nr	0.1758	0.02468	pCi/g	0.06386	N	74.91	1	1.32 IDENTIFIED	13.47	☐
Annihilation Rad.	0.07887	0.02367	pCi/g	0.03121	N	511.2	1	1.793 IDENTIFIED	29.86	☐
Bismuth-211 int	1.709	0.1451	pCi/g	0.2333	Y	351.8	4	1.294 IDENTIFIED	7.867	☐ ui
Bismuth-212 HE	0.4939	0.172	pCi/g	0.4239	N	0	10	0 FAIL_ABUND	0	☐
Bismuth-214 ✓	0.5796	0.05239	pCi/g	0.07725	0.200	609.4	4	1.666 IDENTIFIED	8.138	☐
Cerium-143	84.79	15.09	pCi/g	0	N	0	10	0 SHORT_HLIF	0	☐
Gross Gamma	4.606	1.051	pCi/g	1.921	N	0				☐
Iodine-123 HE	25180	41410	pCi/g	0	N	0	10	0 SHORT_HLIF	0	☐
Iodine-133 HE	22.26	159.1	pCi/g	0	N	0	10	0 SHORT_HLIF	0	☐
Krypton-85 HE	11.77	2.705	pCi/g	9.79	N	0	10	0 NOT_IDENTI	0	☐
Lead-212 ✓	0.6852	0.0424	pCi/g	0.06068	0.100	238.6	4	1.425 IDENTIFIED	5.027	☐
Lead-214 ✓	0.5946	0.05281	pCi/g	0.07825	0.100	351.8	4	1.294 IDENTIFIED	7.867	☐
Polonium-212 nr	0.6852	0.0424	pCi/g	0.06068	N	238.6	4	1.425 IDENTIFIED	5.027	☐
Polonium-214 nr	0.5946	0.05281	pCi/g	0.07825	N	351.8	4	1.294 IDENTIFIED	7.867	☐
Polonium-216 nr	0.6852	0.0424	pCi/g	0.06068	N	238.6	4	1.425 IDENTIFIED	5.027	☐
Polonium-218 nr	0.5946	0.05281	pCi/g	0.07825	N	351.8	4	1.294 IDENTIFIED	7.867	☐
Potassium-40 ✓	18.09	0.9004	pCi/g	0.3313	1.00	1462	1	2.055 IDENTIFIED	3.304	☐
Radium-224 int	1.816	0.3435	pCi/g	0.6899	Y	241.6	1	1.635 IDENTIFIED	18.7	☐ ui
Radium-226 ✓	0.5796	0.05239	pCi/g	0.07725	Y	609.4	4	1.666 IDENTIFIED	8.138	☐
Radium-228 ✓	0.7314	0.09308	pCi/g	0.1356	0.500	911.9	3	1.991 IDENTIFIED	11.4	☐
Sodium-24 HE	6519	9400	pCi/g	0	N	0	10	0 SHORT_HLIF	0	☐
Strontium-85 la	0.05842	0.01343	pCi/g	0.04861	Y	0	10	0 NOT_IDENTI	0	☐ ui Data rejected due to low abundance.
Thallium-200 HE	41.84	21.97	pCi/g	0	N	0	10	0 SHORT_HLIF	0	☐
Thallium-208 ✓	0.196	0.02249	pCi/g	0.04117	0.080	583.3	1	1.438 IDENTIFIED	10.96	☐
Thorium-228 nr	0.6934	0.04291	pCi/g	0.06141	N	238.6	4	1.425 IDENTIFIED	5.027	☐
Thorium-230 nr	0.5796	0.05239	pCi/g	0.07725	N	609.4	4	1.666 IDENTIFIED	8.138	☐
Thorium-232 nr	0.7314	0.09308	pCi/g	0.1356	N	911.9	3	1.991 IDENTIFIED	11.4	☐
Titanium-44 la nr	0.1669	0.01845	pCi/g	0.05462	N	0	10	0 FAIL_ABUND	0	☐
Uranium-234 nr	0.5796	0.05239	pCi/g	0.07725	N	609.4	4	1.666 IDENTIFIED	8.138	☐
Zirconium-97	1.03E+05	33120	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
244905001	08-JAN-10 12:00	26-JAN-10 14:04	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.04	0.1239	pCi/g	0.1533	N	911	3	1.431 IDENTIFIED	10.58	☐
Americium-243 int nr	0.2495	0.03891	pCi/g	0.08797	N	74.79	1	1.11 IDENTIFIED	14.5	☐
Annihilation Rad.	0.1048	0.02641	pCi/g	0.04217	N	511	1	2.08 IDENTIFIED	25.05	☐
Barium-137m	0.8552	0.04921	pCi/g	0.04911	N	661.5	2	1.43 IDENTIFIED	5.212	☐
Bismuth-211 int	2.765	0.2213	pCi/g	0.2929	Y	351.9	4	1.258 IDENTIFIED	7.26	☐ ui
Bismuth-212 HE	0.476	0.1991	pCi/g	0.3663	N	727.2	1	1.57 IDENTIFIED	41.65	☐

Bismuth-214 ✓	0.8954	0.07547	pCi/g	0.09992	0.200	609.3	4	1.377	IDENTIFIED	7.585	☐
Cadmium-109 int	1.996	0.4277	pCi/g	1.323	Y	87.27	3	1.139	IDENTIFIED	20.58	☐ ui
Cerium-143	1602	349.2	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Cesium-137 ✓	0.904	0.05207	pCi/g	0.05191	0.100	661.5	2	1.43	IDENTIFIED	5.212	☐
Gross Gamma	6.609	1.014	pCi/g	1.984	N	0					☐
Iodine-133 HE	55360	28130	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Iodine-135	3.56E+18 0		pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Lead-212 ✓	0.9805	0.06016	pCi/g	0.07709	0.100	238.6	4	1.083	IDENTIFIED	4.639	☐
Lead-214 ✓	0.9617	0.08097	pCi/g	0.1021	0.100	351.9	4	1.258	IDENTIFIED	7.26	☐
Neptunium-237 HE	0.5734	0.1364	pCi/g	0.3535	N	87.27	3	1.139	IDENTIFIED	20.58	☐
Niobium-97 HE	1.23E+06 8.72E+05		pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Polonium-212 nr	0.9805	0.06016	pCi/g	0.07709	N	238.6	4	1.083	IDENTIFIED	4.639	☐
Polonium-214 nr	0.9617	0.08097	pCi/g	0.1021	N	351.9	4	1.258	IDENTIFIED	7.26	☐
Polonium-216 nr	0.9805	0.06016	pCi/g	0.07709	N	238.6	4	1.083	IDENTIFIED	4.639	☐
Polonium-218 nr	0.9617	0.08097	pCi/g	0.1021	N	351.9	4	1.258	IDENTIFIED	7.26	☐
Potassium-40 ✓	19.1	0.9758	pCi/g	0.5122	1.00	1461	1	1.992	IDENTIFIED	3.67	☐
Radium-224 int	3.193	0.4557	pCi/g	0.8774	Y	241.6	1	1.442	IDENTIFIED	13.88	☐ ui
Radium-226 ✓	0.8954	0.07547	pCi/g	0.09992	Y	609.3	4	1.377	IDENTIFIED	7.585	☐
Radium-228 ✓	1.04	0.1239	pCi/g	0.1533	0.500	911	3	1.431	IDENTIFIED	10.58	☐
Sodium-24 HE	7.45E+06 7.31E+06		pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Thallium-200 HE	2173	1265	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐
Thallium-208 ✓	0.3076	0.03528	pCi/g	0.05188	0.080	583.2	1	1.334	IDENTIFIED	11.03	☐
Thorium-228 nr	0.9983	0.06125	pCi/g	0.07849	N	238.6	4	1.083	IDENTIFIED	4.639	☐
Thorium-230 nr	0.8954	0.07547	pCi/g	0.09992	N	609.3	4	1.377	IDENTIFIED	7.585	☐
Thorium-232 nr	1.04	0.1239	pCi/g	0.1533	N	911	3	1.431	IDENTIFIED	10.58	☐
Tin-126 HE	0.1953	0.04185	pCi/g	0.1301	N	87.27	3	1.139	IDENTIFIED	20.58	☐
Titanium-44 1a nr	0.2511	0.02811	pCi/g	0.07095	N	0	8	0	FAIL_ABUND	0	☐
Uranium-234 nr	0.8954	0.07547	pCi/g	0.09992	N	609.3	4	1.377	IDENTIFIED	7.585	☐
Zirconium-97 HE	1.86E+07 1.61E+07		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
244905002	08-JAN-10 12:00	26-JAN-10 14:05	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.174	0.1749	pCi/g	0.2038	N	911.1	3	2.237	IDENTIFIED	14 ☐
Americium-243 int nr	0.3327	0.04082	pCi/g	0.1044	N	74.56	1	1.192	IDENTIFIED	11.41 ☐
Annihilation Rad.	0.1165	0.0389	pCi/g	0.05219	N	510.7	1	1.679	IDENTIFIED	33.29 ☐
Barium-137m	0.3766	0.04964	pCi/g	0.06939	N	661.7	2	1.396	IDENTIFIED	12.95 ☐
Bismuth-211 int	3.266	0.2488	pCi/g	0.3873	Y	351.6	4	0.9826	IDENTIFIED	6.902 ☐ ui
Bismuth-212 HE	0.726	0.1837	pCi/g	0.6402	N	0	10	0	FAIL_ABUND	0 ☐
Bismuth-214 ✓	1.213	0.09048	pCi/g	0.1018	0.200	609	4	1.452	IDENTIFIED	6.48 ☐
Cadmium-109 int	2.654	0.4192	pCi/g	1.584	Y	86.96	3	1.168	IDENTIFIED	15.02 ☐ ui
Cerium-143	5003	715.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0 ☐
Cesium-137 ✓	0.3981	0.05248	pCi/g	0.07335	0.100	661.7	2	1.396	IDENTIFIED	12.95 ☐
Gross Gamma	7.682	1.195	pCi/g	3.818	N	0				☐
Iodine-135	7.07E+18 0		pCi/g	0	N	0	10	0	SHORT_HLIF	0 ☐
Krypton-85 HE	15.24	4.27	pCi/g	14.5	N	0	10	0	NOT_IDENTI	0 ☐

Lead-212 ✓		1.289	0.07158	pCi/g	0.1003	0.100	238.4	4	1.185	IDENTIFIED	4.156	☐
Lead-214 ✓		1.136	0.09149	pCi/g	0.1222	0.100	351.6	4	0.9826	IDENTIFIED	6.902	☐
Neptunium-237 int nr		0.7626	0.1439	pCi/g	0.4513	N	86.96	3	1.168	IDENTIFIED	15.02	☐
Niobium-95m la nr		0.5218	0.08688	pCi/g	0.29	N	0	10	0	NOT_IDENTI	0	☐
Niobium-97 HE		1.83E+06	1.30E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐
Polonium-212 nr		1.289	0.07158	pCi/g	0.1003	N	238.4	4	1.185	IDENTIFIED	4.156	☐
Polonium-214 nr		1.136	0.09149	pCi/g	0.1222	N	351.6	4	0.9826	IDENTIFIED	6.902	☐
Polonium-216 nr		1.289	0.07158	pCi/g	0.1003	N	238.4	4	1.185	IDENTIFIED	4.156	☐
Polonium-218 nr		1.136	0.09149	pCi/g	0.1222	N	351.6	4	0.9826	IDENTIFIED	6.902	☐
Potassium-40 ✓		20.83	1.053	pCi/g	0.4762	1.00	1460	1	2.225	IDENTIFIED	3.824	☐
Promethium-149 HE		190.1	122.6	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐
Radium-224 int		3.547	0.6884	pCi/g	1.141	Y	241.4	1	1.774	IDENTIFIED	19.18	☐ ui
Radium-226 ✓		1.213	0.09048	pCi/g	0.1018	Y	609	4	1.452	IDENTIFIED	6.48	☐
Radium-228 ✓		1.174	0.1749	pCi/g	0.2038	0.500	911.1	3	2.237	IDENTIFIED	14	☐
Strontium-85 la		0.0806	0.02259	pCi/g	0.07668	Y	0	10	0	NOT_IDENTI	0	☐ ui Data rejected due to low abundance.
Thallium-208 ✓		0.4557	0.04154	pCi/g	0.06497	0.080	582.9	1	1.308	IDENTIFIED	8.55	☐
Thorium-228 nr		1.312	0.07288	pCi/g	0.1021	N	238.4	4	1.185	IDENTIFIED	4.156	☐
Thorium-230 nr		1.213	0.09048	pCi/g	0.1018	N	609	4	1.452	IDENTIFIED	6.48	☐
Thorium-232 nr		1.174	0.1749	pCi/g	0.2038	N	911.1	3	2.237	IDENTIFIED	14	☐
Tin-126 int nr		0.2597	0.04102	pCi/g	0.1558	N	86.96	3	1.168	IDENTIFIED	15.02	☐
Titanium-44 la nr		0.2428	0.02645	pCi/g	0.08796	N	0	10	0	NOT_IDENTI	0	☐
Uranium-234 nr		1.213	0.09048	pCi/g	0.1018	N	609	4	1.452	IDENTIFIED	6.48	☐
Zirconium-97		9.94E+07	2.17E+07	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	
244905003	08-JAN-10 12:00	26-JAN-10 14:05	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RCSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.185	0.1525	pCi/g	0.1808	N	911.3	3	1.454	IDENTIFIED	11.47	☐
Americium-243 int nr	0.3231	0.03199	pCi/g	0.07001	N	74.75	1	1.217	IDENTIFIED	9.047	☐
Annihilation Rad.	0.06141	0.03154	pCi/g	0.0443	N	511.1	1	1.677	IDENTIFIED	51.17	☐
Barium-137m	0.5546	0.04917	pCi/g	0.06059	N	661.9	2	1.434	IDENTIFIED	7.683	☐
Bismuth-210 HE	3.527	1.264	pCi/g	2.681	N	46.65	3	1.313	IDENTIFIED	35.52	☐
Bismuth-211 int	3.863	0.2872	pCi/g	0.323	Y	352	4	1.298	IDENTIFIED	5.931	☐ ui
Bismuth-212 la nr	1.046	0.177	pCi/g	0.6077	N	0	11	0	FAIL_ABUND	0	☐
Bismuth-214 ✓	1.173	0.09866	pCi/g	0.1058	0.200	609.5	4	1.473	IDENTIFIED	6.631	☐
Cadmium-109 int	3.404	0.431	pCi/g	0.9645	Y	87.28	3	1.222	IDENTIFIED	11.77	☐ ui
Cadmium-115 HE	6.414	12.45	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Cerium-143	1994	408.9	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Cesium-137 ✓	0.5862	0.052	pCi/g	0.06405	0.100	661.9	2	1.434	IDENTIFIED	7.683	☐
Gross Gamma	7.816	1.233	pCi/g	2.92	N	0					☐
Iodine-123 HE	1.92E+07	1.16E+08	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Iodine-133 HE	6629	28430	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Lead-210 HE	3.527	1.264	pCi/g	2.681	N	46.65	3	1.313	IDENTIFIED	35.52	☐
Lead-212 ✓	1.302	0.08028	pCi/g	0.08638	0.100	238.7	4	1.115	IDENTIFIED	3.894	☐
Lead-214 ✓	1.344	0.1059	pCi/g	0.1126	0.100	352	4	1.298	IDENTIFIED	5.931	☐
Lutetium-177 HE	2.911	0.8633	pCi/g	2.443	N	0	11	0	FAIL_ABUND	0	☐

Neptunium-237	int nr	0.9783	0.1598	pCi/g	0.2794	N	87.28	3	1.222	IDENTIFIED	11.77	<input type="checkbox"/>
Niobium-97	HE	3.89E+05	9.85E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-210	HE	3.527	1.262	pCi/g	2.681	N	46.65	3	1.313	IDENTIFIED	35.52	<input type="checkbox"/>
Polonium-212	nr	1.302	0.08028	pCi/g	0.08638	N	238.7	4	1.115	IDENTIFIED	3.894	<input type="checkbox"/>
Polonium-214	nr	1.344	0.1059	pCi/g	0.1126	N	352	4	1.298	IDENTIFIED	5.931	<input type="checkbox"/>
Polonium-216	nr	1.302	0.08028	pCi/g	0.08638	N	238.7	4	1.115	IDENTIFIED	3.894	<input type="checkbox"/>
Polonium-218	nr	1.344	0.1059	pCi/g	0.1126	N	352	4	1.298	IDENTIFIED	5.931	<input type="checkbox"/>
Potassium-40	✓	19.02	1.096	pCi/g	0.5573	1.00	1461	1	1.884	IDENTIFIED	3.847	<input type="checkbox"/>
Radium-224	int	3.801	0.4936	pCi/g	0.9831	Y	241.8	1	1.512	IDENTIFIED	12.28	<input type="checkbox"/> ui
Radium-226	✓	1.173	0.09866	pCi/g	0.1058	Y	609.5	4	1.473	IDENTIFIED	6.631	<input type="checkbox"/>
Radium-228	✓	1.185	0.1525	pCi/g	0.1808	0.500	911.3	3	1.454	IDENTIFIED	11.47	<input type="checkbox"/>
Sodium-24	HE	1.46E+07	8.08E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	1143	1472	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4045	0.04035	pCi/g	0.05177	0.080	583.3	1	1.5	IDENTIFIED	8.753	<input type="checkbox"/>
Thorium-228	nr	1.325	0.08174	pCi/g	0.08795	N	238.7	4	1.115	IDENTIFIED	3.894	<input type="checkbox"/>
Thorium-230	nr	1.173	0.09866	pCi/g	0.1057	N	609.5	4	1.473	IDENTIFIED	6.631	<input type="checkbox"/>
Thorium-232	nr	1.185	0.1525	pCi/g	0.1808	N	911.3	3	1.454	IDENTIFIED	11.47	<input type="checkbox"/>
Tin-126	int nr	0.3331	0.04217	pCi/g	0.0946	N	87.28	3	1.222	IDENTIFIED	11.77	<input type="checkbox"/>
Titanium-44	la nr	0.3061	0.0226	pCi/g	0.06454	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		2.9773	1.88E-06	ug/g	2.1519	N	0					<input type="checkbox"/>
Uranium-234	nr	1.173	0.09866	pCi/g	0.1057	N	609.5	4	1.473	IDENTIFIED	6.631	<input type="checkbox"/>
Zirconium-97	HE	4.58E+05	1.85E+07	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244905004	08-JAN-10 12:00	26-JAN-10 14:06	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.183	0.157	pCi/g	0.1672	N	911.6	3	1.422	IDENTIFIED 11.79 <input type="checkbox"/>
Americium-243	int nr	0.2895	0.02781	pCi/g	0.06082	N	74.89	1	0.9549	IDENTIFIED 8.707 <input type="checkbox"/>
Annihilation Rad.		0.113	0.029	pCi/g	0.03808	N	511.1	1	1.696	IDENTIFIED 25.11 <input type="checkbox"/>
Barium-137m		0.1044	0.02255	pCi/g	0.04427	N	661.8	2	0.8885	IDENTIFIED 21.08 <input type="checkbox"/>
Bismuth-211	int	3.561	0.3044	pCi/g	0.2646	Y	351.9	4	1.108	IDENTIFIED 5.46 <input type="checkbox"/> ui
Bismuth-212	la nr	1.206	0.2135	pCi/g	0.5754	N	0	11	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.086	0.09756	pCi/g	0.08334	0.200	609.4	4	1.401	IDENTIFIED 6.983 <input type="checkbox"/>
Cadmium-109	int	3.06	0.4014	pCi/g	0.8297	Y	87.13	3	1.134	IDENTIFIED 12.25 <input type="checkbox"/> ui
Cadmium-115	HE	11.36	9.734	pCi/g	0	N	0	11	0	SHORT_HLIF 0 <input type="checkbox"/>
Cerium-143		1181	293.4	pCi/g	0	N	0	11	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-134	la	0.08883	0.02394	pCi/g	0.07076	0.100	0	11	0	FAIL_ABUND 0 <input type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.1103	0.02384	pCi/g	0.04679	0.100	661.8	2	0.8885	IDENTIFIED 21.08 <input type="checkbox"/>
Gross Gamma		7.864	1.09	pCi/g	2.761	N	0			<input type="checkbox"/>
Iodine-123	HE	8.49E+07	8.81E+07	pCi/g	0	N	0	11	0	SHORT_HLIF 0 <input type="checkbox"/>
Iodine-133	HE	9255	24200	pCi/g	0	N	0	11	0	SHORT_HLIF 0 <input type="checkbox"/>
Lead-212	✓	1.341	0.104	pCi/g	0.07231	0.100	238.6	4	0.9978	IDENTIFIED 3.329 <input type="checkbox"/>
Lead-214	✓	1.239	0.1107	pCi/g	0.09225	0.100	351.9	4	1.108	IDENTIFIED 5.46 <input type="checkbox"/>
Lutetium-177	HE	2.817	0.795	pCi/g	2.163	N	0	11	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	int nr	0.8792	0.1467	pCi/g	0.2412	N	87.13	3	1.134	IDENTIFIED 12.25 <input type="checkbox"/>
Polonium-212	nr	1.341	0.104	pCi/g	0.07231	N	238.6	4	0.9978	IDENTIFIED 3.329 <input type="checkbox"/>

Polonium-214	nr	1.239	0.1107	pCi/g	0.09225	N	351.9	4	1.108	IDENTIFIED	5.46	☐
Polonium-216	nr	1.341	0.104	pCi/g	0.07231	N	238.6	4	0.9978	IDENTIFIED	3.329	☐
Polonium-218	nr	1.239	0.1107	pCi/g	0.09225	N	351.9	4	1.108	IDENTIFIED	5.46	☐
Potassium-40	✓	20.46	1.101	pCi/g	0.4557	1.00	1461	1	1.798	IDENTIFIED	3.205	☐
Promethium-149	HE	37.06	86.6	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Radium-224	int	4.311	0.512	pCi/g	0.823	Y	241.6	1	1.567	IDENTIFIED	9.799	☐ ui
Radium-226	✓	1.086	0.09756	pCi/g	0.08334	Y	609.4	4	1.401	IDENTIFIED	6.983	☐
Radium-228	✓	1.183	0.157	pCi/g	0.1672	0.500	911.6	3	1.422	IDENTIFIED	11.79	☐
Thallium-200	HE	701.6	1183	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Thallium-208	✓	0.3893	0.03768	pCi/g	0.04626	0.080	583.5	1	1.339	IDENTIFIED	8.034	☐
Thorium-228	nr	1.365	0.1059	pCi/g	0.07362	N	238.6	4	0.9978	IDENTIFIED	3.329	☐
Thorium-230	nr	1.086	0.09756	pCi/g	0.08334	N	609.4	4	1.401	IDENTIFIED	6.983	☐
Thorium-232	nr	1.183	0.157	pCi/g	0.1672	N	911.6	3	1.422	IDENTIFIED	11.79	☐
Thorium-234	✓	2.064	0.7185	pCi/g	1.354	2.00	63.01	2	1.15	IDENTIFIED	33.71	☐
Tin-126	int nr	0.2994	0.03928	pCi/g	0.08146	N	87.13	3	1.134	IDENTIFIED	12.25	☐
Titanium-44	la nr	0.3117	0.02084	pCi/g	0.05106	N	0	11	0	FAIL_ABUND	0	☐
Total Uranium		6.2088	2.14E-06	ug/g	2.016	N	0					☐
Uranium-234	nr	1.086	0.09756	pCi/g	0.08334	N	609.4	4	1.401	IDENTIFIED	6.983	☐
Uranium-238	HE	2.064	0.7185	pCi/g	1.354	N	63.01	2	1.15	IDENTIFIED	33.71	☐
Zirconium-97	HE	2.51E+07	1.31E+07	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐

\*\*\* = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244905005	08-JAN-10 12:00	26-JAN-10 14:06	18.1	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.091	0.1245	pCi/g	0.2178	N	910.5	3	1.129	IDENTIFIED	9.968	☐
Americium-243	int nr	0.2926	0.04835	pCi/g	0.1252	N	74.14	1	1.156	IDENTIFIED	15.56	☐
Barium-137m		0.9465	0.06045	pCi/g	0.05574	N	660.9	2	1.771	IDENTIFIED	5.87	☐
Bismuth-211	int	3.296	0.2484	pCi/g	0.3878	Y	351.3	4	1.44	IDENTIFIED	6.708	☐ ui
Bismuth-212	HE	0.8129	0.2197	pCi/g	0.6532	N	0	9	0	FAIL_ABUND	0	☐
Bismuth-214	✓	1.039	0.08622	pCi/g	0.124	0.200	608.7	4	1.662	IDENTIFIED	7.422	☐
Cerium-143		4309	700.9	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐
Cesium-135	HE	0.3965	0.1021	pCi/g	0.3428	N	0	9	0	NOT_IDENTI	0	☐
Cesium-137	✓	1.001	0.06396	pCi/g	0.05892	0.100	660.9	2	1.771	IDENTIFIED	5.87	☐
Gross Gamma		7.389	1.269	pCi/g	3.141	N	0					☐
Iodine-123	HE	4.11E+06	1.41E+08	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐
Lead-212	✓	1.15	0.07278	pCi/g	0.1056	0.100	238	4	1.381	IDENTIFIED	4.79	☐
Lead-214	✓	1.146	0.09142	pCi/g	0.1308	0.100	351.3	4	1.44	IDENTIFIED	6.708	☐
Niobium-95m	la nr	1.167	0.107	pCi/g	0.3674	N	0	9	0	NOT_IDENTI	0	☐
Niobium-97		1.80E+07	1.56E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐
Polonium-212	nr	1.15	0.07278	pCi/g	0.1056	N	238	4	1.381	IDENTIFIED	4.79	☐
Polonium-214	nr	1.146	0.09142	pCi/g	0.1308	N	351.3	4	1.44	IDENTIFIED	6.708	☐
Polonium-216	nr	1.15	0.07278	pCi/g	0.1056	N	238	4	1.381	IDENTIFIED	4.79	☐
Polonium-218	nr	1.146	0.09142	pCi/g	0.1308	N	351.3	4	1.44	IDENTIFIED	6.708	☐
Potassium-40	✓	18.3	1.002	pCi/g	0.5573	1.00	1460	1	2.097	IDENTIFIED	3.921	☐
Radium-224	int	3.392	0.6143	pCi/g	1.201	Y	241.1	1	1.711	IDENTIFIED	17.77	☐ ui
Radium-226	✓	1.039	0.08622	pCi/g	0.124	Y	608.7	4	1.662	IDENTIFIED	7.422	☐

Radium-228 ✓	1.091	0.1245	pCi/g	0.2178	0.500	910.5	3	1.129	IDENTIFIED	9.968	☐
Silver-110m 1a nr	0.284	0.02827	pCi/g	0.1094	N	0	9	0	NOT_IDENTI	0	☐
Thallium-208 ✓	0.3931	0.04083	pCi/g	0.06196	0.080	582.5	1	1.575	IDENTIFIED	9.888	☐
Thorium-228 nr	1.171	0.0741	pCi/g	0.1075	N	238	4	1.381	IDENTIFIED	4.79	☐
Thorium-230 nr	1.039	0.08622	pCi/g	0.124	N	608.7	4	1.662	IDENTIFIED	7.422	☐
Thorium-232 nr	1.091	0.1245	pCi/g	0.2178	N	910.5	3	1.129	IDENTIFIED	9.968	☐
Titanium-44 1a nr	0.2	0.02761	pCi/g	0.0914	N	0	9	0	NOT_IDENTI	0	☐
Total Uranium	7.9926	3.15E-06	ug/g	5.6456	N	0					☐
Uranium-234 nr	1.039	0.08622	pCi/g	0.124	N	608.7	4	1.662	IDENTIFIED	7.422	☐
Zirconium-97	1.12E+08	2.30E+07	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
244905006	08-JAN-10 12:00	26-JAN-10 14:07	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RCSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 nr	1.243	0.1353	pCi/g	0.1596	N	911.2	3	1.781	IDENTIFIED	8.632		☐	
Americium-243 int nr	0.2639	0.02983	pCi/g	0.07286	N	74.8	1	1.136	IDENTIFIED	10.54		☐	
Annihilation Rad.	0.104	0.02623	pCi/g	0.03539	N	510.8	1	2.082	IDENTIFIED	24.71		☐	
Barium-137m	0.6307	0.049	pCi/g	0.04421	N	661.7	2	1.97	IDENTIFIED	5.707		☐	
Bismuth-211 int	3.108	0.2484	pCi/g	0.2728	Y	351.9	4	1.292	IDENTIFIED	5.483		☐ ui	
Bismuth-212 1a nr	1.015	0.1805	pCi/g	0.5152	N	0	13	0	FAIL_ABUND	0		☐	
Bismuth-214 ✓	0.9775	0.07909	pCi/g	0.09085	0.200	609.2	4	1.692	IDENTIFIED	5.628		☐	
Cadmium-109 int	3.262	0.4291	pCi/g	0.9591	Y	87.32	3	1.401	IDENTIFIED	12.28		☐ ui	
Cadmium-115 HE	3.454	10	pCi/g	0	N	0	13	0	SHORT_HLIF	0		☐	
Cerium-143	3279	523.7	pCi/g	0	N	0	13	0	SHORT_HLIF	0		☐	
Cesium-137 ✓	0.6667	0.05183	pCi/g	0.04674	0.100	661.7	2	1.97	IDENTIFIED	5.707		☐	
Gross Gamma	7.871	1.094	pCi/g	2.097	N	0						☐	
Iodine-123 HE	5.84E+06	9.89E+07	pCi/g	0	N	0	13	0	SHORT_HLIF	0		☐	
Iodine-133 HE	16810	23880	pCi/g	0	N	0	13	0	SHORT_HLIF	0		☐	
Krypton-85 1a nr	19.78	3.627	pCi/g	11.8	N	0	13	0	NOT_IDENTI	0		☐	
Lead-212 ✓	1.252	0.0922	pCi/g	0.07715	0.100	238.7	4	1.25	IDENTIFIED	3.258		☐	
Lead-214 ✓	1.081	0.09089	pCi/g	0.09505	0.100	351.9	4	1.292	IDENTIFIED	5.483		☐	
Neptunium-237 int nr	0.9374	0.1567	pCi/g	0.2796	N	87.32	3	1.401	IDENTIFIED	12.28		☐	
Niobium-95 HE	0.07985	0.01944	pCi/g	0.06322	N	0	13	0	NOT_IDENTI	0		☐	
Niobium-97	5.61E+06	1.01E+06	pCi/g	0	N	0	13	0	SHORT_HLIF	0		☐	
Polonium-212 nr	1.252	0.0922	pCi/g	0.07715	N	238.7	4	1.25	IDENTIFIED	3.258		☐	
Polonium-214 nr	1.081	0.09089	pCi/g	0.09505	N	351.9	4	1.292	IDENTIFIED	5.483		☐	
Polonium-216 nr	1.252	0.0922	pCi/g	0.07715	N	238.7	4	1.25	IDENTIFIED	3.258		☐	
Polonium-218 nr	1.081	0.09089	pCi/g	0.09505	N	351.9	4	1.292	IDENTIFIED	5.483		☐	
Potassium-40 ✓	21.45	1.138	pCi/g	0.3527	1.00	1461	1	2.587	IDENTIFIED	2.671		☐	
Radium-224 int	4.185	0.5531	pCi/g	0.8769	Y	241.7	1	1.886	IDENTIFIED	11.63		☐ ui	
Radium-226 ✓	0.9775	0.07909	pCi/g	0.09085	Y	609.2	4	1.692	IDENTIFIED	5.628		☐	
Radium-228 ✓	1.243	0.1353	pCi/g	0.1596	0.500	911.2	3	1.781	IDENTIFIED	8.632		☐	
Silver-110m HE	0.0839	0.01866	pCi/g	0.06074	N	0	13	0	NOT_IDENTI	0		☐	
Strontium-85 1a	0.1046	0.01919	pCi/g	0.06244	Y	0	13	0	NOT_IDENTI	0		☐ ui	Data rejected due to low abundance.
Thallium-200 HE	241.6	1210	pCi/g	0	N	0	13	0	SHORT_HLIF	0		☐	
Thallium-208 ✓	0.3871	0.03557	pCi/g	0.04208	0.080	583	1	1.598	IDENTIFIED	7.42		☐	

Thorium-228	nr	1.274	0.09387	pCi/g	0.07856	N	238.7	4	1.25	IDENTIFIED	3.258	☐
Thorium-230	nr	0.9774	0.07909	pCi/g	0.09085	N	609.2	4	1.692	IDENTIFIED	5.628	☐
Thorium-232	nr	1.243	0.1353	pCi/g	0.1596	N	911.2	3	1.781	IDENTIFIED	8.632	☐
Thorium-234	✓	1.992	0.7291	pCi/g	1.516	2.00	62.98	2	0.8021	IDENTIFIED	35.55	☐
Tin-126	int nr	0.3192	0.04199	pCi/g	0.09424	N	87.32	3	1.401	IDENTIFIED	12.28	☐
Titanium-44	1a nr	0.2889	0.02183	pCi/g	0.06106	N	0	13	0	FAIL_ABUND	0	☐
Total Uranium		5.9768	2.17E-06	ug/g	2.2575	N	0					☐
Uranium-234	nr	0.9774	0.07909	pCi/g	0.09085	N	609.2	4	1.692	IDENTIFIED	5.628	☐
Uranium-238	HE	1.992	0.7291	pCi/g	1.516	N	62.98	2	0.8021	IDENTIFIED	35.55	☐
Zirconium-97		8.16E+07	1.62E+07	pCi/g	0	N	0	13	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
1202018262		26-JAN-10 14:07	0	MB	LOAD	1		GEL	N	RCSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Iodine-133	HE	1.579	3.055	pCi/g	0	N	0	4	0	SHORT_HLIF	0		☐	
Sodium-24	HE	58.69	37.06	pCi/g	0	N	0	4	0	SHORT_HLIF	0		☐	
Technetium-99m	HE	2.14E+06	5.43E+06	pCi/g	0	N	0	4	0	SHORT_HLIF	0		☐	
Total Uranium		0.45163	3.41E-07	ug/g	0.33559	N	0						☐	
Zirconium-97		691.9	250.3	pCi/g	0	N	0	4	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
1202018263	11-JAN-10 12:00	26-JAN-10 14:10	15.1	DUP	LOAD	1		LANL01004/GEL	N	RCSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	nr	1.71	0.1674	pCi/g	0.1862	N	910.7	3	1.487	IDENTIFIED	8.106		☐	
Americium-243	int nr	0.4688	0.04305	pCi/g	0.08938	N	74.67	1	1.153	IDENTIFIED	8.531		☐	
Annihilation Rad.		0.1526	0.03402	pCi/g	0.04067	N	510.9	1	1.972	IDENTIFIED	22.08		☐	
Bismuth-211	int	3.85	0.2607	pCi/g	0.3306	Y	351.8	4	1.201	IDENTIFIED	5.999		☐	ui
Bismuth-212	1a nr	1.479	0.2857	pCi/g	0.7116	N	0	10	0	FAIL_ABUND	0		☐	
Bismuth-214	✓	1.111	0.09412	pCi/g	0.09958	0.200	609.2	4	1.381	IDENTIFIED	7.403		☐	
Cadmium-109	int	4.566	0.594	pCi/g	1.107	Y	87.11	3	1.431	IDENTIFIED	12.44		☐	ui
Cerium-143		668.4	107.4	pCi/g	0	N	0	10	0	SHORT_HLIF	0		☐	
Gross Gamma		8.488	1.376	pCi/g	3.451	N	0						☐	
Krypton-85	HE	15.42	3.507	pCi/g	13.11	N	0	10	0	NOT_IDENTI	0		☐	
Lead-212	✓	1.628	0.07954	pCi/g	0.0829	0.100	238.5	4	1.108	IDENTIFIED	3.355		☐	
Lead-214	✓	1.339	0.0972	pCi/g	0.1153	0.100	351.8	4	1.201	IDENTIFIED	5.999		☐	
Lutetium-177	HE	2.896	1.014	pCi/g	2.045	N	0	10	0	FAIL_ABUND	0		☐	
Nepthunium-237	int nr	1.318	0.2188	pCi/g	0.3247	N	87.11	3	1.431	IDENTIFIED	12.44		☐	
Niobium-97	HE	17950	44430	pCi/g	0	N	0	10	0	SHORT_HLIF	0		☐	
Polonium-212	nr	1.628	0.07954	pCi/g	0.0829	N	238.5	4	1.108	IDENTIFIED	3.355		☐	
Polonium-214	nr	1.339	0.0972	pCi/g	0.1153	N	351.8	4	1.201	IDENTIFIED	5.999		☐	
Polonium-216	nr	1.628	0.07954	pCi/g	0.0829	N	238.5	4	1.108	IDENTIFIED	3.355		☐	
Polonium-218	nr	1.339	0.0972	pCi/g	0.1153	N	351.8	4	1.201	IDENTIFIED	5.999		☐	
Potassium-40	✓	18.65	0.9635	pCi/g	0.5327	1.00	1460	1	1.864	IDENTIFIED	3.74		☐	
Radium-224	int	4.53	0.5438	pCi/g	0.9435	Y	241.5	1	1.59	IDENTIFIED	11.68		☐	ui
Radium-226	✓	1.111	0.09412	pCi/g	0.09958	Y	609.2	4	1.381	IDENTIFIED	7.403		☐	

Radium-228 ✓	1.71	0.1674	pCi/g	0.1862	0.500	910.7	3	1.487	IDENTIFIED	8.106	☐
Strontium-85 1a	0.07906	0.01797	pCi/g	0.06719	Y	0	10	0	NOT_IDENTI	0	☐
Technetium-99m	1.30E+16	0	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐
Thallium-200 HE	167.8	210.9	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐
Thallium-208 ✓	0.5018	0.04635	pCi/g	0.05209	0.080	583	1	1.564	IDENTIFIED	8.515	☐
Thorium-228 nr	1.653	0.08075	pCi/g	0.08416	N	238.5	4	1.108	IDENTIFIED	3.355	☐
Thorium-230 nr	1.111	0.09412	pCi/g	0.09957	N	609.2	4	1.381	IDENTIFIED	7.403	☐
Thorium-232 nr	1.71	0.1674	pCi/g	0.1862	N	910.7	3	1.487	IDENTIFIED	8.106	☐
Tin-126 int nr	0.4489	0.05839	pCi/g	0.1093	N	87.11	3	1.431	IDENTIFIED	12.44	☐
Titanium-44 1a nr	0.4053	0.02808	pCi/g	0.07316	N	0	10	0	FAIL_ABUND	0	☐
Total Uranium	3.1	2.22E-06	ug/g	3.0825	N	0					☐
Uranium-234 nr	1.111	0.09412	pCi/g	0.09957	N	609.2	4	1.381	IDENTIFIED	7.403	☐
Zirconium-97	3.20E+06	8.89E+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
1202018264		26-JAN-10 14:19	0	LCS	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	1.334	0.3238	pCi/g	0.5363	N	912.1	3	1.444	IDENTIFIED	23.56	☐		
Americium-241 ✓	15.04	0.662	pCi/g	0.4982	0.200	59.58	1	1.314	IDENTIFIED	2.366	☐		
Americium-243	0.2786	0.06023	pCi/g	0.1536	N	74.68	1	1.536	IDENTIFIED	21.29	☐		
Annihilation Rad. HE	0.1123	0.04857	pCi/g	0.09954	N	511	1	1.639	IDENTIFIED	43.15	☐		
Barium-137m	5.64	0.2129	pCi/g	0.1214	N	661.9	2	1.564	IDENTIFIED	2.324	☐		
Bismuth-211	2.551	0.3537	pCi/g	0.712	Y	352.1	4	1.419	IDENTIFIED	13.5	☐		
Bismuth-214	0.9674	0.1173	pCi/g	0.2287	0.200	609.3	4	1.258	IDENTIFIED	11.46	☐		
Cadmium-109	36.8	2.187	pCi/g	2.41	Y	88.18	2	1.273	IDENTIFIED	4.033	☐		
Cerium-143	19.69	3.767	pCi/g	11.24	N	0	9	0	FAIL_ABUND	0	☐		
Cesium-137 ✓	5.962	0.2256	pCi/g	0.1283	0.100	661.9	2	1.564	IDENTIFIED	2.324	☐		
Cobalt-57	0.2538	0.04153	pCi/g	0.07144	N	121.8	1	1.173	IDENTIFIED	15.97	☐		
Cobalt-60 ✓	6.747	0.2931	pCi/g	0.09287	0.100	1333	1	1.97	IDENTIFIED	2.486	☐		
Gross Gamma	30	3.131	pCi/g	6.514	N	0					☐		
Iodine-123 HE	181.4	340.5	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		
Iodine-133 HE	15.32	14.04	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		
Lead-212	1.54	0.09997	pCi/g	0.1699	0.100	238.6	4	1.575	IDENTIFIED	5.372	☐		
Lead-214	0.8872	0.1252	pCi/g	0.2302	0.100	352.1	4	1.419	IDENTIFIED	13.5	☐		
Neptunium-237	8.613	1.015	pCi/g	1.321	N	0	9	0	NOT_IDENTI	0	☐		
Niobium-95m HE	0.5102	0.1156	pCi/g	0.3893	N	0	9	0	NOT_IDENTI	0	☐		
Niobium-97	407.8	73.98	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		
Polonium-212	1.54	0.09997	pCi/g	0.1699	N	238.6	4	1.575	IDENTIFIED	5.372	☐		
Polonium-214	0.8872	0.1252	pCi/g	0.2302	N	352.1	4	1.419	IDENTIFIED	13.5	☐		
Polonium-216	1.54	0.09997	pCi/g	0.1699	N	238.6	4	1.575	IDENTIFIED	5.372	☐		
Polonium-218	0.8872	0.1252	pCi/g	0.2302	N	352.1	4	1.419	IDENTIFIED	13.5	☐		
Radium-224	2.872	0.7952	pCi/g	1.932	Y	241.5	1	1.537	IDENTIFIED	27.54	☐		
Radium-226	0.9674	0.1173	pCi/g	0.2287	Y	609.3	4	1.258	IDENTIFIED	11.46	☐		
Radium-228	1.334	0.3238	pCi/g	0.5363	0.500	912.1	3	1.444	IDENTIFIED	23.56	☐		
Silver-110m HE	0.1367	0.04046	pCi/g	0.1329	N	0	9	0	NOT_IDENTI	0	☐		
Thallium-208	0.4576	0.05299	pCi/g	0.1252	0.080	583.4	1	1.544	IDENTIFIED	11.06	☐		



Thorium-228	1.552	0.1007	pCi/g	0.1712	N	238.6	4	1.575	IDENTIFIED	5.372	☐	
Thorium-230	0.9674	0.1173	pCi/g	0.2287	N	609.3	4	1.258	IDENTIFIED	11.46	☐	
Thorium-232	1.334	0.3238	pCi/g	0.5363	N	912.1	3	1.444	IDENTIFIED	23.56	☐	
Tin-126	3.658	0.2174	pCi/g	0.2404	N	88.18	2	1.273	IDENTIFIED	4.033	☐	
Titanium-44	0.299	0.0387	pCi/g	0.1205	N	0	9	0	FAIL_ABUND	0	☐	
Uranium-234	0.9674	0.1173	pCi/g	0.2287	N	609.3	4	1.258	IDENTIFIED	11.46	☐	
Zirconium-97	HE	1187	1145	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐

\*\*\* = Number of isotopes identified with a keyline at this energy.

# Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parameter	Result	Uncertainty	Units	DL	NDL	
942718	244905006	SAMPLE	28-JAN-10	Lead-212	1.252	0.0922	pCi/g	0.0385	0.100	for 1/25/10
				Lead-214	1.061	0.09089	pCi/g	0.04755	0.100	
				Niobium-97	5.61E+06	1.01E+06	pCi/g	0	N	
				Potassium-40	21.45	1.138	pCi/g	0.1765	1.00	
				Radium-224	4.185	0.5531	pCi/g	0.4387	Y	
				Radium-226	0.9775	0.07909	pCi/g	0.04545	Y	
				Radium-228	1.243	0.1353	pCi/g	0.07982	0.500	
				Strontium-85	0.1046	0.01919	pCi/g	0.03124	Y	
				Thallium-200	241.6	1210	pCi/g	0	N	
				Thallium-208	0.3871	0.03557	pCi/g	0.02105	0.080	
				Thorium-234	1.982	0.7291	pCi/g	0.7584	2.00	
				Yttrium-91	13.28	6.933	pCi/g	12.35	N	
				Zirconium-97	8.16E+07	1.62E+07	pCi/g	0	N	
942718	1202018262	MB	28-JAN-10	Cobalt-60	0.01913	0.00876	pCi/g	0.01893	0.100	
				Krypton-85	5.167	1.581	pCi/g	3.144	N	
				Radium-223	0.2601	0.1202	pCi/g	0.2353		
				Sodium-24	58.69	37.06	pCi/g	0	N	
				Strontium-85	0.02448	0.00749	pCi/g	0.0149		
				Technetium-99m	2.14E+06	5.43E+06	pCi/g	0	N	
				Thorium-231	0.2601	0.1202	pCi/g	0.2353		
				Thorium-234	0.1478	0.1145	pCi/g	0.1124	2.00	
942718	1202018263	DUP	28-JAN-10	Zirconium-97	691.9	250.3	pCi/g	0	N	
				Bismuth-211	3.85	0.2807	pCi/g	0.1654	Y	
				Bismuth-214	1.111	0.09412	pCi/g	0.04982	0.200	
				Cadmium-109	4.586	0.594	pCi/g	0.5536	Y	for 1/25/10
				Cerium-143	668.4	107.4	pCi/g	0	N	
				Cesium-134	0.09611	0.02411	pCi/g	0.04513	0.100	
				Gross Gamma	8.488	1.276	pCi/g	1.668	N	
				Krypton-85	15.42	3.507	pCi/g	6.658	N	
				Lead-212	1.628	0.07954	pCi/g	0.04148	0.100	
				Lead-214	1.339	0.0972	pCi/g	0.05767	0.100	
				Niobium-97	17950	44430	pCi/g	0	N	
				Potassium-40	18.65	0.9635	pCi/g	0.2685	1.00	
				Radium-224	4.53	0.5438	pCi/g	0.472	Y	
				Radium-226	1.111	0.09412	pCi/g	0.04982	Y	
				Radium-228	1.71	0.1674	pCi/g	0.09315	0.500	
				Strontium-85	0.07906	0.01797	pCi/g	0.03361	Y	

VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 15:10:59.71

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244852003.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:10:09
Sample ID          : G244852003          Sample quantity  : 1.30760E+02 GRAM
Detector name      : GAM17              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:09.46 0.1%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942718             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	46.86*	87	438	0.92	93.36	89	10	1.20E-02	48.3	
2	0	53.34*	59	372	0.94	106.31	103	8	8.26E-03	58.3	
3	0	63.33*	195	615	0.78	126.30	121	10	2.71E-02	25.4	
4	2	74.86*	602	376	0.97	149.36	144	17	8.37E-02	6.5	3.47E+00
5	2	77.12*	928	303	0.98	153.90	144	17	1.29E-01	4.6	
6	3	84.29*	126	318	1.21	168.22	165	27	1.75E-02	25.5	2.41E+00
7	3	87.32*	348	310	1.10	174.30	165	27	4.84E-02	10.0	
8	3	89.93	250	303	1.20	179.51	165	27	3.47E-02	13.2	
9	3	92.70*	273	296	1.21	185.06	165	27	3.80E-02	13.3	
10	0	128.81	94	359	0.91	257.31	252	10	1.31E-02	38.9	
11	0	185.68*	197	289	1.14	371.09	367	11	2.74E-02	18.6	
12	0	209.41	72	223	0.93	418.58	414	9	9.98E-03	39.5	
13	5	238.51*	971	115	1.02	476.80	470	19	1.35E-01	3.7	2.58E+00
14	5	241.63	259	197	1.82	483.03	470	19	3.60E-02	13.6	
15	0	270.67	99	183	1.81	541.13	536	11	1.38E-02	28.5	
16	1	295.05*	335	89	1.23	589.93	584	20	4.66E-02	7.3	1.72E+00
17	1	299.68	63	110	1.31	599.19	584	20	8.77E-03	30.2	
18	0	338.05*	192	140	1.13	675.97	670	11	2.67E-02	14.2	
19	0	351.84*	561	134	1.21	703.54	698	13	7.79E-02	6.1	
20	0	409.39	35	79	1.24	818.70	814	8	4.85E-03	47.4	
21	0	462.07	93	82	1.18	924.11	918	13	1.29E-02	22.5	
22	0	510.55*	103	134	2.23	1021.13	1013	20	1.44E-02	31.9	
23	0	582.89*	275	97	1.48	1165.88	1160	14	3.82E-02	10.0	
24	0	608.86*	370	57	1.30	1217.85	1212	12	5.13E-02	6.7	
25	0	726.94	89	73	1.23	1454.15	1447	14	1.24E-02	23.0	
26	0	860.06	53	43	1.46	1720.56	1715	15	7.38E-03	29.8	
27	0	910.66*	200	38	1.44	1821.82	1816	14	2.78E-02	9.8	
28	0	934.21	27	46	1.58	1868.95	1861	15	3.77E-03	59.0	
29	3	963.66	40	30	2.21	1927.89	1919	24	5.52E-03	36.2	1.75E+00
30	3	968.07*	113	33	1.87	1936.72	1919	24	1.57E-02	14.1	
31	0	1119.56	90	32	1.51	2239.92	2235	14	1.25E-02	16.4	
32	0	1376.18	32	10	0.78	2753.58	2745	14	4.44E-03	27.7	
33	0	1459.63*	583	29	2.05	2920.63	2910	19	8.09E-02	4.7	
34	0	1763.44	62	12	2.36	3528.82	3520	16	8.63E-03	17.8	

Flag: "\*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244852003.CNF;1  
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8  
 Sample title : MXR1  
 Sample date : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:10:09  
 Sample ID : G244852003 Sample quantity : 130.76 GRAM  
 Sample type : SOLID Sample geometry :  
 Detector name : GAMMA17 Detector geometry: CAN  
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:09.46 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	*	2.014E+01	2.606E+00	6.509E-01	5.779E-02	30.945
AS-73	+	53.44	*	2.868E-01	3.355E-01	3.423E-01	3.425E-02	0.838
CD-109	+	88.03	*	4.117E+00	9.196E-01	9.347E-01	9.124E-02	4.405
SN-126	+	64.28		8.599E-01	4.575E-01	3.847E-01	6.141E-02	2.235
	+	86.94		1.683E+00	7.775E-01	3.807E-01	1.584E-01	4.420
	+	87.57	*	4.047E-01	9.040E-02	9.175E-02	8.953E-03	4.411
TL-208		277.35		3.123E-01	3.754E-01	6.622E-01	8.431E-02	0.472
	+	510.84		6.673E-01	4.338E-01	2.363E-01	2.886E-02	2.824
	+	583.14	*	5.177E-01	1.145E-01	6.142E-02	5.810E-03	8.428
	+	860.37		9.817E-01	5.923E-01	5.199E-01	4.891E-02	1.888
BI-210	+	46.50	*	9.714E-01	9.448E-01	7.967E-01	8.643E-02	1.219
PB-210	+	46.50	*	9.714E-01	9.448E-01	7.967E-01	8.643E-02	1.219
PO-210	+	46.50	*	9.714E-01	9.440E-01	7.967E-01	8.049E-02	1.219
BI-211		72.87		2.894E+00	2.067E+00	3.300E+00	3.226E-01	0.877
	+	351.07	*	4.277E+00	6.568E-01	3.434E-01	3.204E-02	12.456
PB-212	+	74.81		2.378E+00	4.465E-01	3.355E-01	4.533E-02	7.090
	+	77.11		2.182E+00	2.927E-01	2.003E-01	1.953E-02	10.895
	+	87.30		1.872E+00	4.581E-01	4.240E-01	5.924E-02	4.415
	+	238.63	*	1.553E+00	1.951E-01	8.910E-02	8.982E-03	17.434
	+	300.09		1.589E+00	9.760E-01	1.190E+00	1.296E-01	1.335
PO-212	+	74.81		2.378E+00	4.465E-01	3.355E-01	4.533E-02	7.090
	+	77.11		2.182E+00	2.927E-01	2.003E-01	1.953E-02	10.895
	+	87.30		1.872E+00	4.581E-01	4.240E-01	5.924E-02	4.415
		115.19		-1.336E+00	3.342E+00	5.435E+00	6.119E-01	-0.246
	+	238.63	*	1.553E+00	1.951E-01	8.910E-02	8.982E-03	17.434
	+	300.09		1.589E+00	9.760E-01	1.190E+00	1.296E-01	1.335
BI-214	+	609.31	*	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
	+	1120.29		1.757E+00	6.068E-01	5.159E-01	5.515E-02	3.405
	+	1764.49		1.680E+00	6.142E-01	2.353E-01	1.990E-02	7.138
PB-214	+	74.81		4.098E+00	7.330E-01	5.780E-01	7.083E-02	7.090
	+	77.11		3.741E+00	5.771E-01	3.434E-01	4.249E-02	10.895
	+	87.30		3.207E+00	7.577E-01	7.263E-01	9.032E-02	4.415
	+	241.98		2.492E+00	7.261E-01	5.371E-01	5.718E-02	4.639
	+	295.21		1.480E+00	2.722E-01	2.060E-01	2.288E-02	7.186

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.488E+00	2.413E-01	1.197E-01	1.279E-02	12.425
	+	74.81		4.098E+00	7.330E-01	5.780E-01	7.083E-02	7.090
	+	77.11		3.741E+00	5.771E-01	3.434E-01	4.249E-02	10.895
	+	87.30		3.207E+00	7.577E-01	7.263E-01	9.032E-02	4.415
	+	241.98		2.492E+00	7.261E-01	5.371E-01	5.718E-02	4.639
	+	295.21		1.480E+00	2.722E-01	2.060E-01	2.288E-02	7.186
PO-216	+	351.92	*	1.488E+00	2.413E-01	1.197E-01	1.279E-02	12.425
	+	74.81		2.378E+00	4.465E-01	3.355E-01	4.533E-02	7.090
	+	77.11		2.182E+00	2.927E-01	2.003E-01	1.953E-02	10.895
	+	87.30		1.872E+00	4.581E-01	4.240E-01	5.924E-02	4.415
	+	238.63	*	1.553E+00	1.951E-01	8.910E-02	8.982E-03	17.434
	+	300.09		1.589E+00	9.760E-01	1.190E+00	1.296E-01	1.335
PO-218	+	74.81		4.098E+00	7.330E-01	5.780E-01	7.083E-02	7.090
	+	77.11		3.741E+00	5.771E-01	3.434E-01	4.249E-02	10.895
	+	87.30		3.207E+00	7.577E-01	7.263E-01	9.032E-02	4.415
	+	241.98		2.492E+00	7.261E-01	5.371E-01	5.718E-02	4.639
	+	295.21		1.480E+00	2.722E-01	2.060E-01	2.288E-02	7.186
	+	351.92	*	1.488E+00	2.413E-01	1.197E-01	1.279E-02	12.425
RA-224	+	240.98	*	4.725E+00	1.351E+00	1.015E+00	9.177E-02	4.656
RA-226	+	609.31	*	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
	+	1120.29		1.757E+00	6.068E-01	5.159E-01	5.515E-02	3.405
	+	1764.49		1.680E+00	6.142E-01	2.353E-01	1.990E-02	7.138
AC-228	+	338.32		1.607E+00	8.063E-01	3.988E-01	1.649E-01	4.030
	+	911.07	*	1.758E+00	3.978E-01	2.710E-01	3.074E-02	6.485
	+	969.11		1.746E+00	6.386E-01	3.950E-01	9.236E-02	4.421
RA-228	+	338.32		1.607E+00	8.063E-01	3.988E-01	1.649E-01	4.030
	+	911.07	*	1.758E+00	3.978E-01	2.710E-01	3.074E-02	6.485
	+	969.11		1.746E+00	6.386E-01	3.950E-01	9.236E-02	4.421
TH-228	+	74.81		2.414E+00	3.940E-01	3.405E-01	3.346E-02	7.090
	+	77.11		2.215E+00	2.971E-01	2.033E-01	1.982E-02	10.895
	+	87.30		1.900E+00	4.244E-01	4.304E-01	4.199E-02	4.415
	+	238.63	*	1.577E+00	1.980E-01	9.044E-02	9.118E-03	17.434
	+	300.09		1.613E+00	1.367E+00	1.208E+00	7.170E-01	1.335
	+	609.31	*	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
TH-230	+	1120.29		1.757E+00	6.068E-01	5.159E-01	5.515E-02	3.405
	+	1764.49		1.680E+00	6.142E-01	2.353E-01	1.990E-02	7.138
TH-232	+	338.32		1.607E+00	4.792E-01	3.988E-01	3.593E-02	4.030
	+	911.07	*	1.758E+00	3.978E-01	2.710E-01	3.074E-02	6.485
	+	969.11		1.746E+00	6.386E-01	3.950E-01	9.236E-02	4.421
TH-234	+	63.29	*	2.172E+00	1.175E+00	9.580E-01	1.788E-01	2.268
	+	92.38		2.200E+00	7.151E-01	6.372E-01	1.196E-01	3.452
U-234	+	609.31	*	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
	+	1120.29		1.757E+00	6.068E-01	5.159E-01	5.515E-02	3.405
	+	1764.49		1.680E+00	6.142E-01	2.353E-01	1.990E-02	7.138
NP-237	+	86.50	*	1.188E+00	3.614E-01	2.685E-01	6.129E-02	4.426
	+	95.87		-1.550E-01	8.345E-01	1.237E+00	3.119E-01	-0.125
U-238	+	63.29	*	2.172E+00	1.175E+00	9.580E-01	1.788E-01	2.268
	+	92.38		2.200E+00	6.237E-01	6.372E-01	6.351E-02	3.452
AM-243	+	74.67	*	3.856E-01	6.277E-02	5.437E-02	5.308E-03	7.092

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		4.457E+01	9.955E+00	1.008E+01	9.829E-01	4.423
		117.66		-8.923E-01	3.514E+00	5.749E+00	6.564E-01	-0.155
		142.18		-6.046E+00	1.775E+01	2.823E+01	2.911E+00	-0.214
ANH-511	+	511.00	*	1.441E-01	9.292E-02	5.106E-02	4.560E-03	2.823

## ---- 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	*	3.029E-02	3.486E-01	5.759E-01	5.480E-02	0.053
NA-22		1274.54	*	-2.298E-02	5.338E-02	8.050E-02	6.782E-03	-0.285
NA-24		1368.53	*	1.394E-01	5.338E-02	Half-Life too short		
AL-26		1129.67		5.513E-01	1.973E+00	3.313E+00	2.769E-01	0.166
		1808.65	*	-8.474E-03	3.800E-02	5.864E-02	4.915E-03	-0.145
TI-44		67.85		2.878E-03	2.555E-02	4.160E-02	4.097E-03	0.069
	+	78.38	*	4.027E-01	5.401E-02	5.960E-02	5.807E-03	6.757
SC-46		889.25	*	1.206E-02	4.620E-02	7.868E-02	6.888E-03	0.153
	+	1120.51		3.005E-01	1.019E-01	1.658E-01	1.391E-02	1.813
V-48		944.10		-9.400E-01	1.088E+00	1.602E+00	1.402E-01	-0.587
		983.50	*	4.625E-02	7.766E-02	1.369E-01	1.194E-02	0.338
		1312.09		-6.204E-02	9.516E-02	1.453E-01	1.233E-02	-0.427
CR-51		320.08	*	-3.052E-01	4.029E-01	6.440E-01	6.150E-02	-0.474
MN-52		744.21		-1.287E-01	2.696E-01	4.299E-01	3.737E-02	-0.299
		848.13		4.024E-01	8.823E+00	1.472E+01	1.294E+00	0.027
	+	935.52		4.635E-01	5.484E-01	5.197E-01	4.548E-02	0.892
		1246.25		4.299E-01	9.527E+00	1.541E+01	1.288E+00	0.028
		1333.61		-1.097E-01	5.836E+00	9.752E+00	8.313E-01	-0.011
		1434.06	*	1.841E-01	2.250E-01	4.307E-01	3.713E-02	0.427
MN-54		834.83	*	5.515E-02	4.574E-02	8.409E-02	7.394E-03	0.656
CO-56		846.75	*	1.059E-02	4.929E-02	8.363E-02	7.352E-03	0.127
		977.42		-1.218E+00	3.394E+00	5.057E+00	4.414E-01	-0.241
		1037.82		1.081E-01	3.479E-01	5.912E-01	5.376E-02	0.183
		1175.09		-1.584E+00	2.593E+00	3.852E+00	3.149E-01	-0.411
		1238.25		8.832E-02	1.120E-01	1.945E-01	1.671E-02	0.454
		1360.21		1.554E-01	1.191E+00	2.029E+00	1.736E-01	0.077
		1771.40		-1.527E-01	2.515E-01	3.406E-01	2.876E-02	-0.448
CO-57		122.06	*	-1.198E-02	2.373E-02	3.821E-02	4.477E-03	-0.313
		136.48		2.726E-02	2.008E-01	3.323E-01	3.741E-02	0.082
CO-58		810.76	*	-2.474E-02	4.556E-02	7.138E-02	6.286E-03	-0.347
FE-59		142.65		-9.321E-01	2.753E+00	4.378E+00	4.500E-01	-0.213
		192.34		-4.321E-01	9.830E-01	1.546E+00	2.076E-01	-0.280
		1099.22	*	-6.137E-02	1.125E-01	1.705E-01	1.565E-02	-0.360
		1291.56		5.652E-02	1.467E-01	2.481E-01	2.390E-02	0.228
CO-60		1173.22		5.897E-03	4.989E-02	8.197E-02	6.696E-03	0.072
		1332.49	*	-5.452E-02	4.889E-02	6.856E-02	5.843E-03	-0.795
ZN-65		1115.52	*	1.657E-02	1.136E-01	1.636E-01	1.378E-02	0.101
GE-68		1077.35	*	2.142E-01	1.494E+00	2.478E+00	2.115E-01	0.086
AS-74		595.88	*	-3.301E-02	1.178E-01	1.767E-01	1.556E-02	-0.187
		634.78		-6.913E-02	4.209E-01	6.639E-01	5.718E-02	-0.104

## ---- 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			-1.127E+00	2.643E+00	3.945E+00	4.537E-01	-0.286
	96.73			-6.074E-02	6.951E-01	1.037E+00	1.521E-01	-0.059
	121.11			3.640E-03	1.228E-01	2.033E-01	2.782E-02	0.018
	136.00			1.363E-02	3.739E-02	6.253E-02	6.762E-03	0.218
	198.60			2.214E-01	1.872E+00	2.985E+00	2.876E-01	0.074
	264.65	*		7.223E-03	4.924E-02	7.494E-02	6.885E-03	0.096
	279.53			-9.241E-02	1.059E-01	1.696E-01	1.608E-02	-0.545
	303.91			-2.031E+00	2.443E+00	3.355E+00	3.991E-01	-0.605
	400.65			2.058E-01	2.938E-01	5.093E-01	5.607E-02	0.404
BR-77	87.88		+	8.722E+02	1.948E+02	2.819E+02	2.752E+01	3.094
	200.40			5.130E+01	1.622E+02	2.658E+02	2.317E+01	0.193
	239.00		+	2.445E+02	2.869E+01	4.024E+01	3.635E+00	6.076
	249.79			-1.377E+01	6.269E+01	9.798E+01	8.907E+00	-0.141
	281.68			-1.400E+00	8.172E+01	1.384E+02	1.271E+01	-0.010
	297.23			1.480E+02	5.749E+01	1.069E+02	9.817E+00	1.384
	303.76			-1.679E+02	2.038E+02	2.807E+02	2.574E+01	-0.598
	439.47			1.065E+02	1.503E+02	2.616E+02	2.280E+01	0.407
	484.57			4.106E+01	2.396E+02	3.985E+02	3.540E+01	0.103
	520.65	*		3.613E+00	1.177E+01	1.971E+01	1.761E+00	0.183
	574.64			5.310E+01	2.405E+02	3.970E+02	3.525E+01	0.134
	578.91			-4.296E+01	1.118E+02	1.496E+02	1.326E+01	-0.287
	585.48			3.790E+02	2.411E+02	3.954E+02	3.498E+01	0.959
	755.35			2.439E+01	1.955E+02	3.313E+02	2.888E+01	0.074
	817.79			1.558E+01	1.515E+02	2.551E+02	2.242E+01	0.061
SR-82	698.33			-2.290E+01	4.373E+01	7.051E+01	6.038E+00	-0.325
	776.49	*		-4.992E-01	4.837E-01	7.256E-01	6.350E-02	-0.688
	1395.20			4.295E+00	1.349E+01	2.354E+01	2.023E+00	0.182
RB-83	520.41	*		1.766E-02	7.874E-02	1.309E-01	1.170E-02	0.135
	529.64			2.118E-02	1.215E-01	2.008E-01	1.795E-02	0.106
	552.65			-3.858E-02	2.226E-01	3.549E-01	3.167E-02	-0.109
RB-84	881.50	*		-2.984E-02	8.237E-02	1.307E-01	1.145E-02	-0.228
KR-85	513.99	*		5.033E+00	7.728E+00	1.327E+01	1.186E+00	0.379
SR-85	513.99	*		2.578E-02	3.959E-02	6.801E-02	6.076E-03	0.379
RB-86	1076.63	*		-1.809E-01	9.641E-01	1.535E+00	1.310E-01	-0.118
Y-88	898.02			6.878E-03	4.737E-02	7.966E-02	6.997E-03	0.086
	1836.01	*		-1.987E-02	3.496E-02	4.662E-02	3.887E-03	-0.426
ZR-88	392.90	*		-1.186E-02	3.362E-02	5.437E-02	4.581E-03	-0.218
Y-91	1204.90	*		1.195E+01	2.399E+01	4.079E+01	3.367E+00	0.293
NB-94	702.63	*		-4.533E-04	4.104E-02	6.907E-02	5.925E-03	-0.007
	871.10			-8.814E-03	3.803E-02	6.128E-02	5.377E-03	-0.144
NB-95	765.79	*		2.101E-02	4.735E-02	8.249E-02	7.205E-03	0.255
NB-95M	235.69	*		4.742E-02	1.392E-01	2.026E-01	2.069E-02	0.234
ZR-95	724.18			1.713E-01	1.239E-01	2.100E-01	1.971E-02	0.816
	756.15	*		-6.266E-05	8.425E-02	1.412E-01	1.353E-02	0.000
NB-97	657.90	*		-7.437E-02	8.425E-02	Half-Life too short		
	1024.50			-1.288E+00	8.425E-02	Half-Life too short		
ZR-97	254.15			4.212E-01	8.425E-02	Half-Life too short		
	355.39			-1.760E-01	8.425E-02	Half-Life too short		
	507.63	*		3.529E+00	8.425E-02	Half-Life too short		

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	602.52			-1.392E+00	8.425E-02	Half-Life	too short	
	1021.30			2.319E+00	8.425E-02	Half-Life	too short	
	1147.95			3.621E+00	8.425E-02	Half-Life	too short	
	1362.66			3.605E+00	8.425E-02	Half-Life	too short	
	1750.46			5.918E+00	8.425E-02	Half-Life	too short	
MO-99	140.51			-6.442E+00	2.591E+01	4.108E+01	1.163E+01	-0.157
	181.06			6.395E+00	1.957E+01	2.885E+01	5.262E+00	0.222
	366.43			7.560E+01	8.728E+01	1.541E+02	1.349E+01	0.491
	739.58	*		-7.650E-01	1.392E+01	2.324E+01	3.537E+00	-0.033
	778.00			-3.305E+01	4.094E+01	6.280E+01	5.498E+00	-0.526
TC-99M	140.51	*		-7.889E+09	4.094E+01	Half-Life	too short	
RH-101	127.23			1.938E-02	3.367E-02	5.139E-02	5.845E-03	0.377
	198.01	*		-1.444E-02	3.474E-02	5.374E-02	4.673E-03	-0.269
	325.23			-1.327E-01	2.424E-01	3.935E-01	3.577E-02	-0.337
RH-102	418.52			-3.080E-01	3.156E-01	4.794E-01	4.122E-02	-0.642
	475.06	*		-1.200E-03	3.096E-02	5.060E-02	4.482E-03	-0.024
	631.29			-3.367E-03	6.713E-02	1.073E-01	9.261E-03	-0.031
	697.49			3.255E-02	9.781E-02	1.691E-01	1.448E-02	0.192
	766.84			5.670E-02	1.346E-01	2.331E-01	2.036E-02	0.243
	1046.59			4.769E-02	1.313E-01	2.242E-01	1.932E-02	0.213
	1112.84			-9.839E-02	3.191E-01	4.480E-01	3.772E-02	-0.220
RU-103	497.08	*		-6.860E-03	4.844E-02	7.822E-02	1.122E-02	-0.088
	610.33	+		1.422E+01	3.060E+00	3.532E+00	5.917E-01	4.026
RH-106	511.85	+		7.199E-01	4.641E-01	4.805E-01	4.292E-02	1.498
	621.84	*		-2.317E-01	3.951E-01	5.957E-01	7.983E-02	-0.389
	1050.47			1.900E+00	2.718E+00	4.803E+00	4.133E-01	0.396
RU-106	511.85	+		7.199E-01	4.641E-01	4.805E-01	4.292E-02	1.498
	621.84	*		-2.317E-01	3.944E-01	5.957E-01	5.175E-02	-0.389
	1050.47			1.900E+00	2.718E+00	4.803E+00	4.133E-01	0.396
AG-108M	433.93	*		-2.800E-02	3.521E-02	5.401E-02	4.875E-03	-0.518
	614.37			-1.862E-02	5.334E-02	7.134E-02	6.464E-03	-0.261
	722.95			5.485E-03	5.396E-02	8.007E-02	7.187E-03	0.068
AG-110M	657.75	*		-2.276E-02	4.087E-02	6.133E-02	5.345E-03	-0.371
	677.61			8.642E-02	3.897E-01	6.364E-01	5.559E-02	0.136
	706.67			-2.798E-02	2.541E-01	4.238E-01	3.742E-02	-0.066
	763.93			-2.426E-01	1.955E-01	2.855E-01	2.561E-02	-0.850
	884.67			7.754E-03	6.033E-02	1.013E-01	9.149E-03	0.077
	937.48			-6.049E-02	1.395E-01	1.828E-01	1.656E-02	-0.331
	1384.27			1.512E-01	2.044E-01	3.691E-01	3.258E-02	0.410
IN-111	171.28			-4.675E-01	9.717E-01	1.536E+00	1.289E-01	-0.304
	245.39	*		8.284E-01	1.057E+00	1.605E+00	1.456E-01	0.516
IN-113M	391.69	*		2.014E-02	4.744E-02	8.121E-02	7.056E-03	0.248
SN-113	391.69	*		2.014E-02	4.744E-02	8.121E-02	7.056E-03	0.248
IN-114M	190.27	*		1.086E-01	2.111E-01	3.147E-01	2.710E-02	0.345
CD-115	260.90			-7.040E+01	1.296E+02	1.969E+02	1.800E+01	-0.357
	492.35			-1.731E+01	3.963E+01	6.220E+01	5.537E+00	-0.278
	527.90	*		1.544E+01	1.184E+01	2.141E+01	1.914E+00	0.721
SN-117M	156.02			-7.385E-01	2.226E+00	3.573E+00	3.289E-01	-0.207
	158.56	*		1.605E-03	5.287E-02	8.640E-02	7.766E-03	0.019



----- Non-Identified Nuclides -----

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SB-122	563.90	*		9.995E-01	2.344E+00	3.945E+00	3.513E-01	0.253
	692.80			-2.874E+01	5.603E+01	9.050E+01	7.733E+00	-0.318
I-123	159.00	*		-3.248E+00	5.603E+01	Half-Life	too short	
	528.96			2.902E+02	5.603E+01	Half-Life	too short	
TE-123M	159.00	*		-1.749E-02	2.791E-02	4.395E-02	3.956E-03	-0.398
I-124	602.71	*		-1.041E-01	8.624E-01	1.194E+00	1.048E-01	-0.087
	722.78			5.114E-01	5.568E+00	8.252E+00	7.129E-01	0.062
	1325.50			1.577E+01	4.338E+01	7.595E+01	6.464E+00	0.208
+	1376.25			8.474E+01	4.756E+01	7.618E+01	6.532E+00	1.112
	1509.49			6.520E+00	1.591E+01	2.838E+01	2.454E+00	0.230
	1691.02			3.271E-01	4.341E+00	7.252E+00	6.203E-01	0.045
SB-124	602.71			-6.117E-03	5.066E-02	7.011E-02	6.157E-03	-0.087
	645.85			6.482E-02	6.235E-01	1.010E+00	9.152E-02	0.064
	709.31			1.351E-01	3.364E+00	5.682E+00	4.886E-01	0.024
	713.82			-1.223E+00	1.830E+00	2.866E+00	3.448E-01	-0.427
	722.78			4.354E-02	4.741E-01	7.026E-01	6.200E-02	0.062
+	968.20			1.797E+01	5.289E+00	9.228E+00	8.062E-01	1.947
	1045.16			-1.125E+00	2.920E+00	4.535E+00	3.908E-01	-0.248
	1325.50			1.434E+00	3.945E+00	6.906E+00	5.878E-01	0.208
	1368.21			3.304E-01	2.390E+00	3.549E+00	4.770E-01	0.093
	1436.60			-1.683E+00	3.955E+00	6.048E+00	5.216E-01	-0.278
	1691.02	*		6.570E-03	8.719E-02	1.456E-01	1.296E-02	0.045
SB-125	427.89	*		-4.073E-03	9.722E-02	1.600E-01	1.411E-02	-0.025
+	463.38			1.153E+00	5.305E-01	6.462E-01	6.126E-02	1.785
	600.56			-2.401E-03	2.092E-01	3.369E-01	3.172E-02	-0.007
	635.90			-4.060E-03	3.197E-01	5.125E-01	4.767E-02	-0.008
TE-125M	109.28	*		5.111E+00	8.176E+00	1.393E+01	1.711E+00	0.367
I-126	388.63			-5.524E-02	2.251E-01	3.676E-01	3.111E-02	-0.150
	666.33	*		1.427E-01	2.188E-01	3.721E-01	3.142E-02	0.384
	753.82			1.676E+00	1.783E+00	3.229E+00	2.813E-01	0.519
SB-126	223.80			5.152E+00	4.168E+00	7.114E+00	6.350E-01	0.724
	278.60			4.533E-01	2.506E+00	4.293E+00	3.941E-01	0.106
+	296.50			1.468E+01	2.539E+00	3.842E+00	3.528E-01	3.821
	414.70			7.580E-02	8.691E-02	1.483E-01	1.271E-02	0.511
	415.30			1.935E+00	7.012E+00	1.184E+01	1.015E+00	0.163
	555.20			3.460E+00	4.662E+00	8.056E+00	7.186E-01	0.430
	573.80			2.106E-01	1.242E+00	2.040E+00	1.812E-01	0.103
	593.00			-1.332E-01	1.105E+00	1.761E+00	1.554E-01	-0.076
	656.30			3.846E-01	3.731E+00	6.042E+00	5.114E-01	0.064
	666.33			5.963E-02	9.143E-02	1.555E-01	1.313E-02	0.384
	675.00			-2.003E+00	2.441E+00	3.537E+00	2.999E-01	-0.566
	695.00			4.014E-02	9.969E-02	1.732E-01	1.482E-02	0.232
	697.00			2.163E-01	3.416E-01	6.033E-01	5.164E-02	0.359
	720.50	*		1.021E-01	1.778E-01	2.807E-01	2.423E-02	0.364
	856.80			2.104E-01	6.273E-01	9.494E-01	8.341E-02	0.222
	989.30			-9.602E-01	1.589E+00	2.418E+00	2.107E-01	-0.397
	1034.80			-1.061E+01	1.052E+01	1.484E+01	1.282E+00	-0.715
	1213.00			4.558E-01	5.628E+00	9.166E+00	7.584E-01	0.050
SB-127	61.10			1.567E+01	2.560E+01	4.024E+01	4.932E+00	0.389

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	252.40			-1.043E-01	4.184E+00	6.632E+00	2.794E+00	-0.016
	290.80			-4.308E+00	2.178E+01	3.195E+01	3.701E+00	-0.135
	411.60			3.614E+00	1.483E+01	2.211E+01	3.465E+00	0.163
	444.90			-2.104E+00	1.025E+01	1.658E+01	2.089E+00	-0.127
	473.00			-1.473E-01	1.674E+00	2.723E+00	3.541E-01	-0.054
	543.00			2.086E+00	1.929E+01	3.164E+01	4.609E+00	0.066
	603.60			-1.658E+00	1.444E+01	1.998E+01	2.518E+00	-0.083
	685.20	*		-1.448E+00	1.793E+00	2.611E+00	2.947E-01	-0.554
	698.50			-8.156E+00	1.922E+01	3.120E+01	4.921E+00	-0.261
	722.20			1.468E+01	3.633E+01	5.611E+01	6.258E+00	0.262
	783.80			3.322E+00	4.407E+00	7.828E+00	9.783E-01	0.424
XE-127	57.60			-4.646E-01	2.347E+00	3.573E+00	3.589E-01	-0.130
	145.22			1.843E-01	6.939E-01	1.151E+00	1.161E-01	0.160
	172.10			-5.365E-02	1.204E-01	1.907E-01	1.603E-02	-0.281
	202.84	*		-7.136E-03	4.628E-02	7.380E-02	6.452E-03	-0.097
	374.96			1.244E-01	2.002E-01	3.484E-01	3.013E-02	0.357
I-131	80.18			4.601E+00	3.786E+00	4.989E+00	4.883E-01	0.922
	284.30			-4.001E-01	1.374E+00	2.284E+00	2.194E-01	-0.175
	364.48	*		-8.559E-02	1.246E-01	1.974E-01	1.823E-02	-0.434
	636.97			-5.257E-01	1.826E+00	2.839E+00	2.579E-01	-0.185
	722.89			9.184E-01	9.035E+00	1.341E+01	1.166E+00	0.068
TE-132	49.72			-5.628E-01	4.599E+00	5.633E+00	6.752E-01	-0.100
	111.76			-3.671E+00	2.635E+01	4.347E+01	5.585E+00	-0.084
	116.30			1.249E+01	2.512E+01	4.247E+01	5.563E+00	0.294
	228.16	*		-3.107E-01	6.991E-01	1.083E+00	1.721E-01	-0.287
BA-133	53.15	+		1.215E+00	1.421E+00	1.662E+00	1.662E-01	0.731
	79.62			7.300E-01	9.460E-01	1.366E+00	2.170E-01	0.534
	81.00			8.925E-02	8.019E-02	1.042E-01	1.720E-02	0.857
	276.40			4.425E-01	4.052E-01	6.772E-01	1.001E-01	0.653
	302.84			-8.634E-02	1.594E-01	2.252E-01	3.074E-02	-0.383
	356.01	*		-1.819E-02	4.998E-02	7.076E-02	9.454E-03	-0.257
	383.85			1.944E-02	3.237E-01	5.408E-01	6.783E-02	0.036
I-133	510.53	+		1.389E+00	3.237E-01	Half-Life	too short	
	529.87	*		-1.374E-03	3.237E-01	Half-Life	too short	
	706.58			-5.236E-02	3.237E-01	Half-Life	too short	
	856.28			1.577E-01	3.237E-01	Half-Life	too short	
	875.33			-2.218E-02	3.237E-01	Half-Life	too short	
	1236.41			6.123E-02	3.237E-01	Half-Life	too short	
	1298.22			-9.453E-02	3.237E-01	Half-Life	too short	
CS-134	475.35			2.543E-01	2.005E+00	3.325E+00	2.946E-01	0.076
	563.23			3.472E-01	4.134E-01	7.195E-01	6.465E-02	0.483
	569.32			1.059E-01	2.371E-01	3.988E-01	3.592E-02	0.266
	604.70			6.394E-03	4.048E-02	5.824E-02	5.122E-03	0.110
	795.84	*		7.776E-02	5.947E-02	1.096E-01	9.688E-03	0.709
	801.93			-2.423E-01	4.547E-01	7.284E-01	6.430E-02	-0.333
	1038.57			4.396E+00	4.300E+00	7.899E+00	6.820E-01	0.557
	1167.94			-2.436E-01	3.068E+00	4.919E+00	4.030E-01	-0.050
	1365.15			-6.447E-01	1.563E+00	2.456E+00	2.200E-01	-0.262
CS-135	268.24	*		7.241E-02	2.008E-01	2.903E-01	3.029E-02	0.249

----- 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			1.678E+10	2.008E-01	Half-Life	too short	
	417.63			9.861E+08	2.008E-01	Half-Life	too short	
	546.56			3.510E+09	2.008E-01	Half-Life	too short	
	836.80			1.117E+10	2.008E-01	Half-Life	too short	
	1038.76			1.996E+10	2.008E-01	Half-Life	too short	
	1124.00			2.184E+10	2.008E-01	Half-Life	too short	
	1131.51			-7.196E+08	2.008E-01	Half-Life	too short	
	1260.41	*		3.229E+09	2.008E-01	Half-Life	too short	
	1457.56			6.346E+11	2.008E-01	Half-Life	too short	
	1678.03			-1.792E+09	2.008E-01	Half-Life	too short	
	1706.46			-7.827E+09	2.008E-01	Half-Life	too short	
	1791.20			-5.511E+09	2.008E-01	Half-Life	too short	
CS-136	66.91			-1.293E-04	4.400E-01	6.702E-01	1.083E-01	0.000
	86.29	+		5.263E+00	1.278E+00	1.614E+00	2.200E-01	3.262
	153.22			-6.669E-03	6.586E-01	1.076E+00	1.116E-01	-0.006
	163.89			-6.435E-01	1.071E+00	1.664E+00	1.591E-01	-0.387
	176.55			-8.045E-02	3.888E-01	6.239E-01	5.594E-02	-0.129
	273.65			-1.197E-01	5.468E-01	7.514E-01	7.294E-02	-0.159
	340.57			8.916E-02	1.478E-01	2.292E-01	2.117E-02	0.389
	818.51			-3.013E-02	8.963E-02	1.439E-01	1.266E-02	-0.209
	1048.07	*		-3.133E-02	1.295E-01	2.051E-01	1.842E-02	-0.153
	1235.34			4.832E-01	7.192E-01	1.237E+00	1.440E-01	0.391
BA-137M	661.65	*		-2.087E-02	4.626E-02	7.039E-02	5.930E-03	-0.297
CS-137	661.65	*		-2.206E-02	4.890E-02	7.441E-02	6.281E-03	-0.297
CE-139	165.85	*		-1.285E-02	2.903E-02	4.609E-02	3.843E-03	-0.279
BA-140	162.64			3.939E-01	7.387E-01	1.220E+00	1.114E-01	0.323
	304.84			-5.928E-01	1.403E+00	2.113E+00	5.960E-01	-0.281
	423.70			-1.081E-01	1.933E+00	3.180E+00	1.031E+00	-0.034
	537.32	*		4.813E-03	2.858E-01	4.653E-01	1.546E-01	0.010
LA-140	328.77			3.025E-01	3.090E-01	5.470E-01	5.214E-02	0.553
	432.53			1.610E+00	2.153E+00	3.763E+00	3.423E-01	0.428
	487.03			-1.631E-02	1.543E-01	2.503E-01	2.354E-02	-0.065
	751.79			1.207E+00	2.165E+00	3.801E+00	3.657E-01	0.318
	815.85			1.455E-01	3.707E-01	6.428E-01	6.277E-02	0.226
	867.82			7.590E-01	1.668E+00	2.588E+00	2.388E-01	0.293
	919.63			-3.212E-01	3.498E+00	5.716E+00	6.147E-01	-0.056
	925.24			4.543E-01	1.443E+00	2.402E+00	2.231E-01	0.189
	1596.49	*		-1.131E-01	1.051E-01	1.357E-01	1.171E-02	-0.833
	145.44	*		-8.365E-03	6.320E-02	1.029E-01	1.050E-02	-0.081
CE-141	57.37			-9.793E-05	6.320E-02	Half-Life	too short	
CE-143	231.56			-4.781E-04	6.320E-02	Half-Life	too short	
	293.26	*		6.479E-04	6.320E-02	Half-Life	too short	
	350.59	+		3.276E-02	6.320E-02	Half-Life	too short	
	490.36			-2.365E-04	6.320E-02	Half-Life	too short	
	664.57			7.792E-05	6.320E-02	Half-Life	too short	
	721.93			7.528E-04	6.320E-02	Half-Life	too short	
CE-144	80.11			2.132E+00	1.751E+00	2.308E+00	2.248E-01	0.924
	133.54	*		-7.681E-02	2.062E-01	3.163E-01	5.366E-02	-0.243
PM-144	476.78			4.763E-02	7.225E-02	1.250E-01	1.206E-02	0.381

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		1.783E-02	3.640E-02	6.143E-02	5.495E-03	0.290
		696.49	*	4.822E-02	4.420E-02	8.040E-02	6.883E-03	0.600
		778.57		-2.283E+00	2.750E+00	4.198E+00	3.677E-01	-0.544
PR-144		696.49	*	3.268E+00	2.995E+00	5.448E+00	4.662E-01	0.600
		1489.15		-1.516E+01	1.329E+01	1.655E+01	1.431E+00	-0.916
PM-146		453.90	*	1.436E-02	5.196E-02	8.723E-02	9.468E-03	0.165
		633.02		8.387E-01	1.687E+00	2.798E+00	1.046E+00	0.300
		735.90		3.152E-02	1.801E-01	3.069E-01	8.784E-02	0.103
		747.13		-1.046E-01	1.028E-01	1.517E-01	2.137E-02	-0.690
ND-147	+	91.11		1.001E+00	2.839E-01	4.237E-01	4.462E-02	2.361
		319.41		-2.037E-01	3.461E+00	5.803E+00	5.292E-01	-0.035
		439.89		3.113E+00	6.236E+00	1.069E+01	9.320E-01	0.291
		531.02	*	-2.706E-01	6.467E-01	1.009E+00	1.527E-01	-0.268
PM-149		285.90	*	-2.433E+01	8.356E+01	1.387E+02	2.201E+01	-0.175
EU-152		121.78		-1.862E-02	6.745E-02	1.100E-01	1.395E-02	-0.169
		244.69		1.943E-01	3.330E-01	4.969E-01	4.504E-02	0.391
		344.27	*	-5.362E-02	1.022E-01	1.649E-01	1.559E-02	-0.325
		443.98		-8.109E-01	1.009E+00	1.540E+00	1.345E-01	-0.527
		778.89		-1.281E-01	3.092E-01	4.949E-01	4.332E-02	-0.259
		867.32		1.233E-03	1.025E+00	1.475E+00	1.295E-01	0.001
	+	964.01		7.084E-01	5.168E-01	7.163E-01	6.260E-02	0.989
		1085.78		-3.036E-01	4.642E-01	6.886E-01	5.860E-02	-0.441
		1112.02		1.991E-02	4.146E-01	6.595E-01	5.555E-02	0.030
		1407.95		1.133E-01	2.078E-01	3.749E-01	3.225E-02	0.302
GD-153		69.67		-2.180E-01	1.026E+00	1.548E+00	1.520E-01	-0.141
	+	83.37		2.559E+01	1.328E+01	1.820E+01	1.773E+00	1.406
		97.43	*	1.453E-02	7.292E-02	1.105E-01	1.130E-02	0.132
		103.18		2.025E-02	8.736E-02	1.471E-01	1.549E-02	0.138
EU-154		123.07		1.785E-02	4.932E-02	7.923E-02	1.094E-02	0.225
		247.94		-2.359E-01	3.506E-01	5.275E-01	6.239E-02	-0.447
		591.81		3.259E-02	7.155E-01	1.160E+00	1.371E-01	0.028
		723.30		2.291E-02	2.256E-01	3.348E-01	3.196E-02	0.068
		756.87		-5.873E-01	9.294E-01	1.457E+00	1.755E-01	-0.403
		873.19		-1.660E-01	3.413E-01	5.319E-01	6.570E-02	-0.312
		996.32		-5.922E-01	4.844E-01	6.603E-01	1.176E-01	-0.897
		1004.76		2.346E-02	2.582E-01	4.277E-01	5.001E-02	0.055
		1274.45	*	-7.797E-02	1.502E-01	2.232E-01	2.490E-02	-0.349
EU-155		48.70		3.543E-01	4.665E-01	6.957E-01	6.989E-02	0.509
		60.01		-4.960E-01	2.168E+00	3.291E+00	3.310E-01	-0.151
	+	86.54		4.874E-01	1.090E-01	1.570E-01	1.543E-02	3.105
		105.31	*	-9.850E-04	9.249E-02	1.539E-01	1.654E-02	-0.006
TB-160	+	86.79		1.301E+00	2.906E-01	4.206E-01	4.102E-02	3.094
		197.04		-4.816E-01	5.946E-01	8.974E-01	7.793E-02	-0.537
		215.65		-4.804E-01	7.595E-01	1.169E+00	1.036E-01	-0.411
	+	298.57		2.310E-01	1.413E-01	2.106E-01	1.933E-02	1.097
		879.36	*	3.624E-02	1.624E-01	2.758E-01	2.418E-02	0.131
	+	962.29		1.307E+00	9.535E-01	1.330E+00	1.163E-01	0.983
		966.15		1.158E+00	3.462E-01	6.707E-01	5.861E-02	1.727
		1177.93		-1.113E-02	4.127E-01	6.653E-01	5.443E-02	-0.017

## ---- 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			-4.744E-01	8.409E-01	1.237E+00	1.040E-01	-0.383
	80.57			3.091E-01	2.206E-01	2.946E-01	2.869E-02	1.049
	184.41		+	1.633E-01	6.237E-02	6.764E-02	5.783E-03	2.413
	280.46			-5.554E-02	8.277E-02	1.344E-01	1.234E-02	-0.413
	410.95			1.834E-01	3.098E-01	4.766E-01	4.075E-02	0.385
	711.68		*	5.637E-02	6.770E-02	1.224E-01	1.053E-02	0.461
TM-171	752.31			2.292E-01	3.338E-01	5.932E-01	5.166E-02	0.386
	810.29			-1.932E-02	6.662E-02	1.075E-01	9.441E-03	-0.180
	51.35			1.090E+00	8.285E+00	1.037E+01	1.038E+00	0.105
	52.39		+	5.062E+00	5.921E+00	6.555E+00	6.559E-01	0.772
	59.40			-1.457E+00	1.112E+01	1.696E+01	1.709E+00	-0.086
	66.72		*	-1.491E+00	1.582E+01	2.399E+01	2.368E+00	-0.062
LU-176	88.36		+	9.599E-01	2.144E-01	3.091E-01	3.022E-02	3.106
	201.83			-1.526E-02	2.926E-02	4.565E-02	3.986E-03	-0.334
	306.84		*	2.677E-02	2.561E-02	4.570E-02	4.187E-03	0.586
	401.10			2.138E+00	7.882E+00	1.331E+01	1.129E+00	0.161
	112.95			6.854E-01	1.470E+00	2.486E+00	2.764E-01	0.276
	208.36		*	2.011E+00	1.600E+00	1.972E+00	1.734E-01	1.020
LU-177M	52.97		+	5.428E-01	6.350E-01	7.357E-01	7.360E-02	0.738
	54.07		+	3.076E-01	3.598E-01	4.244E-01	4.247E-02	0.725
	61.30			5.655E-01	6.745E-01	1.070E+00	1.071E-01	0.529
	121.62			-1.038E-01	3.452E-01	5.620E-01	6.564E-02	-0.185
	147.16			-2.484E-01	6.586E-01	1.059E+00	1.051E-01	-0.235
	171.86			-3.839E-01	4.938E-01	7.669E-01	6.445E-02	-0.501
HF-181	218.09			3.045E-02	8.402E-01	1.349E+00	1.198E-01	0.023
	268.79			1.170E+00	1.026E+00	1.565E+00	1.434E-01	0.748
	319.02			6.399E-02	2.730E-01	4.661E-01	4.251E-02	0.137
	367.43			9.727E-01	9.697E-01	1.723E+00	1.506E-01	0.564
	413.65		*	3.024E-02	2.223E-01	3.278E-01	2.809E-02	0.092
	56.28			-2.345E-01	3.319E-01	4.911E-01	4.923E-02	-0.478
W-181	57.53			-4.193E-02	1.968E-01	2.993E-01	3.006E-02	-0.140
	65.20			-1.087E-01	5.090E-01	7.686E-01	7.612E-02	-0.141
	133.02			-9.617E-03	7.046E-02	1.029E-01	1.129E-02	-0.093
	136.25			1.536E-01	4.358E-01	7.284E-01	7.829E-02	0.211
	345.85			-1.613E-01	2.196E-01	3.196E-01	2.861E-02	-0.505
	482.03		*	-8.089E-03	4.484E-02	7.223E-02	6.412E-03	-0.112
TA-182	56.28			-9.138E-02	1.300E-01	1.925E-01	1.930E-02	-0.475
	57.53			-1.647E-02	7.713E-02	1.173E-01	1.178E-02	-0.140
	65.20		*	-4.228E-02	1.980E-01	2.989E-01	2.961E-02	-0.141
	67.75			3.500E-03	6.495E-02	9.935E-02	9.786E-03	0.035
	100.10			-5.935E-02	1.495E-01	2.449E-01	2.538E-02	-0.242
	152.43			1.201E-02	3.345E-01	5.479E-01	5.208E-02	0.022
RE-183	222.10			-3.097E-01	3.729E-01	5.657E-01	5.042E-02	-0.548
	1001.68			1.639E+00	2.507E+00	4.395E+00	3.823E-01	0.373
	1121.28			6.295E-01	2.486E-01	4.424E-01	3.711E-02	1.423
	1189.05			1.572E-03	3.451E-01	5.581E-01	4.583E-02	0.003
	1221.42		*	-7.788E-02	2.408E-01	3.735E-01	3.098E-02	-0.209
	1230.97			-2.757E-01	5.849E-01	8.904E-01	7.407E-02	-0.310

## ---- 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		-5.565E-03	4.555E-02	6.951E-02	7.003E-03	-0.080
		67.20		-1.109E-02	1.163E-01	1.763E-01	1.739E-02	-0.063
		162.32	*	2.228E-02	1.107E-01	1.799E-01	1.558E-02	0.124
	+	208.81		1.820E+00	1.448E+00	1.775E+00	1.562E-01	1.025
		291.72		-2.762E-01	9.640E-01	1.402E+00	1.288E-01	-0.197
		57.98		1.089E-01	2.862E-01	4.474E-01	4.496E-02	0.243
		59.32		-2.050E-02	1.678E-01	2.560E-01	2.580E-02	-0.080
		67.20		-4.088E-02	4.285E-01	6.498E-01	6.407E-02	-0.063
		161.27		-8.485E-02	3.454E-01	5.556E-01	4.862E-02	-0.153
		216.55		-5.627E-02	2.669E-01	4.222E-01	3.744E-02	-0.133
		252.85	*	5.954E-03	2.275E-01	3.620E-01	3.296E-02	0.016
		318.01		2.886E-01	4.804E-01	8.369E-01	7.636E-02	0.345
		792.07		-4.561E-02	1.272E+00	2.117E+00	1.857E-01	-0.022
		903.28		-6.715E-01	1.279E+00	1.853E+00	1.621E-01	-0.362
OS-185		920.93		-4.116E-01	5.994E-01	9.146E-01	8.004E-02	-0.450
		59.72		-1.382E-02	1.243E-01	1.897E-01	1.911E-02	-0.073
		61.14		4.672E-02	7.381E-02	1.162E-01	1.164E-02	0.402
		69.30		6.018E-02	1.703E-01	2.794E-01	2.745E-02	0.215
		592.07		-3.997E-01	3.010E+00	4.795E+00	4.231E-01	-0.083
		646.12	*	-8.850E-04	5.248E-02	8.398E-02	7.171E-03	-0.011
		717.42		-2.961E-01	9.880E-01	1.612E+00	1.390E-01	-0.184
		874.81		-3.368E-01	6.685E-01	1.040E+00	9.124E-02	-0.324
		880.27		5.727E-01	8.664E-01	1.542E+00	1.351E-01	0.371
		155.03	*	-9.064E-04	1.676E-01	2.738E-01	2.543E-02	-0.003
RE-188		477.96		2.111E+00	3.244E+00	5.617E+00	4.981E-01	0.376
		633.10		1.719E+00	3.355E+00	5.660E+00	4.881E-01	0.304
	+	63.58		8.725E+01	4.512E+01	4.874E+01	4.847E+00	1.790
W-188		227.08		-1.900E+01	1.359E+01	1.964E+01	1.758E+00	-0.968
		290.67	*	-1.190E+00	7.648E+00	1.127E+01	1.035E+00	-0.106
IR-192	+	295.96		1.128E+00	1.954E-01	3.241E-01	2.995E-02	3.480
		308.46		-1.863E-02	1.006E-01	1.678E-01	1.543E-02	-0.111
		316.51	*	2.272E-02	3.616E-02	6.314E-02	5.777E-03	0.360
		468.07		-1.899E-02	7.724E-02	1.076E-01	1.016E-02	-0.177
AU-195		604.41		8.567E-02	5.470E-01	7.868E-01	1.032E-01	0.109
		612.46		2.167E-02	9.266E-01	1.306E+00	1.306E-01	0.017
		65.12		-9.701E-03	9.180E-02	1.393E-01	1.380E-02	-0.070
		66.83		-3.616E-03	5.280E-02	8.017E-02	7.911E-03	-0.045
	+	75.70		1.248E+00	2.031E-01	3.408E-01	3.325E-02	3.661
		98.88	*	1.913E-01	1.886E-01	3.266E-01	3.364E-02	0.586
	+	129.76		5.997E+00	4.719E+00	5.097E+00	5.710E-01	1.176
		367.94	*	2.905E-04	4.719E+00	Half-Life	too short	
TL-200		579.30		-1.350E-03	4.719E+00	Half-Life	too short	
		828.27		-7.789E-04	4.719E+00	Half-Life	too short	
		1205.75		8.515E-04	4.719E+00	Half-Life	too short	
TL-201		68.90		1.338E+00	2.551E+00	4.391E+00	4.317E-01	0.305
		70.82		3.260E-02	1.673E+00	2.551E+00	2.500E-01	0.013
		80.30		4.938E+00	4.092E+00	5.389E+00	5.249E-01	0.916
		135.34		1.220E+01	2.378E+01	4.003E+01	4.329E+00	0.305
		167.43	*	3.473E+00	6.642E+00	1.110E+01	9.268E-01	0.313

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		1.217E-01	2.321E-01	3.996E-01	3.928E-02	0.305
		70.82		2.958E-03	1.518E-01	2.314E-01	2.268E-02	0.013
		80.30		4.483E-01	3.715E-01	4.892E-01	4.765E-02	0.916
		439.56	*	5.126E-02	7.386E-02	1.284E-01	1.119E-02	0.399
HG-203		70.83		8.194E-03	6.599E-01	1.006E+00	1.446E-01	0.008
		72.87		5.751E-01	4.147E-01	6.556E-01	9.169E-02	0.877
		82.60		1.040E+00	9.609E-01	1.246E+00	1.803E-01	0.835
		279.20	*	-2.507E-02	4.011E-02	6.542E-02	6.156E-03	-0.383
BI-207		72.80		1.519E-01	1.197E-01	1.905E-01	1.863E-02	0.797
	+	74.97		6.922E-01	1.127E-01	1.666E-01	1.626E-02	4.155
	+	84.90		3.310E-01	1.718E-01	2.423E-01	2.362E-02	1.366
		569.67		3.232E-02	3.570E-02	6.236E-02	5.545E-03	0.518
		1063.62	*	2.317E-02	6.594E-02	1.119E-01	9.591E-03	0.207
		1770.23		-9.025E-01	6.550E-01	7.165E-01	6.052E-02	-1.260
TL-207		81.07		1.408E-01	1.785E-01	2.288E-01	2.228E-02	0.615
	+	83.78		2.183E-01	1.133E-01	1.588E-01	1.548E-02	1.374
		94.90		2.667E-01	2.014E-01	3.208E-01	3.237E-02	0.831
		122.32		-7.878E-01	1.645E+00	2.652E+00	3.227E-01	-0.297
		144.24		4.131E-01	6.927E-01	1.149E+00	1.268E-01	0.360
		154.21		9.699E-02	3.911E-01	6.468E-01	6.568E-02	0.150
	+	269.46		5.750E-01	3.316E-01	3.823E-01	3.568E-02	1.504
		323.87	*	-1.037E-01	7.138E-01	1.189E+00	2.134E-01	-0.087
	+	338.28		6.710E+00	2.086E+00	2.776E+00	3.494E-01	2.418
		445.03		-4.691E-01	2.419E+00	3.918E+00	4.770E-01	-0.120
PO-209		260.50		-1.129E+00	9.565E+00	1.502E+01	1.373E+00	-0.075
		262.80		-1.140E+01	2.777E+01	4.265E+01	3.900E+00	-0.267
		896.60	*	-4.091E+00	8.937E+00	1.400E+01	1.224E+00	-0.292
PB-211		404.84	*	-7.298E-01	1.356E+00	1.758E+00	1.101E+00	-0.415
		427.08		4.916E-01	2.178E+00	3.628E+00	2.255E+00	0.136
		831.96		-2.560E-01	1.511E+00	2.457E+00	1.540E+00	-0.104
BI-212	+	727.18	*	1.481E+00	6.964E-01	8.941E-01	8.972E-02	1.656
		785.46		-2.221E-01	2.196E+00	3.634E+00	3.185E-01	-0.061
		1620.62		9.713E-01	1.607E+00	2.919E+00	2.515E-01	0.333
PO-215		81.07		1.408E-01	1.785E-01	2.288E-01	2.228E-02	0.615
	+	83.78		2.183E-01	1.133E-01	1.588E-01	1.548E-02	1.374
		94.90		2.667E-01	2.014E-01	3.208E-01	3.237E-02	0.831
		122.32		-7.878E-01	1.645E+00	2.652E+00	3.227E-01	-0.297
		144.24		4.131E-01	6.927E-01	1.149E+00	1.268E-01	0.360
		154.21		9.699E-02	3.911E-01	6.468E-01	6.568E-02	0.150
	+	269.46		5.750E-01	3.316E-01	3.823E-01	3.568E-02	1.504
		323.87	*	-1.037E-01	7.138E-01	1.189E+00	2.134E-01	-0.087
	+	338.28		6.710E+00	2.086E+00	2.776E+00	3.494E-01	2.418
		445.03		-4.691E-01	2.419E+00	3.918E+00	4.770E-01	-0.120
RN-219	+	271.23		7.377E-01	4.274E-01	4.939E-01	5.322E-02	1.494
		401.81	*	7.714E-02	4.775E-01	8.006E-01	1.197E-01	0.096
RN-220		549.76	*	-1.888E+01	2.961E+01	4.491E+01	4.009E+00	-0.420
RA-223		81.07		1.408E-01	1.785E-01	2.288E-01	2.228E-02	0.615
	+	83.78		2.183E-01	1.133E-01	1.588E-01	1.548E-02	1.374
		94.90		2.667E-01	2.014E-01	3.208E-01	3.237E-02	0.831

---- 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		-7.878E-01	1.645E+00	2.652E+00	3.227E-01	-0.297
		144.24		4.131E-01	6.927E-01	1.149E+00	1.268E-01	0.360
		154.21		9.699E-02	3.911E-01	6.468E-01	6.568E-02	0.150
	+	269.46		5.750E-01	3.316E-01	3.823E-01	3.568E-02	1.504
		323.87	*	-1.037E-01	7.138E-01	1.189E+00	2.134E-01	-0.087
	+	338.28		6.710E+00	2.086E+00	2.776E+00	3.494E-01	2.418
		445.03		-4.691E-01	2.419E+00	3.918E+00	4.770E-01	-0.120
		79.80		1.014E+00	1.218E+00	1.749E+00	3.843E-01	0.580
		236.00		2.253E-01	2.651E-01	3.982E-01	4.987E-02	0.566
		256.20	*	-9.497E-02	3.889E-01	6.058E-01	9.471E-02	-0.157
		286.10		-4.571E-01	1.434E+00	2.377E+00	3.227E-01	-0.192
	+	299.80		2.944E+00	1.855E+00	2.571E+00	4.569E-01	1.145
TH-227		304.40		-1.966E+00	2.244E+00	3.042E+00	5.688E-01	-0.646
		334.20		5.344E-01	2.577E+00	3.882E+00	7.608E-01	0.138
		79.80		1.014E+00	1.218E+00	1.749E+00	3.890E-01	0.580
	+	94.00		8.500E+00	2.949E+00	3.287E+00	7.356E-01	2.586
		236.00		2.253E-01	2.649E-01	3.982E-01	4.534E-02	0.566
		256.20	*	-9.497E-02	3.890E-01	6.058E-01	1.109E-01	-0.157
		286.10		-4.571E-01	1.504E+00	2.377E+00	2.387E+00	-0.192
	+	299.80		2.944E+00	1.855E+00	2.571E+00	4.569E-01	1.145
		304.40		-1.966E+00	2.244E+00	3.042E+00	5.688E-01	-0.646
		334.20		5.344E-01	2.577E+00	3.882E+00	7.608E-01	0.138
	+	85.43		3.268E-01	1.695E-01	2.410E-01	2.350E-02	1.356
	+	88.47		5.526E-01	1.234E-01	1.763E-01	1.725E-02	3.134
TH-229		100.00		-6.450E-02	1.559E-01	2.552E-01	2.644E-02	-0.253
		193.63	*	-3.454E-01	5.195E-01	8.054E-01	6.965E-02	-0.429
		210.97		5.807E-02	8.519E-01	1.224E+00	1.080E-01	0.047
	PA-231	283.67	*	-2.230E-01	1.419E+00	2.379E+00	3.691E-01	-0.094
		301.29		6.282E-01	6.335E-01	1.014E+00	1.281E-01	0.620
	TH-231	81.07		1.408E-01	1.785E-01	2.288E-01	2.228E-02	0.615
	+	83.78		2.183E-01	1.133E-01	1.588E-01	1.548E-02	1.374
		94.90		2.667E-01	2.014E-01	3.208E-01	3.237E-02	0.831
		122.32		-7.878E-01	1.645E+00	2.652E+00	3.227E-01	-0.297
		144.24		4.131E-01	6.927E-01	1.149E+00	1.268E-01	0.360
		154.21		9.699E-02	3.911E-01	6.468E-01	6.568E-02	0.150
	+	269.46		5.750E-01	3.316E-01	3.823E-01	3.568E-02	1.504
U-231		323.87	*	-1.037E-01	7.138E-01	1.189E+00	2.134E-01	-0.087
	+	338.28		6.710E+00	2.086E+00	2.776E+00	3.494E-01	2.418
		445.03		-4.691E-01	2.419E+00	3.918E+00	4.770E-01	-0.120
	+	84.21		9.294E+00	4.822E+00	6.847E+00	6.672E-01	1.357
	+	92.29		8.300E+00	2.354E+00	3.496E+00	3.483E-01	2.374
		95.87	*	-1.736E-01	9.342E-01	1.387E+00	1.406E-01	-0.125
		108.00		6.622E-01	1.778E+00	3.004E+00	3.249E-01	0.220
	PA-233	75.28		2.020E+01	4.170E+00	5.088E+00	8.148E-01	3.970
	+	86.59		7.923E+00	2.680E+00	2.556E+00	6.954E-01	3.100
	+	300.12		8.208E-01	5.117E-01	7.199E-01	1.094E-01	1.140
		311.98	*	2.701E-02	6.640E-02	1.146E-01	1.075E-02	0.236
		340.50		5.681E-01	7.389E-01	1.143E+00	2.740E-01	0.497
		398.62		-1.312E+00	2.407E+00	3.796E+00	1.009E+00	-0.346



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		1.747E-01	1.859E+00	3.097E+00	6.671E-01	0.056
		63.00		2.532E+00	1.349E+00	1.400E+00	2.279E-01	1.809
		94.67		2.986E-01	1.519E-01	2.425E-01	3.264E-02	1.231
		98.44		1.075E-01	9.930E-02	1.340E-01	7.516E-02	0.802
		99.86		-1.555E-01	3.946E-01	6.465E-01	6.693E-02	-0.241
		111.00		-9.737E-02	1.666E-01	2.684E-01	3.727E-02	-0.363
		131.20		7.127E-02	1.121E-01	1.715E-01	1.904E-02	0.416
		152.70		-1.646E-02	3.234E-01	5.273E-01	9.227E-02	-0.031
		186.00		5.877E+00	2.855E+00	2.883E+00	8.995E-01	2.038
		226.40		-1.906E-02	4.128E-01	6.582E-01	8.831E-02	-0.029
		227.20		-4.849E-01	4.490E-01	6.652E-01	5.955E-02	-0.729
		248.90		-1.368E-01	7.617E-01	1.193E+00	2.696E-01	-0.115
		293.70		7.105E+00	1.627E+00	1.855E+00	3.263E-01	3.830
		369.80		-4.495E-01	9.133E-01	1.460E+00	3.184E-01	-0.308
		568.70		4.134E-01	1.170E+00	1.955E+00	1.739E-01	0.211
		569.50		2.218E-01	3.215E-01	5.520E-01	4.908E-02	0.402
		574.00		3.038E-01	1.776E+00	2.918E+00	2.591E-01	0.104
		699.00		-2.083E-01	9.009E-01	1.488E+00	2.836E-01	-0.140
		706.10		-4.171E-01	1.304E+00	2.114E+00	9.426E-01	-0.197
		733.00		-3.755E-01	5.263E-01	6.836E-01	1.519E-01	-0.549
		742.81		8.647E-01	1.685E+00	2.791E+00	1.876E+00	0.310
		796.30		8.512E-01	1.185E+00	2.062E+00	5.588E-01	0.413
		805.60		2.527E-01	1.135E+00	1.932E+00	5.931E-01	0.131
		819.60		-2.053E-01	1.431E+00	2.343E+00	8.918E-01	-0.088
		826.30		-2.314E-01	9.677E-01	1.560E+00	6.984E-01	-0.148
		831.60		-3.193E-01	7.717E-01	1.220E+00	3.648E-01	-0.262
		876.40		4.840E-01	1.075E+00	1.670E+00	1.717E+00	0.290
		880.51		1.538E-01	3.201E-01	5.587E-01	4.897E-02	0.275
		883.24		-2.303E-01	3.770E-01	5.252E-01	3.531E-01	-0.438
		899.00		2.909E-01	9.952E-01	1.686E+00	7.374E-01	0.173
		925.00		4.245E-01	1.466E+00	2.494E+00	2.183E-01	0.170
		926.50		-2.984E-02	2.437E-01	3.586E-01	9.081E-02	-0.083
		946.00	*	8.844E-02	3.695E-01	6.241E-01	1.175E-01	0.142
		949.00		2.520E-01	5.451E-01	9.425E-01	8.245E-02	0.267
		980.50		-8.679E-01	8.084E-01	1.122E+00	9.787E-02	-0.774
		1394.10		-2.553E-01	1.420E+00	2.288E+00	1.489E+00	-0.112
PA-234M		766.42		7.391E+00	1.414E+01	2.388E+01	1.212E+01	0.309
		1001.03	*	1.830E+00	6.016E+00	1.012E+01	1.015E+00	0.181
U-235	+	89.95		4.002E+00	1.636E+00	1.615E+00	5.043E-01	2.478
		93.35		2.644E+00	1.029E+00	1.141E+00	3.249E-01	2.318
		105.00		9.645E-02	9.108E-01	1.523E+00	4.643E-01	0.063
		143.76	*	7.057E-02	2.143E-01	3.512E-01	6.439E-02	0.201
		163.35		1.665E-01	4.614E-01	7.542E-01	1.437E-01	0.221
NP-236	+	185.71		2.177E-01	8.316E-02	1.062E-01	9.094E-03	2.050
		205.31		2.061E-02	5.766E-01	8.280E-01	1.585E-01	0.025
		94.67		2.286E-01	1.135E-01	1.842E-01	1.857E-02	1.241
		98.44		8.126E-02	6.023E-02	1.013E-01	1.041E-02	0.802
		111.00		-7.365E-02	1.259E-01	2.030E-01	2.233E-02	-0.363
		160.31	*	-1.269E-02	7.761E-02	1.255E-01	1.108E-02	-0.101

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.536E-02	1.308E-01	2.194E-01	2.267E-02	0.070
		117.00	*	-3.353E-02	1.777E-01	2.917E-01	3.318E-02	-0.115
	+	209.75		1.437E+00	1.143E+00	1.424E+00	1.254E-01	1.009
		228.18		-1.054E-01	2.315E-01	3.590E-01	3.216E-02	-0.294
		277.60		1.170E-01	1.813E-01	3.179E-01	2.918E-02	0.368
		334.30		2.936E-01	1.459E+00	2.198E+00	1.986E-01	0.134
AM-241		59.54	*	-9.515E-03	6.495E-02	9.899E-02	1.051E-02	-0.096
CM-243		99.55		1.581E-02	1.346E-01	2.257E-01	2.333E-02	0.070
		103.76	*	3.692E-02	8.127E-02	1.380E-01	1.459E-02	0.268
		117.00		-3.450E-02	1.828E-01	3.001E-01	3.414E-02	-0.115
	+	209.75		1.416E+00	1.127E+00	1.403E+00	1.236E-01	1.009
		228.18		-1.065E-01	2.339E-01	3.627E-01	3.250E-02	-0.294
		277.60		1.180E-01	1.828E-01	3.205E-01	2.942E-02	0.368
AM-246		798.80		-2.380E-01	1.762E-01	2.523E-01	2.214E-02	-0.943
		1036.00		-2.495E-01	3.641E-01	5.426E-01	4.687E-02	-0.460
		1062.04		-4.555E-02	2.869E-01	4.592E-01	3.939E-02	-0.099
		1078.86	*	3.804E-02	1.673E-01	2.802E-01	2.391E-02	0.136
CM-247		278.00		3.039E-01	7.556E-01	1.309E+00	1.202E-01	0.232
		287.40		2.931E-01	1.149E+00	1.977E+00	1.816E-01	0.148
		402.60	*	1.692E-02	4.232E-02	7.208E-02	6.123E-03	0.235
CF-249		252.85		2.235E-02	8.540E-01	1.359E+00	1.237E-01	0.016
		333.44		1.425E-01	1.834E-01	2.905E-01	2.627E-02	0.491
		387.95	*	-1.552E-02	4.491E-02	7.281E-02	6.169E-03	-0.213
CF-251		176.60	*	-3.013E-02	1.345E-01	2.156E-01	1.824E-02	-0.140
		227.00		-3.780E-01	3.956E-01	5.916E-01	5.295E-02	-0.639
		285.00		-9.865E-01	1.642E+00	2.670E+00	2.452E-01	-0.370

# 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]G244852003
* Acquisition date   : 26-JAN-2010 13:10:09 Detector SN#      :
* Detector ID        : GAM17 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:09.46 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244852003 Analyst initials: MXR1
* Batch Number       : 942718 Sample Quantity : 1.3076E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	2.014E+01	2.554E+00	6.515E-01	0.000E+00
AS-73	2.868E-01	3.288E-01	3.615E-01	0.000E+00
CD-109	4.117E+00	9.012E-01	9.794E-01	0.000E+00
SN-126	4.047E-01	8.859E-02	9.614E-02	0.000E+00
TL-208	5.177E-01	1.122E-01	6.243E-02	0.000E+00
BI-210	9.714E-01	9.259E-01	8.431E-01	0.000E+00
PB-210	9.714E-01	9.259E-01	8.431E-01	0.000E+00
PO-210	9.714E-01	9.251E-01	8.431E-01	0.000E+00
BI-211	4.277E+00	6.437E-01	3.519E-01	0.000E+00
PB-212	1.553E+00	1.912E-01	9.189E-02	0.000E+00
PO-212	1.553E+00	1.912E-01	9.189E-02	0.000E+00
BI-214	1.319E+00	2.184E-01	1.349E-01	0.000E+00
PB-214	1.488E+00	2.365E-01	1.227E-01	0.000E+00
PO-214	1.488E+00	2.365E-01	1.227E-01	0.000E+00
PO-216	1.553E+00	1.912E-01	9.189E-02	0.000E+00
PO-218	1.488E+00	2.365E-01	1.227E-01	0.000E+00
RA-224	4.725E+00	1.324E+00	1.046E+00	0.000E+00
RA-226	1.319E+00	2.184E-01	1.349E-01	0.000E+00
AC-228	1.758E+00	3.898E-01	2.734E-01	0.000E+00
RA-228	1.758E+00	3.898E-01	2.734E-01	0.000E+00
TH-228	1.577E+00	1.941E-01	9.328E-02	0.000E+00
TH-230	1.319E+00	2.184E-01	1.349E-01	0.000E+00
TH-232	1.758E+00	3.898E-01	2.734E-01	0.000E+00
TH-234	2.172E+00	1.151E+00	1.009E+00	0.000E+00
U-234	1.319E+00	2.184E-01	1.349E-01	0.000E+00
NP-237	1.188E+00	3.542E-01	2.815E-01	0.000E+00
U-238	2.172E+00	1.151E+00	1.009E+00	0.000E+00
AM-243	3.856E-01	6.152E-02	5.712E-02	0.000E+00
ANH-511	1.441E-01	9.106E-02	5.201E-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	3.029E-02	3.417E-01	5.873E-01	0.000E+00	NOT IDENT.
NA-22	-2.298E-02	5.231E-02	8.076E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	9.178E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-8.474E-03	3.724E-02	5.848E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.293E-02	6.256E-02	0.000E+00	FAIL ABUN
SC-46	1.206E-02	4.528E-02	7.942E-02	0.000E+00	FAIL ABUN
V-48	4.625E-02	7.611E-02	1.379E-01	0.000E+00	NOT IDENT.
CR-51	-3.052E-01	3.948E-01	6.611E-01	0.000E+00	NOT IDENT.
MN-52	1.841E-01	2.205E-01	4.312E-01	0.000E+00	FAIL ABUN
MN-54	5.515E-02	4.483E-02	8.497E-02	0.000E+00	NOT IDENT.
CO-56	1.059E-02	4.830E-02	8.448E-02	0.000E+00	NOT IDENT.
CO-57	-1.198E-02	2.326E-02	3.984E-02	0.000E+00	NOT IDENT.
CO-58	-2.474E-02	4.465E-02	7.216E-02	0.000E+00	NOT IDENT.
FE-59	-6.137E-02	1.103E-01	1.715E-01	0.000E+00	NOT IDENT.
CO-60	-5.452E-02	4.791E-02	6.873E-02	0.000E+00	NOT IDENT.
ZN-65	1.657E-02	1.113E-01	1.645E-01	0.000E+00	NOT IDENT.
GE-68	2.142E-01	1.464E+00	2.493E+00	0.000E+00	NOT IDENT.
AS-74	-3.301E-02	1.154E-01	1.795E-01	0.000E+00	NOT IDENT.
SE-75	7.223E-03	4.825E-02	7.716E-02	0.000E+00	NOT IDENT.
BR-77	3.613E+00	1.154E+01	2.007E+01	0.000E+00	FAIL ABUN
SR-82	-4.992E-01	4.741E-01	7.341E-01	0.000E+00	NOT IDENT.
RB-83	1.766E-02	7.717E-02	1.333E-01	0.000E+00	NOT IDENT.
RB-84	-2.984E-02	8.072E-02	1.319E-01	0.000E+00	NOT IDENT.
KR-85	5.033E+00	7.573E+00	1.352E+01	0.000E+00	NOT IDENT.
SR-85	2.578E-02	3.880E-02	6.928E-02	0.000E+00	NOT IDENT.
RB-86	-1.809E-01	9.448E-01	1.544E+00	0.000E+00	NOT IDENT.
Y-88	-1.987E-02	3.426E-02	4.647E-02	0.000E+00	NOT IDENT.
ZR-88	-1.186E-02	3.294E-02	5.562E-02	0.000E+00	NOT IDENT.
Y-91	1.195E+01	2.351E+01	4.097E+01	0.000E+00	NOT IDENT.
NB-94	-4.533E-04	4.022E-02	6.999E-02	0.000E+00	NOT IDENT.
NB-95	2.101E-02	4.640E-02	8.347E-02	0.000E+00	NOT IDENT.
NB-95M	4.742E-02	1.364E-01	2.090E-01	0.000E+00	NOT IDENT.
ZR-95	-6.266E-05	8.257E-02	1.429E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.065E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.223E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-7.650E-01	1.364E+01	2.353E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.111E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.444E-02	3.405E-02	5.560E-02	0.000E+00	NOT IDENT.
RH-102	-1.200E-03	3.034E-02	5.161E-02	0.000E+00	NOT IDENT.
RU-103	-6.860E-03	4.747E-02	7.972E-02	0.000E+00	FAIL ABUN
RH-106	-2.317E-01	3.872E-01	6.048E-01	0.000E+00	FAIL ABUN
RU-106	-2.317E-01	3.865E-01	6.048E-01	0.000E+00	FAIL ABUN
AG-108M	-2.800E-02	3.450E-02	5.517E-02	0.000E+00	NOT IDENT.
AG-110M	-2.276E-02	4.005E-02	6.222E-02	0.000E+00	NOT IDENT.
IN-111	8.284E-01	1.036E+00	1.655E+00	0.000E+00	NOT IDENT.
IN-113M	2.014E-02	4.649E-02	8.309E-02	0.000E+00	NOT IDENT.
SN-113	2.014E-02	4.649E-02	8.309E-02	0.000E+00	NOT IDENT.
IN-114M	1.086E-01	2.069E-01	3.258E-01	0.000E+00	NOT IDENT.
CD-115	1.544E+01	1.160E+01	2.180E+01	0.000E+00	NOT IDENT.
SN-117M	1.605E-03	5.181E-02	8.969E-02	0.000E+00	NOT IDENT.
SB-122	9.995E-01	2.297E+00	4.012E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.080E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.749E-02	2.735E-02	4.562E-02	0.000E+00	NOT IDENT.
I-124	-1.041E-01	8.452E-01	1.213E+00	0.000E+00	FAIL ABUN
SB-124	6.570E-03	8.544E-02	1.454E-01	0.000E+00	FAIL ABUN
SB-125	-4.073E-03	9.528E-02	1.635E-01	0.000E+00	FAIL ABUN
TE-125M	5.111E+00	8.012E+00	1.454E+01	0.000E+00	NOT IDENT.
I-126	1.427E-01	2.144E-01	3.774E-01	0.000E+00	NOT IDENT.
SB-126	1.021E-01	1.742E-01	2.843E-01	0.000E+00	FAIL ABUN
SB-127	-1.448E+00	1.757E+00	2.647E+00	0.000E+00	NOT IDENT.
XE-127	-7.136E-03	4.536E-02	7.632E-02	0.000E+00	NOT IDENT.
I-131	-8.559E-02	1.222E-01	2.022E-01	0.000E+00	NOT IDENT.
TE-132	-3.107E-01	6.851E-01	1.118E+00	0.000E+00	NOT IDENT.
BA-133	-1.819E-02	4.898E-02	7.251E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.617E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.776E-02	5.828E-02	1.109E-01	0.000E+00	NOT IDENT.
CS-135	7.241E-02	1.968E-01	2.988E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.054E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.133E-02	1.269E-01	2.065E-01	0.000E+00	FAIL ABUN
BA-137M	-2.087E-02	4.533E-02	7.140E-02	0.000E+00	NOT IDENT.
CS-137	-2.206E-02	4.792E-02	7.548E-02	0.000E+00	NOT IDENT.
CE-139	-1.285E-02	2.845E-02	4.782E-02	0.000E+00	NOT IDENT.
BA-140	4.813E-03	2.801E-01	4.737E-01	0.000E+00	NOT IDENT.
LA-140	-1.131E-01	1.030E-01	1.356E-01	0.000E+00	NOT IDENT.
CE-141	-8.365E-03	6.194E-02	1.070E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.150E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-7.681E-02	2.021E-01	3.293E-01	0.000E+00	NOT IDENT.
PM-144	4.822E-02	4.331E-02	8.149E-02	0.000E+00	NOT IDENT.
PR-144	3.268E+00	2.935E+00	5.522E+00	0.000E+00	NOT IDENT.
PM-146	1.436E-02	5.092E-02	8.904E-02	0.000E+00	NOT IDENT.
ND-147	-2.706E-01	6.338E-01	1.027E+00	0.000E+00	FAIL ABUN
PM-149	-2.433E+01	8.189E+01	1.427E+02	0.000E+00	NOT IDENT.
EU-152	-5.362E-02	1.001E-01	1.690E-01	0.000E+00	FAIL ABUN
GD-153	1.453E-02	7.146E-02	1.156E-01	0.000E+00	FAIL ABUN
EU-154	-7.797E-02	1.472E-01	2.240E-01	0.000E+00	NOT IDENT.
EU-155	-9.850E-04	9.064E-02	1.608E-01	0.000E+00	FAIL ABUN
TB-160	3.624E-02	1.592E-01	2.784E-01	0.000E+00	FAIL ABUN
HO-166M	5.637E-02	6.635E-02	1.240E-01	0.000E+00	FAIL ABUN
TM-171	-1.491E+00	1.550E+01	2.525E+01	0.000E+00	FAIL ABUN
LU-176	2.677E-02	2.509E-02	4.695E-02	0.000E+00	FAIL ABUN
LU-177	2.011E+00	1.568E+00	2.038E+00	0.000E+00	FAIL ABUN
LU-177M	3.024E-02	2.178E-01	3.351E-01	0.000E+00	FAIL ABUN
HF-181	-8.089E-03	4.395E-02	7.365E-02	0.000E+00	NOT IDENT.
W-181	-4.228E-02	1.940E-01	3.147E-01	0.000E+00	NOT IDENT.
TA-182	-7.788E-02	2.360E-01	3.750E-01	0.000E+00	NOT IDENT.
RE-183	2.228E-02	1.084E-01	1.867E-01	0.000E+00	FAIL ABUN
RE-184	5.954E-03	2.230E-01	3.730E-01	0.000E+00	NOT IDENT.
OS-185	-8.850E-04	5.143E-02	8.522E-02	0.000E+00	NOT IDENT.
RE-188	-9.064E-04	1.643E-01	2.843E-01	0.000E+00	NOT IDENT.
W-188	-1.190E+00	7.495E+00	1.158E+01	0.000E+00	FAIL ABUN
IR-192	2.272E-02	3.544E-02	6.483E-02	0.000E+00	FAIL ABUN
AU-195	1.913E-01	1.848E-01	3.416E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.509E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.473E+00	6.509E+00	1.151E+01	0.000E+00	NOT IDENT.
TL-202	5.126E-02	7.238E-02	1.311E-01	0.000E+00	NOT IDENT.
HG-203	-2.507E-02	3.930E-02	6.730E-02	0.000E+00	NOT IDENT.
BI-207	2.317E-02	6.462E-02	1.126E-01	0.000E+00	FAIL ABUN
TL-207	-1.037E-01	6.995E-01	1.220E+00	0.000E+00	FAIL ABUN
PO-209	-4.091E+00	8.758E+00	1.413E+01	0.000E+00	NOT IDENT.
PB-211	-7.298E-01	1.329E+00	1.798E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.825E-01	9.055E-01	0.000E+00	FAIL ABUN
PO-215	-1.037E-01	6.995E-01	1.220E+00	0.000E+00	FAIL ABUN
RN-219	7.714E-02	4.680E-01	8.188E-01	0.000E+00	FAIL ABUN
RN-220	-1.888E+01	2.902E+01	4.569E+01	0.000E+00	NOT IDENT.
RA-223	-1.037E-01	6.995E-01	1.220E+00	0.000E+00	FAIL ABUN
AC-227	-9.497E-02	3.811E-01	6.241E-01	0.000E+00	FAIL ABUN
TH-227	-9.497E-02	3.812E-01	6.241E-01	0.000E+00	FAIL ABUN
TH-229	-3.454E-01	5.091E-01	8.335E-01	0.000E+00	FAIL ABUN
PA-231	-2.230E-01	1.390E+00	2.447E+00	0.000E+00	NOT IDENT.
TH-231	-1.037E-01	6.995E-01	1.220E+00	0.000E+00	FAIL ABUN
U-231	-1.736E-01	9.155E-01	1.451E+00	0.000E+00	FAIL ABUN
PA-233	2.701E-02	6.507E-02	1.177E-01	0.000E+00	FAIL ABUN
PA-234	8.844E-02	3.621E-01	6.293E-01	0.000E+00	FAIL ABUN
PA-234M	1.830E+00	5.895E+00	1.019E+01	0.000E+00	NOT IDENT.
U-235	7.057E-02	2.100E-01	3.652E-01	0.000E+00	FAIL ABUN
NP-236	-1.269E-02	7.606E-02	1.302E-01	0.000E+00	NOT IDENT.
NP-239	-3.353E-02	1.741E-01	3.043E-01	0.000E+00	FAIL ABUN
AM-241	-9.515E-03	6.365E-02	1.044E-01	0.000E+00	NOT IDENT.
CM-243	3.692E-02	7.965E-02	1.442E-01	0.000E+00	FAIL ABUN
AM-246	3.804E-02	1.639E-01	2.819E-01	0.000E+00	NOT IDENT.
CM-247	1.692E-02	4.147E-02	7.372E-02	0.000E+00	NOT IDENT.
CF-249	-1.552E-02	4.401E-02	7.451E-02	0.000E+00	NOT IDENT.
CF-251	-3.013E-02	1.318E-01	2.234E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244852003.CNF;1
Sample date     : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:10:09
Sample ID       : G244852003           Sample quantity  : 1.30760E+02 GRAM
Detector name   : GAM17                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00       Elapsed real time: 0 02:00:09.46 0.1%
Energy tolerance: 1.50000 keV          Analyst Initials : MXR1
Abundance limit : 75.00000             Sensitivity     : 5.00000
Batch ID        : 942718               Detector SN#     :
Matrix Spike ID :                      LCS ID          : 1032-A
*****

```

## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	583	10.67*	7.783E-01	2.014E+01	2.014E+01	12.94
AS-73	53.44	59	10.30*	6.587E+00	2.518E-01	2.868E-01	116.98
CD-109	88.03	348	3.72*	6.674E+00	4.026E+00	4.117E+00	22.34
SN-126	64.28	195	9.60	6.777E+00	8.599E-01	8.599E-01	53.20
	86.94	348	8.90	6.674E+00	1.683E+00	1.683E+00	46.21
	87.57	348	37.00*	6.674E+00	4.047E-01	4.047E-01	22.34
TL-208	277.35	-----	6.80	3.568E+00	-----	Line Not Found	-----
	510.84	103	21.60	2.058E+00	6.673E-01	6.673E-01	65.00
	583.14	275	84.20*	1.812E+00	5.177E-01	5.177E-01	22.12
	860.37	53	12.46	1.247E+00	9.817E-01	9.817E-01	60.33
BI-210	46.50	87	4.05*	6.330E+00	9.702E-01	9.714E-01	97.26
PB-210	46.50	87	4.05*	6.330E+00	9.702E-01	9.714E-01	97.26
PO-210	46.50	87	4.05*	6.330E+00	9.702E-01	9.714E-01	97.18
BI-211	72.87	-----	1.27	6.803E+00	-----	Line Not Found	-----
	351.07	561	12.94*	2.908E+00	4.277E+00	4.277E+00	15.36
PB-212	74.81	602	10.70	6.795E+00	2.378E+00	2.378E+00	18.77
	77.11	928	18.00	6.782E+00	2.182E+00	2.182E+00	13.41
	87.30	348	8.00	6.674E+00	1.872E+00	1.872E+00	24.47
	238.63	971	44.60*	4.023E+00	1.553E+00	1.553E+00	12.56
	300.09	63	3.41	3.344E+00	1.589E+00	1.589E+00	61.43
PO-212	74.81	602	10.70	6.795E+00	2.378E+00	2.378E+00	18.77
	77.11	928	18.00	6.782E+00	2.182E+00	2.182E+00	13.41
	87.30	348	8.00	6.674E+00	1.872E+00	1.872E+00	24.47
	115.19	-----	0.60	6.177E+00	-----	Line Not Found	-----
	238.63	971	44.60*	4.023E+00	1.553E+00	1.553E+00	12.56
	300.09	63	3.41	3.344E+00	1.589E+00	1.589E+00	61.43
BI-214	609.31	370	46.30*	1.737E+00	1.319E+00	1.319E+00	16.90
	1120.29	90	15.10	9.775E-01	1.757E+00	1.757E+00	34.54
	1764.49	62	15.80	6.717E-01	1.680E+00	1.680E+00	36.56
PB-214	74.81	602	6.21	6.795E+00	4.098E+00	4.098E+00	17.89
	77.11	928	10.50	6.782E+00	3.741E+00	3.741E+00	15.42
	87.30	348	4.67	6.674E+00	3.207E+00	3.207E+00	23.63

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	259	7.49	3.983E+00	2.492E+00	2.492E+00	29.14
	295.21	335	19.20	3.389E+00	1.480E+00	1.480E+00	18.39
	351.92	561	37.20*	2.908E+00	1.488E+00	1.488E+00	16.22
	74.81	602	6.21	6.795E+00	4.098E+00	4.098E+00	17.89
	77.11	928	10.50	6.782E+00	3.741E+00	3.741E+00	15.42
	87.30	348	4.67	6.674E+00	3.207E+00	3.207E+00	23.63
PO-216	241.98	259	7.49	3.983E+00	2.492E+00	2.492E+00	29.14
	295.21	335	19.20	3.389E+00	1.480E+00	1.480E+00	18.39
	351.92	561	37.20*	2.908E+00	1.488E+00	1.488E+00	16.22
	74.81	602	10.70	6.795E+00	2.378E+00	2.378E+00	18.77
	77.11	928	18.00	6.782E+00	2.182E+00	2.182E+00	13.41
	87.30	348	8.00	6.674E+00	1.872E+00	1.872E+00	24.47
PO-218	238.63	971	44.60*	4.023E+00	1.553E+00	1.553E+00	12.56
	300.09	63	3.41	3.344E+00	1.589E+00	1.589E+00	61.43
	74.81	602	6.21	6.795E+00	4.098E+00	4.098E+00	17.89
	77.11	928	10.50	6.782E+00	3.741E+00	3.741E+00	15.42
	87.30	348	4.67	6.674E+00	3.207E+00	3.207E+00	23.63
	241.98	259	7.49	3.983E+00	2.492E+00	2.492E+00	29.14
RA-224	295.21	335	19.20	3.389E+00	1.480E+00	1.480E+00	18.39
	351.92	561	37.20*	2.908E+00	1.488E+00	1.488E+00	16.22
	240.98	259	3.95*	3.983E+00	4.725E+00	4.725E+00	28.60
	609.31	370	46.30*	1.737E+00	1.319E+00	1.319E+00	16.90
	1120.29	90	15.10	9.775E-01	1.757E+00	1.757E+00	34.54
	1764.49	62	15.80	6.717E-01	1.680E+00	1.680E+00	36.56
AC-228	338.32	192	11.40	3.013E+00	1.607E+00	1.607E+00	50.18
	911.07	200	27.70*	1.182E+00	1.758E+00	1.758E+00	22.63
	969.11	113	16.60	1.116E+00	1.746E+00	1.746E+00	36.57
	338.32	192	11.40	3.013E+00	1.607E+00	1.607E+00	50.18
	911.07	200	27.70*	1.182E+00	1.758E+00	1.758E+00	22.63
	969.11	113	16.60	1.116E+00	1.746E+00	1.746E+00	36.57
TH-228	74.81	602	10.70	6.795E+00	2.378E+00	2.414E+00	16.32
	77.11	928	18.00	6.782E+00	2.182E+00	2.215E+00	13.41
	87.30	348	8.00	6.674E+00	1.872E+00	1.900E+00	22.34
	238.63	971	44.60*	4.023E+00	1.553E+00	1.577E+00	12.56
	300.09	63	3.41	3.344E+00	1.589E+00	1.613E+00	84.73
	609.31	370	46.30*	1.737E+00	1.319E+00	1.319E+00	16.90
TH-230	1120.29	90	15.10	9.775E-01	1.757E+00	1.757E+00	34.54
	1764.49	62	15.80	6.717E-01	1.680E+00	1.680E+00	36.56
	338.32	192	11.40	3.013E+00	1.607E+00	1.607E+00	29.82
	911.07	200	27.70*	1.182E+00	1.758E+00	1.758E+00	22.63
	969.11	113	16.60	1.116E+00	1.746E+00	1.746E+00	36.57
	63.29	195	3.80*	6.777E+00	2.172E+00	2.172E+00	54.07
TH-234	92.38	273	5.41	6.595E+00	2.200E+00	2.200E+00	32.51
	609.31	370	46.30*	1.737E+00	1.319E+00	1.319E+00	16.90
	1120.29	90	15.10	9.775E-01	1.757E+00	1.757E+00	34.54
	1764.49	62	15.80	6.717E-01	1.680E+00	1.680E+00	36.56
	86.50	348	12.60*	6.674E+00	1.188E+00	1.188E+00	30.41
	95.87	-----	2.60	6.543E+00	-----	Line Not Found	-----
U-238	63.29	195	3.80*	6.777E+00	2.172E+00	2.172E+00	54.07

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	92.38	273	5.41	6.595E+00	2.200E+00	2.200E+00	28.36
	74.67	602	66.00*	6.795E+00	3.856E-01	3.856E-01	16.28
	86.72	348	0.34	6.674E+00	4.457E+01	4.457E+01	22.34
	117.66	-----	0.55	6.127E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.624E+00	-----	Line Not Found	-----
ANH-511	511.00	103	100.00*	2.058E+00	1.441E-01	1.441E-01	64.47

Flag: "\*" = Keyline



Total number of lines in spectrum 34  
Number of unidentified lines 1  
Number of lines tentatively identified by NID 33 97.06%

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	2.014E+01	2.014E+01	0.261E+01	12.94	
AS-73	80.30D	1.14	2.518E-01	2.868E-01	3.355E-01	116.98	
CD-109	464.00D	1.02	4.026E+00	4.117E+00	0.920E+00	22.34	
SN-126	1.00E+05Y	1.00	4.047E-01	4.047E-01	0.904E-01	22.34	
TL-208	1.41E+10Y	1.00	5.177E-01	5.177E-01	1.145E-01	22.12	
BI-210	22.26Y	1.00	9.702E-01	9.714E-01	9.448E-01	97.26	
PB-210	22.26Y	1.00	9.702E-01	9.714E-01	9.448E-01	97.26	
PO-210	22.26Y	1.00	9.702E-01	9.714E-01	9.440E-01	97.18	
BI-211	7.04E+08Y	1.00	4.277E+00	4.277E+00	0.657E+00	15.36	
PB-212	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.195E+00	12.56	
PO-212	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.195E+00	12.56	
BI-214	1600.00Y	1.00	1.319E+00	1.319E+00	0.223E+00	16.90	
PB-214	1600.00Y	1.00	1.488E+00	1.488E+00	0.241E+00	16.22	
PO-214	1600.00Y	1.00	1.488E+00	1.488E+00	0.241E+00	16.22	
PO-216	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.195E+00	12.56	
PO-218	1600.00Y	1.00	1.488E+00	1.488E+00	0.241E+00	16.22	
RA-224	1.41E+10Y	1.00	4.725E+00	4.725E+00	1.351E+00	28.60	
RA-226	1600.00Y	1.00	1.319E+00	1.319E+00	0.223E+00	16.90	
AC-228	1.41E+10Y	1.00	1.758E+00	1.758E+00	0.398E+00	22.63	
RA-228	1.41E+10Y	1.00	1.758E+00	1.758E+00	0.398E+00	22.63	
TH-228	1.91Y	1.02	1.553E+00	1.577E+00	0.198E+00	12.56	
TH-230	4.47E+09Y	1.00	1.319E+00	1.319E+00	0.223E+00	16.90	
TH-232	1.41E+10Y	1.00	1.758E+00	1.758E+00	0.398E+00	22.63	
TH-234	4.47E+09Y	1.00	2.172E+00	2.172E+00	1.175E+00	54.07	
U-234	4.47E+09Y	1.00	1.319E+00	1.319E+00	0.223E+00	16.90	
NP-237	2.14E+06Y	1.00	1.188E+00	1.188E+00	0.361E+00	30.41	
U-238	4.47E+09Y	1.00	2.172E+00	2.172E+00	1.175E+00	54.07	
AM-243	7380.00Y	1.00	3.856E-01	3.856E-01	0.628E-01	16.28	
ANH-511	1.00E+09Y	1.00	1.441E-01	1.441E-01	0.929E-01	64.47	

Total Activity : 6.454E+01 6.469E+01

Grand Total Activity : 6.454E+01 6.469E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	84.29	126	318	1.21	168.22	165	27	1.75E-02	51.0	6.71E+00	T
3	89.93	250	303	1.20	179.51	165	27	3.47E-02	26.4	6.64E+00	T
0	128.81	94	359	0.91	257.31	252	10	1.31E-02	77.9	5.90E+00	T
0	185.68	197	289	1.14	371.09	367	11	2.74E-02	37.2	4.81E+00	T
0	209.41	72	223	0.93	418.58	414	9	9.98E-03	79.1	4.43E+00	T
0	270.67	99	183	1.81	541.13	536	11	1.38E-02	56.9	3.64E+00	T
0	409.39	35	79	1.24	818.70	814	8	4.85E-03	94.7	2.53E+00	
0	462.07	93	82	1.18	924.11	918	13	1.29E-02	45.0	2.26E+00	T
0	726.94	89	73	1.23	1454.15	1447	14	1.24E-02	45.9	1.46E+00	T
0	934.21	27	46	1.58	1868.95	1861	15	3.77E-03	****	1.15E+00	T
3	963.66	40	30	2.21	1927.89	1919	24	5.52E-03	72.4	1.12E+00	T
0	1376.18	32	10	0.78	2753.58	2745	14	4.44E-03	55.5	8.17E-01	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244852003.CNF;1
* Acquisition date   : 26-JAN-2010 13:10:09   Detector SN#      :
* Detector ID        : GAM17                   Sensitivity        : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:09.46          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G244852003             Analyst initials: MXR1
* Batch Number       : 942718                 Sample Quantity : 1.30760E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                   LCS Isotope       :
*****

```

## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.014E+01	2.606E+00	6.509E-01	5.779E-02	30.945
AS-73	2.868E-01	3.355E-01	3.423E-01	3.425E-02	0.838
CD-109	4.117E+00	9.196E-01	9.347E-01	9.124E-02	4.405
SN-126	4.047E-01	9.040E-02	9.175E-02	8.953E-03	4.411
TL-208	5.177E-01	1.145E-01	6.142E-02	5.810E-03	8.428
BI-210	9.714E-01	9.448E-01	7.967E-01	8.643E-02	1.219
PB-210	9.714E-01	9.448E-01	7.967E-01	8.643E-02	1.219
PO-210	9.714E-01	9.440E-01	7.967E-01	8.049E-02	1.219
BI-211	4.277E+00	6.568E-01	3.434E-01	3.204E-02	12.456
PB-212	1.553E+00	1.951E-01	8.910E-02	8.982E-03	17.434
PO-212	1.553E+00	1.951E-01	8.910E-02	8.982E-03	17.434
BI-214	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
PB-214	1.488E+00	2.413E-01	1.197E-01	1.279E-02	12.425
PO-214	1.488E+00	2.413E-01	1.197E-01	1.279E-02	12.425
PO-216	1.553E+00	1.951E-01	8.910E-02	8.982E-03	17.434
PO-218	1.488E+00	2.413E-01	1.197E-01	1.279E-02	12.425
RA-224	4.725E+00	1.351E+00	1.015E+00	9.177E-02	4.656
RA-226	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.758E+00	3.978E-01	2.710E-01	3.074E-02	6.485
RA-228	1.758E+00	3.978E-01	2.710E-01	3.074E-02	6.485
TH-228	1.577E+00	1.980E-01	9.044E-02	9.118E-03	17.434
TH-230	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
TH-232	1.758E+00	3.978E-01	2.710E-01	3.074E-02	6.485
TH-234	2.172E+00	1.175E+00	9.580E-01	1.788E-01	2.268
U-234	1.319E+00	2.229E-01	1.328E-01	1.351E-02	9.928
NP-237	1.188E+00	3.614E-01	2.685E-01	6.129E-02	4.426
U-238	2.172E+00	1.175E+00	9.580E-01	1.788E-01	2.268
AM-243	3.856E-01	6.277E-02	5.437E-02	5.308E-03	7.092
ANH-511	1.441E-01	9.292E-02	5.106E-02	4.560E-03	2.823

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.029E-02		3.486E-01	5.759E-01	5.480E-02	0.053
NA-22	-2.298E-02		5.338E-02	8.050E-02	6.782E-03	-0.285
NA-24	1.394E-01		4.682E-01	Half-Life too short		
AL-26	-8.474E-03		3.800E-02	5.864E-02	4.915E-03	-0.145
TI-44	4.027E-01	+	5.401E-02	5.960E-02	5.807E-03	6.757
SC-46	1.206E-02		4.620E-02	7.868E-02	6.888E-03	0.153
V-48	4.625E-02		7.766E-02	1.369E-01	1.194E-02	0.338
CR-51	-3.052E-01		4.029E-01	6.440E-01	6.150E-02	-0.474
MN-52	1.841E-01		2.250E-01	4.307E-01	3.713E-02	0.427
MN-54	5.515E-02		4.574E-02	8.409E-02	7.394E-03	0.656
CO-56	1.059E-02		4.929E-02	8.363E-02	7.352E-03	0.127
CO-57	-1.198E-02		2.373E-02	3.821E-02	4.477E-03	-0.313
CO-58	-2.474E-02		4.556E-02	7.138E-02	6.286E-03	-0.347
FE-59	-6.137E-02		1.125E-01	1.705E-01	1.565E-02	-0.360
CO-60	-5.452E-02		4.889E-02	6.856E-02	5.843E-03	-0.795
ZN-65	1.657E-02		1.136E-01	1.636E-01	1.378E-02	0.101
GE-68	2.142E-01		1.494E+00	2.478E+00	2.115E-01	0.086
AS-74	-3.301E-02		1.178E-01	1.767E-01	1.556E-02	-0.187
SE-75	7.223E-03		4.924E-02	7.494E-02	6.885E-03	0.096
BR-77	3.613E+00		1.177E+01	1.971E+01	1.761E+00	0.183
SR-82	-4.992E-01		4.837E-01	7.256E-01	6.350E-02	-0.688
RB-83	1.766E-02		7.874E-02	1.309E-01	1.170E-02	0.135
RB-84	-2.984E-02		8.237E-02	1.307E-01	1.145E-02	-0.228
KR-85	5.033E+00		7.728E+00	1.327E+01	1.186E+00	0.379
SR-85	2.578E-02		3.959E-02	6.801E-02	6.076E-03	0.379
RB-86	-1.809E-01		9.641E-01	1.535E+00	1.310E-01	-0.118
Y-88	-1.987E-02		3.496E-02	4.662E-02	3.887E-03	-0.426
ZR-88	-1.186E-02		3.362E-02	5.437E-02	4.581E-03	-0.218
Y-91	1.195E+01		2.399E+01	4.079E+01	3.367E+00	0.293
NB-94	-4.533E-04		4.104E-02	6.907E-02	5.925E-03	-0.007
NB-95	2.101E-02		4.735E-02	8.249E-02	7.205E-03	0.255
NB-95M	4.742E-02		1.392E-01	2.026E-01	2.069E-02	0.234

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	-6.266E-05		8.425E-02	1.412E-01	1.353E-02	0.000
NB-97	-7.437E-02		5.432E-02	Half-Life too short		
ZR-97	3.529E+00		1.134E+00	Half-Life too short		
MO-99	-7.650E-01		1.392E+01	2.324E+01	3.537E+00	-0.033
TC-99M	-7.889E+09		1.587E+10	Half-Life too short		
RH-101	-1.444E-02		3.474E-02	5.374E-02	4.673E-03	-0.269
RH-102	-1.200E-03		3.096E-02	5.060E-02	4.482E-03	-0.024
RU-103	-6.860E-03		4.844E-02	7.822E-02	1.122E-02	-0.088
RH-106	-2.317E-01		3.951E-01	5.957E-01	7.983E-02	-0.389
RU-106	-2.317E-01		3.944E-01	5.957E-01	5.175E-02	-0.389
AG-108M	-2.800E-02		3.521E-02	5.401E-02	4.875E-03	-0.518
AG-110M	-2.276E-02		4.087E-02	6.133E-02	5.345E-03	-0.371
IN-111	8.284E-01		1.057E+00	1.605E+00	1.456E-01	0.516
IN-113M	2.014E-02		4.744E-02	8.121E-02	7.056E-03	0.248
SN-113	2.014E-02		4.744E-02	8.121E-02	7.056E-03	0.248
IN-114M	1.086E-01		2.111E-01	3.147E-01	2.710E-02	0.345
CD-115	1.544E+01		1.184E+01	2.141E+01	1.914E+00	0.721
SN-117M	1.605E-03		5.287E-02	8.640E-02	7.766E-03	0.019
SB-122	9.995E-01		2.344E+00	3.945E+00	3.513E-01	0.253
I-123	-3.248E+00		2.592E+00	Half-Life too short		
TE-123M	-1.749E-02		2.791E-02	4.395E-02	3.956E-03	-0.398
I-124	-1.041E-01		8.624E-01	1.194E+00	1.048E-01	-0.087
SB-124	6.570E-03		8.719E-02	1.456E-01	1.296E-02	0.045
SB-125	-4.073E-03		9.722E-02	1.600E-01	1.411E-02	-0.025
TE-125M	5.111E+00		8.176E+00	1.393E+01	1.711E+00	0.367
I-126	1.427E-01		2.188E-01	3.721E-01	3.142E-02	0.384
SB-126	1.021E-01		1.778E-01	2.807E-01	2.423E-02	0.364
SB-127	-1.448E+00		1.793E+00	2.611E+00	2.947E-01	-0.554
XE-127	-7.136E-03		4.628E-02	7.380E-02	6.452E-03	-0.097
I-131	-8.559E-02		1.246E-01	1.974E-01	1.823E-02	-0.434
TE-132	-3.107E-01		6.991E-01	1.083E+00	1.721E-01	-0.287
BA-133	-1.819E-02		4.998E-02	7.076E-02	9.454E-03	-0.257
I-133	-1.374E-03		3.376E-03	Half-Life too short		
CS-134	7.776E-02		5.947E-02	1.096E-01	9.688E-03	0.709
CS-135	7.241E-02		2.008E-01	2.903E-01	3.029E-02	0.249
I-135	3.229E+09		2.579E+09	Half-Life too short		
CS-136	-3.133E-02		1.295E-01	2.051E-01	1.842E-02	-0.153
BA-137M	-2.087E-02		4.626E-02	7.039E-02	5.930E-03	-0.297
CS-137	-2.206E-02		4.890E-02	7.441E-02	6.281E-03	-0.297
CE-139	-1.285E-02		2.903E-02	4.609E-02	3.843E-03	-0.279
BA-140	4.813E-03		2.858E-01	4.653E-01	1.546E-01	0.010
LA-140	-1.131E-01		1.051E-01	1.357E-01	1.171E-02	-0.833
CE-141	-8.365E-03		6.320E-02	1.029E-01	1.050E-02	-0.081
CE-143	6.479E-04		1.097E-04	Half-Life too short		
CE-144	-7.681E-02		2.062E-01	3.163E-01	5.366E-02	-0.243
PM-144	4.822E-02		4.420E-02	8.040E-02	6.883E-03	0.600
PR-144	3.268E+00		2.995E+00	5.448E+00	4.662E-01	0.600
PM-146	1.436E-02		5.196E-02	8.723E-02	9.468E-03	0.165

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-2.706E-01		6.467E-01	1.009E+00	1.527E-01	-0.268
PM-149	-2.433E+01		8.356E+01	1.387E+02	2.201E+01	-0.175
EU-152	-5.362E-02		1.022E-01	1.649E-01	1.559E-02	-0.325
GD-153	1.453E-02		7.292E-02	1.105E-01	1.130E-02	0.132
EU-154	-7.797E-02		1.502E-01	2.232E-01	2.490E-02	-0.349
EU-155	-9.850E-04		9.249E-02	1.539E-01	1.654E-02	-0.006
TB-160	3.624E-02		1.624E-01	2.758E-01	2.418E-02	0.131
HO-166M	5.637E-02		6.770E-02	1.224E-01	1.053E-02	0.461
TM-171	-1.491E+00		1.582E+01	2.399E+01	2.368E+00	-0.062
LU-176	2.677E-02		2.561E-02	4.570E-02	4.187E-03	0.586
LU-177	2.011E+00	+	1.600E+00	1.972E+00	1.734E-01	1.020
LU-177M	3.024E-02		2.223E-01	3.278E-01	2.809E-02	0.092
HF-181	-8.089E-03		4.484E-02	7.223E-02	6.412E-03	-0.112
W-181	-4.228E-02		1.980E-01	2.989E-01	2.961E-02	-0.141
TA-182	-7.788E-02		2.408E-01	3.735E-01	3.098E-02	-0.209
RE-183	2.228E-02		1.107E-01	1.799E-01	1.558E-02	0.124
RE-184	5.954E-03		2.275E-01	3.620E-01	3.296E-02	0.016
OS-185	-8.850E-04		5.248E-02	8.398E-02	7.171E-03	-0.011
RE-188	-9.064E-04		1.676E-01	2.738E-01	2.543E-02	-0.003
W-188	-1.190E+00		7.648E+00	1.127E+01	1.035E+00	-0.106
IR-192	2.272E-02		3.616E-02	6.314E-02	5.777E-03	0.360
AU-195	1.913E-01		1.886E-01	3.266E-01	3.364E-02	0.586
TL-200	2.905E-04		2.300E-04	Half-Life too short		
TL-201	3.473E+00		6.642E+00	1.110E+01	9.268E-01	0.313
TL-202	5.126E-02		7.386E-02	1.284E-01	1.119E-02	0.399
HG-203	-2.507E-02		4.011E-02	6.542E-02	6.156E-03	-0.383
BI-207	2.317E-02		6.594E-02	1.119E-01	9.591E-03	0.207
TL-207	-1.037E-01		7.138E-01	1.189E+00	2.134E-01	-0.087
PO-209	-4.091E+00		8.937E+00	1.400E+01	1.224E+00	-0.292
PB-211	-7.298E-01		1.356E+00	1.758E+00	1.101E+00	-0.415
BI-212	1.481E+00	+	6.964E-01	8.941E-01	8.972E-02	1.656
PO-215	-1.037E-01		7.138E-01	1.189E+00	2.134E-01	-0.087
RN-219	7.714E-02		4.775E-01	8.006E-01	1.197E-01	0.096
RN-220	-1.888E+01		2.961E+01	4.491E+01	4.009E+00	-0.420
RA-223	-1.037E-01		7.138E-01	1.189E+00	2.134E-01	-0.087
AC-227	-9.497E-02		3.889E-01	6.058E-01	9.471E-02	-0.157
TH-227	-9.497E-02		3.890E-01	6.058E-01	1.109E-01	-0.157
TH-229	-3.454E-01		5.195E-01	8.054E-01	6.965E-02	-0.429
PA-231	-2.230E-01		1.419E+00	2.379E+00	3.691E-01	-0.094
TH-231	-1.037E-01		7.138E-01	1.189E+00	2.134E-01	-0.087
U-231	-1.736E-01		9.342E-01	1.387E+00	1.406E-01	-0.125
PA-233	2.701E-02		6.640E-02	1.146E-01	1.075E-02	0.236
PA-234	8.844E-02		3.695E-01	6.241E-01	1.175E-01	0.142
PA-234M	1.830E+00		6.016E+00	1.012E+01	1.015E+00	0.181
U-235	7.057E-02		2.143E-01	3.512E-01	6.439E-02	0.201
NP-236	-1.269E-02		7.761E-02	1.255E-01	1.108E-02	-0.101
NP-239	-3.353E-02		1.777E-01	2.917E-01	3.318E-02	-0.115
AM-241	-9.515E-03		6.495E-02	9.899E-02	1.051E-02	-0.096

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.692E-02		8.127E-02	1.380E-01	1.459E-02	0.268
AM-246	3.804E-02		1.673E-01	2.802E-01	2.391E-02	0.136
CM-247	1.692E-02		4.232E-02	7.208E-02	6.123E-03	0.235
CF-249	-1.552E-02		4.491E-02	7.281E-02	6.169E-03	-0.213
CF-251	-3.013E-02		1.345E-01	2.156E-01	1.824E-02	-0.140

## 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]G244852003
* Acquisition date   : 26-JAN-2010 13:10:09 Detector SN#      :
* Detector ID        : GAM17 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:09.46 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244852003 Analyst initials: MXR1
* Batch Number       : 942718 Sample Quantity : 1.3076E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope      :
* LCS DPM             : 0.000 LCS Isotope      :
* LCSD DPM            : 0.000 LCSD Isotope     :
*****
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	2.014E+01	2.554E+00	3.259E-01	1.303E+00
AS-73	2.868E-01	3.288E-01	1.809E-01	1.677E-01
CD-109	4.117E+00	9.012E-01	4.900E-01	4.598E-01
SN-126	4.047E-01	8.859E-02	4.810E-02	4.520E-02
TL-208	5.177E-01	1.122E-01	3.124E-02	5.726E-02
BI-210	9.714E-01	9.259E-01	4.218E-01	4.724E-01
PB-210	9.714E-01	9.259E-01	4.218E-01	4.724E-01
PO-210	9.714E-01	9.251E-01	4.218E-01	4.720E-01
BI-211	4.277E+00	6.437E-01	1.761E-01	3.284E-01
PB-212	1.553E+00	1.912E-01	4.597E-02	9.754E-02
PO-212	1.553E+00	1.912E-01	4.597E-02	9.754E-02
BI-214	1.319E+00	2.184E-01	6.750E-02	1.114E-01
PB-214	1.488E+00	2.365E-01	6.140E-02	1.207E-01
PO-214	1.488E+00	2.365E-01	6.140E-02	1.207E-01
PO-216	1.553E+00	1.912E-01	4.597E-02	9.754E-02
PO-218	1.488E+00	2.365E-01	6.140E-02	1.207E-01
RA-224	4.725E+00	1.324E+00	5.236E-01	6.756E-01
RA-226	1.319E+00	2.184E-01	6.750E-02	1.114E-01
AC-228	1.758E+00	3.898E-01	1.368E-01	1.989E-01
RA-228	1.758E+00	3.898E-01	1.368E-01	1.989E-01
TH-228	1.577E+00	1.941E-01	4.667E-02	9.902E-02
TH-230	1.319E+00	2.184E-01	6.750E-02	1.114E-01
TH-232	1.758E+00	3.898E-01	1.368E-01	1.989E-01
TH-234	2.172E+00	1.151E+00	5.048E-01	5.873E-01
U-234	1.319E+00	2.184E-01	6.750E-02	1.114E-01
NP-237	1.188E+00	3.542E-01	1.408E-01	1.807E-01
U-238	2.172E+00	1.151E+00	5.048E-01	5.873E-01
AM-243	3.856E-01	6.152E-02	2.858E-02	3.139E-02
ANH-511	1.441E-01	9.106E-02	2.602E-02	4.646E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM )		(pCi/GRAM )		
BE-7	3.029E-02	3.417E-01	2.938E-01	1.743E-01	NOT IDENT.
NA-22	-2.298E-02	5.231E-02	4.040E-02	2.669E-02	NOT IDENT.
NA-24	1.394E+05	9.178E+05	0.000E+00	4.682E+05	SHORT HLIF
AL-26	-8.474E-03	3.724E-02	2.926E-02	1.900E-02	NOT IDENT.
TI-44	4.027E-01	5.293E-02	3.130E-02	2.701E-02	FAIL ABUN
SC-46	1.206E-02	4.528E-02	3.973E-02	2.310E-02	FAIL ABUN
V-48	4.625E-02	7.611E-02	6.900E-02	3.883E-02	NOT IDENT.
CR-51	-3.052E-01	3.948E-01	3.307E-01	2.014E-01	NOT IDENT.
MN-52	1.841E-01	2.205E-01	2.157E-01	1.125E-01	FAIL ABUN
MN-54	5.515E-02	4.483E-02	4.251E-02	2.287E-02	NOT IDENT.
CO-56	1.059E-02	4.830E-02	4.227E-02	2.465E-02	NOT IDENT.
CO-57	-1.198E-02	2.326E-02	1.993E-02	1.187E-02	NOT IDENT.
CO-58	-2.474E-02	4.465E-02	3.610E-02	2.278E-02	NOT IDENT.
FE-59	-6.137E-02	1.103E-01	8.579E-02	5.627E-02	NOT IDENT.
CO-60	-5.452E-02	7.191E-02	3.438E-02	2.444E-02	NOT IDENT.
ZN-65	1.657E-02	1.113E-01	8.231E-02	5.679E-02	NOT IDENT.
GE-68	2.142E-01	1.464E+00	1.247E+00	7.471E-01	NOT IDENT.
AS-74	-3.301E-02	1.154E-01	8.982E-02	5.888E-02	NOT IDENT.
SE-75	7.223E-03	4.825E-02	3.860E-02	2.462E-02	NOT IDENT.
BR-77	3.613E+00	1.154E+01	1.004E+01	5.887E+00	FAIL ABUN
SR-82	-4.992E-01	4.741E-01	3.673E-01	2.419E-01	NOT IDENT.
RB-83	1.766E-02	7.717E-02	6.669E-02	3.937E-02	NOT IDENT.
RB-84	-2.984E-02	8.072E-02	6.599E-02	4.119E-02	NOT IDENT.
KR-85	5.033E+00	7.573E+00	6.765E+00	3.864E+00	NOT IDENT.
SR-85	2.578E-02	3.880E-02	3.466E-02	1.980E-02	NOT IDENT.
RB-86	-1.809E-01	9.448E-01	7.726E-01	4.820E-01	NOT IDENT.
Y-88	-1.987E-02	3.426E-02	2.325E-02	1.748E-02	NOT IDENT.
ZR-88	-1.186E-02	3.294E-02	2.783E-02	1.681E-02	NOT IDENT.
Y-91	1.195E+01	2.351E+01	2.050E+01	1.199E+01	NOT IDENT.
NB-94	-4.533E-04	4.022E-02	3.502E-02	2.052E-02	NOT IDENT.
NB-95	2.101E-02	4.640E-02	4.176E-02	2.367E-02	NOT IDENT.
NB-95M	4.742E-02	1.364E-01	1.046E-01	6.959E-02	NOT IDENT.
ZR-95	-6.266E-05	8.257E-02	7.148E-02	4.213E-02	NOT IDENT.
NB-97	-7.437E+04	1.065E+05	0.000E+00	5.432E+04	SHORT HLIF
ZR-97	3.529E+06	2.223E+06	0.000E+00	1.134E+06	SHORT HLIF
MO-99	-7.650E-01	1.364E+01	1.177E+01	6.959E+00	NOT IDENT.
TC-99M	-7.889E+15	3.111E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.444E-02	3.405E-02	2.782E-02	1.737E-02	NOT IDENT.
RH-102	-1.200E-03	3.034E-02	2.582E-02	1.548E-02	NOT IDENT.
RU-103	-6.860E-03	4.747E-02	3.988E-02	2.422E-02	FAIL ABUN
RH-106	-2.317E-01	3.872E-01	3.026E-01	1.975E-01	FAIL ABUN
RU-106	-2.317E-01	3.865E-01	3.026E-01	1.972E-01	FAIL ABUN
AG-108M	-2.800E-02	3.450E-02	2.760E-02	1.760E-02	NOT IDENT.
AG-110M	-2.276E-02	4.005E-02	3.113E-02	2.043E-02	NOT IDENT.
IN-111	8.284E-01	1.036E+00	8.279E-01	5.286E-01	NOT IDENT.
IN-113M	2.014E-02	4.649E-02	4.157E-02	2.372E-02	NOT IDENT.
SN-113	2.014E-02	4.649E-02	4.157E-02	2.372E-02	NOT IDENT.
IN-114M	1.086E-01	2.069E-01	1.630E-01	1.056E-01	NOT IDENT.
CD-115	1.544E+01	1.160E+01	1.090E+01	5.918E+00	NOT IDENT.
SN-117M	1.605E-03	5.181E-02	4.487E-02	2.643E-02	NOT IDENT.
SB-122	9.995E-01	2.297E+00	2.007E+00	1.172E+00	NOT IDENT.
I-123	-3.248E+06	5.080E+06	0.000E+00	2.592E+06	SHORT HLIF
TE-123M	-1.749E-02	2.735E-02	2.283E-02	1.395E-02	NOT IDENT.
I-124	-1.041E-01	8.452E-01	6.067E-01	4.312E-01	FAIL ABUN
SB-124	6.570E-03	8.544E-02	7.274E-02	4.359E-02	FAIL ABUN
SB-125	-4.073E-03	9.528E-02	8.180E-02	4.861E-02	FAIL ABUN
TE-125M	5.111E+00	8.012E+00	7.276E+00	4.088E+00	NOT IDENT.
I-126	1.427E-01	2.144E-01	1.888E-01	1.094E-01	NOT IDENT.
SB-126	1.021E-01	1.742E-01	1.423E-01	8.888E-02	FAIL ABUN
SB-127	-1.448E+00	1.757E+00	1.324E+00	8.964E-01	NOT IDENT.
XE-127	-7.136E-03	4.536E-02	3.818E-02	2.314E-02	NOT IDENT.
I-131	-8.559E-02	1.222E-01	1.012E-01	6.232E-02	NOT IDENT.
TE-132	-3.107E-01	6.851E-01	5.593E-01	3.496E-01	NOT IDENT.
BA-133	-1.819E-02	4.898E-02	3.628E-02	2.499E-02	FAIL ABUN
I-133	-1.374E+03	6.617E+03	0.000E+00	3.376E+03	SHORT HLIF
CS-134	7.776E-02	5.828E-02	5.547E-02	2.974E-02	NOT IDENT.
CS-135	7.241E-02	1.968E-01	1.495E-01	1.004E-01	NOT IDENT.
I-135	3.229E+15	5.054E+15	0.000E+00	2.579E+15	SHORT HLIF
CS-136	-3.133E-02	1.269E-01	1.033E-01	6.474E-02	FAIL ABUN
BA-137M	-2.087E-02	4.533E-02	3.572E-02	2.313E-02	NOT IDENT.
CS-137	-2.206E-02	4.792E-02	3.776E-02	2.445E-02	NOT IDENT.
CE-139	-1.285E-02	2.845E-02	2.392E-02	1.452E-02	NOT IDENT.
BA-140	4.813E-03	2.801E-01	2.370E-01	1.429E-01	NOT IDENT.
LA-140	-1.131E-01	1.030E-01	6.786E-02	5.256E-02	NOT IDENT.
CE-141	-8.365E-03	6.194E-02	5.354E-02	3.160E-02	NOT IDENT.
CE-143	6.479E+02	2.150E+02	0.000E+00	1.097E+02	SHORT HLIF

CE-144	-7.681E-02	2.021E-01	1.647E-01	1.031E-01	NOT IDENT.
PM-144	4.822E-02	4.331E-02	4.077E-02	2.210E-02	NOT IDENT.
PR-144	3.268E+00	2.935E+00	2.762E+00	1.497E+00	NOT IDENT.
PM-146	1.436E-02	5.092E-02	4.454E-02	2.598E-02	NOT IDENT.
ND-147	-2.706E-01	6.338E-01	5.137E-01	3.234E-01	FAIL ABUN
PM-149	-2.433E+01	8.189E+01	7.138E+01	4.178E+01	NOT IDENT.
EU-152	-5.362E-02	1.001E-01	8.456E-02	5.108E-02	FAIL ABUN
GD-153	1.453E-02	7.146E-02	5.784E-02	3.646E-02	FAIL ABUN
EU-154	-7.797E-02	1.472E-01	1.120E-01	7.510E-02	NOT IDENT.
EU-155	-9.850E-04	9.064E-02	8.046E-02	4.625E-02	FAIL ABUN
TB-160	3.624E-02	1.592E-01	1.393E-01	8.122E-02	FAIL ABUN
HO-166M	5.637E-02	6.635E-02	6.203E-02	3.385E-02	FAIL ABUN
TM-171	-1.491E+00	1.550E+01	1.263E+01	7.910E+00	FAIL ABUN
LU-176	2.677E-02	2.509E-02	2.349E-02	1.280E-02	FAIL ABUN
LU-177	2.011E+00	1.568E+00	1.020E+00	8.000E-01	FAIL ABUN
LU-177M	3.024E-02	2.178E-01	1.677E-01	1.111E-01	FAIL ABUN
HF-181	-8.089E-03	4.395E-02	3.685E-02	2.242E-02	NOT IDENT.
W-181	-4.228E-02	1.940E-01	1.574E-01	9.899E-02	NOT IDENT.
TA-182	-7.788E-02	2.360E-01	1.876E-01	1.204E-01	NOT IDENT.
RE-183	2.228E-02	1.084E-01	9.341E-02	5.533E-02	FAIL ABUN
RE-184	5.954E-03	2.230E-01	1.866E-01	1.138E-01	NOT IDENT.
OS-185	-8.850E-04	5.143E-02	4.264E-02	2.624E-02	NOT IDENT.
RE-188	-9.064E-04	1.643E-01	1.422E-01	8.381E-02	NOT IDENT.
W-188	-1.190E+00	7.495E+00	5.795E+00	3.824E+00	FAIL ABUN
IR-192	2.272E-02	3.544E-02	3.243E-02	1.808E-02	FAIL ABUN
AU-195	1.913E-01	1.848E-01	1.709E-01	9.429E-02	FAIL ABUN
TL-200	2.905E+02	4.509E+02	0.000E+00	2.300E+02	SHORT HLIF
TL-201	3.473E+00	6.509E+00	5.760E+00	3.321E+00	NOT IDENT.
TL-202	5.126E-02	7.238E-02	6.561E-02	3.693E-02	NOT IDENT.
HG-203	-2.507E-02	3.930E-02	3.367E-02	2.005E-02	NOT IDENT.
BI-207	2.317E-02	6.462E-02	5.633E-02	3.297E-02	FAIL ABUN
TL-207	-1.037E-01	6.995E-01	6.106E-01	3.569E-01	FAIL ABUN
PO-209	-4.091E+00	8.758E+00	7.067E+00	4.469E+00	NOT IDENT.
PB-211	-7.298E-01	1.329E+00	8.994E-01	6.782E-01	NOT IDENT.
BI-212	1.481E+00	6.825E-01	4.530E-01	3.482E-01	FAIL ABUN
PO-215	-1.037E-01	6.995E-01	6.106E-01	3.569E-01	FAIL ABUN
RN-219	7.714E-02	4.680E-01	4.097E-01	2.388E-01	FAIL ABUN
RN-220	-1.888E+01	2.902E+01	2.286E+01	1.481E+01	NOT IDENT.
RA-223	-1.037E-01	6.995E-01	6.106E-01	3.569E-01	FAIL ABUN
AC-227	-9.497E-02	3.811E-01	3.122E-01	1.945E-01	FAIL ABUN
TH-227	-9.497E-02	3.812E-01	3.122E-01	1.945E-01	FAIL ABUN
TH-229	-3.454E-01	5.091E-01	4.170E-01	2.597E-01	FAIL ABUN
PA-231	-2.230E-01	1.390E+00	1.224E+00	7.094E-01	NOT IDENT.
TH-231	-1.037E-01	6.995E-01	6.106E-01	3.569E-01	FAIL ABUN
U-231	-1.736E-01	9.155E-01	7.259E-01	4.671E-01	FAIL ABUN
PA-233	2.701E-02	6.507E-02	5.890E-02	3.320E-02	FAIL ABUN
PA-234	8.844E-02	3.621E-01	3.148E-01	1.847E-01	FAIL ABUN
PA-234M	1.830E+00	5.895E+00	5.098E+00	3.008E+00	NOT IDENT.
U-235	7.057E-02	2.100E-01	1.827E-01	1.071E-01	FAIL ABUN
NP-236	-1.269E-02	7.606E-02	6.515E-02	3.881E-02	NOT IDENT.
NP-239	-3.353E-02	1.741E-01	1.522E-01	8.883E-02	FAIL ABUN
AM-241	-9.515E-03	6.365E-02	5.221E-02	3.248E-02	NOT IDENT.
CM-243	3.692E-02	7.965E-02	7.216E-02	4.064E-02	FAIL ABUN
AM-246	3.804E-02	1.639E-01	1.411E-01	8.363E-02	NOT IDENT.
CM-247	1.692E-02	4.147E-02	3.688E-02	2.116E-02	NOT IDENT.
CF-249	-1.552E-02	4.401E-02	3.727E-02	2.245E-02	NOT IDENT.
CF-251	-3.013E-02	1.318E-01	1.118E-01	6.723E-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	232.1977
46.50	232.1977
46.50	232.1977
48.70	197.7032
49.72	214.2561
51.35	202.5977
52.39	205.7327
52.97	233.2027
53.15	233.3188
53.44	233.5069
54.07	233.9125
56.28	308.0493
56.28	308.0511
57.37	0.0000
57.53	320.6660
57.53	320.6678
57.60	320.7249
57.98	301.7058
57.98	301.7058
59.32	328.6369
59.32	328.6369
59.40	328.7047
59.54	328.8239
59.72	328.9760
60.01	348.6634
61.10	330.1378
61.14	330.1707
61.30	323.8024
63.00	341.2928
63.29	341.5381
63.29	341.5381
63.58	341.7833
64.28	352.4160
65.12	368.8934
65.20	368.9647
65.20	368.9647
66.05	363.1449
66.72	353.1854
66.83	357.2340
66.91	357.3023
67.20	374.7022
67.20	374.7022
67.75	379.1530
67.85	373.1665
68.90	362.0782
68.90	362.0782
69.30	370.1969
69.67	390.1592
70.82	377.8895
70.82	377.8895
70.83	377.8982
72.80	368.9062
72.87	368.9630
72.87	368.9630
74.67	333.7664
74.81	333.8689
74.81	333.8689
74.81	333.8689
74.81	333.8689
74.81	333.8689
74.81	333.8689
74.97	333.9884
75.28	334.2160
75.70	334.5272
77.11	335.5592
77.11	335.5592

77.11	335.5592
77.11	335.5592
77.11	335.5592
77.11	335.5592
77.11	335.5592
78.38	336.4813
79.62	265.9201
79.80	266.0218
79.80	266.0218
80.11	247.1827
80.18	247.2202
80.30	247.2827
80.30	247.2827
80.57	231.1093
81.00	231.3194
81.07	247.6840
81.07	247.6840
81.07	247.6840
81.07	247.6840
82.60	248.4768
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83.78	306.5645
83.78	306.5645
83.78	306.5645
83.78	306.5645
84.21	285.8309
84.90	286.2337
85.43	286.5425
86.29	287.0424
86.50	287.1634
86.54	287.1857
86.59	287.2160
86.72	287.2908
86.79	287.3290
86.94	287.4166
87.30	287.6251
87.30	287.6251
87.30	287.6251
87.30	287.6251
87.30	287.6251
87.30	287.6251
87.30	287.6251
87.57	287.7795
87.88	287.9579
88.03	288.0438
88.36	288.2317
88.47	288.2953
89.95	289.1375
91.11	289.7918
92.29	290.4541
92.38	290.5050
92.38	290.5050
93.35	291.0463
94.00	291.4061
94.67	243.3002
94.67	243.3029
94.90	243.4091
94.90	243.4091
94.90	243.4091
94.90	243.4091
95.87	257.8684
95.87	257.8684
96.73	255.4779
97.43	251.5931
98.44	212.9157
98.44	212.9157
98.88	222.6721
99.55	239.8783
99.55	239.8783
99.86	253.1918
100.00	253.2561
100.10	250.4790
103.18	215.8907
103.76	212.3219
105.00	228.9382
105.31	229.0633
108.00	222.5012
109.28	214.3795

111.00	245.7253
111.00	245.7253
111.76	236.4307
112.95	223.4225
115.19	246.4904
116.30	214.0162
117.00	229.7746
117.00	229.7746
117.66	224.1995
121.11	198.1234
121.62	210.0069
121.78	210.0604
122.06	222.8604
122.32	222.9520
122.32	222.9520
122.32	222.9520
122.32	222.9520
123.07	192.6720
127.23	209.8918
129.76	204.7722
131.20	205.2207
133.02	219.2035
133.54	220.8663
135.34	196.5190
136.00	198.7085
136.25	198.7814
136.48	206.8421
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140.51	0.0000
142.18	227.7036
142.65	231.8881
143.76	216.0986
144.24	208.1605
144.24	208.1605
144.24	208.1605
144.24	208.1605
145.22	221.6043
145.44	231.7931
147.16	234.3814
152.43	210.5389
152.70	213.6837
153.22	215.8809
154.21	201.8276
154.21	201.8276
154.21	201.8276
154.21	201.8276
155.03	202.0500
156.02	209.5076
158.56	187.5468
159.00	0.0000
159.00	205.1843
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161.27	193.3859
162.32	177.0830
162.64	161.6161
163.35	160.7283
163.89	189.8953
165.85	193.4965
167.43	168.8687
171.28	188.5474
171.86	208.5994
172.10	196.0795
176.55	210.8683
176.60	210.8826
181.06	198.7743
184.41	185.2042
185.71	198.2816
186.00	198.3497
190.27	183.2670
192.34	196.5988
193.63	193.6633
197.04	192.2557
198.01	182.7361
198.60	167.7085
200.40	170.2175
201.83	187.8637
202.84	169.5935
205.31	170.0561

208.36	165.7016
208.81	157.5762
209.75	161.0235
209.75	161.0235
210.97	171.1074
215.65	171.9644
216.55	159.9921
218.09	148.0947
222.10	187.5617
223.80	135.6366
226.40	154.9511
227.00	170.6620
227.08	187.4089
227.20	175.1605
228.16	159.6967
228.18	159.6996
228.18	159.6996
231.56	0.0000
235.69	156.9716
236.00	157.0212
236.00	157.0212
238.63	143.3233
238.63	143.3233
238.63	143.3233
238.63	143.3233
239.00	143.3750
240.98	143.6540
241.98	143.7935
241.98	143.7935
241.98	143.7935
244.69	100.4673
245.39	95.4229
247.94	124.1263
248.90	107.1432
249.79	115.2196
252.40	113.2180
252.85	113.2663
252.85	113.2663
254.15	0.0000
256.20	126.2476
256.20	126.2476
260.50	115.2303
260.90	125.6476
262.80	128.1766
264.65	124.9233
268.24	147.9614
268.79	139.3262
269.46	130.6961
269.46	130.6961
269.46	130.6961
269.46	130.6961
271.23	125.6682
273.65	143.4324
276.40	118.0655
277.35	118.4566
277.60	122.8717
277.60	122.8717
278.00	128.1822
278.60	133.5195
279.20	134.4703
279.53	134.5077
280.46	129.3383
281.68	105.6958
283.67	104.1125
284.30	105.0529
285.00	112.1831
285.90	106.0822
286.10	106.9846
286.10	106.9846
287.40	98.2530
288.45	0.0000
290.67	103.6757
290.80	103.6864
291.72	105.1898
293.26	0.0000
293.70	100.5613
295.21	100.6889
295.21	100.6889

295.21	100.6889
295.96	100.7527
296.50	100.7975
297.23	100.8596
298.57	100.9734
299.80	101.0751
299.80	101.0751
300.09	103.0693
300.09	103.0693
300.09	103.0693
300.09	103.0693
300.12	103.0711
301.29	101.7383
302.84	116.2160
303.76	129.2278
303.91	129.2432
304.40	133.6058
304.40	133.6058
304.84	120.9588
306.84	95.3670
308.46	117.1123
311.98	102.9924
316.51	99.7412
318.01	104.3995
319.02	107.2094
319.41	109.9683
320.08	128.2115
323.87	121.3004
323.87	121.3004
323.87	121.3004
323.87	121.3004
325.23	132.3864
328.77	101.6235
333.44	82.3266
334.20	97.0841
334.20	97.0841
334.30	97.0922
338.28	105.1338
338.28	105.1338
338.28	105.1338
338.28	105.1338
338.32	105.1372
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338.32	105.1372
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340.57	106.4250
344.27	108.3896
345.85	112.5373
350.59	0.0000
351.07	94.0418
351.92	94.1003
351.92	94.1003
351.92	94.1003
351.92	94.1003
355.39	0.0000
356.01	94.1955
364.48	103.4254
366.43	75.3235
367.43	76.3194
367.94	0.0000
369.80	96.2678
374.96	71.9910
383.85	87.6875
387.95	101.3159
388.63	96.5816
391.69	79.5349
391.69	79.5349
392.90	93.9865
398.62	103.0130
400.65	86.7645
401.10	98.3627
401.81	96.4798
402.60	90.7383
404.84	114.4615
410.95	83.8622
411.60	82.3441
413.65	85.5669
414.70	75.6166
415.30	83.7114

415.76	85.6837
417.63	0.0000
418.52	93.6401
423.70	69.4854
427.08	68.6542
427.89	72.6145
432.53	60.0338
433.93	81.7576
439.47	62.2723
439.56	62.2752
439.89	65.2548
443.98	76.3232
444.90	70.4161
445.03	70.4215
445.03	70.4215
445.03	70.4215
445.03	70.4215
453.90	80.7763
463.38	59.3734
468.07	62.7580
473.00	57.4940
475.06	62.6121
475.35	59.5933
476.78	55.5992
477.59	63.7162
477.96	53.6138
482.03	61.8526
484.57	58.8974
487.03	68.1328
490.36	0.0000
492.35	69.3603
497.08	74.6597
507.63	0.0000
510.53	0.0000
510.84	61.8379
511.00	61.8434
511.85	61.8727
511.85	61.8727
513.99	61.9450
513.99	61.9450
520.41	60.0922
520.65	60.0992
527.90	43.6919
528.96	0.0000
529.64	60.3931
529.87	0.0000
531.02	66.6895
537.32	56.4587
543.00	61.8719
546.56	0.0000
549.76	64.1963
552.65	57.9692
555.20	52.7695
563.23	50.8682
563.90	56.1863
568.70	58.4492
569.32	60.5938
569.50	55.2833
569.67	51.0352
573.80	61.7967
574.00	60.7365
574.64	58.6255
578.91	64.9470
579.30	0.0000
583.14	49.2414
585.48	60.0161
591.81	54.8287
592.07	60.2109
593.00	60.2383
595.88	64.6326
600.56	61.5418
602.52	0.0000
602.71	60.5254
602.71	60.5254
603.60	57.0910
604.41	50.1907
604.70	50.1978
609.31	63.9713



609.31	63.9713
609.31	63.9713
609.31	63.9713
610.33	60.7476
612.46	60.8108
614.37	66.0825
618.01	46.8174
621.84	65.4456
621.84	65.4456
631.29	56.9718
633.02	48.2458
633.10	48.2485
634.78	53.7732
635.90	51.6056
636.97	54.9271
645.85	55.1529
646.12	55.1590
656.30	45.4406
657.75	56.5610
657.90	0.0000
661.65	58.8826
661.65	58.8826
664.57	0.0000
666.33	48.9871
666.33	48.9871
675.00	61.4705
677.61	53.7085
685.20	69.6062
692.80	75.6943
695.00	63.1401
696.49	54.1538
696.49	54.1538
697.00	59.5837
697.49	63.2068
698.33	74.9736
698.50	73.1729
699.00	68.6690
702.63	61.5370
706.10	65.2553
706.58	0.0000
706.67	60.7384
709.31	57.1753
711.68	39.0643
713.82	53.6488
717.42	48.2668
720.50	39.5142
721.93	0.0000
722.20	42.5845
722.78	50.2009
722.78	50.2009
722.89	50.2036
722.95	50.2036
723.30	50.2117
724.18	41.0977
727.18	46.6359
733.00	59.5823
735.90	49.5584
739.58	52.3910
742.81	41.4163
744.21	49.7285
747.13	52.5538
751.79	49.8828
752.31	44.3496
753.82	41.6030
755.35	49.0289
756.15	49.0457
756.87	56.4652
763.93	65.9090
765.79	44.5910
766.42	52.0365
766.84	57.6209
776.49	65.3071
778.00	57.8783
778.57	56.0229
778.89	49.4934
783.80	44.9109
785.46	55.2390
792.07	58.1977

795.84	42.3029
796.30	49.8324
798.80	66.8208
801.93	40.5183
805.60	38.6877
810.29	41.5938
810.76	46.3287
815.85	35.9979
817.79	38.8689
818.51	46.4663
819.60	40.7933
826.30	42.7983
828.27	0.0000
831.60	51.4608
831.96	50.5143
834.83	37.2109
836.80	0.0000
846.75	44.0841
848.13	49.8596
856.28	0.0000
856.80	38.4766
860.37	36.6000
867.32	32.1867
867.82	27.3635
871.10	35.7760
873.19	39.6737
874.81	39.6967
875.33	0.0000
876.40	31.0008
879.36	34.9128
880.27	28.1334
880.51	31.0461
881.50	40.7624
883.24	44.6726
884.67	38.8652
889.25	35.0358
896.60	42.9333
898.02	34.1686
899.00	35.1571
903.28	45.2349
911.07	44.1321
911.07	44.1321
911.07	44.1321
919.63	42.2956
920.93	52.1551
925.00	37.4471
925.24	37.2308
926.50	42.2555
935.52	28.0221
937.48	34.6385
944.10	45.6271
946.00	36.7236
949.00	34.7736
962.29	43.9098
964.01	43.9355
966.15	43.9667
968.20	43.9957
969.11	30.0066
969.11	30.0066
969.11	30.0066
977.42	29.0857
980.50	38.1512
983.50	25.1239
989.30	44.3019
996.32	53.4852
1001.03	35.3743
1001.68	34.3710
1004.76	36.4289
1021.30	0.0000
1024.50	0.0000
1034.80	41.8849
1036.00	40.8789
1037.82	27.6091
1038.57	21.4789
1038.76	0.0000
1045.16	36.8965
1046.59	28.7096
1048.07	36.9299

1050.47	27.7185
1050.47	27.7185
1062.04	39.1504
1063.62	35.0459
1076.63	37.2551
1077.35	33.1234
1078.86	31.0664
1085.78	37.3588
1099.22	41.6758
1112.02	40.6738
1112.84	44.8347
1115.52	31.4092
1120.29	32.5016
1120.29	32.5016
1120.29	32.5016
1120.29	32.5016
1120.51	32.5031
1121.28	38.4535
1124.00	0.0000
1129.67	31.5396
1131.51	0.0000
1147.95	0.0000
1167.94	39.3288
1173.22	30.8720
1175.09	39.4083
1177.93	34.1109
1189.05	33.1479
1204.90	39.7371
1205.75	0.0000
1213.00	39.8274
1221.42	45.3120
1230.97	48.6760
1235.34	41.1524
1236.41	0.0000
1238.25	42.2697
1246.25	43.4473
1260.41	0.0000
1271.85	32.8081
1274.45	35.0187
1274.54	33.9259
1291.56	24.1839
1298.22	0.0000
1312.09	31.3119
1325.50	24.9510
1325.50	24.9510
1332.49	34.2524
1333.61	23.1506
1360.21	20.5095
1362.66	0.0000
1365.15	26.1349
1368.21	19.2154
1368.53	0.0000
1376.25	14.4404
1384.27	17.3924
1394.10	20.6814
1395.20	18.8070
1407.95	15.0918
1434.06	7.5938
1436.60	16.1464
1457.56	0.0000
1460.81	16.3756
1489.15	19.2318
1509.49	10.6267
1596.49	21.6706
1620.62	11.8823
1678.03	0.0000
1691.02	9.0454
1691.02	9.0454
1706.46	0.0000
1750.46	0.0000
1764.49	3.4979
1764.49	3.4979
1764.49	3.4979
1764.49	3.4979
1770.23	20.4281
1771.40	10.2165
1791.20	0.0000
1808.65	10.2917

1836.01

8.2777

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244852003

Total Uranium Activity	6.4955E+00	ug/g
Total Uranium Counting Unc.	3.4258E+00	ug/g
Total Uranium Tpu	1.7479E-06	ug/g
Total Uranium Mda	1.5041E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 942718          SAMPLE ID   : G244852003
*  ANALYST       : MXR1            DETECTOR    : GAM17
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 26-JAN-2010 13:10:09.53  SAMPLE ALQT: 130.760 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.852E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.419E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.019E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.947E+00

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 15:25:09.20

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881001.CNF;1
Sample date   : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:24:42
Sample ID    : G244881001 Sample quantity : 1.58670E+02 GRAM
Detector name : GAM18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID      : 942718 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	63.46*	101	563	0.82	126.05	121	9	1.40E-02	44.2	
2	1	74.99*	350	459	1.08	149.10	144	14	4.86E-02	11.2	1.99E+00
3	1	77.34	571	455	0.94	153.80	144	14	7.93E-02	7.3	
4	3	87.60	278	430	1.19	174.30	164	29	3.86E-02	13.6	3.18E+00
5	3	90.12	158	414	1.10	179.34	164	29	2.20E-02	23.0	
6	3	92.96*	321	398	1.22	185.02	164	29	4.46E-02	12.6	
7	0	186.05*	279	514	1.29	371.14	366	11	3.88E-02	17.4	
8	0	209.50	145	343	1.67	418.02	414	9	2.01E-02	24.7	
9	2	238.75*	1664	253	1.22	476.51	469	20	2.31E-01	3.0	1.37E+00
10	2	241.72	337	352	1.61	482.44	469	20	4.68E-02	12.9	
11	0	270.20	132	273	1.41	539.39	535	10	1.84E-02	24.9	
12	0	277.39	50	315	1.18	553.75	549	10	7.01E-03	67.2	
13	3	295.32*	488	199	1.25	589.60	584	20	6.77E-02	6.9	6.74E-01
14	3	300.21	156	220	1.69	599.38	584	20	2.17E-02	19.9	
15	0	328.05	125	216	1.78	655.05	650	11	1.74E-02	24.3	
16	0	338.23*	435	260	1.28	675.40	669	13	6.04E-02	9.3	
17	0	351.99*	912	238	1.47	702.90	698	12	1.27E-01	4.8	
18	0	463.10	133	136	1.61	925.05	918	13	1.84E-02	20.1	
19	0	510.92*	167	254	2.23	1020.68	1014	16	2.32E-02	25.4	
20	0	582.98*	491	146	1.64	1164.76	1158	13	6.82E-02	7.0	
21	0	609.07*	657	164	1.54	1216.93	1209	15	9.13E-02	5.9	
22	0	661.48	315	127	1.56	1321.72	1315	12	4.38E-02	9.1	
23	0	727.65	121	153	1.87	1454.02	1445	15	1.68E-02	24.1	
24	0	768.46	39	103	1.54	1535.63	1530	9	5.48E-03	49.1	
25	0	795.57	80	107	1.61	1589.84	1583	15	1.12E-02	30.3	
26	0	860.16	72	81	1.80	1718.97	1713	12	1.00E-02	27.6	
27	0	911.13*	412	121	1.82	1820.89	1812	17	5.73E-02	8.0	
28	0	968.71*	192	144	1.76	1936.03	1930	12	2.66E-02	15.0	
29	0	1119.90*	163	87	1.24	2238.37	2231	14	2.27E-02	14.7	
30	0	1378.63	50	41	1.86	2755.75	2748	18	6.93E-03	34.4	
31	0	1460.10*	2656	30	2.31	2918.68	2906	24	3.69E-01	2.0	
32	0	1588.04	61	16	0.98	3174.56	3166	17	8.41E-03	20.2	
33	0	1763.62*	165	12	2.32	3525.69	3513	20	2.29E-02	9.5	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:24:42
Sample ID         : G244881001 Sample quantity : 158.67 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.82 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	*	3.110E+01	2.675E+00	3.633E-01	2.757E-02	85.603
CD-109	+	88.03	*	2.789E+00	8.011E-01	9.303E-01	8.601E-02	2.998
SN-126	+	64.28		8.014E-01	7.187E-01	7.227E-01	1.068E-01	1.109
	+	86.94		1.140E+00	5.655E-01	3.861E-01	1.601E-01	2.953
	+	87.57	*	2.742E-01	7.875E-02	9.204E-02	8.480E-03	2.979
BA-137M	+	661.65	*	2.312E-01	4.556E-02	4.198E-02	3.200E-03	5.508
CS-137	+	661.65	*	2.444E-01	4.817E-02	4.438E-02	3.391E-03	5.508
TL-208	+	277.35		2.807E-01	3.786E-01	4.078E-01	4.283E-02	0.688
	+	510.84		4.254E-01	2.209E-01	1.425E-01	1.515E-02	2.985
	+	583.14	*	3.509E-01	5.616E-02	3.952E-02	3.098E-03	8.878
	+	860.37		4.700E-01	2.645E-01	3.323E-01	3.717E-02	1.414
BI-211		72.87		3.193E+00	2.732E+00	4.231E+00	3.494E-01	0.755
	+	351.07	*	3.060E+00	3.550E-01	2.289E-01	1.469E-02	13.368
PB-212	+	74.81		1.569E+00	4.035E-01	4.472E-01	5.605E-02	3.508
	+	77.11		1.426E+00	2.402E-01	2.502E-01	2.121E-02	5.698
	+	87.30		1.268E+00	3.857E-01	4.273E-01	5.804E-02	2.968
	+	238.63	*	1.299E+00	1.208E-01	5.951E-02	4.251E-03	21.835
	+	300.09		1.813E+00	7.376E-01	8.071E-01	6.627E-02	2.246
PO-212	+	74.81		1.569E+00	4.035E-01	4.472E-01	5.605E-02	3.508
	+	77.11		1.426E+00	2.402E-01	2.502E-01	2.121E-02	5.698
	+	87.30		1.268E+00	3.857E-01	4.273E-01	5.804E-02	2.968
	+	115.19		1.705E+00	2.667E+00	4.399E+00	2.771E-01	0.388
	+	238.63	*	1.299E+00	1.208E-01	5.951E-02	4.251E-03	21.835
	+	300.09		1.813E+00	7.376E-01	8.071E-01	6.627E-02	2.246
BI-214	+	609.31	*	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
	+	1120.29		1.096E+00	3.392E-01	3.076E-01	2.945E-02	3.563
	+	1764.49		1.454E+00	2.895E-01	2.120E-01	1.289E-02	6.859
PB-214	+	74.81		2.703E+00	6.780E-01	7.706E-01	8.602E-02	3.508
	+	77.11		2.444E+00	4.519E-01	4.289E-01	4.888E-02	5.698
	+	87.30		2.172E+00	6.460E-01	7.320E-01	8.781E-02	2.968
	+	241.98		1.576E+00	4.239E-01	3.577E-01	2.828E-02	4.406
	+	295.21		9.948E-01	1.609E-01	1.416E-01	1.202E-02	7.023
	+	351.92	*	1.064E+00	1.354E-01	7.497E-02	6.202E-03	14.197
PO-214	+	74.81		2.703E+00	6.780E-01	7.706E-01	8.602E-02	3.508



---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.444E+00	4.519E-01	4.289E-01	4.888E-02	5.698
	+	87.30		2.172E+00	6.460E-01	7.320E-01	8.781E-02	2.968
	+	241.98		1.576E+00	4.239E-01	3.577E-01	2.828E-02	4.406
	+	295.21		9.948E-01	1.609E-01	1.416E-01	1.202E-02	7.023
	+	351.92	*	1.064E+00	1.354E-01	7.497E-02	6.202E-03	14.197
PO-216	+	74.81		1.569E+00	4.035E-01	4.472E-01	5.605E-02	3.508
	+	77.11		1.426E+00	2.402E-01	2.502E-01	2.121E-02	5.698
	+	87.30		1.268E+00	3.857E-01	4.273E-01	5.804E-02	2.968
	+	238.63	*	1.299E+00	1.208E-01	5.951E-02	4.251E-03	21.835
	+	300.09		1.813E+00	7.376E-01	8.071E-01	6.627E-02	2.246
PO-218	+	74.81		2.703E+00	6.780E-01	7.706E-01	8.602E-02	3.508
	+	77.11		2.444E+00	4.519E-01	4.289E-01	4.888E-02	5.698
	+	87.30		2.172E+00	6.460E-01	7.320E-01	8.781E-02	2.968
	+	241.98		1.576E+00	4.239E-01	3.577E-01	2.828E-02	4.406
	+	295.21		9.948E-01	1.609E-01	1.416E-01	1.202E-02	7.023
	+	351.92	*	1.064E+00	1.354E-01	7.497E-02	6.202E-03	14.197
RA-224	+	240.98	*	2.989E+00	7.862E-01	6.764E-01	3.768E-02	4.419
RA-226	+	609.31	*	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
	+	1120.29		1.096E+00	3.392E-01	3.076E-01	2.945E-02	3.563
	+	1764.49		1.454E+00	2.895E-01	2.120E-01	1.289E-02	6.859
AC-228	+	338.32		1.617E+00	7.241E-01	2.555E-01	1.042E-01	6.328
	+	911.07	*	1.267E+00	2.639E-01	1.488E-01	1.972E-02	8.516
	+	969.11		1.035E+00	3.975E-01	3.173E-01	7.598E-02	3.262
RA-228	+	338.32		1.617E+00	7.241E-01	2.555E-01	1.042E-01	6.328
	+	911.07	*	1.267E+00	2.639E-01	1.488E-01	1.972E-02	8.516
	+	969.11		1.035E+00	3.975E-01	3.173E-01	7.598E-02	3.262
TH-228	+	74.81		1.592E+00	3.820E-01	4.540E-01	3.826E-02	3.508
	+	77.11		1.447E+00	2.438E-01	2.540E-01	2.153E-02	5.698
	+	87.30		1.287E+00	3.697E-01	4.338E-01	3.987E-02	2.968
	+	238.63	*	1.319E+00	1.226E-01	6.041E-02	4.315E-03	21.835
	+	300.09		1.840E+00	1.309E+00	8.193E-01	4.828E-01	2.246
TH-230	+	609.31	*	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
	+	1120.29		1.096E+00	3.392E-01	3.076E-01	2.945E-02	3.563
	+	1764.49		1.454E+00	2.895E-01	2.120E-01	1.289E-02	6.859
TH-232	+	338.32		1.617E+00	3.138E-01	2.555E-01	1.478E-02	6.328
	+	911.07	*	1.267E+00	2.639E-01	1.488E-01	1.972E-02	8.516
	+	969.11		1.035E+00	3.975E-01	3.173E-01	7.598E-02	3.262
TH-234	+	63.29	*	2.025E+00	1.826E+00	1.823E+00	3.215E-01	1.110
	+	92.38		2.016E+00	6.252E-01	5.933E-01	1.069E-01	3.398
U-234	+	609.31	*	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
	+	1120.29		1.096E+00	3.392E-01	3.076E-01	2.945E-02	3.563
	+	1764.49		1.454E+00	2.895E-01	2.120E-01	1.289E-02	6.859
NP-237	+	86.50	*	8.052E-01	2.847E-01	2.745E-01	6.193E-02	2.933
	+	95.87		3.794E-01	7.967E-01	1.178E+00	2.878E-01	0.322
U-238	+	63.29	*	2.025E+00	1.826E+00	1.823E+00	3.215E-01	1.110
	+	92.38		2.016E+00	5.368E-01	5.933E-01	5.043E-02	3.398
AM-243	+	74.67	*	2.543E-01	6.094E-02	7.279E-02	6.074E-03	3.494
	+	86.72		3.019E+01	8.672E+00	1.026E+01	9.380E-01	2.943
	+	117.66		-1.739E+00	2.876E+00	4.510E+00	2.774E-01	-0.386

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-1.272E+00	1.345E+01	2.127E+01	1.172E+00	-0.060
ANH-511	+	511.00	*	9.189E-02	4.710E-02	3.079E-02	2.033E-03	2.985

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.025E-02	2.184E-01	3.611E-01	2.617E-02	0.028
NA-22		1274.54	*	-1.293E-02	3.062E-02	4.864E-02	3.310E-03	-0.266
NA-24		1368.53	*	2.937E-01	3.062E-02	Half-Life too short		
AL-26		1129.67		-4.109E-03	1.258E+00	2.051E+00	1.369E-01	-0.002
		1808.65	*	-5.986E-03	1.796E-02	2.786E-02	1.627E-03	-0.215
TI-44		67.85		3.445E-03	4.120E-02	6.521E-02	5.244E-03	0.053
	+	78.38	*	2.631E-01	4.432E-02	6.266E-02	5.357E-03	4.199
SC-46		889.25	*	-3.243E-04	2.565E-02	4.188E-02	4.671E-03	-0.008
	+	1120.51		1.875E-01	5.669E-02	8.583E-02	5.930E-03	2.185
V-48		944.10		-1.099E-01	6.581E-01	1.057E+00	1.119E-01	-0.104
		983.50	*	-4.498E-02	4.745E-02	7.052E-02	6.975E-03	-0.638
		1312.09		3.296E-02	5.731E-02	9.803E-02	7.140E-03	0.336
CR-51		320.08	*	3.492E-02	2.638E-01	4.276E-01	2.753E-02	0.082
MN-52		744.21		1.859E-01	1.594E-01	2.822E-01	2.489E-02	0.659
		848.13		-2.040E+00	4.591E+00	7.293E+00	7.630E-01	-0.280
		935.52		-9.549E-03	1.836E-01	2.975E-01	3.191E-02	-0.032
		1246.25		1.698E+00	5.499E+00	9.219E+00	5.928E-01	0.184
		1333.61		2.393E-01	3.468E+00	5.704E+00	4.309E-01	0.042
		1434.06	*	5.792E-02	1.570E-01	2.646E-01	1.950E-02	0.219
MN-54		834.83	*	-1.201E-02	2.600E-02	4.143E-02	4.244E-03	-0.290
CO-56		846.75	*	1.836E-03	2.664E-02	4.394E-02	4.586E-03	0.042
		977.42		1.449E+00	2.019E+00	3.374E+00	3.375E-01	0.430
		1037.82		-1.833E-01	2.003E-01	3.111E-01	2.882E-02	-0.589
		1175.09		-3.144E-01	1.715E+00	2.806E+00	1.557E-01	-0.112
		1238.25		9.071E-02	6.741E-02	1.186E-01	7.902E-03	0.765
		1360.21		1.760E-01	6.439E-01	1.079E+00	8.109E-02	0.163
		1771.40		-1.071E+00	2.653E-01	2.442E-01	1.476E-02	-4.387
CO-57		122.06	*	-4.636E-04	1.863E-02	2.986E-02	1.769E-03	-0.016
		136.48		6.022E-02	1.552E-01	2.509E-01	1.643E-02	0.240
CO-58		810.76	*	-1.872E-02	2.841E-02	4.473E-02	4.416E-03	-0.418
FE-59		142.65		4.734E-01	2.107E+00	3.348E+00	1.842E-01	0.141
		192.34		3.982E-01	6.761E-01	1.117E+00	1.296E-01	0.356
		1099.22	*	-2.072E-02	6.488E-02	1.057E-01	8.702E-03	-0.196
		1291.56		1.537E-03	8.186E-02	1.344E-01	1.130E-02	0.011
CO-60		1173.22		-1.194E-02	3.427E-02	5.550E-02	3.067E-03	-0.215
		1332.49	*	-1.110E-02	2.731E-02	4.301E-02	3.250E-03	-0.258
ZN-65		1115.52	*	3.814E-02	7.812E-02	1.158E-01	8.156E-03	0.329
GE-68		1077.35	*	-2.655E-01	8.907E-01	1.456E+00	1.157E-01	-0.182
AS-73		53.44	*	3.744E-02	8.816E-01	1.434E+00	1.137E-01	0.026
AS-74		595.88	*	3.884E-02	6.210E-02	1.043E-01	7.491E-03	0.372
		634.78		-3.896E-02	2.490E-01	3.964E-01	2.951E-02	-0.098
SE-75		66.05		-7.702E-01	4.586E+00	6.777E+00	6.712E-01	-0.114

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	96.73			6.105E-02	6.433E-01	9.396E-01	1.239E-01	0.065
	121.11			2.016E-02	1.014E-01	1.640E-01	1.531E-02	0.123
	136.00			9.614E-03	2.918E-02	4.709E-02	2.682E-03	0.204
	198.60			1.179E+00	1.248E+00	2.116E+00	1.436E-01	0.557
	264.65	*		2.420E-03	3.174E-02	4.822E-02	2.758E-03	0.050
	279.53			3.722E-02	8.650E-02	1.265E-01	7.816E-03	0.294
	303.91			8.959E-01	1.582E+00	2.312E+00	2.200E-01	0.387
	400.65			-7.875E-02	1.656E-01	2.700E-01	2.460E-02	-0.292
BR-77	+	87.88		5.926E+02	1.702E+02	2.539E+02	2.346E+01	2.334
	+	200.40		-5.046E+00	1.093E+02	1.819E+02	9.800E+00	-0.028
	+	239.00		2.052E+02	1.670E+01	2.599E+01	1.445E+00	7.895
		249.79		-4.803E+00	4.356E+01	7.117E+01	3.989E+00	-0.067
		281.68		-8.839E+00	7.049E+01	9.858E+01	5.626E+00	-0.090
		297.23		2.421E+02	4.518E+01	8.325E+01	4.780E+00	2.907
		303.76		8.613E+01	1.329E+02	1.955E+02	1.124E+01	0.441
		439.47		-1.913E+00	9.430E+01	1.564E+02	9.535E+00	-0.012
		484.57		-1.024E+02	1.469E+02	2.316E+02	1.487E+01	-0.442
		520.65	*	1.160E+00	6.697E+00	1.108E+01	7.393E-01	0.105
		574.64		6.083E+00	1.516E+02	2.400E+02	1.690E+01	0.025
		578.91		1.670E+01	6.712E+01	9.598E+01	6.786E+00	0.174
		585.48		9.487E+02	1.764E+02	3.050E+02	2.170E+01	3.110
		755.35		1.037E+02	1.015E+02	1.790E+02	1.609E+01	0.580
		817.79		-2.020E+01	8.727E+01	1.414E+02	1.409E+01	-0.143
SR-82		698.33		1.474E+01	2.368E+01	4.083E+01	3.324E+00	0.361
		776.49	*	-2.472E-01	2.676E-01	4.152E-01	3.867E-02	-0.595
		1395.20		-8.047E+00	6.950E+00	9.749E+00	7.266E-01	-0.825
RB-83		520.41	*	4.518E-03	4.481E-02	7.383E-02	4.924E-03	0.061
		529.64		-3.475E-02	6.929E-02	1.096E-01	7.383E-03	-0.317
		552.65		-5.776E-02	1.333E-01	2.112E-01	1.455E-02	-0.274
RB-84		881.50	*	3.540E-03	4.707E-02	7.741E-02	8.531E-03	0.046
KR-85		513.99	*	1.646E+01	5.903E+00	9.807E+00	6.497E-01	1.678
SR-85		513.99	*	8.433E-02	3.025E-02	5.025E-02	3.329E-03	1.678
RB-86		1076.63	*	-2.026E-02	5.461E-01	9.087E-01	7.234E-02	-0.022
Y-88		898.02		-2.024E-02	2.913E-02	4.465E-02	5.061E-03	-0.453
		1836.01	*	8.970E-03	2.197E-02	3.805E-02	2.167E-03	0.236
ZR-88		392.90	*	-9.419E-03	1.927E-02	3.145E-02	1.809E-03	-0.300
Y-91		1204.90	*	4.182E+00	1.408E+01	2.342E+01	1.385E+00	0.179
NB-94		702.63	*	-6.997E-03	2.265E-02	3.712E-02	3.045E-03	-0.189
		871.10		-1.800E-02	2.405E-02	3.714E-02	4.028E-03	-0.485
NB-95		765.79	*	5.660E-02	3.353E-02	5.379E-02	4.921E-03	1.052
NB-95M		235.69	*	7.868E-02	9.322E-02	1.408E-01	1.033E-02	0.559
ZR-95		724.18		9.303E-02	7.543E-02	1.180E-01	1.094E-02	0.788
		756.15	*	4.765E-02	4.565E-02	8.037E-02	7.908E-03	0.593
NB-97		657.90	*	1.337E-01	4.565E-02	Half-Life	too short	
		1024.50		-4.456E-01	4.565E-02	Half-Life	too short	
ZR-97		254.15		1.170E+00	4.565E-02	Half-Life	too short	
		355.39		1.322E+00	4.565E-02	Half-Life	too short	
		507.63	*	2.278E+00	4.565E-02	Half-Life	too short	
		602.52		-2.952E+00	4.565E-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			-2.007E+00	4.565E-02	Half-Life	too short	
	1147.95			1.277E+00	4.565E-02	Half-Life	too short	
	1362.66			2.230E+00	4.565E-02	Half-Life	too short	
	1750.46			6.617E-01	4.565E-02	Half-Life	too short	
MO-99	140.51			-9.816E+00	1.978E+01	3.029E+01	8.146E+00	-0.324
	181.06			-2.303E+00	1.266E+01	1.856E+01	3.150E+00	-0.124
	366.43			3.054E+01	5.514E+01	9.526E+01	5.503E+00	0.321
	739.58	*		-6.919E+00	8.041E+00	1.253E+01	1.912E+00	-0.552
	778.00			-1.097E+01	2.331E+01	3.738E+01	3.490E+00	-0.294
TC-99M	140.51	*		-1.233E+10	2.331E+01	Half-Life	too short	
RH-101	127.23			-3.428E-03	2.413E-02	3.839E-02	2.218E-03	-0.089
	198.01	*		1.708E-02	2.277E-02	3.838E-02	2.063E-03	0.445
	325.23			6.101E-02	1.643E-01	2.370E-01	1.369E-02	0.257
RH-102	418.52			1.980E-01	1.919E-01	3.358E-01	1.996E-02	0.590
	475.06	*		-3.287E-03	1.968E-02	3.217E-02	2.043E-03	-0.102
	631.29			-5.081E-04	4.030E-02	6.482E-02	4.811E-03	-0.008
	697.49			3.648E-02	5.343E-02	9.241E-02	7.513E-03	0.395
	766.84			5.603E-02	7.847E-02	1.347E-01	1.234E-02	0.416
	1046.59			1.687E-02	7.332E-02	1.246E-01	1.075E-02	0.135
	1112.84			1.315E-02	1.914E-01	2.741E-01	1.946E-02	0.048
RU-103	497.08	*		-2.215E-02	2.680E-02	4.158E-02	5.399E-03	-0.533
	610.33	+		9.503E+00	1.893E+00	1.882E+00	3.017E-01	5.050
RH-106	511.85	+		4.589E-01	2.352E-01	3.111E-01	2.056E-02	1.475
	621.84	*		-4.184E-01	2.354E-01	3.251E-01	4.090E-02	-1.287
	1050.47			-8.478E-01	1.542E+00	2.475E+00	2.115E-01	-0.343
RU-106	511.85	+		4.589E-01	2.352E-01	3.111E-01	2.056E-02	1.475
	621.84	*		-4.184E-01	2.315E-01	3.251E-01	2.392E-02	-1.287
	1050.47			-8.478E-01	1.542E+00	2.475E+00	2.115E-01	-0.343
AG-108M	433.93	*		-9.449E-03	2.126E-02	3.446E-02	2.251E-03	-0.274
	614.37			-1.034E-03	2.948E-02	4.087E-02	3.149E-03	-0.025
	722.95			2.460E-02	3.103E-02	4.747E-02	4.198E-03	0.518
AG-110M	657.75	*		4.400E-02	2.761E-02	4.469E-02	3.525E-03	0.985
	677.61			3.195E-02	1.990E-01	3.365E-01	2.729E-02	0.095
	706.67			-1.822E-01	1.361E-01	2.065E-01	1.757E-02	-0.882
	763.93			1.076E-01	1.235E-01	1.892E-01	1.769E-02	0.569
	884.67			-1.317E-03	3.315E-02	5.405E-02	6.104E-03	-0.024
	937.48			-9.557E-02	7.842E-02	1.148E-01	1.256E-02	-0.833
	1384.27			9.600E-02	1.252E-01	1.921E-01	1.490E-02	0.500
IN-111	171.28			2.333E-01	7.039E-01	1.200E+00	6.314E-02	0.194
	245.39	*		-4.100E-01	7.897E-01	1.101E+00	6.155E-02	-0.372
IN-113M	391.69	*		-7.738E-03	2.754E-02	4.546E-02	2.789E-03	-0.170
SN-113	391.69	*		-7.738E-03	2.754E-02	4.546E-02	2.789E-03	-0.170
IN-114M	190.27	*		6.946E-02	1.442E-01	2.176E-01	1.162E-02	0.319
CD-115	260.90			-1.096E+01	8.869E+01	1.444E+02	8.149E+00	-0.076
	492.35			9.576E+00	2.393E+01	4.025E+01	2.606E+00	0.238
	527.90	*		2.936E+00	6.934E+00	1.163E+01	7.818E-01	0.252
SN-117M	156.02			-1.640E+00	1.540E+00	2.511E+00	1.341E-01	-0.653
	158.56	*		1.427E-02	3.707E-02	6.363E-02	3.382E-03	0.224
SB-122	563.90	*		5.003E-01	1.368E+00	2.273E+00	1.584E-01	0.220

---- 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		-1.227E+01	2.852E+01	4.642E+01	3.742E+00	-0.264
		159.00	*	3.161E+00	2.852E+01	Half-Life	too short	
		528.96		4.720E+01	2.852E+01	Half-Life	too short	
TE-123M		159.00	*	1.681E-02	1.946E-02	3.390E-02	1.829E-03	0.496
I-124		602.71	*	-3.229E-01	5.085E-01	6.667E-01	4.821E-02	-0.484
		722.78		2.303E+00	3.195E+00	4.864E+00	4.134E-01	0.474
		1325.50		-1.402E+00	2.357E+01	3.836E+01	2.863E+00	-0.037
		1376.25		2.443E+01	2.361E+01	3.705E+01	2.774E+00	0.659
		1509.49		1.263E+01	1.008E+01	1.876E+01	1.344E+00	0.673
SB-124		1691.02		-1.868E-01	2.284E+00	3.728E+00	2.405E-01	-0.050
		602.71		-1.893E-02	2.982E-02	3.910E-02	2.828E-03	-0.484
		645.85		-7.782E-02	3.229E-01	5.095E-01	4.130E-02	-0.153
		709.31		1.006E+00	1.783E+00	3.072E+00	2.550E-01	0.328
		713.82		5.154E-01	1.095E+00	1.873E+00	2.221E-01	0.275
		722.78		1.958E-01	2.716E-01	4.135E-01	3.592E-02	0.474
	+	968.20		1.065E+01	3.376E+00	4.898E+00	4.980E-01	2.174
		1045.16		8.964E-01	1.586E+00	2.755E+00	2.385E-01	0.325
		1325.50		-1.273E-01	2.140E+00	3.483E+00	2.599E-01	-0.037
		1368.21		9.168E-01	1.143E+00	1.944E+00	2.486E-01	0.472
SB-125		1436.60		-1.358E+00	2.547E+00	3.889E+00	2.863E-01	-0.349
		1691.02	*	-3.745E-03	4.580E-02	7.475E-02	5.157E-03	-0.050
		427.89	*	6.417E-03	5.848E-02	9.791E-02	6.118E-03	0.066
	+	463.38		6.658E-01	2.724E-01	3.569E-01	2.558E-02	1.866
		600.56		1.350E-02	1.251E-01	1.918E-01	1.528E-02	0.070
		635.90		-1.775E-01	1.897E-01	2.848E-01	2.349E-02	-0.623
TE-125M		109.28	*	3.492E+00	7.125E+00	1.166E+01	1.025E+00	0.300
I-126		388.63		9.653E-02	1.274E-01	2.216E-01	1.273E-02	0.436
		666.33	*	1.391E-02	1.372E-01	2.002E-01	1.539E-02	0.069
SB-126		753.82		1.283E-01	9.193E-01	1.539E+00	1.380E-01	0.083
		223.80		7.219E-01	2.892E+00	4.831E+00	2.655E-01	0.149
	+	278.60		1.850E+00	2.490E+00	3.002E+00	1.711E-01	0.616
	+	296.50		9.872E+00	1.473E+00	2.475E+00	1.421E-01	3.988
		414.70		-2.793E-02	5.031E-02	8.152E-02	4.822E-03	-0.343
		415.30		-1.700E+00	4.141E+00	6.761E+00	4.002E-01	-0.252
		555.20		9.206E-01	2.659E+00	4.421E+00	3.055E-01	0.208
		573.80		2.847E-01	7.459E-01	1.237E+00	8.705E-02	0.230
		593.00		5.854E-02	6.529E-01	1.063E+00	7.614E-02	0.055
		656.30		1.649E+00	2.443E+00	3.745E+00	2.841E-01	0.440
SB-127		666.33		5.813E-03	5.732E-02	8.366E-02	6.431E-03	0.069
		675.00		2.570E-01	1.324E+00	2.242E+00	1.751E-01	0.115
		695.00		2.516E-03	5.340E-02	8.946E-02	7.241E-03	0.028
		697.00		1.021E-01	1.867E-01	3.209E-01	2.606E-02	0.318
		720.50	*	-1.067E-01	1.202E-01	1.588E-01	1.344E-02	-0.672
		856.80		2.493E-01	3.608E-01	5.412E-01	5.739E-02	0.461
		989.30		1.318E+00	8.234E-01	1.480E+00	1.448E-01	0.890
		1034.80		-8.807E-01	6.006E+00	9.561E+00	8.488E-01	-0.092
		1213.00		-8.817E-01	3.347E+00	5.430E+00	3.265E-01	-0.162
		61.10		1.242E+01	5.490E+01	8.316E+01	8.697E+00	0.149
		252.40		-3.711E+00	3.338E+00	4.583E+00	1.903E+00	-0.810

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	290.80			-9.420E+00	1.695E+01	2.314E+01	2.104E+00	-0.407
	411.60			1.095E+00	8.335E+00	1.400E+01	2.015E+00	0.078
	444.90			3.292E+00	6.615E+00	1.124E+01	1.231E+00	0.293
	473.00			-9.202E-01	1.123E+00	1.760E+00	2.014E-01	-0.523
	543.00			-5.016E+00	1.098E+01	1.736E+01	2.323E+00	-0.289
	603.60			1.543E+00	8.450E+00	1.197E+01	1.387E+00	0.129
	685.20	*		4.144E-01	8.534E-01	1.469E+00	1.596E-01	0.282
	698.50			6.403E+00	1.048E+01	1.800E+01	2.800E+00	0.356
	722.20			3.289E+00	2.292E+01	3.327E+01	3.674E+00	0.099
	783.80			3.011E+00	2.454E+00	4.306E+00	5.586E-01	0.699
XE-127	57.60			8.500E-01	5.661E+00	9.538E+00	7.351E-01	0.089
	145.22			2.665E-01	5.499E-01	8.811E-01	4.816E-02	0.302
	172.10			4.579E-02	8.395E-02	1.441E-01	7.586E-03	0.318
	202.84	*		-3.212E-02	3.197E-02	5.118E-02	2.763E-03	-0.628
	374.96			7.327E-03	1.303E-01	2.198E-01	1.268E-02	0.033
I-131	80.18			-1.537E+00	5.081E+00	5.793E+00	5.050E-01	-0.265
	284.30			-6.237E-01	1.043E+00	1.647E+00	1.049E-01	-0.379
	364.48	*		-3.075E-03	7.683E-02	1.292E-01	8.341E-03	-0.024
	636.97			-5.510E-01	1.072E+00	1.663E+00	1.333E-01	-0.331
	722.89			3.984E+00	5.190E+00	7.928E+00	6.783E-01	0.503
TE-132	49.72			6.063E+00	2.082E+01	3.550E+01	3.617E+00	0.171
	111.76			-1.955E+01	2.214E+01	3.437E+01	3.183E+00	-0.569
	116.30			-7.864E+00	2.034E+01	3.221E+01	2.917E+00	-0.244
	228.16	*		3.209E-01	4.899E-01	8.264E-01	1.177E-01	0.388
BA-133	53.15			-1.177E+00	3.831E+00	6.147E+00	4.877E-01	-0.191
	79.62			-4.807E-01	1.247E+00	1.640E+00	2.497E-01	-0.293
	81.00			7.205E-02	1.003E-01	1.221E-01	1.946E-02	0.590
	276.40	+		2.774E-01	3.747E-01	4.571E-01	5.904E-02	0.607
	302.84			7.243E-02	1.111E-01	1.629E-01	1.896E-02	0.444
	356.01	*		5.794E-03	3.263E-02	4.603E-02	5.317E-03	0.126
	383.85			-4.441E-03	1.952E-01	3.273E-01	3.551E-02	-0.014
I-133	510.53	+		8.924E-01	1.952E-01	Half-Life	too short	
	529.87	*		-1.711E-03	1.952E-01	Half-Life	too short	
	706.58			-3.290E-01	1.952E-01	Half-Life	too short	
	856.28			1.922E-01	1.952E-01	Half-Life	too short	
	875.33			2.235E-03	1.952E-01	Half-Life	too short	
	1236.41			5.691E-01	1.952E-01	Half-Life	too short	
	1298.22			2.135E-02	1.952E-01	Half-Life	too short	
CS-134	475.35			2.450E-01	1.268E+00	2.115E+00	1.344E-01	0.116
	563.23			2.313E-01	2.401E-01	4.121E-01	2.912E-02	0.561
	569.32			1.671E-02	1.338E-01	2.190E-01	1.565E-02	0.076
	604.70			2.650E-02	2.421E-02	3.697E-02	2.688E-03	0.717
	795.84	+	*	8.078E-02	4.961E-02	5.809E-02	5.619E-03	1.391
	801.93			-5.955E-01	3.538E-01	4.272E-01	4.168E-02	-1.394
	1038.57			-2.399E+00	2.514E+00	3.896E+00	3.428E-01	-0.616
	1167.94			1.573E-01	1.848E+00	3.075E+00	1.744E-01	0.051
	1365.15			-3.338E-01	8.208E-01	1.283E+00	1.020E-01	-0.260
CS-135	268.24	*		1.680E-01	1.205E-01	1.860E-01	1.406E-02	0.903
I-135	288.45			1.320E+10	1.205E-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		1.707E+10	1.205E-01	Half-Life too short		
		546.56		4.133E+09	1.205E-01	Half-Life too short		
		836.80		1.031E+10	1.205E-01	Half-Life too short		
		1038.76		-6.477E+09	1.205E-01	Half-Life too short		
		1124.00		4.116E+09	1.205E-01	Half-Life too short		
		1131.51		1.983E+09	1.205E-01	Half-Life too short		
		1260.41	*	-4.048E+09	1.205E-01	Half-Life too short		
		1457.56		1.036E+12	1.205E-01	Half-Life too short		
		1678.03		5.932E+09	1.205E-01	Half-Life too short		
		1706.46		5.363E+09	1.205E-01	Half-Life too short		
		1791.20		1.832E+09	1.205E-01	Half-Life too short		
CS-136		66.91		3.714E-01	7.346E-01	1.114E+00	1.683E-01	0.333
	+	86.29		3.567E+00	1.079E+00	1.457E+00	1.921E-01	2.448
		153.22		4.566E-01	4.519E-01	7.910E-01	5.445E-02	0.577
		163.89		5.395E-01	7.533E-01	1.302E+00	8.896E-02	0.414
		176.55		-1.211E-01	2.474E-01	4.086E-01	2.476E-02	-0.296
		273.65		-1.248E-01	4.840E-01	4.822E-01	3.141E-02	-0.259
		340.57		3.767E-01	1.154E-01	1.872E-01	1.152E-02	2.012
		818.51		2.122E-02	4.880E-02	8.272E-02	8.259E-03	0.257
		1048.07	*	5.210E-04	6.946E-02	1.162E-01	1.042E-02	0.004
		1235.34		3.834E-01	4.420E-01	7.638E-01	7.852E-02	0.502
CE-139		165.85	*	4.673E-03	2.083E-02	3.546E-02	1.861E-03	0.132
BA-140		162.64		-1.791E-01	5.277E-01	8.822E-01	5.348E-02	-0.203
		304.84		3.287E-01	9.827E-01	1.410E+00	3.847E-01	0.233
		423.70		-7.744E-01	1.235E+00	1.944E+00	6.185E-01	-0.398
		537.32	*	1.349E-01	1.761E-01	2.918E-01	9.546E-02	0.462
LA-140	+	328.77		5.771E-01	2.834E-01	3.638E-01	2.358E-02	1.586
		432.53		-6.548E-01	1.313E+00	2.120E+00	1.406E-01	-0.309
		487.03		-7.757E-02	9.127E-02	1.424E-01	1.016E-02	-0.545
		751.79		-1.618E+00	1.099E+00	1.616E+00	1.587E-01	-1.002
		815.85		-4.893E-02	2.105E-01	3.408E-01	3.684E-02	-0.144
		867.82		3.891E-01	1.029E+00	1.609E+00	1.796E-01	0.242
		919.63		-9.125E-01	1.992E+00	2.864E+00	3.619E-01	-0.319
		925.24		-4.504E-01	8.192E-01	1.237E+00	1.401E-01	-0.364
		1596.49	*	-1.073E-02	5.931E-02	8.103E-02	5.559E-03	-0.132
CE-141		145.44	*	3.579E-02	4.900E-02	7.977E-02	4.554E-03	0.449
CE-143		57.37		-3.198E-04	4.900E-02	Half-Life too short		
		231.56		-1.714E-03	4.900E-02	Half-Life too short		
		293.26	*	4.483E-04	4.900E-02	Half-Life too short		
	+	350.59		2.356E-02	4.900E-02	Half-Life too short		
		490.36		1.038E-03	4.900E-02	Half-Life too short		
		664.57		2.067E-03	4.900E-02	Half-Life too short		
		721.93		1.474E-04	4.900E-02	Half-Life too short		
CE-144		80.11		-7.532E-01	2.351E+00	2.677E+00	2.318E-01	-0.281
		133.54	*	6.198E-02	1.529E-01	2.474E-01	3.498E-02	0.251
PM-144		476.78		1.108E-04	4.480E-02	7.392E-02	5.485E-03	0.001
		618.01		1.226E-02	2.179E-02	3.636E-02	2.768E-03	0.337
		696.49	*	1.211E-02	2.377E-02	4.079E-02	3.312E-03	0.297
		778.57		-9.738E-01	1.605E+00	2.549E+00	2.382E-01	-0.382



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PR-144	696.49	*		8.208E-01	1.611E+00	2.764E+00	2.243E-01	0.297
	1489.15			-6.731E+00	7.266E+00	1.022E+01	7.386E-01	-0.658
PM-146	453.90	*		3.076E-03	2.928E-02	4.877E-02	4.338E-03	0.063
	633.02			-5.145E-01	1.002E+00	1.528E+00	5.671E-01	-0.337
	735.90			7.741E-02	1.056E-01	1.761E-01	5.041E-02	0.440
	747.13			2.539E-03	5.979E-02	9.955E-02	1.412E-02	0.026
ND-147	91.11	+		5.171E-01	2.434E-01	3.701E-01	3.481E-02	1.397
	319.41			-2.615E-01	2.394E+00	3.836E+00	2.216E-01	-0.068
	439.89			-4.589E-01	3.882E+00	6.406E+00	3.908E-01	-0.072
	531.02	*		-1.974E-01	3.636E-01	5.719E-01	7.979E-02	-0.345
PM-149	285.90	*		-7.114E+00	6.372E+01	1.030E+02	1.457E+01	-0.069
EU-152	121.78			2.468E-02	5.349E-02	8.743E-02	6.738E-03	0.282
	244.69			-1.744E-02	2.517E-01	3.615E-01	2.019E-02	-0.048
	344.27	*		3.204E-02	7.812E-02	1.122E-01	7.325E-03	0.285
	443.98			5.308E-02	6.732E-01	1.099E+00	6.735E-02	0.048
	778.89			-9.337E-02	1.850E-01	2.959E-01	2.766E-02	-0.316
	867.32			3.450E-01	6.302E-01	9.680E-01	1.044E-01	0.356
	964.01			4.857E-01	2.528E-01	4.003E-01	4.101E-02	1.213
	1085.78			2.973E-01	2.989E-01	5.269E-01	4.083E-02	0.564
	1112.02			1.236E-01	2.676E-01	3.969E-01	2.826E-02	0.311
	1407.95			1.108E-02	1.321E-01	2.165E-01	1.608E-02	0.051
GD-153	69.67			-1.221E+00	1.445E+00	2.209E+00	1.793E-01	-0.553
	83.37			-1.986E+00	1.272E+01	1.856E+01	1.649E+00	-0.107
	97.43	*		-1.445E-02	6.731E-02	9.673E-02	7.563E-03	-0.149
	103.18			-8.887E-03	8.447E-02	1.365E-01	9.843E-03	-0.065
EU-154	123.07			-1.174E-02	3.795E-02	6.005E-02	5.679E-03	-0.196
	247.94			2.224E-01	2.529E-01	4.023E-01	3.789E-02	0.553
	591.81			8.160E-02	4.309E-01	7.058E-01	7.507E-02	0.116
	723.30			1.157E-01	1.323E-01	2.032E-01	1.916E-02	0.569
	756.87			4.600E-01	4.959E-01	8.662E-01	1.062E-01	0.531
	873.19			1.313E-01	1.998E-01	3.411E-01	4.751E-02	0.385
	996.32			-3.035E-01	2.644E-01	3.799E-01	6.948E-02	-0.799
	1004.76			-7.052E-02	1.506E-01	2.343E-01	2.881E-02	-0.301
	1274.45	*		-4.857E-02	8.660E-02	1.360E-01	1.358E-02	-0.357
EU-155	48.70			-9.203E-01	2.716E+00	4.528E+00	3.435E-01	-0.203
	60.01			-3.969E-01	4.852E+00	7.253E+00	5.535E-01	-0.055
	86.54	+		3.302E-01	9.493E-02	1.376E-01	1.268E-02	2.400
	105.31	*		5.575E-02	8.517E-02	1.411E-01	1.009E-02	0.395
TB-160	86.79	+		8.816E-01	2.532E-01	3.716E-01	3.400E-02	2.372
	197.04			2.705E-02	3.794E-01	6.353E-01	3.412E-02	0.043
	215.65			1.835E-01	5.395E-01	8.778E-01	4.792E-02	0.209
	298.57			1.433E-01	7.902E-02	1.374E-01	7.893E-03	1.043
	879.36	*		-1.327E-02	9.230E-02	1.494E-01	1.641E-02	-0.089
	962.29			9.464E-01	4.120E-01	6.778E-01	6.963E-02	1.396
	966.15			9.588E-01	2.319E-01	3.769E-01	3.847E-02	2.544
	1177.93			2.322E-01	2.731E-01	4.740E-01	2.647E-02	0.490
	1271.85			-5.103E-01	5.186E-01	7.871E-01	5.319E-02	-0.648
HO-166M	80.57			-1.592E-02	2.971E-01	3.447E-01	2.995E-02	-0.046
	184.41			7.757E-02	2.850E-02	4.679E-02	2.486E-03	1.658



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		280.46		4.506E-02	6.413E-02	9.549E-02	5.446E-03	0.472
		410.95		1.741E-01	1.667E-01	2.914E-01	1.715E-02	0.598
		711.68	*	-1.370E-02	4.048E-02	6.607E-02	5.507E-03	-0.207
		752.31		-1.860E-01	1.741E-01	2.661E-01	2.380E-02	-0.699
		810.29		-9.109E-04	4.221E-02	6.948E-02	6.840E-03	-0.013
TM-171		51.35		-8.955E+00	3.268E+01	5.450E+01	4.319E+00	-0.164
		52.39		-7.325E+00	1.634E+01	2.703E+01	2.147E+00	-0.271
		59.40		4.042E+00	2.662E+01	4.028E+01	3.058E+00	0.100
		66.72	*	6.487E+00	2.687E+01	4.041E+01	3.231E+00	0.161
LU-176	+	88.36		6.503E-01	1.868E-01	2.808E-01	2.579E-02	2.316
		201.83		-1.614E-02	1.947E-02	3.142E-02	1.694E-03	-0.514
		306.84	*	-1.453E-02	1.744E-02	2.697E-02	1.553E-03	-0.539
		401.10		-1.463E+00	4.289E+00	7.047E+00	4.097E-01	-0.208
LU-177		112.95		-5.039E-01	1.228E+00	1.948E+00	1.255E-01	-0.259
	+	208.36	*	2.039E+00	1.013E+00	1.386E+00	7.520E-02	1.471
LU-177M		52.97		-6.826E-01	1.728E+00	2.761E+00	2.192E-01	-0.247
		54.07		2.809E-01	8.975E-01	1.474E+00	1.166E-01	0.191
		61.30		4.751E-01	1.433E+00	2.181E+00	1.685E-01	0.218
		121.62		1.533E-01	2.753E-01	4.518E-01	2.680E-02	0.339
		147.16		-4.951E-01	5.164E-01	7.773E-01	4.230E-02	-0.637
		171.86		2.879E-01	3.371E-01	5.845E-01	3.076E-02	0.493
		218.09		-5.572E-01	5.933E-01	9.463E-01	5.176E-02	-0.589
	+	268.79		1.547E+00	7.760E-01	1.000E+00	5.672E-02	1.546
		319.02		4.246E-02	1.841E-01	2.999E-01	1.731E-02	0.142
		367.43		-2.471E-01	6.022E-01	9.939E-01	5.740E-02	-0.249
		413.65	*	-2.372E-01	1.233E-01	1.846E-01	1.090E-02	-1.285
HF-181		56.28		-6.259E-01	9.109E-01	1.487E+00	1.158E-01	-0.421
		57.53		-1.238E-01	4.833E-01	8.023E-01	6.187E-02	-0.154
		65.20		-6.546E-01	9.226E-01	1.329E+00	1.054E-01	-0.492
		133.02		-2.480E-02	4.918E-02	7.682E-02	4.346E-03	-0.323
		136.25		1.875E-01	3.375E-01	5.495E-01	3.077E-02	0.341
		345.85		2.367E-02	1.486E-01	2.215E-01	1.282E-02	0.107
		482.03	*	1.447E-02	2.800E-02	4.748E-02	3.039E-03	0.305
W-181		56.28		-2.457E-01	3.567E-01	5.823E-01	4.536E-02	-0.422
		57.53		-4.869E-02	1.895E-01	3.145E-01	2.425E-02	-0.155
		65.20	*	-2.545E-01	3.588E-01	5.170E-01	4.101E-02	-0.492
TA-182		67.75		6.829E-03	9.837E-02	1.556E-01	1.251E-02	0.044
		100.10		8.601E-02	1.372E-01	2.279E-01	1.713E-02	0.377
		152.43		1.343E-01	2.504E-01	4.041E-01	2.174E-02	0.332
		222.10		7.954E-02	2.448E-01	4.104E-01	2.253E-02	0.194
		1001.68		1.062E+00	1.405E+00	2.388E+00	2.280E-01	0.445
	+	1121.28		5.179E-01	1.566E-01	2.333E-01	1.608E-02	2.220
		1189.05		7.324E-02	2.130E-01	3.599E-01	2.058E-02	0.203
		1221.42	*	-4.347E-02	1.419E-01	2.294E-01	1.403E-02	-0.189
		1230.97		-5.896E-01	3.723E-01	5.534E-01	3.452E-02	-1.065
RE-183		57.98		3.909E-03	1.938E-01	3.103E-01	2.384E-02	0.013
		59.32		1.818E-02	1.097E-01	1.660E-01	1.261E-02	0.110
		67.20		1.191E-01	1.884E-01	2.877E-01	2.306E-02	0.414
		162.32	*	-2.762E-02	7.738E-02	1.293E-01	6.825E-03	-0.214

## ---- 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		1.843E+00	9.153E-01	1.255E+00	6.812E-02	1.469
		291.72		-5.523E-01	7.417E-01	9.993E-01	5.726E-02	-0.553
		57.98		1.441E-02	7.143E-01	1.144E+00	8.788E-02	0.013
		59.32		6.698E-02	4.039E-01	6.115E-01	4.646E-02	0.110
		67.20		4.387E-01	6.943E-01	1.060E+00	8.498E-02	0.414
		161.27		3.258E-02	2.503E-01	4.255E-01	2.250E-02	0.077
		216.55		1.496E-02	1.802E-01	3.000E-01	1.639E-02	0.050
		252.85	*	-1.414E-01	1.614E-01	2.541E-01	1.427E-02	-0.557
		318.01		-1.801E-01	3.209E-01	5.022E-01	2.898E-02	-0.359
		792.07		6.384E-01	7.828E-01	1.189E+00	1.136E-01	0.537
OS-185		903.28		-6.920E-02	8.015E-01	1.111E+00	1.247E-01	-0.062
		920.93		-1.859E-02	3.006E-01	4.763E-01	5.219E-02	-0.039
		59.72		-8.276E-05	2.912E-01	4.372E-01	3.325E-02	0.000
		61.14		3.887E-02	1.577E-01	2.392E-01	1.845E-02	0.163
		69.30		-1.562E-01	2.584E-01	3.994E-01	3.236E-02	-0.391
		592.07		5.176E-01	1.763E+00	2.905E+00	2.080E-01	0.178
		646.12	*	-1.135E-02	2.759E-02	4.297E-02	3.232E-03	-0.264
		717.42		-8.435E-02	6.255E-01	1.011E+00	8.512E-02	-0.083
		874.81		-5.885E-02	4.012E-01	6.497E-01	7.087E-02	-0.091
		880.27		4.258E-02	5.232E-01	8.609E-01	9.470E-02	0.049
RE-188		155.03	*	5.625E-03	1.160E-01	1.972E-01	1.055E-02	0.029
		477.96		7.454E-01	2.065E+00	3.473E+00	2.213E-01	0.215
W-188	+	633.10		-9.562E-01	1.984E+00	3.090E+00	2.297E-01	-0.309
		63.58		8.133E+01	7.222E+01	8.163E+01	6.414E+00	0.996
IR-192	+	227.08		8.484E+00	9.185E+00	1.570E+01	8.650E-01	0.541
		290.67	*	-3.205E+00	5.925E+00	8.108E+00	4.644E-01	-0.395
AU-195	+	295.96		7.581E-01	1.134E-01	1.932E-01	1.127E-02	3.924
		308.46		-4.529E-02	6.766E-02	1.055E-01	6.149E-03	-0.429
TL-200		316.51	*	3.381E-03	2.460E-02	3.993E-02	2.316E-03	0.085
		468.07		3.168E-02	4.778E-02	7.213E-02	5.140E-03	0.439
TL-201		604.41		2.051E-01	3.304E-01	4.852E-01	5.896E-02	0.423
		612.46		1.285E+00	6.407E-01	1.005E+00	8.816E-02	1.279
TL-202		65.12		-1.140E-01	1.665E-01	2.403E-01	1.905E-02	-0.475
		66.83		4.084E-02	8.829E-02	1.340E-01	1.072E-02	0.305
TL-203	+	75.70		8.229E-01	1.972E-01	3.354E-01	2.817E-02	2.453
		98.88	*	6.771E-02	1.932E-01	2.852E-01	2.182E-02	0.237
TL-204		129.76		2.693E+00	2.170E+00	3.621E+00	2.072E-01	0.744
		367.94	*	-7.145E-05	2.170E+00	Half-Life	too short	
TL-205		579.30		1.548E-03	2.170E+00	Half-Life	too short	
		828.27		2.690E-03	2.170E+00	Half-Life	too short	
TL-206		1205.75		7.638E-04	2.170E+00	Half-Life	too short	
		68.90		-2.316E+00	3.957E+00	6.437E+00	5.204E-01	-0.360
TL-207		70.82		2.902E-01	2.406E+00	3.593E+00	2.934E-01	0.081
		80.30		-5.618E-01	5.423E+00	6.272E+00	5.438E-01	-0.090
TL-208		135.34		1.121E+01	1.856E+01	3.028E+01	1.700E+00	0.370
		167.43	*	-5.294E+00	4.875E+00	7.907E+00	4.151E-01	-0.670
TL-209		68.90		-2.104E-01	3.595E-01	5.847E-01	4.727E-02	-0.360
		70.82		2.629E-02	2.180E-01	3.255E-01	2.658E-02	0.081
TL-210		80.30		-5.091E-02	4.914E-01	5.683E-01	4.927E-02	-0.090

---- 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	*		-2.321E-03	4.620E-02	7.651E-02	4.664E-03	-0.030
	70.83			1.139E-01	9.469E-01	1.414E+00	1.883E-01	0.081
	72.87			6.346E-01	5.466E-01	8.408E-01	1.090E-01	0.755
	82.60			-2.303E-01	9.276E-01	1.347E+00	1.869E-01	-0.171
BI-207	279.20	*		2.275E-02	3.267E-02	4.849E-02	2.941E-03	0.469
	72.80			1.704E-01	1.590E-01	2.456E-01	2.027E-02	0.694
	74.97			4.565E-01	1.094E-01	1.740E-01	1.455E-02	2.623
	84.90			1.822E-01	1.399E-01	2.380E-01	2.141E-02	0.766
	569.67			4.416E-03	2.081E-02	3.425E-02	2.400E-03	0.129
	1063.62	*		1.053E-02	3.625E-02	6.169E-02	5.093E-03	0.171
TL-207	1770.23			2.484E-01	2.800E-01	4.717E-01	2.854E-02	0.527
	81.07			1.481E-01	2.199E-01	2.682E-01	2.339E-02	0.552
	83.78			1.245E-01	9.402E-02	1.601E-01	1.427E-02	0.778
	94.90			3.209E-01	1.841E-01	3.142E-01	2.557E-02	1.021
	122.32			-1.581E-01	1.283E+00	2.048E+00	1.391E-01	-0.077
	144.24			3.759E-01	5.371E-01	8.671E-01	6.051E-02	0.433
	154.21			1.014E-01	2.691E-01	4.624E-01	3.077E-02	0.219
	269.46			3.622E-01	1.818E-01	2.391E-01	1.420E-02	1.515
	323.87	*		-7.831E-03	5.092E-01	7.144E-01	1.179E-01	-0.011
	338.28			6.753E+00	1.439E+00	1.794E+00	1.888E-01	3.764
	445.03			1.139E+00	1.548E+00	2.660E+00	2.783E-01	0.428
	260.50			1.060E+00	6.665E+00	1.099E+01	6.201E-01	0.097
PO-209	262.80			-1.508E+01	1.831E+01	2.877E+01	1.626E+00	-0.524
	896.60	*		2.362E+00	5.113E+00	8.467E+00	9.550E-01	0.279
	46.50	*		-3.435E-01	4.139E+00	6.985E+00	5.404E-01	-0.049
	46.50	*		-3.435E-01	4.139E+00	6.985E+00	5.404E-01	-0.049
PB-210	46.50	*		-3.435E-01	4.139E+00	6.985E+00	5.404E-01	-0.049
PO-210	46.50	*		-3.435E-01	4.139E+00	6.985E+00	5.404E-01	-0.049
PB-211	404.84	*		-4.252E-01	7.001E-01	1.049E+00	6.541E-01	-0.405
BI-212	427.08			2.170E-01	1.274E+00	2.130E+00	1.317E+00	0.102
	831.96			-7.317E-01	9.466E-01	1.279E+00	8.042E-01	-0.572
	727.18	*		7.273E-01	3.580E-01	4.329E-01	4.312E-02	1.680
	785.46			8.382E-01	1.204E+00	2.070E+00	1.956E-01	0.405
	1620.62			1.002E+00	7.821E-01	1.479E+00	1.000E-01	0.678
	81.07			1.481E-01	2.199E-01	2.682E-01	2.339E-02	0.552
PO-215	83.78			1.245E-01	9.402E-02	1.601E-01	1.427E-02	0.778
	94.90			3.209E-01	1.841E-01	3.142E-01	2.557E-02	1.021
	122.32			-1.581E-01	1.283E+00	2.048E+00	1.391E-01	-0.077
	144.24			3.759E-01	5.371E-01	8.671E-01	6.051E-02	0.433
	154.21			1.014E-01	2.691E-01	4.624E-01	3.077E-02	0.219
	269.46			3.622E-01	1.818E-01	2.391E-01	1.420E-02	1.515
	323.87	*		-7.831E-03	5.092E-01	7.144E-01	1.179E-01	-0.011
	338.28			6.753E+00	1.439E+00	1.794E+00	1.888E-01	3.764
	445.03			1.139E+00	1.548E+00	2.660E+00	2.783E-01	0.428
	271.23			4.647E-01	2.346E-01	3.050E-01	2.446E-02	1.524
	401.81	*		-7.891E-02	2.708E-01	4.459E-01	6.070E-02	-0.177
	549.76	*		-6.492E+00	1.765E+01	2.809E+01	1.930E+00	-0.231
RN-219	81.07			1.481E-01	2.199E-01	2.682E-01	2.339E-02	0.552
RN-220	83.78			1.245E-01	9.402E-02	1.601E-01	1.427E-02	0.778
RA-223	94.90			3.209E-01	1.841E-01	3.142E-01	2.557E-02	1.021

---- 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		-1.581E-01	1.283E+00	2.048E+00	1.391E-01	-0.077
		144.24		3.759E-01	5.371E-01	8.671E-01	6.051E-02	0.433
		154.21		1.014E-01	2.691E-01	4.624E-01	3.077E-02	0.219
	+	269.46		3.622E-01	1.818E-01	2.391E-01	1.420E-02	1.515
		323.87	*	-7.831E-03	5.092E-01	7.144E-01	1.179E-01	-0.011
	+	338.28		6.753E+00	1.439E+00	1.794E+00	1.888E-01	3.764
		445.03		1.139E+00	1.548E+00	2.660E+00	2.783E-01	0.428
		79.80		-7.286E-01	1.827E+00	2.062E+00	4.435E-01	-0.353
		236.00		4.475E-01	1.895E-01	2.977E-01	3.071E-02	1.503
		256.20	*	1.784E-01	2.755E-01	4.620E-01	6.417E-02	0.386
		286.10		-6.368E-02	1.090E+00	1.766E+00	2.035E-01	-0.036
	+	299.80		3.359E+00	1.446E+00	1.807E+00	2.939E-01	1.859
TH-227		304.40		7.877E-01	1.423E+00	2.072E+00	3.580E-01	0.380
		334.20		1.383E+00	2.053E+00	2.554E+00	4.682E-01	0.542
		79.80		-7.286E-01	1.827E+00	2.062E+00	4.492E-01	-0.353
	+	94.00		7.791E+00	2.595E+00	3.030E+00	6.557E-01	2.571
		236.00		4.475E-01	1.881E-01	2.977E-01	2.649E-02	1.503
		256.20	*	1.784E-01	2.761E-01	4.620E-01	7.781E-02	0.386
		286.10		-6.368E-02	1.092E+00	1.766E+00	1.769E+00	-0.036
	+	299.80		3.359E+00	1.446E+00	1.807E+00	2.939E-01	1.859
		304.40		7.877E-01	1.423E+00	2.072E+00	3.580E-01	0.380
		334.20		1.383E+00	2.053E+00	2.554E+00	4.682E-01	0.542
		85.43		2.018E-01	1.380E-01	2.354E-01	2.128E-02	0.857
	+	88.47		3.744E-01	1.075E-01	1.615E-01	1.480E-02	2.318
TH-229		100.00		9.410E-02	1.427E-01	2.372E-01	1.786E-02	0.397
		193.63	*	-3.613E-01	3.551E-01	5.707E-01	3.056E-02	-0.633
	+	210.97		1.444E+00	7.172E-01	9.416E-01	5.119E-02	1.534
		283.67	*	-4.085E-01	1.133E+00	1.718E+00	2.360E-01	-0.238
PA-231	+	301.29		1.344E+00	5.535E-01	7.320E-01	7.630E-02	1.836
TH-231		81.07		1.481E-01	2.199E-01	2.682E-01	2.339E-02	0.552
		83.78		1.245E-01	9.402E-02	1.601E-01	1.427E-02	0.778
		94.90		3.209E-01	1.841E-01	3.142E-01	2.557E-02	1.021
		122.32		-1.581E-01	1.283E+00	2.048E+00	1.391E-01	-0.077
U-231		144.24		3.759E-01	5.371E-01	8.671E-01	6.051E-02	0.433
		154.21		1.014E-01	2.691E-01	4.624E-01	3.077E-02	0.219
	+	269.46		3.622E-01	1.818E-01	2.391E-01	1.420E-02	1.515
		323.87	*	-7.831E-03	5.092E-01	7.144E-01	1.179E-01	-0.011
	+	338.28		6.753E+00	1.439E+00	1.794E+00	1.888E-01	3.764
		445.03		1.139E+00	1.548E+00	2.660E+00	2.783E-01	0.428
		84.21		5.245E+00	3.981E+00	6.776E+00	6.062E-01	0.774
	+	92.29		7.621E+00	2.029E+00	3.071E+00	2.614E-01	2.482
		95.87	*	4.258E-01	8.887E-01	1.322E+00	1.059E-01	0.322
		108.00		-1.235E+00	1.607E+00	2.506E+00	1.704E-01	-0.493
	+	75.28		1.332E+01	3.613E+00	5.135E+00	7.811E-01	2.595
	+	86.59		5.368E+00	2.058E+00	2.246E+00	6.061E-01	2.390
	+	300.12		9.366E-01	3.938E-01	5.029E-01	6.746E-02	1.862
PA-233		311.98	*	3.079E-02	4.540E-02	7.564E-02	4.634E-03	0.407
		340.50		2.012E+00	7.228E-01	9.307E-01	2.137E-01	2.162
		398.62		-8.735E-01	1.347E+00	2.145E+00	5.547E-01	-0.407

---- 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		6.271E-02	1.104E+00	1.847E+00	3.809E-01	0.034
		63.00		2.360E+00	2.118E+00	2.445E+00	3.685E-01	0.965
		94.67		3.484E-01	1.405E-01	2.365E-01	2.860E-02	1.473
		98.44		-1.230E-02	7.931E-02	1.138E-01	6.335E-02	-0.108
		99.86		2.546E-01	3.620E-01	6.028E-01	4.548E-02	0.422
		111.00		-4.410E-02	1.401E-01	2.232E-01	2.395E-02	-0.198
		131.20		-6.514E-02	8.115E-02	1.253E-01	7.134E-03	-0.520
		152.70		2.607E-01	2.404E-01	3.912E-01	6.125E-02	0.667
	+	186.00		4.322E+00	1.998E+00	1.876E+00	5.715E-01	2.304
		226.40		8.569E-02	2.932E-01	4.899E-01	5.593E-02	0.175
		227.20		2.644E-01	3.118E-01	5.314E-01	2.929E-02	0.498
		248.90		2.429E-01	5.464E-01	9.113E-01	1.953E-01	0.267
		293.70		3.633E+00	8.699E-01	1.149E+00	1.845E-01	3.162
		369.80		-1.643E-01	5.525E-01	9.145E-01	1.904E-01	-0.180
		568.70		-5.017E-01	6.887E-01	1.067E+00	7.474E-02	-0.470
		569.50		3.919E-02	1.847E-01	3.039E-01	2.129E-02	0.129
		574.00		2.440E-01	1.079E+00	1.775E+00	1.249E-01	0.137
		699.00		3.785E-01	5.030E-01	8.656E-01	1.634E-01	0.437
		706.10		-7.056E-01	7.567E-01	1.077E+00	4.793E-01	-0.655
		733.00		1.727E-01	2.901E-01	4.340E-01	9.638E-02	0.398
		742.81		5.414E-01	9.953E-01	1.594E+00	1.072E+00	0.340
	+	796.30		1.570E+00	1.045E+00	1.132E+00	3.101E-01	1.386
		805.60		1.219E+00	8.042E-01	1.291E+00	4.001E-01	0.944
		819.60		3.052E-01	7.859E-01	1.316E+00	5.049E-01	0.232
		826.30		-2.069E-01	5.872E-01	9.216E-01	4.152E-01	-0.224
		831.60		-5.093E-01	4.558E-01	6.478E-01	1.965E-01	-0.786
		876.40		-1.665E-01	5.956E-01	9.138E-01	9.414E-01	-0.182
		880.51		-5.260E-02	1.924E-01	3.084E-01	3.393E-02	-0.171
		883.24		-1.523E-02	1.907E-01	3.096E-01	2.092E-01	-0.049
		899.00		-3.992E-01	6.073E-01	8.933E-01	3.959E-01	-0.447
		925.00		-3.203E-01	8.424E-01	1.289E+00	1.405E-01	-0.248
		926.50		-7.146E-02	1.265E-01	1.953E-01	5.103E-02	-0.366
		946.00	*	-6.693E-02	2.219E-01	3.523E-01	6.950E-02	-0.190
		949.00		1.682E-01	3.372E-01	5.651E-01	5.935E-02	0.298
		980.50		-1.481E-01	4.920E-01	7.775E-01	7.733E-02	-0.190
		1394.10		-1.045E+00	1.029E+00	1.066E+00	6.920E-01	-0.981
	PA-234M	766.42		7.860E+00	1.022E+01	1.429E+01	7.261E+00	0.550
		1001.03	*	2.006E+00	3.239E+00	5.511E+00	5.945E-01	0.364
	U-235	+	89.95	2.067E+00	1.147E+00	1.413E+00	4.370E-01	1.463
		+	93.35	2.424E+00	9.134E-01	9.855E-01	2.754E-01	2.460
			105.00	7.382E-01	8.605E-01	1.393E+00	4.099E-01	0.530
			143.76	1.247E-01	1.664E-01	2.676E-01	4.334E-02	0.466
			163.35	5.377E-02	3.353E-01	5.699E-01	1.015E-01	0.094
	+		185.71	1.601E-01	5.628E-02	6.944E-02	3.693E-03	2.305
			205.31	3.493E-01	3.989E-01	6.002E-01	1.072E-01	0.582
NP-236		94.67		2.669E-01	1.041E-01	1.796E-01	1.468E-02	1.486
		98.44		-9.334E-03	5.973E-02	8.604E-02	6.626E-03	-0.108
		111.00		-3.335E-02	1.059E-01	1.689E-01	1.111E-02	-0.198
		160.31	*	2.336E-02	5.537E-02	9.506E-02	5.036E-03	0.246

---- 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		9.174E-02	1.261E-01	2.010E-01	1.523E-02	0.456
		117.00	*	-1.138E-01	1.438E-01	2.237E-01	1.385E-02	-0.509
	+	209.75		1.455E+00	7.225E-01	9.822E-01	5.334E-02	1.481
		228.18		1.055E-01	1.616E-01	2.736E-01	1.509E-02	0.386
	+	277.60		1.354E-01	1.822E-01	2.211E-01	1.259E-02	0.612
AM-241		334.30		7.466E-01	1.154E+00	1.442E+00	8.338E-02	0.518
		59.54	*	1.962E-02	1.541E-01	2.329E-01	1.931E-02	0.084
		99.55		9.440E-02	1.298E-01	2.068E-01	1.567E-02	0.456
		103.76	*	2.015E-02	7.803E-02	1.277E-01	9.139E-03	0.158
		117.00		-1.171E-01	1.480E-01	2.302E-01	1.425E-02	-0.509
CM-243	+	209.75		1.434E+00	7.123E-01	9.683E-01	5.259E-02	1.481
		228.18		1.066E-01	1.633E-01	2.764E-01	1.525E-02	0.386
	+	277.60		1.365E-01	1.837E-01	2.229E-01	1.269E-02	0.612
		798.80		-7.943E-03	1.053E-01	1.482E-01	1.432E-02	-0.054
		1036.00		-1.084E-01	1.971E-01	3.165E-01	2.802E-02	-0.342
AM-246		1062.04		-2.233E-03	1.615E-01	2.695E-01	2.234E-02	-0.008
		1078.86	*	-4.544E-02	1.039E-01	1.683E-01	1.331E-02	-0.270
	+	278.00		5.614E-01	7.556E-01	9.162E-01	5.219E-02	0.613
		287.40		8.169E-01	8.560E-01	1.450E+00	8.294E-02	0.563
		402.60	*	-1.353E-03	2.426E-02	4.045E-02	2.356E-03	-0.033
CF-249		252.85		-5.309E-01	6.059E-01	9.538E-01	5.358E-02	-0.557
		333.44		1.884E-01	1.650E-01	1.902E-01	1.100E-02	0.991
		387.95	*	1.389E-02	2.549E-02	4.389E-02	2.523E-03	0.316
CF-251		176.60	*	-4.224E-02	8.557E-02	1.413E-01	7.462E-03	-0.299
		227.00		2.503E-01	2.756E-01	4.707E-01	2.594E-02	0.532
		285.00		-1.175E+00	1.234E+00	1.912E+00	1.093E-01	-0.615

# 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]G244881001      *
* Acquisition date   : 26-JAN-2010 13:24:42 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 02:00:01.82           Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244881001           Analyst initials: MXR1          *
* Batch Number       : 942718                Sample Quantity : 1.5867E+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	3.110E+01	2.622E+00	3.668E-01	0.000E+00
CD-109	2.789E+00	7.851E-01	1.015E+00	0.000E+00
SN-126	2.742E-01	7.717E-02	1.004E-01	0.000E+00
BA-137M	2.312E-01	4.464E-02	4.337E-02	0.000E+00
CS-137	2.444E-01	4.721E-02	4.585E-02	0.000E+00
TL-208	3.509E-01	5.504E-02	4.097E-02	0.000E+00
BI-211	3.060E+00	3.479E-01	2.407E-01	0.000E+00
PB-212	1.299E+00	1.184E-01	6.323E-02	0.000E+00
PO-212	1.299E+00	1.184E-01	6.323E-02	0.000E+00
BI-214	8.809E-01	1.280E-01	7.882E-02	0.000E+00
PB-214	1.064E+00	1.327E-01	7.882E-02	0.000E+00
PO-214	1.064E+00	1.327E-01	7.882E-02	0.000E+00
PO-216	1.299E+00	1.184E-01	6.323E-02	0.000E+00
PO-218	1.064E+00	1.327E-01	7.882E-02	0.000E+00
RA-224	2.989E+00	7.704E-01	7.185E-01	0.000E+00
RA-226	8.809E-01	1.280E-01	7.882E-02	0.000E+00
AC-228	1.267E+00	2.587E-01	1.523E-01	0.000E+00
RA-228	1.267E+00	2.587E-01	1.523E-01	0.000E+00
TH-228	1.319E+00	1.202E-01	6.418E-02	0.000E+00
TH-230	8.809E-01	1.280E-01	7.882E-02	0.000E+00
TH-232	1.267E+00	2.587E-01	1.523E-01	0.000E+00
TH-234	2.025E+00	1.790E+00	2.005E+00	0.000E+00
U-234	8.809E-01	1.280E-01	7.882E-02	0.000E+00
NP-237	8.052E-01	2.790E-01	2.995E-01	0.000E+00
U-238	2.025E+00	1.790E+00	2.005E+00	0.000E+00
AM-243	2.543E-01	5.972E-02	7.972E-02	0.000E+00
ANH-511	9.189E-02	4.616E-02	3.204E-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	1.025E-02	2.140E-01	3.765E-01	0.000E+00	NOT IDENT.
NA-22	-1.293E-02	3.001E-02	4.930E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	4.487E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-5.986E-03	1.760E-02	2.795E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.344E-02	6.853E-02	0.000E+00	FAIL ABUN
SC-46	-3.243E-04	2.513E-02	4.289E-02	0.000E+00	FAIL ABUN
V-48	-4.498E-02	4.650E-02	7.202E-02	0.000E+00	NOT IDENT.
CR-51	3.492E-02	2.585E-01	4.508E-01	0.000E+00	NOT IDENT.
MN-52	5.792E-02	1.538E-01	2.673E-01	0.000E+00	NOT IDENT.
MN-54	-1.201E-02	2.548E-02	4.252E-02	0.000E+00	NOT IDENT.
CO-56	1.836E-03	2.610E-02	4.507E-02	0.000E+00	NOT IDENT.
CO-57	-4.636E-04	1.826E-02	3.229E-02	0.000E+00	NOT IDENT.
CO-58	-1.872E-02	2.784E-02	4.594E-02	0.000E+00	NOT IDENT.
FE-59	-2.072E-02	6.358E-02	1.076E-01	0.000E+00	NOT IDENT.
CO-60	-1.110E-02	2.677E-02	4.354E-02	0.000E+00	NOT IDENT.
ZN-65	3.814E-02	7.656E-02	1.178E-01	0.000E+00	NOT IDENT.
GE-68	-2.655E-01	8.729E-01	1.483E+00	0.000E+00	NOT IDENT.
AS-73	3.744E-02	8.640E-01	1.584E+00	0.000E+00	NOT IDENT.
AS-74	3.884E-02	6.086E-02	1.080E-01	0.000E+00	NOT IDENT.
SE-75	2.420E-03	3.111E-02	5.109E-02	0.000E+00	NOT IDENT.
BR-77	1.160E+00	6.563E+00	1.153E+01	0.000E+00	FAIL ABUN
SR-82	-2.472E-01	2.622E-01	4.270E-01	0.000E+00	NOT IDENT.
RB-83	4.518E-03	4.391E-02	7.678E-02	0.000E+00	NOT IDENT.
RB-84	3.540E-03	4.613E-02	7.931E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	5.785E+00	1.020E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	2.964E-02	5.228E-02	0.000E+00	NOT IDENT.
RB-86	-2.026E-02	5.351E-01	9.256E-01	0.000E+00	NOT IDENT.
Y-88	8.970E-03	2.153E-02	3.815E-02	0.000E+00	NOT IDENT.
ZR-88	-9.419E-03	1.889E-02	3.296E-02	0.000E+00	NOT IDENT.
Y-91	4.182E+00	1.380E+01	2.378E+01	0.000E+00	NOT IDENT.
NB-94	-6.997E-03	2.219E-02	3.828E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	3.286E-02	5.534E-02	0.000E+00	NOT IDENT.
NB-95M	7.868E-02	9.136E-02	1.497E-01	0.000E+00	NOT IDENT.
ZR-95	4.765E-02	4.473E-02	8.271E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	7.230E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.382E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.919E+00	7.880E+00	1.290E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.437E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.708E-02	2.231E-02	4.098E-02	0.000E+00	NOT IDENT.
RH-102	-3.287E-03	1.929E-02	3.354E-02	0.000E+00	NOT IDENT.
RU-103	-2.215E-02	2.626E-02	4.330E-02	0.000E+00	FAIL ABUN
RH-106	-4.184E-01	2.307E-01	3.364E-01	0.000E+00	FAIL ABUN
RU-106	-4.184E-01	2.269E-01	3.364E-01	0.000E+00	FAIL ABUN
AG-108M	-9.449E-03	2.083E-02	3.602E-02	0.000E+00	NOT IDENT.
AG-110M	4.400E-02	2.706E-02	4.617E-02	0.000E+00	NOT IDENT.
IN-111	-4.100E-01	7.739E-01	1.169E+00	0.000E+00	NOT IDENT.
IN-113M	-7.738E-03	2.699E-02	4.766E-02	0.000E+00	NOT IDENT.
SN-113	-7.738E-03	2.699E-02	4.766E-02	0.000E+00	NOT IDENT.
IN-114M	6.946E-02	1.413E-01	2.326E-01	0.000E+00	NOT IDENT.
CD-115	2.936E+00	6.796E+00	1.209E+01	0.000E+00	NOT IDENT.
SN-117M	1.427E-02	3.633E-02	6.835E-02	0.000E+00	NOT IDENT.
SB-122	5.003E-01	1.341E+00	2.359E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.588E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.681E-02	1.907E-02	3.641E-02	0.000E+00	NOT IDENT.
I-124	-3.229E-01	4.984E-01	6.905E-01	0.000E+00	NOT IDENT.
SB-124	-3.745E-03	4.488E-02	7.514E-02	0.000E+00	FAIL ABUN
SB-125	6.417E-03	5.731E-02	1.024E-01	0.000E+00	FAIL ABUN
TE-125M	3.492E+00	6.983E+00	1.264E+01	0.000E+00	NOT IDENT.
I-126	1.391E-02	1.344E-01	2.068E-01	0.000E+00	NOT IDENT.
SB-126	-1.067E-01	1.178E-01	1.636E-01	0.000E+00	FAIL ABUN
SB-127	4.144E-01	8.364E-01	1.516E+00	0.000E+00	NOT IDENT.
XE-127	-3.212E-02	3.133E-02	5.462E-02	0.000E+00	NOT IDENT.
I-131	-3.075E-03	7.529E-02	1.357E-01	0.000E+00	NOT IDENT.
TE-132	3.209E-01	4.801E-01	8.791E-01	0.000E+00	NOT IDENT.
BA-133	5.794E-03	3.198E-02	4.838E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	3.687E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.862E-02	5.970E-02	0.000E+00	FAIL ABUN
CS-135	1.680E-01	1.180E-01	1.970E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.426E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.210E-04	6.807E-02	1.185E-01	0.000E+00	FAIL ABUN
CE-139	4.673E-03	2.041E-02	3.804E-02	0.000E+00	NOT IDENT.
BA-140	1.349E-01	1.726E-01	3.032E-01	0.000E+00	NOT IDENT.
LA-140	-1.073E-02	5.813E-02	8.159E-02	0.000E+00	FAIL ABUN
CE-141	3.579E-02	4.802E-02	8.588E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.472E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	6.198E-02	1.498E-01	2.669E-01	0.000E+00	NOT IDENT.
PM-144	1.211E-02	2.330E-02	4.208E-02	0.000E+00	NOT IDENT.
PR-144	8.208E-01	1.579E+00	2.851E+00	0.000E+00	NOT IDENT.



PM-146	3.076E-03	2.869E-02	5.091E-02	0.000E+00	NOT IDENT.
ND-147	-1.974E-01	3.563E-01	5.944E-01	0.000E+00	FAIL ABUN
PM-149	-7.114E+00	6.244E+01	1.089E+02	0.000E+00	NOT IDENT.
EU-152	3.204E-02	7.655E-02	1.181E-01	0.000E+00	NOT IDENT.
GD-153	-1.445E-02	6.596E-02	1.052E-01	0.000E+00	NOT IDENT.
EU-154	-4.857E-02	8.487E-02	1.378E-01	0.000E+00	NOT IDENT.
EU-155	5.575E-02	8.347E-02	1.532E-01	0.000E+00	FAIL ABUN
TB-160	-1.327E-02	9.046E-02	1.531E-01	0.000E+00	FAIL ABUN
HO-166M	-1.370E-02	3.967E-02	6.811E-02	0.000E+00	NOT IDENT.
TM-171	6.487E+00	2.633E+01	4.438E+01	0.000E+00	NOT IDENT.
LU-176	-1.453E-02	1.709E-02	2.846E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	9.924E-01	1.478E+00	0.000E+00	FAIL ABUN
LU-177M	-2.372E-01	1.209E-01	1.932E-01	0.000E+00	FAIL ABUN
HF-181	1.447E-02	2.744E-02	4.948E-02	0.000E+00	NOT IDENT.
W-181	-2.545E-01	3.516E-01	5.681E-01	0.000E+00	NOT IDENT.
TA-182	-4.347E-02	1.390E-01	2.328E-01	0.000E+00	FAIL ABUN
RE-183	-2.762E-02	7.583E-02	1.388E-01	0.000E+00	FAIL ABUN
RE-184	-1.414E-01	1.582E-01	2.696E-01	0.000E+00	NOT IDENT.
OS-185	-1.135E-02	2.704E-02	4.442E-02	0.000E+00	NOT IDENT.
RE-188	5.625E-03	1.137E-01	2.119E-01	0.000E+00	NOT IDENT.
W-188	-3.205E+00	5.807E+00	8.569E+00	0.000E+00	FAIL ABUN
IR-192	3.381E-03	2.411E-02	4.211E-02	0.000E+00	FAIL ABUN
AU-195	6.771E-02	1.893E-01	3.102E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.848E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.294E+00	4.778E+00	8.481E+00	0.000E+00	NOT IDENT.
TL-202	-2.321E-03	4.527E-02	7.995E-02	0.000E+00	NOT IDENT.
HG-203	2.275E-02	3.202E-02	5.131E-02	0.000E+00	NOT IDENT.
BI-207	1.053E-02	3.552E-02	6.286E-02	0.000E+00	FAIL ABUN
TL-207	-7.831E-03	4.991E-01	7.528E-01	0.000E+00	FAIL ABUN
PO-209	2.362E+00	5.011E+00	8.671E+00	0.000E+00	NOT IDENT.
BI-210	-3.435E-01	4.056E+00	7.741E+00	0.000E+00	NOT IDENT.
PB-210	-3.435E-01	4.056E+00	7.741E+00	0.000E+00	NOT IDENT.
PO-210	-3.435E-01	4.056E+00	7.741E+00	0.000E+00	NOT IDENT.
PB-211	-4.252E-01	6.861E-01	1.099E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.509E-01	4.460E-01	0.000E+00	FAIL ABUN
PO-215	-7.831E-03	4.991E-01	7.528E-01	0.000E+00	FAIL ABUN
RN-219	-7.891E-02	2.654E-01	4.671E-01	0.000E+00	FAIL ABUN
RN-220	-6.492E+00	1.729E+01	2.917E+01	0.000E+00	NOT IDENT.
RA-223	-7.831E-03	4.991E-01	7.528E-01	0.000E+00	FAIL ABUN
AC-227	1.784E-01	2.700E-01	4.899E-01	0.000E+00	FAIL ABUN
TH-227	1.784E-01	2.706E-01	4.899E-01	0.000E+00	FAIL ABUN
TH-229	-3.613E-01	3.480E-01	6.098E-01	0.000E+00	FAIL ABUN
PA-231	-4.085E-01	1.110E+00	1.816E+00	0.000E+00	FAIL ABUN
TH-231	-7.831E-03	4.991E-01	7.528E-01	0.000E+00	FAIL ABUN
U-231	4.258E-01	8.710E-01	1.439E+00	0.000E+00	FAIL ABUN
PA-233	3.079E-02	4.449E-02	7.979E-02	0.000E+00	FAIL ABUN
PA-234	-6.693E-02	2.175E-01	3.603E-01	0.000E+00	FAIL ABUN
PA-234M	2.006E+00	3.174E+00	5.625E+00	0.000E+00	NOT IDENT.
U-235	1.247E-01	1.631E-01	2.882E-01	0.000E+00	FAIL ABUN
NP-236	2.336E-02	5.426E-02	1.021E-01	0.000E+00	NOT IDENT.
NP-239	-1.138E-01	1.409E-01	2.422E-01	0.000E+00	FAIL ABUN
AM-241	1.962E-02	1.510E-01	2.565E-01	0.000E+00	NOT IDENT.
CM-243	2.015E-02	7.647E-02	1.387E-01	0.000E+00	FAIL ABUN
AM-246	-4.544E-02	1.018E-01	1.714E-01	0.000E+00	NOT IDENT.
CM-247	-1.353E-03	2.377E-02	4.237E-02	0.000E+00	FAIL ABUN
CF-249	1.389E-02	2.498E-02	4.602E-02	0.000E+00	NOT IDENT.
CF-251	-4.224E-02	8.385E-02	1.513E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881001.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:24:42
Sample ID          : G244881001          Sample quantity  : 1.58670E+02 GRAM
Detector name      : GAM18              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time : 0 02:00:01.82  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942718             Detector SN#       :
Matrix Spike ID    :                    LCS ID            : 1032-A
*****

```

## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	2656	10.67*	1.893E+00	3.110E+01	3.110E+01	8.60
CD-109	88.03	278	3.72*	6.477E+00	2.727E+00	2.789E+00	28.72
SN-126	64.28	101	9.60	3.109E+00	8.014E-01	8.014E-01	89.68
	86.94	278	8.90	6.477E+00	1.140E+00	1.140E+00	49.61
	87.57	278	37.00*	6.477E+00	2.742E-01	2.742E-01	28.72
BA-137M	661.65	315	89.98*	3.588E+00	2.310E-01	2.312E-01	19.70
CS-137	661.65	315	85.12*	3.588E+00	2.442E-01	2.444E-01	19.71
TL-208	277.35	50	6.80	6.258E+00	2.807E-01	2.807E-01	134.88
	510.84	167	21.60	4.309E+00	4.254E-01	4.254E-01	51.93
	583.14	491	84.20*	3.934E+00	3.509E-01	3.509E-01	16.00
	860.37	72	12.46	2.916E+00	4.700E-01	4.700E-01	56.27
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	912	12.94*	5.450E+00	3.060E+00	3.060E+00	11.60
PB-212	74.81	350	10.70	4.935E+00	1.569E+00	1.569E+00	25.72
	77.11	571	18.00	5.266E+00	1.426E+00	1.426E+00	16.85
	87.30	278	8.00	6.477E+00	1.268E+00	1.268E+00	30.41
	238.63	1664	44.60*	6.792E+00	1.299E+00	1.299E+00	9.30
	300.09	156	3.41	5.983E+00	1.813E+00	1.813E+00	40.69
PO-212	74.81	350	10.70	4.935E+00	1.569E+00	1.569E+00	25.72
	77.11	571	18.00	5.266E+00	1.426E+00	1.426E+00	16.85
	87.30	278	8.00	6.477E+00	1.268E+00	1.268E+00	30.41
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1664	44.60*	6.792E+00	1.299E+00	1.299E+00	9.30
	300.09	156	3.41	5.983E+00	1.813E+00	1.813E+00	40.69
BI-214	609.31	657	46.30*	3.813E+00	8.809E-01	8.809E-01	14.82
	1120.29	163	15.10	2.335E+00	1.096E+00	1.096E+00	30.95
	1764.49	165	15.80	1.695E+00	1.454E+00	1.454E+00	19.91
PB-214	74.81	350	6.21	4.935E+00	2.703E+00	2.703E+00	25.08
	77.11	571	10.50	5.266E+00	2.444E+00	2.444E+00	18.49
	87.30	278	4.67	6.477E+00	2.172E+00	2.172E+00	29.74
	241.98	337	7.49	6.747E+00	1.576E+00	1.576E+00	26.90
	295.21	488	19.20	6.040E+00	9.948E-01	9.948E-01	16.17

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	912	37.20*	5.450E+00	1.064E+00	1.064E+00	12.72
	74.81	350	6.21	4.935E+00	2.703E+00	2.703E+00	25.08
	77.11	571	10.50	5.266E+00	2.444E+00	2.444E+00	18.49
	87.30	278	4.67	6.477E+00	2.172E+00	2.172E+00	29.74
	241.98	337	7.49	6.747E+00	1.576E+00	1.576E+00	26.90
PO-216	295.21	488	19.20	6.040E+00	9.948E-01	9.948E-01	16.17
	351.92	912	37.20*	5.450E+00	1.064E+00	1.064E+00	12.72
	74.81	350	10.70	4.935E+00	1.569E+00	1.569E+00	25.72
	77.11	571	18.00	5.266E+00	1.426E+00	1.426E+00	16.85
	87.30	278	8.00	6.477E+00	1.268E+00	1.268E+00	30.41
PO-218	238.63	1664	44.60*	6.792E+00	1.299E+00	1.299E+00	9.30
	300.09	156	3.41	5.983E+00	1.813E+00	1.813E+00	40.69
	74.81	350	6.21	4.935E+00	2.703E+00	2.703E+00	25.08
	77.11	571	10.50	5.266E+00	2.444E+00	2.444E+00	18.49
	87.30	278	4.67	6.477E+00	2.172E+00	2.172E+00	29.74
RA-224	241.98	337	7.49	6.747E+00	1.576E+00	1.576E+00	26.90
	295.21	488	19.20	6.040E+00	9.948E-01	9.948E-01	16.17
	351.92	912	37.20*	5.450E+00	1.064E+00	1.064E+00	12.72
	240.98	337	3.95*	6.747E+00	2.989E+00	2.989E+00	26.30
	609.31	657	46.30*	3.813E+00	8.809E-01	8.809E-01	14.82
AC-228	1120.29	163	15.10	2.335E+00	1.096E+00	1.096E+00	30.95
	1764.49	165	15.80	1.695E+00	1.454E+00	1.454E+00	19.91
	338.32	435	11.40	5.581E+00	1.617E+00	1.617E+00	44.78
	911.07	412	27.70*	2.779E+00	1.267E+00	1.267E+00	20.83
	969.11	192	16.60	2.639E+00	1.035E+00	1.035E+00	38.41
RA-228	338.32	435	11.40	5.581E+00	1.617E+00	1.617E+00	44.78
	911.07	412	27.70*	2.779E+00	1.267E+00	1.267E+00	20.83
	969.11	192	16.60	2.639E+00	1.035E+00	1.035E+00	38.41
	74.81	350	10.70	4.935E+00	1.569E+00	1.592E+00	23.99
	77.11	571	18.00	5.266E+00	1.426E+00	1.447E+00	16.85
TH-228	87.30	278	8.00	6.477E+00	1.268E+00	1.287E+00	28.72
	238.63	1664	44.60*	6.792E+00	1.299E+00	1.319E+00	9.30
	300.09	156	3.41	5.983E+00	1.813E+00	1.840E+00	71.14
	609.31	657	46.30*	3.813E+00	8.809E-01	8.809E-01	14.82
	1120.29	163	15.10	2.335E+00	1.096E+00	1.096E+00	30.95
TH-230	1764.49	165	15.80	1.695E+00	1.454E+00	1.454E+00	19.91
	338.32	435	11.40	5.581E+00	1.617E+00	1.617E+00	19.41
	911.07	412	27.70*	2.779E+00	1.267E+00	1.267E+00	20.83
	969.11	192	16.60	2.639E+00	1.035E+00	1.035E+00	38.41
	63.29	101	3.80*	3.109E+00	2.025E+00	2.025E+00	90.20
TH-232	92.38	321	5.41	6.959E+00	2.016E+00	2.016E+00	31.01
	609.31	657	46.30*	3.813E+00	8.809E-01	8.809E-01	14.82
	1120.29	163	15.10	2.335E+00	1.096E+00	1.096E+00	30.95
	1764.49	165	15.80	1.695E+00	1.454E+00	1.454E+00	19.91
	86.50	278	12.60*	6.477E+00	8.052E-01	8.052E-01	35.36
NP-237	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
	63.29	101	3.80*	3.109E+00	2.025E+00	2.025E+00	90.20
	92.38	321	5.41	6.959E+00	2.016E+00	2.016E+00	26.63
	74.67	350	66.00*	4.935E+00	2.543E-01	2.543E-01	23.96

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	278	0.34	6.477E+00	3.019E+01	3.019E+01	28.72
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	167	100.00*	4.309E+00	9.189E-02	9.189E-02	51.26

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	3.110E+01	3.110E+01	0.268E+01	8.60	
CD-109	464.00D	1.02	2.727E+00	2.789E+00	0.801E+00	28.72	
SN-126	1.00E+05Y	1.00	2.742E-01	2.742E-01	0.787E-01	28.72	
BA-137M	30.17Y	1.00	2.310E-01	2.312E-01	0.456E-01	19.70	
CS-137	30.17Y	1.00	2.442E-01	2.444E-01	0.482E-01	19.71	
TL-208	1.41E+10Y	1.00	3.509E-01	3.509E-01	0.562E-01	16.00	
BI-211	7.04E+08Y	1.00	3.060E+00	3.060E+00	0.355E+00	11.60	
PB-212	1.41E+10Y	1.00	1.299E+00	1.299E+00	0.121E+00	9.30	
PO-212	1.41E+10Y	1.00	1.299E+00	1.299E+00	0.121E+00	9.30	
BI-214	1600.00Y	1.00	8.809E-01	8.809E-01	1.306E-01	14.82	
PB-214	1600.00Y	1.00	1.064E+00	1.064E+00	0.135E+00	12.72	
PO-214	1600.00Y	1.00	1.064E+00	1.064E+00	0.135E+00	12.72	
PO-216	1.41E+10Y	1.00	1.299E+00	1.299E+00	0.121E+00	9.30	
PO-218	1600.00Y	1.00	1.064E+00	1.064E+00	0.135E+00	12.72	
RA-224	1.41E+10Y	1.00	2.989E+00	2.989E+00	0.786E+00	26.30	
RA-226	1600.00Y	1.00	8.809E-01	8.809E-01	1.306E-01	14.82	
AC-228	1.41E+10Y	1.00	1.267E+00	1.267E+00	0.264E+00	20.83	
RA-228	1.41E+10Y	1.00	1.267E+00	1.267E+00	0.264E+00	20.83	
TH-228	1.91Y	1.02	1.299E+00	1.319E+00	0.123E+00	9.30	
TH-230	4.47E+09Y	1.00	8.809E-01	8.809E-01	1.306E-01	14.82	
TH-232	1.41E+10Y	1.00	1.267E+00	1.267E+00	0.264E+00	20.83	
TH-234	4.47E+09Y	1.00	2.025E+00	2.025E+00	1.826E+00	90.20	
U-234	4.47E+09Y	1.00	8.809E-01	8.809E-01	1.306E-01	14.82	
NP-237	2.14E+06Y	1.00	8.052E-01	8.052E-01	2.847E-01	35.36	
U-238	4.47E+09Y	1.00	2.025E+00	2.025E+00	1.826E+00	90.20	
AM-243	7380.00Y	1.00	2.543E-01	2.543E-01	0.609E-01	23.96	
ANH-511	1.00E+09Y	1.00	9.189E-02	9.189E-02	4.710E-02	51.26	
Total Activity :			6.189E+01	6.198E+01			

Grand Total Activity : 6.189E+01 6.198E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G244881001

Page : 5  
Acquisition date : 26-JAN-2010 13:24:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	90.12	158	414	1.10	179.34	164	29	2.20E-02	46.1	6.72E+00	T
0	186.05	279	514	1.29	371.14	366	11	3.88E-02	34.8	7.65E+00	T
0	209.50	145	343	1.67	418.02	414	9	2.01E-02	49.4	7.25E+00	T
0	270.20	132	273	1.41	539.39	535	10	1.84E-02	49.8	6.35E+00	T
0	328.05	125	216	1.78	655.05	650	11	1.74E-02	48.7	5.68E+00	T
0	463.10	133	136	1.61	925.05	918	13	1.84E-02	40.3	4.60E+00	T
0	727.65	121	153	1.87	1454.02	1445	15	1.68E-02	48.2	3.34E+00	T
0	768.46	39	103	1.54	1535.63	1530	9	5.48E-03	98.1	3.19E+00	
0	795.57	80	107	1.61	1589.84	1583	15	1.12E-02	60.7	3.11E+00	T
0	1378.63	50	41	1.86	2755.75	2748	18	6.93E-03	68.7	1.97E+00	
0	1588.04	61	16	0.98	3174.56	3166	17	8.41E-03	40.4	1.79E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881001.CNF;1
* Acquisition date   : 26-JAN-2010 13:24:42  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 02:00:01.82          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244881001            Analyst initials: MXR1
* Batch Number       : 942718                Sample Quantity : 1.58670E+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      :
*****

```

## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.110E+01	2.675E+00	3.633E-01	2.757E-02	85.603
CD-109	2.789E+00	8.011E-01	9.303E-01	8.601E-02	2.998
SN-126	2.742E-01	7.875E-02	9.204E-02	8.480E-03	2.979
BA-137M	2.312E-01	4.556E-02	4.198E-02	3.200E-03	5.508
CS-137	2.444E-01	4.817E-02	4.438E-02	3.391E-03	5.508
TL-208	3.509E-01	5.616E-02	3.952E-02	3.098E-03	8.878
BI-211	3.060E+00	3.550E-01	2.289E-01	1.469E-02	13.368
PB-212	1.299E+00	1.208E-01	5.951E-02	4.251E-03	21.835
PO-212	1.299E+00	1.208E-01	5.951E-02	4.251E-03	21.835
BI-214	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
PB-214	1.064E+00	1.354E-01	7.497E-02	6.202E-03	14.197
PO-214	1.064E+00	1.354E-01	7.497E-02	6.202E-03	14.197
PO-216	1.299E+00	1.208E-01	5.951E-02	4.251E-03	21.835
PO-218	1.064E+00	1.354E-01	7.497E-02	6.202E-03	14.197
RA-224	2.989E+00	7.862E-01	6.764E-01	3.768E-02	4.419
RA-226	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
AC-228	1.267E+00	2.639E-01	1.488E-01	1.972E-02	8.516
RA-228	1.267E+00	2.639E-01	1.488E-01	1.972E-02	8.516

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.319E+00	1.226E-01	6.041E-02	4.315E-03	21.835
TH-230	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
TH-232	1.267E+00	2.639E-01	1.488E-01	1.972E-02	8.516
TH-234	2.025E+00	1.826E+00	1.823E+00	3.215E-01	1.110
U-234	8.809E-01	1.306E-01	7.612E-02	6.800E-03	11.572
NP-237	8.052E-01	2.847E-01	2.745E-01	6.193E-02	2.933
U-238	2.025E+00	1.826E+00	1.823E+00	3.215E-01	1.110
AM-243	2.543E-01	6.094E-02	7.279E-02	6.074E-03	3.494
ANH-511	9.189E-02	4.710E-02	3.079E-02	2.033E-03	2.985

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.025E-02		2.184E-01	3.611E-01	2.617E-02	0.028
NA-22	-1.293E-02		3.062E-02	4.864E-02	3.310E-03	-0.266
NA-24	2.937E-01		2.289E-01	Half-Life too short		
AL-26	-5.986E-03		1.796E-02	2.786E-02	1.627E-03	-0.215
TI-44	2.631E-01	+	4.432E-02	6.266E-02	5.357E-03	4.199
SC-46	-3.243E-04		2.565E-02	4.188E-02	4.671E-03	-0.008
V-48	-4.498E-02		4.745E-02	7.052E-02	6.975E-03	-0.638
CR-51	3.492E-02		2.638E-01	4.276E-01	2.753E-02	0.082
MN-52	5.792E-02		1.570E-01	2.646E-01	1.950E-02	0.219
MN-54	-1.201E-02		2.600E-02	4.143E-02	4.244E-03	-0.290
CO-56	1.836E-03		2.664E-02	4.394E-02	4.586E-03	0.042
CO-57	-4.636E-04		1.863E-02	2.986E-02	1.769E-03	-0.016
CO-58	-1.872E-02		2.841E-02	4.473E-02	4.416E-03	-0.418
FE-59	-2.072E-02		6.488E-02	1.057E-01	8.702E-03	-0.196
CO-60	-1.110E-02		2.731E-02	4.301E-02	3.250E-03	-0.258
ZN-65	3.814E-02		7.812E-02	1.158E-01	8.156E-03	0.329
GE-68	-2.655E-01		8.907E-01	1.456E+00	1.157E-01	-0.182
AS-73	3.744E-02		8.816E-01	1.434E+00	1.137E-01	0.026
AS-74	3.884E-02		6.210E-02	1.043E-01	7.491E-03	0.372
SE-75	2.420E-03		3.174E-02	4.822E-02	2.758E-03	0.050
BR-77	1.160E+00		6.697E+00	1.108E+01	7.393E-01	0.105
SR-82	-2.472E-01		2.676E-01	4.152E-01	3.867E-02	-0.595
RB-83	4.518E-03		4.481E-02	7.383E-02	4.924E-03	0.061
RB-84	3.540E-03		4.707E-02	7.741E-02	8.531E-03	0.046
KR-85	1.646E+01		5.903E+00	9.807E+00	6.497E-01	1.678
SR-85	8.433E-02		3.025E-02	5.025E-02	3.329E-03	1.678
RB-86	-2.026E-02		5.461E-01	9.087E-01	7.234E-02	-0.022
Y-88	8.970E-03		2.197E-02	3.805E-02	2.167E-03	0.236
ZR-88	-9.419E-03		1.927E-02	3.145E-02	1.809E-03	-0.300
Y-91	4.182E+00		1.408E+01	2.342E+01	1.385E+00	0.179
NB-94	-6.997E-03		2.265E-02	3.712E-02	3.045E-03	-0.189
NB-95	5.660E-02		3.353E-02	5.379E-02	4.921E-03	1.052
NB-95M	7.868E-02		9.322E-02	1.408E-01	1.033E-02	0.559
ZR-95	4.765E-02		4.565E-02	8.037E-02	7.908E-03	0.593



---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.337E-01		3.689E-02	Half-Life too short		
ZR-97	2.278E+00		7.052E-01	Half-Life too short		
MO-99	-6.919E+00		8.041E+00	1.253E+01	1.912E+00	-0.552
TC-99M	-1.233E+10		1.243E+10	Half-Life too short		
RH-101	1.708E-02		2.277E-02	3.838E-02	2.063E-03	0.445
RH-102	-3.287E-03		1.968E-02	3.217E-02	2.043E-03	-0.102
RU-103	-2.215E-02		2.680E-02	4.158E-02	5.399E-03	-0.533
RH-106	-4.184E-01		2.354E-01	3.251E-01	4.090E-02	-1.287
RU-106	-4.184E-01		2.315E-01	3.251E-01	2.392E-02	-1.287
AG-108M	-9.449E-03		2.126E-02	3.446E-02	2.251E-03	-0.274
AG-110M	4.400E-02		2.761E-02	4.469E-02	3.525E-03	0.985
IN-111	-4.100E-01		7.897E-01	1.101E+00	6.155E-02	-0.372
IN-113M	-7.738E-03		2.754E-02	4.546E-02	2.789E-03	-0.170
SN-113	-7.738E-03		2.754E-02	4.546E-02	2.789E-03	-0.170
IN-114M	6.946E-02		1.442E-01	2.176E-01	1.162E-02	0.319
CD-115	2.936E+00		6.934E+00	1.163E+01	7.818E-01	0.252
SN-117M	1.427E-02		3.707E-02	6.363E-02	3.382E-03	0.224
SB-122	5.003E-01		1.368E+00	2.273E+00	1.584E-01	0.220
I-123	3.161E+00		1.831E+00	Half-Life too short		
TE-123M	1.681E-02		1.946E-02	3.390E-02	1.829E-03	0.496
I-124	-3.229E-01		5.085E-01	6.667E-01	4.821E-02	-0.484
SB-124	-3.745E-03		4.580E-02	7.475E-02	5.157E-03	-0.050
SB-125	6.417E-03		5.848E-02	9.791E-02	6.118E-03	0.066
TE-125M	3.492E+00		7.125E+00	1.166E+01	1.025E+00	0.300
I-126	1.391E-02		1.372E-01	2.002E-01	1.539E-02	0.069
SB-126	-1.067E-01		1.202E-01	1.588E-01	1.344E-02	-0.672
SB-127	4.144E-01		8.534E-01	1.469E+00	1.596E-01	0.282
XE-127	-3.212E-02		3.197E-02	5.118E-02	2.763E-03	-0.628
I-131	-3.075E-03		7.683E-02	1.292E-01	8.341E-03	-0.024
TE-132	3.209E-01		4.899E-01	8.264E-01	1.177E-01	0.388
BA-133	5.794E-03		3.263E-02	4.603E-02	5.317E-03	0.126
I-133	-1.711E-03		1.881E-03	Half-Life too short		
CS-134	8.078E-02	+	4.961E-02	5.809E-02	5.619E-03	1.391
CS-135	1.680E-01		1.205E-01	1.860E-01	1.406E-02	0.903
I-135	-4.048E+09		1.748E+09	Half-Life too short		
CS-136	5.210E-04		6.946E-02	1.162E-01	1.042E-02	0.004
CE-139	4.673E-03		2.083E-02	3.546E-02	1.861E-03	0.132
BA-140	1.349E-01		1.761E-01	2.918E-01	9.546E-02	0.462
LA-140	-1.073E-02		5.931E-02	8.103E-02	5.559E-03	-0.132
CE-141	3.579E-02		4.900E-02	7.977E-02	4.554E-03	0.449
CE-143	4.483E-04		7.513E-05	Half-Life too short		
CE-144	6.198E-02		1.529E-01	2.474E-01	3.498E-02	0.251
PM-144	1.211E-02		2.377E-02	4.079E-02	3.312E-03	0.297
PR-144	8.208E-01		1.611E+00	2.764E+00	2.243E-01	0.297
PM-146	3.076E-03		2.928E-02	4.877E-02	4.338E-03	0.063
ND-147	-1.974E-01		3.636E-01	5.719E-01	7.979E-02	-0.345
PM-149	-7.114E+00		6.372E+01	1.030E+02	1.457E+01	-0.069
EU-152	3.204E-02		7.812E-02	1.122E-01	7.325E-03	0.285

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.445E-02		6.731E-02	9.673E-02	7.563E-03	-0.149
EU-154	-4.857E-02		8.660E-02	1.360E-01	1.358E-02	-0.357
EU-155	5.575E-02		8.517E-02	1.411E-01	1.009E-02	0.395
TB-160	-1.327E-02		9.230E-02	1.494E-01	1.641E-02	-0.089
HO-166M	-1.370E-02		4.048E-02	6.607E-02	5.507E-03	-0.207
TM-171	6.487E+00		2.687E+01	4.041E+01	3.231E+00	0.161
LU-176	-1.453E-02		1.744E-02	2.697E-02	1.553E-03	-0.539
LU-177	2.039E+00	+	1.013E+00	1.386E+00	7.520E-02	1.471
LU-177M	-2.372E-01		1.233E-01	1.846E-01	1.090E-02	-1.285
HF-181	1.447E-02		2.800E-02	4.748E-02	3.039E-03	0.305
W-181	-2.545E-01		3.588E-01	5.170E-01	4.101E-02	-0.492
TA-182	-4.347E-02		1.419E-01	2.294E-01	1.403E-02	-0.189
RE-183	-2.762E-02		7.738E-02	1.293E-01	6.825E-03	-0.214
RE-184	-1.414E-01		1.614E-01	2.541E-01	1.427E-02	-0.557
OS-185	-1.135E-02		2.759E-02	4.297E-02	3.232E-03	-0.264
RE-188	5.625E-03		1.160E-01	1.972E-01	1.055E-02	0.029
W-188	-3.205E+00		5.925E+00	8.108E+00	4.644E-01	-0.395
IR-192	3.381E-03		2.460E-02	3.993E-02	2.316E-03	0.085
AU-195	6.771E-02		1.932E-01	2.852E-01	2.182E-02	0.237
TL-200	-7.145E-05		1.453E-04	Half-Life too short		
TL-201	-5.294E+00		4.875E+00	7.907E+00	4.151E-01	-0.670
TL-202	-2.321E-03		4.620E-02	7.651E-02	4.664E-03	-0.030
HG-203	2.275E-02		3.267E-02	4.849E-02	2.941E-03	0.469
BI-207	1.053E-02		3.625E-02	6.169E-02	5.093E-03	0.171
TL-207	-7.831E-03		5.092E-01	7.144E-01	1.179E-01	-0.011
PO-209	2.362E+00		5.113E+00	8.467E+00	9.550E-01	0.279
BI-210	-3.435E-01		4.139E+00	6.985E+00	5.404E-01	-0.049
PB-210	-3.435E-01		4.139E+00	6.985E+00	5.404E-01	-0.049
PO-210	-3.435E-01		4.139E+00	6.985E+00	4.646E-01	-0.049
PB-211	-4.252E-01		7.001E-01	1.049E+00	6.541E-01	-0.405
BI-212	7.273E-01	+	3.580E-01	4.329E-01	4.312E-02	1.680
PO-215	-7.831E-03		5.092E-01	7.144E-01	1.179E-01	-0.011
RN-219	-7.891E-02		2.708E-01	4.459E-01	6.070E-02	-0.177
RN-220	-6.492E+00		1.765E+01	2.809E+01	1.930E+00	-0.231
RA-223	-7.831E-03		5.092E-01	7.144E-01	1.179E-01	-0.011
AC-227	1.784E-01		2.755E-01	4.620E-01	6.417E-02	0.386
TH-227	1.784E-01		2.761E-01	4.620E-01	7.781E-02	0.386
TH-229	-3.613E-01		3.551E-01	5.707E-01	3.056E-02	-0.633
PA-231	-4.085E-01		1.133E+00	1.718E+00	2.360E-01	-0.238
TH-231	-7.831E-03		5.092E-01	7.144E-01	1.179E-01	-0.011
U-231	4.258E-01		8.887E-01	1.322E+00	1.059E-01	0.322
PA-233	3.079E-02		4.540E-02	7.564E-02	4.634E-03	0.407
PA-234	-6.693E-02		2.219E-01	3.523E-01	6.950E-02	-0.190
PA-234M	2.006E+00		3.239E+00	5.511E+00	5.945E-01	0.364
U-235	1.247E-01		1.664E-01	2.676E-01	4.334E-02	0.466
NP-236	2.336E-02		5.537E-02	9.506E-02	5.036E-03	0.246
NP-239	-1.138E-01		1.438E-01	2.237E-01	1.385E-02	-0.509
AM-241	1.962E-02		1.541E-01	2.329E-01	1.931E-02	0.084

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.015E-02		7.803E-02	1.277E-01	9.139E-03	0.158
AM-246	-4.544E-02		1.039E-01	1.683E-01	1.331E-02	-0.270
CM-247	-1.353E-03		2.426E-02	4.045E-02	2.356E-03	-0.033
CF-249	1.389E-02		2.549E-02	4.389E-02	2.523E-03	0.316
CF-251	-4.224E-02		8.557E-02	1.413E-01	7.462E-03	-0.299

## VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244881001
* Acquisition date   : 26-JAN-2010 13:24:42 Detector SN#
* Detector ID        : GAM18
* Geometry           : CAN
* Elapsed live time  : 0 02:00:00.00
* Elapsed real time  : 0 02:00:01.82
* Sensitivity         : 5.000
* Energy tolerance   : 1.500
* Abundance limit    : 75.000
* Half life ratio    : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244881001 Analyst initials: MXR1
* Batch Number       : 942718 Sample Quantity : 1.5867E+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	3.110E+01	2.622E+00	1.835E-01	1.338E+00
CD-109	2.789E+00	7.851E-01	5.076E-01	4.006E-01
SN-126	2.742E-01	7.717E-02	5.022E-02	3.937E-02
BA-137M	2.312E-01	4.464E-02	2.170E-02	2.278E-02
CS-137	2.444E-01	4.721E-02	2.294E-02	2.409E-02
TL-208	3.509E-01	5.504E-02	2.050E-02	2.808E-02
BI-211	3.060E+00	3.479E-01	1.204E-01	1.775E-01
PB-212	1.299E+00	1.184E-01	3.163E-02	6.039E-02
PO-212	1.299E+00	1.184E-01	3.163E-02	6.039E-02
BI-214	8.809E-01	1.280E-01	3.943E-02	6.530E-02
PB-214	1.064E+00	1.327E-01	3.943E-02	6.770E-02
PO-214	1.064E+00	1.327E-01	3.943E-02	6.770E-02
PO-216	1.299E+00	1.184E-01	3.163E-02	6.039E-02
PO-218	1.064E+00	1.327E-01	3.943E-02	6.770E-02
RA-224	2.989E+00	7.704E-01	3.595E-01	3.931E-01
RA-226	8.809E-01	1.280E-01	3.943E-02	6.530E-02
AC-228	1.267E+00	2.587E-01	7.621E-02	1.320E-01
RA-228	1.267E+00	2.587E-01	7.621E-02	1.320E-01
TH-228	1.319E+00	1.202E-01	3.211E-02	6.130E-02
TH-230	8.809E-01	1.280E-01	3.943E-02	6.529E-02
TH-232	1.267E+00	2.587E-01	7.621E-02	1.320E-01
TH-234	2.025E+00	1.790E+00	1.003E+00	9.131E-01
U-234	8.809E-01	1.280E-01	3.943E-02	6.529E-02
NP-237	8.052E-01	2.790E-01	1.498E-01	1.424E-01
U-238	2.025E+00	1.790E+00	1.003E+00	9.131E-01
AM-243	2.543E-01	5.972E-02	3.988E-02	3.047E-02
ANH-511	9.189E-02	4.616E-02	1.603E-02	2.355E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
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BE-7	1.025E-02	2.140E-01	1.884E-01	1.092E-01	NOT IDENT.
NA-22	-1.293E-02	3.001E-02	2.467E-02	1.531E-02	NOT IDENT.
NA-24	2.937E+05	4.487E+05	0.000E+00	2.289E+05	SHORT HLIF
AL-26	-5.986E-03	1.760E-02	1.398E-02	8.982E-03	NOT IDENT.
TI-44	2.631E-01	4.344E-02	3.429E-02	2.216E-02	FAIL ABUN
SC-46	-3.243E-04	2.513E-02	2.146E-02	1.282E-02	FAIL ABUN
V-48	-4.498E-02	4.650E-02	3.603E-02	2.373E-02	NOT IDENT.
CR-51	3.492E-02	2.585E-01	2.255E-01	1.319E-01	NOT IDENT.
MN-52	5.792E-02	1.538E-01	1.337E-01	7.848E-02	NOT IDENT.
MN-54	-1.201E-02	2.548E-02	2.127E-02	1.300E-02	NOT IDENT.
CO-56	1.836E-03	2.610E-02	2.255E-02	1.332E-02	NOT IDENT.
CO-57	-4.636E-04	1.826E-02	1.616E-02	9.314E-03	NOT IDENT.
CO-58	-1.872E-02	2.784E-02	2.299E-02	1.420E-02	NOT IDENT.
FE-59	-2.072E-02	6.358E-02	5.384E-02	3.244E-02	NOT IDENT.
CO-60	-1.110E-02	2.677E-02	2.178E-02	1.366E-02	NOT IDENT.
ZN-65	3.814E-02	7.656E-02	5.895E-02	3.906E-02	NOT IDENT.
GE-68	-2.655E-01	8.729E-01	7.421E-01	4.454E-01	NOT IDENT.
AS-73	3.744E-02	8.640E-01	7.924E-01	4.408E-01	NOT IDENT.
AS-74	3.884E-02	6.086E-02	5.405E-02	3.105E-02	NOT IDENT.
SE-75	2.420E-03	3.111E-02	2.556E-02	1.587E-02	NOT IDENT.
BR-77	1.160E+00	6.563E+00	5.766E+00	3.349E+00	FAIL ABUN
SR-82	-2.472E-01	2.622E-01	2.136E-01	1.338E-01	NOT IDENT.
RB-83	4.518E-03	4.391E-02	3.841E-02	2.240E-02	NOT IDENT.
RB-84	3.540E-03	4.613E-02	3.968E-02	2.353E-02	NOT IDENT.
KR-85	1.646E+01	5.785E+00	5.105E+00	2.952E+00	NOT IDENT.
SR-85	8.433E-02	2.964E-02	2.616E-02	1.512E-02	NOT IDENT.
RB-86	-2.026E-02	5.351E-01	4.631E-01	2.730E-01	NOT IDENT.
Y-88	8.970E-03	2.153E-02	1.909E-02	1.098E-02	NOT IDENT.
ZR-88	-9.419E-03	1.889E-02	1.649E-02	9.636E-03	NOT IDENT.
Y-91	4.182E+00	1.380E+01	1.190E+01	7.040E+00	NOT IDENT.
NB-94	-6.997E-03	2.219E-02	1.915E-02	1.132E-02	NOT IDENT.
NB-95	5.660E-02	3.286E-02	2.769E-02	1.676E-02	NOT IDENT.
NB-95M	7.868E-02	9.136E-02	7.489E-02	4.661E-02	NOT IDENT.
ZR-95	4.765E-02	4.473E-02	4.138E-02	2.282E-02	NOT IDENT.
NB-97	1.337E+05	7.230E+04	0.000E+00	3.689E+04	SHORT HLIF
ZR-97	2.278E+06	1.382E+06	0.000E+00	7.052E+05	SHORT HLIF
MO-99	-6.919E+00	7.880E+00	6.456E+00	4.021E+00	NOT IDENT.
TC-99M	-1.233E+16	2.437E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.708E-02	2.231E-02	2.050E-02	1.138E-02	NOT IDENT.
RH-102	-3.287E-03	1.929E-02	1.678E-02	9.840E-03	NOT IDENT.
RU-103	-2.215E-02	2.626E-02	2.166E-02	1.340E-02	FAIL ABUN
RH-106	-4.184E-01	2.307E-01	1.683E-01	1.177E-01	FAIL ABUN
RU-106	-4.184E-01	2.269E-01	1.683E-01	1.157E-01	FAIL ABUN
AG-108M	-9.449E-03	2.083E-02	1.802E-02	1.063E-02	NOT IDENT.
AG-110M	4.400E-02	2.706E-02	2.310E-02	1.380E-02	NOT IDENT.
IN-111	-4.100E-01	7.739E-01	5.850E-01	3.948E-01	NOT IDENT.
IN-113M	-7.738E-03	2.699E-02	2.384E-02	1.377E-02	NOT IDENT.
SN-113	-7.738E-03	2.699E-02	2.384E-02	1.377E-02	NOT IDENT.
IN-114M	6.946E-02	1.413E-01	1.164E-01	7.208E-02	NOT IDENT.
CD-115	2.936E+00	6.796E+00	6.050E+00	3.467E+00	NOT IDENT.
SN-117M	1.427E-02	3.633E-02	3.419E-02	1.853E-02	NOT IDENT.
SB-122	5.003E-01	1.341E+00	1.180E+00	6.841E-01	NOT IDENT.
I-123	3.161E+06	3.588E+06	0.000E+00	1.831E+06	SHORT HLIF
TE-123M	1.681E-02	1.907E-02	1.822E-02	9.731E-03	NOT IDENT.
I-124	-3.229E-01	4.984E-01	3.455E-01	2.543E-01	NOT IDENT.
SB-124	-3.745E-03	4.488E-02	3.759E-02	2.290E-02	FAIL ABUN
SB-125	-6.417E-03	5.731E-02	5.122E-02	2.924E-02	FAIL ABUN
TE-125M	3.492E+00	6.983E+00	6.325E+00	3.563E+00	NOT IDENT.
I-126	1.391E-02	1.344E-01	1.035E-01	6.859E-02	NOT IDENT.
SB-126	-1.067E-01	1.178E-01	8.185E-02	6.008E-02	FAIL ABUN
SB-127	4.144E-01	8.364E-01	7.582E-01	4.267E-01	NOT IDENT.
XE-127	-3.212E-02	3.133E-02	2.732E-02	1.599E-02	NOT IDENT.
I-131	-3.075E-03	7.529E-02	6.791E-02	3.841E-02	NOT IDENT.
TE-132	3.209E-01	4.801E-01	4.398E-01	2.449E-01	NOT IDENT.
BA-133	5.794E-03	3.198E-02	2.420E-02	1.632E-02	FAIL ABUN
I-133	-1.711E+03	3.687E+03	0.000E+00	1.881E+03	SHORT HLIF
CS-134	8.078E-02	4.862E-02	2.987E-02	2.481E-02	FAIL ABUN
CS-135	1.680E-01	1.180E-01	9.855E-02	6.023E-02	NOT IDENT.
I-135	-4.048E+15	3.426E+15	0.000E+00	1.748E+15	SHORT HLIF
CS-136	5.210E-04	6.807E-02	5.928E-02	3.473E-02	FAIL ABUN
CE-139	4.673E-03	2.041E-02	1.903E-02	1.041E-02	NOT IDENT.
BA-140	1.349E-01	1.726E-01	1.517E-01	8.807E-02	NOT IDENT.
LA-140	-1.073E-02	5.813E-02	4.082E-02	2.966E-02	FAIL ABUN
CE-141	3.579E-02	4.802E-02	4.296E-02	2.450E-02	NOT IDENT.
CE-143	4.483E+02	1.472E+02	0.000E+00	7.513E+01	SHORT HLIF
CE-144	6.198E-02	1.498E-01	1.335E-01	7.643E-02	NOT IDENT.
PM-144	1.211E-02	2.330E-02	2.105E-02	1.189E-02	NOT IDENT.
PR-144	8.208E-01	1.579E+00	1.427E+00	8.054E-01	NOT IDENT.

PM-146	3.076E-03	2.869E-02	2.547E-02	1.464E-02	NOT IDENT.
ND-147	-1.974E-01	3.563E-01	2.974E-01	1.818E-01	FAIL ABUN
PM-149	-7.114E+00	6.244E+01	5.449E+01	3.186E+01	NOT IDENT.
EU-152	3.204E-02	7.655E-02	5.908E-02	3.906E-02	NOT IDENT.
GD-153	-1.445E-02	6.596E-02	5.264E-02	3.365E-02	NOT IDENT.
EU-154	-4.857E-02	8.487E-02	6.894E-02	4.330E-02	NOT IDENT.
EU-155	5.575E-02	8.347E-02	7.665E-02	4.259E-02	FAIL ABUN
TB-160	-1.327E-02	9.046E-02	7.658E-02	4.615E-02	FAIL ABUN
HO-166M	-1.370E-02	3.967E-02	3.408E-02	2.024E-02	NOT IDENT.
TM-171	6.487E+00	2.633E+01	2.220E+01	1.344E+01	NOT IDENT.
LU-176	-1.453E-02	1.709E-02	1.424E-02	8.718E-03	FAIL ABUN
LU-177	2.039E+00	9.924E-01	7.397E-01	5.063E-01	FAIL ABUN
LU-177M	-2.372E-01	1.209E-01	9.665E-02	6.167E-02	FAIL ABUN
HF-181	1.447E-02	2.744E-02	2.476E-02	1.400E-02	NOT IDENT.
W-181	-2.545E-01	3.516E-01	2.842E-01	1.794E-01	NOT IDENT.
TA-182	-4.347E-02	1.390E-01	1.165E-01	7.093E-02	FAIL ABUN
RE-183	-2.762E-02	7.583E-02	6.944E-02	3.869E-02	FAIL ABUN
RE-184	-1.414E-01	1.582E-01	1.349E-01	8.072E-02	NOT IDENT.
OS-185	-1.135E-02	2.704E-02	2.222E-02	1.380E-02	NOT IDENT.
RE-188	5.625E-03	1.137E-01	1.060E-01	5.801E-02	NOT IDENT.
W-188	-3.205E+00	5.807E+00	4.287E+00	2.963E+00	FAIL ABUN
IR-192	3.381E-03	2.411E-02	2.107E-02	1.230E-02	FAIL ABUN
AU-195	6.771E-02	1.893E-01	1.552E-01	9.660E-02	FAIL ABUN
TL-200	-7.145E+01	2.848E+02	0.000E+00	1.453E+02	SHORT HLIF
TL-201	-5.294E+00	4.778E+00	4.243E+00	2.438E+00	NOT IDENT.
TL-202	-2.321E-03	4.527E-02	4.000E-02	2.310E-02	NOT IDENT.
HG-203	2.275E-02	3.202E-02	2.567E-02	1.633E-02	NOT IDENT.
BI-207	1.053E-02	3.552E-02	3.145E-02	1.812E-02	FAIL ABUN
TL-207	-7.831E-03	4.991E-01	3.766E-01	2.546E-01	FAIL ABUN
PO-209	2.362E+00	5.011E+00	4.338E+00	2.557E+00	NOT IDENT.
BI-210	-3.435E-01	4.056E+00	3.873E+00	2.069E+00	NOT IDENT.
PB-210	-3.435E-01	4.056E+00	3.873E+00	2.069E+00	NOT IDENT.
PO-210	-3.435E-01	4.056E+00	3.873E+00	2.069E+00	NOT IDENT.
PB-211	-4.252E-01	6.861E-01	5.497E-01	3.500E-01	NOT IDENT.
BI-212	7.273E-01	3.509E-01	2.231E-01	1.790E-01	FAIL ABUN
PO-215	-7.831E-03	4.991E-01	3.766E-01	2.546E-01	FAIL ABUN
RN-219	-7.891E-02	2.654E-01	2.337E-01	1.354E-01	FAIL ABUN
RN-220	-6.492E+00	1.729E+01	1.459E+01	8.823E+00	NOT IDENT.
RA-223	-7.831E-03	4.991E-01	3.766E-01	2.546E-01	FAIL ABUN
AC-227	1.784E-01	2.700E-01	2.451E-01	1.378E-01	FAIL ABUN
TH-227	1.784E-01	2.706E-01	2.451E-01	1.380E-01	FAIL ABUN
TH-229	-3.613E-01	3.480E-01	3.051E-01	1.776E-01	FAIL ABUN
PA-231	-4.085E-01	1.110E+00	9.087E-01	5.664E-01	FAIL ABUN
TH-231	-7.831E-03	4.991E-01	3.766E-01	2.546E-01	FAIL ABUN
U-231	4.258E-01	8.710E-01	7.200E-01	4.444E-01	FAIL ABUN
PA-233	3.079E-02	4.449E-02	3.992E-02	2.270E-02	FAIL ABUN
PA-234	-6.693E-02	2.175E-01	1.802E-01	1.110E-01	FAIL ABUN
PA-234M	2.006E+00	3.174E+00	2.814E+00	1.619E+00	NOT IDENT.
U-235	1.247E-01	1.631E-01	1.442E-01	8.322E-02	FAIL ABUN
NP-236	2.336E-02	5.426E-02	5.107E-02	2.768E-02	NOT IDENT.
NP-239	-1.138E-01	1.409E-01	1.212E-01	7.191E-02	FAIL ABUN
AM-241	1.962E-02	1.510E-01	1.283E-01	7.706E-02	NOT IDENT.
CM-243	2.015E-02	7.647E-02	6.937E-02	3.901E-02	FAIL ABUN
AM-246	-4.544E-02	1.018E-01	8.577E-02	5.196E-02	NOT IDENT.
CM-247	-1.353E-03	2.377E-02	2.120E-02	1.213E-02	FAIL ABUN
CF-249	1.389E-02	2.498E-02	2.302E-02	1.274E-02	NOT IDENT.
CF-251	-4.224E-02	8.385E-02	7.572E-02	4.278E-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	307.4567
46.50	307.4567
46.50	307.4567
48.70	309.3565
49.72	292.6718
51.35	318.0511
52.39	320.2420
52.97	311.8617
53.15	314.8050
53.44	306.9549
54.07	303.1209
56.28	345.1939
56.28	345.1977
57.37	0.0000
57.53	346.7665
57.53	346.7684
57.60	327.4295
57.98	335.6570
57.98	335.6570
59.32	342.0041
59.32	342.0041
59.40	342.1003
59.54	342.2686
59.72	345.2803
60.01	345.6308
61.10	356.7738
61.14	356.8232
61.30	357.0199
63.00	376.0594
63.29	376.4268
63.29	376.4268
63.58	376.7931
64.28	418.8511
65.12	434.2554
65.20	434.3700
65.20	434.3700
66.05	405.5914
66.72	399.3170
66.83	389.4395
66.91	389.5391
67.20	389.9043
67.20	389.9043
67.75	410.1229
67.85	410.2559
68.90	459.2868
68.90	459.2868
69.30	456.0196
69.67	468.1132
70.82	433.5422.
70.82	433.5422
70.83	433.5559
72.80	430.3531
72.87	430.4454
72.87	430.4454
74.67	455.7702
74.81	455.9610
74.81	455.9610
74.81	455.9610
74.81	455.9610
74.81	455.9610
74.81	455.9610
74.81	455.9610
74.97	456.1779
75.28	456.5998
75.70	457.1686
77.11	459.0648
77.11	459.0648

77.11	459.0648
77.11	459.0648
77.11	459.0648
77.11	459.0648
77.11	459.0648
78.38	496.8490
79.62	474.3094
79.80	473.5597
79.80	473.5597
80.11	473.9770
80.18	474.0717
80.30	459.3188
80.30	459.3188
80.57	459.6713
81.00	382.5273
81.07	382.6035
81.07	382.6035
81.07	382.6035
81.07	382.6035
82.60	441.2781
83.37	469.2902
83.78	397.5449
83.78	397.5449
83.78	397.5449
83.78	397.5449
84.21	398.0142
84.90	398.7634
85.43	399.3375
86.29	400.2660
86.50	400.4916
86.54	400.5339
86.59	400.5883
86.72	400.7272
86.79	400.7997
86.94	400.9629
87.30	401.3496
87.30	401.3496
87.30	401.3496
87.30	401.3496
87.30	401.3496
87.30	401.3496
87.57	401.6376
87.88	401.9680
88.03	402.1291
88.36	402.4796
88.47	402.5964
89.95	404.1634
91.11	405.3820
92.29	406.6146
92.38	406.7093
92.38	406.7093
93.35	407.7144
94.00	408.3871
94.67	409.0699
94.67	409.0759
94.90	409.3116
94.90	409.3116
94.90	409.3116
94.90	409.3116
95.87	369.8958
95.87	369.8958
96.73	367.5742
97.43	382.2480
98.44	383.1938
98.44	383.1938
98.88	366.3820
99.55	355.0593
99.55	355.0593
99.86	359.9290
100.00	360.0515
100.10	360.1407
103.18	410.2497
103.76	401.3050
105.00	369.6356
105.31	378.3828
108.00	409.5234
109.28	352.9581



111.00	379.0197
111.00	379.0197
111.76	392.5670
112.95	386.0525
115.19	341.3510
116.30	362.8110
117.00	377.4998
117.00	377.4998
117.66	372.5874
121.11	336.9040
121.62	315.2916
121.78	315.3967
122.06	335.3731
122.32	335.5530
122.32	335.5530
122.32	335.5530
122.32	335.5530
123.07	342.6872
127.23	383.3898
129.76	359.6451
131.20	414.4359
133.02	381.0681
133.54	351.0698
135.34	341.0034
136.00	349.3475
136.25	338.2030
136.48	347.4049
140.51	378.5659
140.51	0.0000
142.18	401.4770
142.65	386.9444
143.76	379.7052
144.24	382.3348
144.24	382.3348
144.24	382.3348
144.24	382.3348
145.22	392.2208
145.44	392.3803
147.16	429.3833
152.43	353.0346
152.70	326.3904
153.22	335.1484
154.21	343.6161
154.21	343.6161
154.21	343.6161
154.21	343.6161
155.03	349.3735
156.02	381.6274
158.56	329.4200
159.00	0.0000
159.00	322.5941
160.31	346.3401
161.27	364.6452
162.32	379.5085
162.64	378.8212
163.35	371.2570
163.89	350.2045
165.85	354.0229
167.43	393.4830
171.28	351.7474
171.86	324.9921
172.10	336.8560
176.55	339.2379
176.60	339.2635
181.06	334.1096
184.41	304.8904
185.71	349.5786
186.00	349.7318
190.27	343.2375
192.34	323.6309
193.63	373.3063
197.04	330.1343
198.01	297.7220
198.60	295.1536
200.40	330.7817
201.83	350.3373
202.84	357.4550
205.31	291.5086

208.36	364.4050
208.81	373.7835
209.75	351.3508
209.75	351.3508
210.97	338.1662
215.65	317.8728
216.55	304.4904
218.09	342.7741
222.10	316.4418
223.80	326.8715
226.40	332.8543
227.00	306.7365
227.08	306.7676
227.20	311.7011
228.16	309.1507
228.18	309.1579
228.18	309.1579
231.56	0.0000
235.69	297.0960
236.00	303.5344
236.00	303.5344
238.63	268.6430
238.63	268.6430
238.63	268.6430
238.63	268.6430
239.00	268.7650
240.98	269.4204
241.98	269.7512
241.98	269.7512
241.98	269.7512
244.69	274.8368
245.39	270.2721
247.94	215.2252
248.90	234.8784
249.79	249.1958
252.40	288.2715
252.85	283.3818
252.85	283.3818
254.15	0.0000
256.20	268.3006
256.20	268.3006
260.50	254.3793
260.90	259.5875
262.80	267.2971
264.65	234.4634
268.24	225.0165
268.79	231.7309
269.46	251.6394
269.46	251.6394
269.46	251.6394
269.46	251.6394
271.23	249.9427
273.65	268.5178
276.40	256.9042
277.35	248.8770
277.60	248.9429
277.60	248.9429
278.00	250.7131
278.60	267.4935
279.20	251.0412
279.53	251.1297
280.46	216.4265
281.68	241.7174
283.67	248.2042
284.30	258.0731
285.00	267.6797
285.90	252.2380
286.10	252.2895
286.10	252.2895
287.40	219.0966
288.45	0.0000
290.67	265.9307
290.80	265.9692
291.72	266.2277
293.26	0.0000
293.70	246.5176
295.21	223.0220
295.21	223.0220

295.21	223.0220
295.96	223.1959
296.50	223.3214
297.23	223.4888
298.57	223.8011
299.80	224.0845
299.80	224.0845
300.09	224.1521
300.09	224.1521
300.09	224.1521
300.09	224.1521
300.12	224.1585
301.29	228.0421
302.84	206.2465
303.76	194.4986
303.91	194.5264
304.40	194.6238
304.40	194.6238
304.84	204.9609
306.84	246.0210
308.46	241.0675
311.98	211.8135
316.51	223.5667
318.01	239.0412
319.02	220.8713
319.41	236.1190
320.08	222.1824
323.87	208.8633
323.87	208.8633
323.87	208.8633
323.87	208.8633
325.23	189.9650
328.77	243.0735
333.44	158.0867
334.20	187.4948
334.20	187.4948
334.30	187.5130
338.28	218.3571
338.28	218.3571
338.28	218.3571
338.28	218.3571
338.32	218.3662
338.32	218.3662
338.32	218.3662
340.50	235.1658
340.57	235.1821
344.27	202.2748
345.85	214.7093
350.59	0.0000
351.07	216.0305
351.92	190.9608
351.92	190.9608
351.92	190.9608
355.39	0.0000
356.01	175.7468
364.48	193.3341
366.43	176.4712
367.43	197.4587
367.94	0.0000
369.80	185.1589
374.96	185.0739
383.85	179.1277
387.95	163.1524
388.63	152.1779
391.69	166.4341
391.69	166.4341
392.90	174.0056
398.62	180.4044
400.65	184.4262
401.10	178.9055
401.81	186.4661
402.60	181.9199
404.84	217.7663
410.95	175.6298
411.60	198.2735
413.65	238.1264
414.70	192.1664
415.30	184.7190

415.76	177.2437
417.63	0.0000
418.52	155.8960
423.70	169.8096
427.08	142.6703
427.89	152.2773
432.53	161.4144
433.93	165.4122
439.47	167.0672
439.56	167.0778
439.89	168.0807
443.98	167.6322
444.90	160.9984
445.03	154.2656
445.03	154.2656
445.03	154.2656
445.03	154.2656
453.90	162.0728
463.38	144.9509
468.07	130.7324
473.00	172.1887
475.06	160.6143
475.35	149.8068
476.78	152.9168
477.59	158.9266
477.96	149.0941
482.03	138.6277
484.57	155.7351
487.03	162.9570
490.36	0.0000
492.35	142.6107
497.08	156.0781
507.63	0.0000
510.53	0.0000
510.84	145.4098
511.00	145.4247
511.85	145.5073
511.85	145.5073
513.99	145.0375
513.99	145.0375
520.41	132.1011
520.65	132.1233
527.90	125.5975
528.96	0.0000
529.64	143.1172
529.87	0.0000
531.02	139.1510
537.32	122.2510
543.00	144.3408
546.56	0.0000
549.76	144.9561
552.65	144.1786
555.20	129.8615
563.23	123.1971
563.90	135.7795
568.70	161.3203
569.32	142.5178
569.50	140.4350
569.67	140.4514
573.80	152.3597
574.00	156.5809
574.64	157.6941
578.91	145.8005
579.30	0.0000
583.14	141.5898
585.48	134.0267
591.81	138.0679
592.07	137.0278
593.00	143.4771
595.88	127.7520
600.56	136.1038
602.52	0.0000
602.71	151.4166
602.71	151.4166
603.60	130.1055
604.41	121.2523
604.70	112.3546
609.31	149.1298

609.31	149.1298
609.31	149.1298
609.31	149.1298
610.33	137.7672
612.46	163.0121
614.37	134.4971
618.01	123.9928
621.84	175.0439
621.84	175.0439
631.29	147.7307
633.02	144.6083
633.10	143.5274
634.78	134.9559
635.90	145.9278
636.97	138.3884
645.85	113.8769
646.12	117.1802
656.30	110.1172
657.75	114.9256
657.90	0.0000
661.65	151.4531
661.65	151.4531
664.57	0.0000
666.33	131.2681
666.33	131.2681
675.00	125.1178
677.61	116.9355
685.20	106.2186
692.80	139.3722
695.00	143.2756
696.49	135.8873
696.49	135.8873
697.00	138.7349
697.49	135.9581
698.33	137.8903
698.50	137.9022
699.00	136.0614
702.63	143.8328
706.10	146.9102
706.58	0.0000
706.67	146.9546
709.31	111.3044
711.68	132.2127
713.82	118.1742
717.42	132.2500
720.50	160.9820
721.93	0.0000
722.20	131.8228
722.78	112.3271
722.78	112.3271
722.89	112.3320
722.95	112.3344
723.30	115.6127
724.18	128.6946
727.18	132.2836
733.00	111.2566
735.90	110.5194
739.58	141.7039
742.81	112.1988
744.21	99.7979
747.13	111.4711
751.79	129.0546
752.31	121.3806
753.82	102.1872
755.35	86.8268
756.15	92.6504
756.87	93.6471
763.93	107.9374
765.79	111.3567
766.42	142.9774
766.84	148.4086
776.49	142.2603
778.00	130.6576
778.57	134.5944
778.89	132.6631
783.80	103.6342
785.46	113.4984
792.07	112.7213

795.84	101.2586
796.30	101.2796
798.80	109.6920
801.93	155.4778
805.60	96.7698
810.29	121.7112
810.76	134.6055
815.85	102.1744
817.79	105.2430
818.51	93.3574
819.60	85.4541
826.30	112.6161
828.27	0.0000
831.60	133.8555
831.96	128.8819
834.83	133.0433
836.80	0.0000
846.75	104.5734
848.13	112.6859
856.28	0.0000
856.80	95.2161
860.37	120.3582
867.32	94.3377
867.82	98.7551
871.10	116.8413
873.19	86.4371
874.81	102.7775
875.33	0.0000
876.40	103.8635
879.36	95.8359
880.27	95.8723
880.51	104.0420
881.50	95.9220
883.24	94.9697
884.67	96.0482
889.25	91.1131
896.60	80.0931
898.02	109.9367
899.00	107.9245
903.28	105.9061
911.07	108.4564
911.07	108.4564
911.07	108.4564
919.63	96.7380
920.93	88.2417
925.00	100.7555
925.24	105.9595
926.50	113.2889
935.52	115.7808
937.48	122.1345
944.10	114.0805
946.00	116.2596
949.00	111.1542
962.29	79.5045
964.01	113.9128
966.15	135.7230
968.20	157.4091
969.11	159.5804
969.11	159.5804
969.11	159.5804
977.42	79.8027
980.50	93.4051
983.50	100.9491
989.30	61.7678
996.32	117.4546
1001.03	80.2246
1001.68	90.9420
1004.76	108.1858
1021.30	0.0000
1024.50	0.0000
1034.80	90.9727
1036.00	97.5146
1037.82	98.5062
1038.57	100.3912
1038.76	0.0000
1045.16	79.2013
1046.59	82.9719
1048.07	87.6791

1050.47	101.7579
1050.47	101.7579
1062.04	104.9883
1063.62	96.6056
1076.63	100.8200
1077.35	111.2094
1078.86	117.8720
1085.78	101.1410
1099.22	113.0068
1112.02	110.1625
1112.84	118.5428
1115.52	125.3357
1120.29	97.0820
1120.29	97.0820
1120.29	97.0820
1120.29	97.0820
1120.51	97.0891
1121.28	107.1602
1124.00	0.0000
1129.67	116.7647
1131.51	0.0000
1147.95	0.0000
1167.94	122.4360
1173.22	138.2212
1175.09	136.3574
1177.93	116.9866
1189.05	106.6430
1204.90	123.8994
1205.75	0.0000
1213.00	131.1213
1221.42	135.4184
1230.97	186.3870
1235.34	133.0326
1236.41	0.0000
1238.25	136.1304
1246.25	124.5161
1260.41	0.0000
1271.85	110.4335
1274.45	99.4661
1274.54	95.4506
1291.56	74.7304
1298.22	0.0000
1312.09	71.1230
1325.50	67.3213
1325.50	67.3213
1332.49	71.5479
1333.61	65.4353
1360.21	48.4229
1362.66	0.0000
1365.15	56.7456
1368.21	38.5508
1368.53	0.0000
1376.25	50.7141
1384.27	45.3827
1394.10	61.3705
1395.20	56.1866
1407.95	60.5610
1434.06	43.1178
1436.60	52.6193
1457.56	0.0000
1460.81	44.4888
1489.15	40.5552
1509.49	32.8584
1596.49	34.1233
1620.62	22.2047
1678.03	0.0000
1691.02	24.5453
1691.02	24.5453
1706.46	0.0000
1750.46	0.0000
1764.49	26.6276
1764.49	26.6276
1764.49	26.6276
1764.49	26.6276
1770.23	12.4422
1771.40	130.0119
1791.20	0.0000
1808.65	22.1853

1836.01

21.3044



TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244881001

Total Uranium Activity	6.0809E+00	ug/g
Total Uranium Counting Unc.	5.3247E+00	ug/g
Total Uranium Tpu	2.7167E-06	ug/g
Total Uranium Mda	2.9852E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942718                          SAMPLE ID   : G244881001
*  ANALYST       : MXR1                             DETECTOR    : GAM18
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-JAN-2010 13:24:42.29          SAMPLE ALQT  : 158.670 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.235E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.044E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 1.828E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 8.864E-01

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 15:21:44.05

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881002.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:20:55
Sample ID          : G244881002 Sample quantity : 1.51220E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.07 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942718 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.92*	389	366	1.01	150.03	144	22	5.40E-02	9.3	3.03E+00
2	2	77.23*	633	334	0.93	154.64	144	22	8.80E-02	6.2	
3	6	84.18	156	347	1.53	168.54	165	29	2.16E-02	21.2	1.39E+00
4	6	87.22	320	390	1.34	174.64	165	29	4.45E-02	12.1	
5	6	89.90	211	337	1.17	179.99	165	29	2.94E-02	16.2	
6	6	92.95*	289	425	1.46	186.08	165	29	4.01E-02	15.0	
7	0	129.11	95	352	1.09	258.42	255	8	1.32E-02	35.5	
8	0	185.85*	155	356	1.32	371.89	368	9	2.15E-02	24.4	
9	0	209.39	127	263	1.05	418.98	415	8	1.76E-02	24.0	
10	6	238.65*	1236	200	0.96	477.49	472	17	1.72E-01	3.5	2.21E+00
11	6	241.53	305	257	1.53	483.26	472	17	4.24E-02	11.9	
12	0	270.11	188	276	1.79	540.42	534	14	2.61E-02	20.2	
13	1	295.30*	382	104	1.25	590.79	584	21	5.31E-02	6.8	2.37E+00
14	1	300.29	80	130	1.25	600.77	584	21	1.11E-02	26.6	
15	0	328.18	72	211	0.92	656.55	651	11	9.98E-03	40.9	
16	0	338.36*	274	184	1.18	676.91	671	11	3.81E-02	11.4	
17	0	351.87*	572	245	1.22	703.92	698	13	7.94E-02	7.1	
18	0	462.95	86	128	0.94	926.07	921	10	1.20E-02	26.8	
19	0	511.20*	138	113	1.79	1022.55	1017	13	1.92E-02	21.3	
20	0	583.33*	400	111	1.11	1166.81	1160	13	5.56E-02	7.5	
21	0	609.57*	422	99	1.36	1219.27	1214	13	5.86E-02	7.1	
22	0	728.62	106	108	1.57	1457.33	1450	16	1.47E-02	24.6	
23	0	796.74	86	72	1.97	1593.53	1587	18	1.19E-02	25.5	
24	0	860.83*	47	37	0.85	1721.68	1718	9	6.59E-03	28.1	
25	0	911.45*	277	54	1.11	1822.91	1818	12	3.85E-02	8.0	
26	0	969.54*	197	80	1.92	1939.05	1934	16	2.73E-02	12.8	
27	0	1121.01*	113	80	1.52	2241.90	2233	18	1.57E-02	21.1	
28	0	1407.47	21	15	0.82	2814.59	2807	12	2.91E-03	42.9	
29	0	1461.28*	1700	44	2.12	2922.15	2914	16	2.36E-01	2.6	
30	0	1631.54	14	11	1.48	3262.50	3256	11	1.94E-03	53.1	
31	0	1765.09*	81	0	1.59	3529.46	3523	12	1.12E-02	12.3	

Flag: "\*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 26-JAN-2010 15:21:47

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:20:55
Sample ID        : G244881002 Sample quantity : 151.22 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.07 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	*	3.276E+01	3.343E+00	4.214E-01	3.704E-02	77.735
CD-109	+	88.03	*	3.495E+00	9.074E-01	8.124E-01	7.828E-02	4.302
SN-126		64.28		8.190E-02	3.764E-01	6.025E-01	8.778E-02	0.136
	+	86.94		1.428E+00	6.865E-01	3.356E-01	1.395E-01	4.256
	+	87.57	*	3.436E-01	8.919E-02	8.022E-02	7.691E-03	4.283
TL-208		277.35		2.319E-01	3.086E-01	5.107E-01	7.591E-02	0.454
	+	510.84		5.369E-01	2.381E-01	1.765E-01	2.231E-02	3.043
	+	583.14	*	4.425E-01	7.945E-02	4.658E-02	4.617E-03	9.499
	+	860.37		4.929E-01	2.815E-01	3.649E-01	3.653E-02	1.351
BI-211		72.87		1.136E+00	2.311E+00	3.646E+00	2.964E-01	0.311
	+	351.07	*	2.785E+00	4.979E-01	2.663E-01	2.912E-02	10.457
PB-212	+	74.81		1.763E+00	3.957E-01	3.830E-01	4.785E-02	4.604
	+	77.11		1.625E+00	2.442E-01	2.173E-01	1.846E-02	7.478
	+	87.30		1.589E+00	4.421E-01	3.720E-01	5.146E-02	4.271
	+	238.63	*	1.316E+00	1.804E-01	7.373E-02	8.729E-03	17.854
	+	300.09		1.316E+00	7.218E-01	8.739E-01	1.145E-01	1.506
PO-212	+	74.81		1.763E+00	3.957E-01	3.830E-01	4.785E-02	4.604
	+	77.11		1.625E+00	2.442E-01	2.173E-01	1.846E-02	7.478
	+	87.30		1.589E+00	4.421E-01	3.720E-01	5.146E-02	4.271
	+	115.19		-1.825E+00	2.680E+00	4.371E+00	3.647E-01	-0.417
	+	238.63	*	1.316E+00	1.804E-01	7.373E-02	8.729E-03	17.854
	+	300.09		1.316E+00	7.218E-01	8.739E-01	1.145E-01	1.506
BI-214	+	609.31	*	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
	+	1120.29		1.226E+00	5.334E-01	3.827E-01	4.108E-02	3.202
	+	1764.49		1.202E+00	3.131E-01	2.173E-01	1.798E-02	5.534
PB-214	+	74.81		3.038E+00	6.595E-01	6.599E-01	7.337E-02	4.604
	+	77.11		2.786E+00	4.694E-01	3.725E-01	4.250E-02	7.478
	+	87.30		2.722E+00	7.372E-01	6.373E-01	7.825E-02	4.271
	+	241.98		1.954E+00	5.258E-01	4.441E-01	5.501E-02	4.400
	+	295.21		1.102E+00	2.103E-01	1.530E-01	2.043E-02	7.201
	+	351.92	*	9.687E-01	1.804E-01	9.283E-02	1.123E-02	10.435
PO-214	+	74.81		3.038E+00	6.595E-01	6.599E-01	7.337E-02	4.604
	+	77.11		2.786E+00	4.694E-01	3.725E-01	4.250E-02	7.478
	+	87.30		2.722E+00	7.372E-01	6.373E-01	7.825E-02	4.271

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		1.954E+00	5.258E-01	4.441E-01	5.501E-02	4.400
	+	295.21		1.102E+00	2.103E-01	1.530E-01	2.043E-02	7.201
	+	351.92	*	9.687E-01	1.804E-01	9.283E-02	1.123E-02	10.435
	+	74.81		1.763E+00	3.957E-01	3.830E-01	4.785E-02	4.604
	+	77.11		1.625E+00	2.442E-01	2.173E-01	1.846E-02	7.478
	+	87.30		1.589E+00	4.421E-01	3.720E-01	5.146E-02	4.271
PO-218	+	238.63	*	1.316E+00	1.804E-01	7.373E-02	8.729E-03	17.854
	+	300.09		1.316E+00	7.218E-01	8.739E-01	1.145E-01	1.506
	+	74.81		3.038E+00	6.595E-01	6.599E-01	7.337E-02	4.604
	+	77.11		2.786E+00	4.694E-01	3.725E-01	4.250E-02	7.478
	+	87.30		2.722E+00	7.372E-01	6.373E-01	7.825E-02	4.271
	+	241.98		1.954E+00	5.258E-01	4.441E-01	5.501E-02	4.400
RA-224	+	295.21		1.102E+00	2.103E-01	1.530E-01	2.043E-02	7.201
	+	351.92	*	9.687E-01	1.804E-01	9.283E-02	1.123E-02	10.435
	+	240.98	*	3.705E+00	9.751E-01	8.392E-01	9.248E-02	4.415
RA-226	+	609.31	*	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
	+	1120.29		1.226E+00	5.334E-01	3.827E-01	4.108E-02	3.202
	+	1764.49		1.202E+00	3.131E-01	2.173E-01	1.798E-02	5.534
AC-228	+	338.32		1.473E+00	7.018E-01	2.869E-01	1.199E-01	5.133
	+	911.07	*	1.361E+00	2.724E-01	1.646E-01	1.955E-02	8.273
	+	969.11		1.704E+00	5.929E-01	4.449E-01	1.049E-01	3.832
RA-228	+	338.32		1.473E+00	7.018E-01	2.869E-01	1.199E-01	5.133
	+	911.07	*	1.361E+00	2.724E-01	1.646E-01	1.955E-02	8.273
	+	969.11		1.704E+00	5.929E-01	4.449E-01	1.049E-01	3.832
TH-228	+	74.81		1.790E+00	3.658E-01	3.888E-01	3.253E-02	4.604
	+	77.11		1.649E+00	2.479E-01	2.206E-01	1.874E-02	7.478
	+	87.30		1.613E+00	4.188E-01	3.776E-01	3.609E-02	4.271
TH-230	+	238.63	*	1.336E+00	1.832E-01	7.484E-02	8.861E-03	17.854
	+	300.09		1.336E+00	1.070E+00	8.871E-01	5.306E-01	1.506
	+	609.31	*	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
TH-232	+	1120.29		1.226E+00	5.334E-01	3.827E-01	4.108E-02	3.202
	+	1764.49		1.202E+00	3.131E-01	2.173E-01	1.798E-02	5.534
	+	338.32		1.473E+00	3.732E-01	2.869E-01	3.132E-02	5.133
U-234	+	911.07	*	1.361E+00	2.724E-01	1.646E-01	1.955E-02	8.273
	+	969.11		1.704E+00	5.929E-01	4.449E-01	1.049E-01	3.832
	+	609.31	*	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
NP-237	+	1120.29		1.226E+00	5.334E-01	3.827E-01	4.108E-02	3.202
	+	1764.49		1.202E+00	3.131E-01	2.173E-01	1.798E-02	5.534
	+	86.50	*	1.009E+00	3.346E-01	2.382E-01	5.407E-02	4.236
AM-243	+	95.87		2.045E-01	7.135E-01	1.101E+00	2.727E-01	0.186
	+	74.67	*	2.859E-01	5.833E-02	6.228E-02	5.156E-03	4.590
	+	86.72		3.783E+01	9.822E+00	8.910E+00	8.455E-01	4.246
ANH-511		117.66		-1.193E-01	2.826E+00	4.734E+00	3.939E-01	-0.025
		142.18		-1.305E+01	1.405E+01	2.209E+01	1.883E+00	-0.591
	+	511.00	*	1.160E-01	5.052E-02	3.813E-02	3.626E-03	3.042

---- 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	*	-5.448E-02	2.536E-01	4.136E-01	4.184E-02	-0.132

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		1.039E-02	3.812E-02	6.351E-02	5.285E-03	0.164
NA-24	1368.53	*		-3.877E-01	3.812E-02	Half-Life too short		
AL-26	1129.67			2.653E-01	1.650E+00	2.588E+00	2.169E-01	0.103
	1808.65	*		2.378E-03	2.286E-02	3.842E-02	3.142E-03	0.062
TI-44	67.85			-2.772E-02	3.565E-02	5.299E-02	4.104E-03	-0.523
	78.38	*		2.999E-01	4.506E-02	5.616E-02	4.836E-03	5.340
SC-46	889.25	*		8.889E-03	3.309E-02	5.652E-02	5.343E-03	0.157
	1120.51	+		2.097E-01	9.020E-02	1.060E-01	8.956E-03	1.978
V-48	944.10			-1.808E-01	7.016E-01	1.137E+00	1.063E-01	-0.159
	983.50	*		-5.258E-02	5.823E-02	8.765E-02	8.068E-03	-0.600
	1312.09			4.169E-02	7.078E-02	1.217E-01	1.021E-02	0.343
CR-51	320.08	*		1.825E-01	3.031E-01	4.974E-01	5.816E-02	0.367
MN-52	744.21			-6.066E-02	1.945E-01	3.022E-01	2.775E-02	-0.201
	848.13			-1.190E-01	5.103E+00	8.539E+00	8.037E-01	-0.014
	935.52			3.315E-01	2.107E-01	3.921E-01	3.673E-02	0.845
	1246.25			1.809E+00	7.003E+00	1.162E+01	9.575E-01	0.156
	1333.61			-5.100E-01	3.997E+00	6.345E+00	5.353E-01	-0.080
	1434.06	*		1.641E-02	2.022E-01	3.281E-01	2.800E-02	0.050
MN-54	834.83	*		-1.625E-02	3.113E-02	5.006E-02	4.702E-03	-0.325
CO-56	846.75	*		1.116E-03	2.940E-02	4.947E-02	4.655E-03	0.023
	977.42			9.718E-01	2.703E+00	4.078E+00	3.763E-01	0.238
	1037.82			5.481E-02	2.703E-01	4.540E-01	4.268E-02	0.121
	1175.09			-4.980E-02	2.062E+00	3.360E+00	2.704E-01	-0.015
	1238.25			9.463E-02	8.523E-02	1.490E-01	1.264E-02	0.635
	1360.21			1.197E-01	8.044E-01	1.323E+00	1.121E-01	0.090
	1771.40			-6.753E-01	2.641E-01	2.352E-01	1.944E-02	-2.870
CO-57	122.06	*		-1.144E-02	1.852E-02	3.017E-02	2.507E-03	-0.379
	136.48			-1.056E-02	1.580E-01	2.624E-01	2.386E-02	-0.040
CO-58	810.76	*		-1.157E-02	2.981E-02	4.839E-02	4.534E-03	-0.239
FE-59	142.65			-8.002E-01	2.148E+00	3.467E+00	2.960E-01	-0.231
	192.34			1.989E-01	7.229E-01	1.196E+00	1.694E-01	0.166
	1099.22	*		-4.557E-02	8.544E-02	1.336E-01	1.242E-02	-0.341
	1291.56			-3.807E-02	1.122E-01	1.752E-01	1.673E-02	-0.217
CO-60	1173.22			9.898E-03	4.222E-02	7.027E-02	5.650E-03	0.141
	1332.49	*		1.220E-02	3.175E-02	5.374E-02	4.533E-03	0.227
ZN-65	1115.52	*		-2.133E-02	8.739E-02	1.201E-01	1.020E-02	-0.178
GE-68	1077.35	*		-9.291E-01	1.090E+00	1.642E+00	1.434E-01	-0.566
AS-73	53.44	*		-1.490E-01	6.619E-01	1.026E+00	7.824E-02	-0.145
AS-74	595.88	*		2.553E-02	7.451E-02	1.247E-01	1.157E-02	0.205
	634.78			-1.435E-01	2.820E-01	4.362E-01	3.954E-02	-0.329
SE-75	66.05			-1.278E+00	3.590E+00	5.453E+00	5.247E-01	-0.234
	96.73			-2.452E-01	5.901E-01	8.777E-01	1.213E-01	-0.279
	121.11			2.817E-03	9.669E-02	1.622E-01	1.781E-02	0.017
	136.00			-2.771E-03	2.952E-02	4.899E-02	4.157E-03	-0.057
	198.60			-3.117E-01	1.413E+00	2.256E+00	2.418E-01	-0.138
	264.65	*		1.430E-02	3.981E-02	5.833E-02	6.807E-03	0.245
	279.53			-1.254E-02	8.587E-02	1.359E-01	1.664E-02	-0.092
	303.91			7.237E-01	1.832E+00	2.669E+00	3.709E-01	0.271
	400.65			-1.591E-01	1.871E-01	2.940E-01	3.423E-02	-0.541

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		7.420E+02	1.926E+02	2.465E+02	2.373E+01	3.009
		200.40		1.813E+01	1.246E+02	2.046E+02	2.033E+01	0.089
	+	239.00		2.077E+02	2.690E+01	3.053E+01	3.348E+00	6.803
		249.79		-3.982E+01	5.257E+01	8.063E+01	9.073E+00	-0.494
		281.68		-5.228E+01	6.774E+01	1.023E+02	1.225E+01	-0.511
		297.23		1.113E+02	4.460E+01	7.745E+01	9.110E+00	1.437
		303.76		1.579E+01	1.555E+02	2.213E+02	2.579E+01	0.071
		439.47		5.007E+01	1.117E+02	1.914E+02	1.807E+01	0.262
		484.57		-2.767E+01	1.734E+02	2.836E+02	2.698E+01	-0.098
		520.65	*	-6.180E+00	7.969E+00	1.227E+01	1.166E+00	-0.504
		574.64		2.415E+00	1.596E+02	2.612E+02	2.447E+01	0.009
		578.91		2.666E+01	7.243E+01	1.079E+02	1.009E+01	0.247
		585.48		8.579E+02	2.089E+02	3.635E+02	3.390E+01	2.360
		755.35		1.271E+02	1.385E+02	2.386E+02	2.199E+01	0.533
		817.79		2.430E+01	9.593E+01	1.650E+02	1.545E+01	0.147
	SR-82	698.33		-8.729E-01	2.785E+01	4.473E+01	4.036E+00	-0.020
		776.49	*	1.002E-01	3.238E-01	5.313E-01	4.926E-02	0.189
		1395.20		-6.141E+00	7.451E+00	1.010E+01	8.594E-01	-0.608
RB-83		520.41	*	-4.256E-02	5.352E-02	8.227E-02	7.817E-03	-0.517
		529.64		2.787E-02	8.432E-02	1.421E-01	1.348E-02	0.196
		552.65		-1.795E-01	1.521E-01	2.223E-01	2.099E-02	-0.808
RB-84		881.50	*	1.590E-02	5.554E-02	9.519E-02	8.993E-03	0.167
KR-85		513.99	*	6.563E+00	5.983E+00	9.539E+00	9.070E-01	0.688
SR-85		513.99	*	3.363E-02	3.066E-02	4.888E-02	4.647E-03	0.688
RB-86		1076.63	*	-3.162E-01	6.898E-01	1.085E+00	9.484E-02	-0.291
Y-88		898.02		9.965E-03	3.413E-02	5.840E-02	5.546E-03	0.171
		1836.01	*	1.069E-02	2.139E-02	3.928E-02	3.189E-03	0.272
ZR-88		392.90	*	1.122E-02	2.459E-02	4.236E-02	3.918E-03	0.265
Y-91		1204.90	*	-8.579E+00	1.731E+01	2.699E+01	2.195E+00	-0.318
NB-94		702.63	*	-1.555E-02	2.940E-02	4.521E-02	4.087E-03	-0.344
		871.10		-7.483E-03	2.321E-02	3.748E-02	3.538E-03	-0.200
NB-95		765.79	*	-6.137E-03	3.817E-02	6.019E-02	5.564E-03	-0.102
NB-95M		235.69	*	5.280E-02	1.091E-01	1.617E-01	1.923E-02	0.326
ZR-95		724.18		-1.031E-01	9.471E-02	1.146E-01	1.126E-02	-0.899
		756.15	*	5.827E-02	5.826E-02	1.012E-01	1.015E-02	0.576
NB-97		657.90	*	-1.942E-02	5.826E-02	Half-Life	too short	
		1024.50		5.113E-01	5.826E-02	Half-Life	too short	
ZR-97		254.15		-1.105E+00	5.826E-02	Half-Life	too short	
		355.39		-6.230E-01	5.826E-02	Half-Life	too short	
		507.63	*	1.363E+00	5.826E-02	Half-Life	too short	
		602.52		-2.767E+00	5.826E-02	Half-Life	too short	
		1021.30		-2.426E+00	5.826E-02	Half-Life	too short	
		1147.95		-5.790E-02	5.826E-02	Half-Life	too short	
		1362.66		4.725E-01	5.826E-02	Half-Life	too short	
		1750.46		-5.683E-01	5.826E-02	Half-Life	too short	
	MO-99	140.51		-8.405E+00	2.084E+01	3.335E+01	9.221E+00	-0.252
		181.06		-5.790E+00	1.371E+01	2.091E+01	3.907E+00	-0.277
		366.43		1.949E+01	6.059E+01	1.042E+02	1.054E+01	0.187
		739.58	*	3.136E+00	9.665E+00	1.592E+01	2.468E+00	0.197

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	778.00			-1.738E+01	2.871E+01	4.311E+01	3.999E+00	-0.403
TC-99M	140.51	*		-1.049E+10	2.871E+01	Half-Life	too short	
RH-101	127.23			-1.054E-04	2.606E-02	3.909E-02	3.255E-03	-0.003
	198.01	*		-8.509E-03	2.608E-02	4.145E-02	4.092E-03	-0.205
	325.23			-3.726E-02	2.007E-01	2.769E-01	3.109E-02	-0.135
RH-102	418.52			-1.156E-01	2.173E-01	3.499E-01	3.277E-02	-0.330
	475.06	*		-9.691E-03	2.215E-02	3.549E-02	3.373E-03	-0.273
	631.29			-6.017E-03	4.654E-02	7.450E-02	6.770E-03	-0.081
	697.49			3.887E-03	6.304E-02	1.020E-01	9.205E-03	0.038
	766.84			7.006E-02	1.007E-01	1.691E-01	1.563E-02	0.414
	1046.59			-8.105E-02	9.708E-02	1.466E-01	1.307E-02	-0.553
	1112.84			-2.001E-01	2.466E-01	3.139E-01	2.669E-02	-0.637
RU-103	497.08	*		1.901E-03	3.208E-02	5.323E-02	7.838E-03	0.036
	610.33			9.476E+00	2.095E+00	2.320E+00	3.943E-01	4.085
RH-106	511.85	+		5.792E-01	2.523E-01	3.585E-01	3.409E-02	1.616
	621.84	*		-4.211E-02	2.748E-01	4.410E-01	6.043E-02	-0.095
	1050.47			1.562E+00	1.876E+00	3.325E+00	2.956E-01	0.470
RU-106	511.85	+		5.792E-01	2.523E-01	3.585E-01	3.409E-02	1.616
	621.84	*		-4.211E-02	2.748E-01	4.410E-01	4.033E-02	-0.095
	1050.47			1.562E+00	1.876E+00	3.325E+00	2.956E-01	0.470
AG-108M	433.93	*		8.082E-03	2.401E-02	4.097E-02	3.989E-03	0.197
	614.37			-1.585E-02	3.431E-02	4.610E-02	4.382E-03	-0.344
	722.95			-2.881E-02	4.162E-02	5.336E-02	5.033E-03	-0.540
AG-110M	657.75	*		-2.050E-03	2.758E-02	4.433E-02	4.057E-03	-0.046
	677.61			-6.768E-03	2.291E-01	3.688E-01	3.384E-02	-0.018
	706.67			6.885E-02	1.846E-01	3.055E-01	2.836E-02	0.225
	763.93			-1.033E-01	1.406E-01	2.093E-01	1.982E-02	-0.493
	884.67			-2.041E-02	4.040E-02	6.437E-02	6.246E-03	-0.317
	937.48			-5.543E-02	9.231E-02	1.450E-01	1.399E-02	-0.382
	1384.27			-1.373E-02	1.424E-01	2.264E-01	1.979E-02	-0.061
IN-111	171.28			-3.604E-01	7.382E-01	1.186E+00	1.090E-01	-0.304
	245.39	*		-2.136E-01	8.871E-01	1.249E+00	1.391E-01	-0.171
IN-113M	391.69	*		1.103E-02	3.647E-02	6.229E-02	5.912E-03	0.177
SN-113	391.69	*		1.103E-02	3.647E-02	6.229E-02	5.912E-03	0.177
IN-114M	190.27	*		-3.484E-02	1.550E-01	2.233E-01	2.159E-02	-0.156
CD-115	260.90			-6.322E+01	9.983E+01	1.536E+02	1.773E+01	-0.412
	492.35			1.602E+01	2.966E+01	5.078E+01	4.832E+00	0.315
	527.90	*		1.715E+00	8.566E+00	1.430E+01	1.357E+00	0.120
SN-117M	156.02			-2.311E-01	1.712E+00	2.815E+00	2.483E-01	-0.082
	158.56	*		-6.411E-04	4.009E-02	6.621E-02	5.881E-03	-0.010
SB-122	563.90	*		-1.066E-01	1.683E+00	2.742E+00	2.579E-01	-0.039
	692.80			9.716E+00	3.464E+01	5.715E+01	5.145E+00	0.170
I-123	159.00	*		-3.933E-03	3.464E+01	Half-Life	too short	
	528.96			-3.563E+01	3.464E+01	Half-Life	too short	
TE-123M	159.00	*		-2.098E-05	2.079E-02	3.435E-02	3.072E-03	-0.001
I-124	602.71	*		-3.388E-01	5.611E-01	8.226E-01	7.608E-02	-0.412
	722.78			-2.029E+00	4.183E+00	5.509E+00	5.020E-01	-0.368
	1325.50			-1.013E+00	2.906E+01	4.676E+01	3.938E+00	-0.022
	1376.25			2.593E+01	2.629E+01	4.701E+01	3.990E+00	0.552



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1509.49	9.983E+00	1.100E+01	2.071E+01	1.771E+00	0.482
		1691.02	7.495E-01	2.702E+00	4.713E+00	3.963E-01	0.159
		602.71	-1.988E-02	3.292E-02	4.826E-02	4.464E-03	-0.412
		645.85	-2.788E-01	4.055E-01	6.152E-01	5.836E-02	-0.453
		709.31	-8.012E-01	2.448E+00	3.828E+00	3.470E-01	-0.209
		713.82	1.841E-01	1.386E+00	2.253E+00	2.787E-01	0.082
		722.78	-1.726E-01	3.557E-01	4.685E-01	4.352E-02	-0.368
	+	968.20	1.753E+01	4.768E+00	6.561E+00	6.077E-01	2.672
		1045.16	-1.985E+00	2.066E+00	3.071E+00	2.738E-01	-0.646
		1325.50	-9.199E-02	2.640E+00	4.247E+00	3.577E-01	-0.022
SB-125		1368.21	-9.236E-01	1.461E+00	2.131E+00	2.853E-01	-0.433
		1436.60	3.529E+00	3.063E+00	5.824E+00	4.970E-01	0.606
		1691.02 *	1.503E-02	5.420E-02	9.455E-02	8.281E-03	0.159
		427.89 *	4.015E-02	6.480E-02	1.128E-01	1.078E-02	0.356
	+	463.38	6.527E-01	3.557E-01	4.818E-01	4.869E-02	1.355
TE-125M		600.56	-6.337E-02	1.428E-01	2.242E-01	2.209E-02	-0.283
		635.90	-1.203E-02	2.185E-01	3.528E-01	3.430E-02	-0.034
I-126		109.28 *	5.987E+00	6.828E+00	1.184E+01	1.205E+00	0.506
		388.63	-2.098E-02	1.714E-01	2.860E-01	2.676E-02	-0.073
SB-126		666.33 *	-5.897E-02	1.510E-01	2.359E-01	2.098E-02	-0.250
		753.82	1.229E+00	1.213E+00	2.108E+00	1.942E-01	0.583
		223.80	-2.103E+00	3.349E+00	5.248E+00	5.543E-01	-0.401
		278.60	1.994E+00	1.954E+00	3.282E+00	3.937E-01	0.608
	+	296.50	1.093E+01	1.971E+00	2.758E+00	3.248E-01	3.964
		414.70	-3.431E-02	5.891E-02	9.472E-02	8.858E-03	-0.362
		415.30	1.289E+00	4.804E+00	8.172E+00	7.644E-01	0.158
		555.20	9.638E-01	2.959E+00	4.978E+00	4.696E-01	0.194
		573.80	-2.065E-01	7.934E-01	1.269E+00	1.189E-01	-0.163
		593.00	5.282E-02	7.182E-01	1.178E+00	1.095E-01	0.045
SB-127		656.30	1.833E+00	2.498E+00	4.301E+00	3.834E-01	0.426
		666.33	-2.464E-02	6.307E-02	9.855E-02	8.765E-03	-0.250
		675.00	-1.680E+00	1.576E+00	2.275E+00	2.032E-01	-0.739
		695.00	-3.515E-02	6.489E-02	9.953E-02	8.969E-03	-0.353
		697.00	8.891E-02	2.169E-01	3.612E-01	3.258E-02	0.246
		720.50 *	6.171E-02	1.195E-01	2.003E-01	1.824E-02	0.308
		856.80	1.611E-02	4.115E-01	6.030E-01	5.682E-02	0.027
		989.30	1.092E-01	1.019E+00	1.705E+00	1.565E-01	0.064
		1034.80	-7.326E+00	7.206E+00	1.060E+01	9.514E-01	-0.691
		1213.00	-1.943E-02	4.069E+00	6.624E+00	5.402E-01	-0.003
SB-127		61.10	-4.864E+01	4.404E+01	6.458E+01	6.530E+00	-0.753
		252.40	5.983E-01	3.522E+00	5.703E+00	2.433E+00	0.105
		290.80	3.803E+00	1.616E+01	2.339E+01	3.228E+00	0.163
		411.60	-2.839E+00	9.860E+00	1.620E+01	2.612E+00	-0.175
		444.90	9.775E-01	7.692E+00	1.291E+01	1.692E+00	0.076
		473.00	-1.123E+00	1.264E+00	1.938E+00	2.608E-01	-0.580
		543.00	-7.574E+00	1.183E+01	1.823E+01	2.716E+00	-0.416
		603.60	-1.427E+00	9.939E+00	1.459E+01	1.887E+00	-0.098
		685.20 *	-4.246E-01	1.063E+00	1.648E+00	1.918E-01	-0.258
		698.50	5.936E-01	1.228E+01	1.986E+01	3.183E+00	0.030

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	722.20			9.727E+00	2.646E+01	3.874E+01	4.465E+00	0.251
	783.80			2.170E+00	3.037E+00	5.130E+00	6.605E-01	0.423
	57.60			-1.529E+00	4.674E+00	7.180E+00	5.190E-01	-0.213
	145.22			-7.768E-02	5.230E-01	8.629E-01	7.408E-02	-0.090
	172.10			-3.653E-02	9.003E-02	1.452E-01	1.338E-02	-0.252
I-131	202.84	*		-5.652E-03	3.710E-02	6.003E-02	6.003E-03	-0.094
	374.96			8.557E-03	1.551E-01	2.621E-01	2.578E-02	0.033
	80.18			-2.346E-01	3.373E+00	5.173E+00	4.572E-01	-0.045
	284.30			3.852E-01	1.130E+00	1.841E+00	2.260E-01	0.209
	364.48	*		-1.932E-02	8.352E-02	1.388E-01	1.468E-02	-0.139
TE-132	636.97			-2.774E-02	1.245E+00	2.015E+00	1.917E-01	-0.014
	722.89			-3.237E+00	6.780E+00	8.939E+00	8.192E-01	-0.362
	49.72			-5.175E-02	1.521E+01	2.390E+01	2.491E+00	-0.002
	111.76			-1.430E+01	2.131E+01	3.478E+01	3.707E+00	-0.411
	116.30			1.515E+01	1.985E+01	3.425E+01	3.634E+00	0.442
BA-133	228.16	*		2.020E-01	5.430E-01	8.936E-01	1.512E-01	0.226
	53.15			-5.844E-01	2.862E+00	4.440E+00	3.402E-01	-0.132
	79.62			-4.179E-02	9.547E-01	1.466E+00	2.241E-01	-0.028
	81.00			-3.509E-02	7.131E-02	1.067E-01	1.709E-02	-0.329
	276.40			1.940E-01	3.203E-01	5.031E-01	8.374E-02	0.386
I-133	302.84			-6.305E-02	1.278E-01	1.722E-01	2.659E-02	-0.366
	356.01	*		-1.688E-02	3.688E-02	5.277E-02	7.626E-03	-0.320
	383.85			-2.477E-01	2.466E-01	3.862E-01	5.114E-02	-0.641
	510.53	+		1.124E+00	2.466E-01	Half-Life	too short	
	529.87	*		1.583E-03	2.466E-01	Half-Life	too short	
CS-134	706.58			1.273E-01	2.466E-01	Half-Life	too short	
	856.28			8.540E-02	2.466E-01	Half-Life	too short	
	875.33			-5.026E-02	2.466E-01	Half-Life	too short	
	1236.41			5.994E-01	2.466E-01	Half-Life	too short	
	1298.22			-1.841E-01	2.466E-01	Half-Life	too short	
I-135	475.35			-1.896E-01	1.425E+00	2.338E+00	2.222E-01	-0.081
	563.23			1.892E-03	2.926E-01	4.792E-01	4.546E-02	0.004
	569.32			5.006E-02	1.598E-01	2.675E-01	2.540E-02	0.187
	604.70			3.285E-03	3.012E-02	4.344E-02	4.022E-03	0.076
	795.84	+	*	1.372E-01	7.121E-02	7.377E-02	6.917E-03	1.859
CS-135	801.93			-3.502E-01	3.942E-01	5.245E-01	4.917E-02	-0.668
	1038.57			2.003E+00	3.383E+00	5.866E+00	5.252E-01	0.341
	1167.94			-2.990E-01	2.332E+00	3.769E+00	3.047E-01	-0.079
	1365.15			2.858E-01	9.918E-01	1.662E+00	1.475E-01	0.172
	268.24	*		1.175E-01	1.438E-01	2.161E-01	2.755E-02	0.544
I-135	288.45			3.323E+09	1.438E-01	Half-Life	too short	
	417.63			-7.476E+09	1.438E-01	Half-Life	too short	
	546.56			1.124E+09	1.438E-01	Half-Life	too short	
	836.80			-3.014E+09	1.438E-01	Half-Life	too short	
	1038.76			7.821E+09	1.438E-01	Half-Life	too short	
I-135	1124.00			8.755E+09	1.438E-01	Half-Life	too short	
	1131.51			-2.688E+09	1.438E-01	Half-Life	too short	
	1260.41	*		1.181E+09	1.438E-01	Half-Life	too short	
	1457.56			1.793E+11	1.438E-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		1678.03		2.136E+09	1.438E-01	Half-Life	too short	
		1706.46		-2.750E+09	1.438E-01	Half-Life	too short	
		1791.20		-8.940E+08	1.438E-01	Half-Life	too short	
		66.91		-1.148E-01	5.771E-01	8.830E-01	1.318E-01	-0.130
	+	86.29		4.469E+00	1.236E+00	1.499E+00	2.011E-01	2.981
		153.22		2.785E-01	5.001E-01	8.461E-01	8.255E-02	0.329
		163.89		4.373E-01	8.256E-01	1.371E+00	1.372E-01	0.319
		176.55		-2.072E-01	2.748E-01	4.341E-01	4.247E-02	-0.477
		273.65		-7.843E-02	3.983E-01	5.581E-01	6.858E-02	-0.141
		340.57		2.684E-01	1.064E-01	1.814E-01	2.006E-02	1.480
		818.51		-2.094E-02	5.565E-02	9.028E-02	8.460E-03	-0.232
		1048.07	*	-6.213E-02	8.832E-02	1.351E-01	1.251E-02	-0.460
		1235.34		7.386E-02	5.589E-01	9.176E-01	1.060E-01	0.080
		661.65	*	-8.472E-03	2.986E-02	4.714E-02	4.184E-03	-0.180
BA-137M		661.65	*	-8.956E-03	3.157E-02	4.983E-02	4.430E-03	-0.180
CE-139		165.85	*	-1.698E-02	2.310E-02	3.676E-02	3.334E-03	-0.462
BA-140		162.64		2.889E-01	5.728E-01	9.683E-01	9.167E-02	0.298
		304.84		3.687E-01	1.132E+00	1.635E+00	4.757E-01	0.226
LA-140		423.70		-4.983E-01	1.376E+00	2.223E+00	7.255E-01	-0.224
	+	537.32	*	1.254E-01	2.020E-01	3.408E-01	1.137E-01	0.368
		328.77		4.754E-01	3.929E-01	4.524E-01	5.214E-02	1.051
		432.53		-2.312E-01	1.495E+00	2.466E+00	2.417E-01	-0.094
		487.03		-6.396E-02	1.064E-01	1.677E-01	1.677E-02	-0.381
		751.79		-1.197E+00	1.471E+00	2.167E+00	2.183E-01	-0.552
		815.85		6.108E-02	2.372E-01	4.080E-01	4.195E-02	0.150
		867.82		-3.661E-01	1.039E+00	1.630E+00	1.606E-01	-0.225
		919.63		-1.429E+00	2.235E+00	3.490E+00	3.942E-01	-0.410
		925.24		-5.355E-02	9.238E-01	1.530E+00	1.514E-01	-0.035
		1596.49	*	-6.209E-02	7.076E-02	1.018E-01	8.674E-03	-0.610
		145.44	*	-1.830E-02	4.699E-02	7.670E-02	6.709E-03	-0.239
		57.37		5.317E-05	4.699E-02	Half-Life	too short	
		231.56		8.524E-04	4.699E-02	Half-Life	too short	
CE-143		293.26	*	2.750E-04	4.699E-02	Half-Life	too short	
	+	350.59		2.141E-02	4.699E-02	Half-Life	too short	
		490.36		1.466E-04	4.699E-02	Half-Life	too short	
		664.57		1.435E-03	4.699E-02	Half-Life	too short	
		721.93		7.416E-04	4.699E-02	Half-Life	too short	
CE-144		80.11		-6.485E-02	1.563E+00	2.399E+00	2.106E-01	-0.027
		133.54	*	3.195E-02	1.747E-01	2.638E-01	4.074E-02	0.121
PM-144		476.78		1.168E-02	5.184E-02	8.728E-02	8.941E-03	0.134
		618.01		-1.832E-03	2.731E-02	4.417E-02	4.149E-03	-0.041
PR-144		696.49	*	-2.412E-03	2.824E-02	4.515E-02	4.072E-03	-0.053
		778.57		-1.519E+00	1.954E+00	2.876E+00	2.669E-01	-0.528
		696.49	*	-1.634E-01	1.914E+00	3.059E+00	2.758E-01	-0.053
PM-146		1489.15		-1.224E+00	7.740E+00	1.260E+01	1.077E+00	-0.097
		453.90	*	3.495E-02	3.441E-02	6.068E-02	6.930E-03	0.576
		633.02		-5.662E-01	1.132E+00	1.724E+00	6.460E-01	-0.328
		735.90		1.814E-02	1.419E-01	2.015E-01	5.796E-02	0.090
		747.13		-2.152E-03	7.066E-02	1.128E-01	1.624E-02	-0.019

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	91.11		7.560E-01	2.569E-01	3.506E-01	3.504E-02	2.156
		319.41		-1.916E-01	2.774E+00	4.372E+00	4.964E-01	-0.044
		439.89		3.518E+00	4.598E+00	8.024E+00	7.574E-01	0.438
		531.02	*	-8.329E-02	4.284E-01	6.932E-01	1.072E-01	-0.120
PM-149		285.90	*	-2.151E+01	6.836E+01	1.066E+02	1.876E+01	-0.202
EU-152		121.78		-3.182E-02	5.353E-02	8.724E-02	8.422E-03	-0.365
		244.69		-1.124E-01	2.789E-01	3.876E-01	4.309E-02	-0.290
		344.27	*	-1.211E-01	7.439E-02	1.063E-01	1.188E-02	-1.139
		443.98		1.329E-01	7.666E-01	1.291E+00	1.220E-01	0.103
		778.89		-1.814E-01	2.251E-01	3.302E-01	3.063E-02	-0.549
		867.32		-1.199E-01	6.404E-01	9.908E-01	9.348E-02	-0.121
		964.01		4.583E-01	2.702E-01	4.568E-01	4.237E-02	1.003
		1085.78		7.612E-02	3.705E-01	6.197E-01	5.380E-02	0.123
		1112.02		1.429E-02	3.023E-01	4.698E-01	3.997E-02	0.030
		1407.95		2.023E-01	1.746E-01	2.535E-01	2.158E-02	0.798
GD-153	+	69.67		3.156E-01	1.240E+00	1.943E+00	1.531E-01	0.162
		83.37		3.045E+01	1.323E+01	1.775E+01	1.618E+00	1.716
		97.43	*	-2.404E-02	6.162E-02	9.186E-02	8.160E-03	-0.262
EU-154		103.18		-3.591E-02	7.325E-02	1.211E-01	1.043E-02	-0.297
		123.07		1.296E-02	3.798E-02	6.444E-02	7.170E-03	0.201
		247.94		-1.020E-01	2.773E-01	4.362E-01	5.900E-02	-0.234
		591.81		-3.533E-01	4.771E-01	7.244E-01	8.824E-02	-0.488
		723.30		-1.336E-01	1.733E-01	2.195E-01	2.190E-02	-0.609
		756.87		3.399E-01	6.292E-01	1.055E+00	1.309E-01	0.322
		873.19		-1.663E-01	2.043E-01	3.094E-01	3.971E-02	-0.537
		996.32		-2.165E-01	3.056E-01	4.677E-01	8.432E-02	-0.463
		1004.76		-1.803E-01	1.913E-01	2.879E-01	3.458E-02	-0.626
		1274.45	*	1.981E-02	1.067E-01	1.762E-01	1.952E-02	0.112
EU-155		48.70		-2.113E+00	1.957E+00	2.894E+00	2.377E-01	-0.730
		60.01		-1.031E+00	3.701E+00	5.691E+00	4.065E-01	-0.181
		86.54		4.138E-01	1.075E-01	1.407E-01	1.344E-02	2.940
TB-160	+	105.31	*	4.482E-02	7.889E-02	1.358E-01	1.175E-02	0.330
		86.79		1.105E+00	2.868E-01	3.781E-01	3.591E-02	2.921
		197.04		4.577E-03	4.371E-01	7.060E-01	6.952E-02	0.006
		215.65		-1.006E-01	5.868E-01	9.448E-01	9.772E-02	-0.106
		298.57		1.131E-01	8.708E-02	1.477E-01	1.735E-02	0.765
		879.36	*	5.845E-02	1.067E-01	1.871E-01	1.768E-02	0.312
		962.29		-1.109E-01	4.571E-01	7.234E-01	6.715E-02	-0.153
		966.15		4.475E-01	2.129E-01	3.624E-01	3.359E-02	1.235
		1177.93		1.065E-01	3.218E-01	5.402E-01	4.351E-02	0.197
		1271.85		-3.486E-01	6.530E-01	1.001E+00	8.314E-02	-0.348
HO-166M	+	80.57		-4.794E-02	1.985E-01	3.018E-01	2.663E-02	-0.159
		184.41		8.699E-02	4.332E-02	5.062E-02	4.818E-03	1.719
		280.46		-5.371E-02	6.754E-02	1.021E-01	1.224E-02	-0.526
		410.95		2.358E-01	1.985E-01	3.529E-01	3.295E-02	0.668
		711.68	*	1.375E-02	5.200E-02	8.544E-02	7.752E-03	0.161
		752.31		-6.500E-02	2.349E-01	3.664E-01	3.372E-02	-0.177
		810.29		-2.284E-02	4.582E-02	7.366E-02	6.885E-03	-0.310
		51.35		7.459E+00	2.455E+01	3.912E+01	3.083E+00	0.191
TM-171								

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	+	52.39		-7.225E+00	1.279E+01	1.947E+01	1.509E+00	-0.371
		59.40		8.351E-01	1.998E+01	3.124E+01	2.219E+00	0.027
		66.72	*	1.513E+00	2.089E+01	3.240E+01	2.482E+00	0.047
		88.36		8.149E-01	2.116E-01	2.592E-01	2.488E-02	3.144
		201.83		-1.365E-02	2.272E-02	3.593E-02	3.584E-03	-0.380
LU-177	+	306.84	*	1.205E-02	1.997E-02	3.285E-02	3.810E-03	0.367
		401.10		-4.458E+00	4.885E+00	7.653E+00	7.110E-01	-0.583
		112.95		-1.510E-01	1.190E+00	1.990E+00	1.666E-01	-0.076
LU-177M	+	208.36	*	2.389E+00	1.170E+00	1.597E+00	1.621E-01	1.496
		52.97		-2.260E-01	1.298E+00	2.017E+00	1.550E-01	-0.112
		54.07		1.945E-01	6.690E-01	1.063E+00	8.036E-02	0.183
HF-181	+	61.30		-1.286E+00	1.145E+00	1.682E+00	1.220E-01	-0.764
		121.62		-1.134E-01	2.718E-01	4.469E-01	3.709E-02	-0.254
		147.16		5.230E-02	4.782E-01	7.972E-01	6.875E-02	0.066
		171.86		-1.272E-01	3.639E-01	5.888E-01	5.422E-02	-0.216
		218.09		5.251E-03	6.775E-01	1.100E+00	1.145E-01	0.005
		268.79		3.059E+00	1.284E+00	1.179E+00	1.385E-01	2.595
		319.02		3.270E-02	2.180E-01	3.484E-01	3.959E-02	0.094
		367.43		2.148E-01	6.598E-01	1.135E+00	1.144E-01	0.189
		413.65	*	-3.358E-02	1.399E-01	2.306E-01	2.156E-02	-0.146
		56.28		-5.194E-01	7.415E-01	1.117E+00	8.199E-02	-0.465
		57.53		-1.331E-01	3.933E-01	6.039E-01	4.369E-02	-0.220
		65.20		-1.376E+00	7.529E-01	1.056E+00	7.974E-02	-1.303
		133.02		2.734E-03	5.528E-02	8.294E-02	6.955E-03	0.033
		136.25		-5.446E-02	3.444E-01	5.700E-01	4.805E-02	-0.096
		345.85		-9.572E-02	1.541E-01	2.310E-01	2.476E-02	-0.414
W-181	+	482.03	*	1.116E-02	3.281E-02	5.564E-02	5.292E-03	0.201
		56.28		-2.035E-01	2.904E-01	4.375E-01	3.211E-02	-0.465
		57.53		-5.222E-02	1.542E-01	2.367E-01	1.712E-02	-0.221
TA-182	+	65.20	*	-5.351E-01	2.928E-01	4.106E-01	3.101E-02	-1.303
		67.75		-6.617E-02	8.508E-02	1.265E-01	9.786E-03	-0.523
		100.10		-7.228E-04	1.252E-01	2.117E-01	1.851E-02	-0.003
RE-183	+	152.43		1.666E-02	2.516E-01	4.179E-01	3.651E-02	0.040
		222.10		1.998E-01	2.815E-01	4.706E-01	4.950E-02	0.425
		1001.68		1.812E+00	1.777E+00	3.154E+00	2.880E-01	0.574
		1121.28		5.792E-01	2.491E-01	2.947E-01	2.488E-02	1.965
		1189.05		1.043E-01	2.565E-01	4.339E-01	3.509E-02	0.240
		1221.42	*	1.511E-01	1.807E-01	3.131E-01	2.560E-02	0.483
		1230.97		-4.128E-02	4.588E-01	7.409E-01	6.078E-02	-0.056
		57.98		-5.888E-03	1.509E-01	2.352E-01	1.693E-02	-0.025
		59.32		9.150E-03	8.205E-02	1.287E-01	9.148E-03	0.071
		67.20		-5.251E-02	1.498E-01	2.275E-01	1.751E-02	-0.231
RE-184	+	162.32	*	2.044E-03	8.414E-02	1.395E-01	1.252E-02	0.015
		208.81		2.160E+00	1.058E+00	1.447E+00	1.471E-01	1.492
		291.72		-1.914E-01	7.490E-01	1.035E+00	1.226E-01	-0.185
		57.98		-2.170E-02	5.562E-01	8.670E-01	6.242E-02	-0.025
		59.32		3.370E-02	3.022E-01	4.741E-01	3.369E-02	0.071
		67.20		-1.935E-01	5.519E-01	8.385E-01	6.454E-02	-0.231
		161.27		-2.059E-01	2.691E-01	4.297E-01	3.846E-02	-0.479

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		216.55		-1.260E-01	2.086E-01	3.277E-01	-0.384
		252.85	*	1.539E-02	1.910E-01	3.084E-01	0.050
		318.01		1.451E-01	3.702E-01	6.005E-01	0.242
		792.07		1.351E-01	8.944E-01	1.336E+00	0.101
		903.28		-2.178E-02	8.692E-01	1.411E+00	-0.015
		920.93		-1.101E-01	3.694E-01	5.985E-01	-0.184
		59.72		1.462E-02	2.169E-01	3.395E-01	0.043
		61.14		-1.401E-01	1.262E-01	1.855E-01	-0.755
		69.30		1.093E-02	2.105E-01	3.466E-01	0.032
		592.07		-1.234E+00	1.959E+00	3.016E+00	-0.409
		646.12	*	-2.496E-02	3.516E-02	5.330E-02	-0.468
		717.42		-7.101E-01	7.737E-01	1.137E+00	-0.625
		874.81		-3.125E-02	3.959E-01	6.567E-01	-0.048
		880.27		4.932E-02	6.201E-01	1.044E+00	0.047
RE-188		155.03	*	1.658E-01	1.296E-01	2.247E-01	0.738
		477.96		7.295E-01	2.411E+00	4.078E+00	0.179
		633.10		-1.242E+00	2.257E+00	3.481E+00	-0.357
W-188		63.58		1.936E+01	3.999E+01	6.470E+01	0.299
		227.08		3.555E+00	1.024E+01	1.685E+01	0.211
IR-192		290.67	*	1.372E+00	5.657E+00	8.193E+00	0.167
	+	295.96		8.398E-01	1.517E-01	2.248E-01	3.736
		308.46		-1.180E-02	7.746E-02	1.217E-01	-0.097
		316.51	*	-7.486E-03	2.860E-02	4.450E-02	-0.168
		468.07		2.168E-03	6.128E-02	8.967E-02	0.024
		604.41		8.780E-02	3.982E-01	5.811E-01	0.151
AU-195		612.46		9.210E-01	6.047E-01	9.911E-01	0.929
		65.12		-2.457E-01	1.358E-01	1.906E-01	-1.289
		66.83		2.377E-03	6.892E-02	1.067E-01	0.022
	+	75.70		9.250E-01	1.887E-01	3.156E-01	2.931
		98.88	*	2.488E-01	1.723E-01	2.800E-01	0.888
	+	129.76		4.339E+00	3.104E+00	3.884E+00	1.117
TL-200		367.94	*	8.631E-05	3.104E+00	Half-Life	too short
		579.30		1.296E-03	3.104E+00	Half-Life	too short
		828.27		5.279E-05	3.104E+00	Half-Life	too short
		1205.75		-1.358E-03	3.104E+00	Half-Life	too short
TL-201		68.90		7.629E-01	3.167E+00	5.482E+00	0.139
		70.82		9.712E-01	1.964E+00	3.106E+00	0.313
		80.30		-4.283E-01	3.637E+00	5.564E+00	-0.077
		135.34		4.433E+00	1.917E+01	3.224E+01	0.137
		167.43	*	-1.609E+00	5.242E+00	8.515E+00	-0.189
TL-202		68.90		6.933E-02	2.878E-01	4.982E-01	0.139
		70.82		8.802E-02	1.780E-01	2.815E-01	0.313
		80.30		-3.883E-02	3.297E-01	5.044E-01	-0.077
		439.56	*	2.860E-02	5.466E-02	9.409E-02	0.304
HG-203		70.83		3.793E-01	7.741E-01	1.222E+00	0.310
		72.87		2.257E-01	4.598E-01	7.244E-01	0.311
		82.60		1.458E+00	9.106E-01	1.235E+00	1.180
BI-207		279.20	*	1.390E-02	3.180E-02	5.206E-02	0.267
		72.80		6.139E-02	1.348E-01	2.123E-01	0.289

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207	+	74.97		5.132E-01	1.047E-01	1.632E-01	1.355E-02	3.145
	+	84.90		3.940E-01	1.711E-01	2.299E-01	2.133E-02	1.714
		569.67		5.785E-03	2.476E-02	4.122E-02	3.869E-03	0.140
		1063.62	*	1.922E-03	4.092E-02	6.770E-02	5.968E-03	0.028
		1770.23		-2.110E-02	2.894E-01	3.978E-01	3.287E-02	-0.053
		81.07		-8.393E-02	1.568E-01	2.346E-01	2.082E-02	-0.358
	+	83.78		2.598E-01	1.128E-01	1.552E-01	1.422E-02	1.674
		94.90		2.441E-01	1.751E-01	2.831E-01	2.559E-02	0.862
		122.32		-6.200E-01	1.277E+00	2.092E+00	1.873E-01	-0.296
		144.24		1.886E-01	5.275E-01	8.759E-01	8.403E-02	0.215
		154.21		3.700E-01	3.046E-01	5.260E-01	5.061E-02	0.703
	+	269.46		7.163E-01	3.010E-01	2.949E-01	3.507E-02	2.429
		323.87	*	-3.066E-01	6.174E-01	8.248E-01	1.578E-01	-0.372
	+	338.28		6.150E+00	1.650E+00	2.062E+00	2.890E-01	2.982
PO-209		445.03		1.967E-01	1.809E+00	3.034E+00	3.852E-01	0.065
		260.50		-5.873E+00	7.513E+00	1.144E+01	1.319E+00	-0.514
		262.80		2.815E+00	2.122E+01	3.429E+01	3.975E+00	0.082
		896.60	*	-4.312E+00	5.968E+00	9.269E+00	8.767E-01	-0.465
BI-210		46.50	*	-1.185E+00	2.747E+00	4.203E+00	3.919E-01	-0.282
PB-210		46.50	*	-1.185E+00	2.747E+00	4.203E+00	3.919E-01	-0.282
PO-210		46.50	*	-1.185E+00	2.747E+00	4.203E+00	3.550E-01	-0.282
PB-211		404.84	*	5.346E-01	7.611E-01	1.202E+00	7.544E-01	0.445
BI-212		427.08		8.572E-01	1.571E+00	2.568E+00	1.599E+00	0.334
		831.96		7.936E-01	1.120E+00	1.788E+00	1.122E+00	0.444
	+	727.18	*	1.002E+00	5.050E-01	5.414E-01	5.656E-02	1.851
		785.46		2.386E-01	1.430E+00	2.442E+00	2.269E-01	0.098
PO-215		1620.62		1.513E+00	1.069E+00	2.098E+00	1.782E-01	0.721
		81.07		-8.393E-02	1.568E-01	2.346E-01	2.082E-02	-0.358
	+	83.78		2.598E-01	1.128E-01	1.552E-01	1.422E-02	1.674
		94.90		2.441E-01	1.751E-01	2.831E-01	2.559E-02	0.862
		122.32		-6.200E-01	1.277E+00	2.092E+00	1.873E-01	-0.296
		144.24		1.886E-01	5.275E-01	8.759E-01	8.403E-02	0.215
		154.21		3.700E-01	3.046E-01	5.260E-01	5.061E-02	0.703
	+	269.46		7.163E-01	3.010E-01	2.949E-01	3.507E-02	2.429
		323.87	*	-3.066E-01	6.174E-01	8.248E-01	1.578E-01	-0.372
	+	338.28		6.150E+00	1.650E+00	2.062E+00	2.890E-01	2.982
		445.03		1.967E-01	1.809E+00	3.034E+00	3.852E-01	0.065
	+	271.23		9.190E-01	3.893E-01	3.744E-01	4.902E-02	2.455
		401.81	*	-2.691E-01	3.046E-01	4.755E-01	7.334E-02	-0.566
RN-220		549.76	*	4.320E+00	2.025E+01	3.378E+01	3.191E+00	0.128
RA-223		81.07		-8.393E-02	1.568E-01	2.346E-01	2.082E-02	-0.358
	+	83.78		2.598E-01	1.128E-01	1.552E-01	1.422E-02	1.674
		94.90		2.441E-01	1.751E-01	2.831E-01	2.559E-02	0.862
		122.32		-6.200E-01	1.277E+00	2.092E+00	1.873E-01	-0.296
		144.24		1.886E-01	5.275E-01	8.759E-01	8.403E-02	0.215
		154.21		3.700E-01	3.046E-01	5.260E-01	5.061E-02	0.703
	+	269.46		7.163E-01	3.010E-01	2.949E-01	3.507E-02	2.429
		323.87	*	-3.066E-01	6.174E-01	8.248E-01	1.578E-01	-0.372
	+	338.28		6.150E+00	1.650E+00	2.062E+00	2.890E-01	2.982



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		445.03		1.967E-01	1.809E+00	3.034E+00	3.852E-01	0.065
		79.80		1.853E-02	1.213E+00	1.868E+00	4.027E-01	0.010
		236.00		1.523E-01	1.984E-01	2.982E-01	4.155E-02	0.511
		256.20	*	3.258E-02	3.147E-01	5.083E-01	8.682E-02	0.064
		286.10		-7.748E-01	1.195E+00	1.816E+00	2.826E-01	-0.427
	+	299.80		2.439E+00	1.381E+00	1.970E+00	3.785E-01	1.238
TH-227		304.40		9.548E-01	1.658E+00	2.438E+00	4.884E-01	0.392
		334.20		9.899E-01	1.937E+00	2.827E+00	5.820E-01	0.350
		79.80		1.853E-02	1.213E+00	1.868E+00	4.078E-01	0.010
	+	94.00		7.756E+00	2.883E+00	2.844E+00	6.249E-01	2.727
		236.00		1.523E-01	1.982E-01	2.982E-01	3.853E-02	0.511
		256.20	*	3.258E-02	3.147E-01	5.083E-01	9.941E-02	0.064
TH-229		286.10		-7.748E-01	1.422E+00	1.816E+00	1.829E+00	-0.427
	+	299.80		2.439E+00	1.381E+00	1.970E+00	3.785E-01	1.238
		304.40		9.548E-01	1.658E+00	2.438E+00	4.884E-01	0.392
		334.20		9.899E-01	1.937E+00	2.827E+00	5.820E-01	0.350
	+	85.43		3.888E-01	1.689E-01	2.297E-01	2.146E-02	1.693
	+	88.47		4.691E-01	1.218E-01	1.489E-01	1.428E-02	3.149
PA-231		100.00		9.530E-03	1.305E-01	2.212E-01	1.936E-02	0.043
		193.63	*	-1.052E-01	3.916E-01	6.316E-01	6.163E-02	-0.167
		210.97		4.297E-01	6.481E-01	9.781E-01	9.994E-02	0.439
		283.67	*	-3.342E-02	1.167E+00	1.859E+00	3.215E-01	-0.018
	+	301.29		9.754E-01	5.388E-01	7.685E-01	1.120E-01	1.269
	+	81.07		-8.393E-02	1.568E-01	2.346E-01	2.082E-02	-0.358
TH-231		83.78		2.598E-01	1.128E-01	1.552E-01	1.422E-02	1.674
	+	94.90		2.441E-01	1.751E-01	2.831E-01	2.559E-02	0.862
		122.32		-6.200E-01	1.277E+00	2.092E+00	1.873E-01	-0.296
		144.24		1.886E-01	5.275E-01	8.759E-01	8.403E-02	0.215
		154.21		3.700E-01	3.046E-01	5.260E-01	5.061E-02	0.703
	+	269.46		7.163E-01	3.010E-01	2.949E-01	3.507E-02	2.429
U-231		323.87	*	-3.066E-01	6.174E-01	8.248E-01	1.578E-01	-0.372
	+	338.28		6.150E+00	1.650E+00	2.062E+00	2.890E-01	2.982
		445.03		1.967E-01	1.809E+00	3.034E+00	3.852E-01	0.065
	+	84.21		1.107E+01	4.809E+00	6.688E+00	6.157E-01	1.656
	+	92.29		7.583E+00	2.376E+00	2.965E+00	2.738E-01	2.558
		95.87	*	2.294E-01	7.986E-01	1.235E+00	1.109E-01	0.186
PA-233		108.00		1.764E-01	1.537E+00	2.601E+00	2.203E-01	0.068
	+	75.28		1.498E+01	3.599E+00	4.762E+00	7.233E-01	3.145
	+	86.59		6.726E+00	2.443E+00	2.291E+00	6.209E-01	2.936
	+	300.12		6.798E-01	3.799E-01	5.469E-01	9.219E-02	1.243
		311.98	*	-4.253E-03	4.876E-02	7.684E-02	8.981E-03	-0.055
		340.50		1.430E+00	6.154E-01	9.032E-01	2.234E-01	1.583
PA-234		398.62		1.127E+00	1.500E+00	2.590E+00	6.954E-01	0.435
		415.76		7.676E-01	1.273E+00	2.192E+00	4.792E-01	0.350
		63.00		5.043E-01	1.190E+00	1.919E+00	2.850E-01	0.263
		94.67		2.770E-01	1.327E-01	2.148E-01	2.730E-02	1.290
		98.44		8.664E-02	8.422E-02	1.120E-01	6.252E-02	0.774
		99.86		1.370E-01	3.295E-01	5.659E-01	4.956E-02	0.242
		111.00		-1.877E-01	1.377E-01	2.157E-01	2.575E-02	-0.870



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		1.629E-02	8.718E-02	1.319E-01	1.103E-02	0.124
		152.70		5.520E-02	2.448E-01	4.090E-01	6.997E-02	0.135
	+	186.00		3.132E+00	1.821E+00	2.018E+00	6.353E-01	1.552
		226.40		1.299E-01	3.232E-01	5.328E-01	7.777E-02	0.244
		227.20		1.105E-01	3.455E-01	5.680E-01	6.051E-02	0.194
		248.90		-5.914E-02	6.296E-01	1.008E+00	2.372E-01	-0.059
		293.70		2.883E+00	8.307E-01	1.192E+00	2.276E-01	2.418
		369.80		-3.090E-01	6.236E-01	1.011E+00	2.261E-01	-0.306
		568.70		6.836E-01	8.064E-01	1.399E+00	1.314E-01	0.489
		569.50		6.032E-02	2.204E-01	3.679E-01	3.454E-02	0.164
		574.00		-2.057E-01	1.150E+00	1.853E+00	1.737E-01	-0.111
		699.00		-6.152E-02	5.944E-01	9.486E-01	1.828E-01	-0.065
		706.10		5.005E-01	9.369E-01	1.528E+00	6.826E-01	0.328
		733.00		-2.710E-02	3.549E-01	4.916E-01	1.101E-01	-0.055
		742.81		4.307E-01	1.184E+00	1.901E+00	1.279E+00	0.227
	+	796.30		2.666E+00	1.543E+00	1.401E+00	3.821E-01	1.904
		805.60		7.807E-01	9.279E-01	1.494E+00	4.610E-01	0.523
		819.60		-5.734E-01	9.709E-01	1.502E+00	5.740E-01	-0.382
		826.30		-7.590E-01	7.414E-01	9.926E-01	4.456E-01	-0.765
		831.60		3.412E-01	5.202E-01	9.014E-01	2.711E-01	0.379
		876.40		-1.950E-01	6.444E-01	9.918E-01	1.020E+00	-0.197
		880.51		5.911E-04	2.264E-01	3.786E-01	3.577E-02	0.002
		883.24		-5.876E-02	2.370E-01	3.818E-01	2.571E-01	-0.154
		899.00		2.259E-01	6.818E-01	1.159E+00	5.087E-01	0.195
		925.00		-8.974E-02	9.679E-01	1.598E+00	1.502E-01	-0.056
		926.50		-3.887E-03	1.425E-01	2.367E-01	6.048E-02	-0.016
		946.00	*	-2.148E-01	2.521E-01	3.800E-01	7.259E-02	-0.565
		949.00		1.275E-01	3.785E-01	6.471E-01	6.036E-02	0.197
		980.50		6.258E-01	5.881E-01	1.065E+00	9.817E-02	0.588
PA-234M		1394.10		-7.167E-01	9.806E-01	1.187E+00	7.726E-01	-0.604
		766.42		4.668E+00	1.065E+01	1.717E+01	8.729E+00	0.272
		1001.03	*	3.572E+00	3.986E+00	7.015E+00	7.303E-01	0.509
TH-234		63.29	*	5.233E-01	1.014E+00	1.638E+00	2.857E-01	0.320
	+	92.38		2.007E+00	7.052E-01	7.911E-01	1.454E-01	2.537
U-235	+	89.95		3.023E+00	1.359E+00	1.428E+00	4.442E-01	2.116
	+	93.35		2.413E+00	9.928E-01	9.575E-01	2.699E-01	2.520
		105.00		2.698E-01	7.757E-01	1.319E+00	3.934E-01	0.204
		143.76	*	3.885E-02	1.634E-01	2.699E-01	4.717E-02	0.144
		163.35		1.379E-01	3.690E-01	6.081E-01	1.171E-01	0.227
	+	185.71		1.160E-01	5.776E-02	7.554E-02	7.216E-03	1.535
		205.31		3.787E-01	4.606E-01	6.945E-01	1.373E-01	0.545
NP-236		94.67		2.118E-01	9.895E-02	1.631E-01	1.477E-02	1.298
		98.44		6.546E-02	5.244E-02	8.466E-02	7.475E-03	0.773
		111.00		-1.419E-01	1.034E-01	1.632E-01	1.371E-02	-0.870
		160.31	*	-2.554E-02	5.938E-02	9.611E-02	8.578E-03	-0.266
U-238		63.29	*	5.233E-01	1.014E+00	1.638E+00	2.857E-01	0.320
	+	92.38		2.007E+00	6.289E-01	7.911E-01	7.300E-02	2.537
NP-239		99.55		8.795E-02	1.109E-01	1.929E-01	1.692E-02	0.456
		117.00	*	6.498E-02	1.408E-01	2.406E-01	2.003E-02	0.270

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		1.705E+00	8.353E-01	1.133E+00	1.154E-01	1.504
		228.18		6.349E-02	1.795E-01	2.956E-01	3.156E-02	0.215
		277.60		1.159E-01	1.489E-01	2.471E-01	2.958E-02	0.469
		334.30		5.550E-01	1.093E+00	1.601E+00	1.763E-01	0.347
AM-241		59.54	*	1.530E-02	1.148E-01	1.803E-01	1.415E-02	0.085
CM-243		99.55		9.050E-02	1.142E-01	1.985E-01	1.741E-02	0.456
		103.76	*	-2.440E-02	6.770E-02	1.125E-01	9.673E-03	-0.217
		117.00		6.685E-02	1.449E-01	2.475E-01	2.061E-02	0.270
	+	209.75		1.681E+00	8.235E-01	1.117E+00	1.138E-01	1.504
		228.18		6.415E-02	1.814E-01	2.986E-01	3.189E-02	0.215
		277.60		1.169E-01	1.501E-01	2.491E-01	2.982E-02	0.469
AM-246		798.80		-3.481E-02	1.140E-01	1.873E-01	1.747E-02	-0.186
		1036.00		-1.973E-01	2.534E-01	3.856E-01	3.457E-02	-0.512
		1062.04		-2.235E-02	1.812E-01	2.946E-01	2.600E-02	-0.076
		1078.86	*	-1.617E-02	1.252E-01	2.034E-01	1.775E-02	-0.080
CM-247		278.00		6.055E-01	6.073E-01	1.018E+00	1.219E-01	0.595
		287.40		1.264E-01	9.003E-01	1.449E+00	1.725E-01	0.087
		402.60	*	-7.263E-03	2.645E-02	4.351E-02	4.045E-03	-0.167
CF-249		252.85		5.777E-02	7.168E-01	1.158E+00	1.312E-01	0.050
		333.44		6.568E-02	1.564E-01	2.083E-01	2.298E-02	0.315
		387.95	*	3.190E-02	3.350E-02	5.901E-02	5.536E-03	0.540
CF-251		176.60	*	-7.567E-02	9.489E-02	1.495E-01	1.394E-02	-0.506
		227.00		1.661E-01	3.059E-01	5.079E-01	5.408E-02	0.327
		285.00		1.224E+00	1.292E+00	2.176E+00	2.598E-01	0.563

# 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]G244881002      *
* Acquisition date   : 26-JAN-2010 13:20:55 Detector SN# :                  *
* Detector ID        : GAM16 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                       *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000            *
* Elapsed real time  : 0 02:00:02.07 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G244881002 Analyst initials: MXR1                 *
* Batch Number       : 942718 Sample Quantity : 1.5122E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                           *
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	3.276E+01	3.276E+00	4.245E-01	0.000E+00
CD-109	3.495E+00	8.892E-01	8.769E-01	0.000E+00
SN-126	3.436E-01	8.741E-02	8.659E-02	0.000E+00
TL-208	4.425E-01	7.786E-02	4.804E-02	0.000E+00
BI-211	2.785E+00	4.879E-01	2.781E-01	0.000E+00
PB-212	1.316E+00	1.768E-01	7.773E-02	0.000E+00
PO-212	1.316E+00	1.768E-01	7.773E-02	0.000E+00
BI-214	8.785E-01	1.520E-01	9.493E-02	0.000E+00
PB-214	9.687E-01	1.768E-01	9.695E-02	0.000E+00
PO-214	9.687E-01	1.768E-01	9.695E-02	0.000E+00
PO-216	1.316E+00	1.768E-01	7.773E-02	0.000E+00
PO-218	9.687E-01	1.768E-01	9.695E-02	0.000E+00
RA-224	3.705E+00	9.555E-01	8.846E-01	0.000E+00
RA-226	8.785E-01	1.520E-01	9.493E-02	0.000E+00
AC-228	1.361E+00	2.669E-01	1.678E-01	0.000E+00
RA-228	1.361E+00	2.669E-01	1.678E-01	0.000E+00
TH-228	1.336E+00	1.795E-01	7.891E-02	0.000E+00
TH-230	8.785E-01	1.520E-01	9.493E-02	0.000E+00
TH-232	1.361E+00	2.669E-01	1.678E-01	0.000E+00
U-234	8.785E-01	1.520E-01	9.493E-02	0.000E+00
NP-237	1.009E+00	3.279E-01	2.572E-01	0.000E+00
AM-243	2.859E-01	5.716E-02	6.748E-02	0.000E+00
ANH-511	1.160E-01	4.951E-02	3.945E-02	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-5.448E-02	2.485E-01	4.287E-01	0.000E+00 NOT IDENT.
NA-22	1.039E-02	3.736E-02	6.420E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	5.617E+05	0.000E+00	0.000E+00 SHORT HLIF
AL-26	2.378E-03	2.240E-02	3.848E-02	0.000E+00 NOT IDENT.

TI-44	0.000E+00	4.416E-02	6.077E-02	0.000E+00	FAIL ABUN
SC-46	8.889E-03	3.243E-02	5.767E-02	0.000E+00	FAIL ABUN
V-48	-5.258E-02	5.707E-02	8.920E-02	0.000E+00	NOT IDENT.
CR-51	1.825E-01	2.970E-01	5.207E-01	0.000E+00	NOT IDENT.
MN-52	1.641E-02	1.981E-01	3.307E-01	0.000E+00	NOT IDENT.
MN-54	-1.625E-02	3.051E-02	5.116E-02	0.000E+00	NOT IDENT.
CO-56	1.116E-03	2.881E-02	5.054E-02	0.000E+00	NOT IDENT.
CO-57	-1.144E-02	1.815E-02	3.231E-02	0.000E+00	NOT IDENT.
CO-58	-1.157E-02	2.921E-02	4.950E-02	0.000E+00	NOT IDENT.
FE-59	-4.557E-02	8.373E-02	1.356E-01	0.000E+00	NOT IDENT.
CO-60	1.220E-02	3.111E-02	5.426E-02	0.000E+00	NOT IDENT.
ZN-65	-2.133E-02	8.564E-02	1.218E-01	0.000E+00	NOT IDENT.
GE-68	-9.291E-01	1.068E+00	1.667E+00	0.000E+00	NOT IDENT.
AS-73	-1.490E-01	6.487E-01	1.120E+00	0.000E+00	NOT IDENT.
AS-74	2.553E-02	7.302E-02	1.285E-01	0.000E+00	NOT IDENT.
SE-75	1.430E-02	3.902E-02	6.134E-02	0.000E+00	NOT IDENT.
BR-77	-6.180E+00	7.810E+00	1.269E+01	0.000E+00	FAIL ABUN
SR-82	1.002E-01	3.174E-01	5.440E-01	0.000E+00	NOT IDENT.
RB-83	-4.256E-02	5.245E-02	8.509E-02	0.000E+00	NOT IDENT.
RB-84	1.590E-02	5.443E-02	9.715E-02	0.000E+00	NOT IDENT.
KR-85	6.563E+00	5.863E+00	9.869E+00	0.000E+00	NOT IDENT.
SR-85	3.363E-02	3.004E-02	5.057E-02	0.000E+00	NOT IDENT.
RB-86	-3.162E-01	6.760E-01	1.102E+00	0.000E+00	NOT IDENT.
Y-88	1.069E-02	2.096E-02	3.933E-02	0.000E+00	NOT IDENT.
ZR-88	1.122E-02	2.410E-02	4.412E-02	0.000E+00	NOT IDENT.
Y-91	-8.579E+00	1.696E+01	2.732E+01	0.000E+00	NOT IDENT.
NB-94	-1.555E-02	2.881E-02	4.641E-02	0.000E+00	NOT IDENT.
NB-95	-6.137E-03	3.740E-02	6.165E-02	0.000E+00	NOT IDENT.
NB-95M	5.280E-02	1.069E-01	1.706E-01	0.000E+00	NOT IDENT.
ZR-95	5.827E-02	5.710E-02	1.036E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	7.147E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.415E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.136E+00	9.472E+00	1.632E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.550E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.509E-03	2.556E-02	4.389E-02	0.000E+00	NOT IDENT.
RH-102	-9.691E-03	2.171E-02	3.679E-02	0.000E+00	NOT IDENT.
RU-103	1.901E-03	3.144E-02	5.512E-02	0.000E+00	FAIL ABUN
RH-106	-4.211E-02	2.693E-01	4.541E-01	0.000E+00	FAIL ABUN
RU-106	-4.211E-02	2.693E-01	4.541E-01	0.000E+00	FAIL ABUN
AG-108M	8.082E-03	2.353E-02	4.257E-02	0.000E+00	NOT IDENT.
AG-110M	-2.050E-03	2.703E-02	4.558E-02	0.000E+00	NOT IDENT.
IN-111	-2.136E-01	8.693E-01	1.316E+00	0.000E+00	NOT IDENT.
IN-113M	1.103E-02	3.574E-02	6.488E-02	0.000E+00	NOT IDENT.
SN-113	1.103E-02	3.574E-02	6.488E-02	0.000E+00	NOT IDENT.
IN-114M	-3.484E-02	1.519E-01	2.367E-01	0.000E+00	NOT IDENT.
CD-115	1.715E+00	8.395E+00	1.479E+01	0.000E+00	NOT IDENT.
SN-117M	-6.411E-04	3.929E-02	7.049E-02	0.000E+00	NOT IDENT.
SB-122	-1.066E-01	1.649E+00	2.830E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.819E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.098E-05	2.037E-02	3.657E-02	0.000E+00	NOT IDENT.
I-124	-3.388E-01	5.499E-01	8.477E-01	0.000E+00	NOT IDENT.
SB-124	1.503E-02	5.312E-02	9.487E-02	0.000E+00	FAIL ABUN
SB-125	4.015E-02	6.350E-02	1.172E-01	0.000E+00	FAIL ABUN
TE-125M	5.987E+00	6.691E+00	1.272E+01	0.000E+00	NOT IDENT.
I-126	-5.897E-02	1.479E-01	2.424E-01	0.000E+00	NOT IDENT.
SB-126	6.171E-02	1.171E-01	2.055E-01	0.000E+00	FAIL ABUN
SB-127	-4.246E-01	1.042E+00	1.693E+00	0.000E+00	NOT IDENT.
XE-127	-5.652E-03	3.635E-02	6.353E-02	0.000E+00	NOT IDENT.
I-131	-1.932E-02	8.185E-02	1.448E-01	0.000E+00	NOT IDENT.
TE-132	2.020E-01	5.322E-01	9.432E-01	0.000E+00	NOT IDENT.
BA-133	-1.688E-02	3.614E-02	5.510E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.465E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.978E-02	7.549E-02	0.000E+00	FAIL ABUN
CS-135	1.175E-01	1.409E-01	2.271E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.559E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.213E-02	8.655E-02	1.372E-01	0.000E+00	FAIL ABUN
BA-137M	-8.472E-03	2.927E-02	4.847E-02	0.000E+00	NOT IDENT.
CS-137	-8.956E-03	3.094E-02	5.123E-02	0.000E+00	NOT IDENT.
CE-139	-1.698E-02	2.264E-02	3.910E-02	0.000E+00	NOT IDENT.
BA-140	1.254E-01	1.980E-01	3.522E-01	0.000E+00	NOT IDENT.
LA-140	-6.209E-02	6.934E-02	1.023E-01	0.000E+00	FAIL ABUN
CE-141	-1.830E-02	4.605E-02	8.183E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.258E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.195E-02	1.712E-01	2.820E-01	0.000E+00	NOT IDENT.
PM-144	-2.412E-03	2.767E-02	4.635E-02	0.000E+00	NOT IDENT.
PR-144	-1.634E-01	1.875E+00	3.141E+00	0.000E+00	NOT IDENT.
PM-146	3.495E-02	3.372E-02	6.298E-02	0.000E+00	NOT IDENT.
ND-147	-8.329E-02	4.199E-01	7.166E-01	0.000E+00	FAIL ABUN

PM-149	-2.151E+01	6.699E+01	1.119E+02	0.000E+00	NOT IDENT.
EU-152	-1.211E-01	7.290E-02	1.110E-01	0.000E+00	FAIL ABUN
GD-153	-2.404E-02	6.039E-02	9.891E-02	0.000E+00	FAIL ABUN
EU-154	1.981E-02	1.046E-01	1.781E-01	0.000E+00	NOT IDENT.
EU-155	4.482E-02	7.731E-02	1.460E-01	0.000E+00	FAIL ABUN
TB-160	5.845E-02	1.046E-01	1.910E-01	0.000E+00	FAIL ABUN
HO-166M	1.375E-02	5.096E-02	8.768E-02	0.000E+00	FAIL ABUN
TM-171	1.513E+00	2.047E+01	3.519E+01	0.000E+00	NOT IDENT.
LU-176	1.205E-02	1.957E-02	3.442E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.147E+00	1.689E+00	0.000E+00	FAIL ABUN
LU-177M	-3.358E-02	1.371E-01	2.399E-01	0.000E+00	FAIL ABUN
HF-181	1.116E-02	3.215E-02	5.766E-02	0.000E+00	NOT IDENT.
W-181	-5.351E-01	2.869E-01	4.462E-01	0.000E+00	NOT IDENT.
TA-182	1.511E-01	1.771E-01	3.168E-01	0.000E+00	FAIL ABUN
RE-183	2.044E-03	8.245E-02	1.485E-01	0.000E+00	FAIL ABUN
RE-184	1.539E-02	1.872E-01	3.247E-01	0.000E+00	NOT IDENT.
OS-185	-2.496E-02	3.446E-02	5.483E-02	0.000E+00	NOT IDENT.
RE-188	1.658E-01	1.271E-01	2.394E-01	0.000E+00	NOT IDENT.
W-188	1.372E+00	5.543E+00	8.596E+00	0.000E+00	NOT IDENT.
IR-192	-7.486E-03	2.803E-02	4.660E-02	0.000E+00	FAIL ABUN
AU-195	2.488E-01	1.688E-01	3.014E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.149E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.609E+00	5.137E+00	9.054E+00	0.000E+00	NOT IDENT.
TL-202	2.860E-02	5.356E-02	9.773E-02	0.000E+00	NOT IDENT.
HG-203	1.390E-02	3.116E-02	5.468E-02	0.000E+00	NOT IDENT.
BI-207	1.922E-03	4.010E-02	6.876E-02	0.000E+00	FAIL ABUN
TL-207	-3.066E-01	6.050E-01	8.632E-01	0.000E+00	FAIL ABUN
PO-209	-4.312E+00	5.848E+00	9.456E+00	0.000E+00	NOT IDENT.
BI-210	-1.185E+00	2.692E+00	4.602E+00	0.000E+00	NOT IDENT.
PB-210	-1.185E+00	2.692E+00	4.602E+00	0.000E+00	NOT IDENT.
PO-210	-1.185E+00	2.692E+00	4.602E+00	0.000E+00	NOT IDENT.
PB-211	5.346E-01	7.459E-01	1.251E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.949E-01	5.553E-01	0.000E+00	FAIL ABUN
PO-215	-3.066E-01	6.050E-01	8.632E-01	0.000E+00	FAIL ABUN
RN-219	-2.691E-01	2.985E-01	4.950E-01	0.000E+00	FAIL ABUN
RN-220	4.320E+00	1.985E+01	3.489E+01	0.000E+00	NOT IDENT.
RA-223	-3.066E-01	6.050E-01	8.632E-01	0.000E+00	FAIL ABUN
AC-227	3.258E-02	3.084E-01	5.350E-01	0.000E+00	FAIL ABUN
TH-227	3.258E-02	3.084E-01	5.350E-01	0.000E+00	FAIL ABUN
TH-229	-1.052E-01	3.837E-01	6.693E-01	0.000E+00	FAIL ABUN
PA-231	-3.342E-02	1.143E+00	1.951E+00	0.000E+00	FAIL ABUN
TH-231	-3.066E-01	6.050E-01	8.632E-01	0.000E+00	FAIL ABUN
U-231	2.294E-01	7.827E-01	1.331E+00	0.000E+00	FAIL ABUN
PA-233	-4.253E-03	4.779E-02	8.049E-02	0.000E+00	FAIL ABUN
PA-234	-2.148E-01	2.471E-01	3.871E-01	0.000E+00	FAIL ABUN
PA-234M	3.572E+00	3.907E+00	7.135E+00	0.000E+00	NOT IDENT.
TH-234	5.233E-01	9.940E-01	1.781E+00	0.000E+00	FAIL ABUN
U-235	3.885E-02	1.601E-01	2.880E-01	0.000E+00	FAIL ABUN
NP-236	-2.554E-02	5.819E-02	1.023E-01	0.000E+00	NOT IDENT.
U-238	5.233E-01	9.940E-01	1.781E+00	0.000E+00	FAIL ABUN
NP-239	6.498E-02	1.380E-01	2.579E-01	0.000E+00	FAIL ABUN
AM-241	1.530E-02	1.125E-01	1.964E-01	0.000E+00	NOT IDENT.
CM-243	-2.440E-02	6.635E-02	1.210E-01	0.000E+00	FAIL ABUN
AM-246	-1.617E-02	1.227E-01	2.065E-01	0.000E+00	NOT IDENT.
CM-247	-7.263E-03	2.593E-02	4.529E-02	0.000E+00	NOT IDENT.
CF-249	3.190E-02	3.283E-02	6.148E-02	0.000E+00	NOT IDENT.
CF-251	-7.567E-02	9.300E-02	1.588E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881002.CNF;1
Sample date     : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:20:55
Sample ID       : G244881002           Sample quantity  : 1.51220E+02 GRAM
Detector name   : GAM16               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:02.07  0.0%
Energy tolerance: 1.50000 keV         Analyst Initials : MXR1
Abundance limit : 75.00000           Sensitivity      : 5.00000
Batch ID        : 942718              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	1700	10.67*	1.208E+00	3.276E+01	3.276E+01	10.20
CD-109	88.03	320	3.72*	6.257E+00	3.417E+00	3.495E+00	25.96
SN-126	64.28	-----	9.60	3.681E+00	-----	Line Not Found	-----
	86.94	320	8.90	6.257E+00	1.428E+00	1.428E+00	48.06
	87.57	320	37.00*	6.257E+00	3.436E-01	3.436E-01	25.96
TL-208	277.35	-----	6.80	4.695E+00	-----	Line Not Found	-----
	510.84	138	21.60	2.963E+00	5.369E-01	5.369E-01	44.35
	583.14	400	84.20*	2.667E+00	4.425E-01	4.425E-01	17.96
	860.37	47	12.46	1.919E+00	4.929E-01	4.929E-01	57.10
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	572	12.94*	3.940E+00	2.785E+00	2.785E+00	17.88
PB-212	74.81	389	10.70	5.118E+00	1.763E+00	1.763E+00	22.44
	77.11	633	18.00	5.375E+00	1.625E+00	1.625E+00	15.03
	87.30	320	8.00	6.257E+00	1.589E+00	1.589E+00	27.82
	238.63	1236	44.60*	5.224E+00	1.316E+00	1.316E+00	13.71
	300.09	80	3.41	4.430E+00	1.316E+00	1.316E+00	54.86
PO-212	74.81	389	10.70	5.118E+00	1.763E+00	1.763E+00	22.44
	77.11	633	18.00	5.375E+00	1.625E+00	1.625E+00	15.03
	87.30	320	8.00	6.257E+00	1.589E+00	1.589E+00	27.82
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	1236	44.60*	5.224E+00	1.316E+00	1.316E+00	13.71
	300.09	80	3.41	4.430E+00	1.316E+00	1.316E+00	54.86
BI-214	609.31	422	46.30*	2.573E+00	8.785E-01	8.785E-01	17.65
	1120.29	113	15.10	1.515E+00	1.226E+00	1.226E+00	43.52
	1764.49	81	15.80	1.056E+00	1.202E+00	1.202E+00	26.03
PB-214	74.81	389	6.21	5.118E+00	3.038E+00	3.038E+00	21.71
	77.11	633	10.50	5.375E+00	2.786E+00	2.786E+00	16.85
	87.30	320	4.67	6.257E+00	2.722E+00	2.722E+00	27.08
	241.98	305	7.49	5.181E+00	1.954E+00	1.954E+00	26.91
	295.21	382	19.20	4.485E+00	1.102E+00	1.102E+00	19.08
	351.92	572	37.20*	3.940E+00	9.687E-01	9.687E-01	18.62
PO-214	74.81	389	6.21	5.118E+00	3.038E+00	3.038E+00	21.71

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	633	10.50	5.375E+00	2.786E+00	2.786E+00	16.85
	87.30	320	4.67	6.257E+00	2.722E+00	2.722E+00	27.08
	241.98	305	7.49	5.181E+00	1.954E+00	1.954E+00	26.91
	295.21	382	19.20	4.485E+00	1.102E+00	1.102E+00	19.08
	351.92	572	37.20*	3.940E+00	9.687E-01	9.687E-01	18.62
PO-216	74.81	389	10.70	5.118E+00	1.763E+00	1.763E+00	22.44
	77.11	633	18.00	5.375E+00	1.625E+00	1.625E+00	15.03
	87.30	320	8.00	6.257E+00	1.589E+00	1.589E+00	27.82
	238.63	1236	44.60*	5.224E+00	1.316E+00	1.316E+00	13.71
	300.09	80	3.41	4.430E+00	1.316E+00	1.316E+00	54.86
PO-218	74.81	389	6.21	5.118E+00	3.038E+00	3.038E+00	21.71
	77.11	633	10.50	5.375E+00	2.786E+00	2.786E+00	16.85
	87.30	320	4.67	6.257E+00	2.722E+00	2.722E+00	27.08
	241.98	305	7.49	5.181E+00	1.954E+00	1.954E+00	26.91
	295.21	382	19.20	4.485E+00	1.102E+00	1.102E+00	19.08
	351.92	572	37.20*	3.940E+00	9.687E-01	9.687E-01	18.62
RA-224	240.98	305	3.95*	5.181E+00	3.705E+00	3.705E+00	26.32
RA-226	609.31	422	46.30*	2.573E+00	8.785E-01	8.785E-01	17.65
	1120.29	113	15.10	1.515E+00	1.226E+00	1.226E+00	43.52
	1764.49	81	15.80	1.056E+00	1.202E+00	1.202E+00	26.03
AC-228	338.32	274	11.40	4.057E+00	1.473E+00	1.473E+00	47.65
	911.07	277	27.70*	1.824E+00	1.361E+00	1.361E+00	20.00
	969.11	197	16.60	1.726E+00	1.704E+00	1.704E+00	34.78
RA-228	338.32	274	11.40	4.057E+00	1.473E+00	1.473E+00	47.65
	911.07	277	27.70*	1.824E+00	1.361E+00	1.361E+00	20.00
	969.11	197	16.60	1.726E+00	1.704E+00	1.704E+00	34.78
TH-228	74.81	389	10.70	5.118E+00	1.763E+00	1.790E+00	20.43
	77.11	633	18.00	5.375E+00	1.625E+00	1.649E+00	15.03
	87.30	320	8.00	6.257E+00	1.589E+00	1.613E+00	25.96
	238.63	1236	44.60*	5.224E+00	1.316E+00	1.336E+00	13.71
	300.09	80	3.41	4.430E+00	1.316E+00	1.336E+00	80.09
TH-230	609.31	422	46.30*	2.573E+00	8.785E-01	8.785E-01	17.65
	1120.29	113	15.10	1.515E+00	1.226E+00	1.226E+00	43.52
	1764.49	81	15.80	1.056E+00	1.202E+00	1.202E+00	26.03
TH-232	338.32	274	11.40	4.057E+00	1.473E+00	1.473E+00	25.34
	911.07	277	27.70*	1.824E+00	1.361E+00	1.361E+00	20.00
	969.11	197	16.60	1.726E+00	1.704E+00	1.704E+00	34.78
U-234	609.31	422	46.30*	2.573E+00	8.785E-01	8.785E-01	17.65
	1120.29	113	15.10	1.515E+00	1.226E+00	1.226E+00	43.52
	1764.49	81	15.80	1.056E+00	1.202E+00	1.202E+00	26.03
NP-237	86.50	320	12.60*	6.257E+00	1.009E+00	1.009E+00	33.16
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
AM-243	74.67	389	66.00*	5.118E+00	2.859E-01	2.859E-01	20.40
	86.72	320	0.34	6.257E+00	3.783E+01	3.783E+01	25.96
	117.66	-----	0.55	7.175E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.968E+00	-----	Line Not Found	-----
ANH-511	511.00	138	100.00*	2.963E+00	1.160E-01	1.160E-01	43.56

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	3.276E+01	3.276E+01	0.334E+01	10.20	
CD-109	464.00D	1.02	3.417E+00	3.495E+00	0.907E+00	25.96	
SN-126	1.00E+05Y	1.00	3.436E-01	3.436E-01	0.892E-01	25.96	
TL-208	1.41E+10Y	1.00	4.425E-01	4.425E-01	0.794E-01	17.96	
BI-211	7.04E+08Y	1.00	2.785E+00	2.785E+00	0.498E+00	17.88	
PB-212	1.41E+10Y	1.00	1.316E+00	1.316E+00	0.180E+00	13.71	
PO-212	1.41E+10Y	1.00	1.316E+00	1.316E+00	0.180E+00	13.71	
BI-214	1600.00Y	1.00	8.785E-01	8.785E-01	1.551E-01	17.65	
PB-214	1600.00Y	1.00	9.687E-01	9.687E-01	1.804E-01	18.62	
PO-214	1600.00Y	1.00	9.687E-01	9.687E-01	1.804E-01	18.62	
PO-216	1.41E+10Y	1.00	1.316E+00	1.316E+00	0.180E+00	13.71	
PO-218	1600.00Y	1.00	9.687E-01	9.687E-01	1.804E-01	18.62	
RA-224	1.41E+10Y	1.00	3.705E+00	3.705E+00	0.975E+00	26.32	
RA-226	1600.00Y	1.00	8.785E-01	8.785E-01	1.551E-01	17.65	
AC-228	1.41E+10Y	1.00	1.361E+00	1.361E+00	0.272E+00	20.00	
RA-228	1.41E+10Y	1.00	1.361E+00	1.361E+00	0.272E+00	20.00	
TH-228	1.91Y	1.02	1.316E+00	1.336E+00	0.183E+00	13.71	
TH-230	4.47E+09Y	1.00	8.785E-01	8.785E-01	1.551E-01	17.65	
TH-232	1.41E+10Y	1.00	1.361E+00	1.361E+00	0.272E+00	20.00	
U-234	4.47E+09Y	1.00	8.785E-01	8.785E-01	1.551E-01	17.65	
NP-237	2.14E+06Y	1.00	1.009E+00	1.009E+00	0.335E+00	33.16	
AM-243	7380.00Y	1.00	2.859E-01	2.859E-01	0.583E-01	20.40	
ANH-511	1.00E+09Y	1.00	1.160E-01	1.160E-01	0.505E-01	43.56	

Total Activity : 6.063E+01 6.073E+01

Grand Total Activity : 6.063E+01 6.073E+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	84.18	156	347	1.53	168.54	165	29	2.16E-02	42.4	6.03E+00	T
6	89.90	211	337	1.17	179.99	165	29	2.94E-02	32.4	6.43E+00	T
6	92.95	289	425	1.46	186.08	165	29	4.01E-02	30.0	6.60E+00	T
0	129.11	95	352	1.09	258.42	255	8	1.32E-02	71.0	7.13E+00	T
0	185.85	155	356	1.32	371.89	368	9	2.15E-02	48.9	6.15E+00	T
0	209.39	127	263	1.05	418.98	415	8	1.76E-02	47.9	5.71E+00	T
0	270.11	188	276	1.79	540.42	534	14	2.61E-02	40.3	4.79E+00	T
0	328.18	72	211	0.92	656.55	651	11	9.98E-03	81.8	4.15E+00	T
0	462.95	86	128	0.94	926.07	921	10	1.20E-02	53.6	3.20E+00	T
0	728.62	106	108	1.57	1457.33	1450	16	1.47E-02	49.3	2.22E+00	T
0	796.74	86	72	1.97	1593.53	1587	18	1.19E-02	51.1	2.05E+00	T
0	1407.47	21	15	0.82	2814.59	2807	12	2.91E-03	85.9	1.24E+00	T
0	1631.54	14	11	1.48	3262.50	3256	11	1.94E-03	****	1.11E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881002.CNF;1
* Acquisition date   : 26-JAN-2010 13:20:55  Detector SN#      :
* Detector ID        : GAM16                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:02.07           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244881002           Analyst initials: MXR1
* Batch Number       : 942718               Sample Quantity : 1.51220E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16.1MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

```

## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.276E+01	3.343E+00	4.214E-01	3.704E-02	77.735
CD-109	3.495E+00	9.074E-01	8.124E-01	7.828E-02	4.302
SN-126	3.436E-01	8.919E-02	8.022E-02	7.691E-03	4.283
TL-208	4.425E-01	7.945E-02	4.658E-02	4.617E-03	9.499
BI-211	2.785E+00	4.979E-01	2.663E-01	2.912E-02	10.457
PB-212	1.316E+00	1.804E-01	7.373E-02	8.729E-03	17.854
PO-212	1.316E+00	1.804E-01	7.373E-02	8.729E-03	17.854
BI-214	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
PB-214	9.687E-01	1.804E-01	9.283E-02	1.123E-02	10.435
PO-214	9.687E-01	1.804E-01	9.283E-02	1.123E-02	10.435
PO-216	1.316E+00	1.804E-01	7.373E-02	8.729E-03	17.854
PO-218	9.687E-01	1.804E-01	9.283E-02	1.123E-02	10.435
RA-224	3.705E+00	9.751E-01	8.392E-01	9.248E-02	4.415
RA-226	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
AC-228	1.361E+00	2.724E-01	1.646E-01	1.955E-02	8.273
RA-228	1.361E+00	2.724E-01	1.646E-01	1.955E-02	8.273
TH-228	1.336E+00	1.832E-01	7.484E-02	8.861E-03	17.854
TH-230	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.361E+00	2.724E-01	1.646E-01	1.955E-02	8.273
U-234	8.785E-01	1.551E-01	9.215E-02	9.742E-03	9.534
NP-237	1.009E+00	3.346E-01	2.382E-01	5.407E-02	4.236
AM-243	2.859E-01	5.833E-02	6.228E-02	5.156E-03	4.590
ANH-511	1.160E-01	5.052E-02	3.813E-02	3.626E-03	3.042

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.448E-02		2.536E-01	4.136E-01	4.184E-02	-0.132
NA-22	1.039E-02		3.812E-02	6.351E-02	5.285E-03	0.164
NA-24	-3.877E-01		2.866E-01	Half-Life too short		
AL-26	2.378E-03		2.286E-02	3.842E-02	3.142E-03	0.062
TI-44	2.999E-01	+	4.506E-02	5.616E-02	4.836E-03	5.340
SC-46	8.889E-03		3.309E-02	5.652E-02	5.343E-03	0.157
V-48	-5.258E-02		5.823E-02	8.765E-02	8.068E-03	-0.600
CR-51	1.825E-01		3.031E-01	4.974E-01	5.816E-02	0.367
MN-52	1.641E-02		2.022E-01	3.281E-01	2.800E-02	0.050
MN-54	-1.625E-02		3.113E-02	5.006E-02	4.702E-03	-0.325
CO-56	1.116E-03		2.940E-02	4.947E-02	4.655E-03	0.023
CO-57	-1.144E-02		1.852E-02	3.017E-02	2.507E-03	-0.379
CO-58	-1.157E-02		2.981E-02	4.839E-02	4.534E-03	-0.239
FE-59	-4.557E-02		8.544E-02	1.336E-01	1.242E-02	-0.341
CO-60	1.220E-02		3.175E-02	5.374E-02	4.533E-03	0.227
ZN-65	-2.133E-02		8.739E-02	1.201E-01	1.020E-02	-0.178
GE-68	-9.291E-01		1.090E+00	1.642E+00	1.434E-01	-0.566
AS-73	-1.490E-01		6.619E-01	1.026E+00	7.824E-02	-0.145
AS-74	2.553E-02		7.451E-02	1.247E-01	1.157E-02	0.205
SE-75	1.430E-02		3.981E-02	5.833E-02	6.807E-03	0.245
BR-77	-6.180E+00		7.969E+00	1.227E+01	1.166E+00	-0.504
SR-82	1.002E-01		3.238E-01	5.313E-01	4.926E-02	0.189
RB-83	-4.256E-02		5.352E-02	8.227E-02	7.817E-03	-0.517
RB-84	1.590E-02		5.554E-02	9.519E-02	8.993E-03	0.167
KR-85	6.563E+00		5.983E+00	9.539E+00	9.070E-01	0.688
SR-85	3.363E-02		3.066E-02	4.888E-02	4.647E-03	0.688
RB-86	-3.162E-01		6.898E-01	1.085E+00	9.484E-02	-0.291
Y-88	1.069E-02		2.139E-02	3.928E-02	3.189E-03	0.272
ZR-88	1.122E-02		2.459E-02	4.236E-02	3.918E-03	0.265
Y-91	-8.579E+00		1.731E+01	2.699E+01	2.195E+00	-0.318
NB-94	-1.555E-02		2.940E-02	4.521E-02	4.087E-03	-0.344
NB-95	-6.137E-03		3.817E-02	6.019E-02	5.564E-03	-0.102
NB-95M	5.280E-02		1.091E-01	1.617E-01	1.923E-02	0.326
ZR-95	5.827E-02		5.826E-02	1.012E-01	1.015E-02	0.576
NB-97	-1.942E-02		3.647E-02	Half-Life too short		
ZR-97	1.363E+00		7.218E-01	Half-Life too short		
MO-99	3.136E+00		9.665E+00	1.592E+01	2.468E+00	0.197
TC-99M	-1.049E+10		1.301E+10	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	-8.509E-03		2.608E-02	4.145E-02	4.092E-03	-0.205
RH-102	-9.691E-03		2.215E-02	3.549E-02	3.373E-03	-0.273
RU-103	1.901E-03		3.208E-02	5.323E-02	7.838E-03	0.036
RH-106	-4.211E-02		2.748E-01	4.410E-01	6.043E-02	-0.095
RU-106	-4.211E-02		2.748E-01	4.410E-01	4.033E-02	-0.095
AG-108M	8.082E-03		2.401E-02	4.097E-02	3.989E-03	0.197
AG-110M	-2.050E-03		2.758E-02	4.433E-02	4.057E-03	-0.046
IN-111	-2.136E-01		8.871E-01	1.249E+00	1.391E-01	-0.171
IN-113M	1.103E-02		3.647E-02	6.229E-02	5.912E-03	0.177
SN-113	1.103E-02		3.647E-02	6.229E-02	5.912E-03	0.177
IN-114M	-3.484E-02		1.550E-01	2.233E-01	2.159E-02	-0.156
CD-115	1.715E+00		8.566E+00	1.430E+01	1.357E+00	0.120
SN-117M	-6.411E-04		4.009E-02	6.621E-02	5.881E-03	-0.010
SB-122	-1.066E-01		1.683E+00	2.742E+00	2.579E-01	-0.039
I-123	-3.933E-03		1.949E+00	Half-Life	too short	
TE-123M	-2.098E-05		2.079E-02	3.435E-02	3.072E-03	-0.001
I-124	-3.388E-01		5.611E-01	8.226E-01	7.608E-02	-0.412
SB-124	1.503E-02		5.420E-02	9.455E-02	8.281E-03	0.159
SB-125	4.015E-02		6.480E-02	1.128E-01	1.078E-02	0.356
TE-125M	5.987E+00		6.828E+00	1.184E+01	1.205E+00	0.506
I-126	-5.897E-02		1.510E-01	2.359E-01	2.098E-02	-0.250
SB-126	6.171E-02		1.195E-01	2.003E-01	1.824E-02	0.308
SB-127	-4.246E-01		1.063E+00	1.648E+00	1.918E-01	-0.258
XE-127	-5.652E-03		3.710E-02	6.003E-02	6.003E-03	-0.094
I-131	-1.932E-02		8.352E-02	1.388E-01	1.468E-02	-0.139
TE-132	2.020E-01		5.430E-01	8.936E-01	1.512E-01	0.226
BA-133	-1.688E-02		3.688E-02	5.277E-02	7.626E-03	-0.320
I-133	1.583E-03		2.278E-03	Half-Life	too short	
CS-134	1.372E-01	+	7.121E-02	7.377E-02	6.917E-03	1.859
CS-135	1.175E-01		1.438E-01	2.161E-01	2.755E-02	0.544
I-135	1.181E+09		2.326E+09	Half-Life	too short	
CS-136	-6.213E-02		8.832E-02	1.351E-01	1.251E-02	-0.460
BA-137M	-8.472E-03		2.986E-02	4.714E-02	4.184E-03	-0.180
CS-137	-8.956E-03		3.157E-02	4.983E-02	4.430E-03	-0.180
CE-139	-1.698E-02		2.310E-02	3.676E-02	3.334E-03	-0.462
BA-140	1.254E-01		2.020E-01	3.408E-01	1.137E-01	0.368
LA-140	-6.209E-02		7.076E-02	1.018E-01	8.674E-03	-0.610
CE-141	-1.830E-02		4.699E-02	7.670E-02	6.709E-03	-0.239
CE-143	2.750E-04		6.417E-05	Half-Life	too short	
CE-144	3.195E-02		1.747E-01	2.638E-01	4.074E-02	0.121
PM-144	-2.412E-03		2.824E-02	4.515E-02	4.072E-03	-0.053
PR-144	-1.634E-01		1.914E+00	3.059E+00	2.758E-01	-0.053
PM-146	3.495E-02		3.441E-02	6.068E-02	6.930E-03	0.576
ND-147	-8.329E-02		4.284E-01	6.932E-01	1.072E-01	-0.120
PM-149	-2.151E+01		6.836E+01	1.066E+02	1.876E+01	-0.202
EU-152	-1.211E-01		7.439E-02	1.063E-01	1.188E-02	-1.139
GD-153	-2.404E-02		6.162E-02	9.186E-02	8.160E-03	-0.262
EU-154	1.981E-02		1.067E-01	1.762E-01	1.952E-02	0.112

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	4.482E-02		7.889E-02	1.358E-01	1.175E-02	0.330
TB-160	5.845E-02		1.067E-01	1.871E-01	1.768E-02	0.312
HO-166M	1.375E-02		5.200E-02	8.544E-02	7.752E-03	0.161
TM-171	1.513E+00		2.089E+01	3.240E+01	2.482E+00	0.047
LU-176	1.205E-02		1.997E-02	3.285E-02	3.810E-03	0.367
LU-177	2.389E+00	+	1.170E+00	1.597E+00	1.621E-01	1.496
LU-177M	-3.358E-02		1.399E-01	2.306E-01	2.156E-02	-0.146
HF-181	1.116E-02		3.281E-02	5.564E-02	5.292E-03	0.201
W-181	-5.351E-01		2.928E-01	4.106E-01	3.101E-02	-1.303
TA-182	1.511E-01		1.807E-01	3.131E-01	2.560E-02	0.483
RE-183	2.044E-03		8.414E-02	1.395E-01	1.252E-02	0.015
RE-184	1.539E-02		1.910E-01	3.084E-01	3.495E-02	0.050
OS-185	-2.496E-02		3.516E-02	5.330E-02	4.791E-03	-0.468
RE-188	1.658E-01		1.296E-01	2.247E-01	1.977E-02	0.738
W-188	1.372E+00		5.657E+00	8.193E+00	9.717E-01	0.167
IR-192	-7.486E-03		2.860E-02	4.450E-02	5.086E-03	-0.168
AU-195	2.488E-01		1.723E-01	2.800E-01	2.466E-02	0.888
TL-200	8.631E-05		1.607E-04	Half-Life too short		
TL-201	-1.609E+00		5.242E+00	8.515E+00	7.752E-01	-0.189
TL-202	2.860E-02		5.466E-02	9.409E-02	8.879E-03	0.304
HG-203	1.390E-02		3.180E-02	5.206E-02	6.345E-03	0.267
BI-207	1.922E-03		4.092E-02	6.770E-02	5.968E-03	0.028
TL-207	-3.066E-01		6.174E-01	8.248E-01	1.578E-01	-0.372
PO-209	-4.312E+00		5.968E+00	9.269E+00	8.767E-01	-0.465
BI-210	-1.185E+00		2.747E+00	4.203E+00	3.919E-01	-0.282
PB-210	-1.185E+00		2.747E+00	4.203E+00	3.919E-01	-0.282
PO-210	-1.185E+00		2.747E+00	4.203E+00	3.550E-01	-0.282
PB-211	5.346E-01		7.611E-01	1.202E+00	7.544E-01	0.445
BI-212	1.002E+00	+	5.050E-01	5.414E-01	5.656E-02	1.851
PO-215	-3.066E-01		6.174E-01	8.248E-01	1.578E-01	-0.372
RN-219	-2.691E-01		3.046E-01	4.755E-01	7.334E-02	-0.566
RN-220	4.320E+00		2.025E+01	3.378E+01	3.191E+00	0.128
RA-223	-3.066E-01		6.174E-01	8.248E-01	1.578E-01	-0.372
AC-227	3.258E-02		3.147E-01	5.083E-01	8.682E-02	0.064
TH-227	3.258E-02		3.147E-01	5.083E-01	9.941E-02	0.064
TH-229	-1.052E-01		3.916E-01	6.316E-01	6.163E-02	-0.167
PA-231	-3.342E-02		1.167E+00	1.859E+00	3.215E-01	-0.018
TH-231	-3.066E-01		6.174E-01	8.248E-01	1.578E-01	-0.372
U-231	2.294E-01		7.986E-01	1.235E+00	1.109E-01	0.186
PA-233	-4.253E-03		4.876E-02	7.684E-02	8.981E-03	-0.055
PA-234	-2.148E-01		2.521E-01	3.800E-01	7.259E-02	-0.565
PA-234M	3.572E+00		3.986E+00	7.015E+00	7.303E-01	0.509
TH-234	5.233E-01		1.014E+00	1.638E+00	2.857E-01	0.320
U-235	3.885E-02		1.634E-01	2.699E-01	4.717E-02	0.144
NP-236	-2.554E-02		5.938E-02	9.611E-02	8.578E-03	-0.266
U-238	5.233E-01		1.014E+00	1.638E+00	2.857E-01	0.320
NP-239	6.498E-02		1.408E-01	2.406E-01	2.003E-02	0.270
AM-241	1.530E-02		1.148E-01	1.803E-01	1.415E-02	0.085

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.440E-02		6.770E-02	1.125E-01	9.673E-03	-0.217
AM-246	-1.617E-02		1.252E-01	2.034E-01	1.775E-02	-0.080
CM-247	-7.263E-03		2.645E-02	4.351E-02	4.045E-03	-0.167
CF-249	3.190E-02		3.350E-02	5.901E-02	5.536E-03	0.540
CF-251	-7.567E-02		9.489E-02	1.495E-01	1.394E-02	-0.506

## 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]G244881002
* Acquisition date   : 26-JAN-2010 13:20:55 Detector SN# :
* Detector ID        : GAM16 Sensitivity : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:02.07 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244881002 Analyst initials: MXR1
* Batch Number       : 942718 Sample Quantity : 1.5122E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope :
* MSD DPM             : 0.000 MSD Isotope :
* LCS DPM             : 0.000 LCS Isotope :
* LCSD DPM            : 0.000 LCSD Isotope :
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	3.276E+01	3.276E+00	2.124E-01	1.671E+00
CD-109	3.495E+00	8.892E-01	4.387E-01	4.537E-01
SN-126	3.436E-01	8.741E-02	4.332E-02	4.460E-02
TL-208	4.425E-01	7.786E-02	2.403E-02	3.972E-02
BI-211	2.785E+00	4.879E-01	1.392E-01	2.489E-01
PB-212	1.316E+00	1.768E-01	3.889E-02	9.021E-02
PO-212	1.316E+00	1.768E-01	3.889E-02	9.021E-02
BI-214	8.785E-01	1.520E-01	4.749E-02	7.754E-02
PB-214	9.687E-01	1.768E-01	4.850E-02	9.021E-02
PO-214	9.687E-01	1.768E-01	4.850E-02	9.021E-02
PO-216	1.316E+00	1.768E-01	3.889E-02	9.021E-02
PO-218	9.687E-01	1.768E-01	4.850E-02	9.021E-02
RA-224	3.705E+00	9.555E-01	4.425E-01	4.875E-01
RA-226	8.785E-01	1.520E-01	4.749E-02	7.754E-02
AC-228	1.361E+00	2.669E-01	8.396E-02	1.362E-01
RA-228	1.361E+00	2.669E-01	8.396E-02	1.362E-01
TH-228	1.336E+00	1.795E-01	3.948E-02	9.158E-02
TH-230	8.785E-01	1.520E-01	4.749E-02	7.754E-02
TH-232	1.361E+00	2.669E-01	8.396E-02	1.362E-01
U-234	8.785E-01	1.520E-01	4.749E-02	7.754E-02
NP-237	1.009E+00	3.279E-01	1.287E-01	1.673E-01
AM-243	2.859E-01	5.716E-02	3.376E-02	2.916E-02
ANH-511	1.160E-01	4.951E-02	1.974E-02	2.526E-02

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-5.448E-02	2.485E-01	2.145E-01	1.268E-01 NOT IDENT.
NA-22	1.039E-02	3.736E-02	3.212E-02	1.906E-02 NOT IDENT.
NA-24	-3.877E+05	5.617E+05	0.000E+00	2.866E+05 SHORT HLIF
AL-26	2.378E-03	2.240E-02	1.925E-02	1.143E-02 NOT IDENT.

TI-44	2.999E-01	4.416E-02	3.040E-02	2.253E-02	FAIL ABUN
SC-46	8.889E-03	3.243E-02	2.885E-02	1.655E-02	FAIL ABUN
V-48	-5.258E-02	5.707E-02	4.463E-02	2.912E-02	NOT IDENT.
CR-51	1.825E-01	2.970E-01	2.605E-01	1.515E-01	NOT IDENT.
MN-52	1.641E-02	1.981E-01	1.654E-01	1.011E-01	NOT IDENT.
MN-54	-1.625E-02	3.051E-02	2.560E-02	1.557E-02	NOT IDENT.
CO-56	1.116E-03	2.881E-02	2.529E-02	1.470E-02	NOT IDENT.
CO-57	-1.144E-02	1.815E-02	1.617E-02	9.261E-03	NOT IDENT.
CO-58	-1.157E-02	2.921E-02	2.476E-02	1.491E-02	NOT IDENT.
FE-59	-4.557E-02	8.373E-02	6.785E-02	4.272E-02	NOT IDENT.
CO-60	1.220E-02	3.111E-02	2.715E-02	1.587E-02	NOT IDENT.
ZN-65	-2.133E-02	8.564E-02	6.093E-02	4.369E-02	NOT IDENT.
GE-68	-9.291E-01	1.068E+00	8.338E-01	5.448E-01	NOT IDENT.
AS-73	-1.490E-01	6.487E-01	5.601E-01	3.310E-01	NOT IDENT.
AS-74	2.553E-02	7.302E-02	6.429E-02	3.725E-02	NOT IDENT.
SE-75	1.430E-02	3.902E-02	3.069E-02	1.991E-02	NOT IDENT.
BR-77	-6.180E+00	7.810E+00	6.351E+00	3.984E+00	FAIL ABUN
SR-82	1.002E-01	3.174E-01	2.722E-01	1.619E-01	NOT IDENT.
RB-83	-4.256E-02	5.245E-02	4.257E-02	2.676E-02	NOT IDENT.
RB-84	1.590E-02	5.443E-02	4.860E-02	2.777E-02	NOT IDENT.
KR-85	6.563E+00	5.863E+00	4.938E+00	2.991E+00	NOT IDENT.
SR-85	3.363E-02	3.004E-02	2.530E-02	1.533E-02	NOT IDENT.
RB-86	-3.162E-01	6.760E-01	5.513E-01	3.449E-01	NOT IDENT.
Y-88	1.069E-02	2.096E-02	1.968E-02	1.070E-02	NOT IDENT.
ZR-88	1.122E-02	2.410E-02	2.208E-02	1.230E-02	NOT IDENT.
Y-91	-8.579E+00	1.696E+01	1.367E+01	8.654E+00	NOT IDENT.
NB-94	-1.555E-02	2.881E-02	2.322E-02	1.470E-02	NOT IDENT.
NB-95	-6.137E-03	3.740E-02	3.084E-02	1.908E-02	NOT IDENT.
NB-95M	5.280E-02	1.069E-01	8.534E-02	5.456E-02	NOT IDENT.
ZR-95	5.827E-02	5.710E-02	5.185E-02	2.913E-02	NOT IDENT.
NB-97	-1.942E+04	7.147E+04	0.000E+00	3.647E+04	SHORT HLIF
ZR-97	1.363E+06	1.415E+06	0.000E+00	7.218E+05	SHORT HLIF
MO-99	3.136E+00	9.472E+00	8.166E+00	4.833E+00	NOT IDENT.
TC-99M	-1.049E+16	2.550E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.509E-03	2.556E-02	2.196E-02	1.304E-02	NOT IDENT.
RH-102	-9.691E-03	2.171E-02	1.841E-02	1.108E-02	NOT IDENT.
RU-103	1.901E-03	3.144E-02	2.758E-02	1.604E-02	FAIL ABUN
RH-106	-4.211E-02	2.693E-01	2.272E-01	1.374E-01	FAIL ABUN
RU-106	-4.211E-02	2.693E-01	2.272E-01	1.374E-01	FAIL ABUN
AG-108M	8.082E-03	2.353E-02	2.130E-02	1.200E-02	NOT IDENT.
AG-110M	-2.050E-03	2.703E-02	2.280E-02	1.379E-02	NOT IDENT.
IN-111	-2.136E-01	8.693E-01	6.585E-01	4.435E-01	NOT IDENT.
IN-113M	1.103E-02	3.574E-02	3.246E-02	1.823E-02	NOT IDENT.
SN-113	1.103E-02	3.574E-02	3.246E-02	1.823E-02	NOT IDENT.
IN-114M	-3.484E-02	1.519E-01	1.184E-01	7.748E-02	NOT IDENT.
CD-115	1.715E+00	8.395E+00	7.398E+00	4.283E+00	NOT IDENT.
SN-117M	-6.411E-04	3.929E-02	3.527E-02	2.004E-02	NOT IDENT.
SB-122	-1.066E-01	1.649E+00	1.416E+00	8.413E-01	NOT IDENT.
I-123	-3.933E+03	3.819E+06	0.000E+00	1.949E+06	SHORT HLIF
TE-123M	-2.098E-05	2.037E-02	1.829E-02	1.039E-02	NOT IDENT.
I-124	-3.388E-01	5.499E-01	4.241E-01	2.806E-01	NOT IDENT.
SB-124	1.503E-02	5.312E-02	4.746E-02	2.710E-02	FAIL ABUN
SB-125	4.015E-02	6.350E-02	5.865E-02	3.240E-02	FAIL ABUN
TE-125M	5.987E+00	6.691E+00	6.362E+00	3.414E+00	NOT IDENT.
I-126	-5.897E-02	1.479E-01	1.213E-01	7.548E-02	NOT IDENT.
SB-126	6.171E-02	1.171E-01	1.028E-01	5.977E-02	FAIL ABUN
SB-127	-4.246E-01	1.042E+00	8.471E-01	5.315E-01	NOT IDENT.
XE-127	-5.652E-03	3.635E-02	3.179E-02	1.855E-02	NOT IDENT.
I-131	-1.932E-02	8.185E-02	7.246E-02	4.176E-02	NOT IDENT.
TE-132	2.020E-01	5.322E-01	4.719E-01	2.715E-01	NOT IDENT.
BA-133	-1.688E-02	3.614E-02	2.757E-02	1.844E-02	NOT IDENT.
I-133	1.583E+03	4.465E+03	0.000E+00	2.278E+03	SHORT HLIF
CS-134	1.372E-01	6.978E-02	3.777E-02	3.560E-02	FAIL ABUN
CS-135	1.175E-01	1.409E-01	1.136E-01	7.190E-02	NOT IDENT.
I-135	1.181E+15	4.559E+15	0.000E+00	2.326E+15	SHORT HLIF
CS-136	-6.213E-02	8.655E-02	6.867E-02	4.416E-02	FAIL ABUN
BA-137M	-8.472E-03	2.927E-02	2.425E-02	1.493E-02	NOT IDENT.
CS-137	-8.956E-03	3.094E-02	2.563E-02	1.578E-02	NOT IDENT.
CE-139	-1.698E-02	2.264E-02	1.956E-02	1.155E-02	NOT IDENT.
BA-140	1.254E-01	1.980E-01	1.762E-01	1.010E-01	NOT IDENT.
LA-140	-6.209E-02	6.934E-02	5.120E-02	3.538E-02	FAIL ABUN
CE-141	-1.830E-02	4.605E-02	4.094E-02	2.350E-02	NOT IDENT.
CE-143	2.750E+02	1.258E+02	0.000E+00	6.417E+01	SHORT HLIF
CE-144	3.195E-02	1.712E-01	1.411E-01	8.734E-02	NOT IDENT.
PM-144	-2.412E-03	2.767E-02	2.319E-02	1.412E-02	NOT IDENT.
PR-144	-1.634E-01	1.875E+00	1.571E+00	9.568E-01	NOT IDENT.
PM-146	3.495E-02	3.372E-02	3.151E-02	1.721E-02	NOT IDENT.
ND-147	-8.329E-02	4.199E-01	3.585E-01	2.142E-01	FAIL ABUN



PM-149	-2.151E+01	6.699E+01	5.599E+01	3.418E+01	NOT IDENT.
EU-152	-1.211E-01	7.290E-02	5.555E-02	3.719E-02	FAIL ABUN
GD-153	-2.404E-02	6.039E-02	4.949E-02	3.081E-02	FAIL ABUN
EU-154	1.981E-02	1.046E-01	8.912E-02	5.334E-02	NOT IDENT.
EU-155	4.482E-02	7.731E-02	7.304E-02	3.944E-02	FAIL ABUN
TB-160	5.845E-02	1.046E-01	9.556E-02	5.336E-02	FAIL ABUN
HO-166M	1.375E-02	5.096E-02	4.386E-02	2.600E-02	FAIL ABUN
TM-171	1.513E+00	2.047E+01	1.760E+01	1.045E+01	NOT IDENT.
LU-176	1.205E-02	1.957E-02	1.722E-02	9.985E-03	FAIL ABUN
LU-177	2.389E+00	1.147E+00	8.452E-01	5.852E-01	FAIL ABUN
LU-177M	-3.358E-02	1.371E-01	1.200E-01	6.997E-02	FAIL ABUN
HF-181	1.116E-02	3.215E-02	2.885E-02	1.640E-02	NOT IDENT.
W-181	-5.351E-01	2.869E-01	2.232E-01	1.464E-01	NOT IDENT.
TA-182	1.511E-01	1.771E-01	1.585E-01	9.036E-02	FAIL ABUN
RE-183	2.044E-03	8.245E-02	7.428E-02	4.207E-02	FAIL ABUN
RE-184	1.539E-02	1.872E-01	1.625E-01	9.549E-02	NOT IDENT.
OS-185	-2.496E-02	3.446E-02	2.743E-02	1.758E-02	NOT IDENT.
RE-188	1.658E-01	1.271E-01	1.198E-01	6.482E-02	NOT IDENT.
W-188	1.372E+00	5.543E+00	4.301E+00	2.828E+00	NOT IDENT.
IR-192	-7.486E-03	2.803E-02	2.331E-02	1.430E-02	FAIL ABUN
AU-195	2.488E-01	1.688E-01	1.508E-01	8.613E-02	FAIL ABUN
TL-200	8.631E+01	3.149E+02	0.000E+00	1.607E+02	SHORT HLIF
TL-201	-1.609E+00	5.137E+00	4.530E+00	2.621E+00	NOT IDENT.
TL-202	2.860E-02	5.356E-02	4.889E-02	2.733E-02	NOT IDENT.
HG-203	1.390E-02	3.116E-02	2.736E-02	1.590E-02	NOT IDENT.
BI-207	1.922E-03	4.010E-02	3.440E-02	2.046E-02	FAIL ABUN
TL-207	-3.066E-01	6.050E-01	4.318E-01	3.087E-01	FAIL ABUN
PO-209	-4.312E+00	5.848E+00	4.731E+00	2.984E+00	NOT IDENT.
BI-210	-1.185E+00	2.692E+00	2.303E+00	1.374E+00	NOT IDENT.
PB-210	-1.185E+00	2.692E+00	2.303E+00	1.374E+00	NOT IDENT.
PO-210	-1.185E+00	2.692E+00	2.303E+00	1.373E+00	NOT IDENT.
PB-211	5.346E-01	7.459E-01	6.258E-01	3.805E-01	NOT IDENT.
BI-212	1.002E+00	4.949E-01	2.778E-01	2.525E-01	FAIL ABUN
PO-215	-3.066E-01	6.050E-01	4.318E-01	3.087E-01	FAIL ABUN
RN-219	-2.691E-01	2.985E-01	2.476E-01	1.523E-01	FAIL ABUN
RN-220	4.320E+00	1.985E+01	1.745E+01	1.013E+01	NOT IDENT.
RA-223	-3.066E-01	6.050E-01	4.318E-01	3.087E-01	FAIL ABUN
AC-227	3.258E-02	3.084E-01	2.677E-01	1.573E-01	FAIL ABUN
TH-227	3.258E-02	3.084E-01	2.677E-01	1.573E-01	FAIL ABUN
TH-229	-1.052E-01	3.837E-01	3.348E-01	1.958E-01	FAIL ABUN
PA-231	-3.342E-02	1.143E+00	9.762E-01	5.834E-01	FAIL ABUN
TH-231	-3.066E-01	6.050E-01	4.318E-01	3.087E-01	FAIL ABUN
U-231	2.294E-01	7.827E-01	6.658E-01	3.993E-01	FAIL ABUN
PA-233	-4.253E-03	4.779E-02	4.027E-02	2.438E-02	FAIL ABUN
PA-234	-2.148E-01	2.471E-01	1.937E-01	1.260E-01	FAIL ABUN
PA-234M	3.572E+00	3.907E+00	3.570E+00	1.993E+00	NOT IDENT.
TH-234	5.233E-01	9.940E-01	8.910E-01	5.071E-01	FAIL ABUN
U-235	3.885E-02	1.601E-01	1.441E-01	8.168E-02	FAIL ABUN
NP-236	-2.554E-02	5.819E-02	5.118E-02	2.969E-02	NOT IDENT.
U-238	5.233E-01	9.940E-01	8.910E-01	5.071E-01	FAIL ABUN
NP-239	6.498E-02	1.380E-01	1.290E-01	7.040E-02	FAIL ABUN
AM-241	1.530E-02	1.125E-01	9.825E-02	5.742E-02	NOT IDENT.
CM-243	-2.440E-02	6.635E-02	6.053E-02	3.385E-02	FAIL ABUN
AM-246	-1.617E-02	1.227E-01	1.033E-01	6.259E-02	NOT IDENT.
CM-247	-7.263E-03	2.593E-02	2.266E-02	1.323E-02	NOT IDENT.
CF-249	3.190E-02	3.283E-02	3.076E-02	1.675E-02	NOT IDENT.
CF-251	-7.567E-02	9.300E-02	7.944E-02	4.745E-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	226.8669
46.50	226.8669
46.50	226.8669
48.70	273.4022
49.72	248.1349
51.35	248.1569
52.39	276.4424
52.97	263.7245
53.15	263.8625
53.44	265.2845
54.07	247.7274
56.28	283.1621
56.28	283.1639
57.37	0.0000
57.53	275.6470
57.53	275.6483
57.60	275.7003
57.98	263.8297
57.98	263.8297
59.32	270.8936
59.32	270.8936
59.40	273.3931
59.54	266.1707
59.72	266.2991
60.01	283.6217
61.10	338.3923
61.14	338.4276
61.30	338.5702
63.00	294.4891
63.29	294.7107
63.29	294.7107
63.58	293.6973
64.28	289.2798
65.12	382.8169
65.20	382.8929
65.20	382.8929
66.05	305.4824
66.72	291.0682
66.83	291.1486
66.91	302.4077
67.20	313.8330
67.20	313.8330
67.75	340.4481
67.85	340.5335
68.90	319.3186
68.90	319.3186
69.30	333.4837
69.67	327.0186
70.82	316.6169
70.82	316.6169
70.83	316.6246
72.80	353.4564
72.87	353.5141
72.87	353.5141
74.67	328.3778
74.81	328.4825
74.81	328.4825
74.81	328.4825
74.81	328.4825
74.81	328.4825
74.81	328.4825
74.81	328.4825
74.97	328.6051
75.28	328.8402
75.70	329.1564
77.11	330.2155
77.11	330.2155

77.11	330.2155
77.11	330.2155
77.11	330.2155
77.11	330.2155
77.11	330.2155
78.38	331.1620
79.62	332.0789
79.80	332.2113
79.80	332.2113
80.11	332.4385
80.18	332.4899
80.30	332.5768
80.30	332.5768
80.57	332.7744
81.00	333.0887
81.07	333.1400
81.07	333.1400
81.07	333.1400
81.07	333.1400
82.60	221.9733
83.37	222.3408
83.78	258.7646
83.78	258.7646
83.78	258.7646
83.78	258.7646
84.21	259.0027
84.90	259.3826
85.43	259.6741
86.29	260.1456
86.50	260.2600
86.54	260.2814
86.59	260.3088
86.72	260.3790
86.79	260.4156
86.94	260.4996
87.30	260.6949
87.30	260.6949
87.30	260.6949
87.30	260.6949
87.30	260.6949
87.30	260.6949
87.30	260.6949
87.57	260.8414
87.88	261.0092
88.03	261.0901
88.36	261.2686
88.47	261.3281
89.95	262.1216
91.11	262.7396
92.29	263.3652
92.38	263.4125
92.38	263.4125
93.35	263.9221
94.00	264.2639
94.67	264.6103
94.67	264.6133
94.90	264.7324
94.90	264.7324
94.90	264.7324
94.90	264.7324
95.87	265.2359
95.87	265.2359
96.73	280.2956
97.43	283.3343
98.44	223.9081
98.44	223.9094
98.88	222.7639
99.55	250.2063
99.55	250.2063
99.86	255.6999
100.00	265.5699
100.10	265.6230
103.18	264.4689
103.76	262.0616
105.00	268.9567
105.31	264.6102
108.00	294.8456
109.28	256.5436

111.00	310.9742
111.00	310.9742
111.76	287.7171
112.95	281.0174
115.19	298.5962
116.30	242.2686
117.00	254.5028
117.00	254.5028
117.66	267.6647
121.11	236.8372
121.62	253.7045
121.78	262.1069
122.06	265.0091
122.32	260.4875
122.32	260.4875
122.32	260.4875
122.32	260.4875
123.07	245.9588
127.23	266.3134
129.76	261.7583
131.20	265.1754
133.02	273.0024
133.54	274.6360
135.34	271.6141
136.00	268.1021
136.25	270.0983
136.48	270.1939
140.51	277.5666
140.51	0.0000
142.18	304.0739
142.65	288.9774
143.76	259.7387
144.24	254.1659
144.24	254.1659
144.24	254.1659
144.24	254.1659
145.22	277.5845
145.44	277.6727
147.16	252.3600
152.43	256.2092
152.70	257.2768
153.22	254.5508
154.21	239.3360
154.21	239.3360
154.21	239.3360
154.21	239.3360
155.03	228.8969
156.02	263.3505
158.56	235.8909
159.00	0.0000
159.00	234.0719
160.31	252.1530
161.27	260.3418
162.32	249.8891
162.64	237.2001
163.35	238.4132
163.89	229.7125
165.85	273.8075
167.43	251.5970
171.28	238.9282
171.86	241.1015
172.10	241.1753
176.55	244.5585
176.60	244.5759
181.06	263.6917
184.41	279.3635
185.71	249.3933
186.00	249.4834
190.27	238.5441
192.34	223.8076
193.63	238.4799
197.04	227.1082
198.01	241.7700
198.60	235.7579
200.40	231.0934
201.83	256.2773
202.84	246.2292
205.31	225.6554

208.36	263.9129
208.81	230.1948
209.75	208.0195
209.75	208.0195
210.97	214.5684
215.65	223.5521
216.55	230.0765
218.09	220.9930
222.10	210.3262
223.80	247.7681
226.40	208.1065
227.00	201.8634
227.08	208.2560
227.20	208.2819
228.16	203.1745
228.18	203.1784
228.18	203.1784
231.56	0.0000
235.69	221.9232
236.00	207.5169
236.00	207.5169
238.63	221.5175
238.63	221.5175
238.63	221.5175
238.63	221.5175
239.00	221.5992
240.98	222.0455
241.98	222.2698
241.98	222.2698
241.98	222.2698
244.69	183.3836
245.39	177.0169
247.94	173.6654
248.90	168.3976
249.79	195.7306
252.40	182.0600
252.85	185.4118
252.85	185.4118
254.15	0.0000
256.20	186.0145
256.20	186.0145
260.50	176.8963
260.90	173.6644
262.80	165.1703
264.65	165.4572
268.24	170.9961
268.79	174.9598
269.46	175.0691
269.46	175.0691
269.46	175.0691
269.46	175.0691
271.23	175.3552
273.65	180.1967
276.40	173.9607
277.35	169.6455
277.60	169.6857
277.60	169.6857
278.00	158.5800
278.60	149.7277
279.20	153.1606
279.53	166.6277
280.46	175.7210
281.68	160.2262
283.67	142.5546
284.30	134.7729
285.00	115.7514
285.90	145.0883
286.10	156.3609
286.10	156.3609
287.40	127.2606
288.45	0.0000
290.67	113.5103
290.80	113.5226
291.72	132.2677
293.26	0.0000
293.70	130.2313
295.21	130.4021
295.21	130.4021

295.21	130.4021
295.96	130.4887
296.50	130.5495
297.23	130.6314
298.57	130.7811
299.80	130.9192
299.80	130.9192
300.09	130.9519
300.09	130.9519
300.09	130.9519
300.09	130.9519
300.12	130.9566
301.29	141.9166
302.84	155.8008
303.76	143.9290
303.91	135.3786
304.40	133.7197
304.40	133.7197
304.84	138.9147
306.84	132.8506
308.46	144.5006
311.98	125.3726
316.51	148.9332
318.01	136.4015
319.02	146.9264
319.41	149.2875
320.08	129.6846
323.87	155.0574
323.87	155.0574
323.87	155.0574
323.87	155.0574
325.23	144.7637
328.77	143.4249
333.44	114.7002
334.20	114.1824
334.20	114.1824
334.30	114.1924
338.28	132.1724
338.28	132.1724
338.28	132.1724
338.28	132.1724
338.32	132.1770
338.32	132.1770
338.32	132.1770
340.50	97.4473
340.57	97.4524
344.27	146.6992
345.85	135.9050
350.59	0.0000
351.07	138.8209
351.92	138.9113
351.92	138.9113
351.92	138.9113
355.39	0.0000
356.01	130.0516
364.48	110.5604
366.43	101.7183
367.43	101.7924
367.94	0.0000
369.80	113.7011
374.96	122.2799
383.85	146.7612
387.95	121.5906
388.63	141.7696
391.69	125.5757
391.69	125.5757
392.90	116.5084
398.62	83.8143
400.65	114.3674
401.10	115.3259
401.81	116.3043
402.60	102.5144
404.84	92.4957
410.95	106.8123
411.60	132.8755
413.65	121.8930
414.70	121.9790
415.30	104.3284

415.76	96.9065
417.63	0.0000
418.52	110.1533
423.70	96.4808
427.08	81.6740
427.89	77.0214
432.53	91.3860
433.93	85.8096
439.47	98.4188
439.56	96.5308
439.89	92.7647
443.98	102.4975
444.90	101.6072
445.03	101.6170
445.03	101.6170
445.03	101.6170
445.03	101.6170
453.90	84.9938
463.38	107.5874
468.07	104.8123
473.00	99.5219
475.06	93.8415
475.35	87.0845
476.78	87.1587
477.59	97.8592
477.96	89.1587
482.03	84.5175
484.57	90.4826
487.03	96.4606
490.36	0.0000
492.35	92.8532
497.08	89.1893
507.63	0.0000
510.53	0.0000
510.84	95.8233
511.00	95.8322
511.85	95.8773
511.85	95.8773
513.99	77.5865
513.99	77.5865
520.41	92.3671
520.65	92.3813
527.90	84.7743
528.96	0.0000
529.64	81.8624
529.87	0.0000
531.02	80.9258
537.32	70.1773
543.00	75.4211
546.56	0.0000
549.76	75.6981
552.65	89.9669
555.20	67.8199
563.23	88.4390
563.90	92.5357
568.70	75.4385
569.32	83.6216
569.50	83.6291
569.67	83.6366
573.80	79.7281
574.00	79.7353
574.64	78.7389
578.91	72.1488
579.30	0.0000
583.14	82.1655
585.48	82.2632
591.81	81.4977
592.07	81.5073
593.00	73.2881
595.88	79.5966
600.56	91.1824
602.52	0.0000
602.71	92.4645
602.71	92.4645
603.60	84.4012
604.41	79.7297
604.70	84.7252
609.31	90.5365

609.31	90.5365
609.31	90.5365
609.31	90.5365
610.33	90.5816
612.46	60.0346
614.37	83.4595
618.01	88.8339
621.84	88.9999
621.84	88.9999
631.29	75.7332
633.02	78.9551
633.10	80.0101
634.78	76.9142
635.90	73.7918
636.97	73.8303
645.85	80.4949
646.12	83.6844
656.30	55.3452
657.75	72.4243
657.90	0.0000
661.65	85.3589
661.65	85.3589
664.57	0.0000
666.33	86.6113
666.33	86.6113
675.00	80.5138
677.61	60.1887
685.20	71.1804
692.80	70.3400
695.00	86.6577
696.49	78.0425
696.49	78.0425
697.00	70.4709
697.49	76.9932
698.33	78.1062
698.50	77.0279
699.00	81.3858
702.63	94.5589
706.10	78.3743
706.58	0.0000
706.67	82.7493
709.31	89.3847
711.68	75.2919
713.82	74.2692
717.42	88.6061
720.50	67.9128
721.93	0.0000
722.20	64.8927
722.78	85.9605
722.78	85.9605
722.89	85.9653
722.95	92.9855
723.30	92.9984
724.18	101.8115
727.18	58.2211
733.00	70.4805
735.90	67.0381
739.58	66.2585
742.81	65.2443
744.21	69.7080
747.13	58.7144
751.79	82.1389
752.31	75.4956
753.82	55.5466
755.35	60.0282
756.15	54.4880
756.87	58.9538
763.93	87.0145
765.79	92.6632
766.42	89.3384
766.84	89.3530
776.49	66.1571
778.00	76.2966
778.57	77.4355
778.89	77.4460
783.80	62.9795
785.46	71.1251
792.07	67.7014



795.84	75.0364
796.30	75.0506
798.80	75.1235
801.93	78.5396
805.60	58.3421
810.29	64.5552
810.76	60.9298
815.85	49.2051
817.79	48.3302
818.51	57.4644
819.60	62.0517
826.30	74.1063
828.27	0.0000
831.60	59.5902
831.96	60.5150
834.83	80.7748
836.80	0.0000
846.75	52.5580
848.13	54.4310
856.28	0.0000
856.80	57.0763
860.37	57.1531
867.32	49.9445
867.82	51.6317
871.10	43.7332
873.19	48.4225
874.81	40.9976
875.33	0.0000
876.40	50.3442
879.36	45.7329
880.27	55.0849
880.51	56.9567
881.50	52.3072
883.24	60.7518
884.67	63.5890
889.25	59.0117
896.60	63.8646
898.02	56.3804
899.00	53.5808
903.28	63.0775
911.07	51.9237
911.07	51.9237
911.07	51.9237
919.63	61.5516
920.93	59.6854
925.00	57.8726
925.24	56.9282
926.50	56.0053
935.52	42.8500
937.48	66.7017
944.10	54.4395
946.00	66.8982
949.00	57.4014
962.29	77.9506
964.01	51.2852
966.15	64.1536
968.20	109.1359
969.11	122.0156
969.11	122.0156
969.11	122.0156
977.42	48.2983
980.50	40.6126
983.50	63.8843
989.30	51.4007
996.32	64.1566
1001.03	45.7584
1001.68	45.7688
1004.76	77.0076
1021.30	0.0000
1024.50	0.0000
1034.80	62.0126
1036.00	64.0066
1037.82	57.1447
1038.57	53.2169
1038.76	0.0000
1045.16	65.1814
1046.59	65.2104
1048.07	60.2971

1050.47	43.5273
1050.47	43.5273
1062.04	50.6364
1063.62	47.6813
1076.63	64.8286
1077.35	68.8349
1078.86	61.8789
1085.78	65.0127
1099.22	76.3266
1112.02	66.7935
1112.84	84.0413
1115.52	65.6030
1120.29	57.6123
1120.29	57.6123
1120.29	57.6123
1120.29	57.6123
1120.51	57.6151
1121.28	57.6290
1124.00	0.0000
1129.67	67.1493
1131.51	0.0000
1147.95	0.0000
1167.94	74.8250
1173.22	71.8594
1175.09	71.9004
1177.93	63.7347
1189.05	55.6875
1204.90	81.8352
1205.75	0.0000
1213.00	69.5648
1221.42	67.6470
1230.97	90.7808
1235.34	92.9807
1236.41	0.0000
1238.25	79.4623
1246.25	74.4009
1260.41	0.0000
1271.85	62.2554
1274.45	49.6300
1274.54	48.5740
1291.56	55.1611
1298.22	0.0000
1312.09	38.3959
1325.50	37.4609
1325.50	37.4609
1332.49	30.0221
1333.61	33.2493
1360.21	28.0770
1362.66	0.0000
1365.15	25.9500
1368.21	34.6266
1368.53	0.0000
1376.25	29.2755
1384.27	34.7672
1394.10	27.2290
1395.20	23.9680
1407.95	16.3938
1434.06	27.4988
1436.60	18.3439
1457.56	0.0000
1460.81	22.1416
1489.15	15.7895
1509.49	13.9984
1596.49	29.5090
1620.62	12.4409
1678.03	0.0000
1691.02	10.6876
1691.02	10.6876
1706.46	0.0000
1750.46	0.0000
1764.49	9.8653
1764.49	9.8653
1764.49	9.8653
1764.49	9.8653
1770.23	6.7726
1771.40	47.4199
1791.20	0.0000
1808.65	10.9490

1836.01

6.0046

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244881002

Total Uranium Activity	1.5749E+00	ug/g
Total Uranium Counting Unc.	2.9580E+00	ug/g
Total Uranium Tpu	1.5092E-06	ug/g
Total Uranium Mda	2.6517E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 942718                          SAMPLE ID   : G244881002
*  ANALYST       : MXR1                             DETECTOR    : GAM16
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE: 26-JAN-2010 13:20:55.13          SAMPLE ALQT: 151.220 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.522E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.091E+00
GROSS GAMMA MDA (pCi/GRAM )     : 2.259E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.092E+00

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 15:23:47.00

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881003.CNF;1
Sample date   : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:21:22
Sample ID     : G244881003 Sample quantity : 1.41410E+02 GRAM
Detector name : GAM20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:33.86 0.5%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 942718 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.94*	137	919	1.03	125.87	121	11	1.90E-02	44.2	
2	3	74.96*	604	656	1.16	149.87	145	13	8.39E-02	8.2	1.41E+00
3	3	77.19*	917	542	0.97	154.33	145	13	1.27E-01	5.4	
4	6	84.41*	144	647	1.82	168.74	164	28	2.00E-02	32.5	1.76E+00
5	6	87.30*	345	481	1.12	174.50	164	28	4.79E-02	12.0	
6	6	89.96*	235	393	1.01	179.81	164	28	3.26E-02	15.1	
7	6	92.78*	420	559	1.44	185.45	164	28	5.83E-02	12.1	
8	0	186.03*	250	556	1.17	371.68	366	12	3.47E-02	20.6	
9	0	209.07	115	264	0.95	417.70	415	7	1.60E-02	25.2	
10	6	238.53*	1784	233	1.11	476.54	471	17	2.48E-01	2.8	1.92E+00
11	6	241.51	379	308	1.56	482.50	471	17	5.26E-02	10.6	
12	0	270.17	147	213	1.87	539.76	536	9	2.04E-02	19.7	
13	0	276.89	112	237	1.24	553.18	550	10	1.56E-02	27.2	
14	0	295.18	526	258	1.17	589.71	584	11	7.31E-02	7.3	
15	0	299.72	115	283	1.53	598.80	595	13	1.60E-02	31.3	
16	0	328.19	63	239	1.04	655.66	652	10	8.71E-03	47.9	
17	0	338.03	396	195	1.24	675.32	670	10	5.51E-02	8.2	
18	0	351.71*	941	276	1.25	702.65	696	14	1.31E-01	5.0	
19	0	409.16	69	262	1.43	817.44	814	16	9.63E-03	53.1	
20	0	463.38	109	156	1.44	925.79	921	13	1.51E-02	25.8	
21	0	510.67*	217	174	1.47	1020.30	1013	15	3.01E-02	16.5	
22	0	583.18*	517	167	1.38	1165.21	1160	13	7.18E-02	6.9	
23	0	609.18*	547	146	1.34	1217.19	1211	13	7.60E-02	6.3	
24	0	661.93	258	153	1.53	1322.63	1317	15	3.59E-02	12.3	
25	0	727.83	109	115	1.91	1454.38	1448	16	1.51E-02	23.5	
26	0	768.21	70	102	1.01	1535.12	1529	11	9.72E-03	30.6	
27	0	795.10	61	59	1.84	1588.88	1583	10	8.42E-03	27.1	
28	0	860.81	76	64	2.33	1720.29	1714	13	1.05E-02	24.7	
29	0	911.03*	366	102	1.43	1820.73	1814	15	5.08E-02	8.0	
30	0	934.43	40	55	1.03	1867.54	1864	10	5.56E-03	38.1	
31	1	964.49	92	53	1.84	1927.67	1920	23	1.28E-02	18.1	1.20E+00
32	1	968.75	257	48	1.84	1936.18	1920	23	3.58E-02	8.1	
33	0	1120.60	150	89	1.75	2239.97	2231	16	2.09E-02	15.5	
34	0	1238.32	58	70	1.35	2475.53	2471	10	8.06E-03	30.0	
35	0	1378.38*	31	39	2.26	2755.87	2748	14	4.35E-03	47.7	
36	0	1460.48*	1722	28	1.89	2920.23	2912	16	2.39E-01	2.5	
37	0	1508.51	25	8	1.23	3016.39	3011	11	3.42E-03	30.3	
38	0	1589.65	61	23	5.83	3178.87	3169	23	8.47E-03	24.1	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1763.85*	128	0	1.91	3527.77	3521	13	1.78E-02	9.1	
40	0	1846.52	23	3	1.80	3693.41	3687	12	3.22E-03	25.5	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:21:22
Sample ID         : G244881003 Sample quantity : 141.41 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:33.86 0.5%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.419E+01	3.441E+00	5.288E-01	4.611E-02	64.652
CD-109	+	88.03	*	3.626E+00	9.322E-01	1.011E+00	9.564E-02	3.585
SN-126	+	64.28		8.270E-01	7.403E-01	6.178E-01	8.944E-02	1.339
	+	86.94		1.482E+00	7.102E-01	4.162E-01	1.728E-01	3.560
	+	87.57	*	3.564E-01	9.164E-02	9.970E-02	9.378E-03	3.575
BA-137M	+	661.65	*	3.132E-01	8.297E-02	5.214E-02	5.232E-03	6.007
CS-137	+	661.65	*	3.311E-01	8.772E-02	5.511E-02	5.539E-03	6.007
TL-208	+	277.35		9.266E-01	5.186E-01	5.482E-01	7.289E-02	1.690
	+	510.84		8.899E-01	3.144E-01	1.925E-01	2.406E-02	4.624
	+	583.14	*	6.045E-01	1.036E-01	5.264E-02	5.411E-03	11.486
	+	860.37		8.269E-01	4.181E-01	3.966E-01	4.204E-02	2.085
BI-211	+	72.87		3.923E+00	2.861E+00	4.370E+00	3.451E-01	0.898
	+	351.07	*	4.861E+00	6.722E-01	2.859E-01	2.739E-02	17.005
PB-212	+	74.81		2.475E+00	5.079E-01	4.628E-01	5.713E-02	5.346
	+	77.11		2.160E+00	2.947E-01	2.663E-01	2.203E-02	8.110
	+	87.30		1.648E+00	4.547E-01	4.619E-01	6.331E-02	3.569
	+	238.63	*	2.023E+00	2.430E-01	8.366E-02	8.897E-03	24.178
	+	300.09		2.012E+00	1.281E+00	1.008E+00	1.153E-01	1.995
PO-212	+	74.81		2.475E+00	5.079E-01	4.628E-01	5.713E-02	5.346
	+	77.11		2.160E+00	2.947E-01	2.663E-01	2.203E-02	8.110
	+	87.30		1.648E+00	4.547E-01	4.619E-01	6.331E-02	3.569
	+	115.19		2.499E+00	3.262E+00	5.399E+00	4.535E-01	0.463
	+	238.63	*	2.023E+00	2.430E-01	8.366E-02	8.897E-03	24.178
	+	300.09		2.012E+00	1.281E+00	1.008E+00	1.153E-01	1.995
BI-214	+	609.31	*	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
	+	1120.29		1.696E+00	5.573E-01	4.083E-01	4.417E-02	4.155
	+	1764.49		1.954E+00	3.905E-01	2.778E-01	2.282E-02	7.034
PB-214	+	74.81		4.264E+00	8.407E-01	7.975E-01	8.731E-02	5.346
	+	77.11		3.703E+00	5.786E-01	4.566E-01	5.134E-02	8.110
	+	87.30		2.824E+00	7.580E-01	7.913E-01	9.603E-02	3.569
	+	241.98		2.580E+00	6.164E-01	5.036E-01	5.632E-02	5.123
	+	295.21		1.612E+00	3.025E-01	1.966E-01	2.294E-02	8.202
	+	351.92	*	1.691E+00	2.499E-01	9.965E-02	1.086E-02	16.970
PO-214	+	74.81		4.264E+00	8.407E-01	7.975E-01	8.731E-02	5.346



---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.703E+00	5.786E-01	4.566E-01	5.134E-02	8.110
	+	87.30		2.824E+00	7.580E-01	7.913E-01	9.603E-02	3.569
	+	241.98		2.580E+00	6.164E-01	5.036E-01	5.632E-02	5.123
	+	295.21		1.612E+00	3.025E-01	1.966E-01	2.294E-02	8.202
	+	351.92	*	1.691E+00	2.499E-01	9.965E-02	1.086E-02	16.970
	+	74.81		2.475E+00	5.079E-01	4.628E-01	5.713E-02	5.346
	+	77.11		2.160E+00	2.947E-01	2.663E-01	2.203E-02	8.110
	+	87.30		1.648E+00	4.547E-01	4.619E-01	6.331E-02	3.569
PO-218	+	238.63	*	2.023E+00	2.430E-01	8.366E-02	8.897E-03	24.178
	+	300.09		2.012E+00	1.281E+00	1.008E+00	1.153E-01	1.995
	+	74.81		4.264E+00	8.407E-01	7.975E-01	8.731E-02	5.346
	+	77.11		3.703E+00	5.786E-01	4.566E-01	5.134E-02	8.110
	+	87.30		2.824E+00	7.580E-01	7.913E-01	9.603E-02	3.569
	+	241.98		2.580E+00	6.164E-01	5.036E-01	5.632E-02	5.123
	+	295.21		1.612E+00	3.025E-01	1.966E-01	2.294E-02	8.202
	+	351.92	*	1.691E+00	2.499E-01	9.965E-02	1.086E-02	16.970
RA-224	+	240.98	*	4.893E+00	1.136E+00	9.518E-01	9.200E-02	5.140
RA-226	+	609.31	*	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
AC-228	+	1120.29		1.696E+00	5.573E-01	4.083E-01	4.417E-02	4.155
	+	1764.49		1.954E+00	3.905E-01	2.778E-01	2.282E-02	7.034
	+	338.32		2.257E+00	1.006E+00	4.020E-01	1.665E-01	5.615
	+	911.07	*	1.885E+00	3.809E-01	1.990E-01	2.438E-02	9.471
	+	969.11		2.333E+00	6.701E-01	3.296E-01	7.822E-02	7.077
	+	338.32		2.257E+00	1.006E+00	4.020E-01	1.665E-01	5.615
	+	911.07	*	1.885E+00	3.809E-01	1.990E-01	2.438E-02	9.471
	+	969.11		2.333E+00	6.701E-01	3.296E-01	7.822E-02	7.077
TH-228	+	74.81		2.512E+00	4.599E-01	4.698E-01	3.824E-02	5.346
	+	77.11		2.193E+00	2.991E-01	2.704E-01	2.236E-02	8.110
	+	87.30		1.673E+00	4.302E-01	4.689E-01	4.395E-02	3.569
	+	238.63	*	2.053E+00	2.467E-01	8.492E-02	9.031E-03	24.178
	+	300.09		2.043E+00	1.764E+00	1.024E+00	6.087E-01	1.995
	+	609.31	*	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
	+	1120.29		1.696E+00	5.573E-01	4.082E-01	4.417E-02	4.155
	+	1764.49		1.954E+00	3.905E-01	2.778E-01	2.282E-02	7.034
TH-232	+	338.32		2.257E+00	4.269E-01	4.020E-01	3.767E-02	5.615
	+	911.07	*	1.885E+00	3.809E-01	1.990E-01	2.438E-02	9.471
	+	969.11		2.333E+00	6.701E-01	3.296E-01	7.822E-02	7.077
	+	63.29	*	2.089E+00	1.881E+00	1.566E+00	2.722E-01	1.334
	+	92.38		2.874E+00	8.720E-01	6.651E-01	1.220E-01	4.321
	+	609.31	*	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
	+	1120.29		1.696E+00	5.573E-01	4.082E-01	4.417E-02	4.155
	+	1764.49		1.954E+00	3.905E-01	2.778E-01	2.282E-02	7.034
NP-237	+	86.50	*	1.047E+00	3.450E-01	2.948E-01	6.671E-02	3.550
	+	95.87		-6.639E-01	9.600E-01	1.321E+00	3.270E-01	-0.502
	+	63.29	*	2.089E+00	1.881E+00	1.566E+00	2.722E-01	1.334
	+	92.38		2.874E+00	7.428E-01	6.651E-01	6.079E-02	4.321
	+	74.67	*	4.012E-01	7.331E-02	7.520E-02	6.053E-03	5.335
	+	86.72		3.925E+01	1.009E+01	1.104E+01	1.027E+00	3.555
	+	117.66		2.217E-01	3.471E+00	5.599E+00	4.687E-01	0.040
	+							

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-1.272E+01	1.737E+01	2.685E+01	2.266E+00	-0.474
ANH-511	+	511.00	*	1.922E-01	6.600E-02	4.158E-02	3.875E-03	4.623

## ---- 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	*	1.163E-01	2.943E-01	4.902E-01	4.765E-02	0.237
NA-22		1274.54	*	-2.074E-02	4.171E-02	6.374E-02	5.280E-03	-0.325
NA-24		1368.53	*	3.061E-01	4.171E-02	Half-Life too short		
AL-26		1129.67		2.007E+00	1.521E+00	2.750E+00	2.329E-01	0.730
		1808.65	*	-9.935E-03	2.942E-02	4.556E-02	3.700E-03	-0.218
TI-44		67.85		-3.323E-02	4.121E-02	5.824E-02	4.382E-03	-0.571
	+	78.38	*	3.986E-01	5.438E-02	7.197E-02	6.040E-03	5.538
SC-46		889.25	*	-1.641E-03	3.703E-02	6.096E-02	6.077E-03	-0.027
	+	1120.51		2.902E-01	9.339E-02	1.301E-01	1.113E-02	2.231
V-48		944.10		2.854E-01	7.839E-01	1.332E+00	1.300E-01	0.214
		983.50	*	2.908E-02	6.408E-02	1.094E-01	1.046E-02	0.266
		1312.09		5.316E-02	7.889E-02	1.355E-01	1.130E-02	0.392
CR-51		320.08	*	2.093E-02	3.411E-01	5.672E-01	5.686E-02	0.037
MN-52		744.21		-9.281E-02	2.170E-01	3.505E-01	3.560E-02	-0.265
		848.13		-1.163E+00	5.697E+00	9.266E+00	9.336E-01	-0.125
	+	935.52		4.012E-01	3.084E-01	4.430E-01	4.339E-02	0.906
		1246.25		3.887E+00	6.781E+00	1.149E+01	9.442E-01	0.338
		1333.61		-1.125E+00	4.537E+00	7.061E+00	5.916E-01	-0.159
		1434.06	*	-1.270E-01	1.818E-01	2.724E-01	2.305E-02	-0.466
MN-54		834.83	*	-2.527E-03	3.576E-02	5.901E-02	5.961E-03	-0.043
CO-56		846.75	*	-1.191E-02	3.218E-02	5.144E-02	5.185E-03	-0.231
		977.42		-1.008E-02	2.612E+00	4.287E+00	4.112E-01	-0.002
		1037.82		1.351E-01	3.060E-01	5.188E-01	5.005E-02	0.260
		1175.09		-4.045E-02	2.357E+00	3.816E+00	3.070E-01	-0.011
	+	1238.25		1.834E-01	1.112E-01	1.698E-01	1.437E-02	1.080
		1360.21		4.213E-01	7.294E-01	1.315E+00	1.105E-01	0.320
		1771.40		8.127E-02	1.821E-01	3.080E-01	2.526E-02	0.264
CO-57		122.06	*	7.473E-03	2.359E-02	3.838E-02	3.204E-03	0.195
		136.48		5.114E-02	1.950E-01	3.153E-01	2.854E-02	0.162
CO-58		810.76	*	-1.336E-02	3.649E-02	5.882E-02	5.973E-03	-0.227
FE-59		142.65		3.749E-01	2.654E+00	4.255E+00	3.594E-01	0.088
		192.34		4.569E-01	8.643E-01	1.446E+00	1.985E-01	0.316
		1099.22	*	4.141E-02	8.187E-02	1.404E-01	1.324E-02	0.295
		1291.56		-2.667E-02	9.998E-02	1.556E-01	1.480E-02	-0.171
CO-60		1173.22		-1.475E-02	4.677E-02	7.386E-02	5.938E-03	-0.200
		1332.49	*	-9.305E-03	3.550E-02	5.514E-02	4.619E-03	-0.169
ZN-65		1115.52	*	-5.321E-02	9.736E-02	1.270E-01	1.093E-02	-0.419
GE-68		1077.35	*	7.409E-01	1.222E+00	2.094E+00	1.868E-01	0.354
AS-73		53.44	*	6.763E-02	5.530E-01	9.159E-01	6.800E-02	0.074
AS-74		595.88	*	5.758E-04	8.528E-02	1.382E-01	1.353E-02	0.004
		634.78		3.733E-02	3.287E-01	5.585E-01	5.556E-02	0.067
SE-75		66.05		-2.584E+00	4.233E+00	6.062E+00	5.735E-01	-0.426

## ----- Non-Identified Nuclides -----

Line Energy		Activity	Act error	MDA	MDA error	Act/MDA
Nuclide	Ided (keV) Key	(pCi/GRAM)		(pCi/GRAM)		
	96.73	-2.330E-01	7.550E-01	1.073E+00	1.482E-01	-0.217
	121.11	-1.528E-01	1.288E-01	1.952E-01	2.149E-02	-0.783
	136.00	1.585E-02	3.679E-02	5.986E-02	5.058E-03	0.265
	198.60	-3.578E-01	1.672E+00	2.762E+00	2.780E-01	-0.130
	264.65 *	-2.264E-02	4.073E-02	6.385E-02	6.322E-03	-0.355
	279.53	6.793E-02	1.073E-01	1.639E-01	1.678E-02	0.414
	303.91	2.578E-01	1.999E+00	2.948E+00	3.648E-01	0.087
	400.65	-2.162E-01	2.421E-01	3.732E-01	4.095E-02	-0.579
BR-77	+ 87.88	7.698E+02	1.979E+02	2.947E+02	2.783E+01	2.612
	200.40	-2.187E+01	1.425E+02	2.398E+02	2.205E+01	-0.091
	+ 239.00	3.192E+02	3.558E+01	3.846E+01	3.710E+00	8.299
	249.79	-1.302E+01	5.684E+01	9.425E+01	9.187E+00	-0.138
	281.68	-5.840E+01	9.111E+01	1.275E+02	1.268E+01	-0.458
	297.23	2.529E+02	7.587E+01	1.039E+02	1.022E+01	2.434
	303.76	1.537E+01	1.671E+02	2.458E+02	2.404E+01	0.063
	439.47	5.227E+01	1.294E+02	2.164E+02	1.901E+01	0.242
	484.57	-3.557E+01	2.158E+02	3.459E+02	3.160E+01	-0.103
	520.65 *	5.425E+00	9.285E+00	1.562E+01	1.465E+00	0.347
	574.64	1.023E+01	2.047E+02	3.296E+02	3.193E+01	0.031
	578.91	-7.015E+01	9.828E+01	1.273E+02	1.236E+01	-0.551
	585.48	1.130E+03	2.452E+02	4.172E+02	4.063E+01	2.709
	755.35	3.106E+01	1.524E+02	2.582E+02	2.624E+01	0.120
	817.79	-2.008E+01	1.163E+02	1.904E+02	1.928E+01	-0.105
SR-82	698.33	-5.241E+00	3.171E+01	5.258E+01	5.316E+00	-0.100
	776.49 *	-4.087E-01	3.432E-01	5.120E-01	5.202E-02	-0.798
	1395.20	8.523E-01	8.723E+00	1.480E+01	1.249E+00	0.058
RB-83	520.41 *	2.522E-02	6.333E-02	1.052E-01	9.864E-03	0.240
	529.64	-1.336E-02	1.019E-01	1.628E-01	1.536E-02	-0.082
	552.65	-1.832E-02	1.804E-01	2.878E-01	2.754E-02	-0.064
RB-84	881.50 *	-7.018E-02	6.406E-02	9.471E-02	9.464E-03	-0.741
KR-85	513.99 *	1.001E+01	7.023E+00	1.117E+01	1.043E+00	0.897
SR-85	513.99 *	5.129E-02	3.599E-02	5.721E-02	5.342E-03	0.897
RB-86	1076.63 *	1.000E-01	7.818E-01	1.289E+00	1.151E-01	0.078
Y-88	898.02	2.178E-02	3.885E-02	6.702E-02	6.687E-03	0.325
	1836.01 *	-1.141E-02	2.049E-02	2.812E-02	2.269E-03	-0.406
ZR-88	392.90 *	-8.976E-03	2.869E-02	4.616E-02	3.861E-03	-0.194
Y-91	1204.90 *	-6.304E+00	1.906E+01	2.999E+01	2.435E+00	-0.210
NB-94	702.63 *	1.128E-02	3.016E-02	5.185E-02	5.245E-03	0.218
	871.10	2.712E-03	3.188E-02	5.312E-02	5.323E-03	0.051
NB-95	765.79 *	5.110E-02	4.933E-02	7.806E-02	7.933E-03	0.655
NB-95M	235.69 *	1.113E-01	1.205E-01	1.869E-01	2.009E-02	0.595
ZR-95	724.18	4.983E-02	9.678E-02	1.479E-01	1.595E-02	0.337
	756.15 *	3.262E-02	6.386E-02	1.105E-01	1.206E-02	0.295
NB-97	657.90 *	1.081E-02	6.386E-02	Half-Life too short		
	1024.50	-3.227E+00	6.386E-02	Half-Life too short		
ZR-97	254.15	-2.935E+00	6.386E-02	Half-Life too short		
	355.39	1.956E-01	6.386E-02	Half-Life too short		
	507.63 *	3.113E+00	6.386E-02	Half-Life too short		
	602.52	3.042E-02	6.386E-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			1.001E+00	6.386E-02	Half-Life	too short	
	1147.95			3.611E-01	6.386E-02	Half-Life	too short	
	1362.66			-5.285E+00	6.386E-02	Half-Life	too short	
	1750.46			-2.823E+00	6.386E-02	Half-Life	too short	
MO-99	140.51			-4.402E+00	2.518E+01	3.928E+01	1.085E+01	-0.112
	181.06			2.354E+00	1.872E+01	2.645E+01	4.877E+00	0.089
	366.43			1.992E+00	7.541E+01	1.243E+02	1.105E+01	0.016
	739.58	*		4.799E+00	1.026E+01	1.771E+01	2.852E+00	0.271
	778.00			-1.131E+01	2.871E+01	4.622E+01	4.697E+00	-0.245
TC-99M	140.51	*		-5.500E+09	2.871E+01	Half-Life	too short	
RH-101	127.23			1.439E-02	3.191E-02	5.201E-02	4.338E-03	0.277
	198.01	*		4.191E-03	3.073E-02	5.144E-02	4.715E-03	0.081
	325.23			1.697E-02	2.312E-01	3.382E-01	3.230E-02	0.050
RH-102	418.52			2.743E-02	2.834E-01	4.318E-01	3.714E-02	0.064
	475.06	*		-3.366E-02	2.746E-02	4.036E-02	3.659E-03	-0.834
	631.29			2.267E-02	5.300E-02	8.734E-02	8.676E-03	0.260
	697.49			-7.305E-03	6.968E-02	1.160E-01	1.173E-02	-0.063
	766.84	+		2.565E-01	1.593E-01	2.173E-01	2.208E-02	1.180
	1046.59			-2.975E-02	9.820E-02	1.555E-01	1.424E-02	-0.191
	1112.84			2.446E-02	2.531E-01	3.600E-01	3.104E-02	0.068
RU-103	497.08	*		-8.814E-03	3.535E-02	5.609E-02	8.154E-03	-0.157
	610.33	+		1.299E+01	2.792E+00	2.800E+00	4.859E-01	4.639
RH-106	511.85	+		9.600E-01	3.296E-01	4.222E-01	3.937E-02	2.274
	621.84	*		2.169E-01	3.041E-01	5.102E-01	7.253E-02	0.425
	1050.47			1.520E+00	2.066E+00	3.597E+00	3.283E-01	0.423
RU-106	511.85	+		9.600E-01	3.296E-01	4.222E-01	3.937E-02	2.274
	621.84	*		2.169E-01	3.033E-01	5.102E-01	5.050E-02	0.425
	1050.47			1.520E+00	2.066E+00	3.597E+00	3.283E-01	0.423
AG-108M	433.93	*		-1.638E-02	3.070E-02	4.827E-02	4.381E-03	-0.339
	614.37			-4.817E-03	3.960E-02	5.439E-02	5.529E-03	-0.089
	722.95			-2.833E-03	4.232E-02	6.119E-02	6.382E-03	-0.046
AG-110M	657.75	*		1.599E-03	3.478E-02	5.125E-02	5.251E-03	0.031
	677.61			5.755E-02	2.422E-01	4.147E-01	4.263E-02	0.139
	706.67			-1.907E-01	1.920E-01	2.971E-01	3.068E-02	-0.642
	763.93			1.418E-01	1.721E-01	2.695E-01	2.795E-02	0.526
	884.67			2.187E-02	4.337E-02	7.478E-02	7.645E-03	0.292
	937.48			8.355E-02	9.801E-02	1.563E-01	1.573E-02	0.535
	1384.27			1.341E-01	1.651E-01	2.688E-01	2.333E-02	0.499
IN-111	171.28			-3.486E-01	9.721E-01	1.515E+00	1.334E-01	-0.230
	245.39	*		5.973E-01	1.031E+00	1.577E+00	1.531E-01	0.379
IN-113M	391.69	*		8.471E-03	4.226E-02	7.012E-02	6.048E-03	0.121
SN-113	391.69	*		8.471E-03	4.226E-02	7.012E-02	6.048E-03	0.121
IN-114M	190.27	*		2.471E-02	1.769E-01	2.670E-01	2.420E-02	0.093
CD-115	260.90			-3.947E+01	1.170E+02	1.926E+02	1.895E+01	-0.205
	492.35			-6.759E-01	3.302E+01	5.341E+01	4.909E+00	-0.013
	527.90	*		-1.974E+00	9.659E+00	1.533E+01	1.445E+00	-0.129
SN-117M	156.02			-1.753E-01	2.211E+00	3.507E+00	3.015E-01	-0.050
	158.56	*		1.300E-02	5.218E-02	8.383E-02	7.235E-03	0.155
SB-122	563.90	*		1.411E+00	1.900E+00	3.212E+00	3.093E-01	0.439

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123		692.80		1.355E+01	3.707E+01	6.380E+01	6.445E+00	0.212
		159.00	*	-2.553E-02	3.707E+01	Half-Life	too short	
		528.96		-6.594E+01	3.707E+01	Half-Life	too short	
TE-123M		159.00	*	-1.361E-04	2.763E-02	4.392E-02	3.815E-03	-0.003
I-124		602.71	*	2.926E-01	7.029E-01	1.023E+00	1.004E-01	0.286
		722.78		-2.928E-01	4.376E+00	6.328E+00	6.418E-01	-0.046
		1325.50		-1.102E+00	3.056E+01	4.888E+01	5.894E+00	-0.023
SB-124		1376.25		4.523E+01	3.466E+01	5.833E+01	4.913E+00	0.775
	+	1509.49		2.242E+01	1.374E+01	2.577E+01	2.184E+00	0.870
		1691.02		-1.144E+00	2.620E+00	3.904E+00	3.255E-01	-0.293
		602.71		1.716E-02	4.124E-02	6.002E-02	5.894E-03	0.286
		645.85		3.911E-02	4.195E-01	7.118E-01	7.428E-02	0.055
		709.31		4.828E-01	2.527E+00	4.291E+00	4.346E-01	0.112
		713.82		-2.893E-02	1.579E+00	2.641E+00	3.477E-01	-0.011
		722.78		-2.490E-02	3.721E-01	5.381E-01	5.543E-02	-0.046
	+	968.20		2.400E+01	4.521E+00	7.414E+00	7.147E-01	3.237
		1045.16		-1.390E+00	2.165E+00	3.305E+00	3.029E-01	-0.421
		1325.50		-1.001E-01	2.775E+00	4.440E+00	3.714E-01	-0.023
		1368.21		-1.324E-01	1.394E+00	2.311E+00	3.084E-01	-0.057
		1436.60		3.521E-02	2.994E+00	5.015E+00	4.245E-01	0.007
		1691.02	*	-2.294E-02	5.255E-02	7.830E-02	6.805E-03	-0.293
		427.89	*	1.809E-02	8.306E-02	1.375E-01	1.217E-02	0.132
SB-125	+	463.38		8.722E-01	4.571E-01	5.440E-01	5.237E-02	1.603
		600.56		-1.294E-01	1.689E-01	2.533E-01	2.627E-02	-0.511
		635.90		-2.744E-02	2.481E-01	4.153E-01	4.385E-02	-0.066
TE-125M		109.28	*	3.065E+00	8.532E+00	1.394E+01	1.425E+00	0.220
I-126		388.63		1.262E-01	1.979E-01	3.358E-01	2.828E-02	0.376
		666.33	*	1.124E-01	1.872E-01	2.897E-01	2.910E-02	0.388
		753.82		-5.640E-01	1.365E+00	2.207E+00	2.242E-01	-0.256
SB-126		223.80		1.984E-01	3.818E+00	6.381E+00	6.052E-01	0.031
		278.60		4.159E+00	2.602E+00	4.145E+00	4.126E-01	1.003
	+	296.50		1.600E+01	2.830E+00	3.577E+00	3.521E-01	4.473
		414.70		2.213E-02	7.954E-02	1.166E-01	9.993E-03	0.190
		415.30		1.746E+00	6.709E+00	9.820E+00	8.419E-01	0.178
		555.20		4.221E-01	3.657E+00	5.933E+00	5.686E-01	0.071
		573.80		2.524E-01	1.021E+00	1.667E+00	1.614E-01	0.151
		593.00		3.663E-01	8.876E-01	1.465E+00	1.432E-01	0.250
		656.30		-2.657E+00	3.334E+00	4.447E+00	4.456E-01	-0.598
		666.33		4.696E-02	7.821E-02	1.210E-01	1.216E-02	0.388
		675.00		-3.535E-01	1.670E+00	2.760E+00	2.778E-01	-0.128
		695.00		-2.451E-02	6.937E-02	1.134E-01	1.146E-02	-0.216
		697.00		-8.300E-02	2.451E-01	4.013E-01	4.057E-02	-0.207
		720.50	*	3.168E-02	1.401E-01	2.257E-01	2.288E-02	0.140
		856.80		-3.896E-02	4.684E-01	6.661E-01	6.699E-02	-0.058
SB-127		989.30		-6.348E-01	1.166E+00	1.813E+00	1.727E-01	-0.350
		1034.80		-3.567E+00	8.595E+00	1.341E+01	1.239E+00	-0.266
		1213.00		-1.149E+00	4.859E+00	7.711E+00	6.277E-01	-0.149
		61.10		6.663E+01	4.551E+01	6.987E+01	7.018E+00	0.954
		252.40		1.337E+00	3.698E+00	6.231E+00	2.634E+00	0.215

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		290.80		-5.262E+00	2.221E+01	3.200E+01	3.888E+00	-0.164
		411.60		9.433E+00	1.203E+01	2.038E+01	3.194E+00	0.463
		444.90		4.551E+00	8.907E+00	1.497E+01	1.895E+00	0.304
		473.00		-1.869E-01	1.548E+00	2.492E+00	3.275E-01	-0.075
		543.00		-1.225E+01	1.599E+01	2.410E+01	3.599E+00	-0.508
		603.60		7.252E+00	1.217E+01	1.797E+01	2.399E+00	0.404
		685.20	*	1.325E+00	1.188E+00	2.135E+00	2.672E-01	0.621
		698.50		-2.660E+00	1.397E+01	2.312E+01	3.853E+00	-0.115
		722.20		-7.784E+00	3.100E+01	4.396E+01	5.432E+00	-0.177
		783.80		-5.148E-01	3.335E+00	5.490E+00	7.420E-01	-0.094
XE-127		57.60		-3.727E+00	4.370E+00	6.612E+00	4.724E-01	-0.564
		145.22		4.844E-02	6.727E-01	1.077E+00	9.120E-02	0.045
		172.10		6.164E-03	1.152E-01	1.829E-01	1.612E-02	0.034
		202.84	*	-3.404E-02	4.152E-02	6.780E-02	6.257E-03	-0.502
		374.96		1.042E-01	1.873E-01	3.172E-01	2.766E-02	0.328
I-131		80.18		-1.091E+00	5.415E+00	6.139E+00	5.296E-01	-0.178
		284.30		-5.879E-01	1.361E+00	2.219E+00	2.290E-01	-0.265
		364.48	*	1.465E-02	1.006E-01	1.672E-01	1.568E-02	0.088
		636.97		-2.435E-01	1.431E+00	2.385E+00	2.474E-01	-0.102
		722.89		-4.745E-01	7.090E+00	1.025E+01	1.045E+00	-0.046
TE-132		49.72		-2.170E+00	1.154E+01	1.893E+01	1.938E+00	-0.115
		111.76		-2.753E+01	2.753E+01	4.192E+01	4.487E+00	-0.657
		116.30		1.364E+01	2.485E+01	4.080E+01	4.346E+00	0.334
		228.16	*	3.417E-01	6.314E-01	1.081E+00	1.755E-01	0.316
BA-133		53.15		2.463E-01	2.371E+00	3.926E+00	2.925E-01	0.063
		79.62		1.516E-01	1.536E+00	1.775E+00	2.693E-01	0.085
		81.00		-8.054E-02	1.165E-01	1.267E-01	2.015E-02	-0.635
	+	276.40		9.157E-01	5.171E-01	6.438E-01	9.833E-02	1.422
		302.84		4.853E-02	1.381E-01	2.068E-01	2.911E-02	0.235
		356.01	*	-1.316E-02	4.564E-02	6.448E-02	8.710E-03	-0.204
		383.85		-8.078E-02	2.852E-01	4.602E-01	5.772E-02	-0.176
I-133	+	510.53		1.864E+00	2.852E-01	Half-Life	too short	
		529.87	*	-1.071E-03	2.852E-01	Half-Life	too short	
		706.58		-3.640E-01	2.852E-01	Half-Life	too short	
		856.28		6.823E-03	2.852E-01	Half-Life	too short	
		875.33		9.940E-03	2.852E-01	Half-Life	too short	
		1236.41		1.056E+00	2.852E-01	Half-Life	too short	
		1298.22		6.071E-02	2.852E-01	Half-Life	too short	
CS-134		475.35		-2.620E+00	1.797E+00	2.581E+00	2.341E-01	-1.015
		563.23		1.253E-01	3.343E-01	5.518E-01	5.353E-02	0.227
		569.32		-1.420E-02	1.938E-01	3.022E-01	2.950E-02	-0.047
		604.70		9.438E-03	3.654E-02	5.227E-02	5.146E-03	0.181
	+	795.84	*	1.016E-01	5.604E-02	8.516E-02	8.690E-03	1.193
		801.93		-1.699E-01	3.799E-01	6.180E-01	6.295E-02	-0.275
		1038.57		4.020E+00	3.772E+00	6.692E+00	6.165E-01	0.601
		1167.94		-7.526E-02	2.514E+00	4.068E+00	3.293E-01	-0.019
		1365.15		2.319E-02	8.935E-01	1.505E+00	1.327E-01	0.015
CS-135		268.24	*	2.551E-01	1.616E-01	2.572E-01	2.850E-02	0.992
I-135		288.45		2.107E+09	1.616E-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	5.065E+09		1.616E-01	Half-Life	too short		
	546.56	3.194E+09		1.616E-01	Half-Life	too short		
	836.80	9.065E+09		1.616E-01	Half-Life	too short		
	1038.76	1.618E+10		1.616E-01	Half-Life	too short		
	1124.00	-1.995E+10		1.616E-01	Half-Life	too short		
	1131.51	-9.167E+08		1.616E-01	Half-Life	too short		
	1260.41	* -3.928E+09		1.616E-01	Half-Life	too short		
	1457.56	5.972E+11		1.616E-01	Half-Life	too short		
	1678.03	2.711E+09		1.616E-01	Half-Life	too short		
	1706.46	-1.480E+09		1.616E-01	Half-Life	too short		
	1791.20	-1.948E+09		1.616E-01	Half-Life	too short		
CS-136	66.91	-5.244E-01		6.942E-01	9.828E-01	1.457E-01		-0.534
	86.29	4.636E+00	+	1.271E+00	1.775E+00	2.358E-01		2.612
	153.22	7.008E-01		6.679E-01	1.101E+00	1.055E-01		0.636
	163.89	-3.992E-02		1.063E+00	1.662E+00	1.617E-01		-0.024
	176.55	-6.592E-02		3.575E-01	5.610E-01	5.250E-02		-0.118
	273.65	1.265E-01		5.750E-01	6.298E-01	6.563E-02		0.201
	340.57	2.977E-01		1.428E-01	2.301E-01	2.201E-02		1.294
	818.51	-2.727E-02		6.592E-02	1.055E-01	1.069E-02		-0.258
	1048.07	* -1.130E-01		9.947E-02	1.415E-01	1.343E-02		-0.799
	1235.34	4.116E-01		7.089E-01	1.044E+00	1.204E-01		0.394
CE-139	165.85	* -2.024E-02		2.946E-02	4.529E-02	3.954E-03		-0.447
BA-140	162.64	5.350E-01		7.379E-01	1.188E+00	1.091E-01		0.450
	304.84	2.908E-01		1.236E+00	1.833E+00	5.206E-01		0.159
	423.70	-1.524E+00		1.765E+00	2.598E+00	8.424E-01		-0.587
	537.32	* 7.843E-02		2.372E-01	3.895E-01	1.300E-01		0.201
LA-140	328.77	4.404E-01	+	4.241E-01	5.206E-01	5.176E-02		0.846
	432.53	1.074E+00		1.882E+00	3.180E+00	2.906E-01		0.338
	487.03	1.016E-01		1.321E-01	2.245E-01	2.168E-02		0.453
	751.79	-1.734E-01		1.602E+00	2.653E+00	2.907E-01		-0.065
	815.85	1.153E-01		2.851E-01	4.890E-01	5.373E-02		0.236
	867.82	9.669E-01		1.371E+00	2.212E+00	2.306E-01		0.437
	919.63	-2.819E+00		2.598E+00	3.673E+00	4.288E-01		-0.767
	925.24	-4.375E-02		1.098E+00	1.803E+00	1.860E-01		-0.024
	1596.49	* -3.482E-02		7.620E-02	9.650E-02	8.147E-03		-0.361
CE-141	145.44	* -8.305E-04		6.086E-02	9.706E-02	8.381E-03		-0.009
CE-143	57.37	-6.954E-04		6.086E-02	Half-Life	too short		
	231.56	-1.613E-03		6.086E-02	Half-Life	too short		
	293.26	* 7.426E-04		6.086E-02	Half-Life	too short		
	350.59	3.738E-02	+	6.086E-02	Half-Life	too short		
	490.36	-8.933E-04		6.086E-02	Half-Life	too short		
	664.57	2.392E-03		6.086E-02	Half-Life	too short		
	721.93	-1.018E-04		6.086E-02	Half-Life	too short		
CE-144	80.11	-5.083E-01		2.505E+00	2.839E+00	2.432E-01		-0.179
	133.54	* 6.843E-02		1.938E-01	3.143E-01	4.850E-02		0.218
PM-144	476.78	-1.842E-02		6.237E-02	9.905E-02	9.755E-03		-0.186
	618.01	-2.237E-02		3.121E-02	4.688E-02	4.730E-03		-0.477
	696.49	* -4.686E-04		3.062E-02	5.132E-02	5.188E-03		-0.009
	778.57	2.149E-01		1.938E+00	3.258E+00	3.311E-01		0.066



## ---- 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	*		-3.175E-02	2.075E+00	3.477E+00	3.515E-01	-0.009
	1489.15			-7.604E+00	1.036E+01	1.543E+01	1.308E+00	-0.493
PM-146	453.90	*		7.969E-03	4.348E-02	7.154E-02	7.836E-03	0.111
	633.02			-4.632E-01	1.364E+00	2.098E+00	7.910E-01	-0.221
	735.90			-1.290E-01	1.538E-01	2.070E-01	6.023E-02	-0.623
	747.13			1.084E-02	8.524E-02	1.437E-01	2.160E-02	0.075
ND-147	91.11	+		8.184E-01	2.607E-01	4.661E-01	4.611E-02	1.756
	319.41			1.537E+00	2.950E+00	5.019E+00	4.829E-01	0.306
	439.89			2.576E-01	5.356E+00	8.758E+00	7.698E-01	0.029
	531.02	*		1.810E-01	5.442E-01	8.970E-01	1.385E-01	0.202
PM-149	285.90	*		2.196E+01	8.220E+01	1.386E+02	2.259E+01	0.158
EU-152	121.78			-3.330E-02	6.926E-02	1.090E-01	1.056E-02	-0.306
	244.69			1.315E-01	3.274E-01	4.957E-01	4.809E-02	0.265
	344.27	*		-7.027E-02	9.715E-02	1.480E-01	1.445E-02	-0.475
	443.98			-9.787E-02	8.746E-01	1.414E+00	1.247E-01	-0.069
	778.89			8.740E-02	2.262E-01	3.884E-01	3.946E-02	0.225
	867.32			6.266E-02	9.064E-01	1.312E+00	1.316E-01	0.048
	964.01	+		9.593E-01	3.599E-01	5.621E-01	5.431E-02	1.707
	1085.78			2.354E-01	3.509E-01	6.075E-01	5.379E-02	0.387
	1112.02			2.485E-03	3.472E-01	5.123E-01	4.421E-02	0.005
	1407.95			6.150E-02	1.758E-01	3.049E-01	2.575E-02	0.202
GD-153	69.67			3.112E-01	1.366E+00	2.149E+00	1.644E-01	0.145
	83.37	+		2.681E+01	1.759E+01	2.121E+01	1.890E+00	1.264
	97.43	*		3.088E-02	7.791E-02	1.140E-01	1.011E-02	0.271
	103.18			-3.726E-02	9.957E-02	1.587E-01	1.373E-02	-0.235
EU-154	123.07			7.395E-03	4.962E-02	8.016E-02	8.939E-03	0.092
	247.94			1.431E-02	3.194E-01	5.368E-01	6.620E-02	0.027
	591.81			6.471E-01	5.973E-01	1.012E+00	1.269E-01	0.639
	723.30			1.834E-02	1.758E-01	2.588E-01	2.827E-02	0.071
	756.87			3.924E-01	6.910E-01	1.200E+00	1.575E-01	0.327
	873.19			-3.993E-01	2.929E-01	4.193E-01	5.562E-02	-0.952
	996.32			-2.495E-01	3.603E-01	5.503E-01	1.002E-01	-0.453
	1004.76			-1.311E-01	2.222E-01	3.457E-01	4.236E-02	-0.379
	1274.45	*		-4.572E-02	1.165E-01	1.801E-01	1.990E-02	-0.254
EU-155	48.70			-1.165E+00	1.426E+00	2.283E+00	1.827E-01	-0.510
	60.01			4.239E+00	3.846E+00	5.873E+00	4.167E-01	0.722
	86.54	+		4.292E-01	1.105E-01	1.653E-01	1.547E-02	2.597
	105.31	*		8.554E-02	1.014E-01	1.684E-01	1.464E-02	0.508
TB-160	86.79	+		1.146E+00	2.946E-01	4.422E-01	4.117E-02	2.592
	197.04			6.373E-01	5.085E-01	8.943E-01	8.186E-02	0.713
	215.65			1.552E-01	6.848E-01	1.165E+00	1.094E-01	0.133
	298.57	+		2.926E-01	1.855E-01	1.884E-01	1.851E-02	1.554
	879.36	*		-7.138E-02	1.274E-01	1.998E-01	1.998E-02	-0.357
	962.29			1.178E+00	5.658E-01	9.634E-01	9.316E-02	1.223
	966.15			1.252E+00	2.750E-01	5.117E-01	4.939E-02	2.446
	1177.93			1.080E-01	3.709E-01	6.151E-01	4.952E-02	0.176
	1271.85			6.059E-01	6.567E-01	1.152E+00	9.525E-02	0.526
HO-166M	80.57			1.631E-01	3.019E-01	3.594E-01	3.095E-02	0.454
	184.41			1.044E-01	4.102E-02	6.739E-02	6.053E-03	1.549



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TM-171		280.46		1.075E-03	8.371E-02	1.230E-01	1.224E-02	0.009
		410.95		3.425E-01	2.509E-01	4.374E-01	3.733E-02	0.783
		711.68	*	2.196E-02	5.797E-02	9.953E-02	1.008E-02	0.221
		752.31		9.611E-02	2.542E-01	4.359E-01	4.429E-02	0.220
		810.29		-1.825E-02	5.545E-02	8.970E-02	9.093E-03	-0.203
		51.35		1.700E+00	1.936E+01	3.207E+01	2.450E+00	0.053
		52.39		-1.052E+00	1.029E+01	1.692E+01	1.273E+00	-0.062
		59.40		1.213E+01	2.051E+01	3.071E+01	2.173E+00	0.395
		66.72	*	-1.551E+01	2.498E+01	3.576E+01	2.664E+00	-0.434
		88.36		8.453E-01	2.173E-01	3.279E-01	3.092E-02	2.578
LU-176	+	201.83		8.647E-04	2.524E-02	4.277E-02	3.941E-03	0.020
		306.84	*	-7.058E-03	2.470E-02	3.527E-02	3.440E-03	-0.200
		401.10		-3.440E+00	6.347E+00	1.005E+01	8.484E-01	-0.342
		112.95		-2.012E+00	1.538E+00	2.311E+00	1.948E-01	-0.871
LU-177		208.36	*	2.300E+00	1.176E+00	1.826E+00	1.698E-01	1.259
	+	52.97		1.450E-01	1.071E+00	1.776E+00	1.326E-01	0.082
LU-177M		54.07		6.176E-01	5.649E-01	9.637E-01	7.102E-02	0.641
		61.30		1.307E+00	1.195E+00	1.833E+00	1.311E-01	0.713
HF-181		121.62		-2.783E-01	3.558E-01	5.524E-01	4.606E-02	-0.504
		147.16		-3.997E-01	6.307E-01	9.784E-01	8.309E-02	-0.409
		171.86		5.914E-02	4.659E-01	7.423E-01	6.539E-02	0.080
		218.09		-4.725E-01	7.747E-01	1.272E+00	1.199E-01	-0.371
	+	268.79		2.545E+00	1.033E+00	1.355E+00	1.340E-01	1.879
		319.02		1.122E-01	2.296E-01	3.901E-01	3.755E-02	0.287
		367.43		-3.467E-02	8.349E-01	1.371E+00	1.216E-01	-0.025
		413.65	*	9.968E-03	1.894E-01	2.726E-01	2.333E-02	0.037
		56.28		-6.589E-01	6.499E-01	1.030E+00	7.428E-02	-0.640
		57.53		-3.225E-01	3.673E-01	5.550E-01	3.967E-02	-0.581
W-181		65.20		1.607E-01	8.351E-01	1.238E+00	9.109E-02	0.130
		133.02		-1.968E-02	6.341E-02	1.003E-01	8.389E-03	-0.196
		136.25		1.740E-01	4.292E-01	6.977E-01	5.854E-02	0.249
		345.85		-2.182E-01	2.084E-01	2.760E-01	2.554E-02	-0.791
		482.03	*	-1.923E-02	4.149E-02	6.511E-02	5.937E-03	-0.295
TA-182		56.28		-2.582E-01	2.546E-01	4.033E-01	2.909E-02	-0.640
		57.53		-1.265E-01	1.440E-01	2.175E-01	1.555E-02	-0.582
		65.20	*	6.251E-02	3.247E-01	4.814E-01	3.542E-02	0.130
RE-183		67.75		-7.714E-02	9.775E-02	1.387E-01	1.043E-02	-0.556
		100.10		-8.633E-04	1.655E-01	2.653E-01	2.323E-02	-0.003
		152.43		2.566E-01	3.341E-01	5.470E-01	4.679E-02	0.469
		222.10		2.654E-01	3.196E-01	5.543E-01	5.247E-02	0.479
		1001.68		1.014E+00	2.153E+00	3.666E+00	3.465E-01	0.277
	+	1121.28		8.016E-01	2.580E-01	3.585E-01	3.064E-02	2.236
		1189.05		-6.202E-02	3.099E-01	4.935E-01	3.988E-02	-0.126
		1221.42	*	-5.377E-02	1.969E-01	3.111E-01	2.538E-02	-0.173
		1230.97		-2.975E-01	5.036E-01	7.504E-01	6.139E-02	-0.396
		57.98		-8.806E-03	1.503E-01	2.206E-01	1.573E-02	-0.040
RE-183		59.32		4.654E-02	8.414E-02	1.258E-01	8.906E-03	0.370
		67.20		-1.281E-01	1.779E-01	2.535E-01	1.896E-02	-0.505
		162.32	*	7.842E-02	1.083E-01	1.744E-01	1.514E-02	0.450

---- 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		2.079E+00	1.064E+00	1.639E+00	1.525E-01	1.269
		291.72		-7.605E-01	9.984E-01	1.383E+00	1.367E-01	-0.550
		57.98		-3.246E-02	5.539E-01	8.133E-01	5.798E-02	-0.040
		59.32		1.714E-01	3.099E-01	4.634E-01	3.280E-02	0.370
		67.20		-4.720E-01	6.555E-01	9.340E-01	6.987E-02	-0.505
		161.27		7.994E-02	3.418E-01	5.483E-01	4.751E-02	0.146
		216.55		4.913E-03	2.387E-01	4.029E-01	3.788E-02	0.012
		252.85	*	2.308E-02	2.004E-01	3.377E-01	3.300E-02	0.068
		318.01		-1.879E-01	4.101E-01	6.626E-01	6.385E-02	-0.284
		792.07		-6.815E-02	1.058E+00	1.520E+00	1.543E-01	-0.045
OS-185		903.28		-2.698E-01	1.025E+00	1.555E+00	1.543E-01	-0.174
		920.93		-7.154E-02	4.046E-01	6.561E-01	6.467E-02	-0.109
		59.72		1.693E-01	2.276E-01	3.429E-01	2.428E-02	0.494
		61.14		1.908E-01	1.301E-01	2.008E-01	1.435E-02	0.950
		69.30		3.987E-02	2.440E-01	3.830E-01	2.920E-02	0.104
		592.07		2.341E+00	2.473E+00	4.166E+00	4.071E-01	0.562
		646.12	*	4.728E-03	3.561E-02	6.060E-02	6.052E-03	0.078
		717.42		-3.237E-01	8.648E-01	1.409E+00	1.429E-01	-0.230
		874.81		-1.718E-01	5.895E-01	9.240E-01	9.251E-02	-0.186
		880.27		-5.458E-01	7.142E-01	1.097E+00	1.097E-01	-0.497
RE-188		155.03	*	1.075E-02	1.732E-01	2.764E-01	2.373E-02	0.039
		477.96		8.564E-01	2.843E+00	4.707E+00	4.277E-01	0.182
		633.10		-1.271E+00	2.745E+00	4.209E+00	4.184E-01	-0.302
W-188	+	63.58		8.393E+01	7.439E+01	7.332E+01	5.328E+00	1.145
		227.08		-4.736E+00	1.200E+01	1.988E+01	1.893E+00	-0.238
		290.67	*	-1.664E+00	7.777E+00	1.123E+01	1.110E+00	-0.148
IR-192	+	295.96		1.229E+00	2.177E-01	2.862E-01	2.834E-02	4.293
		308.46		-3.435E-03	8.439E-02	1.398E-01	1.367E-02	-0.025
		316.51	*	-1.303E-02	3.066E-02	4.961E-02	4.797E-03	-0.263
		468.07		-3.658E-02	7.095E-02	9.567E-02	9.192E-03	-0.382
		604.41		8.944E-02	4.958E-01	7.046E-01	9.756E-02	0.127
AU-195		612.46		8.330E-01	6.996E-01	1.090E+00	1.199E-01	0.764
		65.12		5.356E-02	1.511E-01	2.253E-01	1.657E-02	0.238
		66.83		-6.405E-02	8.321E-02	1.183E-01	8.823E-03	-0.541
	+	75.70		1.298E+00	2.372E-01	4.033E-01	3.283E-02	3.218
		98.88	*	7.436E-02	2.169E-01	3.363E-01	2.961E-02	0.221
TL-200		129.76		2.077E+00	2.821E+00	4.637E+00	3.872E-01	0.448
		367.94	*	-3.615E-05	2.821E+00	Half-Life	too short	
		579.30		-1.619E-03	2.821E+00	Half-Life	too short	
		828.27		2.146E-03	2.821E+00	Half-Life	too short	
TL-201		1205.75		1.340E-04	2.821E+00	Half-Life	too short	
		68.90		-1.303E+00	3.744E+00	6.064E+00	4.606E-01	-0.215
		70.82		8.494E-01	2.384E+00	3.535E+00	2.734E-01	0.240
		80.30		-1.566E+00	5.878E+00	6.634E+00	5.696E-01	-0.236
TL-202		135.34		1.079E+00	2.349E+01	3.766E+01	3.157E+00	0.029
		167.43	*	3.232E+00	6.650E+00	1.076E+01	9.413E-01	0.300
		68.90		-1.184E-01	3.402E-01	5.510E-01	4.185E-02	-0.215
		70.82		7.697E-02	2.160E-01	3.203E-01	2.478E-02	0.240
		80.30		-1.419E-01	5.328E-01	6.014E-01	5.163E-02	-0.236

----- 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	*	2.238E-02	6.330E-02	1.055E-01	9.272E-03	0.212
		70.83		3.342E-01	9.392E-01	1.392E+00	1.818E-01	0.240
		72.87		7.796E-01	5.738E-01	8.684E-01	1.107E-01	0.898
		82.60		3.033E-01	1.035E+00	1.518E+00	2.106E-01	0.200
BI-207		279.20	*	4.384E-02	4.107E-02	6.414E-02	6.523E-03	0.684
		72.80		2.004E-01	1.648E-01	2.508E-01	1.979E-02	0.799
	+	74.97		7.201E-01	1.316E-01	1.970E-01	1.591E-02	3.655
	+	84.90		3.468E-01	2.276E-01	2.772E-01	2.520E-02	1.251
		569.67		-1.099E-02	3.099E-02	4.734E-02	4.574E-03	-0.232
TL-207		1063.62	*	4.309E-02	5.221E-02	9.085E-02	8.203E-03	0.474
		1770.23		3.221E-01	3.720E-01	6.562E-01	5.383E-02	0.491
		81.07		-1.895E-01	2.558E-01	2.785E-01	2.414E-02	-0.680
	+	83.78		2.287E-01	1.500E-01	1.827E-01	1.638E-02	1.251
		94.90		4.211E-01	2.265E-01	3.501E-01	3.148E-02	1.203
		122.32		7.488E-01	1.636E+00	2.675E+00	2.404E-01	0.280
		144.24		1.499E-01	6.645E-01	1.068E+00	1.015E-01	0.140
		154.21		1.057E-01	3.981E-01	6.401E-01	6.041E-02	0.165
	+	269.46		5.960E-01	2.421E-01	3.316E-01	3.334E-02	1.797
	+	323.87	*	-6.880E-02	6.921E-01	9.997E-01	1.818E-01	-0.069
PO-209	+	338.28		9.426E+00	1.966E+00	2.591E+00	3.328E-01	3.639
		445.03		1.125E+00	2.101E+00	3.536E+00	4.328E-01	0.318
		260.50		2.618E+00	8.819E+00	1.495E+01	1.470E+00	0.175
		262.80		-1.989E+01	2.432E+01	3.897E+01	3.840E+00	-0.510
BI-210		896.60	*	5.289E+00	6.710E+00	1.179E+01	1.173E+00	0.449
		46.50	*	4.297E-01	1.953E+00	3.249E+00	3.013E-01	0.132
PB-210		46.50	*	4.297E-01	1.953E+00	3.249E+00	3.013E-01	0.132
PO-210		46.50	*	4.297E-01	1.953E+00	3.249E+00	2.726E-01	0.132
PB-211		404.84	*	9.178E-01	1.129E+00	1.503E+00	9.416E-01	0.611
BI-212		427.08		1.329E-01	1.819E+00	2.982E+00	1.853E+00	0.045
		831.96		-7.302E-01	1.220E+00	1.779E+00	1.119E+00	-0.410
	+	727.18	*	1.087E+00	5.266E-01	6.106E-01	6.930E-02	1.781
		785.46		1.817E+00	1.661E+00	2.962E+00	3.009E-01	0.613
		1620.62		1.073E+00	1.115E+00	2.074E+00	1.746E-01	0.517
PO-215		81.07		-1.895E-01	2.558E-01	2.785E-01	2.414E-02	-0.680
	+	83.78		2.287E-01	1.500E-01	1.827E-01	1.638E-02	1.251
		94.90		4.211E-01	2.265E-01	3.501E-01	3.148E-02	1.203
		122.32		7.488E-01	1.636E+00	2.675E+00	2.404E-01	0.280
		144.24		1.499E-01	6.645E-01	1.068E+00	1.015E-01	0.140
		154.21		1.057E-01	3.981E-01	6.401E-01	6.041E-02	0.165
	+	269.46		5.960E-01	2.421E-01	3.316E-01	3.334E-02	1.797
	+	323.87	*	-6.880E-02	6.921E-01	9.997E-01	1.818E-01	-0.069
RN-219	+	338.28		9.426E+00	1.966E+00	2.591E+00	3.328E-01	3.639
		445.03		1.125E+00	2.101E+00	3.536E+00	4.328E-01	0.318
	+	271.23		7.647E-01	3.134E-01	4.261E-01	4.863E-02	1.795
		401.81	*	-2.235E-01	3.875E-01	6.102E-01	9.109E-02	-0.366
RN-220		549.76	*	-1.022E+01	2.494E+01	3.885E+01	3.712E+00	-0.263
RA-223		81.07		-1.895E-01	2.558E-01	2.785E-01	2.414E-02	-0.680
	+	83.78		2.287E-01	1.500E-01	1.827E-01	1.638E-02	1.251
		94.90		4.211E-01	2.265E-01	3.501E-01	3.148E-02	1.203

---- 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		7.488E-01	1.636E+00	2.675E+00	2.404E-01	0.280
		144.24		1.499E-01	6.645E-01	1.068E+00	1.015E-01	0.140
		154.21		1.057E-01	3.981E-01	6.401E-01	6.041E-02	0.165
	+	269.46		5.960E-01	2.421E-01	3.316E-01	3.334E-02	1.797
		323.87	*	-6.880E-02	6.921E-01	9.997E-01	1.818E-01	-0.069
	+	338.28		9.426E+00	1.966E+00	2.591E+00	3.328E-01	3.639
		445.03		1.125E+00	2.101E+00	3.536E+00	4.328E-01	0.318
		79.80		-3.037E-01	1.940E+00	2.206E+00	4.736E-01	-0.138
		236.00		6.678E-01	2.580E-01	4.088E-01	5.301E-02	1.633
		256.20	*	-3.464E-02	3.381E-01	5.635E-01	9.039E-02	-0.061
TH-227		286.10		5.965E-01	1.403E+00	2.381E+00	3.354E-01	0.250
	+	299.80		3.729E+00	2.431E+00	2.546E+00	4.611E-01	1.465
		304.40		2.023E-01	1.809E+00	2.665E+00	5.064E-01	0.076
		334.20		-3.419E-01	2.620E+00	3.161E+00	6.254E-01	-0.108
		79.80		-3.037E-01	1.940E+00	2.206E+00	4.796E-01	-0.138
	+	94.00		1.110E+01	3.629E+00	3.495E+00	7.671E-01	3.177
		236.00		6.678E-01	2.557E-01	4.088E-01	4.853E-02	1.633
		256.20	*	-3.464E-02	3.381E-01	5.635E-01	1.051E-01	-0.061
		286.10		5.965E-01	1.523E+00	2.381E+00	2.393E+00	0.250
	+	299.80		3.729E+00	2.431E+00	2.546E+00	4.611E-01	1.465
TH-229		304.40		2.023E-01	1.809E+00	2.665E+00	5.064E-01	0.076
		334.20		-3.419E-01	2.620E+00	3.161E+00	6.254E-01	-0.108
	+	85.43		3.423E-01	2.246E-01	2.824E-01	2.584E-02	1.212
	+	88.47		4.866E-01	1.251E-01	1.882E-01	1.773E-02	2.585
		100.00		9.059E-04	1.719E-01	2.756E-01	2.415E-02	0.003
		193.63	*	-3.983E-01	4.551E-01	7.431E-01	6.768E-02	-0.536
		210.97		9.785E-01	7.891E-01	1.242E+00	1.159E-01	0.788
	PA-231	283.67	*	-7.575E-01	1.424E+00	2.220E+00	3.544E-01	-0.341
		301.29		1.228E+00	5.941E-01	9.524E-01	1.248E-01	1.290
	TH-231	81.07		-1.895E-01	2.558E-01	2.785E-01	2.414E-02	-0.680
U-231	+	83.78		2.287E-01	1.500E-01	1.827E-01	1.638E-02	1.251
		94.90		4.211E-01	2.265E-01	3.501E-01	3.148E-02	1.203
		122.32		7.488E-01	1.636E+00	2.675E+00	2.404E-01	0.280
		144.24		1.499E-01	6.645E-01	1.068E+00	1.015E-01	0.140
		154.21		1.057E-01	3.981E-01	6.401E-01	6.041E-02	0.165
	+	269.46		5.960E-01	2.421E-01	3.316E-01	3.334E-02	1.797
		323.87	*	-6.880E-02	6.921E-01	9.997E-01	1.818E-01	-0.069
	+	338.28		9.426E+00	1.966E+00	2.591E+00	3.328E-01	3.639
		445.03		1.125E+00	2.101E+00	3.536E+00	4.328E-01	0.318
	+	84.21		9.748E+00	6.397E+00	7.780E+00	7.010E-01	1.253
PA-233	+	92.29		1.086E+01	2.807E+00	3.689E+00	3.374E-01	2.943
		95.87	*	-7.448E-01	1.063E+00	1.482E+00	1.326E-01	-0.502
		108.00		-1.424E+00	1.908E+00	2.987E+00	2.546E-01	-0.477
	+	75.28		2.101E+01	4.676E+00	5.951E+00	8.965E-01	3.531
	+	86.59		6.977E+00	2.522E+00	2.690E+00	7.274E-01	2.594
	+	300.12		1.040E+00	6.711E-01	7.005E-01	1.093E-01	1.484
		311.98	*	-3.586E-03	5.799E-02	9.591E-02	9.515E-03	-0.037
		340.50		1.736E+00	8.095E-01	1.159E+00	2.794E-01	1.498
		398.62		7.756E-01	1.897E+00	3.168E+00	8.416E-01	0.245

---- 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		-2.524E-02	1.778E+00	2.543E+00	5.476E-01	-0.010
		63.00		2.435E+00	2.181E+00	2.186E+00	3.230E-01	1.114
		94.67		5.651E-01	1.762E-01	2.678E-01	3.394E-02	2.110
		98.44		4.465E-02	9.119E-02	1.370E-01	7.648E-02	0.326
		99.86		1.877E-01	4.296E-01	6.991E-01	6.129E-02	0.268
		111.00		-3.714E-02	1.699E-01	2.686E-01	3.216E-02	-0.138
		131.20		-1.312E-02	1.041E-01	1.659E-01	1.387E-02	-0.079
		152.70		4.087E-01	3.275E-01	5.353E-01	9.107E-02	0.763
		186.00		5.377E+00	2.782E+00	2.565E+00	8.034E-01	2.096
		226.40		1.397E-02	3.759E-01	6.338E-01	8.748E-02	0.022
		227.20		2.674E-02	3.985E-01	6.726E-01	6.405E-02	0.040
		248.90		-1.212E-01	7.150E-01	1.189E+00	2.718E-01	-0.102
		293.70		7.739E+00	1.795E+00	1.709E+00	3.069E-01	4.528
		369.80		4.636E-01	7.952E-01	1.342E+00	2.933E-01	0.346
		568.70		-1.770E-01	9.848E-01	1.523E+00	1.471E-01	-0.116
		569.50		-1.964E-02	2.681E-01	4.181E-01	4.039E-02	-0.047
		574.00		3.054E-01	1.467E+00	2.389E+00	2.314E-01	0.128
		699.00		-4.224E-02	6.651E-01	1.111E+00	2.199E-01	-0.038
		706.10		-1.121E+00	1.080E+00	1.466E+00	6.582E-01	-0.765
		733.00		6.709E-02	3.618E-01	5.370E-01	1.226E-01	0.125
		742.81		-3.938E-01	1.287E+00	2.056E+00	1.386E+00	-0.192
		796.30		1.975E+00	1.201E+00	1.615E+00	4.454E-01	1.223
		805.60		-2.371E-02	9.274E-01	1.539E+00	4.788E-01	-0.015
		819.60		-1.057E-01	1.099E+00	1.809E+00	6.947E-01	-0.058
		826.30		2.269E-01	7.770E-01	1.308E+00	5.895E-01	0.173
		831.60		-4.434E-01	6.021E-01	9.153E-01	2.774E-01	-0.484
		876.40		9.119E-01	1.229E+00	1.393E+00	1.434E+00	0.655
		880.51		-2.550E-01	2.634E-01	3.962E-01	3.960E-02	-0.644
		883.24		-1.406E-02	2.586E-01	4.252E-01	2.866E-01	-0.033
		899.00		3.614E-01	8.195E-01	1.376E+00	6.052E-01	0.263
		925.00		-2.307E-01	1.129E+00	1.827E+00	1.798E-01	-0.126
		926.50		7.346E-02	1.697E-01	2.879E-01	7.403E-02	0.255
		946.00	*	3.077E-02	2.799E-01	4.648E-01	8.975E-02	0.066
		949.00		-5.050E-02	4.414E-01	7.194E-01	7.003E-02	-0.070
		980.50		-5.691E-01	6.936E-01	1.055E+00	1.010E-01	-0.540
		1394.10		-1.458E-01	9.477E-01	1.548E+00	1.007E+00	-0.094
PA-234M	+	766.42		1.851E+01	1.667E+01	2.224E+01	1.135E+01	0.832
		1001.03	*	2.245E+00	4.856E+00	8.263E+00	8.839E-01	0.272
U-235	+	89.95		3.272E+00	1.419E+00	1.664E+00	5.167E-01	1.967
		93.35		3.455E+00	1.283E+00	1.180E+00	3.323E-01	2.929
		105.00		9.223E-01	1.034E+00	1.664E+00	4.966E-01	0.554
		143.76	*	1.555E-01	2.040E-01	3.320E-01	5.786E-02	0.469
		163.35		9.520E-02	4.680E-01	7.387E-01	1.412E-01	0.129
NP-236	+	185.71		1.992E-01	8.396E-02	9.453E-02	8.507E-03	2.107
		205.31		-1.357E-01	5.304E-01	7.729E-01	1.498E-01	-0.176
		94.67		4.317E-01	1.282E-01	2.034E-01	1.832E-02	2.122
		98.44		3.376E-02	6.638E-02	1.036E-01	9.140E-03	0.326
		111.00		-2.809E-02	1.285E-01	2.031E-01	1.719E-02	-0.138
		160.31	*	-7.090E-02	7.917E-02	1.207E-01	1.044E-02	-0.588

---- 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		7.367E-02	1.444E-01	2.356E-01	2.068E-02	0.313
		117.00	*	1.312E-02	1.720E-01	2.777E-01	2.326E-02	0.047
	+	209.75		1.641E+00	8.396E-01	1.320E+00	1.230E-01	1.243
		228.18		1.336E-01	2.079E-01	3.582E-01	3.416E-02	0.373
	+	277.60		4.469E-01	2.470E-01	3.178E-01	3.161E-02	1.406
AM-241		334.30		-1.494E-01	1.486E+00	1.800E+00	1.697E-01	-0.083
		59.54	*	7.869E-02	1.195E-01	1.795E-01	1.404E-02	0.438
CM-243		99.55		7.581E-02	1.486E-01	2.425E-01	2.128E-02	0.313
		103.76	*	4.473E-02	9.047E-02	1.487E-01	1.284E-02	0.301
		117.00		1.349E-02	1.770E-01	2.857E-01	2.393E-02	0.047
	+	209.75		1.618E+00	8.276E-01	1.301E+00	1.212E-01	1.243
		228.18		1.350E-01	2.101E-01	3.620E-01	3.451E-02	0.373
AM-246	+	277.60		4.505E-01	2.490E-01	3.204E-01	3.187E-02	1.406
		798.80		-8.967E-02	1.489E-01	2.000E-01	2.029E-02	-0.448
		1036.00		4.544E-02	2.879E-01	4.773E-01	4.406E-02	0.095
		1062.04		1.555E-01	2.269E-01	3.910E-01	3.535E-02	0.398
		1078.86	*	6.042E-02	1.364E-01	2.310E-01	2.058E-02	0.262
CM-247	+	278.00		1.853E+00	1.024E+00	1.296E+00	1.289E-01	1.430
		287.40		9.352E-01	1.133E+00	1.955E+00	1.937E-01	0.478
		402.60	*	3.267E-03	3.465E-02	5.708E-02	4.827E-03	0.057
CF-249		252.85		8.662E-02	7.523E-01	1.267E+00	1.239E-01	0.068
		333.44		-1.045E-01	2.373E-01	2.334E-01	2.204E-02	-0.448
		387.95	*	8.164E-03	3.891E-02	6.460E-02	5.451E-03	0.126
CF-251		176.60	*	-2.280E-02	1.237E-01	1.941E-01	1.722E-02	-0.117
		227.00		-1.422E-01	3.604E-01	5.969E-01	5.683E-02	-0.238
		285.00		-7.584E-01	1.601E+00	2.603E+00	2.583E-01	-0.291

## 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]G244881003      *
* Acquisition date   : 26-JAN-2010 13:21:22 Detector SN#                   *
* Detector ID        : GAM20 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:33.86 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244881003 Analyst initials: MXR1                  *
* Batch Number       : 942718 Sample Quantity : 1.4141E+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	3.419E+01	3.373E+00	5.310E-01	0.000E+00
CD-109	3.626E+00	9.136E-01	1.077E+00	0.000E+00
SN-126	3.564E-01	8.980E-02	1.061E-01	0.000E+00
BA-137M	3.132E-01	8.131E-02	5.326E-02	0.000E+00
CS-137	3.311E-01	8.597E-02	5.630E-02	0.000E+00
TL-208	6.045E-01	1.016E-01	5.391E-02	0.000E+00
BI-211	4.861E+00	6.587E-01	2.959E-01	0.000E+00
PB-212	2.023E+00	2.382E-01	8.729E-02	0.000E+00
PO-212	2.023E+00	2.382E-01	8.729E-02	0.000E+00
BI-214	1.204E+00	1.991E-01	1.095E-01	0.000E+00
PB-214	1.691E+00	2.449E-01	1.031E-01	0.000E+00
PO-214	1.691E+00	2.449E-01	1.031E-01	0.000E+00
PO-216	2.023E+00	2.382E-01	8.729E-02	0.000E+00
PO-218	1.691E+00	2.449E-01	1.031E-01	0.000E+00
RA-224	4.893E+00	1.113E+00	9.929E-01	0.000E+00
RA-226	1.204E+00	1.991E-01	1.095E-01	0.000E+00
AC-228	1.885E+00	3.733E-01	2.019E-01	0.000E+00
RA-228	1.885E+00	3.733E-01	2.019E-01	0.000E+00
TH-228	2.053E+00	2.418E-01	8.860E-02	0.000E+00
TH-230	1.204E+00	1.991E-01	1.095E-01	0.000E+00
TH-232	1.885E+00	3.733E-01	2.019E-01	0.000E+00
TH-234	2.089E+00	1.843E+00	1.678E+00	0.000E+00
U-234	1.204E+00	1.991E-01	1.095E-01	0.000E+00
NP-237	1.047E+00	3.381E-01	3.139E-01	0.000E+00
U-238	2.089E+00	1.843E+00	1.678E+00	0.000E+00
AM-243	4.012E-01	7.185E-02	8.029E-02	0.000E+00
ANH-511	1.922E-01	6.468E-02	4.271E-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	1.163E-01	2.884E-01	5.042E-01	0.000E+00	NOT IDENT.
NA-22	-2.074E-02	4.088E-02	6.420E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.250E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-9.935E-03	2.883E-02	4.553E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.329E-02	7.677E-02	0.000E+00	FAIL ABUN
SC-46	-1.641E-03	3.629E-02	6.188E-02	0.000E+00	FAIL ABUN
V-48	2.908E-02	6.280E-02	1.108E-01	0.000E+00	NOT IDENT.
CR-51	2.093E-02	3.343E-01	5.882E-01	0.000E+00	NOT IDENT.
MN-52	-1.270E-01	1.782E-01	2.736E-01	0.000E+00	FAIL ABUN
MN-54	-2.527E-03	3.504E-02	5.998E-02	0.000E+00	NOT IDENT.
CO-56	-1.191E-02	3.153E-02	5.228E-02	0.000E+00	FAIL ABUN
CO-57	7.473E-03	2.312E-02	4.059E-02	0.000E+00	NOT IDENT.
CO-58	-1.336E-02	3.576E-02	5.983E-02	0.000E+00	NOT IDENT.
FE-59	4.141E-02	8.023E-02	1.419E-01	0.000E+00	NOT IDENT.
CO-60	-9.305E-03	3.479E-02	5.549E-02	0.000E+00	NOT IDENT.
ZN-65	-5.321E-02	9.541E-02	1.283E-01	0.000E+00	NOT IDENT.
GE-68	7.409E-01	1.198E+00	2.117E+00	0.000E+00	NOT IDENT.
AS-73	6.763E-02	5.419E-01	9.843E-01	0.000E+00	NOT IDENT.
AS-74	5.758E-04	8.358E-02	1.415E-01	0.000E+00	NOT IDENT.
SE-75	-2.264E-02	3.992E-02	6.648E-02	0.000E+00	NOT IDENT.
BR-77	5.425E+00	9.099E+00	1.604E+01	0.000E+00	FAIL ABUN
SR-82	-4.087E-01	3.363E-01	5.212E-01	0.000E+00	NOT IDENT.
RB-83	2.522E-02	6.206E-02	1.080E-01	0.000E+00	NOT IDENT.
RB-84	-7.018E-02	6.278E-02	9.616E-02	0.000E+00	NOT IDENT.
KR-85	1.001E+01	6.883E+00	1.147E+01	0.000E+00	NOT IDENT.
SR-85	5.129E-02	3.527E-02	5.875E-02	0.000E+00	NOT IDENT.
RB-86	1.000E-01	7.662E-01	1.303E+00	0.000E+00	NOT IDENT.
Y-88	-1.141E-02	2.008E-02	2.810E-02	0.000E+00	NOT IDENT.
ZR-88	-8.976E-03	2.812E-02	4.767E-02	0.000E+00	NOT IDENT.
Y-91	-6.304E+00	1.867E+01	3.024E+01	0.000E+00	NOT IDENT.
NB-94	1.128E-02	2.956E-02	5.289E-02	0.000E+00	NOT IDENT.
NB-95	5.110E-02	4.835E-02	7.949E-02	0.000E+00	NOT IDENT.
NB-95M	1.113E-01	1.181E-01	1.951E-01	0.000E+00	NOT IDENT.
ZR-95	3.262E-02	6.258E-02	1.126E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	9.003E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.834E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.799E+00	1.006E+01	1.804E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.084E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.191E-03	3.012E-02	5.387E-02	0.000E+00	NOT IDENT.
RH-102	-3.366E-02	2.691E-02	4.151E-02	0.000E+00	FAIL ABUN
RU-103	-8.814E-03	3.465E-02	5.764E-02	0.000E+00	FAIL ABUN
RH-106	2.169E-01	2.980E-01	5.219E-01	0.000E+00	FAIL ABUN
RU-106	2.169E-01	2.972E-01	5.219E-01	0.000E+00	FAIL ABUN
AG-108M	-1.638E-02	3.009E-02	4.975E-02	0.000E+00	NOT IDENT.
AG-110M	1.599E-03	3.408E-02	5.236E-02	0.000E+00	NOT IDENT.
IN-111	5.973E-01	1.010E+00	1.644E+00	0.000E+00	NOT IDENT.
IN-113M	8.471E-03	4.141E-02	7.242E-02	0.000E+00	NOT IDENT.
SN-113	8.471E-03	4.141E-02	7.242E-02	0.000E+00	NOT IDENT.
IN-114M	2.471E-02	1.734E-01	2.799E-01	0.000E+00	NOT IDENT.
CD-115	-1.974E+00	9.466E+00	1.574E+01	0.000E+00	NOT IDENT.
SN-117M	1.300E-02	5.114E-02	8.819E-02	0.000E+00	NOT IDENT.
SB-122	1.411E+00	1.862E+00	3.292E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.080E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.361E-04	2.708E-02	4.620E-02	0.000E+00	NOT IDENT.
I-124	2.926E-01	6.889E-01	1.047E+00	0.000E+00	FAIL ABUN
SB-124	-2.294E-02	5.150E-02	7.838E-02	0.000E+00	FAIL ABUN
SB-125	1.809E-02	8.140E-02	1.418E-01	0.000E+00	FAIL ABUN
TE-125M	3.065E+00	8.361E+00	1.478E+01	0.000E+00	NOT IDENT.
I-126	1.124E-01	1.834E-01	2.959E-01	0.000E+00	NOT IDENT.
SB-126	3.168E-02	1.373E-01	2.301E-01	0.000E+00	FAIL ABUN
SB-127	1.325E+00	1.165E+00	2.179E+00	0.000E+00	NOT IDENT.
XE-127	-3.404E-02	4.069E-02	7.097E-02	0.000E+00	NOT IDENT.
I-131	1.465E-02	9.863E-02	1.729E-01	0.000E+00	NOT IDENT.
TE-132	3.417E-01	6.188E-01	1.129E+00	0.000E+00	NOT IDENT.
BA-133	-1.316E-02	4.473E-02	6.673E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.432E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.492E-02	8.665E-02	0.000E+00	FAIL ABUN
CS-135	2.551E-01	1.584E-01	2.677E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.766E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.130E-01	9.748E-02	1.431E-01	0.000E+00	FAIL ABUN
CE-139	-2.024E-02	2.887E-02	4.761E-02	0.000E+00	NOT IDENT.
BA-140	7.843E-02	2.325E-01	3.996E-01	0.000E+00	NOT IDENT.
LA-140	-3.482E-02	7.467E-02	9.672E-02	0.000E+00	FAIL ABUN
CE-141	-8.305E-04	5.965E-02	1.023E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.303E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	6.843E-02	1.900E-01	3.318E-01	0.000E+00	NOT IDENT.
PM-144	-4.686E-04	3.001E-02	5.236E-02	0.000E+00	NOT IDENT.
PR-144	-3.175E-02	2.034E+00	3.548E+00	0.000E+00	NOT IDENT.



PM-146	7.969E-03	4.261E-02	7.367E-02	0.000E+00	NOT IDENT.
ND-147	1.810E-01	5.333E-01	9.206E-01	0.000E+00	FAIL ABUN
PM-149	2.196E+01	8.056E+01	1.441E+02	0.000E+00	NOT IDENT.
EU-152	-7.027E-02	9.521E-02	1.533E-01	0.000E+00	FAIL ABUN
GD-153	3.088E-02	7.635E-02	1.211E-01	0.000E+00	FAIL ABUN
EU-154	-4.572E-02	1.142E-01	1.814E-01	0.000E+00	NOT IDENT.
EU-155	8.554E-02	9.940E-02	1.786E-01	0.000E+00	FAIL ABUN
TB-160	-7.138E-02	1.248E-01	2.029E-01	0.000E+00	FAIL ABUN
HO-166M	2.196E-02	5.681E-02	1.015E-01	0.000E+00	NOT IDENT.
TM-171	-1.551E+01	2.448E+01	3.826E+01	0.000E+00	NOT IDENT.
LU-176	-7.058E-03	2.421E-02	3.661E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.153E+00	1.911E+00	0.000E+00	FAIL ABUN
LU-177M	9.968E-03	1.856E-01	2.813E-01	0.000E+00	FAIL ABUN
HF-181	-1.923E-02	4.066E-02	6.696E-02	0.000E+00	NOT IDENT.
W-181	6.251E-02	3.182E-01	5.154E-01	0.000E+00	NOT IDENT.
TA-182	-5.377E-02	1.929E-01	3.136E-01	0.000E+00	FAIL ABUN
RE-183	7.842E-02	1.061E-01	1.834E-01	0.000E+00	FAIL ABUN
RE-184	2.308E-02	1.964E-01	3.519E-01	0.000E+00	NOT IDENT.
OS-185	4.728E-03	3.490E-02	6.193E-02	0.000E+00	NOT IDENT.
RE-188	1.075E-02	1.698E-01	2.909E-01	0.000E+00	NOT IDENT.
W-188	-1.664E+00	7.621E+00	1.167E+01	0.000E+00	FAIL ABUN
IR-192	-1.303E-02	3.004E-02	5.146E-02	0.000E+00	FAIL ABUN
AU-195	7.436E-02	2.125E-01	3.571E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.974E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.232E+00	6.517E+00	1.131E+01	0.000E+00	NOT IDENT.
TL-202	2.238E-02	6.204E-02	1.087E-01	0.000E+00	NOT IDENT.
HG-203	4.384E-02	4.025E-02	6.671E-02	0.000E+00	NOT IDENT.
BI-207	4.309E-02	5.117E-02	9.187E-02	0.000E+00	FAIL ABUN
TL-207	-6.880E-02	6.783E-01	1.037E+00	0.000E+00	FAIL ABUN
PO-209	5.289E+00	6.576E+00	1.197E+01	0.000E+00	NOT IDENT.
BI-210	4.297E-01	1.914E+00	3.501E+00	0.000E+00	NOT IDENT.
PB-210	4.297E-01	1.914E+00	3.501E+00	0.000E+00	NOT IDENT.
PO-210	4.297E-01	1.914E+00	3.501E+00	0.000E+00	NOT IDENT.
PB-211	9.178E-01	1.107E+00	1.551E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.161E-01	6.225E-01	0.000E+00	FAIL ABUN
PO-215	-6.880E-02	6.783E-01	1.037E+00	0.000E+00	FAIL ABUN
RN-219	-2.235E-01	3.798E-01	6.299E-01	0.000E+00	FAIL ABUN
RN-220	-1.022E+01	2.444E+01	3.984E+01	0.000E+00	NOT IDENT.
RA-223	-6.880E-02	6.783E-01	1.037E+00	0.000E+00	FAIL ABUN
AC-227	-3.464E-02	3.314E-01	5.871E-01	0.000E+00	FAIL ABUN
TH-227	-3.464E-02	3.314E-01	5.871E-01	0.000E+00	FAIL ABUN
TH-229	-3.983E-01	4.460E-01	7.787E-01	0.000E+00	FAIL ABUN
PA-231	-7.575E-01	1.395E+00	2.308E+00	0.000E+00	NOT IDENT.
TH-231	-6.880E-02	6.783E-01	1.037E+00	0.000E+00	FAIL ABUN
U-231	-7.448E-01	1.042E+00	1.575E+00	0.000E+00	FAIL ABUN
PA-233	-3.586E-03	5.683E-02	9.952E-02	0.000E+00	FAIL ABUN
PA-234	3.077E-02	2.743E-01	4.712E-01	0.000E+00	FAIL ABUN
PA-234M	2.245E+00	4.759E+00	8.366E+00	0.000E+00	NOT IDENT.
U-235	1.555E-01	1.999E-01	3.499E-01	0.000E+00	FAIL ABUN
NP-236	-7.090E-02	7.759E-02	1.269E-01	0.000E+00	NOT IDENT.
NP-239	1.312E-02	1.686E-01	2.939E-01	0.000E+00	FAIL ABUN
AM-241	7.869E-02	1.171E-01	1.925E-01	0.000E+00	NOT IDENT.
CM-243	4.473E-02	8.866E-02	1.578E-01	0.000E+00	FAIL ABUN
AM-246	6.042E-02	1.337E-01	2.335E-01	0.000E+00	NOT IDENT.
CM-247	3.267E-03	3.396E-02	5.892E-02	0.000E+00	FAIL ABUN
CF-249	8.164E-03	3.813E-02	6.673E-02	0.000E+00	NOT IDENT.
CF-251	-2.280E-02	1.212E-01	2.037E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881003.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:21:22
Sample ID          : G244881003 Sample quantity : 1.41410E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:33.86 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942718 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1722	10.67*	1.253E+00	3.419E+01	3.419E+01	10.07
CD-109	88.03	345	3.72*	6.939E+00	3.545E+00	3.626E+00	25.71
SN-126	64.28	137	9.60	4.584E+00	8.270E-01	8.270E-01	89.51
	86.94	345	8.90	6.939E+00	1.482E+00	1.482E+00	47.93
	87.57	345	37.00*	6.939E+00	3.564E-01	3.564E-01	25.71
BA-137M	661.65	258	89.98*	2.434E+00	3.129E-01	3.132E-01	26.49
CS-137	661.65	258	85.12*	2.434E+00	3.307E-01	3.311E-01	26.50
TL-208	277.35	112	6.80	4.727E+00	9.266E-01	9.266E-01	55.96
	510.84	217	21.60	2.994E+00	8.899E-01	8.899E-01	35.33
	583.14	517	84.20*	2.696E+00	6.045E-01	6.045E-01	17.14
	860.37	76	12.46	1.953E+00	8.269E-01	8.269E-01	50.56
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	941	12.94*	3.971E+00	4.861E+00	4.861E+00	13.83
PB-212	74.81	604	10.70	6.055E+00	2.475E+00	2.475E+00	20.53
	77.11	917	18.00	6.259E+00	2.160E+00	2.160E+00	13.64
	87.30	345	8.00	6.939E+00	1.648E+00	1.648E+00	27.59
	238.63	1784	44.60*	5.250E+00	2.023E+00	2.023E+00	12.02
	300.09	115	3.41	4.465E+00	2.012E+00	2.012E+00	63.67
PO-212	74.81	604	10.70	6.055E+00	2.475E+00	2.475E+00	20.53
	77.11	917	18.00	6.259E+00	2.160E+00	2.160E+00	13.64
	87.30	345	8.00	6.939E+00	1.648E+00	1.648E+00	27.59
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1784	44.60*	5.250E+00	2.023E+00	2.023E+00	12.02
	300.09	115	3.41	4.465E+00	2.012E+00	2.012E+00	63.67
BI-214	609.31	547	46.30*	2.604E+00	1.204E+00	1.204E+00	16.87
	1120.29	150	15.10	1.557E+00	1.696E+00	1.696E+00	32.86
	1764.49	128	15.80	1.100E+00	1.954E+00	1.954E+00	19.98
PB-214	74.81	604	6.21	6.055E+00	4.264E+00	4.264E+00	19.72
	77.11	917	10.50	6.259E+00	3.703E+00	3.703E+00	15.63
	87.30	345	4.67	6.939E+00	2.824E+00	2.824E+00	26.84
	241.98	379	7.49	5.206E+00	2.580E+00	2.580E+00	23.89
	295.21	526	19.20	4.515E+00	1.612E+00	1.612E+00	18.76

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	941	37.20*	3.971E+00	1.691E+00	1.691E+00	14.78
	74.81	604	6.21	6.055E+00	4.264E+00	4.264E+00	19.72
	77.11	917	10.50	6.259E+00	3.703E+00	3.703E+00	15.63
	87.30	345	4.67	6.939E+00	2.824E+00	2.824E+00	26.84
	241.98	379	7.49	5.206E+00	2.580E+00	2.580E+00	23.89
PO-216	295.21	526	19.20	4.515E+00	1.612E+00	1.612E+00	18.76
	351.92	941	37.20*	3.971E+00	1.691E+00	1.691E+00	14.78
	74.81	604	10.70	6.055E+00	2.475E+00	2.475E+00	20.53
	77.11	917	18.00	6.259E+00	2.160E+00	2.160E+00	13.64
	87.30	345	8.00	6.939E+00	1.648E+00	1.648E+00	27.59
PO-218	238.63	1784	44.60*	5.250E+00	2.023E+00	2.023E+00	12.02
	300.09	115	3.41	4.465E+00	2.012E+00	2.012E+00	63.67
	74.81	604	6.21	6.055E+00	4.264E+00	4.264E+00	19.72
	77.11	917	10.50	6.259E+00	3.703E+00	3.703E+00	15.63
	87.30	345	4.67	6.939E+00	2.824E+00	2.824E+00	26.84
RA-224	241.98	379	7.49	5.206E+00	2.580E+00	2.580E+00	23.89
	295.21	526	19.20	4.515E+00	1.612E+00	1.612E+00	18.76
	351.92	941	37.20*	3.971E+00	1.691E+00	1.691E+00	14.78
	240.98	379	3.95*	5.206E+00	4.893E+00	4.893E+00	23.22
	609.31	547	46.30*	2.604E+00	1.204E+00	1.204E+00	16.87
AC-228	1120.29	150	15.10	1.557E+00	1.696E+00	1.696E+00	32.86
	1764.49	128	15.80	1.100E+00	1.954E+00	1.954E+00	19.98
	338.32	396	11.40	4.089E+00	2.257E+00	2.257E+00	44.56
	911.07	366	27.70*	1.861E+00	1.885E+00	1.885E+00	20.21
	969.11	257	16.60	1.765E+00	2.333E+00	2.333E+00	28.73
RA-228	338.32	396	11.40	4.089E+00	2.257E+00	2.257E+00	44.56
	911.07	366	27.70*	1.861E+00	1.885E+00	1.885E+00	20.21
	969.11	257	16.60	1.765E+00	2.333E+00	2.333E+00	28.73
	74.81	604	10.70	6.055E+00	2.475E+00	2.512E+00	18.31
	77.11	917	18.00	6.259E+00	2.160E+00	2.193E+00	13.64
TH-228	87.30	345	8.00	6.939E+00	1.648E+00	1.673E+00	25.71
	238.63	1784	44.60*	5.250E+00	2.023E+00	2.053E+00	12.02
	300.09	115	3.41	4.465E+00	2.012E+00	2.043E+00	86.37
	609.31	547	46.30*	2.604E+00	1.204E+00	1.204E+00	16.87
	1120.29	150	15.10	1.557E+00	1.696E+00	1.696E+00	32.86
TH-230	1764.49	128	15.80	1.100E+00	1.954E+00	1.954E+00	19.98
	338.32	396	11.40	4.089E+00	2.257E+00	2.257E+00	18.91
	911.07	366	27.70*	1.861E+00	1.885E+00	1.885E+00	20.21
	969.11	257	16.60	1.765E+00	2.333E+00	2.333E+00	28.73
	63.29	137	3.80*	4.584E+00	2.089E+00	2.089E+00	90.03
TH-232	92.38	420	5.41	7.167E+00	2.874E+00	2.874E+00	30.35
	609.31	547	46.30*	2.604E+00	1.204E+00	1.204E+00	16.87
	1120.29	150	15.10	1.557E+00	1.696E+00	1.696E+00	32.86
	1764.49	128	15.80	1.100E+00	1.954E+00	1.954E+00	19.98
	86.50	345	12.60*	6.939E+00	1.047E+00	1.047E+00	32.97
NP-237	95.87	-----	2.60	7.260E+00	-----	Line Not Found	-----
	63.29	137	3.80*	4.584E+00	2.089E+00	2.089E+00	90.03
	92.38	420	5.41	7.167E+00	2.874E+00	2.874E+00	25.85
	74.67	604	66.00*	6.055E+00	4.012E-01	4.012E-01	18.27

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	345	0.34	6.939E+00	3.925E+01	3.925E+01	25.71
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
ANH-511	511.00	217	100.00*	2.994E+00	1.922E-01	1.922E-01	34.34

Flag: "\*" = Keyline

Total number of lines in spectrum 40  
Number of unidentified lines 4  
Number of lines tentatively identified by NID 36 90.00%

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	3.419E+01	3.419E+01	0.344E+01	10.07	
CD-109	464.00D	1.02	3.545E+00	3.626E+00	0.932E+00	25.71	
SN-126	1.00E+05Y	1.00	3.564E-01	3.564E-01	0.916E-01	25.71	
BA-137M	30.17Y	1.00	3.129E-01	3.132E-01	0.830E-01	26.49	
CS-137	30.17Y	1.00	3.307E-01	3.311E-01	0.877E-01	26.50	
TL-208	1.41E+10Y	1.00	6.045E-01	6.045E-01	1.036E-01	17.14	
BI-211	7.04E+08Y	1.00	4.861E+00	4.861E+00	0.672E+00	13.83	
PB-212	1.41E+10Y	1.00	2.023E+00	2.023E+00	0.243E+00	12.02	
PO-212	1.41E+10Y	1.00	2.023E+00	2.023E+00	0.243E+00	12.02	
BI-214	1600.00Y	1.00	1.204E+00	1.204E+00	0.203E+00	16.87	
PB-214	1600.00Y	1.00	1.691E+00	1.691E+00	0.250E+00	14.78	
PO-214	1600.00Y	1.00	1.691E+00	1.691E+00	0.250E+00	14.78	
PO-216	1.41E+10Y	1.00	2.023E+00	2.023E+00	0.243E+00	12.02	
PO-218	1600.00Y	1.00	1.691E+00	1.691E+00	0.250E+00	14.78	
RA-224	1.41E+10Y	1.00	4.893E+00	4.893E+00	1.136E+00	23.22	
RA-226	1600.00Y	1.00	1.204E+00	1.204E+00	0.203E+00	16.87	
AC-228	1.41E+10Y	1.00	1.885E+00	1.885E+00	0.381E+00	20.21	
RA-228	1.41E+10Y	1.00	1.885E+00	1.885E+00	0.381E+00	20.21	
TH-228	1.91Y	1.02	2.023E+00	2.053E+00	0.247E+00	12.02	
TH-230	4.47E+09Y	1.00	1.204E+00	1.204E+00	0.203E+00	16.87	
TH-232	1.41E+10Y	1.00	1.885E+00	1.885E+00	0.381E+00	20.21	
TH-234	4.47E+09Y	1.00	2.089E+00	2.089E+00	1.881E+00	90.03	
U-234	4.47E+09Y	1.00	1.204E+00	1.204E+00	0.203E+00	16.87	
NP-237	2.14E+06Y	1.00	1.047E+00	1.047E+00	0.345E+00	32.97	
U-238	4.47E+09Y	1.00	2.089E+00	2.089E+00	1.881E+00	90.03	
AM-243	7380.00Y	1.00	4.012E-01	4.012E-01	0.733E-01	18.27	
ANH-511	1.00E+09Y	1.00	1.922E-01	1.922E-01	0.660E-01	34.34	
Total Activity :			7.855E+01	7.866E+01			

Grand Total Activity : 7.855E+01 7.866E+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	84.41	144	647	1.82	168.74	164	28	2.00E-02	65.0	6.78E+00	T
6	89.96	235	393	1.01	179.81	164	28	3.26E-02	30.3	7.06E+00	T
0	186.03	250	556	1.17	371.68	366	12	3.47E-02	41.2	6.17E+00	T
0	209.07	115	264	0.95	417.70	415	7	1.60E-02	50.3	5.74E+00	T
0	270.17	147	213	1.87	539.76	536	9	2.04E-02	39.4	4.81E+00	T
0	328.19	63	239	1.04	655.66	652	10	8.71E-03	95.8	4.18E+00	T
0	409.16	69	262	1.43	817.44	814	16	9.63E-03	****	3.55E+00	
0	463.38	109	156	1.44	925.79	921	13	1.51E-02	51.5	3.23E+00	T
0	727.83	109	115	1.91	1454.38	1448	16	1.51E-02	47.1	2.25E+00	T
0	768.21	70	102	1.01	1535.12	1529	11	9.72E-03	61.3	2.15E+00	T
0	795.10	61	59	1.84	1588.88	1583	10	8.42E-03	54.2	2.09E+00	T
0	934.43	40	55	1.03	1867.54	1864	10	5.56E-03	76.2	1.82E+00	T
1	964.49	92	53	1.84	1927.67	1920	23	1.28E-02	36.3	1.77E+00	T
0	1238.32	58	70	1.35	2475.53	2471	10	8.06E-03	60.0	1.43E+00	T
0	1378.38	31	39	2.26	2755.87	2748	14	4.35E-03	95.4	1.31E+00	
0	1508.51	25	8	1.23	3016.39	3011	11	3.42E-03	60.7	1.22E+00	T
0	1589.65	61	23	5.83	3178.87	3169	23	8.47E-03	48.2	1.18E+00	
0	1846.52	23	3	1.80	3693.41	3687	12	3.22E-03	51.0	1.07E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881003.CNF;1
* Acquisition date   : 26-JAN-2010 13:21:22   Detector SN#      :
* Detector ID        : GAM20                   Sensitivity       : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:33.86          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G244881003             Analyst initials: MXR1
* Batch Number       : 942718                 Sample Quantity : 1.41410E+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      :
*****

```

## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.419E+01	3.441E+00	5.288E-01	4.611E-02	64.652
CD-109	3.626E+00	9.322E-01	1.011E+00	9.564E-02	3.585
SN-126	3.564E-01	9.164E-02	9.970E-02	9.378E-03	3.575
BA-137M	3.132E-01	8.297E-02	5.214E-02	5.232E-03	6.007
CS-137	3.311E-01	8.772E-02	5.511E-02	5.539E-03	6.007
TL-208	6.045E-01	1.036E-01	5.264E-02	5.411E-03	11.486
BI-211	4.861E+00	6.722E-01	2.859E-01	2.739E-02	17.005
PB-212	2.023E+00	2.430E-01	8.366E-02	8.897E-03	24.178
PO-212	2.023E+00	2.430E-01	8.366E-02	8.897E-03	24.178
BI-214	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
PB-214	1.691E+00	2.499E-01	9.965E-02	1.086E-02	16.970
PO-214	1.691E+00	2.499E-01	9.965E-02	1.086E-02	16.970
PO-216	2.023E+00	2.430E-01	8.366E-02	8.897E-03	24.178
PO-218	1.691E+00	2.499E-01	9.965E-02	1.086E-02	16.970
RA-224	4.893E+00	1.136E+00	9.518E-01	9.200E-02	5.140
RA-226	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
AC-228	1.885E+00	3.809E-01	1.990E-01	2.438E-02	9.471
RA-228	1.885E+00	3.809E-01	1.990E-01	2.438E-02	9.471

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	2.053E+00	2.467E-01	8.492E-02	9.031E-03	24.178
TH-230	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
TH-232	1.885E+00	3.809E-01	1.990E-01	2.438E-02	9.471
TH-234	2.089E+00	1.881E+00	1.566E+00	2.722E-01	1.334
U-234	1.204E+00	2.032E-01	1.070E-01	1.191E-02	11.254
NP-237	1.047E+00	3.450E-01	2.948E-01	6.671E-02	3.550
U-238	2.089E+00	1.881E+00	1.566E+00	2.722E-01	1.334
AM-243	4.012E-01	7.331E-02	7.520E-02	6.053E-03	5.335
ANH-511	1.922E-01	6.600E-02	4.158E-02	3.875E-03	4.623

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.163E-01		2.943E-01	4.902E-01	4.765E-02	0.237
NA-22	-2.074E-02		4.171E-02	6.374E-02	5.280E-03	-0.325
NA-24	3.061E-01		2.678E-01	Half-Life too short		
AL-26	-9.935E-03		2.942E-02	4.556E-02	3.700E-03	-0.218
TI-44	3.986E-01	+	5.438E-02	7.197E-02	6.040E-03	5.538
SC-46	-1.641E-03		3.703E-02	6.096E-02	6.077E-03	-0.027
V-48	2.908E-02		6.408E-02	1.094E-01	1.046E-02	0.266
CR-51	2.093E-02		3.411E-01	5.672E-01	5.686E-02	0.037
MN-52	-1.270E-01		1.818E-01	2.724E-01	2.305E-02	-0.466
MN-54	-2.527E-03		3.576E-02	5.901E-02	5.961E-03	-0.043
CO-56	-1.191E-02		3.218E-02	5.144E-02	5.185E-03	-0.231
CO-57	7.473E-03		2.359E-02	3.838E-02	3.204E-03	0.195
CO-58	-1.336E-02		3.649E-02	5.882E-02	5.973E-03	-0.227
FE-59	4.141E-02		8.187E-02	1.404E-01	1.324E-02	0.295
CO-60	-9.305E-03		3.550E-02	5.514E-02	4.619E-03	-0.169
ZN-65	-5.321E-02		9.736E-02	1.270E-01	1.093E-02	-0.419
GE-68	7.409E-01		1.222E+00	2.094E+00	1.868E-01	0.354
AS-73	6.763E-02		5.530E-01	9.159E-01	6.800E-02	0.074
AS-74	5.758E-04		8.528E-02	1.382E-01	1.353E-02	0.004
SE-75	-2.264E-02		4.073E-02	6.385E-02	6.322E-03	-0.355
BR-77	5.425E+00		9.285E+00	1.562E+01	1.465E+00	0.347
SR-82	-4.087E-01		3.432E-01	5.120E-01	5.202E-02	-0.798
RB-83	2.522E-02		6.333E-02	1.052E-01	9.864E-03	0.240
RB-84	-7.018E-02		6.406E-02	9.471E-02	9.464E-03	-0.741
KR-85	1.001E+01		7.023E+00	1.117E+01	1.043E+00	0.897
SR-85	5.129E-02		3.599E-02	5.721E-02	5.342E-03	0.897
RB-86	1.000E-01		7.818E-01	1.289E+00	1.151E-01	0.078
Y-88	-1.141E-02		2.049E-02	2.812E-02	2.269E-03	-0.406
ZR-88	-8.976E-03		2.869E-02	4.616E-02	3.861E-03	-0.194
Y-91	-6.304E+00		1.906E+01	2.999E+01	2.435E+00	-0.210
NB-94	1.128E-02		3.016E-02	5.185E-02	5.245E-03	0.218
NB-95	5.110E-02		4.933E-02	7.806E-02	7.933E-03	0.655
NB-95M	1.113E-01		1.205E-01	1.869E-01	2.009E-02	0.595
ZR-95	3.262E-02		6.386E-02	1.105E-01	1.206E-02	0.295



---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.081E-02		4.593E-02	Half-Life too short		
ZR-97	3.113E+00		9.359E-01	Half-Life too short		
MO-99	4.799E+00		1.026E+01	1.771E+01	2.852E+00	0.271
TC-99M	-5.500E+09		1.573E+10	Half-Life too short		
RH-101	4.191E-03		3.073E-02	5.144E-02	4.715E-03	0.081
RH-102	-3.366E-02		2.746E-02	4.036E-02	3.659E-03	-0.834
RU-103	-8.814E-03		3.535E-02	5.609E-02	8.154E-03	-0.157
RH-106	2.169E-01		3.041E-01	5.102E-01	7.253E-02	0.425
RU-106	2.169E-01		3.033E-01	5.102E-01	5.050E-02	0.425
AG-108M	-1.638E-02		3.070E-02	4.827E-02	4.381E-03	-0.339
AG-110M	1.599E-03		3.478E-02	5.125E-02	5.251E-03	0.031
IN-111	5.973E-01		1.031E+00	1.577E+00	1.531E-01	0.379
IN-113M	8.471E-03		4.226E-02	7.012E-02	6.048E-03	0.121
SN-113	8.471E-03		4.226E-02	7.012E-02	6.048E-03	0.121
IN-114M	2.471E-02		1.769E-01	2.670E-01	2.420E-02	0.093
CD-115	-1.974E+00		9.659E+00	1.533E+01	1.445E+00	-0.129
SN-117M	1.300E-02		5.218E-02	8.383E-02	7.235E-03	0.155
SB-122	1.411E+00		1.900E+00	3.212E+00	3.093E-01	0.439
I-123	-2.553E-02		2.592E+00	Half-Life too short		
TE-123M	-1.361E-04		2.763E-02	4.392E-02	3.815E-03	-0.003
I-124	2.926E-01		7.029E-01	1.023E+00	1.004E-01	0.286
SB-124	-2.294E-02		5.255E-02	7.830E-02	6.805E-03	-0.293
SB-125	1.809E-02		8.306E-02	1.375E-01	1.217E-02	0.132
TE-125M	3.065E+00		8.532E+00	1.394E+01	1.425E+00	0.220
I-126	1.124E-01		1.872E-01	2.897E-01	2.910E-02	0.388
SB-126	3.168E-02		1.401E-01	2.257E-01	2.288E-02	0.140
SB-127	1.325E+00		1.188E+00	2.135E+00	2.672E-01	0.621
XE-127	-3.404E-02		4.152E-02	6.780E-02	6.257E-03	-0.502
I-131	1.465E-02		1.006E-01	1.672E-01	1.568E-02	0.088
TE-132	3.417E-01		6.314E-01	1.081E+00	1.755E-01	0.316
BA-133	-1.316E-02		4.564E-02	6.448E-02	8.710E-03	-0.204
I-133	-1.071E-03		2.771E-03	Half-Life too short		
CS-134	1.016E-01	+	5.604E-02	8.516E-02	8.690E-03	1.193
CS-135	2.551E-01		1.616E-01	2.572E-01	2.850E-02	0.992
I-135	-3.928E+09		2.431E+09	Half-Life too short		
CS-136	-1.130E-01		9.947E-02	1.415E-01	1.343E-02	-0.799
CE-139	-2.024E-02		2.946E-02	4.529E-02	3.954E-03	-0.447
BA-140	7.843E-02		2.372E-01	3.895E-01	1.300E-01	0.201
LA-140	-3.482E-02		7.620E-02	9.650E-02	8.147E-03	-0.361
CE-141	-8.305E-04		6.086E-02	9.706E-02	8.381E-03	-0.009
CE-143	7.426E-04		1.175E-04	Half-Life too short		
CE-144	6.843E-02		1.938E-01	3.143E-01	4.850E-02	0.218
PM-144	-4.686E-04		3.062E-02	5.132E-02	5.188E-03	-0.009
PR-144	-3.175E-02		2.075E+00	3.477E+00	3.515E-01	-0.009
PM-146	7.969E-03		4.348E-02	7.154E-02	7.836E-03	0.111
ND-147	1.810E-01		5.442E-01	8.970E-01	1.385E-01	0.202
PM-149	2.196E+01		8.220E+01	1.386E+02	2.259E+01	0.158
EU-152	-7.027E-02		9.715E-02	1.480E-01	1.445E-02	-0.475

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	3.088E-02		7.791E-02	1.140E-01	1.011E-02	0.271
EU-154	-4.572E-02		1.165E-01	1.801E-01	1.990E-02	-0.254
EU-155	8.554E-02		1.014E-01	1.684E-01	1.464E-02	0.508
TB-160	-7.138E-02		1.274E-01	1.998E-01	1.998E-02	-0.357
HO-166M	2.196E-02		5.797E-02	9.953E-02	1.008E-02	0.221
TM-171	-1.551E+01		2.498E+01	3.576E+01	2.664E+00	-0.434
LU-176	-7.058E-03		2.470E-02	3.527E-02	3.440E-03	-0.200
LU-177	2.300E+00	+	1.176E+00	1.826E+00	1.698E-01	1.259
LU-177M	9.968E-03		1.894E-01	2.726E-01	2.333E-02	0.037
HF-181	-1.923E-02		4.149E-02	6.511E-02	5.937E-03	-0.295
W-181	6.251E-02		3.247E-01	4.814E-01	3.542E-02	0.130
TA-182	-5.377E-02		1.969E-01	3.111E-01	2.538E-02	-0.173
RE-183	7.842E-02		1.083E-01	1.744E-01	1.514E-02	0.450
RE-184	2.308E-02		2.004E-01	3.377E-01	3.300E-02	0.068
OS-185	4.728E-03		3.561E-02	6.060E-02	6.052E-03	0.078
RE-188	1.075E-02		1.732E-01	2.764E-01	2.373E-02	0.039
W-188	-1.664E+00		7.777E+00	1.123E+01	1.110E+00	-0.148
IR-192	-1.303E-02		3.066E-02	4.961E-02	4.797E-03	-0.263
AU-195	7.436E-02		2.169E-01	3.363E-01	2.961E-02	0.221
TL-200	-3.615E-05		2.028E-04	Half-Life too short		
TL-201	3.232E+00		6.650E+00	1.076E+01	9.413E-01	0.300
TL-202	2.238E-02		6.330E-02	1.055E-01	9.272E-03	0.212
HG-203	4.384E-02		4.107E-02	6.414E-02	6.523E-03	0.684
BI-207	4.309E-02		5.221E-02	9.085E-02	8.203E-03	0.474
TL-207	-6.880E-02		6.921E-01	9.997E-01	1.818E-01	-0.069
PO-209	5.289E+00		6.710E+00	1.179E+01	1.173E+00	0.449
BI-210	4.297E-01		1.953E+00	3.249E+00	3.013E-01	0.132
PB-210	4.297E-01		1.953E+00	3.249E+00	3.013E-01	0.132
PO-210	4.297E-01		1.953E+00	3.249E+00	2.726E-01	0.132
PB-211	9.178E-01		1.129E+00	1.503E+00	9.416E-01	0.611
BI-212	1.087E+00	+	5.266E-01	6.106E-01	6.930E-02	1.781
PO-215	-6.880E-02		6.921E-01	9.997E-01	1.818E-01	-0.069
RN-219	-2.235E-01		3.875E-01	6.102E-01	9.109E-02	-0.366
RN-220	-1.022E+01		2.494E+01	3.885E+01	3.712E+00	-0.263
RA-223	-6.880E-02		6.921E-01	9.997E-01	1.818E-01	-0.069
AC-227	-3.464E-02		3.381E-01	5.635E-01	9.039E-02	-0.061
TH-227	-3.464E-02		3.381E-01	5.635E-01	1.051E-01	-0.061
TH-229	-3.983E-01		4.551E-01	7.431E-01	6.768E-02	-0.536
PA-231	-7.575E-01		1.424E+00	2.220E+00	3.544E-01	-0.341
TH-231	-6.880E-02		6.921E-01	9.997E-01	1.818E-01	-0.069
U-231	-7.448E-01		1.063E+00	1.482E+00	1.326E-01	-0.502
PA-233	-3.586E-03		5.799E-02	9.591E-02	9.515E-03	-0.037
PA-234	3.077E-02		2.799E-01	4.648E-01	8.975E-02	0.066
PA-234M	2.245E+00		4.856E+00	8.263E+00	8.839E-01	0.272
U-235	1.555E-01		2.040E-01	3.320E-01	5.786E-02	0.469
NP-236	-7.090E-02		7.917E-02	1.207E-01	1.044E-02	-0.588
NP-239	1.312E-02		1.720E-01	2.777E-01	2.326E-02	0.047
AM-241	7.869E-02		1.195E-01	1.795E-01	1.404E-02	0.438

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.473E-02		9.047E-02	1.487E-01	1.284E-02	0.301
AM-246	6.042E-02		1.364E-01	2.310E-01	2.058E-02	0.262
CM-247	3.267E-03		3.465E-02	5.708E-02	4.827E-03	0.057
CF-249	8.164E-03		3.891E-02	6.460E-02	5.451E-03	0.126
CF-251	-2.280E-02		1.237E-01	1.941E-01	1.722E-02	-0.117

## 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]G244881003          *
* Acquisition date   : 26-JAN-2010 13:21:22 Detector SN# :                  *
* Detector ID        : GAM20 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:33.86 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244881003 Analyst initials: MXR1                  *
* Batch Number       : 942718 Sample Quantity : 1.4141E+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	3.419E+01	3.373E+00	2.657E-01	1.721E+00
CD-109	3.626E+00	9.136E-01	5.386E-01	4.661E-01
SN-126	3.564E-01	8.980E-02	5.310E-02	4.582E-02
BA-137M	3.132E-01	8.131E-02	2.664E-02	4.148E-02
CS-137	3.311E-01	8.597E-02	2.817E-02	4.386E-02
TL-208	6.045E-01	1.016E-01	2.697E-02	5.182E-02
BI-211	4.861E+00	6.587E-01	1.481E-01	3.361E-01
PB-212	2.023E+00	2.382E-01	4.367E-02	1.215E-01
PO-212	2.023E+00	2.382E-01	4.367E-02	1.215E-01
BI-214	1.204E+00	1.991E-01	5.479E-02	1.016E-01
PB-214	1.691E+00	2.449E-01	5.160E-02	1.250E-01
PO-214	1.691E+00	2.449E-01	5.160E-02	1.250E-01
PO-216	2.023E+00	2.382E-01	4.367E-02	1.215E-01
PO-218	1.691E+00	2.449E-01	5.160E-02	1.250E-01
RA-224	4.893E+00	1.113E+00	4.968E-01	5.681E-01
RA-226	1.204E+00	1.991E-01	5.479E-02	1.016E-01
AC-228	1.885E+00	3.733E-01	1.010E-01	1.904E-01
RA-228	1.885E+00	3.733E-01	1.010E-01	1.904E-01
TH-228	2.053E+00	2.418E-01	4.433E-02	1.234E-01
TH-230	1.204E+00	1.991E-01	5.479E-02	1.016E-01
TH-232	1.885E+00	3.733E-01	1.010E-01	1.904E-01
TH-234	2.089E+00	1.843E+00	8.394E-01	9.405E-01
U-234	1.204E+00	1.991E-01	5.479E-02	1.016E-01
NP-237	1.047E+00	3.381E-01	1.571E-01	1.725E-01
U-238	2.089E+00	1.843E+00	8.394E-01	9.405E-01
AM-243	4.012E-01	7.185E-02	4.017E-02	3.666E-02
ANH-511	1.922E-01	6.468E-02	2.137E-02	3.300E-02

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
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BE-7	1.163E-01	2.884E-01	2.522E-01	1.471E-01	NOT IDENT.
NA-22	-2.074E-02	4.088E-02	3.212E-02	2.086E-02	NOT IDENT.
NA-24	3.061E+05	5.250E+05	0.000E+00	2.678E+05	SHORT HLIF
AL-26	-9.935E-03	2.883E-02	2.278E-02	1.471E-02	NOT IDENT.
TI-44	3.986E-01	5.329E-02	3.841E-02	2.719E-02	FAIL ABUN
SC-46	-1.641E-03	3.629E-02	3.096E-02	1.852E-02	FAIL ABUN
V-48	2.908E-02	6.280E-02	5.543E-02	3.204E-02	NOT IDENT.
CR-51	2.093E-02	3.343E-01	2.943E-01	1.706E-01	NOT IDENT.
MN-52	-1.270E-01	1.782E-01	1.369E-01	9.092E-02	FAIL ABUN
MN-54	-2.527E-03	3.504E-02	3.001E-02	1.788E-02	NOT IDENT.
CO-56	-1.191E-02	3.153E-02	2.615E-02	1.609E-02	FAIL ABUN
CO-57	7.473E-03	2.312E-02	2.031E-02	1.180E-02	NOT IDENT.
CO-58	-1.336E-02	3.576E-02	2.993E-02	1.824E-02	NOT IDENT.
FE-59	4.141E-02	8.023E-02	7.098E-02	4.093E-02	NOT IDENT.
CO-60	-9.305E-03	3.479E-02	2.776E-02	1.775E-02	NOT IDENT.
ZN-65	-5.321E-02	9.541E-02	6.419E-02	4.868E-02	NOT IDENT.
GE-68	7.409E-01	1.198E+00	1.059E+00	6.111E-01	NOT IDENT.
AS-73	6.763E-02	5.419E-01	4.925E-01	2.765E-01	NOT IDENT.
AS-74	5.758E-04	8.358E-02	7.081E-02	4.264E-02	NOT IDENT.
SE-75	-2.264E-02	3.992E-02	3.326E-02	2.037E-02	NOT IDENT.
BR-77	5.425E+00	9.099E+00	8.023E+00	4.642E+00	FAIL ABUN
SR-82	-4.087E-01	3.363E-01	2.608E-01	1.716E-01	NOT IDENT.
RB-83	2.522E-02	6.206E-02	5.402E-02	3.166E-02	NOT IDENT.
RB-84	-7.018E-02	6.278E-02	4.811E-02	3.203E-02	NOT IDENT.
KR-85	1.001E+01	6.883E+00	5.737E+00	3.512E+00	NOT IDENT.
SR-85	5.129E-02	3.527E-02	2.939E-02	1.799E-02	NOT IDENT.
RB-86	1.000E-01	7.662E-01	6.521E-01	3.909E-01	NOT IDENT.
Y-88	-1.141E-02	2.008E-02	1.406E-02	1.024E-02	NOT IDENT.
ZR-88	-8.976E-03	2.812E-02	2.385E-02	1.435E-02	NOT IDENT.
Y-91	-6.304E+00	1.867E+01	1.513E+01	9.528E+00	NOT IDENT.
NB-94	1.128E-02	2.956E-02	2.646E-02	1.508E-02	NOT IDENT.
NB-95	5.110E-02	4.835E-02	3.977E-02	2.467E-02	NOT IDENT.
NB-95M	1.113E-01	1.181E-01	9.761E-02	6.024E-02	NOT IDENT.
ZR-95	3.262E-02	6.258E-02	5.632E-02	3.193E-02	NOT IDENT.
NB-97	1.081E+04	9.003E+04	0.000E+00	4.593E+04	SHORT HLIF
ZR-97	3.113E+06	1.834E+06	0.000E+00	9.359E+05	SHORT HLIF
MO-99	4.799E+00	1.006E+01	9.028E+00	5.131E+00	NOT IDENT.
TC-99M	-5.500E+15	3.084E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.191E-03	3.012E-02	2.695E-02	1.537E-02	NOT IDENT.
RH-102	-3.366E-02	2.691E-02	2.077E-02	1.373E-02	FAIL ABUN
RU-103	-8.814E-03	3.465E-02	2.884E-02	1.768E-02	FAIL ABUN
RH-106	2.169E-01	2.980E-01	2.611E-01	1.520E-01	FAIL ABUN
RU-106	2.169E-01	2.972E-01	2.611E-01	1.516E-01	FAIL ABUN
AG-108M	-1.638E-02	3.009E-02	2.489E-02	1.535E-02	NOT IDENT.
AG-110M	1.599E-03	3.408E-02	2.619E-02	1.739E-02	NOT IDENT.
IN-111	5.973E-01	1.010E+00	8.226E-01	5.154E-01	NOT IDENT.
IN-113M	8.471E-03	4.141E-02	3.623E-02	2.113E-02	NOT IDENT.
SN-113	8.471E-03	4.141E-02	3.623E-02	2.113E-02	NOT IDENT.
IN-114M	2.471E-02	1.734E-01	1.400E-01	8.845E-02	NOT IDENT.
CD-115	-1.974E+00	9.466E+00	7.873E+00	4.830E+00	NOT IDENT.
SN-117M	1.300E-02	5.114E-02	4.412E-02	2.609E-02	NOT IDENT.
SB-122	1.411E+00	1.862E+00	1.647E+00	9.501E-01	NOT IDENT.
I-123	-2.553E+04	5.080E+06	0.000E+00	2.592E+06	SHORT HLIF
TE-123M	-1.361E-04	2.708E-02	2.311E-02	1.381E-02	NOT IDENT.
I-124	2.926E-01	6.889E-01	5.239E-01	3.515E-01	FAIL ABUN
SB-124	-2.294E-02	5.150E-02	3.921E-02	2.627E-02	FAIL ABUN
SB-125	1.809E-02	8.140E-02	7.093E-02	4.153E-02	FAIL ABUN
TE-125M	3.065E+00	8.361E+00	7.393E+00	4.266E+00	NOT IDENT.
I-126	1.124E-01	1.834E-01	1.480E-01	9.359E-02	NOT IDENT.
SB-126	3.168E-02	1.373E-01	1.151E-01	7.005E-02	FAIL ABUN
SB-127	1.325E+00	1.165E+00	1.090E+00	5.942E-01	NOT IDENT.
XE-127	-3.404E-02	4.069E-02	3.551E-02	2.076E-02	NOT IDENT.
I-131	1.465E-02	9.863E-02	8.651E-02	5.032E-02	NOT IDENT.
TE-132	3.417E-01	6.188E-01	5.650E-01	3.157E-01	NOT IDENT.
BA-133	-1.316E-02	4.473E-02	3.338E-02	2.282E-02	FAIL ABUN
I-133	-1.071E+03	5.432E+03	0.000E+00	2.771E+03	SHORT HLIF
CS-134	1.016E-01	5.492E-02	4.335E-02	2.802E-02	FAIL ABUN
CS-135	2.551E-01	1.584E-01	1.339E-01	8.080E-02	NOT IDENT.
I-135	-3.928E+15	4.766E+15	0.000E+00	2.431E+15	SHORT HLIF
CS-136	-1.130E-01	9.748E-02	7.161E-02	4.974E-02	FAIL ABUN
CE-139	-2.024E-02	2.887E-02	2.382E-02	1.473E-02	NOT IDENT.
BA-140	7.843E-02	2.325E-01	1.999E-01	1.186E-01	NOT IDENT.
LA-140	-3.482E-02	7.467E-02	4.839E-02	3.810E-02	FAIL ABUN
CE-141	-8.305E-04	5.965E-02	5.118E-02	3.043E-02	NOT IDENT.
CE-143	7.426E+02	2.303E+02	0.000E+00	1.175E+02	SHORT HLIF
CE-144	6.843E-02	1.900E-01	1.660E-01	9.692E-02	NOT IDENT.
PM-144	-4.686E-04	3.001E-02	2.620E-02	1.531E-02	NOT IDENT.
PR-144	-3.175E-02	2.034E+00	1.775E+00	1.038E+00	NOT IDENT.

PM-146	7.969E-03	4.261E-02	3.686E-02	2.174E-02	NOT IDENT.
ND-147	1.810E-01	5.333E-01	4.606E-01	2.721E-01	FAIL ABUN
PM-149	2.196E+01	8.056E+01	7.209E+01	4.110E+01	NOT IDENT.
EU-152	-7.027E-02	9.521E-02	7.670E-02	4.858E-02	FAIL ABUN
GD-153	3.088E-02	7.635E-02	6.058E-02	3.896E-02	FAIL ABUN
EU-154	-4.572E-02	1.142E-01	9.077E-02	5.827E-02	NOT IDENT.
EU-155	8.554E-02	9.940E-02	8.937E-02	5.072E-02	FAIL ABUN
TB-160	-7.138E-02	1.248E-01	1.015E-01	6.368E-02	FAIL ABUN
HO-166M	2.196E-02	5.681E-02	5.079E-02	2.899E-02	NOT IDENT.
TM-171	-1.551E+01	2.448E+01	1.914E+01	1.249E+01	NOT IDENT.
LU-176	-7.058E-03	2.421E-02	1.831E-02	1.235E-02	FAIL ABUN
LU-177	2.300E+00	1.153E+00	9.559E-01	5.882E-01	FAIL ABUN
LU-177M	9.968E-03	1.856E-01	1.407E-01	9.472E-02	FAIL ABUN
HF-181	-1.923E-02	4.066E-02	3.350E-02	2.075E-02	NOT IDENT.
W-181	6.251E-02	3.182E-01	2.578E-01	1.624E-01	NOT IDENT.
TA-182	-5.377E-02	1.929E-01	1.569E-01	9.843E-02	FAIL ABUN
RE-183	7.842E-02	1.061E-01	9.177E-02	5.414E-02	FAIL ABUN
RE-184	2.308E-02	1.964E-01	1.761E-01	1.002E-01	NOT IDENT.
OS-185	4.728E-03	3.490E-02	3.099E-02	1.781E-02	NOT IDENT.
RE-188	1.075E-02	1.698E-01	1.455E-01	8.662E-02	NOT IDENT.
W-188	-1.664E+00	7.621E+00	5.836E+00	3.888E+00	FAIL ABUN
IR-192	-1.303E-02	3.004E-02	2.575E-02	1.533E-02	FAIL ABUN
AU-195	7.436E-02	2.125E-01	1.787E-01	1.084E-01	FAIL ABUN
TL-200	-3.615E+01	3.974E+02	0.000E+00	2.028E+02	SHORT HLIF
TL-201	3.232E+00	6.517E+00	5.657E+00	3.325E+00	NOT IDENT.
TL-202	2.238E-02	6.204E-02	5.440E-02	3.165E-02	NOT IDENT.
HG-203	4.384E-02	4.025E-02	3.338E-02	2.054E-02	NOT IDENT.
BI-207	4.309E-02	5.117E-02	4.596E-02	2.611E-02	FAIL ABUN
TL-207	-6.880E-02	6.783E-01	5.186E-01	3.460E-01	FAIL ABUN
PO-209	5.289E+00	6.576E+00	5.987E+00	3.355E+00	NOT IDENT.
BI-210	4.297E-01	1.914E+00	1.751E+00	9.766E-01	NOT IDENT.
PB-210	4.297E-01	1.914E+00	1.751E+00	9.766E-01	NOT IDENT.
PO-210	4.297E-01	1.914E+00	1.751E+00	9.766E-01	NOT IDENT.
PB-211	9.178E-01	1.107E+00	7.761E-01	5.646E-01	NOT IDENT.
BI-212	1.087E+00	5.161E-01	3.114E-01	2.633E-01	FAIL ABUN
PO-215	-6.880E-02	6.783E-01	5.186E-01	3.460E-01	FAIL ABUN
RN-219	-2.235E-01	3.798E-01	3.151E-01	1.938E-01	FAIL ABUN
RN-220	-1.022E+01	2.444E+01	1.993E+01	1.247E+01	NOT IDENT.
RA-223	-6.880E-02	6.783E-01	5.186E-01	3.460E-01	FAIL ABUN
AC-227	-3.464E-02	3.314E-01	2.937E-01	1.691E-01	FAIL ABUN
TH-227	-3.464E-02	3.314E-01	2.937E-01	1.691E-01	FAIL ABUN
TH-229	-3.983E-01	4.460E-01	3.896E-01	2.275E-01	FAIL ABUN
PA-231	-7.575E-01	1.395E+00	1.155E+00	7.120E-01	NOT IDENT.
TH-231	-6.880E-02	6.783E-01	5.186E-01	3.460E-01	FAIL ABUN
U-231	-7.448E-01	1.042E+00	7.880E-01	5.316E-01	FAIL ABUN
PA-233	-3.586E-03	5.683E-02	4.979E-02	2.899E-02	FAIL ABUN
PA-234	3.077E-02	2.743E-01	2.358E-01	1.399E-01	FAIL ABUN
PA-234M	2.245E+00	4.759E+00	4.186E+00	2.428E+00	NOT IDENT.
U-235	1.555E-01	1.999E-01	1.751E-01	1.020E-01	FAIL ABUN
NP-236	-7.090E-02	7.759E-02	6.350E-02	3.958E-02	NOT IDENT.
NP-239	1.312E-02	1.686E-01	1.470E-01	8.601E-02	FAIL ABUN
AM-241	7.869E-02	1.171E-01	9.628E-02	5.977E-02	NOT IDENT.
CM-243	4.473E-02	8.866E-02	7.894E-02	4.523E-02	FAIL ABUN
AM-246	6.042E-02	1.337E-01	1.168E-01	6.822E-02	NOT IDENT.
CM-247	3.267E-03	3.396E-02	2.948E-02	1.733E-02	FAIL ABUN
CF-249	8.164E-03	3.813E-02	3.339E-02	1.945E-02	NOT IDENT.
CF-251	-2.280E-02	1.212E-01	1.019E-01	6.183E-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	344.2726
46.50	344.2726
46.50	344.2726
48.70	393.7719
49.72	382.8631
51.35	387.0992
52.39	405.6379
52.97	403.1544
53.15	403.2990
53.44	406.4929
54.07	365.5107
56.28	447.4536
56.28	447.4559
57.37	0.0000
57.53	439.1809
57.53	439.1821
57.60	439.2393
57.98	404.6185
57.98	404.6185
59.32	393.6663
59.32	393.6663
59.40	393.7245
59.54	393.8278
59.72	393.9602
60.01	386.6782
61.10	408.4825
61.14	408.5115
61.30	449.1946
63.00	499.3098
63.29	499.5696
63.29	499.5696
63.58	499.8293
64.28	527.1398
65.12	546.0768
65.20	546.1539
65.20	546.1539
66.05	551.5153
66.72	552.1596
66.83	564.4028
66.91	564.4823
67.20	564.7661
67.20	564.7661
67.75	551.6259
67.85	580.5979
68.90	567.4330
68.90	567.4330
69.30	536.3306
69.67	536.6689
70.82	551.4565
70.82	551.4565
70.83	551.4647
72.80	571.6656
72.87	580.9279
72.87	580.9279
74.67	587.2516
74.81	587.3856
74.81	587.3856
74.81	587.3856
74.81	587.3856
74.81	587.3856
74.81	587.3856
74.97	587.5372
75.28	587.8315
75.70	588.2279
77.11	589.5569
77.11	589.5569

77.11	589.5569
77.11	589.5569
77.11	589.5569
77.11	589.5569
77.11	589.5569
78.38	522.6993
79.62	548.5067
79.80	542.4610
79.80	542.4610
80.11	542.7227
80.18	542.7814
80.30	549.0873
80.30	549.0873
80.57	462.4193
81.00	549.6815
81.07	549.7409
81.07	549.7409
81.07	549.7409
81.07	549.7409
82.60	512.1172
83.37	429.0782
83.78	429.3471
83.78	429.3471
83.78	429.3471
83.78	429.3471
84.21	429.6244
84.90	430.0697
85.43	430.4121
86.29	430.9625
86.50	431.0969
86.54	431.1221
86.59	431.1536
86.72	431.2356
86.79	431.2797
86.94	431.3763
87.30	431.6053
87.30	431.6053
87.30	431.6053
87.30	431.6053
87.30	431.6053
87.30	431.6053
87.57	431.7754
87.88	431.9729
88.03	432.0674
88.36	432.2754
88.47	432.3447
89.95	433.2753
91.11	433.9979
92.29	434.7289
92.38	434.7856
92.38	434.7856
93.35	435.3822
94.00	435.7813
94.67	364.3690
94.67	364.3726
94.90	399.3525
94.90	399.3525
94.90	399.3525
94.90	399.3525
95.87	455.4334
95.87	455.4334
96.73	411.4909
97.43	375.3094
98.44	387.2939
98.44	387.2939
98.88	393.8996
99.55	387.0277
99.55	387.0277
99.86	382.9358
100.00	406.4152
100.10	406.4715
103.18	430.5836
103.76	391.3509
105.00	386.6344
105.31	384.6476
108.00	423.6229
109.28	373.7017



111.00	365.8835
111.00	365.8835
111.76	400.8052
112.95	415.4688
115.19	340.6777
116.30	337.8847
117.00	339.2616
117.00	339.2616
117.66	343.8876
121.11	384.6616
121.62	376.1468
121.78	367.4692
122.06	339.1476
122.32	337.0630
122.32	337.0630
122.32	337.0630
122.32	337.0630
123.07	364.7472
127.23	405.0493
129.76	394.0858
131.20	403.5778
133.02	383.3580
133.54	346.9956
135.34	346.5852
136.00	333.4991
136.25	334.7027
136.48	334.7884
140.51	358.6107
140.51	0.0000
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142.65	367.2783
143.76	334.0829
144.24	357.8106
144.24	357.8106
144.24	357.8106
144.24	357.8106
145.22	373.9035
145.44	373.9915
147.16	382.5484
152.43	352.9741
152.70	337.2280
153.22	362.3177
154.21	375.1529
154.21	375.1529
154.21	375.1529
154.21	375.1529
155.03	383.4064
156.02	359.9464
158.56	322.1635
159.00	0.0000
159.00	340.5268
160.31	376.3257
161.27	326.4602
162.32	314.2285
162.64	313.1863
163.35	331.7046
163.89	341.0370
165.85	361.1810
167.43	311.2073
171.28	334.2593
171.86	311.3773
172.10	311.4487
176.55	323.1812
176.60	323.1983
181.06	336.7487
184.41	348.6304
185.71	309.2655
186.00	309.3463
190.27	280.0915
192.34	277.9878
193.63	318.5108
197.04	274.3270
198.01	285.1869
198.60	292.4183
200.40	294.6490
201.83	285.2343
202.84	307.7154
205.31	299.4474

208.36	293.0659
208.81	330.7169
209.75	304.1406
209.75	304.1406
210.97	282.2424
215.65	279.5540
216.55	271.6645
218.09	289.1160
222.10	256.6188
223.80	279.5880
226.40	279.2589
227.00	292.0901
227.08	292.1073
227.20	271.2699
228.16	257.8539
228.18	253.3184
228.18	253.3184
231.56	0.0000
235.69	242.5643
236.00	252.8520
236.00	252.8520
238.63	251.7134
238.63	251.7134
238.63	251.7134
238.63	251.7134
239.00	251.7847
240.98	252.1645
241.98	252.3533
241.98	252.3533
241.98	252.3533
244.69	220.6860
245.39	207.5533
247.94	212.0032
248.90	209.3869
249.79	209.5254
252.40	184.9579
252.85	195.1950
252.85	195.1950
254.15	0.0000
256.20	210.5100
256.20	210.5100
260.50	211.1638
260.90	222.3922
262.80	227.3538
264.65	214.3231
268.24	185.5792
268.79	194.6318
269.46	208.2048
269.46	208.2048
269.46	208.2048
269.46	208.2048
271.23	204.3384
273.65	180.2725
276.40	206.9550
277.35	203.3240
277.60	203.3602
277.60	203.3602
278.00	203.4163
278.60	189.9321
279.20	179.4529
279.53	179.4936
280.46	187.1549
281.68	211.4800
283.67	199.8790
284.30	205.2355
285.00	205.3315
285.90	190.3084
286.10	186.5452
286.10	186.5452
287.40	180.0732
288.45	0.0000
290.67	212.7617
290.80	212.7822
291.72	229.6409
293.26	0.0000
293.70	193.3928
295.21	190.5365
295.21	190.5365

295.21	190.5365
295.96	152.5049
296.50	152.5586
297.23	152.6318
298.57	152.7661
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299.80	154.4171
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300.09	154.4467
300.09	154.4467
300.09	154.4467
300.12	154.4491
301.29	154.5675
302.84	159.3185
303.76	157.8797
303.91	157.8948
304.40	161.0120
304.40	161.0120
304.84	159.5242
306.84	168.9451
308.46	164.3151
311.98	171.4244
316.51	169.0186
318.01	178.8433
319.02	151.8710
319.41	152.8745
320.08	171.3310
323.87	180.0775
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323.87	180.0775
323.87	180.0775
325.23	178.6740
328.77	168.3593
333.44	171.7649
334.20	153.6170
334.20	153.6170
334.30	153.6266
338.28	230.2079
338.28	230.2079
338.28	230.2079
338.28	230.2079
338.32	230.2151
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338.32	230.2151
340.50	175.6289
340.57	175.6371
344.27	191.9635
345.85	190.3446
350.59	0.0000
351.07	142.0137
351.92	142.0840
351.92	142.0840
351.92	142.0840
355.39	0.0000
356.01	162.9920
364.48	129.1986
366.43	139.2908
367.43	145.3428
367.94	0.0000
369.80	135.5684
374.96	141.9588
383.85	154.7120
387.95	155.0598
388.63	146.0509
391.69	145.2854
391.69	145.2854
392.90	148.4086
398.62	125.5723
400.65	160.1746
401.10	156.1572
401.81	153.1727
402.60	142.0743
404.84	123.5482
410.95	145.7559
411.60	145.8061
413.65	140.4492
414.70	130.7227
415.30	134.0328

415.76	137.3347
417.63	0.0000
418.52	125.5229
423.70	133.3801
427.08	114.0826
427.89	116.1864
432.53	111.3058
433.93	134.0724
439.47	113.7598
439.56	113.7648
439.89	119.9896
443.98	118.1609
444.90	109.9190
445.03	109.9255
445.03	109.9255
445.03	109.9255
445.03	109.9255
453.90	134.3579
463.38	106.7237
468.07	125.8374
473.00	115.6212
475.06	132.5676
475.35	135.7417
476.78	115.8260
477.59	103.2293
477.96	106.4079
482.03	128.7780
484.57	119.4176
487.03	104.7419
490.36	0.0000
492.35	107.1199
497.08	96.7222
507.63	0.0000
510.53	0.0000
510.84	101.6014
511.00	101.6079
511.85	101.6471
511.85	101.6471
513.99	87.3923
513.99	87.3923
520.41	93.4411
520.65	88.0784
527.90	98.0566
528.96	0.0000
529.64	109.9937
529.87	0.0000
531.02	103.5850
537.32	90.8829
543.00	117.1362
546.56	0.0000
549.76	107.6830
552.65	93.6557
555.20	92.6653
563.23	94.0704
563.90	89.7200
568.70	106.3424
569.32	104.1788
569.50	104.1846
569.67	114.0642
573.80	105.4688
574.00	105.4775
574.64	110.9989
578.91	128.5876
579.30	0.0000
583.14	93.7392
585.48	84.7758
591.81	78.5728
592.07	84.1154
593.00	91.8958
595.88	88.6768
600.56	113.2745
602.52	0.0000
602.71	87.1401
602.71	87.1401
603.60	85.3898
604.41	97.8748
604.70	105.0044
609.31	109.2062

609.31	109.2062
609.31	109.2062
609.31	109.2062
610.33	99.8867
612.46	74.9766
614.37	91.1127
618.01	108.4590
621.84	81.7463
621.84	81.7463
631.29	86.5381
633.02	97.8405
633.10	100.0924
634.78	91.8299
635.90	92.7704
636.97	96.4123
645.85	74.1323
646.12	73.2362
656.30	92.2719
657.75	83.2408
657.90	0.0000
661.65	85.4812
661.65	85.4812
664.57	0.0000
666.33	85.0231
666.33	85.0231
675.00	77.6766
677.61	62.1994
685.20	65.1220
692.80	77.2550
695.00	93.8843
696.49	88.4086
696.49	88.4086
697.00	98.5544
697.49	93.9665
698.33	100.4445
698.50	100.4498
699.00	98.6249
702.63	84.9068
706.10	108.1136
706.58	0.0000
706.67	105.3609
709.31	86.0318
711.68	89.8079
713.82	96.3600
717.42	100.1900
720.50	85.9035
721.93	0.0000
722.20	94.4711
722.78	86.7458
722.78	86.7458
722.89	86.7480
722.95	86.7503
723.30	83.6631
724.18	85.2370
727.18	87.4985
733.00	68.3973
735.90	90.6920
739.58	71.0422
742.81	86.0928
744.21	86.1332
747.13	81.5328
751.79	86.3533
752.31	77.9199
753.82	89.2295
755.35	81.7579
756.15	71.4393
756.87	69.5755
763.93	76.9653
765.79	91.1584
766.42	99.0374
766.84	99.0502
776.49	90.8484
778.00	72.9037
778.57	65.3411
778.89	63.4537
783.80	87.2697
785.46	71.1823
792.07	85.6011

795.84	77.7688
796.30	77.7807
798.80	87.3743
801.93	80.1466
805.60	77.3752
810.29	80.3599
810.76	79.4154
815.85	61.3344
817.79	68.0844
818.51	70.9775
819.60	67.1631
826.30	70.1894
828.27	0.0000
831.60	88.6039
831.96	86.6865
834.83	87.7275
836.80	0.0000
846.75	59.9914
848.13	61.9516
856.28	0.0000
856.80	66.3214
860.37	61.2112
867.32	71.4015
867.82	57.0371
871.10	67.2582
873.19	89.7337
874.81	73.1873
875.33	0.0000
876.40	46.8621
879.36	71.3336
880.27	74.2837
880.51	79.1767
881.50	77.2449
883.24	63.5892
884.67	53.8291
889.25	69.5821
896.60	54.0184
898.02	61.9003
899.00	66.8329
903.28	78.7246
911.07	69.0413
911.07	69.0413
911.07	69.0413
919.63	73.6066
920.93	62.3140
925.00	71.2986
925.24	71.3039
926.50	64.3938
935.52	52.9727
937.48	38.0947
944.10	53.7653
946.00	63.7547
949.00	75.7736
962.29	55.0403
964.01	61.0730
966.15	61.1087
968.20	61.1445
969.11	61.1594
969.11	61.1594
969.11	61.1594
977.42	57.2797
980.50	66.3803
983.50	54.3560
989.30	67.5480
996.32	78.7884
1001.03	71.8078
1001.68	72.8314
1004.76	88.0790
1021.30	0.0000
1024.50	0.0000
1034.80	66.3330
1036.00	63.2912
1037.82	63.3199
1038.57	54.1413
1038.76	0.0000
1045.16	61.3975
1046.59	55.2762
1048.07	69.6369

1050.47	49.1859
1050.47	49.1859
1062.04	61.6641
1063.62	60.6623
1076.63	68.0851
1077.35	60.8754
1078.86	59.8663
1085.78	47.5633
1099.22	48.7625
1112.02	74.3443
1112.84	71.1361
1115.52	76.3949
1120.29	60.4922
1120.29	60.4922
1120.29	60.4922
1120.29	60.4922
1120.51	60.4950
1121.28	50.4220
1124.00	0.0000
1129.67	44.9505
1131.51	0.0000
1147.95	0.0000
1167.94	78.0758
1173.22	87.6850
1175.09	85.6077
1177.93	78.2637
1189.05	82.7112
1204.90	88.3415
1205.75	0.0000
1213.00	93.8395
1221.42	88.6819
1230.97	101.1312
1235.34	96.4688
1236.41	0.0000
1238.25	86.8773
1246.25	60.1727
1260.41	0.0000
1271.85	43.2305
1274.45	60.5582
1274.54	61.6396
1291.56	40.1634
1298.22	0.0000
1312.09	43.6152
1325.50	38.2761
1325.50	38.2761
1332.49	40.5229
1333.61	40.5338
1360.21	20.1989
1362.66	0.0000
1365.15	22.9767
1368.21	28.5100
1368.53	0.0000
1376.25	37.9018
1384.27	28.4741
1394.10	27.7405
1395.20	25.8968
1407.95	37.0931
1434.06	27.9700
1436.60	24.2523
1457.56	0.0000
1460.81	32.8082
1489.15	30.1654
1509.49	25.9598
1596.49	21.4451
1620.62	14.4995
1678.03	0.0000
1691.02	12.7276
1691.02	12.7276
1706.46	0.0000
1750.46	0.0000
1764.49	15.3011
1764.49	15.3011
1764.49	15.3011
1764.49	15.3011
1770.23	6.8072
1771.40	9.2673
1791.20	0.0000
1808.65	19.9854

1836.01

9.0348



TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244881003

Total Uranium Activity	6.2878E+00	ug/g
Total Uranium Counting Unc.	5.4849E+00	ug/g
Total Uranium Tpu	2.7984E-06	ug/g
Total Uranium Mda	2.4986E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 942718          SAMPLE ID : G244881003
*  ANALYST       : MXR1           DETECTOR   : GAM20
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00 COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 26-JAN-2010 13:21:22.82 SAMPLE ALQT: 141.410 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.168E+01
GROSS GAMMA ERROR (pCi/GRAM )   : 1.603E+00
GROSS GAMMA MDA (pCi/GRAM )     : 4.371E+00
GROSS GAMMA DLC (pCi/GRAM )     : 2.129E+00

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 15:22:46.10

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881004.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:21:53
Sample ID          : G244881004      Sample quantity   : 1.28090E+02 GRAM
Detector name      : GAM23           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.71  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID          : 942718           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	63.08*	129	440	0.90	126.17	121	11	1.79E-02	33.2	
2	3	74.63	431	369	1.38	149.26	141	24	5.99E-02	9.0	3.24E+00
3	3	77.01*	569	263	0.99	154.03	141	24	7.90E-02	6.4	
4	3	80.89	63	251	1.30	161.79	141	24	8.77E-03	42.1	
5	5	87.06	197	410	1.10	174.11	169	24	2.73E-02	17.4	2.75E+00
6	5	89.84	169	395	1.34	179.68	169	24	2.35E-02	21.6	
7	5	92.68*	236	327	1.32	185.36	169	24	3.28E-02	16.5	
8	0	128.96	74	371	1.12	257.91	254	9	1.03E-02	48.6	
9	0	153.52	78	257	1.07	307.05	303	9	1.08E-02	39.1	
10	0	185.73*	131	341	1.11	371.46	365	11	1.82E-02	29.5	
11	0	209.47	87	295	0.85	418.94	413	10	1.21E-02	38.8	
12	2	238.31*	1194	160	1.32	476.63	468	22	1.66E-01	3.5	2.96E+00
13	2	241.50	257	216	1.77	483.00	468	22	3.57E-02	14.1	
14	0	269.93	100	198	0.95	539.85	534	11	1.38E-02	29.3	
15	0	276.99	159	241	1.71	553.97	545	18	2.21E-02	24.2	
16	0	294.95	373	191	1.29	589.90	583	12	5.18E-02	9.0	
17	0	299.86	132	184	1.56	599.73	595	14	1.83E-02	23.4	
18	0	327.36	96	145	1.20	654.73	650	12	1.34E-02	27.0	
19	0	338.00	311	202	1.51	676.01	668	17	4.32E-02	11.9	
20	0	351.56*	584	204	1.21	703.12	698	12	8.11E-02	6.5	
21	0	462.75*	95	82	0.74	925.50	919	14	1.32E-02	23.6	
22	0	510.33*	127	124	1.93	1020.66	1011	19	1.76E-02	25.4	
23	0	582.54*	349	112	1.48	1165.08	1158	15	4.85E-02	8.6	
24	0	608.70	388	117	1.62	1217.39	1210	15	5.40E-02	7.9	
25	0	726.92	67	55	1.80	1453.85	1448	12	9.29E-03	25.6	
26	0	795.35	52	56	1.67	1590.70	1583	17	7.18E-03	36.8	
27	0	910.37	242	39	1.95	1820.74	1813	13	3.36E-02	8.3	
28	0	933.24	38	31	1.21	1866.48	1861	11	5.25E-03	32.6	
29	0	968.39	133	70	2.00	1936.79	1931	13	1.85E-02	15.9	
30	0	1119.10	98	47	2.26	2238.19	2228	16	1.37E-02	18.7	
31	0	1239.23	2	60	1.64	2478.46	2474	9	2.37E-04	917.0	
32	0	1459.78	771	50	2.48	2919.56	2909	23	1.07E-01	4.3	
33	0	1619.79	14	3	1.18	3239.57	3232	12	1.91E-03	37.1	
34	0	1763.28*	74	7	1.90	3526.57	3518	16	1.02E-02	15.0	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:21:53
Sample ID         : G244881004 Sample quantity : 128.09 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA23 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.71 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.123E+01	2.433E+00	5.310E-01	3.972E-02	39.983
CD-109	+	88.03	*	3.038E+00	1.099E+00	1.355E+00	1.323E-01	2.243
SN-126	+	64.28		1.536E+00	1.045E+00	9.749E-01	1.484E-01	1.575
	+	86.94		1.242E+00	6.738E-01	5.618E-01	2.336E-01	2.210
	+	87.57	*	2.987E-01	1.081E-01	1.340E-01	1.304E-02	2.229
TL-208	+	277.35		1.658E+00	8.227E-01	5.845E-01	6.176E-02	2.837
	+	510.84		6.768E-01	3.509E-01	2.387E-01	2.424E-02	2.836
	+	583.14	*	5.333E-01	9.849E-02	6.180E-02	4.012E-03	8.630
		860.37		4.558E-01	3.331E-01	6.117E-01	5.529E-02	0.745
BI-211		72.87		1.300E+01	3.951E+00	6.929E+00	6.112E-01	1.877
	+	351.07	*	3.843E+00	5.604E-01	3.934E-01	2.563E-02	9.769
BI-212	+	727.18	*	8.854E-01	4.585E-01	3.609E-01	2.864E-02	2.453
		785.46		2.372E+00	2.001E+00	3.644E+00	2.569E-01	0.651
	+	1620.62		1.587E+00	1.183E+00	1.546E+00	1.048E-01	1.026
PB-212	+	74.81		2.926E+00	6.493E-01	6.255E-01	8.069E-02	4.678
	+	77.11		2.154E+00	3.355E-01	3.505E-01	3.153E-02	6.147
	+	87.30		1.381E+00	5.185E-01	6.219E-01	8.667E-02	2.221
	+	238.63	*	1.692E+00	1.694E-01	8.819E-02	6.341E-03	19.182
	+	300.09		2.905E+00	1.382E+00	1.213E+00	1.007E-01	2.395
PO-212	+	74.81		2.926E+00	6.493E-01	6.255E-01	8.069E-02	4.678
	+	77.11		2.154E+00	3.355E-01	3.505E-01	3.153E-02	6.147
	+	87.30		1.381E+00	5.185E-01	6.219E-01	8.667E-02	2.221
		115.19		-1.403E-02	3.925E+00	6.465E+00	4.124E-01	-0.002
	+	238.63	*	1.692E+00	1.694E-01	8.819E-02	6.341E-03	19.182
	+	300.09		2.905E+00	1.382E+00	1.213E+00	1.007E-01	2.395
BI-214	+	609.31	*	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
	+	1120.29		1.516E+00	5.833E-01	5.236E-01	4.866E-02	2.895
	+	1764.49		1.559E+00	4.780E-01	2.873E-01	1.786E-02	5.428
PB-214	+	74.81		5.042E+00	1.081E+00	1.078E+00	1.247E-01	4.678
	+	77.11		3.693E+00	6.402E-01	6.008E-01	7.083E-02	6.147
	+	87.30		2.366E+00	8.754E-01	1.065E+00	1.321E-01	2.221
	+	241.98		2.188E+00	6.416E-01	5.311E-01	4.224E-02	4.120
	+	295.21		1.443E+00	2.880E-01	1.879E-01	1.611E-02	7.680
	+	351.92	*	1.337E+00	2.070E-01	1.284E-01	1.072E-02	10.408

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		5.042E+00	1.081E+00	1.078E+00	1.247E-01	4.678
	+	77.11		3.693E+00	6.402E-01	6.008E-01	7.083E-02	6.147
	+	87.30		2.366E+00	8.754E-01	1.065E+00	1.321E-01	2.221
	+	241.98		2.188E+00	6.416E-01	5.311E-01	4.224E-02	4.120
	+	295.21		1.443E+00	2.880E-01	1.879E-01	1.611E-02	7.680
PO-216	+	351.92	*	1.337E+00	2.070E-01	1.284E-01	1.072E-02	10.408
	+	74.81		2.926E+00	6.493E-01	6.255E-01	8.069E-02	4.678
	+	77.11		2.154E+00	3.355E-01	3.505E-01	3.153E-02	6.147
	+	87.30		1.381E+00	5.185E-01	6.219E-01	8.667E-02	2.221
	+	238.63	*	1.692E+00	1.694E-01	8.819E-02	6.341E-03	19.182
PO-218	+	300.09		2.905E+00	1.382E+00	1.213E+00	1.007E-01	2.395
	+	74.81		5.042E+00	1.081E+00	1.078E+00	1.247E-01	4.678
	+	77.11		3.693E+00	6.402E-01	6.008E-01	7.083E-02	6.147
	+	87.30		2.366E+00	8.754E-01	1.065E+00	1.321E-01	2.221
	+	241.98		2.188E+00	6.416E-01	5.311E-01	4.224E-02	4.120
RA-224	+	295.21		1.443E+00	2.880E-01	1.879E-01	1.611E-02	7.680
	+	351.92	*	1.337E+00	2.070E-01	1.284E-01	1.072E-02	10.408
	+	240.98	*	4.149E+00	1.194E+00	1.004E+00	5.656E-02	4.134
	+	609.31	*	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
	+	1120.29		1.516E+00	5.833E-01	5.236E-01	4.866E-02	2.895
AC-228	+	1764.49		1.559E+00	4.780E-01	2.873E-01	1.786E-02	5.428
	+	338.32		2.252E+00	1.065E+00	3.679E-01	1.500E-01	6.122
	+	911.07	*	1.677E+00	3.403E-01	2.257E-01	2.604E-02	7.429
	+	969.11		1.632E+00	6.419E-01	3.363E-01	7.830E-02	4.851
	+	338.32		2.252E+00	1.065E+00	3.679E-01	1.500E-01	6.122
RA-228	+	911.07	*	1.677E+00	3.403E-01	2.257E-01	2.604E-02	7.429
	+	969.11		1.632E+00	6.419E-01	3.363E-01	7.830E-02	4.851
	+	74.81		2.971E+00	5.987E-01	6.349E-01	5.691E-02	4.678
	+	77.11		2.187E+00	3.405E-01	3.558E-01	3.201E-02	6.147
	+	87.30		1.402E+00	5.073E-01	6.313E-01	6.128E-02	2.221
TH-228	+	238.63	*	1.717E+00	1.720E-01	8.953E-02	6.437E-03	19.182
	+	300.09		2.949E+00	2.220E+00	1.231E+00	7.258E-01	2.395
	+	609.31	*	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
	+	1120.29		1.516E+00	5.833E-01	5.236E-01	4.866E-02	2.895
	+	1764.49		1.559E+00	4.780E-01	2.873E-01	1.786E-02	5.428
TH-232	+	338.32		2.252E+00	5.543E-01	3.679E-01	2.173E-02	6.122
	+	911.07	*	1.677E+00	3.403E-01	2.257E-01	2.604E-02	7.429
	+	969.11		1.632E+00	6.419E-01	3.363E-01	7.830E-02	4.851
	+	63.29	*	3.880E+00	2.667E+00	2.595E+00	4.677E-01	1.495
	+	92.38		2.287E+00	8.611E-01	8.667E-01	1.580E-01	2.638
U-234	+	609.31	*	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
	+	1120.29		1.516E+00	5.833E-01	5.236E-01	4.866E-02	2.895
	+	1764.49		1.559E+00	4.780E-01	2.873E-01	1.786E-02	5.428
	+	86.50	*	8.770E-01	3.653E-01	3.993E-01	9.093E-02	2.197
	+	95.87		1.380E-01	1.116E+00	1.634E+00	4.012E-01	0.084
U-238	+	63.29	*	3.880E+00	2.667E+00	2.595E+00	4.677E-01	1.495
	+	92.38		2.287E+00	7.806E-01	8.667E-01	7.744E-02	2.638
	+	74.67	*	4.744E-01	9.548E-02	1.018E-01	9.046E-03	4.661
	+	86.72		3.289E+01	1.190E+01	1.493E+01	1.441E+00	2.203

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		3.249E-02	4.215E+00	6.941E+00	4.298E-01	0.005
		142.18		-1.218E+00	2.017E+01	3.248E+01	1.768E+00	-0.038
ANH-511	+	511.00	*	1.462E-01	7.481E-02	5.157E-02	2.995E-03	2.835

---- 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	*	-2.362E-01	3.449E-01	5.380E-01	3.657E-02	-0.439
NA-22		1274.54	*	7.312E-03	4.575E-02	7.588E-02	5.096E-03	0.096
NA-24		1368.53	*	-3.036E-01	4.575E-02	Half-Life too short		
AL-26		1129.67		-9.289E-01	1.868E+00	2.908E+00	1.852E-01	-0.319
		1808.65	*	-9.078E-03	3.785E-02	5.768E-02	3.467E-03	-0.157
TI-44		67.85		2.263E-02	8.071E-02	8.836E-02	7.694E-03	0.256
	+	78.38	*	3.975E-01	6.191E-02	9.074E-02	8.226E-03	4.381
SC-46		889.25	*	-3.494E-02	4.379E-02	6.719E-02	6.003E-03	-0.520
	+	1120.51		2.593E-01	9.831E-02	1.412E-01	9.197E-03	1.837
V-48		944.10		-3.417E-01	8.270E-01	1.306E+00	1.138E-01	-0.262
		983.50	*	-2.277E-02	7.209E-02	1.152E-01	9.588E-03	-0.198
		1312.09		-3.785E-02	8.302E-02	1.265E-01	8.998E-03	-0.299
CR-51		320.08	*	3.543E-01	4.170E-01	7.130E-01	4.675E-02	0.497
MN-52		744.21		7.644E-02	2.626E-01	4.337E-01	2.761E-02	0.176
		848.13		-8.068E-01	7.078E+00	1.170E+01	9.546E-01	-0.069
		935.52		4.384E-01	3.088E-01	5.213E-01	4.583E-02	0.841
		1246.25		2.543E+00	8.093E+00	1.272E+01	8.140E-01	0.200
		1333.61		2.813E+00	5.588E+00	9.654E+00	7.086E-01	0.291
		1434.06	*	1.683E-01	2.509E-01	4.467E-01	3.232E-02	0.377
MN-54		834.83	*	3.784E-03	4.323E-02	7.279E-02	5.763E-03	0.052
CO-56		846.75	*	-5.403E-03	4.079E-02	6.729E-02	5.474E-03	-0.080
		977.42		-1.289E+00	2.856E+00	4.364E+00	3.659E-01	-0.295
		1037.82		7.401E-02	3.388E-01	5.716E-01	4.686E-02	0.129
		1175.09		2.944E-02	2.289E+00	3.756E+00	2.126E-01	0.008
	+	1238.25		7.423E-03	1.361E-01	1.943E-01	1.292E-02	0.038
		1360.21		-1.092E-02	1.039E+00	1.684E+00	1.233E-01	-0.006
		1771.40		-6.553E-01	3.096E-01	2.931E-01	1.813E-02	-2.236
CO-57		122.06	*	7.988E-03	2.794E-02	4.647E-02	2.740E-03	0.172
		136.48		-1.195E-01	2.328E-01	3.734E-01	2.429E-02	-0.320
CO-58		810.76	*	1.539E-02	4.070E-02	7.047E-02	5.294E-03	0.218
FE-59		142.65		-6.717E-01	3.121E+00	4.995E+00	2.716E-01	-0.134
		192.34		-6.506E-01	1.084E+00	1.705E+00	1.972E-01	-0.382
		1099.22	*	4.218E-03	1.037E-01	1.712E-01	1.319E-02	0.025
		1291.56		-2.470E-02	1.346E-01	2.142E-01	1.778E-02	-0.115
CO-60		1173.22		3.480E-03	4.345E-02	7.184E-02	4.053E-03	0.048
		1332.49	*	3.207E-02	4.505E-02	7.947E-02	5.834E-03	0.404
ZN-65		1115.52	*	1.736E-02	1.154E-01	1.672E-01	1.104E-02	0.104
GE-68		1077.35	*	-6.652E-01	1.326E+00	2.063E+00	1.476E-01	-0.322
AS-73		53.44	*	-1.422E+00	1.145E+00	1.814E+00	1.602E-01	-0.784
AS-74		595.88	*	4.957E-02	1.028E-01	1.736E-01	9.572E-03	0.286
		634.78		-1.226E-01	3.801E-01	5.984E-01	3.168E-02	-0.205

---- 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		-1.778E+00	6.330E+00	9.146E+00	9.599E-01	-0.194
		96.73		1.335E-02	9.027E-01	1.314E+00	1.762E-01	0.010
		121.11		6.412E-02	1.509E-01	2.522E-01	2.352E-02	0.254
		136.00		-4.738E-02	4.432E-02	6.937E-02	3.917E-03	-0.683
		198.60		-2.241E+00	2.080E+00	3.128E+00	2.112E-01	-0.716
		264.65	*	5.278E-02	5.415E-02	8.114E-02	4.723E-03	0.650
		279.53		9.370E-02	1.233E-01	1.911E-01	1.202E-02	0.490
		303.91		-1.622E+00	2.535E+00	3.511E+00	3.369E-01	-0.462
		400.65		1.378E-01	2.689E-01	4.606E-01	4.191E-02	0.299
BR-77	+	87.88		6.451E+02	2.334E+02	3.887E+02	3.793E+01	1.660
		200.40		-2.656E+01	1.802E+02	2.894E+02	1.548E+01	-0.092
	+	239.00		2.669E+02	2.391E+01	3.959E+01	2.226E+00	6.742
		249.79		5.146E+01	6.916E+01	1.154E+02	6.558E+00	0.446
		281.68		-1.684E+01	9.934E+01	1.440E+02	8.395E+00	-0.117
		297.23		3.531E+02	8.788E+01	1.276E+02	7.494E+00	2.767
		303.76		-9.214E+01	2.088E+02	2.950E+02	1.736E+01	-0.312
		439.47		-5.954E+01	1.564E+02	2.520E+02	1.474E+01	-0.236
		484.57		-5.350E+01	2.438E+02	3.947E+02	2.308E+01	-0.136
		520.65	*	-6.746E+00	1.035E+01	1.601E+01	9.270E-01	-0.421
		574.64		-2.422E+01	2.364E+02	3.597E+02	2.019E+01	-0.067
		578.91		1.450E+02	1.093E+02	1.749E+02	9.787E+00	0.829
		585.48		8.571E+02	2.366E+02	4.306E+02	2.396E+01	1.990
		755.35		1.567E+02	1.920E+02	3.210E+02	2.102E+01	0.488
		817.79		2.346E+01	1.427E+02	2.423E+02	1.845E+01	0.097
SR-82		698.33		2.160E+01	4.191E+01	7.029E+01	3.970E+00	0.307
		776.49	*	-2.031E-01	4.110E-01	6.606E-01	4.557E-02	-0.308
		1395.20		-7.079E+00	1.093E+01	1.570E+01	1.144E+00	-0.451
RB-83		520.41	*	-5.088E-02	6.917E-02	1.061E-01	6.141E-03	-0.480
		529.64		-1.616E-02	1.154E-01	1.869E-01	1.078E-02	-0.086
		552.65		1.123E-01	2.060E-01	3.518E-01	2.004E-02	0.319
RB-84		881.50	*	-2.960E-02	7.663E-02	1.230E-01	1.080E-02	-0.241
KR-85		513.99	*	1.597E+01	8.101E+00	1.373E+01	7.967E-01	1.163
SR-85		513.99	*	8.181E-02	4.151E-02	7.035E-02	4.082E-03	1.163
RB-86		1076.63	*	-2.394E-01	8.293E-01	1.323E+00	9.480E-02	-0.181
Y-88		898.02		-3.975E-02	4.209E-02	6.277E-02	5.739E-03	-0.633
		1836.01	*	-6.747E-03	3.363E-02	5.304E-02	3.123E-03	-0.127
ZR-88		392.90	*	-1.490E-02	3.468E-02	5.613E-02	3.240E-03	-0.266
Y-91		1204.90	*	-9.029E+00	2.146E+01	3.367E+01	2.008E+00	-0.268
NB-94		702.63	*	-9.379E-03	3.957E-02	6.257E-02	3.575E-03	-0.150
		871.10		1.994E-02	3.927E-02	6.833E-02	5.868E-03	0.292
NB-95		765.79	*	6.713E-03	4.957E-02	8.049E-02	5.409E-03	0.083
NB-95M		235.69	*	7.049E-01	1.776E-01	2.920E-01	2.154E-02	2.414
ZR-95		724.18		1.033E-01	1.281E-01	1.938E-01	1.370E-02	0.533
		756.15	*	-9.170E-03	8.683E-02	1.342E-01	1.029E-02	-0.068
NB-97		657.90	*	-6.150E-02	8.683E-02	Half-Life	too short	
		1024.50		-7.541E+00	8.683E-02	Half-Life	too short	
ZR-97		254.15		-2.933E+00	8.683E-02	Half-Life	too short	
		355.39		2.418E-01	8.683E-02	Half-Life	too short	
		507.63	*	5.970E+00	8.683E-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
	602.52			-6.467E+00	8.683E-02	Half-Life	too short	
	1021.30			2.435E+00	8.683E-02	Half-Life	too short	
	1147.95			-2.331E-01	8.683E-02	Half-Life	too short	
	1362.66			-4.863E+00	8.683E-02	Half-Life	too short	
	1750.46			-3.609E+00	8.683E-02	Half-Life	too short	
MO-99	140.51			-2.569E+00	2.967E+01	4.761E+01	1.280E+01	-0.054
	181.06			4.447E+00	2.002E+01	2.879E+01	4.879E+00	0.154
	366.43			-1.799E+01	9.238E+01	1.522E+02	8.922E+00	-0.118
	739.58	*		-6.086E-01	1.262E+01	2.021E+01	2.828E+00	-0.030
	778.00			5.174E+00	3.485E+01	5.925E+01	4.103E+00	0.087
TC-99M	140.51	*		-3.211E+09	3.485E+01	Half-Life	too short	
RH-101	127.23			6.874E-02	4.080E-02	6.364E-02	3.655E-03	1.080
	198.01	*		-1.493E-02	3.770E-02	5.870E-02	3.129E-03	-0.254
	325.23			4.273E-02	2.837E-01	4.184E-01	2.472E-02	0.102
RH-102	418.52			1.350E-01	2.930E-01	5.006E-01	2.917E-02	0.270
	475.06	*		1.556E-02	3.193E-02	5.438E-02	3.183E-03	0.286
	631.29			4.270E-02	5.615E-02	9.731E-02	5.173E-03	0.439
	697.49			5.740E-02	9.546E-02	1.610E-01	9.075E-03	0.357
	766.84			1.156E-02	1.272E-01	2.057E-01	1.386E-02	0.056
	1046.59			7.255E-02	1.161E-01	2.041E-01	1.546E-02	0.355
	1112.84			-1.900E-01	2.747E-01	3.434E-01	2.279E-02	-0.553
RU-103	497.08	*		-3.359E-03	4.047E-02	6.606E-02	8.363E-03	-0.051
	610.33			1.143E+01	2.310E+00	3.065E+00	4.686E-01	3.729
RH-106	511.85			2.544E-01	2.410E-01	4.502E-01	2.614E-02	0.565
	621.84	*		-3.533E-02	3.501E-01	5.636E-01	6.500E-02	-0.063
	1050.47			-1.476E+00	2.232E+00	3.384E+00	2.546E-01	-0.436
RU-106	511.85			2.544E-01	2.410E-01	4.502E-01	2.614E-02	0.565
	621.84	*		-3.533E-02	3.500E-01	5.636E-01	3.029E-02	-0.063
	1050.47			-1.476E+00	2.232E+00	3.384E+00	2.546E-01	-0.436
AG-108M	433.93	*		3.016E-04	3.665E-02	6.067E-02	3.846E-03	0.005
	614.37			1.069E-02	4.946E-02	7.113E-02	4.226E-03	0.150
	722.95			2.130E-02	5.204E-02	7.599E-02	4.941E-03	0.280
AG-110M	657.75	*		-2.387E-02	3.623E-02	5.493E-02	3.052E-03	-0.435
	677.61			-2.913E-03	3.552E-01	5.547E-01	3.174E-02	-0.005
	706.67			1.804E-02	2.399E-01	3.894E-01	2.385E-02	0.046
	763.93			-8.146E-02	1.919E-01	2.962E-01	2.074E-02	-0.275
	884.67			2.277E-02	5.437E-02	9.402E-02	8.572E-03	0.242
	937.48			-2.640E-02	1.279E-01	1.769E-01	1.607E-02	-0.149
	1384.27			-8.380E-02	1.779E-01	2.679E-01	2.032E-02	-0.313
IN-111	171.28			-7.894E-02	1.064E+00	1.724E+00	8.843E-02	-0.046
	245.39	*		-4.991E-01	1.288E+00	1.720E+00	9.734E-02	-0.290
IN-113M	391.69	*		9.141E-03	4.962E-02	8.339E-02	5.137E-03	0.110
SN-113	391.69	*		9.141E-03	4.962E-02	8.339E-02	5.137E-03	0.110
IN-114M	190.27	*		1.205E-01	2.208E-01	3.234E-01	1.705E-02	0.373
CD-115	260.90			-1.502E+02	1.436E+02	2.153E+02	1.237E+01	-0.698
	492.35			-1.585E+01	3.751E+01	5.961E+01	3.480E+00	-0.266
	527.90	*		2.514E+00	1.111E+01	1.853E+01	1.069E+00	0.136
SN-117M	156.02			-1.181E+00	2.765E+00	3.847E+00	2.013E-01	-0.307
	158.56	*		5.125E-02	6.757E-02	1.007E-01	5.231E-03	0.509



----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		-1.948E-01	2.340E+00	3.797E+00	2.148E-01	-0.051
	692.80			-3.562E+00	4.979E+01	7.990E+01	4.447E+00	-0.045
I-123	159.00	*		3.537E+00	4.979E+01	Half-Life	too short	
	528.96			-6.261E+01	4.979E+01	Half-Life	too short	
TE-123M	159.00	*		1.885E-02	3.374E-02	5.230E-02	2.760E-03	0.360
I-124	602.71	*		-7.272E-01	8.757E-01	1.112E+00	6.097E-02	-0.654
	722.78			1.936E+00	5.362E+00	7.787E+00	4.692E-01	0.249
	1325.50			-4.523E+01	4.058E+01	5.602E+01	4.069E+00	-0.807
	1376.25			8.242E+01	3.784E+01	7.485E+01	5.470E+00	1.101
	1509.49			8.050E+00	1.779E+01	3.059E+01	2.169E+00	0.263
	1691.02			-2.781E+00	4.234E+00	6.147E+00	4.012E-01	-0.452
SB-124	602.71			-4.266E-02	5.137E-02	6.526E-02	3.578E-03	-0.654
	645.85			-3.274E-01	4.929E-01	7.440E-01	4.491E-02	-0.440
	709.31			5.663E-01	3.092E+00	5.066E+00	2.946E-01	0.112
	713.82			-7.088E-01	1.829E+00	2.839E+00	2.913E-01	-0.250
	722.78			1.646E-01	4.560E-01	6.621E-01	4.164E-02	0.249
	968.20	+		1.678E+01	5.510E+00	8.232E+00	6.980E-01	2.039
	1045.16			8.236E-01	2.593E+00	4.420E+00	3.355E-01	0.186
	1325.50			-4.108E+00	3.686E+00	5.088E+00	3.696E-01	-0.807
	1368.21			-9.083E-01	1.941E+00	2.923E+00	3.707E-01	-0.311
	1436.60			9.124E-01	3.859E+00	6.480E+00	4.686E-01	0.141
	1691.02	*		-5.577E-02	8.493E-02	1.233E-01	8.596E-03	-0.452
SB-125	427.89	*		1.467E-02	9.799E-02	1.639E-01	9.968E-03	0.090
	463.38	+		9.851E-01	4.693E-01	5.974E-01	4.070E-02	1.649
	600.56			1.081E-01	2.122E-01	3.399E-01	2.190E-02	0.318
	635.90			-8.867E-02	2.909E-01	4.587E-01	2.917E-02	-0.193
TE-125M	109.28	*		1.940E+00	1.002E+01	1.665E+01	1.485E+00	0.116
I-126	388.63			3.374E-03	2.312E-01	3.848E-01	2.226E-02	0.009
	666.33	*		7.193E-02	2.075E-01	3.452E-01	1.787E-02	0.208
	753.82			1.146E+00	1.641E+00	2.803E+00	1.828E-01	0.409
SB-126	223.80			-2.509E+00	4.474E+00	6.997E+00	3.864E-01	-0.359
	278.60			5.956E+00	2.894E+00	4.813E+00	2.800E-01	1.237
	296.50			1.408E+01	2.540E+00	3.903E+00	2.291E-01	3.609
	414.70			9.941E-03	7.698E-02	1.287E-01	7.493E-03	0.077
	415.30			-4.218E-01	6.394E+00	1.055E+01	6.142E-01	-0.040
	555.20			-1.535E+00	4.368E+00	6.934E+00	3.945E-01	-0.221
	573.80			-5.525E-01	1.197E+00	1.823E+00	1.024E-01	-0.303
	593.00			1.152E-01	9.814E-01	1.614E+00	8.925E-02	0.071
	656.30			4.216E-01	3.330E+00	5.459E+00	2.810E-01	0.077
	666.33			3.005E-02	8.671E-02	1.442E-01	7.465E-03	0.208
	675.00			-6.110E-01	2.268E+00	3.580E+00	1.898E-01	-0.171
	695.00			1.203E-02	9.503E-02	1.549E-01	8.673E-03	0.078
	697.00			2.313E-01	3.317E-01	5.633E-01	3.171E-02	0.411
	720.50	*		3.912E-03	1.885E-01	2.624E-01	1.572E-02	0.015
	856.80			1.864E-01	5.426E-01	9.310E-01	7.747E-02	0.200
	989.30			1.554E+00	1.316E+00	2.424E+00	2.001E-01	0.641
	1034.80			-1.624E+00	9.460E+00	1.534E+01	1.184E+00	-0.106
	1213.00			1.240E+00	5.176E+00	8.655E+00	5.236E-01	0.143
SB-127	61.10			8.391E+01	7.919E+01	1.223E+02	1.369E+01	0.686

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		252.40		-2.735E-01	4.717E+00	7.528E+00	3.126E+00	-0.036
		290.80		1.076E+01	2.439E+01	3.693E+01	3.388E+00	0.291
		411.60		-5.330E+00	1.313E+01	2.118E+01	3.043E+00	-0.252
		444.90		4.659E+00	9.602E+00	1.642E+01	1.773E+00	0.284
		473.00		5.047E-01	1.832E+00	3.076E+00	3.440E-01	0.164
		543.00		-4.641E+00	1.784E+01	2.857E+01	3.673E+00	-0.162
		603.60		-1.730E+01	1.558E+01	1.899E+01	2.007E+00	-0.911
		685.20	*	-3.385E-01	1.552E+00	2.458E+00	2.261E-01	-0.138
		698.50		4.133E+00	1.887E+01	3.094E+01	4.456E+00	0.134
		722.20		4.503E+00	3.715E+01	5.237E+01	4.858E+00	0.086
		783.80		4.326E+00	4.003E+00	7.222E+00	8.196E-01	0.599
XE-127		57.60		5.237E+00	8.821E+00	1.344E+01	1.177E+00	0.390
		145.22		6.030E-01	7.409E-01	1.250E+00	6.746E-02	0.482
		172.10		3.897E-02	1.305E-01	2.149E-01	1.104E-02	0.181
		202.84	*	3.422E-02	5.731E-02	8.824E-02	4.737E-03	0.388
		374.96		1.436E-01	2.308E-01	3.807E-01	2.221E-02	0.377
I-131	+	80.18		5.532E+00	4.681E+00	8.053E+00	7.426E-01	0.687
		284.30		6.834E-02	1.757E+00	2.588E+00	1.677E-01	0.026
		364.48	*	1.046E-01	1.279E-01	2.230E-01	1.457E-02	0.469
		636.97		-1.694E-01	1.589E+00	2.551E+00	1.539E-01	-0.066
		722.89		3.416E+00	8.708E+00	1.269E+01	7.748E-01	0.269
TE-132		49.72		7.884E+00	2.932E+01	4.983E+01	5.312E+00	0.158
		111.76		4.704E+00	3.170E+01	5.256E+01	4.917E+00	0.089
		116.30		2.733E+01	3.019E+01	5.129E+01	4.667E+00	0.533
		228.16	*	7.956E-01	7.625E-01	1.275E+00	1.817E-01	0.624
BA-133		53.15		-7.593E+00	5.059E+00	7.905E+00	6.973E-01	-0.961
	+	79.62		1.551E+00	1.326E+00	2.340E+00	3.632E-01	0.663
	+	81.00		1.198E-01	1.026E-01	1.706E-01	2.765E-02	0.703
	+	276.40		1.638E+00	8.223E-01	7.365E-01	9.551E-02	2.225
		302.84		-5.832E-03	1.686E-01	2.462E-01	2.880E-02	-0.024
		356.01	*	5.932E-03	5.188E-02	7.604E-02	8.823E-03	0.078
		383.85		-7.836E-03	3.437E-01	5.630E-01	6.122E-02	-0.014
I-133	+	510.53		1.418E+00	3.437E-01	Half-Life	too short	
		529.87	*	-1.228E-04	3.437E-01	Half-Life	too short	
		706.58		2.753E-02	3.437E-01	Half-Life	too short	
		856.28		-2.500E-01	3.437E-01	Half-Life	too short	
		875.33		1.059E-01	3.437E-01	Half-Life	too short	
		1236.41		8.327E-01	3.437E-01	Half-Life	too short	
		1298.22		-1.680E-01	3.437E-01	Half-Life	too short	
CS-134		475.35		1.717E+00	2.031E+00	3.543E+00	2.074E-01	0.485
		563.23		-8.481E-03	4.204E-01	6.855E-01	3.964E-02	-0.012
		569.32		1.683E-01	2.142E-01	3.705E-01	2.154E-02	0.454
		604.70		-1.777E-03	4.330E-02	6.056E-02	3.333E-03	-0.029
	+	795.84	*	1.155E-01	8.534E-02	9.296E-02	6.789E-03	1.243
		801.93		-2.429E-01	4.697E-01	6.569E-01	4.855E-02	-0.370
		1038.57		1.469E+00	4.236E+00	7.235E+00	5.554E-01	0.203
		1167.94		-1.209E+00	2.453E+00	3.789E+00	2.172E-01	-0.319
		1365.15		-2.566E-01	1.243E+00	1.949E+00	1.516E-01	-0.132
CS-135		268.24	*	2.199E-01	2.137E-01	3.180E-01	2.430E-02	0.691

## ---- 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			-1.564E+09	2.137E-01	Half-Life	too short	
	417.63			-2.578E+09	2.137E-01	Half-Life	too short	
	546.56			-4.784E+08	2.137E-01	Half-Life	too short	
	836.80			4.196E+08	2.137E-01	Half-Life	too short	
	1038.76			5.091E+09	2.137E-01	Half-Life	too short	
	1124.00			7.344E+09	2.137E-01	Half-Life	too short	
	1131.51			-4.476E+09	2.137E-01	Half-Life	too short	
	1260.41	*		-1.748E+09	2.137E-01	Half-Life	too short	
	1457.56			7.000E+11	2.137E-01	Half-Life	too short	
	1678.03			-4.114E+09	2.137E-01	Half-Life	too short	
	1706.46			-4.696E+09	2.137E-01	Half-Life	too short	
	1791.20			1.699E+09	2.137E-01	Half-Life	too short	
CS-136	66.91			-6.086E-03	1.176E+00	1.466E+00	2.269E-01	-0.004
	86.29	+		3.885E+00	1.454E+00	2.300E+00	3.114E-01	1.689
	153.22	+		1.118E+00	8.770E-01	1.194E+00	8.129E-02	0.936
	163.89			1.032E+00	1.159E+00	1.955E+00	1.314E-01	0.528
	176.55			-3.320E-01	4.052E-01	6.333E-01	3.775E-02	-0.524
	273.65			4.266E-01	6.935E-01	7.519E-01	4.973E-02	0.567
	340.57			2.819E-01	1.534E-01	2.515E-01	1.575E-02	1.121
	818.51			2.690E-02	8.010E-02	1.380E-01	1.054E-02	0.195
	1048.07	*		-1.835E-02	1.098E-01	1.778E-01	1.417E-02	-0.103
	1235.34			6.248E-01	8.544E-01	1.292E+00	1.327E-01	0.484
BA-137M	661.65	*		-7.136E-03	3.959E-02	6.308E-02	3.222E-03	-0.113
CS-137	661.65	*		-7.543E-03	4.185E-02	6.668E-02	3.425E-03	-0.113
CE-139	165.85	*		1.325E-02	3.238E-02	5.362E-02	2.734E-03	0.247
BA-140	162.64			-2.471E-01	8.378E-01	1.348E+00	8.011E-02	-0.183
	304.84			-7.445E-01	1.535E+00	2.136E+00	5.833E-01	-0.349
LA-140	423.70			5.818E-01	1.939E+00	3.264E+00	1.038E+00	0.178
	537.32	*		-4.120E-02	2.866E-01	4.634E-01	1.507E-01	-0.089
	328.77	+		8.568E-01	4.653E-01	5.857E-01	3.862E-02	1.463
	432.53			-6.361E-01	2.221E+00	3.602E+00	2.322E-01	-0.177
	487.03			6.179E-02	1.523E-01	2.577E-01	1.702E-02	0.240
	751.79			4.457E-01	1.933E+00	3.172E+00	2.434E-01	0.140
	815.85			-1.419E-01	3.562E-01	5.749E-01	4.997E-02	-0.247
	867.82			-5.682E-02	1.517E+00	2.522E+00	2.267E-01	-0.023
	919.63			-1.646E+00	2.869E+00	4.474E+00	4.877E-01	-0.368
	925.24			6.960E-02	1.229E+00	1.962E+00	1.846E-01	0.035
	1596.49	*		-9.802E-02	9.016E-02	1.218E-01	8.353E-03	-0.805
CE-141	145.44	*		3.944E-02	6.737E-02	1.127E-01	6.358E-03	0.350
CE-143	57.37			5.570E-04	6.737E-02	Half-Life	too short	
	231.56			-1.744E-03	6.737E-02	Half-Life	too short	
	293.26	*		1.063E-03	6.737E-02	Half-Life	too short	
	350.59	+		2.956E-02	6.737E-02	Half-Life	too short	
	490.36			3.937E-04	6.737E-02	Half-Life	too short	
	664.57			1.426E-03	6.737E-02	Half-Life	too short	
	721.93			1.162E-05	6.737E-02	Half-Life	too short	
CE-144	80.11	+		2.557E+00	2.164E+00	3.738E+00	3.426E-01	0.684
	133.54	*		1.228E-01	2.517E-01	3.710E-01	5.239E-02	0.331
PM-144	476.78			-3.956E-02	7.260E-02	1.146E-01	8.009E-03	-0.345

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		9.331E-03	3.610E-02	5.988E-02	3.454E-03	0.156
		696.49	*	5.053E-02	4.230E-02	7.430E-02	4.180E-03	0.680
		778.57		5.609E-01	2.402E+00	4.112E+00	2.853E-01	0.136
PR-144		696.49	*	3.424E+00	2.866E+00	5.035E+00	2.830E-01	0.680
		1489.15		-1.138E+01	1.388E+01	1.917E+01	1.368E+00	-0.594
PM-146		453.90	*	4.841E-02	4.577E-02	8.081E-02	6.999E-03	0.599
		633.02		3.999E-01	1.480E+00	2.448E+00	8.995E-01	0.163
		735.90		1.101E-02	1.438E-01	2.332E-01	6.524E-02	0.047
		747.13		-1.193E-01	1.057E-01	1.492E-01	1.911E-02	-0.799
ND-147	+	91.11		8.503E-01	3.770E-01	6.059E-01	5.957E-02	1.403
		319.41		9.728E-01	3.620E+00	6.156E+00	3.637E-01	0.158
		439.89		-9.834E-01	6.385E+00	1.045E+01	6.115E-01	-0.094
		531.02	*	5.478E-02	5.993E-01	9.887E-01	1.335E-01	0.055
PM-149		285.90	*	-3.715E+00	9.567E+01	1.567E+02	2.225E+01	-0.024
EU-152		121.78		2.135E-02	8.103E-02	1.347E-01	1.035E-02	0.159
		244.69		-1.666E-01	4.046E-01	5.480E-01	3.100E-02	-0.304
		344.27	*	-8.984E-02	1.302E-01	1.670E-01	1.107E-02	-0.538
		443.98		-3.350E-01	1.000E+00	1.613E+00	9.442E-02	-0.208
		778.89		5.639E-02	2.765E-01	4.723E-01	3.277E-02	0.119
		867.32		-1.310E-01	9.213E-01	1.517E+00	1.292E-01	-0.086
		964.01		8.479E-01	3.838E-01	6.710E-01	5.718E-02	1.264
		1085.78		-1.859E-02	4.119E-01	6.748E-01	4.748E-02	-0.028
		1112.02		1.332E-01	3.501E-01	5.250E-01	3.490E-02	0.254
		1407.95		5.400E-02	2.270E-01	3.786E-01	2.753E-02	0.143
GD-153		69.67		9.844E-01	2.085E+00	3.134E+00	2.739E-01	0.314
		83.37		-1.772E+01	2.671E+01	2.686E+01	2.522E+00	-0.660
		97.43	*	8.368E-02	9.109E-02	1.389E-01	1.135E-02	0.602
		103.18		6.499E-02	1.165E-01	1.964E-01	1.468E-02	0.331
EU-154		123.07		-9.470E-03	5.921E-02	9.337E-02	8.813E-03	-0.101
		247.94		-1.575E-01	4.625E-01	6.292E-01	5.956E-02	-0.250
		591.81		-4.801E-01	6.683E-01	1.018E+00	9.791E-02	-0.472
		723.30		1.649E-01	2.175E-01	3.302E-01	2.402E-02	0.499
		756.87		-3.341E-01	9.276E-01	1.395E+00	1.478E-01	-0.240
		873.19		1.194E-01	3.574E-01	6.123E-01	7.501E-02	0.195
		996.32		1.045E-01	3.857E-01	6.551E-01	1.150E-01	0.159
		1004.76		-1.047E-01	2.328E-01	3.671E-01	4.129E-02	-0.285
		1274.45	*	2.175E-02	1.280E-01	2.125E-01	2.109E-02	0.102
EU-155		48.70		7.886E-03	3.828E+00	6.445E+00	5.198E-01	0.001
		60.01		9.221E+00	6.893E+00	1.081E+01	9.392E-01	0.853
	+	86.54		3.597E-01	1.302E-01	2.121E-01	2.062E-02	1.696
		105.31	*	2.307E-02	1.189E-01	1.979E-01	1.459E-02	0.117
TB-160	+	86.79		9.603E-01	3.474E-01	5.640E-01	5.449E-02	1.703
		197.04		2.677E-01	6.343E-01	1.025E+00	5.454E-02	0.261
		215.65		8.863E-01	8.394E-01	1.417E+00	7.741E-02	0.626
	+	298.57		4.224E-01	1.995E-01	2.300E-01	1.351E-02	1.837
		879.36	*	-1.262E-01	1.585E-01	2.439E-01	2.133E-02	-0.517
		962.29		8.068E-01	7.009E-01	1.128E+00	9.633E-02	0.715
		966.15		1.277E+00	3.706E-01	6.498E-01	5.523E-02	1.965
		1177.93		1.495E-01	3.747E-01	6.390E-01	3.635E-02	0.234

## ----- 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		-5.254E-01	7.955E-01	1.195E+00	7.977E-02	-0.440
	+	80.57		3.295E-01	2.788E-01	4.744E-01	4.362E-02	0.694
	+	184.41		9.716E-02	5.752E-02	7.194E-02	3.760E-03	1.351
		280.46		1.597E-02	9.467E-02	1.409E-01	8.208E-03	0.113
		410.95		7.084E-02	2.655E-01	4.477E-01	2.603E-02	0.158
		711.68	*	-2.043E-03	6.933E-02	1.115E-01	6.525E-03	-0.018
		752.31		2.732E-02	3.195E-01	5.173E-01	3.362E-02	0.053
TM-171		810.29		2.433E-03	6.242E-02	1.049E-01	7.848E-03	0.023
		51.35		1.794E+01	4.404E+01	7.522E+01	6.538E+00	0.238
		52.39		-1.918E+01	2.230E+01	3.606E+01	3.168E+00	-0.532
		59.40		2.962E+01	3.809E+01	5.839E+01	5.073E+00	0.507
		66.72	*	-7.286E+00	3.960E+01	5.370E+01	4.670E+00	-0.136
LU-176	+	88.36		7.084E-01	2.563E-01	4.343E-01	4.210E-02	1.631
		201.83		4.258E-03	3.283E-02	5.336E-02	2.860E-03	0.080
	*	306.84		2.285E-02	2.807E-02	4.361E-02	2.569E-03	0.524
		401.10		-2.455E+00	7.096E+00	1.152E+01	6.671E-01	-0.213
LU-177		112.95		8.085E-02	1.753E+00	2.896E+00	1.899E-01	0.028
LU-177M	+	208.36	*	2.165E+00	1.683E+00	2.148E+00	1.162E-01	1.008
		52.97		-2.753E+00	2.272E+00	3.607E+00	3.180E-01	-0.763
		54.07		-1.080E+00	1.180E+00	1.902E+00	1.681E-01	-0.568
		61.30		2.497E+00	2.082E+00	3.238E+00	2.812E-01	0.771
		121.62		1.271E-01	4.162E-01	6.928E-01	4.095E-02	0.183
		147.16		-6.915E-01	6.933E-01	1.083E+00	5.812E-02	-0.638
		171.86		6.638E-02	5.224E-01	8.541E-01	4.385E-02	0.078
		218.09		4.005E-01	9.577E-01	1.573E+00	8.624E-02	0.255
	+	268.79		2.168E+00	1.276E+00	1.628E+00	9.406E-02	1.332
		319.02		-1.318E-02	2.822E-01	4.721E-01	2.788E-02	-0.028
		367.43		-2.784E-01	9.748E-01	1.596E+00	9.350E-02	-0.174
		413.65	*	-1.814E-01	1.939E-01	3.015E-01	1.754E-02	-0.602
	HF-181	56.28		-1.843E-01	1.252E+00	2.089E+00	1.840E-01	-0.088
		57.53		6.459E-01	7.315E-01	1.130E+00	9.903E-02	0.572
		65.20		-2.776E-01	1.269E+00	1.841E+00	1.600E-01	-0.151
		133.02		7.535E-03	8.202E-02	1.185E-01	6.653E-03	0.064
		136.25		-4.172E-01	5.143E-01	8.145E-01	4.520E-02	-0.512
W-181		345.85		9.708E-02	2.946E-01	3.520E-01	2.076E-02	0.276
		482.03	*	-1.088E-02	4.482E-02	7.240E-02	4.235E-03	-0.150
		56.28		-7.194E-02	4.904E-01	8.183E-01	7.206E-02	-0.088
		57.53		2.530E-01	2.867E-01	4.430E-01	3.882E-02	0.571
TA-182		65.20	*	-1.080E-01	4.935E-01	7.161E-01	6.221E-02	-0.151
		67.75		4.829E-02	1.926E-01	2.104E-01	1.832E-02	0.230
		100.10		-2.285E-02	1.988E-01	3.162E-01	2.475E-02	-0.072
	+	152.43		5.753E-01	4.506E-01	6.195E-01	3.274E-02	0.929
		222.10		1.112E-01	3.727E-01	6.090E-01	3.356E-02	0.183
RE-183		1001.68		1.576E-01	2.175E+00	3.624E+00	2.942E-01	0.043
		1121.28		5.288E-01	2.179E-01	3.805E-01	2.475E-02	1.390
		1189.05		4.312E-02	3.523E-01	5.834E-01	3.385E-02	0.074
		1221.42	*	2.080E-01	2.178E-01	3.865E-01	2.373E-02	0.538
		1230.97		-2.388E-01	5.471E-01	8.348E-01	5.208E-02	-0.286
		57.98		2.141E-01	2.920E-01	4.474E-01	3.913E-02	0.478

---- 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		1.130E-01	1.564E-01	2.393E-01	2.079E-02	0.472
		67.20		5.546E-03	3.011E-01	3.760E-01	3.271E-02	0.015
		162.32	*	-6.530E-02	1.241E-01	1.977E-01	1.017E-02	-0.330
	+	208.81		1.957E+00	1.521E+00	1.928E+00	1.044E-01	1.015
		291.72		4.087E-01	1.132E+00	1.703E+00	9.978E-02	0.240
		57.98		7.891E-01	1.076E+00	1.649E+00	1.442E-01	0.478
		59.32		4.163E-01	5.761E-01	8.812E-01	7.659E-02	0.472
		67.20		2.044E-02	1.110E+00	1.385E+00	1.205E-01	0.015
		161.27		-1.215E-01	3.991E-01	6.421E-01	3.312E-02	-0.189
		216.55		3.227E-01	3.006E-01	5.075E-01	2.776E-02	0.636
		252.85	*	-8.177E-02	2.564E-01	4.032E-01	2.299E-02	-0.203
		318.01		-1.731E-01	4.808E-01	7.904E-01	4.667E-02	-0.219
OS-185		792.07		1.586E+00	1.209E+00	2.009E+00	1.439E-01	0.789
		903.28		1.010E+00	1.155E+00	1.855E+00	1.681E-01	0.544
		920.93		-1.365E-01	4.410E-01	7.081E-01	6.316E-02	-0.193
		59.72		5.314E-01	4.115E-01	6.447E-01	5.598E-02	0.824
		61.14		2.340E-01	2.280E-01	3.524E-01	3.061E-02	0.664
		69.30		2.572E-01	3.966E-01	5.634E-01	4.919E-02	0.457
		592.07		-1.412E+00	2.690E+00	4.178E+00	2.312E-01	-0.338
		646.12	*	-2.492E-02	4.141E-02	6.292E-02	3.283E-03	-0.396
		717.42		-3.223E-01	1.021E+00	1.597E+00	9.492E-02	-0.202
		874.81		6.174E-01	6.801E-01	1.218E+00	1.055E-01	0.507
		880.27		-7.403E-01	8.808E-01	1.348E+00	1.181E-01	-0.549
		155.03	*	-3.242E-03	2.130E-01	3.041E-01	1.595E-02	-0.011
RE-188		477.96		-2.946E+00	3.310E+00	5.075E+00	2.970E-01	-0.580
		633.10		7.669E-01	2.972E+00	4.933E+00	2.617E-01	0.155
W-188	+	63.58		1.558E+02	1.043E+02	1.128E+02	9.794E+00	1.382
		227.08		3.075E+00	1.444E+01	2.346E+01	1.301E+00	0.131
IR-192		290.67	*	4.380E+00	8.560E+00	1.303E+01	7.630E-01	0.336
	+	295.96		1.100E+00	2.087E-01	3.078E-01	1.835E-02	3.573
		308.46		2.545E-02	1.043E-01	1.682E-01	1.002E-02	0.151
		316.51	*	-2.660E-02	3.649E-02	5.866E-02	3.480E-03	-0.453
AU-195		468.07		2.921E-03	7.756E-02	1.113E-01	7.494E-03	0.026
		604.41		-1.398E-01	5.779E-01	7.894E-01	8.830E-02	-0.177
		612.46		2.692E-01	9.475E-01	1.370E+00	9.987E-02	0.197
		65.12		-3.925E-02	2.292E-01	3.335E-01	2.897E-02	-0.118
		66.83		-2.632E-02	1.306E-01	1.770E-01	1.539E-02	-0.149
	+	75.70		1.535E+00	3.089E-01	5.606E-01	5.007E-02	2.738
		98.88	*	7.056E-02	2.760E-01	4.067E-01	3.245E-02	0.174
	+	129.76		4.471E+00	4.351E+00	5.668E+00	3.221E-01	0.789
TL-200		367.94	*	-5.079E-05	4.351E+00	Half-Life	too short	
		579.30		1.039E-02	4.351E+00	Half-Life	too short	
		828.27		-3.219E-03	4.351E+00	Half-Life	too short	
		1205.75		-5.138E-04	4.351E+00	Half-Life	too short	
TL-201		68.90		4.571E+00	6.897E+00	8.962E+00	7.818E-01	0.510
		70.82		1.326E+00	3.399E+00	5.086E+00	4.457E-01	0.261
	+	80.30		5.987E+00	5.065E+00	8.671E+00	7.958E-01	0.690
		135.34		-2.388E+01	2.811E+01	4.446E+01	2.475E+00	-0.537
		167.43	*	-1.917E+00	7.363E+00	1.184E+01	6.044E-01	-0.162

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		4.153E-01	6.267E-01	8.143E-01	7.103E-02	0.510
		70.82		1.202E-01	3.080E-01	4.609E-01	4.039E-02	0.261
	+	80.30		5.427E-01	4.591E-01	7.860E-01	7.214E-02	0.690
		439.56	*	-2.923E-02	7.681E-02	1.237E-01	7.238E-03	-0.236
HG-203		70.83		5.276E-01	1.339E+00	2.003E+00	2.743E-01	0.263
		72.87		2.584E+00	8.266E-01	1.377E+00	1.836E-01	1.877
		82.60		-8.296E-01	2.005E+00	2.048E+00	2.908E-01	-0.405
		279.20	*	5.622E-02	4.739E-02	7.528E-02	4.650E-03	0.747
BI-207		72.80		6.886E-01	2.269E-01	3.981E-01	3.511E-02	1.730
	+	74.97		8.516E-01	1.714E-01	2.782E-01	2.476E-02	3.061
		84.90		4.896E-02	3.424E-01	3.686E-01	3.504E-02	0.133
		569.67		2.980E-02	3.327E-02	5.799E-02	3.267E-03	0.514
		1063.62	*	-2.916E-02	5.710E-02	8.899E-02	6.538E-03	-0.328
		1770.23		-2.339E+00	7.947E-01	6.724E-01	4.163E-02	-3.478
TL-207	+	81.07		2.647E-01	2.239E-01	3.757E-01	3.467E-02	0.704
		83.78		-1.475E-01	2.263E-01	2.278E-01	2.146E-02	-0.648
		94.90		3.271E-01	2.827E-01	4.329E-01	3.693E-02	0.756
		122.32		6.296E-01	1.929E+00	3.213E+00	2.174E-01	0.196
		144.24		2.429E-01	7.653E-01	1.249E+00	8.649E-02	0.194
	+	154.21		6.748E-01	5.292E-01	7.096E-01	4.664E-02	0.951
	+	269.46		5.077E-01	2.989E-01	3.840E-01	2.321E-02	1.322
		323.87	*	-3.021E-01	8.245E-01	1.166E+00	1.931E-01	-0.259
	+	338.28		9.406E+00	2.458E+00	2.771E+00	2.935E-01	3.394
		445.03		1.052E+00	2.257E+00	3.855E+00	3.971E-01	0.273
PO-209		260.50		-1.373E+01	1.087E+01	1.608E+01	9.234E-01	-0.854
		262.80		-8.646E+00	3.107E+01	4.707E+01	2.707E+00	-0.184
		896.60	*	-5.641E+00	7.874E+00	1.214E+01	1.102E+00	-0.465
BI-210		46.50	*	-1.716E+00	6.057E+00	9.866E+00	7.682E-01	-0.174
PB-210		46.50	*	-1.716E+00	6.057E+00	9.866E+00	7.682E-01	-0.174
PO-210		46.50	*	-1.716E+00	6.057E+00	9.866E+00	6.619E-01	-0.174
PB-211		404.84	*	-8.422E-01	1.178E+00	1.665E+00	1.038E+00	-0.506
		427.08		1.007E+00	2.237E+00	3.672E+00	2.270E+00	0.274
		831.96		1.859E+00	1.773E+00	2.487E+00	1.556E+00	0.748
PO-215	+	81.07		2.647E-01	2.239E-01	3.757E-01	3.467E-02	0.704
		83.78		-1.475E-01	2.263E-01	2.278E-01	2.146E-02	-0.648
		94.90		3.271E-01	2.827E-01	4.329E-01	3.693E-02	0.756
		122.32		6.296E-01	1.929E+00	3.213E+00	2.174E-01	0.196
		144.24		2.429E-01	7.653E-01	1.249E+00	8.649E-02	0.194
	+	154.21		6.748E-01	5.292E-01	7.096E-01	4.664E-02	0.951
	+	269.46		5.077E-01	2.989E-01	3.840E-01	2.321E-02	1.322
		323.87	*	-3.021E-01	8.245E-01	1.166E+00	1.931E-01	-0.259
	+	338.28		9.406E+00	2.458E+00	2.771E+00	2.935E-01	3.394
		445.03		1.052E+00	2.257E+00	3.855E+00	3.971E-01	0.273
RN-219	+	271.23		6.514E-01	3.851E-01	4.753E-01	3.848E-02	1.371
		401.81	*	-1.942E-01	4.461E-01	7.189E-01	9.779E-02	-0.270
RN-220		549.76	*	-1.028E+01	2.746E+01	4.347E+01	2.481E+00	-0.237
RA-223	+	81.07		2.647E-01	2.239E-01	3.757E-01	3.467E-02	0.704
		83.78		-1.475E-01	2.263E-01	2.278E-01	2.146E-02	-0.648
		94.90		3.271E-01	2.827E-01	4.329E-01	3.693E-02	0.756



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		6.296E-01	1.929E+00	3.213E+00	2.174E-01	0.196
		144.24		2.429E-01	7.653E-01	1.249E+00	8.649E-02	0.194
	+	154.21		6.748E-01	5.292E-01	7.096E-01	4.664E-02	0.951
	+	269.46		5.077E-01	2.989E-01	3.840E-01	2.321E-02	1.322
		323.87	*	-3.021E-01	8.245E-01	1.166E+00	1.931E-01	-0.259
	+	338.28		9.406E+00	2.458E+00	2.771E+00	2.935E-01	3.394
		445.03		1.052E+00	2.257E+00	3.855E+00	3.971E-01	0.273
AC-227	+	79.80		1.972E+00	1.713E+00	2.940E+00	6.385E-01	0.671
		236.00		2.759E+00	4.315E-01	6.635E-01	6.864E-02	4.157
		256.20	*	2.414E-01	4.196E-01	6.908E-01	9.620E-02	0.349
		286.10		6.325E-01	1.576E+00	2.707E+00	3.135E-01	0.234
	+	299.80		5.383E+00	2.671E+00	2.940E+00	4.797E-01	1.831
		304.40		-1.001E+00	2.257E+00	3.172E+00	5.496E-01	-0.316
		334.20		1.185E+00	3.419E+00	4.092E+00	7.516E-01	0.290
TH-227	+	79.80		1.972E+00	1.714E+00	2.940E+00	6.465E-01	0.671
	+	94.00		8.836E+00	3.496E+00	4.165E+00	9.079E-01	2.122
		236.00		2.759E+00	4.068E-01	6.635E-01	5.927E-02	4.157
		256.20	*	2.414E-01	4.202E-01	6.908E-01	1.165E-01	0.349
		286.10		6.325E-01	1.697E+00	2.707E+00	2.711E+00	0.234
	+	299.80		5.383E+00	2.671E+00	2.940E+00	4.797E-01	1.831
		304.40		-1.001E+00	2.257E+00	3.172E+00	5.496E-01	-0.316
		334.20		1.185E+00	3.419E+00	4.092E+00	7.516E-01	0.290
TH-229		85.43		5.798E-01	2.907E-01	3.953E-01	3.774E-02	1.467
	+	88.47		3.387E-01	1.497E-01	2.488E-01	2.406E-02	1.361
		100.00		-1.876E-02	2.066E-01	3.291E-01	2.580E-02	-0.057
		193.63	*	2.577E-01	5.600E-01	9.249E-01	4.899E-02	0.279
	+	210.97		1.533E+00	1.192E+00	1.444E+00	7.838E-02	1.062
PA-231		283.67	*	3.695E-02	1.802E+00	2.651E+00	3.657E-01	0.014
	+	301.29		2.153E+00	1.034E+00	1.160E+00	1.218E-01	1.856
TH-231	+	81.07		2.647E-01	2.239E-01	3.757E-01	3.467E-02	0.704
		83.78		-1.475E-01	2.263E-01	2.278E-01	2.146E-02	-0.648
		94.90		3.271E-01	2.827E-01	4.329E-01	3.693E-02	0.756
		122.32		6.296E-01	1.929E+00	3.213E+00	2.174E-01	0.196
		144.24		2.429E-01	7.653E-01	1.249E+00	8.649E-02	0.194
	+	154.21		6.748E-01	5.292E-01	7.096E-01	4.664E-02	0.951
	+	269.46		5.077E-01	2.989E-01	3.840E-01	2.321E-02	1.322
		323.87	*	-3.021E-01	8.245E-01	1.166E+00	1.931E-01	-0.259
	+	338.28		9.406E+00	2.458E+00	2.771E+00	2.935E-01	3.394
		445.03		1.052E+00	2.257E+00	3.855E+00	3.971E-01	0.273
U-231		84.21		-7.566E-01	9.322E+00	9.869E+00	9.328E-01	-0.077
	+	92.29		8.640E+00	2.949E+00	4.360E+00	3.903E-01	1.982
		95.87	*	1.549E-01	1.252E+00	1.833E+00	1.538E-01	0.084
		108.00		-2.002E+00	2.247E+00	3.573E+00	2.497E-01	-0.560
PA-233	+	75.28		2.485E+01	5.913E+00	8.743E+00	1.356E+00	2.842
	+	86.59		5.847E+00	2.585E+00	3.445E+00	9.360E-01	1.697
	+	300.12		1.501E+00	7.318E-01	8.240E-01	1.110E-01	1.821
		311.98	*	-1.932E-02	6.628E-02	1.094E-01	6.842E-03	-0.177
		340.50		1.586E+00	8.358E-01	1.258E+00	2.892E-01	1.261
		398.62		2.111E+00	2.284E+00	3.903E+00	1.009E+00	0.541



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-3.710E-01	1.714E+00	2.797E+00	5.760E-01	-0.133
		63.00		4.522E+00	3.081E+00	3.362E+00	5.223E-01	1.345
		94.67		4.720E-01	2.095E-01	3.258E-01	4.029E-02	1.449
		98.44		7.108E-02	1.162E-01	1.644E-01	9.160E-02	0.432
		99.86		-3.056E-02	5.239E-01	8.357E-01	6.565E-02	-0.037
		111.00		-7.913E-03	2.020E-01	3.327E-01	3.598E-02	-0.024
		131.20		7.933E-02	1.333E-01	1.978E-01	1.118E-02	0.401
		152.70		5.537E-01	4.413E-01	5.976E-01	9.338E-02	0.927
		186.00		3.498E+00	2.321E+00	2.642E+00	8.045E-01	1.324
		226.40		-4.346E-04	4.549E-01	7.318E-01	8.366E-02	-0.001
		227.20		9.875E-02	4.877E-01	7.922E-01	4.393E-02	0.125
		248.90		2.911E-01	9.414E-01	1.479E+00	3.173E-01	0.197
		293.70		6.928E+00	1.674E+00	1.936E+00	3.117E-01	3.579
		369.80		-3.671E-01	9.114E-01	1.476E+00	3.075E-01	-0.249
		568.70		5.981E-01	1.092E+00	1.858E+00	1.047E-01	0.322
		569.50		2.605E-01	2.949E-01	5.137E-01	2.894E-02	0.507
		574.00		-4.724E-01	1.690E+00	2.617E+00	1.470E-01	-0.181
		699.00		-4.251E-04	8.944E-01	1.443E+00	2.589E-01	0.000
		706.10		-3.938E-01	1.215E+00	1.884E+00	8.312E-01	-0.209
		733.00		-1.318E-01	4.090E-01	5.359E-01	1.145E-01	-0.246
		742.81		1.102E+00	1.698E+00	2.622E+00	1.756E+00	0.420
		796.30		2.245E+00	1.755E+00	1.784E+00	4.754E-01	1.258
		805.60		-6.579E-01	1.033E+00	1.593E+00	4.833E-01	-0.413
		819.60		4.720E-01	1.351E+00	2.311E+00	8.739E-01	0.204
		826.30		-1.030E+00	9.848E-01	1.290E+00	5.753E-01	-0.798
		831.60		8.292E-01	7.378E-01	1.275E+00	3.779E-01	0.650
		876.40		3.852E-01	1.047E+00	1.672E+00	1.718E+00	0.230
		880.51		-2.638E-01	3.136E-01	4.793E-01	4.202E-02	-0.550
		883.24		3.525E-01	3.887E-01	5.668E-01	3.812E-01	0.622
		899.00		-2.101E-01	8.610E-01	1.390E+00	6.089E-01	-0.151
		925.00		1.586E-01	1.257E+00	2.023E+00	1.798E-01	0.078
		926.50		1.457E-01	2.062E-01	3.213E-01	8.148E-02	0.453
		946.00	*	-2.206E-01	2.907E-01	4.353E-01	8.183E-02	-0.507
		949.00		3.188E-01	4.461E-01	7.930E-01	6.873E-02	0.402
		980.50		2.737E-01	7.059E-01	1.219E+00	1.018E-01	0.225
		1394.10		-2.665E-01	1.082E+00	1.650E+00	1.071E+00	-0.162
PA-234M		766.42		4.466E+00	1.336E+01	2.174E+01	1.097E+01	0.205
		1001.03	*	-2.134E-01	4.828E+00	7.953E+00	7.588E-01	-0.027
U-235	+	89.95		3.399E+00	1.809E+00	2.167E+00	6.735E-01	1.569
	+	93.35		2.749E+00	1.191E+00	1.364E+00	3.828E-01	2.016
		105.00		4.750E-01	1.169E+00	1.947E+00	5.742E-01	0.244
		143.76	*	-1.254E-02	2.402E-01	3.867E-01	6.254E-02	-0.032
		163.35		2.003E-01	5.221E-01	8.621E-01	1.533E-01	0.232
	+	185.71		1.295E-01	7.669E-02	9.701E-02	5.080E-03	1.335
		205.31		-4.466E-01	7.032E-01	9.454E-01	1.688E-01	-0.472
NP-236		94.67		3.607E-01	1.558E-01	2.474E-01	2.120E-02	1.458
		98.44		5.372E-02	8.266E-02	1.243E-01	9.989E-03	0.432
		111.00		-5.986E-03	1.528E-01	2.516E-01	1.691E-02	-0.024
		160.31	*	1.554E-03	8.737E-02	1.425E-01	7.371E-03	0.011

---- 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		1.140E-02	1.822E-01	2.803E-01	2.213E-02	0.041
		117.00	*	9.558E-02	2.093E-01	3.507E-01	2.189E-02	0.273
	+	209.75		1.545E+00	1.201E+00	1.509E+00	8.181E-02	1.023
		228.18		2.650E-01	2.503E-01	4.226E-01	2.346E-02	0.627
	+	277.60		7.996E-01	3.905E-01	3.545E-01	2.061E-02	2.256
AM-241		334.30		7.202E-01	1.936E+00	2.328E+00	1.375E-01	0.309
		59.54	*	1.850E-01	2.213E-01	3.400E-01	3.163E-02	0.544
CM-243		99.55		1.173E-02	1.875E-01	2.884E-01	2.277E-02	0.041
		103.76	*	1.517E-01	1.065E-01	1.844E-01	1.367E-02	0.822
		117.00		9.833E-02	2.153E-01	3.608E-01	2.252E-02	0.273
	+	209.75		1.523E+00	1.184E+00	1.488E+00	8.065E-02	1.023
		228.18		2.677E-01	2.529E-01	4.270E-01	2.371E-02	0.627
AM-246	+	277.60		8.061E-01	3.936E-01	3.573E-01	2.078E-02	2.256
		798.80		-1.102E-01	1.645E-01	2.156E-01	1.570E-02	-0.511
		1036.00		-5.469E-02	3.243E-01	5.259E-01	4.054E-02	-0.104
		1062.04		-4.134E-02	2.423E-01	3.921E-01	2.889E-02	-0.105
		1078.86	*	-4.272E-02	1.499E-01	2.391E-01	1.706E-02	-0.179
CM-247	+	278.00		3.316E+00	1.619E+00	1.474E+00	8.573E-02	2.249
		287.40		7.471E-01	1.354E+00	2.227E+00	1.302E-01	0.336
CF-249		402.60	*	-3.550E-02	4.058E-02	6.353E-02	3.683E-03	-0.559
		252.85		-3.069E-01	9.625E-01	1.513E+00	8.630E-02	-0.203
		333.44		8.973E-02	2.733E-01	2.828E-01	1.671E-02	0.317
CF-251		387.95	*	2.493E-02	4.618E-02	7.912E-02	4.578E-03	0.315
		176.60	*	-1.189E-01	1.400E-01	2.185E-01	1.129E-02	-0.544
		227.00		1.546E-01	4.304E-01	7.042E-01	3.904E-02	0.220
		285.00		-4.080E-01	2.020E+00	3.061E+00	1.787E-01	-0.133

## 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]G244881004
* Acquisition date   : 26-JAN-2010 13:21:53 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 02:00:01.71             Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244881004              Analyst initials: MXR1
* Batch Number       : 942718                  Sample Quantity : 1.2809E+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	2.123E+01	2.384E+00	5.311E-01	0.000E+00
CD-109	3.038E+00	1.077E+00	1.414E+00	0.000E+00
SN-126	2.987E-01	1.059E-01	1.398E-01	0.000E+00
TL-208	5.333E-01	9.652E-02	6.270E-02	0.000E+00
BI-211	3.843E+00	5.492E-01	4.022E-01	0.000E+00
BI-212	8.854E-01	4.493E-01	3.649E-01	0.000E+00
PB-212	1.692E+00	1.660E-01	9.070E-02	0.000E+00
PO-212	1.692E+00	1.660E-01	9.070E-02	0.000E+00
BI-214	1.121E+00	1.921E-01	1.283E-01	0.000E+00
PB-214	1.337E+00	2.029E-01	1.313E-01	0.000E+00
PO-214	1.337E+00	2.029E-01	1.313E-01	0.000E+00
PO-216	1.692E+00	1.660E-01	9.070E-02	0.000E+00
PO-218	1.337E+00	2.029E-01	1.313E-01	0.000E+00
RA-224	4.149E+00	1.170E+00	1.032E+00	0.000E+00
RA-226	1.121E+00	1.921E-01	1.283E-01	0.000E+00
AC-228	1.677E+00	3.335E-01	2.274E-01	0.000E+00
RA-228	1.677E+00	3.335E-01	2.274E-01	0.000E+00
TH-228	1.717E+00	1.685E-01	9.207E-02	0.000E+00
TH-230	1.121E+00	1.921E-01	1.283E-01	0.000E+00
TH-232	1.677E+00	3.335E-01	2.274E-01	0.000E+00
TH-234	3.880E+00	2.614E+00	2.722E+00	0.000E+00
U-234	1.121E+00	1.921E-01	1.283E-01	0.000E+00
NP-237	8.770E-01	3.580E-01	4.168E-01	0.000E+00
U-238	3.880E+00	2.614E+00	2.722E+00	0.000E+00
AM-243	4.744E-01	9.357E-02	1.065E-01	0.000E+00
ANH-511	1.462E-01	7.332E-02	5.242E-02	0.000E+00

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-2.362E-01	3.380E-01	5.475E-01	0.000E+00 NOT IDENT.

NA-22	7.312E-03	4.484E-02	7.605E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	7.426E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-9.078E-03	3.710E-02	5.749E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.067E-02	9.486E-02	0.000E+00	FAIL ABUN
SC-46	-3.494E-02	4.292E-02	6.772E-02	0.000E+00	FAIL ABUN
V-48	-2.277E-02	7.064E-02	1.160E-01	0.000E+00	NOT IDENT.
CR-51	3.543E-01	4.087E-01	7.300E-01	0.000E+00	NOT IDENT.
MN-52	1.683E-01	2.459E-01	4.469E-01	0.000E+00	NOT IDENT.
MN-54	3.784E-03	4.237E-02	7.344E-02	0.000E+00	NOT IDENT.
CO-56	-5.403E-03	3.997E-02	6.787E-02	0.000E+00	FAIL ABUN
CO-57	7.988E-03	2.738E-02	4.827E-02	0.000E+00	NOT IDENT.
CO-58	1.539E-02	3.989E-02	7.113E-02	0.000E+00	NOT IDENT.
FE-59	4.218E-03	1.016E-01	1.720E-01	0.000E+00	NOT IDENT.
CO-60	3.207E-02	4.415E-02	7.959E-02	0.000E+00	NOT IDENT.
ZN-65	1.736E-02	1.131E-01	1.680E-01	0.000E+00	NOT IDENT.
GE-68	-6.652E-01	1.299E+00	2.073E+00	0.000E+00	NOT IDENT.
AS-73	-1.422E+00	1.122E+00	1.907E+00	0.000E+00	NOT IDENT.
AS-74	4.957E-02	1.007E-01	1.760E-01	0.000E+00	NOT IDENT.
SE-75	5.278E-02	5.306E-02	8.331E-02	0.000E+00	NOT IDENT.
BR-77	-6.746E+00	1.015E+01	1.628E+01	0.000E+00	FAIL ABUN
SR-82	-2.031E-01	4.028E-01	6.672E-01	0.000E+00	NOT IDENT.
RB-83	-5.088E-02	6.779E-02	1.078E-01	0.000E+00	NOT IDENT.
RB-84	-2.960E-02	7.510E-02	1.240E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.939E+00	1.396E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.068E-02	7.151E-02	0.000E+00	NOT IDENT.
RB-86	-2.394E-01	8.127E-01	1.329E+00	0.000E+00	NOT IDENT.
Y-88	-6.747E-03	3.296E-02	5.285E-02	0.000E+00	NOT IDENT.
ZR-88	-1.490E-02	3.399E-02	5.729E-02	0.000E+00	NOT IDENT.
Y-91	-9.029E+00	2.103E+01	3.377E+01	0.000E+00	NOT IDENT.
NB-94	-9.379E-03	3.878E-02	6.329E-02	0.000E+00	NOT IDENT.
NB-95	6.713E-03	4.858E-02	8.131E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.741E-01	3.004E-01	0.000E+00	NOT IDENT.
ZR-95	-9.170E-03	8.509E-02	1.356E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	9.342E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.263E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.086E-01	1.237E+01	2.042E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.634E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.493E-02	3.695E-02	6.053E-02	0.000E+00	NOT IDENT.
RH-102	1.556E-02	3.129E-02	5.534E-02	0.000E+00	NOT IDENT.
RU-103	-3.359E-03	3.967E-02	6.719E-02	0.000E+00	NOT IDENT.
RH-106	-3.533E-02	3.431E-01	5.712E-01	0.000E+00	NOT IDENT.
RU-106	-3.533E-02	3.430E-01	5.712E-01	0.000E+00	NOT IDENT.
AG-108M	3.016E-04	3.592E-02	6.183E-02	0.000E+00	NOT IDENT.
AG-110M	-2.387E-02	3.550E-02	5.562E-02	0.000E+00	NOT IDENT.
IN-111	-4.991E-01	1.262E+00	1.768E+00	0.000E+00	NOT IDENT.
IN-113M	9.141E-03	4.862E-02	8.511E-02	0.000E+00	NOT IDENT.
SN-113	9.141E-03	4.862E-02	8.511E-02	0.000E+00	NOT IDENT.
IN-114M	1.205E-01	2.164E-01	3.337E-01	0.000E+00	NOT IDENT.
CD-115	2.514E+00	1.088E+01	1.883E+01	0.000E+00	NOT IDENT.
SN-117M	5.125E-02	6.621E-02	1.042E-01	0.000E+00	NOT IDENT.
SB-122	-1.948E-01	2.293E+00	3.854E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.204E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.885E-02	3.306E-02	5.411E-02	0.000E+00	NOT IDENT.
I-124	-7.272E-01	8.581E-01	1.128E+00	0.000E+00	NOT IDENT.
SB-124	-5.577E-02	8.324E-02	1.230E-01	0.000E+00	FAIL ABUN
SB-125	1.467E-02	9.603E-02	1.670E-01	0.000E+00	FAIL ABUN
TE-125M	1.940E+00	9.817E+00	1.733E+01	0.000E+00	NOT IDENT.
I-126	7.193E-02	2.034E-01	3.495E-01	0.000E+00	NOT IDENT.
SB-126	3.912E-03	1.847E-01	2.653E-01	0.000E+00	NOT IDENT.
SB-127	-3.385E-01	1.521E+00	2.488E+00	0.000E+00	NOT IDENT.
XE-127	3.422E-02	5.616E-02	9.097E-02	0.000E+00	NOT IDENT.
I-131	1.046E-01	1.254E-01	2.279E-01	0.000E+00	FAIL ABUN
TE-132	7.956E-01	7.473E-01	1.312E+00	0.000E+00	NOT IDENT.
BA-133	5.932E-03	5.085E-02	7.773E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.118E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.363E-02	9.385E-02	0.000E+00	FAIL ABUN
CS-135	2.199E-01	2.095E-01	3.265E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.055E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.835E-02	1.076E-01	1.787E-01	0.000E+00	FAIL ABUN
BA-137M	-7.136E-03	3.879E-02	6.387E-02	0.000E+00	NOT IDENT.
CS-137	-7.543E-03	4.101E-02	6.751E-02	0.000E+00	NOT IDENT.
CE-139	1.325E-02	3.173E-02	5.544E-02	0.000E+00	NOT IDENT.
BA-140	-4.120E-02	2.809E-01	4.707E-01	0.000E+00	NOT IDENT.
LA-140	-9.802E-02	8.836E-02	1.216E-01	0.000E+00	FAIL ABUN
CE-141	3.944E-02	6.602E-02	1.168E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.963E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.228E-01	2.467E-01	3.848E-01	0.000E+00	FAIL ABUN
PM-144	5.053E-02	4.145E-02	7.517E-02	0.000E+00	NOT IDENT.

PR-144	3.424E+00	2.809E+00	5.094E+00	0.000E+00	NOT IDENT.
PM-146	4.841E-02	4.485E-02	8.230E-02	0.000E+00	NOT IDENT.
ND-147	5.478E-02	5.873E-01	1.005E+00	0.000E+00	FAIL ABUN
PM-149	-3.715E+00	9.375E+01	1.608E+02	0.000E+00	NOT IDENT.
EU-152	-8.984E-02	1.276E-01	1.708E-01	0.000E+00	NOT IDENT.
GD-153	8.368E-02	8.927E-02	1.448E-01	0.000E+00	NOT IDENT.
EU-154	2.175E-02	1.254E-01	2.129E-01	0.000E+00	NOT IDENT.
EU-155	2.307E-02	1.165E-01	2.059E-01	0.000E+00	FAIL ABUN
TB-160	-1.262E-01	1.553E-01	2.459E-01	0.000E+00	FAIL ABUN
HO-166M	-2.043E-03	6.795E-02	1.127E-01	0.000E+00	FAIL ABUN
TM-171	-7.286E+00	3.880E+01	5.627E+01	0.000E+00	NOT IDENT.
LU-176	2.285E-02	2.751E-02	4.468E-02	0.000E+00	FAIL ABUN
LU-177	2.165E+00	1.649E+00	2.214E+00	0.000E+00	FAIL ABUN
LU-177M	-1.814E-01	1.900E-01	3.075E-01	0.000E+00	FAIL ABUN
HF-181	-1.088E-02	4.392E-02	7.367E-02	0.000E+00	NOT IDENT.
W-181	-1.080E-01	4.837E-01	7.506E-01	0.000E+00	NOT IDENT.
TA-182	2.080E-01	2.134E-01	3.877E-01	0.000E+00	FAIL ABUN
RE-183	-6.530E-02	1.216E-01	2.045E-01	0.000E+00	FAIL ABUN
RE-184	-8.177E-02	2.513E-01	4.143E-01	0.000E+00	NOT IDENT.
OS-185	-2.492E-02	4.059E-02	6.373E-02	0.000E+00	NOT IDENT.
RE-188	-3.242E-03	2.088E-01	3.147E-01	0.000E+00	NOT IDENT.
W-188	4.380E+00	8.389E+00	1.336E+01	0.000E+00	FAIL ABUN
IR-192	-2.660E-02	3.576E-02	6.007E-02	0.000E+00	FAIL ABUN
AU-195	7.056E-02	2.705E-01	4.237E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.582E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.917E+00	7.215E+00	1.224E+01	0.000E+00	FAIL ABUN
TL-202	-2.923E-02	7.527E-02	1.260E-01	0.000E+00	FAIL ABUN
HG-203	5.622E-02	4.644E-02	7.724E-02	0.000E+00	NOT IDENT.
BI-207	-2.916E-02	5.596E-02	8.944E-02	0.000E+00	FAIL ABUN
TL-207	-3.021E-01	8.080E-01	1.194E+00	0.000E+00	FAIL ABUN
PO-209	-5.641E+00	7.716E+00	1.223E+01	0.000E+00	NOT IDENT.
BI-210	-1.716E+00	5.936E+00	1.039E+01	0.000E+00	NOT IDENT.
PB-210	-1.716E+00	5.936E+00	1.039E+01	0.000E+00	NOT IDENT.
PO-210	-1.716E+00	5.936E+00	1.039E+01	0.000E+00	NOT IDENT.
PB-211	-8.422E-01	1.155E+00	1.698E+00	0.000E+00	NOT IDENT.
PO-215	-3.021E-01	8.080E-01	1.194E+00	0.000E+00	FAIL ABUN
RN-219	-1.942E-01	4.372E-01	7.335E-01	0.000E+00	FAIL ABUN
RN-220	-1.028E+01	2.691E+01	4.414E+01	0.000E+00	NOT IDENT.
RA-223	-3.021E-01	8.080E-01	1.194E+00	0.000E+00	FAIL ABUN
AC-227	2.414E-01	4.112E-01	7.096E-01	0.000E+00	FAIL ABUN
TH-227	2.414E-01	4.118E-01	7.096E-01	0.000E+00	FAIL ABUN
TH-229	2.577E-01	5.488E-01	9.541E-01	0.000E+00	FAIL ABUN
PA-231	3.695E-02	1.766E+00	2.719E+00	0.000E+00	FAIL ABUN
TH-231	-3.021E-01	8.080E-01	1.194E+00	0.000E+00	FAIL ABUN
U-231	1.549E-01	1.226E+00	1.911E+00	0.000E+00	FAIL ABUN
PA-233	-1.932E-02	6.495E-02	1.121E-01	0.000E+00	FAIL ABUN
PA-234	-2.206E-01	2.849E-01	4.383E-01	0.000E+00	FAIL ABUN
PA-234M	-2.134E-01	4.731E+00	8.001E+00	0.000E+00	NOT IDENT.
U-235	-1.254E-02	2.354E-01	4.007E-01	0.000E+00	FAIL ABUN
NP-236	1.554E-03	8.562E-02	1.474E-01	0.000E+00	NOT IDENT.
NP-239	9.558E-02	2.051E-01	3.645E-01	0.000E+00	FAIL ABUN
AM-241	1.850E-01	2.169E-01	3.568E-01	0.000E+00	NOT IDENT.
CM-243	1.517E-01	1.043E-01	1.920E-01	0.000E+00	FAIL ABUN
AM-246	-4.272E-02	1.469E-01	2.403E-01	0.000E+00	NOT IDENT.
CM-247	-3.550E-02	3.977E-02	6.482E-02	0.000E+00	FAIL ABUN
CF-249	2.493E-02	4.526E-02	8.077E-02	0.000E+00	NOT IDENT.
CF-251	-1.189E-01	1.372E-01	2.257E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881004.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 13:21:53
Sample ID          : G244881004          Sample quantity  : 1.28090E+02 GRAM
Detector name      : GAM23              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.71  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity        : 5.00000
Batch ID           : 942718             Detector SN#       :
Matrix Spike ID    :                   LCS ID             : 1032-A
*****

```

## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	771	10.67*	9.972E-01	2.123E+01	2.123E+01	11.46
CD-109	88.03	197	3.72*	5.214E+00	2.971E+00	3.038E+00	36.18
SN-126	64.28	129	9.60	2.561E+00	1.536E+00	1.536E+00	68.06
	86.94	197	8.90	5.214E+00	1.242E+00	1.242E+00	54.27
	87.57	197	37.00*	5.214E+00	2.987E-01	2.987E-01	36.18
TL-208	277.35	159	6.80	4.144E+00	1.658E+00	1.658E+00	49.62
	510.84	127	21.60	2.546E+00	6.768E-01	6.768E-01	51.85
	583.14	349	84.20*	2.278E+00	5.333E-01	5.333E-01	18.47
	860.37	-----	12.46	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	584	12.94*	3.441E+00	3.843E+00	3.843E+00	14.58
BI-212	727.18	67	11.80*	1.877E+00	8.854E-01	8.854E-01	51.78
	785.46	-----	1.97	1.750E+00	-----	Line Not Found	-----
	1620.62	14	2.75	9.226E-01	1.587E+00	1.587E+00	74.56
PB-212	74.81	431	10.70	4.035E+00	2.926E+00	2.926E+00	22.19
	77.11	569	18.00	4.299E+00	2.154E+00	2.154E+00	15.57
	87.30	197	8.00	5.214E+00	1.381E+00	1.381E+00	37.54
	238.63	1194	44.60*	4.638E+00	1.692E+00	1.692E+00	10.02
	300.09	132	3.41	3.898E+00	2.905E+00	2.905E+00	47.59
PO-212	74.81	431	10.70	4.035E+00	2.926E+00	2.926E+00	22.19
	77.11	569	18.00	4.299E+00	2.154E+00	2.154E+00	15.57
	87.30	197	8.00	5.214E+00	1.381E+00	1.381E+00	37.54
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	1194	44.60*	4.638E+00	1.692E+00	1.692E+00	10.02
	300.09	132	3.41	3.898E+00	2.905E+00	2.905E+00	47.59
BI-214	609.31	388	46.30*	2.194E+00	1.121E+00	1.121E+00	17.49
	1120.29	98	15.10	1.259E+00	1.516E+00	1.516E+00	38.48
	1764.49	74	15.80	8.743E-01	1.559E+00	1.559E+00	30.66
PB-214	74.81	431	6.21	4.035E+00	5.042E+00	5.042E+00	21.44
	77.11	569	10.50	4.299E+00	3.693E+00	3.693E+00	17.34
	87.30	197	4.67	5.214E+00	2.366E+00	2.366E+00	36.99
	241.98	257	7.49	4.593E+00	2.188E+00	2.188E+00	29.32

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	373	19.20	3.948E+00	1.443E+00	1.443E+00	19.95
	351.92	584	37.20*	3.441E+00	1.337E+00	1.337E+00	15.49
	74.81	431	6.21	4.035E+00	5.042E+00	5.042E+00	21.44
	77.11	569	10.50	4.299E+00	3.693E+00	3.693E+00	17.34
	87.30	197	4.67	5.214E+00	2.366E+00	2.366E+00	36.99
PO-216	241.98	257	7.49	4.593E+00	2.188E+00	2.188E+00	29.32
	295.21	373	19.20	3.948E+00	1.443E+00	1.443E+00	19.95
	351.92	584	37.20*	3.441E+00	1.337E+00	1.337E+00	15.49
	74.81	431	10.70	4.035E+00	2.926E+00	2.926E+00	22.19
	77.11	569	18.00	4.299E+00	2.154E+00	2.154E+00	15.57
PO-218	87.30	197	8.00	5.214E+00	1.381E+00	1.381E+00	37.54
	238.63	1194	44.60*	4.638E+00	1.692E+00	1.692E+00	10.02
	300.09	132	3.41	3.898E+00	2.905E+00	2.905E+00	47.59
	74.81	431	6.21	4.035E+00	5.042E+00	5.042E+00	21.44
	77.11	569	10.50	4.299E+00	3.693E+00	3.693E+00	17.34
RA-224	87.30	197	4.67	5.214E+00	2.366E+00	2.366E+00	36.99
	241.98	257	7.49	4.593E+00	2.188E+00	2.188E+00	29.32
	295.21	373	19.20	3.948E+00	1.443E+00	1.443E+00	19.95
	351.92	584	37.20*	3.441E+00	1.337E+00	1.337E+00	15.49
	240.98	257	3.95*	4.593E+00	4.149E+00	4.149E+00	28.78
RA-226	609.31	388	46.30*	2.194E+00	1.121E+00	1.121E+00	17.49
	1120.29	98	15.10	1.259E+00	1.516E+00	1.516E+00	38.48
	1764.49	74	15.80	8.743E-01	1.559E+00	1.559E+00	30.66
	338.32	311	11.40	3.549E+00	2.252E+00	2.252E+00	47.26
	911.07	242	27.70*	1.527E+00	1.677E+00	1.677E+00	20.29
TH-228	969.11	133	16.60	1.441E+00	1.632E+00	1.632E+00	39.34
	338.32	311	11.40	3.549E+00	2.252E+00	2.252E+00	47.26
	911.07	242	27.70*	1.527E+00	1.677E+00	1.677E+00	20.29
	969.11	133	16.60	1.441E+00	1.632E+00	1.632E+00	39.34
	74.81	431	10.70	4.035E+00	2.926E+00	2.971E+00	20.16
TH-230	77.11	569	18.00	4.299E+00	2.154E+00	2.187E+00	15.57
	87.30	197	8.00	5.214E+00	1.381E+00	1.402E+00	36.18
	238.63	1194	44.60*	4.638E+00	1.692E+00	1.717E+00	10.02
	300.09	132	3.41	3.898E+00	2.905E+00	2.949E+00	75.30
	609.31	388	46.30*	2.194E+00	1.121E+00	1.121E+00	17.49
TH-232	1120.29	98	15.10	1.259E+00	1.516E+00	1.516E+00	38.48
	1764.49	74	15.80	8.743E-01	1.559E+00	1.559E+00	30.66
	338.32	311	11.40	3.549E+00	2.252E+00	2.252E+00	24.61
	911.07	242	27.70*	1.527E+00	1.677E+00	1.677E+00	20.29
	969.11	133	16.60	1.441E+00	1.632E+00	1.632E+00	39.34
TH-234	63.29	129	3.80*	2.561E+00	3.880E+00	3.880E+00	68.74
	92.38	236	5.41	5.587E+00	2.287E+00	2.287E+00	37.66
	609.31	388	46.30*	2.194E+00	1.121E+00	1.121E+00	17.49
	1120.29	98	15.10	1.259E+00	1.516E+00	1.516E+00	38.48
	1764.49	74	15.80	8.743E-01	1.559E+00	1.559E+00	30.66
NP-237	86.50	197	12.60*	5.214E+00	8.770E-01	8.770E-01	41.65
	95.87	---	2.60	5.757E+00	---	Line Not Found	---
	63.29	129	3.80*	2.561E+00	3.880E+00	3.880E+00	68.74
	92.38	236	5.41	5.587E+00	2.287E+00	2.287E+00	34.14

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	431	66.00*	4.035E+00	4.744E-01	4.744E-01	20.12
	86.72	197	0.34	5.214E+00	3.289E+01	3.289E+01	36.18
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	127	100.00*	2.546E+00	1.462E-01	1.462E-01	51.17

Flag: "\*" = Keyline



Total number of lines in spectrum 34  
Number of unidentified lines 1  
Number of lines tentatively identified by NID 33 97.06%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.123E+01	2.123E+01	0.243E+01	11.46	
CD-109	464.00D	1.02	2.971E+00	3.038E+00	1.099E+00	36.18	
SN-126	1.00E+05Y	1.00	2.987E-01	2.987E-01	1.081E-01	36.18	
TL-208	1.41E+10Y	1.00	5.333E-01	5.333E-01	0.985E-01	18.47	
BI-211	7.04E+08Y	1.00	3.843E+00	3.843E+00	0.560E+00	14.58	
BI-212	1.41E+10Y	1.00	8.854E-01	8.854E-01	4.585E-01	51.78	
PB-212	1.41E+10Y	1.00	1.692E+00	1.692E+00	0.169E+00	10.02	
PO-212	1.41E+10Y	1.00	1.692E+00	1.692E+00	0.169E+00	10.02	
BI-214	1600.00Y	1.00	1.121E+00	1.121E+00	0.196E+00	17.49	
PB-214	1600.00Y	1.00	1.337E+00	1.337E+00	0.207E+00	15.49	
PO-214	1600.00Y	1.00	1.337E+00	1.337E+00	0.207E+00	15.49	
PO-216	1.41E+10Y	1.00	1.692E+00	1.692E+00	0.169E+00	10.02	
PO-218	1600.00Y	1.00	1.337E+00	1.337E+00	0.207E+00	15.49	
RA-224	1.41E+10Y	1.00	4.149E+00	4.149E+00	1.194E+00	28.78	
RA-226	1600.00Y	1.00	1.121E+00	1.121E+00	0.196E+00	17.49	
AC-228	1.41E+10Y	1.00	1.677E+00	1.677E+00	0.340E+00	20.29	
RA-228	1.41E+10Y	1.00	1.677E+00	1.677E+00	0.340E+00	20.29	
TH-228	1.91Y	1.02	1.692E+00	1.717E+00	0.172E+00	10.02	
TH-230	4.47E+09Y	1.00	1.121E+00	1.121E+00	0.196E+00	17.49	
TH-232	1.41E+10Y	1.00	1.677E+00	1.677E+00	0.340E+00	20.29	
TH-234	4.47E+09Y	1.00	3.880E+00	3.880E+00	2.667E+00	68.74	
U-234	4.47E+09Y	1.00	1.121E+00	1.121E+00	0.196E+00	17.49	
NP-237	2.14E+06Y	1.00	8.770E-01	8.770E-01	3.653E-01	41.65	
U-238	4.47E+09Y	1.00	3.880E+00	3.880E+00	2.667E+00	68.74	
AM-243	7380.00Y	1.00	4.744E-01	4.744E-01	0.955E-01	20.12	
ANH-511	1.00E+09Y	1.00	1.462E-01	1.462E-01	0.748E-01	51.17	

Total Activity : 6.346E+01 6.355E+01

Grand Total Activity : 6.346E+01 6.355E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	80.89	63	251	1.30	161.79	141	24	8.77E-03	84.1	4.69E+00	T
5	89.84	169	395	1.34	179.68	169	24	2.35E-02	43.2	5.41E+00	T
0	128.96	74	371	1.12	257.91	254	9	1.03E-02	97.1	6.32E+00	T
0	153.52	78	257	1.07	307.05	303	9	1.08E-02	78.2	6.05E+00	T
0	185.73	131	341	1.11	371.46	365	11	1.82E-02	59.0	5.49E+00	T
0	209.47	87	295	0.85	418.94	413	10	1.21E-02	77.5	5.08E+00	T
0	269.93	100	198	0.95	539.85	534	11	1.38E-02	58.6	4.23E+00	T
0	327.36	96	145	1.20	654.73	650	12	1.34E-02	53.9	3.64E+00	T
0	462.75	95	82	0.74	925.50	919	14	1.32E-02	47.1	2.76E+00	T
0	795.35	52	56	1.67	1590.70	1583	17	7.18E-03	73.5	1.73E+00	T
0	933.24	38	31	1.21	1866.48	1861	11	5.25E-03	65.2	1.49E+00	T
0	1239.23	2	60	1.64	2478.46	2474	9	2.37E-04	****	1.15E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244881004.CNF;1
* Acquisition date   : 26-JAN-2010 13:21:53  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 02:00:01.71           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244881004           Analyst initials: MXR1
* Batch Number       : 942718               Sample Quantity : 1.28090E+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       :
*****

```

## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.123E+01	2.433E+00	5.310E-01	3.972E-02	39.983
CD-109	3.038E+00	1.099E+00	1.355E+00	1.323E-01	2.243
SN-126	2.987E-01	1.081E-01	1.340E-01	1.304E-02	2.229
TL-208	5.333E-01	9.849E-02	6.180E-02	4.012E-03	8.630
BI-211	3.843E+00	5.604E-01	3.934E-01	2.563E-02	9.769
BI-212	8.854E-01	4.585E-01	3.609E-01	2.864E-02	2.453
PB-212	1.692E+00	1.694E-01	8.819E-02	6.341E-03	19.182
PO-212	1.692E+00	1.694E-01	8.819E-02	6.341E-03	19.182
BI-214	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
PB-214	1.337E+00	2.070E-01	1.284E-01	1.072E-02	10.408
PO-214	1.337E+00	2.070E-01	1.284E-01	1.072E-02	10.408
PO-216	1.692E+00	1.694E-01	8.819E-02	6.341E-03	19.182
PO-218	1.337E+00	2.070E-01	1.284E-01	1.072E-02	10.408
RA-224	4.149E+00	1.194E+00	1.004E+00	5.656E-02	4.134
RA-226	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
AC-228	1.677E+00	3.403E-01	2.257E-01	2.604E-02	7.429
RA-228	1.677E+00	3.403E-01	2.257E-01	2.604E-02	7.429
TH-228	1.717E+00	1.720E-01	8.953E-02	6.437E-03	19.182

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
TH-232	1.677E+00	3.403E-01	2.257E-01	2.604E-02	7.429
TH-234	3.880E+00	2.667E+00	2.595E+00	4.677E-01	1.495
U-234	1.121E+00	1.960E-01	1.265E-01	9.511E-03	8.859
NP-237	8.770E-01	3.653E-01	3.993E-01	9.093E-02	2.197
U-238	3.880E+00	2.667E+00	2.595E+00	4.677E-01	1.495
AM-243	4.744E-01	9.548E-02	1.018E-01	9.046E-03	4.661
ANH-511	1.462E-01	7.481E-02	5.157E-02	2.995E-03	2.835

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.362E-01		3.449E-01	5.380E-01	3.657E-02	-0.439
NA-22	7.312E-03		4.575E-02	7.588E-02	5.096E-03	0.096
NA-24	-3.036E-01		3.789E-01	Half-Life too short		
AL-26	-9.078E-03		3.785E-02	5.768E-02	3.467E-03	-0.157
TI-44	3.975E-01	+	6.191E-02	9.074E-02	8.226E-03	4.381
SC-46	-3.494E-02		4.379E-02	6.719E-02	6.003E-03	-0.520
V-48	-2.277E-02		7.209E-02	1.152E-01	9.588E-03	-0.198
CR-51	3.543E-01		4.170E-01	7.130E-01	4.675E-02	0.497
MN-52	1.683E-01		2.509E-01	4.467E-01	3.232E-02	0.377
MN-54	3.784E-03		4.323E-02	7.279E-02	5.763E-03	0.052
CO-56	-5.403E-03		4.079E-02	6.729E-02	5.474E-03	-0.080
CO-57	7.988E-03		2.794E-02	4.647E-02	2.740E-03	0.172
CO-58	1.539E-02		4.070E-02	7.047E-02	5.294E-03	0.218
FE-59	4.218E-03		1.037E-01	1.712E-01	1.319E-02	0.025
CO-60	3.207E-02		4.505E-02	7.947E-02	5.834E-03	0.404
ZN-65	1.736E-02		1.154E-01	1.672E-01	1.104E-02	0.104
GE-68	-6.652E-01		1.326E+00	2.063E+00	1.476E-01	-0.322
AS-73	-1.422E+00		1.145E+00	1.814E+00	1.602E-01	-0.784
AS-74	4.957E-02		1.028E-01	1.736E-01	9.572E-03	0.286
SE-75	5.278E-02		5.415E-02	8.114E-02	4.723E-03	0.650
BR-77	-6.746E+00		1.035E+01	1.601E+01	9.270E-01	-0.421
SR-82	-2.031E-01		4.110E-01	6.606E-01	4.557E-02	-0.308
RB-83	-5.088E-02		6.917E-02	1.061E-01	6.141E-03	-0.480
RB-84	-2.960E-02		7.663E-02	1.230E-01	1.080E-02	-0.241
KR-85	1.597E+01		8.101E+00	1.373E+01	7.967E-01	1.163
SR-85	8.181E-02		4.151E-02	7.035E-02	4.082E-03	1.163
RB-86	-2.394E-01		8.293E-01	1.323E+00	9.480E-02	-0.181
Y-88	-6.747E-03		3.363E-02	5.304E-02	3.123E-03	-0.127
ZR-88	-1.490E-02		3.468E-02	5.613E-02	3.240E-03	-0.266
Y-91	-9.029E+00		2.146E+01	3.367E+01	2.008E+00	-0.268
NB-94	-9.379E-03		3.957E-02	6.257E-02	3.575E-03	-0.150
NB-95	6.713E-03		4.957E-02	8.049E-02	5.409E-03	0.083
NB-95M	7.049E-01		1.776E-01	2.920E-01	2.154E-02	2.414
ZR-95	-9.170E-03		8.683E-02	1.342E-01	1.029E-02	-0.068
NB-97	-6.150E-02		4.767E-02	Half-Life too short		

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	5.970E+00		1.154E+00	Half-Life too short		
MO-99	-6.086E-01		1.262E+01	2.021E+01	2.828E+00	-0.030
TC-99M	-3.211E+09		1.854E+10	Half-Life too short		
RH-101	-1.493E-02		3.770E-02	5.870E-02	3.129E-03	-0.254
RH-102	1.556E-02		3.193E-02	5.438E-02	3.183E-03	0.286
RU-103	-3.359E-03		4.047E-02	6.606E-02	8.363E-03	-0.051
RH-106	-3.533E-02		3.501E-01	5.636E-01	6.500E-02	-0.063
RU-106	-3.533E-02		3.500E-01	5.636E-01	3.029E-02	-0.063
AG-108M	3.016E-04		3.665E-02	6.067E-02	3.846E-03	0.005
AG-110M	-2.387E-02		3.623E-02	5.493E-02	3.052E-03	-0.435
IN-111	-4.991E-01		1.288E+00	1.720E+00	9.734E-02	-0.290
IN-113M	9.141E-03		4.962E-02	8.339E-02	5.137E-03	0.110
SN-113	9.141E-03		4.962E-02	8.339E-02	5.137E-03	0.110
IN-114M	1.205E-01		2.208E-01	3.234E-01	1.705E-02	0.373
CD-115	2.514E+00		1.111E+01	1.853E+01	1.069E+00	0.136
SN-117M	5.125E-02		6.757E-02	1.007E-01	5.231E-03	0.509
SB-122	-1.948E-01		2.340E+00	3.797E+00	2.148E-01	-0.051
I-123	3.537E+00		3.165E+00	Half-Life too short		
TE-123M	1.885E-02		3.374E-02	5.230E-02	2.760E-03	0.360
I-124	-7.272E-01		8.757E-01	1.112E+00	6.097E-02	-0.654
SB-124	-5.577E-02		8.493E-02	1.233E-01	8.596E-03	-0.452
SB-125	1.467E-02		9.799E-02	1.639E-01	9.968E-03	0.090
TE-125M	1.940E+00		1.002E+01	1.665E+01	1.485E+00	0.116
I-126	7.193E-02		2.075E-01	3.452E-01	1.787E-02	0.208
SB-126	3.912E-03		1.885E-01	2.624E-01	1.572E-02	0.015
SB-127	-3.385E-01		1.552E+00	2.458E+00	2.261E-01	-0.138
XE-127	3.422E-02		5.731E-02	8.824E-02	4.737E-03	0.388
I-131	1.046E-01		1.279E-01	2.230E-01	1.457E-02	0.469
TE-132	7.956E-01		7.625E-01	1.275E+00	1.817E-01	0.624
BA-133	5.932E-03		5.188E-02	7.604E-02	8.823E-03	0.078
I-133	-1.228E-04		3.121E-03	Half-Life too short		
CS-134	1.155E-01	+	8.534E-02	9.296E-02	6.789E-03	1.243
CS-135	2.199E-01		2.137E-01	3.180E-01	2.430E-02	0.691
I-135	-1.748E+09		2.579E+09	Half-Life too short		
CS-136	-1.835E-02		1.098E-01	1.778E-01	1.417E-02	-0.103
BA-137M	-7.136E-03		3.959E-02	6.308E-02	3.222E-03	-0.113
CS-137	-7.543E-03		4.185E-02	6.668E-02	3.425E-03	-0.113
CE-139	1.325E-02		3.238E-02	5.362E-02	2.734E-03	0.247
BA-140	-4.120E-02		2.866E-01	4.634E-01	1.507E-01	-0.089
LA-140	-9.802E-02		9.016E-02	1.218E-01	8.353E-03	-0.805
CE-141	3.944E-02		6.737E-02	1.127E-01	6.358E-03	0.350
CE-143	1.063E-03		1.512E-04	Half-Life too short		
CE-144	1.228E-01		2.517E-01	3.710E-01	5.239E-02	0.331
PM-144	5.053E-02		4.230E-02	7.430E-02	4.180E-03	0.680
PR-144	3.424E+00		2.866E+00	5.035E+00	2.830E-01	0.680
PM-146	4.841E-02		4.577E-02	8.081E-02	6.999E-03	0.599
ND-147	5.478E-02		5.993E-01	9.887E-01	1.335E-01	0.055
PM-149	-3.715E+00		9.567E+01	1.567E+02	2.225E+01	-0.024

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-8.984E-02		1.302E-01	1.670E-01	1.107E-02	-0.538
GD-153	8.368E-02		9.109E-02	1.389E-01	1.135E-02	0.602
EU-154	2.175E-02		1.280E-01	2.125E-01	2.109E-02	0.102
EU-155	2.307E-02		1.189E-01	1.979E-01	1.459E-02	0.117
TB-160	-1.262E-01		1.585E-01	2.439E-01	2.133E-02	-0.517
HO-166M	-2.043E-03		6.933E-02	1.115E-01	6.525E-03	-0.018
TM-171	-7.286E+00		3.960E+01	5.370E+01	4.670E+00	-0.136
LU-176	2.285E-02		2.807E-02	4.361E-02	2.569E-03	0.524
LU-177	2.165E+00	+	1.683E+00	2.148E+00	1.162E-01	1.008
LU-177M	-1.814E-01		1.939E-01	3.015E-01	1.754E-02	-0.602
HF-181	-1.088E-02		4.482E-02	7.240E-02	4.235E-03	-0.150
W-181	-1.080E-01		4.935E-01	7.161E-01	6.221E-02	-0.151
TA-182	2.080E-01		2.178E-01	3.865E-01	2.373E-02	0.538
RE-183	-6.530E-02		1.241E-01	1.977E-01	1.017E-02	-0.330
RE-184	-8.177E-02		2.564E-01	4.032E-01	2.299E-02	-0.203
OS-185	-2.492E-02		4.141E-02	6.292E-02	3.283E-03	-0.396
RE-188	-3.242E-03		2.130E-01	3.041E-01	1.595E-02	-0.011
W-188	4.380E+00		8.560E+00	1.303E+01	7.630E-01	0.336
IR-192	-2.660E-02		3.649E-02	5.866E-02	3.480E-03	-0.453
AU-195	7.056E-02		2.760E-01	4.067E-01	3.245E-02	0.174
TL-200	-5.079E-05		2.338E-04	Half-Life too short		
TL-201	-1.917E+00		7.363E+00	1.184E+01	6.044E-01	-0.162
TL-202	-2.923E-02		7.681E-02	1.237E-01	7.238E-03	-0.236
HG-203	5.622E-02		4.739E-02	7.528E-02	4.650E-03	0.747
BI-207	-2.916E-02		5.710E-02	8.899E-02	6.538E-03	-0.328
TL-207	-3.021E-01		8.245E-01	1.166E+00	1.931E-01	-0.259
PO-209	-5.641E+00		7.874E+00	1.214E+01	1.102E+00	-0.465
BI-210	-1.716E+00		6.057E+00	9.866E+00	7.682E-01	-0.174
PB-210	-1.716E+00		6.057E+00	9.866E+00	7.682E-01	-0.174
PO-210	-1.716E+00		6.057E+00	9.866E+00	6.619E-01	-0.174
PB-211	-8.422E-01		1.178E+00	1.665E+00	1.038E+00	-0.506
PO-215	-3.021E-01		8.245E-01	1.166E+00	1.931E-01	-0.259
RN-219	-1.942E-01		4.461E-01	7.189E-01	9.779E-02	-0.270
RN-220	-1.028E+01		2.746E+01	4.347E+01	2.481E+00	-0.237
RA-223	-3.021E-01		8.245E-01	1.166E+00	1.931E-01	-0.259
AC-227	2.414E-01		4.196E-01	6.908E-01	9.620E-02	0.349
TH-227	2.414E-01		4.202E-01	6.908E-01	1.165E-01	0.349
TH-229	2.577E-01		5.600E-01	9.249E-01	4.899E-02	0.279
PA-231	3.695E-02		1.802E+00	2.651E+00	3.657E-01	0.014
TH-231	-3.021E-01		8.245E-01	1.166E+00	1.931E-01	-0.259
U-231	1.549E-01		1.252E+00	1.833E+00	1.538E-01	0.084
PA-233	-1.932E-02		6.628E-02	1.094E-01	6.842E-03	-0.177
PA-234	-2.206E-01		2.907E-01	4.353E-01	8.183E-02	-0.507
PA-234M	-2.134E-01		4.828E+00	7.953E+00	7.588E-01	-0.027
U-235	-1.254E-02		2.402E-01	3.867E-01	6.254E-02	-0.032
NP-236	1.554E-03		8.737E-02	1.425E-01	7.371E-03	0.011
NP-239	9.558E-02		2.093E-01	3.507E-01	2.189E-02	0.273
AM-241	1.850E-01		2.213E-01	3.400E-01	3.163E-02	0.544

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.517E-01		1.065E-01	1.844E-01	1.367E-02	0.822
AM-246	-4.272E-02		1.499E-01	2.391E-01	1.706E-02	-0.179
CM-247	-3.550E-02		4.058E-02	6.353E-02	3.683E-03	-0.559
CF-249	2.493E-02		4.618E-02	7.912E-02	4.578E-03	0.315
CF-251	-1.189E-01		1.400E-01	2.185E-01	1.129E-02	-0.544

# 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]G244881004
* Acquisition date   : 26-JAN-2010 13:21:53 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 02:00:01.71             Half life ratio : 8.000
*****
*
*                                     SAMPLE DATA
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244881004              Analyst initials: MXR1
* Batch Number       : 942718                  Sample Quantity : 1.2809E+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	2.123E+01	2.384E+00	2.657E-01	1.216E+00
CD-109	3.038E+00	1.077E+00	7.074E-01	5.496E-01
SN-126	2.987E-01	1.059E-01	6.996E-02	5.403E-02
TL-208	5.333E-01	9.652E-02	3.137E-02	4.925E-02
BI-211	3.843E+00	5.492E-01	2.012E-01	2.802E-01
BI-212	8.854E-01	4.493E-01	1.825E-01	2.292E-01
PB-212	1.692E+00	1.660E-01	4.538E-02	8.471E-02
PO-212	1.692E+00	1.660E-01	4.538E-02	8.471E-02
BI-214	1.121E+00	1.921E-01	6.417E-02	9.802E-02
PB-214	1.337E+00	2.029E-01	6.570E-02	1.035E-01
PO-214	1.337E+00	2.029E-01	6.570E-02	1.035E-01
PO-216	1.692E+00	1.660E-01	4.538E-02	8.471E-02
PO-218	1.337E+00	2.029E-01	6.570E-02	1.035E-01
RA-224	4.149E+00	1.170E+00	5.164E-01	5.970E-01
RA-226	1.121E+00	1.921E-01	6.417E-02	9.802E-02
AC-228	1.677E+00	3.335E-01	1.138E-01	1.701E-01
RA-228	1.677E+00	3.335E-01	1.138E-01	1.701E-01
TH-228	1.717E+00	1.685E-01	4.606E-02	8.599E-02
TH-230	1.121E+00	1.921E-01	6.417E-02	9.802E-02
TH-232	1.677E+00	3.335E-01	1.138E-01	1.701E-01
TH-234	3.880E+00	2.614E+00	1.362E+00	1.333E+00
U-234	1.121E+00	1.921E-01	6.417E-02	9.802E-02
NP-237	8.770E-01	3.580E-01	2.085E-01	1.826E-01
U-238	3.880E+00	2.614E+00	1.362E+00	1.333E+00
AM-243	4.744E-01	9.357E-02	5.328E-02	4.774E-02
ANH-511	1.462E-01	7.332E-02	2.623E-02	3.741E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-2.362E-01	3.380E-01	2.739E-01	1.724E-01 NOT IDENT.



NA-22	7.312E-03	4.484E-02	3.805E-02	2.288E-02	NOT IDENT.
NA-24	-3.036E+05	7.426E+05	0.000E+00	3.789E+05	SHORT HLIF
AL-26	-9.078E-03	3.710E-02	2.876E-02	1.893E-02	NOT IDENT.
TI-44	3.975E-01	6.067E-02	4.746E-02	3.095E-02	FAIL ABUN
SC-46	-3.494E-02	4.292E-02	3.388E-02	2.190E-02	FAIL ABUN
V-48	-2.277E-02	7.064E-02	5.802E-02	3.604E-02	NOT IDENT.
CR-51	3.543E-01	4.087E-01	3.652E-01	2.085E-01	NOT IDENT.
MN-52	1.683E-01	2.459E-01	2.236E-01	1.255E-01	NOT IDENT.
MN-54	3.784E-03	4.237E-02	3.674E-02	2.162E-02	NOT IDENT.
CO-56	-5.403E-03	3.997E-02	3.396E-02	2.039E-02	FAIL ABUN
CO-57	7.988E-03	2.738E-02	2.415E-02	1.397E-02	NOT IDENT.
CO-58	1.539E-02	3.989E-02	3.559E-02	2.035E-02	NOT IDENT.
FE-59	4.218E-03	1.016E-01	8.607E-02	5.184E-02	NOT IDENT.
CO-60	3.207E-02	4.415E-02	3.982E-02	2.253E-02	NOT IDENT.
ZN-65	1.736E-02	1.131E-01	8.403E-02	5.771E-02	NOT IDENT.
GE-68	-6.652E-01	1.299E+00	1.037E+00	6.628E-01	NOT IDENT.
AS-73	-1.422E+00	1.122E+00	9.540E-01	5.725E-01	NOT IDENT.
AS-74	4.957E-02	1.007E-01	8.807E-02	5.138E-02	NOT IDENT.
SE-75	5.278E-02	5.306E-02	4.168E-02	2.707E-02	NOT IDENT.
BR-77	-6.746E+00	1.015E+01	8.143E+00	5.177E+00	FAIL ABUN
SR-82	-2.031E-01	4.028E-01	3.338E-01	2.055E-01	NOT IDENT.
RB-83	-5.088E-02	6.779E-02	5.394E-02	3.459E-02	NOT IDENT.
RB-84	-2.960E-02	7.510E-02	6.202E-02	3.831E-02	NOT IDENT.
KR-85	1.597E+01	7.939E+00	6.982E+00	4.050E+00	NOT IDENT.
SR-85	8.181E-02	4.068E-02	3.578E-02	2.075E-02	NOT IDENT.
RB-86	-2.394E-01	8.127E-01	6.650E-01	4.146E-01	NOT IDENT.
Y-88	-6.747E-03	3.296E-02	2.644E-02	1.681E-02	NOT IDENT.
ZR-88	-1.490E-02	3.399E-02	2.866E-02	1.734E-02	NOT IDENT.
Y-91	-9.029E+00	2.103E+01	1.690E+01	1.073E+01	NOT IDENT.
NB-94	-9.379E-03	3.878E-02	3.167E-02	1.978E-02	NOT IDENT.
NB-95	6.713E-03	4.858E-02	4.068E-02	2.479E-02	NOT IDENT.
NB-95M	7.049E-01	1.741E-01	1.503E-01	8.881E-02	NOT IDENT.
ZR-95	-9.170E-03	8.509E-02	6.782E-02	4.342E-02	NOT IDENT.
NB-97	-6.150E+04	9.342E+04	0.000E+00	4.767E+04	SHORT HLIF
ZR-97	5.970E+06	2.263E+06	0.000E+00	1.154E+06	SHORT HLIF
MO-99	-6.086E-01	1.237E+01	1.022E+01	6.311E+00	NOT IDENT.
TC-99M	-3.211E+15	3.634E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.493E-02	3.695E-02	3.028E-02	1.885E-02	NOT IDENT.
RH-102	1.556E-02	3.129E-02	2.769E-02	1.596E-02	NOT IDENT.
RU-103	-3.359E-03	3.967E-02	3.361E-02	2.024E-02	NOT IDENT.
RH-106	-3.533E-02	3.431E-01	2.858E-01	1.750E-01	NOT IDENT.
RU-106	-3.533E-02	3.430E-01	2.858E-01	1.750E-01	NOT IDENT.
AG-108M	3.016E-04	3.592E-02	3.093E-02	1.832E-02	NOT IDENT.
AG-110M	-2.387E-02	3.550E-02	2.783E-02	1.811E-02	NOT IDENT.
IN-111	-4.991E-01	1.262E+00	8.844E-01	6.440E-01	NOT IDENT.
IN-113M	9.141E-03	4.862E-02	4.258E-02	2.481E-02	NOT IDENT.
SN-113	9.141E-03	4.862E-02	4.258E-02	2.481E-02	NOT IDENT.
IN-114M	1.205E-01	2.164E-01	1.669E-01	1.104E-01	NOT IDENT.
CD-115	2.514E+00	1.088E+01	9.418E+00	5.553E+00	NOT IDENT.
SN-117M	5.125E-02	6.621E-02	5.211E-02	3.378E-02	NOT IDENT.
SB-122	-1.948E-01	2.293E+00	1.928E+00	1.170E+00	NOT IDENT.
I-123	3.537E+06	6.204E+06	0.000E+00	3.165E+06	SHORT HLIF
TE-123M	1.885E-02	3.306E-02	2.707E-02	1.687E-02	NOT IDENT.
I-124	-7.272E-01	8.581E-01	5.644E-01	4.378E-01	NOT IDENT.
SB-124	-5.577E-02	8.324E-02	6.154E-02	4.247E-02	FAIL ABUN
SB-125	1.467E-02	9.603E-02	8.357E-02	4.899E-02	FAIL ABUN
TE-125M	1.940E+00	9.817E+00	8.668E+00	5.009E+00	NOT IDENT.
I-126	7.193E-02	2.034E-01	1.749E-01	1.038E-01	NOT IDENT.
SB-126	3.912E-03	1.847E-01	1.327E-01	9.425E-02	NOT IDENT.
SB-127	-3.385E-01	1.521E+00	1.245E+00	7.758E-01	NOT IDENT.
XE-127	3.422E-02	5.616E-02	4.551E-02	2.865E-02	NOT IDENT.
I-131	1.046E-01	1.254E-01	1.140E-01	6.397E-02	FAIL ABUN
TE-132	7.956E-01	7.473E-01	6.565E-01	3.813E-01	NOT IDENT.
BA-133	5.932E-03	5.085E-02	3.889E-02	2.594E-02	FAIL ABUN
I-133	-1.228E+02	6.118E+03	0.000E+00	3.121E+03	SHORT HLIF
CS-134	1.155E-01	8.363E-02	4.695E-02	4.267E-02	FAIL ABUN
CS-135	2.199E-01	2.095E-01	1.633E-01	1.069E-01	NOT IDENT.
I-135	-1.748E+15	5.055E+15	0.000E+00	2.579E+15	SHORT HLIF
CS-136	-1.835E-02	1.076E-01	8.942E-02	5.489E-02	FAIL ABUN
BA-137M	-7.136E-03	3.879E-02	3.195E-02	1.979E-02	NOT IDENT.
CS-137	-7.543E-03	4.101E-02	3.378E-02	2.092E-02	NOT IDENT.
CE-139	1.325E-02	3.173E-02	2.774E-02	1.619E-02	NOT IDENT.
BA-140	-4.120E-02	2.809E-01	2.355E-01	1.433E-01	NOT IDENT.
LA-140	-9.802E-02	8.836E-02	6.083E-02	4.508E-02	FAIL ABUN
CE-141	3.944E-02	6.602E-02	5.843E-02	3.368E-02	NOT IDENT.
CE-143	1.063E+03	2.963E+02	0.000E+00	1.512E+02	SHORT HLIF
CE-144	1.228E-01	2.467E-01	1.925E-01	1.259E-01	FAIL ABUN
PM-144	5.053E-02	4.145E-02	3.761E-02	2.115E-02	NOT IDENT.

PR-144	3.424E+00	2.809E+00	2.548E+00	1.433E+00	NOT IDENT.
PM-146	4.841E-02	4.485E-02	4.118E-02	2.288E-02	NOT IDENT.
ND-147	5.478E-02	5.873E-01	5.026E-01	2.997E-01	FAIL ABUN
PM-149	-3.715E+00	9.375E+01	8.043E+01	4.783E+01	NOT IDENT.
EU-152	-8.984E-02	1.276E-01	8.545E-02	6.512E-02	NOT IDENT.
GD-153	8.368E-02	8.927E-02	7.243E-02	4.554E-02	NOT IDENT.
EU-154	2.175E-02	1.254E-01	1.065E-01	6.398E-02	NOT IDENT.
EU-155	2.307E-02	1.165E-01	1.030E-01	5.945E-02	FAIL ABUN
TB-160	-1.262E-01	1.553E-01	1.230E-01	7.926E-02	FAIL ABUN
HO-166M	-2.043E-03	6.795E-02	5.641E-02	3.467E-02	FAIL ABUN
TM-171	-7.286E+00	3.880E+01	2.815E+01	1.980E+01	NOT IDENT.
LU-176	2.285E-02	2.751E-02	2.235E-02	1.403E-02	FAIL ABUN
LU-177	2.165E+00	1.649E+00	1.107E+00	8.413E-01	FAIL ABUN
LU-177M	-1.814E-01	1.900E-01	1.538E-01	9.695E-02	FAIL ABUN
HF-181	-1.088E-02	4.392E-02	3.686E-02	2.241E-02	NOT IDENT.
W-181	-1.080E-01	4.837E-01	3.755E-01	2.468E-01	NOT IDENT.
TA-182	2.080E-01	2.134E-01	1.940E-01	1.089E-01	FAIL ABUN
RE-183	-6.530E-02	1.216E-01	1.023E-01	6.206E-02	FAIL ABUN
RE-184	-8.177E-02	2.513E-01	2.073E-01	1.282E-01	NOT IDENT.
OS-185	-2.492E-02	4.059E-02	3.188E-02	2.071E-02	NOT IDENT.
RE-188	-3.242E-03	2.088E-01	1.575E-01	1.065E-01	NOT IDENT.
W-188	4.380E+00	8.389E+00	6.684E+00	4.280E+00	FAIL ABUN
IR-192	-2.660E-02	3.576E-02	3.005E-02	1.824E-02	FAIL ABUN
AU-195	7.056E-02	2.705E-01	2.120E-01	1.380E-01	FAIL ABUN
TL-200	-5.079E+01	4.582E+02	0.000E+00	2.338E+02	SHORT HLIF
TL-201	-1.917E+00	7.215E+00	6.125E+00	3.681E+00	FAIL ABUN
TL-202	-2.923E-02	7.527E-02	6.306E-02	3.840E-02	FAIL ABUN
HG-203	5.622E-02	4.644E-02	3.864E-02	2.369E-02	NOT IDENT.
BI-207	-2.916E-02	5.596E-02	4.475E-02	2.855E-02	FAIL ABUN
TL-207	-3.021E-01	8.080E-01	5.973E-01	4.123E-01	FAIL ABUN
PO-209	-5.641E+00	7.716E+00	6.119E+00	3.937E+00	NOT IDENT.
BI-210	-1.716E+00	5.936E+00	5.199E+00	3.029E+00	NOT IDENT.
PB-210	-1.716E+00	5.936E+00	5.199E+00	3.029E+00	NOT IDENT.
PO-210	-1.716E+00	5.936E+00	5.199E+00	3.029E+00	NOT IDENT.
PB-211	-8.422E-01	1.155E+00	8.497E-01	5.891E-01	NOT IDENT.
PO-215	-3.021E-01	8.080E-01	5.973E-01	4.123E-01	FAIL ABUN
RN-219	-1.942E-01	4.372E-01	3.670E-01	2.231E-01	FAIL ABUN
RN-220	-1.028E+01	2.691E+01	2.208E+01	1.373E+01	NOT IDENT.
RA-223	-3.021E-01	8.080E-01	5.973E-01	4.123E-01	FAIL ABUN
AC-227	2.414E-01	4.112E-01	3.550E-01	2.098E-01	FAIL ABUN
TH-227	2.414E-01	4.118E-01	3.550E-01	2.101E-01	FAIL ABUN
TH-229	2.577E-01	5.488E-01	4.773E-01	2.800E-01	FAIL ABUN
PA-231	3.695E-02	1.766E+00	1.360E+00	9.010E-01	FAIL ABUN
TH-231	-3.021E-01	8.080E-01	5.973E-01	4.123E-01	FAIL ABUN
U-231	1.549E-01	1.226E+00	9.561E-01	6.258E-01	FAIL ABUN
PA-233	-1.932E-02	6.495E-02	5.608E-02	3.314E-02	FAIL ABUN
PA-234	-2.206E-01	2.849E-01	2.193E-01	1.454E-01	FAIL ABUN
PA-234M	-2.134E-01	4.731E+00	4.003E+00	2.414E+00	NOT IDENT.
U-235	-1.254E-02	2.354E-01	2.005E-01	1.201E-01	FAIL ABUN
NP-236	1.554E-03	8.562E-02	7.376E-02	4.368E-02	NOT IDENT.
NP-239	9.558E-02	2.051E-01	1.823E-01	1.046E-01	FAIL ABUN
AM-241	1.850E-01	2.169E-01	1.785E-01	1.107E-01	NOT IDENT.
CM-243	1.517E-01	1.043E-01	9.607E-02	5.323E-02	FAIL ABUN
AM-246	-4.272E-02	1.469E-01	1.202E-01	7.494E-02	NOT IDENT.
CM-247	-3.550E-02	3.977E-02	3.243E-02	2.029E-02	FAIL ABUN
CF-249	2.493E-02	4.526E-02	4.041E-02	2.309E-02	NOT IDENT.
CF-251	-1.189E-01	1.372E-01	1.129E-01	6.999E-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	301.7453
46.50	301.7453
46.50	301.7453
48.70	287.5243
49.72	278.9565
51.35	259.7011
52.39	293.0271
52.97	302.4530
53.15	314.4277
53.44	300.8640
54.07	303.9285
56.28	295.8506
56.28	295.8519
57.37	0.0000
57.53	263.6770
57.53	263.6776
57.60	279.9120
57.98	287.4536
57.98	287.4536
59.32	299.8859
59.32	299.8859
59.40	299.9237
59.54	299.9900
59.72	277.9024
60.01	278.0292
61.10	309.6125
61.14	314.0761
61.30	314.1544
63.00	351.0066
63.29	351.1613
63.29	351.1613
63.58	351.3166
64.28	349.8279
65.12	359.2127
65.20	359.2553
65.20	359.2553
66.05	349.2633
66.72	349.2340
66.83	349.2925
66.91	336.2572
67.20	336.4000
67.20	336.4000
67.75	340.4113
67.85	340.4613
68.90	327.2428
68.90	327.2428
69.30	335.5554
69.67	349.6152
70.82	374.2356
70.82	374.2356
70.83	374.2416
72.80	395.6310
72.87	395.6694
72.87	395.6694
74.67	396.6595
74.81	396.7365
74.81	396.7365
74.81	396.7365
74.81	396.7365
74.81	396.7365
74.81	396.7365
74.81	396.7365
74.97	396.8230
75.28	396.9928
75.70	397.2203
77.11	397.9829
77.11	397.9829

77.11	397.9829
77.11	397.9829
77.11	397.9829
77.11	397.9829
77.11	397.9829
78.38	398.6639
79.62	399.3224
79.80	399.4169
79.80	399.4169
80.11	399.5819
80.18	399.6188
80.30	399.6812
80.30	399.6812
80.57	424.5748
81.00	464.8197
81.07	464.8625
81.07	464.8625
81.07	464.8625
81.07	464.8625
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83.78	466.5007
83.78	466.5007
83.78	466.5007
84.21	432.3264
84.90	467.1709
85.43	413.8396
86.29	364.4228
86.50	364.5199
86.54	364.5373
86.59	364.5605
86.72	364.6214
86.79	364.6518
86.94	364.7214
87.30	364.8866
87.30	364.8866
87.30	364.8866
87.30	364.8866
87.30	364.8866
87.30	364.8866
87.57	365.0099
87.88	365.1519
88.03	365.2200
88.36	365.3694
88.47	365.4201
89.95	366.0898
91.11	366.6116
92.29	367.1378
92.38	367.1784
92.38	367.1784
93.35	367.6089
94.00	367.8960
94.67	313.1537
94.67	313.1555
94.90	341.1544
94.90	341.1544
94.90	341.1544
94.90	341.1544
95.87	315.1555
95.87	315.1555
96.73	304.5979
97.43	267.5197
98.44	288.0779
98.44	288.0790
98.88	313.1534
99.55	317.0357
99.55	317.0357
99.86	320.8623
100.00	320.9138
100.10	320.9527
103.18	315.0931
103.76	283.9653
105.00	314.7586
105.31	323.6957
108.00	354.1772
109.28	311.3253

111.00	324.7404
111.00	324.7404
111.76	315.1279
112.95	318.4980
115.19	323.2243
116.30	297.7936
117.00	301.9857
117.00	301.9857
117.66	317.1053
121.11	300.2812
121.62	301.4366
121.78	301.4850
122.06	301.5714
122.32	299.6533
122.32	299.6533
122.32	299.6533
122.32	299.6533
123.07	315.3046
127.23	297.1218
129.76	313.9662
131.20	314.4089
133.02	313.3484
133.54	290.8828
135.34	348.0444
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136.48	333.2295
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140.51	0.0000
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142.65	331.0873
143.76	319.1897
144.24	296.8856
144.24	296.8856
144.24	296.8856
144.24	296.8856
145.22	283.8772
145.44	291.0839
147.16	320.1831
152.43	241.7371
152.70	241.7945
153.22	260.2133
154.21	299.7624
154.21	299.7624
154.21	299.7624
154.21	299.7624
155.03	301.6283
156.02	298.5904
158.56	269.4912
159.00	0.0000
159.00	281.1703
160.31	292.8715
161.27	314.8638
162.32	324.4743
162.64	312.1194
163.35	287.4061
163.89	264.7012
165.85	273.4580
167.43	275.9015
171.28	267.3828
171.86	266.4668
172.10	266.5193
176.55	297.9062
176.60	297.9170
181.06	252.6617
184.41	287.1074
185.71	275.5659
186.00	275.6296
190.27	244.3078
192.34	302.6820
193.63	256.2041
197.04	254.7343
198.01	280.5190
198.60	301.9830
200.40	277.8151
201.83	282.3873
202.84	264.0443
205.31	308.8499

208.36	285.4625
208.81	270.9338
209.75	225.5001
209.75	225.5001
210.97	234.3128
215.65	227.9673
216.55	229.1933
218.09	238.1006
222.10	215.9786
223.80	246.6585
226.40	240.5688
227.00	228.6893
227.08	235.2365
227.20	235.2563
228.16	205.9834
228.18	205.9862
228.18	205.9862
231.56	0.0000
235.69	213.8261
236.00	178.5909
236.00	178.5909
238.63	178.9043
238.63	178.9043
238.63	178.9043
238.63	178.9043
239.00	178.9478
240.98	179.1829
241.98	179.3010
241.98	179.3010
241.98	179.3010
244.69	206.2868
245.39	188.7416
247.94	203.1887
248.90	186.8983
249.79	162.5241
252.40	187.1608
252.85	193.8616
252.85	193.8616
254.15	0.0000
256.20	174.2917
256.20	174.2917
260.50	214.8368
260.90	207.0987
262.80	191.0993
264.65	153.5654
268.24	200.4352
268.79	198.7133
269.46	182.6761
269.46	182.6761
269.46	182.6761
269.46	182.6761
271.23	138.9494
273.65	139.1537
276.40	145.6794
277.35	145.7624
277.60	145.7842
277.60	145.7842
278.00	139.5189
278.60	139.5681
279.20	148.6269
279.53	147.1535
280.46	148.7377
281.68	153.3569
283.67	159.5585
284.30	159.6189
285.00	170.4440
285.90	162.7844
286.10	151.0441
286.10	151.0441
287.40	152.7443
288.45	0.0000
290.67	151.1475
290.80	151.1576
291.72	169.3877
293.26	0.0000
293.70	154.4423
295.21	109.1118
295.21	109.1118

295.21	109.1118
295.96	109.1602
296.50	109.1938
297.23	109.2393
298.57	109.3228
299.80	139.7894
299.80	139.7894
300.09	139.8118
300.09	139.8118
300.09	139.8118
300.09	139.8118
300.12	139.8137
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302.84	155.2516
303.76	162.9469
303.91	162.9599
304.40	156.9120
304.40	156.9120
304.84	155.4259
306.84	112.8879
308.46	138.5658
311.98	146.8691
316.51	158.2791
318.01	155.6483
319.02	155.7329
319.41	151.1575
320.08	140.3540
323.87	163.2290
323.87	163.2290
323.87	163.2290
323.87	163.2290
325.23	166.4297
328.77	125.0612
333.44	116.0858
334.20	136.2629
334.20	136.2629
334.30	136.2700
338.28	119.1766
338.28	119.1766
338.28	119.1766
338.28	119.1766
338.32	119.1781
338.32	119.1781
338.32	119.1781
340.50	128.9479
340.57	128.9512
344.27	156.9094
345.85	130.8638
350.59	0.0000
351.07	165.5840
351.92	145.3390
351.92	145.3390
351.92	145.3390
355.39	0.0000
356.01	125.2832
364.48	119.8423
366.43	135.0732
367.43	128.5243
367.94	0.0000
369.80	127.7292
374.96	117.6199
383.85	129.5619
387.95	130.7721
388.63	134.6333
391.69	125.2672
391.69	125.2672
392.90	137.7773
398.62	99.7750
400.65	104.6717
401.10	120.0623
401.81	125.8668
402.60	136.4861
404.84	144.3256
410.95	116.7520
411.60	126.4393
413.65	134.2863
414.70	100.5215
415.30	102.4831

415.76	106.3732
417.63	0.0000
418.52	91.9825
423.70	92.1982
427.08	93.3105
427.89	101.1232
432.53	108.1532
433.93	111.1444
439.47	114.3492
439.56	114.3535
439.89	108.5055
443.98	98.9065
444.90	78.3730
445.03	78.3779
445.03	78.3779
445.03	78.3779
445.03	78.3779
453.90	78.6787
463.38	88.8728
468.07	85.7505
473.00	94.1906
475.06	89.3090
475.35	79.3955
476.78	100.2960
477.59	101.3239
477.96	104.3194
482.03	90.5623
484.57	94.6417
487.03	89.7517
490.36	0.0000
492.35	89.9462
497.08	76.1002
507.63	0.0000
510.53	0.0000
510.84	92.6283
511.00	92.6340
511.85	92.6660
511.85	92.6660
513.99	62.1650
513.99	62.1650
520.41	80.8496
520.65	80.8574
527.90	73.9909
528.96	0.0000
529.64	86.2119
529.87	0.0000
531.02	79.1540
537.32	87.4823
543.00	84.6130
546.56	0.0000
549.76	79.7196
552.65	66.5044
555.20	86.0262
563.23	95.5271
563.90	93.4972
568.70	76.1644
569.32	72.0645
569.50	70.0105
569.67	70.0138
573.80	91.6602
574.00	85.9375
574.64	81.2302
578.91	72.3157
579.30	0.0000
583.14	75.5308
585.48	62.1328
591.81	83.0313
592.07	78.8871
593.00	70.6064
595.88	76.9141
600.56	80.6863
602.52	0.0000
602.71	102.4530
602.71	102.4530
603.60	111.1719
604.41	90.3525
604.70	90.3610
609.31	88.7665



609.31	88.7665
609.31	88.7665
609.31	88.7665
610.33	80.0920
612.46	94.0913
614.37	80.2061
618.01	76.4664
621.84	74.4685
621.84	74.4685
631.29	53.6658
633.02	63.1729
633.10	63.1743
634.78	70.5855
635.90	70.6117
636.97	63.2578
645.85	62.3893
646.12	60.2800
656.30	57.3012
657.75	71.1302
657.90	0.0000
661.65	76.5369
661.65	76.5369
664.57	0.0000
666.33	75.5900
666.33	75.5900
675.00	76.8709
677.61	67.3189
685.20	76.0529
692.80	79.4597
695.00	87.0374
696.49	73.1033
696.49	73.1033
697.00	81.7167
697.49	83.8805
698.33	83.9014
698.50	91.4373
699.00	93.6036
702.63	85.0928
706.10	80.8722
706.58	0.0000
706.67	75.4944
709.31	68.0019
711.68	72.3734
713.82	72.4208
717.42	73.5848
720.50	70.4050
721.93	0.0000
722.20	66.8299
722.78	63.2281
722.78	63.2281
722.89	63.2310
722.95	63.2324
723.30	59.6259
724.18	74.1006
727.18	34.3710
733.00	48.9298
735.90	46.7971
739.58	62.1016
742.81	55.6194
744.21	58.9162
747.13	78.6252
751.79	62.3312
752.31	67.8095
753.82	55.8049
755.35	54.7351
756.15	71.1731
756.87	71.1890
763.93	80.1182
765.79	76.8684
766.42	74.6854
766.84	80.1877
776.49	68.8492
778.00	56.0222
778.57	56.0308
778.89	56.0358
783.80	56.1165
785.46	57.0642
792.07	49.0062

795.84	59.0820
796.30	59.0898
798.80	61.7727
801.93	49.1457
805.60	59.2474
810.29	54.6919
810.76	49.1365
815.85	63.1344
817.79	54.8083
818.51	52.0317
819.60	52.0477
826.30	66.1133
828.27	0.0000
831.60	49.4255
831.96	46.6329
834.83	70.9392
836.80	0.0000
846.75	52.4430
848.13	53.4004
856.28	0.0000
856.80	61.9784
860.37	49.8190
867.32	57.4469
867.82	54.6287
871.10	52.7917
873.19	59.4240
874.81	49.0706
875.33	0.0000
876.40	54.7550
879.36	65.1915
880.27	65.2083
880.51	63.3223
881.50	56.7212
883.24	38.7770
884.67	48.2535
889.25	62.5222
896.60	56.0003
898.02	54.1217
899.00	48.4371
903.28	37.4897
911.07	48.9990
911.07	48.9990
911.07	48.9990
919.63	50.6084
920.93	42.9840
925.00	42.4552
925.24	44.7529
926.50	36.0769
935.52	36.1605
937.48	44.4005
944.10	39.3968
946.00	45.1841
949.00	35.5976
962.29	56.2639
964.01	44.6990
966.15	76.1955
968.20	77.3389
969.11	34.8105
969.11	34.8105
969.11	34.8105
977.42	40.1675
980.50	33.9390
983.50	44.6392
989.30	32.0695
996.32	42.8327
1001.03	47.7549
1001.68	48.7366
1004.76	53.6505
1021.30	0.0000
1024.50	0.0000
1034.80	46.1796
1036.00	47.1738
1037.82	44.2456
1038.57	43.2695
1038.76	0.0000
1045.16	40.3827
1046.59	34.4845
1048.07	42.3806

1050.47	42.4051
1050.47	42.4051
1062.04	45.4871
1063.62	51.4393
1076.63	45.6406
1077.35	48.6252
1078.86	45.6631
1085.78	41.7590
1099.22	50.8630
1112.02	34.2927
1112.84	51.4495
1115.52	48.0469
1120.29	53.2531
1120.29	53.2531
1120.29	53.2531
1120.29	53.2531
1120.51	53.2553
1121.28	53.2639
1124.00	0.0000
1129.67	54.2241
1131.51	0.0000
1147.95	0.0000
1167.94	44.5550
1173.22	38.5242
1175.09	43.6106
1177.93	41.6073
1189.05	54.9316
1204.90	62.2609
1205.75	0.0000
1213.00	53.1659
1221.42	46.0913
1230.97	64.9359
1235.34	72.1990
1236.41	0.0000
1238.25	59.6143
1246.25	41.1816
1260.41	0.0000
1271.85	47.6078
1274.45	33.1354
1274.54	33.1367
1291.56	38.4453
1298.22	0.0000
1312.09	33.3867
1325.50	44.9824
1325.50	44.9824
1332.49	27.2367
1333.61	27.2420
1360.21	24.2241
1362.66	0.0000
1365.15	23.1924
1368.21	29.5358
1368.53	0.0000
1376.25	19.0166
1384.27	29.6270
1394.10	18.0210
1395.20	24.3870
1407.95	30.8219
1434.06	17.0885
1436.60	18.1649
1457.56	0.0000
1460.81	17.1732
1489.15	26.9714
1509.49	20.5725
1596.49	25.4415
1620.62	8.2788
1678.03	0.0000
1691.02	18.1882
1691.02	18.1882
1706.46	0.0000
1750.46	0.0000
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1770.23	56.2320
1771.40	32.9695
1791.20	0.0000
1808.65	12.6799

1836.01

10.7744

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G244881004

Total Uranium Activity	1.1537E+01	ug/g
Total Uranium Counting Unc.	7.7760E+00	ug/g
Total Uranium Tpu	3.9673E-06	ug/g
Total Uranium Mda	4.0520E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON , SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 942718          SAMPLE ID   : G244881004
*  ANALYST       : MXR1            DETECTOR    : GAM23
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 26-JAN-2010 13:21:53.67  SAMPLE ALQT: 128.090 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.719E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.830E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.524E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.706E+00

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 16:12:00.99

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018262.CNF;1
Sample date        : 19-JAN-2010 00:00:00 Acquisition date : 26-JAN-2010 14:07:42
Sample ID          : G1202018262 Sample quantity : 1.81110E+02 GRAM
Detector name      : GAM25 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.94 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942718 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	46.80*	11	83	0.99	93.15	89	10	1.50E-03	199.8	
2	0	63.18*	26	84	0.65	125.91	122	8	3.68E-03	76.9	
3	0	93.04*	36	94	1.11	185.63	181	11	4.97E-03	70.4	
4	0	185.24*	27	75	0.96	370.02	364	12	3.71E-03	78.8	
5	0	511.06*	16	57	2.42	1021.63	1013	21	2.17E-03	155.3	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018262.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 00:00:00 Acquisition date : 26-JAN-2010 14:07:42
Sample ID         : G1202018262 Sample quantity : 181.11 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA25 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:00.94 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
BI-210	+	46.50	*	6.023E-02	2.408E-01	1.465E-01	1.511E-02	0.411
PB-210	+	46.50	*	6.023E-02	2.408E-01	1.465E-01	1.511E-02	0.411
PO-210	+	46.50	*	6.023E-02	2.408E-01	1.465E-01	1.395E-02	0.411
TH-234	+	63.29	*	1.478E-01	2.289E-01	1.979E-01	3.685E-02	0.747
	+	92.38		1.486E-01	2.111E-01	1.554E-01	3.002E-02	0.956
U-238	+	63.29	*	1.478E-01	2.289E-01	1.979E-01	3.685E-02	0.747
	+	92.38		1.486E-01	2.097E-01	1.554E-01	1.705E-02	0.956
ANH-511	+	511.00	*	1.156E-02	3.593E-02	1.733E-02	1.784E-03	0.667

## ---- 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	*	1.024E-01	1.169E-01	2.105E-01	2.228E-02	0.486
NA-22		1274.54	*	1.169E-02	1.739E-02	3.203E-02	2.626E-03	0.365
NA-24		1368.53	*	5.869E-05	1.739E-02	Half-Life too short		
AL-26		1129.67		-1.104E-01	5.651E-01	9.021E-01	7.702E-02	-0.122
		1808.65	*	8.052E-03	1.526E-02	2.876E-02	2.357E-03	0.280
K-40		1460.81	*	2.808E-02	1.884E-01	3.523E-01	3.000E-02	0.080
TI-44		67.85		-4.985E-04	5.276E-03	8.265E-03	8.225E-04	-0.060
		78.38	*	-4.632E-03	5.421E-03	7.639E-03	7.866E-04	-0.606
SC-46		889.25	*	5.220E-03	1.184E-02	2.108E-02	2.019E-03	0.248
		1120.51		6.268E-03	2.215E-02	3.455E-02	2.970E-03	0.181
V-48		944.10		-3.661E-02	2.475E-01	3.884E-01	3.644E-02	-0.094
		983.50	*	7.040E-03	2.261E-02	3.835E-02	3.554E-03	0.184
		1312.09		2.296E-03	1.896E-02	3.204E-02	2.611E-03	0.072
CR-51		320.08	*	-1.792E-01	1.172E-01	1.636E-01	1.817E-02	-1.095
MN-52		744.21		1.385E-02	3.706E-02	6.473E-02	6.994E-03	0.214
		848.13		1.883E-01	1.068E+00	1.797E+00	1.801E-01	0.105
		935.52		-1.387E-03	3.356E-02	5.384E-02	5.062E-03	-0.026
		1246.25		-2.997E-01	8.615E-01	1.301E+00	1.068E-01	-0.230
		1333.61		4.750E-01	1.060E+00	1.731E+00	1.406E-01	0.274
		1434.06	*	2.912E-02	4.141E-02	7.770E-02	6.404E-03	0.375
MN-54		834.83	*	2.095E-03	1.369E-02	2.299E-02	2.333E-03	0.091



----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	846.75	*	5.427E-04	1.478E-02	2.431E-02	2.440E-03	0.022	
	977.42		8.138E-02	1.238E+00	2.017E+00	1.873E-01	0.040	
	1037.82		-6.655E-02	1.177E-01	1.776E-01	1.685E-02	-0.375	
	1175.09		-4.741E-01	6.822E-01	9.530E-01	7.844E-02	-0.498	
	1238.25		-6.256E-03	2.486E-02	3.880E-02	3.290E-03	-0.161	
	1360.21		-5.134E-02	3.446E-01	5.404E-01	4.410E-02	-0.095	
	1771.40		-2.795E-02	1.127E-01	1.735E-01	1.429E-02	-0.161	
CO-57	122.06	*	-4.188E-04	6.260E-03	1.050E-02	1.354E-03	-0.040	
	136.48		2.298E-02	5.350E-02	9.282E-02	1.138E-02	0.248	
CO-58	810.76	*	5.975E-03	1.553E-02	2.696E-02	2.797E-03	0.222	
FE-59	142.65		-1.875E-01	7.342E-01	1.161E+00	1.307E-01	-0.161	
	192.34		5.118E-02	2.538E-01	4.225E-01	5.920E-02	0.121	
	1099.22	*	-1.918E-02	3.092E-02	4.545E-02	4.281E-03	-0.422	
	1291.56		2.202E-02	3.629E-02	6.770E-02	6.359E-03	0.325	
CO-60	1173.22		-7.177E-03	1.575E-02	2.371E-02	1.952E-03	-0.303	
	1332.49	*	1.913E-02	1.952E-02	3.708E-02	3.012E-03	0.516	
ZN-65	1115.52	*	-2.735E-02	3.246E-02	4.529E-02	3.912E-03	-0.604	
GE-68	1077.35	*	3.963E-01	4.778E-01	9.043E-01	8.005E-02	0.438	
AS-73	53.44	*	2.850E-02	4.398E-02	7.541E-02	7.238E-03	0.378	
AS-74	595.88	*	-5.435E-03	2.865E-02	4.440E-02	4.812E-03	-0.122	
	634.78		4.189E-02	1.102E-01	1.937E-01	2.131E-02	0.216	
SE-75	66.05		-2.444E-04	5.559E-01	7.872E-01	9.074E-02	0.000	
	96.73		-8.719E-02	1.695E-01	2.300E-01	3.544E-02	-0.379	
	121.11		-1.268E-03	3.301E-02	5.554E-02	8.163E-03	-0.023	
	136.00		6.887E-03	9.829E-03	1.740E-02	2.064E-03	0.396	
	198.60		2.527E-01	6.366E-01	1.015E+00	1.066E-01	0.249	
	264.65	*	4.048E-03	1.540E-02	2.520E-02	2.761E-03	0.161	
	279.53		3.070E-03	3.757E-02	6.008E-02	6.854E-03	0.051	
BR-77	303.91		2.910E-01	7.158E-01	1.254E+00	1.670E-01	0.232	
	400.65		-2.755E-03	7.989E-02	1.316E-01	1.522E-02	-0.021	
	87.88		-3.697E+00	3.981E+00	5.539E+00	5.948E-01	-0.667	
	200.40		-4.496E+00	6.258E+00	9.512E+00	9.214E-01	-0.473	
	239.00		-1.241E-01	4.153E-01	6.718E-01	7.035E-02	-0.185	
	249.79		1.728E+00	2.395E+00	4.130E+00	4.407E-01	0.418	
	281.68		-2.995E-01	3.498E+00	5.484E+00	6.111E-01	-0.055	
	297.23		3.274E-02	1.989E+00	3.376E+00	3.720E-01	0.010	
	303.76		4.100E+00	6.893E+00	1.228E+01	1.345E+00	0.334	
	439.47		-7.533E-01	5.974E+00	9.644E+00	9.289E-01	-0.078	
	484.57		5.100E+00	9.071E+00	1.593E+01	1.604E+00	0.320	
	520.65	*	-2.373E-02	4.390E-01	7.039E-01	7.298E-02	-0.034	
	574.64		-5.085E+00	1.130E+01	1.702E+01	1.826E+00	-0.299	
	578.91		-8.960E-01	4.503E+00	7.022E+00	7.547E-01	-0.128	
	585.48		-1.750E+00	7.910E+00	1.225E+01	1.321E+00	-0.143	
SR-82	755.35		7.854E-01	6.792E+00	1.144E+01	1.229E+00	0.069	
	817.79		-1.914E+00	5.348E+00	8.151E+00	8.395E-01	-0.235	
	698.33		5.541E-01	1.166E+01	1.952E+01	2.146E+00	0.028	
	776.49	*	3.080E-02	1.188E-01	2.038E-01	2.163E-02	0.151	
	1395.20		3.783E+00	3.389E+00	6.953E+00	5.703E-01	0.544	
RB-83	520.41	*	-3.036E-03	2.430E-02	3.853E-02	3.994E-03	-0.079	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		529.64		3.004E-03	4.265E-02	6.949E-02	7.252E-03	0.043
		552.65		2.675E-02	6.637E-02	1.136E-01	1.204E-02	0.235
RB-84		881.50	*	3.548E-03	2.251E-02	3.774E-02	3.648E-03	0.094
KR-85		513.99	*	5.167E+00	3.162E+00	5.943E+00	6.131E-01	0.869
SR-85		513.99	*	2.448E-02	1.498E-02	2.815E-02	2.904E-03	0.869
RB-86		1076.63	*	8.592E-02	2.417E-01	4.271E-01	3.783E-02	0.201
Y-88		898.02		1.352E-02	1.641E-02	3.020E-02	2.873E-03	0.448
		1836.01	*	7.291E-03	1.862E-02	3.359E-02	2.745E-03	0.217
ZR-88		392.90	*	5.239E-03	1.083E-02	1.891E-02	1.721E-03	0.277
Y-91		1204.90	*	5.246E-01	5.433E+00	9.159E+00	7.537E-01	0.057
NB-94		702.63	*	-1.126E-02	1.366E-02	1.988E-02	2.184E-03	-0.566
		871.10		-2.958E-03	1.233E-02	1.911E-02	1.869E-03	-0.155
NB-95		765.79	*	5.699E-03	1.461E-02	2.550E-02	2.724E-03	0.223
NB-95M		235.69	*	-6.442E-02	4.260E-02	5.776E-02	6.620E-03	-1.115
ZR-95		724.18		-1.072E-02	3.359E-02	5.307E-02	6.102E-03	-0.202
		756.15	*	9.731E-03	2.462E-02	4.319E-02	4.946E-03	0.225
NB-97		657.90	*	-6.643E-05	2.462E-02	Half-Life	too short	
		1024.50		-2.100E-03	2.462E-02	Half-Life	too short	
ZR-97		254.15		-5.804E-05	2.462E-02	Half-Life	too short	
		355.39		-2.219E-04	2.462E-02	Half-Life	too short	
		507.63	*	6.919E-04	2.462E-02	Half-Life	too short	
		602.52		1.759E-04	2.462E-02	Half-Life	too short	
		1021.30		-1.384E-03	2.462E-02	Half-Life	too short	
		1147.95		-1.522E-04	2.462E-02	Half-Life	too short	
		1362.66		-9.530E-04	2.462E-02	Half-Life	too short	
		1750.46		7.764E-06	2.462E-02	Half-Life	too short	
MO-99		140.51		2.395E-01	1.215E+00	1.947E+00	5.587E-01	0.123
		181.06		-2.565E-01	8.079E-01	1.133E+00	2.108E-01	-0.226
		366.43		-1.002E+00	5.073E+00	8.281E+00	8.115E-01	-0.121
		739.58	*	2.539E-01	6.702E-01	1.173E+00	1.939E-01	0.216
		778.00		1.486E-01	1.915E+00	3.196E+00	3.389E-01	0.046
TC-99M		140.51	*	2.142E+00	1.915E+00	Half-Life	too short	
RH-101		127.23		-2.209E-03	8.262E-03	1.358E-02	1.699E-03	-0.163
		198.01	*	9.784E-03	1.177E-02	1.937E-02	1.867E-03	0.505
		325.23		-1.372E-02	8.652E-02	1.316E-01	1.402E-02	-0.104
RH-102		418.52		-1.110E-01	1.158E-01	1.680E-01	1.579E-02	-0.661
		475.06	*	-3.291E-03	1.218E-02	1.917E-02	1.914E-03	-0.172
		631.29		-7.372E-03	2.259E-02	3.628E-02	3.985E-03	-0.203
		697.49		2.685E-02	3.192E-02	5.855E-02	6.439E-03	0.459
		766.84		2.087E-02	4.245E-02	7.480E-02	7.984E-03	0.279
		1046.59		-1.994E-02	4.311E-02	6.599E-02	5.945E-03	-0.302
		1112.84		1.529E-02	7.359E-02	1.276E-01	1.103E-02	0.120
RU-103		497.08	*	1.185E-02	1.571E-02	2.763E-02	4.189E-03	0.429
		610.33		-3.257E-02	2.716E-01	4.536E-01	8.152E-02	-0.072
RH-106	+	511.85		5.692E-02	1.769E-01	2.118E-01	2.182E-02	0.269
		621.84	*	-3.250E-02	1.271E-01	2.063E-01	3.088E-02	-0.158
		1050.47		-3.445E-01	8.116E-01	1.245E+00	1.120E-01	-0.277
RU-106	+	511.85		5.692E-02	1.769E-01	2.118E-01	2.182E-02	0.269
		621.84	*	-3.250E-02	1.271E-01	2.063E-01	2.259E-02	-0.158

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AG-108M	1050.47			-3.445E-01	8.116E-01	1.245E+00	1.120E-01	-0.277
	433.93	*		5.501E-03	1.248E-02	2.159E-02	2.134E-03	0.255
	614.37			2.290E-03	1.510E-02	2.590E-02	2.898E-03	0.088
	722.95			-6.342E-03	1.662E-02	2.601E-02	2.906E-03	-0.244
CD-109	88.03	*		-1.449E-01	1.643E-01	2.300E-01	2.471E-02	-0.630
AG-110M	657.75	*		-3.914E-02	1.736E-02	1.952E-02	2.200E-03	-2.005
	677.61			-3.036E-02	1.312E-01	2.106E-01	2.367E-02	-0.144
	706.67			2.735E-02	8.158E-02	1.418E-01	1.582E-02	0.193
	763.93			-7.825E-03	5.924E-02	9.568E-02	1.042E-02	-0.082
	884.67			5.266E-04	1.647E-02	2.699E-02	2.666E-03	0.020
	937.48			-8.290E-03	3.885E-02	6.002E-02	5.812E-03	-0.138
	1384.27			2.673E-02	6.046E-02	1.091E-01	9.216E-03	0.245
	171.28			-5.752E-03	4.639E-02	7.556E-02	6.827E-03	-0.076
IN-111	245.39	*		1.571E-02	5.630E-02	9.284E-02	9.831E-03	0.169
IN-113M	391.69	*		2.594E-03	1.571E-02	2.654E-02	2.479E-03	0.098
SN-113	391.69	*		2.594E-03	1.571E-02	2.654E-02	2.479E-03	0.098
IN-114M	190.27	*		-4.768E-02	5.823E-02	7.512E-02	7.110E-03	-0.635
CD-115	260.90			-3.840E+00	4.850E+00	7.056E+00	7.666E-01	-0.544
	492.35			-4.895E-02	1.559E+00	2.524E+00	2.559E-01	-0.019
	527.90	*		-1.567E-01	4.550E-01	6.999E-01	7.294E-02	-0.224
	156.02			-1.346E-01	4.411E-01	7.116E-01	7.096E-02	-0.189
SN-117M	158.56	*		-1.627E-03	1.081E-02	1.768E-02	1.716E-03	-0.092
	563.90	*		1.303E-02	1.172E-01	1.912E-01	2.038E-02	0.068
SB-122	692.80			-1.820E-01	2.739E+00	4.522E+00	4.980E-01	-0.040
	159.00	*		-1.120E-05	2.739E+00	Half-Life	too short	
TE-123M	528.96			2.902E-03	2.739E+00	Half-Life	too short	
	159.00	*		-7.349E-04	7.991E-03	1.313E-02	1.275E-03	-0.056
I-124	602.71	*		1.780E-02	7.491E-02	1.299E-01	1.412E-02	0.137
	722.78			-3.238E-01	5.099E-01	7.656E-01	8.350E-02	-0.423
	1325.50			-9.721E-01	4.643E+00	7.292E+00	5.930E-01	-0.133
	1376.25			-1.999E-01	2.922E+00	4.676E+00	3.825E-01	-0.043
	1509.49			1.152E+00	2.120E+00	3.838E+00	3.183E-01	0.300
	1691.02			-3.213E-01	3.948E-01	4.172E-01	3.459E-02	-0.770
	602.71			3.306E-03	1.391E-02	2.413E-02	2.623E-03	0.137
	645.85			8.499E-03	1.837E-01	3.098E-01	3.544E-02	0.027
SB-124	709.31			-5.267E-02	9.897E-01	1.632E+00	1.788E-01	-0.032
	713.82			1.483E-01	6.095E-01	1.047E+00	1.444E-01	0.142
	722.78			-8.718E-02	1.373E-01	2.061E-01	2.278E-02	-0.423
	968.20			-2.882E-02	9.363E-01	1.502E+00	1.400E-01	-0.019
	1045.16			1.406E-01	7.866E-01	1.363E+00	1.229E-01	0.103
	1325.50			-2.795E-01	1.335E+00	2.097E+00	1.705E-01	-0.133
	1368.21			6.076E-01	6.992E-01	1.341E+00	1.769E-01	0.453
	1436.60			2.751E-01	1.614E+00	2.722E+00	2.244E-01	0.101
SB-125	1691.02	*		-2.040E-02	2.507E-02	2.649E-02	2.290E-03	-0.770
	427.89	*		1.552E-02	3.094E-02	5.430E-02	5.245E-03	0.286
	463.38			4.202E-02	1.124E-01	1.915E-01	2.005E-02	0.219
	600.56			-1.208E-01	8.905E-02	1.091E-01	1.241E-02	-1.106
TE-125M	635.90			-3.674E-02	1.147E-01	1.844E-01	2.131E-02	-0.199
	109.28	*		2.599E+00	1.862E+00	3.476E+00	4.613E-01	0.748

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-126	388.63			-1.570E-02	4.843E-02	7.712E-02	7.080E-03	-0.204
	666.33	*		-9.812E-02	6.716E-02	9.317E-02	1.031E-02	-1.053
	753.82			-2.137E-01	3.786E-01	5.654E-01	6.080E-02	-0.378
SB-126	223.80			1.971E-02	7.992E-01	1.294E+00	1.317E-01	0.015
	278.60			4.678E-01	5.722E-01	9.836E-01	1.097E-01	0.476
	296.50			5.979E-02	3.412E-01	5.579E-01	6.151E-02	0.107
	414.70			-1.404E-03	1.985E-02	3.248E-02	3.040E-03	-0.043
	415.30			3.502E-01	1.625E+00	2.746E+00	2.572E-01	0.128
	555.20			-1.005E-01	9.599E-01	1.516E+00	1.608E-01	-0.066
	573.80			-1.172E-01	3.492E-01	5.363E-01	5.749E-02	-0.219
	593.00			-1.132E-01	2.504E-01	3.704E-01	4.009E-02	-0.306
	656.30			-1.603E+00	9.657E-01	1.203E+00	1.331E-01	-1.332
	666.33			-4.030E-02	2.758E-02	3.827E-02	4.236E-03	-1.053
	675.00			-2.029E-01	5.946E-01	9.425E-01	1.042E-01	-0.215
	695.00			-1.137E-03	2.247E-02	3.718E-02	4.092E-03	-0.031
	697.00			4.120E-02	7.596E-02	1.348E-01	1.482E-02	0.306
	720.50	*		7.242E-03	3.872E-02	6.593E-02	7.197E-03	0.110
	856.80			-1.468E-02	1.150E-01	1.834E-01	1.821E-02	-0.080
	989.30			-2.312E-01	3.329E-01	4.561E-01	4.217E-02	-0.507
	1034.80			-3.101E-01	2.335E+00	3.829E+00	3.470E-01	-0.081
	1213.00			2.977E-01	1.119E+00	1.933E+00	1.591E-01	0.154
SN-126	64.28	+		5.849E-02	9.045E-02	1.200E-01	1.913E-02	0.487
	86.94			-6.008E-02	7.172E-02	9.444E-02	3.951E-02	-0.636
SB-127	87.57	*		-2.086E-02	1.662E-02	2.222E-02	2.383E-03	-0.939
	61.10			3.619E-01	1.334E+00	2.026E+00	2.122E-01	0.179
	252.40			6.182E-03	3.623E-01	5.803E-01	2.441E-01	0.011
	290.80			1.013E+00	1.950E+00	3.454E+00	4.019E-01	0.293
	411.60			-4.716E-01	1.222E+00	1.923E+00	2.868E-01	-0.245
	444.90			3.796E-02	9.781E-01	1.612E+00	1.901E-01	0.024
	473.00			-1.267E-02	1.906E-01	3.084E-01	3.814E-02	-0.041
	543.00			7.010E-01	1.672E+00	2.854E+00	4.098E-01	0.246
	603.60			5.483E-01	1.144E+00	2.038E+00	2.600E-01	0.269
	685.20	*		6.183E-02	1.473E-01	2.589E-01	3.057E-02	0.239
XE-127	698.50			-2.016E-01	1.669E+00	2.734E+00	4.402E-01	-0.074
	722.20			-1.719E+00	3.124E+00	4.757E+00	5.460E-01	-0.361
	783.80			-7.203E-02	3.633E-01	5.789E-01	7.182E-02	-0.124
	57.60			-4.213E-02	4.061E-01	6.419E-01	6.258E-02	-0.066
	145.22			-2.530E-02	1.668E-01	2.745E-01	3.025E-02	-0.092
	172.10			1.608E-02	3.066E-02	5.286E-02	4.785E-03	0.304
	202.84	*		4.105E-03	1.255E-02	2.104E-02	2.050E-03	0.195
	374.96			-2.800E-02	7.319E-02	1.048E-01	1.003E-02	-0.267
	80.18			-1.594E-01	3.467E-01	5.133E-01	5.330E-02	-0.311
	284.30			1.999E-01	2.808E-01	4.788E-01	5.481E-02	0.417
I-131	364.48	*		1.397E-03	2.111E-02	3.548E-02	3.629E-03	0.039
	636.97			-2.960E-01	3.660E-01	5.485E-01	6.229E-02	-0.540
	722.89			-8.796E-01	1.507E+00	2.284E+00	2.494E-01	-0.385
	49.72			-6.361E-02	1.428E-01	1.953E-01	1.971E-02	-0.326
TE-132	111.76			-9.953E-01	1.586E+00	2.384E+00	3.007E-01	-0.418
	116.30			1.463E-02	1.367E+00	2.316E+00	2.991E-01	0.006

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133	228.16	*		-2.691E-02	3.987E-02	5.858E-02	9.177E-03	-0.459
	53.15			2.424E-02	2.064E-01	3.355E-01	3.217E-02	0.072
	79.62			-3.911E-01	2.178E-01	2.590E-01	4.213E-02	-1.510
	81.00			-1.830E-03	1.552E-02	2.396E-02	4.053E-03	-0.076
	276.40			-8.264E-02	1.380E-01	2.035E-01	3.269E-02	-0.406
	302.84			3.157E-02	5.239E-02	9.299E-02	1.387E-02	0.340
I-133	356.01	*		4.626E-03	1.510E-02	2.606E-02	3.695E-03	0.178
	383.85			1.237E-02	1.134E-01	1.905E-01	2.495E-02	0.065
	510.53	+		2.854E-04	1.134E-01	Half-Life	too short	
	529.87	*		1.579E-06	1.134E-01	Half-Life	too short	
	706.58			1.644E-04	1.134E-01	Half-Life	too short	
	856.28			-4.453E-05	1.134E-01	Half-Life	too short	
	875.33			2.949E-05	1.134E-01	Half-Life	too short	
	1236.41			-2.413E-04	1.134E-01	Half-Life	too short	
	1298.22			8.497E-05	1.134E-01	Half-Life	too short	
	475.35			-3.794E-01	8.466E-01	1.304E+00	1.303E-01	-0.291
CS-134	563.23			2.844E-02	1.387E-01	2.295E-01	2.461E-02	0.124
	569.32			-2.322E-02	9.349E-02	1.435E-01	1.548E-02	-0.162
	604.70			2.582E-04	1.294E-02	2.187E-02	2.383E-03	0.012
	795.84	*		1.006E-02	1.549E-02	2.831E-02	2.981E-03	0.355
	801.93			-7.438E-02	1.677E-01	2.513E-01	2.630E-02	-0.296
	1038.57			-3.822E-01	1.509E+00	2.418E+00	2.188E-01	-0.158
CS-135	1167.94			9.620E-01	9.485E-01	1.826E+00	1.511E-01	0.527
	1365.15			1.887E-01	5.479E-01	9.594E-01	8.231E-02	0.197
	268.24	*		-2.460E-02	5.333E-02	8.012E-02	9.671E-03	-0.307
	288.45			-3.953E+01	5.333E-02	Half-Life	too short	
I-135	417.63			1.107E+01	5.333E-02	Half-Life	too short	
	546.56			-7.391E+00	5.333E-02	Half-Life	too short	
	836.80			-3.387E+01	5.333E-02	Half-Life	too short	
	1038.76			-9.354E+00	5.333E-02	Half-Life	too short	
	1124.00			-2.098E+01	5.333E-02	Half-Life	too short	
	1131.51			-2.415E+00	5.333E-02	Half-Life	too short	
	1260.41	*		-4.948E+00	5.333E-02	Half-Life	too short	
	1457.56			6.133E+00	5.333E-02	Half-Life	too short	
	1678.03			1.031E+01	5.333E-02	Half-Life	too short	
	1706.46			-2.000E+01	5.333E-02	Half-Life	too short	
	1791.20			2.778E+01	5.333E-02	Half-Life	too short	
	66.91			1.845E-02	6.099E-02	9.222E-02	1.494E-02	0.200
	86.29			-1.693E-02	1.356E-01	2.061E-01	2.946E-02	-0.082
	153.22			-3.082E-02	1.280E-01	2.082E-01	2.314E-02	-0.148
CS-136	163.89			-1.641E-01	2.473E-01	3.743E-01	3.786E-02	-0.438
	176.55			-4.073E-02	7.411E-02	1.153E-01	1.109E-02	-0.353
	273.65			-1.101E-02	1.051E-01	1.649E-01	1.899E-02	-0.067
	340.57			-1.037E-02	2.900E-02	4.680E-02	4.953E-03	-0.222
	818.51			1.784E-03	1.828E-02	3.052E-02	3.142E-03	0.058
	1048.07	*		-1.788E-02	2.645E-02	3.831E-02	3.582E-03	-0.467
	1235.34			-1.969E-02	1.149E-01	1.824E-01	2.108E-02	-0.108
	661.65	*		4.299E-03	2.176E-02	3.937E-02	4.362E-03	0.109
	661.65	*		4.545E-03	2.300E-02	4.162E-02	4.616E-03	0.109

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-139	165.85	*		-1.682E-03	8.679E-03	1.409E-02	1.257E-03	-0.119
BA-140	162.64			9.362E-02	1.670E-01	2.796E-01	2.724E-02	0.335
	304.84			-1.804E-01	3.103E-01	4.886E-01	1.408E-01	-0.369
	423.70			9.512E-02	4.767E-01	8.024E-01	2.620E-01	0.119
	537.32	*		-7.398E-02	7.709E-02	9.478E-02	3.192E-02	-0.781
LA-140	328.77			-1.466E-02	6.336E-02	1.039E-01	1.142E-02	-0.141
	432.53			-1.619E-01	5.046E-01	7.935E-01	7.886E-02	-0.204
	487.03			-1.381E-02	3.717E-02	5.736E-02	6.052E-03	-0.241
	751.79			-8.491E-02	4.197E-01	6.699E-01	7.714E-02	-0.127
	815.85			-5.827E-02	8.233E-02	1.165E-01	1.300E-02	-0.500
	867.82			-1.309E-02	3.542E-01	5.737E-01	5.863E-02	-0.023
	919.63			-2.977E-01	6.073E-01	8.664E-01	9.806E-02	-0.344
	925.24			-5.841E-02	2.615E-01	4.027E-01	3.995E-02	-0.145
	1596.49	*		8.225E-03	2.648E-02	4.722E-02	3.926E-03	0.174
CE-141	145.44	*		-8.338E-03	1.503E-02	2.382E-02	2.649E-03	-0.350
CE-143	57.37			7.419E-01	1.783E+00	2.970E+00	3.207E-01	0.250
	231.56			1.372E+01	1.823E+01	3.079E+01	9.876E+00	0.446
	293.26	*		-6.828E-01	1.009E+00	1.584E+00	3.566E-01	-0.431
	350.59			-3.019E+00	1.503E+01	2.284E+01	7.188E+00	-0.132
	490.36			1.483E+01	2.848E+01	4.854E+01	1.554E+01	0.306
	664.57			-2.216E+01	1.762E+01	2.289E+01	7.559E+00	-0.968
	721.93			-5.355E+00	1.276E+01	1.972E+01	5.899E+00	-0.271
CE-144	80.11			-1.474E-01	2.986E-01	4.401E-01	4.564E-02	-0.335
	133.54	*		-6.551E-03	4.827E-02	7.988E-02	1.412E-02	-0.082
PM-144	476.78			2.782E-02	2.766E-02	5.022E-02	5.374E-03	0.554
	618.01			3.090E-03	1.209E-02	2.103E-02	2.339E-03	0.147
	696.49	*		1.501E-02	1.468E-02	2.732E-02	3.006E-03	0.549
	778.57			-3.524E-01	9.194E-01	1.420E+00	1.506E-01	-0.248
PR-144	696.49	*		1.013E+00	9.909E-01	1.844E+00	2.029E-01	0.549
	1489.15			-2.618E+00	6.104E+00	8.865E+00	7.342E-01	-0.295
PM-146	453.90	*		1.595E-03	1.690E-02	2.799E-02	3.268E-03	0.057
	633.02			6.086E-02	5.600E-01	9.530E-01	3.620E-01	0.064
	735.90			-3.078E-03	5.708E-02	9.372E-02	2.751E-02	-0.033
	747.13			3.016E-02	3.552E-02	6.571E-02	1.016E-02	0.459
ND-147	91.11			3.765E-02	3.999E-02	6.215E-02	7.133E-03	0.606
	319.41			-7.407E-01	7.814E-01	1.187E+00	1.275E-01	-0.624
	439.89			1.604E-01	1.334E+00	2.224E+00	2.143E-01	0.072
	531.02	*		1.578E-02	1.539E-01	2.517E-01	4.045E-02	0.063
PM-149	285.90	*		-1.484E+00	3.377E+00	5.065E+00	8.629E-01	-0.293
EU-152	121.78			1.307E-03	1.799E-02	3.055E-02	4.210E-03	0.043
	244.69			-8.573E-03	1.133E-01	1.801E-01	1.905E-02	-0.048
	344.27	*		3.004E-03	3.249E-02	5.500E-02	5.907E-03	0.055
	443.98			-6.806E-02	3.661E-01	5.858E-01	5.670E-02	-0.116
	778.89			-4.124E-02	1.076E-01	1.662E-01	1.761E-02	-0.248
	867.32			1.212E-01	3.090E-01	5.399E-01	5.303E-02	0.224
	964.01			-5.538E-03	1.135E-01	1.817E-01	1.695E-02	-0.030
	1085.78			-1.290E-02	1.630E-01	2.686E-01	2.365E-02	-0.048
	1112.02			2.231E-02	1.047E-01	1.818E-01	1.573E-02	0.123
	1407.95			5.915E-03	7.361E-02	1.222E-01	1.004E-02	0.048

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	69.67			7.147E-02	1.908E-01	3.125E-01	3.125E-02	0.229
	83.37			-2.399E+00	2.927E+00	4.078E+00	4.289E-01	-0.588
	97.43	*		8.253E-03	1.882E-02	2.875E-02	3.238E-03	0.287
EU-154	103.18			-1.731E-03	2.234E-02	3.785E-02	4.394E-03	-0.046
	123.07			3.650E-03	1.247E-02	2.155E-02	3.192E-03	0.169
	247.94			-4.094E-02	1.248E-01	1.924E-01	2.513E-02	-0.213
	591.81			4.456E-02	2.408E-01	3.959E-01	5.295E-02	0.113
	723.30			-2.512E-02	6.816E-02	1.068E-01	1.242E-02	-0.235
	756.87			5.606E-02	2.881E-01	4.909E-01	6.665E-02	0.114
	873.19			-9.857E-03	1.107E-01	1.773E-01	2.317E-02	-0.056
	996.32			-2.066E-02	1.584E-01	2.487E-01	4.493E-02	-0.083
	1004.76			-4.512E-02	9.519E-02	1.396E-01	1.685E-02	-0.323
	1274.45	*		3.748E-02	4.795E-02	8.981E-02	9.867E-03	0.417
EU-155	48.70			7.755E-02	7.620E-02	1.325E-01	1.261E-02	0.585
	60.01			-2.474E-01	4.892E-01	6.590E-01	6.484E-02	-0.375
	86.54			-3.014E-03	1.852E-02	2.804E-02	3.012E-03	-0.107
	105.31	*		6.259E-03	2.317E-02	4.033E-02	4.768E-03	0.155
TB-160	86.79			-3.834E-02	4.886E-02	6.932E-02	7.405E-03	-0.553
	197.04			6.672E-02	1.857E-01	2.945E-01	2.831E-02	0.227
	215.65			3.947E-02	2.323E-01	3.822E-01	3.826E-02	0.103
	298.57			-2.391E-02	3.761E-02	5.995E-02	6.596E-03	-0.399
	879.36	*		-2.776E-03	5.041E-02	8.125E-02	7.873E-03	-0.034
	962.29			1.102E-01	1.865E-01	3.309E-01	3.088E-02	0.333
	966.15			2.726E-02	7.158E-02	1.228E-01	1.145E-02	0.222
	1177.93			-7.603E-02	1.041E-01	1.424E-01	1.172E-02	-0.534
	1271.85			1.812E-02	2.631E-01	4.384E-01	3.591E-02	0.041
	80.57			-3.735E-03	4.020E-02	6.223E-02	6.467E-03	-0.060
HO-166M	184.41		+	1.194E-02	1.885E-02	2.123E-02	1.982E-03	0.562
	280.46			-1.157E-02	3.178E-02	4.827E-02	5.383E-03	-0.240
	410.95			2.209E-02	9.134E-02	1.550E-01	1.444E-02	0.143
	711.68	*		-1.338E-02	2.570E-02	3.947E-02	4.321E-03	-0.339
	752.31			-3.872E-02	1.008E-01	1.554E-01	1.672E-02	-0.249
	810.29			1.453E-02	2.470E-02	4.412E-02	4.572E-03	0.329
	51.35			-4.052E-01	1.502E+00	2.140E+00	2.043E-01	-0.189
TM-171	52.39			3.971E-01	8.081E-01	1.368E+00	1.309E-01	0.290
	59.40			-1.550E+00	2.600E+00	3.465E+00	3.407E-01	-0.447
	66.72	*		1.399E+00	3.240E+00	4.978E+00	4.941E-01	0.281
LU-176	88.36			-1.588E-02	4.030E-02	5.517E-02	5.938E-03	-0.288
	201.83			8.872E-04	9.199E-03	1.511E-02	1.468E-03	0.059
	306.84	*		-3.863E-03	8.836E-03	1.428E-02	1.558E-03	-0.270
LU-177	401.10			2.280E-02	2.195E+00	3.636E+00	3.345E-01	0.006
	112.95			-2.410E-01	2.034E-01	2.878E-01	3.525E-02	-0.837
LU-177M	208.36	*		2.115E-02	1.517E-01	2.496E-01	2.460E-02	0.085
	52.97			2.028E-02	8.838E-02	1.454E-01	1.394E-02	0.139
	54.07			2.503E-02	5.085E-02	8.567E-02	8.239E-03	0.292
	61.30			1.173E-02	1.341E-01	1.990E-01	1.959E-02	0.059
	121.62			6.612E-03	9.007E-02	1.530E-01	1.967E-02	0.043
	147.16			3.902E-03	1.736E-01	2.898E-01	3.141E-02	0.013
	171.86			3.093E-02	1.387E-01	2.332E-01	2.110E-02	0.133

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181	218.09			1.727E-01	2.858E-01	4.869E-01	4.898E-02	0.355
	268.79			-1.013E-01	2.648E-01	4.023E-01	4.423E-02	-0.252
	319.02			-4.987E-02	9.245E-02	1.473E-01	1.583E-02	-0.339
	367.43			9.686E-02	3.464E-01	5.936E-01	5.802E-02	0.163
	413.65	*		5.507E-03	6.462E-02	1.077E-01	1.007E-02	0.051
	56.28			-1.864E-02	6.005E-02	9.288E-02	9.003E-03	-0.201
	57.53			1.046E-02	3.357E-02	5.538E-02	5.397E-03	0.189
	65.20			-2.662E-02	1.021E-01	1.405E-01	1.390E-02	-0.190
	133.02			-3.053E-03	1.400E-02	2.299E-02	2.773E-03	-0.133
	136.25			3.941E-02	1.084E-01	1.870E-01	2.206E-02	0.211
	345.85			8.846E-03	5.662E-02	9.649E-02	9.913E-03	0.092
	482.03	*		-4.949E-03	1.414E-02	2.183E-02	2.194E-03	-0.227
W-181	56.28			-7.882E-03	2.547E-02	3.940E-02	3.819E-03	-0.200
	57.53			4.457E-03	1.424E-02	2.350E-02	2.291E-03	0.190
	65.20	*		-1.121E-02	4.300E-02	5.913E-02	5.852E-03	-0.190
TA-182	67.75			-2.156E-03	1.214E-02	1.886E-02	1.876E-03	-0.114
	100.10			-2.977E-02	3.710E-02	5.897E-02	6.734E-03	-0.505
	152.43			2.280E-02	9.348E-02	1.585E-01	1.638E-02	0.144
	222.10			5.327E-03	1.072E-01	1.740E-01	1.765E-02	0.031
	1001.68			5.136E-02	8.850E-01	1.347E+00	1.239E-01	0.038
RE-183	1121.28			3.176E-02	6.196E-02	9.987E-02	8.581E-03	0.318
	1189.05			-5.940E-02	9.611E-02	1.374E-01	1.131E-02	-0.432
	1221.42	*		-7.650E-02	6.602E-02	7.604E-02	6.254E-03	-1.006
	1230.97			2.719E-02	1.358E-01	2.334E-01	1.919E-02	0.116
	57.98			-1.282E-02	1.618E-02	2.255E-02	2.202E-03	-0.569
	59.32			-5.376E-03	9.892E-03	1.327E-02	1.304E-03	-0.405
	67.20			7.337E-04	2.046E-02	3.250E-02	3.230E-03	0.023
	162.32	*		2.982E-02	3.329E-02	5.705E-02	5.310E-03	0.523
	208.81			6.823E-02	2.633E-01	4.385E-01	4.327E-02	0.156
	291.72			-6.085E-02	3.122E-01	5.208E-01	5.764E-02	-0.117
RE-184	57.98			-4.935E-02	6.230E-02	8.681E-02	8.477E-03	-0.569
	59.32			-2.068E-02	3.805E-02	5.104E-02	5.017E-03	-0.405
	67.20			2.823E-03	7.874E-02	1.251E-01	1.243E-02	0.023
	161.27			3.232E-04	1.102E-01	1.825E-01	1.719E-02	0.002
	216.55			5.267E-02	8.620E-02	1.472E-01	1.476E-02	0.358
OS-185	252.85	*		-6.291E-03	7.120E-02	1.126E-01	1.207E-02	-0.056
	318.01			4.712E-02	1.621E-01	2.806E-01	3.021E-02	0.168
	792.07			-1.717E-01	3.387E-01	5.043E-01	5.297E-02	-0.341
	903.28			-1.006E-01	3.833E-01	5.921E-01	5.603E-02	-0.170
	920.93			-7.163E-02	1.363E-01	1.907E-01	1.799E-02	-0.376
	59.72			-1.575E-02	2.745E-02	3.664E-02	3.604E-03	-0.430
	61.14			1.050E-03	1.431E-02	2.120E-02	2.087E-03	0.050
	69.30			-1.736E-02	3.428E-02	5.131E-02	5.125E-03	-0.338
	592.07			1.372E-01	9.260E-01	1.514E+00	1.638E-01	0.091
	646.12	*		7.467E-04	1.612E-02	2.719E-02	3.000E-03	0.027
RE-188	717.42			3.303E-01	3.557E-01	6.602E-01	7.214E-02	0.500
	874.81			6.420E-02	1.987E-01	3.440E-01	3.350E-02	0.187
	880.27			1.730E-01	2.607E-01	4.778E-01	4.625E-02	0.362
	155.03	*		6.877E-03	4.452E-02	7.490E-02	7.545E-03	0.092



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W-188	+	477.96		6.303E-01	1.134E+00	1.977E+00	1.979E-01	0.319
		633.10		1.144E-01	1.052E+00	1.791E+00	1.969E-01	0.064
		63.58		5.509E+00	8.491E+00	1.278E+01	1.261E+00	0.431
		227.08		-1.395E+00	3.325E+00	5.082E+00	5.204E-01	-0.274
IR-192	*	290.67		1.771E+00	2.402E+00	4.327E+00	4.793E-01	0.409
		295.96		2.143E-02	3.665E-02	6.188E-02	6.855E-03	0.346
		308.46		-4.098E-03	3.225E-02	5.384E-02	5.883E-03	-0.076
		316.51		7.428E-03	1.239E-02	2.197E-02	2.373E-03	0.338
AU-195	*	468.07		-1.928E-03	2.586E-02	4.182E-02	4.375E-03	-0.046
		604.41		1.632E-02	1.660E-01	2.832E-01	4.137E-02	0.058
		612.46		-5.681E-02	2.518E-01	4.116E-01	4.918E-02	-0.138
		65.12		-4.411E-03	2.022E-02	2.797E-02	2.767E-03	-0.158
TL-200	*	66.83		3.476E-03	1.058E-02	1.605E-02	1.594E-03	0.216
		75.70		-9.940E-03	3.039E-02	4.643E-02	4.733E-03	-0.214
		98.88		1.171E-02	5.255E-02	8.437E-02	9.573E-03	0.139
		129.76		3.943E-01	7.182E-01	1.258E+00	1.550E-01	0.313
TL-201	*	367.94		6.266E-01	1.500E+00	2.604E+00	2.542E-01	0.241
		579.30		-8.432E+00	1.373E+01	2.016E+01	2.167E+00	-0.418
		828.27		-7.836E+00	1.614E+01	2.411E+01	2.461E+00	-0.325
		1205.75		1.102E+00	6.544E+00	1.118E+01	9.202E-01	0.098
TL-202	*	68.90		-5.424E-02	1.048E-01	1.568E-01	1.564E-02	-0.346
		70.82		1.961E-02	5.922E-02	9.650E-02	9.679E-03	0.203
		80.30		-3.826E-02	1.309E-01	1.980E-01	2.055E-02	-0.193
		135.34		-1.671E-01	1.177E+00	1.947E+00	2.312E-01	-0.086
HG-203	*	167.43		1.893E-01	3.438E-01	5.968E-01	5.338E-02	0.317
		68.90		-1.768E-02	3.416E-02	5.110E-02	5.098E-03	-0.346
		70.82		6.372E-03	1.925E-02	3.136E-02	3.146E-03	0.203
		80.30		-1.244E-02	4.256E-02	6.436E-02	6.680E-03	-0.193
BI-207	*	439.56		1.281E-03	1.655E-02	2.744E-02	2.643E-03	0.047
		70.83		3.733E-02	1.143E-01	1.861E-01	2.706E-02	0.201
		72.87		-1.202E-01	8.155E-02	1.075E-01	1.528E-02	-1.118
		82.60		1.192E-01	1.658E-01	2.756E-01	4.130E-02	0.432
TL-207	*	279.20		9.371E-03	1.257E-02	2.152E-02	2.442E-03	0.436
		72.80		-4.036E-02	2.637E-02	3.495E-02	3.527E-03	-1.155
		74.97		-8.672E-04	1.709E-02	2.674E-02	2.718E-03	-0.032
		84.90		-1.760E-02	3.753E-02	5.408E-02	5.727E-03	-0.325
TL-207	*	569.67		-1.313E-03	1.493E-02	2.343E-02	2.507E-03	-0.056
		1063.62		-4.135E-04	1.821E-02	3.033E-02	2.707E-03	-0.014
		1770.23		5.917E-02	2.370E-01	4.169E-01	3.433E-02	0.142
		81.07		-2.629E-03	3.444E-02	5.342E-02	5.563E-03	-0.049
	*	83.78		-9.763E-03	2.423E-02	3.512E-02	3.700E-03	-0.278
		94.90		1.026E-02	4.611E-02	7.301E-02	8.115E-03	0.141
		122.32		6.527E-02	4.474E-01	7.639E-01	1.017E-01	0.085
		144.24		7.735E-02	1.995E-01	3.314E-01	3.950E-02	0.233
	*	154.21		3.295E-02	1.128E-01	1.919E-01	2.091E-02	0.172
		269.46		-1.450E-02	6.056E-02	9.348E-02	1.042E-02	-0.155
		323.87		2.601E-01	2.403E-01	4.373E-01	8.217E-02	0.595
		338.28		1.789E-01	3.779E-01	6.598E-01	8.997E-02	0.271
	*	445.03		-1.083E-02	8.921E-01	1.460E+00	1.880E-01	-0.007

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TL-208		277.35		-1.517E-02	1.357E-01	2.126E-01	3.020E-02	-0.071
	+	510.84		5.351E-02	1.664E-01	2.082E-01	2.757E-02	0.257
		583.14	*	-2.357E-03	1.755E-02	2.750E-02	3.101E-03	-0.086
		860.37		-1.707E-02	1.127E-01	1.791E-01	1.873E-02	-0.095
PO-209		260.50		-1.224E+00	3.531E+00	5.414E+00	5.878E-01	-0.226
		262.80		5.622E+00	1.002E+01	1.686E+01	1.837E+00	0.334
		896.60	*	4.170E+00	3.013E+00	5.959E+00	5.655E-01	0.700
BI-211		72.87		-6.762E-01	4.536E-01	6.047E-01	6.104E-02	-1.118
		351.07	*	-4.115E-02	8.562E-02	1.266E-01	1.334E-02	-0.325
PB-211		404.84	*	-3.218E-02	3.282E-01	5.349E-01	3.357E-01	-0.060
		427.08		2.329E-01	7.435E-01	1.250E+00	7.782E-01	0.186
		831.96		3.853E-01	5.207E-01	8.570E-01	5.390E-01	0.450
BI-212		727.18	*	-1.806E-02	1.308E-01	1.978E-01	2.377E-02	-0.091
		785.46		2.220E-01	6.757E-01	1.169E+00	1.234E-01	0.190
		1620.62		5.670E-02	5.849E-01	9.977E-01	8.293E-02	0.057
PB-212		74.81		-4.020E-04	5.889E-02	9.248E-02	1.277E-02	-0.004
		77.11		-3.316E-02	3.412E-02	4.833E-02	4.952E-03	-0.686
		87.30		-1.008E-01	7.715E-02	1.013E-01	1.485E-02	-0.995
		238.63	*	-1.586E-02	2.349E-02	3.672E-02	4.181E-03	-0.432
		300.09		-4.285E-02	2.785E-01	4.653E-01	5.795E-02	-0.092
PO-212		74.81		-4.020E-04	5.889E-02	9.248E-02	1.277E-02	-0.004
		77.11		-3.316E-02	3.412E-02	4.833E-02	4.952E-03	-0.686
		87.30		-1.008E-01	7.715E-02	1.013E-01	1.485E-02	-0.995
		115.19		-7.317E-02	8.751E-01	1.472E+00	1.825E-01	-0.050
		238.63	*	-1.586E-02	2.349E-02	3.672E-02	4.181E-03	-0.432
		300.09		-4.285E-02	2.785E-01	4.653E-01	5.795E-02	-0.092
BI-214		609.31	*	-2.656E-02	3.078E-02	4.666E-02	5.631E-03	-0.569
		1120.29		3.464E-02	1.370E-01	2.126E-01	2.307E-02	0.163
		1764.49		2.933E-02	1.198E-01	2.186E-01	1.801E-02	0.134
PB-214		74.81		-6.926E-04	1.015E-01	1.593E-01	2.004E-02	-0.004
		77.11		-5.684E-02	5.866E-02	8.285E-02	1.058E-02	-0.686
		87.30		-1.727E-01	1.317E-01	1.736E-01	2.291E-02	-0.995
		241.98		-3.364E-02	1.277E-01	1.999E-01	2.384E-02	-0.168
		295.21		-1.709E-03	5.206E-02	8.362E-02	1.061E-02	-0.020
		351.92	*	-6.894E-03	2.905E-02	4.394E-02	5.159E-03	-0.157
PO-214		74.81		-6.926E-04	1.015E-01	1.593E-01	2.004E-02	-0.004
		77.11		-5.684E-02	5.866E-02	8.285E-02	1.058E-02	-0.686
		87.30		-1.727E-01	1.317E-01	1.736E-01	2.291E-02	-0.995
		241.98		-3.364E-02	1.277E-01	1.999E-01	2.384E-02	-0.168
		295.21		-1.709E-03	5.206E-02	8.362E-02	1.061E-02	-0.020
		351.92	*	-6.894E-03	2.905E-02	4.394E-02	5.159E-03	-0.157
PO-215		81.07		-2.629E-03	3.444E-02	5.342E-02	5.563E-03	-0.049
		83.78		-9.763E-03	2.423E-02	3.512E-02	3.700E-03	-0.278
		94.90		1.026E-02	4.611E-02	7.301E-02	8.115E-03	0.141
		122.32		6.527E-02	4.474E-01	7.639E-01	1.017E-01	0.085
		144.24		7.735E-02	1.995E-01	3.314E-01	3.950E-02	0.233
		154.21		3.295E-02	1.128E-01	1.919E-01	2.091E-02	0.172
		269.46		-1.450E-02	6.056E-02	9.348E-02	1.042E-02	-0.155
		323.87	*	2.601E-01	2.403E-01	4.373E-01	8.217E-02	0.595

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	338.28			1.789E-01	3.779E-01	6.598E-01	8.997E-02	0.271
	445.03			-1.083E-02	8.921E-01	1.460E+00	1.880E-01	-0.007
	74.81			-4.020E-04	5.889E-02	9.248E-02	1.277E-02	-0.004
	77.11			-3.316E-02	3.412E-02	4.833E-02	4.952E-03	-0.686
	87.30			-1.008E-01	7.715E-02	1.013E-01	1.485E-02	-0.995
PO-218	238.63	*		-1.586E-02	2.349E-02	3.672E-02	4.181E-03	-0.432
	300.09			-4.285E-02	2.785E-01	4.653E-01	5.795E-02	-0.092
	74.81			-6.926E-04	1.015E-01	1.593E-01	2.004E-02	-0.004
	77.11			-5.684E-02	5.866E-02	8.285E-02	1.058E-02	-0.686
	87.30			-1.727E-01	1.317E-01	1.736E-01	2.291E-02	-0.995
RN-219	241.98			-3.364E-02	1.277E-01	1.999E-01	2.384E-02	-0.168
	295.21			-1.709E-03	5.206E-02	8.362E-02	1.061E-02	-0.020
	351.92	*		-6.894E-03	2.905E-02	4.394E-02	5.159E-03	-0.157
	271.23			2.305E-02	8.051E-02	1.320E-01	1.637E-02	0.175
	401.81	*		1.467E-01	1.377E-01	2.547E-01	3.915E-02	0.576
RN-220	549.76	*		-3.046E+00	1.017E+01	1.558E+01	1.648E+00	-0.195
RA-223	81.07			-2.629E-03	3.444E-02	5.342E-02	5.563E-03	-0.049
	83.78			-9.763E-03	2.423E-02	3.512E-02	3.700E-03	-0.278
	94.90			1.026E-02	4.611E-02	7.301E-02	8.115E-03	0.141
	122.32			6.527E-02	4.474E-01	7.639E-01	1.017E-01	0.085
	144.24			7.735E-02	1.995E-01	3.314E-01	3.950E-02	0.233
RA-224	154.21			3.295E-02	1.128E-01	1.919E-01	2.091E-02	0.172
	269.46			-1.450E-02	6.056E-02	9.348E-02	1.042E-02	-0.155
	323.87	*		2.601E-01	2.403E-01	4.373E-01	8.217E-02	0.595
	338.28			1.789E-01	3.779E-01	6.598E-01	8.997E-02	0.271
	445.03			-1.083E-02	8.921E-01	1.460E+00	1.880E-01	-0.007
RA-226	240.98	*		-2.908E-01	2.504E-01	3.557E-01	3.737E-02	-0.818
	609.31	*		-2.656E-02	3.078E-02	4.666E-02	5.631E-03	-0.569
	1120.29			3.464E-02	1.370E-01	2.126E-01	2.307E-02	0.163
	1764.49			2.933E-02	1.198E-01	2.186E-01	1.801E-02	0.134
	79.80			-1.493E-01	2.331E-01	3.336E-01	7.424E-02	-0.448
AC-227	236.00			-1.251E-01	8.610E-02	1.170E-01	1.588E-02	-1.069
	256.20	*		-6.570E-02	1.223E-01	1.814E-01	3.022E-02	-0.362
	286.10			-2.073E-01	6.036E-01	9.173E-01	1.371E-01	-0.226
	299.80			-1.822E-01	5.064E-01	8.281E-01	1.554E-01	-0.220
	304.40			1.599E-01	6.771E-01	1.169E+00	2.294E-01	0.137
TH-227	334.20			1.221E-01	8.535E-01	1.452E+00	2.950E-01	0.084
	79.80			-1.493E-01	2.331E-01	3.336E-01	7.513E-02	-0.448
	94.00			5.742E-01	8.186E-01	8.323E-01	1.902E-01	0.690
	236.00			-1.251E-01	8.585E-02	1.170E-01	1.465E-02	-1.069
	256.20	*		-6.570E-02	1.224E-01	1.814E-01	3.481E-02	-0.362
AC-228	286.10			-2.073E-01	6.379E-01	9.173E-01	9.229E-01	-0.226
	299.80			-1.822E-01	5.064E-01	8.281E-01	1.554E-01	-0.220
	304.40			1.599E-01	6.771E-01	1.169E+00	2.294E-01	0.137
	334.20			1.221E-01	8.535E-01	1.452E+00	2.950E-01	0.084
	338.32			4.176E-02	9.187E-02	1.577E-01	6.572E-02	0.265
RA-228	911.07	*		7.339E-03	6.349E-02	1.000E-01	1.190E-02	0.073
	969.11			-6.028E-02	1.092E-01	1.591E-01	3.756E-02	-0.379
	338.32			4.176E-02	9.187E-02	1.577E-01	6.572E-02	0.265

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	911.07	*		7.339E-03	6.349E-02	1.000E-01	1.190E-02	0.073
	969.11			-6.028E-02	1.092E-01	1.591E-01	3.756E-02	-0.379
	74.81			-4.050E-04	5.934E-02	9.318E-02	9.526E-03	-0.004
	77.11			-3.341E-02	3.438E-02	4.869E-02	4.990E-03	-0.686
	87.30			-1.016E-01	7.707E-02	1.021E-01	1.094E-02	-0.995
TH-229	238.63	*		-1.599E-02	2.367E-02	3.700E-02	4.213E-03	-0.432
	300.09			-4.318E-02	2.817E-01	4.688E-01	2.797E-01	-0.092
	85.43			-2.835E-02	3.748E-02	5.232E-02	5.555E-03	-0.542
	88.47			-8.603E-03	2.325E-02	3.192E-02	3.438E-03	-0.269
	100.00			-3.115E-02	4.036E-02	6.436E-02	7.346E-03	-0.484
TH-230	193.63	*		1.190E-01	1.538E-01	2.687E-01	2.563E-02	0.443
	210.97			1.324E-02	2.031E-01	3.319E-01	3.290E-02	0.040
	609.31	*		-2.656E-02	3.078E-02	4.666E-02	5.631E-03	-0.569
	1120.29			3.464E-02	1.370E-01	2.126E-01	2.307E-02	0.163
	1764.49			2.933E-02	1.198E-01	2.186E-01	1.801E-02	0.134
PA-231	283.67	*		1.046E-01	5.535E-01	8.947E-01	1.498E-01	0.117
TH-231	301.29			1.474E-01	2.042E-01	3.655E-01	5.118E-02	0.403
	81.07			-2.629E-03	3.444E-02	5.342E-02	5.563E-03	-0.049
	83.78			-9.763E-03	2.423E-02	3.512E-02	3.700E-03	-0.278
	94.90			1.026E-02	4.611E-02	7.301E-02	8.115E-03	0.141
	122.32			6.527E-02	4.474E-01	7.639E-01	1.017E-01	0.085
U-231	144.24			7.735E-02	1.995E-01	3.314E-01	3.950E-02	0.233
	154.21			3.295E-02	1.128E-01	1.919E-01	2.091E-02	0.172
	269.46			-1.450E-02	6.056E-02	9.348E-02	1.042E-02	-0.155
	323.87	*		2.601E-01	2.403E-01	4.373E-01	8.217E-02	0.595
	338.28			1.789E-01	3.779E-01	6.598E-01	8.997E-02	0.271
TH-232	445.03			-1.083E-02	8.921E-01	1.460E+00	1.880E-01	-0.007
	84.21			-1.417E-01	3.069E-01	4.428E-01	4.674E-02	-0.320
	92.29	+		1.637E-01	2.311E-01	3.036E-01	3.331E-02	0.539
	95.87	*		-4.714E-02	6.724E-02	9.541E-02	1.066E-02	-0.494
	108.00			-5.344E-02	1.321E-01	2.166E-01	2.581E-02	-0.247
PA-233	338.32			4.176E-02	9.031E-02	1.577E-01	1.644E-02	0.265
	911.07	*		7.339E-03	6.349E-02	1.000E-01	1.190E-02	0.073
	969.11			-6.028E-02	1.092E-01	1.591E-01	3.756E-02	-0.379
	75.28			-7.986E-02	4.960E-01	7.685E-01	1.251E-01	-0.104
	86.59			-5.141E-02	3.022E-01	4.565E-01	1.258E-01	-0.113
PA-234	300.12			-1.917E-02	1.442E-01	2.413E-01	3.948E-02	-0.079
	311.98	*		-8.452E-03	2.501E-02	4.091E-02	4.518E-03	-0.207
	340.50			-6.350E-02	2.108E-01	3.415E-01	8.376E-02	-0.186
	398.62			-5.771E-01	7.095E-01	1.013E+00	2.716E-01	-0.570
	415.76			1.779E-01	6.609E-01	1.121E+00	2.451E-01	0.159
PA-234	63.00	+		1.722E-01	2.664E-01	3.999E-01	6.488E-02	0.431
	94.67			2.526E-03	3.181E-02	5.485E-02	7.811E-03	0.046
	98.44			1.233E-02	2.346E-02	3.597E-02	2.024E-02	0.343
	99.86			-7.484E-02	1.024E-01	1.640E-01	1.870E-02	-0.456
	111.00			-2.182E-02	4.357E-02	7.065E-02	1.045E-02	-0.309
PA-234	131.20			-2.285E-02	3.143E-02	4.370E-02	5.335E-03	-0.523
	152.70			1.429E-02	9.419E-02	1.585E-01	2.846E-02	0.090
	186.00	+		4.297E-01	6.907E-01	7.803E-01	2.452E-01	0.551

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		226.40	-3.584E-02	1.124E-01	1.740E-01	2.489E-02	-0.206
		227.20	-7.383E-02	1.220E-01	1.817E-01	1.861E-02	-0.406
		248.90	-1.347E-01	2.790E-01	4.191E-01	9.753E-02	-0.321
		293.70	-7.255E-02	2.325E-01	3.829E-01	7.134E-02	-0.189
		369.80	9.899E-02	3.386E-01	5.797E-01	1.289E-01	0.171
		568.70	-2.854E-01	4.730E-01	6.878E-01	7.353E-02	-0.415
		569.50	-2.171E-02	1.314E-01	2.041E-01	2.183E-02	-0.106
		574.00	-3.548E-01	7.538E-01	1.136E+00	1.217E-01	-0.312
		699.00	1.402E-02	3.014E-01	5.046E-01	1.022E-01	0.028
		706.10	2.744E-01	4.284E-01	7.444E-01	3.358E-01	0.369
		733.00	1.550E-02	1.454E-01	2.448E-01	5.670E-02	0.063
		742.81	-2.101E-01	5.691E-01	8.578E-01	5.793E-01	-0.245
		796.30	2.316E-01	2.840E-01	5.265E-01	1.458E-01	0.440
		805.60	-1.215E-02	4.215E-01	6.891E-01	2.150E-01	-0.018
		819.60	-6.068E-02	4.647E-01	7.427E-01	2.855E-01	-0.082
		826.30	-4.543E-02	3.183E-01	5.071E-01	2.286E-01	-0.090
		831.60	1.995E-01	2.461E-01	4.436E-01	1.345E-01	0.450
		876.40	1.219E-02	3.300E-01	5.408E-01	5.565E-01	0.023
		880.51	6.693E-02	9.569E-02	1.772E-01	1.714E-02	0.378
		883.24	-3.063E-03	9.611E-02	1.553E-01	1.046E-01	-0.020
		899.00	-1.316E-01	3.838E-01	5.813E-01	2.551E-01	-0.226
		925.00	-6.158E-02	3.958E-01	6.187E-01	5.831E-02	-0.100
		926.50	1.013E-02	6.288E-02	1.052E-01	2.688E-02	0.096
		946.00 *	3.739E-02	1.168E-01	1.999E-01	3.823E-02	0.187
		949.00	9.551E-02	1.603E-01	2.892E-01	2.710E-02	0.330
		980.50	-4.590E-02	3.380E-01	5.319E-01	4.934E-02	-0.086
		1394.10	4.223E-01	5.353E-01	9.108E-01	5.923E-01	0.464
PA-234M		766.42	6.719E-01	4.457E+00	7.493E+00	3.831E+00	0.090
		1001.03 *	-1.347E-01	2.062E+00	3.056E+00	3.201E-01	-0.044
U-234		609.31 *	-2.656E-02	3.078E-02	4.666E-02	5.631E-03	-0.569
		1120.29	3.464E-02	1.370E-01	2.126E-01	2.307E-02	0.163
		1764.49	2.933E-02	1.198E-01	2.186E-01	1.801E-02	0.134
U-235		89.95	4.818E-02	2.228E-01	3.252E-01	1.026E-01	0.148
	+	93.35	1.786E-01	2.566E-01	3.211E-01	9.266E-02	0.556
		105.00	1.571E-01	2.295E-01	4.043E-01	1.249E-01	0.389
		143.76 *	2.596E-02	6.252E-02	1.040E-01	1.963E-02	0.250
		163.35	-2.841E-02	1.621E-01	2.564E-01	4.961E-02	-0.111
	+	185.71	1.592E-02	2.513E-02	2.902E-02	2.717E-03	0.548
		205.31	-1.717E-02	1.584E-01	2.548E-01	5.003E-02	-0.067
NP-236		94.67	2.264E-03	2.416E-02	4.170E-02	4.630E-03	0.054
		98.44	9.323E-03	1.698E-02	2.719E-02	3.078E-03	0.343
		111.00	-1.650E-02	3.293E-02	5.344E-02	6.475E-03	-0.309
		160.31 *	2.599E-04	2.422E-02	4.014E-02	3.823E-03	0.006
NP-237		86.50 *	-7.097E-03	4.533E-02	6.862E-02	1.594E-02	-0.103
		95.87	-1.441E-01	2.082E-01	2.917E-01	7.478E-02	-0.494
NP-239		99.55	2.060E-03	3.302E-02	5.670E-02	6.457E-03	0.036
		117.00 *	-8.206E-03	4.688E-02	7.811E-02	9.786E-03	-0.105
		209.75	5.335E-02	2.288E-01	3.798E-01	3.755E-02	0.140
		228.18	-4.282E-02	6.456E-02	9.537E-02	9.788E-03	-0.449

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	277.60			1.996E-03	6.639E-02	1.056E-01	1.176E-02	0.019
	334.30			5.912E-02	4.825E-01	8.196E-01	8.604E-02	0.072
AM-241	59.54	*		-9.462E-03	1.529E-02	2.030E-02	2.109E-03	-0.466
AM-243	74.67	*		4.930E-03	9.145E-03	1.499E-02	1.522E-03	0.329
	86.72			-6.357E-01	1.729E+00	2.563E+00	2.737E-01	-0.248
	117.66			-6.793E-02	8.941E-01	1.502E+00	1.888E-01	-0.045
	142.18			-3.296E+00	5.343E+00	8.166E+00	9.221E-01	-0.404
CM-243	99.55			2.119E-03	3.396E-02	5.832E-02	6.641E-03	0.036
	103.76	*		1.223E-02	2.052E-02	3.663E-02	4.266E-03	0.334
	117.00			-8.438E-03	4.820E-02	8.032E-02	1.006E-02	-0.105
	209.75			5.256E-02	2.255E-01	3.742E-01	3.700E-02	0.140
	228.18			-4.325E-02	6.521E-02	9.632E-02	9.885E-03	-0.449
	277.60			2.012E-03	6.690E-02	1.064E-01	1.185E-02	0.019
AM-246	798.80			-4.953E-02	5.259E-02	7.089E-02	7.410E-03	-0.699
	1036.00			-2.047E-02	1.262E-01	2.061E-01	1.867E-02	-0.099
	1062.04			-5.619E-02	8.376E-02	1.214E-01	1.084E-02	-0.463
	1078.86	*		6.228E-02	5.348E-02	1.061E-01	9.384E-03	0.587
CM-247	278.00			2.211E-01	2.574E-01	4.450E-01	4.958E-02	0.497
	287.40			-7.594E-02	4.665E-01	7.237E-01	8.036E-02	-0.105
	402.60	*		8.121E-03	1.301E-02	2.308E-02	2.128E-03	0.352
CF-249	252.85			-2.434E-02	2.755E-01	4.357E-01	4.672E-02	-0.056
	333.44			6.066E-03	6.284E-02	1.065E-01	1.120E-02	0.057
	387.95	*		5.827E-03	1.358E-02	2.369E-02	2.180E-03	0.246
CF-251	176.60	*		-2.071E-02	3.801E-02	5.918E-02	5.419E-03	-0.350
	227.00			-4.219E-02	1.079E-01	1.655E-01	1.695E-02	-0.255
	285.00			1.453E-01	6.382E-01	1.036E+00	1.152E-01	0.140

# 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]G1202018262
* Acquisition date   : 26-JAN-2010 14:07:42 Detector SN# :
* Detector ID        : GAM25 Sensitivity : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:00.94 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202018262 Analyst initials: MXR1
* Batch Number       : 942718 Sample Quantity : 1.8111E+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 )	
BI-210	6.023E-02	2.360E-01	1.680E-01	0.000E+00
PB-210	6.023E-02	2.360E-01	1.680E-01	0.000E+00
PO-210	6.023E-02	2.360E-01	1.680E-01	0.000E+00
TH-234	1.478E-01	2.244E-01	2.248E-01	0.000E+00
U-238	1.478E-01	2.244E-01	2.248E-01	0.000E+00
ANH-511	1.156E-02	3.521E-02	1.833E-02	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	1.024E-01	1.146E-01	2.232E-01	0.000E+00 NOT IDENT.
NA-22	1.169E-02	1.704E-02	3.273E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	7.263E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	8.052E-03	1.495E-02	2.898E-02	0.000E+00 NOT IDENT.
K-40	2.808E-02	1.846E-01	3.581E-01	0.000E+00 NOT IDENT.
TI-44	-4.632E-03	5.313E-03	8.617E-03	0.000E+00 NOT IDENT.
SC-46	5.220E-03	1.160E-02	2.184E-02	0.000E+00 NOT IDENT.
V-48	7.040E-03	2.216E-02	3.959E-02	0.000E+00 NOT IDENT.
CR-51	-1.792E-01	1.149E-01	1.760E-01	0.000E+00 NOT IDENT.
MN-52	2.912E-02	4.058E-02	7.903E-02	0.000E+00 NOT IDENT.
MN-54	2.095E-03	1.342E-02	2.388E-02	0.000E+00 NOT IDENT.
CO-56	5.427E-04	1.449E-02	2.524E-02	0.000E+00 NOT IDENT.
CO-57	-4.188E-04	6.134E-03	1.167E-02	0.000E+00 NOT IDENT.
CO-58	5.975E-03	1.522E-02	2.803E-02	0.000E+00 NOT IDENT.
FE-59	-1.918E-02	3.030E-02	4.671E-02	0.000E+00 NOT IDENT.
CO-60	1.913E-02	1.913E-02	3.783E-02	0.000E+00 NOT IDENT.
ZN-65	-2.735E-02	3.181E-02	4.652E-02	0.000E+00 NOT IDENT.
GE-68	3.963E-01	4.682E-01	9.301E-01	0.000E+00 NOT IDENT.
AS-73	2.850E-02	4.310E-02	8.610E-02	0.000E+00 NOT IDENT.
AS-74	-5.435E-03	2.807E-02	4.671E-02	0.000E+00 NOT IDENT.
SE-75	4.048E-03	1.509E-02	2.729E-02	0.000E+00 NOT IDENT.



BR-77	-2.373E-02	4.302E-01	7.441E-01	0.000E+00	NOT IDENT.
SR-82	3.080E-02	1.164E-01	2.123E-01	0.000E+00	NOT IDENT.
RB-83	-3.036E-03	2.382E-02	4.073E-02	0.000E+00	NOT IDENT.
RB-84	3.548E-03	2.206E-02	3.912E-02	0.000E+00	NOT IDENT.
KR-85	5.167E+00	3.099E+00	6.285E+00	0.000E+00	NOT IDENT.
SR-85	2.448E-02	1.468E-02	2.977E-02	0.000E+00	NOT IDENT.
RB-86	8.592E-02	2.369E-01	4.393E-01	0.000E+00	NOT IDENT.
Y-88	7.291E-03	1.825E-02	3.383E-02	0.000E+00	NOT IDENT.
ZR-88	5.239E-03	1.062E-02	2.019E-02	0.000E+00	NOT IDENT.
Y-91	5.246E-01	5.324E+00	9.380E+00	0.000E+00	NOT IDENT.
NB-94	-1.126E-02	1.338E-02	2.079E-02	0.000E+00	NOT IDENT.
NB-95	5.699E-03	1.431E-02	2.658E-02	0.000E+00	NOT IDENT.
NB-95M	-6.442E-02	4.175E-02	6.280E-02	0.000E+00	NOT IDENT.
ZR-95	9.731E-03	2.413E-02	4.503E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.969E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.905E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.539E-01	6.568E-01	1.223E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.064E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.784E-03	1.154E-02	2.119E-02	0.000E+00	NOT IDENT.
RH-102	-3.291E-03	1.194E-02	2.034E-02	0.000E+00	NOT IDENT.
RU-103	1.185E-02	1.539E-02	2.926E-02	0.000E+00	NOT IDENT.
RH-106	-3.250E-02	1.246E-01	2.167E-01	0.000E+00	FAIL ABUN
RU-106	-3.250E-02	1.245E-01	2.167E-01	0.000E+00	FAIL ABUN
AG-108M	5.501E-03	1.223E-02	2.298E-02	0.000E+00	NOT IDENT.
CD-109	-1.449E-01	1.610E-01	2.584E-01	0.000E+00	NOT IDENT.
AG-110M	-3.914E-02	1.701E-02	2.046E-02	0.000E+00	NOT IDENT.
IN-111	1.571E-02	5.517E-02	1.008E-01	0.000E+00	NOT IDENT.
IN-113M	2.594E-03	1.540E-02	2.835E-02	0.000E+00	NOT IDENT.
SN-113	2.594E-03	1.540E-02	2.835E-02	0.000E+00	NOT IDENT.
IN-114M	-4.768E-02	5.707E-02	8.228E-02	0.000E+00	NOT IDENT.
CD-115	-1.567E-01	4.459E-01	7.395E-01	0.000E+00	NOT IDENT.
SN-117M	-1.627E-03	1.060E-02	1.948E-02	0.000E+00	NOT IDENT.
SB-122	1.303E-02	1.148E-01	2.015E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.193E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-7.349E-04	7.832E-03	1.447E-02	0.000E+00	NOT IDENT.
I-124	1.780E-02	7.341E-02	1.366E-01	0.000E+00	NOT IDENT.
SB-124	-2.040E-02	2.457E-02	2.677E-02	0.000E+00	NOT IDENT.
SB-125	1.552E-02	3.033E-02	5.781E-02	0.000E+00	NOT IDENT.
TE-125M	2.599E+00	1.825E+00	3.879E+00	0.000E+00	NOT IDENT.
I-126	-9.812E-02	6.581E-02	9.760E-02	0.000E+00	NOT IDENT.
SB-126	7.242E-03	3.795E-02	6.887E-02	0.000E+00	NOT IDENT.
SN-126	-2.086E-02	1.628E-02	2.498E-02	0.000E+00	FAIL ABUN
SB-127	6.183E-02	1.443E-01	2.709E-01	0.000E+00	NOT IDENT.
XE-127	4.105E-03	1.230E-02	2.300E-02	0.000E+00	NOT IDENT.
I-131	1.397E-03	2.069E-02	3.800E-02	0.000E+00	NOT IDENT.
TE-132	-2.691E-02	3.907E-02	6.376E-02	0.000E+00	NOT IDENT.
BA-133	4.626E-03	1.480E-02	2.793E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.987E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.006E-02	1.518E-02	2.946E-02	0.000E+00	NOT IDENT.
CS-135	-2.460E-02	5.227E-02	8.673E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.152E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.788E-02	2.592E-02	3.945E-02	0.000E+00	NOT IDENT.
BA-137M	4.299E-03	2.132E-02	4.126E-02	0.000E+00	NOT IDENT.
CS-137	4.545E-03	2.254E-02	4.361E-02	0.000E+00	NOT IDENT.
CE-139	-1.682E-03	8.506E-03	1.551E-02	0.000E+00	NOT IDENT.
BA-140	-7.398E-02	7.555E-02	1.001E-01	0.000E+00	NOT IDENT.
LA-140	8.225E-03	2.595E-02	4.782E-02	0.000E+00	NOT IDENT.
CE-141	-8.338E-03	1.473E-02	2.633E-02	0.000E+00	NOT IDENT.
CE-143	-6.828E-01	9.887E-01	1.710E+00	0.000E+00	NOT IDENT.
CE-144	-6.551E-03	4.730E-02	8.855E-02	0.000E+00	NOT IDENT.
PM-144	1.501E-02	1.439E-02	2.858E-02	0.000E+00	NOT IDENT.
PR-144	1.013E+00	9.710E-01	1.929E+00	0.000E+00	NOT IDENT.
PM-146	1.595E-03	1.656E-02	2.974E-02	0.000E+00	NOT IDENT.
ND-147	1.578E-02	1.508E-01	2.659E-01	0.000E+00	NOT IDENT.
PM-149	-1.484E+00	3.310E+00	5.471E+00	0.000E+00	NOT IDENT.
EU-152	3.004E-03	3.184E-02	5.901E-02	0.000E+00	NOT IDENT.
GD-153	8.253E-03	1.844E-02	3.221E-02	0.000E+00	NOT IDENT.
EU-154	3.748E-02	4.699E-02	9.177E-02	0.000E+00	NOT IDENT.
EU-155	6.259E-03	2.271E-02	4.506E-02	0.000E+00	NOT IDENT.
TB-160	-2.776E-03	4.940E-02	8.423E-02	0.000E+00	NOT IDENT.
HO-166M	-1.338E-02	2.518E-02	4.124E-02	0.000E+00	FAIL ABUN
TM-171	1.399E+00	3.176E+00	5.644E+00	0.000E+00	NOT IDENT.
LU-176	-3.863E-03	8.659E-03	1.539E-02	0.000E+00	NOT IDENT.
LU-177	2.115E-02	1.487E-01	2.725E-01	0.000E+00	NOT IDENT.
LU-177M	5.507E-03	6.333E-02	1.148E-01	0.000E+00	NOT IDENT.
HF-181	-4.949E-03	1.385E-02	2.314E-02	0.000E+00	NOT IDENT.
W-181	-1.121E-02	4.214E-02	6.709E-02	0.000E+00	NOT IDENT.
TA-182	-7.650E-02	6.469E-02	7.783E-02	0.000E+00	NOT IDENT.



RE-183	2.982E-02	3.262E-02	6.283E-02	0.000E+00	NOT IDENT.
RE-184	-6.291E-03	6.978E-02	1.221E-01	0.000E+00	NOT IDENT.
OS-185	7.467E-04	1.580E-02	2.851E-02	0.000E+00	NOT IDENT.
RE-188	6.877E-03	4.363E-02	8.262E-02	0.000E+00	NOT IDENT.
W-188	1.771E+00	2.354E+00	4.670E+00	0.000E+00	FAIL ABUN
IR-192	7.428E-03	1.214E-02	2.365E-02	0.000E+00	NOT IDENT.
AU-195	1.171E-02	5.150E-02	9.445E-02	0.000E+00	NOT IDENT.
TL-200	6.266E-01	1.470E+00	2.787E+00	0.000E+00	NOT IDENT.
TL-201	1.893E-01	3.370E-01	6.565E-01	0.000E+00	NOT IDENT.
TL-202	1.281E-03	1.622E-02	2.918E-02	0.000E+00	NOT IDENT.
HG-203	9.371E-03	1.231E-02	2.326E-02	0.000E+00	NOT IDENT.
BI-207	-4.135E-04	1.784E-02	3.121E-02	0.000E+00	NOT IDENT.
TL-207	2.601E-01	2.355E-01	4.702E-01	0.000E+00	NOT IDENT.
TL-208	-2.357E-03	1.720E-02	2.895E-02	0.000E+00	FAIL ABUN
PO-209	4.170E+00	2.952E+00	6.173E+00	0.000E+00	NOT IDENT.
BI-211	-4.115E-02	8.391E-02	1.357E-01	0.000E+00	NOT IDENT.
PB-211	-3.218E-02	3.216E-01	5.706E-01	0.000E+00	NOT IDENT.
BI-212	-1.806E-02	1.282E-01	2.065E-01	0.000E+00	NOT IDENT.
PB-212	-1.586E-02	2.302E-02	3.991E-02	0.000E+00	NOT IDENT.
PO-212	-1.586E-02	2.302E-02	3.991E-02	0.000E+00	NOT IDENT.
BI-214	-2.656E-02	3.016E-02	4.904E-02	0.000E+00	NOT IDENT.
PB-214	-6.894E-03	2.847E-02	4.711E-02	0.000E+00	NOT IDENT.
PO-214	-6.894E-03	2.847E-02	4.711E-02	0.000E+00	NOT IDENT.
PO-215	2.601E-01	2.355E-01	4.702E-01	0.000E+00	NOT IDENT.
PO-216	-1.586E-02	2.302E-02	3.991E-02	0.000E+00	NOT IDENT.
PO-218	-6.894E-03	2.847E-02	4.711E-02	0.000E+00	NOT IDENT.
RN-219	1.467E-01	1.349E-01	2.718E-01	0.000E+00	NOT IDENT.
RN-220	-3.046E+00	9.969E+00	1.644E+01	0.000E+00	NOT IDENT.
RA-223	2.601E-01	2.355E-01	4.702E-01	0.000E+00	NOT IDENT.
RA-224	-2.908E-01	2.454E-01	3.864E-01	0.000E+00	NOT IDENT.
RA-226	-2.656E-02	3.016E-02	4.904E-02	0.000E+00	NOT IDENT.
AC-227	-6.570E-02	1.198E-01	1.967E-01	0.000E+00	NOT IDENT.
TH-227	-6.570E-02	1.200E-01	1.967E-01	0.000E+00	FAIL ABUN
AC-228	7.339E-03	6.222E-02	1.036E-01	0.000E+00	NOT IDENT.
RA-228	7.339E-03	6.222E-02	1.036E-01	0.000E+00	NOT IDENT.
TH-228	-1.599E-02	2.320E-02	4.022E-02	0.000E+00	NOT IDENT.
TH-229	1.190E-01	1.507E-01	2.941E-01	0.000E+00	NOT IDENT.
TH-230	-2.656E-02	3.016E-02	4.904E-02	0.000E+00	NOT IDENT.
PA-231	1.046E-01	5.424E-01	9.666E-01	0.000E+00	NOT IDENT.
TH-231	2.601E-01	2.355E-01	4.702E-01	0.000E+00	NOT IDENT.
U-231	-4.714E-02	6.589E-02	1.069E-01	0.000E+00	FAIL ABUN
TH-232	7.339E-03	6.222E-02	1.036E-01	0.000E+00	NOT IDENT.
PA-233	-8.452E-03	2.451E-02	4.405E-02	0.000E+00	NOT IDENT.
PA-234	3.739E-02	1.145E-01	2.067E-01	0.000E+00	FAIL ABUN
PA-234M	-1.347E-01	2.021E+00	3.153E+00	0.000E+00	NOT IDENT.
U-234	-2.656E-02	3.016E-02	4.904E-02	0.000E+00	NOT IDENT.
U-235	2.596E-02	6.127E-02	1.150E-01	0.000E+00	FAIL ABUN
NP-236	2.599E-04	2.373E-02	4.423E-02	0.000E+00	NOT IDENT.
NP-237	-7.097E-03	4.443E-02	7.716E-02	0.000E+00	NOT IDENT.
NP-239	-8.206E-03	4.594E-02	8.697E-02	0.000E+00	NOT IDENT.
AM-241	-9.462E-03	1.499E-02	2.310E-02	0.000E+00	NOT IDENT.
AM-243	4.930E-03	8.962E-03	1.693E-02	0.000E+00	NOT IDENT.
CM-243	1.223E-02	2.011E-02	4.094E-02	0.000E+00	NOT IDENT.
AM-246	6.228E-02	5.241E-02	1.091E-01	0.000E+00	NOT IDENT.
CM-247	8.121E-03	1.275E-02	2.463E-02	0.000E+00	NOT IDENT.
CF-249	5.827E-03	1.331E-02	2.531E-02	0.000E+00	NOT IDENT.
CF-251	-2.071E-02	3.725E-02	6.499E-02	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018262.CNF;1
Sample date     : 19-JAN-2010 00:00:00 Acquisition date : 26-JAN-2010 14:07:42
Sample ID       : G1202018262          Sample quantity  : 1.81110E+02 GRAM
Detector name   : GAM25                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:00.94  0.0%
Energy tolerance: 1.50000 keV         Analyst Initials  : MXR1
Abundance limit : 75.00000            Sensitivity      : 5.00000
Batch ID        : 942718              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
BI-210	46.50	11	4.05*	9.210E+00	6.019E-02	6.023E-02	399.79
PB-210	46.50	11	4.05*	9.210E+00	6.019E-02	6.023E-02	399.79
PO-210	46.50	11	4.05*	9.210E+00	6.019E-02	6.023E-02	399.77
TH-234	63.29	26	3.80*	9.778E+00	1.478E-01	1.478E-01	154.93
	92.38	36	5.41	9.232E+00	1.486E-01	1.486E-01	142.05
U-238	63.29	26	3.80*	9.778E+00	1.478E-01	1.478E-01	154.93
	92.38	36	5.41	9.232E+00	1.486E-01	1.486E-01	141.16
ANH-511	511.00	16	100.00*	2.807E+00	1.156E-02	1.156E-02	310.83

Flag: "\*" = Keyline

Summary of Nuclide Activity  
Sample ID : G1202018262

Page : 2  
Acquisition date : 26-JAN-2010 14:07:42

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
BI-210	22.26Y	1.00	6.019E-02	6.023E-02	24.08E-02	399.79	
PB-210	22.26Y	1.00	6.019E-02	6.023E-02	24.08E-02	399.79	
PO-210	22.26Y	1.00	6.019E-02	6.023E-02	24.08E-02	399.77	
TH-234	4.47E+09Y	1.00	1.478E-01	1.478E-01	2.289E-01	154.93	
U-238	4.47E+09Y	1.00	1.478E-01	1.478E-01	2.289E-01	154.93	
ANH-511	1.00E+09Y	1.00	1.156E-02	1.156E-02	3.593E-02	310.83	
Total Activity :			4.877E-01	4.878E-01			

Grand Total Activity : 4.877E-01 4.878E-01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202018262

Page : 3  
Acquisition date : 26-JAN-2010 14:07:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.24	27	75	0.96	370.02	364	12	3.71E-03	****	6.43E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018262.CNF;1
* Acquisition date   : 26-JAN-2010 14:07:42   Detector SN#      :
* Detector ID        : GAM25                   Sensitivity       : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.94           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 00:00:00   Nuclide Library : SOLID
* Sample ID          : G1202018262           Analyst initials: MXR1
* Batch Number       : 942718                Sample Quantity : 1.81110E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43.34MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                  LCS Isotope     :
*****

```

## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210	6.023E-02	2.408E-01	1.465E-01	1.511E-02	0.411
PB-210	6.023E-02	2.408E-01	1.465E-01	1.511E-02	0.411
PO-210	6.023E-02	2.408E-01	1.465E-01	1.395E-02	0.411
TH-234	1.478E-01	2.289E-01	1.979E-01	3.685E-02	0.747
U-238	1.478E-01	2.289E-01	1.979E-01	3.685E-02	0.747
ANH-511	1.156E-02	3.593E-02	1.733E-02	1.784E-03	0.667

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.024E-01		1.169E-01	2.105E-01	2.228E-02	0.486
NA-22	1.169E-02		1.739E-02	3.203E-02	2.626E-03	0.365
NA-24	5.869E-05		3.706E-05	Half-Life too short		
AL-26	8.052E-03		1.526E-02	2.876E-02	2.357E-03	0.280
K-40	2.808E-02		1.884E-01	3.523E-01	3.000E-02	0.080
TI-44	-4.632E-03		5.421E-03	7.639E-03	7.866E-04	-0.606

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SC-46	5.220E-03		1.184E-02	2.108E-02	2.019E-03	0.248
V-48	7.040E-03		2.261E-02	3.835E-02	3.554E-03	0.184
CR-51	-1.792E-01		1.172E-01	1.636E-01	1.817E-02	-1.095
MN-52	2.912E-02		4.141E-02	7.770E-02	6.404E-03	0.375
MN-54	2.095E-03		1.369E-02	2.299E-02	2.333E-03	0.091
CO-56	5.427E-04		1.478E-02	2.431E-02	2.440E-03	0.022
CO-57	-4.188E-04		6.260E-03	1.050E-02	1.354E-03	-0.040
CO-58	5.975E-03		1.553E-02	2.696E-02	2.797E-03	0.222
FE-59	-1.918E-02		3.092E-02	4.545E-02	4.281E-03	-0.422
CO-60	1.913E-02		1.952E-02	3.708E-02	3.012E-03	0.516
ZN-65	-2.735E-02		3.246E-02	4.529E-02	3.912E-03	-0.604
GE-68	3.963E-01		4.778E-01	9.043E-01	8.005E-02	0.438
AS-73	2.850E-02		4.398E-02	7.541E-02	7.238E-03	0.378
AS-74	-5.435E-03		2.865E-02	4.440E-02	4.812E-03	-0.122
SE-75	4.048E-03		1.540E-02	2.520E-02	2.761E-03	0.161
BR-77	-2.373E-02		4.390E-01	7.039E-01	7.298E-02	-0.034
SR-82	3.080E-02		1.188E-01	2.038E-01	2.163E-02	0.151
RB-83	-3.036E-03		2.430E-02	3.853E-02	3.994E-03	-0.079
RB-84	3.548E-03		2.251E-02	3.774E-02	3.648E-03	0.094
KR-85	5.167E+00		3.162E+00	5.943E+00	6.131E-01	0.869
SR-85	2.448E-02		1.498E-02	2.815E-02	2.904E-03	0.869
RB-86	8.592E-02		2.417E-01	4.271E-01	3.783E-02	0.201
Y-88	7.291E-03		1.862E-02	3.359E-02	2.745E-03	0.217
ZR-88	5.239E-03		1.083E-02	1.891E-02	1.721E-03	0.277
Y-91	5.246E-01		5.433E+00	9.159E+00	7.537E-01	0.057
NB-94	-1.126E-02		1.366E-02	1.988E-02	2.184E-03	-0.566
NB-95	5.699E-03		1.461E-02	2.550E-02	2.724E-03	0.223
NB-95M	-6.442E-02		4.260E-02	5.776E-02	6.620E-03	-1.115
ZR-95	9.731E-03		2.462E-02	4.319E-02	4.946E-03	0.225
NB-97	-6.643E-05		1.515E-05	Half-Life too short		
ZR-97	6.919E-04		2.503E-04	Half-Life too short		
MO-99	2.539E-01		6.702E-01	1.173E+00	1.939E-01	0.216
TC-99M	2.142E+00		5.429E+00	Half-Life too short		
RH-101	9.784E-03		1.177E-02	1.937E-02	1.867E-03	0.505
RH-102	-3.291E-03		1.218E-02	1.917E-02	1.914E-03	-0.172
RU-103	1.185E-02		1.571E-02	2.763E-02	4.189E-03	0.429
RH-106	-3.250E-02		1.271E-01	2.063E-01	3.088E-02	-0.158
RU-106	-3.250E-02		1.271E-01	2.063E-01	2.259E-02	-0.158
AG-108M	5.501E-03		1.248E-02	2.159E-02	2.134E-03	0.255
CD-109	-1.449E-01		1.643E-01	2.300E-01	2.471E-02	-0.630
AG-110M	-3.914E-02		1.736E-02	1.952E-02	2.200E-03	-2.005
IN-111	1.571E-02		5.630E-02	9.284E-02	9.831E-03	0.169
IN-113M	2.594E-03		1.571E-02	2.654E-02	2.479E-03	0.098
SN-113	2.594E-03		1.571E-02	2.654E-02	2.479E-03	0.098
IN-114M	-4.768E-02		5.823E-02	7.512E-02	7.110E-03	-0.635
CD-115	-1.567E-01		4.550E-01	6.999E-01	7.294E-02	-0.224
SN-117M	-1.627E-03		1.081E-02	1.768E-02	1.716E-03	-0.092
SB-122	1.303E-02		1.172E-01	1.912E-01	2.038E-02	0.068

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	-1.120E-05		6.087E-05	Half-Life too short		
TE-123M	-7.349E-04		7.991E-03	1.313E-02	1.275E-03	-0.056
I-124	1.780E-02		7.491E-02	1.299E-01	1.412E-02	0.137
SB-124	-2.040E-02		2.507E-02	2.649E-02	2.290E-03	-0.770
SB-125	1.552E-02		3.094E-02	5.430E-02	5.245E-03	0.286
TE-125M	2.599E+00		1.862E+00	3.476E+00	4.613E-01	0.748
I-126	-9.812E-02		6.716E-02	9.317E-02	1.031E-02	-1.053
SB-126	7.242E-03		3.872E-02	6.593E-02	7.197E-03	0.110
SN-126	-2.086E-02		1.662E-02	2.222E-02	2.383E-03	-0.939
SB-127	6.183E-02		1.473E-01	2.589E-01	3.057E-02	0.239
XE-127	4.105E-03		1.255E-02	2.104E-02	2.050E-03	0.195
I-131	1.397E-03		2.111E-02	3.548E-02	3.629E-03	0.039
TE-132	-2.691E-02		3.987E-02	5.858E-02	9.177E-03	-0.459
BA-133	4.626E-03		1.510E-02	2.606E-02	3.695E-03	0.178
I-133	1.579E-06		3.055E-06	Half-Life too short		
CS-134	1.006E-02		1.549E-02	2.831E-02	2.981E-03	0.355
CS-135	-2.460E-02		5.333E-02	8.012E-02	9.671E-03	-0.307
I-135	-4.948E+00		5.878E+00	Half-Life too short		
CS-136	-1.788E-02		2.645E-02	3.831E-02	3.582E-03	-0.467
BA-137M	4.299E-03		2.176E-02	3.937E-02	4.362E-03	0.109
CS-137	4.545E-03		2.300E-02	4.162E-02	4.616E-03	0.109
CE-139	-1.682E-03		8.679E-03	1.409E-02	1.257E-03	-0.119
BA-140	-7.398E-02		7.709E-02	9.478E-02	3.192E-02	-0.781
LA-140	8.225E-03		2.648E-02	4.722E-02	3.926E-03	0.174
CE-141	-8.338E-03		1.503E-02	2.382E-02	2.649E-03	-0.350
CE-143	-6.828E-01		1.009E+00	1.584E+00	3.566E-01	-0.431
CE-144	-6.551E-03		4.827E-02	7.988E-02	1.412E-02	-0.082
PM-144	1.501E-02		1.468E-02	2.732E-02	3.006E-03	0.549
PR-144	1.013E+00		9.909E-01	1.844E+00	2.029E-01	0.549
PM-146	1.595E-03		1.690E-02	2.799E-02	3.268E-03	0.057
ND-147	1.578E-02		1.539E-01	2.517E-01	4.045E-02	0.063
PM-149	-1.484E+00		3.377E+00	5.065E+00	8.629E-01	-0.293
EU-152	3.004E-03		3.249E-02	5.500E-02	5.907E-03	0.055
GD-153	8.253E-03		1.882E-02	2.875E-02	3.238E-03	0.287
EU-154	3.748E-02		4.795E-02	8.981E-02	9.867E-03	0.417
EU-155	6.259E-03		2.317E-02	4.033E-02	4.768E-03	0.155
TB-160	-2.776E-03		5.041E-02	8.125E-02	7.873E-03	-0.034
HO-166M	-1.338E-02		2.570E-02	3.947E-02	4.321E-03	-0.339
TM-171	1.399E+00		3.240E+00	4.978E+00	4.941E-01	0.281
LU-176	-3.863E-03		8.836E-03	1.428E-02	1.558E-03	-0.270
LU-177	2.115E-02		1.517E-01	2.496E-01	2.460E-02	0.085
LU-177M	5.507E-03		6.462E-02	1.077E-01	1.007E-02	0.051
HF-181	-4.949E-03		1.414E-02	2.183E-02	2.194E-03	-0.227
W-181	-1.121E-02		4.300E-02	5.913E-02	5.852E-03	-0.190
TA-182	-7.650E-02		6.602E-02	7.604E-02	6.254E-03	-1.006
RE-183	2.982E-02		3.329E-02	5.705E-02	5.310E-03	0.523
RE-184	-6.291E-03		7.120E-02	1.126E-01	1.207E-02	-0.056
OS-185	7.467E-04		1.612E-02	2.719E-02	3.000E-03	0.027

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-188	6.877E-03		4.452E-02	7.490E-02	7.545E-03	0.092
W-188	1.771E+00		2.402E+00	4.327E+00	4.793E-01	0.409
IR-192	7.428E-03		1.239E-02	2.197E-02	2.373E-03	0.338
AU-195	1.171E-02		5.255E-02	8.437E-02	9.573E-03	0.139
TL-200	6.266E-01		1.500E+00	2.604E+00	2.542E-01	0.241
TL-201	1.893E-01		3.438E-01	5.968E-01	5.338E-02	0.317
TL-202	1.281E-03		1.655E-02	2.744E-02	2.643E-03	0.047
HG-203	9.371E-03		1.257E-02	2.152E-02	2.442E-03	0.436
BI-207	-4.135E-04		1.821E-02	3.033E-02	2.707E-03	-0.014
TL-207	2.601E-01		2.403E-01	4.373E-01	8.217E-02	0.595
TL-208	-2.357E-03		1.755E-02	2.750E-02	3.101E-03	-0.086
PO-209	4.170E+00		3.013E+00	5.959E+00	5.655E-01	0.700
BI-211	-4.115E-02		8.562E-02	1.266E-01	1.334E-02	-0.325
PB-211	-3.218E-02		3.282E-01	5.349E-01	3.357E-01	-0.060
BI-212	-1.806E-02		1.308E-01	1.978E-01	2.377E-02	-0.091
PB-212	-1.586E-02		2.349E-02	3.672E-02	4.181E-03	-0.432
PO-212	-1.586E-02		2.349E-02	3.672E-02	4.181E-03	-0.432
BI-214	-2.656E-02		3.078E-02	4.666E-02	5.631E-03	-0.569
PB-214	-6.894E-03		2.905E-02	4.394E-02	5.159E-03	-0.157
PO-214	-6.894E-03		2.905E-02	4.394E-02	5.159E-03	-0.157
PO-215	2.601E-01		2.403E-01	4.373E-01	8.217E-02	0.595
PO-216	-1.586E-02		2.349E-02	3.672E-02	4.181E-03	-0.432
PO-218	-6.894E-03		2.905E-02	4.394E-02	5.159E-03	-0.157
RN-219	1.467E-01		1.377E-01	2.547E-01	3.915E-02	0.576
RN-220	-3.046E+00		1.017E+01	1.558E+01	1.648E+00	-0.195
RA-223	2.601E-01		2.403E-01	4.373E-01	8.217E-02	0.595
RA-224	-2.908E-01		2.504E-01	3.557E-01	3.737E-02	-0.818
RA-226	-2.656E-02		3.078E-02	4.666E-02	5.631E-03	-0.569
AC-227	-6.570E-02		1.223E-01	1.814E-01	3.022E-02	-0.362
TH-227	-6.570E-02		1.224E-01	1.814E-01	3.481E-02	-0.362
AC-228	7.339E-03		6.349E-02	1.000E-01	1.190E-02	0.073
RA-228	7.339E-03		6.349E-02	1.000E-01	1.190E-02	0.073
TH-228	-1.599E-02		2.367E-02	3.700E-02	4.213E-03	-0.432
TH-229	1.190E-01		1.538E-01	2.687E-01	2.563E-02	0.443
TH-230	-2.656E-02		3.078E-02	4.666E-02	5.631E-03	-0.569
PA-231	1.046E-01		5.535E-01	8.947E-01	1.498E-01	0.117
TH-231	2.601E-01		2.403E-01	4.373E-01	8.217E-02	0.595
U-231	-4.714E-02		6.724E-02	9.541E-02	1.066E-02	-0.494
TH-232	7.339E-03		6.349E-02	1.000E-01	1.190E-02	0.073
PA-233	-8.452E-03		2.501E-02	4.091E-02	4.518E-03	-0.207
PA-234	3.739E-02		1.168E-01	1.999E-01	3.823E-02	0.187
PA-234M	-1.347E-01		2.062E+00	3.056E+00	3.201E-01	-0.044
U-234	-2.656E-02		3.078E-02	4.666E-02	5.631E-03	-0.569
U-235	2.596E-02		6.252E-02	1.040E-01	1.963E-02	0.250
NP-236	2.599E-04		2.422E-02	4.014E-02	3.823E-03	0.006
NP-237	-7.097E-03		4.533E-02	6.862E-02	1.594E-02	-0.103
NP-239	-8.206E-03		4.688E-02	7.811E-02	9.786E-03	-0.105
AM-241	-9.462E-03		1.529E-02	2.030E-02	2.109E-03	-0.466



---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	4.930E-03		9.145E-03	1.499E-02	1.522E-03	0.329
CM-243	1.223E-02		2.052E-02	3.663E-02	4.266E-03	0.334
AM-246	6.228E-02		5.348E-02	1.061E-01	9.384E-03	0.587
CM-247	8.121E-03		1.301E-02	2.308E-02	2.128E-03	0.352
CF-249	5.827E-03		1.358E-02	2.369E-02	2.180E-03	0.246
CF-251	-2.071E-02		3.801E-02	5.918E-02	5.419E-03	-0.350

# VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202018262          *
* Acquisition date   : 26-JAN-2010 14:07:42 Detector SN# :                  *
* Detector ID        : GAM25 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:00.94 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018262 Analyst initials: MXR1                 *
* Batch Number       : 942718 Sample Quantity : 1.8111E+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
BI-210	6.023E-02	2.360E-01	8.406E-02	1.204E-01
PB-210	6.023E-02	2.360E-01	8.406E-02	1.204E-01
PO-210	6.023E-02	2.360E-01	8.406E-02	1.204E-01
TH-234	1.478E-01	2.244E-01	1.124E-01	1.145E-01
U-238	1.478E-01	2.244E-01	1.124E-01	1.145E-01
ANH-511	1.156E-02	3.521E-02	9.170E-03	1.796E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	1.024E-01	1.146E-01	1.117E-01	5.847E-02 NOT IDENT.
NA-22	1.169E-02	1.704E-02	1.637E-02	8.693E-03 NOT IDENT.
NA-24	5.869E+01	7.263E+01	0.000E+00	3.706E+01 SHORT HLIF
AL-26	8.052E-03	1.495E-02	1.450E-02	7.629E-03 NOT IDENT.
K-40	2.808E-02	1.846E-01	1.791E-01	9.420E-02 NOT IDENT.
TI-44	-4.632E-03	5.313E-03	4.311E-03	2.711E-03 NOT IDENT.
SC-46	5.220E-03	1.160E-02	1.093E-02	5.919E-03 NOT IDENT.
V-48	7.040E-03	2.216E-02	1.981E-02	1.131E-02 NOT IDENT.
CR-51	-1.792E-01	1.149E-01	8.805E-02	5.862E-02 NOT IDENT.
MN-52	2.912E-02	4.058E-02	3.954E-02	2.071E-02 NOT IDENT.
MN-54	2.095E-03	1.342E-02	1.195E-02	6.845E-03 NOT IDENT.
CO-56	5.427E-04	1.449E-02	1.263E-02	7.391E-03 NOT IDENT.
CO-57	-4.188E-04	6.134E-03	5.840E-03	3.130E-03 NOT IDENT.
CO-58	5.975E-03	1.522E-02	1.402E-02	7.763E-03 NOT IDENT.
FE-59	-1.918E-02	3.030E-02	2.337E-02	1.546E-02 NOT IDENT.
CO-60	1.913E-02	1.913E-02	1.893E-02	9.759E-03 NOT IDENT.
ZN-65	-2.735E-02	3.181E-02	2.327E-02	1.623E-02 NOT IDENT.
GE-68	3.963E-01	4.682E-01	4.653E-01	2.389E-01 NOT IDENT.
AS-73	2.850E-02	4.310E-02	4.308E-02	2.199E-02 NOT IDENT.
AS-74	-5.435E-03	2.807E-02	2.337E-02	1.432E-02 NOT IDENT.
SE-75	4.048E-03	1.509E-02	1.365E-02	7.699E-03 NOT IDENT.

BR-77	-2.373E-02	4.302E-01	3.722E-01	2.195E-01	NOT IDENT.
SR-82	3.080E-02	1.164E-01	1.062E-01	5.938E-02	NOT IDENT.
RB-83	-3.036E-03	2.382E-02	2.038E-02	1.215E-02	NOT IDENT.
RB-84	3.548E-03	2.206E-02	1.957E-02	1.125E-02	NOT IDENT.
KR-85	5.167E+00	3.099E+00	3.144E+00	1.581E+00	NOT IDENT.
SR-85	2.448E-02	1.468E-02	1.490E-02	7.490E-03	NOT IDENT.
RB-86	8.592E-02	2.369E-01	2.198E-01	1.208E-01	NOT IDENT.
Y-88	7.291E-03	1.825E-02	1.693E-02	9.311E-03	NOT IDENT.
ZR-88	5.239E-03	1.062E-02	1.010E-02	5.416E-03	NOT IDENT.
Y-91	5.246E-01	5.324E+00	4.693E+00	2.716E+00	NOT IDENT.
NB-94	-1.126E-02	1.338E-02	1.040E-02	6.829E-03	NOT IDENT.
NB-95	5.699E-03	1.431E-02	1.330E-02	7.303E-03	NOT IDENT.
NB-95M	-6.442E-02	4.175E-02	3.142E-02	2.130E-02	NOT IDENT.
ZR-95	9.731E-03	2.413E-02	2.253E-02	1.231E-02	NOT IDENT.
NB-97	-6.643E+01	2.969E+01	0.000E+00	1.515E+01	SHORT HLIF
ZR-97	6.919E+02	4.905E+02	0.000E+00	2.503E+02	SHORT HLIF
MO-99	2.539E-01	6.568E-01	6.121E-01	3.351E-01	NOT IDENT.
TC-99M	2.142E+06	1.064E+07	0.000E+00	5.429E+06	SHORT HLIF
RH-101	9.784E-03	1.154E-02	1.060E-02	5.886E-03	NOT IDENT.
RH-102	-3.291E-03	1.194E-02	1.017E-02	6.092E-03	NOT IDENT.
RU-103	1.185E-02	1.539E-02	1.464E-02	7.854E-03	NOT IDENT.
RH-106	-3.250E-02	1.246E-01	1.084E-01	6.355E-02	FAIL ABUN
RU-106	-3.250E-02	1.245E-01	1.084E-01	6.353E-02	FAIL ABUN
AG-108M	5.501E-03	1.223E-02	1.150E-02	6.239E-03	NOT IDENT.
CD-109	-1.449E-01	1.610E-01	1.293E-01	8.214E-02	NOT IDENT.
AG-110M	-3.914E-02	1.701E-02	1.024E-02	8.678E-03	NOT IDENT.
IN-111	1.571E-02	5.517E-02	5.043E-02	2.815E-02	NOT IDENT.
IN-113M	2.594E-03	1.540E-02	1.418E-02	7.857E-03	NOT IDENT.
SN-113	2.594E-03	1.540E-02	1.418E-02	7.857E-03	NOT IDENT.
IN-114M	-4.768E-02	5.707E-02	4.117E-02	2.912E-02	NOT IDENT.
CD-115	-1.567E-01	4.459E-01	3.700E-01	2.275E-01	NOT IDENT.
SN-117M	-1.627E-03	1.060E-02	9.747E-03	5.406E-03	NOT IDENT.
SB-122	1.303E-02	1.148E-01	1.008E-01	5.859E-02	NOT IDENT.
I-123	-1.120E+01	1.193E+02	0.000E+00	6.087E+01	SHORT HLIF
TE-123M	-7.349E-04	7.832E-03	7.242E-03	3.996E-03	NOT IDENT.
I-124	1.780E-02	7.341E-02	6.835E-02	3.746E-02	NOT IDENT.
SB-124	-2.040E-02	2.457E-02	1.339E-02	1.254E-02	NOT IDENT.
SB-125	1.552E-02	3.033E-02	2.892E-02	1.547E-02	NOT IDENT.
TE-125M	2.599E+00	1.825E+00	1.941E+00	9.312E-01	NOT IDENT.
I-126	-9.812E-02	6.581E-02	4.883E-02	3.358E-02	NOT IDENT.
SB-126	7.242E-03	3.795E-02	3.445E-02	1.936E-02	NOT IDENT.
SN-126	-2.086E-02	1.628E-02	1.250E-02	8.308E-03	FAIL ABUN
SB-127	6.183E-02	1.443E-01	1.355E-01	7.364E-02	NOT IDENT.
XE-127	4.105E-03	1.230E-02	1.151E-02	6.274E-03	NOT IDENT.
I-131	1.397E-03	2.069E-02	1.901E-02	1.056E-02	NOT IDENT.
TE-132	-2.691E-02	3.907E-02	3.190E-02	1.993E-02	NOT IDENT.
BA-133	4.626E-03	1.480E-02	1.397E-02	7.551E-03	NOT IDENT.
I-133	1.579E+00	5.987E+00	0.000E+00	3.055E+00	SHORT HLIF
CS-134	1.006E-02	1.518E-02	1.474E-02	7.744E-03	NOT IDENT.
CS-135	-2.460E-02	5.227E-02	4.339E-02	2.667E-02	NOT IDENT.
I-135	-4.948E+06	1.152E+07	0.000E+00	5.878E+06	SHORT HLIF
CS-136	-1.788E-02	2.592E-02	1.974E-02	1.322E-02	NOT IDENT.
BA-137M	4.299E-03	2.132E-02	2.064E-02	1.088E-02	NOT IDENT.
CS-137	4.545E-03	2.254E-02	2.182E-02	1.150E-02	NOT IDENT.
CE-139	-1.682E-03	8.506E-03	7.758E-03	4.340E-03	NOT IDENT.
BA-140	-7.398E-02	7.555E-02	5.007E-02	3.854E-02	NOT IDENT.
LA-140	8.225E-03	2.595E-02	2.392E-02	1.324E-02	NOT IDENT.
CE-141	-8.338E-03	1.473E-02	1.317E-02	7.517E-03	NOT IDENT.
CE-143	-6.828E-01	9.887E-01	8.553E-01	5.045E-01	NOT IDENT.
CE-144	-6.551E-03	4.730E-02	4.430E-02	2.413E-02	NOT IDENT.
PM-144	1.501E-02	1.439E-02	1.430E-02	7.340E-03	NOT IDENT.
PR-144	1.013E+00	9.710E-01	9.649E-01	4.954E-01	NOT IDENT.
PM-146	1.595E-03	1.656E-02	1.488E-02	8.449E-03	NOT IDENT.
ND-147	1.578E-02	1.508E-01	1.330E-01	7.696E-02	NOT IDENT.
PM-149	-1.484E+00	3.310E+00	2.737E+00	1.689E+00	NOT IDENT.
EU-152	3.004E-03	3.184E-02	2.952E-02	1.625E-02	NOT IDENT.
GD-153	8.253E-03	1.844E-02	1.611E-02	9.408E-03	NOT IDENT.
EU-154	3.748E-02	4.699E-02	4.591E-02	2.397E-02	NOT IDENT.
EU-155	6.259E-03	2.271E-02	2.255E-02	1.159E-02	NOT IDENT.
TB-160	-2.776E-03	4.940E-02	4.214E-02	2.520E-02	NOT IDENT.
HO-166M	-1.338E-02	2.518E-02	2.063E-02	1.285E-02	FAIL ABUN
TM-171	1.399E+00	3.176E+00	2.824E+00	1.620E+00	NOT IDENT.
LU-176	-3.863E-03	8.659E-03	7.698E-03	4.418E-03	NOT IDENT.
LU-177	2.115E-02	1.487E-01	1.364E-01	7.584E-02	NOT IDENT.
LU-177M	5.507E-03	6.333E-02	5.743E-02	3.231E-02	NOT IDENT.
HF-181	-4.949E-03	1.385E-02	1.158E-02	7.068E-03	NOT IDENT.
W-181	-1.121E-02	4.214E-02	3.357E-02	2.150E-02	NOT IDENT.
TA-182	-7.650E-02	6.469E-02	3.894E-02	3.301E-02	NOT IDENT.

RE-183	2.982E-02	3.262E-02	3.143E-02	1.664E-02	NOT IDENT.
RE-184	-6.291E-03	6.978E-02	6.110E-02	3.560E-02	NOT IDENT.
OS-185	7.467E-04	1.580E-02	1.426E-02	8.060E-03	NOT IDENT.
RE-188	6.877E-03	4.363E-02	4.133E-02	2.226E-02	NOT IDENT.
W-188	1.771E+00	2.354E+00	2.337E+00	1.201E+00	FAIL ABUN
IR-192	7.428E-03	1.214E-02	1.183E-02	6.193E-03	NOT IDENT.
AU-195	1.171E-02	5.150E-02	4.725E-02	2.628E-02	NOT IDENT.
TL-200	6.266E-01	1.470E+00	1.394E+00	7.500E-01	NOT IDENT.
TL-201	1.893E-01	3.370E-01	3.285E-01	1.719E-01	NOT IDENT.
TL-202	1.281E-03	1.622E-02	1.460E-02	8.273E-03	NOT IDENT.
HG-203	9.371E-03	1.231E-02	1.164E-02	6.283E-03	NOT IDENT.
BI-207	-4.135E-04	1.784E-02	1.561E-02	9.103E-03	NOT IDENT.
TL-207	2.601E-01	2.355E-01	2.353E-01	1.202E-01	NOT IDENT.
TL-208	-2.357E-03	1.720E-02	1.449E-02	8.776E-03	FAIL ABUN
PO-209	4.170E+00	2.952E+00	3.088E+00	1.506E+00	NOT IDENT.
BI-211	-4.115E-02	8.391E-02	6.790E-02	4.281E-02	NOT IDENT.
PB-211	-3.218E-02	3.216E-01	2.855E-01	1.641E-01	NOT IDENT.
BI-212	-1.806E-02	1.282E-01	1.033E-01	6.542E-02	NOT IDENT.
PB-212	-1.586E-02	2.302E-02	1.997E-02	1.175E-02	NOT IDENT.
PO-212	-1.586E-02	2.302E-02	1.997E-02	1.175E-02	NOT IDENT.
BI-214	-2.656E-02	3.016E-02	2.453E-02	1.539E-02	NOT IDENT.
PB-214	-6.894E-03	2.847E-02	2.357E-02	1.452E-02	NOT IDENT.
PO-214	-6.894E-03	2.847E-02	2.357E-02	1.452E-02	NOT IDENT.
PO-215	2.601E-01	2.355E-01	2.353E-01	1.202E-01	NOT IDENT.
PO-216	-1.586E-02	2.302E-02	1.997E-02	1.175E-02	NOT IDENT.
PO-218	-6.894E-03	2.847E-02	2.357E-02	1.452E-02	NOT IDENT.
RN-219	1.467E-01	1.349E-01	1.360E-01	6.883E-02	NOT IDENT.
RN-220	-3.046E+00	9.969E+00	8.225E+00	5.086E+00	NOT IDENT.
RA-223	2.601E-01	2.355E-01	2.353E-01	1.202E-01	NOT IDENT.
RA-224	-2.908E-01	2.454E-01	1.933E-01	1.252E-01	NOT IDENT.
RA-226	-2.656E-02	3.016E-02	2.453E-02	1.539E-02	NOT IDENT.
AC-227	-6.570E-02	1.198E-01	9.840E-02	6.113E-02	NOT IDENT.
TH-227	-6.570E-02	1.200E-01	9.840E-02	6.121E-02	FAIL ABUN
AC-228	7.339E-03	6.222E-02	5.181E-02	3.174E-02	NOT IDENT.
RA-228	7.339E-03	6.222E-02	5.181E-02	3.174E-02	NOT IDENT.
TH-228	-1.599E-02	2.320E-02	2.012E-02	1.183E-02	NOT IDENT.
TH-229	1.190E-01	1.507E-01	1.471E-01	7.691E-02	NOT IDENT.
TH-230	-2.656E-02	3.016E-02	2.453E-02	1.539E-02	NOT IDENT.
PA-231	1.046E-01	5.424E-01	4.836E-01	2.768E-01	NOT IDENT.
TH-231	2.601E-01	2.355E-01	2.353E-01	1.202E-01	NOT IDENT.
U-231	-4.714E-02	6.589E-02	5.349E-02	3.362E-02	FAIL ABUN
TH-232	7.339E-03	6.222E-02	5.181E-02	3.174E-02	NOT IDENT.
PA-233	-8.452E-03	2.451E-02	2.204E-02	1.251E-02	NOT IDENT.
PA-234	3.739E-02	1.145E-01	1.034E-01	5.840E-02	FAIL ABUN
PA-234M	-1.347E-01	2.021E+00	1.577E+00	1.031E+00	NOT IDENT.
U-234	-2.656E-02	3.016E-02	2.453E-02	1.539E-02	NOT IDENT.
U-235	2.596E-02	6.127E-02	5.751E-02	3.126E-02	FAIL ABUN
NP-236	2.599E-04	2.373E-02	2.213E-02	1.211E-02	NOT IDENT.
NP-237	-7.097E-03	4.443E-02	3.860E-02	2.267E-02	NOT IDENT.
NP-239	-8.206E-03	4.594E-02	4.351E-02	2.344E-02	NOT IDENT.
AM-241	-9.462E-03	1.499E-02	1.156E-02	7.647E-03	NOT IDENT.
AM-243	4.930E-03	8.962E-03	8.470E-03	4.572E-03	NOT IDENT.
CM-243	1.223E-02	2.011E-02	2.048E-02	1.026E-02	NOT IDENT.
AM-246	6.228E-02	5.241E-02	5.460E-02	2.674E-02	NOT IDENT.
CM-247	8.121E-03	1.275E-02	1.232E-02	6.503E-03	NOT IDENT.
CF-249	5.827E-03	1.331E-02	1.266E-02	6.792E-03	NOT IDENT.
CF-251	-2.071E-02	3.725E-02	3.251E-02	1.900E-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	31.9611
46.50	31.9611
46.50	31.9611
48.70	18.6515
49.72	31.7069
51.35	42.0924
52.39	39.3636
52.97	46.0365
53.15	48.2652
53.44	39.5376
54.07	45.1469
56.28	56.6657
56.28	56.6665
57.37	47.9858
57.53	48.0163
57.53	48.0166
57.60	55.8483
57.98	54.8132
57.98	54.8132
59.32	52.4765
59.32	52.4765
59.40	53.9927
59.54	54.0218
59.72	52.5577
60.01	51.1129
61.10	48.3063
61.14	52.8430
61.30	52.8751
63.00	58.1532
63.29	58.2156
63.29	58.2156
63.58	58.2776
64.28	58.0452
65.12	64.3511
65.20	64.3698
65.20	64.3698
66.05	55.3429
66.72	52.3925
66.83	53.9551
66.91	53.9701
67.20	59.0423
67.20	59.0423
67.75	63.7960
67.85	61.4980
68.90	71.0399
68.90	71.0399
69.30	69.9724
69.67	54.8820
70.82	56.2698
70.82	56.2698
70.83	56.2716
72.80	100.3091
72.87	100.3325
72.87	100.3325
74.67	66.4944
74.81	81.9680
74.81	81.9680
74.81	81.9680
74.81	81.9680
74.81	81.9680
74.81	81.9680
74.81	81.9680
74.97	82.0107
75.28	82.0933
75.70	88.1624
77.11	88.5621
77.11	88.5621

77.11	88.5621
77.11	88.5621
77.11	88.5621
77.11	88.5621
77.11	88.5621
78.38	61.2819
79.62	89.2644
79.80	57.9338
79.80	57.9338
80.11	57.9895
80.18	58.0020
80.30	56.8147
80.30	56.8147
80.57	56.8621
81.00	64.2060
81.07	64.2197
81.07	64.2197
81.07	64.2197
81.07	64.2197
82.60	57.2160
83.37	82.9720
83.78	68.4145
83.78	68.4145
83.78	68.4145
83.78	68.4145
84.21	72.1723
84.90	72.3208
85.43	77.3451
86.29	60.3094
86.50	60.3464
86.54	60.3535
86.59	60.3625
86.72	65.3147
86.79	76.4210
86.94	76.4551
87.30	83.9417
87.30	83.9417
87.30	83.9417
87.30	83.9417
87.30	83.9417
87.30	83.9417
87.30	83.9417
87.57	84.0075
87.88	76.6637
88.03	76.6968
88.36	66.0384
88.47	66.0596
89.95	66.3395
91.11	78.2047
92.29	65.1077
92.38	65.1242
92.38	65.1242
93.35	65.2991
94.00	65.4162
94.67	65.5356
94.67	65.5364
94.90	55.4888
94.90	55.4888
94.90	55.4888
94.90	55.4888
95.87	68.2795
95.87	68.2795
96.73	50.6952
97.43	45.7108
98.44	47.8709
98.44	47.8709
98.88	52.6852
99.55	59.5887
99.55	59.5887
99.86	72.4165
100.00	72.4429
100.10	72.4628
103.18	59.2927
103.76	48.1931
105.00	46.6180
105.31	52.7024
108.00	61.7548
109.28	37.5187

111.00	66.5905
111.00	66.5905
111.76	53.5456
112.95	62.5013
115.19	62.8339
116.30	60.3356
117.00	61.3226
117.00	61.3226
117.66	54.2959
121.11	59.2116
121.62	54.7889
121.78	53.9102
122.06	58.4394
122.32	57.5739
122.32	57.5739
122.32	57.5739
122.32	57.5739
123.07	49.5606
127.23	65.4772
129.76	55.7777
131.20	60.5356
133.02	52.4819
133.54	50.6959
135.34	57.3631
136.00	49.1031
136.25	55.6171
136.48	51.9338
140.51	55.1673
140.51	0.0000
142.18	74.1155
142.65	70.4292
143.76	57.4084
144.24	55.5790
144.24	55.5790
144.24	55.5790
144.24	55.5790
145.22	65.1248
145.44	70.8183
147.16	60.6348
152.43	62.2070
152.70	63.1963
153.22	67.0919
154.21	58.5744
154.21	58.5744
154.21	58.5744
154.21	58.5744
155.03	57.7026
156.02	64.5532
158.56	61.9525
159.00	0.0000
159.00	62.9707
160.31	66.0348
161.27	72.9591
162.32	49.7061
162.64	57.5362
163.35	71.2794
163.89	77.2127
165.85	65.7125
167.43	45.2419
171.28	57.4271
171.86	55.5021
172.10	51.5588
176.55	63.9388
176.60	63.9440
181.06	55.8647
184.41	45.5447
185.71	45.6409
186.00	45.6619
190.27	58.2350
192.34	53.3002
193.63	47.2456
197.04	54.7236
198.01	49.6353
198.60	60.0296
200.40	78.8760
201.83	60.3258
202.84	53.1260
205.31	57.5048

208.36	55.6644
208.81	49.3958
209.75	51.5685
209.75	51.5685
210.97	42.1720
215.65	58.3799
216.55	53.1413
218.09	56.4532
222.10	53.5596
223.80	46.1704
226.40	42.0262
227.00	43.1396
227.08	43.1445
227.20	45.3090
228.16	46.4486
228.18	46.4499
228.18	46.4499
231.56	40.1530
235.69	93.8473
236.00	93.8858
236.00	93.8858
238.63	65.7306
238.63	65.7306
238.63	65.7306
238.63	65.7306
239.00	59.1861
240.98	89.0107
241.98	73.7222
241.98	73.7222
241.98	73.7222
244.69	55.2104
245.39	47.5238
247.94	53.2241
248.90	52.1789
249.79	36.6779
252.40	42.3747
252.85	41.2832
252.85	41.2832
254.15	0.0000
256.20	45.9382
256.20	45.9382
260.50	56.3212
260.90	66.4914
262.80	48.5727
264.65	48.6821
268.24	51.1670
268.79	52.3387
269.46	45.5485
269.46	45.5485
269.46	45.5485
269.46	45.5485
271.23	43.3623
273.65	50.3531
276.40	60.8489
277.35	52.8702
277.60	52.8861
277.60	52.8861
278.00	37.9575
278.60	40.2865
279.20	38.0106
279.53	48.3959
280.46	55.3691
281.68	45.0509
283.67	43.9955
284.30	38.2341
285.00	44.0627
285.90	56.8756
286.10	56.8885
286.10	56.8885
287.40	51.1597
288.45	0.0000
290.67	42.8877
290.80	46.3952
291.72	56.0820
293.26	57.9343
293.70	57.9625
295.21	49.2632
295.21	49.2632



295.21	49.2632
295.96	40.4999
296.50	46.6904
297.23	49.3734
298.57	61.8076
299.80	56.5859
299.80	56.5859
300.09	56.6035
300.09	56.6035
300.09	56.6035
300.09	56.6035
300.12	56.6055
301.29	45.1651
302.84	45.2413
303.76	39.9586
303.91	44.4054
304.40	47.0948
304.40	47.0948
304.84	55.1185
306.84	49.8912
308.46	47.3010
311.98	56.4362
316.51	44.1042
318.01	44.1737
319.02	51.4397
319.41	57.7803
320.08	63.2410
323.87	33.5583
323.87	33.5583
323.87	33.5583
323.87	33.5583
325.23	41.7794
328.77	40.1066
333.44	46.7067
334.20	46.7425
334.20	46.7425
334.30	46.7471
338.28	46.9324
338.28	46.9324
338.28	46.9324
338.28	46.9324
338.32	46.9339
338.32	46.9339
338.32	46.9339
340.50	46.1128
340.57	46.1159
344.27	34.2500
345.85	33.3754
350.59	35.3913
351.07	40.0665
351.92	34.5040
351.92	34.5040
351.92	34.5040
355.39	0.0000
356.01	33.7022
364.48	33.0277
366.43	45.3772
367.43	39.7416
367.94	38.8135
369.80	39.8281
374.96	37.1582
383.85	36.4959
387.95	26.9896
388.63	35.6862
391.69	33.8480
391.69	33.8480
392.90	31.9476
398.62	34.0520
400.65	27.2891
401.10	27.2997
401.81	19.5117
402.60	26.3585
404.84	32.2779
410.95	33.4283
411.60	41.3162
413.65	34.4889
414.70	39.4507
415.30	35.5232

415.76	35.5369
417.63	0.0000
418.52	46.5016
423.70	30.8023
427.08	25.9056
427.89	21.9345
432.53	32.0249
433.93	28.0530
439.47	31.1963
439.56	28.1794
439.89	28.1867
443.98	32.3179
444.90	31.3306
445.03	32.3447
445.03	32.3447
445.03	32.3447
445.03	32.3447
453.90	30.5333
463.38	32.8057
468.07	36.0088
473.00	38.2071
475.06	36.1974
475.35	42.4120
476.78	24.8529
477.59	23.8314
477.96	25.9109
482.03	29.1074
484.57	19.7880
487.03	33.3872
490.36	30.3302
492.35	36.6582
497.08	28.3752
507.63	0.0000
510.53	0.0000
510.84	25.4687
511.00	25.4716
511.85	25.4866
511.85	25.4866
513.99	25.5247
513.99	25.5247
520.41	24.5702
520.65	24.5737
527.90	34.3594
528.96	0.0000
529.64	30.1003
529.87	0.0000
531.02	31.2037
537.32	31.3364
543.00	21.6931
546.56	0.0000
549.76	26.1482
552.65	17.4648
555.20	21.8677
563.23	23.0803
563.90	24.1901
568.70	35.2930
569.32	33.1000
569.50	33.1046
569.67	33.1082
573.80	44.2590
574.00	44.2651
574.64	40.9622
578.91	37.7416
579.30	42.1922
583.14	26.7114
585.48	32.3232
591.81	21.2608
592.07	21.2637
593.00	27.9945
595.88	28.0441
600.56	41.6239
602.52	0.0000
602.71	26.1333
602.71	26.1333
603.60	23.4425
604.41	27.9643
604.70	27.9696
609.31	28.9516

609.31	28.9516
609.31	28.9516
609.31	28.9516
610.33	18.1060
612.46	29.0063
614.37	25.4099
618.01	21.8268
621.84	27.3450
621.84	27.3450
631.29	28.4139
633.02	23.8545
633.10	23.8558
634.78	22.9608
635.90	29.4086
636.97	36.7832
645.85	23.1073
646.12	23.1110
656.30	40.9095
657.75	56.7616
657.90	0.0000
661.65	25.1793
661.65	25.1793
664.57	60.7153
666.33	60.7740
666.33	60.7740
675.00	28.1843
677.61	24.4613
685.20	21.7287
692.80	28.4583
695.00	29.4409
696.49	19.9597
696.49	19.9597
697.00	23.7683
697.49	19.9705
698.33	26.6396
698.50	28.5447
699.00	26.6492
702.63	30.5148
706.10	18.1511
706.58	0.0000
706.67	21.0235
709.31	22.0100
711.68	28.7439
713.82	21.1025
717.42	17.2982
720.50	22.1386
721.93	26.9719
722.20	27.9387
722.78	28.9109
722.78	28.9109
722.89	28.9124
722.95	26.0218
723.30	25.0625
724.18	25.0739
727.18	21.2497
733.00	19.3755
735.90	19.4038
739.58	16.5244
742.81	23.3666
744.21	17.5373
747.13	13.6603
751.79	18.5821
752.31	19.5649
753.82	22.5171
755.35	16.6555
756.15	15.6820
756.87	16.6684
763.93	19.6782
765.79	17.7267
766.42	21.6724
766.84	19.7065
776.49	16.8294
778.00	16.8419
778.57	22.7922
778.89	22.7962
783.80	20.8631
785.46	16.9025
792.07	18.9513

795.84	10.9914
796.30	7.9955
798.80	23.0140
801.93	15.0315
805.60	21.0805
810.29	16.0969
810.76	18.1129
815.85	20.1733
817.79	16.1531
818.51	14.1388
819.60	16.1668
826.30	17.2303
828.27	20.2891
831.60	12.1922
831.96	12.1942
834.83	16.2801
836.80	0.0000
846.75	17.3914
848.13	16.3785
856.28	0.0000
856.80	16.4422
860.37	18.5269
867.32	12.3891
867.82	15.4900
871.10	14.4782
873.19	14.4912
874.81	11.3940
875.33	0.0000
876.40	15.5482
879.36	15.5684
880.27	9.3448
880.51	8.3072
881.50	13.5050
883.24	11.4359
884.67	11.4431
889.25	8.3387
896.60	8.3650
898.02	12.5552
899.00	23.0275
903.28	17.8263
911.07	15.7811
911.07	15.7811
911.07	15.7811
919.63	12.6705
920.93	11.6209
925.00	11.6408
925.24	12.7002
926.50	11.6480
935.52	11.6915
937.48	13.8284
944.10	14.9324
946.00	12.8092
949.00	9.6187
962.29	13.9687
964.01	19.3544
966.15	16.1426
968.20	19.3869
969.11	19.3939
969.11	19.3939
969.11	19.3939
977.42	18.3771
980.50	20.5642
983.50	16.2543
989.30	18.4634
996.32	18.5141
1001.03	16.3660
1001.68	16.3700
1004.76	21.8530
1021.30	0.0000
1024.50	0.0000
1034.80	16.5784
1036.00	18.4294
1037.82	19.3636
1038.57	16.6018
1038.76	0.0000
1045.16	11.0952
1046.59	16.6523
1048.07	16.6611

1050.47	14.8229
1050.47	14.8229
1062.04	16.7476
1063.62	12.1023
1076.63	14.0314
1077.35	10.2924
1078.86	7.4893
1085.78	16.8933
1099.22	17.9176
1112.02	10.4208
1112.84	10.4240
1115.52	19.9191
1120.29	13.3016
1120.29	13.3016
1120.29	13.3016
1120.29	13.3016
1120.51	13.3027
1121.28	11.4053
1124.00	0.0000
1129.67	12.3922
1131.51	0.0000
1147.95	0.0000
1167.94	9.6582
1173.22	15.4811
1175.09	14.5227
1177.93	13.5671
1189.05	14.5905
1204.90	10.7561
1205.75	10.7587
1213.00	13.7260
1221.42	17.6960
1230.97	9.8617
1235.34	11.8506
1236.41	0.0000
1238.25	12.8503
1246.25	10.9011
1260.41	0.0000
1271.85	12.9878
1274.45	8.9989
1274.54	9.9988
1291.56	6.0313
1298.22	0.0000
1312.09	7.0809
1325.50	15.2350
1325.50	15.2350
1332.49	10.1782
1333.61	10.1815
1360.21	8.2100
1362.66	0.0000
1365.15	9.2498
1368.21	6.1719
1368.53	0.0000
1376.25	7.2176
1384.27	6.2009
1394.10	4.1458
1395.20	3.1104
1407.95	8.3245
1434.06	6.2898
1436.60	9.4413
1457.56	0.0000
1460.81	6.3369
1489.15	12.7725
1509.49	7.4916
1596.49	7.5078
1620.62	7.5539
1678.03	0.0000
1691.02	5.7648
1691.02	5.7648
1706.46	0.0000
1750.46	0.0000
1764.49	2.9331
1764.49	2.9331
1764.49	2.9331
1764.49	2.9331
1770.23	5.8740
1771.40	7.8343
1791.20	0.0000
1808.65	3.9508

1836.01

5.9630

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202018262

Total Uranium Activity	4.5163E-01	ug/g
Total Uranium Counting Unc.	6.6808E-01	ug/g
Total Uranium Tpu	3.4086E-07	ug/g
Total Uranium Mda	3.3559E-01	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 942718                          SAMPLE ID   : G1202018262
*  ANALYST       : MXR1                             DETECTOR    : GAM25
*  SAMPLE DATE   : 19-JAN-2010 00:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 26-JAN-2010 14:07:42.98          SAMPLE ALQT  : 181.110 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 3.624E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 3.861E-02
GROSS GAMMA MDA      (pCi/GRAM ) : 4.786E-02
GROSS GAMMA DLC      (pCi/GRAM ) : 2.161E-02

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 16:13:23.39

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018263.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 14:10:01
Sample ID          : G1202018263      Sample quantity   : 1.30810E+02 GRAM
Detector name      : GAM12            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.45  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 942718           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	63.25*	43	341	0.85	125.98	123	6	6.00E-03	72.6	
2	3	74.67*	494	469	1.15	148.83	143	16	6.86E-02	8.5	1.31E+00
3	3	76.99	663	343	0.95	153.48	143	16	9.21E-02	6.0	
4	7	84.04*	150	305	1.37	167.58	164	29	2.08E-02	19.7	1.35E+00
5	7	87.11	327	423	1.43	173.72	164	29	4.54E-02	12.4	
6	7	89.78	180	261	0.99	179.06	164	29	2.50E-02	16.2	
7	7	92.65*	310	433	1.76	184.81	164	29	4.30E-02	15.6	
8	0	142.95*	36	273	1.15	285.45	283	7	5.03E-03	79.7	
9	0	185.87*	155	318	0.99	371.34	367	9	2.15E-02	23.6	
10	0	208.49	127	437	1.21	416.60	410	13	1.77E-02	34.9	
11	3	238.47*	1270	181	1.11	476.58	471	17	1.76E-01	3.4	1.42E+00
12	3	241.47	310	195	1.59	482.60	471	17	4.31E-02	11.7	
13	0	270.25	134	174	1.44	540.19	535	10	1.85E-02	20.4	
14	0	277.46	66	162	1.08	554.61	550	9	9.15E-03	37.1	
15	0	295.01*	340	195	1.09	589.72	585	10	4.72E-02	9.5	
16	0	299.74	67	165	1.31	599.18	595	9	9.32E-03	36.7	
17	0	327.77	84	189	1.48	655.27	649	12	1.17E-02	34.4	
18	0	337.92*	242	149	1.09	675.57	672	10	3.37E-02	11.5	
19	0	351.76*	653	202	1.20	703.27	697	13	9.07E-02	6.0	
20	0	462.77	74	101	1.16	925.37	920	11	1.03E-02	28.8	
21	0	510.94*	149	129	1.97	1021.75	1015	18	2.06E-02	22.1	
22	0	583.04*	369	109	1.56	1165.98	1158	17	5.12E-02	8.5	
23	0	609.20*	433	117	1.38	1218.32	1211	15	6.01E-02	7.4	
24	0	726.99	126	88	1.44	1453.95	1446	16	1.76E-02	18.8	
25	0	770.45	63	124	4.52	1540.89	1528	24	8.70E-03	50.0	
26	0	860.45*	63	51	1.34	1720.92	1714	15	8.70E-03	28.6	
27	0	910.67*	282	44	1.49	1821.38	1813	16	3.91E-02	8.1	
28	1	964.30	50	74	2.00	1928.64	1923	23	6.88E-03	34.1	1.89E+00
29	1	968.66	147	38	1.80	1937.36	1923	23	2.04E-02	12.4	
30	0	1120.13*	113	45	2.16	2240.32	2234	15	1.57E-02	16.5	
31	0	1377.22	32	30	1.03	2754.48	2744	17	4.47E-03	42.6	
32	0	1401.75	18	4	0.99	2803.53	2800	8	2.50E-03	30.4	
33	0	1460.22*	789	11	1.86	2920.45	2911	17	1.10E-01	3.7	
34	0	1587.67	18	19	1.16	3175.31	3169	11	2.51E-03	52.5	
35	0	1729.92*	17	10	1.68	3459.74	3456	12	2.41E-03	48.4	
36	0	1763.89*	96	9	2.15	3527.66	3521	17	1.33E-02	12.7	

Flag: "\*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018263.CNF;1  
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8  
 Sample title : MXR1  
 Sample date : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 14:10:01  
 Sample ID : G1202018263 Sample quantity : 130.81 GRAM  
 Sample type : SOLID Sample geometry :  
 Detector name : GAMMA12 Detector geometry: CAN  
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.45 0.0%  
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %  
 Energy tolerance : 1.50 keV Half life ratio : 8.00  
 Errors propagated: Yes Systematic Error : 0.00 %  
 Efficiency type : Empirical Efficiencies at : Peak Energy  
 Abundance limit : 75.00 WTM error limit : 3.00

## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.865E+01	1.927E+00	5.322E-01	3.795E-02	35.037
CD-109	+	88.03	*	4.566E+00	1.188E+00	1.056E+00	8.081E-02	4.324
SN-126	+	64.28		4.031E-01	5.881E-01	7.474E-01	1.049E-01	0.539
	+	86.94		1.866E+00	8.974E-01	4.365E-01	1.796E-01	4.275
	+	87.57	*	4.489E-01	1.168E-01	1.043E-01	7.948E-03	4.304
TL-208	+	277.35		6.172E-01	4.627E-01	5.023E-01	5.261E-02	1.229
	+	510.84		7.067E-01	3.205E-01	1.848E-01	1.907E-02	3.825
	+	583.14	*	5.018E-01	9.270E-02	5.124E-02	3.666E-03	9.793
	+	860.37		8.038E-01	4.649E-01	4.362E-01	3.812E-02	1.842
BI-211		72.87		1.971E+00	3.440E+00	5.310E+00	3.562E-01	0.371
	+	351.07	*	3.850E+00	5.215E-01	3.226E-01	2.028E-02	11.936
PB-212	+	74.81		2.892E+00	5.959E-01	5.232E-01	6.048E-02	5.527
	+	77.11		2.196E+00	3.043E-01	2.969E-01	2.055E-02	7.397
	+	87.30		2.076E+00	5.786E-01	4.837E-01	6.076E-02	4.292
	+	238.63	*	1.628E+00	1.591E-01	8.037E-02	5.707E-03	20.261
	+	300.09		1.329E+00	9.809E-01	1.083E+00	8.844E-02	1.226
PO-212	+	74.81		2.892E+00	5.959E-01	5.232E-01	6.048E-02	5.527
	+	77.11		2.196E+00	3.043E-01	2.969E-01	2.055E-02	7.397
	+	87.30		2.076E+00	5.786E-01	4.837E-01	6.076E-02	4.292
	+	115.19		1.425E+00	3.164E+00	5.301E+00	3.363E-01	0.269
	+	238.63	*	1.628E+00	1.591E-01	8.037E-02	5.707E-03	20.261
	+	300.09		1.329E+00	9.809E-01	1.083E+00	8.844E-02	1.226
BI-214	+	609.31	*	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
	+	1120.29		1.509E+00	5.152E-01	4.545E-01	4.128E-02	3.321
	+	1764.49		1.761E+00	4.582E-01	2.780E-01	1.647E-02	6.333
PB-214	+	74.81		4.983E+00	9.867E-01	9.015E-01	9.066E-02	5.527
	+	77.11		3.765E+00	5.953E-01	5.090E-01	5.240E-02	7.397
	+	87.30		3.556E+00	9.650E-01	8.287E-01	8.970E-02	4.292
	+	241.98		2.389E+00	5.890E-01	4.841E-01	3.809E-02	4.935
	+	295.21		1.180E+00	2.452E-01	2.046E-01	1.727E-02	5.764
	+	351.92	*	1.339E+00	1.944E-01	1.125E-01	9.186E-03	11.910
PO-214	+	74.81		4.983E+00	9.867E-01	9.015E-01	9.066E-02	5.527
	+	77.11		3.765E+00	5.953E-01	5.090E-01	5.240E-02	7.397
	+	87.30		3.556E+00	9.650E-01	8.287E-01	8.970E-02	4.292

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.389E+00	5.890E-01	4.841E-01	3.809E-02	4.935
	+	295.21		1.180E+00	2.452E-01	2.046E-01	1.727E-02	5.764
	+	351.92	*	1.339E+00	1.944E-01	1.125E-01	9.186E-03	11.910
	+	74.81		2.892E+00	5.959E-01	5.232E-01	6.048E-02	5.527
	+	77.11		2.196E+00	3.043E-01	2.969E-01	2.055E-02	7.397
	+	87.30		2.076E+00	5.786E-01	4.837E-01	6.076E-02	4.292
PO-218	+	238.63	*	1.628E+00	1.591E-01	8.037E-02	5.707E-03	20.261
	+	300.09		1.329E+00	9.809E-01	1.083E+00	8.844E-02	1.226
	+	74.81		4.983E+00	9.867E-01	9.015E-01	9.066E-02	5.527
	+	77.11		3.765E+00	5.953E-01	5.090E-01	5.240E-02	7.397
	+	87.30		3.556E+00	9.650E-01	8.287E-01	8.970E-02	4.292
	+	241.98		2.389E+00	5.890E-01	4.841E-01	3.809E-02	4.935
RA-224	+	295.21		1.180E+00	2.452E-01	2.046E-01	1.727E-02	5.764
	+	351.92	*	1.339E+00	1.944E-01	1.125E-01	9.186E-03	11.910
	+	240.98	*	4.530E+00	1.088E+00	9.148E-01	5.046E-02	4.952
	+	609.31	*	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
	+	1120.29		1.509E+00	5.152E-01	4.545E-01	4.128E-02	3.321
	+	1764.49		1.761E+00	4.582E-01	2.780E-01	1.647E-02	6.333
AC-228	+	338.32		1.573E+00	7.364E-01	3.318E-01	1.352E-01	4.741
	+	911.07	*	1.710E+00	3.348E-01	1.845E-01	2.026E-02	9.267
	+	969.11		1.568E+00	5.316E-01	3.244E-01	7.481E-02	4.833
	+	338.32		1.573E+00	7.364E-01	3.318E-01	1.352E-01	4.741
	+	911.07	*	1.710E+00	3.348E-01	1.845E-01	2.026E-02	9.267
	+	969.11		1.568E+00	5.316E-01	3.244E-01	7.481E-02	4.833
TH-228	+	74.81		2.936E+00	5.401E-01	5.311E-01	3.661E-02	5.527
	+	77.11		2.229E+00	3.089E-01	3.014E-01	2.087E-02	7.397
	+	87.30		2.107E+00	5.483E-01	4.910E-01	3.732E-02	4.292
	+	238.63	*	1.653E+00	1.615E-01	8.159E-02	5.794E-03	20.261
	+	300.09		1.349E+00	1.269E+00	1.100E+00	6.480E-01	1.226
	+	609.31	*	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
TH-230	+	1120.29		1.509E+00	5.152E-01	4.545E-01	4.128E-02	3.321
	+	1764.49		1.760E+00	4.581E-01	2.780E-01	1.647E-02	6.333
	+	338.32		1.573E+00	7.364E-01	3.318E-01	1.879E-02	4.741
	+	911.07	*	1.710E+00	3.348E-01	1.845E-01	2.026E-02	9.267
	+	969.11		1.568E+00	5.316E-01	3.244E-01	7.481E-02	4.833
	+	63.29	*	1.018E+00	1.489E+00	1.966E+00	3.347E-01	0.518
TH-234	+	92.38		2.750E+00	9.850E-01	6.831E-01	1.194E-01	4.027
	+	609.31	*	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
	+	1120.29		1.509E+00	5.152E-01	4.545E-01	4.128E-02	3.321
	+	1764.49		1.760E+00	4.581E-01	2.780E-01	1.647E-02	6.333
	+	89.95		3.295E+00	1.469E+00	1.397E+00	4.268E-01	2.359
	+	93.35		3.307E+00	1.380E+00	8.153E-01	2.252E-01	4.056
U-235	+	105.00		7.218E-01	9.772E-01	1.626E+00	4.769E-01	0.444
	+	143.76	*	1.518E-01	2.432E-01	3.252E-01	5.282E-02	0.467
	+	163.35		2.209E-01	4.410E-01	7.080E-01	1.260E-01	0.312
	+	185.71		1.404E-01	6.676E-02	6.763E-02	3.530E-03	2.076
	+	205.31		2.381E-01	5.301E-01	7.696E-01	1.373E-01	0.309
	+	86.50	*	1.318E+00	4.377E-01	3.098E-01	6.806E-02	4.255
NP-237	+	95.87		-4.878E-01	9.065E-01	1.293E+00	3.119E-01	-0.377

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	+	63.29	*	1.018E+00	1.489E+00	1.966E+00	3.347E-01	0.518
	+	92.38		2.750E+00	8.826E-01	6.831E-01	4.973E-02	4.027
AM-243	+	74.67	*	4.688E-01	8.610E-02	8.508E-02	5.781E-03	5.510
	+	86.72		4.943E+01	1.286E+01	1.159E+01	8.756E-01	4.265
		117.66		-4.486E-01	3.469E+00	5.659E+00	3.565E-01	-0.079
	+	142.18		1.275E+01	2.033E+01	2.444E+01	1.383E+00	0.522
ANH-511	+	511.00	*	1.526E-01	6.805E-02	3.992E-02	2.433E-03	3.824

## ---- 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	*	-2.286E-01	3.194E-01	4.842E-01	3.332E-02	-0.472
NA-22		1274.54	*	-9.715E-03	3.920E-02	6.255E-02	4.028E-03	-0.155
NA-24		1368.53	*	-9.366E-02	3.920E-02	Half-Life too short		
AL-26		1129.67		-2.433E-01	1.663E+00	2.636E+00	1.606E-01	-0.092
		1808.65	*	-1.536E-02	3.204E-02	4.822E-02	2.767E-03	-0.318
TI-44		67.85		-6.789E-02	4.356E-02	6.831E-02	4.447E-03	-0.994
	+	78.38	*	4.053E-01	5.615E-02	6.969E-02	4.875E-03	5.815
SC-46		889.25	*	-1.998E-02	3.982E-02	6.116E-02	5.069E-03	-0.327
	+	1120.51		2.583E-01	8.650E-02	1.324E-01	8.227E-03	1.951
V-48		944.10		-4.873E-01	8.687E-01	1.311E+00	1.053E-01	-0.372
		983.50	*	-1.310E-02	7.086E-02	1.115E-01	8.589E-03	-0.118
		1312.09		8.018E-02	7.579E-02	1.391E-01	9.438E-03	0.576
CR-51		320.08	*	4.479E-01	3.418E-01	6.074E-01	3.862E-02	0.737
MN-52		744.21		-8.057E-02	2.330E-01	3.713E-01	2.652E-02	-0.217
		848.13		-3.222E+00	6.673E+00	1.032E+01	8.224E-01	-0.312
		935.52		1.928E-01	2.601E-01	4.485E-01	3.631E-02	0.430
		1246.25		-6.181E+00	6.960E+00	1.040E+01	6.409E-01	-0.594
		1333.61		-2.685E+00	5.015E+00	7.648E+00	5.341E-01	-0.351
		1434.06	*	9.887E-02	2.458E-01	4.212E-01	2.893E-02	0.235
MN-54		834.83	*	-1.863E-02	4.127E-02	6.467E-02	5.084E-03	-0.288
CO-56		846.75	*	-7.968E-03	3.953E-02	6.163E-02	4.902E-03	-0.129
		977.42		-1.152E-01	2.873E+00	4.317E+00	3.349E-01	-0.027
		1037.82		-3.602E-02	3.018E-01	4.992E-01	3.856E-02	-0.072
		1175.09		-3.333E+00	2.182E+00	3.035E+00	1.673E-01	-1.098
		1238.25		2.169E-01	9.717E-02	1.840E-01	1.184E-02	1.179
		1360.21		2.929E-01	1.021E+00	1.728E+00	1.203E-01	0.170
		1771.40		3.504E-02	2.479E-01	3.655E-01	2.155E-02	0.096
CO-57		122.06	*	-1.333E-03	2.303E-02	3.761E-02	2.352E-03	-0.035
		136.48		2.090E-02	1.856E-01	3.037E-01	2.043E-02	0.069
CO-58		810.76	*	-3.559E-02	4.110E-02	6.159E-02	4.739E-03	-0.578
FE-59	+	142.65		1.957E+00	3.121E+00	4.394E+00	2.482E-01	0.445
		192.34		2.068E-03	8.834E-01	1.408E+00	1.627E-01	0.001
		1099.22	*	2.021E-02	8.839E-02	1.503E-01	1.110E-02	0.134
		1291.56		2.816E-03	1.109E-01	1.826E-01	1.471E-02	0.015
CO-60		1173.22		-4.918E-02	4.337E-02	6.348E-02	3.489E-03	-0.775
		1332.49	*	-2.537E-02	3.861E-02	5.776E-02	4.034E-03	-0.439
ZN-65		1115.52	*	-2.770E-03	9.222E-02	1.315E-01	8.269E-03	-0.021

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	1077.35	*		6.803E-01	1.201E+00	2.108E+00	1.421E-01	0.323
AS-73	53.44	*		1.028E-02	7.118E-01	1.212E+00	7.825E-02	0.008
AS-74	595.88	*		-6.416E-02	8.631E-02	1.359E-01	8.651E-03	-0.472
	634.78			6.423E-03	3.378E-01	5.635E-01	3.631E-02	0.011
SE-75	66.05			8.904E-01	4.732E+00	7.206E+00	6.291E-01	0.124
	96.73			-8.158E-01	7.544E-01	1.037E+00	1.314E-01	-0.786
	121.11			7.097E-02	1.216E-01	2.044E-01	1.946E-02	0.347
	136.00			5.982E-03	3.496E-02	5.736E-02	3.387E-03	0.104
	198.60			-9.467E-01	1.805E+00	2.775E+00	1.865E-01	-0.341
	264.65	*		1.925E-02	4.361E-02	6.663E-02	3.777E-03	0.289
	279.53			-6.274E-02	1.064E-01	1.493E-01	9.152E-03	-0.420
	303.91			2.420E+00	1.970E+00	3.159E+00	2.991E-01	0.766
	400.65			7.894E-02	2.507E-01	4.173E-01	3.729E-02	0.189
BR-77	87.88	+		9.790E+02	2.547E+02	3.253E+02	2.487E+01	3.009
	200.40			1.646E+01	1.567E+02	2.504E+02	1.328E+01	0.066
	239.00	+		2.595E+02	2.252E+01	3.713E+01	2.045E+00	6.989
	249.79			3.656E+01	5.503E+01	9.591E+01	5.326E+00	0.381
	281.68			-2.674E+01	9.052E+01	1.302E+02	7.357E+00	-0.205
	297.23			1.151E+02	7.613E+01	9.546E+01	5.418E+00	1.205
	303.76			1.878E+02	1.669E+02	2.666E+02	1.515E+01	0.705
	439.47			-5.143E+01	1.280E+02	2.006E+02	1.155E+01	-0.256
	484.57			-2.534E+01	2.174E+02	3.463E+02	2.072E+01	-0.073
	520.65	*		4.390E-01	9.255E+00	1.486E+01	9.114E-01	0.030
	574.64			-4.123E+01	2.033E+02	3.165E+02	1.997E+01	-0.130
	578.91			-1.215E+01	9.212E+01	1.326E+02	8.383E+00	-0.092
	585.48			8.229E+02	2.133E+02	3.952E+02	2.506E+01	2.082
	755.35			1.033E+02	1.593E+02	2.761E+02	1.997E+01	0.374
	817.79			4.273E+01	1.221E+02	2.062E+02	1.593E+01	0.207
SR-82	698.33			-8.784E+00	3.382E+01	5.474E+01	3.709E+00	-0.160
	776.49	*		-2.195E-01	4.159E-01	5.461E-01	4.041E-02	-0.402
	1395.20			9.272E+00	1.164E+01	1.936E+01	1.340E+00	0.479
RB-83	520.41	*		-2.657E-03	6.559E-02	1.007E-01	6.176E-03	-0.026
	529.64			-2.538E-02	9.975E-02	1.556E-01	9.595E-03	-0.163
	552.65			1.111E-01	1.739E-01	3.069E-01	1.916E-02	0.362
RB-84	881.50	*		-1.082E-02	6.527E-02	1.039E-01	8.549E-03	-0.104
KR-85	513.99	*		1.542E+01	7.013E+00	1.287E+01	7.858E-01	1.199
SR-85	513.99	*		7.906E-02	3.595E-02	6.596E-02	4.028E-03	1.199
RB-86	1076.63	*		1.665E-01	7.623E-01	1.298E+00	8.761E-02	0.128
Y-88	898.02			1.573E-02	4.336E-02	7.257E-02	6.096E-03	0.217
	1836.01	*		-1.735E-02	3.877E-02	5.944E-02	3.346E-03	-0.292
ZR-88	392.90	*		-2.852E-02	2.983E-02	4.546E-02	2.494E-03	-0.627
Y-91	1204.90	*		-1.892E+01	1.785E+01	2.632E+01	1.522E+00	-0.719
NB-94	702.63	*		1.732E-02	3.317E-02	5.699E-02	3.881E-03	0.304
	871.10			-1.315E-02	3.301E-02	5.130E-02	4.179E-03	-0.256
NB-95	765.79	*		4.926E-02	4.890E-02	7.704E-02	5.635E-03	0.639
NB-95M	235.69	*		5.818E-02	1.212E-01	1.862E-01	1.358E-02	0.313
ZR-95	724.18			1.680E-01	1.030E-01	1.723E-01	1.359E-02	0.975
	756.15	*		1.723E-02	6.899E-02	1.158E-01	9.561E-03	0.149
NB-97	657.90	*		1.795E-02	6.899E-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
ZR-97	1024.50			2.088E+00	6.899E-02	Half-Life	too short	
	254.15			-1.415E+00	6.899E-02	Half-Life	too short	
	355.39			3.158E+00	6.899E-02	Half-Life	too short	
	507.63	*		3.202E+00	6.899E-02	Half-Life	too short	
	602.52			2.406E-01	6.899E-02	Half-Life	too short	
	1021.30			1.165E+00	6.899E-02	Half-Life	too short	
	1147.95			-6.485E+00	6.899E-02	Half-Life	too short	
	1362.66			6.540E+00	6.899E-02	Half-Life	too short	
MO-99	1750.46			-3.478E-01	6.899E-02	Half-Life	too short	
	140.51			9.557E+00	2.545E+01	3.759E+01	1.012E+01	0.254
	181.06			1.085E+01	1.764E+01	2.598E+01	4.403E+00	0.418
	366.43			-9.350E+00	8.165E+01	1.331E+02	7.442E+00	-0.070
	739.58	*		-5.836E+00	1.114E+01	1.741E+01	2.503E+00	-0.335
	778.00			-1.386E+01	3.767E+01	5.072E+01	3.759E+00	-0.273
TC-99M	140.51	*		1.299E+10	3.767E+01	Half-Life	too short	
RH-101	127.23			-2.061E-02	2.920E-02	4.613E-02	2.799E-03	-0.447
	198.01	*		9.050E-04	3.236E-02	5.118E-02	2.707E-03	0.018
RH-102	325.23			-1.803E-01	2.455E-01	3.358E-01	1.908E-02	-0.537
	418.52			1.483E-01	2.611E-01	4.422E-01	2.494E-02	0.335
	475.06	*		1.963E-02	2.933E-02	4.878E-02	2.897E-03	0.402
	631.29			5.543E-03	4.960E-02	8.341E-02	5.370E-03	0.066
	697.49			1.138E-02	7.366E-02	1.233E-01	8.346E-03	0.092
	766.84			1.599E-01	1.082E-01	1.965E-01	1.439E-02	0.814
	1046.59			5.453E-02	1.109E-01	1.937E-01	1.373E-02	0.281
	1112.84			4.597E-02	2.150E-01	3.302E-01	2.084E-02	0.139
RU-103	497.08	*		-1.778E-02	3.851E-02	5.924E-02	7.556E-03	-0.300
RH-106	610.33	+		1.199E+01	2.584E+00	2.865E+00	4.484E-01	4.186
	511.85	+		7.624E-01	3.399E-01	4.294E-01	2.619E-02	1.776
RU-106	621.84	*		-1.564E-01	3.141E-01	5.027E-01	6.060E-02	-0.311
	1050.47			-2.578E-01	2.063E+00	3.403E+00	2.397E-01	-0.076
	511.85	+		7.624E-01	3.399E-01	4.294E-01	2.619E-02	1.776
	621.84	*		-1.564E-01	3.137E-01	5.027E-01	3.228E-02	-0.311
AG-108M	1050.47			-2.578E-01	2.063E+00	3.403E+00	2.397E-01	-0.076
	433.93	*		1.084E-02	2.808E-02	4.697E-02	2.927E-03	0.231
	614.37			-3.045E-02	4.093E-02	5.417E-02	3.714E-03	-0.562
AG-110M	722.95			1.423E-02	4.481E-02	6.646E-02	4.909E-03	0.214
	657.75	*		4.113E-03	3.295E-02	5.528E-02	3.767E-03	0.074
	677.61			1.610E-02	2.990E-01	4.976E-01	3.445E-02	0.032
	706.67			-6.846E-02	2.166E-01	3.489E-01	2.491E-02	-0.196
	763.93			6.922E-02	1.701E-01	2.542E-01	1.929E-02	0.272
	884.67			2.106E-02	4.564E-02	7.755E-02	6.624E-03	0.272
	937.48			-9.394E-02	1.150E-01	1.693E-01	1.424E-02	-0.555
	1384.27			8.322E-02	1.697E-01	2.610E-01	1.889E-02	0.319
IN-111	171.28			-1.169E-01	9.705E-01	1.549E+00	7.968E-02	-0.076
	245.39	*		-2.371E-01	9.584E-01	1.399E+00	7.745E-02	-0.169
IN-113M	391.69	*		-1.540E-02	4.357E-02	6.951E-02	4.092E-03	-0.222
SN-113	391.69	*		-1.540E-02	4.357E-02	6.951E-02	4.092E-03	-0.222
IN-114M	190.27	*		9.672E-03	1.906E-01	2.712E-01	1.423E-02	0.036
CD-115	260.90			2.865E+01	1.142E+02	1.944E+02	1.088E+01	0.147

## ----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	492.35			-4.186E-01	3.271E+01	5.247E+01	3.157E+00	-0.008
	527.90	*		4.104E+00	1.009E+01	1.669E+01	1.028E+00	0.246
SN-117M	156.02			-1.093E+00	2.093E+00	3.294E+00	1.759E-01	-0.332
	158.56	*		2.985E-02	4.838E-02	8.040E-02	4.247E-03	0.371
SB-122	563.90	*		2.077E-01	1.922E+00	3.256E+00	2.044E-01	0.064
	692.80			-2.325E+01	4.196E+01	6.616E+01	4.454E+00	-0.351
I-123	159.00	*		-2.029E-01	4.196E+01	Half-Life too short		
	528.96			-8.670E+01	4.196E+01	Half-Life too short		
TE-123M	159.00	*		-1.037E-03	2.606E-02	4.195E-02	2.247E-03	-0.025
I-124	602.71	*		-2.768E-01	7.139E-01	9.939E-01	6.343E-02	-0.278
	722.78			1.073E+00	4.629E+00	6.799E+00	4.740E-01	0.158
	1325.50			-5.397E+00	3.449E+01	5.541E+01	3.833E+00	-0.097
+	1376.25			5.883E+01	5.030E+01	6.227E+01	4.325E+00	0.945
	1509.49			1.134E+01	1.646E+01	2.909E+01	1.958E+00	0.390
	1691.02			1.906E+00	3.236E+00	5.989E+00	3.718E-01	0.318
SB-124	602.71			-1.615E-02	4.166E-02	5.801E-02	3.703E-03	-0.278
	645.85			3.414E-01	4.877E-01	8.545E-01	6.099E-02	0.400
	709.31			2.088E+00	2.753E+00	4.811E+00	3.302E-01	0.434
	713.82			-2.241E-01	1.606E+00	2.619E+00	2.848E-01	-0.086
	722.78			9.076E-02	3.916E-01	5.752E-01	4.142E-02	0.158
+	968.20			1.614E+01	4.205E+00	7.163E+00	5.613E-01	2.253
	1045.16			-1.242E-01	2.473E+00	4.116E+00	2.922E-01	-0.030
	1325.50			-4.877E-01	3.116E+00	5.007E+00	3.463E-01	-0.097
	1368.21			-9.103E-03	2.061E+00	2.882E+00	3.596E-01	-0.003
	1436.60			2.930E+00	3.672E+00	6.630E+00	4.552E-01	0.442
	1691.02	*		3.803E-02	6.458E-02	1.195E-01	7.975E-03	0.318
SB-125	427.89	*		6.035E-02	8.601E-02	1.467E-01	8.720E-03	0.411
+	463.38			6.844E-01	3.975E-01	5.217E-01	3.565E-02	1.312
	600.56			7.200E-02	1.723E-01	2.899E-01	2.091E-02	0.248
	635.90			9.950E-02	2.573E-01	4.416E-01	3.246E-02	0.225
TE-125M	109.28	*		3.914E+00	8.766E+00	1.437E+01	1.239E+00	0.272
I-126	388.63			1.608E-01	1.986E-01	3.413E-01	1.875E-02	0.471
	666.33	*		1.071E-01	1.699E-01	2.957E-01	1.928E-02	0.362
	753.82			1.128E+00	1.450E+00	2.534E+00	1.829E-01	0.445
SB-126	223.80			3.827E+00	3.628E+00	6.427E+00	3.492E-01	0.596
+	278.60			4.074E+00	3.033E+00	3.922E+00	2.214E-01	1.039
+	296.50			1.173E+01	2.325E+00	3.332E+00	1.891E-01	3.519
	414.70			-2.864E-02	6.882E-02	1.085E-01	6.096E-03	-0.264
	415.30			-2.405E+00	5.586E+00	8.787E+00	4.940E-01	-0.274
	555.20			-8.307E-01	3.704E+00	6.127E+00	3.831E-01	-0.136
	573.80			-3.904E-02	9.595E-01	1.605E+00	1.013E-01	-0.024
	593.00			1.123E-01	8.463E-01	1.432E+00	9.103E-02	0.078
	656.30			-1.256E+00	3.198E+00	5.139E+00	3.328E-01	-0.244
	666.33			4.477E-02	7.098E-02	1.236E-01	8.057E-03	0.362
	675.00			4.187E-01	1.840E+00	3.108E+00	2.048E-01	0.135
	695.00			-2.415E-02	7.532E-02	1.213E-01	8.185E-03	-0.199
	697.00			-1.146E-02	2.585E-01	4.259E-01	2.881E-02	-0.027
	720.50	*		-2.036E-01	1.726E-01	2.101E-01	1.461E-02	-0.969
	856.80			1.354E-01	5.487E-01	7.951E-01	6.387E-02	0.170

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		989.30		5.424E-01	1.232E+00	2.070E+00	1.584E-01	0.262
		1034.80		-1.516E-01	8.205E+00	1.371E+01	9.883E-01	-0.011
		1213.00		2.322E+00	4.660E+00	8.023E+00	4.698E-01	0.289
		61.10		5.009E+01	5.388E+01	8.567E+01	8.123E+00	0.585
		252.40		-2.143E+00	3.809E+00	6.042E+00	2.508E+00	-0.355
		290.80		-8.072E+00	2.225E+01	3.175E+01	2.879E+00	-0.254
		411.60		2.573E+00	1.194E+01	1.970E+01	2.815E+00	0.131
		444.90		4.761E+00	9.016E+00	1.516E+01	1.634E+00	0.314
		473.00		5.154E-01	1.648E+00	2.717E+00	3.052E-01	0.190
		543.00		-2.180E+00	1.552E+01	2.588E+01	3.387E+00	-0.084
		603.60		-6.702E+00	1.288E+01	1.767E+01	1.957E+00	-0.379
		685.20	*	-4.451E-01	1.371E+00	2.209E+00	2.204E-01	-0.201
		698.50		-4.101E+00	1.499E+01	2.423E+01	3.607E+00	-0.169
		722.20		1.611E+00	3.094E+01	4.450E+01	4.419E+00	0.036
XE-127		783.80		5.882E+00	3.944E+00	7.089E+00	8.245E-01	0.830
		57.60		-1.285E+00	5.131E+00	8.615E+00	5.444E-01	-0.149
		145.22		-2.649E-01	7.538E-01	1.065E+00	5.948E-02	-0.249
		172.10		1.231E-01	1.137E-01	1.917E-01	9.866E-03	0.642
		202.84	*	2.046E-03	5.011E-02	7.090E-02	3.770E-03	0.029
I-131		374.96		9.187E-02	1.783E-01	3.025E-01	1.681E-02	0.304
		80.18		1.355E+00	5.241E+00	6.387E+00	4.579E-01	0.212
		284.30		2.601E-01	1.370E+00	2.312E+00	1.461E-01	0.112
		364.48	*	3.876E-02	1.098E-01	1.845E-01	1.161E-02	0.210
		636.97		8.267E-01	1.439E+00	2.506E+00	1.774E-01	0.330
TE-132		722.89		2.155E+00	7.512E+00	1.110E+01	7.816E-01	0.194
		49.72		-7.236E+00	1.638E+01	2.741E+01	2.544E+00	-0.264
		111.76		-8.759E+00	2.624E+01	4.251E+01	3.909E+00	-0.206
		116.30		1.262E+01	2.464E+01	4.134E+01	3.774E+00	0.305
BA-133		228.16	*	-5.405E-01	6.198E-01	9.996E-01	1.422E-01	-0.541
		53.15		1.367E+00	3.044E+00	5.276E+00	3.411E-01	0.259
		79.62		-3.626E-01	1.533E+00	1.794E+00	2.583E-01	-0.202
		81.00		6.749E-03	1.138E-01	1.364E-01	2.064E-02	0.049
I-133	+	276.40		6.099E-01	4.595E-01	6.005E-01	7.743E-02	1.016
		302.84		6.443E-02	1.407E-01	2.133E-01	2.474E-02	0.302
		356.01	*	1.241E-02	4.254E-02	6.329E-02	7.261E-03	0.196
		383.85		-5.346E-02	2.742E-01	4.425E-01	4.745E-02	-0.121
	+	510.53		1.520E+00	2.742E-01	Half-Life	too short	
		529.87	*	-1.829E-03	2.742E-01	Half-Life	too short	
		706.58		-1.354E-01	2.742E-01	Half-Life	too short	
		856.28		6.662E-02	2.742E-01	Half-Life	too short	
		875.33		-9.065E-02	2.742E-01	Half-Life	too short	
		1236.41		1.142E+00	2.742E-01	Half-Life	too short	
		1298.22		-2.695E-01	2.742E-01	Half-Life	too short	
		475.35		1.431E+00	1.917E+00	3.206E+00	1.904E-01	0.446
CS-134		563.23		6.752E-02	3.470E-01	5.911E-01	3.777E-02	0.114
		569.32		1.662E-02	1.870E-01	3.138E-01	2.025E-02	0.053
		604.70		-1.301E-02	3.644E-02	5.095E-02	3.268E-03	-0.255
		795.84	*	8.611E-02	4.821E-02	8.920E-02	6.801E-03	0.965
		801.93		-2.054E-01	3.891E-01	6.031E-01	4.618E-02	-0.341



## ---- 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	1038.57			9.212E-01	3.726E+00	6.378E+00	4.574E-01	0.144
	1167.94			1.465E+00	2.362E+00	4.139E+00	2.306E-01	0.354
	1365.15			1.994E-01	1.262E+00	2.104E+00	1.565E-01	0.095
	268.24	*		1.368E-01	1.565E-01	2.452E-01	1.844E-02	0.558
	288.45			2.046E+10	1.565E-01	Half-Life	too short	
	417.63			-4.748E+09	1.565E-01	Half-Life	too short	
	546.56			5.395E+09	1.565E-01	Half-Life	too short	
	836.80			2.216E+10	1.565E-01	Half-Life	too short	
	1038.76			4.915E+09	1.565E-01	Half-Life	too short	
	1124.00			2.423E+10	1.565E-01	Half-Life	too short	
	1131.51			-3.375E+09	1.565E-01	Half-Life	too short	
	1260.41	*		-5.968E+08	1.565E-01	Half-Life	too short	
	1457.56			5.368E+11	1.565E-01	Half-Life	too short	
	1678.03			-2.745E+08	1.565E-01	Half-Life	too short	
	1706.46			-3.902E+09	1.565E-01	Half-Life	too short	
CS-136	1791.20			6.452E+09	1.565E-01	Half-Life	too short	
	66.91			-2.063E-01	7.457E-01	1.179E+00	1.691E-01	-0.175
	86.29	+		5.849E+00	1.621E+00	1.939E+00	2.354E-01	3.017
	153.22			7.220E-01	6.088E-01	1.034E+00	7.144E-02	0.698
	163.89			4.551E-01	9.516E-01	1.568E+00	1.059E-01	0.290
	176.55			-1.170E-01	3.438E-01	5.414E-01	3.229E-02	-0.216
	273.65			2.776E-01	5.500E-01	6.320E-01	4.088E-02	0.439
	340.57			7.099E-02	1.337E-01	2.018E-01	1.218E-02	0.352
	818.51			1.908E-02	6.807E-02	1.142E-01	8.840E-03	0.167
	1048.07	*		8.044E-02	1.004E-01	1.803E-01	1.355E-02	0.446
	1235.34			7.753E-01	6.254E-01	1.119E+00	1.135E-01	0.693
	661.65	*		-1.548E-02	3.525E-02	5.581E-02	3.618E-03	-0.277
	661.65	*		-1.636E-02	3.727E-02	5.899E-02	3.837E-03	-0.277
	165.85	*		-2.141E-02	2.720E-02	4.197E-02	2.150E-03	-0.510
	162.64			3.058E-01	7.024E-01	1.128E+00	6.759E-02	0.271
BA-137M CS-137 CE-139 BA-140	304.84			2.698E-01	1.173E+00	1.837E+00	5.009E-01	0.147
	423.70			-1.311E+00	1.911E+00	2.877E+00	9.137E-01	-0.456
	537.32	*		-1.141E-02	2.523E-01	4.241E-01	1.382E-01	-0.027
	328.77	+		6.731E-01	4.657E-01	5.290E-01	3.379E-02	1.272
	432.53			-9.251E-01	1.813E+00	2.816E+00	1.784E-01	-0.329
	487.03			2.632E-02	1.268E-01	2.073E-01	1.397E-02	0.127
	751.79			-6.800E-01	1.769E+00	2.811E+00	2.329E-01	-0.242
	815.85			-8.550E-02	3.141E-01	4.987E-01	4.392E-02	-0.171
	867.82			6.552E-01	1.486E+00	2.218E+00	1.908E-01	0.295
	919.63			2.261E+00	2.730E+00	4.763E+00	4.915E-01	0.475
	925.24			-2.558E-01	1.140E+00	1.796E+00	1.570E-01	-0.142
	1596.49	*		-1.142E-01	8.974E-02	1.169E-01	7.611E-03	-0.977
	145.44	*		1.736E-03	6.558E-02	9.500E-02	5.531E-03	0.018
	57.37			-2.231E-04	6.558E-02	Half-Life	too short	
	231.56			1.381E-03	6.558E-02	Half-Life	too short	
CE-141 CE-143	293.26	*		6.684E-04	6.558E-02	Half-Life	too short	
	350.59	+		3.011E-02	6.558E-02	Half-Life	too short	
	490.36			-8.905E-04	6.558E-02	Half-Life	too short	
	664.57			-4.291E-04	6.558E-02	Half-Life	too short	

## ----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	721.93			-7.534E-05	6.558E-02	Half-Life	too short	
CE-144	80.11			6.249E-01	2.418E+00	2.947E+00	2.092E-01	0.212
	133.54	*		-1.255E-01	1.849E-01	2.900E-01	4.129E-02	-0.433
PM-144	476.78			-1.760E-02	6.831E-02	1.059E-01	7.483E-03	-0.166
	618.01			2.338E-02	2.966E-02	5.246E-02	3.531E-03	0.446
	696.49	*		1.366E-02	3.231E-02	5.525E-02	3.738E-03	0.247
	778.57			-1.693E+00	2.739E+00	3.570E+00	2.649E-01	-0.474
PR-144	696.49	*		9.258E-01	2.190E+00	3.744E+00	2.532E-01	0.247
	1489.15			-2.514E-01	1.223E+01	1.976E+01	1.338E+00	-0.013
PM-146	453.90	*		2.373E-02	4.040E-02	6.819E-02	5.895E-03	0.348
	633.02			-2.867E-01	1.300E+00	2.118E+00	7.823E-01	-0.135
	735.90			3.173E-02	1.366E-01	2.291E-01	6.456E-02	0.138
	747.13			3.836E-02	9.121E-02	1.551E-01	2.046E-02	0.247
ND-147	91.11	+		8.259E-01	2.769E-01	4.833E-01	3.963E-02	1.709
	319.41			-5.551E-03	3.074E+00	5.096E+00	2.898E-01	-0.001
	439.89			-1.296E+00	5.337E+00	8.480E+00	4.888E-01	-0.153
	531.02	*		-8.564E-02	5.325E-01	8.376E-01	1.146E-01	-0.102
PM-149	285.90	*		-2.422E+01	8.466E+01	1.391E+02	1.964E+01	-0.174
EU-152	121.78			7.747E-03	6.707E-02	1.104E-01	8.783E-03	0.070
	244.69			-6.179E-03	2.887E-01	4.291E-01	2.374E-02	-0.014
	344.27	*		-1.194E-01	1.042E-01	1.451E-01	9.301E-03	-0.823
	443.98			2.231E-01	8.610E-01	1.423E+00	8.227E-02	0.157
	778.89			-1.830E-01	3.208E-01	4.217E-01	3.129E-02	-0.434
	867.32			-1.012E-01	9.244E-01	1.275E+00	1.035E-01	-0.079
	964.01	+		6.096E-01	4.189E-01	6.198E-01	4.879E-02	0.984
	1085.78			-3.945E-01	3.969E-01	5.952E-01	3.954E-02	-0.663
	1112.02			9.296E-02	2.910E-01	4.673E-01	2.955E-02	0.199
	1407.95			1.565E-01	1.793E-01	3.036E-01	2.097E-02	0.515
GD-153	69.67			1.692E+00	1.701E+00	2.685E+00	1.766E-01	0.630
	83.37	+		3.767E+01	1.508E+01	2.404E+01	1.758E+00	1.567
	97.43	*		-5.387E-02	7.881E-02	1.114E-01	7.747E-03	-0.484
	103.18			-1.392E-01	9.400E-02	1.440E-01	9.622E-03	-0.966
EU-154	123.07			1.013E-03	4.665E-02	7.643E-02	7.385E-03	0.013
	247.94			-1.105E-01	3.026E-01	4.997E-01	4.692E-02	-0.221
	591.81			1.146E-01	5.888E-01	9.761E-01	9.872E-02	0.117
	723.30			1.283E-01	1.859E-01	2.870E-01	2.317E-02	0.447
	756.87			-6.866E-02	7.461E-01	1.215E+00	1.340E-01	-0.057
	873.19			-3.908E-02	2.780E-01	4.441E-01	5.297E-02	-0.088
	996.32			-9.917E-02	3.714E-01	6.054E-01	1.047E-01	-0.164
	1004.76			-1.315E-01	2.008E-01	3.146E-01	3.410E-02	-0.418
	1274.45	*		-2.485E-02	1.098E-01	1.756E-01	1.711E-02	-0.141
EU-155	48.70			1.266E+00	2.043E+00	3.575E+00	2.336E-01	0.354
	60.01			4.206E+00	4.622E+00	7.374E+00	4.633E-01	0.570
	86.54	+		5.406E-01	1.408E-01	1.817E-01	1.388E-02	2.976
	105.31	*		6.487E-02	9.755E-02	1.655E-01	1.115E-02	0.392
TB-160	86.79	+		1.444E+00	3.756E-01	4.857E-01	3.672E-02	2.973
	197.04			-9.492E-02	5.570E-01	8.725E-01	4.611E-02	-0.109
	215.65			3.589E-01	7.082E-01	1.150E+00	6.199E-02	0.312
	298.57	+		1.933E-01	1.422E-01	1.878E-01	1.066E-02	1.029

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	879.36	*		-2.556E-02	1.296E-01	2.055E-01	1.688E-02	-0.124
	962.29			1.429E+00	6.442E-01	1.106E+00	8.725E-02	1.291
	966.15			1.263E+00	2.793E-01	5.448E-01	4.278E-02	2.318
	1177.93			1.737E-01	3.582E-01	6.186E-01	3.426E-02	0.281
	1271.85			-2.696E-01	6.599E-01	1.033E+00	6.616E-02	-0.261
	80.57			9.427E-02	3.098E-01	3.789E-01	2.700E-02	0.249
	184.41	+		1.053E-01	5.007E-02	6.405E-02	3.339E-03	1.644
	280.46			-8.682E-02	8.424E-02	1.135E-01	6.411E-03	-0.765
	410.95			2.971E-01	2.420E-01	4.240E-01	2.373E-02	0.701
	711.68	*		-2.963E-02	6.229E-02	9.880E-02	6.800E-03	-0.300
TM-171	752.31			-1.575E-01	2.816E-01	4.400E-01	3.171E-02	-0.358
	810.29			-3.261E-03	5.780E-02	9.388E-02	7.198E-03	-0.035
	51.35			-2.185E+01	2.620E+01	4.300E+01	2.803E+00	-0.508
	52.39			4.560E+00	1.353E+01	2.336E+01	1.516E+00	0.195
	59.40			7.054E+00	2.487E+01	3.851E+01	2.415E+00	0.183
LU-176	66.72	*		-1.706E+01	2.917E+01	4.275E+01	2.767E+00	-0.399
	88.36	+		1.065E+00	2.770E-01	3.461E-01	2.637E-02	3.076
	201.83			-5.262E-03	2.866E-02	4.281E-02	2.274E-03	-0.123
	306.84	*		-1.649E-02	2.161E-02	3.419E-02	1.943E-03	-0.482
LU-177	401.10			1.922E+00	6.542E+00	1.088E+01	6.023E-01	0.177
	112.95			-5.732E-01	1.452E+00	2.344E+00	1.498E-01	-0.245
LU-177M	208.36	+	*	2.896E+00	2.029E+00	1.978E+00	1.058E-01	1.464
	52.97			6.066E-01	1.377E+00	2.386E+00	1.544E-01	0.254
	54.07			4.723E-02	7.409E-01	1.264E+00	8.131E-02	0.037
	61.30			1.513E+00	1.404E+00	2.250E+00	1.422E-01	0.672
	121.62			6.732E-02	3.452E-01	5.704E-01	3.562E-02	0.118
	147.16			2.361E-01	6.815E-01	1.005E+00	5.571E-02	0.235
	171.86			4.816E-01	4.576E-01	7.705E-01	3.966E-02	0.625
	218.09			1.343E-01	7.866E-01	1.255E+00	6.780E-02	0.107
	268.79	+		2.621E+00	1.082E+00	1.376E+00	7.733E-02	1.905
	319.02			-1.697E-01	2.435E-01	3.866E-01	2.198E-02	-0.439
HF-181	367.43			2.542E-01	8.534E-01	1.428E+00	7.979E-02	0.178
	413.65	*		-1.123E-01	1.666E-01	2.578E-01	1.447E-02	-0.436
	56.28			1.362E-01	8.190E-01	1.400E+00	8.906E-02	0.097
	57.53			-1.082E-01	4.318E-01	7.251E-01	4.584E-02	-0.149
	65.20			-2.409E-01	9.474E-01	1.413E+00	9.078E-02	-0.171
	133.02			-4.991E-02	5.901E-02	9.217E-02	5.436E-03	-0.541
	136.25			9.173E-02	4.051E-01	6.663E-01	3.872E-02	0.138
	345.85			-6.783E-03	2.084E-01	3.008E-01	1.699E-02	-0.023
	482.03	*		1.607E-02	4.003E-02	6.648E-02	3.969E-03	0.242
	56.28			5.328E-02	3.207E-01	5.483E-01	3.487E-02	0.097
W-181	57.53			-4.241E-02	1.692E-01	2.841E-01	1.796E-02	-0.149
	65.20	*		-9.366E-02	3.683E-01	5.493E-01	3.529E-02	-0.171
TA-182	67.75			-1.656E-01	1.039E-01	1.626E-01	1.058E-02	-1.019
	100.10			1.934E-01	1.589E-01	2.757E-01	1.879E-02	0.701
	152.43			1.076E-01	3.074E-01	5.052E-01	2.738E-02	0.213
	222.10			-8.260E-02	3.125E-01	5.239E-01	2.842E-02	-0.158
	1001.68			6.021E-01	1.991E+00	3.357E+00	2.531E-01	0.179
	1121.28	+		7.135E-01	2.389E-01	3.539E-01	2.195E-02	2.016

## ----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183	1189.05			-5.868E-03	2.990E-01	4.935E-01	2.783E-02	-0.012
	1221.42	*		-4.834E-02	1.955E-01	3.154E-01	1.871E-02	-0.153
	1230.97			-5.827E-01	4.683E-01	6.799E-01	4.093E-02	-0.857
	57.98			-1.951E-01	1.727E-01	2.787E-01	1.758E-02	-0.700
	59.32			-2.046E-02	1.042E-01	1.573E-01	9.868E-03	-0.130
	67.20			-1.950E-01	1.955E-01	2.995E-01	1.943E-02	-0.651
RE-184	162.32	*		3.651E-02	1.022E-01	1.635E-01	8.501E-03	0.223
	208.81	+		2.610E+00	1.828E+00	1.801E+00	9.636E-02	1.450
	291.72			-5.963E-01	9.550E-01	1.332E+00	7.553E-02	-0.448
	57.98			-7.189E-01	6.365E-01	1.027E+00	6.479E-02	-0.700
	59.32			-7.533E-02	3.838E-01	5.792E-01	3.634E-02	-0.130
	67.20			-7.186E-01	7.204E-01	1.103E+00	7.158E-02	-0.651
OS-185	161.27			-4.343E-02	3.358E-01	5.254E-01	2.743E-02	-0.083
	216.55			1.017E-01	2.522E-01	4.073E-01	2.197E-02	0.250
	252.85	*		-1.640E-01	2.025E-01	3.258E-01	1.813E-02	-0.503
	318.01			-5.069E-01	4.232E-01	6.494E-01	3.692E-02	-0.780
	792.07			9.037E-02	1.016E+00	1.674E+00	1.259E-01	0.054
	903.28			3.365E-02	1.075E+00	1.508E+00	1.255E-01	0.022
RE-188	920.93			-1.817E-01	4.555E-01	7.046E-01	5.779E-02	-0.258
	59.72			2.072E-01	2.743E-01	4.346E-01	2.728E-02	0.477
	61.14			1.441E-01	1.537E-01	2.449E-01	1.546E-02	0.588
	69.30			1.516E-01	3.048E-01	4.716E-01	3.094E-02	0.322
	592.07			3.816E-01	2.446E+00	4.042E+00	2.569E-01	0.094
	646.12	*		2.416E-02	4.216E-02	7.317E-02	4.728E-03	0.330
W-188	717.42			9.526E-01	8.669E-01	1.554E+00	1.077E-01	0.613
	874.81			-3.572E-01	5.609E-01	8.460E-01	6.916E-02	-0.422
	880.27			-1.165E-01	7.170E-01	1.142E+00	9.383E-02	-0.102
	155.03	*		1.141E-01	1.597E-01	2.663E-01	1.428E-02	0.429
	477.96			-2.986E+00	3.076E+00	4.559E+00	2.713E-01	-0.655
	633.10			-5.248E-01	2.622E+00	4.296E+00	2.767E-01	-0.122
IR-192	63.58	+		4.092E+01	5.948E+01	8.690E+01	5.543E+00	0.471
	227.08			-8.165E+00	1.148E+01	1.880E+01	1.025E+00	-0.434
	290.67	*		-3.894E+00	7.792E+00	1.100E+01	6.237E-01	-0.354
	295.96	+		8.992E-01	1.785E-01	2.748E-01	1.585E-02	3.272
	308.46			-4.255E-02	8.311E-02	1.336E-01	7.686E-03	-0.318
	316.51	*		-1.225E-02	3.144E-02	5.091E-02	2.909E-03	-0.241
AU-195	468.07			3.924E-02	6.941E-02	1.038E-01	7.034E-03	0.378
	604.41			-2.648E-01	4.963E-01	6.789E-01	7.916E-02	-0.390
	612.46			4.981E-01	7.144E-01	1.114E+00	8.964E-02	0.447
	65.12			-2.387E-02	1.703E-01	2.555E-01	1.641E-02	-0.093
	66.83			-5.191E-02	9.653E-02	1.418E-01	9.184E-03	-0.366
	75.70	+		1.517E+00	2.786E-01	4.629E-01	3.170E-02	3.277
TL-200	98.88	*		1.674E-01	2.281E-01	3.497E-01	2.405E-02	0.479
	129.76			4.886E+00	2.594E+00	4.552E+00	2.727E-01	1.073
	367.94	*		1.678E-04	2.594E+00	Half-Life	too short	
	579.30			1.497E-03	2.594E+00	Half-Life	too short	
	828.27			2.288E-04	2.594E+00	Half-Life	too short	
	1205.75			-1.729E-03	2.594E+00	Half-Life	too short	
TL-201	68.90			-8.643E-01	4.637E+00	7.408E+00	4.849E-01	-0.117

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		70.82		4.193E+00	2.811E+00	4.507E+00	2.984E-01	0.930
		80.30		1.471E+00	5.688E+00	6.932E+00	4.929E-01	0.212
		135.34		6.633E+00	2.218E+01	3.662E+01	2.137E+00	0.181
		167.43	*	4.782E-01	6.284E+00	1.014E+01	5.199E-01	0.047
		68.90		-7.809E-02	4.190E-01	6.693E-01	4.381E-02	-0.117
		70.82		3.778E-01	2.532E-01	4.061E-01	2.688E-02	0.930
HG-203		80.30		1.326E-01	5.126E-01	6.247E-01	4.442E-02	0.212
		439.56	*	-2.295E-02	6.250E-02	9.824E-02	5.658E-03	-0.234
		70.83		1.642E+00	1.112E+00	1.762E+00	2.191E-01	0.932
		72.87		3.919E-01	6.851E-01	1.056E+00	1.271E-01	0.371
BI-207	+	82.60		2.799E+00	1.160E+00	1.698E+00	2.196E-01	1.649
		279.20	*	-4.755E-03	4.071E-02	5.944E-02	3.575E-03	-0.080
		72.80		6.397E-02	1.993E-01	3.047E-01	2.043E-02	0.210
	+	74.97		8.416E-01	1.546E-01	2.323E-01	1.582E-02	3.622
TL-207	+	84.90		4.872E-01	1.951E-01	3.098E-01	2.299E-02	1.572
		569.67		-2.399E-04	2.941E-02	4.902E-02	3.086E-03	-0.005
		1063.62	*	1.318E-02	4.806E-02	8.242E-02	5.686E-03	0.160
		1770.23		-3.370E-02	5.075E-01	7.054E-01	4.163E-02	-0.048
		81.07		1.072E-02	2.510E-01	3.004E-01	2.150E-02	0.036
	+	83.78		3.212E-01	1.286E-01	2.073E-01	1.521E-02	1.550
		94.90		1.312E-01	2.011E-01	3.421E-01	2.430E-02	0.383
		122.32		-2.802E-01	1.584E+00	2.572E+00	1.821E-01	-0.109
	+	144.24		4.918E-01	7.848E-01	1.095E+00	7.753E-02	0.449
		154.21		4.026E-01	3.639E-01	6.166E-01	4.113E-02	0.653
PO-209	+	269.46		6.137E-01	2.536E-01	3.403E-01	2.005E-02	1.804
		323.87	*	-3.021E-01	7.169E-01	1.005E+00	1.656E-01	-0.301
	+	338.28		6.568E+00	1.664E+00	2.447E+00	2.559E-01	2.684
		445.03		8.261E-01	2.125E+00	3.540E+00	3.633E-01	0.233
		260.50		3.382E+00	8.623E+00	1.478E+01	8.265E-01	0.229
		262.80		-1.242E+01	2.386E+01	3.894E+01	2.181E+00	-0.319
		896.60	*	2.494E-01	7.701E+00	1.251E+01	1.044E+00	0.020
		46.50	*	-2.084E+00	3.005E+00	4.908E+00	3.698E-01	-0.425
BI-210		46.50	*	-2.084E+00	3.005E+00	4.908E+00	3.698E-01	-0.425
PB-210		46.50	*	-2.084E+00	3.004E+00	4.908E+00	3.148E-01	-0.425
PO-210		46.50	*	-2.084E+00	3.004E+00	4.908E+00	3.148E-01	-0.425
PB-211		404.84	*	-8.688E-01	1.078E+00	1.425E+00	8.883E-01	-0.609
BI-212		427.08		1.670E+00	2.214E+00	3.374E+00	2.085E+00	0.495
		831.96		5.005E-01	1.297E+00	2.121E+00	1.327E+00	0.236
	+	727.18	*	1.479E+00	5.714E-01	7.026E-01	6.083E-02	2.105
		785.46		2.522E+00	1.898E+00	3.409E+00	2.547E-01	0.740
PO-215		1620.62		1.330E+00	1.240E+00	2.378E+00	1.531E-01	0.560
		81.07		1.072E-02	2.510E-01	3.004E-01	2.150E-02	0.036
	+	83.78		3.212E-01	1.286E-01	2.073E-01	1.521E-02	1.550
		94.90		1.312E-01	2.011E-01	3.421E-01	2.430E-02	0.383
		122.32		-2.802E-01	1.584E+00	2.572E+00	1.821E-01	-0.109
	+	144.24		4.918E-01	7.848E-01	1.095E+00	7.753E-02	0.449
		154.21		4.026E-01	3.639E-01	6.166E-01	4.113E-02	0.653
	+	269.46		6.137E-01	2.536E-01	3.403E-01	2.005E-02	1.804
		323.87	*	-3.021E-01	7.169E-01	1.005E+00	1.656E-01	-0.301
	+	338.28		6.568E+00	1.664E+00	2.447E+00	2.559E-01	2.684

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		8.261E-01	2.125E+00	3.540E+00	3.633E-01	0.233
		271.23		7.874E-01	3.281E-01	4.363E-01	3.482E-02	1.805
		401.81	*	1.241E-01	4.004E-01	6.661E-01	8.990E-02	0.186
RN-220		549.76	*	-2.643E+01	2.333E+01	3.558E+01	2.218E+00	-0.743
RA-223	+	81.07		1.072E-02	2.510E-01	3.004E-01	2.150E-02	0.036
		83.78		3.212E-01	1.286E-01	2.073E-01	1.521E-02	1.550
		94.90		1.312E-01	2.011E-01	3.421E-01	2.430E-02	0.383
AC-227	+	122.32		-2.802E-01	1.584E+00	2.572E+00	1.821E-01	-0.109
		144.24		4.918E-01	7.848E-01	1.095E+00	7.753E-02	0.449
		154.21		4.026E-01	3.639E-01	6.166E-01	4.113E-02	0.653
	+	269.46		6.137E-01	2.536E-01	3.403E-01	2.005E-02	1.804
		323.87	*	-3.021E-01	7.169E-01	1.005E+00	1.656E-01	-0.301
	+	338.28		6.568E+00	1.664E+00	2.447E+00	2.559E-01	2.684
		445.03		8.261E-01	2.125E+00	3.540E+00	3.633E-01	0.233
		79.80		-4.188E-01	1.946E+00	2.279E+00	4.771E-01	-0.184
		236.00		4.991E-01	2.499E-01	4.057E-01	4.173E-02	1.230
		256.20	*	-6.257E-02	3.419E-01	5.696E-01	7.900E-02	-0.110
	+	286.10		3.755E-02	1.400E+00	2.342E+00	2.691E-01	0.016
		299.80		2.462E+00	1.850E+00	2.404E+00	3.904E-01	1.024
TH-227		304.40		2.397E+00	1.772E+00	2.817E+00	4.862E-01	0.851
		334.20		4.333E-01	2.300E+00	3.171E+00	5.801E-01	0.137
		79.80		-4.188E-01	1.946E+00	2.279E+00	4.836E-01	-0.184
	+	94.00		1.063E+01	4.019E+00	3.465E+00	7.360E-01	3.068
		236.00		4.991E-01	2.485E-01	4.057E-01	3.596E-02	1.230
		256.20	*	-6.257E-02	3.420E-01	5.696E-01	9.584E-02	-0.110
	+	286.10		3.755E-02	1.401E+00	2.342E+00	2.346E+00	0.016
		299.80		2.462E+00	1.850E+00	2.404E+00	3.904E-01	1.024
		304.40		2.397E+00	1.772E+00	2.817E+00	4.862E-01	0.851
		334.20		4.333E-01	2.300E+00	3.171E+00	5.801E-01	0.137
		85.43		4.809E-01	1.925E-01	3.071E-01	2.291E-02	1.566
		88.47		3.283E-01	1.094E-01	1.986E-01	1.511E-02	1.653
TH-229	+	100.00		1.920E-01	1.664E-01	2.880E-01	1.964E-02	0.667
		193.63	*	2.223E-02	4.778E-01	7.629E-01	4.017E-02	0.029
		210.97		9.729E-01	8.389E-01	1.266E+00	6.790E-02	0.768
		283.67	*	1.096E+00	1.377E+00	2.387E+00	3.276E-01	0.459
PA-231		301.29		6.158E-01	6.000E-01	9.387E-01	9.750E-02	0.656
TH-231	+	81.07		1.072E-02	2.510E-01	3.004E-01	2.150E-02	0.036
		83.78		3.212E-01	1.286E-01	2.073E-01	1.521E-02	1.550
		94.90		1.312E-01	2.011E-01	3.421E-01	2.430E-02	0.383
	+	122.32		-2.802E-01	1.584E+00	2.572E+00	1.821E-01	-0.109
		144.24		4.918E-01	7.848E-01	1.095E+00	7.753E-02	0.449
		154.21		4.026E-01	3.639E-01	6.166E-01	4.113E-02	0.653
	+	269.46		6.137E-01	2.536E-01	3.403E-01	2.005E-02	1.804
		323.87	*	-3.021E-01	7.169E-01	1.005E+00	1.656E-01	-0.301
	+	338.28		6.568E+00	1.664E+00	2.447E+00	2.559E-01	2.684
		445.03		8.261E-01	2.125E+00	3.540E+00	3.633E-01	0.233
U-231	+	84.21		1.377E+01	5.514E+00	8.884E+00	6.549E-01	1.550
		92.29		1.045E+01	3.353E+00	3.898E+00	2.840E-01	2.681
		95.87	*	-5.504E-01	1.015E+00	1.458E+00	1.027E-01	-0.377

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00	-6.705E-01	1.915E+00	3.109E+00	2.026E-01	-0.216
	+	75.28	2.456E+01	5.483E+00	7.078E+00	1.020E+00	3.470
	+	86.59	8.787E+00	3.195E+00	2.961E+00	7.844E-01	2.968
	+	300.12	6.864E-01	5.120E-01	6.726E-01	9.003E-02	1.021
		311.98 *	-4.171E-03	5.803E-02	9.596E-02	5.806E-03	-0.043
		340.50	4.604E-01	6.634E-01	1.001E+00	2.295E-01	0.460
PA-234		398.62	2.424E-01	2.105E+00	3.459E+00	8.924E-01	0.070
		415.76	-1.087E+00	1.523E+00	2.316E+00	4.756E-01	-0.470
	+	63.00	1.187E+00	1.732E+00	2.557E+00	3.674E-01	0.464
		94.67	2.071E-01	1.501E-01	2.591E-01	2.956E-02	0.800
		98.44	3.042E-02	9.409E-02	1.390E-01	7.721E-02	0.219
		99.86	7.232E-01	4.177E-01	7.369E-01	5.031E-02	0.981
		111.00	6.063E-04	1.720E-01	2.764E-01	2.941E-02	0.002
		131.20	-7.304E-02	9.878E-02	1.556E-01	9.257E-03	-0.469
		152.70	7.577E-02	3.021E-01	4.937E-01	7.737E-02	0.153
	+	186.00	3.791E+00	2.131E+00	2.517E+00	7.664E-01	1.506
		226.40	9.070E-02	3.644E-01	6.242E-01	7.108E-02	0.145
		227.20	-3.619E-01	3.878E-01	6.281E-01	3.423E-02	-0.576
		248.90	4.732E-01	6.871E-01	1.188E+00	2.544E-01	0.398
	+	293.70	5.662E+00	1.407E+00	1.636E+00	2.623E-01	3.461
		369.80	2.054E-01	7.854E-01	1.310E+00	2.719E-01	0.157
		568.70	4.128E-01	9.319E-01	1.604E+00	1.009E-01	0.257
		569.50	3.035E-02	2.593E-01	4.361E-01	2.745E-02	0.070
		574.00	-1.240E-01	1.374E+00	2.291E+00	1.445E-01	-0.054
		699.00	-3.006E-01	7.117E-01	1.133E+00	2.076E-01	-0.265
		706.10	-2.897E-01	1.087E+00	1.745E+00	7.729E-01	-0.166
		733.00	-1.203E-01	3.947E-01	5.385E-01	1.165E-01	-0.223
		742.81	-2.087E-01	1.293E+00	2.082E+00	1.396E+00	-0.100
		796.30	1.624E+00	9.914E-01	1.675E+00	4.477E-01	0.970
		805.60	5.734E-01	1.008E+00	1.706E+00	5.184E-01	0.336
		819.60	-1.365E-01	1.173E+00	1.889E+00	7.146E-01	-0.072
		826.30	5.837E-02	8.155E-01	1.338E+00	5.965E-01	0.044
		831.60	1.798E-01	6.615E-01	1.100E+00	3.258E-01	0.164
		876.40	3.947E-01	8.469E-01	1.276E+00	1.311E+00	0.309
		880.51	-3.148E-02	2.604E-01	4.166E-01	3.425E-02	-0.076
		883.24	-4.591E-02	2.788E-01	4.413E-01	2.964E-01	-0.104
		899.00	-1.219E-01	8.758E-01	1.396E+00	6.094E-01	-0.087
		925.00	-3.545E-01	1.190E+00	1.860E+00	1.521E-01	-0.191
		926.50	8.445E-02	1.733E-01	2.917E-01	7.328E-02	0.290
		946.00 *	-3.609E-01	3.053E-01	4.144E-01	7.663E-02	-0.871
		949.00	5.581E-01	4.011E-01	7.391E-01	5.908E-02	0.755
		980.50	4.025E-02	6.918E-01	1.118E+00	8.646E-02	0.036
PA-234M		1394.10	9.758E-01	1.352E+00	2.121E+00	1.376E+00	0.460
		766.42	1.793E+01	1.456E+01	2.092E+01	1.057E+01	0.857
NP-236		1001.03 *	4.141E-01	4.644E+00	7.695E+00	6.964E-01	0.054
		94.67	1.590E-01	1.131E-01	1.967E-01	1.401E-02	0.808
		98.44	2.295E-02	6.999E-02	1.051E-01	7.249E-03	0.218
		111.00	4.586E-04	1.301E-01	2.091E-01	1.345E-02	0.002
		160.31 *	-4.955E-02	7.287E-02	1.134E-01	5.947E-03	-0.437

---- 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		2.630E-01	1.441E-01	2.520E-01	1.724E-02	1.044
		117.00	*	6.400E-02	1.699E-01	2.836E-01	1.790E-02	0.226
	+	209.75		2.060E+00	1.443E+00	1.401E+00	7.506E-02	1.470
		228.18		-2.049E-01	2.039E-01	3.289E-01	1.794E-02	-0.623
	+	277.60		2.977E-01	2.216E-01	2.943E-01	1.660E-02	1.011
		334.30		1.733E-01	1.299E+00	1.781E+00	1.010E-01	0.097
AM-241		59.54	*	5.926E-02	1.452E-01	2.262E-01	1.607E-02	0.262
CM-243		99.55		2.707E-01	1.483E-01	2.593E-01	1.774E-02	1.044
		103.76	*	-4.142E-02	8.609E-02	1.391E-01	9.261E-03	-0.298
		117.00		6.585E-02	1.748E-01	2.918E-01	1.841E-02	0.226
	+	209.75		2.031E+00	1.422E+00	1.381E+00	7.399E-02	1.470
		228.18		-2.070E-01	2.060E-01	3.323E-01	1.813E-02	-0.623
	+	277.60		3.001E-01	2.234E-01	2.967E-01	1.674E-02	1.011
AM-246		798.80		-3.255E-01	1.514E-01	1.954E-01	1.480E-02	-1.666
		1036.00		-1.172E-01	2.828E-01	4.535E-01	3.264E-02	-0.259
		1062.04		1.129E-01	2.072E-01	3.645E-01	2.521E-02	0.310
		1078.86	*	4.178E-03	1.427E-01	2.386E-01	1.605E-02	0.018
CM-247	+	278.00		1.234E+00	9.189E-01	1.214E+00	6.852E-02	1.017
		287.40		1.441E-01	1.121E+00	1.885E+00	1.067E-01	0.076
		402.60	*	-1.534E-02	3.625E-02	5.741E-02	3.184E-03	-0.267
CF-249		252.85		-6.156E-01	7.599E-01	1.223E+00	6.805E-02	-0.503
		333.44		1.961E-01	1.799E-01	2.506E-01	1.421E-02	0.783
		387.95	*	2.174E-02	3.920E-02	6.635E-02	3.647E-03	0.328
CF-251		176.60	*	-3.879E-02	1.188E-01	1.872E-01	9.680E-03	-0.207
		227.00		-2.119E-01	3.461E-01	5.699E-01	3.105E-02	-0.372
		285.00		-7.981E-01	1.590E+00	2.581E+00	1.461E-01	-0.309



## 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]G1202018263      *
* Acquisition date   : 26-JAN-2010 14:10:01 Detector SN# :                  *
* Detector ID        : GAM12 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000           *
* Elapsed real time  : 0 02:00:01.45 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202018263 Analyst initials: MXR1                 *
* Batch Number      : 942718 Sample Quantity : 1.3081E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 10-FEB-2009 09:20:24 MS Isotope :                  *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	1.865E+01	1.888E+00	5.327E-01	0.000E+00
CD-109	4.566E+00	1.164E+00	1.107E+00	0.000E+00
SN-126	4.489E-01	1.144E-01	1.093E-01	0.000E+00
TL-208	5.018E-01	9.084E-02	5.209E-02	0.000E+00
BI-211	3.850E+00	5.110E-01	3.306E-01	0.000E+00
PB-212	1.628E+00	1.559E-01	8.290E-02	0.000E+00
PO-212	1.628E+00	1.559E-01	8.290E-02	0.000E+00
BI-214	1.111E+00	1.845E-01	9.958E-02	0.000E+00
PB-214	1.339E+00	1.905E-01	1.153E-01	0.000E+00
PO-214	1.339E+00	1.905E-01	1.153E-01	0.000E+00
PO-216	1.628E+00	1.559E-01	8.290E-02	0.000E+00
PO-218	1.339E+00	1.905E-01	1.153E-01	0.000E+00
RA-224	4.530E+00	1.066E+00	9.435E-01	0.000E+00
RA-226	1.111E+00	1.845E-01	9.958E-02	0.000E+00
AC-228	1.710E+00	3.281E-01	1.862E-01	0.000E+00
RA-228	1.710E+00	3.281E-01	1.862E-01	0.000E+00
TH-228	1.653E+00	1.583E-01	8.416E-02	0.000E+00
TH-230	1.111E+00	1.845E-01	9.957E-02	0.000E+00
TH-232	1.710E+00	3.281E-01	1.862E-01	0.000E+00
TH-234	1.018E+00	1.459E+00	2.070E+00	0.000E+00
U-234	1.111E+00	1.845E-01	9.957E-02	0.000E+00
U-235	1.518E-01	2.383E-01	3.382E-01	0.000E+00
NP-237	1.318E+00	4.289E-01	3.247E-01	0.000E+00
U-238	1.018E+00	1.459E+00	2.070E+00	0.000E+00
AM-243	4.688E-01	8.438E-02	8.938E-02	0.000E+00
ANH-511	1.526E-01	6.669E-02	4.067E-02	0.000E+00

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-2.286E-01	3.130E-01	4.939E-01	0.000E+00 NOT IDENT.

NA-22	-9.715E-03	3.842E-02	6.275E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.391E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.536E-02	3.140E-02	4.809E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.503E-02	7.316E-02	0.000E+00	FAIL ABUN
SC-46	-1.998E-02	3.903E-02	6.173E-02	0.000E+00	FAIL ABUN
V-48	-1.310E-02	6.944E-02	1.123E-01	0.000E+00	NOT IDENT.
CR-51	4.479E-01	3.350E-01	6.236E-01	0.000E+00	NOT IDENT.
MN-52	9.887E-02	2.409E-01	4.217E-01	0.000E+00	NOT IDENT.
MN-54	-1.863E-02	4.044E-02	6.535E-02	0.000E+00	NOT IDENT.
CO-56	-7.968E-03	3.874E-02	6.226E-02	0.000E+00	NOT IDENT.
CO-57	-1.333E-03	2.257E-02	3.921E-02	0.000E+00	NOT IDENT.
CO-58	-3.559E-02	4.028E-02	6.227E-02	0.000E+00	NOT IDENT.
FE-59	2.021E-02	8.662E-02	1.512E-01	0.000E+00	FAIL ABUN
CO-60	-2.537E-02	3.784E-02	5.791E-02	0.000E+00	NOT IDENT.
ZN-65	-2.770E-03	9.038E-02	1.322E-01	0.000E+00	NOT IDENT.
GE-68	6.803E-01	1.177E+00	2.121E+00	0.000E+00	NOT IDENT.
AS-73	1.028E-02	6.975E-01	1.280E+00	0.000E+00	NOT IDENT.
AS-74	-6.416E-02	8.458E-02	1.381E-01	0.000E+00	NOT IDENT.
SE-75	1.925E-02	4.274E-02	6.861E-02	0.000E+00	NOT IDENT.
BR-77	4.390E-01	9.070E+00	1.514E+01	0.000E+00	FAIL ABUN
SR-82	-2.195E-01	4.076E-01	5.525E-01	0.000E+00	NOT IDENT.
RB-83	-2.657E-03	6.428E-02	1.026E-01	0.000E+00	NOT IDENT.
RB-84	-1.082E-02	6.397E-02	1.049E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.873E+00	1.311E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.523E-02	6.719E-02	0.000E+00	NOT IDENT.
RB-86	1.665E-01	7.471E-01	1.306E+00	0.000E+00	NOT IDENT.
Y-88	-1.735E-02	3.799E-02	5.926E-02	0.000E+00	NOT IDENT.
ZR-88	-2.852E-02	2.923E-02	4.651E-02	0.000E+00	NOT IDENT.
Y-91	-1.892E+01	1.750E+01	2.643E+01	0.000E+00	NOT IDENT.
NB-94	1.732E-02	3.250E-02	5.775E-02	0.000E+00	NOT IDENT.
NB-95	4.926E-02	4.792E-02	7.796E-02	0.000E+00	NOT IDENT.
NB-95M	5.818E-02	1.187E-01	1.921E-01	0.000E+00	NOT IDENT.
ZR-95	1.723E-02	6.761E-02	1.172E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.709E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.743E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.836E+00	1.092E+01	1.763E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.392E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.050E-04	3.171E-02	5.295E-02	0.000E+00	NOT IDENT.
RH-102	1.963E-02	2.874E-02	4.975E-02	0.000E+00	NOT IDENT.
RU-103	-1.778E-02	3.774E-02	6.038E-02	0.000E+00	FAIL ABUN
RH-106	-1.564E-01	3.078E-01	5.104E-01	0.000E+00	FAIL ABUN
RU-106	-1.564E-01	3.074E-01	5.104E-01	0.000E+00	FAIL ABUN
AG-108M	1.084E-02	2.752E-02	4.797E-02	0.000E+00	NOT IDENT.
AG-110M	4.113E-03	3.229E-02	5.608E-02	0.000E+00	NOT IDENT.
IN-111	-2.371E-01	9.392E-01	1.443E+00	0.000E+00	NOT IDENT.
IN-113M	-1.540E-02	4.269E-02	7.112E-02	0.000E+00	NOT IDENT.
SN-113	-1.540E-02	4.269E-02	7.112E-02	0.000E+00	NOT IDENT.
IN-114M	9.672E-03	1.868E-01	2.808E-01	0.000E+00	NOT IDENT.
CD-115	4.104E+00	9.889E+00	1.699E+01	0.000E+00	NOT IDENT.
SN-117M	2.985E-02	4.741E-02	8.347E-02	0.000E+00	NOT IDENT.
SB-122	2.077E-01	1.884E+00	3.311E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	4.999E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.037E-03	2.554E-02	4.355E-02	0.000E+00	NOT IDENT.
I-124	-2.768E-01	6.996E-01	1.010E+00	0.000E+00	FAIL ABUN
SB-124	3.803E-02	6.329E-02	1.193E-01	0.000E+00	FAIL ABUN
SB-125	6.035E-02	8.429E-02	1.499E-01	0.000E+00	FAIL ABUN
TE-125M	3.914E+00	8.591E+00	1.501E+01	0.000E+00	NOT IDENT.
I-126	1.071E-01	1.665E-01	2.999E-01	0.000E+00	NOT IDENT.
SB-126	-2.036E-01	1.691E-01	2.128E-01	0.000E+00	FAIL ABUN
SB-127	-4.451E-01	1.343E+00	2.239E+00	0.000E+00	NOT IDENT.
XE-127	2.046E-03	4.910E-02	7.332E-02	0.000E+00	NOT IDENT.
I-131	3.876E-02	1.076E-01	1.890E-01	0.000E+00	NOT IDENT.
TE-132	-5.405E-01	6.074E-01	1.032E+00	0.000E+00	NOT IDENT.
BA-133	1.241E-02	4.168E-02	6.486E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.453E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.611E-02	4.725E-02	9.020E-02	0.000E+00	NOT IDENT.
CS-135	1.368E-01	1.534E-01	2.524E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.999E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.044E-02	9.837E-02	1.815E-01	0.000E+00	FAIL ABUN
BA-137M	-1.548E-02	3.455E-02	5.661E-02	0.000E+00	NOT IDENT.
CS-137	-1.636E-02	3.652E-02	5.984E-02	0.000E+00	NOT IDENT.
CE-139	-2.141E-02	2.665E-02	4.354E-02	0.000E+00	NOT IDENT.
BA-140	-1.141E-02	2.472E-01	4.317E-01	0.000E+00	NOT IDENT.
LA-140	-1.142E-01	8.795E-02	1.168E-01	0.000E+00	FAIL ABUN
CE-141	1.736E-03	6.427E-02	9.877E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.105E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.255E-01	1.812E-01	3.019E-01	0.000E+00	NOT IDENT.
PM-144	1.366E-02	3.167E-02	5.600E-02	0.000E+00	NOT IDENT.

PR-144	9.258E-01	2.146E+00	3.795E+00	0.000E+00	NOT IDENT.
PM-146	2.373E-02	3.959E-02	6.960E-02	0.000E+00	NOT IDENT.
ND-147	-8.564E-02	5.219E-01	8.528E-01	0.000E+00	FAIL ABUN
PM-149	-2.422E+01	8.297E+01	1.431E+02	0.000E+00	NOT IDENT.
EU-152	-1.194E-01	1.021E-01	1.488E-01	0.000E+00	FAIL ABUN
GD-153	-5.387E-02	7.723E-02	1.166E-01	0.000E+00	FAIL ABUN
EU-154	-2.485E-02	1.076E-01	1.762E-01	0.000E+00	NOT IDENT.
EU-155	6.487E-02	9.560E-02	1.729E-01	0.000E+00	FAIL ABUN
TB-160	-2.556E-02	1.270E-01	2.075E-01	0.000E+00	FAIL ABUN
HO-166M	-2.963E-02	6.104E-02	1.001E-01	0.000E+00	FAIL ABUN
TM-171	-1.706E+01	2.859E+01	4.499E+01	0.000E+00	NOT IDENT.
LU-176	-1.649E-02	2.118E-02	3.512E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.988E+00	2.045E+00	0.000E+00	FAIL ABUN
LU-177M	-1.123E-01	1.633E-01	2.635E-01	0.000E+00	FAIL ABUN
HF-181	1.607E-02	3.923E-02	6.779E-02	0.000E+00	NOT IDENT.
W-181	-9.366E-02	3.609E-01	5.783E-01	0.000E+00	NOT IDENT.
TA-182	-4.834E-02	1.916E-01	3.167E-01	0.000E+00	FAIL ABUN
RE-183	3.651E-02	1.001E-01	1.697E-01	0.000E+00	FAIL ABUN
RE-184	-1.640E-01	1.985E-01	3.358E-01	0.000E+00	NOT IDENT.
OS-185	2.416E-02	4.132E-02	7.425E-02	0.000E+00	NOT IDENT.
RE-188	1.141E-01	1.565E-01	2.766E-01	0.000E+00	NOT IDENT.
W-188	-3.894E+00	7.637E+00	1.131E+01	0.000E+00	FAIL ABUN
IR-192	-1.225E-02	3.081E-02	5.227E-02	0.000E+00	FAIL ABUN
AU-195	1.674E-01	2.236E-01	3.658E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.134E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.782E-01	6.159E+00	1.052E+01	0.000E+00	NOT IDENT.
TL-202	-2.295E-02	6.125E-02	1.003E-01	0.000E+00	NOT IDENT.
HG-203	-4.755E-03	3.990E-02	6.116E-02	0.000E+00	FAIL ABUN
BI-207	1.318E-02	4.710E-02	8.294E-02	0.000E+00	FAIL ABUN
TL-207	-3.021E-01	7.025E-01	1.031E+00	0.000E+00	FAIL ABUN
PO-209	2.494E-01	7.546E+00	1.262E+01	0.000E+00	NOT IDENT.
BI-210	-2.084E+00	2.945E+00	5.195E+00	0.000E+00	NOT IDENT.
PB-210	-2.084E+00	2.945E+00	5.195E+00	0.000E+00	NOT IDENT.
PO-210	-2.084E+00	2.944E+00	5.195E+00	0.000E+00	NOT IDENT.
PB-211	-8.688E-01	1.057E+00	1.458E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.600E-01	7.116E-01	0.000E+00	FAIL ABUN
PO-215	-3.021E-01	7.025E-01	1.031E+00	0.000E+00	FAIL ABUN
RN-219	1.241E-01	3.924E-01	6.812E-01	0.000E+00	FAIL ABUN
RN-220	-2.643E+01	2.286E+01	3.620E+01	0.000E+00	NOT IDENT.
RA-223	-3.021E-01	7.025E-01	1.031E+00	0.000E+00	FAIL ABUN
AC-227	-6.257E-02	3.351E-01	5.869E-01	0.000E+00	FAIL ABUN
TH-227	-6.257E-02	3.352E-01	5.869E-01	0.000E+00	FAIL ABUN
TH-229	2.223E-02	4.682E-01	7.896E-01	0.000E+00	FAIL ABUN
PA-231	1.096E+00	1.350E+00	2.456E+00	0.000E+00	NOT IDENT.
TH-231	-3.021E-01	7.025E-01	1.031E+00	0.000E+00	FAIL ABUN
U-231	-5.504E-01	9.945E-01	1.526E+00	0.000E+00	FAIL ABUN
PA-233	-4.171E-03	5.687E-02	9.855E-02	0.000E+00	FAIL ABUN
PA-234	-3.609E-01	2.992E-01	4.178E-01	0.000E+00	FAIL ABUN
PA-234M	4.141E-01	4.551E+00	7.751E+00	0.000E+00	NOT IDENT.
NP-236	-4.955E-02	7.142E-02	1.177E-01	0.000E+00	NOT IDENT.
NP-239	6.400E-02	1.665E-01	2.959E-01	0.000E+00	FAIL ABUN
AM-241	5.926E-02	1.423E-01	2.384E-01	0.000E+00	NOT IDENT.
CM-243	-4.142E-02	8.437E-02	1.453E-01	0.000E+00	FAIL ABUN
AM-246	4.178E-03	1.398E-01	2.401E-01	0.000E+00	NOT IDENT.
CM-247	-1.534E-02	3.552E-02	5.872E-02	0.000E+00	FAIL ABUN
CF-249	2.174E-02	3.842E-02	6.790E-02	0.000E+00	NOT IDENT.
CF-251	-3.879E-02	1.164E-01	1.940E-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]G1202018263.CNF;1
Sample date        : 11-JAN-2010 12:00:00 Acquisition date : 26-JAN-2010 14:10:01
Sample ID          : G1202018263          Sample quantity  : 1.30810E+02 GRAM
Detector name      : GAM12                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.45  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity        : 5.00000
Batch ID           : 942718                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	789	10.67*	1.138E+00	1.865E+01	1.865E+01	10.33
CD-109	88.03	327	3.72*	5.644E+00	4.464E+00	4.566E+00	26.02
SN-126	64.28	43	9.60	3.201E+00	4.031E-01	4.031E-01	145.88
	86.94	327	8.90	5.644E+00	1.866E+00	1.866E+00	48.09
	87.57	327	37.00*	5.644E+00	4.489E-01	4.489E-01	26.02
TL-208	277.35	66	6.80	4.503E+00	6.172E-01	6.172E-01	74.97
	510.84	149	21.60	2.793E+00	7.067E-01	7.067E-01	45.35
	583.14	369	84.20*	2.505E+00	5.018E-01	5.018E-01	18.47
	860.37	63	12.46	1.795E+00	8.038E-01	8.038E-01	57.84
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	653	12.94*	3.762E+00	3.850E+00	3.850E+00	13.54
PB-212	74.81	494	10.70	4.580E+00	2.892E+00	2.892E+00	20.61
	77.11	663	18.00	4.816E+00	2.196E+00	2.196E+00	13.86
	87.30	327	8.00	5.644E+00	2.076E+00	2.076E+00	27.87
	238.63	1270	44.60*	5.016E+00	1.628E+00	1.628E+00	9.77
	300.09	67	3.41	4.252E+00	1.329E+00	1.329E+00	73.83
PO-212	74.81	494	10.70	4.580E+00	2.892E+00	2.892E+00	20.61
	77.11	663	18.00	4.816E+00	2.196E+00	2.196E+00	13.86
	87.30	327	8.00	5.644E+00	2.076E+00	2.076E+00	27.87
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	1270	44.60*	5.016E+00	1.628E+00	1.628E+00	9.77
	300.09	67	3.41	4.252E+00	1.329E+00	1.329E+00	73.83
BI-214	609.31	433	46.30*	2.415E+00	1.111E+00	1.111E+00	16.94
	1120.29	113	15.10	1.423E+00	1.509E+00	1.509E+00	34.13
	1764.49	96	15.80	9.903E-01	1.760E+00	1.761E+00	26.02
PB-214	74.81	494	6.21	4.580E+00	4.983E+00	4.983E+00	19.80
	77.11	663	10.50	4.816E+00	3.765E+00	3.765E+00	15.81
	87.30	327	4.67	5.644E+00	3.556E+00	3.556E+00	27.14
	241.98	310	7.49	4.973E+00	2.389E+00	2.389E+00	24.65
	295.21	340	19.20	4.303E+00	1.180E+00	1.180E+00	20.79
	351.92	653	37.20*	3.762E+00	1.339E+00	1.339E+00	14.51
PO-214	74.81	494	6.21	4.580E+00	4.983E+00	4.983E+00	19.80

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	663	10.50	4.816E+00	3.765E+00	3.765E+00	15.81
	87.30	327	4.67	5.644E+00	3.556E+00	3.556E+00	27.14
	241.98	310	7.49	4.973E+00	2.389E+00	2.389E+00	24.65
	295.21	340	19.20	4.303E+00	1.180E+00	1.180E+00	20.79
	351.92	653	37.20*	3.762E+00	1.339E+00	1.339E+00	14.51
	74.81	494	10.70	4.580E+00	2.892E+00	2.892E+00	20.61
	77.11	663	18.00	4.816E+00	2.196E+00	2.196E+00	13.86
	87.30	327	8.00	5.644E+00	2.076E+00	2.076E+00	27.87
	238.63	1270	44.60*	5.016E+00	1.628E+00	1.628E+00	9.77
	300.09	67	3.41	4.252E+00	1.329E+00	1.329E+00	73.83
PO-218	74.81	494	6.21	4.580E+00	4.983E+00	4.983E+00	19.80
	77.11	663	10.50	4.816E+00	3.765E+00	3.765E+00	15.81
	87.30	327	4.67	5.644E+00	3.556E+00	3.556E+00	27.14
	241.98	310	7.49	4.973E+00	2.389E+00	2.389E+00	24.65
	295.21	340	19.20	4.303E+00	1.180E+00	1.180E+00	20.79
	351.92	653	37.20*	3.762E+00	1.339E+00	1.339E+00	14.51
RA-224	240.98	310	3.95*	4.973E+00	4.530E+00	4.530E+00	24.01
RA-226	609.31	433	46.30*	2.415E+00	1.111E+00	1.111E+00	16.94
	1120.29	113	15.10	1.423E+00	1.509E+00	1.509E+00	34.13
AC-228	1764.49	96	15.80	9.903E-01	1.760E+00	1.761E+00	26.02
	338.32	242	11.40	3.881E+00	1.573E+00	1.573E+00	46.82
	911.07	282	27.70*	1.707E+00	1.710E+00	1.710E+00	19.58
	969.11	147	16.60	1.617E+00	1.568E+00	1.568E+00	33.90
RA-228	338.32	242	11.40	3.881E+00	1.573E+00	1.573E+00	46.82
	911.07	282	27.70*	1.707E+00	1.710E+00	1.710E+00	19.58
TH-228	969.11	147	16.60	1.617E+00	1.568E+00	1.568E+00	33.90
	74.81	494	10.70	4.580E+00	2.892E+00	2.936E+00	18.40
	77.11	663	18.00	4.816E+00	2.196E+00	2.229E+00	13.86
	87.30	327	8.00	5.644E+00	2.076E+00	2.107E+00	26.02
TH-230	238.63	1270	44.60*	5.016E+00	1.628E+00	1.653E+00	9.77
	300.09	67	3.41	4.252E+00	1.329E+00	1.349E+00	94.11
	609.31	433	46.30*	2.415E+00	1.111E+00	1.111E+00	16.94
	1120.29	113	15.10	1.423E+00	1.509E+00	1.509E+00	34.13
TH-232	1764.49	96	15.80	9.903E-01	1.760E+00	1.760E+00	26.02
	338.32	242	11.40	3.881E+00	1.573E+00	1.573E+00	23.76
	911.07	282	27.70*	1.707E+00	1.710E+00	1.710E+00	19.58
TH-234	969.11	147	16.60	1.617E+00	1.568E+00	1.568E+00	33.90
	63.29	43	3.80*	3.201E+00	1.018E+00	1.018E+00	146.20
	92.38	310	5.41	5.971E+00	2.750E+00	2.750E+00	35.81
U-234	609.31	433	46.30*	2.415E+00	1.111E+00	1.111E+00	16.94
	1120.29	113	15.10	1.423E+00	1.509E+00	1.509E+00	34.13
	1764.49	96	15.80	9.903E-01	1.760E+00	1.760E+00	26.02
U-235	89.95	180	2.70	5.812E+00	3.295E+00	3.295E+00	44.60
	93.35	310	4.50	5.971E+00	3.307E+00	3.307E+00	41.72
	105.00	-----	2.10	6.433E+00	-----	Line Not Found	-----
	143.76	36	10.50*	6.525E+00	1.518E-01	1.518E-01	160.23
	163.35	-----	4.70	6.238E+00	-----	Line Not Found	-----
	185.71	155	54.00	5.859E+00	1.404E-01	1.404E-01	47.55
	205.31	-----	4.70	5.531E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
NP-237	86.50	327	12.60*	5.644E+00	1.318E+00	1.318E+00	33.21
	95.87	-----	2.60	6.124E+00	-----	Line Not Found	-----
U-238	63.29	43	3.80*	3.201E+00	1.018E+00	1.018E+00	146.20
	92.38	310	5.41	5.971E+00	2.750E+00	2.750E+00	32.09
AM-243	74.67	494	66.00*	4.580E+00	4.688E-01	4.688E-01	18.37
	86.72	327	0.34	5.644E+00	4.943E+01	4.943E+01	26.02
	117.66	-----	0.55	6.624E+00	-----	Line Not Found	-----
	142.18	36	0.13	6.525E+00	1.275E+01	1.275E+01	159.50
ANH-511	511.00	149	100.00*	2.793E+00	1.526E-01	1.526E-01	44.58

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	1.865E+01	1.865E+01	0.193E+01	10.33	
CD-109	464.00D	1.02	4.464E+00	4.566E+00	1.188E+00	26.02	
SN-126	1.00E+05Y	1.00	4.489E-01	4.489E-01	1.168E-01	26.02	
TL-208	1.41E+10Y	1.00	5.018E-01	5.018E-01	0.927E-01	18.47	
BI-211	7.04E+08Y	1.00	3.850E+00	3.850E+00	0.521E+00	13.54	
PB-212	1.41E+10Y	1.00	1.628E+00	1.628E+00	0.159E+00	9.77	
PO-212	1.41E+10Y	1.00	1.628E+00	1.628E+00	0.159E+00	9.77	
BI-214	1600.00Y	1.00	1.111E+00	1.111E+00	0.188E+00	16.94	
PB-214	1600.00Y	1.00	1.339E+00	1.339E+00	0.194E+00	14.51	
PO-214	1600.00Y	1.00	1.339E+00	1.339E+00	0.194E+00	14.51	
PO-216	1.41E+10Y	1.00	1.628E+00	1.628E+00	0.159E+00	9.77	
PO-218	1600.00Y	1.00	1.339E+00	1.339E+00	0.194E+00	14.51	
RA-224	1.41E+10Y	1.00	4.530E+00	4.530E+00	1.088E+00	24.01	
RA-226	1600.00Y	1.00	1.111E+00	1.111E+00	0.188E+00	16.94	
AC-228	1.41E+10Y	1.00	1.710E+00	1.710E+00	0.335E+00	19.58	
RA-228	1.41E+10Y	1.00	1.710E+00	1.710E+00	0.335E+00	19.58	
TH-228	1.91Y	1.02	1.628E+00	1.653E+00	0.161E+00	9.77	
TH-230	4.47E+09Y	1.00	1.111E+00	1.111E+00	0.188E+00	16.94	
TH-232	1.41E+10Y	1.00	1.710E+00	1.710E+00	0.335E+00	19.58	
TH-234	4.47E+09Y	1.00	1.018E+00	1.018E+00	1.489E+00	146.20	
U-234	4.47E+09Y	1.00	1.111E+00	1.111E+00	0.188E+00	16.94	
U-235	7.04E+08Y	1.00	1.518E-01	1.518E-01	2.432E-01	160.23	
NP-237	2.14E+06Y	1.00	1.318E+00	1.318E+00	0.438E+00	33.21	
U-238	4.47E+09Y	1.00	1.018E+00	1.018E+00	1.489E+00	146.20	
AM-243	7380.00Y	1.00	4.688E-01	4.688E-01	0.861E-01	18.37	
ANH-511	1.00E+09Y	1.00	1.526E-01	1.526E-01	0.680E-01	44.58	

Total Activity : 5.668E+01 5.680E+01

Grand Total Activity : 5.668E+01 5.680E+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	84.04	150	305	1.37	167.58	164	29	2.08E-02	39.4	5.43E+00	T
0	208.49	127	437	1.21	416.60	410	13	1.77E-02	69.8	5.48E+00	T
0	270.25	134	174	1.44	540.19	535	10	1.85E-02	40.9	4.59E+00	T
0	327.77	84	189	1.48	655.27	649	12	1.17E-02	68.9	3.97E+00	T
0	462.77	74	101	1.16	925.37	920	11	1.03E-02	57.7	3.03E+00	T
0	726.99	126	88	1.44	1453.95	1446	16	1.76E-02	37.7	2.08E+00	T
0	770.45	63	124	4.52	1540.89	1528	24	8.70E-03	99.9	1.98E+00	
1	964.30	50	74	2.00	1928.64	1923	23	6.88E-03	68.3	1.62E+00	T
0	1377.22	32	30	1.03	2754.48	2744	17	4.47E-03	85.2	1.19E+00	T
0	1401.75	18	4	0.99	2803.53	2800	8	2.50E-03	60.9	1.18E+00	
0	1587.67	18	19	1.16	3175.31	3169	11	2.51E-03	****	1.07E+00	
0	1729.92	17	10	1.68	3459.74	3456	12	2.41E-03	96.8	1.00E+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]G1202018263.CNF;1
* Acquisition date   : 26-JAN-2010 14:10:01   Detector SN#      :
* Detector ID        : GAM12                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.45          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 11-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G1202018263           Analyst initials: MXR1
* Batch Number       : 942718                Sample Quantity  : 1.30810E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24.5MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.865E+01	1.927E+00	5.322E-01	3.795E-02	35.037
CD-109	4.566E+00	1.188E+00	1.056E+00	8.081E-02	4.324
SN-126	4.489E-01	1.168E-01	1.043E-01	7.948E-03	4.304
TL-208	5.018E-01	9.270E-02	5.124E-02	3.666E-03	9.793
BI-211	3.850E+00	5.215E-01	3.226E-01	2.028E-02	11.936
PB-212	1.628E+00	1.591E-01	8.037E-02	5.707E-03	20.261
PO-212	1.628E+00	1.591E-01	8.037E-02	5.707E-03	20.261
BI-214	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
PB-214	1.339E+00	1.944E-01	1.125E-01	9.186E-03	11.910
PO-214	1.339E+00	1.944E-01	1.125E-01	9.186E-03	11.910
PO-216	1.628E+00	1.591E-01	8.037E-02	5.707E-03	20.261
PO-218	1.339E+00	1.944E-01	1.125E-01	9.186E-03	11.910
RA-224	4.530E+00	1.088E+00	9.148E-01	5.046E-02	4.952
RA-226	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
AC-228	1.710E+00	3.348E-01	1.845E-01	2.026E-02	9.267
RA-228	1.710E+00	3.348E-01	1.845E-01	2.026E-02	9.267
TH-228	1.653E+00	1.615E-01	8.159E-02	5.794E-03	20.261
TH-230	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.710E+00	3.348E-01	1.845E-01	2.026E-02	9.267
TH-234	1.018E+00	1.489E+00	1.966E+00	3.347E-01	0.518
U-234	1.111E+00	1.882E-01	9.803E-02	8.070E-03	11.335
U-235	1.518E-01	2.432E-01	3.252E-01	5.282E-02	0.467
NP-237	1.318E+00	4.377E-01	3.098E-01	6.806E-02	4.255
U-238	1.018E+00	1.489E+00	1.966E+00	3.347E-01	0.518
AM-243	4.688E-01	8.610E-02	8.508E-02	5.781E-03	5.510
ANH-511	1.526E-01	6.805E-02	3.992E-02	2.433E-03	3.824

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.286E-01		3.194E-01	4.842E-01	3.332E-02	-0.472
NA-22	-9.715E-03		3.920E-02	6.255E-02	4.028E-03	-0.155
NA-24	-9.366E-02		4.281E-01	Half-Life too short		
AL-26	-1.536E-02		3.204E-02	4.822E-02	2.767E-03	-0.318
TI-44	4.053E-01	+	5.615E-02	6.969E-02	4.875E-03	5.815
SC-46	-1.998E-02		3.982E-02	6.116E-02	5.069E-03	-0.327
V-48	-1.310E-02		7.086E-02	1.115E-01	8.589E-03	-0.118
CR-51	4.479E-01		3.418E-01	6.074E-01	3.862E-02	0.737
MN-52	9.887E-02		2.458E-01	4.212E-01	2.893E-02	0.235
MN-54	-1.863E-02		4.127E-02	6.467E-02	5.084E-03	-0.288
CO-56	-7.968E-03		3.953E-02	6.163E-02	4.902E-03	-0.129
CO-57	-1.333E-03		2.303E-02	3.761E-02	2.352E-03	-0.035
CO-58	-3.559E-02		4.110E-02	6.159E-02	4.739E-03	-0.578
FE-59	2.021E-02		8.839E-02	1.503E-01	1.110E-02	0.134
CO-60	-2.537E-02		3.861E-02	5.776E-02	4.034E-03	-0.439
ZN-65	-2.770E-03		9.222E-02	1.315E-01	8.269E-03	-0.021
GE-68	6.803E-01		1.201E+00	2.108E+00	1.421E-01	0.323
AS-73	1.028E-02		7.118E-01	1.212E+00	7.825E-02	0.008
AS-74	-6.416E-02		8.631E-02	1.359E-01	8.651E-03	-0.472
SE-75	1.925E-02		4.361E-02	6.663E-02	3.777E-03	0.289
BR-77	4.390E-01		9.255E+00	1.486E+01	9.114E-01	0.030
SR-82	-2.195E-01		4.159E-01	5.461E-01	4.041E-02	-0.402
RB-83	-2.657E-03		6.559E-02	1.007E-01	6.176E-03	-0.026
RB-84	-1.082E-02		6.527E-02	1.039E-01	8.549E-03	-0.104
KR-85	1.542E+01		7.013E+00	1.287E+01	7.858E-01	1.199
SR-85	7.906E-02		3.595E-02	6.596E-02	4.028E-03	1.199
RB-86	1.665E-01		7.623E-01	1.298E+00	8.761E-02	0.128
Y-88	-1.735E-02		3.877E-02	5.944E-02	3.346E-03	-0.292
ZR-88	-2.852E-02		2.983E-02	4.546E-02	2.494E-03	-0.627
Y-91	-1.892E+01		1.785E+01	2.632E+01	1.522E+00	-0.719
NB-94	1.732E-02		3.317E-02	5.699E-02	3.881E-03	0.304
NB-95	4.926E-02		4.890E-02	7.704E-02	5.635E-03	0.639
NB-95M	5.818E-02		1.212E-01	1.862E-01	1.358E-02	0.313
ZR-95	1.723E-02		6.899E-02	1.158E-01	9.561E-03	0.149
NB-97	1.795E-02		4.443E-02	Half-Life too short		

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	3.202E+00		8.893E-01	Half-Life too short		
MO-99	-5.836E+00		1.114E+01	1.741E+01	2.503E+00	-0.335
TC-99M	1.299E+10		1.731E+10	Half-Life too short		
RH-101	9.050E-04		3.236E-02	5.118E-02	2.707E-03	0.018
RH-102	1.963E-02		2.933E-02	4.878E-02	2.897E-03	0.402
RU-103	-1.778E-02		3.851E-02	5.924E-02	7.556E-03	-0.300
RH-106	-1.564E-01		3.141E-01	5.027E-01	6.060E-02	-0.311
RU-106	-1.564E-01		3.137E-01	5.027E-01	3.228E-02	-0.311
AG-108M	1.084E-02		2.808E-02	4.697E-02	2.927E-03	0.231
AG-110M	4.113E-03		3.295E-02	5.528E-02	3.767E-03	0.074
IN-111	-2.371E-01		9.584E-01	1.399E+00	7.745E-02	-0.169
IN-113M	-1.540E-02		4.357E-02	6.951E-02	4.092E-03	-0.222
SN-113	-1.540E-02		4.357E-02	6.951E-02	4.092E-03	-0.222
IN-114M	9.672E-03		1.906E-01	2.712E-01	1.423E-02	0.036
CD-115	4.104E+00		1.009E+01	1.669E+01	1.028E+00	0.246
SN-117M	2.985E-02		4.838E-02	8.040E-02	4.247E-03	0.371
SB-122	2.077E-01		1.922E+00	3.256E+00	2.044E-01	0.064
I-123	-2.029E-01		2.550E+00	Half-Life too short		
TE-123M	-1.037E-03		2.606E-02	4.195E-02	2.247E-03	-0.025
I-124	-2.768E-01		7.139E-01	9.939E-01	6.343E-02	-0.278
SB-124	3.803E-02		6.458E-02	1.195E-01	7.975E-03	0.318
SB-125	6.035E-02		8.601E-02	1.467E-01	8.720E-03	0.411
TE-125M	3.914E+00		8.766E+00	1.437E+01	1.239E+00	0.272
I-126	1.071E-01		1.699E-01	2.957E-01	1.928E-02	0.362
SB-126	-2.036E-01		1.726E-01	2.101E-01	1.461E-02	-0.969
SB-127	-4.451E-01		1.371E+00	2.209E+00	2.204E-01	-0.201
XE-127	2.046E-03		5.011E-02	7.090E-02	3.770E-03	0.029
I-131	3.876E-02		1.098E-01	1.845E-01	1.161E-02	0.210
TE-132	-5.405E-01		6.198E-01	9.996E-01	1.422E-01	-0.541
BA-133	1.241E-02		4.254E-02	6.329E-02	7.261E-03	0.196
I-133	-1.829E-03		2.782E-03	Half-Life too short		
CS-134	8.611E-02		4.821E-02	8.920E-02	6.801E-03	0.965
CS-135	1.368E-01		1.565E-01	2.452E-01	1.844E-02	0.558
I-135	-5.968E+08		2.550E+09	Half-Life too short		
CS-136	8.044E-02		1.004E-01	1.803E-01	1.355E-02	0.446
BA-137M	-1.548E-02		3.525E-02	5.581E-02	3.618E-03	-0.277
CS-137	-1.636E-02		3.727E-02	5.899E-02	3.837E-03	-0.277
CE-139	-2.141E-02		2.720E-02	4.197E-02	2.150E-03	-0.510
BA-140	-1.141E-02		2.523E-01	4.241E-01	1.382E-01	-0.027
LA-140	-1.142E-01		8.974E-02	1.169E-01	7.611E-03	-0.977
CE-141	1.736E-03		6.558E-02	9.500E-02	5.531E-03	0.018
CE-143	6.684E-04		1.074E-04	Half-Life too short		
CE-144	-1.255E-01		1.849E-01	2.900E-01	4.129E-02	-0.433
PM-144	1.366E-02		3.231E-02	5.525E-02	3.738E-03	0.247
PR-144	9.258E-01		2.190E+00	3.744E+00	2.532E-01	0.247
PM-146	2.373E-02		4.040E-02	6.819E-02	5.895E-03	0.348
ND-147	-8.564E-02		5.325E-01	8.376E-01	1.146E-01	-0.102
PM-149	-2.422E+01		8.466E+01	1.391E+02	1.964E+01	-0.174

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-1.194E-01		1.042E-01	1.451E-01	9.301E-03	-0.823
GD-153	-5.387E-02		7.881E-02	1.114E-01	7.747E-03	-0.484
EU-154	-2.485E-02		1.098E-01	1.756E-01	1.711E-02	-0.141
EU-155	6.487E-02		9.755E-02	1.655E-01	1.115E-02	0.392
TB-160	-2.556E-02		1.296E-01	2.055E-01	1.688E-02	-0.124
HO-166M	-2.963E-02		6.229E-02	9.880E-02	6.800E-03	-0.300
TM-171	-1.706E+01		2.917E+01	4.275E+01	2.767E+00	-0.399
LU-176	-1.649E-02		2.161E-02	3.419E-02	1.943E-03	-0.482
LU-177	2.896E+00	+	2.029E+00	1.978E+00	1.058E-01	1.464
LU-177M	-1.123E-01		1.666E-01	2.578E-01	1.447E-02	-0.436
HF-181	1.607E-02		4.003E-02	6.648E-02	3.969E-03	0.242
W-181	-9.366E-02		3.683E-01	5.493E-01	3.529E-02	-0.171
TA-182	-4.834E-02		1.955E-01	3.154E-01	1.871E-02	-0.153
RE-183	3.651E-02		1.022E-01	1.635E-01	8.501E-03	0.223
RE-184	-1.640E-01		2.025E-01	3.258E-01	1.813E-02	-0.503
OS-185	2.416E-02		4.216E-02	7.317E-02	4.728E-03	0.330
RE-188	1.141E-01		1.597E-01	2.663E-01	1.428E-02	0.429
W-188	-3.894E+00		7.792E+00	1.100E+01	6.237E-01	-0.354
IR-192	-1.225E-02		3.144E-02	5.091E-02	2.909E-03	-0.241
AU-195	1.674E-01		2.281E-01	3.497E-01	2.405E-02	0.479
TL-200	1.678E-04		2.109E-04	Half-Life too short		
TL-201	4.782E-01		6.284E+00	1.014E+01	5.199E-01	0.047
TL-202	-2.295E-02		6.250E-02	9.824E-02	5.658E-03	-0.234
HG-203	-4.755E-03		4.071E-02	5.944E-02	3.575E-03	-0.080
BI-207	1.318E-02		4.806E-02	8.242E-02	5.686E-03	0.160
TL-207	-3.021E-01		7.169E-01	1.005E+00	1.656E-01	-0.301
PO-209	2.494E-01		7.701E+00	1.251E+01	1.044E+00	0.020
BI-210	-2.084E+00		3.005E+00	4.908E+00	3.698E-01	-0.425
PB-210	-2.084E+00		3.005E+00	4.908E+00	3.698E-01	-0.425
PO-210	-2.084E+00		3.004E+00	4.908E+00	3.148E-01	-0.425
PB-211	-8.688E-01		1.078E+00	1.425E+00	8.883E-01	-0.609
BI-212	1.479E+00	+	5.714E-01	7.026E-01	6.083E-02	2.105
PO-215	-3.021E-01		7.169E-01	1.005E+00	1.656E-01	-0.301
RN-219	1.241E-01		4.004E-01	6.661E-01	8.990E-02	0.186
RN-220	-2.643E+01		2.333E+01	3.558E+01	2.218E+00	-0.743
RA-223	-3.021E-01		7.169E-01	1.005E+00	1.656E-01	-0.301
AC-227	-6.257E-02		3.419E-01	5.696E-01	7.900E-02	-0.110
TH-227	-6.257E-02		3.420E-01	5.696E-01	9.584E-02	-0.110
TH-229	2.223E-02		4.778E-01	7.629E-01	4.017E-02	0.029
PA-231	1.096E+00		1.377E+00	2.387E+00	3.276E-01	0.459
TH-231	-3.021E-01		7.169E-01	1.005E+00	1.656E-01	-0.301
U-231	-5.504E-01		1.015E+00	1.458E+00	1.027E-01	-0.377
PA-233	-4.171E-03		5.803E-02	9.596E-02	5.806E-03	-0.043
PA-234	-3.609E-01		3.053E-01	4.144E-01	7.663E-02	-0.871
PA-234M	4.141E-01		4.644E+00	7.695E+00	6.964E-01	0.054
NP-236	-4.955E-02		7.287E-02	1.134E-01	5.947E-03	-0.437
NP-239	6.400E-02		1.699E-01	2.836E-01	1.790E-02	0.226
AM-241	5.926E-02		1.452E-01	2.262E-01	1.607E-02	0.262

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.142E-02		8.609E-02	1.391E-01	9.261E-03	-0.298
AM-246	4.178E-03		1.427E-01	2.386E-01	1.605E-02	0.018
CM-247	-1.534E-02		3.625E-02	5.741E-02	3.184E-03	-0.267
CF-249	2.174E-02		3.920E-02	6.635E-02	3.647E-03	0.328
CF-251	-3.879E-02		1.188E-01	1.872E-01	9.680E-03	-0.207

# 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]G1202018263          *
* Acquisition date   : 26-JAN-2010 14:10:01 Detector SN# :                    *
* Detector ID        : GAM12 Sensitivity : 5.000                            *
* Geometry           : CAN Energy tolerance: 1.500                          *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000               *
* Elapsed real time  : 0 02:00:01.45 Half life ratio : 8.000               *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 11-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018263 Analyst initials: MXR1                  *
* Batch Number       : 942718 Sample Quantity : 1.3081E+02 GRAM            *
* Recovery           : 1.00000 Carrier Weight : 0.00000                    *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope :                    *
* MSD DPM             : 0.000 MSD Isotope :                                *
* LCS DPM              : 0.000 LCS Isotope :                                *
* LCSD DPM             : 0.000 LCSD Isotope :                               *
*****

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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	1.865E+01	1.888E+00	2.665E-01	9.635E-01
CD-109	4.566E+00	1.164E+00	5.536E-01	5.940E-01
SN-126	4.489E-01	1.144E-01	5.468E-02	5.839E-02
TL-208	5.018E-01	9.084E-02	2.606E-02	4.635E-02
BI-211	3.850E+00	5.110E-01	1.654E-01	2.607E-01
PB-212	1.628E+00	1.559E-01	4.148E-02	7.954E-02
PO-212	1.628E+00	1.559E-01	4.148E-02	7.954E-02
BI-214	1.111E+00	1.845E-01	4.982E-02	9.412E-02
PB-214	1.339E+00	1.905E-01	5.767E-02	9.720E-02
PO-214	1.339E+00	1.905E-01	5.767E-02	9.720E-02
PO-216	1.628E+00	1.559E-01	4.148E-02	7.954E-02
PO-218	1.339E+00	1.905E-01	5.767E-02	9.720E-02
RA-224	4.530E+00	1.066E+00	4.720E-01	5.438E-01
RA-226	1.111E+00	1.845E-01	4.982E-02	9.412E-02
AC-228	1.710E+00	3.281E-01	9.315E-02	1.674E-01
RA-228	1.710E+00	3.281E-01	9.315E-02	1.674E-01
TH-228	1.653E+00	1.583E-01	4.210E-02	8.075E-02
TH-230	1.111E+00	1.845E-01	4.982E-02	9.412E-02
TH-232	1.710E+00	3.281E-01	9.315E-02	1.674E-01
TH-234	1.018E+00	1.459E+00	1.036E+00	7.444E-01
U-234	1.111E+00	1.845E-01	4.982E-02	9.412E-02
U-235	1.518E-01	2.383E-01	1.692E-01	1.216E-01
NP-237	1.318E+00	4.289E-01	1.625E-01	2.188E-01
U-238	1.018E+00	1.459E+00	1.036E+00	7.444E-01
AM-243	4.688E-01	8.438E-02	4.472E-02	4.305E-02
ANH-511	1.526E-01	6.669E-02	2.035E-02	3.402E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-2.286E-01	3.130E-01	2.471E-01	1.597E-01 NOT IDENT.

NA-22	-9.715E-03	3.842E-02	3.139E-02	1.960E-02	NOT IDENT.
NA-24	-9.366E+04	8.391E+05	0.000E+00	4.281E+05	SHORT HLIF
AL-26	-1.536E-02	3.140E-02	2.406E-02	1.602E-02	NOT IDENT.
TI-44	4.053E-01	5.503E-02	3.660E-02	2.808E-02	FAIL ABUN
SC-46	-1.998E-02	3.903E-02	3.088E-02	1.991E-02	FAIL ABUN
V-48	-1.310E-02	6.944E-02	5.620E-02	3.543E-02	NOT IDENT.
CR-51	4.479E-01	3.350E-01	3.120E-01	1.709E-01	NOT IDENT.
MN-52	9.887E-02	2.409E-01	2.110E-01	1.229E-01	NOT IDENT.
MN-54	-1.863E-02	4.044E-02	3.269E-02	2.063E-02	NOT IDENT.
CO-56	-7.968E-03	3.874E-02	3.115E-02	1.976E-02	NOT IDENT.
CO-57	-1.333E-03	2.257E-02	1.962E-02	1.151E-02	NOT IDENT.
CO-58	-3.559E-02	4.028E-02	3.115E-02	2.055E-02	NOT IDENT.
FE-59	2.021E-02	8.662E-02	7.565E-02	4.419E-02	FAIL ABUN
CO-60	-2.537E-02	3.784E-02	2.897E-02	1.931E-02	NOT IDENT.
ZN-65	-2.770E-03	9.038E-02	6.614E-02	4.611E-02	NOT IDENT.
GE-68	6.803E-01	1.177E+00	1.061E+00	6.005E-01	NOT IDENT.
AS-73	1.028E-02	6.975E-01	6.404E-01	3.559E-01	NOT IDENT.
AS-74	-6.416E-02	8.458E-02	6.909E-02	4.316E-02	NOT IDENT.
SE-75	1.925E-02	4.274E-02	3.433E-02	2.181E-02	NOT IDENT.
BR-77	4.390E-01	9.070E+00	7.572E+00	4.628E+00	FAIL ABUN
SR-82	-2.195E-01	4.076E-01	2.764E-01	2.080E-01	NOT IDENT.
RB-83	-2.657E-03	6.428E-02	5.132E-02	3.279E-02	NOT IDENT.
RB-84	-1.082E-02	6.397E-02	5.248E-02	3.264E-02	NOT IDENT.
KR-85	1.542E+01	6.873E+00	6.558E+00	3.507E+00	NOT IDENT.
SR-85	7.906E-02	3.523E-02	3.361E-02	1.797E-02	NOT IDENT.
RB-86	1.665E-01	7.471E-01	6.533E-01	3.812E-01	NOT IDENT.
Y-88	-1.735E-02	3.799E-02	2.965E-02	1.938E-02	NOT IDENT.
ZR-88	-2.852E-02	2.923E-02	2.327E-02	1.492E-02	NOT IDENT.
Y-91	-1.892E+01	1.750E+01	1.322E+01	8.926E+00	NOT IDENT.
NB-94	1.732E-02	3.250E-02	2.889E-02	1.658E-02	NOT IDENT.
NB-95	4.926E-02	4.792E-02	3.900E-02	2.445E-02	NOT IDENT.
NB-95M	5.818E-02	1.187E-01	9.609E-02	6.058E-02	NOT IDENT.
ZR-95	1.723E-02	6.761E-02	5.862E-02	3.450E-02	NOT IDENT.
NB-97	1.795E+04	8.709E+04	0.000E+00	4.443E+04	SHORT HLIF
ZR-97	3.202E+06	1.743E+06	0.000E+00	8.893E+05	SHORT HLIF
MO-99	-5.836E+00	1.092E+01	8.819E+00	5.572E+00	NOT IDENT.
TC-99M	1.299E+16	3.392E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.050E-04	3.171E-02	2.649E-02	1.618E-02	NOT IDENT.
RH-102	1.963E-02	2.874E-02	2.489E-02	1.466E-02	NOT IDENT.
RU-103	-1.778E-02	3.774E-02	3.021E-02	1.925E-02	FAIL ABUN
RH-106	-1.564E-01	3.078E-01	2.554E-01	1.570E-01	FAIL ABUN
RU-106	-1.564E-01	3.074E-01	2.554E-01	1.568E-01	FAIL ABUN
AG-108M	1.084E-02	2.752E-02	2.400E-02	1.404E-02	NOT IDENT.
AG-110M	4.113E-03	3.229E-02	2.806E-02	1.647E-02	NOT IDENT.
IN-111	-2.371E-01	9.392E-01	7.217E-01	4.792E-01	NOT IDENT.
IN-113M	-1.540E-02	4.269E-02	3.558E-02	2.178E-02	NOT IDENT.
SN-113	-1.540E-02	4.269E-02	3.558E-02	2.178E-02	NOT IDENT.
IN-114M	9.672E-03	1.868E-01	1.405E-01	9.531E-02	NOT IDENT.
CD-115	4.104E+00	9.889E+00	8.499E+00	5.045E+00	NOT IDENT.
SN-117M	2.985E-02	4.741E-02	4.176E-02	2.419E-02	NOT IDENT.
SB-122	2.077E-01	1.884E+00	1.657E+00	9.611E-01	NOT IDENT.
I-123	-2.029E+05	4.999E+06	0.000E+00	2.550E+06	SHORT HLIF
TE-123M	-1.037E-03	2.554E-02	2.179E-02	1.303E-02	NOT IDENT.
I-124	-2.768E-01	6.996E-01	5.052E-01	3.569E-01	FAIL ABUN
SB-124	3.803E-02	6.329E-02	5.970E-02	3.229E-02	FAIL ABUN
SB-125	6.035E-02	8.429E-02	7.498E-02	4.301E-02	FAIL ABUN
TE-125M	3.914E+00	8.591E+00	7.510E+00	4.383E+00	NOT IDENT.
I-126	1.071E-01	1.665E-01	1.501E-01	8.493E-02	NOT IDENT.
SB-126	-2.036E-01	1.691E-01	1.065E-01	8.628E-02	FAIL ABUN
SB-127	-4.451E-01	1.343E+00	1.120E+00	6.854E-01	NOT IDENT.
XE-127	2.046E-03	4.910E-02	3.668E-02	2.505E-02	NOT IDENT.
I-131	3.876E-02	1.076E-01	9.455E-02	5.491E-02	NOT IDENT.
TE-132	-5.405E-01	6.074E-01	5.162E-01	3.099E-01	NOT IDENT.
BA-133	1.241E-02	4.168E-02	3.245E-02	2.127E-02	FAIL ABUN
I-133	-1.829E+03	5.453E+03	0.000E+00	2.782E+03	SHORT HLIF
CS-134	8.611E-02	4.725E-02	4.513E-02	2.411E-02	NOT IDENT.
CS-135	1.368E-01	1.534E-01	1.263E-01	7.825E-02	NOT IDENT.
I-135	-5.968E+14	4.999E+15	0.000E+00	2.550E+15	SHORT HLIF
CS-136	8.044E-02	9.837E-02	9.081E-02	5.019E-02	FAIL ABUN
BA-137M	-1.548E-02	3.455E-02	2.832E-02	1.763E-02	NOT IDENT.
CS-137	-1.636E-02	3.652E-02	2.994E-02	1.863E-02	NOT IDENT.
CE-139	-2.141E-02	2.665E-02	2.178E-02	1.360E-02	NOT IDENT.
BA-140	-1.141E-02	2.472E-01	2.160E-01	1.261E-01	NOT IDENT.
LA-140	-1.142E-01	8.795E-02	5.843E-02	4.487E-02	FAIL ABUN
CE-141	1.736E-03	6.427E-02	4.941E-02	3.279E-02	NOT IDENT.
CE-143	6.684E+02	2.105E+02	0.000E+00	1.074E+02	SHORT HLIF
CE-144	-1.255E-01	1.812E-01	1.511E-01	9.243E-02	NOT IDENT.
PM-144	1.366E-02	3.167E-02	2.802E-02	1.616E-02	NOT IDENT.

PR-144	9.258E-01	2.146E+00	1.899E+00	1.095E+00	NOT IDENT.
PM-146	2.373E-02	3.959E-02	3.482E-02	2.020E-02	NOT IDENT.
ND-147	-8.564E-02	5.219E-01	4.267E-01	2.663E-01	FAIL ABUN
PM-149	-2.422E+01	8.297E+01	7.158E+01	4.233E+01	NOT IDENT.
EU-152	-1.194E-01	1.021E-01	7.445E-02	5.212E-02	FAIL ABUN
GD-153	-5.387E-02	7.723E-02	5.831E-02	3.940E-02	FAIL ABUN
EU-154	-2.485E-02	1.076E-01	8.814E-02	5.489E-02	NOT IDENT.
EU-155	6.487E-02	9.560E-02	8.650E-02	4.877E-02	FAIL ABUN
TB-160	-2.556E-02	1.270E-01	1.038E-01	6.478E-02	FAIL ABUN
HO-166M	-2.963E-02	6.104E-02	5.008E-02	3.114E-02	FAIL ABUN
TM-171	-1.706E+01	2.859E+01	2.251E+01	1.458E+01	NOT IDENT.
LU-176	-1.649E-02	2.118E-02	1.757E-02	1.081E-02	FAIL ABUN
LU-177	2.896E+00	1.988E+00	1.023E+00	1.014E+00	FAIL ABUN
LU-177M	-1.123E-01	1.633E-01	1.318E-01	8.331E-02	FAIL ABUN
HF-181	1.607E-02	3.923E-02	3.391E-02	2.002E-02	NOT IDENT.
W-181	-9.366E-02	3.609E-01	2.893E-01	1.841E-01	NOT IDENT.
TA-182	-4.834E-02	1.916E-01	1.584E-01	9.777E-02	FAIL ABUN
RE-183	3.651E-02	1.001E-01	8.491E-02	5.108E-02	FAIL ABUN
RE-184	-1.640E-01	1.985E-01	1.680E-01	1.013E-01	NOT IDENT.
OS-185	2.416E-02	4.132E-02	3.715E-02	2.108E-02	NOT IDENT.
RE-188	1.141E-01	1.565E-01	1.384E-01	7.986E-02	NOT IDENT.
W-188	-3.894E+00	7.637E+00	5.661E+00	3.896E+00	FAIL ABUN
IR-192	-1.225E-02	3.081E-02	2.615E-02	1.572E-02	FAIL ABUN
AU-195	1.674E-01	2.236E-01	1.830E-01	1.141E-01	FAIL ABUN
TL-200	1.678E+02	4.134E+02	0.000E+00	2.109E+02	SHORT HLIF
TL-201	4.782E-01	6.159E+00	5.264E+00	3.142E+00	NOT IDENT.
TL-202	-2.295E-02	6.125E-02	5.019E-02	3.125E-02	NOT IDENT.
HG-203	-4.755E-03	3.990E-02	3.060E-02	2.036E-02	FAIL ABUN
BI-207	1.318E-02	4.710E-02	4.150E-02	2.403E-02	FAIL ABUN
TL-207	-3.021E-01	7.025E-01	5.160E-01	3.584E-01	FAIL ABUN
PO-209	2.494E-01	7.546E+00	6.314E+00	3.850E+00	NOT IDENT.
BI-210	-2.084E+00	2.945E+00	2.599E+00	1.503E+00	NOT IDENT.
PB-210	-2.084E+00	2.945E+00	2.599E+00	1.503E+00	NOT IDENT.
PO-210	-2.084E+00	2.944E+00	2.599E+00	1.502E+00	NOT IDENT.
PB-211	-8.688E-01	1.057E+00	7.293E-01	5.392E-01	NOT IDENT.
BI-212	1.479E+00	5.600E-01	3.560E-01	2.857E-01	FAIL ABUN
PO-215	-3.021E-01	7.025E-01	5.160E-01	3.584E-01	FAIL ABUN
RN-219	1.241E-01	3.924E-01	3.408E-01	2.002E-01	FAIL ABUN
RN-220	-2.643E+01	2.286E+01	1.811E+01	1.167E+01	NOT IDENT.
RA-223	-3.021E-01	7.025E-01	5.160E-01	3.584E-01	FAIL ABUN
AC-227	-6.257E-02	3.351E-01	2.936E-01	1.710E-01	FAIL ABUN
TH-227	-6.257E-02	3.352E-01	2.936E-01	1.710E-01	FAIL ABUN
TH-229	2.223E-02	4.682E-01	3.950E-01	2.389E-01	FAIL ABUN
PA-231	1.096E+00	1.350E+00	1.229E+00	6.887E-01	NOT IDENT.
TH-231	-3.021E-01	7.025E-01	5.160E-01	3.584E-01	FAIL ABUN
U-231	-5.504E-01	9.945E-01	7.636E-01	5.074E-01	FAIL ABUN
PA-233	-4.171E-03	5.687E-02	4.930E-02	2.902E-02	FAIL ABUN
PA-234	-3.609E-01	2.992E-01	2.090E-01	1.527E-01	FAIL ABUN
PA-234M	4.141E-01	4.551E+00	3.878E+00	2.322E+00	NOT IDENT.
NP-236	-4.955E-02	7.142E-02	5.890E-02	3.644E-02	NOT IDENT.
NP-239	6.400E-02	1.665E-01	1.480E-01	8.495E-02	FAIL ABUN
AM-241	5.926E-02	1.423E-01	1.193E-01	7.259E-02	NOT IDENT.
CM-243	-4.142E-02	8.437E-02	7.271E-02	4.305E-02	FAIL ABUN
AM-246	4.178E-03	1.398E-01	1.201E-01	7.134E-02	NOT IDENT.
CM-247	-1.534E-02	3.552E-02	2.938E-02	1.812E-02	FAIL ABUN
CF-249	2.174E-02	3.842E-02	3.397E-02	1.960E-02	NOT IDENT.
CF-251	-3.879E-02	1.164E-01	9.707E-02	5.940E-02	NOT IDENT.



\*\*\*\*\*  
 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON , SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	230.3073
46.50	230.3073
46.50	230.3073
48.70	210.7135
49.72	237.9674
51.35	246.9866
52.39	223.6379
52.97	217.1311
53.15	217.2549
53.44	232.1820
54.07	237.8512
56.28	242.9743
56.28	242.9764
57.37	0.0000
57.53	247.4062
57.53	247.4076
57.60	247.4586
57.98	282.0024
57.98	282.0024
59.32	268.5717
59.32	268.5717
59.40	248.7846
59.54	248.8871
59.72	239.7464
60.01	238.6244
61.10	255.3387
61.14	255.3684
61.30	255.4856
63.00	323.5835
63.29	322.0633
63.29	322.0633
63.58	325.4513
64.28	322.0638
65.12	325.5051
65.20	329.6132
65.20	329.6132
66.05	304.7617
66.72	356.6534
66.83	356.7621
66.91	340.6207
67.20	375.5178
67.20	375.5178
67.75	391.9682
67.85	392.0764
68.90	372.8848
68.90	372.8848
69.30	349.6104
69.67	337.6983
70.82	342.8136
70.82	342.8136
70.83	342.8232
72.80	453.0224
72.87	453.1055
72.87	453.1055
74.67	371.4984
74.81	371.6299
74.81	371.6299
74.81	371.6299
74.81	371.6299
74.81	371.6299
74.81	371.6299
74.97	371.7789
75.28	372.0676
75.70	372.4581
77.11	373.7608
77.11	373.7608

77.11	373.7608
77.11	373.7608
77.11	373.7608
77.11	373.7608
77.11	373.7608
78.38	304.8577
79.62	315.5468
79.80	315.6831
79.80	315.6831
80.11	285.1661
80.18	285.2128
80.30	285.2953
80.30	285.2953
80.57	285.4789
81.00	299.7799
81.07	299.8305
81.07	299.8305
81.07	299.8305
81.07	299.8305
82.60	306.5392
83.37	312.7244
83.78	266.9650
83.78	266.9650
83.78	266.9650
83.78	266.9650
84.21	267.2308
84.90	267.6569
85.43	267.9834
86.29	268.5092
86.50	268.6378
86.54	268.6623
86.59	268.6926
86.72	268.7721
86.79	268.8140
86.94	268.9064
87.30	269.1245
87.30	269.1245
87.30	269.1245
87.30	269.1245
87.30	269.1245
87.30	269.1245
87.57	269.2892
87.88	269.4770
88.03	269.5680
88.36	269.7673
88.47	269.8338
89.95	270.7222
91.11	271.4155
92.29	272.1147
92.38	272.1681
92.38	272.1681
93.35	272.7387
94.00	273.1200
94.67	273.5086
94.67	273.5115
94.90	273.6458
94.90	273.6458
94.90	273.6458
94.90	273.6458
95.87	265.0367
95.87	265.0367
96.73	278.5781
97.43	267.3610
98.44	247.5371
98.44	247.5384
98.88	239.0194
99.55	211.1337
99.55	211.1337
99.86	211.2684
100.00	230.8064
100.10	225.0114
103.18	280.3297
103.76	256.1227
105.00	237.0812
105.31	240.1801
108.00	283.0107
109.28	248.0011

111.00	249.8153
111.00	249.8153
111.76	254.1634
112.95	257.7323
115.19	229.7222
116.30	230.1951
117.00	227.4714
117.00	227.4714
117.66	247.9019
121.11	217.0042
121.62	237.5015
121.78	237.5694
122.06	239.7199
122.32	239.8303
122.32	239.8303
122.32	239.8303
122.32	239.8303
123.07	235.0617
127.23	271.6295
129.76	213.1024
131.20	282.7688
133.02	258.7916
133.54	253.8351
135.34	221.3420
136.00	228.8645
136.25	224.7979
136.48	229.0458
140.51	221.6443
140.51	0.0000
142.18	223.8142
142.65	250.7957
143.76	278.1018
144.24	286.2179
144.24	286.2179
144.24	286.2179
144.24	286.2179
145.22	273.9897
145.44	261.4103
147.16	252.5838
152.43	235.9523
152.70	247.7980
153.22	223.4062
154.21	220.5284
154.21	220.5284
154.21	220.5284
154.21	220.5284
155.03	235.8067
156.02	257.6245
158.56	204.7220
159.00	0.0000
159.00	235.0423
160.31	247.3775
161.27	229.3345
162.32	211.2659
162.64	212.4470
163.35	208.3242
163.89	210.6581
165.85	245.0066
167.43	220.4567
171.28	252.3744
171.86	214.1422
172.10	214.2136
176.55	237.6320
176.60	237.6484
181.06	220.1779
184.41	234.5624
185.71	257.3392
186.00	257.4374
190.27	226.2293
192.34	222.3164
193.63	223.8115
197.04	238.4012
198.01	228.4600
198.60	251.3767
200.40	233.7009
201.83	231.6014
202.84	226.4017
205.31	192.6777

208.36	232.5289
208.81	232.6543
209.75	219.6571
209.75	219.6571
210.97	223.4411
215.65	198.5555
216.55	199.9265
218.09	190.9697
222.10	215.8393
223.80	184.6104
226.40	202.7907
227.00	218.8088
227.08	218.8297
227.20	223.2705
228.16	219.9780
228.18	225.2845
228.18	225.2845
231.56	0.0000
235.69	202.4020
236.00	211.0265
236.00	211.0265
238.63	181.4257
238.63	181.4257
238.63	181.4257
238.63	181.4257
239.00	181.4969
240.98	181.8872
241.98	182.0824
241.98	182.0824
241.98	182.0824
244.69	141.0509
245.39	151.2387
247.94	157.0636
248.90	134.6334
249.79	136.5684
252.40	164.1472
252.85	173.2978
252.85	173.2978
254.15	0.0000
256.20	171.1667
256.20	171.1667
260.50	156.3751
260.90	153.6932
262.80	169.5730
264.65	145.4618
268.24	148.9331
268.79	159.3422
269.46	155.0186
269.46	155.0186
269.46	155.0186
269.46	155.0186
271.23	155.2903
273.65	126.0100
276.40	153.1019
277.35	132.9737
277.60	117.5646
277.60	117.5646
278.00	117.6109
278.60	134.0640
279.20	156.5002
279.53	156.5490
280.46	164.1514
281.68	156.8719
283.67	133.7810
284.30	151.6476
285.00	160.1794
285.90	164.0652
286.10	151.9071
286.10	151.9071
287.40	149.2760
288.45	0.0000
290.67	171.7709
290.80	167.2723
291.72	164.3995
293.26	0.0000
293.70	148.0791
295.21	160.3923
295.21	160.3923

295.21	160.3923
295.96	151.4185
296.50	151.4917
297.23	151.5942
298.57	151.7798
299.80	132.1971
299.80	132.1971
300.09	138.3129
300.09	138.3129
300.09	138.3129
300.09	138.3129
300.12	138.3151
301.29	146.0719
302.84	126.4676
303.76	105.2233
303.91	102.1864
304.40	96.1288
304.40	96.1288
304.84	123.3892
306.84	138.5837
308.46	131.1279
311.98	133.4579
316.51	137.8461
318.01	160.2274
319.02	151.6745
319.41	136.2624
320.08	111.2009
323.87	153.6675
323.87	153.6675
323.87	153.6675
323.87	153.6675
325.23	167.8351
328.77	129.3734
333.44	88.6759
334.20	107.6535
334.20	107.6535
334.30	107.6619
338.28	120.7853
338.28	120.7853
338.28	120.7853
338.28	120.7853
338.32	120.7910
338.32	120.7910
338.32	120.7910
340.50	141.6687
340.57	141.6753
344.27	163.1612
345.85	134.3855
350.59	0.0000
351.07	138.9255
351.92	139.0216
351.92	139.0216
351.92	139.0216
355.39	0.0000
356.01	92.4531
364.48	113.3345
366.43	124.5563
367.43	110.5791
367.94	0.0000
369.80	105.7466
374.96	97.0679
383.85	107.9037
387.95	113.3424
388.63	107.2703
391.69	124.9208
391.69	124.9208
392.90	131.1816
398.62	122.4700
400.65	113.3754
401.10	113.4123
401.81	111.4080
402.60	124.8883
404.84	138.5310
410.95	101.7578
411.60	115.3105
413.65	116.5186
414.70	104.1107
415.30	98.9472

415.76	106.2739
417.63	0.0000
418.52	86.6449
423.70	118.3900
427.08	88.2131
427.89	86.1616
432.53	89.5992
433.93	73.8570
439.47	91.0811
439.56	91.0863
439.89	92.1667
443.98	80.7349
444.90	81.8477
445.03	85.0439
445.03	85.0439
445.03	85.0439
445.03	85.0439
453.90	80.1991
463.38	98.1274
468.07	77.7030
473.00	89.8567
475.06	80.2182
475.35	79.1487
476.78	94.4142
477.59	104.2339
477.96	108.6029
482.03	78.3940
484.57	87.2437
487.03	76.4552
490.36	0.0000
492.35	75.6119
497.08	86.8221
507.63	0.0000
510.53	0.0000
510.84	69.8166
511.00	69.8233
511.85	69.8589
511.85	69.8589
513.99	69.9478
513.99	69.9478
520.41	72.6018
520.65	67.9958
527.90	69.4037
528.96	0.0000
529.64	78.4381
529.87	0.0000
531.02	77.3807
537.32	89.1435
543.00	83.1100
546.56	0.0000
549.76	86.1494
552.65	61.7645
555.20	80.9539
563.23	84.0578
563.90	80.4332
568.70	67.8159
569.32	75.1733
569.50	75.1813
569.67	77.9381
573.80	78.1145
574.00	78.1228
574.64	80.4483
578.91	84.4739
579.30	0.0000
583.14	65.5797
585.48	61.6536
591.81	71.1413
592.07	74.2461
593.00	69.6387
595.88	87.4136
600.56	76.6497
602.52	0.0000
602.71	87.1058
602.71	87.1058
603.60	96.4840
604.41	93.4106
604.70	90.3111
609.31	67.4279

609.31	67.4279
609.31	67.4279
609.31	67.4279
610.33	67.4631
612.46	67.2260
614.37	84.5068
618.01	62.0877
621.84	84.8298
621.84	84.8298
631.29	63.4553
633.02	71.0925
633.10	71.0962
634.78	70.2079
635.90	65.5012
636.97	60.7859
645.85	63.9183
646.12	67.7429
656.30	76.7129
657.75	69.0908
657.90	0.0000
661.65	78.8349
661.65	78.8349
664.57	0.0000
666.33	63.5959
666.33	63.5959
675.00	61.9266
677.61	69.7535
685.20	79.7278
692.80	80.0121
695.00	78.1406
696.49	64.5111
696.49	64.5111
697.00	74.3022
697.49	71.3853
698.33	82.1748
698.50	82.1810
699.00	84.1586
702.63	70.5762
706.10	86.3973
706.58	0.0000
706.67	87.4030
709.31	64.8930
711.68	83.6656
713.82	71.9235
717.42	54.2789
720.50	92.2373
721.93	0.0000
722.20	62.6375
722.78	64.3033
722.78	64.3033
722.89	64.3065
722.95	64.3081
723.30	59.3701
724.18	54.4441
727.18	55.5092
733.00	61.2858
735.90	54.7301
739.58	68.7743
742.81	61.8850
744.21	68.9141
747.13	62.0030
751.79	77.1598
752.31	78.1809
753.82	57.1698
755.35	56.2037
756.15	61.2427
756.87	64.2750
763.93	55.4055
765.79	65.5316
766.42	59.4984
766.84	59.5099
776.49	64.1436
778.00	64.1853
778.57	76.0272
778.89	77.7279
783.80	60.9565
785.46	62.0157
792.07	71.3638

795.84	51.0535
796.30	45.9569
798.80	102.2339
801.93	57.3248
805.60	55.3619
810.29	58.5502
810.76	76.0271
815.85	58.6838
817.79	46.3656
818.51	46.3788
819.60	53.6174
826.30	56.8651
828.27	0.0000
831.60	66.3109
831.96	63.2115
834.83	86.1085
836.80	0.0000
846.75	55.2463
848.13	61.5337
856.28	0.0000
856.80	59.3022
860.37	53.4467
867.32	52.5403
867.82	43.7917
871.10	54.7219
873.19	48.4471
874.81	55.8544
875.33	0.0000
876.40	37.9617
879.36	48.5617
880.27	47.5225
880.51	47.5269
881.50	48.6021
883.24	51.8053
884.67	41.2556
889.25	60.4025
896.60	57.3816
898.02	55.2868
899.00	60.6251
903.28	47.9388
911.07	42.7363
911.07	42.7363
911.07	42.7363
919.63	41.8003
920.93	56.8327
925.00	55.8441
925.24	54.7752
926.50	45.1295
935.52	49.5904
937.48	65.8088
944.10	54.0710
946.00	62.7649
949.00	29.2498
962.29	47.1673
964.01	42.4763
966.15	42.5087
968.20	42.5391
969.11	42.5534
969.11	42.5534
969.11	42.5534
977.42	42.4046
980.50	43.8193
983.50	51.5416
989.30	42.8553
996.32	56.9115
1001.03	50.5677
1001.68	45.0612
1004.76	56.1562
1021.30	0.0000
1024.50	0.0000
1034.80	45.5706
1036.00	51.1709
1037.82	51.2022
1038.57	46.5576
1038.76	0.0000
1045.16	54.1272
1046.59	44.8145
1048.07	38.2990



1050.47	43.9382
1050.47	43.9382
1062.04	38.4742
1063.62	42.2498
1076.63	47.1436
1077.35	43.3814
1078.86	52.8372
1085.78	62.4121
1099.22	48.4351
1112.02	38.1429
1112.84	40.0603
1115.52	47.4568
1120.29	53.5368
1120.29	53.5368
1120.29	53.5368
1120.29	53.5368
1120.51	53.5413
1121.28	53.5550
1124.00	0.0000
1129.67	48.1154
1131.51	0.0000
1147.95	0.0000
1167.94	44.6243
1173.22	65.0998
1175.09	69.9990
1177.93	51.5702
1189.05	55.6455
1204.90	65.7159
1205.75	0.0000
1213.00	56.0398
1221.42	65.0466
1230.97	77.0859
1235.34	63.3307
1236.41	0.0000
1238.25	53.4792
1246.25	60.5507
1260.41	0.0000
1271.85	42.9930
1274.45	39.0222
1274.54	39.0238
1291.56	34.1812
1298.22	0.0000
1312.09	25.2757
1325.50	36.5303
1325.50	36.5303
1332.49	38.6324
1333.61	38.6432
1360.21	29.7009
1362.66	0.0000
1365.15	29.7399
1368.21	29.9113
1368.53	0.0000
1376.25	26.7416
1384.27	21.2026
1394.10	21.4180
1395.20	20.1554
1407.95	17.1110
1434.06	25.0547
1436.60	18.8027
1457.56	0.0000
1460.81	23.4210
1489.15	23.2837
1509.49	22.3356
1596.49	33.0706
1620.62	13.1001
1678.03	0.0000
1691.02	8.5549
1691.02	8.5549
1706.46	0.0000
1750.46	0.0000
1764.49	10.6225
1764.49	10.6225
1764.49	10.6225
1764.49	10.6225
1770.23	13.5356
1771.40	11.8467
1791.20	0.0000
1808.65	17.5430

1836.01

18.6223

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202018263

Total Uranium Activity	3.1000E+00	ug/g
Total Uranium Counting Unc.	4.3422E+00	ug/g
Total Uranium Tpu	2.2154E-06	ug/g
Total Uranium Mda	3.0825E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 942718          SAMPLE ID   : G1202018263
*  ANALYST       : MXR1           DETECTOR    : GAM12
*  SAMPLE DATE   : 11-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 26-JAN-2010 14:10:01.09  SAMPLE ALQT: 130.810 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.488E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.376E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.451E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.668E+00

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VAX/VMS Nuclide Identification Report Generated 26-JAN-2010 15:19:48.07

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018264.CNF;1
Sample date        : 19-JAN-2010 00:00:00 Acquisition date : 26-JAN-2010 14:19:20
Sample ID          : G1202018264      Sample quantity   : 1.51730E+02 GRAM
Detector name      : GAM14            Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00    Elapsed real time: 0 01:00:01.68  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 942718            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	59.58	4416	1452	1.31	118.71	111	14	1.23E+00	2.4	
2	1	74.68	226	650	1.54	148.90	144	15	6.26E-02	21.3	1.94E+00
3	1	77.21*	372	532	1.31	153.94	144	15	1.03E-01	12.4	
4	0	88.18*	1942	913	1.27	175.86	169	14	5.40E-01	4.0	
5	0	92.61*	85	423	2.12	184.71	183	10	2.37E-02	47.7	
6	0	121.82	330	543	1.17	243.08	236	14	9.16E-02	16.0	
7	0	185.57*	83	440	1.39	370.46	366	12	2.31E-02	52.0	
8	0	208.84	97	360	1.50	416.95	414	11	2.70E-02	39.0	
9	3	238.55*	773	294	1.58	476.33	468	19	2.15E-01	5.4	2.76E+00
10	3	241.50	127	300	1.54	482.23	468	19	3.52E-02	27.5	
11	0	295.20	267	271	1.29	589.53	584	13	7.43E-02	14.1	
12	0	338.21	88	229	1.32	675.49	671	10	2.46E-02	33.7	
13	0	352.07	279	280	1.42	703.19	697	12	7.74E-02	13.5	
14	0	510.99*	70	176	1.64	1020.83	1015	13	1.95E-02	43.1	
15	0	583.38*	215	95	1.54	1165.55	1161	10	5.96E-02	11.1	
16	0	609.32	240	131	1.26	1217.41	1212	12	6.68E-02	11.5	
17	0	661.87	2530	195	1.56	1322.48	1316	15	7.03E-01	2.3	
18	0	729.09	42	124	1.45	1456.87	1446	14	1.17E-02	58.5	
19	0	912.08*	138	189	1.44	1822.82	1816	15	3.82E-02	23.6	
20	0	969.99*	120	118	2.23	1938.63	1931	14	3.34E-02	21.6	
21	0	1173.86	2038	58	1.82	2346.43	2338	18	5.66E-01	2.4	
22	0	1333.27	1776	32	1.97	2665.37	2656	18	4.93E-01	2.5	
23	0	1462.51*	24	21	2.21	2924.00	2915	14	6.55E-03	46.9	
24	0	1510.80	22	8	1.06	3020.64	3014	11	6.01E-03	33.6	
25	0	1765.17	45	4	1.52	3529.82	3522	17	1.26E-02	18.1	

Flag: "\*" = Peak area was modified by background subtraction

## VMS Nuclide Identification Report V3.1 Generated 26-JAN-2010 15:19:51

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018264.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 00:00:00 Acquisition date : 26-JAN-2010 14:19:20
Sample ID        : G1202018264 Sample quantity : 151.73 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.68 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

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	+	122.06	*	2.538E-01	8.306E-02	6.665E-02	4.742E-03	3.808
		136.48		2.683E-01	3.544E-01	5.849E-01	4.293E-02	0.459
CO-60	+	1173.22		6.924E+00	5.047E-01	1.211E-01	6.668E-03	57.197
	+	1332.49	*	6.747E+00	5.863E-01	9.196E-02	6.554E-03	73.367
CD-109	+	88.03	*	3.680E+01	4.374E+00	2.231E+00	1.951E-01	16.492
SN-126		64.28		-3.195E-01	8.358E-01	1.180E+00	1.682E-01	-0.271
	+	86.94		1.521E+01	6.411E+00	9.296E-01	3.845E-01	16.359
	+	87.57	*	3.658E+00	4.348E-01	2.225E-01	1.936E-02	16.437
BA-137M	+	661.65	*	5.640E+00	4.257E-01	1.180E-01	7.017E-03	47.790
CS-137	+	661.65	*	5.962E+00	4.511E-01	1.247E-01	7.448E-03	47.790
TL-208		277.35		4.269E-01	6.618E-01	1.130E+00	1.195E-01	0.378
	+	510.84		5.199E-01	4.518E-01	4.451E-01	4.538E-02	1.168
	+	583.14	*	4.576E-01	1.060E-01	1.214E-01	8.300E-03	3.771
		860.37		6.828E-01	6.027E-01	1.074E+00	1.010E-01	0.636
BI-211		72.87		1.323E+01	5.532E+00	8.478E+00	6.248E-01	1.560
	+	351.07	*	2.551E+00	7.074E-01	6.814E-01	4.317E-02	3.743
PB-212	+	74.81		1.719E+00	7.602E-01	8.718E-01	1.046E-01	1.971
	+	77.11		1.621E+00	4.196E-01	5.004E-01	3.853E-02	3.239
	+	87.30		1.692E+01	2.628E+00	1.031E+00	1.365E-01	16.404
	+	238.63	*	1.540E+00	1.999E-01	1.611E-01	1.173E-02	9.562
		300.09		8.149E-01	1.515E+00	2.262E+00	1.871E-01	0.360
PO-212	+	74.81		1.719E+00	7.602E-01	8.718E-01	1.046E-01	1.971
	+	77.11		1.621E+00	4.196E-01	5.004E-01	3.853E-02	3.239
	+	87.30		1.692E+01	2.628E+00	1.031E+00	1.365E-01	16.404
		115.19		1.231E-01	6.540E+00	9.213E+00	6.704E-01	0.013
	+	238.63	*	1.540E+00	1.999E-01	1.611E-01	1.173E-02	9.562
		300.09		8.149E-01	1.515E+00	2.262E+00	1.871E-01	0.360
BI-214	+	609.31	*	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
		1120.29		1.015E+00	6.044E-01	1.100E+00	1.019E-01	0.922
	+	1764.49		1.339E+00	4.911E-01	4.918E-01	2.950E-02	2.722
PB-214	+	74.81		2.961E+00	1.299E+00	1.502E+00	1.585E-01	1.971
	+	77.11		2.778E+00	7.498E-01	8.578E-01	9.292E-02	3.239
	+	87.30		2.898E+01	4.106E+00	1.767E+00	2.050E-01	16.404
	+	241.98		1.515E+00	8.430E-01	9.553E-01	7.674E-02	1.585

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.443E+00	4.257E-01	3.898E-01	3.332E-02	3.703
	+	351.92	*	8.872E-01	2.504E-01	2.203E-01	1.808E-02	4.027
	+	74.81		2.961E+00	1.299E+00	1.502E+00	1.585E-01	1.971
	+	77.11		2.778E+00	7.498E-01	8.578E-01	9.292E-02	3.239
	+	87.30		2.898E+01	4.106E+00	1.767E+00	2.050E-01	16.404
PO-216	+	241.98		1.515E+00	8.430E-01	9.553E-01	7.674E-02	1.585
	+	295.21		1.443E+00	4.257E-01	3.898E-01	3.332E-02	3.703
	+	351.92	*	8.872E-01	2.504E-01	2.203E-01	1.808E-02	4.027
	+	74.81		1.719E+00	7.602E-01	8.718E-01	1.046E-01	1.971
	+	77.11		1.621E+00	4.196E-01	5.004E-01	3.853E-02	3.239
PO-218	+	87.30		1.692E+01	2.628E+00	1.031E+00	1.365E-01	16.404
	+	238.63	*	1.540E+00	1.999E-01	1.611E-01	1.173E-02	9.562
	+	300.09		8.149E-01	1.515E+00	2.262E+00	1.871E-01	0.360
	+	74.81		2.961E+00	1.299E+00	1.502E+00	1.585E-01	1.971
	+	77.11		2.778E+00	7.498E-01	8.578E-01	9.292E-02	3.239
RA-224	+	87.30		2.898E+01	4.106E+00	1.767E+00	2.050E-01	16.404
	+	241.98		1.515E+00	8.430E-01	9.553E-01	7.674E-02	1.585
	+	295.21		1.443E+00	4.257E-01	3.898E-01	3.332E-02	3.703
	+	351.92	*	8.872E-01	2.504E-01	2.203E-01	1.808E-02	4.027
	+	240.98	*	2.872E+00	1.590E+00	1.832E+00	1.053E-01	1.567
AC-228	+	609.31	*	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
	+	1120.29		1.015E+00	6.044E-01	1.100E+00	1.019E-01	0.922
	+	1764.49		1.339E+00	4.911E-01	4.918E-01	2.950E-02	2.722
	+	338.32		8.910E-01	7.011E-01	7.239E-01	2.951E-01	1.231
	+	911.07	*	1.334E+00	6.477E-01	5.258E-01	6.175E-02	2.537
TH-228	+	969.11		2.062E+00	1.011E+00	9.635E-01	2.250E-01	2.140
	+	338.32		8.910E-01	7.011E-01	7.239E-01	2.951E-01	1.231
	+	911.07	*	1.334E+00	6.477E-01	5.258E-01	6.175E-02	2.537
	+	969.11		2.062E+00	1.011E+00	9.635E-01	2.250E-01	2.140
	+	74.81		1.732E+00	7.489E-01	8.784E-01	6.675E-02	1.971
TH-230	+	77.11		1.633E+00	4.228E-01	5.042E-01	3.882E-02	3.239
	+	87.30		1.705E+01	2.026E+00	1.039E+00	9.012E-02	16.404
	+	238.63	*	1.552E+00	2.015E-01	1.623E-01	1.182E-02	9.562
	+	300.09		8.211E-01	1.600E+00	2.279E+00	1.343E+00	0.360
	+	609.31	*	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
TH-232	+	1120.29		1.015E+00	6.044E-01	1.100E+00	1.019E-01	0.922
	+	1764.49		1.339E+00	4.911E-01	4.918E-01	2.950E-02	2.722
	+	338.32		8.910E-01	6.019E-01	7.239E-01	4.159E-02	1.231
	+	911.07	*	1.334E+00	6.477E-01	5.258E-01	6.175E-02	2.537
	+	969.11		2.062E+00	1.011E+00	9.635E-01	2.250E-01	2.140
U-234	+	609.31	*	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
	+	1120.29		1.015E+00	6.044E-01	1.100E+00	1.019E-01	0.922
	+	1764.49		1.339E+00	4.911E-01	4.918E-01	2.950E-02	2.722
	+	59.54	*	1.504E+01	1.324E+00	4.571E-01	3.394E-02	32.900
	+	74.67	*	2.786E-01	1.205E-01	1.417E-01	1.063E-02	1.967
ANH-511	+	86.72		4.028E+02	4.788E+01	2.466E+01	2.124E+00	16.332
	+	117.66		8.766E+00	6.888E+00	1.035E+01	7.459E-01	0.847
	+	142.18		1.315E+01	2.854E+01	4.663E+01	2.932E+00	0.282
	+	511.00	*	1.123E-01	9.714E-02	9.616E-02	5.649E-03	1.168

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.59	*		-9.398E-02	6.411E-01	1.043E+00	7.029E-02	-0.090
NA-22	1274.54	*		-1.541E-02	4.947E-02	7.757E-02	5.067E-03	-0.199
NA-24	1368.53	*		-4.669E-05	4.947E-02	Half-Life too short		
AL-26	1129.67			-7.366E-01	3.036E+00	4.921E+00	3.108E-01	-0.150
	1808.65	*		-2.272E-03	4.899E-02	7.970E-02	4.620E-03	-0.029
K-40	1460.81	*		1.207E+00	6.476E-01	1.202E+00	8.727E-02	1.004
TI-44	67.85			-4.273E-02	6.875E-02	1.096E-01	7.714E-03	-0.390
	78.38	*	+	2.990E-01	7.740E-02	1.113E-01	8.690E-03	2.686
SC-46	889.25	*		7.722E-02	8.908E-02	1.559E-01	1.441E-02	0.495
	1120.51			1.866E-01	9.515E-02	1.769E-01	1.146E-02	1.055
V-48	944.10			-1.514E+00	1.643E+00	2.584E+00	2.309E-01	-0.586
	983.50	*		5.451E-02	1.181E-01	2.024E-01	1.719E-02	0.269
	1312.09			4.796E-02	7.171E-02	1.289E-01	8.911E-03	0.372
CR-51	320.08	*		1.311E-01	5.760E-01	9.664E-01	6.245E-02	0.136
MN-52	744.21			1.718E-01	1.838E-01	3.156E-01	2.227E-02	0.544
	848.13			2.550E+00	6.146E+00	1.054E+01	9.059E-01	0.242
	935.52			-2.924E-02	2.578E-01	4.277E-01	3.860E-02	-0.068
	1246.25			-2.915E+00	3.433E+00	5.005E+00	3.118E-01	-0.583
	1333.61	*	+	3.412E+02	2.965E+01	3.783E+01	2.696E+00	9.019
	1434.06	*		-3.229E-02	1.169E-01	1.815E-01	1.272E-02	-0.178
MN-54	834.83	*		-4.293E-02	8.110E-02	1.317E-01	1.105E-02	-0.326
CO-56	846.75	*		2.952E-02	8.284E-02	1.418E-01	1.215E-02	0.208
	977.42			-5.828E-01	7.071E+00	1.086E+01	9.299E-01	-0.054
	1037.82			3.725E-01	6.660E-01	1.148E+00	9.508E-02	0.325
	1175.09		+	3.239E+02	2.360E+01	3.319E+01	1.834E+00	9.758
	1238.25			8.528E-02	9.520E-02	1.724E-01	1.120E-02	0.495
	1360.21			9.159E-01	1.015E+00	1.927E+00	1.369E-01	0.475
	1771.40			7.467E-02	2.727E-01	4.193E-01	2.502E-02	0.178
CO-58	810.76	*		4.431E-02	7.675E-02	1.282E-01	1.032E-02	0.346
FE-59	142.65			7.155E-01	3.886E+00	6.279E+00	3.937E-01	0.114
	192.34			1.791E+00	1.636E+00	2.515E+00	2.936E-01	0.712
	1099.22	*		-5.802E-02	1.809E-01	2.931E-01	2.257E-02	-0.198
	1291.56			5.630E-03	1.252E-01	2.074E-01	1.688E-02	0.027
ZN-65	1115.52	*		-2.913E-01	1.844E-01	2.684E-01	1.764E-02	-1.086
GE-68	1077.35	*		2.069E+00	2.730E+00	4.752E+00	3.416E-01	0.435
AS-73	53.44	*		-1.481E-01	1.785E+00	2.549E+00	1.661E-01	-0.058
AS-74	595.88	*		1.435E-01	1.369E-01	2.363E-01	1.413E-02	0.607
	634.78			7.614E-03	5.271E-01	8.556E-01	5.110E-02	0.009
SE-75	66.05			-2.373E+00	7.278E+00	1.083E+01	9.846E-01	-0.219
	96.73			-6.329E-01	1.303E+00	1.790E+00	2.378E-01	-0.354
	121.11		+	1.332E+00	4.462E-01	4.786E-01	4.843E-02	2.783
	136.00			7.407E-02	6.487E-02	1.085E-01	7.164E-03	0.683
	198.60			-1.870E+00	2.935E+00	4.790E+00	3.316E-01	-0.390
	264.65	*		3.000E-03	7.646E-02	1.279E-01	7.509E-03	0.023
	279.53			-8.020E-02	1.859E-01	3.043E-01	1.916E-02	-0.264
	303.91			-1.223E+00	3.656E+00	5.990E+00	5.725E-01	-0.204
	400.65			4.638E-01	5.046E-01	8.648E-01	7.702E-02	0.536
BR-77	87.88		+	8.916E+02	1.060E+02	1.062E+02	9.274E+00	8.397
	200.40			3.684E+01	3.021E+01	5.291E+01	2.942E+00	0.696



---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	239.00		2.743E+01	3.341E+00	5.456E+00	3.132E-01	5.027
		249.79		-1.643E-01	1.339E+01	2.238E+01	1.293E+00	-0.007
		281.68		-1.058E+01	1.818E+01	2.955E+01	1.723E+00	-0.358
		297.23		2.685E+01	1.309E+01	2.086E+01	1.217E+00	1.287
		303.76		9.082E-01	3.559E+01	5.928E+01	3.454E+00	0.015
		439.47		-1.306E+01	3.270E+01	5.264E+01	2.977E+00	-0.248
		484.57		-2.097E+01	5.155E+01	8.250E+01	4.791E+00	-0.254
		520.65	*	-5.841E-02	2.337E+00	3.814E+00	2.248E-01	-0.015
		574.64		-1.166E+02	5.010E+01	6.898E+01	4.118E+00	-1.691
		578.91		1.680E+01	2.075E+01	3.126E+01	1.867E+00	0.537
		585.48		1.583E+02	4.765E+01	8.126E+01	4.857E+00	1.948
		755.35		-5.536E+00	3.463E+01	5.503E+01	3.970E+00	-0.101
		817.79		-1.720E+01	2.816E+01	4.514E+01	3.669E+00	-0.381
SR-82		698.33		1.362E+01	5.405E+01	8.878E+01	5.707E+00	0.153
		776.49	*	-2.924E-01	6.531E-01	1.015E+00	7.635E-02	-0.288
		1395.20		-2.057E+00	1.018E+01	1.601E+01	1.131E+00	-0.128
RB-83		520.41	*	-6.885E-03	1.310E-01	2.133E-01	1.257E-02	-0.032
		529.64		1.261E-01	1.934E-01	3.280E-01	1.939E-02	0.385
		552.65		8.147E-02	3.897E-01	6.431E-01	3.825E-02	0.127
RB-84		881.50	*	7.457E-02	1.443E-01	2.485E-01	2.265E-02	0.300
KR-85		513.99	*	1.708E+01	1.622E+01	2.471E+01	1.453E+00	0.692
SR-85		513.99	*	8.092E-02	7.683E-02	1.170E-01	6.883E-03	0.692
RB-86		1076.63	*	8.625E-01	1.353E+00	2.336E+00	1.682E-01	0.369
Y-88		898.02		4.815E-02	9.706E-02	1.667E-01	1.570E-02	0.289
		1836.01	*	-3.257E-03	4.943E-02	7.862E-02	4.465E-03	-0.041
ZR-88		392.90	*	2.494E-02	5.637E-02	9.501E-02	5.173E-03	0.263
Y-91		1204.90	*	-1.958E+01	2.325E+01	3.469E+01	2.018E+00	-0.564
NB-94		702.63	*	4.771E-03	6.467E-02	1.050E-01	6.807E-03	0.045
		871.10		5.427E-02	7.582E-02	1.323E-01	1.184E-02	0.410
NB-95		765.79	*	-2.484E-02	7.491E-02	1.175E-01	8.656E-03	-0.211
NB-95M		235.69	*	5.102E-01	2.311E-01	3.689E-01	2.757E-02	1.383
ZR-95		724.18		-6.357E-02	1.888E-01	2.530E-01	1.949E-02	-0.251
		756.15	*	-1.198E-03	1.246E-01	2.004E-01	1.653E-02	-0.006
NB-97		657.90	*	4.078E-04	1.246E-01	Half-Life too short		
		1024.50		-7.845E-03	1.246E-01	Half-Life too short		
ZR-97		254.15		3.683E-03	1.246E-01	Half-Life too short		
		355.39		9.798E-04	1.246E-01	Half-Life too short		
		507.63	*	1.187E-03	1.246E-01	Half-Life too short		
		602.52		-2.498E-03	1.246E-01	Half-Life too short		
		1021.30		1.289E-02	1.246E-01	Half-Life too short		
		1147.95		2.231E-03	1.246E-01	Half-Life too short		
		1362.66		-2.815E-03	1.246E-01	Half-Life too short		
		1750.46		-8.821E-04	1.246E-01	Half-Life too short		
MO-99		140.51		-8.203E+00	6.975E+00	1.005E+01	2.722E+00	-0.816
		181.06		1.401E+00	4.523E+00	6.751E+00	1.149E+00	0.207
		366.43		1.232E+01	2.464E+01	4.171E+01	2.341E+00	0.295
		739.58	*	-1.219E+00	3.572E+00	5.606E+00	8.029E-01	-0.217
		778.00		-6.587E+00	1.094E+01	1.680E+01	1.267E+00	-0.392
TC-99M		140.51	*	-7.116E+01	1.094E+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
RH-101	127.23			-4.080E-02	6.178E-02	8.346E-02	5.742E-03	-0.489
	198.01	*		-6.772E-02	5.620E-02	8.966E-02	4.974E-03	-0.755
	325.23			-3.440E-01	4.184E-01	6.685E-01	3.869E-02	-0.515
RH-102	418.52			2.630E-01	5.972E-01	1.004E+00	5.588E-02	0.262
	475.06	*		3.551E-02	6.656E-02	1.119E-01	6.465E-03	0.317
	631.29			-1.879E-02	1.083E-01	1.735E-01	1.037E-02	-0.108
	697.49			7.409E-02	1.452E-01	2.428E-01	1.558E-02	0.305
	766.84			1.401E-01	2.014E-01	3.397E-01	2.507E-02	0.412
RU-103	1046.59			-2.417E-02	2.552E-01	4.212E-01	3.223E-02	-0.057
	1112.84			-1.512E-01	4.413E-01	7.118E-01	4.703E-02	-0.212
	497.08	*		1.555E-02	7.199E-02	1.192E-01	1.510E-02	0.130
	610.33	+		9.146E+00	2.530E+00	3.313E+00	5.132E-01	2.760
RH-106	511.85	+		5.530E-01	4.784E-01	6.182E-01	3.633E-02	0.895
	621.84	*		-5.267E-01	5.993E-01	9.061E-01	1.072E-01	-0.581
RU-106	1050.47			-3.412E+00	5.144E+00	8.144E+00	6.186E-01	-0.419
	511.85	+		5.530E-01	4.784E-01	6.182E-01	3.633E-02	0.895
	621.84	*		-5.267E-01	5.969E-01	9.061E-01	5.418E-02	-0.581
	1050.47			-3.412E+00	5.144E+00	8.144E+00	6.186E-01	-0.419
AG-108M	433.93	*		4.529E-02	6.798E-02	1.154E-01	7.090E-03	0.392
	614.37			7.276E-02	8.459E-02	1.277E-01	8.250E-03	0.570
	722.95			-2.415E-02	9.124E-02	1.233E-01	8.859E-03	-0.196
AG-110M	657.75	*		1.367E-01	8.092E-02	1.293E-01	8.165E-03	1.058
	677.61			-1.219E-01	5.734E-01	9.126E-01	5.922E-02	-0.134
	706.67			-1.192E-02	4.013E-01	6.464E-01	4.428E-02	-0.018
	763.93			3.140E-02	3.030E-01	4.913E-01	3.745E-02	0.064
	884.67			-4.502E-02	1.191E-01	1.948E-01	1.837E-02	-0.231
	937.48			1.051E-01	2.830E-01	4.816E-01	4.481E-02	0.218
	1384.27			-1.011E-01	2.102E-01	3.170E-01	2.337E-02	-0.319
IN-111	171.28			2.297E-02	2.718E-01	4.356E-01	2.349E-02	0.053
	245.39	*		-5.260E-02	3.448E-01	4.977E-01	2.868E-02	-0.106
IN-113M	391.69	*		-3.868E-02	8.171E-02	1.316E-01	7.698E-03	-0.294
SN-113	391.69	*		-3.868E-02	8.171E-02	1.316E-01	7.698E-03	-0.294
IN-114M	190.27	*		-1.451E-01	3.352E-01	4.815E-01	2.650E-02	-0.301
CD-115	260.90			-1.253E+01	2.221E+01	3.620E+01	2.101E+00	-0.346
	492.35			4.225E+00	7.208E+00	1.217E+01	7.094E-01	0.347
	527.90	*		6.831E-01	2.034E+00	3.389E+00	2.003E-01	0.202
SN-117M	156.02			2.080E-01	2.588E+00	4.156E+00	2.392E-01	0.050
	158.56	*		4.564E-03	6.329E-02	1.016E-01	5.745E-03	0.045
SB-122	563.90	*		-4.121E-01	6.086E-01	9.499E-01	5.662E-02	-0.434
	692.80			-2.842E+00	1.193E+01	1.894E+01	1.203E+00	-0.150
I-123	159.00	*		1.814E-04	1.193E+01	Half-Life	too short	
	528.96			4.533E-02	1.193E+01	Half-Life	too short	
TE-123M	159.00	*		1.210E-02	4.541E-02	7.346E-02	4.201E-03	0.165
I-124	602.71	*		-1.111E-01	4.155E-01	5.981E-01	3.578E-02	-0.186
	722.78			-6.418E-01	2.734E+00	3.706E+00	2.505E-01	-0.173
	1325.50			8.312E+00	1.590E+01	2.469E+01	1.741E+00	0.337
	1376.25			7.179E-01	1.121E+01	1.856E+01	1.316E+00	0.039
	1509.49	+		1.103E+01	7.439E+00	1.340E+01	9.193E-01	0.823
	1691.02			8.438E-01	1.588E+00	2.849E+00	1.795E-01	0.296

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	602.71		-2.068E-02	7.731E-02	1.113E-01	6.660E-03	-0.186
	645.85		-2.722E-01	9.045E-01	1.435E+00	9.596E-02	-0.190
	709.31		2.464E+00	5.040E+00	8.404E+00	5.526E-01	0.293
	713.82		3.570E-01	3.080E+00	5.009E+00	5.364E-01	0.071
	722.78		-1.731E-01	7.375E-01	9.997E-01	6.994E-02	-0.173
	968.20		1.073E+01	7.091E+00	1.118E+01	9.699E-01	0.960
	1045.16		2.143E+00	5.034E+00	8.598E+00	6.598E-01	0.249
	1325.50		2.395E+00	4.580E+00	7.114E+00	5.017E-01	0.337
	1368.21		-3.698E-02	2.086E+00	3.411E+00	4.283E-01	-0.011
	1436.60		-3.443E+00	4.394E+00	6.083E+00	4.261E-01	-0.566
	1691.02	*	5.368E-02	1.011E-01	1.813E-01	1.225E-02	0.296
	427.89	*	-8.432E-02	1.949E-01	3.137E-01	1.839E-02	-0.269
	463.38		-7.144E-02	6.341E-01	1.035E+00	6.949E-02	-0.069
SB-125	600.56		-8.348E-03	3.570E-01	5.793E-01	3.977E-02	-0.014
	635.90		-7.584E-02	5.263E-01	8.448E-01	5.862E-02	-0.090
	109.28	*	5.476E+00	1.387E+01	2.270E+01	2.127E+00	0.241
TE-125M I-126	388.63		-7.794E-02	2.648E-01	4.308E-01	2.353E-02	-0.181
	666.33	*	8.777E-02	2.769E-01	3.981E-01	2.391E-02	0.220
	753.82		5.677E-02	1.827E+00	2.949E+00	2.121E-01	0.019
SB-126	223.80		-2.662E+00	4.651E+00	7.631E+00	4.334E-01	-0.349
	278.60		4.146E-01	2.846E+00	4.776E+00	2.784E-01	0.087
	296.50	+	9.426E+00	2.717E+00	3.401E+00	1.984E-01	2.772
	414.70		3.523E-02	1.016E-01	1.701E-01	9.438E-03	0.207
	415.30		2.303E+00	8.460E+00	1.412E+01	7.838E-01	0.163
	555.20		3.808E+00	5.287E+00	8.981E+00	5.345E-01	0.424
	573.80		-3.339E+00	1.498E+00	2.086E+00	1.245E-01	-1.600
	593.00		-8.602E-01	1.273E+00	1.981E+00	1.185E-01	-0.434
	656.30		-5.680E-01	5.122E+00	7.078E+00	4.214E-01	-0.080
	666.33		3.605E-02	1.137E-01	1.635E-01	9.821E-03	0.220
	675.00		-1.960E+00	2.540E+00	3.872E+00	2.369E-01	-0.506
	695.00		-3.104E-02	9.907E-02	1.565E-01	9.988E-03	-0.198
	697.00		5.166E-02	3.355E-01	5.477E-01	3.511E-02	0.094
	720.50	*	-9.462E-02	2.225E-01	2.958E-01	1.990E-02	-0.320
	856.80		-8.485E-01	6.656E-01	1.017E+00	8.876E-02	-0.834
	989.30		4.234E-01	1.898E+00	3.206E+00	2.700E-01	0.132
	1034.80		7.581E-01	1.344E+01	2.242E+01	1.753E+00	0.034
	1213.00		-3.128E+00	4.240E+00	6.428E+00	3.791E-01	-0.487
	61.10		1.206E+03	1.025E+02	9.775E+01	7.412E+00	12.340
	252.40		-4.231E-02	2.028E+00	3.389E+00	1.392E+00	-0.012
	290.80		-1.061E+01	1.151E+01	1.565E+01	1.070E+00	-0.678
	411.60		-3.568E+00	6.264E+00	1.000E+01	1.289E+00	-0.357
	444.90		-5.410E-01	5.540E+00	9.060E+00	7.971E-01	-0.060
	473.00		2.432E-01	1.037E+00	1.719E+00	1.603E-01	0.141
SB-127	543.00		3.430E+00	8.208E+00	1.372E+01	1.568E+00	0.250
	603.60		7.957E-01	6.629E+00	9.401E+00	8.427E-01	0.085
	685.20	*	-2.593E-02	6.907E-01	1.114E+00	8.393E-02	-0.023
	698.50		1.674E+00	7.619E+00	1.248E+01	1.674E+00	0.134
	722.20		-4.868E+00	1.724E+01	2.327E+01	1.776E+00	-0.209
	783.80		9.850E-01	1.848E+00	3.080E+00	3.087E-01	0.320

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	57.60			2.903E+02	2.438E+01	3.135E+01	2.065E+00	9.257
	145.22			2.696E-01	9.851E-01	1.597E+00	9.853E-02	0.169
	172.10			9.500E-02	1.751E-01	2.859E-01	1.543E-02	0.332
	202.84	*		-3.351E-06	7.130E-02	1.134E-01	6.319E-03	0.000
I-131	374.96			5.063E-03	3.331E-01	5.510E-01	3.063E-02	0.009
	80.18			-1.852E+00	4.535E+00	6.326E+00	5.050E-01	-0.293
	284.30			7.340E-01	1.431E+00	2.435E+00	1.564E-01	0.301
	364.48	*		-2.253E-02	1.171E-01	1.920E-01	1.202E-02	-0.117
TE-132	636.97			-5.045E-01	1.581E+00	2.506E+00	1.652E-01	-0.201
	722.89			-2.039E+00	8.027E+00	1.086E+01	7.360E-01	-0.188
	49.72			3.222E+00	6.932E+00	1.146E+01	8.304E-01	0.281
	111.76			-4.001E+00	9.736E+00	1.542E+01	1.248E+00	-0.259
BA-133	116.30			2.508E+00	1.019E+01	1.453E+01	1.158E+00	0.173
	228.16	*		1.697E-01	2.479E-01	4.214E-01	5.536E-02	0.403
	53.15			-1.590E+00	8.169E+00	1.162E+01	7.570E-01	-0.137
	79.62			2.240E+00	2.493E+00	3.635E+00	5.393E-01	0.616
I-133	81.00			-7.023E-02	2.197E-01	2.566E-01	3.995E-02	-0.274
	276.40			5.045E-01	6.533E-01	1.119E+00	1.452E-01	0.451
	302.84			3.534E-02	2.717E-01	4.295E-01	5.013E-02	0.082
	356.01	*		-6.386E-03	8.979E-02	1.283E-01	1.475E-02	-0.050
I-133	383.85			5.711E-02	6.191E-01	1.027E+00	1.100E-01	0.056
	510.53	+		2.745E-03	6.191E-01	Half-Life	too short	
	529.87	*		1.532E-05	6.191E-01	Half-Life	too short	
	706.58			4.645E-04	6.191E-01	Half-Life	too short	
CS-134	856.28			-2.767E-03	6.191E-01	Half-Life	too short	
	875.33			-3.888E-04	6.191E-01	Half-Life	too short	
	1236.41			1.232E-03	6.191E-01	Half-Life	too short	
	1298.22			6.332E-04	6.191E-01	Half-Life	too short	
CS-134	475.35			1.927E+00	4.344E+00	7.270E+00	4.202E-01	0.265
	563.23			1.292E-01	6.850E-01	1.129E+00	6.863E-02	0.114
	569.32			9.544E-01	4.384E-01	7.907E-01	4.850E-02	1.207
	604.70			4.862E-02	7.122E-02	1.060E-01	6.376E-03	0.459
I-135	795.84	*		2.579E-02	1.007E-01	1.645E-01	1.295E-02	0.157
	801.93			-3.754E-01	8.314E-01	1.289E+00	1.024E-01	-0.291
	1038.57			4.956E+00	8.886E+00	1.531E+01	1.189E+00	0.324
	1167.94			8.968E-01	4.871E+00	7.083E+00	3.973E-01	0.127
CS-135	1365.15			1.195E+00	1.489E+00	2.757E+00	2.088E-01	0.433
	268.24	*		-3.632E-02	2.763E-01	4.588E-01	3.519E-02	-0.079
	288.45			-7.455E+01	2.763E-01	Half-Life	too short	
	417.63			2.012E+02	2.763E-01	Half-Life	too short	
I-135	546.56			3.032E+01	2.763E-01	Half-Life	too short	
	836.80			1.291E+02	2.763E-01	Half-Life	too short	
	1038.76			1.319E+02	2.763E-01	Half-Life	too short	
	1124.00			-4.525E+02	2.763E-01	Half-Life	too short	
I-135	1131.51			2.332E+01	2.763E-01	Half-Life	too short	
	1260.41	*		-2.068E+01	2.763E-01	Half-Life	too short	
	1457.56			-6.922E+01	2.763E-01	Half-Life	too short	
	1678.03			5.526E+01	2.763E-01	Half-Life	too short	
I-135	1706.46			3.053E+01	2.763E-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
	1791.20			5.496E+00	2.763E-01	Half-Life	too short	
CS-136	66.91			-3.648E-01	7.766E-01	1.243E+00	1.812E-01	-0.294
	86.29			2.243E+01	3.430E+00	3.488E+00	4.468E-01	6.430
	153.22			-3.831E-02	7.312E-01	1.168E+00	8.492E-02	-0.033
	163.89			5.278E-01	1.205E+00	1.962E+00	1.366E-01	0.269
	176.55			1.313E-01	4.092E-01	6.621E-01	4.089E-02	0.198
	273.65			-2.822E-01	5.304E-01	8.649E-01	5.734E-02	-0.326
	340.57			2.225E-01	1.856E-01	2.854E-01	1.741E-02	0.780
	818.51			-1.619E-02	9.440E-02	1.565E-01	1.274E-02	-0.103
	1048.07	*		-5.548E-02	1.618E-01	2.622E-01	2.108E-02	-0.212
	1235.34			-2.546E-01	4.723E-01	7.355E-01	7.482E-02	-0.346
CE-139	165.85	*		3.881E-02	4.928E-02	8.125E-02	4.362E-03	0.478
BA-140	162.64			-6.406E-01	8.673E-01	1.343E+00	8.397E-02	-0.477
	304.84			-9.996E-01	1.553E+00	2.468E+00	6.736E-01	-0.405
	423.70			-2.484E+00	2.796E+00	4.215E+00	1.338E+00	-0.589
	537.32	*		-4.403E-02	3.229E-01	5.218E-01	1.698E-01	-0.084
LA-140	328.77			3.930E-01	3.696E-01	6.395E-01	4.142E-02	0.615
	432.53			2.863E-01	2.943E+00	4.864E+00	3.040E-01	0.059
	487.03			-7.153E-02	1.879E-01	3.012E-01	1.981E-02	-0.237
	751.79			-4.392E-02	2.114E+00	3.397E+00	2.803E-01	-0.013
	815.85			-5.149E-01	4.224E-01	6.433E-01	5.886E-02	-0.800
	867.82			1.416E-01	2.042E+00	3.435E+00	3.210E-01	0.041
	919.63			1.274E+00	4.936E+00	7.275E+00	8.081E-01	0.175
	925.24			-6.164E-01	1.799E+00	2.940E+00	2.834E-01	-0.210
	1596.49	*		1.299E-02	8.538E-02	1.424E-01	9.440E-03	0.091
CE-141	145.44	*		4.185E-02	8.674E-02	1.418E-01	9.047E-03	0.295
CE-143	57.37			8.289E+02	9.696E+01	1.265E+02	1.019E+01	6.555
	231.56			-1.362E+02	1.251E+02	1.608E+02	4.967E+01	-0.847
	293.26	*		1.969E+01	7.533E+00	1.071E+01	2.190E+00	1.839
	350.59			4.517E+02	1.834E+02	1.686E+02	5.111E+01	2.679
	490.36			1.586E+02	1.406E+02	2.298E+02	7.103E+01	0.690
	664.57			2.228E+03	7.202E+02	3.077E+02	9.751E+01	7.241
	721.93			1.333E+00	6.818E+01	9.497E+01	2.721E+01	0.014
CE-144	80.11			-1.482E+00	3.929E+00	5.488E+00	4.369E-01	-0.270
	133.54	*		-3.219E-01	3.551E-01	5.452E-01	7.937E-02	-0.590
PM-144	476.78			-4.428E-03	1.512E-01	2.475E-01	1.714E-02	-0.018
	618.01			1.864E-02	6.077E-02	1.006E-01	6.357E-03	0.185
	696.49	*		-7.682E-05	6.566E-02	1.061E-01	6.792E-03	-0.001
	778.57			-4.836E+00	4.855E+00	7.214E+00	5.446E-01	-0.670
PR-144	696.49	*		-5.185E-03	4.432E+00	7.158E+00	4.583E-01	-0.001
	1489.15			9.965E+00	1.490E+01	2.728E+01	1.884E+00	0.365
PM-146	453.90	*		-4.574E-02	1.022E-01	1.643E-01	1.406E-02	-0.278
	633.02			1.541E+00	2.713E+00	4.473E+00	1.648E+00	0.345
	735.90			1.725E-03	2.862E-01	4.615E-01	1.299E-01	0.004
	747.13			-8.656E-02	1.802E-01	2.791E-01	3.672E-02	-0.310
ND-147	91.11			3.334E-01	3.195E-01	4.592E-01	4.220E-02	0.726
	319.41			-7.821E-01	3.936E+00	6.481E+00	3.760E-01	-0.121
	439.89			-2.845E+00	7.490E+00	1.207E+01	6.827E-01	-0.236
	531.02	*		4.335E-02	6.831E-01	1.120E+00	1.520E-01	0.039

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149		285.90	*	1.455E+01	1.590E+01	2.728E+01	3.865E+00	0.533
EU-152	+	121.78		7.503E-01	2.483E-01	2.692E-01	2.329E-02	2.787
		244.69		4.200E-02	6.742E-01	9.851E-01	5.674E-02	0.043
		344.27	*	-1.668E-01	2.281E-01	3.124E-01	2.021E-02	-0.534
		443.98		-5.203E-01	2.059E+00	3.341E+00	1.895E-01	-0.156
		778.89		-1.958E-01	5.498E-01	8.604E-01	6.499E-02	-0.228
		867.32		1.984E-01	1.827E+00	3.081E+00	2.740E-01	0.064
		964.01		3.327E-01	7.979E-01	1.183E+00	1.031E-01	0.281
		1085.78		-5.017E-01	8.475E-01	1.343E+00	9.474E-02	-0.374
		1112.02		2.116E-01	6.282E-01	1.066E+00	7.060E-02	0.198
		1407.95		4.793E-02	2.529E-01	4.260E-01	3.002E-02	0.113
GD-153		69.67		6.798E-01	2.707E+00	3.897E+00	2.786E-01	0.174
		83.37		-1.499E+00	3.052E+01	4.010E+01	3.316E+00	-0.037
		97.43	*	-6.336E-02	1.385E-01	1.907E-01	1.530E-02	-0.332
		103.18		-4.450E-02	1.652E-01	2.641E-01	2.038E-02	-0.168
EU-154	+	123.07		5.264E-01	1.766E-01	1.862E-01	1.905E-02	2.828
		247.94		-2.559E-01	6.993E-01	1.086E+00	1.034E-01	-0.236
		591.81		-1.663E-01	1.255E+00	2.024E+00	2.000E-01	-0.082
		723.30		-1.759E-01	3.895E-01	5.156E-01	4.069E-02	-0.341
		756.87		6.231E-02	1.474E+00	2.381E+00	2.624E-01	0.026
		873.19		-4.911E-01	6.823E-01	1.086E+00	1.358E-01	-0.452
		996.32		-3.410E-01	8.389E-01	1.356E+00	2.390E-01	-0.251
		1004.76		4.686E-02	4.838E-01	8.101E-01	9.196E-02	0.058
		1274.45	*	-5.246E-02	1.374E-01	2.127E-01	2.086E-02	-0.247
EU-155		48.70		1.663E+00	4.116E+00	6.799E+00	4.357E-01	0.245
	+	60.01		4.878E+02	3.973E+01	3.583E+01	2.382E+00	13.612
		86.54		3.580E+00	4.084E-01	5.026E-01	4.362E-02	7.122
		105.31	*	-7.851E-02	1.743E-01	2.764E-01	2.139E-02	-0.284
TB-160	+	86.79		1.095E+01	1.301E+00	1.293E+00	1.114E-01	8.465
		197.04		-9.016E-01	8.827E-01	1.428E+00	7.917E-02	-0.631
		215.65		3.305E-01	1.347E+00	1.996E+00	1.126E-01	0.166
		298.57		6.120E-02	2.102E-01	3.094E-01	1.804E-02	0.198
		879.36	*	1.273E-01	3.088E-01	5.290E-01	4.804E-02	0.241
		962.29		-4.133E-01	1.401E+00	1.974E+00	1.725E-01	-0.209
		966.15		5.443E-01	5.111E-01	7.912E-01	6.880E-02	0.688
		1177.93		4.062E+00	9.390E-01	1.753E+00	9.736E-02	2.317
		1271.85		-5.582E-01	7.724E-01	1.130E+00	7.334E-02	-0.494
HO-166M		80.57		-3.752E-01	5.539E-01	7.060E-01	5.650E-02	-0.531
	+	184.41		8.746E-02	9.100E-02	9.994E-02	5.466E-03	0.875
		280.46		-1.232E-01	1.535E-01	2.468E-01	1.439E-02	-0.499
		410.95		1.099E-01	4.735E-01	7.892E-01	4.366E-02	0.139
		711.68	*	-3.173E-02	1.253E-01	1.987E-01	1.313E-02	-0.160
		752.31		2.605E-01	4.983E-01	8.349E-01	5.988E-02	0.312
		810.29		1.043E-01	1.254E-01	2.128E-01	1.706E-02	0.490
TM-171		51.35		4.159E+01	5.734E+01	9.522E+01	6.174E+00	0.437
		52.39		-4.793E+00	3.289E+01	4.953E+01	3.221E+00	-0.097
	+	59.40		2.554E+03	2.080E+02	1.950E+02	1.292E+01	13.095
		66.72	*	-8.754E+00	4.126E+01	6.671E+01	4.651E+00	-0.131
LU-176	+	88.36		8.676E+00	1.031E+00	1.032E+00	8.991E-02	8.407

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177	+	201.83		2.195E-02	4.773E-02	8.159E-02	4.543E-03	0.269
		306.84	*	-3.385E-02	4.610E-02	7.407E-02	4.314E-03	-0.457
		401.10		8.335E+00	1.372E+01	2.325E+01	1.275E+00	0.359
		112.95		-1.393E+00	1.212E+00	1.854E+00	1.362E-01	-0.751
		208.36	*	1.578E+00	1.233E+00	1.506E+00	8.437E-02	1.048
		52.97		-2.080E-01	3.544E+00	5.064E+00	3.298E-01	-0.041
		54.07		1.613E+00	1.889E+00	2.771E+00	1.809E-01	0.582
		61.30		1.037E+02	8.176E+00	9.014E+00	6.042E-01	11.506
		121.62		3.729E+00	1.220E+00	1.342E+00	9.545E-02	2.778
		147.16		-1.020E-01	1.032E+00	1.648E+00	1.005E-01	-0.062
		171.86		4.056E-01	7.873E-01	1.285E+00	6.932E-02	0.316
		218.09		7.647E-02	1.411E+00	2.374E+00	1.342E-01	0.032
		268.79		-1.326E-01	1.350E+00	2.245E+00	1.306E-01	-0.059
		319.02		4.318E-02	4.662E-01	7.776E-01	4.512E-02	0.056
HF-181		367.43		6.684E-01	1.688E+00	2.845E+00	1.595E-01	0.235
		413.65	*	-1.531E-01	3.473E-01	5.596E-01	3.103E-02	-0.274
		56.28		3.971E+00	2.074E+00	3.106E+00	2.038E-01	1.278
		57.53		2.281E+01	1.964E+00	2.604E+00	1.715E-01	8.757
		65.20		-1.245E-01	1.380E+00	1.963E+00	1.353E-01	-0.063
		133.02		-1.011E-01	1.016E-01	1.565E-01	1.040E-02	-0.646
		136.25		7.856E-01	6.993E-01	1.169E+00	7.616E-02	0.672
		345.85		-1.451E-01	3.945E-01	5.538E-01	3.165E-02	-0.262
		482.03	*	-1.426E-02	7.675E-02	1.245E-01	7.218E-03	-0.115
		56.28		1.689E+00	8.797E-01	1.318E+00	8.647E-02	1.282
W-181		57.53		9.654E+00	8.318E-01	1.104E+00	7.271E-02	8.742
		65.20	*	-5.240E-02	5.812E-01	8.267E-01	5.696E-02	-0.063
		67.75		-9.837E-02	1.567E-01	2.499E-01	1.757E-02	-0.394
TA-182		100.10		9.803E-03	2.930E-01	4.382E-01	3.448E-02	0.022
		152.43		-8.468E-03	5.354E-01	8.569E-01	5.051E-02	-0.010
		222.10		-1.583E-01	5.652E-01	9.381E-01	5.321E-02	-0.169
		1001.68		3.928E+00	4.364E+00	7.671E+00	6.340E-01	0.512
		1121.28		5.572E-01	2.646E-01	4.962E-01	3.206E-02	1.123
		1189.05		-1.288E-01	4.474E-01	7.178E-01	4.064E-02	-0.179
		1221.42	*	9.811E-03	2.385E-01	3.951E-01	2.363E-02	0.025
		1230.97		-4.476E-02	5.223E-01	8.592E-01	5.221E-02	-0.052
		57.98		1.464E+01	1.135E+00	1.269E+00	8.364E-02	11.539
		59.32		9.784E+00	7.970E-01	7.509E-01	4.973E-02	13.030
RE-183	+	67.20		-1.147E-01	2.726E-01	4.376E-01	3.063E-02	-0.262
		162.32	*	-7.284E-02	1.759E-01	2.764E-01	1.522E-02	-0.264
		208.81		2.869E+00	2.241E+00	2.739E+00	1.535E-01	1.048
		291.72		1.101E-02	1.769E+00	2.561E+00	1.494E-01	0.004
RE-184	+	57.98		5.635E+01	4.367E+00	4.883E+00	3.220E-01	11.539
		59.32		3.763E+01	3.066E+00	2.888E+00	1.913E-01	13.030
		67.20		-4.416E-01	1.049E+00	1.684E+00	1.179E-01	-0.262
		161.27		-3.113E-01	5.816E-01	9.086E-01	5.042E-02	-0.343
		216.55		3.486E-01	4.608E-01	7.548E-01	4.261E-02	0.462
		252.85	*	3.614E-02	4.077E-01	6.843E-01	3.958E-02	0.053
		318.01		8.089E-02	8.122E-01	1.355E+00	7.867E-02	0.060
		792.07		1.450E+00	2.070E+00	3.476E+00	2.692E-01	0.417

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	+	903.28		-8.664E-01	2.448E+00	3.815E+00	3.561E-01	-0.227
		920.93		1.837E-01	1.068E+00	1.725E+00	1.582E-01	0.107
		59.72		2.720E+01	2.216E+00	2.035E+00	1.351E-01	13.365
		61.14		1.232E+01	9.541E-01	1.012E+00	6.775E-02	12.178
		69.30		-2.179E-01	4.786E-01	6.676E-01	4.758E-02	-0.326
		592.07		-1.497E+00	4.916E+00	7.839E+00	4.688E-01	-0.191
		646.12	*	-2.314E-02	8.017E-02	1.273E-01	7.591E-03	-0.182
		717.42		3.147E-01	1.701E+00	2.780E+00	1.858E-01	0.113
RE-188	+	874.81		-8.420E-01	1.291E+00	2.071E+00	1.866E-01	-0.406
		880.27		1.578E+00	1.734E+00	3.046E+00	2.771E-01	0.518
		155.03	*	-4.947E-02	2.673E-01	4.246E-01	2.460E-02	-0.117
		477.96		-1.748E+00	6.259E+00	1.011E+01	5.852E-01	-0.173
W-188	+	633.10		2.791E+00	4.981E+00	8.384E+00	5.008E-01	0.333
		63.58		-3.845E+01	8.024E+01	1.129E+02	7.689E+00	-0.340
		227.08		2.332E+01	2.089E+01	3.614E+01	2.058E+00	0.645
IR-192	+	290.67	*	-1.441E+01	1.432E+01	1.937E+01	1.130E+00	-0.744
		295.96		1.025E+00	2.958E-01	3.768E-01	2.232E-02	2.721
		308.46		-9.621E-02	1.640E-01	2.652E-01	1.562E-02	-0.363
		316.51	*	-3.114E-02	6.086E-02	9.875E-02	5.764E-03	-0.315
		468.07		-7.714E-02	1.457E-01	2.330E-01	1.549E-02	-0.331
		604.41		6.981E-01	8.919E-01	1.336E+00	1.529E-01	0.522
AU-195	+	612.46		2.083E+00	1.622E+00	2.491E+00	1.921E-01	0.837
		65.12		-1.834E-02	2.733E-01	3.891E-01	2.679E-02	-0.047
		66.83		-2.924E-02	1.336E-01	2.159E-01	1.507E-02	-0.135
		75.70		8.763E-01	3.788E-01	5.934E-01	4.501E-02	1.477
		98.88	*	2.496E-01	3.917E-01	5.715E-01	4.535E-02	0.437
TL-200	+	129.76		1.864E+00	4.537E+00	7.409E+00	5.020E-01	0.252
		367.94	*	4.311E+00	7.118E+00	1.211E+01	6.786E-01	0.356
		579.30		6.374E+01	6.199E+01	9.496E+01	5.672E+00	0.671
		828.27		6.773E+01	8.456E+01	1.486E+02	1.232E+01	0.456
TL-201	+	1205.75		-1.097E+01	2.738E+01	4.318E+01	2.516E+00	-0.254
		68.90		-8.683E-01	1.467E+00	2.033E+00	1.444E-01	-0.427
		70.82		-3.913E-01	8.427E-01	1.175E+00	8.491E-02	-0.333
		80.30		-7.838E-01	1.699E+00	2.364E+00	1.886E-01	-0.332
		135.34		8.612E+00	7.736E+00	1.293E+01	8.475E-01	0.666
TL-202	+	167.43	*	8.737E-01	2.167E+00	3.520E+00	1.891E-01	0.248
		68.90		-2.836E-01	4.791E-01	6.641E-01	4.717E-02	-0.427
		70.82		-1.274E-01	2.745E-01	3.827E-01	2.766E-02	-0.333
		80.30		-2.554E-01	5.535E-01	7.701E-01	6.144E-02	-0.332
HG-203	+	439.56	*	-3.675E-02	9.314E-02	1.500E-01	8.480E-03	-0.245
		70.83		-7.537E-01	1.632E+00	2.273E+00	2.903E-01	-0.332
		72.87		2.352E+00	1.011E+00	1.507E+00	1.872E-01	1.560
		82.60		7.544E-01	2.624E+00	2.726E+00	3.675E-01	0.277
BI-207	+	279.20	*	-1.082E-02	6.505E-02	1.077E-01	6.664E-03	-0.100
		72.80		7.324E-01	3.214E-01	4.914E-01	3.619E-02	1.490
		74.97		4.999E-01	2.161E-01	3.215E-01	2.420E-02	1.555
		84.90		3.849E-01	3.740E-01	5.487E-01	4.621E-02	0.702
		569.67		1.551E-01	6.850E-02	1.240E-01	7.401E-03	1.250
		1063.62	*	2.467E-02	1.099E-01	1.855E-01	1.373E-02	0.133



## ----- Non-Identified Nuclides -----

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TL-207	1770.23			1.778E-01	6.608E-01	1.002E+00	5.987E-02	0.177
	81.07			-1.412E-01	4.853E-01	5.684E-01	4.575E-02	-0.248
	83.78			4.002E-02	2.450E-01	3.491E-01	2.901E-02	0.115
	94.90			2.979E-01	3.878E-01	5.691E-01	4.657E-02	0.523
	122.32		+	1.789E+01	5.883E+00	6.380E+00	5.007E-01	2.804
	144.24			-1.337E-01	1.124E+00	1.793E+00	1.357E-01	-0.075
	154.21			7.045E-02	6.562E-01	1.055E+00	7.424E-02	0.067
	269.46			4.477E-02	3.233E-01	5.427E-01	3.300E-02	0.082
	323.87		*	-1.549E+00	1.307E+00	2.015E+00	3.327E-01	-0.769
	338.28		+	3.721E+00	2.535E+00	3.443E+00	3.616E-01	1.081
PO-209	445.03			-3.630E-01	5.023E+00	8.224E+00	8.389E-01	-0.044
	260.50			-1.084E+01	1.712E+01	2.782E+01	1.615E+00	-0.390
	262.80			3.407E+01	4.803E+01	8.248E+01	4.790E+00	0.413
	896.60		*	-1.084E+00	1.831E+01	3.051E+01	2.856E+00	-0.036
BI-210	46.50		*	-4.538E+00	5.280E+00	8.494E+00	6.298E-01	-0.534
PB-210	46.50		*	-4.538E+00	5.280E+00	8.494E+00	6.298E-01	-0.534
PO-210	46.50		*	-4.538E+00	5.277E+00	8.494E+00	5.329E-01	-0.534
PB-211	404.84		*	-8.993E-01	1.967E+00	3.036E+00	1.892E+00	-0.296
BI-212	427.08			-3.373E-03	4.343E+00	7.147E+00	4.416E+00	0.000
	831.96			1.130E-01	2.587E+00	4.351E+00	2.725E+00	0.026
	727.18		*	7.327E-01	5.887E-01	1.021E+00	8.687E-02	0.718
	785.46			-2.671E+00	3.603E+00	5.462E+00	4.178E-01	-0.489
PO-215	1620.62			4.220E-01	1.773E+00	3.009E+00	1.971E-01	0.140
	81.07			-1.412E-01	4.853E-01	5.684E-01	4.575E-02	-0.248
	83.78			4.002E-02	2.450E-01	3.491E-01	2.901E-02	0.115
	94.90			2.979E-01	3.878E-01	5.691E-01	4.657E-02	0.523
	122.32		+	1.789E+01	5.883E+00	6.380E+00	5.007E-01	2.804
	144.24			-1.337E-01	1.124E+00	1.793E+00	1.357E-01	-0.075
	154.21			7.045E-02	6.562E-01	1.055E+00	7.424E-02	0.067
	269.46			4.477E-02	3.233E-01	5.427E-01	3.300E-02	0.082
	323.87		*	-1.549E+00	1.307E+00	2.015E+00	3.327E-01	-0.769
	338.28		+	3.721E+00	2.535E+00	3.443E+00	3.616E-01	1.081
RN-219	445.03			-3.630E-01	5.023E+00	8.224E+00	8.389E-01	-0.044
	271.23			8.091E-03	4.140E-01	6.916E-01	5.616E-02	0.012
	401.81		*	6.498E-01	8.426E-01	1.432E+00	1.930E-01	0.454
RN-220	549.76		*	2.508E-01	5.279E+01	8.610E+01	5.118E+00	0.003
RA-223	81.07			-1.412E-01	4.853E-01	5.684E-01	4.575E-02	-0.248
	83.78			4.002E-02	2.450E-01	3.491E-01	2.901E-02	0.115
	94.90			2.979E-01	3.878E-01	5.691E-01	4.657E-02	0.523
	122.32		+	1.789E+01	5.883E+00	6.380E+00	5.007E-01	2.804
	144.24			-1.337E-01	1.124E+00	1.793E+00	1.357E-01	-0.075
	154.21			7.045E-02	6.562E-01	1.055E+00	7.424E-02	0.067
	269.46			4.477E-02	3.233E-01	5.427E-01	3.300E-02	0.082
	323.87		*	-1.549E+00	1.307E+00	2.015E+00	3.327E-01	-0.769
	338.28		+	3.721E+00	2.535E+00	3.443E+00	3.616E-01	1.081
	445.03			-3.630E-01	5.023E+00	8.224E+00	8.389E-01	-0.044
AC-227	79.80			1.583E+00	3.126E+00	4.504E+00	9.566E-01	0.351
	236.00			1.897E+00	5.275E-01	8.363E-01	8.709E-02	2.269
	256.20		*	1.022E-02	6.759E-01	1.131E+00	1.578E-01	0.009

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		286.10		2.291E+00	2.817E+00	4.833E+00	5.596E-01	0.474
		299.80		1.050E+00	2.845E+00	4.201E+00	6.846E-01	0.250
		304.40		-1.040E+00	3.359E+00	5.502E+00	9.522E-01	-0.189
		334.20		1.875E-01	4.871E+00	7.031E+00	1.288E+00	0.027
		79.80		1.583E+00	3.127E+00	4.504E+00	9.691E-01	0.351
	+	94.00		4.123E+00	4.033E+00	4.892E+00	1.058E+00	0.843
		236.00		1.897E+00	5.181E-01	8.363E-01	7.537E-02	2.269
		256.20	*	1.022E-02	6.759E-01	1.131E+00	1.910E-01	0.009
		286.10		2.291E+00	3.623E+00	4.833E+00	4.842E+00	0.474
		299.80		1.050E+00	2.845E+00	4.201E+00	6.846E-01	0.250
TH-229		304.40		-1.040E+00	3.359E+00	5.502E+00	9.522E-01	-0.189
		334.20		1.875E-01	4.871E+00	7.031E+00	1.288E+00	0.027
		85.43		1.527E+00	4.071E-01	6.228E-01	5.279E-02	2.452
	+	88.47		4.994E+00	5.936E-01	5.934E-01	5.164E-02	8.417
		100.00		3.044E-02	3.190E-01	4.784E-01	3.767E-02	0.064
		193.63	*	4.761E-01	9.013E-01	1.508E+00	8.326E-02	0.316
		210.97		1.895E+00	1.475E+00	2.293E+00	1.288E-01	0.826
PA-231		283.67	*	1.329E+00	2.795E+00	4.742E+00	6.541E-01	0.280
TH-231		301.29		1.052E+00	1.126E+00	1.716E+00	1.796E-01	0.613
		81.07		-1.412E-01	4.853E-01	5.684E-01	4.575E-02	-0.248
		83.78		4.002E-02	2.450E-01	3.491E-01	2.901E-02	0.115
		94.90		2.979E-01	3.878E-01	5.691E-01	4.657E-02	0.523
	+	122.32		1.789E+01	5.883E+00	6.380E+00	5.007E-01	2.804
		144.24		-1.337E-01	1.124E+00	1.793E+00	1.357E-01	-0.075
		154.21		7.045E-02	6.562E-01	1.055E+00	7.424E-02	0.067
		269.46		4.477E-02	3.233E-01	5.427E-01	3.300E-02	0.082
		323.87	*	-1.549E+00	1.307E+00	2.015E+00	3.327E-01	-0.769
	+	338.28		3.721E+00	2.535E+00	3.443E+00	3.616E-01	1.081
U-231		445.03		-3.630E-01	5.023E+00	8.224E+00	8.389E-01	-0.044
		84.21		7.321E-01	3.041E+00	4.345E+00	3.629E-01	0.168
	+	92.29		1.173E+00	1.123E+00	1.508E+00	1.263E-01	0.778
		95.87	*	7.619E-02	5.280E-01	7.522E-01	6.107E-02	0.101
		108.00		5.240E-01	9.549E-01	1.573E+00	1.182E-01	0.333
PA-233	+	75.28		1.459E+01	6.576E+00	9.655E+00	1.427E+00	1.512
		86.59		5.952E+01	1.654E+01	8.248E+00	2.212E+00	7.216
		300.12		4.239E-01	7.840E-01	1.169E+00	1.573E-01	0.363
		311.98	*	6.909E-02	1.194E-01	2.035E-01	1.256E-02	0.340
		340.50		1.713E+00	1.396E+00	2.074E+00	4.759E-01	0.826
		398.62		-4.804E-01	4.312E+00	7.071E+00	1.823E+00	-0.068
		415.76		6.929E-01	3.414E+00	5.673E+00	1.164E+00	0.122
PA-234		63.00		3.243E-01	2.557E+00	3.696E+00	5.380E-01	0.088
		94.67		1.835E-01	2.830E-01	4.121E-01	4.992E-02	0.445
		98.44		5.282E-02	1.681E-01	2.378E-01	1.324E-01	0.222
		99.86		1.608E-01	8.088E-01	1.219E+00	9.605E-02	0.132
		111.00		-5.524E-03	3.010E-01	4.852E-01	5.461E-02	-0.011
		131.20		4.703E-02	1.762E-01	2.862E-01	1.922E-02	0.164
		152.70		1.321E-02	5.404E-01	8.663E-01	1.372E-01	0.015
	+	186.00		3.148E+00	3.409E+00	3.693E+00	1.126E+00	0.853
		226.40		8.048E-01	7.186E-01	1.235E+00	1.421E-01	0.651

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	227.20			8.458E-01	7.608E-01	1.316E+00	7.492E-02	0.643
	248.90			1.730E-01	1.510E+00	2.537E+00	5.450E-01	0.068
+	293.70			6.927E+00	2.251E+00	2.509E+00	4.038E-01	2.761
	369.80			2.381E-01	1.627E+00	2.708E+00	5.623E-01	0.088
	568.70			3.733E+00	2.233E+00	3.950E+00	2.356E-01	0.945
	569.50			1.388E+00	6.087E-01	1.103E+00	6.580E-02	1.258
	574.00			-7.346E+00	3.257E+00	4.521E+00	2.699E-01	-1.625
	699.00			5.017E-01	1.378E+00	2.277E+00	4.144E-01	0.220
	706.10			1.083E+00	2.061E+00	3.358E+00	1.486E+00	0.322
	733.00			-1.917E-01	8.291E-01	1.121E+00	2.420E-01	-0.171
	742.81			1.747E+00	2.986E+00	4.626E+00	3.101E+00	0.378
	796.30			9.740E-01	1.975E+00	3.249E+00	8.708E-01	0.300
	805.60			-5.804E-01	2.064E+00	3.229E+00	9.838E-01	-0.180
	819.60			1.226E+00	2.409E+00	4.111E+00	1.559E+00	0.298
	826.30			-3.304E-01	1.716E+00	2.834E+00	1.266E+00	-0.117
	831.60			-2.349E-01	1.357E+00	2.250E+00	6.697E-01	-0.104
	876.40			-4.669E-01	1.992E+00	3.189E+00	3.279E+00	-0.146
	880.51			6.543E-01	6.665E-01	1.174E+00	1.069E-01	0.557
	883.24			-3.819E-01	7.448E-01	1.132E+00	7.620E-01	-0.337
	899.00			2.721E+00	2.370E+00	3.676E+00	1.612E+00	0.740
	925.00			-1.134E+00	2.812E+00	4.578E+00	4.180E-01	-0.248
	926.50			-4.286E-02	4.279E-01	7.101E-01	1.807E-01	-0.060
	946.00	*		-1.151E-01	7.549E-01	1.248E+00	2.359E-01	-0.092
	949.00			-8.466E-01	1.191E+00	1.904E+00	1.692E-01	-0.445
	980.50			7.467E-01	1.718E+00	2.938E+00	2.506E-01	0.254
PA-234M	1394.10			-2.573E-01	1.318E+00	2.058E+00	1.336E+00	-0.125
	766.42			2.293E+00	2.186E+01	3.538E+01	1.788E+01	0.065
	1001.03	*		7.833E+00	1.031E+01	1.797E+01	1.738E+00	0.436
TH-234	63.29	*		-3.806E-01	2.157E+00	3.077E+00	5.289E-01	-0.124
+	92.38			1.067E+00	1.036E+00	1.361E+00	2.445E-01	0.784
U-235	89.95			3.603E+01	1.151E+01	5.045E+00	1.556E+00	7.141
+	93.35			1.283E+00	1.275E+00	1.546E+00	4.317E-01	0.830
	105.00			-4.894E-01	1.722E+00	2.740E+00	8.103E-01	-0.179
	143.76	*		-4.962E-02	3.461E-01	5.516E-01	9.080E-02	-0.090
	163.35			-4.152E-02	7.980E-01	1.273E+00	2.276E-01	-0.033
+	185.71			1.166E-01	1.213E-01	1.362E-01	7.460E-03	0.856
	205.31			-6.633E-01	9.850E-01	1.379E+00	2.471E-01	-0.481
NP-236	94.67			1.400E-01	2.143E-01	3.127E-01	2.563E-02	0.448
	98.44			3.989E-02	1.251E-01	1.797E-01	1.431E-02	0.222
	111.00			-4.179E-03	2.277E-01	3.670E-01	2.718E-02	-0.011
	160.31	*		-3.788E-02	1.356E-01	2.144E-01	1.198E-02	-0.177
NP-237	86.50	*		8.613E+00	2.031E+00	1.222E+00	2.732E-01	7.047
	95.87			2.334E-01	1.618E+00	2.304E+00	5.637E-01	0.101
U-238	63.29	*		-3.806E-01	2.157E+00	3.077E+00	5.289E-01	-0.124
+	92.38			1.067E+00	1.022E+00	1.361E+00	1.139E-01	0.784
NP-239	99.55			9.389E-02	2.846E-01	4.089E-01	3.230E-02	0.230
	117.00	*		2.140E-01	3.497E-01	5.085E-01	3.675E-02	0.421
+	209.75			2.439E+00	1.905E+00	2.339E+00	1.313E-01	1.043
	228.18			2.752E-01	4.019E-01	6.854E-01	3.906E-02	0.402

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243		277.60		2.727E-01	3.152E-01	5.438E-01	3.170E-02	0.502
		334.30		1.654E-02	2.756E+00	3.970E+00	2.287E-01	0.004
		99.55		9.656E-02	2.927E-01	4.206E-01	3.322E-02	0.230
		103.76	*	-6.671E-02	1.581E-01	2.511E-01	1.930E-02	-0.266
		117.00		2.201E-01	3.596E-01	5.228E-01	3.778E-02	0.421
	+	209.75		2.403E+00	1.877E+00	2.305E+00	1.293E-01	1.043
AM-246		228.18		2.779E-01	4.059E-01	6.922E-01	3.945E-02	0.402
		277.60		2.748E-01	3.176E-01	5.480E-01	3.194E-02	0.502
		798.80		-1.284E-01	3.010E-01	4.684E-01	3.675E-02	-0.274
		1036.00		2.956E-02	6.862E-01	1.145E+00	8.939E-02	0.026
		1062.04		-2.571E-01	4.831E-01	7.701E-01	5.717E-02	-0.334
		1078.86	*	3.562E-01	3.173E-01	5.639E-01	4.040E-02	0.632
CM-247		278.00		8.883E-01	1.297E+00	2.223E+00	1.296E-01	0.400
		287.40		6.362E-01	2.321E+00	3.813E+00	2.225E-01	0.167
		402.60	*	4.913E-02	7.460E-02	1.268E-01	6.963E-03	0.388
CF-249		252.85		1.399E-01	1.578E+00	2.648E+00	1.532E-01	0.053
		333.44		-1.926E-01	3.794E-01	5.286E-01	3.046E-02	-0.364
		387.95	*	-6.945E-02	7.920E-02	1.250E-01	6.832E-03	-0.556
CF-251		176.60	*	6.820E-02	2.099E-01	3.398E-01	1.843E-02	0.201
		227.00		7.569E-01	6.761E-01	1.170E+00	6.659E-02	0.647
		285.00		3.546E+00	3.184E+00	5.543E+00	3.234E-01	0.640

## 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]G1202018264      *
* Acquisition date   : 26-JAN-2010 14:19:20 Detector SN# :                  *
* Detector ID        : GAM14 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 01:00:01.68 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018264 Analyst initials: MXR1                 *
* Batch Number       : 942718 Sample Quantity : 1.5173E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                              *
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
CO-57	2.538E-01	8.140E-02	7.144E-02	0.000E+00
CO-60	6.747E+00	5.746E-01	9.287E-02	0.000E+00
CD-109	3.680E+01	4.286E+00	2.410E+00	0.000E+00
SN-126	3.658E+00	4.261E-01	2.404E-01	0.000E+00
BA-137M	5.640E+00	4.172E-01	1.214E-01	0.000E+00
CS-137	5.962E+00	4.421E-01	1.283E-01	0.000E+00
TL-208	4.576E-01	1.039E-01	1.252E-01	0.000E+00
BI-211	2.551E+00	6.932E-01	7.120E-01	0.000E+00
PB-212	1.540E+00	1.959E-01	1.699E-01	0.000E+00
PO-212	1.540E+00	1.959E-01	1.699E-01	0.000E+00
BI-214	9.674E-01	2.298E-01	2.287E-01	0.000E+00
PB-214	8.872E-01	2.454E-01	2.302E-01	0.000E+00
PO-214	8.872E-01	2.454E-01	2.302E-01	0.000E+00
PO-216	1.540E+00	1.959E-01	1.699E-01	0.000E+00
PO-218	8.872E-01	2.454E-01	2.302E-01	0.000E+00
RA-224	2.872E+00	1.559E+00	1.932E+00	0.000E+00
RA-226	9.674E-01	2.298E-01	2.287E-01	0.000E+00
AC-228	1.334E+00	6.347E-01	5.363E-01	0.000E+00
RA-228	1.334E+00	6.347E-01	5.363E-01	0.000E+00
TH-228	1.552E+00	1.974E-01	1.712E-01	0.000E+00
TH-230	9.674E-01	2.298E-01	2.287E-01	0.000E+00
TH-232	1.334E+00	6.347E-01	5.363E-01	0.000E+00
U-234	9.674E-01	2.298E-01	2.287E-01	0.000E+00
AM-241	1.504E+01	1.298E+00	4.982E-01	0.000E+00
AM-243	2.786E-01	1.181E-01	1.536E-01	0.000E+00
ANH-511	1.123E-01	9.520E-02	9.954E-02	0.000E+00

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-9.398E-02	6.283E-01	1.082E+00	0.000E+00 NOT IDENT.

NA-22	-1.541E-02	4.848E-02	7.842E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.242E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.272E-03	4.801E-02	7.983E-02	0.000E+00	NOT IDENT.
K-40	1.207E+00	6.346E-01	1.211E+00	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.585E-02	1.205E-01	0.000E+00	FAIL ABUN
SC-46	7.722E-02	8.730E-02	1.592E-01	0.000E+00	NOT IDENT.
V-48	5.451E-02	1.158E-01	2.060E-01	0.000E+00	NOT IDENT.
CR-51	1.311E-01	5.645E-01	1.012E+00	0.000E+00	NOT IDENT.
MN-52	-3.229E-02	1.146E-01	1.829E-01	0.000E+00	FAIL ABUN
MN-54	-4.293E-02	7.948E-02	1.347E-01	0.000E+00	NOT IDENT.
CO-56	2.952E-02	8.118E-02	1.449E-01	0.000E+00	FAIL ABUN
CO-58	4.431E-02	7.521E-02	1.312E-01	0.000E+00	NOT IDENT.
FE-59	-5.802E-02	1.773E-01	2.975E-01	0.000E+00	NOT IDENT.
ZN-65	-2.913E-01	1.807E-01	2.723E-01	0.000E+00	NOT IDENT.
GE-68	2.069E+00	2.675E+00	4.826E+00	0.000E+00	NOT IDENT.
AS-73	-1.481E-01	1.750E+00	2.785E+00	0.000E+00	NOT IDENT.
AS-74	1.435E-01	1.342E-01	2.437E-01	0.000E+00	NOT IDENT.
SE-75	3.000E-03	7.493E-02	1.346E-01	0.000E+00	FAIL ABUN
BR-77	-5.841E-02	2.291E+00	3.946E+00	0.000E+00	FAIL ABUN
SR-82	-2.924E-01	6.400E-01	1.040E+00	0.000E+00	NOT IDENT.
RB-83	-6.885E-03	1.283E-01	2.207E-01	0.000E+00	NOT IDENT.
RB-84	7.457E-02	1.414E-01	2.536E-01	0.000E+00	NOT IDENT.
KR-85	1.708E+01	1.590E+01	2.557E+01	0.000E+00	NOT IDENT.
SR-85	8.092E-02	7.529E-02	1.211E-01	0.000E+00	NOT IDENT.
RB-86	8.625E-01	1.326E+00	2.373E+00	0.000E+00	NOT IDENT.
Y-88	-3.257E-03	4.844E-02	7.872E-02	0.000E+00	NOT IDENT.
ZR-88	2.494E-02	5.524E-02	9.900E-02	0.000E+00	NOT IDENT.
Y-91	-1.958E+01	2.279E+01	3.512E+01	0.000E+00	NOT IDENT.
NB-94	4.771E-03	6.337E-02	1.078E-01	0.000E+00	NOT IDENT.
NB-95	-2.484E-02	7.341E-02	1.204E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.265E-01	3.893E-01	0.000E+00	NOT IDENT.
ZR-95	-1.198E-03	1.221E-01	2.054E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.450E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.244E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.219E+00	3.501E+00	5.749E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.722E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.772E-02	5.508E-02	9.500E-02	0.000E+00	NOT IDENT.
RH-102	3.551E-02	6.523E-02	1.160E-01	0.000E+00	NOT IDENT.
RU-103	1.555E-02	7.055E-02	1.235E-01	0.000E+00	FAIL ABUN
RH-106	-5.267E-01	5.874E-01	9.333E-01	0.000E+00	FAIL ABUN
RU-106	-5.267E-01	5.850E-01	9.333E-01	0.000E+00	FAIL ABUN
AG-108M	4.529E-02	6.662E-02	1.200E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	7.930E-02	1.329E-01	0.000E+00	NOT IDENT.
IN-111	-5.260E-02	3.379E-01	5.247E-01	0.000E+00	NOT IDENT.
IN-113M	-3.868E-02	8.007E-02	1.371E-01	0.000E+00	NOT IDENT.
SN-113	-3.868E-02	8.007E-02	1.371E-01	0.000E+00	NOT IDENT.
IN-114M	-1.451E-01	3.285E-01	5.107E-01	0.000E+00	NOT IDENT.
CD-115	6.831E-01	1.993E+00	3.505E+00	0.000E+00	NOT IDENT.
SN-117M	4.564E-03	6.202E-02	1.082E-01	0.000E+00	NOT IDENT.
SB-122	-4.121E-01	5.964E-01	9.808E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.673E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.210E-02	4.450E-02	7.825E-02	0.000E+00	NOT IDENT.
I-124	-1.111E-01	4.072E-01	6.166E-01	0.000E+00	FAIL ABUN
SB-124	5.368E-02	9.903E-02	1.819E-01	0.000E+00	NOT IDENT.
SB-125	-8.432E-02	1.910E-01	3.262E-01	0.000E+00	NOT IDENT.
TE-125M	5.476E+00	1.359E+01	2.440E+01	0.000E+00	NOT IDENT.
I-126	8.777E-02	2.713E-01	4.094E-01	0.000E+00	NOT IDENT.
SB-126	-9.462E-02	2.180E-01	3.035E-01	0.000E+00	FAIL ABUN
SB-127	-2.593E-02	6.769E-01	1.144E+00	0.000E+00	NOT IDENT.
XE-127	-3.351E-06	6.988E-02	1.200E-01	0.000E+00	NOT IDENT.
I-131	-2.253E-02	1.148E-01	2.004E-01	0.000E+00	NOT IDENT.
TE-132	1.697E-01	2.429E-01	4.450E-01	0.000E+00	NOT IDENT.
BA-133	-6.386E-03	8.799E-02	1.340E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.753E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	2.579E-02	9.871E-02	1.684E-01	0.000E+00	NOT IDENT.
CS-135	-3.632E-02	2.708E-01	4.826E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.310E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.548E-02	1.585E-01	2.665E-01	0.000E+00	NOT IDENT.
CE-139	3.881E-02	4.830E-02	8.646E-02	0.000E+00	NOT IDENT.
BA-140	-4.403E-02	3.164E-01	5.395E-01	0.000E+00	NOT IDENT.
LA-140	1.299E-02	8.367E-02	1.431E-01	0.000E+00	NOT IDENT.
CE-141	4.185E-02	8.501E-02	1.514E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.383E+00	1.124E+01	0.000E+00	FAIL ABUN
CE-144	-3.219E-01	3.480E-01	5.832E-01	0.000E+00	NOT IDENT.
PM-144	-7.682E-05	6.435E-02	1.089E-01	0.000E+00	NOT IDENT.
PR-144	-5.185E-03	4.343E+00	7.352E+00	0.000E+00	NOT IDENT.
PM-146	-4.574E-02	1.002E-01	1.705E-01	0.000E+00	NOT IDENT.
ND-147	4.335E-02	6.695E-01	1.158E+00	0.000E+00	FAIL ABUN

PM-149	1.455E+01	1.558E+01	2.865E+01	0.000E+00	NOT IDENT.
EU-152	-1.668E-01	2.235E-01	3.266E-01	0.000E+00	FAIL ABUN
GD-153	-6.336E-02	1.357E-01	2.055E-01	0.000E+00	NOT IDENT.
EU-154	-5.246E-02	1.347E-01	2.151E-01	0.000E+00	FAIL ABUN
EU-155	-7.851E-02	1.708E-01	2.973E-01	0.000E+00	FAIL ABUN
TB-160	1.273E-01	3.026E-01	5.400E-01	0.000E+00	FAIL ABUN
HO-166M	-3.173E-02	1.228E-01	2.040E-01	0.000E+00	FAIL ABUN
TM-171	-8.754E+00	4.043E+01	7.251E+01	0.000E+00	FAIL ABUN
LU-176	-3.385E-02	4.518E-02	7.765E-02	0.000E+00	FAIL ABUN
LU-177	1.578E+00	1.208E+00	1.593E+00	0.000E+00	FAIL ABUN
LU-177M	-1.531E-01	3.403E-01	5.823E-01	0.000E+00	FAIL ABUN
HF-181	-1.426E-02	7.521E-02	1.290E-01	0.000E+00	NOT IDENT.
W-181	-5.240E-02	5.696E-01	8.991E-01	0.000E+00	NOT IDENT.
TA-182	9.811E-03	2.337E-01	3.999E-01	0.000E+00	NOT IDENT.
RE-183	-7.284E-02	1.724E-01	2.943E-01	0.000E+00	FAIL ABUN
RE-184	3.614E-02	3.996E-01	7.208E-01	0.000E+00	FAIL ABUN
OS-185	-2.314E-02	7.856E-02	1.310E-01	0.000E+00	FAIL ABUN
RE-188	-4.947E-02	2.619E-01	4.525E-01	0.000E+00	NOT IDENT.
W-188	-1.441E+01	1.403E+01	2.033E+01	0.000E+00	NOT IDENT.
IR-192	-3.114E-02	5.965E-02	1.035E-01	0.000E+00	FAIL ABUN
AU-195	2.496E-01	3.839E-01	6.156E-01	0.000E+00	FAIL ABUN
TL-200	4.311E+00	6.976E+00	1.264E+01	0.000E+00	NOT IDENT.
TL-201	8.737E-01	2.124E+00	3.745E+00	0.000E+00	NOT IDENT.
TL-202	-3.675E-02	9.128E-02	1.558E-01	0.000E+00	NOT IDENT.
HG-203	-1.082E-02	6.374E-02	1.132E-01	0.000E+00	NOT IDENT.
BI-207	2.467E-02	1.077E-01	1.885E-01	0.000E+00	FAIL ABUN
TL-207	-1.549E+00	1.281E+00	2.109E+00	0.000E+00	FAIL ABUN
PO-209	-1.084E+00	1.794E+01	3.114E+01	0.000E+00	NOT IDENT.
BI-210	-4.538E+00	5.174E+00	9.309E+00	0.000E+00	NOT IDENT.
PB-210	-4.538E+00	5.174E+00	9.309E+00	0.000E+00	NOT IDENT.
PO-210	-4.538E+00	5.171E+00	9.309E+00	0.000E+00	NOT IDENT.
PB-211	-8.993E-01	1.927E+00	3.162E+00	0.000E+00	NOT IDENT.
BI-212	7.327E-01	5.769E-01	1.048E+00	0.000E+00	NOT IDENT.
PO-215	-1.549E+00	1.281E+00	2.109E+00	0.000E+00	FAIL ABUN
RN-219	6.498E-01	8.258E-01	1.492E+00	0.000E+00	NOT IDENT.
RN-220	2.508E-01	5.173E+01	8.897E+01	0.000E+00	NOT IDENT.
RA-223	-1.549E+00	1.281E+00	2.109E+00	0.000E+00	FAIL ABUN
AC-227	1.022E-02	6.624E-01	1.191E+00	0.000E+00	NOT IDENT.
TH-227	1.022E-02	6.624E-01	1.191E+00	0.000E+00	FAIL ABUN
TH-229	4.761E-01	8.833E-01	1.598E+00	0.000E+00	FAIL ABUN
PA-231	1.329E+00	2.739E+00	4.981E+00	0.000E+00	NOT IDENT.
TH-231	-1.549E+00	1.281E+00	2.109E+00	0.000E+00	FAIL ABUN
U-231	7.619E-02	5.175E-01	8.109E-01	0.000E+00	FAIL ABUN
PA-233	6.909E-02	1.170E-01	2.133E-01	0.000E+00	FAIL ABUN
PA-234	-1.151E-01	7.398E-01	1.272E+00	0.000E+00	FAIL ABUN
PA-234M	7.833E+00	1.010E+01	1.829E+01	0.000E+00	NOT IDENT.
TH-234	-3.806E-01	2.114E+00	3.349E+00	0.000E+00	FAIL ABUN
U-235	-4.962E-02	3.392E-01	5.890E-01	0.000E+00	FAIL ABUN
NP-236	-3.788E-02	1.329E-01	2.283E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	1.990E+00	1.321E+00	0.000E+00	NOT IDENT.
U-238	-3.806E-01	2.114E+00	3.349E+00	0.000E+00	FAIL ABUN
NP-239	2.140E-01	3.427E-01	5.456E-01	0.000E+00	FAIL ABUN
CM-243	-6.671E-02	1.549E-01	2.701E-01	0.000E+00	FAIL ABUN
AM-246	3.562E-01	3.110E-01	5.726E-01	0.000E+00	NOT IDENT.
CM-247	4.913E-02	7.311E-02	1.320E-01	0.000E+00	NOT IDENT.
CF-249	-6.945E-02	7.762E-02	1.303E-01	0.000E+00	NOT IDENT.
CF-251	6.820E-02	2.057E-01	3.610E-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]G1202018264.CNF;1
Sample date        : 19-JAN-2010 00:00:00 Acquisition date : 26-JAN-2010 14:19:20
Sample ID          : G1202018264      Sample quantity   : 1.51730E+02 GRAM
Detector name      : GAM14            Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00    Elapsed real time: 0 01:00:01.68  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 942718           Detector SN#      :
Matrix Spike ID    :                  LCS ID            : 1032-A
*****

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## Nuclide Line Activity Report

## Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-57	122.06	330	85.51*	7.664E+00	2.489E-01	2.538E-01	32.72
	136.48	-----	10.60	7.493E+00	-----	Line Not Found	-----
CO-60	1173.22	2038	100.00	1.461E+00	6.905E+00	6.924E+00	7.29
	1332.49	1776	100.00*	1.306E+00	6.729E+00	6.747E+00	8.69
CD-109	88.03	1942	3.72*	7.101E+00	3.638E+01	3.680E+01	11.89
SN-126	64.28	-----	9.60	4.774E+00	-----	Line Not Found	-----
	86.94	1942	8.90	7.101E+00	1.521E+01	1.521E+01	42.16
	87.57	1942	37.00*	7.101E+00	3.658E+00	3.658E+00	11.89
BA-137M	661.65	2530	89.98*	2.468E+00	5.637E+00	5.640E+00	7.55
CS-137	661.65	2530	85.12*	2.468E+00	5.959E+00	5.962E+00	7.57
TL-208	277.35	-----	6.80	5.002E+00	-----	Line Not Found	-----
	510.84	70	21.60	3.088E+00	5.199E-01	5.199E-01	86.90
	583.14	215	84.20*	2.757E+00	4.576E-01	4.576E-01	23.16
	860.37	-----	12.46	1.944E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	279	12.94*	4.176E+00	2.551E+00	2.551E+00	27.73
PB-212	74.81	226	10.70	6.068E+00	1.719E+00	1.719E+00	44.23
	77.11	372	18.00	6.314E+00	1.621E+00	1.621E+00	25.89
	87.30	1942	8.00	7.101E+00	1.692E+01	1.692E+01	15.53
	238.63	773	44.60*	5.568E+00	1.540E+00	1.540E+00	12.98
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
PO-212	74.81	226	10.70	6.068E+00	1.719E+00	1.719E+00	44.23
	77.11	372	18.00	6.314E+00	1.621E+00	1.621E+00	25.89
	87.30	1942	8.00	7.101E+00	1.692E+01	1.692E+01	15.53
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	773	44.60*	5.568E+00	1.540E+00	1.540E+00	12.98
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
BI-214	609.31	240	46.30*	2.655E+00	9.673E-01	9.674E-01	24.24
	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	45	15.80	1.059E+00	1.339E+00	1.339E+00	36.68
PB-214	74.81	226	6.21	6.068E+00	2.961E+00	2.961E+00	43.86
	77.11	372	10.50	6.314E+00	2.778E+00	2.778E+00	26.99



Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	1942	4.67	7.101E+00	2.898E+01	2.898E+01	14.17
	241.98	127	7.49	5.521E+00	1.515E+00	1.515E+00	55.66
	295.21	267	19.20	4.776E+00	1.443E+00	1.443E+00	29.49
	351.92	279	37.20*	4.176E+00	8.872E-01	8.872E-01	28.22
	74.81	226	6.21	6.068E+00	2.961E+00	2.961E+00	43.86
	77.11	372	10.50	6.314E+00	2.778E+00	2.778E+00	26.99
	87.30	1942	4.67	7.101E+00	2.898E+01	2.898E+01	14.17
PO-216	241.98	127	7.49	5.521E+00	1.515E+00	1.515E+00	55.66
	295.21	267	19.20	4.776E+00	1.443E+00	1.443E+00	29.49
	351.92	279	37.20*	4.176E+00	8.872E-01	8.872E-01	28.22
	74.81	226	10.70	6.068E+00	1.719E+00	1.719E+00	44.23
	77.11	372	18.00	6.314E+00	1.621E+00	1.621E+00	25.89
	87.30	1942	8.00	7.101E+00	1.692E+01	1.692E+01	15.53
	238.63	773	44.60*	5.568E+00	1.540E+00	1.540E+00	12.98
PO-218	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	74.81	226	6.21	6.068E+00	2.961E+00	2.961E+00	43.86
	77.11	372	10.50	6.314E+00	2.778E+00	2.778E+00	26.99
	87.30	1942	4.67	7.101E+00	2.898E+01	2.898E+01	14.17
	241.98	127	7.49	5.521E+00	1.515E+00	1.515E+00	55.66
	295.21	267	19.20	4.776E+00	1.443E+00	1.443E+00	29.49
	351.92	279	37.20*	4.176E+00	8.872E-01	8.872E-01	28.22
RA-224	240.98	127	3.95*	5.521E+00	2.872E+00	2.872E+00	55.38
RA-226	609.31	240	46.30*	2.655E+00	9.673E-01	9.674E-01	24.24
AC-228	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	45	15.80	1.059E+00	1.339E+00	1.339E+00	36.68
	338.32	88	11.40	4.308E+00	8.910E-01	8.910E-01	78.69
	911.07	138	27.70*	1.842E+00	1.334E+00	1.334E+00	48.55
	969.11	120	16.60	1.740E+00	2.062E+00	2.062E+00	49.04
	338.32	88	11.40	4.308E+00	8.910E-01	8.910E-01	78.69
	911.07	138	27.70*	1.842E+00	1.334E+00	1.334E+00	48.55
TH-228	969.11	120	16.60	1.740E+00	2.062E+00	2.062E+00	49.04
	74.81	226	10.70	6.068E+00	1.719E+00	1.732E+00	43.25
	77.11	372	18.00	6.314E+00	1.621E+00	1.633E+00	25.89
	87.30	1942	8.00	7.101E+00	1.692E+01	1.705E+01	11.89
	238.63	773	44.60*	5.568E+00	1.540E+00	1.552E+00	12.98
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	609.31	240	46.30*	2.655E+00	9.674E-01	9.674E-01	24.24
TH-230	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
TH-232	1764.49	45	15.80	1.059E+00	1.339E+00	1.339E+00	36.68
	338.32	88	11.40	4.308E+00	8.910E-01	8.910E-01	67.56
	911.07	138	27.70*	1.842E+00	1.334E+00	1.334E+00	48.55
	969.11	120	16.60	1.740E+00	2.062E+00	2.062E+00	49.04
	609.31	240	46.30*	2.655E+00	9.674E-01	9.674E-01	24.24
	1120.29	-----	15.10	1.524E+00	-----	Line Not Found	-----
	1764.49	45	15.80	1.059E+00	1.339E+00	1.339E+00	36.68
AM-241	59.54	4416	35.90*	4.047E+00	1.504E+01	1.504E+01	8.80
AM-243	74.67	226	66.00*	6.068E+00	2.786E-01	2.786E-01	43.23
	86.72	1942	0.34	7.101E+00	4.028E+02	4.028E+02	11.89
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	70	100.00*	3.088E+00	1.123E-01	1.123E-01	86.50

Flag: "\*" = Keyline

Total number of lines in spectrum 25  
Number of unidentified lines 2  
Number of lines tentatively identified by NID 23 92.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.02	2.489E-01	2.538E-01	0.831E-01	32.72	
CO-60	5.27Y	1.00	6.729E+00	6.747E+00	0.586E+00	8.69	
CD-109	464.00D	1.01	3.638E+01	3.680E+01	0.437E+01	11.89	
SN-126	1.00E+05Y	1.00	3.658E+00	3.658E+00	0.435E+00	11.89	
BA-137M	30.17Y	1.00	5.637E+00	5.640E+00	0.426E+00	7.55	
CS-137	30.17Y	1.00	5.959E+00	5.962E+00	0.451E+00	7.57	
TL-208	1.41E+10Y	1.00	4.576E-01	4.576E-01	1.060E-01	23.16	
BI-211	7.04E+08Y	1.00	2.551E+00	2.551E+00	0.707E+00	27.73	
PB-212	1.41E+10Y	1.00	1.540E+00	1.540E+00	0.200E+00	12.98	
PO-212	1.41E+10Y	1.00	1.540E+00	1.540E+00	0.200E+00	12.98	
BI-214	1600.00Y	1.00	9.673E-01	9.674E-01	2.345E-01	24.24	
PB-214	1600.00Y	1.00	8.872E-01	8.872E-01	2.504E-01	28.22	
PO-214	1600.00Y	1.00	8.872E-01	8.872E-01	2.504E-01	28.22	
PO-216	1.41E+10Y	1.00	1.540E+00	1.540E+00	0.200E+00	12.98	
PO-218	1600.00Y	1.00	8.872E-01	8.872E-01	2.504E-01	28.22	
RA-224	1.41E+10Y	1.00	2.872E+00	2.872E+00	1.590E+00	55.38	
RA-226	1600.00Y	1.00	9.673E-01	9.674E-01	2.345E-01	24.24	
AC-228	1.41E+10Y	1.00	1.334E+00	1.334E+00	0.648E+00	48.55	
RA-228	1.41E+10Y	1.00	1.334E+00	1.334E+00	0.648E+00	48.55	
TH-228	1.91Y	1.01	1.540E+00	1.552E+00	0.201E+00	12.98	
TH-230	4.47E+09Y	1.00	9.674E-01	9.674E-01	2.345E-01	24.24	
TH-232	1.41E+10Y	1.00	1.334E+00	1.334E+00	0.648E+00	48.55	
U-234	4.47E+09Y	1.00	9.674E-01	9.674E-01	2.345E-01	24.24	
AM-241	432.20Y	1.00	1.504E+01	1.504E+01	0.132E+01	8.80	
AM-243	7380.00Y	1.00	2.786E-01	2.786E-01	1.205E-01	43.23	
ANH-511	1.00E+09Y	1.00	1.123E-01	1.123E-01	0.971E-01	86.50	

Total Activity : 9.662E+01 9.707E+01

Grand Total Activity : 9.662E+01 9.707E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202018264

Page : 5  
Acquisition date : 26-JAN-2010 14:19:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.61	85	423	2.12	184.71	183	10	2.37E-02	95.4	7.31E+00	T
0	185.57	83	440	1.39	370.46	366	12	2.31E-02	****	6.54E+00	T
0	208.84	97	360	1.50	416.95	414	11	2.70E-02	77.9	6.08E+00	T
0	729.09	42	124	1.45	1456.87	1446	14	1.17E-02	****	2.26E+00	
0	1462.51	24	21	2.21	2924.00	2915	14	6.55E-03	93.9	1.21E+00	
0	1510.80	22	8	1.06	3020.64	3014	11	6.01E-03	67.1	1.18E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018264.CNF;1
* Acquisition date   : 26-JAN-2010 14:19:20  Detector SN#      :
* Detector ID        : GAM14                  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 01:00:01.68          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 19-JAN-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202018264           Analyst initials: MXR1
* Batch Number       : 942718                Sample Quantity  : 1.51730E+02 GRAM
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope   :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	2.538E-01	8.306E-02	6.665E-02	4.742E-03	3.808
CO-60	6.747E+00	5.863E-01	9.196E-02	6.554E-03	73.367
CD-109	3.680E+01	4.374E+00	2.231E+00	1.951E-01	16.492
SN-126	3.658E+00	4.348E-01	2.225E-01	1.936E-02	16.437
BA-137M	5.640E+00	4.257E-01	1.180E-01	7.017E-03	47.790
CS-137	5.962E+00	4.511E-01	1.247E-01	7.448E-03	47.790
TL-208	4.576E-01	1.060E-01	1.214E-01	8.300E-03	3.771
BI-211	2.551E+00	7.074E-01	6.814E-01	4.317E-02	3.743
PB-212	1.540E+00	1.999E-01	1.611E-01	1.173E-02	9.562
PO-212	1.540E+00	1.999E-01	1.611E-01	1.173E-02	9.562
BI-214	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
PB-214	8.872E-01	2.504E-01	2.203E-01	1.808E-02	4.027
PO-214	8.872E-01	2.504E-01	2.203E-01	1.808E-02	4.027
PO-216	1.540E+00	1.999E-01	1.611E-01	1.173E-02	9.562
PO-218	8.872E-01	2.504E-01	2.203E-01	1.808E-02	4.027
RA-224	2.872E+00	1.590E+00	1.832E+00	1.053E-01	1.567
RA-226	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
AC-228	1.334E+00	6.477E-01	5.258E-01	6.175E-02	2.537

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.334E+00	6.477E-01	5.258E-01	6.175E-02	2.537
TH-228	1.552E+00	2.015E-01	1.623E-01	1.182E-02	9.562
TH-230	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
TH-232	1.334E+00	6.477E-01	5.258E-01	6.175E-02	2.537
U-234	9.674E-01	2.345E-01	2.220E-01	1.757E-02	4.358
AM-241	1.504E+01	1.324E+00	4.571E-01	3.394E-02	32.900
AM-243	2.786E-01	1.205E-01	1.417E-01	1.063E-02	1.967
ANH-511	1.123E-01	9.714E-02	9.616E-02	5.649E-03	1.168

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-9.398E-02		6.411E-01	1.043E+00	7.029E-02	-0.090
NA-22	-1.541E-02		4.947E-02	7.757E-02	5.067E-03	-0.199
NA-24	-4.669E-05		1.144E-04	Half-Life too short		
AL-26	-2.272E-03		4.899E-02	7.970E-02	4.620E-03	-0.029
K-40	1.207E+00		6.476E-01	1.202E+00	8.727E-02	1.004
TI-44	2.990E-01	+	7.740E-02	1.113E-01	8.690E-03	2.686
SC-46	7.722E-02		8.908E-02	1.559E-01	1.441E-02	0.495
V-48	5.451E-02		1.181E-01	2.024E-01	1.719E-02	0.269
CR-51	1.311E-01		5.760E-01	9.664E-01	6.245E-02	0.136
MN-52	-3.229E-02		1.169E-01	1.815E-01	1.272E-02	-0.178
MN-54	-4.293E-02		8.110E-02	1.317E-01	1.105E-02	-0.326
CO-56	2.952E-02		8.284E-02	1.418E-01	1.215E-02	0.208
CO-58	4.431E-02		7.675E-02	1.282E-01	1.032E-02	0.346
FE-59	-5.802E-02		1.809E-01	2.931E-01	2.257E-02	-0.198
ZN-65	-2.913E-01		1.844E-01	2.684E-01	1.764E-02	-1.086
GE-68	2.069E+00		2.730E+00	4.752E+00	3.416E-01	0.435
AS-73	-1.481E-01		1.785E+00	2.549E+00	1.661E-01	-0.058
AS-74	1.435E-01		1.369E-01	2.363E-01	1.413E-02	0.607
SE-75	3.000E-03		7.646E-02	1.279E-01	7.509E-03	0.023
BR-77	-5.841E-02		2.337E+00	3.814E+00	2.248E-01	-0.015
SR-82	-2.924E-01		6.531E-01	1.015E+00	7.635E-02	-0.288
RB-83	-6.885E-03		1.310E-01	2.133E-01	1.257E-02	-0.032
RB-84	7.457E-02		1.443E-01	2.485E-01	2.265E-02	0.300
KR-85	1.708E+01		1.622E+01	2.471E+01	1.453E+00	0.692
SR-85	8.092E-02		7.683E-02	1.170E-01	6.883E-03	0.692
RB-86	8.625E-01		1.353E+00	2.336E+00	1.682E-01	0.369
Y-88	-3.257E-03		4.943E-02	7.862E-02	4.465E-03	-0.041
ZR-88	2.494E-02		5.637E-02	9.501E-02	5.173E-03	0.263
Y-91	-1.958E+01		2.325E+01	3.469E+01	2.018E+00	-0.564
NB-94	4.771E-03		6.467E-02	1.050E-01	6.807E-03	0.045
NB-95	-2.484E-02		7.491E-02	1.175E-01	8.656E-03	-0.211
NB-95M	5.102E-01		2.311E-01	3.689E-01	2.757E-02	1.383
ZR-95	-1.198E-03		1.246E-01	2.004E-01	1.653E-02	-0.006
NB-97	4.078E-04		7.398E-05	Half-Life too short		
ZR-97	1.187E-03		1.145E-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	-1.219E+00		3.572E+00	5.606E+00	8.029E-01	-0.217
TC-99M	-7.116E+01		2.919E+01	Half-Life too short		
RH-101	-6.772E-02		5.620E-02	8.966E-02	4.974E-03	-0.755
RH-102	3.551E-02		6.656E-02	1.119E-01	6.465E-03	0.317
RU-103	1.555E-02		7.199E-02	1.192E-01	1.510E-02	0.130
RH-106	-5.267E-01		5.993E-01	9.061E-01	1.072E-01	-0.581
RU-106	-5.267E-01		5.969E-01	9.061E-01	5.418E-02	-0.581
AG-108M	4.529E-02		6.798E-02	1.154E-01	7.090E-03	0.392
AG-110M	1.367E-01		8.092E-02	1.293E-01	8.165E-03	1.058
IN-111	-5.260E-02		3.448E-01	4.977E-01	2.868E-02	-0.106
IN-113M	-3.868E-02		8.171E-02	1.316E-01	7.698E-03	-0.294
SN-113	-3.868E-02		8.171E-02	1.316E-01	7.698E-03	-0.294
IN-114M	-1.451E-01		3.352E-01	4.815E-01	2.650E-02	-0.301
CD-115	6.831E-01		2.034E+00	3.389E+00	2.003E-01	0.202
SN-117M	4.564E-03		6.329E-02	1.016E-01	5.745E-03	0.045
SB-122	-4.121E-01		6.086E-01	9.499E-01	5.662E-02	-0.434
I-123	1.814E-04		3.405E-04	Half-Life too short		
TE-123M	1.210E-02		4.541E-02	7.346E-02	4.201E-03	0.165
I-124	-1.111E-01		4.155E-01	5.981E-01	3.578E-02	-0.186
SB-124	5.368E-02		1.011E-01	1.813E-01	1.225E-02	0.296
SB-125	-8.432E-02		1.949E-01	3.137E-01	1.839E-02	-0.269
TE-125M	5.476E+00		1.387E+01	2.270E+01	2.127E+00	0.241
I-126	8.777E-02		2.769E-01	3.981E-01	2.391E-02	0.220
SB-126	-9.462E-02		2.225E-01	2.958E-01	1.990E-02	-0.320
SB-127	-2.593E-02		6.907E-01	1.114E+00	8.393E-02	-0.023
XE-127	-3.351E-06		7.130E-02	1.134E-01	6.319E-03	0.000
I-131	-2.253E-02		1.171E-01	1.920E-01	1.202E-02	-0.117
TE-132	1.697E-01		2.479E-01	4.214E-01	5.536E-02	0.403
BA-133	-6.386E-03		8.979E-02	1.283E-01	1.475E-02	-0.050
I-133	1.532E-05		1.404E-05	Half-Life too short		
CS-134	2.579E-02		1.007E-01	1.645E-01	1.295E-02	0.157
CS-135	-3.632E-02		2.763E-01	4.588E-01	3.519E-02	-0.079
I-135	-2.068E+01		1.689E+01	Half-Life too short		
CS-136	-5.548E-02		1.618E-01	2.622E-01	2.108E-02	-0.212
CE-139	3.881E-02		4.928E-02	8.125E-02	4.362E-03	0.478
BA-140	-4.403E-02		3.229E-01	5.218E-01	1.698E-01	-0.084
LA-140	1.299E-02		8.538E-02	1.424E-01	9.440E-03	0.091
CE-141	4.185E-02		8.674E-02	1.418E-01	9.047E-03	0.295
CE-143	1.969E+01		7.533E+00	1.071E+01	2.190E+00	1.839
CE-144	-3.219E-01		3.551E-01	5.452E-01	7.937E-02	-0.590
PM-144	-7.682E-05		6.566E-02	1.061E-01	6.792E-03	-0.001
PR-144	-5.185E-03		4.432E+00	7.158E+00	4.583E-01	-0.001
PM-146	-4.574E-02		1.022E-01	1.643E-01	1.406E-02	-0.278
ND-147	4.335E-02		6.831E-01	1.120E+00	1.520E-01	0.039
PM-149	1.455E+01		1.590E+01	2.728E+01	3.865E+00	0.533
EU-152	-1.668E-01		2.281E-01	3.124E-01	2.021E-02	-0.534
GD-153	-6.336E-02		1.385E-01	1.907E-01	1.530E-02	-0.332
EU-154	-5.246E-02		1.374E-01	2.127E-01	2.086E-02	-0.247

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	-7.851E-02		1.743E-01	2.764E-01	2.139E-02	-0.284
TB-160	1.273E-01		3.088E-01	5.290E-01	4.804E-02	0.241
HO-166M	-3.173E-02		1.253E-01	1.987E-01	1.313E-02	-0.160
TM-171	-8.754E+00		4.126E+01	6.671E+01	4.651E+00	-0.131
LU-176	-3.385E-02		4.610E-02	7.407E-02	4.314E-03	-0.457
LU-177	1.578E+00	+	1.233E+00	1.506E+00	8.437E-02	1.048
LU-177M	-1.531E-01		3.473E-01	5.596E-01	3.103E-02	-0.274
HF-181	-1.426E-02		7.675E-02	1.245E-01	7.218E-03	-0.115
W-181	-5.240E-02		5.812E-01	8.267E-01	5.696E-02	-0.063
TA-182	9.811E-03		2.385E-01	3.951E-01	2.363E-02	0.025
RE-183	-7.284E-02		1.759E-01	2.764E-01	1.522E-02	-0.264
RE-184	3.614E-02		4.077E-01	6.843E-01	3.958E-02	0.053
OS-185	-2.314E-02		8.017E-02	1.273E-01	7.591E-03	-0.182
RE-188	-4.947E-02		2.673E-01	4.246E-01	2.460E-02	-0.117
W-188	-1.441E+01		1.432E+01	1.937E+01	1.130E+00	-0.744
IR-192	-3.114E-02		6.086E-02	9.875E-02	5.764E-03	-0.315
AU-195	2.496E-01		3.917E-01	5.715E-01	4.535E-02	0.437
TL-200	4.311E+00		7.118E+00	1.211E+01	6.786E-01	0.356
TL-201	8.737E-01		2.167E+00	3.520E+00	1.891E-01	0.248
TL-202	-3.675E-02		9.314E-02	1.500E-01	8.480E-03	-0.245
HG-203	-1.082E-02		6.505E-02	1.077E-01	6.664E-03	-0.100
BI-207	2.467E-02		1.099E-01	1.855E-01	1.373E-02	0.133
TL-207	-1.549E+00		1.307E+00	2.015E+00	3.327E-01	-0.769
PO-209	-1.084E+00		1.831E+01	3.051E+01	2.856E+00	-0.036
BI-210	-4.538E+00		5.280E+00	8.494E+00	6.298E-01	-0.534
PB-210	-4.538E+00		5.280E+00	8.494E+00	6.298E-01	-0.534
PO-210	-4.538E+00		5.277E+00	8.494E+00	5.329E-01	-0.534
PB-211	-8.993E-01		1.967E+00	3.036E+00	1.892E+00	-0.296
BI-212	7.327E-01		5.887E-01	1.021E+00	8.687E-02	0.718
PO-215	-1.549E+00		1.307E+00	2.015E+00	3.327E-01	-0.769
RN-219	6.498E-01		8.426E-01	1.432E+00	1.930E-01	0.454
RN-220	2.508E-01		5.279E+01	8.610E+01	5.118E+00	0.003
RA-223	-1.549E+00		1.307E+00	2.015E+00	3.327E-01	-0.769
AC-227	1.022E-02		6.759E-01	1.131E+00	1.578E-01	0.009
TH-227	1.022E-02		6.759E-01	1.131E+00	1.910E-01	0.009
TH-229	4.761E-01		9.013E-01	1.508E+00	8.326E-02	0.316
PA-231	1.329E+00		2.795E+00	4.742E+00	6.541E-01	0.280
TH-231	-1.549E+00		1.307E+00	2.015E+00	3.327E-01	-0.769
U-231	7.619E-02		5.280E-01	7.522E-01	6.107E-02	0.101
PA-233	6.909E-02		1.194E-01	2.035E-01	1.256E-02	0.340
PA-234	-1.151E-01		7.549E-01	1.248E+00	2.359E-01	-0.092
PA-234M	7.833E+00		1.031E+01	1.797E+01	1.738E+00	0.436
TH-234	-3.806E-01		2.157E+00	3.077E+00	5.289E-01	-0.124
U-235	-4.962E-02		3.461E-01	5.516E-01	9.080E-02	-0.090
NP-236	-3.788E-02		1.356E-01	2.144E-01	1.198E-02	-0.177
NP-237	8.613E+00		2.031E+00	1.222E+00	2.732E-01	7.047
U-238	-3.806E-01		2.157E+00	3.077E+00	5.289E-01	-0.124
NP-239	2.140E-01		3.497E-01	5.085E-01	3.675E-02	0.421



----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-6.671E-02		1.581E-01	2.511E-01	1.930E-02	-0.266
AM-246	3.562E-01		3.173E-01	5.639E-01	4.040E-02	0.632
CM-247	4.913E-02		7.460E-02	1.268E-01	6.963E-03	0.388
CF-249	-6.945E-02		7.920E-02	1.250E-01	6.832E-03	-0.556
CF-251	6.820E-02		2.099E-01	3.398E-01	1.843E-02	0.201

## VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202018264          *
* Acquisition date   : 26-JAN-2010 14:19:20 Detector SN# :                  *
* Detector ID        : GAM14 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 01:00:01.68 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018264 Analyst initials: MXR1                *
* Batch Number       : 942718 Sample Quantity : 1.5173E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                  *
* LCS DPM             : 0.000 LCS Isotope :                  *
* LCSD DPM            : 0.000 LCSD Isotope :                  *
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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
CO-57	2.538E-01	8.140E-02	3.574E-02	4.153E-02
CO-60	6.747E+00	5.746E-01	4.646E-02	2.931E-01
CD-109	3.680E+01	4.286E+00	1.206E+00	2.187E+00
SN-126	3.658E+00	4.261E-01	1.203E-01	2.174E-01
BA-137M	5.640E+00	4.172E-01	6.072E-02	2.129E-01
CS-137	5.962E+00	4.421E-01	6.418E-02	2.256E-01
TL-208	4.576E-01	1.039E-01	6.264E-02	5.299E-02
BI-211	2.551E+00	6.932E-01	3.562E-01	3.537E-01
PB-212	1.540E+00	1.959E-01	8.501E-02	9.997E-02
PO-212	1.540E+00	1.959E-01	8.501E-02	9.997E-02
BI-214	9.674E-01	2.298E-01	1.144E-01	1.173E-01
PB-214	8.872E-01	2.454E-01	1.152E-01	1.252E-01
PO-214	8.872E-01	2.454E-01	1.152E-01	1.252E-01
PO-216	1.540E+00	1.959E-01	8.501E-02	9.997E-02
PO-218	8.872E-01	2.454E-01	1.152E-01	1.252E-01
RA-224	2.872E+00	1.559E+00	9.667E-01	7.952E-01
RA-226	9.674E-01	2.298E-01	1.144E-01	1.173E-01
AC-228	1.334E+00	6.347E-01	2.683E-01	3.238E-01
RA-228	1.334E+00	6.347E-01	2.683E-01	3.238E-01
TH-228	1.552E+00	1.974E-01	8.566E-02	1.007E-01
TH-230	9.674E-01	2.298E-01	1.144E-01	1.173E-01
TH-232	1.334E+00	6.347E-01	2.683E-01	3.238E-01
U-234	9.674E-01	2.298E-01	1.144E-01	1.173E-01
AM-241	1.504E+01	1.298E+00	2.492E-01	6.620E-01
AM-243	2.786E-01	1.181E-01	7.684E-02	6.023E-02
ANH-511	1.123E-01	9.520E-02	4.980E-02	4.857E-02

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-9.398E-02	6.283E-01	5.411E-01	3.205E-01 NOT IDENT.

NA-22	-1.541E-02	4.848E-02	3.924E-02	2.474E-02	NOT IDENT.
NA-24	-4.669E+01	2.242E+02	0.000E+00	1.144E+02	SHORT HLIF
AL-26	-2.272E-03	4.801E-02	3.994E-02	2.450E-02	NOT IDENT.
K-40	1.207E+00	6.346E-01	6.057E-01	3.238E-01	NOT IDENT.
TI-44	2.990E-01	7.585E-02	6.031E-02	3.870E-02	FAIL ABUN
SC-46	7.722E-02	8.730E-02	7.963E-02	4.454E-02	NOT IDENT.
V-48	5.451E-02	1.158E-01	1.031E-01	5.907E-02	NOT IDENT.
CR-51	1.311E-01	5.645E-01	5.064E-01	2.880E-01	NOT IDENT.
MN-52	-3.229E-02	1.146E-01	9.150E-02	5.847E-02	FAIL ABUN
MN-54	-4.293E-02	7.948E-02	6.737E-02	4.055E-02	NOT IDENT.
CO-56	2.952E-02	8.118E-02	7.247E-02	4.142E-02	FAIL ABUN
CO-58	4.431E-02	7.521E-02	6.563E-02	3.837E-02	NOT IDENT.
FE-59	-5.802E-02	1.773E-01	1.489E-01	9.045E-02	NOT IDENT.
ZN-65	-2.913E-01	1.807E-01	1.362E-01	9.218E-02	NOT IDENT.
GE-68	2.069E+00	2.675E+00	2.414E+00	1.365E+00	NOT IDENT.
AS-73	-1.481E-01	1.750E+00	1.393E+00	8.927E-01	NOT IDENT.
AS-74	1.435E-01	1.342E-01	1.219E-01	6.845E-02	NOT IDENT.
SE-75	3.000E-03	7.493E-02	6.733E-02	3.823E-02	FAIL ABUN
BR-77	-5.841E-02	2.291E+00	1.974E+00	1.169E+00	FAIL ABUN
SR-82	-2.924E-01	6.400E-01	5.203E-01	3.265E-01	NOT IDENT.
RB-83	-6.885E-03	1.283E-01	1.104E-01	6.548E-02	NOT IDENT.
RB-84	7.457E-02	1.414E-01	1.269E-01	7.216E-02	NOT IDENT.
KR-85	1.708E+01	1.590E+01	1.279E+01	8.110E+00	NOT IDENT.
SR-85	8.092E-02	7.529E-02	6.059E-02	3.841E-02	NOT IDENT.
RB-86	8.625E-01	1.326E+00	1.187E+00	6.763E-01	NOT IDENT.
Y-88	-3.257E-03	4.844E-02	3.938E-02	2.471E-02	NOT IDENT.
ZR-88	2.494E-02	5.524E-02	4.953E-02	2.819E-02	NOT IDENT.
Y-91	-1.958E+01	2.279E+01	1.757E+01	1.163E+01	NOT IDENT.
NB-94	4.771E-03	6.337E-02	5.392E-02	3.233E-02	NOT IDENT.
NB-95	-2.484E-02	7.341E-02	6.025E-02	3.746E-02	NOT IDENT.
NB-95M	5.102E-01	2.265E-01	1.947E-01	1.156E-01	NOT IDENT.
ZR-95	-1.198E-03	1.221E-01	1.027E-01	6.229E-02	NOT IDENT.
NB-97	4.078E+02	1.450E+02	0.000E+00	7.398E+01	SHORT HLIF
ZR-97	1.187E+03	2.244E+03	0.000E+00	1.145E+03	SHORT HLIF
MO-99	-1.219E+00	3.501E+00	2.876E+00	1.786E+00	NOT IDENT.
TC-99M	-7.116E+07	5.722E+07	0.000E+00	2.919E+07	SHORT HLIF
RH-101	-6.772E-02	5.508E-02	4.753E-02	2.810E-02	NOT IDENT.
RH-102	3.551E-02	6.523E-02	5.804E-02	3.328E-02	NOT IDENT.
RU-103	1.555E-02	7.055E-02	6.179E-02	3.599E-02	FAIL ABUN
RH-106	-5.267E-01	5.874E-01	4.669E-01	2.997E-01	FAIL ABUN
RU-106	-5.267E-01	5.850E-01	4.669E-01	2.985E-01	FAIL ABUN
AG-108M	4.529E-02	6.662E-02	6.002E-02	3.399E-02	NOT IDENT.
AG-110M	1.367E-01	7.930E-02	6.651E-02	4.046E-02	NOT IDENT.
IN-111	-5.260E-02	3.379E-01	2.625E-01	1.724E-01	NOT IDENT.
IN-113M	-3.868E-02	8.007E-02	6.859E-02	4.085E-02	NOT IDENT.
SN-113	-3.868E-02	8.007E-02	6.859E-02	4.085E-02	NOT IDENT.
IN-114M	-1.451E-01	3.285E-01	2.555E-01	1.676E-01	NOT IDENT.
CD-115	6.831E-01	1.993E+00	1.754E+00	1.017E+00	NOT IDENT.
SN-117M	4.564E-03	6.202E-02	5.413E-02	3.164E-02	NOT IDENT.
SB-122	-4.121E-01	5.964E-01	4.907E-01	3.043E-01	NOT IDENT.
I-123	1.814E+02	6.673E+02	0.000E+00	3.405E+02	SHORT HLIF
TE-123M	1.210E-02	4.450E-02	3.915E-02	2.270E-02	NOT IDENT.
I-124	-1.111E-01	4.072E-01	3.085E-01	2.077E-01	FAIL ABUN
SB-124	5.368E-02	9.903E-02	9.100E-02	5.053E-02	NOT IDENT.
SB-125	-8.432E-02	1.910E-01	1.632E-01	9.743E-02	NOT IDENT.
TE-125M	5.476E+00	1.359E+01	1.221E+01	6.934E+00	NOT IDENT.
I-126	8.777E-02	2.713E-01	2.048E-01	1.384E-01	NOT IDENT.
SB-126	-9.462E-02	2.180E-01	1.519E-01	1.112E-01	FAIL ABUN
SB-127	-2.593E-02	6.769E-01	5.724E-01	3.454E-01	NOT IDENT.
XE-127	-3.351E-06	6.988E-02	6.006E-02	3.565E-02	NOT IDENT.
I-131	-2.253E-02	1.148E-01	1.003E-01	5.857E-02	NOT IDENT.
TE-132	1.697E-01	2.429E-01	2.226E-01	1.240E-01	NOT IDENT.
BA-133	-6.386E-03	8.799E-02	6.704E-02	4.489E-02	NOT IDENT.
I-133	1.532E+01	2.753E+01	0.000E+00	1.404E+01	SHORT HLIF
CS-134	2.579E-02	9.871E-02	8.424E-02	5.036E-02	NOT IDENT.
CS-135	-3.632E-02	2.708E-01	2.414E-01	1.382E-01	NOT IDENT.
I-135	-2.068E+07	3.310E+07	0.000E+00	1.689E+07	SHORT HLIF
CS-136	-5.548E-02	1.585E-01	1.333E-01	8.088E-02	NOT IDENT.
CE-139	3.881E-02	4.830E-02	4.326E-02	2.464E-02	NOT IDENT.
BA-140	-4.403E-02	3.164E-01	2.699E-01	1.614E-01	NOT IDENT.
LA-140	1.299E-02	8.367E-02	7.160E-02	4.269E-02	NOT IDENT.
CE-141	4.185E-02	8.501E-02	7.572E-02	4.337E-02	NOT IDENT.
CE-143	1.969E+01	7.383E+00	5.622E+00	3.767E+00	FAIL ABUN
CE-144	-3.219E-01	3.480E-01	2.918E-01	1.775E-01	NOT IDENT.
PM-144	-7.682E-05	6.435E-02	5.449E-02	3.283E-02	NOT IDENT.
PR-144	-5.185E-03	4.343E+00	3.678E+00	2.216E+00	NOT IDENT.
PM-146	-4.574E-02	1.002E-01	8.532E-02	5.110E-02	NOT IDENT.
ND-147	4.335E-02	6.695E-01	5.793E-01	3.416E-01	FAIL ABUN

PM-149	1.455E+01	1.558E+01	1.434E+01	7.948E+00	NOT IDENT.
EU-152	-1.668E-01	2.235E-01	1.634E-01	1.140E-01	FAIL ABUN
GD-153	-6.336E-02	1.357E-01	1.028E-01	6.924E-02	NOT IDENT.
EU-154	-5.246E-02	1.347E-01	1.076E-01	6.871E-02	FAIL ABUN
EU-155	-7.851E-02	1.708E-01	1.487E-01	8.717E-02	FAIL ABUN
TB-160	1.273E-01	3.026E-01	2.702E-01	1.544E-01	FAIL ABUN
HO-166M	-3.173E-02	1.228E-01	1.020E-01	6.266E-02	FAIL ABUN
TM-171	-8.754E+00	4.043E+01	3.628E+01	2.063E+01	FAIL ABUN
LU-176	-3.385E-02	4.518E-02	3.885E-02	2.305E-02	FAIL ABUN
LU-177	1.578E+00	1.208E+00	7.972E-01	6.163E-01	FAIL ABUN
LU-177M	-1.531E-01	3.403E-01	2.913E-01	1.736E-01	FAIL ABUN
HF-181	-1.426E-02	7.521E-02	6.455E-02	3.837E-02	NOT IDENT.
W-181	-5.240E-02	5.696E-01	4.498E-01	2.906E-01	NOT IDENT.
TA-182	9.811E-03	2.337E-01	2.001E-01	1.192E-01	NOT IDENT.
RE-183	-7.284E-02	1.724E-01	1.472E-01	8.795E-02	FAIL ABUN
RE-184	3.614E-02	3.996E-01	3.606E-01	2.039E-01	FAIL ABUN
OS-185	-2.314E-02	7.856E-02	6.553E-02	4.008E-02	FAIL ABUN
RE-188	-4.947E-02	2.619E-01	2.264E-01	1.336E-01	NOT IDENT.
W-188	-1.441E+01	1.403E+01	1.017E+01	7.158E+00	NOT IDENT.
IR-192	-3.114E-02	5.965E-02	5.176E-02	3.043E-02	FAIL ABUN
AU-195	2.496E-01	3.839E-01	3.080E-01	1.959E-01	FAIL ABUN
TL-200	4.311E+00	6.976E+00	6.325E+00	3.559E+00	NOT IDENT.
TL-201	8.737E-01	2.124E+00	1.873E+00	1.083E+00	NOT IDENT.
TL-202	-3.675E-02	9.128E-02	7.796E-02	4.657E-02	NOT IDENT.
HG-203	-1.082E-02	6.374E-02	5.663E-02	3.252E-02	NOT IDENT.
BI-207	2.467E-02	1.077E-01	9.429E-02	5.495E-02	FAIL ABUN
TL-207	-1.549E+00	1.281E+00	1.055E+00	6.534E-01	FAIL ABUN
PO-209	-1.084E+00	1.794E+01	1.558E+01	9.153E+00	NOT IDENT.
BI-210	-4.538E+00	5.174E+00	4.657E+00	2.640E+00	NOT IDENT.
PB-210	-4.538E+00	5.174E+00	4.657E+00	2.640E+00	NOT IDENT.
PO-210	-4.538E+00	5.171E+00	4.657E+00	2.638E+00	NOT IDENT.
PB-211	-8.993E-01	1.927E+00	1.582E+00	9.834E-01	NOT IDENT.
BI-212	7.327E-01	5.769E-01	5.241E-01	2.943E-01	NOT IDENT.
PO-215	-1.549E+00	1.281E+00	1.055E+00	6.534E-01	FAIL ABUN
RN-219	6.498E-01	8.258E-01	7.462E-01	4.213E-01	NOT IDENT.
RN-220	2.508E-01	5.173E+01	4.451E+01	2.639E+01	NOT IDENT.
RA-223	-1.549E+00	1.281E+00	1.055E+00	6.534E-01	FAIL ABUN
AC-227	1.022E-02	6.624E-01	5.957E-01	3.380E-01	NOT IDENT.
TH-227	1.022E-02	6.624E-01	5.957E-01	3.380E-01	FAIL ABUN
TH-229	4.761E-01	8.833E-01	7.997E-01	4.507E-01	FAIL ABUN
PA-231	1.329E+00	2.739E+00	2.492E+00	1.397E+00	NOT IDENT.
TH-231	-1.549E+00	1.281E+00	1.055E+00	6.534E-01	FAIL ABUN
U-231	7.619E-02	5.175E-01	4.057E-01	2.640E-01	FAIL ABUN
PA-233	6.909E-02	1.170E-01	1.067E-01	5.972E-02	FAIL ABUN
PA-234	-1.151E-01	7.398E-01	6.362E-01	3.774E-01	FAIL ABUN
PA-234M	7.833E+00	1.010E+01	9.149E+00	5.153E+00	NOT IDENT.
TH-234	-3.806E-01	2.114E+00	1.675E+00	1.079E+00	FAIL ABUN
U-235	-4.962E-02	3.392E-01	2.947E-01	1.731E-01	FAIL ABUN
NP-236	-3.788E-02	1.329E-01	1.142E-01	6.781E-02	NOT IDENT.
NP-237	8.613E+00	1.990E+00	6.608E-01	1.015E+00	NOT IDENT.
U-238	-3.806E-01	2.114E+00	1.675E+00	1.079E+00	FAIL ABUN
NP-239	2.140E-01	3.427E-01	2.729E-01	1.748E-01	FAIL ABUN
CM-243	-6.671E-02	1.549E-01	1.352E-01	7.905E-02	FAIL ABUN
AM-246	3.562E-01	3.110E-01	2.865E-01	1.587E-01	NOT IDENT.
CM-247	4.913E-02	7.311E-02	6.604E-02	3.730E-02	NOT IDENT.
CF-249	-6.945E-02	7.762E-02	6.516E-02	3.960E-02	NOT IDENT.
CF-251	6.820E-02	2.057E-01	1.806E-01	1.050E-01	NOT IDENT.

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 \* GEL Laboratories LLC \*  
 \* 2040 SAVAGE ROAD \*  
 \* CHARLESTON , SC 29417 \*  
 \* GAMMA SPECTROSCOPY BACKGROUND REPORT \*  
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ENERGY	MDA COUNTS
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46.50	777.2960
46.50	777.2960
46.50	777.2960
48.70	851.6425
49.72	894.4651
51.35	931.8912
52.39	1002.5444
52.97	1018.7528
53.15	1041.8905
53.44	1043.8632
54.07	982.2737
56.28	1073.3947
56.28	1073.3977
57.37	1071.3567
57.53	829.1659
57.53	829.1675
57.60	829.2274
57.98	829.5610
57.98	829.5610
59.32	830.7278
59.32	830.7278
59.40	830.7970
59.54	830.9185
59.72	831.0737
60.01	831.3228
61.10	545.2009
61.14	545.2231
61.30	545.3127
63.00	546.2538
63.29	546.4135
63.29	546.4135
63.58	563.1349
64.28	561.8723
65.12	540.7756
65.20	540.8189
65.20	540.8189
66.05	547.9125
66.72	547.2321
66.83	547.2924
66.91	563.9520
67.20	554.7616
67.20	554.7616
67.75	565.4513
67.85	565.5052
68.90	579.3975
68.90	579.3975
69.30	572.9561
69.67	529.8395
70.82	595.4670
70.82	595.4670
70.83	595.4714
72.80	556.4651
72.87	556.5006
72.87	556.5006
74.67	607.8531
74.81	607.9307
74.81	607.9307
74.81	607.9307
74.81	607.9307
74.81	607.9307
74.81	607.9307
74.81	607.9307
74.97	608.0194
75.28	608.1912
75.70	608.4228
77.11	609.1985
77.11	609.1985

77.11	609.1985
77.11	609.1985
77.11	609.1985
77.11	609.1985
77.11	609.1985
78.38	584.4866
79.62	613.7142
79.80	613.8122
79.80	613.8122
80.11	635.8470
80.18	635.8862
80.30	635.9531
80.30	635.9531
80.57	647.8828
81.00	625.6813
81.07	625.7198
81.07	625.7198
81.07	625.7198
81.07	625.7198
82.60	611.0992
83.37	653.6745
83.78	639.5625
83.78	639.5625
83.78	639.5625
83.78	639.5625
84.21	643.1747
84.90	630.0408
85.43	604.9750
86.29	659.5294
86.50	659.6461
86.54	659.6699
86.59	659.6960
86.72	639.4692
86.79	639.5038
86.94	639.5869
87.30	639.7784
87.30	639.7784
87.30	639.7784
87.30	639.7784
87.30	639.7784
87.30	639.7784
87.57	639.9237
87.88	640.0898
88.03	640.1683
88.36	640.3459
88.47	640.4036
89.95	398.6222
91.11	399.0009
92.29	399.3838
92.38	399.4139
92.38	399.4139
93.35	429.4935
94.00	376.1101
94.67	388.2290
94.67	388.2304
94.90	369.5675
94.90	369.5675
94.90	369.5675
94.90	369.5675
95.87	364.7404
95.87	364.7404
96.73	388.8677
97.43	389.0807
98.44	367.1862
98.44	367.1862
98.88	350.2279
99.55	365.7945
99.55	365.7945
99.86	370.4413
100.00	371.9072
100.10	371.9364
103.18	373.8865
103.76	387.9848
105.00	379.7657
105.31	383.0726
108.00	350.5112
109.28	360.5291

111.00	366.3705
111.00	366.3705
111.76	371.9637
112.95	383.0750
115.19	342.4032
116.30	332.2899
117.00	318.6028
117.00	318.6028
117.66	291.0335
121.11	346.2181
121.62	346.3411
121.78	346.3788
122.06	346.4457
122.32	346.5078
122.32	346.5078
122.32	346.5078
122.32	346.5078
123.07	340.8180
127.23	392.3520
129.76	347.1647
131.20	354.0536
133.02	413.5586
133.54	410.4138
135.34	328.7178
136.00	337.6270
136.25	338.7774
136.48	349.7946
140.51	392.4734
140.51	0.0000
142.18	326.8559
142.65	321.4491
143.76	342.6049
144.24	342.7069
144.24	342.7069
144.24	342.7069
144.24	342.7069
145.22	325.2738
145.44	320.9077
147.16	337.8089
152.43	338.8991
152.70	338.9551
153.22	335.7361
154.21	331.5024
154.21	331.5024
154.21	331.5024
154.21	331.5024
155.03	347.1962
156.02	336.3025
158.56	332.3624
159.00	0.0000
159.00	316.8829
160.31	343.8318
161.27	344.0275
162.32	356.4917
162.64	368.8143
163.35	333.2977
163.89	314.4445
165.85	317.0342
167.43	326.2611
171.28	321.3751
171.86	299.0774
172.10	299.1181
176.55	292.0021
176.60	292.0100
181.06	295.7285
184.41	339.8805
185.71	362.0919
186.00	362.1482
190.27	398.2747
192.34	309.6042
193.63	339.5368
197.04	370.6241
198.01	377.1715
198.60	359.1043
200.40	293.9193
201.83	314.1682
202.84	323.4413
205.31	339.0528

208.36	299.9829
208.81	295.4818
209.75	307.2009
209.75	307.2009
210.97	311.0469
215.65	304.1277
216.55	290.1185
218.09	311.2224
222.10	312.7506
223.80	335.1004
226.40	287.5869
227.00	283.0587
227.08	283.0700
227.20	283.0850
228.16	298.8971
228.18	298.9011
228.18	298.9011
231.56	357.2820
235.69	296.2539
236.00	302.4697
236.00	302.4697
238.63	302.2205
238.63	302.2205
238.63	302.2205
238.63	302.2205
239.00	302.2723
240.98	302.5488
241.98	294.0222
241.98	294.0222
241.98	294.0222
244.69	303.6820
245.39	303.7797
247.94	302.5789
248.90	293.3957
249.79	287.9222
252.40	282.6607
252.85	278.0527
252.85	278.0527
254.15	0.0000
256.20	268.1875
256.20	268.1875
260.50	278.9930
260.90	276.2348
262.80	249.2841
264.65	269.1816
268.24	273.3560
268.79	274.3631
269.46	262.2232
269.46	262.2232
269.46	262.2232
269.46	262.2232
271.23	261.4802
273.65	283.4074
276.40	246.9747
277.35	249.8997
277.60	238.6112
277.60	238.6112
278.00	238.6514
278.60	256.6369
279.20	266.1410
279.53	270.8948
280.46	280.4424
281.68	274.9190
283.67	242.0531
284.30	243.0614
285.00	224.2126
285.90	231.8677
286.10	233.7786
286.10	233.7786
287.40	248.3205
288.45	0.0000
290.67	278.1546
290.80	278.1689
291.72	248.2320
293.26	234.1497
293.70	229.4447
295.21	241.3031
295.21	241.3031



295.21	241.3031
295.96	241.3744
296.50	259.8035
297.23	261.4648
298.57	242.5831
299.80	233.1837
299.80	233.1837
300.09	223.6918
300.09	223.6918
300.09	223.6918
300.09	223.6918
300.12	223.6946
301.29	214.2773
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303.76	236.4144
303.91	250.7264
304.40	240.2890
304.40	240.2890
304.84	249.8659
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308.46	241.6286
311.98	219.9684
316.51	247.1818
318.01	227.1954
319.02	226.3232
319.41	244.5815
320.08	225.4560
323.87	279.5902
323.87	279.5902
323.87	279.5902
323.87	279.5902
325.23	262.4326
328.77	228.1328
333.44	266.7847
334.20	231.4951
334.20	231.4951
334.30	231.5039
338.28	246.3371
338.28	246.3371
338.28	246.3371
338.28	246.3371
338.32	238.6149
338.32	238.6149
338.32	238.6149
340.50	235.2628
340.57	235.2688
344.27	271.0894
345.85	258.3301
350.59	245.8403
351.07	257.2072
351.92	221.3648
351.92	221.3648
351.92	221.3648
355.39	0.0000
356.01	194.4653
364.48	211.6359
366.43	197.1448
367.43	194.2849
367.94	184.5542
369.80	195.4248
374.96	204.5889
383.85	224.8572
387.95	228.1230
388.63	207.5228
391.69	203.8010
391.69	203.8010
392.90	191.0800
398.62	223.0288
400.65	200.4675
401.10	206.4232
401.81	199.5564
402.60	198.6225
404.84	224.4812
410.95	192.2357
411.60	218.0476
413.65	219.1844
414.70	203.3859
415.30	204.4183

415.76	205.4435
417.63	0.0000
418.52	202.6478
423.70	233.8353
427.08	209.1848
427.89	220.2015
432.53	208.5535
433.93	182.6895
439.47	199.0121
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439.89	200.0391
443.98	210.3127
444.90	216.3823
445.03	216.3929
445.03	216.3929
445.03	216.3929
445.03	216.3929
453.90	251.1444
463.38	245.8318
468.07	250.2190
473.00	233.4138
475.06	205.2500
475.35	207.2897
476.78	213.4469
477.59	201.3563
477.96	202.3926
482.03	171.2280
484.57	172.3719
487.03	174.5258
490.36	144.2274
492.35	157.5240
497.08	154.6886
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510.53	0.0000
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511.00	166.5527
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511.85	173.7468
513.99	158.5127
513.99	158.5127
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531.02	136.6692
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543.00	123.7207
546.56	0.0000
549.76	142.5450
552.65	147.8249
555.20	129.3091
563.23	128.5531
563.90	160.7179
568.70	138.0849
569.32	127.7236
569.50	124.6143
569.67	124.6201
573.80	205.8504
574.00	203.7807
574.64	201.7344
578.91	116.2522
579.30	112.7926
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585.48	123.4035
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592.07	144.1622
593.00	154.6448
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602.71	145.1583
603.60	134.4649
604.41	111.7865
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609.31	140.6084
609.31	140.6084
609.31	140.6084
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621.84	125.2667
631.29	122.3976
633.02	102.3923
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635.90	116.1982
636.97	119.4004
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646.12	120.7298
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657.90	0.0000
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661.65	129.6935
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666.33	117.0684
675.00	120.5094
677.61	106.7139
685.20	111.1830
692.80	111.3811
695.00	118.9402
696.49	113.6213
696.49	113.6213
697.00	108.2742
697.49	102.9258
698.33	113.6705
698.50	113.6757
699.00	108.3260
702.63	111.6375
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709.31	106.4347
711.68	124.7793
713.82	116.2318
717.42	108.7871
720.50	122.1571
721.93	106.0252
722.20	115.0182
722.78	109.6392
722.78	109.6392
722.89	109.6441
722.95	109.6441
723.30	116.8445
724.18	113.2723
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795.84	121.6529
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867.82	113.1042
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873.19	129.9312
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880.51	110.6038
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883.24	143.2126
884.67	142.3231
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898.02	128.7096
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911.07	136.2544
911.07	136.2544
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920.93	115.7971
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925.24	129.3975
926.50	131.3041
935.52	155.0198
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949.00	168.6064
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969.11	146.5550
969.11	146.5550
969.11	146.5550
977.42	119.9509
980.50	108.0184
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989.30	105.3475
996.32	117.8394
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1004.76	109.4550
1021.30	0.0000
1024.50	0.0000
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1038.76	0.0000
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1046.59	103.5703
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1050.47	114.1966
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1175.09	58.8159
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1213.00	52.2732
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1230.97	32.6415
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1271.85	28.8702
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1376.25	21.2384
1384.27	23.2882
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1395.20	15.2124
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1434.06	17.3376
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1596.49	17.7284
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1691.02	9.5013
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1750.46	0.0000
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1764.49	12.7856
1764.49	12.7856
1764.49	12.7856
1770.23	7.3111
1771.40	5.4842
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1808.65	11.7837

1836.01

11.8222

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202018264

Total Uranium Activity	-1.1551E+00	ug/g
Total Uranium Counting Unc.	6.2907E+00	ug/g
Total Uranium Tpu	3.2095E-06	ug/g
Total Uranium Mda	4.9861E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 942718          SAMPLE ID   : G1202018264
*  ANALYST       : MXR1            DETECTOR    : GAM14
*  SAMPLE DATE   : 19-JAN-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00
*  ANALYSIS DATE: 26-JAN-2010 14:19:20.89  SAMPLE ALQT: 151.730 GRAM
*
*****

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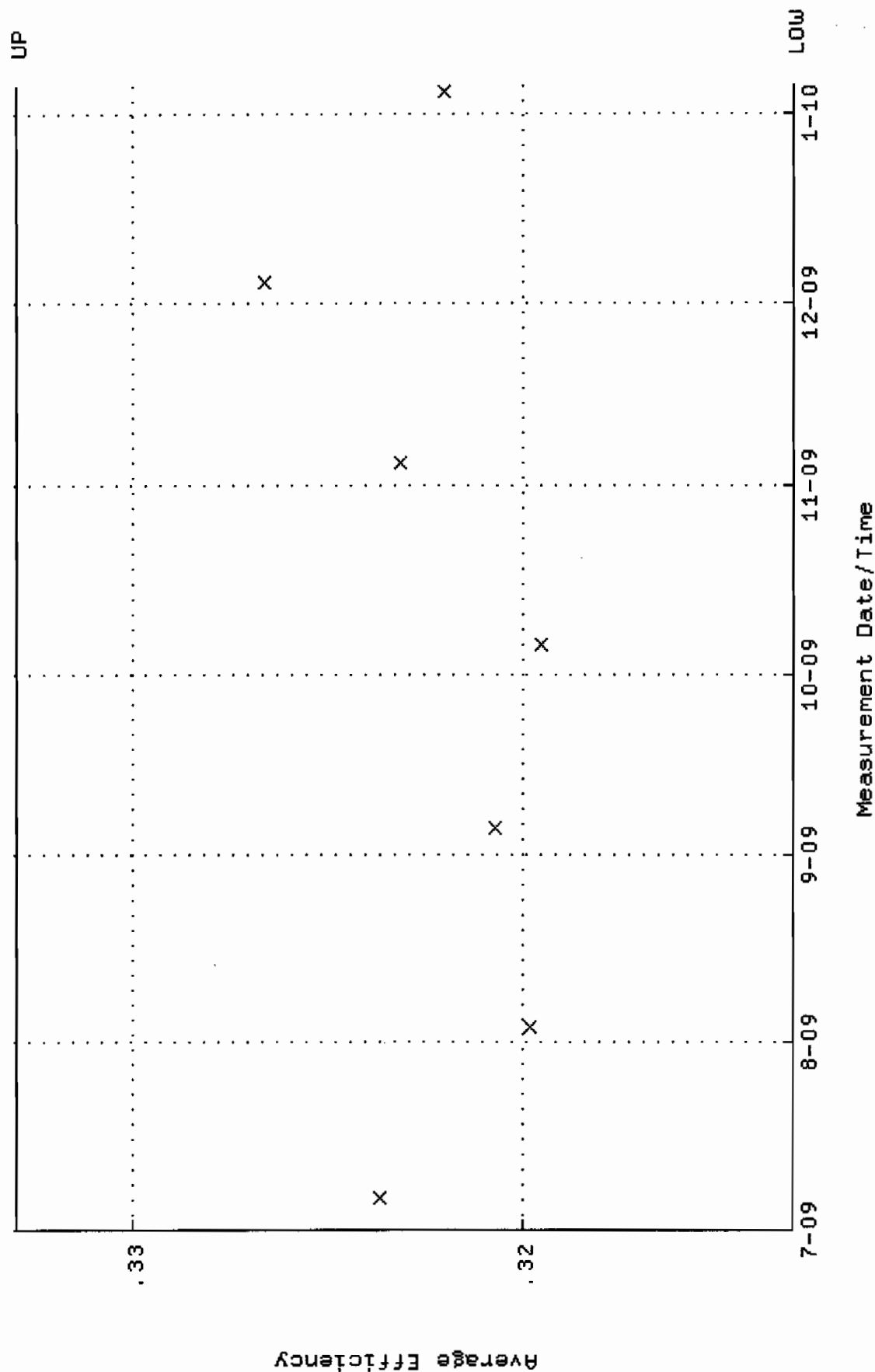
GROSS GAMMA ACTIVITY (pCi/GRAM ) : 3.000E+01
GROSS GAMMA ERROR  (pCi/GRAM ) : 3.131E+00
GROSS GAMMA MDA    (pCi/GRAM ) : 6.514E+00
GROSS GAMMA DLC    (pCi/GRAM ) : 3.196E+00

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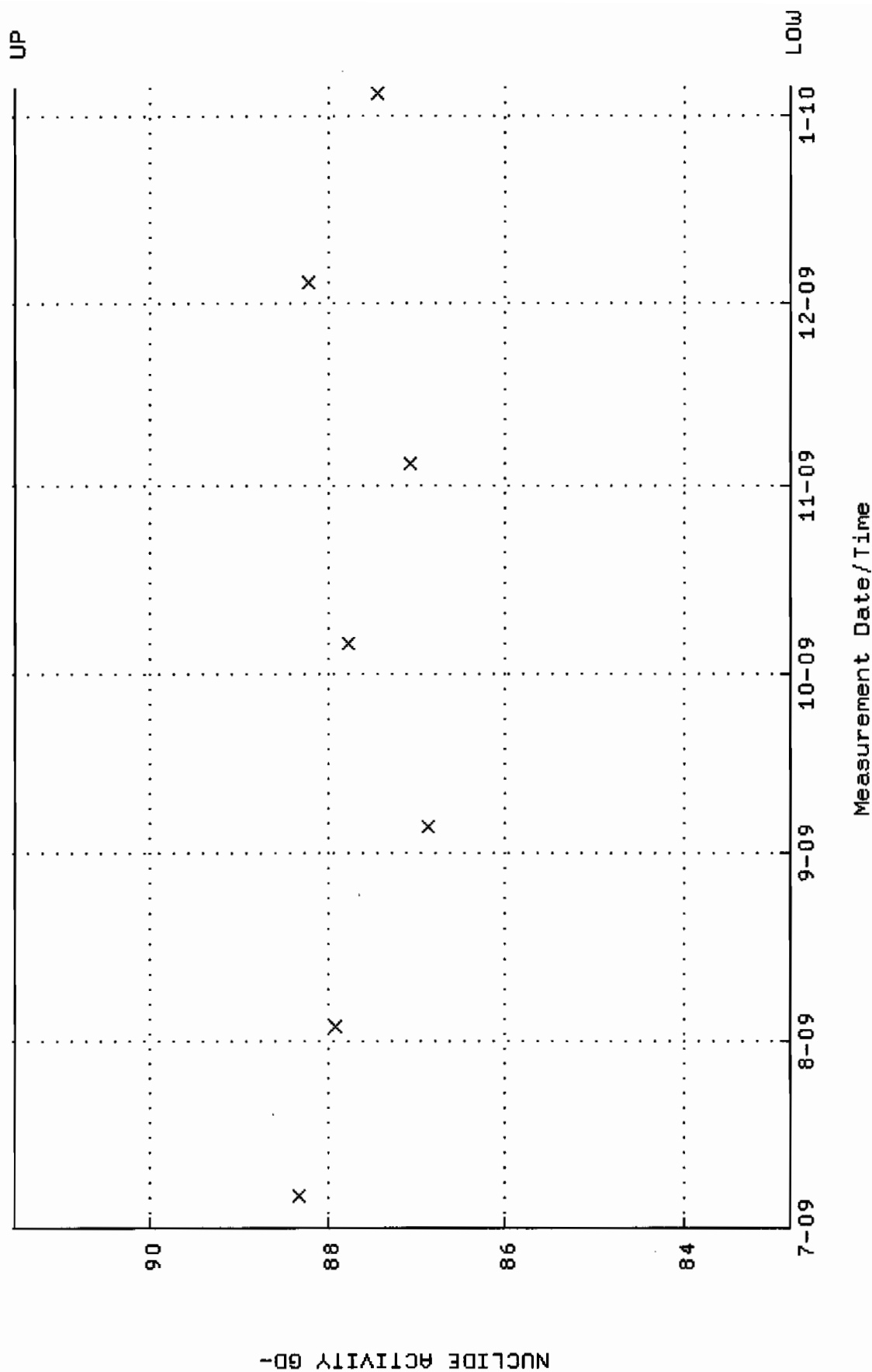


# BACKGROUND AND EFFICIENCY DATA

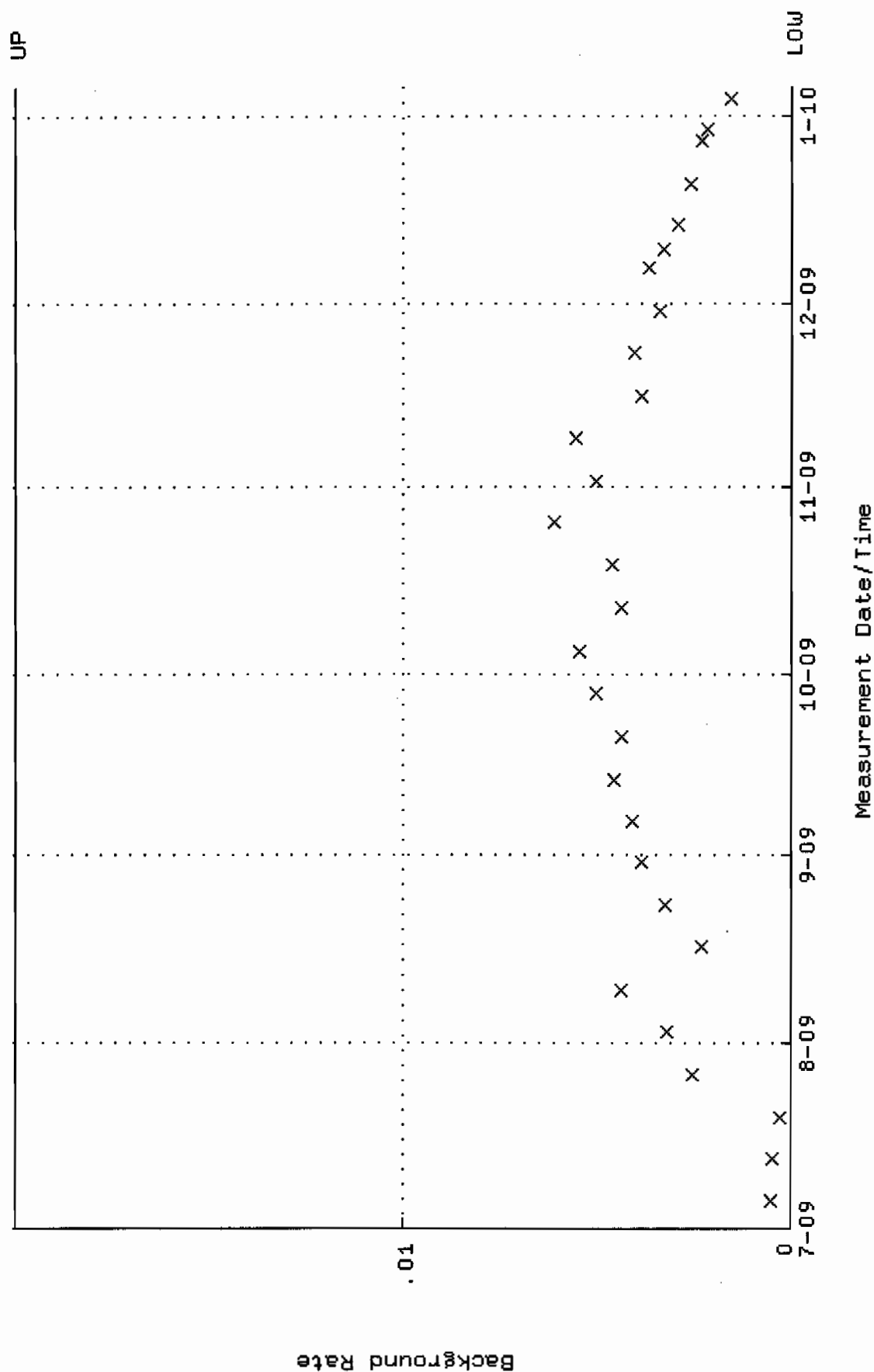
QA filename : DKA100:[ENV\_ALPHA.QA.W]W040.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.313016 through 0.333016



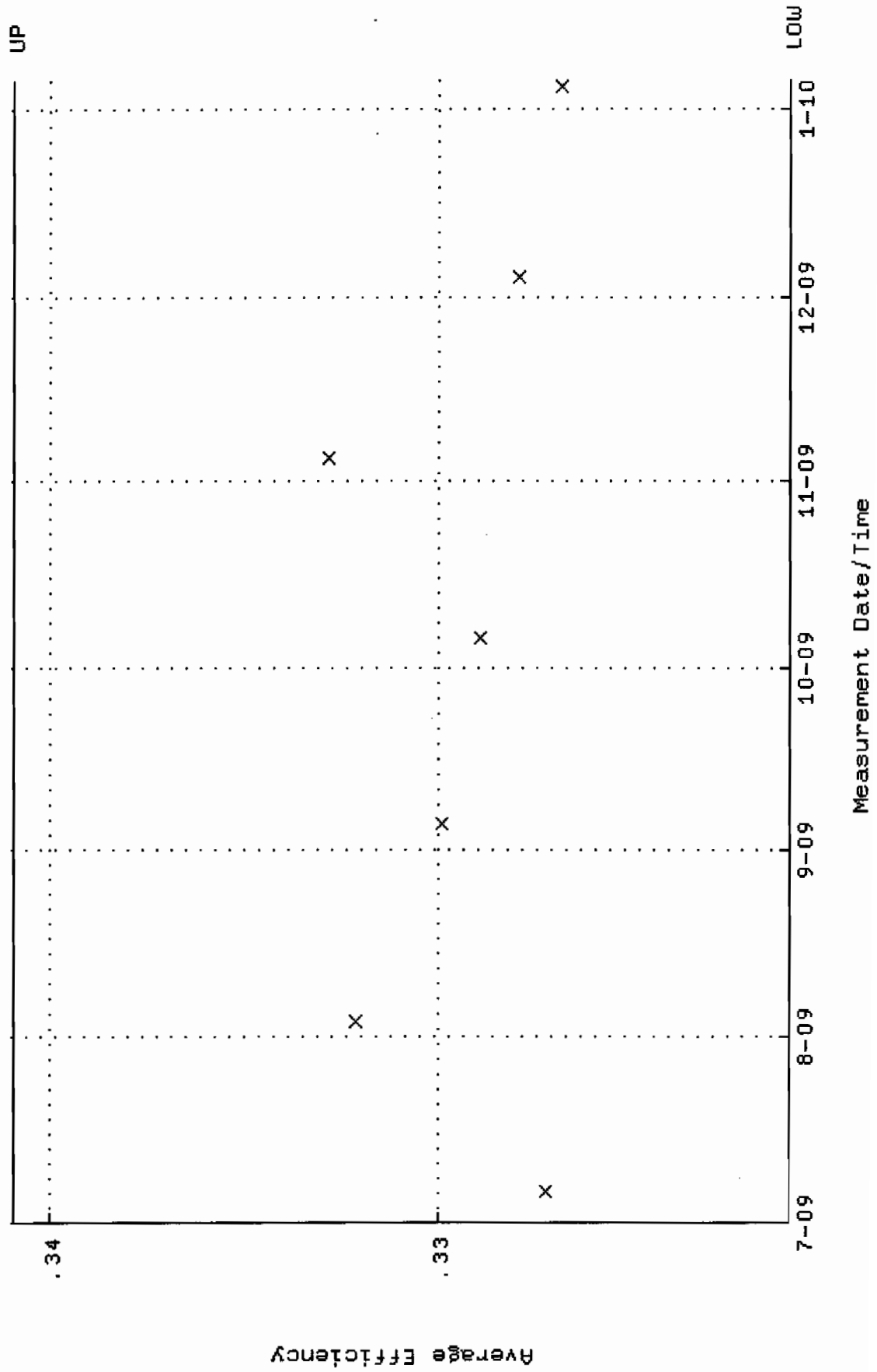
QA filename : DKA100:[ENV\_ALPHA.QA.W]W040.QAF;3  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00  
 Lower/Upper Lmts: 82.8065 through 91.5229



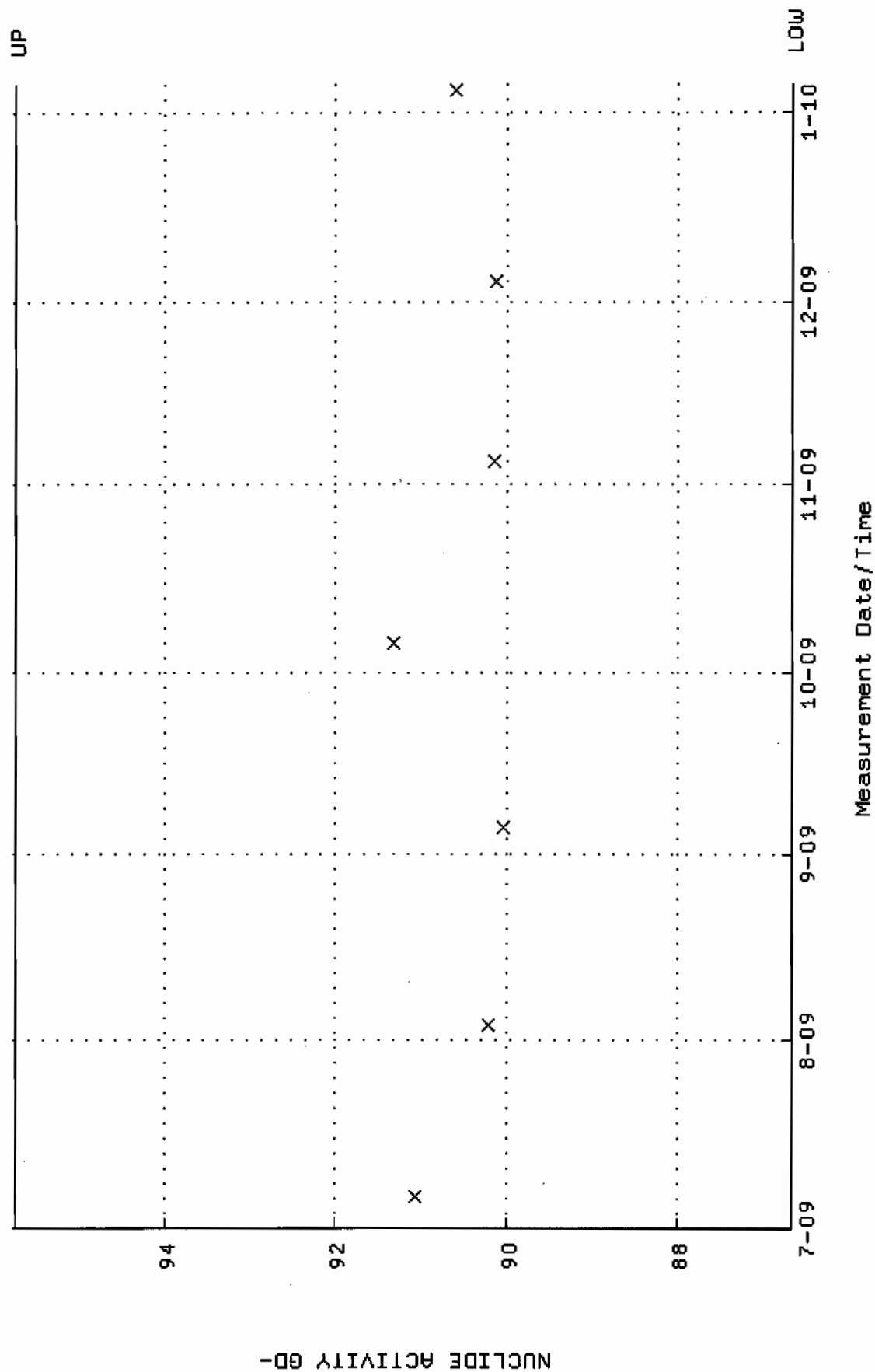
QA filename : DKA100:[ENV\_ALPHA.QA.B]B040.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



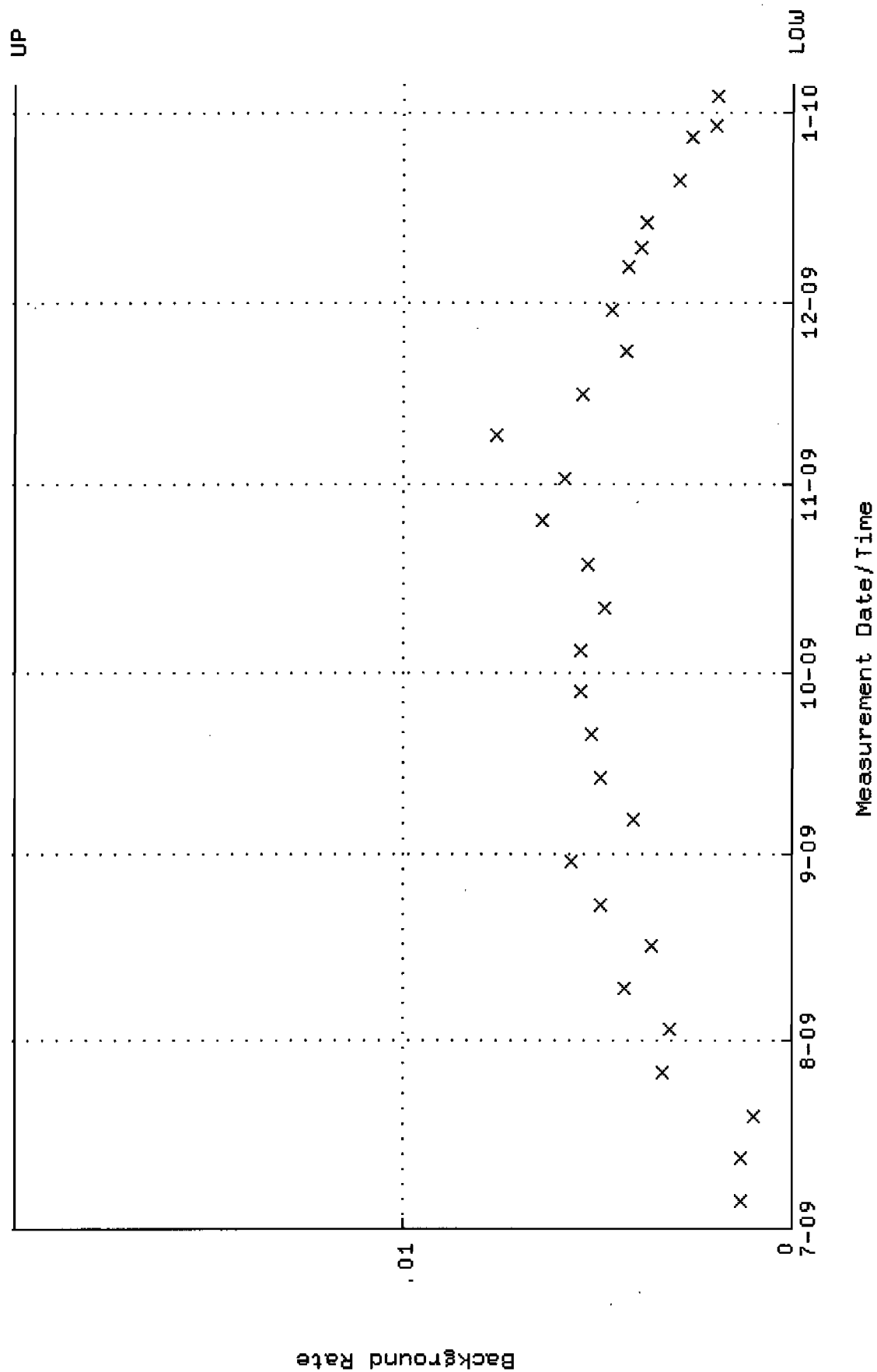
QA filename : DKA100:[ENV\_ALPHA.QA.W]W041.QAF;5  
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 Lower/Upper Lmts: 0.320943 through 0.340943



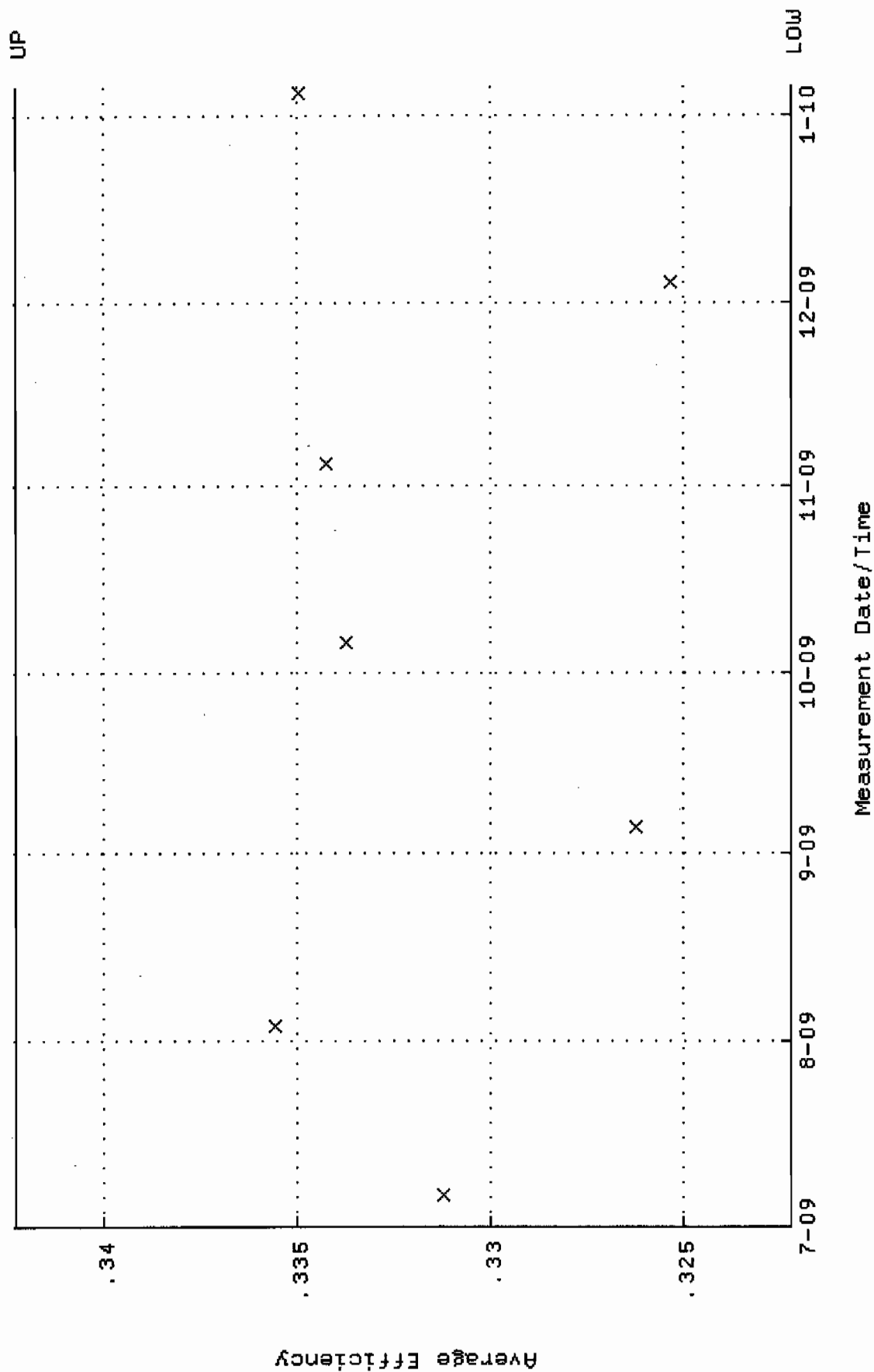
QA filename : DKA100:[ENV\_ALPHA.QA.W]U041.QAF;5  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00  
 Lower/Upper Lmts: 86.6435 through 95.7639



QA filename : DKA100:[ENV\_ALPHA.QA.B]B041.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

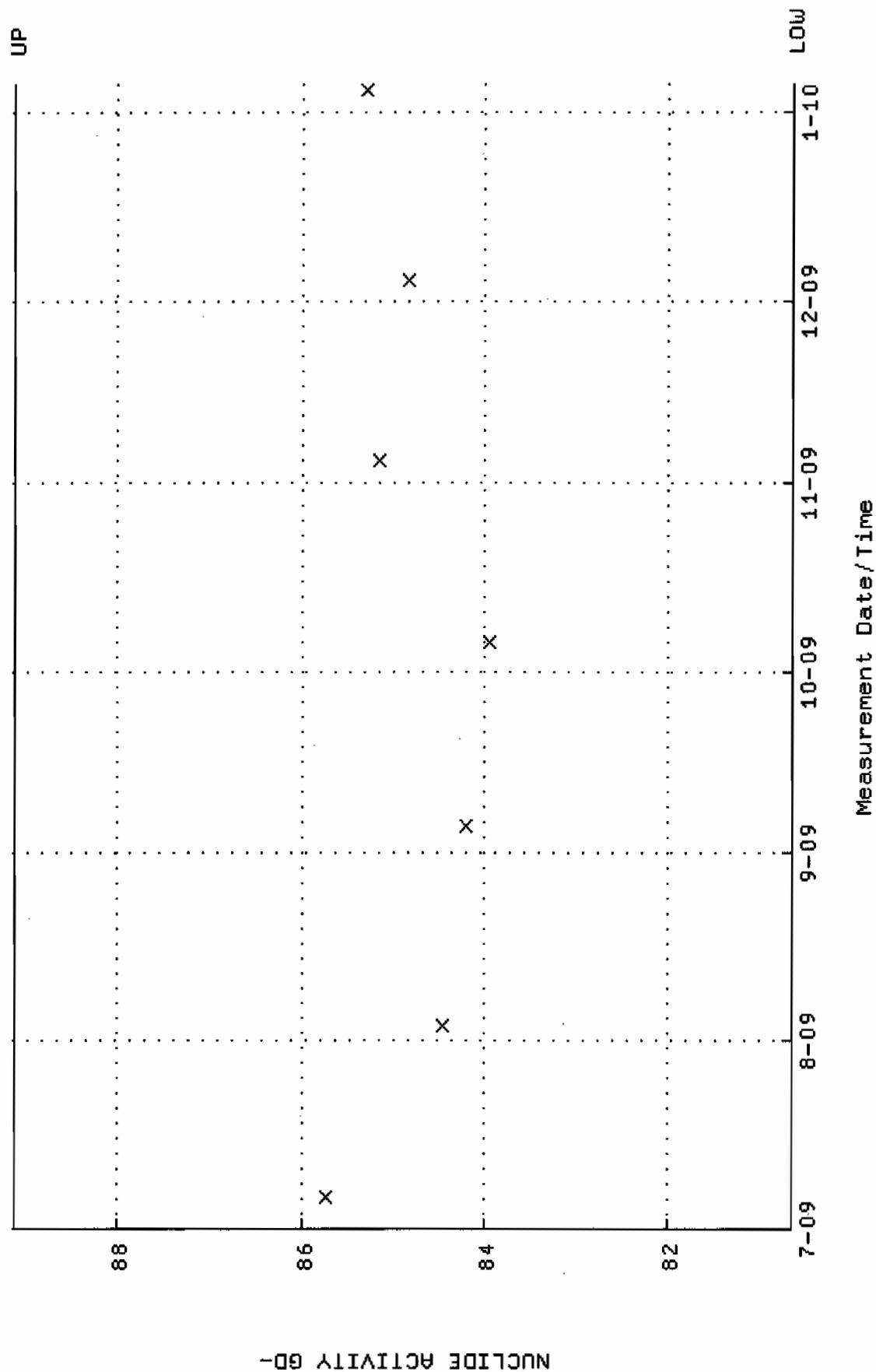


QA filename : DKA100:[ENV\_ALPHA.QA.W]W042.QAF;3  
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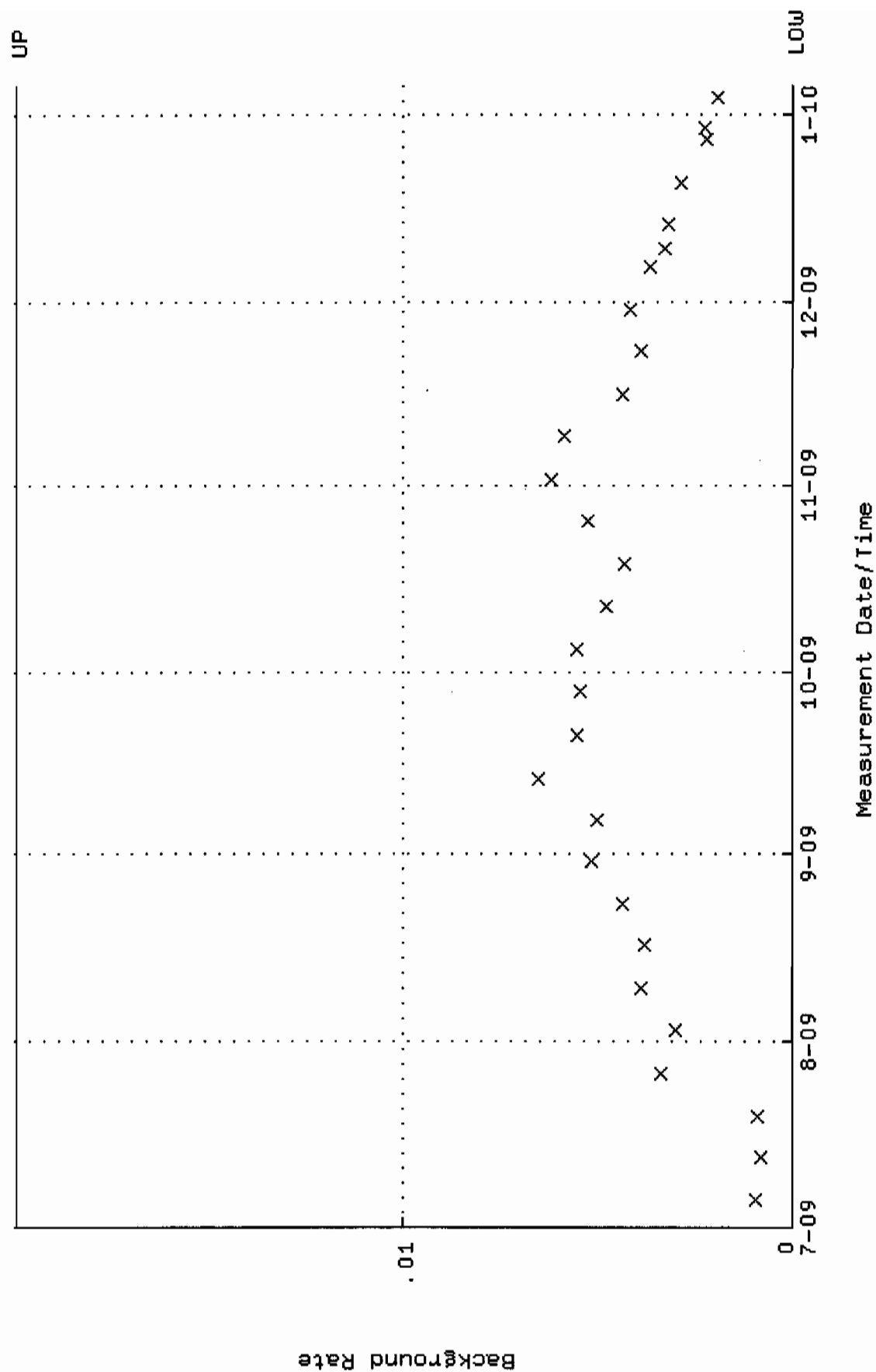




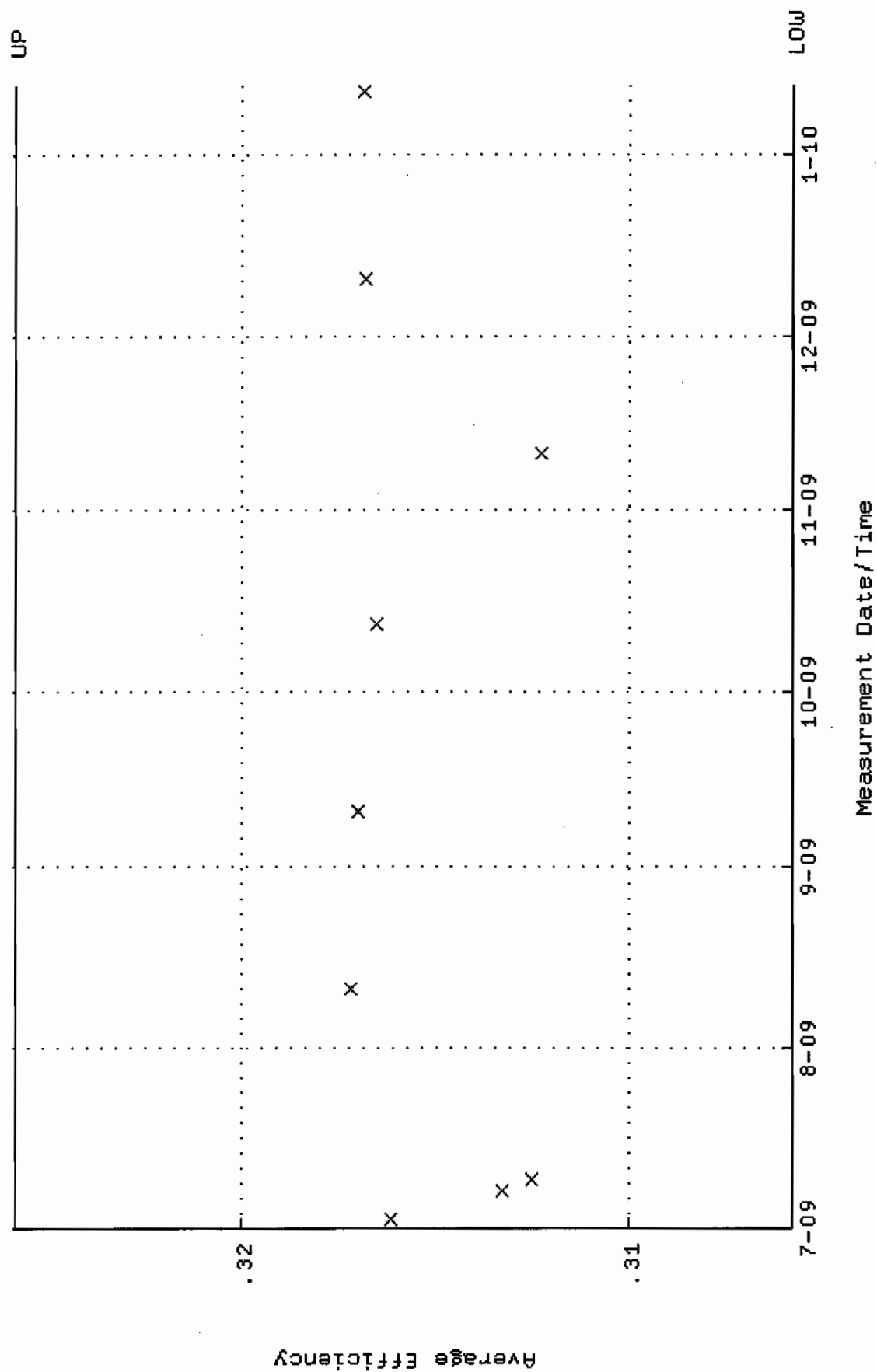
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 Lower/Upper Lmts: 80.6389 through 89.1273



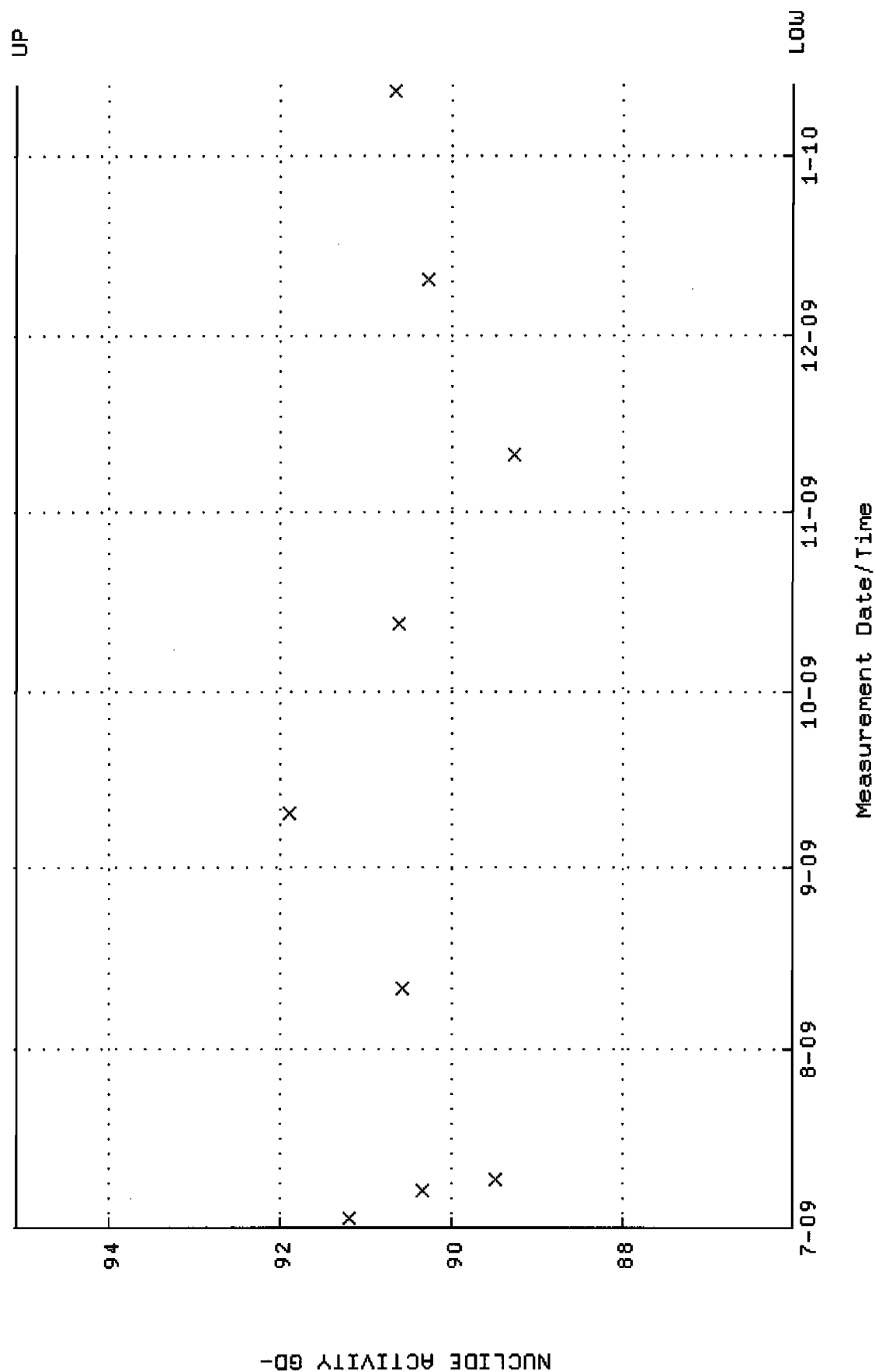
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 Parameter Name : BACKRATE (Background Rate)  
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]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

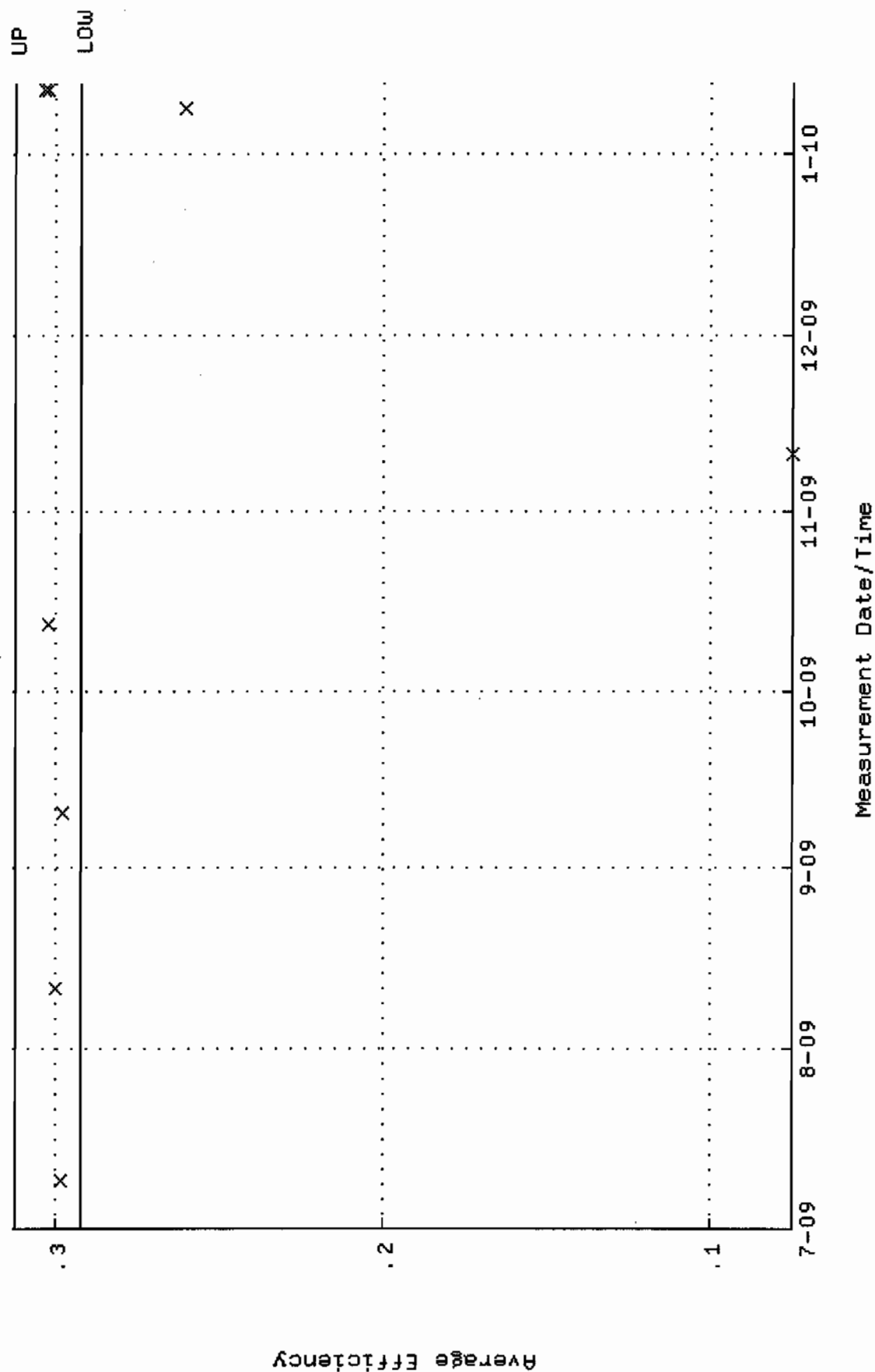


QA filename : DKA100:[ENV\_ALPHA.QA.W]W074.QAF;4  
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 Lower/Upper Lmts: 86.0289 through 95.0845

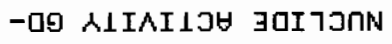




QA filename : DKA100:[ENV\_ALPHA.QA.W]W075.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.292134 through 0.312134



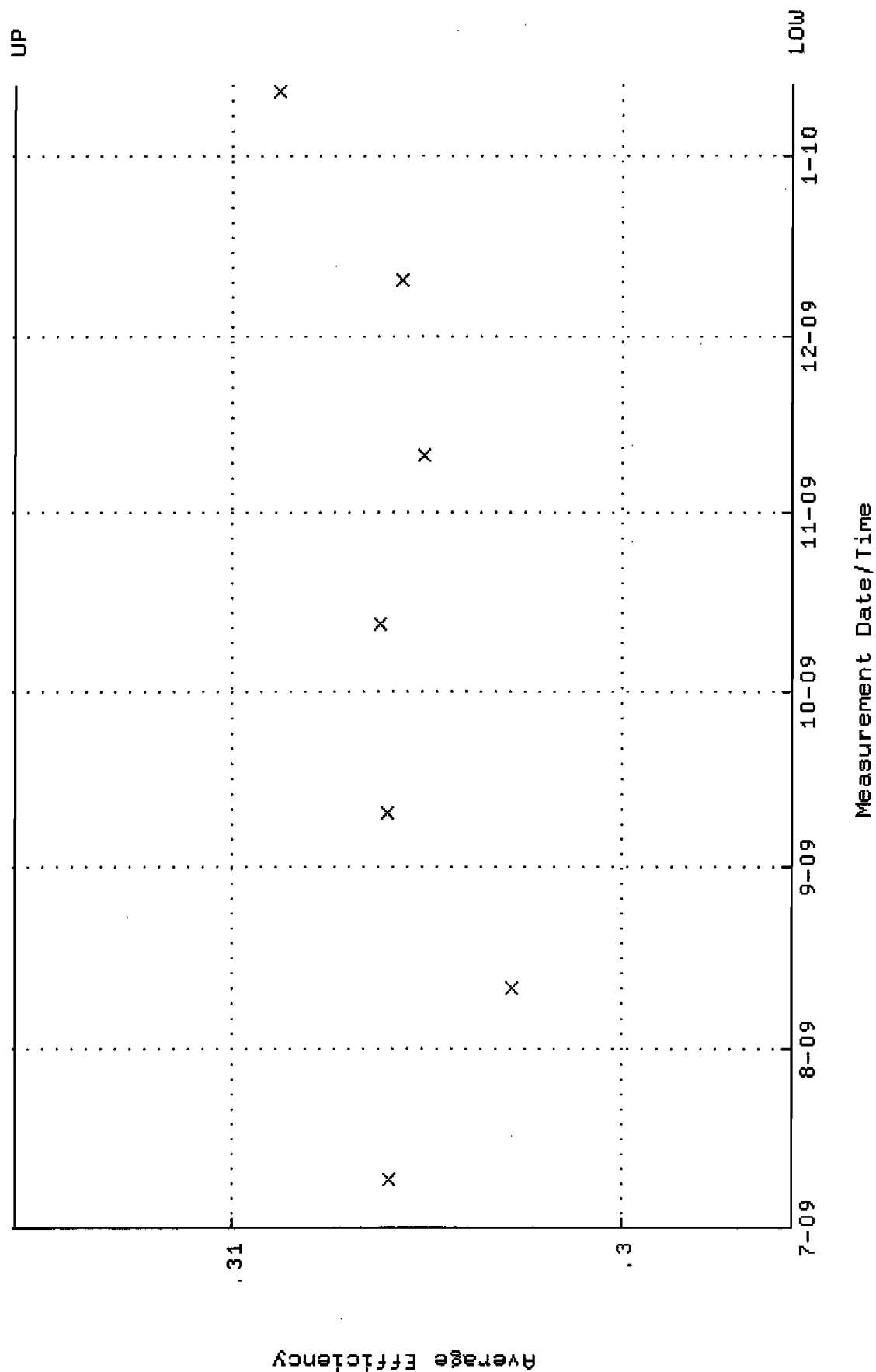
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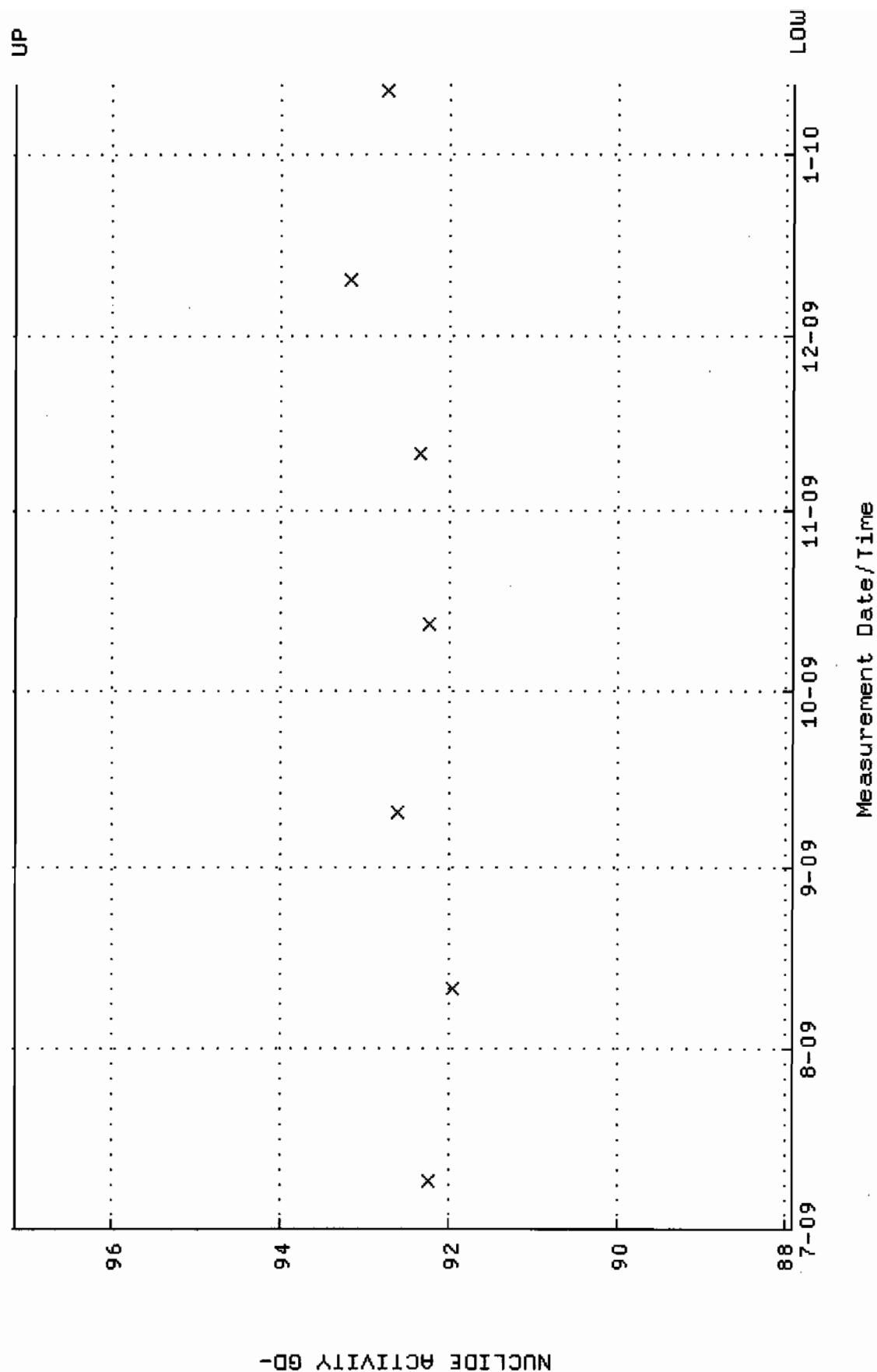




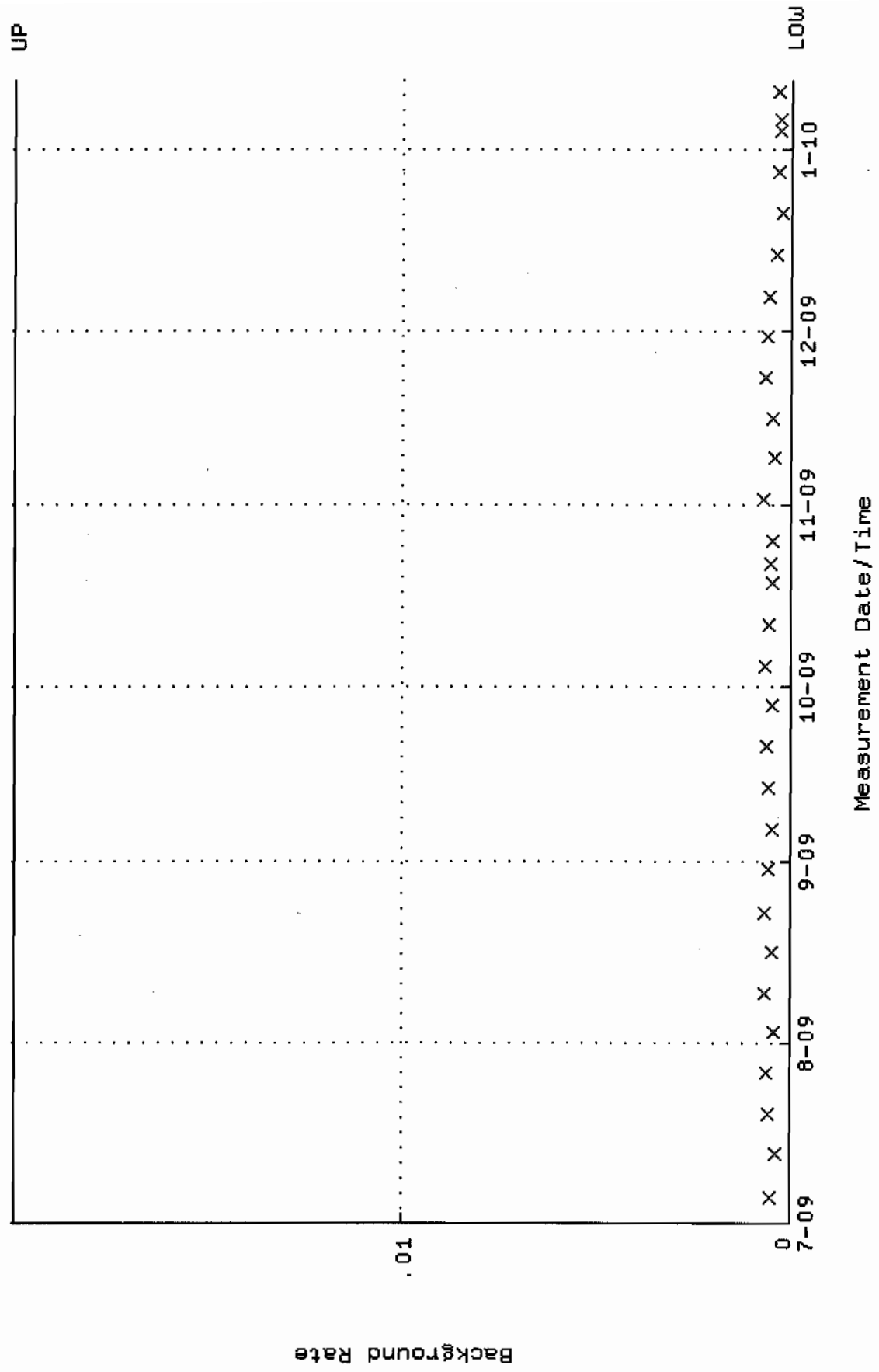
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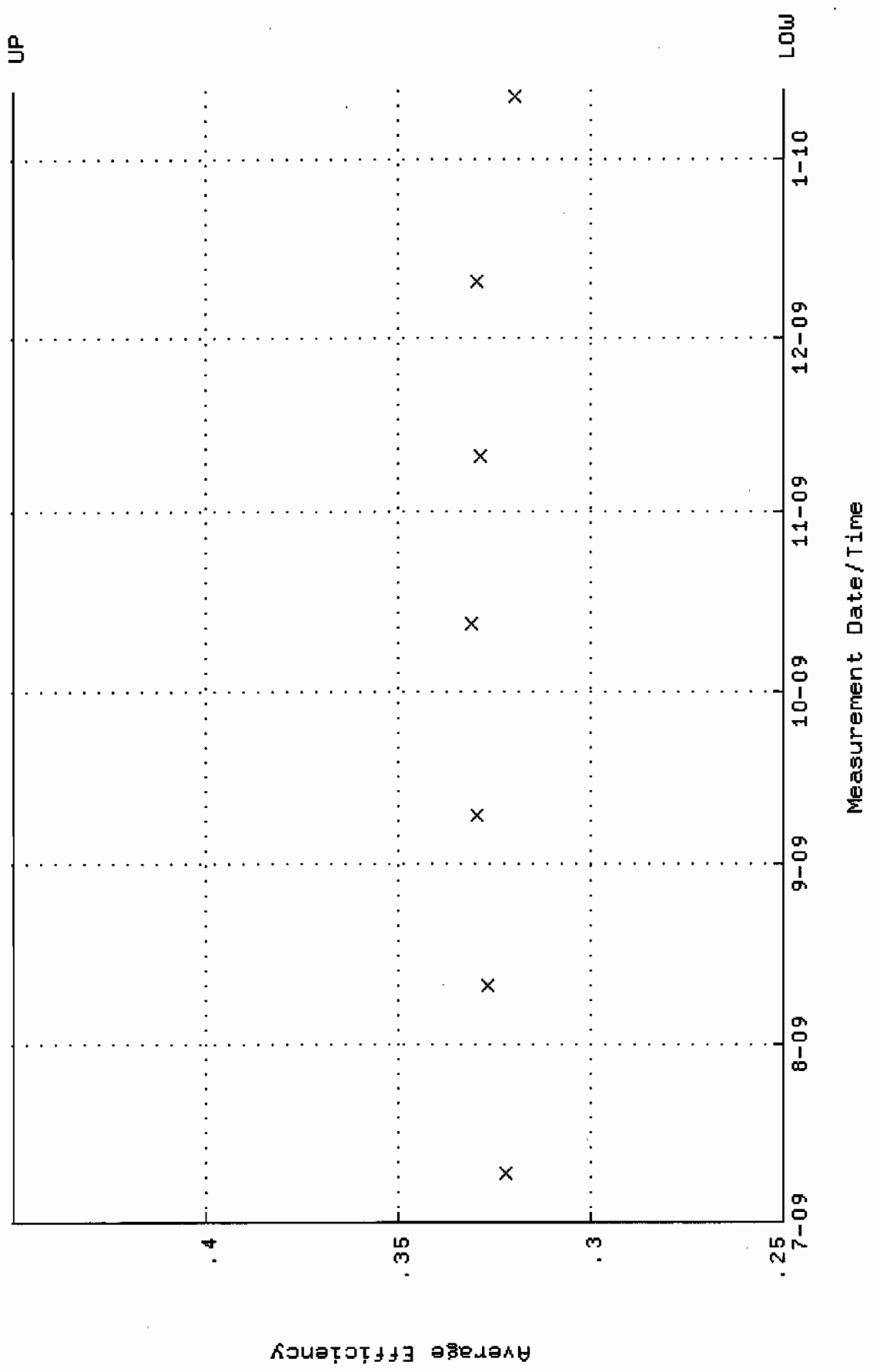
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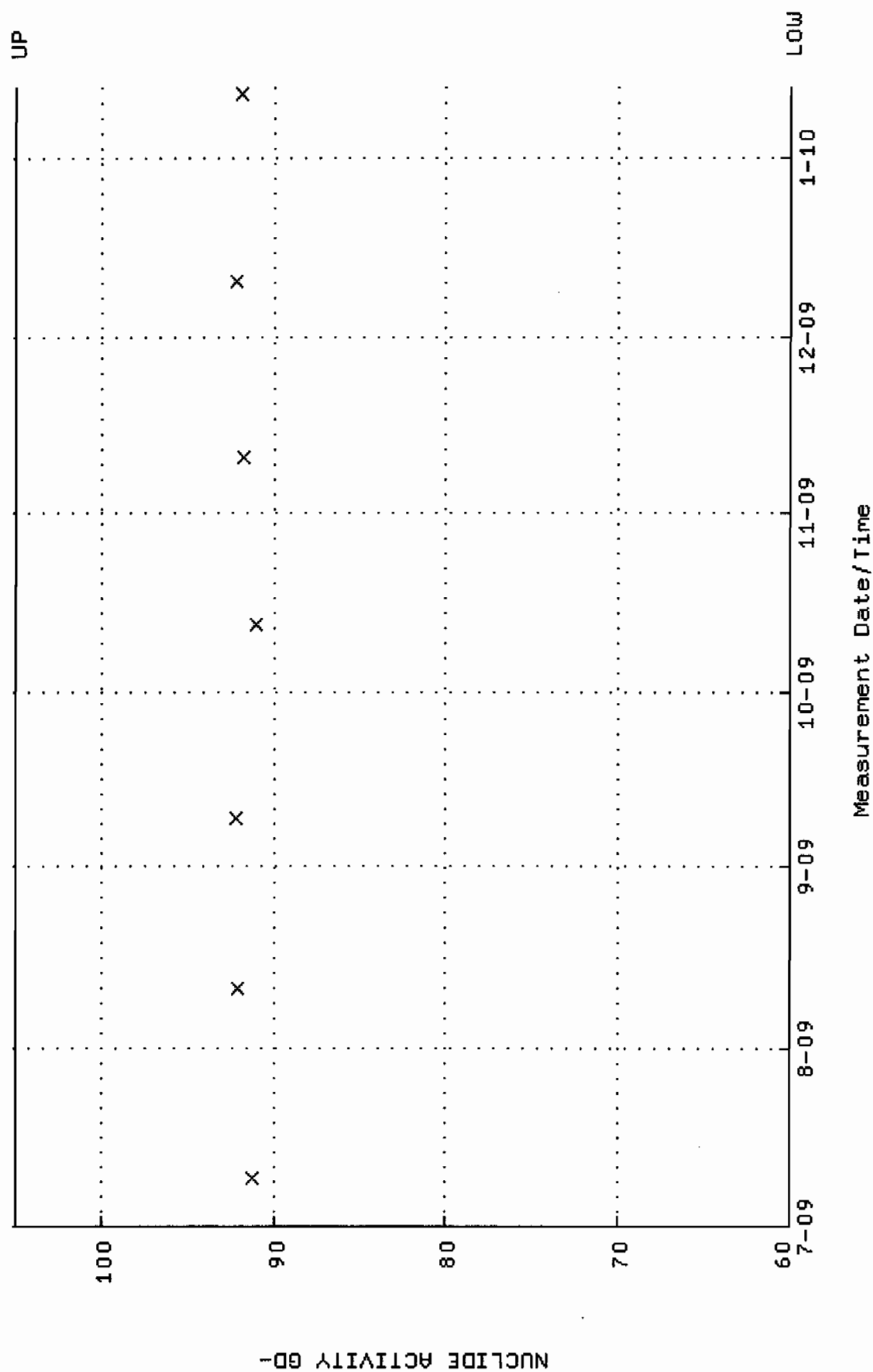
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 Parameter Name : BACKRATE (Background Rate)  
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 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



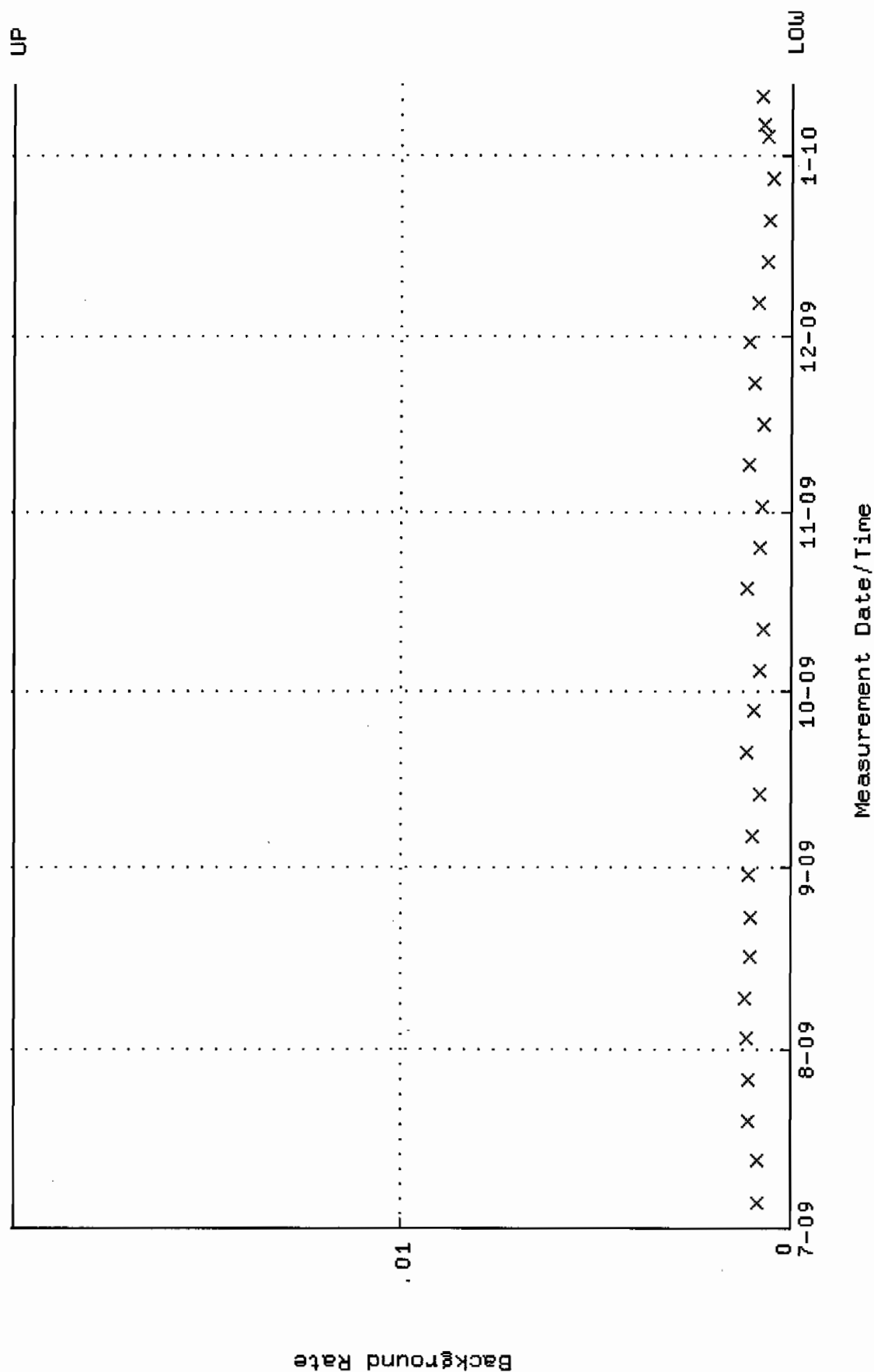
QA filename : DKA100:[ENV\_ALPHA.QA.W]W077.QAF;5  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.250000 through 0.450000



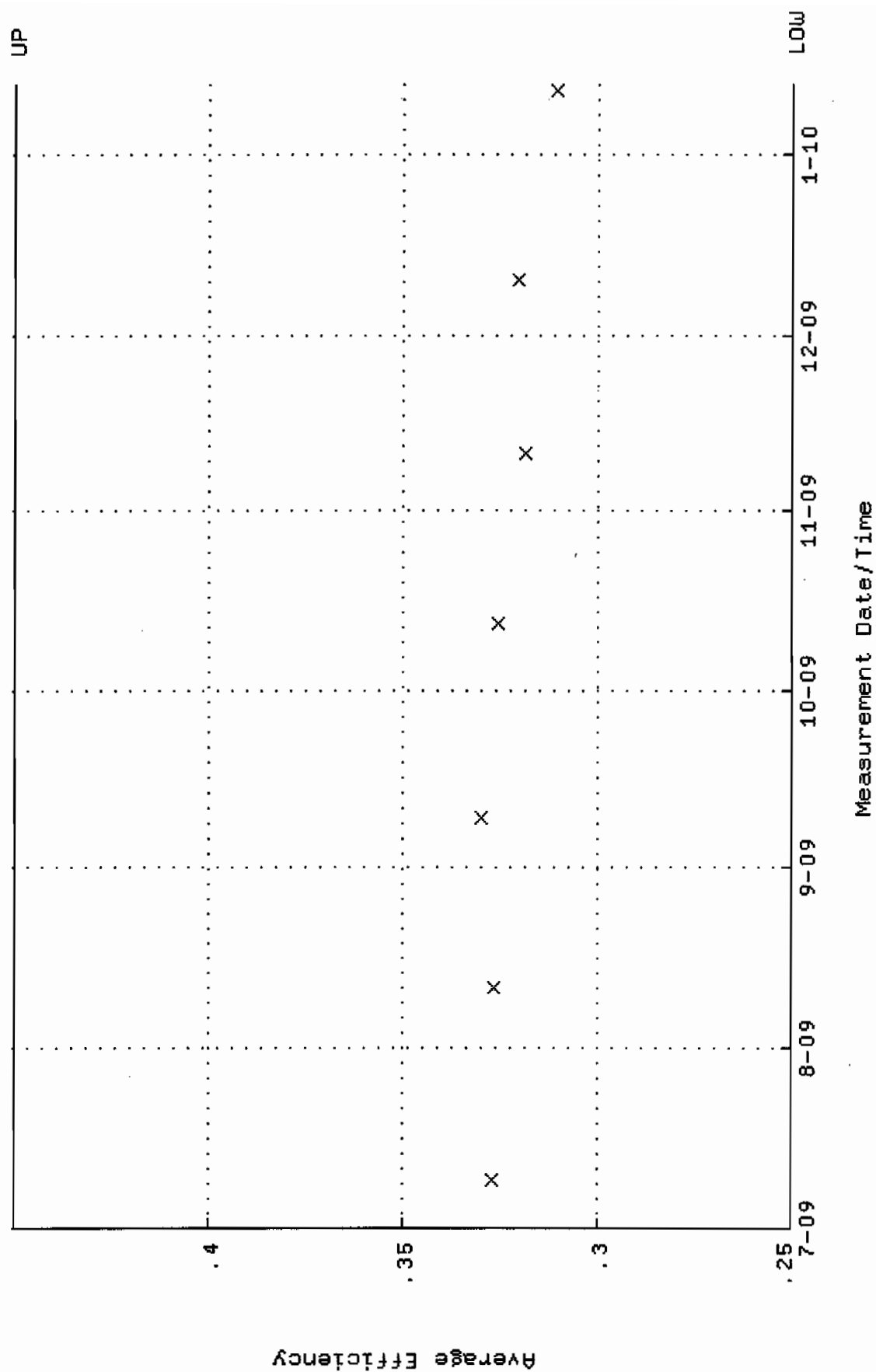
QA filename : DKA100:[ENV\_ALPHA.QA.W]W077.QAF;5  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 60.0000 through 105.000



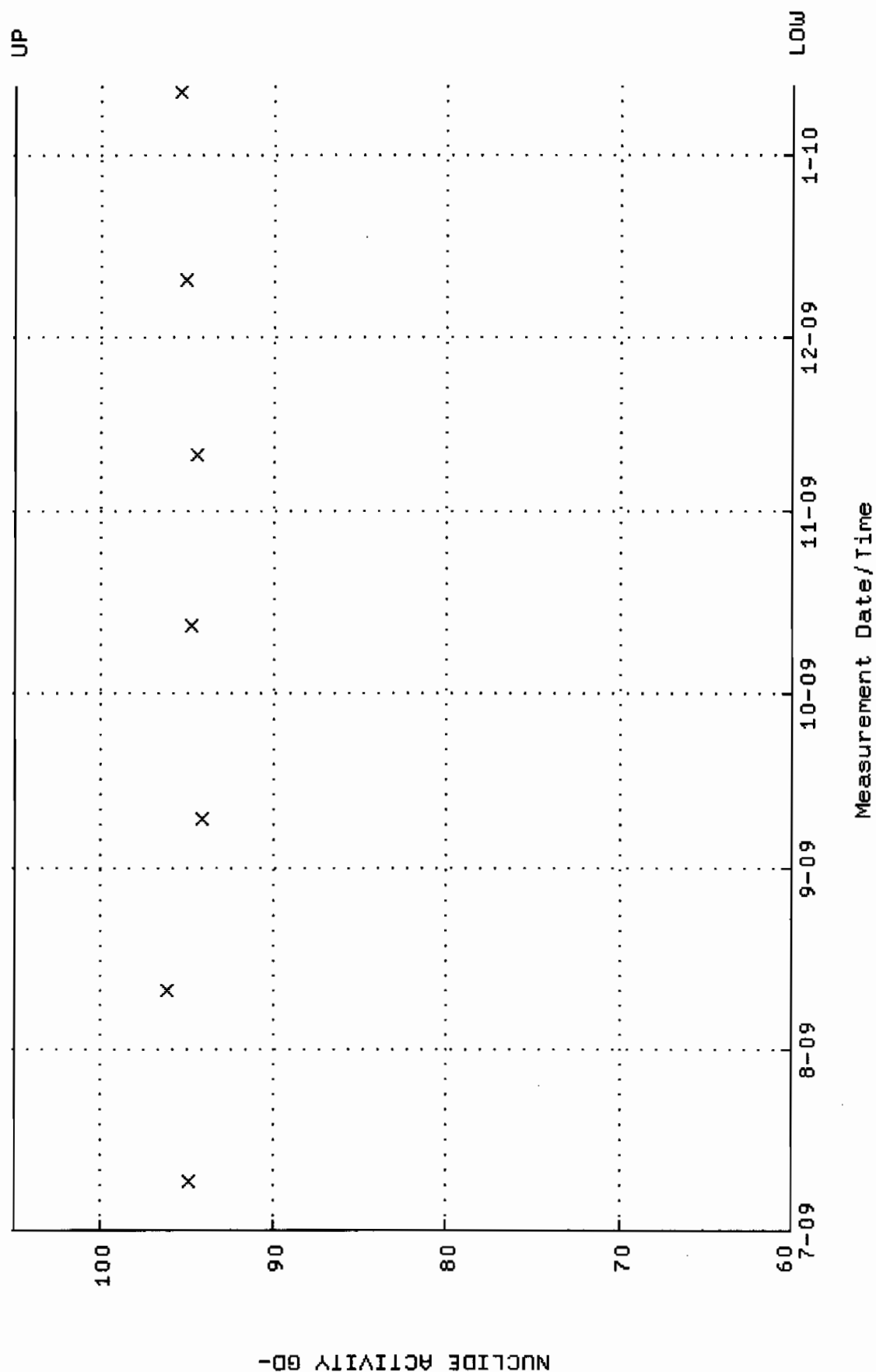
QA filename : DKA100:[ENV\_ALPHA.QA.B]B077.QAF;3  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:03 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]W078.QAF;6  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.250000 through 0.450000

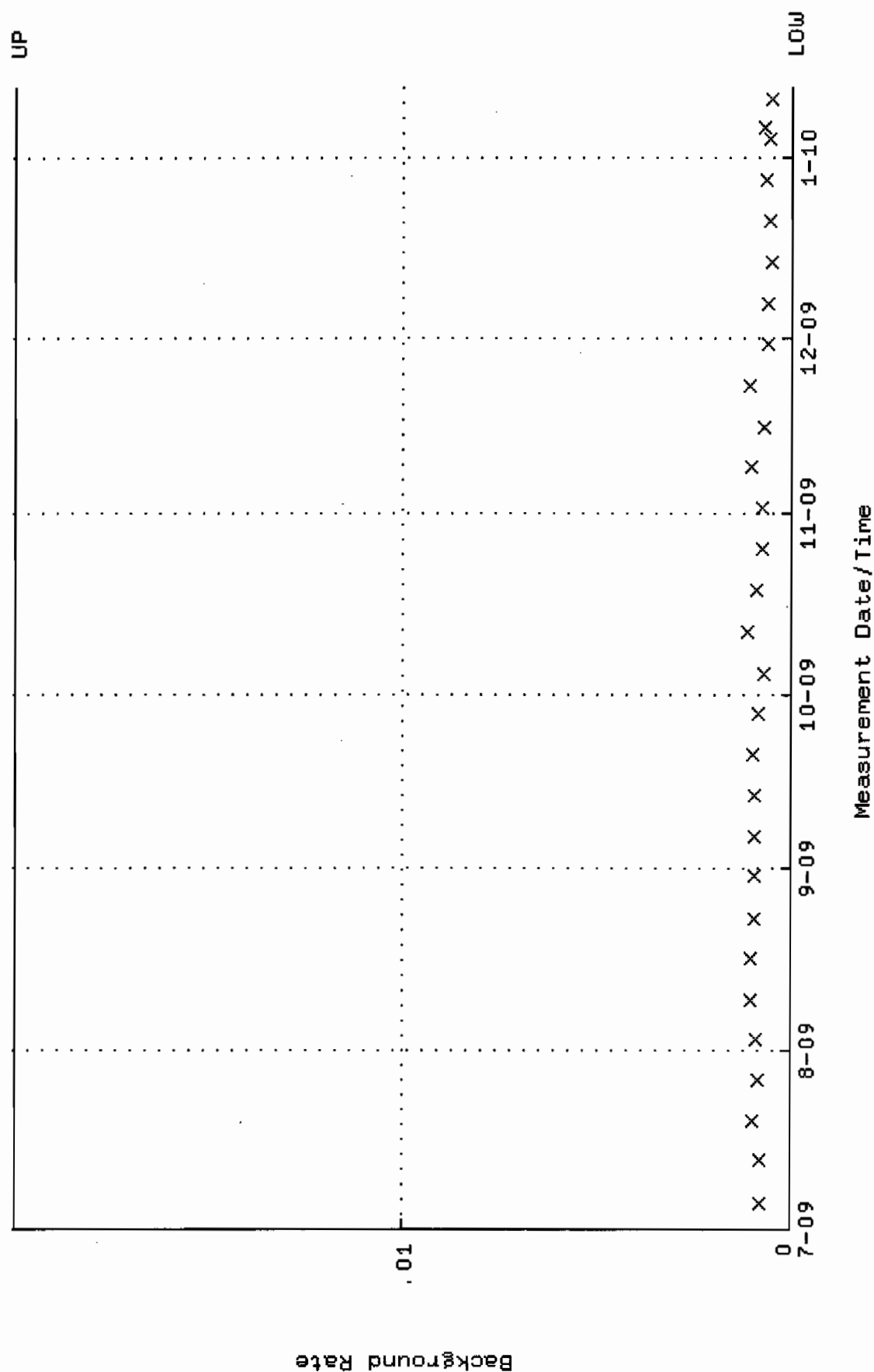


QA filename : DKA100:[ENV-ALPHA.QA.W]W078.QAF;6  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 60.0000 through 105.000

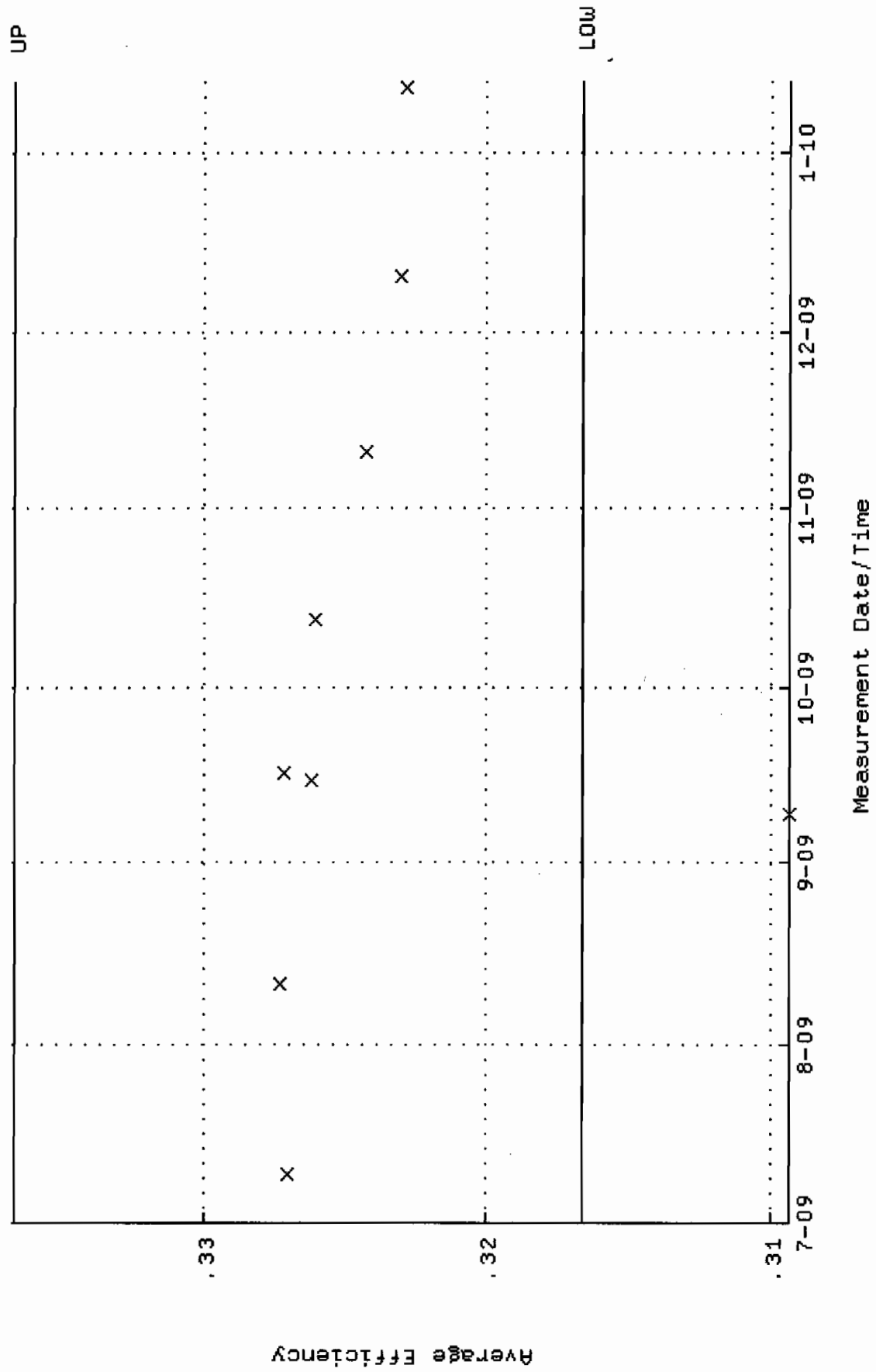




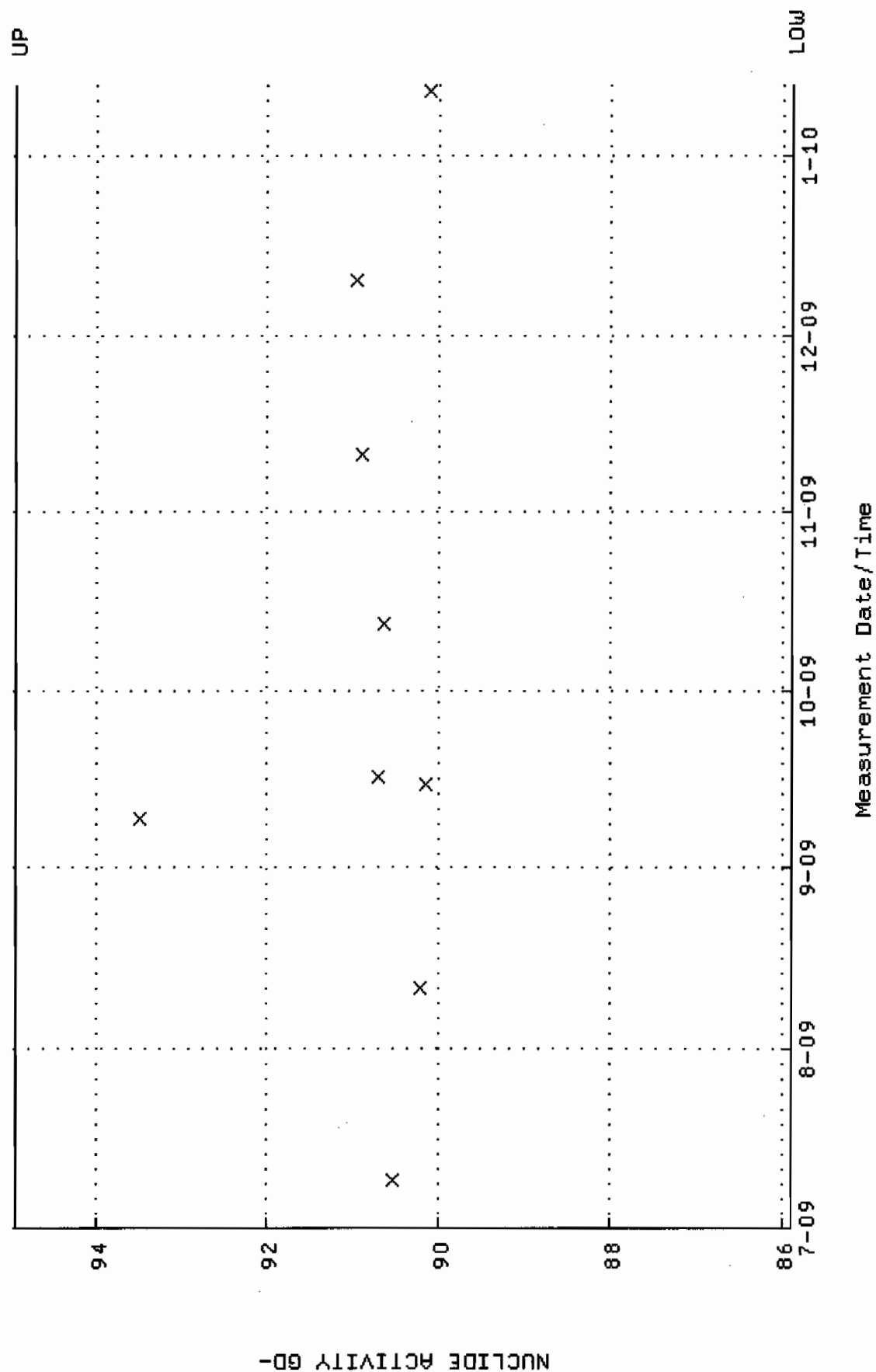
QA filename : DKA100:[ENV\_ALPHA.QA.B]B078.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:03 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]W079.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.316654 through 0.336654



QA filename : DKA100:[ENV-ALPHA.QA.W]W079.QAF;4  
 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: 85.8913 through 94.9325

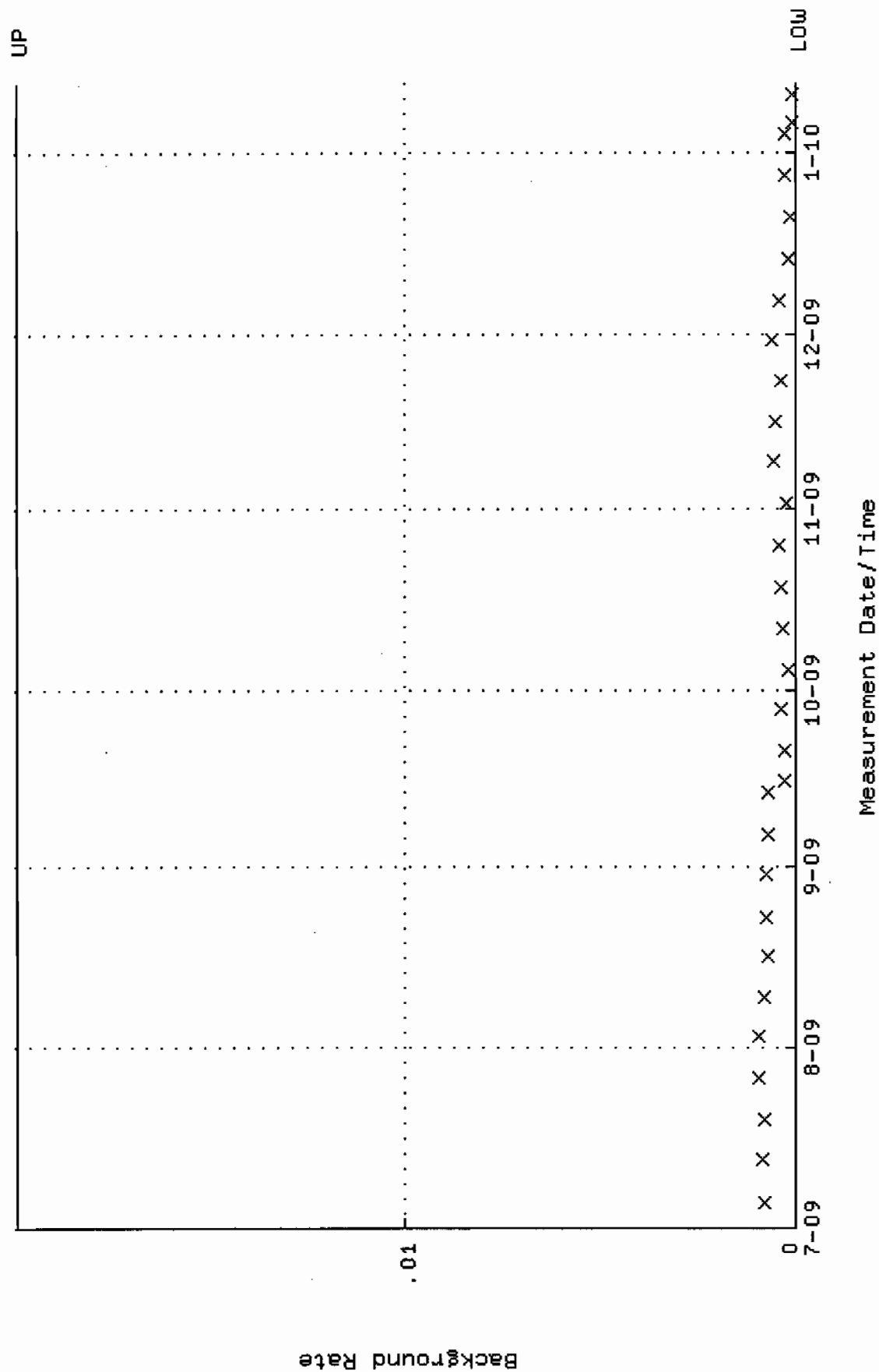


QA filename : DKA100:[ENV\_ALPHA.QA.B]B079.QAF;2

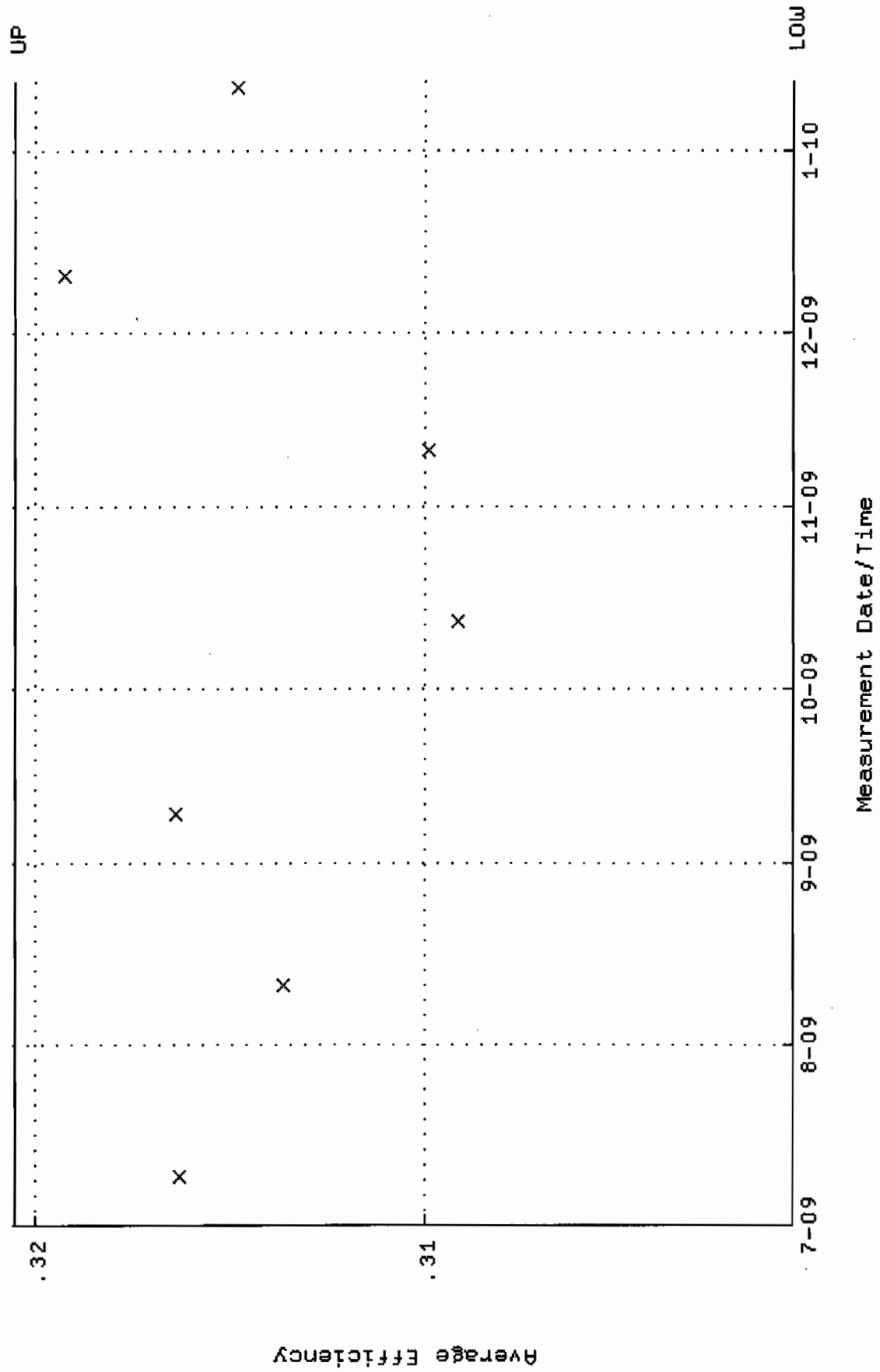
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:12:03 through 12-JAN-2010 12:00:00

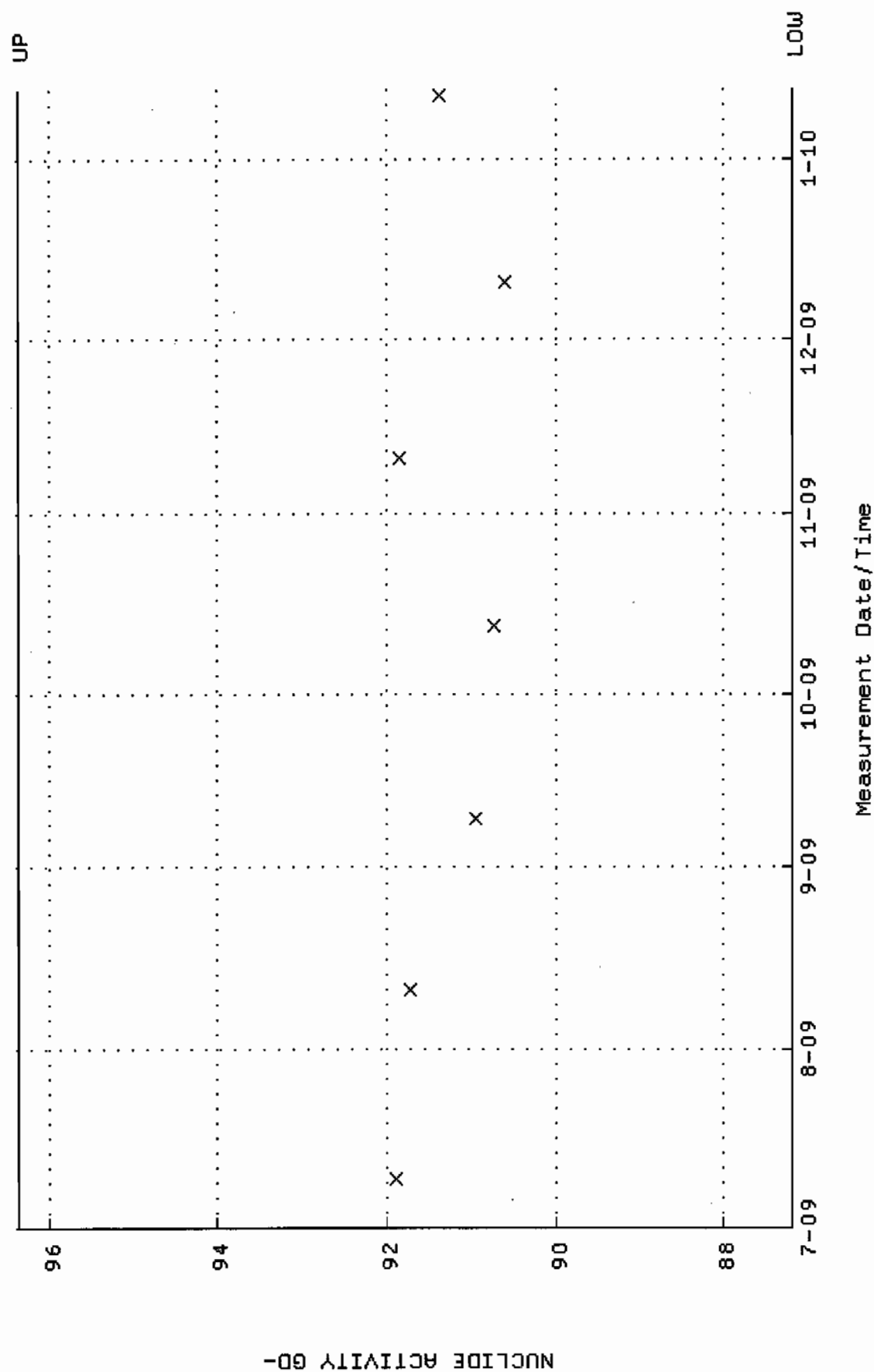
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



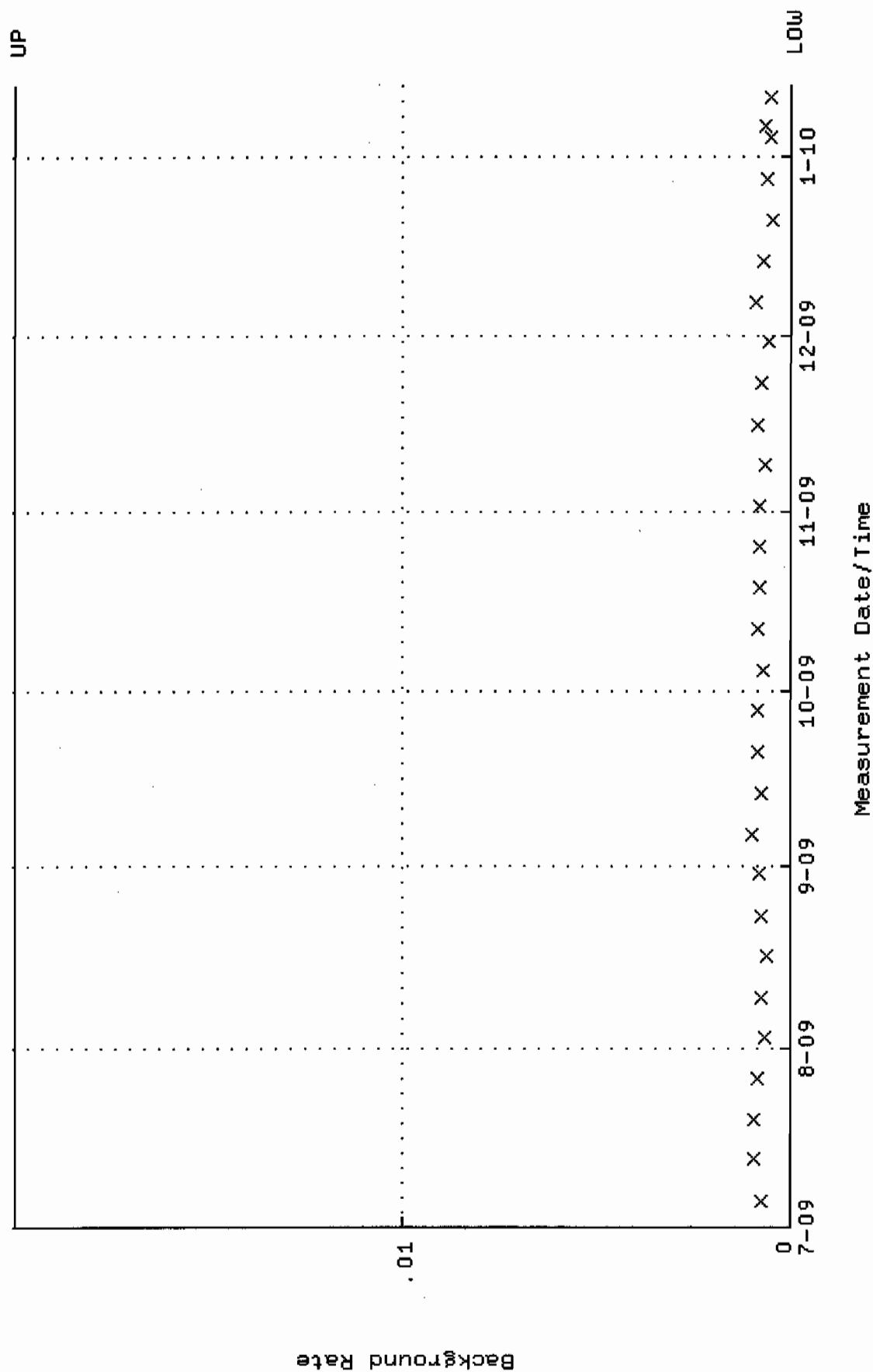
QA filename : DKA100:[ENV\_ALPHA.QA.W]W087.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.300530 through 0.320530



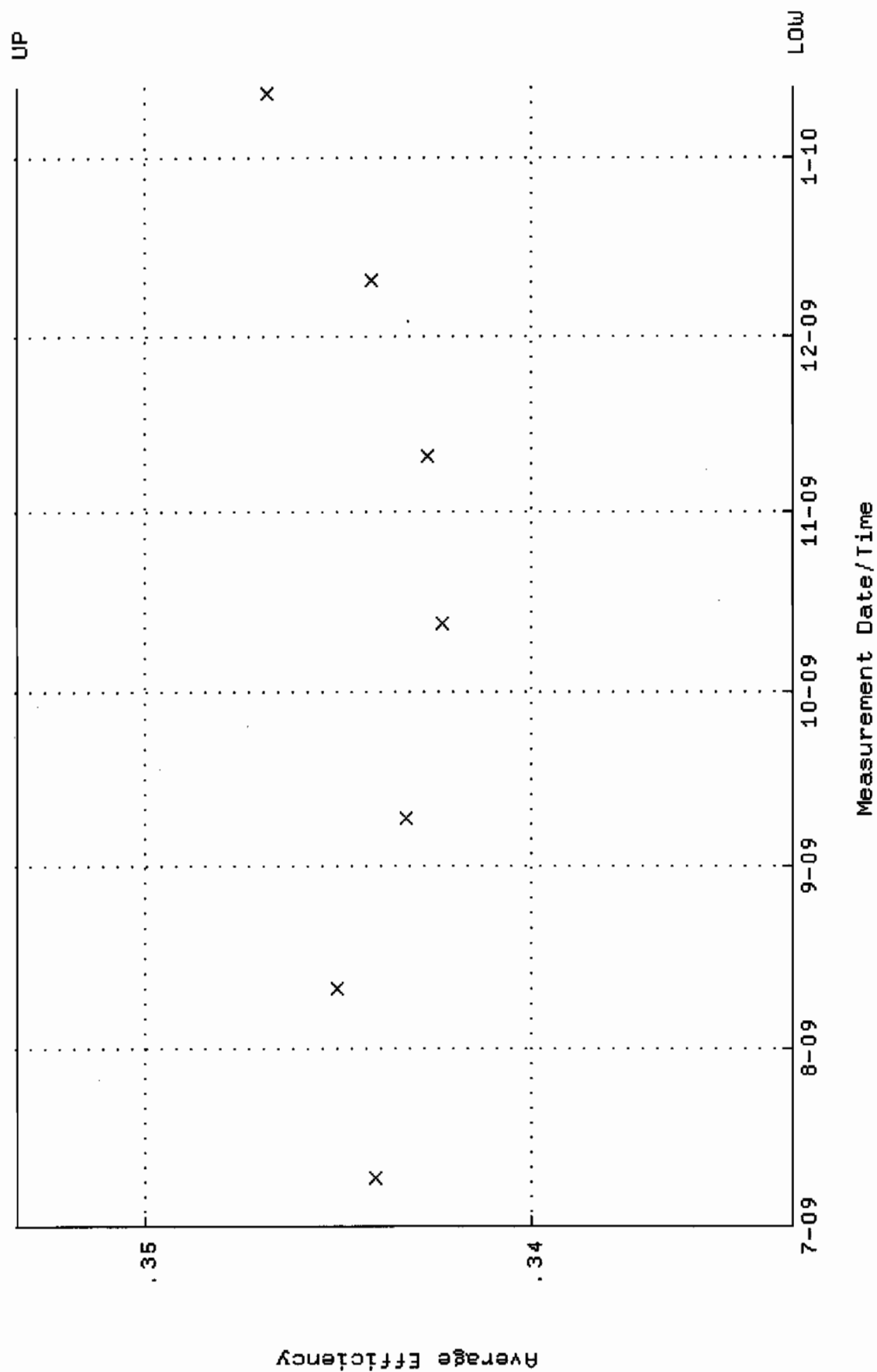
QA filename : DKA100:[ENV\_ALPHA.QA.W]W087.QAF;4  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 87.1845 through 96.3619



QA filename : DKA100:[ENV\_ALPHA.QA.B]B087.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]W097.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.333275 through 0.353275

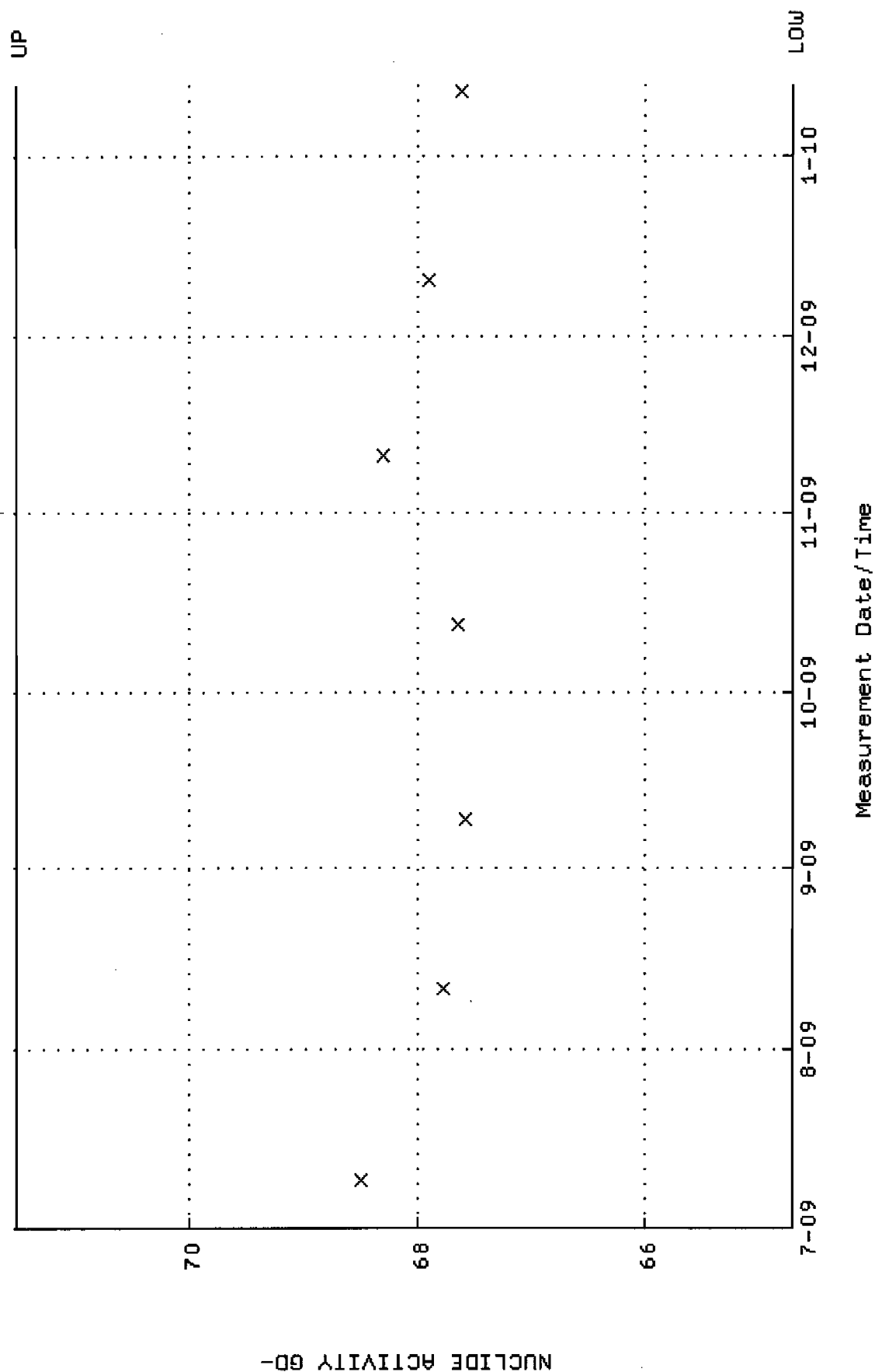


UP

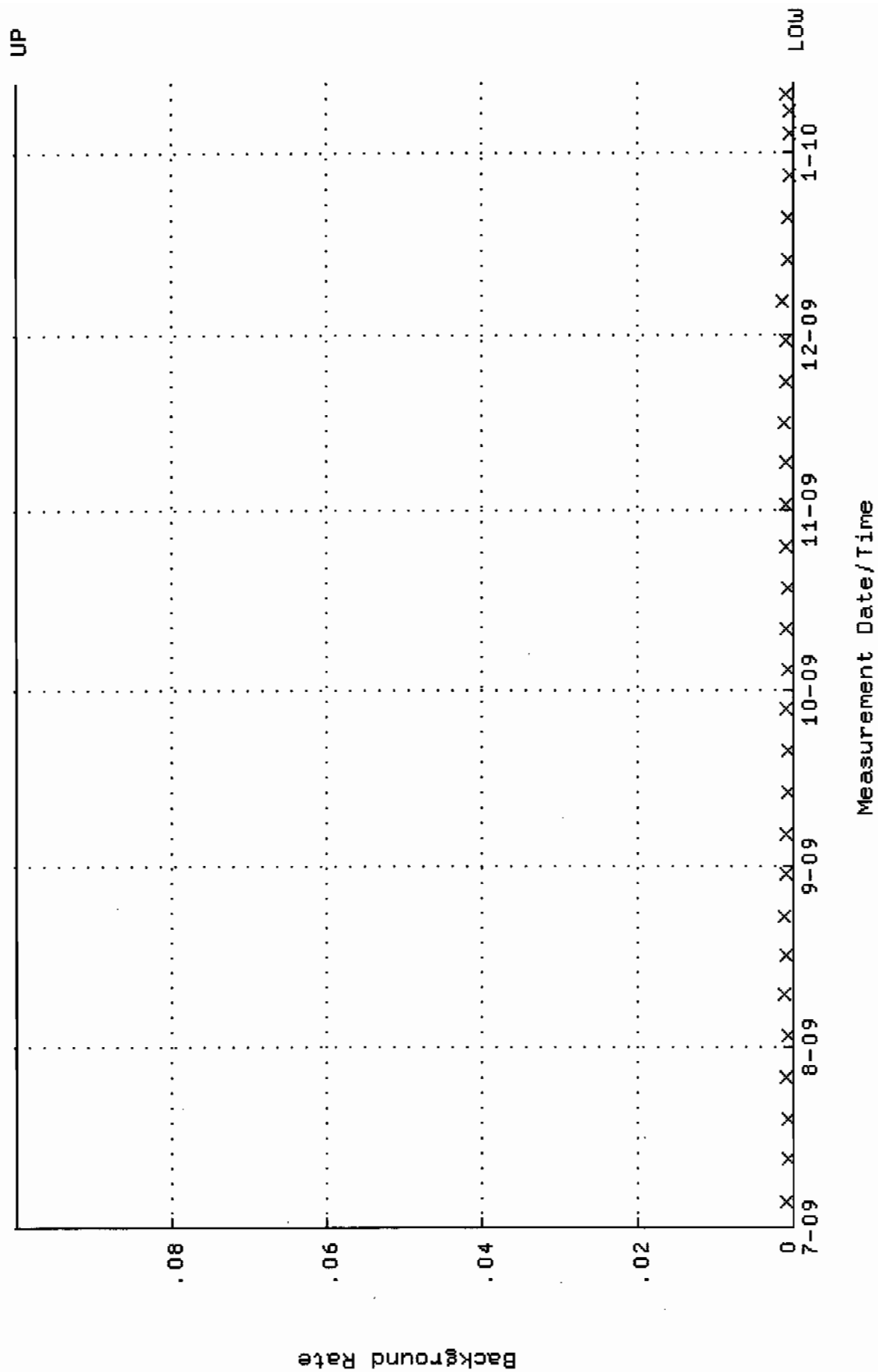
LOW



QA filename : DKA100:[ENV\_ALPHA.QA.W]W097.QAF;2  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 64.7068 through 71.5180



QA filename : DKA100:[ENV\_ALPHA.QA.B]B097.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

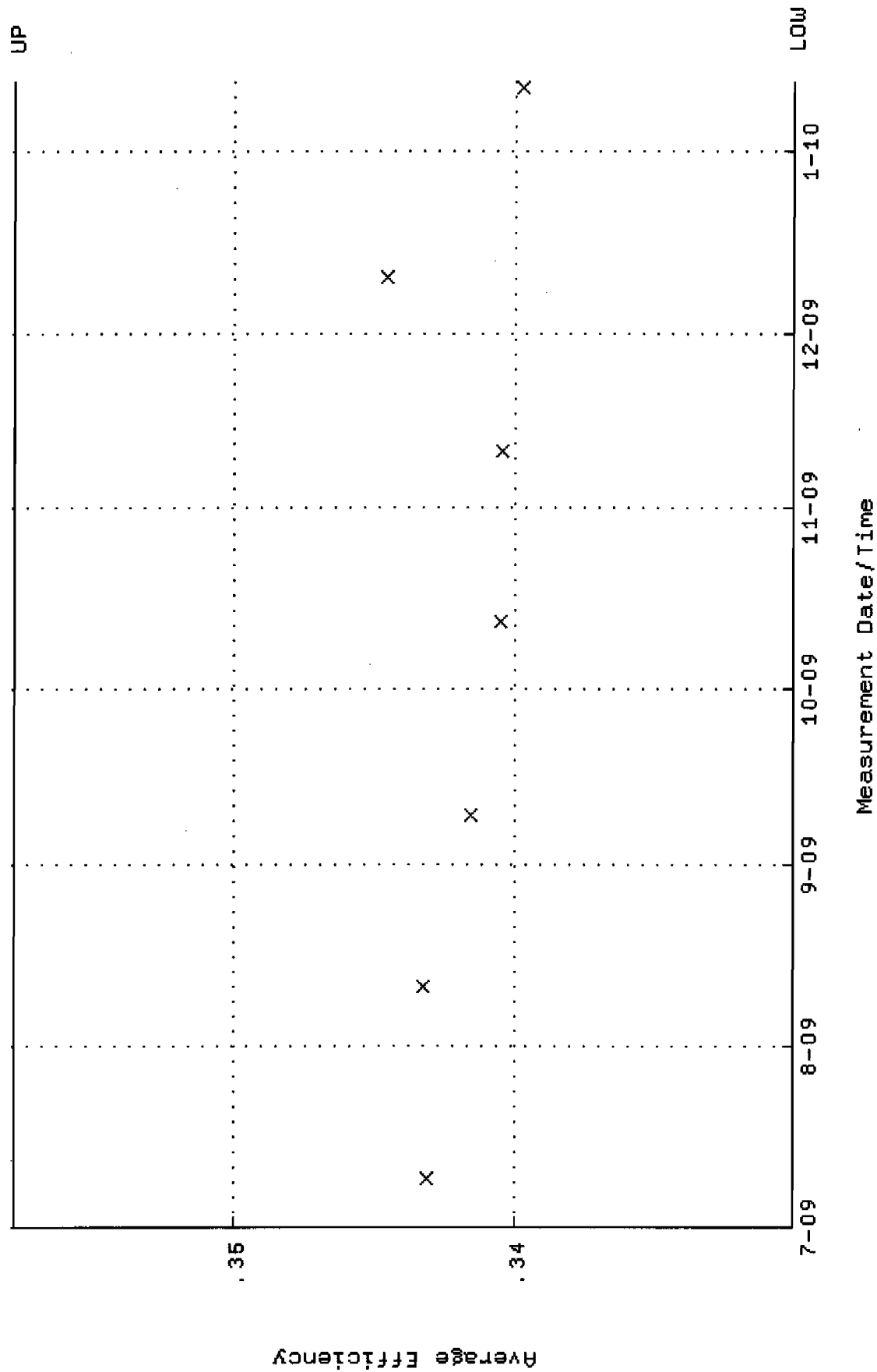


QA filename : DKA100:[ENV\_ALPHA.QA.W]W099.QAF;2

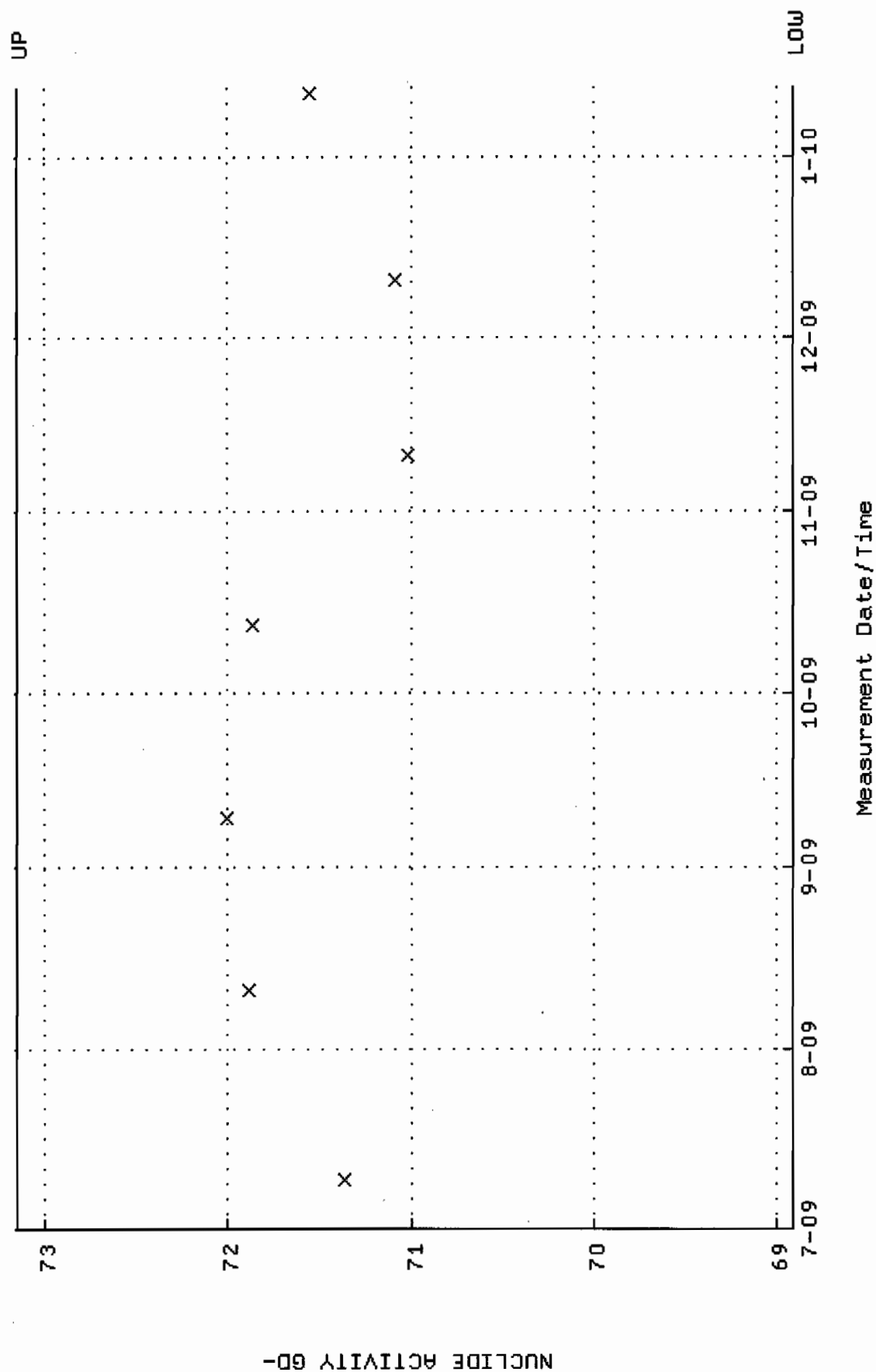
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00

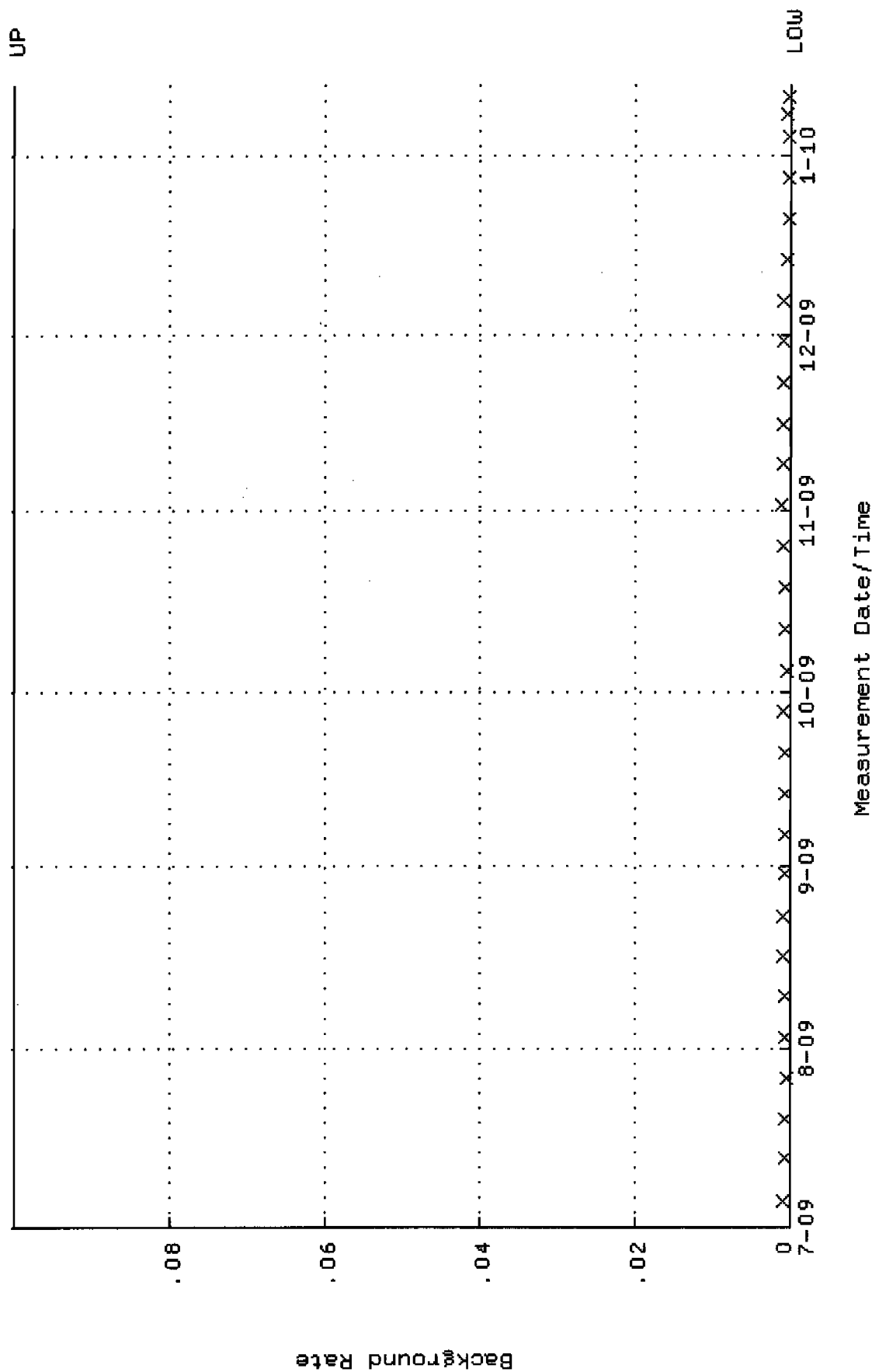
Lower/Upper Lmts: 0.330127 through 0.357809



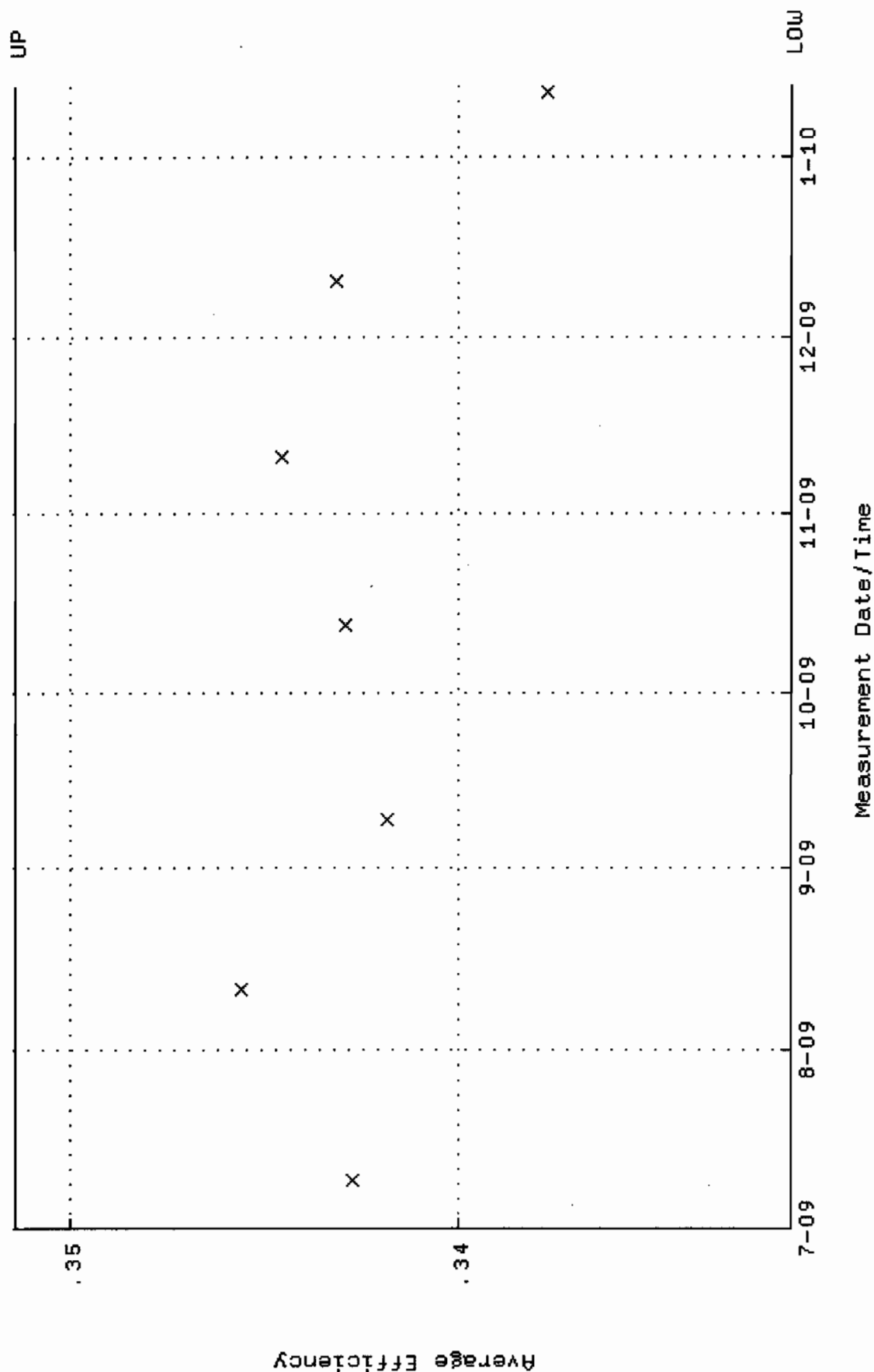
QA filename : DKA100:[ENV\_ALPHA.QA.W]W099.QAF;2  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 68.9116 through 73.1498



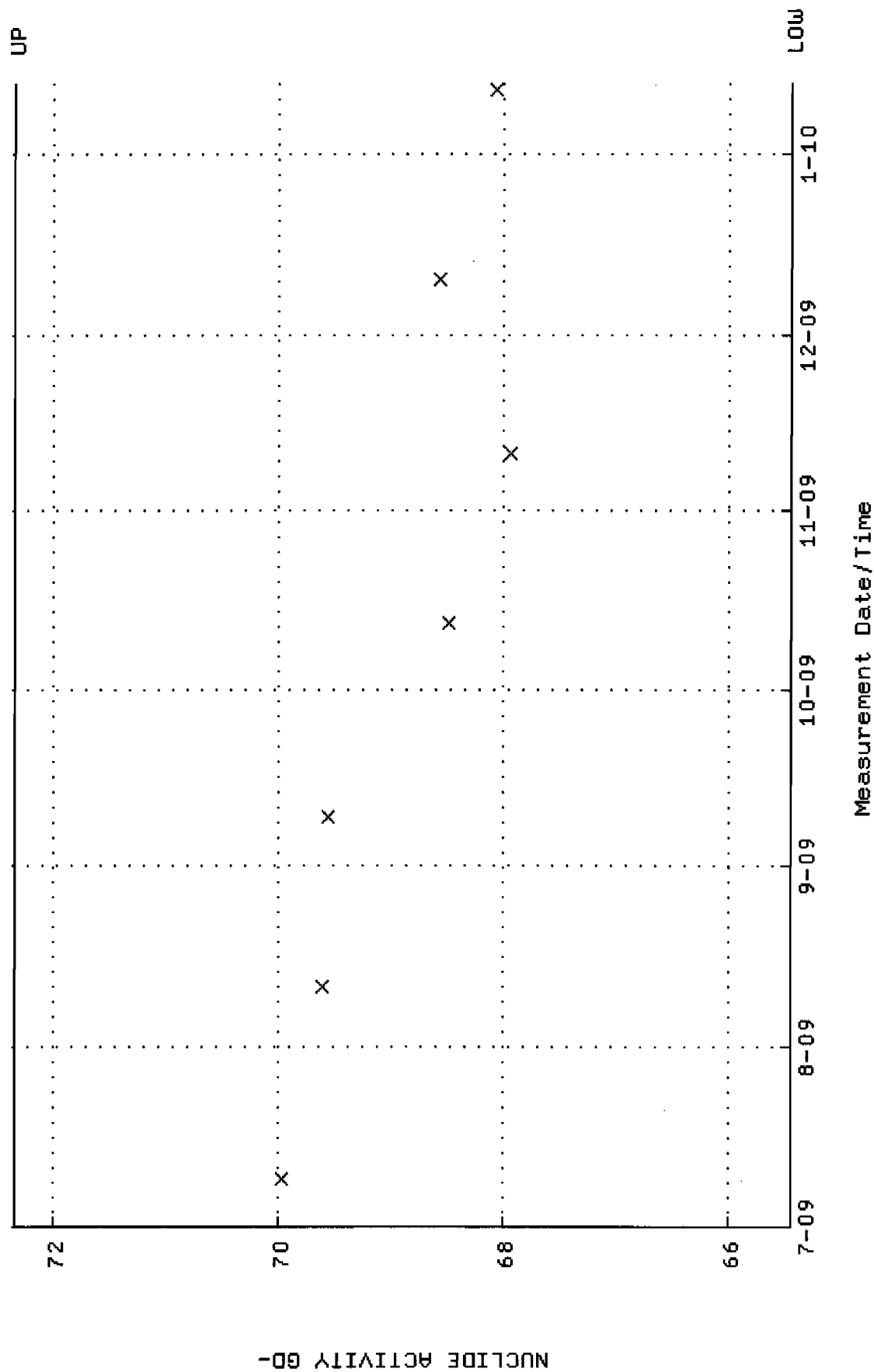
QA filename : DKA100:[ENV\_ALPHA.QA.B]B099.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



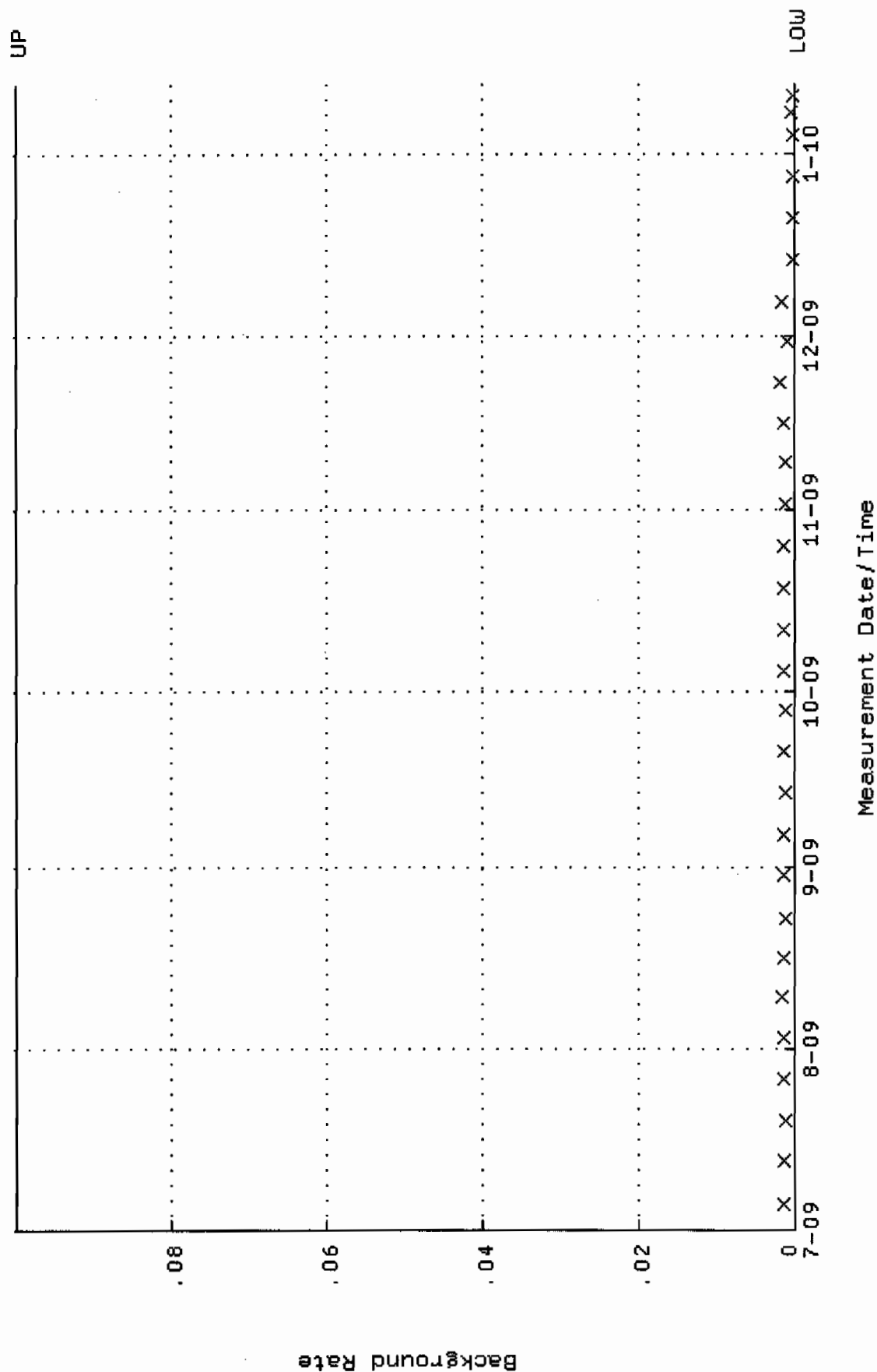
QA filename : DKA100:[ENV\_ALPHA.QA.W]W100.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.331433 through 0.351433



QA filename : DKA100:[ENV\_ALPHA.QA.W]W100.QAF;2  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 9-JUL-2009 08:08:14 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 65.4550 through 72.3450

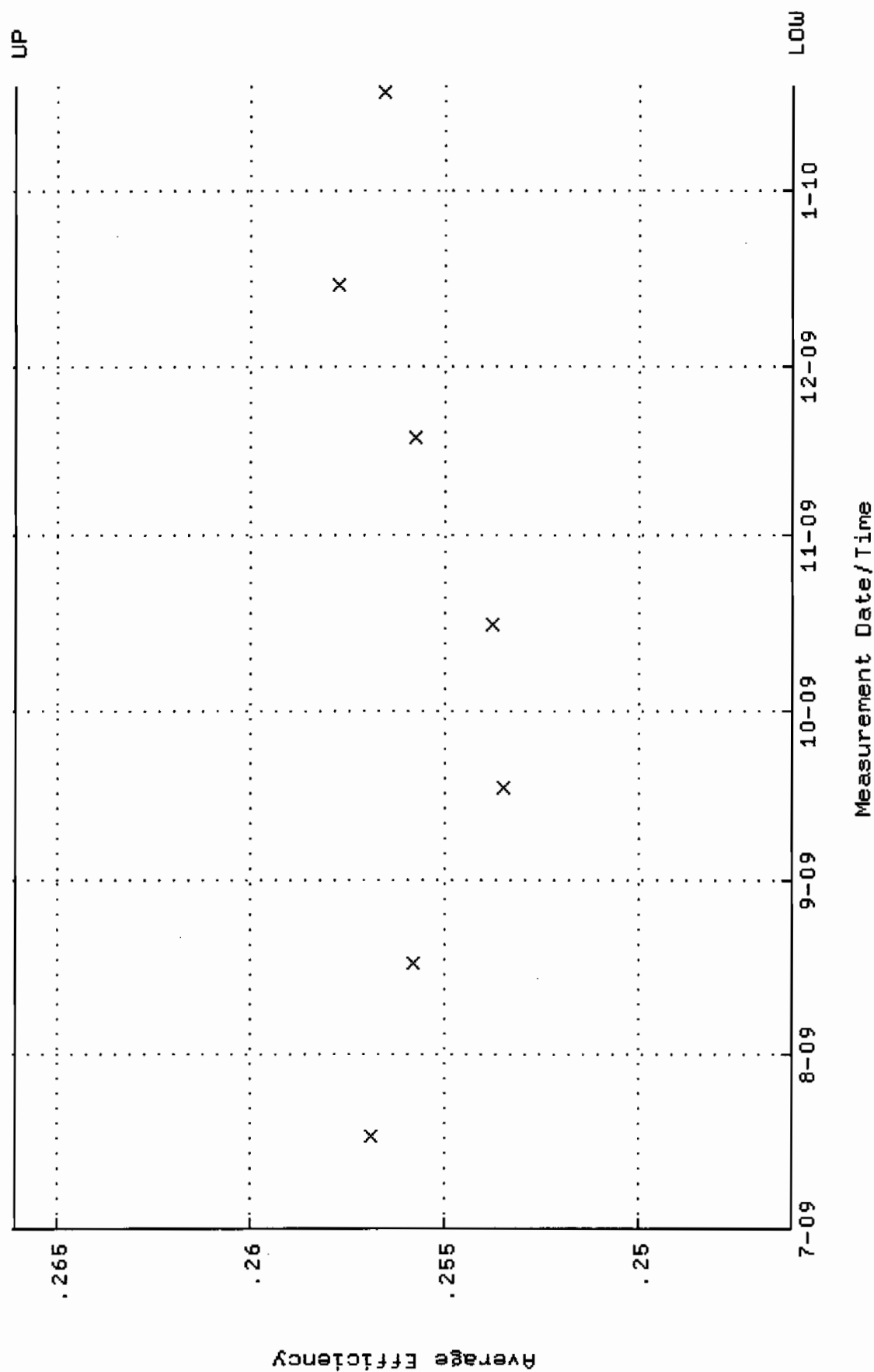


QA filename : DKA100:[ENV\_ALPHA.QA.B]B100.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 15:12:05 through 12-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

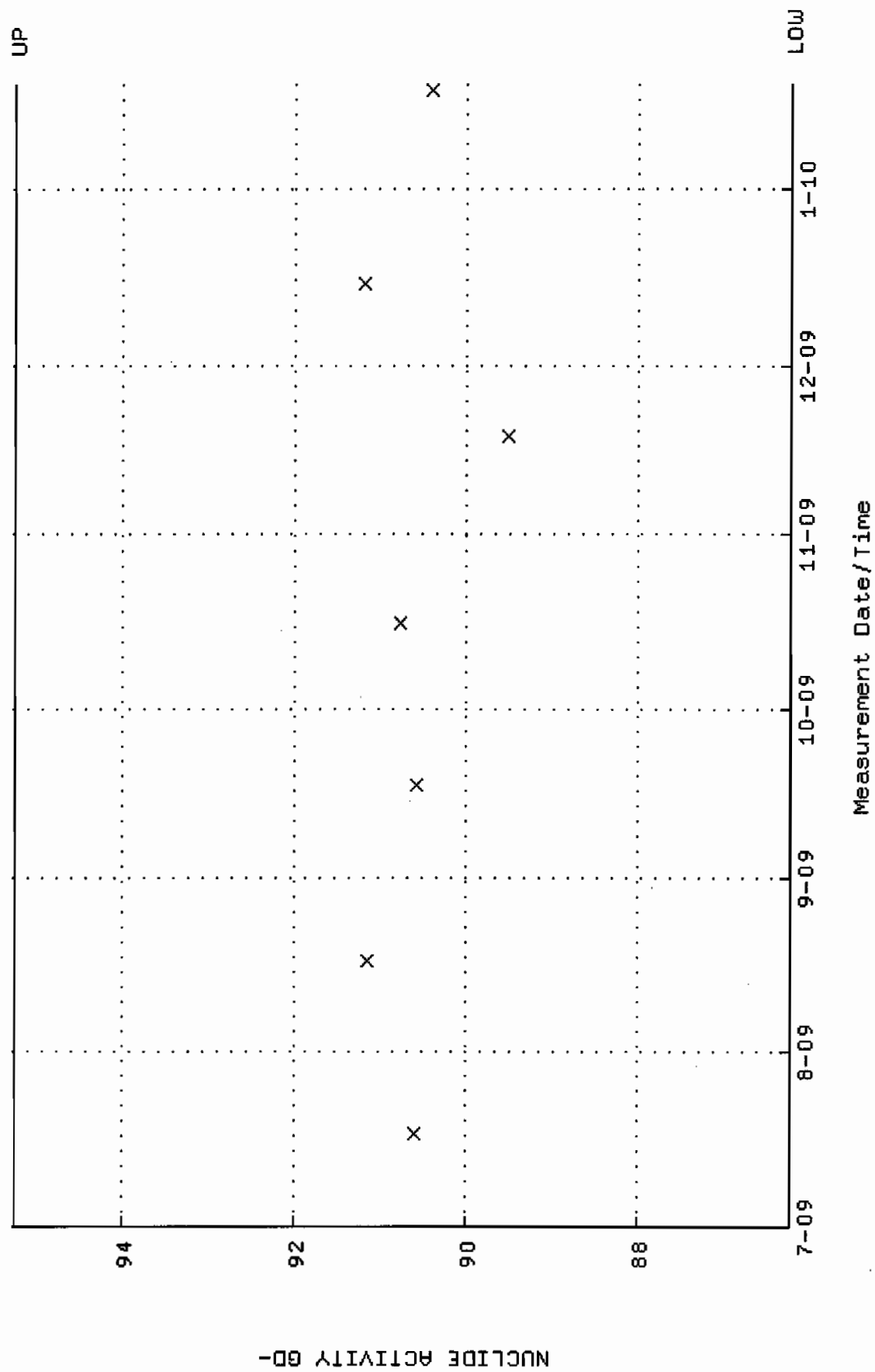




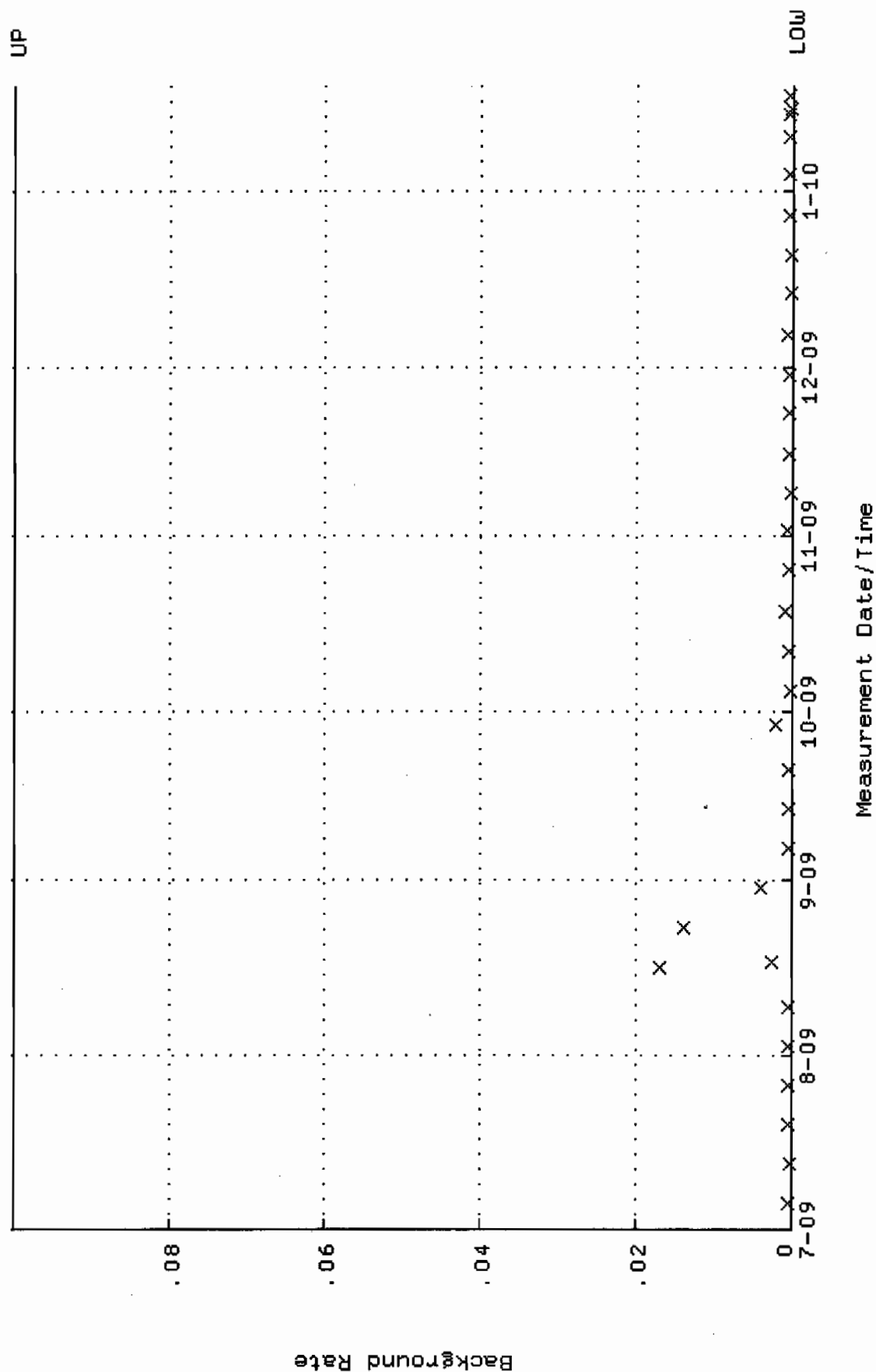
QA filename : DKA100:[ENV\_ALPHA.QA.W]W128.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:11:58 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.246062 through 0.266062



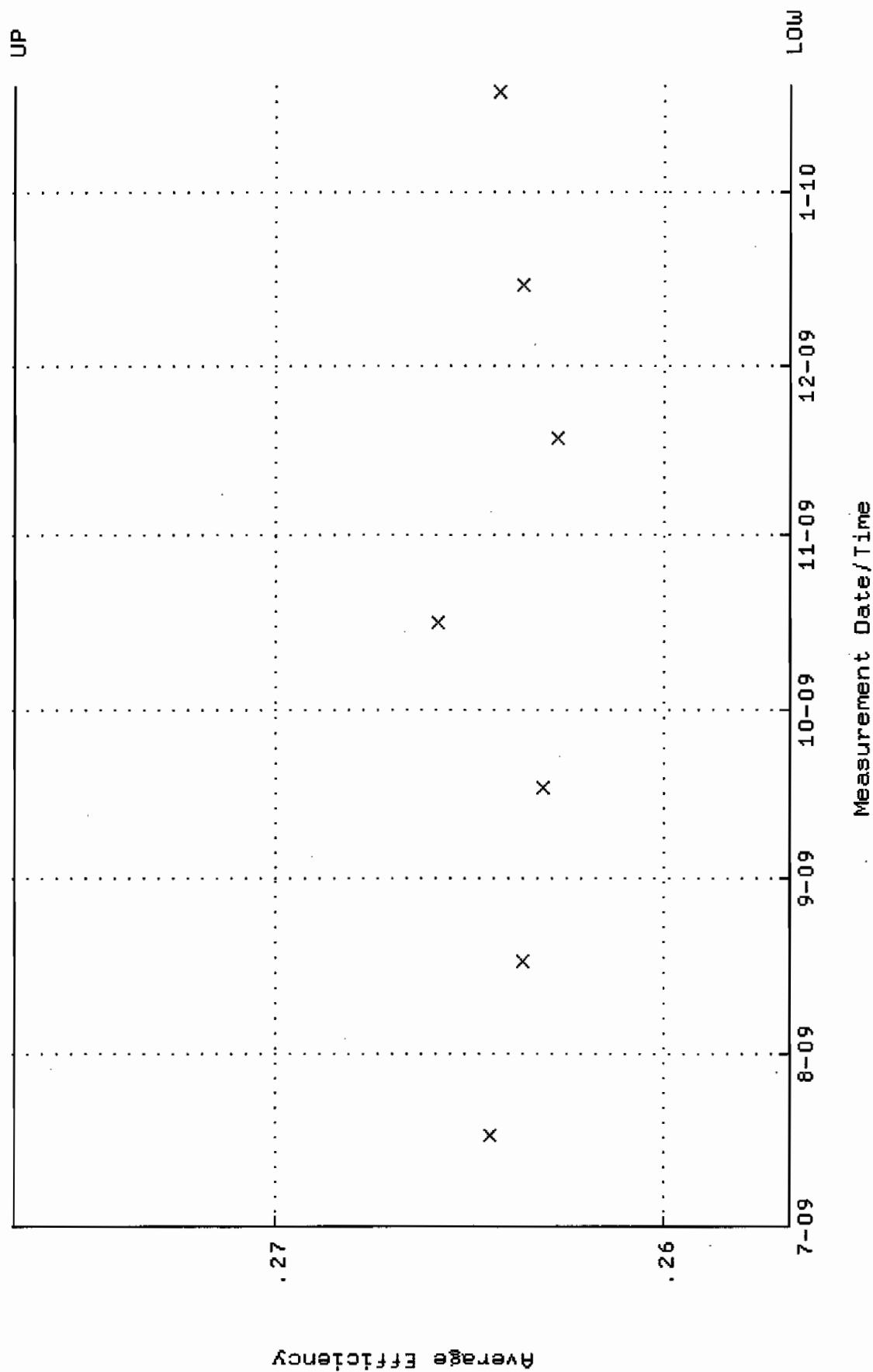
QA filename : DKA100:[ENV\_ALPHA.QA.W]w128.QAF;1  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:11:58 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 86.1964 through 95.2697



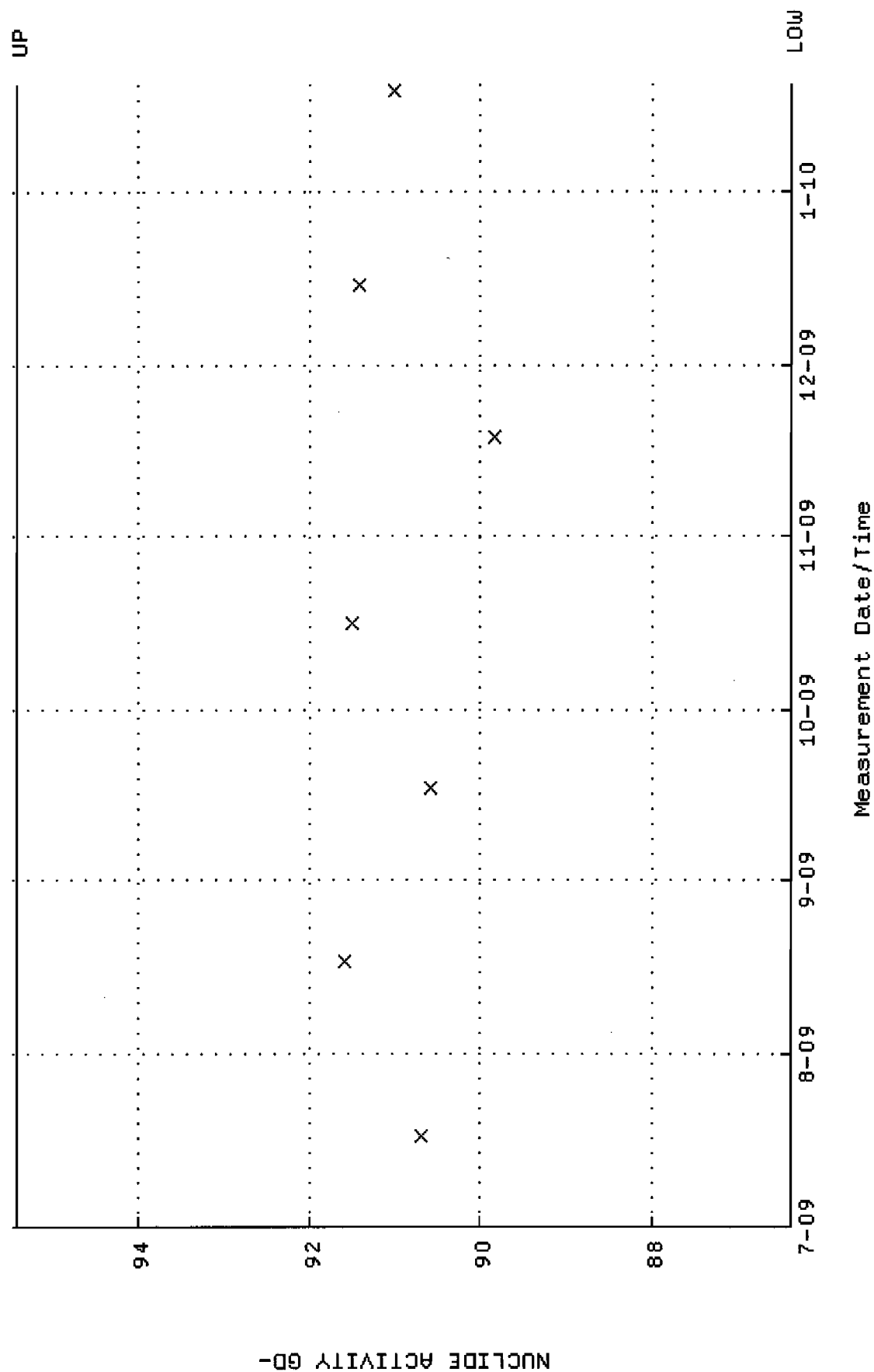
QA filename : DKA100:[ENV\_ALPHA.QA.B]B128.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:56:00 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



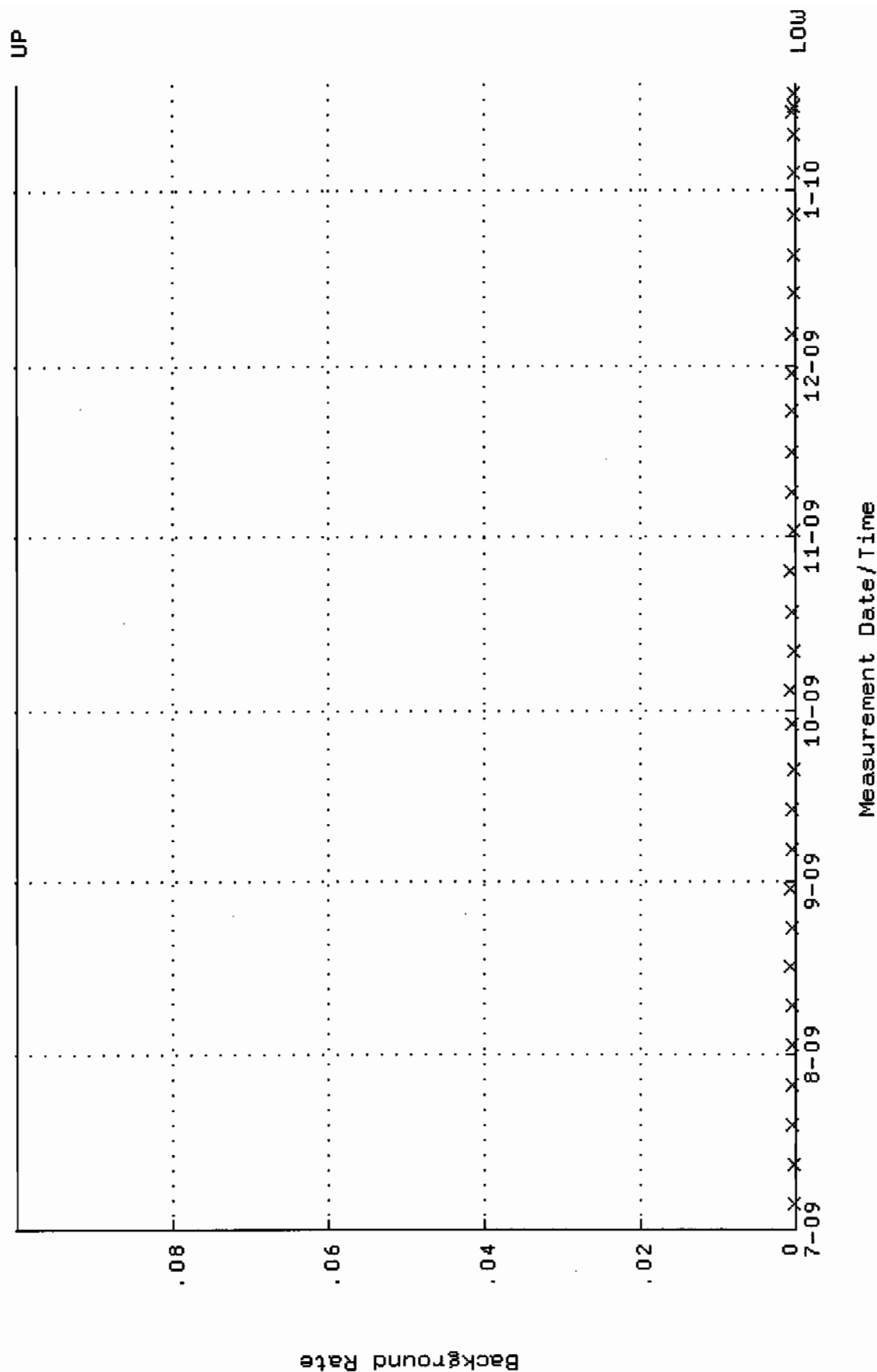
QA filename : DKA100:[ENV\_ALPHA.QA.W]W129.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:12:03 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.256741 through 0.276741



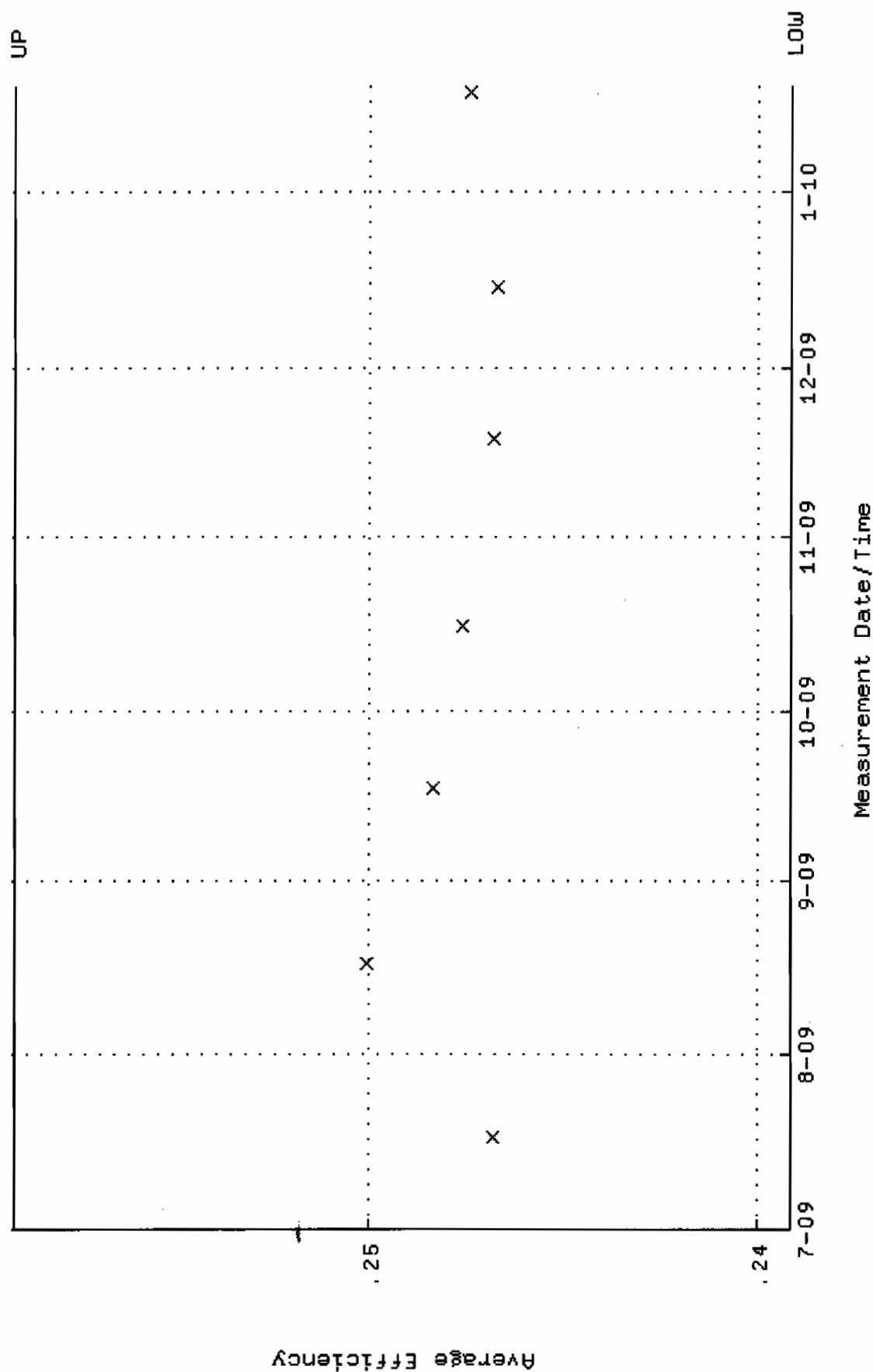
QA filename : DKA100:[ENV\_ALPHA.QA.W]W129.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:12:03 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 86.3646 through 95.4556



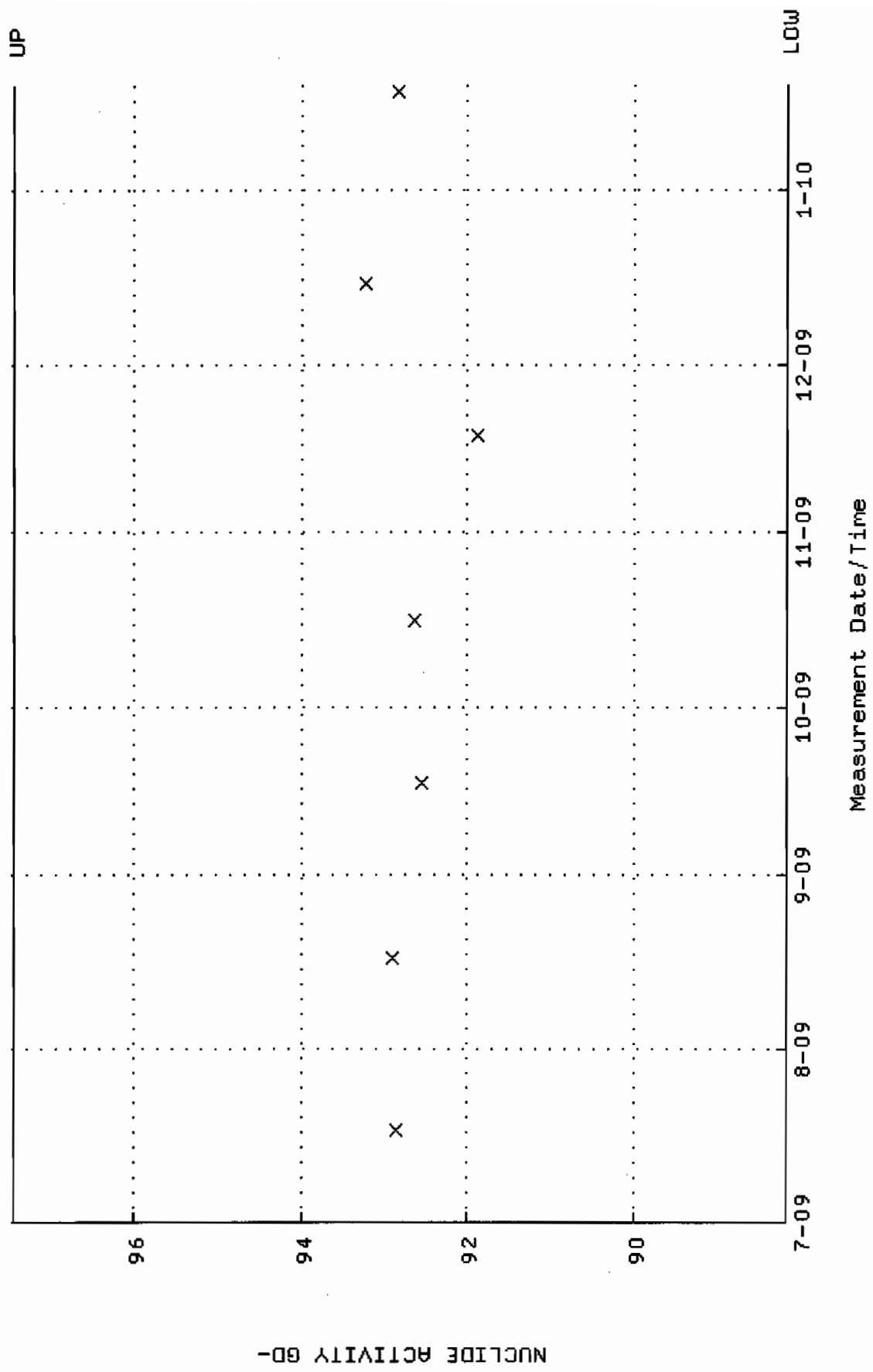
QA filename : DKA100:[ENV\_ALPHA.QA.B]B129.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:56:05 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV-ALPHA.QA.W]W130.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:12:07 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.239131 through 0.259131



QA filename : DKA100:[ENV\_ALPHA.QA.W]W130.QAF;1  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:12:07 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 88.1614 through 97.4416



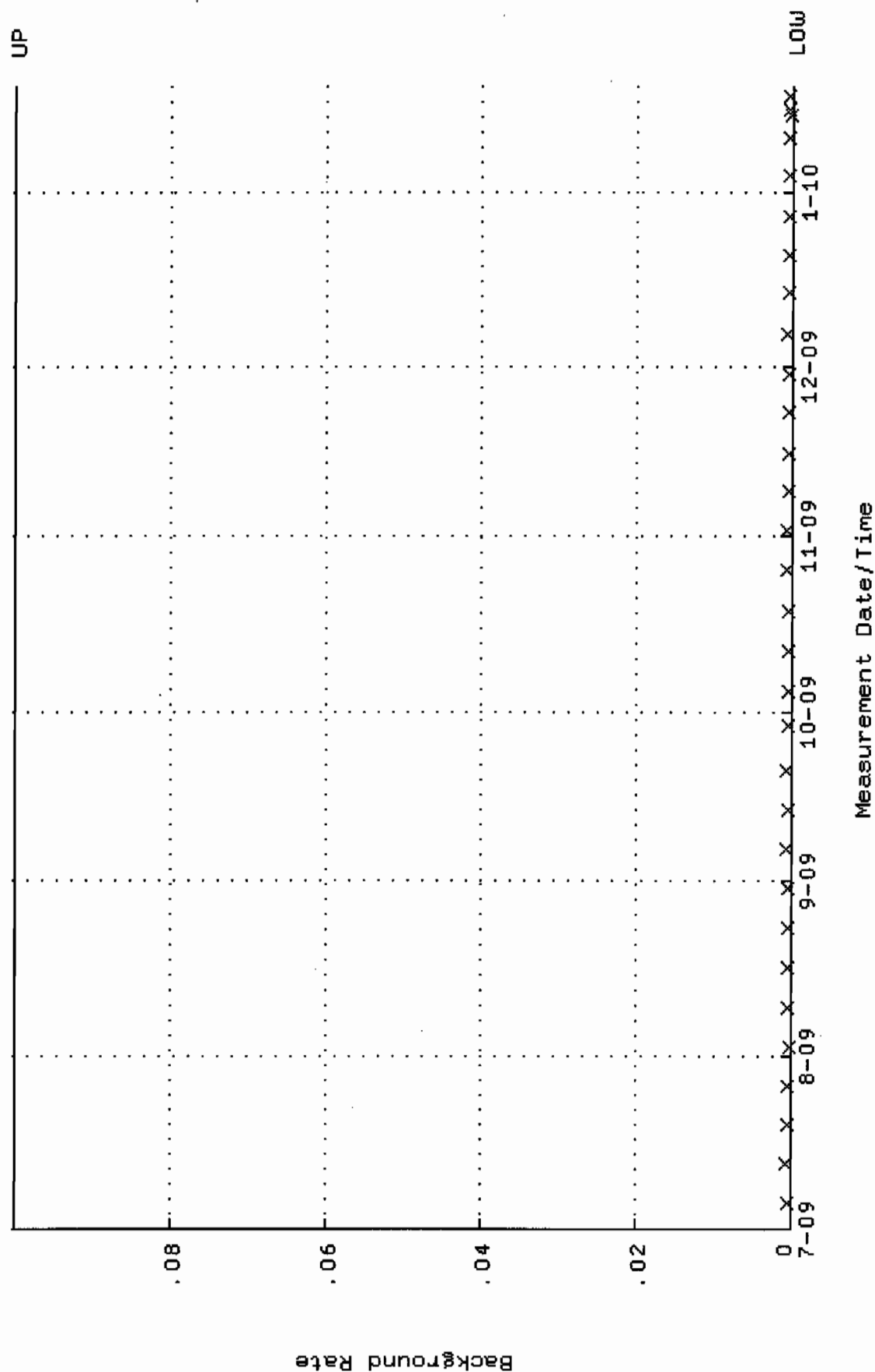


QA filename : DKA100:[ENV\_ALPHA.QA.B]B130.QAF;1

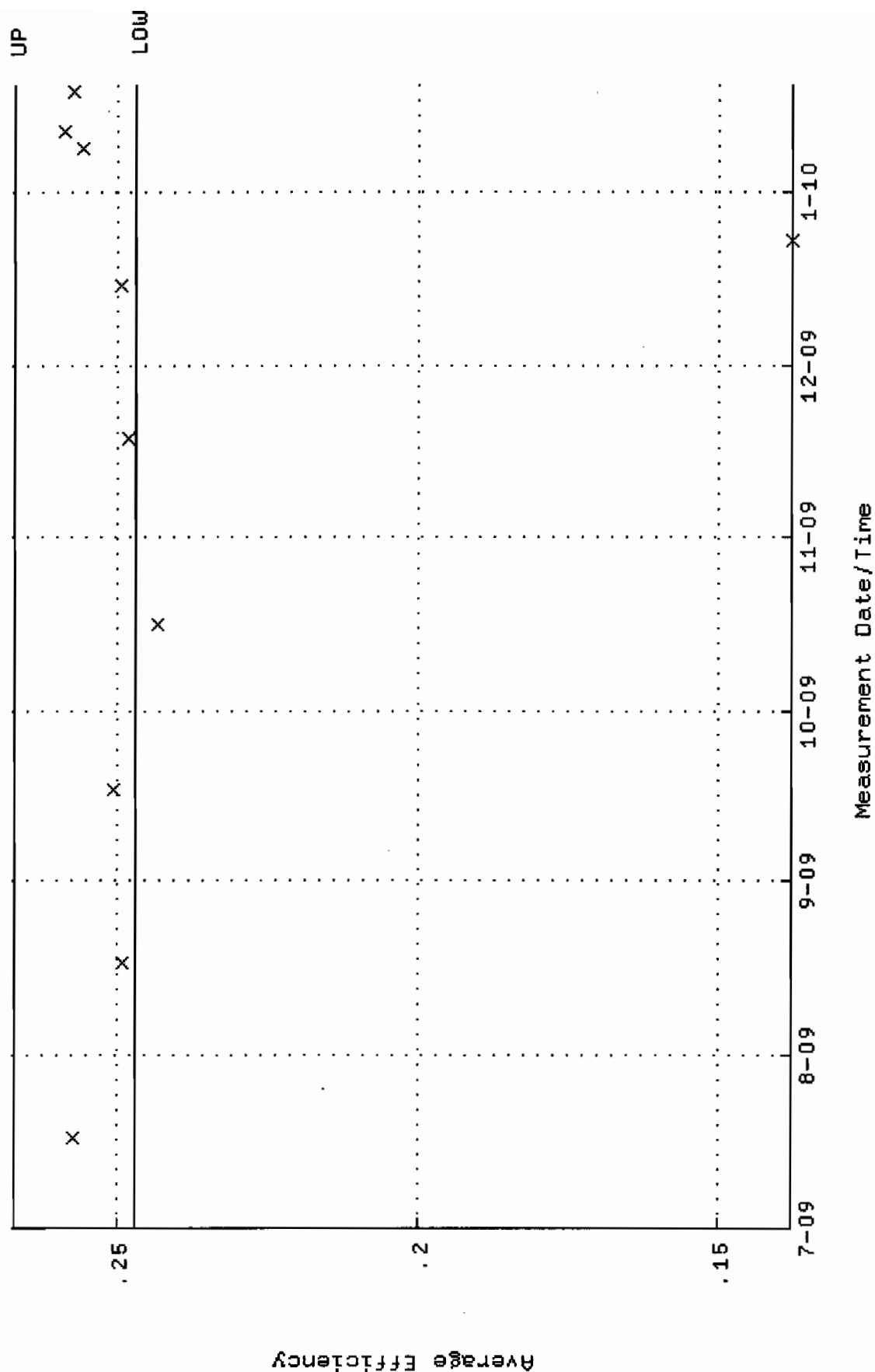
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 14:56:11 through 19-JAN-2010 12:00:00

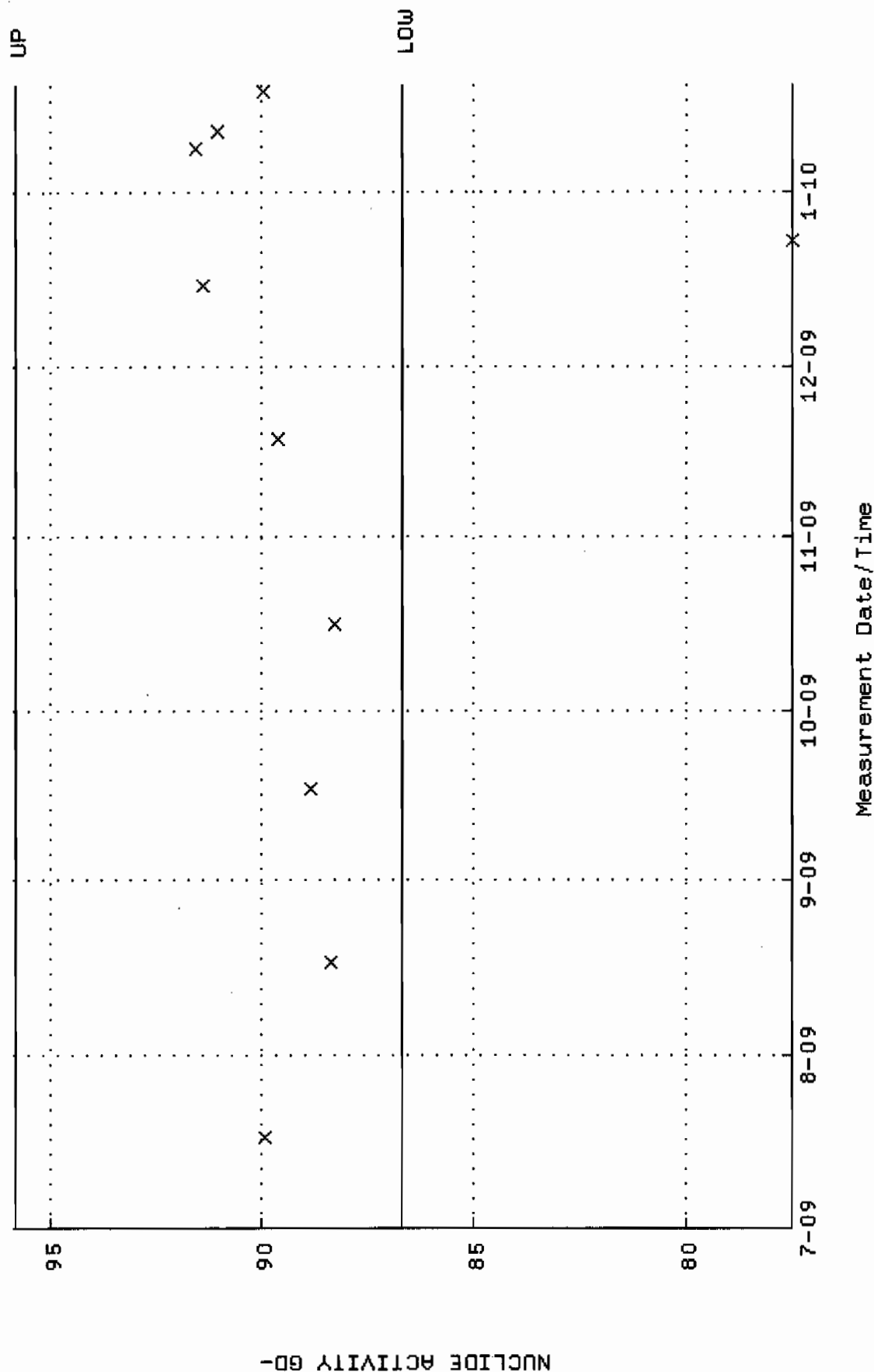
Lower/Upper Lmts: 0.000000E+00 through 0.100000



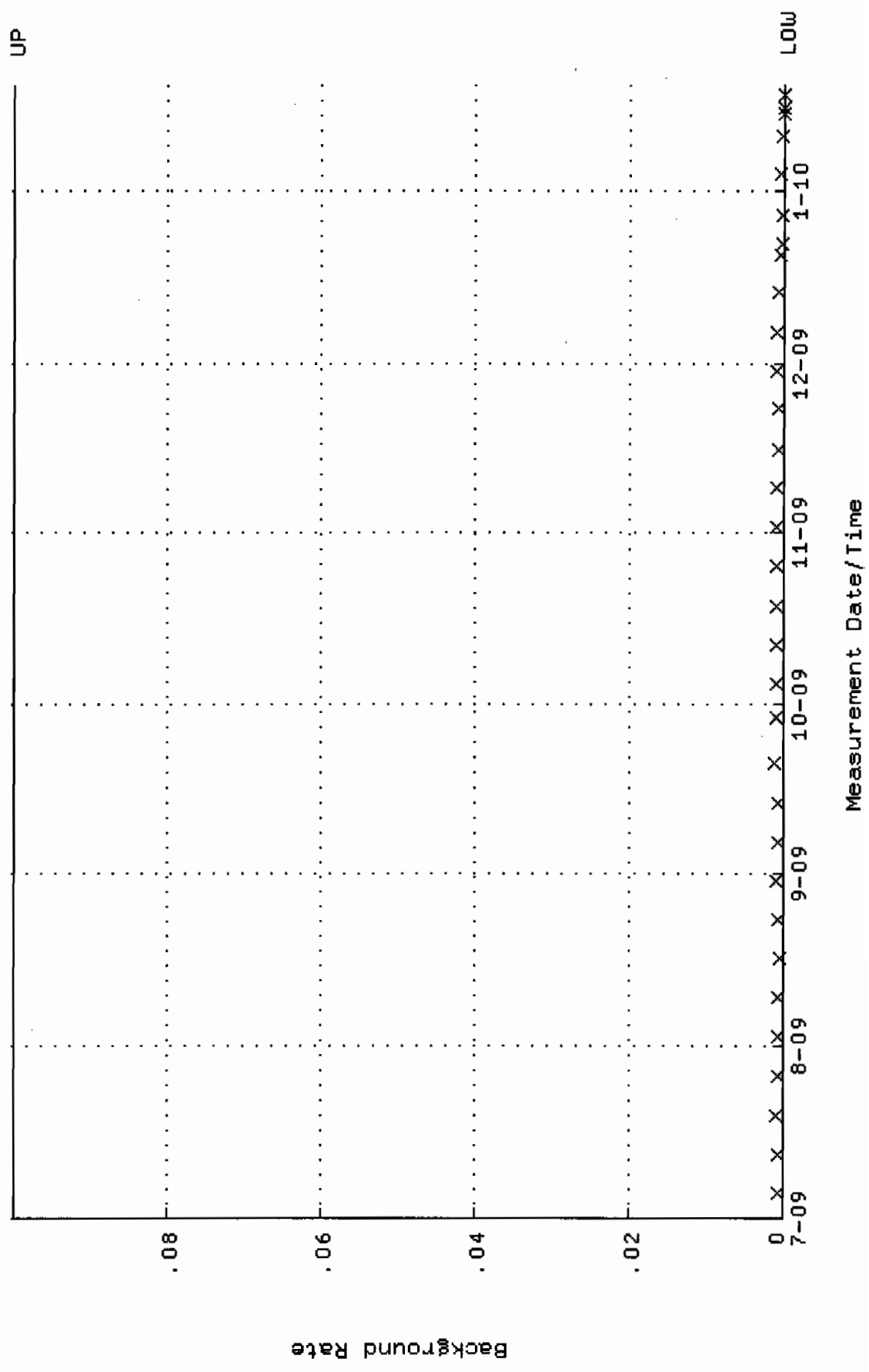
QA filename : DKA100:[ENV\_ALPHA.QA.W]U131.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:12:11 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.246955 through 0.266955



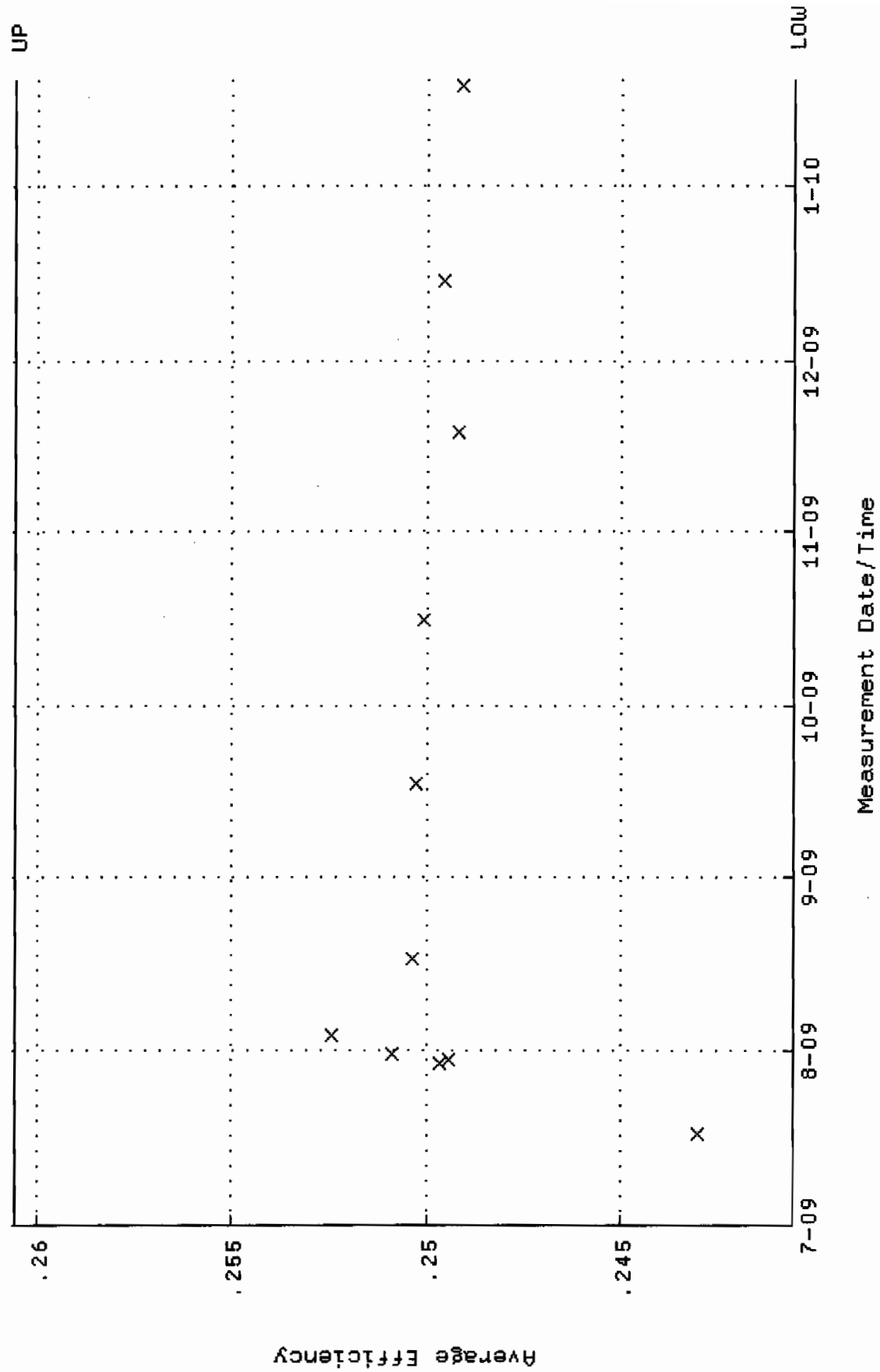
QA filename : DKA100:[ENV\_ALPHA.QA.W]w131.QAF;1  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:12:11 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 86.7058 through 95.8328



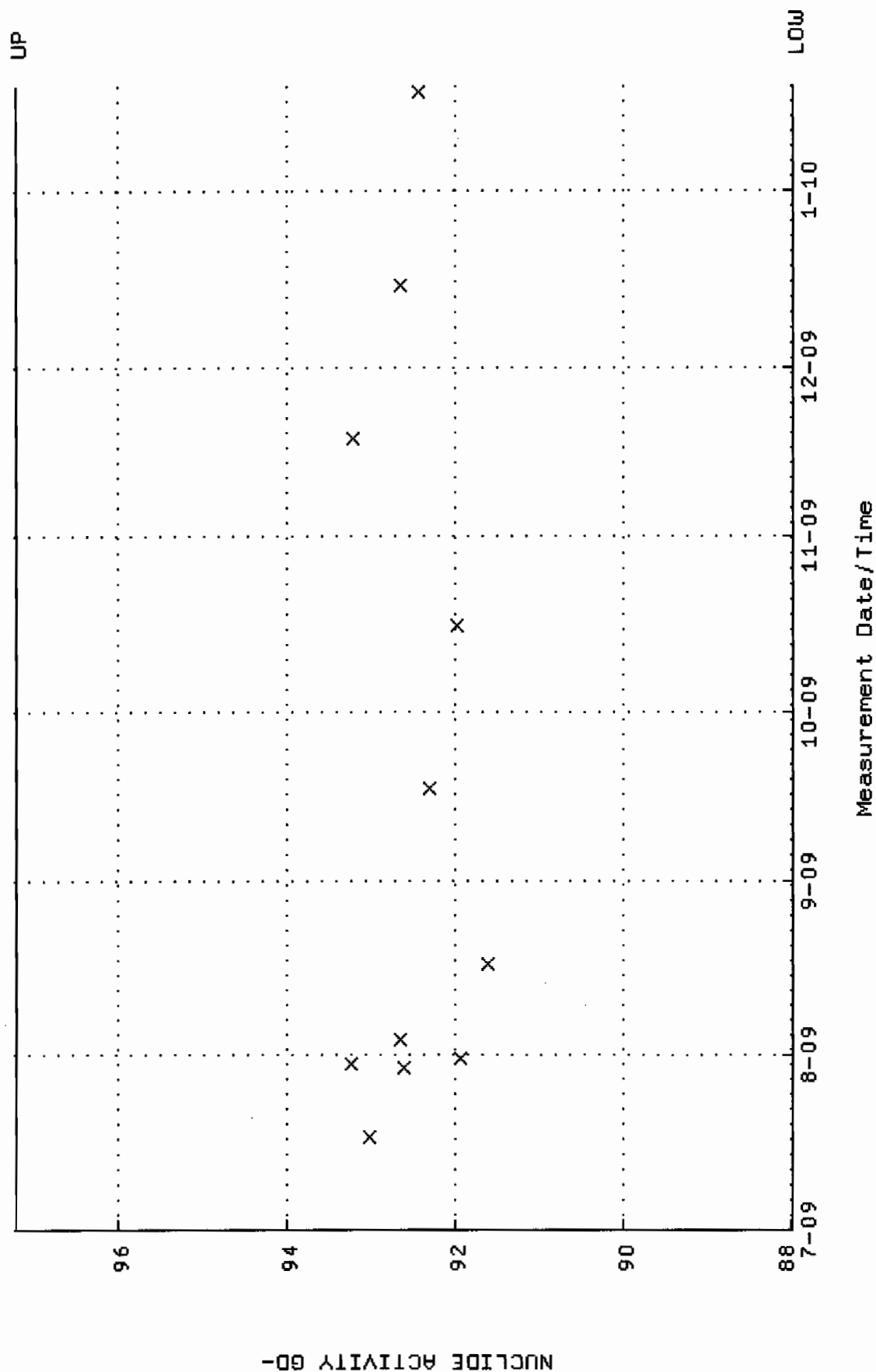
QA filename : DKA100:[ENV\_ALPHA.QA.B]B131.QAF;1  
Parameter Name : BACKRATE (Background Rate)  
Start/End Dates : 5-JUL-2009 14:56:16 through 19-JAN-2010 12:00:00  
Lower/Upper Lmts: 0.000000E+00 through 0.100000



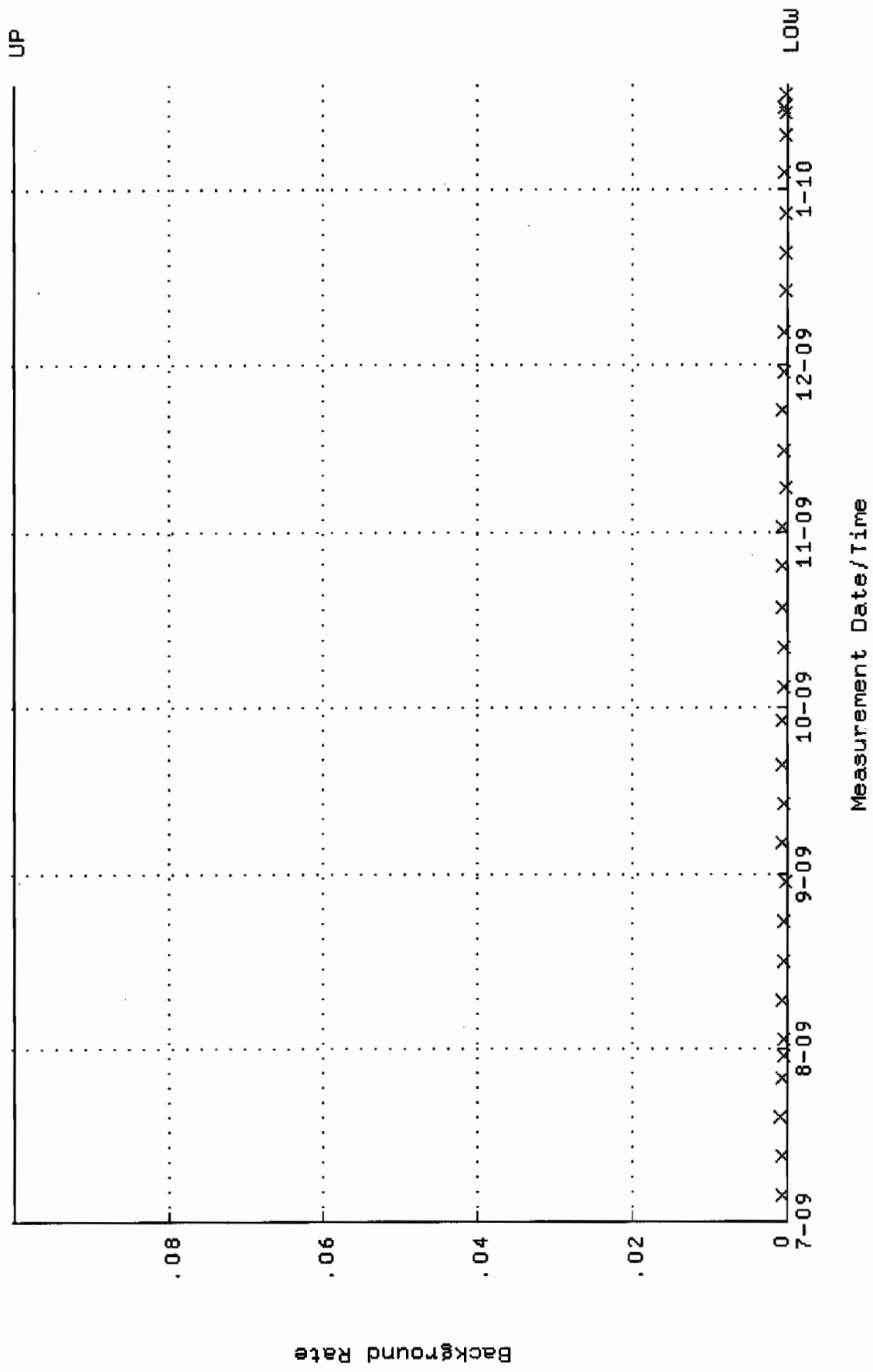
QA filename : DKA100:[ENV\_ALPHA.QA.W]W132.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:12:16 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.240573 through 0.260573



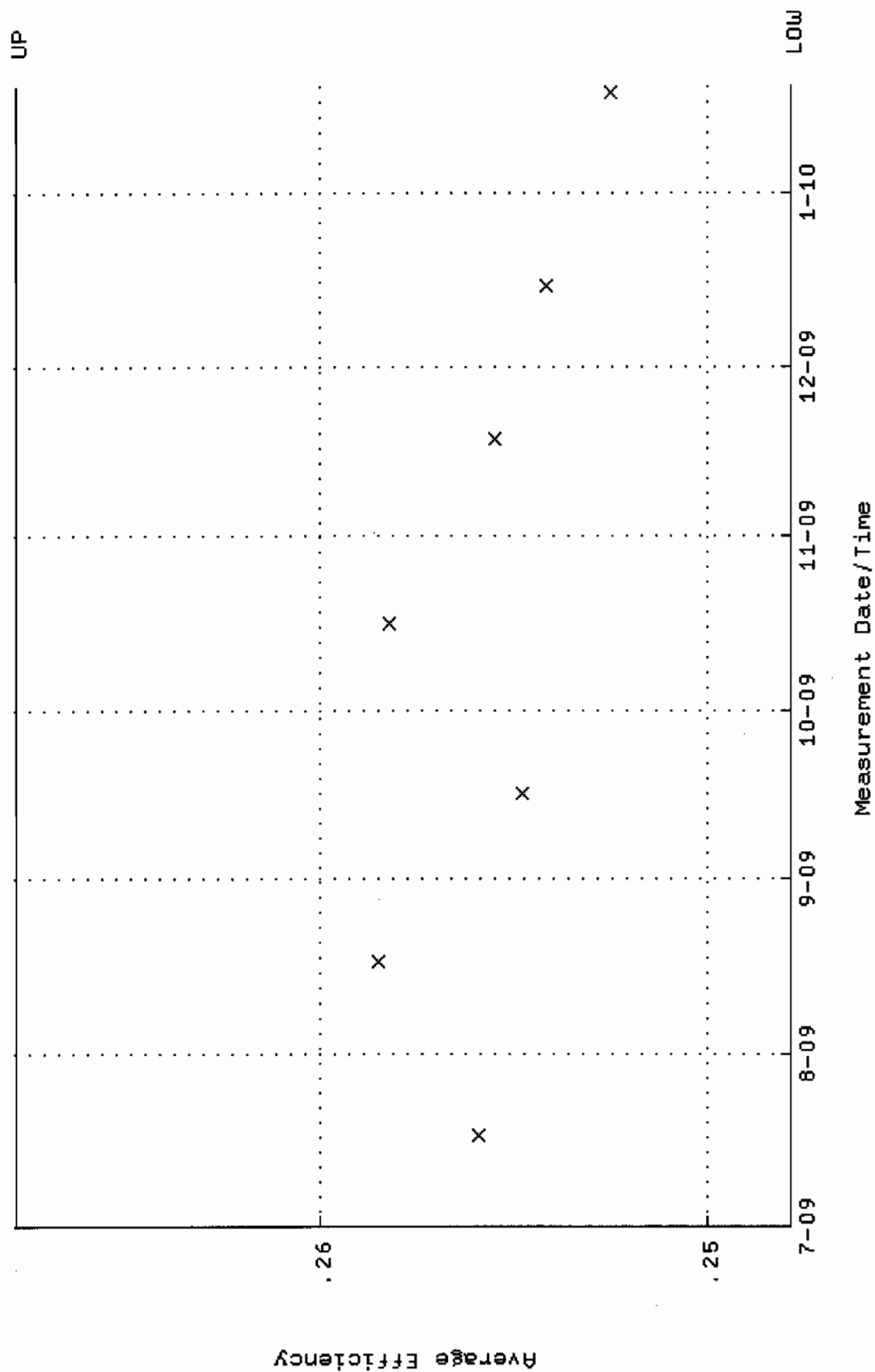
QA filename : DKA100:[ENV\_ALPHA.QA.W]W132.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:12:16 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 87.9674 through 97.2272



QA filename : DKA100:[ENV\_ALPHA.QA.B]B132.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:56:21 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

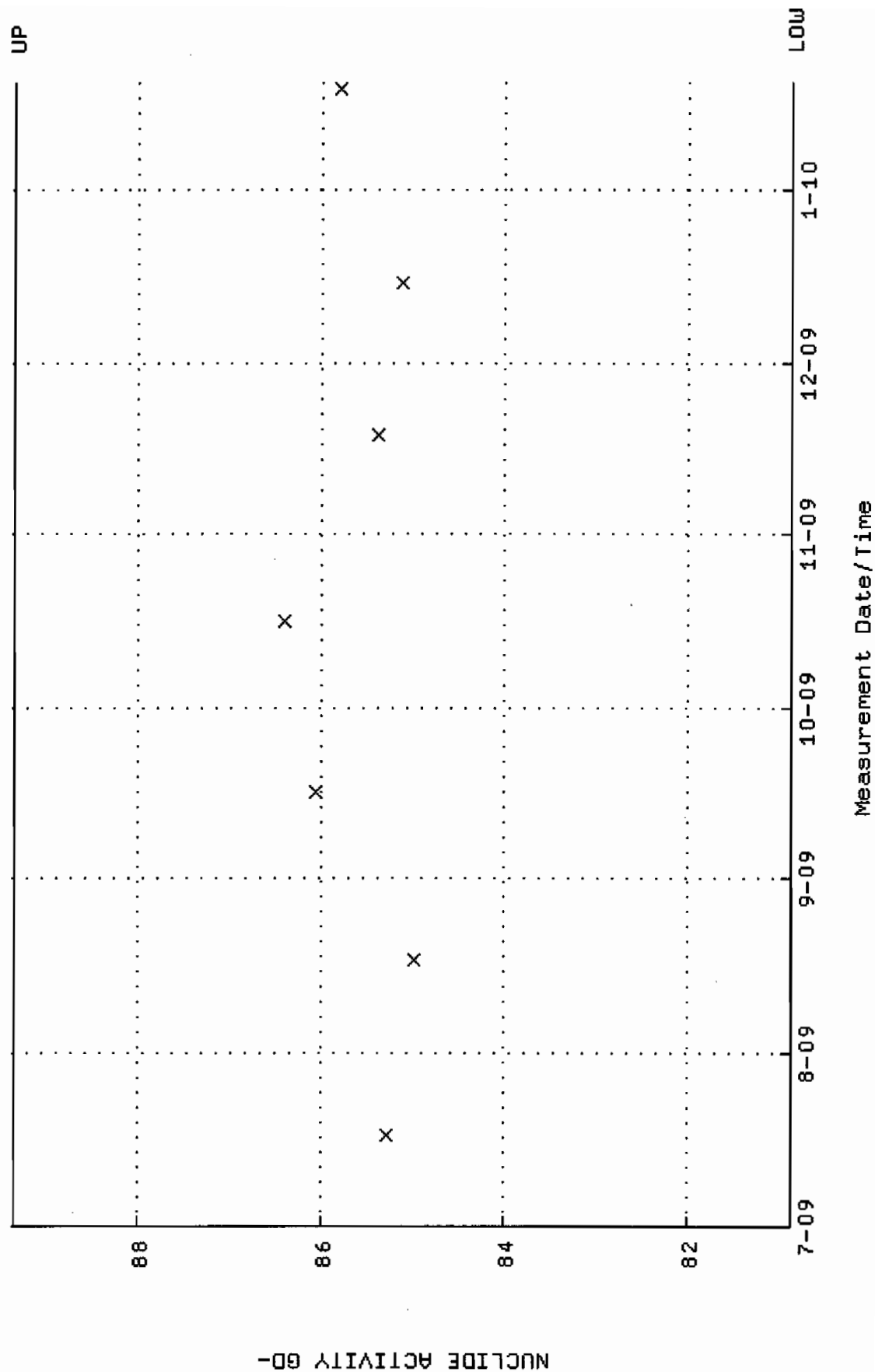


QA filename : DKA100:[ENV\_ALPHA.QA.W]W141.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:12:58 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.247845 through 0.267845

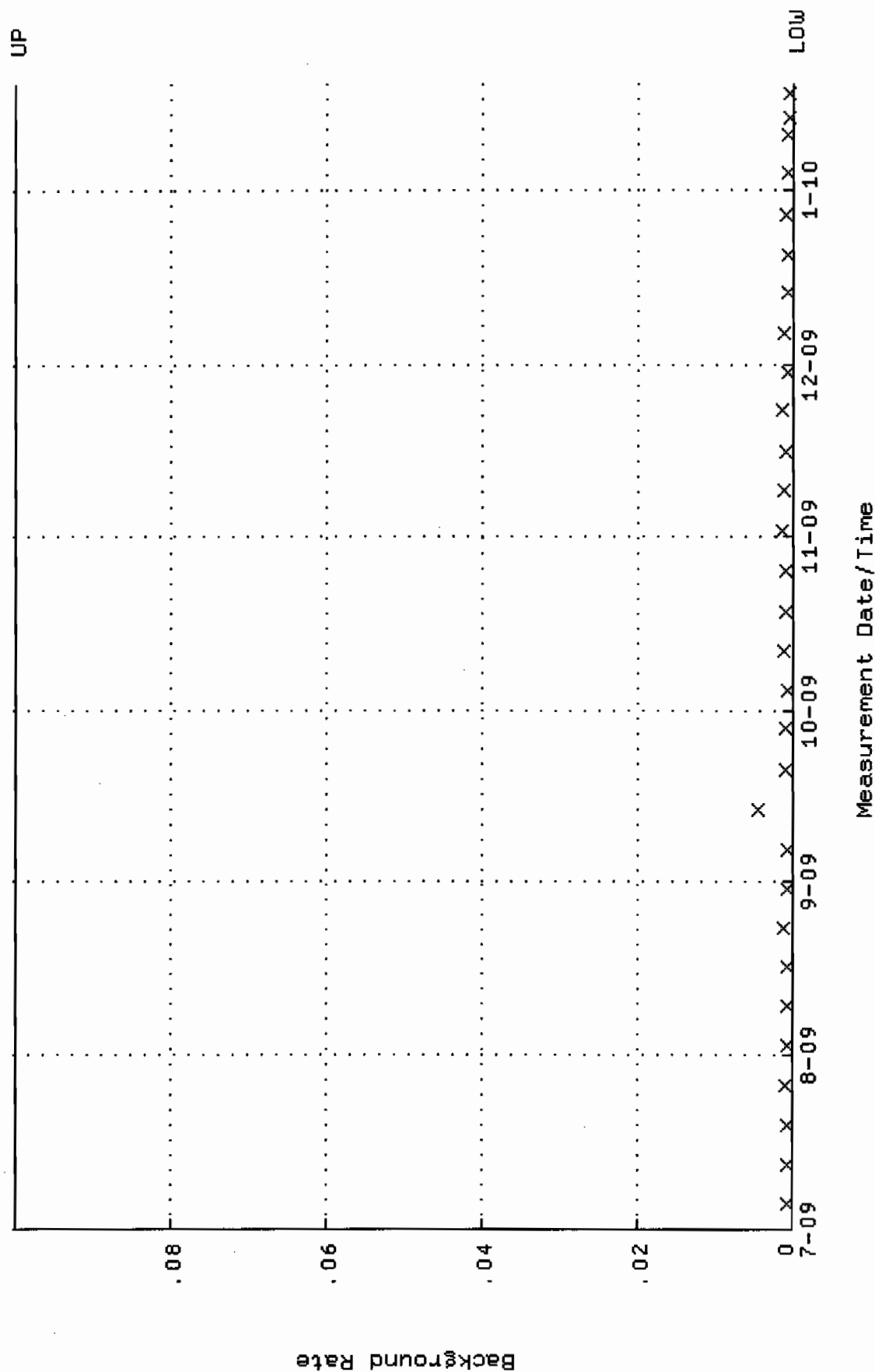




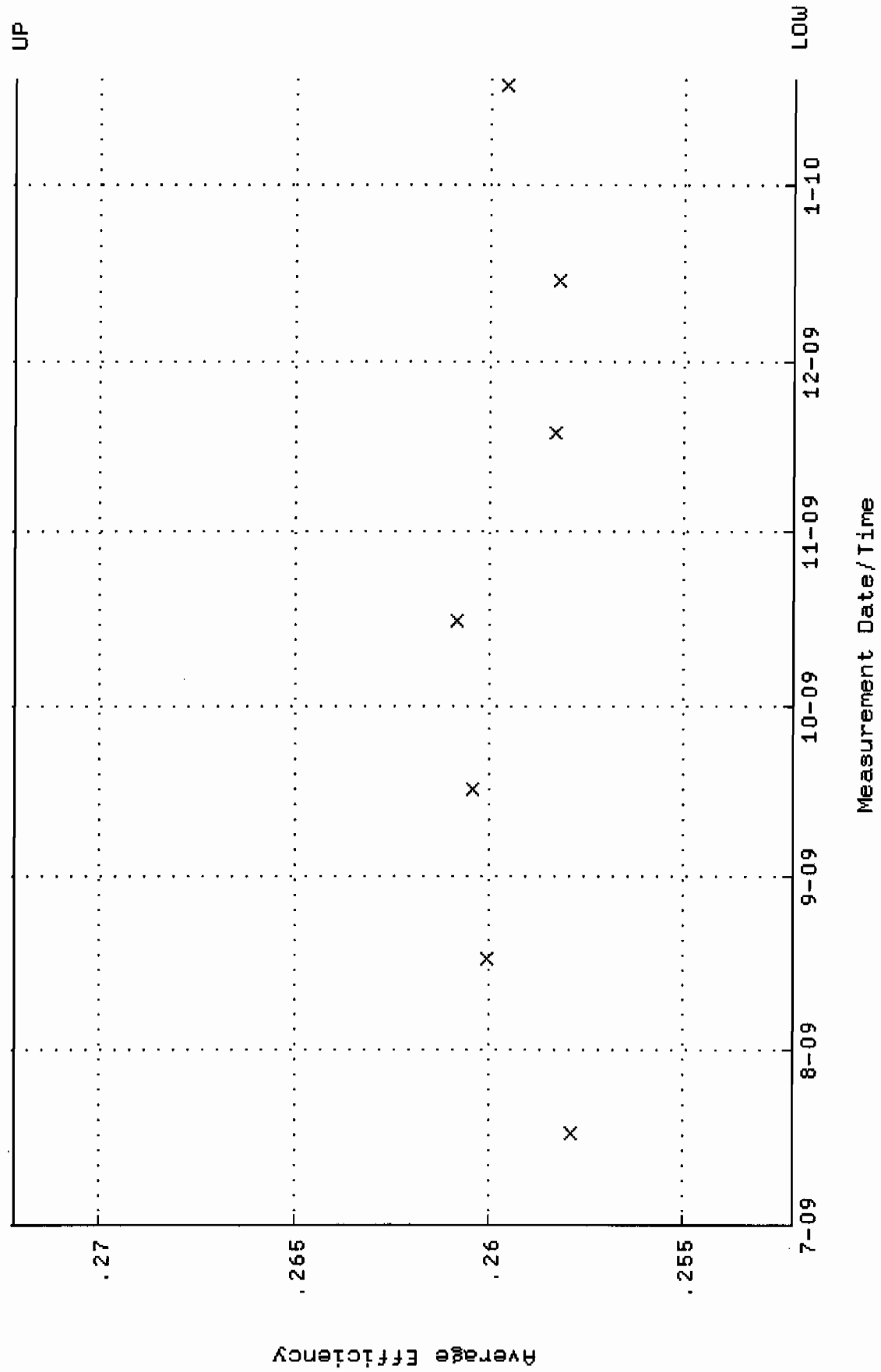
QA filename : DKA100:[ENV\_ALPHA.QA.W]U141.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:12:58 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 80.8595 through 89.3711



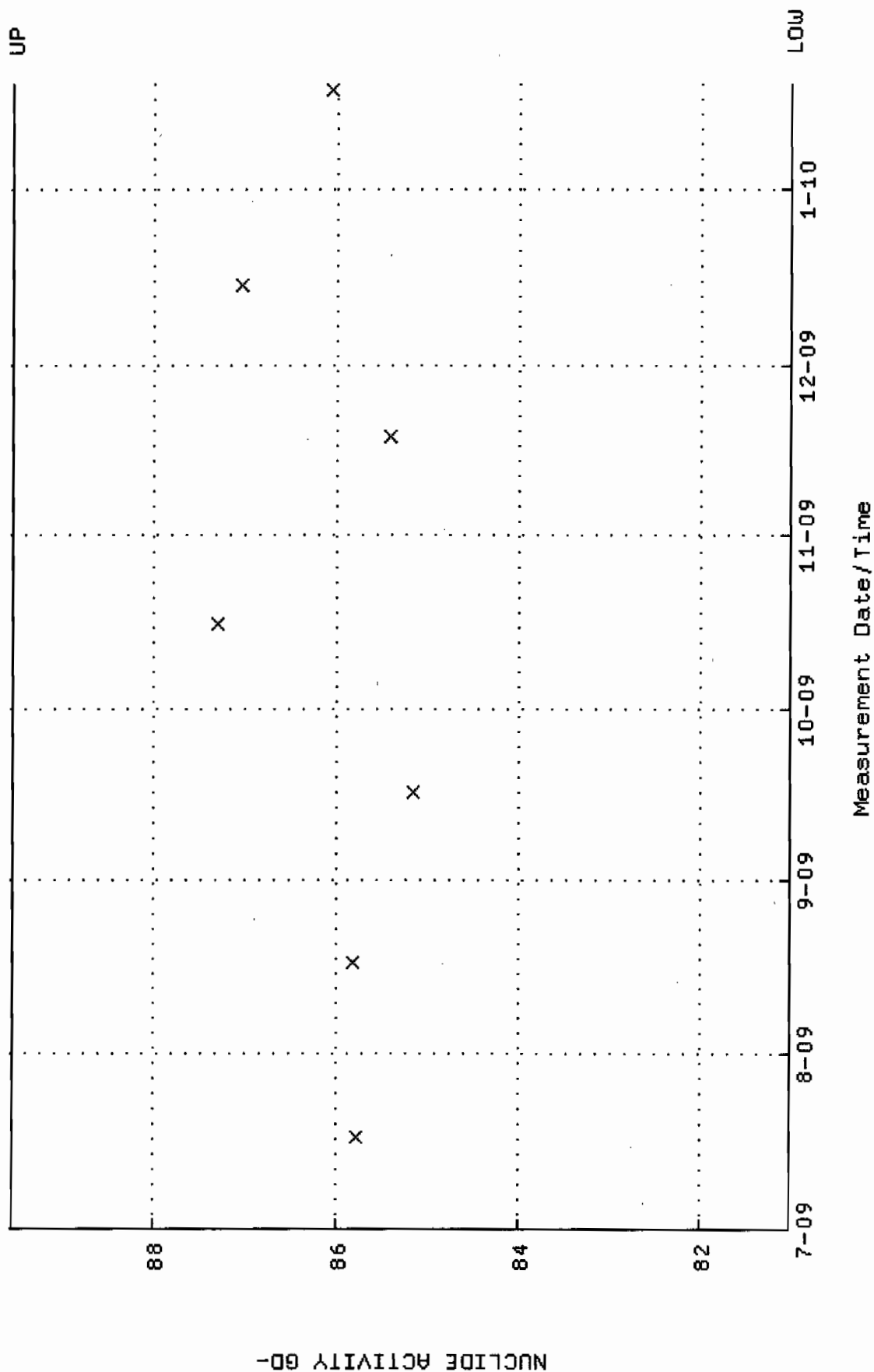
QA filename : DKA100:[ENV\_ALPHA.QA.B]B141.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:57:04 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



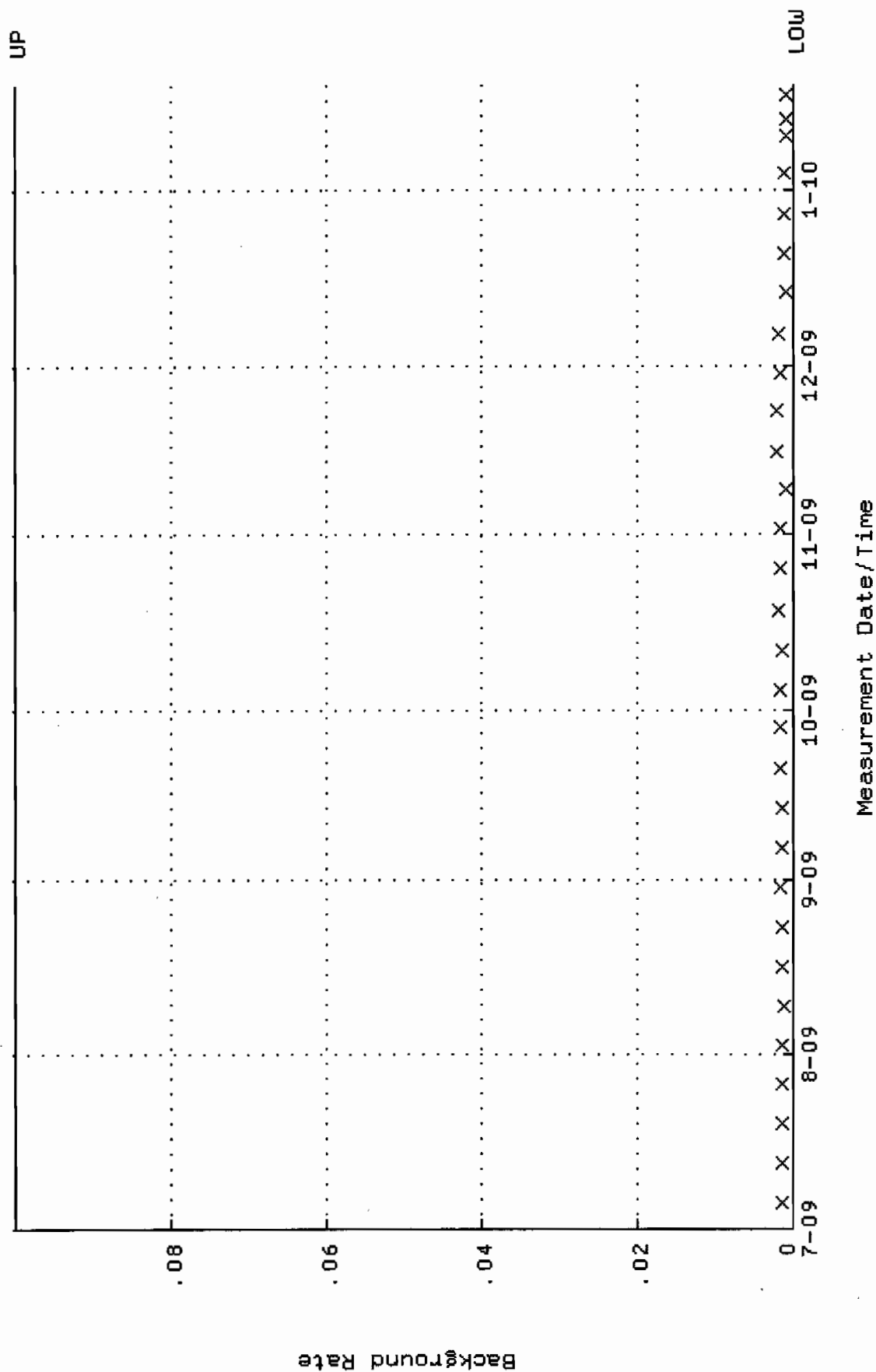
QA filename : DKA100:[ENV\_ALPHA.QA.W]W142.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:13:03 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.252182 through 0.272182



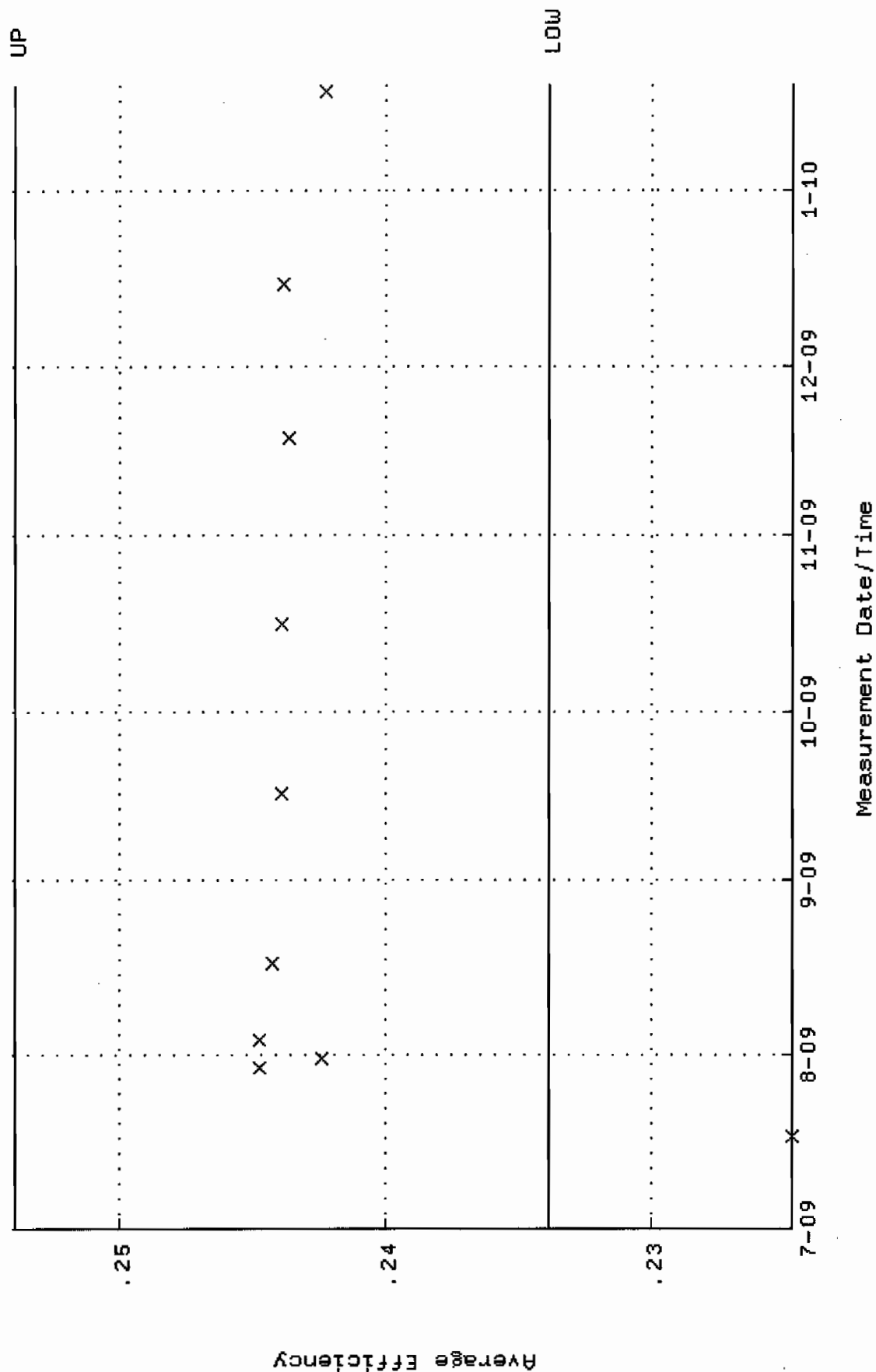
QA filename : DKA100:[ENV\_ALPHA.QA.W]W142.QAF;2  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:13:03 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 81.0245 through 89.5533



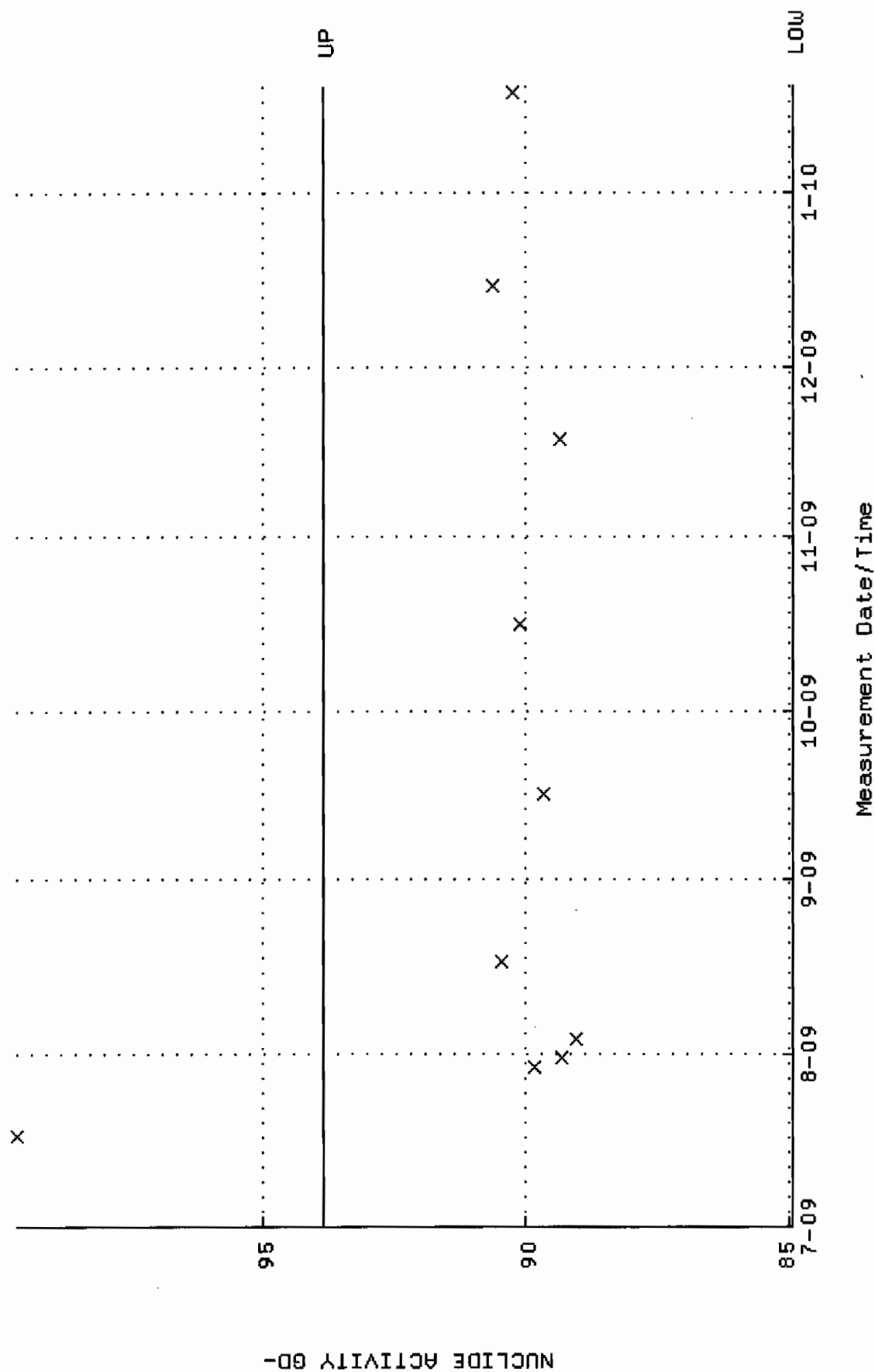
QA filename : DKA100:[ENV\_ALPHA.QA.B]B142.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:57:09 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



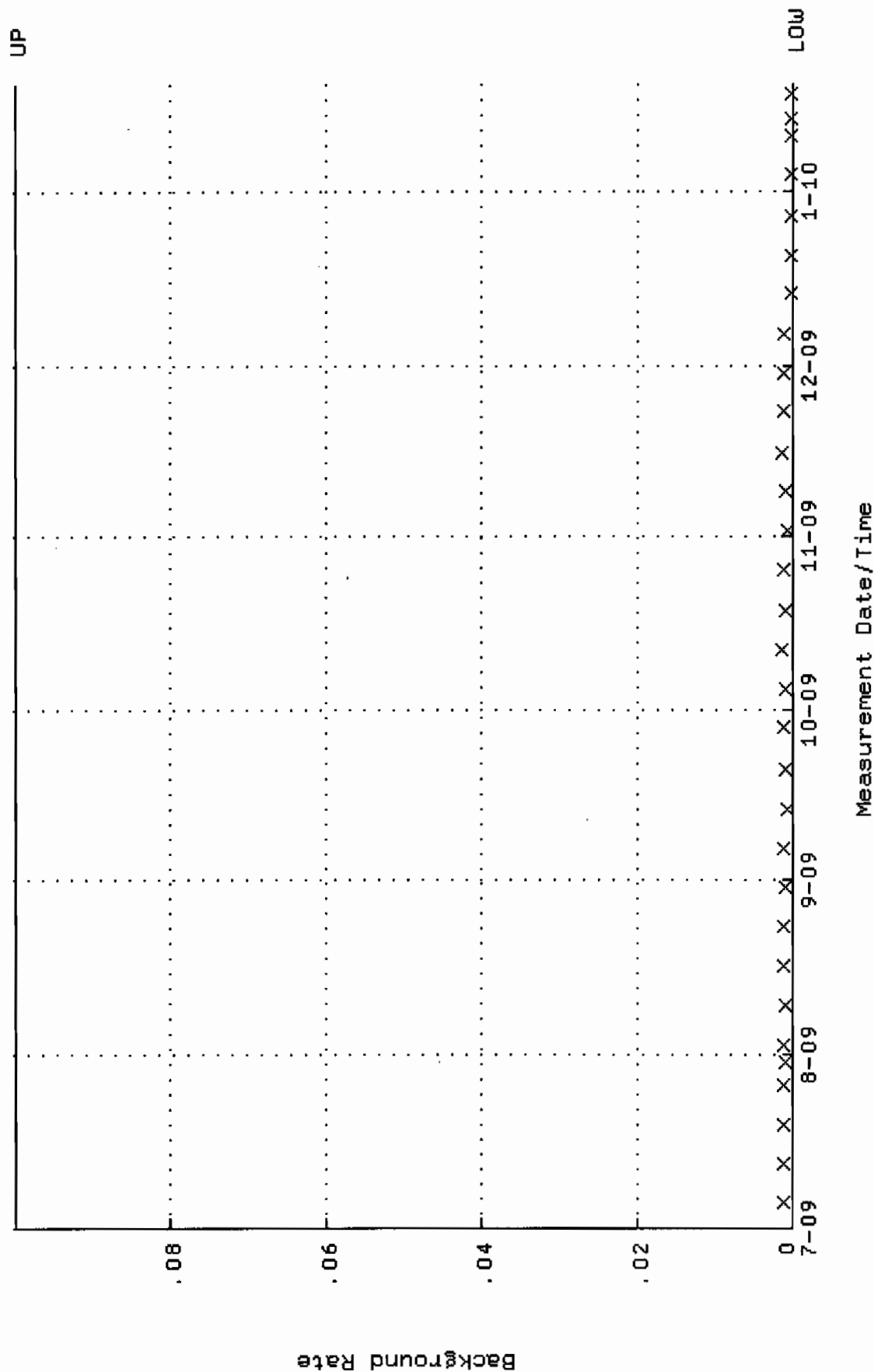
QA filename : DKA100:[ENV\_ALPHA.QA.W]W143.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-JUL-2009 09:13:09 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.233879 through 0.253879



QA filename : DKA100:[ENV\_ALPHA.QA.W]w143.QAF;1  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-JUL-2009 09:13:09 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 84.9200 through 93.8590

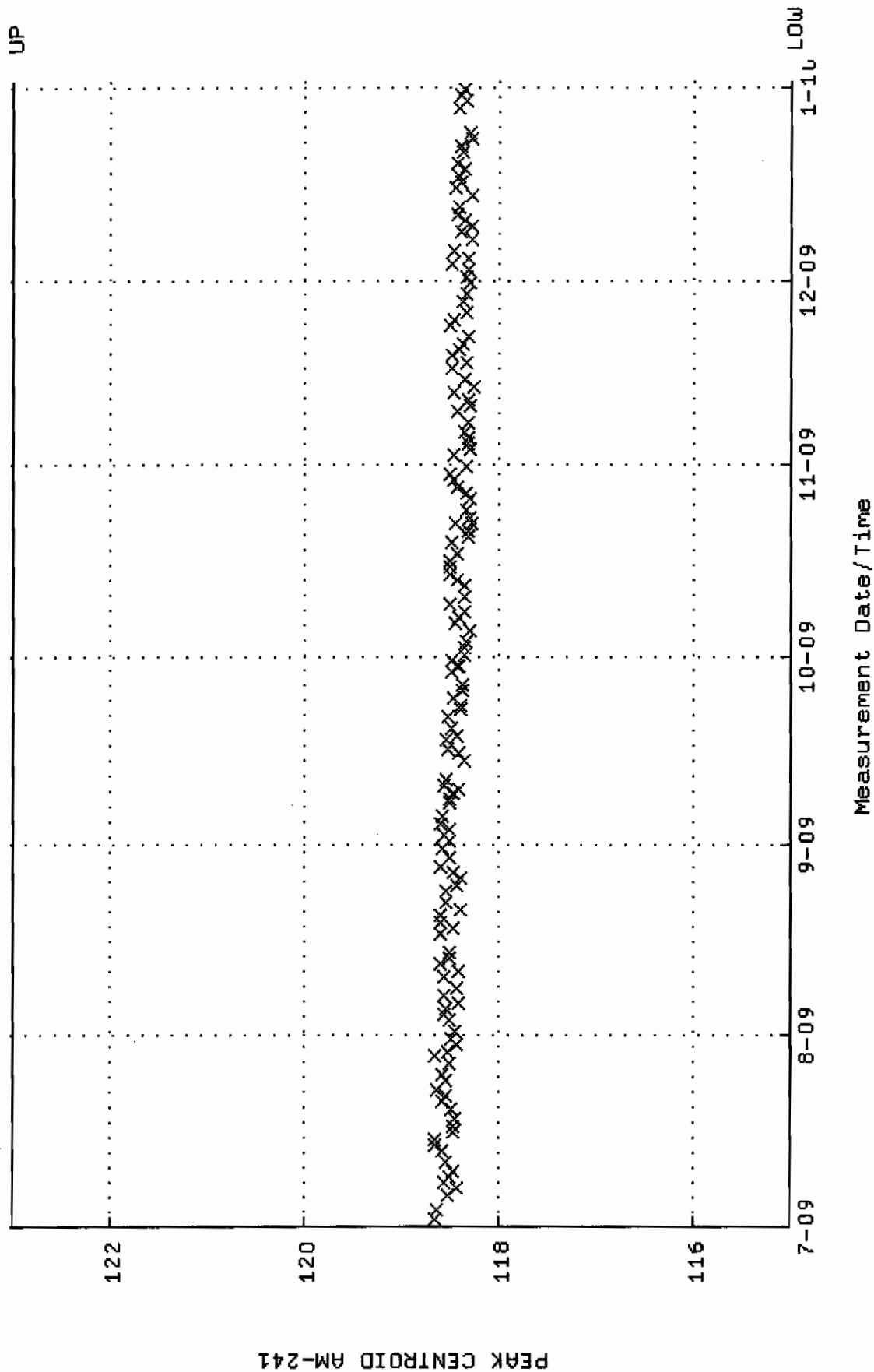


QA filename : DKA100:[ENV\_ALPHA.QA.B]B143.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 5-JUL-2009 14:57:14 through 19-JAN-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

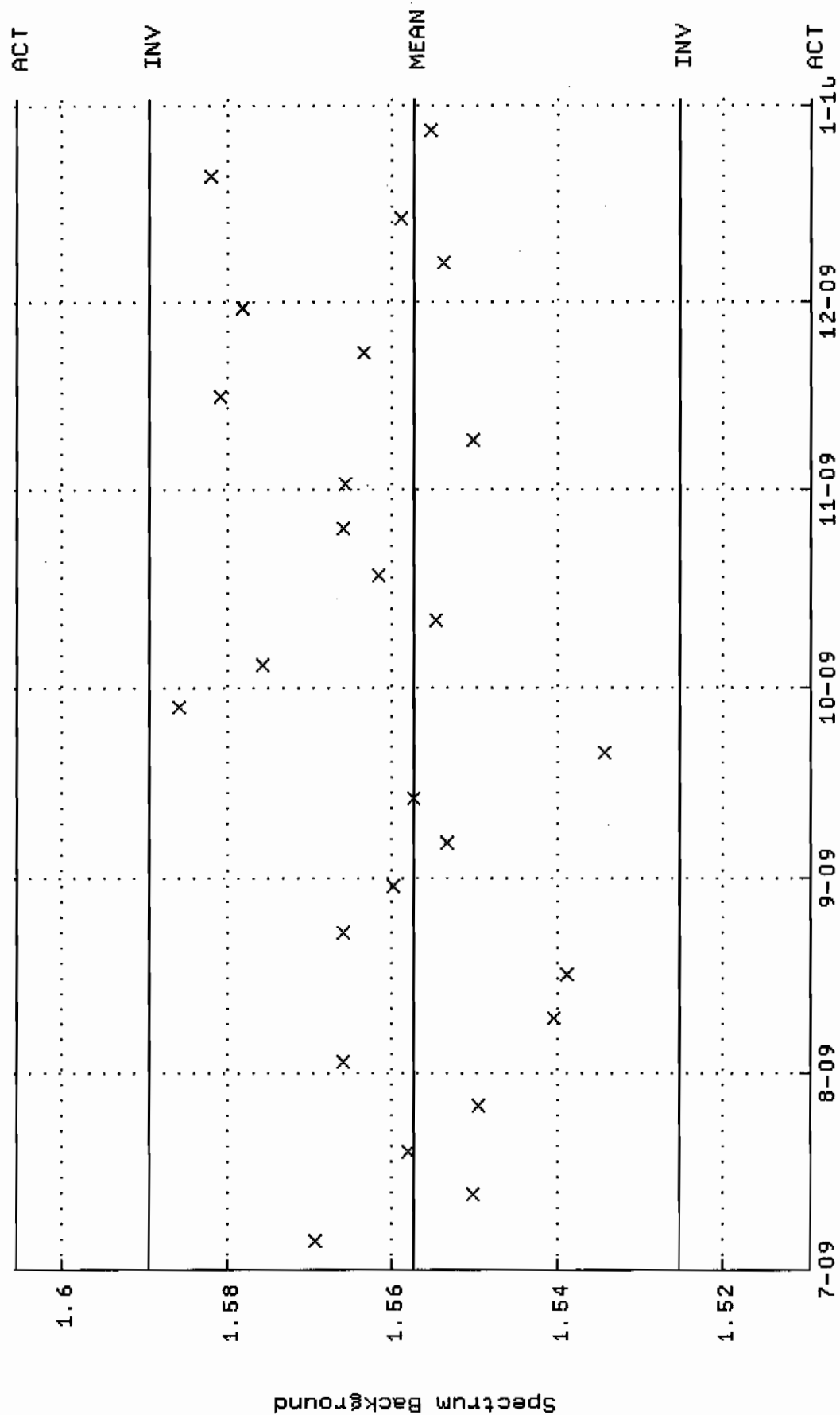




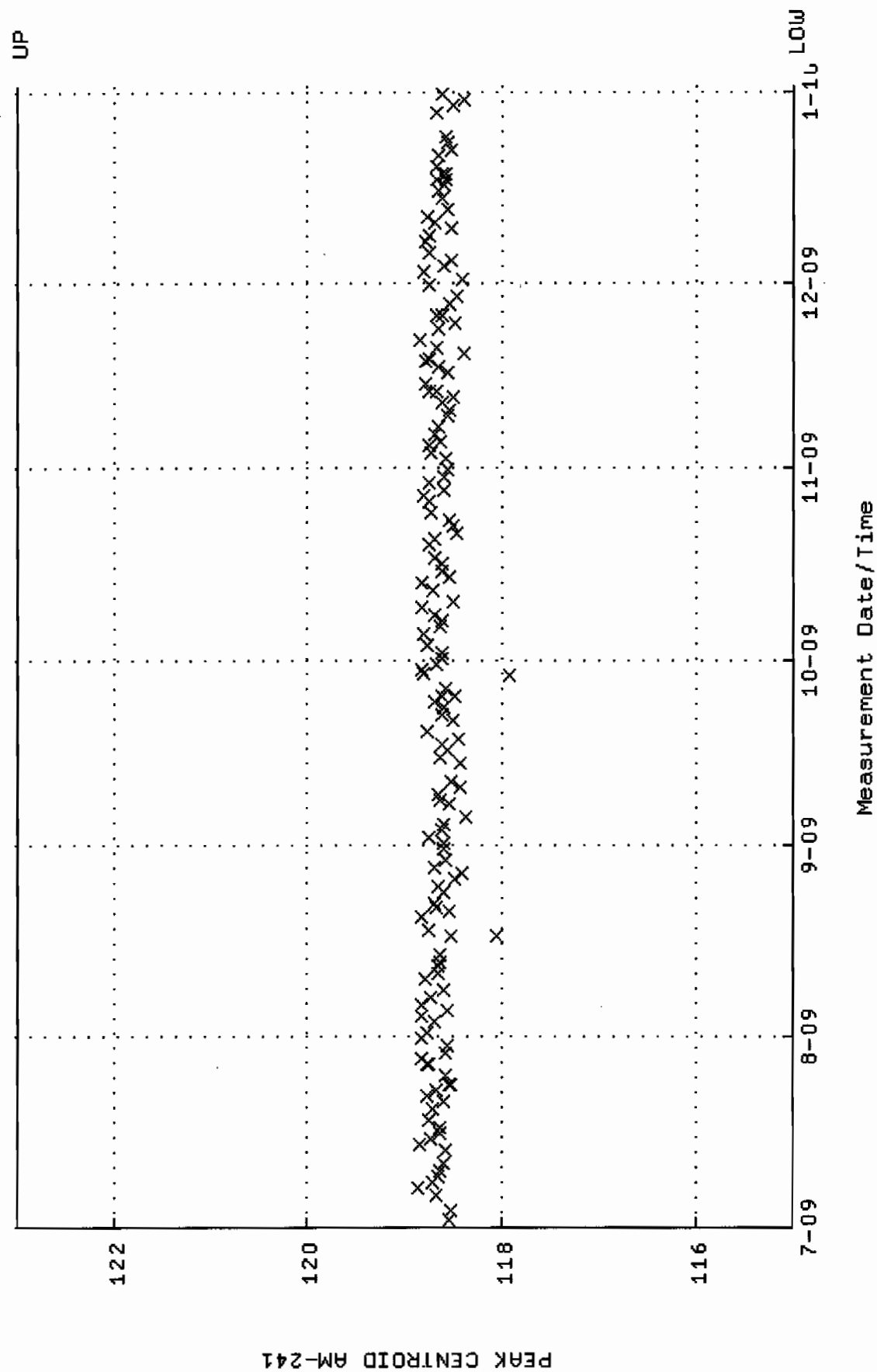
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM12\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 05:29:11 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



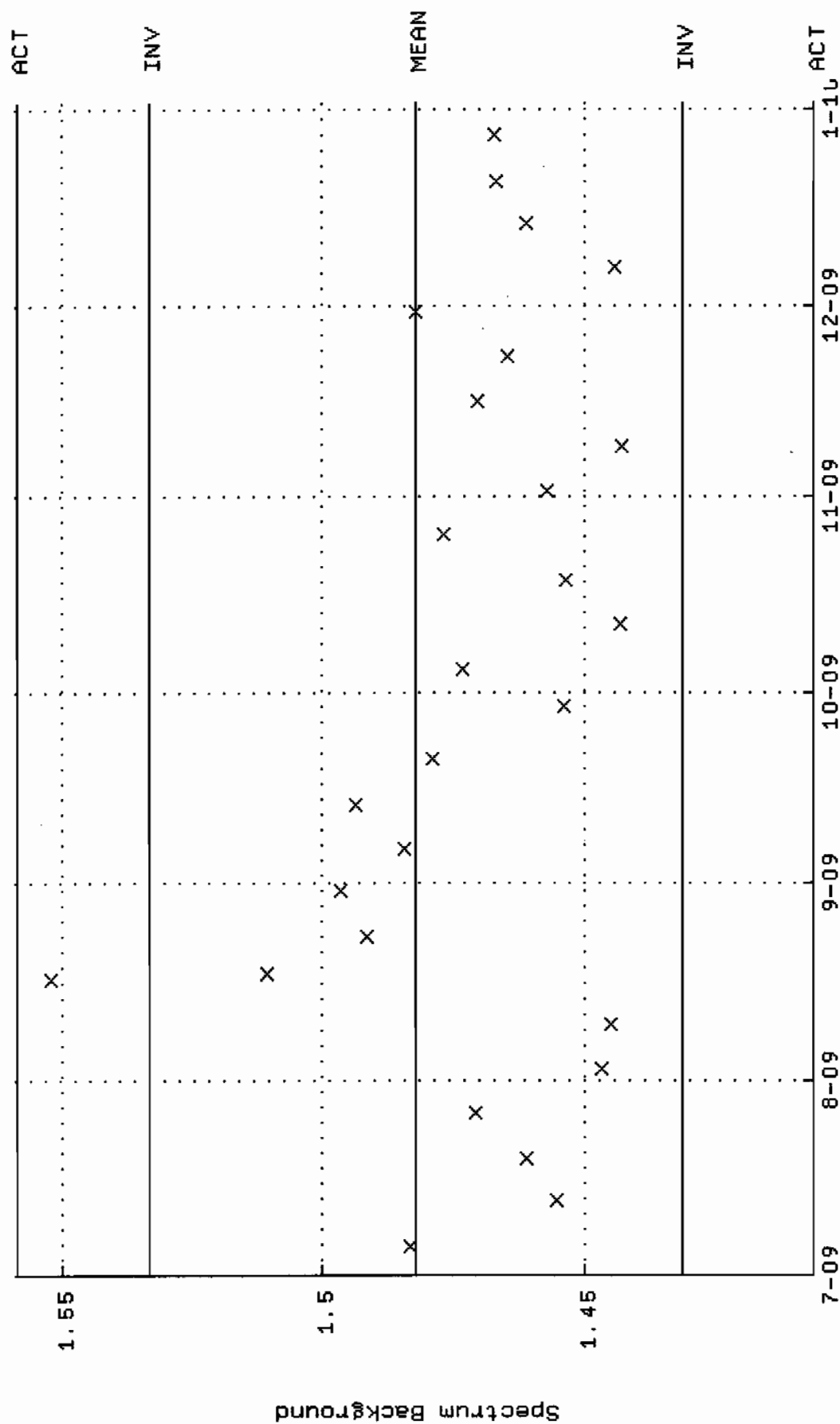
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM12.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:52:04 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



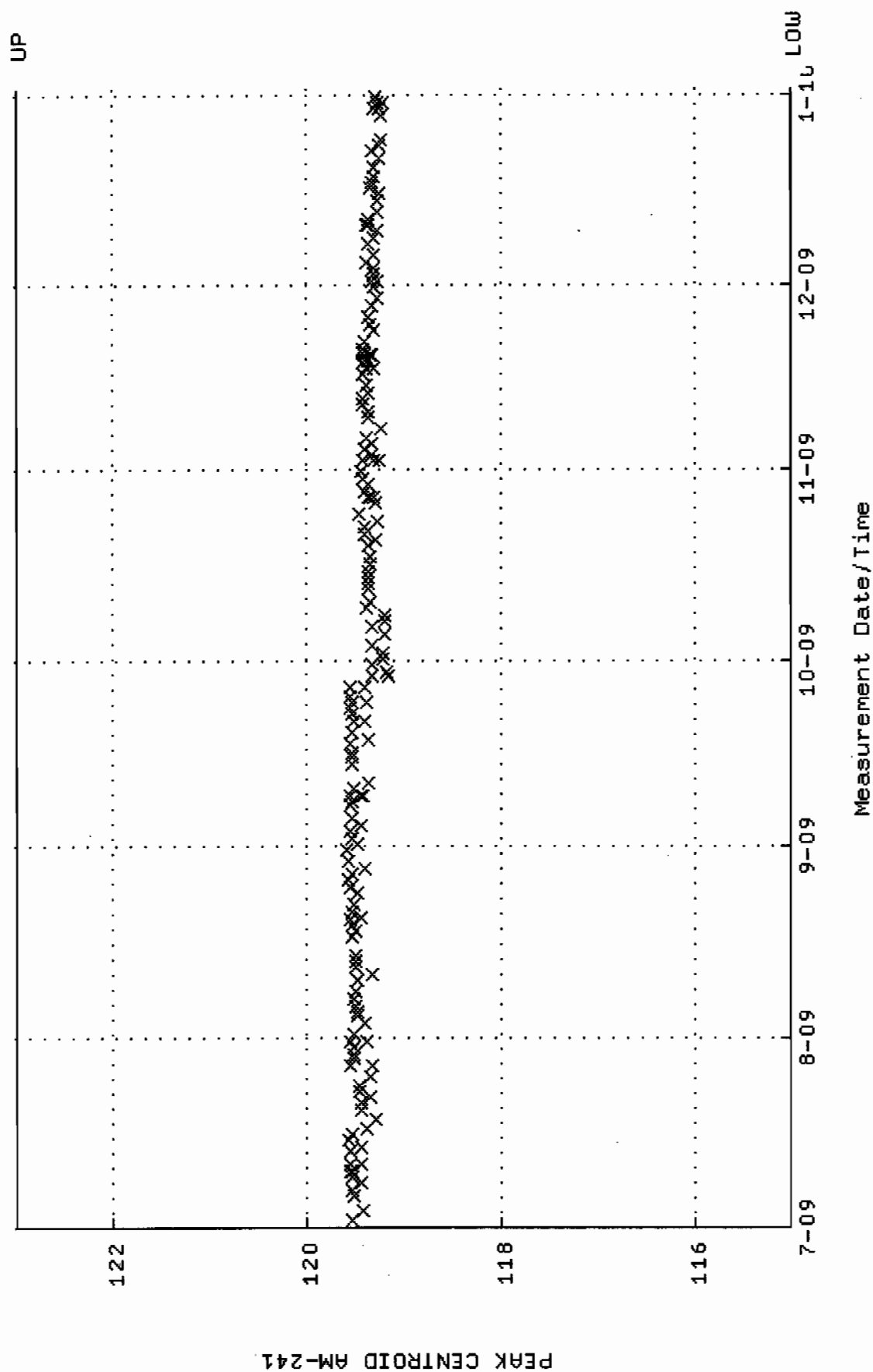
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM14\_2LMB.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



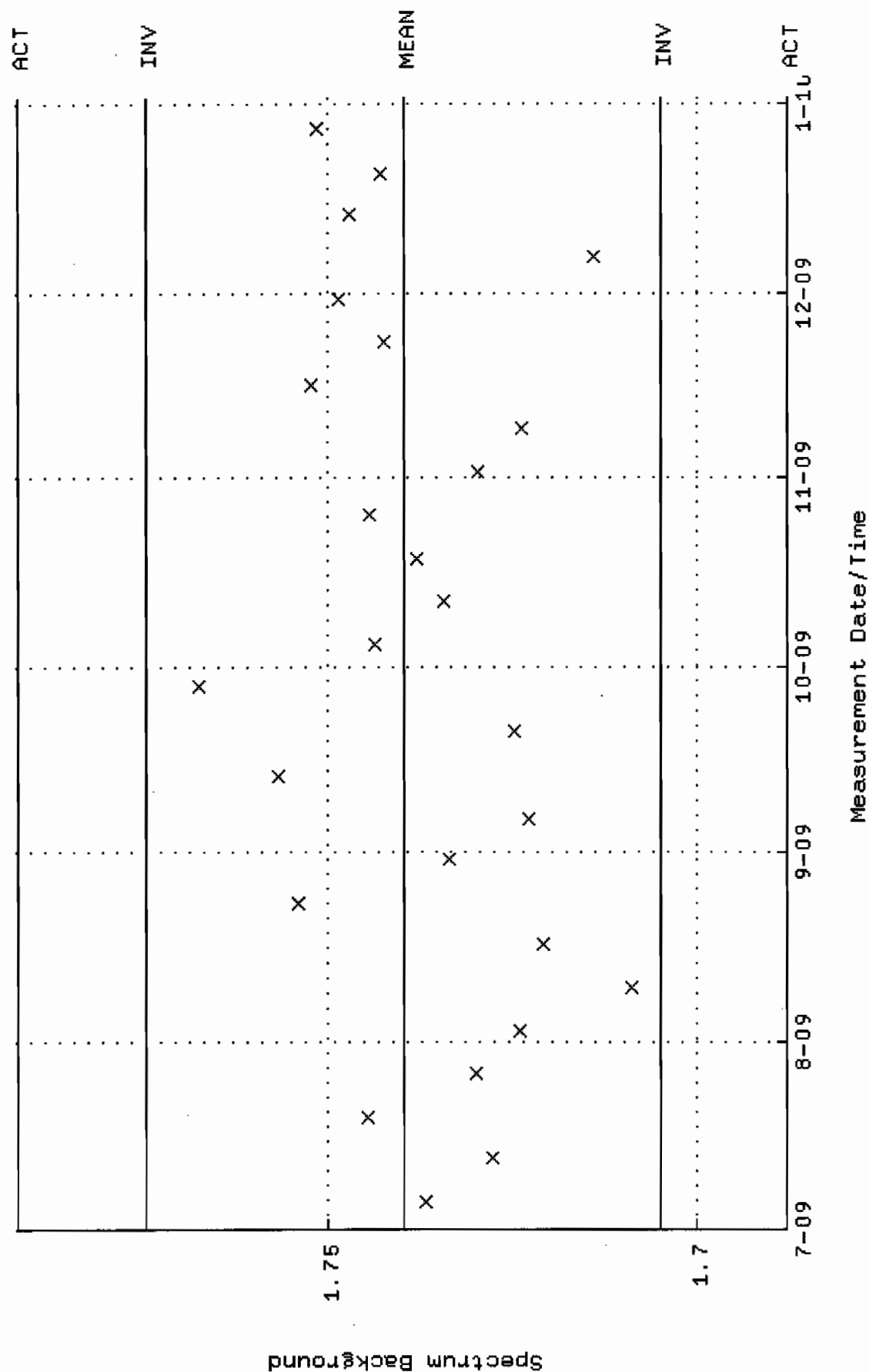
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM14.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



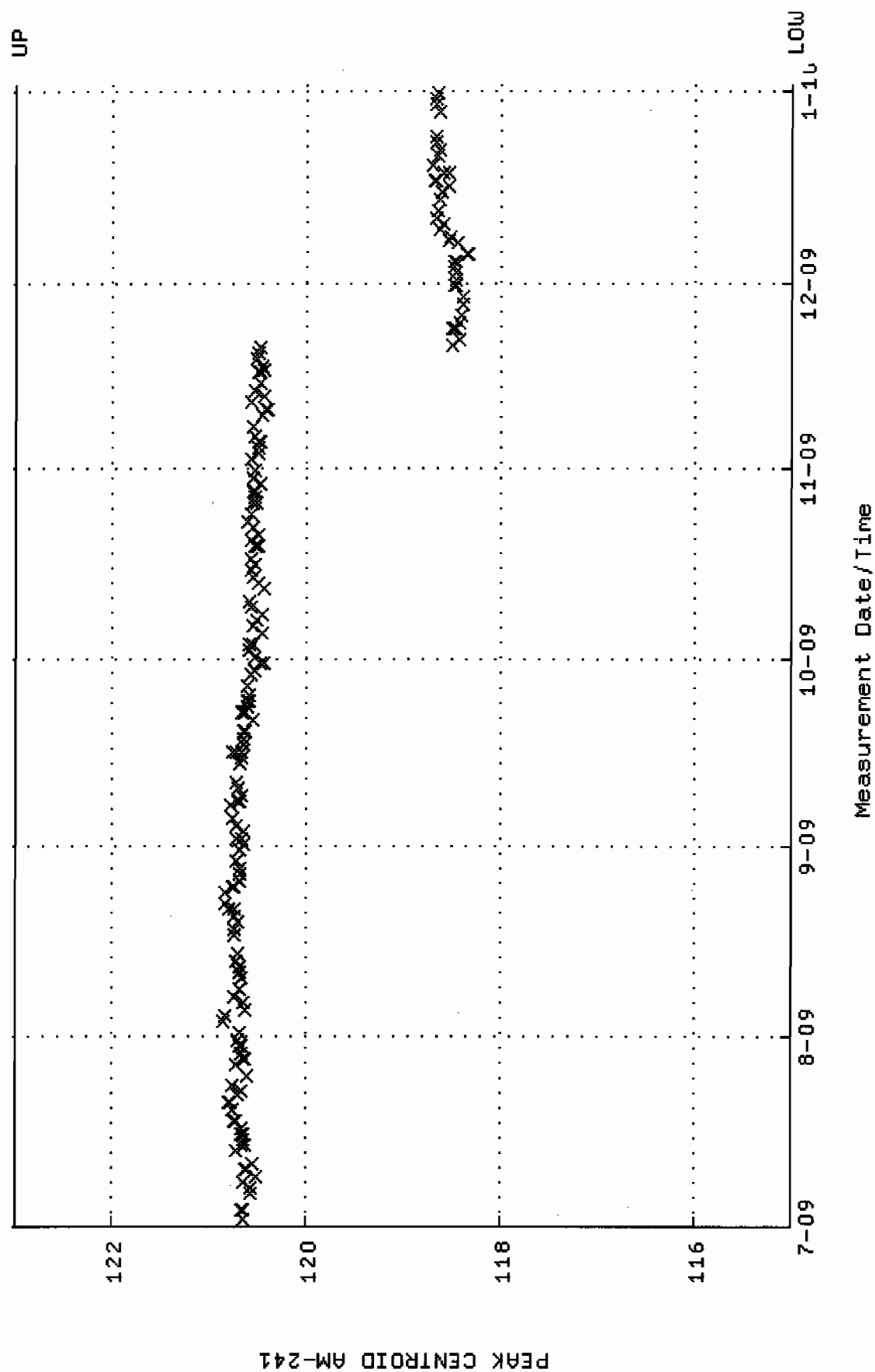
QA filename : DKA100:[CANSBERRA.GAMMA.SCUSR.QA]QCC\_GAM16\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 05:29:19 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



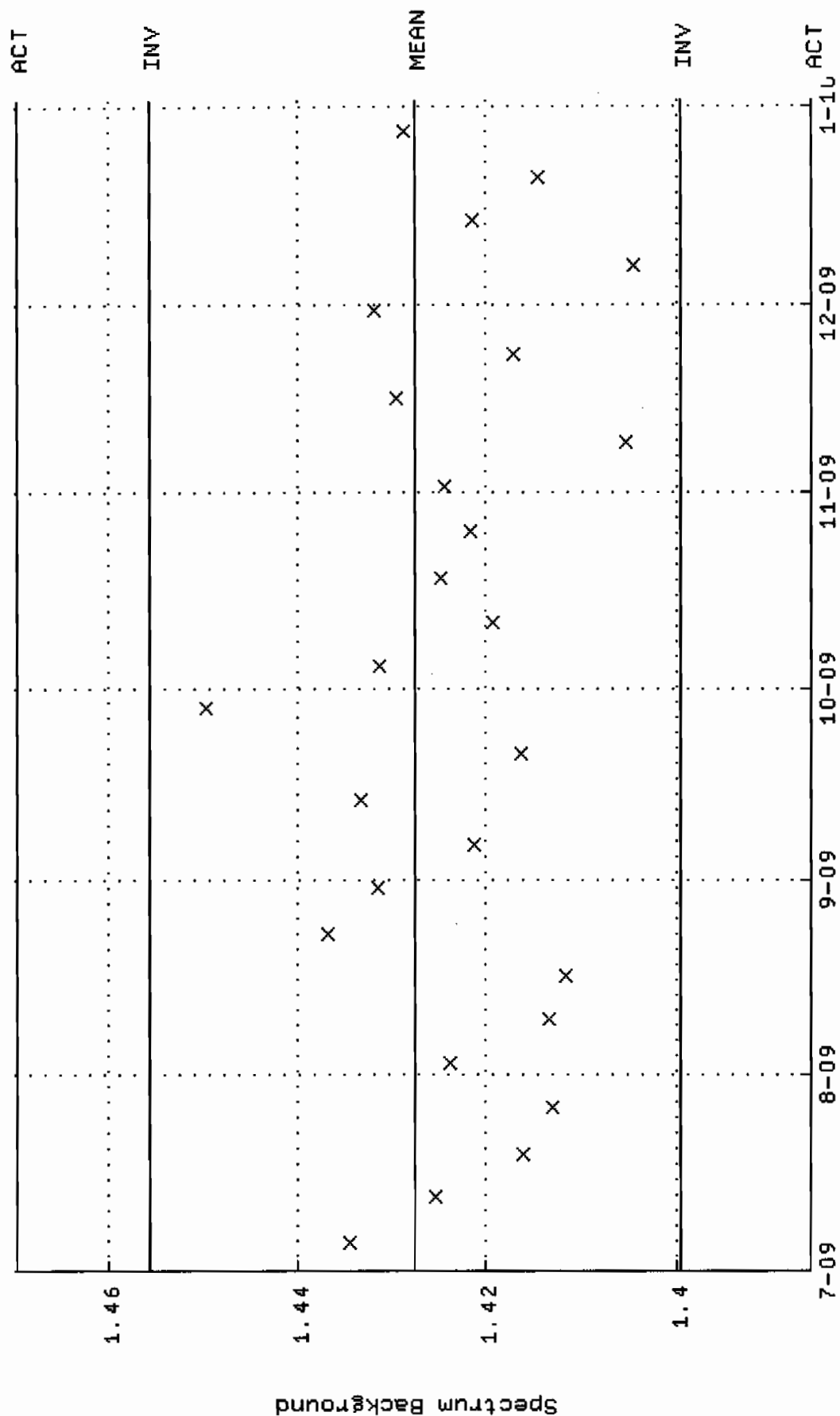
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM16.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:52:58 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-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

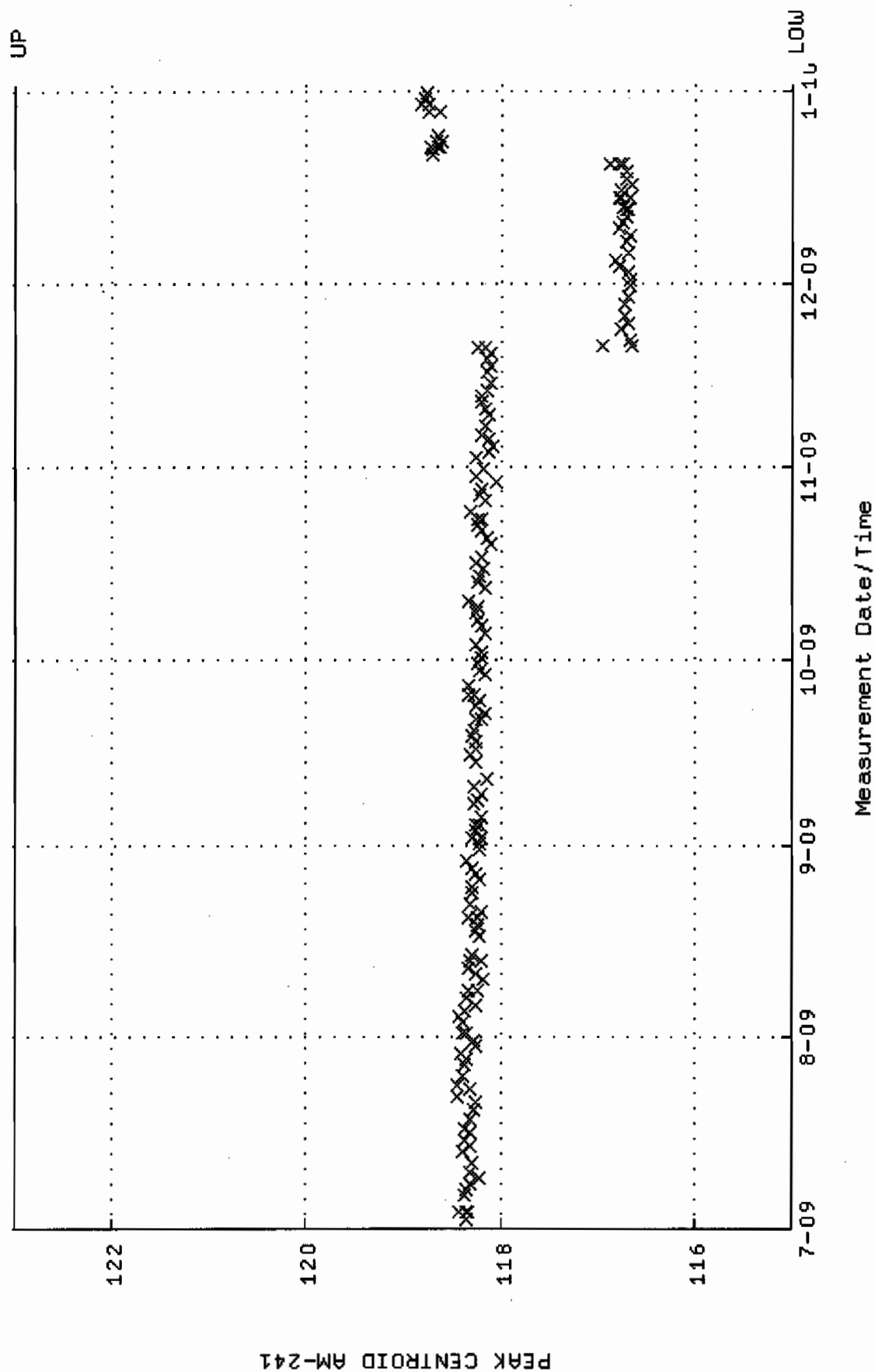


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM17.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:53:11 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)

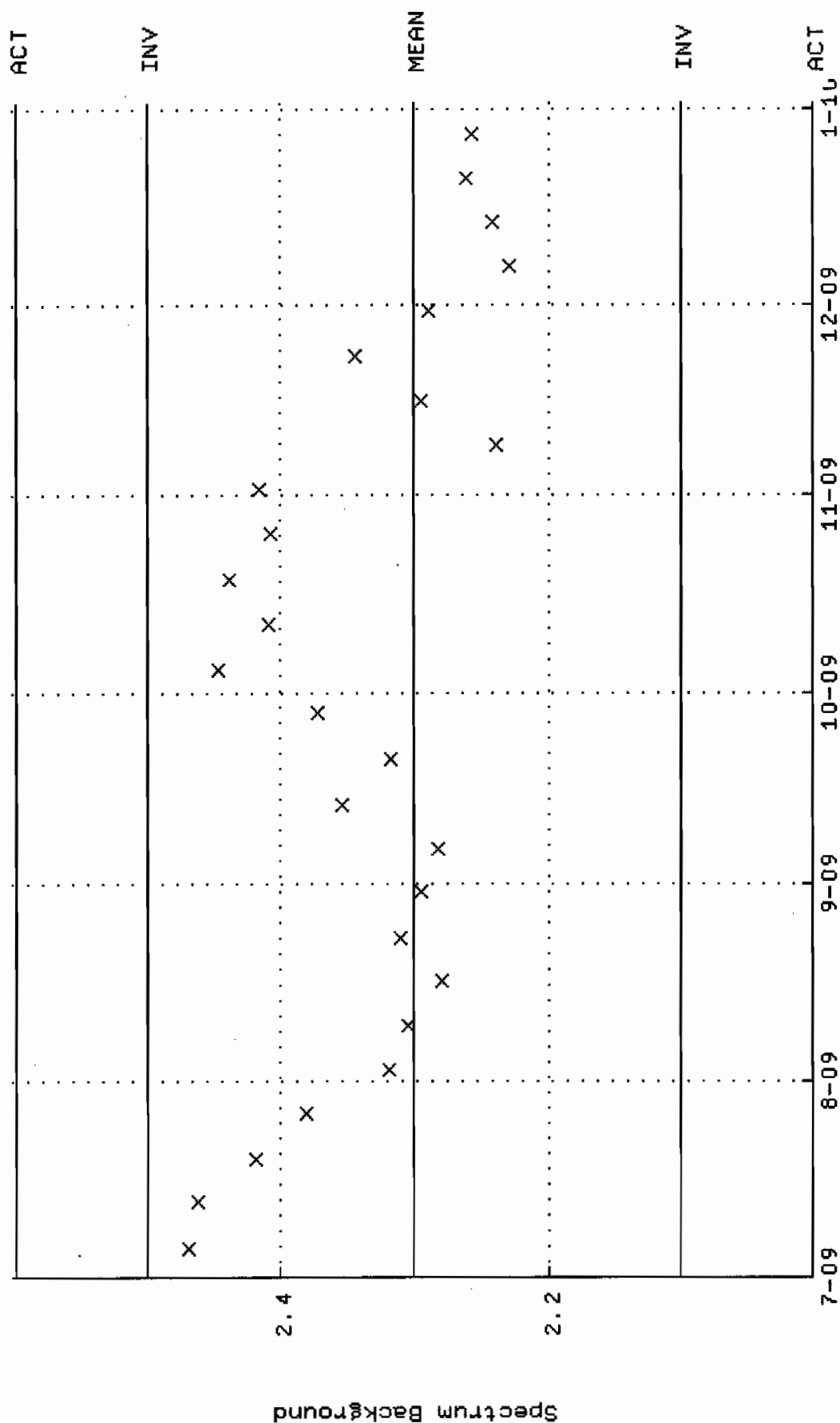




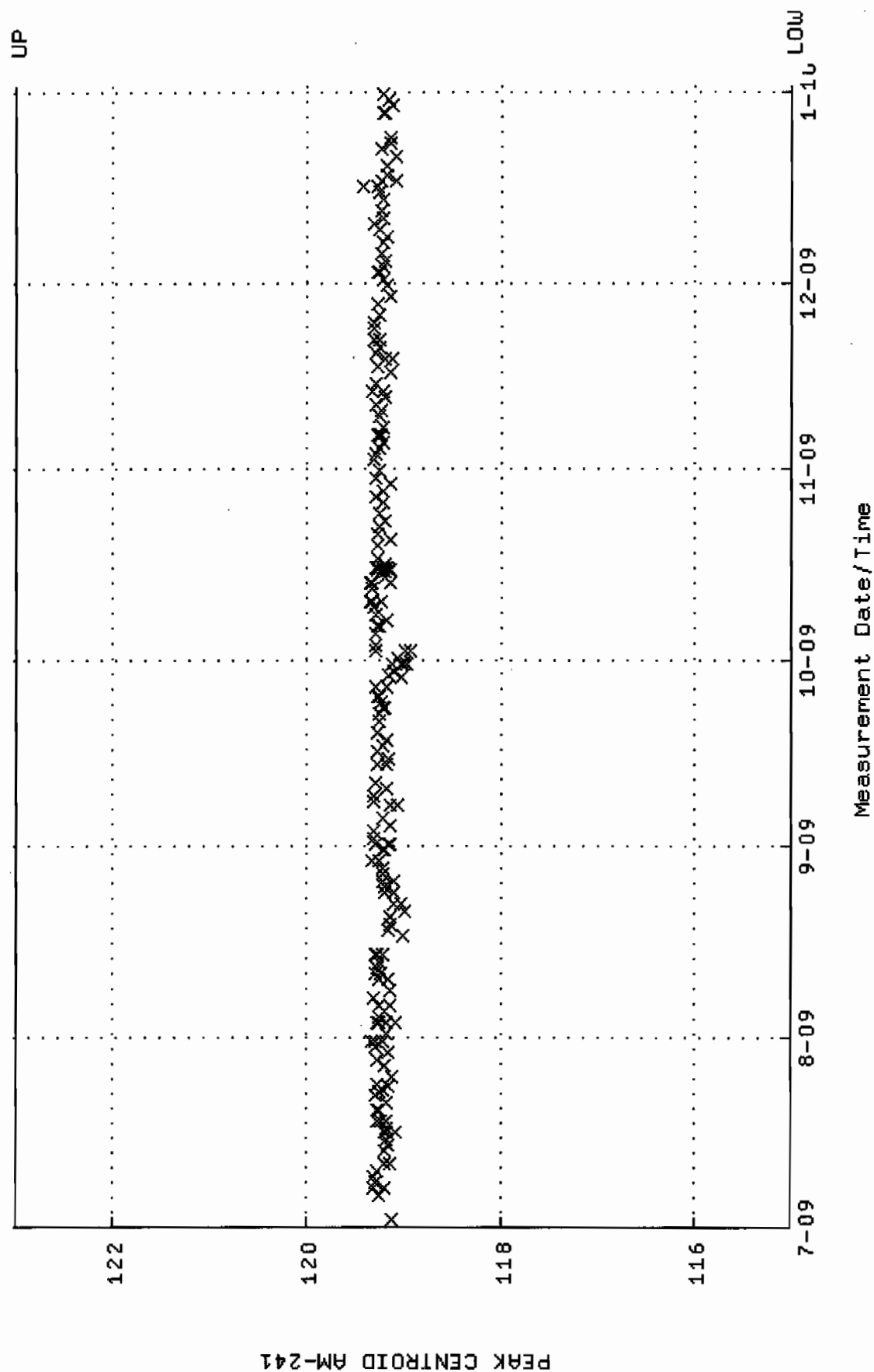
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM18\_CAN.QAF;1  
 Parameter Name : PSCENTROD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



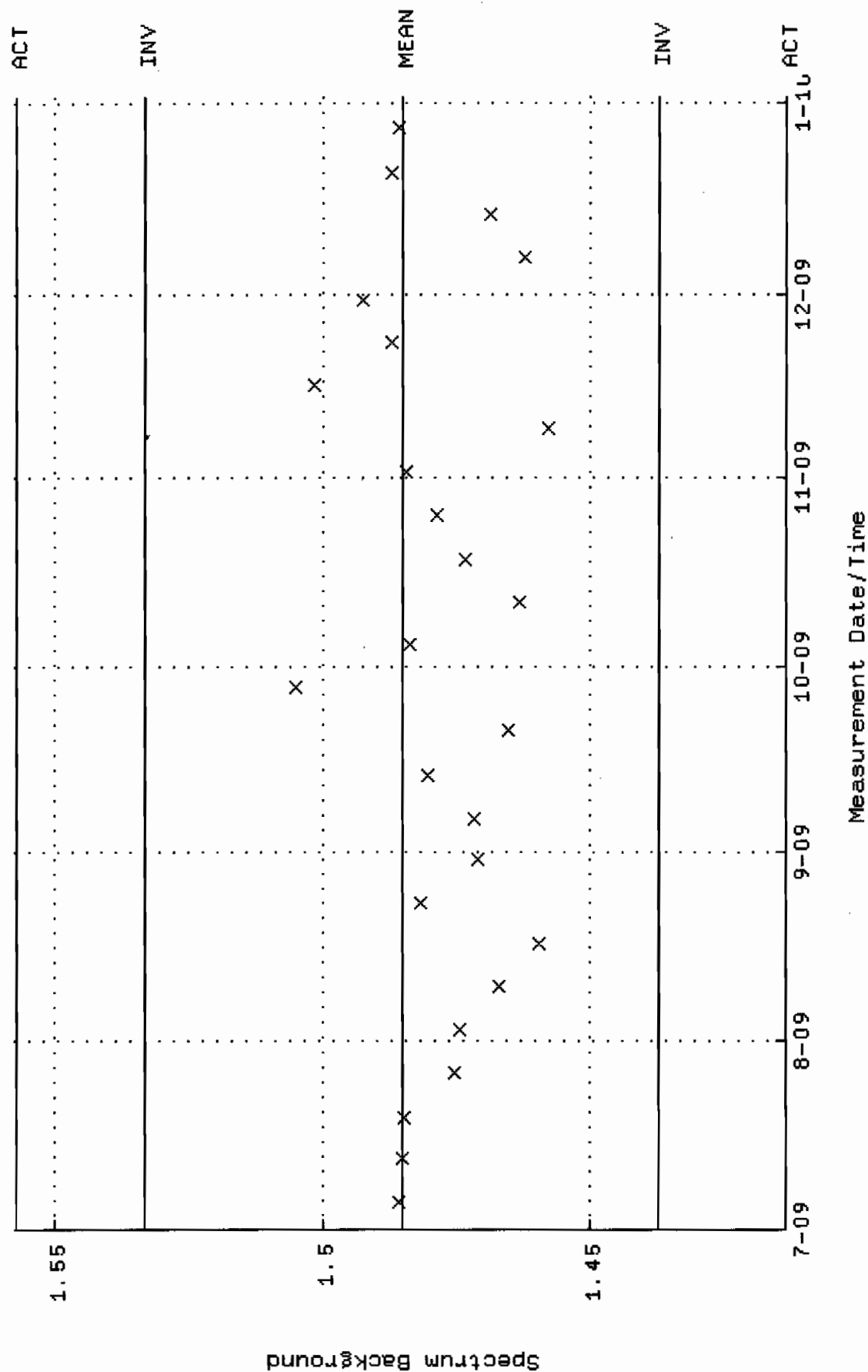
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM18.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



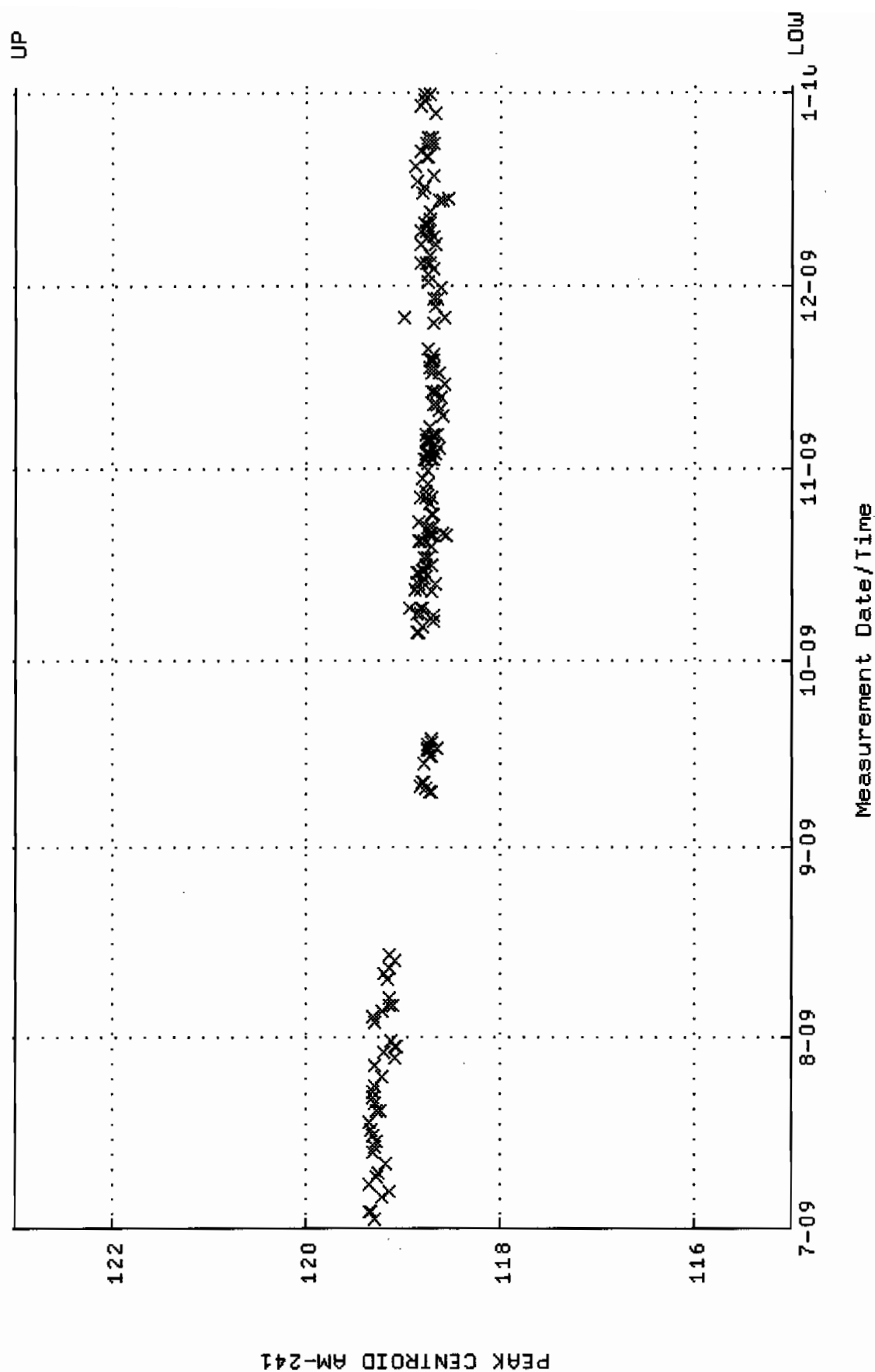
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR.QA]QCC\_GAM20\_500MLMB.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



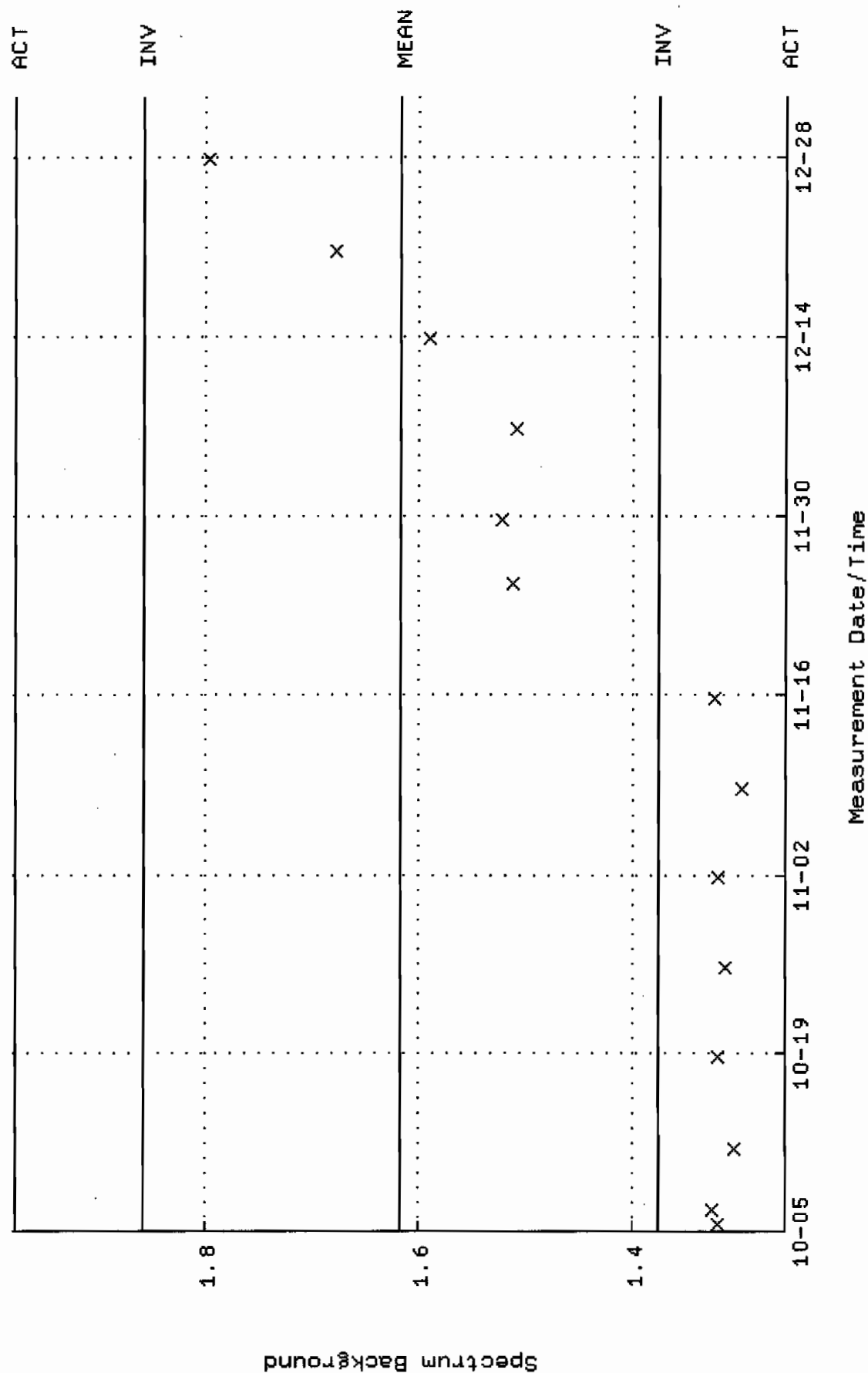
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM20.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



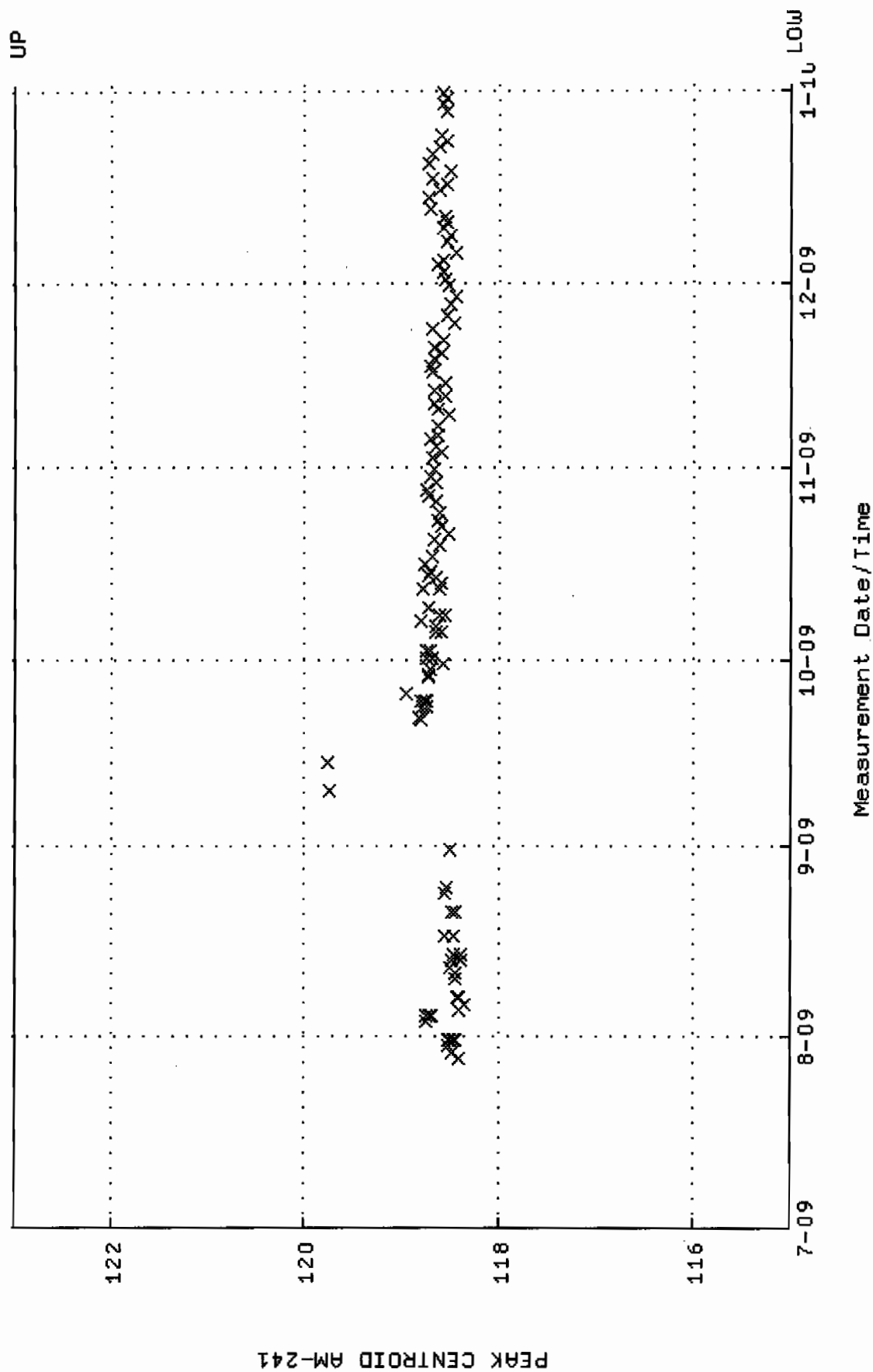
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM23\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



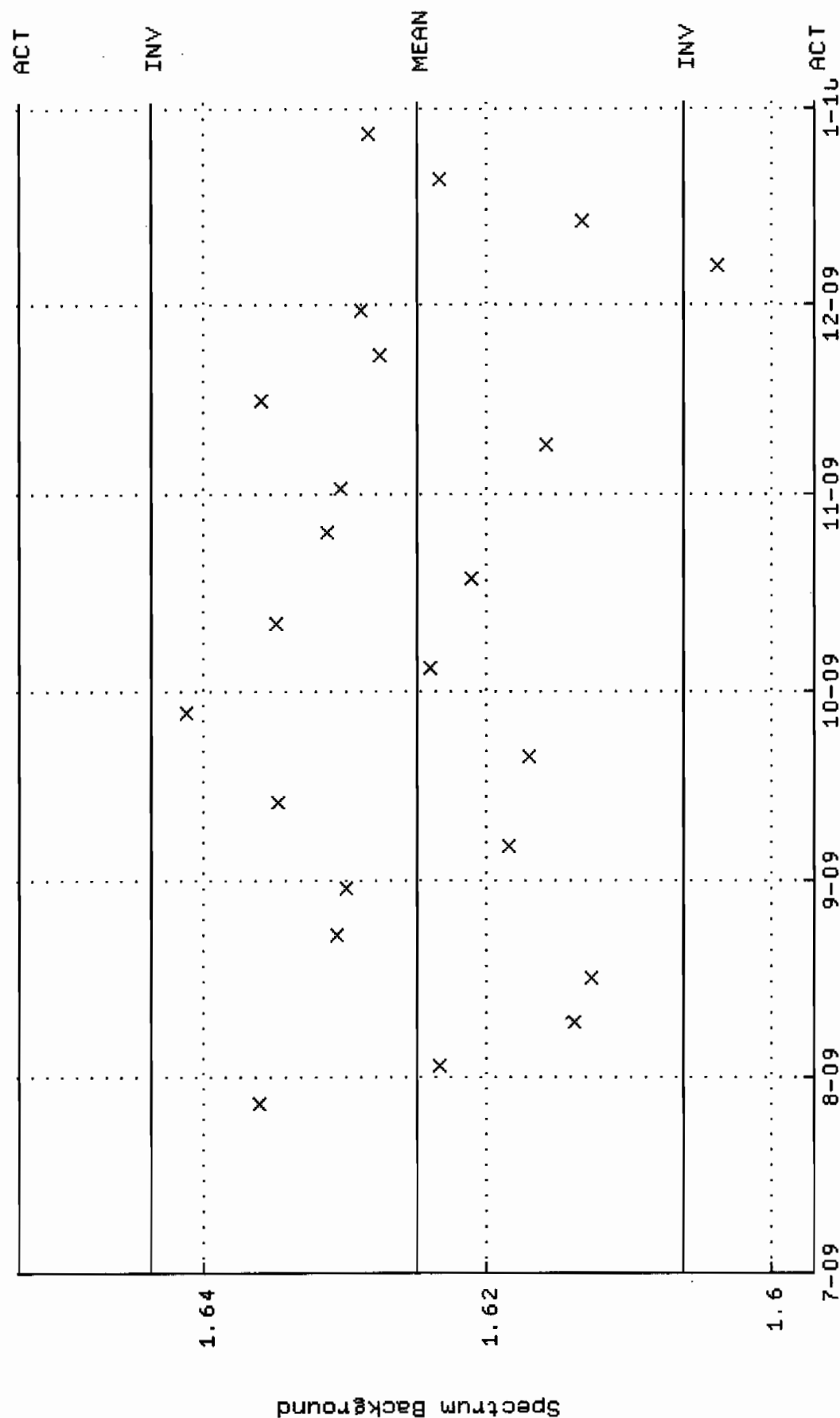
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM23.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00  
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



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. Analytix maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE		GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432	y	3339	3.0
Cd-109	88	462.6	d	4815	3.3
Co-57	122	271.79	d	2409	3.0
Ce-139	166	137.6	d	3408	2.8
Hg-203	279	46.61	d	7522	2.7
Sn-113	392	115.1	d	4728	2.6
Cs-137	662	30.07	y	2973	3.0
Y-88	898	106.6	d	11600	2.6
Co-60	1173	5.2714	y	5780	2.7
Co-60	1332	5.2714	y	5783	2.6
Y-88	1836	106.6	d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova  
M. Dimitrova, Radiochemist

Q A APPROVED:

W.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06  
RC-S-045-073-c

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 <sup>1</sup>	Statistics <sup>2</sup>	Calibration <sup>2</sup>	Peak Fitting <sup>2</sup>	Geometry <sup>2</sup>	Impurities <sup>2</sup>	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertainty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	896	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)

<sup>2</sup>As Percent (%) from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

# 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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

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	pC/L - Var. Int. - 1
Mixed Gamma N1	2534	pC/L - Var. Int. - 3
Mixed Gamma N2	2510	pC/L - Var. Int. - 5
Mixed Gamma N3	2413	

Mean Value (Counting) = 2485.67  
Stdev = 64.065  
Rule 3 (Pass/Fail) Pass

Certificate Value = 2485.68018  
Lower Limit = 2357.536524  
Upper Limit = 2613.796809  
Rule 1 (Pass/Fail) Pass  
Two sigma = 128.1301422  
10 % of Mean = 248.56666667  
Rule 2 (Pass/Fail) Pass

## Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

M. Stamps  
12/2/09  
independent  
12/2/09

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Ce-137

Isotope	Result	pC/L - Ver. Tab. 1
Mixed Gamma N1	854.2	pC/L - Ver. Tab. 3
Mixed Gamma N2	907.6	pC/L - Ver. Tab. 2
Mixed Gamma N3	898.9	

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

829.587644

944.202356

Pass

57.30235597

88.69000000

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.

*Handwritten:*  
H. Stamps  
12/2/09  
12/2/09

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Co-60 (1332.5)

Isotope	Result	pC/L - Ver - JAS-5
Mixed Gamma N1	1572	pC/L - Ver - JAS-2
Mixed Gamma N2	1495	pC/L - Ver - JAS-3
Mixed Gamma N3	1501	

Mean Value (Counting) =  
Stdev =

1522.67  
42.829

98.50

Rule 3 (Pass/Fail)

Certificate Value =

Lower Limit =

Upper Limit =

Rule 1 (Pass/Fail)

Two sigma =

10 % of Mean =

Rule 2 (Pass/Fail)

1545.8378

1437.008431

1608.324902

Pass

85.65823564

152.26688667

Pass

pC/L

pC/L

pC/L

## 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. Stamps 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 *lett c held 12/1/04*

*angela d. johnson 12/13/04*



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
Tn-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 ± 24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

SARAWR No. N/A

**Press F1 for instructions for each field.**

**602945**

[illegible]

Original To Accompany Samples,  
(Laboratory Copy (White))

**1<sup>st</sup> Copy To Accompany Samples,  
Return to SMO (Blue)**

**2<sup>nd</sup> Copy SMO Suspense Copy (Yellow)**

3<sup>rd</sup> 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 DATE 4/14/2000

Amanda L. Lehy 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.

9911627-01-70

Attention Nancy Slater At GEL  
Not For Lab In

SF 2001-COC (10-97)  
Supplies (8-97) June

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 Samples Shipped: 11-16-99 Lab Contact: EDIE KENT Lab Destination: GEL SMO Contact/Phone: Doug Salimi / 844-3110 Send Report to SMO: Suzi Jensen / 844-3184		Contract No.: AJ-2480A Case No.: 10204 1-3 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154	
<b>Location</b> Building N/A Sample No. - Fraction Tech Area VI Room N/A ER Sample ID or Sample Location Detail		<b>Reference LOV (available at SMO)</b> Container Type Volume Type P 1L 4C G 1L 4C G 1L 4C		Sample Matrix Date/Time Collected S 11/15/99 1100 S 11/15/99 1100 S 11/15/99 1100	
050484 - 001 PEM-1 050485 - 001 TRM-2 050486 - 001 ARM-2 N/A - - - - -		N/A N/A N/A N/A N/A N/A N/A N/A N/A		Date/Time Collected 11/15/99 1100 11/15/99 1100 11/15/99 1100 - - - - -	
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		Sample Tracking Date Entered (mm/dd/yyyy) Entered By: [Signature] Init Company/Organization/Phone [Signature] Weston / 7577 / 845-0807		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Note: Samples are not for characterization and materials being sent to GEL for backup at West Micro	
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date Name Douglas E. Perry Signature [Signature]		Relinquished by [Signature] Date 11-16-99 Time 0900 1. Relinquished by Org. Date Time 2. Relinquished by Org. Date Time 3. Relinquished by Org. Date Time 4. Relinquished by Org. Date Time 5. Relinquished by Org. Date Time 6. Relinquished by Org. Date Time		Abnormal Conclusions on Receipt of Use Date Date Date Date Date Date	

Original To Accompany Samples, Laboratory Copy (White) 1<sup>st</sup> Copy To Accompany Samples, Return to SMO (Blue) 2<sup>nd</sup> Copy SMO Suspense Copy (Yellow) 3<sup>rd</sup> Copy Field Copy (Pink)



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  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  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  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  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  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  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  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  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  $\mu\text{Ci}$  beta-gamma or 0.0001  $\mu\text{Ci}$  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 =	0.043586989	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  
*Taber* 07/30/09

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 ( $\text{HNO}_3$ ) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

**Storage and Handling:** The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

**Preparation:** This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterweger, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED  
1/2/05

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 <sup>-1</sup>
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·mL <sup>-1</sup> 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 <sup>-1</sup> )	Mass Fraction (g·g <sup>-1</sup> )
	H <sub>2</sub> O	50	0.81
	HNO <sub>3</sub>	3.2	0.19
	<sup>242</sup> Pu <sup>+6</sup>	8 × 10 <sup>-7</sup>	2 × 10 <sup>-7</sup>
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 <sup>-1</sup> [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 $\alpha$ 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	<sup>239</sup> Pu + <sup>240</sup> Pu <0.000 001 [u]	<sup>239</sup> Pu + <sup>240</sup> Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	<sup>238</sup> Pu + <sup>241</sup> 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  $\mu\text{Sv}$  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:  
 $0.003 \text{ s}^{-1}\text{g}^{-1}$  for energies less than 3.1 MeV,  
 $0.03 \text{ s}^{-1}\text{g}^{-1}$  for energies between 3.1 and 4.4 MeV, and  
 $0.003 \text{ s}^{-1}\text{g}^{-1}$  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:  
 $5 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$  for energies between 19 and 39 keV,  
 $7 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$  for energies between 49 and 92 keV,  
 $2 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$  for energies between 106 and 507 keV,  
 $1 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$  for energies between 515 and 1456 keV, and  
 $5 \times 10^{-6} \text{ s}^{-1}\text{g}^{-1}$  for energies between 1465 and 2750 keV,  
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity  $x_i$ .
- [m] The relative change in the output quantity  $y$  divided by the relative change in the input quantity  $x_i$ . If  $|\partial y / \partial x_i| \cdot (x_i / y) = 1.0$ , then a 1% change in  $x_i$  results in a 1% change in  $y$ . If  $|\partial y / \partial x_i| \cdot (x_i / y) = 0.05$ , then a 1% change in  $x_i$  results in a 0.05% change in  $y$ .
- [n] Relative component of combined standard uncertainty of output quantity  $y$ , rounded to two significant figures or less. The relative component of combined standard uncertainty of  $y$  is given by  $u_i(y)/y = |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$ . The numerical values of  $u(x_i)/x_i$ ,  $|\partial y / \partial x_i| \cdot (x_i / y)$ , and  $u_i(y)/y$ , all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of  $\lambda t$  is determined by the relative standard uncertainty of  $\lambda$  (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  $u(y) / y$  is the relative change in  $y$  if the impurity were present with a massic activity equal to the estimated limit of detection.
- [t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.
- [u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.
- [v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

#### REFERENCES

- [1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.
- [4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.
- [5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.

# Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1374	Isotope:	Plutonium-242
Prepared By:	Mary Aders	Prepared By:	Ashley Drochter
Carrier Conc:	0.5M HNO3	Prep Date:	12/02/2009
Reference Date:	06/07/1994	Verification Date:	12/08/2009
Ampoule Mass (g):	5.5 g	Expiration Date:	12/08/2010
Uncertainty:	+/- .72 %	Primary Code:	1374-A
LogBook No:	RC-S-051-093	Dilution(mL):	250 mL
		Mass of Parent(g):	5.3616 g
		Density(g/mL):	1.0136
		Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8553 \text{ dpm/mL}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0136 \text{ g/mL}) / (250 \text{ mL}) = 33.4010 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC  
Version 1.0 9/18/2000

## Verification for Pu-242 Standard 1374-A

A.Drochter 12/8/2009	Isotope	Value	Uncertainty
	1374-A	1.610	0.2480
	1374-A	1.580	0.2510
	1374-A	1.530	0.2440
Mean Value (Counting) =	1.573	103.17	Pass
Stdev =	0.040414519	Rule 3 (Pass/Fail)	
Target =	1.52		
Lower Limit =	1.492504296		
Upper Limit =	1.654162371		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.080829038		
10 % of Mean =	0.157333333		
Rule 2 (Pass/Fail)	Pass		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1374-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium (and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

*Handwritten:* Not called  
12/8/09  
12/9/09



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.  
Atlanta, Georgia 30318  
Tel 404-352-8677  
Fax 404-352-2837  
www.analyticsinc.com

**CERTIFICATE OF CALIBRATION**  
Standard Radionuclide Source

78747-278

1283

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC  
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

**Comments:**

Impurities: U-233 <0.3%, Am-241 <0.15%  
5.20453 grams 1M HNO<sub>3</sub> solution.

Source Prepared By: WLS

W. Mao, Radiochemist

QA Approved: DM Montgomery

D. M. Montgomery, QA Manager

Date: 12-11-08

# Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	Dilution(mL):	100 mL
		Mass of Parent(g):	5.0245 g
		Density(g/mL):	1.0285
		Balance ID:	

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/30/2008	12/30/2009
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/09/2009	12/30/2009
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

GEL Laboratories LLC  
Version 1.0 9/18/2000

## Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter  
Date: 12/10/09

Serial #	Value	Uncertainty
1283-H N1	2.020	pCi/L 0.238
1283-H N2	2.000	pCi/L 0.234
1283-H N3	2.060	pCi/L 0.242

Mean Value (Counting) = 2.027 pCi/L 99.66904 Pass  
Stdev = 0.030550505 pCi/L Rule 3 (Pass/Fail)

Target = 2.033 pCi/L  
Lower Limit = 1.965565657 pCi/L  
Upper Limit = 2.087767676 pCi/L  
Rule 1 Pass/Fail Pass  
Two sigma = 0.061101009  
10 % of Mean = 0.202666667  
Rule 2 (Pass/Fail) Pass

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for standard 1283-H using 0.1 mL for each source. Each standard was combined with 0.1 mL of U-238 standard 1163-G and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

*A. Drochter*  
12/14/09



# RUNLOGS

# Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 942718

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244852001	SAMPLE	MXR1	GAM12	26-JAN-10 12:06	DONE	CAN	10-FEB-09 00:00
244852002	SAMPLE	MXR1	GAM02	26-JAN-10 13:00	DONE	CAN	29-OCT-09 00:00
244852003	SAMPLE	MXR1	GAM17	26-JAN-10 13:10	DONE	CAN	06-JAN-10 00:00
244852004	SAMPLE	MXR1	GAM10	26-JAN-10 13:20	DONE	CAN	16-MAR-09 00:00
244881002	SAMPLE	MXR1	GAM16	26-JAN-10 13:20	DONE	CAN	16-NOV-09 00:00
244881003	SAMPLE	MXR1	GAM20	26-JAN-10 13:21	DONE	CAN	26-AUG-09 00:00
244881004	SAMPLE	MXR1	GAM23	26-JAN-10 13:21	DONE	CAN	02-JUN-09 00:00
244881001	SAMPLE	MXR1	GAM18	26-JAN-10 13:24	DONE	CAN	23-APR-09 00:00
244902001	SAMPLE	MXR1	GAM19	26-JAN-10 13:25	DONE	CAN	12-MAR-09 00:00
244905001	SAMPLE	MXR1	GAM04	26-JAN-10 14:04	DONE	CAN	05-MAY-09 00:00
244905002	SAMPLE	MXR1	GAM06	26-JAN-10 14:05	DONE	CAN	04-FEB-09 00:00
244905003	SAMPLE	MXR1	GAM07	26-JAN-10 14:05	DONE	CAN	20-JUL-09 00:00
244905004	SAMPLE	MXR1	GAM11	26-JAN-10 14:06	DONE	CAN	18-NOV-09 00:00
244905005	SAMPLE	MXR1	GAM15	26-JAN-10 14:06	DONE	CAN	16-FEB-09 00:00
244905006	SAMPLE	MXR1	GAM22	26-JAN-10 14:07	DONE	CAN	02-DEC-09 00:00
1202018262	MB	MXR1	GAM25	26-JAN-10 14:07	DONE	CAN	07-OCT-09 00:00
1202018263	DUP	MXR1	GAM12	26-JAN-10 14:10	DONE	CAN	10-FEB-09 00:00
1202018264	LCS	MXR1	GAM14	26-JAN-10 14:19	DONE	CAN	06-MAR-09 00:00

# Instrument Run Log

**Instrument Type: ALPHA SPECTROMETER**

**Batch ID: 942753**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244905004	SAMPLE	KXM4	1041	26-JAN-10 14:17	DONE		
244905005	SAMPLE	KXM4	1042	26-JAN-10 14:17	DONE		
244905006	SAMPLE	KXM4	1043	26-JAN-10 14:17	DONE		
244852001	SAMPLE	KXM4	1071	26-JAN-10 14:17	DONE		
244852002	SAMPLE	KXM4	1072	26-JAN-10 14:17	DONE		
244852003	SAMPLE	KXM4	1073	26-JAN-10 14:17	DONE		
244852004	SAMPLE	KXM4	1074	26-JAN-10 14:17	DONE		
244881001	SAMPLE	KXM4	1075	26-JAN-10 14:17	DONE		
244881002	SAMPLE	KXM4	1076	26-JAN-10 14:17	DONE		
244881003	SAMPLE	KXM4	1077	26-JAN-10 14:17	DONE		
244881004	SAMPLE	KXM4	1078	26-JAN-10 14:17	DUSE		
244902001	SAMPLE	KXM4	1079	26-JAN-10 14:17	DONE		
244905001	SAMPLE	KXM4	1080	26-JAN-10 14:17	DONE		
244905002	SAMPLE	KXM4	1081	26-JAN-10 14:17	DONE		
244905003	SAMPLE	KXM4	1082	26-JAN-10 14:17	DONE		
1202018341	MB	KXM4	1097	26-JAN-10 14:17	DONE		
1202018342	DUP	KXM4	1099	26-JAN-10 14:17	DONE		
1202018343	LCS	KXM4	1100	26-JAN-10 14:17	DONE		
244881004	SAMPLE	KXM4	1087	27-JAN-10 21:01	DONE		

# Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 942754

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202018344	MB	KXM4	1040	23-JAN-10 12:08	DONE		
1202018345	DUP	KXM4	1041	23-JAN-10 12:08	DONE		
1202018346	LCS	KXM4	1042	23-JAN-10 12:08	DONE		
244852001	SAMPLE	KXM4	1070	23-JAN-10 12:08	DONE		
244852002	SAMPLE	KXM4	1071	23-JAN-10 12:08	DONE		
244852003	SAMPLE	KXM4	1072	23-JAN-10 12:08	DONE		
244852004	SAMPLE	KXM4	1073	23-JAN-10 12:08	DONE		
244881001	SAMPLE	KXM4	1074	23-JAN-10 12:08	DONE		
244881002	SAMPLE	KXM4	1075	23-JAN-10 12:08	DONE		
244881003	SAMPLE	KXM4	1076	23-JAN-10 12:08	DONE		
244881004	SAMPLE	KXM4	1077	23-JAN-10 12:09	DONE		
244902001	SAMPLE	KXM4	1078	23-JAN-10 12:09	DONE		
244905001	SAMPLE	KXM4	1079	23-JAN-10 12:09	DONE		
244905002	SAMPLE	KXM4	1080	23-JAN-10 12:09	DONE		
244905003	SAMPLE	KXM4	1081	23-JAN-10 12:09	DONE		
244905004	SAMPLE	KXM4	1082	23-JAN-10 12:09	DONE		
244905005	SAMPLE	KXM4	1083	23-JAN-10 12:09	DONE		
244905006	SAMPLE	KXM4	1084	23-JAN-10 12:09	DONE		

# Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 942756

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244852001	SAMPLE	KXM4	1124	26-JAN-10 20:26	DONE		
244852002	SAMPLE	KXM4	1125	26-JAN-10 20:26	DONE		
244852003	SAMPLE	KXM4	1126	26-JAN-10 20:26	DONE		
244852004	SAMPLE	KXM4	1127	26-JAN-10 20:26	DONE		
244881001	SAMPLE	KXM4	1128	26-JAN-10 20:26	DONE		
244881002	SAMPLE	KXM4	1129	26-JAN-10 20:26	DONE		
244881003	SAMPLE	KXM4	1130	26-JAN-10 20:26	DONE		
244881004	SAMPLE	KXM4	1131	26-JAN-10 20:26	DONE		
244902001	SAMPLE	KXM4	1132	26-JAN-10 20:26	DONE		
244905001	SAMPLE	KXM4	1133	26-JAN-10 20:26	DONE		
244905002	SAMPLE	KXM4	1134	26-JAN-10 20:26	DONE		
244905003	SAMPLE	KXM4	1137	26-JAN-10 20:26	DONE		
244905004	SAMPLE	KXM4	1138	26-JAN-10 20:26	DONE		
244905005	SAMPLE	KXM4	1139	26-JAN-10 20:26	DONE		
244905006	SAMPLE	KXM4	1140	26-JAN-10 20:26	DONE		
1202018347	MB	KXM4	1141	26-JAN-10 20:27	DONE		
1202018348	DUP	KXM4	1142	26-JAN-10 20:27	DONE		
1202018349	LCS	KXM4	1143	26-JAN-10 20:27	DONE		